
**Information technology —
Telecommunications and information
exchange between systems — Local
and metropolitan area networks —
Specific requirements —**

Part 22:

**Cognitive Wireless RAN Medium
Access Control (MAC) and Physical
Layer (PHY) Specifications: Policies
and Procedures for Operation in the
TV Bands**

**AMENDMENT 1: Management and
control plane interfaces and procedures
and enhancement to the management
information base (MIB)**

*Technologies de l'information — Télécommunications et échange
d'information entre systèmes — Réseaux locaux et métropolitains —
Exigences spécifiques —*

*Partie 22: Spécifications du contrôle d'accès du milieu sans fil cognitif
(MAC) et de la couche physique (PHY) : Politiques et procédures pour
le fonctionnement dans les bandes TV*





COPYRIGHT PROTECTED DOCUMENT

© IEEE 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO or IEEE at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Institute of Electrical and Electronics Engineers, Inc
3 Park Avenue, New York
NY 10016-5997, USA

stds.ipr@ieee.org
www.ieee.org

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

IEEE Standards documents are developed within the IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (IEEE-SA) Standards Board. The IEEE develops its standards through a consensus development process, approved by the American National Standards Institute, which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and serve without compensation. While the IEEE administers the process and establishes rules to promote fairness in the consensus development process, the IEEE does not independently evaluate, test, or verify the accuracy of any of the information contained in its standards.

The main task of ISO/IEC JTC 1 is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is called to the possibility that implementation of this standard may require the use of subject matter covered by patent rights. By publication of this standard, no position is taken with respect to the existence or validity of any patent rights in connection therewith. ISO/IEEE is not responsible for identifying essential patents or patent claims for which a license may be required, for conducting inquiries into the legal validity or scope of patents or patent claims or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance or a Patent Statement and Licensing Declaration Form, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from ISO or the IEEE Standards Association.

ISO/IEC/IEEE 8802-22:2015/Amd 1 was prepared by the LAN/MAN of the IEEE Computer Society (as IEEE 802.22a-2014). It was adopted by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*, in parallel with its approval by the ISO/IEC national bodies, under the “fast-track procedure” defined in the Partner Standards Development Organization cooperation agreement between ISO and IEEE. IEEE is responsible for the maintenance of this document with participation and input from ISO/IEC national bodies.

STANDARDSISO.COM : Click to view the full PDF of ISO/IEC/IEEE DIS 8802-22/Amd 1:2017

IEEE Standard for Information Technology—
Telecommunications and information exchange
between systems
Wireless Regional Area Networks (WRAN)—
Specific requirements

Part 22: Cognitive Wireless RAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Policies and Procedures for Operation in the TV Bands

Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the Management Information Base (MIB)

Sponsor

LAN/MAN Standards Committee
of the
IEEE Computer Society

Approved 27 March 2014

IEEE-SA Standards Board

Abstract: This air interface, including the medium access control layer (MAC) and physical layer (PHY), of the fixed and portable point-to-multipoint wireless regional area networks (WRANs) operating in spectrum allocated to the Television Broadcasting Service in the frequency range of 54 MHz to 862 MHz is described in this amendment.

Keywords: broadband wireless access network, cognitive radio, fixed user terminals, IEEE 802.22a™, portable user terminals, radio spectrum sensing, regional area network, WRAN standards

The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA

Copyright © 2014 by The Institute of Electrical and Electronics Engineers, Inc.
All rights reserved. Published 30 May 2014. Printed in the United States of America.

IEEE is a registered trademark in the U.S. Patent & Trademark Office, owned by The Institute of Electrical and Electronics Engineers, Incorporated.

PDF: ISBN 978-0-7381-9003-7 STD98586
Print: ISBN 978-0-7381-9004-4 STDPD98586

IEEE prohibits discrimination, harassment, and bullying.

For more information, visit <http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html>.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher.

Important Notices and Disclaimers Concerning IEEE Standards Documents

IEEE documents are made available for use subject to important notices and legal disclaimers. These notices and disclaimers, or a reference to this page, appear in all standards and may be found under the heading “Important Notice” or “Important Notices and Disclaimers Concerning IEEE Standards Documents.”

Notice and Disclaimer of Liability Concerning the Use of IEEE Standards documents

IEEE Standards documents (standards, recommended practices, and guides), both full-use and trial-use, are developed within IEEE Societies and the Standards Coordinating Committees of the IEEE Standards Association (“IEEE-SA”) Standards Board. IEEE (“the Institute”) develops its standards through a consensus development process, approved by the American National Standards Institute (“ANSI”), which brings together volunteers representing varied viewpoints and interests to achieve the final product. Volunteers are not necessarily members of the Institute and participate without compensation from IEEE. While IEEE administers the process and establishes rules to promote fairness in the consensus development process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the soundness of any judgments contained in its standards.

IEEE does not warrant or represent the accuracy or content of the material contained in its standards, and expressly disclaims all warranties (express, implied and statutory) not included in this or any other document relating to the standard, including, but not limited to, the warranties of: merchantability; fitness for a particular purpose; non-infringement; and quality, accuracy, effectiveness, currency, or completeness of material. In addition, IEEE disclaims any and all conditions relating to: results; and workmanlike effort. IEEE standards documents are supplied “AS IS” and “WITH ALL FAULTS.”

Use of an IEEE standard is wholly voluntary. The existence of an IEEE standard does not imply that there are no other ways to produce, test, measure, purchase, market, or provide other goods and services related to the scope of the IEEE standard. Furthermore, the viewpoint expressed at the time a standard is approved and issued is subject to change brought about through developments in the state of the art and comments received from users of the standard.

In publishing and making its standards available, IEEE is not suggesting or rendering professional or other services for, or on behalf of, any person or entity nor is IEEE undertaking to perform any duty owed by any other person or entity to another. Any person utilizing any IEEE Standards document, should rely upon his or her own independent judgment in the exercise of reasonable care in any given circumstances or, as appropriate, seek the advice of a competent professional in determining the appropriateness of a given IEEE standard.

IN NO EVENT SHALL IEEE BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO: PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE PUBLICATION, USE OF, OR RELIANCE UPON ANY STANDARD, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE AND REGARDLESS OF WHETHER SUCH DAMAGE WAS FORESEEABLE.

Translations

The IEEE consensus development process involves the review of documents in English only. In the event that an IEEE standard is translated, only the English version published by IEEE should be considered the approved IEEE standard.

Official statements

A statement, written or oral, that is not processed in accordance with the IEEE-SA Standards Board Operations Manual shall not be considered or inferred to be the official position of IEEE or any of its committees and shall not be considered to be, or be relied upon as, a formal position of IEEE. At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position of IEEE.

Comments on standards

Comments for revision of IEEE Standards documents are welcome from any interested party, regardless of membership affiliation with IEEE. However, IEEE does not provide consulting information or advice pertaining to IEEE Standards documents. Suggestions for changes in documents should be in the form of a proposed change of text, together with appropriate supporting comments. Since IEEE standards represent a consensus of concerned interests, it is important that any responses to comments and questions also receive the concurrence of a balance of interests. For this reason, IEEE and the members of its societies and Standards Coordinating Committees are not able to provide an instant response to comments or questions except in those cases where the matter has previously been addressed. For the same reason, IEEE does not respond to interpretation requests. Any person who would like to participate in revisions to an IEEE standard is welcome to join the relevant IEEE working group.

Comments on standards should be submitted to the following address:

Secretary, IEEE-SA Standards Board
445 Hoes Lane
Piscataway, NJ 08854 USA

Laws and regulations

Users of IEEE Standards documents should consult all applicable laws and regulations. Compliance with the provisions of any IEEE Standards document does not imply compliance to any applicable regulatory requirements. Implementers of the standard are responsible for observing or referring to the applicable regulatory requirements. IEEE does not, by the publication of its standards, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

Copyrights

IEEE draft and approved standards are copyrighted by IEEE under U.S. and international copyright laws. They are made available by IEEE and are adopted for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of engineering practices and methods. By making these documents available for use and adoption by public authorities and private users, IEEE does not waive any rights in copyright to the documents.

Photocopies

Subject to payment of the appropriate fee, IEEE will grant users a limited, non-exclusive license to photocopy portions of any individual standard for company or organizational internal use or individual, non-commercial use only. To arrange for payment of licensing fees, please contact Copyright Clearance Center, Customer Service, 222 Rosewood Drive, Danvers, MA 01923 USA; +1 978 750 8400. Permission to photocopy portions of any individual standard for educational classroom use can also be obtained through the Copyright Clearance Center.

Updating of IEEE Standards documents

Users of IEEE Standards documents should be aware that these documents may be superseded at any time by the issuance of new editions or may be amended from time to time through the issuance of amendments, corrigenda, or errata. An official IEEE document at any point in time consists of the current edition of the document together with any amendments, corrigenda, or errata then in effect.

Every IEEE standard is subjected to review at least every ten years. When a document is more than ten years old and has not undergone a revision process, it is reasonable to conclude that its contents, although still of some value, do not wholly reflect the present state of the art. Users are cautioned to check to determine that they have the latest edition of any IEEE standard.

In order to determine whether a given document is the current edition and whether it has been amended through the issuance of amendments, corrigenda, or errata, visit the IEEE-SA Website at <http://ieeexplore.ieee.org/xpl/standards.jsp> or contact IEEE at the address listed previously. For more information about the IEEE-SA or IEEE's standards development process, visit the IEEE-SA Website at <http://standards.ieee.org>.

Errata

Errata, if any, for all IEEE standards can be accessed on the IEEE-SA Website at the following URL: <http://standards.ieee.org/findstds/errata/index.html>. Users are encouraged to check this URL for errata periodically.

Patents

Attention is called to the possibility that implementation of this standard may require use of subject matter covered by patent rights. By publication of this standard, no position is taken by the IEEE with respect to the existence or validity of any patent rights in connection therewith. If a patent holder or patent applicant has filed a statement of assurance via an Accepted Letter of Assurance, then the statement is listed on the IEEE-SA Website at <http://standards.ieee.org/about/sasb/patcom/patents.html>. Letters of Assurance may indicate whether the Submitter is willing or unwilling to grant licenses under patent rights without compensation or under reasonable rates, with reasonable terms and conditions that are demonstrably free of any unfair discrimination to applicants desiring to obtain such licenses.

Essential Patent Claims may exist for which a Letter of Assurance has not been received. The IEEE is not responsible for identifying Essential Patent Claims for which a license may be required, for conducting inquiries into the legal validity or scope of Patent Claims, or determining whether any licensing terms or conditions provided in connection with submission of a Letter of Assurance, if any, or in any licensing agreements are reasonable or non-discriminatory. Users of this standard are expressly advised that determination of the validity of any patent rights, and the risk of infringement of such rights, is entirely their own responsibility. Further information may be obtained from the IEEE Standards Association.

Participants

At the time this amendment went to sponsor ballot, the IEEE 802.22 Working Group had the following officer:

Apurva Mody, Chair
Chang-woo Pyo, Vice Chair

When this amendment was sent to sponsor ballot, the Task Group had the following membership:

Ranga Reddy, Chair and Editor

Winston Caldwell
Charles Einolf
Peter Flynn
Tom Gurley
Hiroshi Harada
Bob Heile
Byung Jeong Jang
Jerry Kalke

Hynduk Kang
Gwangzeen Ko
Bruce Kraemer
Donghun Lee
Liru Lu
Michael Lynch
Paul Nikolich

Shigenobu Sasaki
Steven Shellhammer
Chunyi Song
Victor Tawil
Keat-Beng Toh
Junyi Wang
Bing Xuan Zhao
Xin (Amy) Zhang

Major contributions were received from the following individuals:

Gerald Chouinard
Charles Einolf

Sunghyun Hwang
Gwangzeen Ko
Chang-woo Pyo

Ranga Reddy
Ivan Reede

The following members of the balloting committee voted on this amendment. Balloters may have voted for approval, disapproval, or abstention.

Wole Akpose
Thomas Alexander
Nobumitsu Amachi
Butch Anton
Mathild Benveniste
Harry Bims
Nancy Bravin
William Byrd
Juan Carreon
Dave Cavalcanti
Keith Chow
Richard Edgar
Charles Einolf
Peter Flynn
Avraham Freedman
Devon Gayle
Randall Groves
Michael Gundlach
Marco Hernandez
Werner Hoelzl
Sunghyun Hwang
Noriyuki Ikeuchi

Akio Iso
Atsushi Ito
Bobby Jose
Shinkyō Kaku
Piotr Karocki
Stuart Kerry
Gwangzeen Ko
Bruce Kraemer
Yasushi Kudoh
Geoff Ladwig
Arthur H. Light
Liru Lu
William Lumpkins
Greg Luri
Elvis Maculuba
Jeffery Masters
Edward McCall
Michael McInnis
Apurva Mody
Jose Morales
Peter Murray
Nabil Nasser

Michael Newman
Nick S. A. Nikjoo
Venkatesha Prasad
Ivan Reede
Maximilian Riegel
Robert Robinson
William Rose
John Santhoff
Shigenobu Sasaki
Naotaka Sato
Kapil Sood
Thomas Starai
Rene Struik
Walter Struppler
Keat-Beng Toh
Ha-Nguyen Tran
Dmitri Varsanofiev
Prabodh Varshney
George Vlantis
Hung-Yu Wei
Oren Yuen
Daidi Zhong

When the IEEE-SA Standards Board approved this on 27 March 2014, it had the following membership:

John Kulick, *Chair*
Jon Walter Rosdahl, *Vice-chair*
Richard H. Hulett, *Past Chair*
Konstantinos Karachalios, *Secretary*

Peter Balma
Farooq Bari
Ted Burse
Clint Chaplain
Stephen Dukes
Jean-Phillippe Faure
Gary Hoffman

Michael Janezic
Jeffrey Katz
Joseph L. Koepfinger*
David J. Law
Hung Ling
Oleg Logvinov
Ted Olsen
Glenn Parsons

Ron Peterson
Adrian Stephens
Peter Sutherland
Yatin Trivedi
Phil Winston
Don Wright
Yu Yuan

*Member Emeritus

Also included are the following nonvoting IEEE-SA Standards Board liaisons:

Richard DeBlasio, *DOE Representative*
Michael Janezic, *NIST Representative*

Catherine Berger
IEEE Standards Senior Program Manager, Document Development

Lisa Perry
IEEE Standards Program Manager, Technical Program Development

Introduction

This introduction is not part of IEEE Std 802.22a-2014, IEEE Standard for Information Technology—Telecommunications and information exchange between systems—Wireless Regional Area Networks(WRAN)—Specific requirements—Part 22: Cognitive Wireless RAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Policies and Procedures for Operation in the TV Bands—Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the Management Information Base (MIB).

This amendment to IEEE Std 802.22-2011 defines a new clause for Management and Control Plane interfaces and procedures for operation in very high frequency and ultra-high frequency (VHF/UHF) television (TV) broadcast bands between 54 MHz and 862 MHz. The Management Information Base (MIB) structure enhancement includes changes to comply with the ASN.1 format and support for the new clause. Modifications to the existing clause on primitives for cognitive radio capabilities (Clause 10) to align it with the content in the MIB clause (Clause 13) and the new clause (Clause 14) are also defined.

Contents

5	System architecture	2
5.2	Management reference architecture	2
5.2.1	Service access primitives (SAPs) PHY/MAC to NCMS interface	2
5.2.4	Managed objects	3
10	Cognitive radio capability	3
10.7	Primitives for cognitive radio capabilities	3
12	Parameters and connection management	4
12.1	Parameters, timers, message IEs	4
12.1.1	MAC (dynamic service flow, multicast, ARQ, capability, and bandwidth management)	4
12.1.2	PHY (initialization, operation, and DS/US synchronization)	6
12.1.3	Coexistence	8
12.1.4	Security	9
12.1.5	Cognitive radio capabilities (SM, SSA, incumbent protection, QP management)	10
13	MIB structure	14
13.1	MIB description	14
13.1.1	wranDevMib	14
13.1.2	wranIfBsMib	20
13.1.3	wranIfBsSfMgmtMib	72
13.1.4	wranIfCpeMib	85
13.1.5	wranIfSmMib	90
13.1.6	wranIfSsaMib	102
13.1.7	wranIfDatabaseServiceMib	116
13.2	MIB module definitions (ASN.1)	126
13.2.1	wranDevMib	126
13.2.2	wranIfBsMib	144
13.2.3	wranIfBsSfMgmtMib	291
13.2.4	wranIfCpeMib	323
13.2.5	wranIfSmMib	335
13.2.6	wranIfSsaMib	367
13.2.7	wranIfDatabaseServiceMib	407
14	Management plane interfaces and procedures	430
14.1	Primitive format	430
14.1.1	Purpose	430
14.1.2	SAP type	430
14.1.3	Operation type	430
14.1.4	Destination	430
14.1.5	Data	430
14.1.6	When generated	431
14.1.7	Effect of receipt	431
14.2	Primitive definitions	431
14.2.1	Management SAP (M-SAP)	431
14.2.2	Spectrum Manager-Spectrum Sensing Function SAP (SM-SSF-SAP)	463
14.2.3	Spectrum Manager-Geolocation SAP (SM-GL-SAP)	467
14.2.4	Control SAP (C-SAP)	470

STANDARDSISO.COM : Click to view the full PDF of ISO/IEC/IEEE DIS 8802-22/Amd 1:2017

IEEE Standard for Information Technology—
Telecommunications and information exchange
between systems
Wireless Regional Area Networks (WRAN)—
Specific requirements

Part 22: Cognitive Wireless RAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: Policies and Procedures for Operation in the TV Bands

Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the Management Information Base (MIB)

IMPORTANT NOTICE: IEEE Standards documents are not intended to ensure safety, security, health, or environmental protection, or ensure against interference with or from other devices or networks. Implementers of IEEE Standards documents are responsible for determining and complying with all appropriate safety, security, environmental, health, and interference protection practices and all applicable laws and regulations.

This IEEE document is made available for use subject to important notices and legal disclaimers. These notices and disclaimers appear in all publications containing this document and may be found under the heading “Important Notice” or “Important Notices and Disclaimers Concerning IEEE Documents.” They can also be obtained on request from IEEE or viewed at <http://standards.ieee.org/IPR/disclaimers.html>.

NOTE—The editing instructions contained in this amendment define how to merge the material contained therein into the existing base standard and its amendments to form the comprehensive standard. The editing instructions are shown in **bold italic**. Four editing instructions are used: change, delete, insert, and replace. **Change** is used to make corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed by using ~~strike through~~ (to remove old material) and underscore (to add new material). **Delete** removes existing material. **Insert** adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. **Replace** is used to make changes in figures or equations by removing the existing figure or equation and replacing it with a new one. Editing instructions, change markings, and this NOTE will not be carried over into future editions because the changes will be incorporated into the base standard.¹

¹ Notes in text, tables, and figures are given for information only and do not contain requirements needed to implement the standard.

5 System architecture

5.2 Management reference architecture

Change the second paragraph of 5.2 as follows:

Figure 5 shows an example of a management reference model for WRANs. ~~This example~~ consists of a Network Management System (NMS), a Network Control System (NCS), and managed nodes. The BS and CPEs shall collect and store the managed objects (see 5.2.4) in the format as defined in the WRAN Management Information Base (MIB). The MIB is defined and specified in Clause 13. The Network Control System contains the service flow and the associated QoS information that is pre-populated in service classes at the BS and instantiated when a CPE requests services.

Change the fourth paragraph of 5.2 as follows:

In the management reference architecture example in Figure 5, management information that is stored in the form of MIBs must be conveyed using SNMP messages. Use of MIBs to define the structure of management information and SNMP to convey this data is optional. If MIBs and the SNMP are not used to store and transport management information, the network operator and device manufacturers will have to specify another means to enable management functions. The management information between the CPE and the BS may be carried over a secondary management connection. The management information can also be conveyed using the normal SNMP messages.

Change 5.2.1 as follows:

5.2.1 Service access primitives (SAPs) ~~PHY/MAC to NCMS interface~~

In the Management/Control Plane, ~~The NCMS is interfaced to the MAC and PHY layer entities of the CPE and BS through two Service Access Primitives Points (SAPs).~~ The BS and CPE shall include a Control-SAP (C-SAP) and Management-SAP (M-SAP) that provide NCMS access to the control plane and management plane functions from upper layers. The M-SAP is used for less time-sensitive Management plane primitives, and the C-SAP is used for more time-sensitive Control plane primitives. The C-SAP and M-SAP interfaces are described in 5.2.1.1 and 5.2.1.2. The NCMS uses the C-SAP and M-SAP to interface with the IEEE 802.22 managed nodes.

In the Cognitive Plane, the SM is interfaced with the SSA through two SAPs. The SM uses the SM-SSF SAP to interface with the Spectrum Sensing Function on the SSA and the SM-GL SAP to interface with the Geolocation function on the SSA.

Insert the following new subclauses (5.2.1.3 and 5.2.1.4) after 5.2.1.2:

5.2.1.3 SM-SSF SAP (SM-SSF-SAP)

The SM-SSF SAP includes, but is not limited to, primitives related to the following:

- Channel Sensing configuration
- Channel Sensing reporting

5.2.1.4 SM-GL SAP (SM-GL-SAP)

The SM-GL SAP includes, but is not limited to, primitives related to the following:

- Geolocation fix calculation request
- Geolocation fix calculation results

5.2.4 Managed objects

Change 5.2.4 as follows:

Managed information items are also known as “managed objects.” If managed objects are defined as MIBs (see Clause 13), the definition of them shall follow conventions The definition of managed objects in this standard is expressed in IETF RFC 2578. It supports a management protocol agnostic approach, including SNMP. If managed objects are not defined as MIBs, use of conventions defined in IETF RFC 2578 to define them is optional, and use of SNMP to transport this information is optional as well.

10 Cognitive radio capability

Delete 10.7 to 10.7.6.4.2 (including Table 252 to Table 271) as follows:

~~10.7 Primitives for cognitive radio capabilities~~

~~10.7.1 Database service primitives [and its subclauses]~~

~~The following ... 10.7.1.8 ... (latitude, longitude)~~

NOTE—Information on database service primitives can now be found in 14.2.1.3.

~~10.7.2 BS configuration and monitoring primitives [and its subclauses]~~

~~The BS ... 10.7.2.4.2 ... another request.~~

NOTE—Information on BS configuration and monitoring primitives can now be found in 14.2.1.4.

~~10.7.3 CPE reports the resulting available WRAN services list [and its subclauses]~~

~~The selection ... 10.7.3.3.2 ... another query.~~

NOTE—Information on CPE reports the resulting available WRAN services list can now be found in 14.2.1.5.

~~10.7.4 Spectrum Sensing Services [and its subclauses]~~

~~The IEEE ... 10.7.4.3.2 ... PHY SSF.~~

NOTE—Information on spectrum sensing function primitives can now be found in 14.2.2.1.

~~10.7.5 Geolocation services [and its subclauses]~~

The PHY ... ~~10.7.5.3.2~~ ... another request.

NOTE—Information on geolocation primitives can now be found in 14.2.3.1.

~~10.7.6 Antenna primitives [and its subclauses]~~

Essential antenna ... ~~10.7.6.4.2~~ ... to EIRP.

NOTE—Information on antenna primitives can now be found in 14.2.1.6.

12 Parameters and connection management

12.1 Parameters, timers, message IEs

12.1.1 MAC (dynamic service flow, multicast, ARQ, capability, and bandwidth management)

Change Table 272 as follows:

Table 272—MAC parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
CPE, BS	DSx Request Retries	Number of Timeout Retries on DSA/DSC/DSD Requests.	—	3	—
CPE, BS	DSx Response Retries	Number of Timeout Retries on DSA/DSC/DSD Responses.	—	3	—
CPE	T6	Wait for registration response.	—	—	3 s
CPE, BS	T7	Wait for DSA/DSC/DSD Response timeout.	—	—	1 s
CPE, BS	T8	Wait for DSA/DSC Acknowledge timeout.	—	—	300 ms
BS	T9	Registration Timeout, the time allowed between the BS's sending a RNG-CMD (success) to a CPE and receiving a CBC-REQ from that same CPE.	300 ms	300 ms	—
CPE, BS	T10	Wait for Transaction End timeout.	—	—	3 s
BS	T13	The time allowed for an CPE, following receipt of a REG-RSP message to send a TFTP-CPLT message to the BS.	15 min	15 min	—
CPE	T14	Wait for DSx-RSP/DSX-RVD Timeout.	—	—	200 ms
BS	T15	Wait for MCA-RSP.	20 ms	20 ms	—
CPE	T16	Wait for bandwidth request grant.	10 ms	—	Service QoS dependent
CPE	T18	Wait for CBC-RSP timeout.	—	5 ms	<< T9
CPE, BS	T22	Wait for ARQ-Reset.	—	—	0.5 s
CPE	T26	Wait for TFTP-RSP.	10 ms	10 ms	200 ms

IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands
 Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	T27 as idle timer	Maximum time between unicast grants to CPE when BS believes CPE upstream transmission quality is <i>good enough</i> .	CPE Ranging Response Processing Time	—	—
BS	T27 as active timer	Maximum time between unicast grants to CPE when BS believes CPE upstream transmission quality is <i>not good enough</i> .	CPE Ranging Response Processing Time	—	—
BS	T28	Time allowed for the BS to complete the transmission of the backup/candidate channel list to its CPEs after initial registration by a new CPE, including the database service query.	—	60 s	~~≤ T45~~
CPE	CBC Request Retries	Number of retries on CBC Request.	—	3	—
	DSx Flow Control	Maximum # of ongoing dynamic service flow (DSx) transactions that are ongoing.	1	4	Infinite
	MCA Flow Control	Maximum # of ongoing multicast group assignment (MCA-REQ/RSP) transactions.	1	—	Infinite
	Max # of multicast groups	Maximum # of multicast groups the BS supports in a cell.	—	—	~~510544~~
BS, CPE	T30	CPE registration Timer (see 7.7.7.3.4 and 7.14.2.11).	160 ms	40.8 s	10,485.6 s
BS, CPE	ARQ_BSN_MODULUS	Number of unique BSN values.	—	2 ¹⁰	—
BS, CPE	ARQ_WINDOW_SIZE	Max # of un-acknowledged ARQ blocks at a given time.	—	—	≤ (ARQ_BSN_MODULUS) / 2
BS, CPE	ARQ_BLOCK_LIFETIME	Max time interval an ARQ block shall be managed by the Tx ARQ state machine.	10 μs	—	655.36 ms
BS, CPE	ARQ_RETRY_TIMEOUT (TRANSMITTER_DELAY/RECEIVER_DELAY)	Minimum time interval a transmitter shall wait before retransmission of a unacknowledged block.	10 μs	—	655.36 ms
BS, CPE	ARQ_SYNC_LOSS_TIMEOUT	Max amount of time ARQ_TX_WINDOW_START or ARQ_RX_WINDOW_START shall be allowed to remain at the same value before declaring a loss of synchronization of the sender and receiver state machines for an ongoing transfer.	10 μs	—	655.36 ms
BS, CPE	ARQ_RX_PURGE_TIMEOUT	Time interval the receiver shall wait after successful reception of a block that does not result in advancement of ARQ_RX_WINDOW_START, before advancing ARQ_RX_WINDOW_START.	10 μs	—	655.36 ms
BS, CPE	ARQ_BLOCK_SIZE	Size of ARQ block that SDU is fragmented into.	1 octet	—	2040 octet

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	Max CPE Transmit EIRP	Maximum CPE Transmit EIRP as negotiated during registration.	−64 dBm	—	+63.5 dBm
CPE	Registration Request Retries	Number of retries on registration requests.	3	—	—
CPE	Request Retries	Number of retries on bandwidth allocation requests.	16	—	—

12.1.2 PHY (initialization, operation, and DS/US synchronization)

Change Table 273 as follows:

Table 273—PHY parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	DCD Interval	Time between transmission of DCD messages.	—	—	10 s
BS	UCD Interval	Time between transmission of UCD messages.	—	—	10 s
BS	UCD Transition	The time the BS shall wait after repeating a UCD message with an incremented Configuration Change Count before issuing a US-MAP message referring to Upstream_Burst_Profiles defined in that UCD message.	2 MAC frames	—	—
BS	DCD Transition	The time the BS shall wait after repeating a DCD message with an incremented Configuration Change Count before issuing a DS-MAP message referring to Downstream_Burst_Profiles defined in that DCD message.	2 MAC frames	—	—
BS	Initial Ranging Interval	Time between Initial Ranging opportunities assigned by the BS.	—	—	2 s
BS	CLK-CMP Interval	Time between the clock compare measurements used for the generation of CLK-CMP messages.	50 ms	50 ms	50 ms
CPE	Lost DS-MAP Interval (T56)	Time since last received DS-MAP message before downstream synchronization is considered lost.	—	—	600 ms
CPE	Lost US-MAP Interval (T57)	Time since last received US-MAP message before upstream synchronization is considered lost.	—	—	600 ms
CPE	Lost SCH (T58)	Number of SCH that can be lost until synchronization is considered lost.	—	—	15
CPE	CDMA Ranging Retries	Number of retries on CDMA Ranging Requests.	1	—	4
CPE, BS	Invited Ranging Retries	Number of retries on inviting Ranging Requests.	16	—	—
BS	US-MAP Process Time	Time provided between arrival of the last bit of a US-MAP at a CPE and effectiveness of that map.	5 symbols	—	—

IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands

Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	CPE Ranging Response Processing Time	Time allowed for a CPE following receipt of a ranging response before it is expected to reply to an invited ranging request.	10 ms	—	—
CPE	T1	Wait for DCD timeout.	—	—	5 × DCD interval maximum value
CPE	T2	Wait for broadcast ranging timeout.	—	—	5 × ranging interval
CPE	T3	Ranging Response reception timeout following the transmission of a Ranging Request.	—	200 ms	200 ms
CPE	T4	Wait for unicast ranging opportunity. If the pending-until-complete field was used earlier by this CPE, then the value of that field shall be added to this interval.	1 s	30 min (fixed) 10 min (portable)	30 min
BS	T5	Wait for Upstream Channel Change response.	—	—	2 s
CPE	T12	Wait for UCD descriptor.	—	—	5 × UCD Interval maximum value
CPE	T20	Time the CPE searches for preambles on a given channel.	2 MAC frames	—	—
CPE	T21	Time the CPE searches for DS-MAP on a given channel.	—	—	10 s
BS	EIRP _{BS}	EIRP of BS (DS).	−64 dBm	—	63.5 dBm
BS	TTG	<u>Transmit-receive Turnaround Gap.</u> <u>Transmit/Receive Transition Gap</u>	<u>—</u> <u>105 μs</u>	210 μs	<u>—</u> <u>333 μs</u>
CPE	RTG	<u>Receive-transmit Turnaround Gap.</u>	<u>81.8 μs</u>	<u>—</u>	<u>303.5 μs</u>
BS	DIUC Mandatory Exit Threshold	CINR at or below which this DIUC can no longer be used and where change to a more robust DIUC is required.	−64 dB	—	+63.5 dB
BS	DIUC Mandatory Entry Threshold	The minimum CINR required to start using this DIUC when changing from a more robust DIUC is required.	−64 dB	—	+63.5 dB
BS	Boosting	Boosting applied to a DS allocation.	−12 dB	0 dB	+9 dB
BS, CPE	BW Request Backoff Start	Initial size of BW Request opportunity used by CPEs to contend to send BW requests to BS.	0	—	15
BS, CPE	BW Request Backoff End	Final size of BW Request opportunity used by CPEs to contend to send BW requests to BS.	<u>0</u> <u>1</u>	—	15
BS, CPE	UCS Notification Backoff Start	Initial backoff window size in units of UCS Notification opportunity used by CPEs to contend to send UCS notifications to BS.	0	—	15
BS, CPE	UCS Notification Backoff End	Final size of UCS Notification opportunity used by CPEs to contend to send UCS Notification to BS.	<u>0</u> <u>1</u>	—	15

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS, CPE	Contention-based reservation Timeout	Number of US-MAPs to receive before contention-based reservation is attempted again for the same connection.	04	—	255
BS, CPE	BW Request opportunity size	Size (in OFDM slots) of PHY bursts, that a CPE may use to format and transmit a bandwidth request message in a contention request opportunity.	04	—	255
BS, CPE	UCS Notification request opportunity size	Size (in OFDM slots) of PHY bursts that a CPE may use to transmit a UCS Notification.	04	—	255
BS, CPE	# of initial ranging codes	Number of initial ranging CDMA codes (N).	04	—	255
BS, CPE	# of periodic ranging codes	Number of periodic ranging CDMA codes (M).	04	—	255
BS, CPE	# of bandwidth request codes	Number of bandwidth request CDMA codes (L).	04	—	255
BS, CPE	# of UCS notification codes	Number of UCS notification CDMA codes (H).	04	—	255
BS, CPE	Start of CDMA codes group	Indicates the starting number, S, of the group of codes used for the US.	0	See 6.10.3 —	255
BS, CPE	EIRP Density Level	EIRP Transmitted per subcarrier.	−104 dBm	—	+23.5 dBm
BS, CPE	EIRP Control	EIRP per subcarrier that the CPE should apply to correct its current transmission EIRP.	−104 dBm	—	+23.5 dBm
BS	EIRP Per subcarrier	EIRP transmitted per subcarrier.	−104 dBm	—	+23.5 dBm

12.1.3 Coexistence

Change Table 274 as follows:

Table 274—Coexistence parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	Tsc (T33)	Time between transmission of the broadcast message of the operating backup and candidate channel sets for the purposes of spectrum etiquette.	—	—	60 s
BS	T32	Wait for the Frame Contention Response message.	1 superframe	—	32 superframes

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	FCW	Frame Contention Window: number of superframes during which a BS (FC_DST) accumulates the frame contention requests before reacting to it and responding to the FC_SRCs.	0 superframe	—	16 superframes
BS	SCWBackoff_Max	Integer denoting the maximum superframes for the SCW backoff window.	0	—	15
BS	Frame_Contention_Min	Number of frames not available for contention at a BS in a coexistence situation.	0	2	8
BS	FCN_range	Exponent in base 2 defining the extent of the range of the random number FCN.	4	—	16
BS	SF_release	Number of superframes after which the BS releases the frames won by another BS through frame contention.	—	5	—
CPE	T _{CBP} (T34)	The minimum time between transmissions of a CBP packet carrying its MAC address for identification by nearby CPEs and BSs for coexistence purpose, as well as by spectrum monitoring systems to identify potential interference situations. Timing value may depend on the regulatory domain where the WRAN system operates (see Annex A).	8 s	—	15 min
BS	SCWBackoff_Timer (T35)	Backoff timer that controls exiting or continuation of Frame contention procedure.	—	—	SCWBackoff_Max

12.1.4 Security

Change Table 275 as follows:

Table 275—Security parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
CPE	EAP Authentication Timer (T36)	Timeout period between sending SCM EAP-Start or EAP-Transfer (8.2.2.5).	2 s	10 s	30 s
CPE	Authentication Grace Timer (T37)	Amount of time after authentication is complete that must pass before re-authentication is complete (8.2.2.5).	5 min (300 s)	10 min (600 s)	~~6 h (21,600 s)~~ 35 days (3,024,000 s)
CPE	Max #of Authentication Attempts	Maximum # of Times a CPE is allowed to attempt EAP Authentication (8.2.2.5).	1 s	5 s	10 s
CPE	Operational Wait Timeout (T38)	Timeout period between sending of Key Request messages from the Op Wait state (8.2.3.2.4).	1 s	1 s	10 s
CPE	Rekey Wait Timeout (T39)	Timeout period between sending of Key Request messages from the Rekey Wait state (8.2.3.2.4).	1 s	1 s	10 s
CPE	GTEK/TEK Grace Time (T40)	Time interval, in seconds before the estimated expiration of a GTEK/TEK (8.2.3.2.4).	5 min (300 s)	1 h (3600 s)	3.5 days (302,400 s)

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS	AK Lifetime	Lifetime BS assigns to new AK.	1 day (86,400 s)	7 days (604,800 s)	70 days (6,048,000 s)
BS	TEK Lifetime	Lifetime BS assigns to new TEK.	30 min (1800 s)	12 h (43,200 s)	7 days (604,800 s)
BS, CPE	SCM Flow Control	The maximum number of concurrent SCM transactions.	0 (Default: unlimited # of transactions)	—	255
BS, CPE	Number of Supported Security Associations	The maximum # of supported security associations.	2	—	2+m where m is the number of multicast groups
BS, CPE	PN_ WINDOW_ SIZE	Window that defines the acceptable PNs for received PDUs that are to be processed by encryption/decryption process.	16	—	512
BS	T17	Time allowed for CPE to complete CPE Authorization and Key Exchange.	5 min	5 min	—

12.1.5 Cognitive radio capabilities (SM, SSA, incumbent protection, QP management)

Change Table 276 as follows:

Table 276—Cognitive radio capability parameters, timers, message IEs

Entity/ Scope	Name	Reference	Min value	Default value	Max value
CPE	T19	~~Time DS channel remains unusable.~~	—	—	—
CPE	T29	Wait for BLM-ACK timeout.	10 ms	—	300 ms
BS	T31	Wait for BLM-REP timeout.	1 MAC Frame	—	—
CPE	BLM-REP Retries	Number of retries allowed for sending BLM-REP.	—	3	—
BS, CPE	Channel Availability Check Time	The time during which a channel SHALL be checked for the presence of licensed incumbent signals having a level above the Incumbent Detection Threshold prior to the commencement of WRAN operation in that channel and, in the case of TV, a related channel at an EIRP level that can affect the measured channel.	—	30 s	—
BS, CPE	Non-Occupancy Period	The required period during which WRAN device transmissions SHALL NOT occur in a given channel because of the detected presence of an incumbent signal in that channel above the Incumbent Detection Threshold, or in the case of TV, above a given EIRP level.	10 min	—	—

IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands
Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS, CPE	Channel Detection Time	The maximum time taken by a WRAN device to detect a licensed incumbent signal above the Incumbent Detection Threshold within a given channel during normal WRAN operation.	—	≤ 2 s to $\geq 90\%$ Probability of Detection with a False Alarm rate of $\leq 10\%$	—
BS, CPE	Channel Setup Time	The window of time that may be taken by a WRAN CPE to transmit control information to a WRAN base station in order to establish operation with that base station at the prescribed power or, in the case of TV, at or below the allowable EIRP within a given channel.	—	2 s	—
BS, CPE	Channel Opening Transmission Time (Aggregate transmission time)	The aggregate duration of control transmissions by WRAN devices during the Channel Setup Time, which starts at the end of the Channel Availability Check Time.	—	100 ms	—
BS, CPE	Channel Move Time (In-service monitoring)	The time taken by a WRAN system to cease all interfering transmissions on the current channel upon detection of a licensed incumbent signal above the relevant Incumbent Detection Threshold, or in the case TV, to alternatively reduce its EIRP to that which is allowable within a given channel upon detection of a TV signal in the same or a related channel.	—	2 s	—
BS, CPE	Channel Closing Transmission Time (Aggregate transmission time)	The aggregate duration of control transmissions by the WRAN devices during the Channel Move/EIRP Reduction Time, which starts upon detection of a licensed incumbent signal above the relevant Incumbent Detection Threshold.	—	100 ms	—
BS, CPE	Channel Number	The channel number to be sensed by the SSF (10.4).	0	—	255
BS, CPE	Channel Bandwidth	The bandwidth of the channel to be sensed by the SSF (10.4).	—	6/7/8 MHz (depending on regulatory domain)	—
BS, CPE	Maximum Probability of false alarm	In sensing modes 0 and 1 this value specifies the maximum probability of false alarm for each sensing mode decision in the signal present array.	0.0	—	0.255
BS, CPE	NumSensingPeriods	Number of sensing periods field in a Sensing Window Specification Array entry.	0	1	127
BS, CPE	SensingPeriodDuration	Duration of sensing period field (in units of OFDM symbols) in a Sensing Window Specification Array entry.	0	16	1023
BS, CPE	SensingPeriodInterval	Periodicity of Sensing period field in a Sensing Window Specification Array entry.	0	200	2047

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS, CPE	Sensing Window Specification Array	Array containing Sensing Window specification for each signal type enumerated in Signal Type Array.	1×sizeof (NumSensingPeriods+SensingPeriodDuration+SensingPeriodInterval)	—	32×sizeof (NumSensingPeriods+SensingPeriodDuration+SensingPeriodInterval)
BS, CPE	Signal Type Array	Bitmap that indicates which signal types are to be sensed for in a given regulatory domain.	—	Set on a regulatory domain-by-domain basis (see Table A.11)	—
BS, CPE	Sensing Mode	The sensing mode a CPE supports. Negotiated during CPE initialization. Various modes are described in Table 238.	—	No Sensing	—
BS, CPE	Signal Present Decision	Indication of whether a signal of a specific type has been detected. All unused values are reserved.	0x00 (Absent)	0x7F (No Decision could be made)	0xFF (Signal Present)
BS, CPE	Confidence Metric	Confidence with which sensing can determine the signal type.	0x00 (No Confidence)	—	0xFF (Full confidence)
BS, CPE	Mean RSSI	Mean of M RSSI measurements.	−104 dBm	—	+23.5 dBm
BS, CPE	Standard Deviation of RSSI	Standard deviation of the M RSSI measurements.	+0.0 dB	—	+25.5 dB
BS, CPE	RSSI _{detection_ threshold}	Energy detection threshold indicating the presence of an incumbent, other WRAN system, or interference.	−120 dBm	—	−10 dBm
BS, CPE	Microphone Protection Radius	Radius of the contour within which the WRAN system cannot operate due to potential interference with the microphone.	0.1 km	—	100 km
BS, CPE	T _{Candidate_Channel_Refresh} (T41)	Maximum time interval allowed before sensing is performed on the candidate channel to ensure that no incumbents are detected.	1 s	6 s	10 s
BS, CPE	T _{Backup_Channel_Refresh} (T42)	Maximum time interval allowed before sensing is performed on the backup channel to ensure that no incumbents are detected.	1 s	6 s	10 s
BS, CPE	T _{Candidate_to_Backup_Transition} (T43)	Minimum time duration without detection of any incumbent for a candidate channel to transition to the backup channel.	1 s	30 s	100 s
BS, CPE	T _{Ch_Move} (T44)	Maximum time to ensure that the channel move information is successfully conveyed to all the associated CPEs and BS (self-coexistence mode).	1 s	—	10 s
BS, CPE	T _{No_DB} (T45)	Maximum WRAN operation time without access to the incumbent database service.	0.1 h	—	72 h
BS	T _{Wait_Before_Channel_Move} (T46)	Waiting time before which the BS moves to the first backup channel. This is used to make sure that all the CPEs are ready to move to the backup channel before BS switches operation to this backup channel.	1 frame	—	256×16 frames

Entity/ Scope	Name	Reference	Min value	Default value	Max value
CPE	T _{Wait_Before_Channel_Move} (T59)	Waiting time before which the CPE moves to its backup channels if it no longer hears from its BS. This is used to make sure that the CPE waits long enough after its UCS Notification so that the BS has had time to move to a backup channel, if it decided to do so.	1 frame	—	256×16 frames
BS, CPE	T _{Refresh_Database_Info} (T47)	The prescribed time by the WRAN operator to refresh the incumbent database service.	0.1 h	—	72 h
BS, CPE	T _{Clear_N} (T48)	Lapser Timer keeps track of whether the Operating Channel N has been cleared using spectrum sensing.	0.1 s	—	60 s
BS, CPE	T _{Clear_N-1} (T49)	Lapser Timer keeps track of whether the Adjacent Channel N-1 has been cleared using spectrum sensing.	0.1 s	—	60 s
BS, CPE	T _{Clear_N+1} (T50)	Lapser Timer keeps track of whether the Adjacent Channel N+1 has been cleared using spectrum sensing.	0.1 s	—	60 s
BS, CPE	T _{Loss_of_BS_Contact} (T51)	Initiated when the CPE loses contact with the BS.	1 s	—	600 s
BS, CPE	T _{Range1} (T52)	Used for terrestrial geolocation. Initiated when the downstream burst leaves the BS (i.e., at the start of the frame preamble).	1 TU	—	1000 TU
BS, CPE	T _{INsens} (T53)	The parameter T _{INsens} is used to verify that in-band sensing has been done within the required In-service monitoring period. The T _{INsens} parameter is driven by the regulatory domain requirements. See Annex A.	0.1 s	—	60 s
BS, CPE	T _{OUTsens} (T54)	The parameter T _{OUTsens} is used to verify that out-of-band sensing has been done within the required “Acquiring a channel monitoring period” specified in Annex A, Table A.13 (30 s in the US). This value would be used to either initialize a “lapse timer” for each channel in the backup/candidate list at each CPE so that it is compared to T _{sens} .	0.1 s	—	60 s
BS, CPE	T _{sensin} (T55)	T _{sensin} parameter corresponds to the maximum length of time required to carry out the sensing process on an in-band channel (N, N-1, or N+1). Manufacturers need to specify the sensing time required to detect the specified signals with required accuracy (see Figure 176).	1 ms	—	160 ms
CPE	T _{sensout} (T60)	T _{sensout} parameter corresponds to the maximum length of time required to carry out an out-of-band sensing process for a specified channel N (i.e., N, N-1, and N+1). Manufacturers need to specify the sensing time required to detect the specified signals out-of-band with required accuracy (see Figure 178).	20 ms	—	160 ms
BS, CPE	ISO 3166 IETF Country Code	3-character, ASCII string denoting the regulatory domain of operation (e.g., “USA” is for United States of America”).	—	3 characters	—

Entity/ Scope	Name	Reference	Min value	Default value	Max value
BS, CPE	TA _{CBP}	Timing Advance of the CBP burst (see step 2 of 10.5.2.3). Note that the geolocation process will have to pre-adjust TA _{CBP} depending on the distance between the two CPE to be geolocated and the reference CPEs so that the delays measured by Vernier ₃ fall within the symbol cyclic prefix (e.g., 74.68 μs corresponding to 22.4 km).	−1024 TU	—	+1024 TU

13 MIB structure

Change the third list item in the dashed list in the preliminary text of Clause 13 as follows:

- ~~wranIfBsSfMgmtMib~~: ~~wranIfBsSfMgmt~~ Basic MIB for managing items related to Service Flow configuration, instantiation, and management

13.1 MIB description

13.1.1 wranDevMib

Change the dashed list in 13.1.1 as follows:

- wranDevBsObjects: MIB objects to be implemented by the SNMP agent in BS
- wranDevCpeObjects: MIB objects to be implemented by the SNMP agent in CPE
- wranDevCommonObjects: MIB objects to be implemented by the SNMP agent in BS/CPE
- ~~wranDevMibConformance~~: MIB objects related to conformance

13.1.1.1 wranDevBsObjects

13.1.1.1.1 wranDevBsSoftwareUpgradeTable

13.1.1.1.1.1 wranDevBsSoftwareUpgradeEntry

Change 13.1.1.1.1.1.9 as follows:

13.1.1.1.1.1.9 wranDevBsSoftwareUpgradeTimeStamp

This value is a timestamp to indicate when the last SW ~~download~~ or activation took place.

Change 13.1.1.1.2 and its subclauses as follows:

13.1.1.1.2 wranDevBsNotification

This group of objects relates to SNMP traps on the BS. There is a control element that enables/disables the traps (wranDevBsTrapControl) and ~~whether or not what event information is logged when a trap is sent~~ (wranDevBsTrapDefinition) ~~when an event is logged~~.

13.1.1.1.2.1 wranDevBsTrapControl

Defines control elements for traps. This is a 2-bit field that enables setting a trap to indicate when a BS event is logged (wranDevBsEvent) or when a event log buffer size overruns the configured threshold (wranDevBsLogBuffExceedThreshold).

~~13.1.1.1.2.2~~ 13.1.1.1.2.1.1 wranDevBsTrapDefinitionwranDevBsTrapPrefix

This object groups all of the notification objects for the BS. It is defined to be compatible with SNMPv1, following Sections 8.5 and 8.6 of IETF RFC 2758. It is a compound object made up of the contents of a logged BS event (wranDevBsEventTrap) and the indication of when the ratio of the portion used to total size of event log has been exceeded (wranDevBsLogBuffExceedThresholdTrap).

~~13.1.1.1.2.2.1~~ 13.1.1.1.2.1.1.2 wranDevBsTrapControlRegister

This is ... ~~wranDevBsLogBuffExceedThresholdTrapControl~~.

~~13.1.1.1.2.2.2~~ 13.1.1.1.2.1.1.2.2 wranDevBsEventTrapControl

This trap ... ~~wranDevCmnEventTable~~.

~~13.1.1.1.2.2.2.1~~ 13.1.1.1.2.1.1.2.2.1 wranDevBsEventTrap

This object is a compound object that contains information that describes the event that is logged. This trap is caught when wranDevBsEvent in wranDevBsTrapControl is set.

~~13.1.1.1.2.2.2.2~~ 13.1.1.1.2.2.2.1 wranDevBsLogBuffExceedThresholdTrap

This trap is sent when the size of the event log buffer is greater than the configured threshold object is a compound object that indicates the index of an entry (defined by wranDevCmnEventLogEntry) in wranDevCmnEventLogConfigTable and the object in that entry that defines the ratio (defined by wranDevCmnEventLogResidualBuffThreshold) of used capacity in Event Log versus total capacity. This trap is caught when wranDevBsLogBuffExceedThreshold in wranDevBsTrapControl is set.

13.1.1.2 wranDevCpeObjects

Change 13.1.1.2.2 and its subclauses as follows:

13.1.1.2.2 wranDevCpeNotification

This group of objects relates to SNMP traps on the BSCPE. There is a control element that enables/disables the traps (wranDevCpeTrapControl) and whether or not what event information is logged when a trap is sent (wranDevCpeTrapDefinition) when an event is logged.

13.1.1.2.2.1 wranDevCpeTrapControl

Defines control elements for traps. This is a 2-bit field that enables setting a trap to indicate when a CPE event is logged (wranDevCpeEvent) or when a event log buffer size overruns the configured threshold (wranDevCpeLogBuffExceedThreshold).

13.1.1.2.2.1.1 wranDevCpeTrapDefinition~~wranDevCpeTrapPrefix~~

This object groups all of the notification objects for the BSCPE. It is defined to be compatible with SNMPv1, following Sections 8.5 and 8.6 of IETF RFC 2758. It is a compound object made up of the contents of a logged BS event (wranDevCpeEventTrap) and the indication of when the ratio of the portion used to total size of event log has been exceeded (wranDevCpeLogBuffExceedThresholdTrap).

13.1.1.2.2.1.2 wranDevCpeEventTrap~~wranDevCpeTrapControlRegister~~

This object is a compound object that contains information that describes the event that is logged. This trap is caught when wranDevCpeEvent in wranDevCpeTrapControl is set. ~~This is a 2-bit bitmap that enables the two BS traps that are available: wranDevCpeEventTrapControl, wranDevBsLogBuffExceedThresholdTrapControl.~~

13.1.1.2.2.1.3 wranDevCpeLogBuffExceedThresholdTrap

This object is a compound object that indicates the index of an entry (defined by wranDevCmnEventLogEntry) in wranDevCmnEventLogConfigTable and the object in that entry that defines the ratio (defined by wranDevCmnEventLogResidualBuffThreshold) of used capacity in Event Log versus total capacity. This trap is caught when wranDevCpeLogBuffExceedThreshold in wranDevCpeTrapControl is set.

~~13.1.1.2.2.2 wranDevCpeEventTrapControl~~

~~This trap ... wranDevCmnEventTable.~~

~~13.1.1.2.2.2.1 wranDevBsLogBuffExceedThresholdTrap~~

~~This trap ... configured threshold.~~

13.1.1.3 wranDevCommonObjects

13.1.1.3.1 wranDevCmnEventLog

13.1.1.3.1.1 wranDevCmnEventLogConfigTable

Change the subclauses of 13.1.1.3.1.1 as follows:

13.1.1.3.1.1.1 wranDevCmnEventLogConfigEntry

This object ... wranDevCmnDeviceIndex.

~~13.1.1.3.1.1.1.1~~ **13.1.1.3.1.1.2 wranDevCmnDeviceIndex**

Index value ... wranDevCmnEventLogConfigTable.

~~13.1.1.3.1.1.1.2~~ **13.1.1.3.1.1.3 wranDevCmnEventLogEntryLimit**

Maximum number ... is reached.

~~13.1.1.3.1.1.1.3~~ **13.1.1.3.1.1.4 wranDevCmnEventLogLifeTimeLimit**

A value of 0 means that an entry is kept indefinitely. Any other value, it is the maximum time an entry can exist in wranDevCmnEventLogTable. If this value is changed while entries exist in wranDevCmnEventLogTable, entries older than this limit will be discarded.

~~13.1.1.3.1.1.1.4~~ **13.1.1.3.1.1.5 wranDevCmnEventLogEntryLimitPerEventId**

The number ... per event.

~~13.1.1.3.1.1.1.5~~ **13.1.1.3.1.1.6 wranDevCmnEventLogSeverityThreshold**

Minimum severity ... Event Log.

~~13.1.1.3.1.1.1.6~~ **13.1.1.3.1.1.7 wranDevCmnEventLogWrapAroundBuffEnable**

Indication of ... when full.

~~13.1.1.3.1.1.1.7~~ **13.1.1.3.1.1.8 wranDevCmnEventLogLatestEvent**

Index of ... Event Log.

~~13.1.1.3.1.1.1.8~~ **13.1.1.3.1.1.9 wranDevCmnEventLogPersistenceSupported**

Indication of ... of device.

~~13.1.1.3.1.1.1.9~~ **13.1.1.3.1.1.10 wranDevCmnEventLogResidualBuffThreshold**

Threshold ratio ... is issued.

13.1.1.3.1.2 wranDevCmnEventTable

Change 13.1.1.3.1.2.1 as follows:

13.1.1.3.1.2.1 wranDevCmnEventEntry

This object defines the parameters of an event entry in the `wranDevCmnEventTable`. Each entry is indexed by ~~`wranDevCmnDeviceIndex` and `wranDevCmnEventIdentifier`~~.

13.1.1.3.1.3 wranDevCmnEventLogTable

Change 13.1.1.3.1.3.1 and 13.1.1.3.1.3.1.1 as follows:

13.1.1.3.1.3.1 ~~wranDevCmnEventLogEntry~~ `wranDevCmnEventEntry`

Each entry ... several parameters.

13.1.1.3.1.3.1.1 wranDevCmnEventId

A counter used to index entries in the Event Log. When it reaches the maximum value, it will ~~with~~-wrap-around if configured to wrap-around or the log will be flushed if it is not configured to wrap-around.

Change 13.1.1.3.2 as follows:

13.1.1.3.2 wranDevCmnSnmpAgent

This compound object deals with the common objects (`wranDevCmnSnmpAgent` and `wranDevCmnSnmpV1V2TrapDestTable`) related to SNMP agent configuration.

Change 13.1.1.3.3 and its subclauses as follows:

13.1.1.3.3 wranDevCmnDeviceConfig

This compound attribute contains the following:

- `wranDevCmnResetDevice`: Object that is used to reset the device
- ~~`wranDevMibGroups`~~ `wranDevMibConformance`: MIB objects that are required for conformance
- `wranDevMibCompliance`: MIB objects that are required for conformance

13.1.1.3.3.1 wranDevCmnResetDevice

There are ... reset itself.

13.1.1.3.3.2 ~~wranDevMibGroups~~ `wranDevMibConformance`

This object ... each group.

13.1.1.3.3.2.1 wranDevMibBsGroup

This MIB group is mandatory. It is made up of wranDevBsTrapControl, ~~wranDevBsTrapControlRegister~~.

13.1.1.3.3.2.2 wranDevMibBsSwUpgradeGroup

This MIB group is ~~mandatory~~ optional. It is a compound object made up of wranDevBsVendorId, wranDevBsHwId, wranDevBsCurrentSwVersion, wranDevBsDownloadSwVersion, wranDevBsUpgradeFileName, wranDevBsSoftwareUpgradeAdminState, wranDevBsDownloadSwProgress, wranDevBsSoftwareUpgradeTimeStamp. It contains the values of the most recent/current entry in wranDevBsSoftwareUpgradeTable.

13.1.1.3.3.2.3 wranDevMibCpeGroup

This MIB group is mandatory. It is a compound object made up of wranDevCpeMicConfigSetting, wranDevCpeVendorId, ~~wranDevBsVendorId~~, wranDevCpeHwId, wranDevCpeConfigFileVersion, ~~wranDevCpeSwVersion~~, wranDevCpeUpgradeFileName, wranDevCpeSwTftpServer, wranDevCpeTftpServerTimeStamp, wranDevCpeTrapControl, ~~wranDevCpeTrapControlRegister~~. It contains the values of the most recent/current entry in wranDevCpeConfigFileEncodingTable for a particular CPE.

13.1.1.3.3.2.4 wranDevMibCmnGroup

This MIB ... wranDevCmnEventLogTable.

13.1.1.3.3.2.5 wranDevMibBsNotificationGroup

This MIB ... wranDevBsLogBuffExceedThresholdTrap.

13.1.1.3.3.2.6 wranDevMibCpeNotificationGroup

This MIB ... wranDevCpeLogBuffExceedThresholdTrap.

13.1.1.3.3.2.7 wranDevCpeTrapControlGroup

Contains objects related to enabling/disabling CPE device traps.

13.1.1.3.3.2.8 wranDevBsTrapControlGroup

Contains objects related to enabling/disabling BS device traps.

13.1.1.3.3.3 wranDevMibCompliance

This object indicates which MIB groups in wranDevMibGroups are optional and which ones are mandatory.

13.1.2 wranIfBsMib

Change 13.1.2.1 and 13.1.2.1.1 as follows:

13.1.2.1 wranIfBsFm

Exceptions and fault events can be reported by using the traps defined in this MIB. wranIfBsFm is made up of the following MIBs: wranIfBsTrapControl, wranIfBsTrapControlRegister, wranIfBsTrapDefinition, wranIfBsNotificationObjectsTable, wranIfBsCpeNotificationObjectsTable, wranIfBsFmMibGroups, and wranIfBsFmMibCompliance, and wranIfBsThresholdConfigTable.

13.1.2.1.1 wranIfBsTrapControl wranIfBsTrapControlRegister

This MIB is a bitmap that is used to disable/enable the following BS traps:

wranIfBsCpeDynamicServiceNotification
wranIfBsCpeDynamicServiceFailNotification,
wranIfBsCpeRssiStatusChangeNotification
wranIfBsSignalPowerMetricsStatusNotification,
wranIfBsCpeEIRPStatusChangeNotification,
wranIfBsCpeRegisterNotification,
wranIfBsCpeScmNotification, wranIfBsCpeScmFailNotification,
wranIfBsCpeStartupStatusChangeNotification,
wranIfBsThroughputMetricsNotification,
wranIfBsNetworkEntryMetricsNotification,
wranIfBsPacketErrorRateChangeNotification,
wranIfBsUserMetricsChangeNotification,
wranIfBsCoexistenceStatusNotification,
wranIfBsCpeCdpReceptionNotification,
wranIfBsCpeWiMicBeaconMSF1Notification,
wranIfBsCpeWiMicBeaconMSF12Notification,
wranIfBsCpeWiMicBeaconMSF123Notification,
wranIfBsInterFrameSensingStatusNotification,
wranIfBsMeasurementStatusNotification
wranIfBsBasicCapabilityNotification, wranIfBsRangingNotification, and
wranIfBsAuthMetricsNotification. Enable of a trap indicates that the trap will be recorded in wranIfBsCpeNotificationObjectsTable.

Insert the following new subclauses (13.1.2.1.2 to 13.1.2.1.14) after 13.1.2.1.1:

NOTE—For instructions for the former 13.1.2.1.2, see the new 13.1.2.1.3.

13.1.2.1.2 wranIfBsTrapDefinition

This object defines BS related traps for configuration, accounting, performance, and SCM management aspects in wranIfBsMib.

13.1.2.1.2.1 wranIfBsDynamicServiceTrap

This trap contains information related to updating the configuration of either provisioned service flows (wranIfBsProvSfTable) or active service flows (wranIfBsActiveSfTable).

13.1.2.1.2.2 wranIfBsSignalPowerMetricsTrap

This trap contains information related to updating of signal power metrics (wranIfBsSignalPowerMetricsTable).

13.1.2.1.2.3 wranIfBsRegNotificationTrap

This trap contains the information related to indicating successful registration of a CPE (wranIfBsCpeRegCapabilityRspTable).

13.1.2.1.2.4 wranIfBsScmNotificationTrap

This trap contains the information related to updating the configuration of the SCM protocol capabilities on a CPE (wranIfBsCpeScmCapabilityConfigTable) or current authentication status (wranIfBsCpeScmAuthConfigTable).

13.1.2.1.2.5 wranIfBsStartupStatusTrap

This trap contains the information related to changes in a CPE's status with regard to network entry (wranIfBsStartupMetricsTable).

13.1.2.1.2.6 wranIfBsTxMetricsTrap

This trap contains the information related to changes in throughput metrics (wranIfBsThroughputMetricsTable) or ARQ metrics (wranIfBsArqMetricsTable).

13.1.2.1.2.7 wranIfBsNetEntryMetricsTrap

This trap contains the information related to updates in network entry and re-entry latency measurements (wranIfBsNetworkEntryMetricsTable).

13.1.2.1.2.8 wranIfBsPktErrorTrap

This trap contains the information related to updates in packet error rate measurements (wranIfBsPacketErrorRateTable).

13.1.2.1.2.9 wranIfBsUserMetricsTrap

This trap contains the information related to updates in tracking the number of active and non-active users (wranIfBsUserMetricsTable).

13.1.2.1.2.10 wranIfBsCoexistenceTrap

This trap contains the information related to updates in tracking ongoing coexistence transaction (e.g., On-Demand Frame Contention in wranIfBsCoexistenceStatusTable), discovery of new potential coexistence sources (wranIfBsCoexistenceSourceTable), discovery of resource usage in neighboring networks (wranIfBsCoexistenceResourceListTable), and updates to a BS's own coexistence configuration (wranIfBsCoexistenceCurrentConfigTable).

13.1.2.1.2.11 wranIfBsBasicCapabilityTrap

This trap contains the information related to updates in tracking updates to the basic capability configuration of CPEs (wranIfBsCpeBasicCapabilityRspTable).

13.1.2.1.2.12 wranIfBsRangingTrap

This trap contains the information related to updates in tracking status of ranging of (wranIfBsCpeRngCapabilityCmdTable).

13.1.2.1.2.13 wranIfBsAuthMetricsTrap

This trap contains the information related to updates in tracking updates to authentication metrics (wranIfBsAuthenticationMetricsTable).

13.1.2.1.2.14 wranIfBsDynamicServiceMetricsTrap

This trap contains the information related to updates in tracking metrics for current provisioned and active service flows (wranIfBsAuthenticationMetricsTable).

To create a new 13.1.2.1.3 with subclauses, change the former 13.1.2.1.2 and its subclauses as follows:

NOTE—For instructions for the former 13.1.2.1.3, see the deletions after the new 13.1.2.1.3.1.20.

~~13.1.2.1.3~~ 13.1.2.1.2 wranIfBsNotificationObjectsTable wranIfBsCpeNotificationObjectsTable

This table contains objects that represents notifications reported in BS fault traps. The table is made up of one or more entries.

~~13.1.2.1.3.1~~ 13.1.2.1.2.1 wranIfBsNotificationObjectsEntry wranIfBsCpeNotificationObjectsEntry

This MIB is a compound object that represents an entry in the MIB object wranIfBsNotificationObjectsTable wranIfBsCpeNotificationObjectsTable.

13.1.2.1.3.1.1 wranIfBsNotificationObjectsIndex

Index of entry in the table.

~~13.1.2.1.3.1.2~~ 13.1.2.1.2.1.1 wranIfBsNotificationMacAddr wranIfBsCpeNotificationMacAddr

The MAC ... the notification.

13.1.2.1.3.1.3 wranIfBsDynamicServiceType

Indication if the configuration for a provisioned or active service flow has been configured.

13.1.2.1.3.1.4 wranIfBsDynamicServiceNotificationIndex

Index into wranIfBsProvSfTable or wranIfBsActiveSfTable that indicates which service flow configuration was added/updated.

13.1.2.1.3.1.5 wranIfBsSignalPowerMetricsNotificationIndex

Index into wranIfBsSignalPowerMetricsTable that indicates the entry that contains updated signal power metrics data.

13.1.2.1.3.1.6 wranIfBsBsRegCapabilityNotificationIndex

Index into wranIfBsCpeRegCapabilityRspTable that indicates the entry that contains updated registration for a CPE.

13.1.2.1.3.1.7 wranIfBsScmNotificationType

Indication if the configuration of the SCM protocol or the authentication status of a CPE has been updated.

13.1.2.1.3.1.8 wranIfBsScmNotificationIndex

Index into wranIfBsCpeScmCapabilityConfigTable that indicates which CPE has updated their SCM configuration, or wranIfBsCpeScmAuthConfigTable that indicates which CPE has had their authentication status updated.

13.1.2.1.3.1.9 wranIfBsStartupNotificationIndex

This contains the index of entry in wranIfBsStartupMetricsTable that contains data on any changes in a CPE's status with regard to network entry.

13.1.2.1.3.1.10 wranIfBsTxMetricsType

Indication if throughput metrics contained or ARQ Metrics in have been updated.

13.1.2.1.3.1.11 wranIfBsTxMetricsNotificationIndex

Index into wranIfBsThroughputMetricsTable that indicates changes in measure throughput metrics, or wranIfBsArqMetricTable that indicates changes in ARQ performance.

13.1.2.1.3.1.12 wranIfBsNetEntryMetricsNotificationIndex

This contains the index of entry in wranIfBsNetworkEntryMetricsTable that contains data on any changes in network entry and re-entry latency measurements.

13.1.2.1.3.1.13 wranIfBsPktErrorMetricsNotificationIndex

This contains the index of entry in wranIfBsPacketErrorRateTable that contains data on any changes in packet error rate measurements.

13.1.2.1.3.1.14 wranIfBsUserMetricsNotificationIndex

This contains the index of entry in wranIfBsUserMetricsTable that contains data on any changes in the number of active and non-active users in the cell.

13.1.2.1.3.1.15 wranIfBsCoexMetricsType

Indication if ongoing On-Demand Frame Coexistence Transactions, discovery of new potential coexistence resources, discovery of the resource usage in neighboring networks, and whether a BS's own coexistence configuration have been updated.

13.1.2.1.3.1.16 wranIfBsCoexNotificationIndex

Index into wranIfBsCoexistenaceStatusTable that indicates changes in ongoing On-Demand Frame Contention transactions, wranIfBsCoexistenceSourceTable that indicates changes in the discovery of new potential coexistence sources, wranIfBsCoexistenceResourceListTable that indicates discovery of resource usage in neighboring networks, or wranIfBsCoexistenceCurrentConfigTable that indicates whether a BS's own coexistence configuration have been updated.

13.1.2.1.3.1.17 wranIfBsBasicNotificationIndex

This contains the index of entry in wranIfBsCpeBasicCapabilityRspTable that contains data on any changes in tracking updates to the basic capability configuration of CPEs.

13.1.2.1.3.1.18 wranIfBsRngNotificationIndex

This contains the index of entry in wranIfBsCpeRngCapabilityCmdTable that contains data on any changes in tracking updates to the status of ranging of CPEs.

13.1.2.1.3.1.19 wranIfBsAuthNotificationIndex

This contains the index of entry in wranIfBsAuthenticationMetricsTable that contains data on any changes in tracking updates to authentication metrics.

13.1.2.1.3.1.20 wranIfBsDynSrvMetricsNotificationIndex

This contains the index of entry in wranIfBsServiceFlowMetricsTable that contains information related to tracking metrics of ongoing.

13.1.2.1.2.1.2 wranIfBsCpeStartupStatusChange

This object ... initialization procedures.

...

13.1.2.1.2.1.17 wranIfBsIntraFrameSensingStatus

Indication when ... been changed.

13.1.2.1.3 wranIfBsThresholdConfigTable

This MIB ... **13.1.2.1.3.1.4** ... EIRP alarm.

Insert the following new subclauses (13.1.2.1.4 with its subclauses and 13.1.2.1.5) after 13.1.2.1.3.1.20:

13.1.2.1.4 wranIfBsFmMibGroups

This object helps define which MIB groups are available in this module (wranIfBsFm) and which MIB objects are part of each group.

13.1.2.1.4.1 wranIfBsFmTrapControlGroup

This group contains objects related to enabling/disabling traps use for management of the BS.

13.1.2.1.4.2 wranIfBsFmNotificationGroup

This group contains objects related to traps used for management of the BS.

13.1.2.1.5 wranIfBsFmMibCompliance

MIB objects that are optional or mandatory for wranIfBsFm compliance.

Change 13.1.2.2 as follows:

13.1.2.2 wranIfBsCm

This MIB contains various objects related to Configuration Management. Within this MIB, the following tables are handled: wranIfBsCpeRngCapabilityReqTable, wranIfBsCpeRngCapabilityCmdTable, wranIfBsCpeBasicCapabilityReqTable, wranIfBsCpeBasicCapabilityRspTable, wranIfBsCpeRegCapabilityReqTable, wranIfBsCpeMeasSupportReqTable, wranIfBsCpeRegCapabilityRspTable, wranIfBsCpeMeasSupportRspTable, wranIfBsCpeAntennaGainTable, wranIfBsScmCapabilityConfiguration, wranIfBsCpeScmCapabilityConfigTable, wranIfBsScmAuthConfigTable, wranIfBsActionsTable, wranIfBsCpeMulticastConfigTable, wranIfBsCoexistenceConfigTable, wranIfBsCpeBasicCapabilityCmn, wranIfBsCpeRegCapabilityCmn, wranIfBsCpeMeasSupportCmn, wranIfBsCpeSystemParametersTable, wranIfBsCpeRegCapabilityCmn, wranIfBsCmMibGroups, and wranIfBsCmMibCompliance. For CBC-REQ/RSP and REG-REQ/RSP there are two MIB object groups that represent entries that are common to Basic and Registered Capability negotiation.

13.1.2.2.1 wranIfBsCpeRngCapabilityReqTable

13.1.2.2.1.1 wranIfBsCpeRngCapabilityReqEntry

Change the subclauses of 13.1.2.2.1.1 as follows:

13.1.2.2.1.1.1 wranIfBsCpeRngCapabilityReqIndex

Index of entry in the table.

13.1.2.2.1.1 ~~13.1.2.2.1.1.1~~ wranIfBsCpeMacAddress

The MAC ... the BS.

13.1.2.2.1.1 ~~13.1.2.2.1.1.2~~ wranIfMmpPn

Current value ... is used.

13.1.2.2.1.1 ~~13.1.2.2.1.1.3~~ wranIfCiphertextIcv

Calculated value ... (see 8.2.4.6.1.2).

13.1.2.2.1.1 ~~13.1.2.2.1.1.4~~ wranIfRngAnomaly

Indication of ... ranging process.

Change 13.1.2.2.2 and its subclauses as follows:

13.1.2.2.2 wranIfBsCpeRngCapabilityCmdTable

This object provides a table containing the ranging configuration the BS is specifying for CPE in the RNG-CMD during network entry. Each table is made up of multiple entries, one for each CPE that a RNG-CMD is sent to, that is defined by wranIfBsCpeRngCapabilityCmdEntry wranIfBsCpeRngCapabilityRspEntry.

13.1.2.2.2.1 wranIfBsCpeRngCapabilityCmdEntry

This object ... network entry.

13.1.2.2.2.1.1 wranIfBsCpeRngCapabilityCmdIndex

Index of entry in the table.

13.1.2.2.2.1 ~~13.1.2.2.2.1.1~~ wranIfBsCpeMacAddress

MAC Address ... initial ranging.

13.1.2.2.2.1 ~~13.1.2.2.2.1.2~~ wranIfBSCpeStationId

Station ID ... initial ranging.

13.1.2.2.2.1 ~~13.1.2.2.2.1.3~~ wranIfTimingAdvance

Timing advance ... Table 44.

13.1.2.2.2.1 ~~13.1.2.2.2.1.4~~ wranIfEirpPerSubcarrier

EIRP per ... Table 44.

13.1.2.2.2.1 ~~13.1.2.2.2.1.5~~ wranIfOffsetFreqAdjust

Offset frequency ... Table 44.

13.1.2.2.2.1.7 ~~13.1.2.2.2.1.6~~ wranIfRangingStatus

Ranging status ... Table 44.

13.1.2.2.2.1.8 ~~13.1.2.2.2.1.7~~ wranIfActionSuperFrameNum

The Action ... Table 44.

13.1.2.2.2.1.9 ~~13.1.2.2.2.1.8~~ wranIfCdmaCode

The CDMA ... Table 44.

13.1.2.2.2.1.10 ~~13.1.2.2.2.1.9~~ wranIfTxOpportunityOffset

The Transmission ... Table 44.

13.1.2.2.3 wranIfBsCpeBasicCapabilityReqTable

Change 13.1.2.2.3.1 and its subclauses as follows:

13.1.2.2.3.1 wranIfBsCpeBasicCapabilityReqEntry

This object is a compound object that contains ~~the requested configuration of basic information on capabilities by that a CPE has declared to a BS during network entry.~~ The list of objects used to make up wranIfBsCpeBasicCapabilityReqEntry can be found in wranIfBsCpeBasicCapabilityCmn (13.1.2.2.16).

~~13.1.2.2.3.1.1 wranIfBsCpeBasicCapabilityReqEntryIndex~~

~~A unique ... this table.~~

~~...~~

~~13.1.2.2.3.1.11 wranIfCpeSemFlowControl~~

~~Maximum number ... in 7.7.11.3.3.3.~~

13.1.2.2.4 wranIfBsCpeBasicCapabilityRspTable

Change 13.1.2.2.4.1 as follows:

13.1.2.2.4.1 wranIfBsCpeBasicCapabilityRspEntry

This object is a compound object that contains the configuration of basic capabilities BS has selected for a CPE during network entry. This table reflects the current configuration of a CPE's basic capabilities. The list of objects used to make up wranIfBsCpeBasicCapabilityRspEntry can be found in wranIfBsCpeBasicCapabilityCmn (13.1.2.2.16).

NOTE—The relevant objects that make up this entry are described in 13.1.2.2.3.1.1 to 13.1.2.2.3.1.11. All items defined for the entry will need to move to the beginning of the ASN.1 formatting of `wranIfBsMib`.

13.1.2.2.5 `wranIfBsCpeRegCapabilityReqTable`

Change 13.1.2.2.5.1 and its subclauses as follows:

13.1.2.2.5.1 `wranIfBsCpeRegCapabilityReqEntry`

This object is a compound object that contains the information on the capabilities information for which that a CPE has requested confirmation from declared to the BS, e.g., through sending a REG-REQ to the BS. The objects that make up the entry are defined in `wranIfBsCpeRegCapabilityCmn` (13.1.2.2.17). A REG-REQ message comprises objects within this compound object, `wranIfBsCpeAntennaGainTable` (13.1.2.2.9), and `wranIfBsCpeMeasSupportReqTable` (13.1.2.2.6).

~~13.1.2.2.5.1.1 `wranIfBsRegisteredCpeMacAddress`~~

~~MAC address ... configured capabilities.~~

~~...~~

~~13.1.2.2.5.1.24 `wranIfCpeRegistrationTimer`~~

~~CPE Registration ... in 7.7.7.3.5.~~

Change 13.1.2.2.6 and its subclauses as follows:

13.1.2.2.6 `wranIfBsCpeMeasSupportReqTable`~~`wranIfBsCpeMeasurementSupportReqTable`~~

A compound object representing the Measurement Support IE of REG-REQ/RSP in 7.7.7.3.4.7. It is made up of multiple entries, one for each signal type ~~for which sensing is supported by sensing~~. Each entry is defined by `wranIfBsCpeMeasSupportReqEntry`
~~`wranIfBsCpeMeasurementSupportReqEntry`~~. Entries for a CPE are ~~only~~ present only if the value for `wranIfSensModeSupportArray` is anything other than “No Sensing.”

~~13.1.2.2.6.1 `wranIfBsCpeMeasSupportReqEntry`~~ ~~`wranIfBsCpeMeasurementSupportReqEntry`~~

A compound object representing entries of Measurement Support IE of REG-REQ in 7.7.7.3.4.7. It is made up of multiple objects. A CPE will have one entry for each Signal Type in the Signal Type Array of the Measurement Support IE. The rest of the objects that represent each entry are defined in `wranIfBsCpeMeasSupportCmn` (13.1.2.2.18).

~~13.1.2.2.6.1.1 `wranIfMeasurementSupportEntryIndex`~~

~~A unique ... `wranIfBsCpeMeasurementSupportReqTable`.~~

~~...~~

13.1.2.2.6.1.9 ~~wranIfMeasurementRecSensPeriodInterval~~

Recommended length ... of frames.

13.1.2.2.7 wranIfBsCpeRegCapabilityRspTable

Change 13.1.2.2.7.1 as follows:

13.1.2.2.7.1 wranIfBsCpeRegCapabilityRspEntry

This object is a compound object that contains the capabilities information that a BS has configured for a the CPE, e.g., through sending a REG-RSP to the CPE. wranIfRegCapabilityPermanentStationId is unique to REG-RSP. The objects that make up the entry are defined in wranIfBsCpeRegCapabilityCmn (13.1.2.2.17). A REG-RSP message comprises objects within this compound object and wranIfBsCpeMeasSupportRspTable (13.1.2.2.8).

NOTE 1—As with CBC RSP, the entries will contain the objects that have scope in both REG-REQ and REG-RSP object types as the REG-REQ objects; e.g., this entry will be made up of objects in 13.1.2.2.5.1.1 13.1.2.2.15.1.24.

NOTE 2—In addition to having the objects in 13.1.2.2.5.1.1 through 13.1.2.2.5.1.24, this compound object will have an object containing the permanent station Id when CPE privacy (see 8.7) is being used.

Change 13.1.2.2.8 and 13.1.2.2.8.1 as follows:

13.1.2.2.8 ~~wranIfBsCpeMeasSupportRspTable~~ wranIfBsCpeMeasurementSupportRspTable

A compound object representing the Measurement Support IE of REG-REQ/RSP in 7.7.7.3.4.7. It is made up of multiple entries, one for each signal type that sensing supports. Each entry is defined by wranIfBsCpeMeasSupportRspEntry ~~wranIfBsCpeMeasurementSupportRspEntry~~.

13.1.2.2.8.1 ~~wranIfBsCpeMeasSupportRspEntry~~ wranIfBsCpeMeasurementSupportRspEntry

A compound object representing entries of Measurement Support IE of REG-RSP in 7.7.7.3.4.7. It is made up of multiple objects. A CPE will have one entry for each Signal Type in the Signal Type Array of the Measurement Support IE. Entries for a CPE are ~~only~~ present only if the value for wranIfSensModeSupportArray is anything other than “No Sensing.” The rest of the objects that represent each entry are defined in wranIfBsCpeMeasSupportCmn (13.1.2.2.18).

NOTE—This will contain the same objects types; e.g., this entry will be made of the objects in 13.1.2.2.6.1.1 through 13.1.2.2.6.1.9.

Change 13.1.2.2.10 and its subclauses as follows:

13.1.2.2.10 wranIfBsScmCapabilityConfiguration~~wranIfBsCapabilitiesConfigTable~~

This MIB provides a bitmap that describes the cryptographic suites that the BS supports. The list of suites is provided in Table 193. This table is analogous to the wranIfBsCpeBasicCapabilityRspTable and wranIfBsCpeRegCapabilityRspTable, except there is ... contains all the entries specified in wranIfBsCpeBasicCapabilityRspEntry and wranIfBsCpeRegCapabilityRspEntry.

13.1.2.2.10.1 wranIfBsCapabilitiesConfigEntry

This object ... (wranIfBsMaxNumRegReqAttempts).

13.1.2.2.10.1.1 wranIfBsMaxNumRegReqAttempts

This object ... is 5.

...

13.1.2.2.10.1.37 wranIfBsT17

Time allowed ... key exchange.

Change 13.1.2.2.11 and its subclauses as follows:

13.1.2.2.11 wranIfBsCpeScmCapabilityConfigTable~~wranIfBsMeasurementSupportTable~~

This MIB provides a table that provides contains a listing for the security capabilities for each CPE. Each CPE stores this table, with one entry for itself. On the BS, this table is made up of multiple entries, one for each CPE. Entries on the BS table do not contain the wranIfBsCpeEapTlsTtlCredential object. Each entry is defined by wranIfBsCpeScmCapabilityConfigEntry. The list of capabilities is listed in Table 193. A compound object representing default values that a BS uses ... is defined by wranIfMeasurementSupportEntry.

13.1.2.2.11.1 wranIfBsCpeScmCapabilityConfigEntry~~wranIfBsMeasurementSupportEntry~~

This object is a compound object that provides the definition of the entries wranIfBsCpeScmCapabilityConfigTable. A compound object representing entries of wranIfBsMeasurementSupportTable ... Signal Type Array of the Measurement Support IE.

NOTE: This object is made up ... recommendations in Annex A.

13.1.2.2.11.1.1 wranIfBsCpeScmCapabilityConfigIndex

Index of entry in the table.

13.1.2.2.11.1.2 wranIfBsCpeScmCapabilityConfigMacAddress

The MAC address of the CPE.

13.1.2.2.11.1.3 wranIfBsCpeScmCapabilityConfiguration

This MIB provides a bitmap that describes the cryptographic suites that the CPE supports. The list of suites is provided in Table 193.

13.1.2.2.11.1.4 wranIfBsCpeEapTlsTtlsCredentialSize

Size, in number of octets, of X.509 certificate that defines the credential the CPE exchanges with the AAA server to perform authentication.

13.1.2.2.11.1.5 wranIfBsCpeEapTlsTtlsCredential

X.509 certificate that defines the credential the CPE exchanges with the AAA server to perform authentication.

Insert the following new subclauses (13.1.2.2.12 to 13.1.2.2.12.1.11) after 13.1.2.2.11.1.5:

NOTE—For instructions for the former 13.1.2.2.12, see the new 13.1.2.2.13.

13.1.2.2.12 wranIfBsCpeScmAuthConfigTable

This MIB provides a table that provides the configuration of the SCM attributes (e.g., timers and other items relating to the authorization process). This table is made up of one entry, defined by wranIfBsScmAuthConfigEntry.

13.1.2.2.12.1 wranIfBsCpeScmAuthConfigEntry

This object is a compound object that defines an entry in wranIfBsScmAuthConfigTable.

13.1.2.2.12.1.1 wranIfBsScmAuthConfigIndex

Index of entry in the table.

13.1.2.2.12.1.2 wranIfBsT36

EAP Authentication Timer, T36.

13.1.2.2.12.1.3 wranIfBsT37

Authentication Grace Timer, T37.

13.1.2.2.12.1.4 wranIfBsMaxNumAuthAttempts

Maximum number of Authentication Attempts.

13.1.2.2.12.1.5 wranIfBsT38

Operational Wait Timeout, T38.

13.1.2.2.12.1.6 wranIfBsT39

Rekey Wait Timeout, T39.

13.1.2.2.12.1.7 wranIfBsT40

GTEK/TEK Grace time, T40.

13.1.2.2.12.1.8 wranIfBsAkLifetime

Lifetime BS assigns to new AK.

13.1.2.2.12.1.9 wranIfBsTekLifetime

Lifetime BS assigns to new TEK.

13.1.2.2.12.1.10 wranIfBsMaxNumSa

Maximum number of SAs for which a CPE can be authorized.

13.1.2.2.12.1.11 wranIfBsT17

Time for CPE to complete authentication and key exchange.

To create a new 13.1.2.2.13 with subclauses, change the former 13.1.2.2.12 and its subclauses as follows:

NOTE—For instructions for the former 13.1.2.2.13, see the new 13.1.2.2.14.

13.1.2.2.13.1.2.2.12 wranIfBsActionsTable

This object ... wranIfBsActionsEntry.

13.1.2.2.13.1.2.2.12.1 wranIfBsActionsEntry

This object ... given time.

13.1.2.2.13.1.1 wranIfBsActionsIndex

Index of entry in this table.

13.1.2.2.13.1.2.2.12.1.1 wranIfBsCpeActionsMacAddress

This uniquely ... MAC address.

13.1.2.2.13.1.3.1.2.2.12.1.2 wranIfBsCpeActionsRngCpe wranIfBsCpeActionsRangeCpe

When set, ... is read.

13.1.2.2.13.1.4.1.2.2.12.1.3 wranIfBsCpeActionsDeRegCpe

When set ... is specified.

13.1.2.2.13.1.5.1.2.2.12.1.4 wranIfBsCpeActionsSchedule wranIfBsCpeActionsStatus

This object ... executed properly.

To create a new 13.1.2.2.14 with subclauses, change the former 13.1.2.2.13 and its subclauses as follows:

NOTE—For instructions for the former 13.1.2.2.14, see the new 13.1.2.2.15.

13.1.2.2.14~~13.1.2.2.13~~ wranIfBsCpeMcastConfigTablewranIfBsCpeMulticastConfigTable

This table ... multicast group.

13.1.2.2.14.1~~13.1.2.2.13.1~~ wranIfBsCpeMcastConfigEntrywranIfBsCpeMulticastEntry

This object ... membership configuration.

13.1.2.2.14.1.1 wranIfBsCpeMcastConfigIndex

Index of entry in this table.

13.1.2.2.14.1.2~~13.1.2.2.13.1.1~~ wranIfBsCpeMcastMacAddresswranIfBsCpeMacAddress

This object ... wranIfBsCpeMulticastCid.

13.1.2.2.14.1.3~~13.1.2.2.13.1.2~~ wranIfBsCpeMcastSidwranIfBsMulticastSid

This object ... multicast group.

**13.1.2.2.14.1.4~~13.1.2.2.13.1.3~~ wranIfBsCpeMcastPeriodicAllocParameterM
wranIfBsMulticastPeriodicAllocationParameterM**

This object ... multicast transmission.

**13.1.2.2.14.1.5~~13.1.2.2.13.1.4~~ wranIfBsCpeMcastPeriodicAllocParameterK
wranIfBsMulticastPeriodicAllocationParameterK**

This object ... multicast transmission.

**13.1.2.2.14.1.6~~13.1.2.2.13.1.5~~ wranIfBsCpeMcastPeriodicAllocParameterN
wranIfBsMulticastPeriodicAllocationParameterN**

This object ... multicast transmission.

To create a new 13.1.2.2.15 with subclauses, change the former 13.1.2.2.14 and its subclauses as follows:

NOTE—For instructions for the former 13.1.2.2.15, see the new 13.1.2.2.23.

13.1.2.2.15~~13.1.2.2.14~~ wranIfBsCoexistenceConfigTable

This table ... CBP transmission.

13.1.2.2.15.1~~13.1.2.2.14.1~~ wranIfBsCoexistenceConfigEntry

This object ... wranIfBsCoexistenceConfigTable.

13.1.2.2.15.1.1 wranIfBsCoexistenceConfigIndex

Index of entry in this table.

13.1.2.2.15.1.213.1.2.2.14.1.1 wranIfBsT34

This governs ... is 300 s.

13.1.2.2.15.1.313.1.2.2.14.1.2 wranIfBsT33

Time between ... spectrum etiquette.

13.1.2.2.15.1.413.1.2.2.14.1.3 wranIfBsT32

Wait for ... (FC-RSP) message.

13.1.2.2.15.1.513.1.2.2.14.1.4 wranIfBsFcw

Frame contention ... to them.

13.1.2.2.15.1.613.1.2.2.14.1.5 wranIfBsScwBackoffMax

Maximum number ... backoff window.

13.1.2.2.15.1.713.1.2.2.14.1.6 wranIfBsFcMin

Number of ... the BS.

13.1.2.2.15.1.813.1.2.2.14.1.7 wranIfBsFcRange

Exponent, base 2, ... the FCN.

13.1.2.2.15.1.913.1.2.2.14.1.8 wranIfBsSfRel

Number of ... frame contention.

13.1.2.2.15.1.1013.1.2.2.14.1.9 wranIfBsT35

SCW Backoff ... Contention Procedure.

Insert the following new subclauses (13.1.2.2.16 to 13.1.2.2.22.1) after 13.1.2.2.15.1.10:

13.1.2.2.16 wranIfBsCpeBasicCapabilityCmn

This MIB object is a group containing objects that are common to wranIfBsCpeBasicCapabilityReqEntry and wranIfBsCpeBasicCapabilityRspEntry.

13.1.2.2.16.1 wranIfBsCpeBasicCapabilityIndex

Index of entry in wranIfBsCpeBasicCapabilityReqTable or wranIfBsCpeBasicCapabilityRspTable.

13.1.2.2.16.2 wranIfBasicCapabilityNumAttempts

The current number of attempts that a CPE has attempted basic capability configuration during network entry. This item is set to 0 upon successful completion of registration process and a CPE is admitted into the network. This item is incremented every time a CPE attempts basic capability configuration, but is unsuccessful. If this value reaches the limit set by `wranIfBsMaxNumCbcReqAttempts`, then the BS shall reject the network entry request from the CPE. This object is only pertinent for entries in `wranIfBsCpeBasicCapabilityRspTable` (as the decision to reject basic capability negotiation is made by BS).

13.1.2.2.16.3 wranIfBasicCapabilityMacAddress

The MAC address of the CPE attempting basic capability configuration.

13.1.2.2.16.4 wranIfBasicCapabilityStationId

The Station ID of the CPE attempting basic capability configuration.

13.1.2.2.16.5 wranIfBasicCapabilityMacPduTxandConstruction

An integer value that indicates the methods for transmission and construction of MAC PDUs that the CPE supports. This reflects the setting of the IE defined in 7.7.11.3.1.

13.1.2.2.16.6 wranIfBasicCapabilityMaxCpeTxEirp

An integer value, encoded in hexadecimal, that indicates the maximum EIRP for which the CPE is configured. This reflects the setting of the IE defined in 7.7.11.3.2.1.

13.1.2.2.16.7 wranIfBasicCapabilityCpeDemodulator

A bit map that encodes the DIUCs that the CPE supports. This reflects the setting of the IE defined in 7.7.11.3.2.2.1.

13.1.2.2.16.8 wranIfBasicCapabilityCpeModulator

A bit map that encodes the DIUCs that the CPE supports. This reflects the setting of the IE defined in 7.7.11.3.2.2.2.

13.1.2.2.16.9 wranIfBasicCapabilityCpeScmVersionSupport

Indicator of what version of the SCM protocol that the CPE supports. This reflects the setting of the IE defined in 6.9.11.3.3.1.

13.1.2.2.16.10 wranIfBasicCapabilityCpePnWindowSize

Size of PN_WINDOW (see 7.4) that is used to protect against replay attacks. This reflects the setting of the IE defined in 7.7.11.3.3.2.

13.1.2.2.16.11 wranIfBasicCapabilityCpeScmFlowControl

Maximum number of ongoing SCM transactions that the CPE can support. This reflects the setting of the IE defined in 7.7.11.3.3.3.

13.1.2.2.17 wranIfBsCpeRegCapabilityCmn

This MIB object is a group containing objects that are common to wranIfBsCpeRegCapabilityReqEntry and wranIfBsCpeRegCapabilityRspEntry.

13.1.2.2.17.1 wranIfRegCapabilityIndex

Index for unique entry in tables relating to registered capabilities.

13.1.2.2.17.2 wranIfRegCapabilityMacAddress

MAC address of CPE that is currently registered with BS.

13.1.2.2.17.3 wranIfRegCapabilityReqNumAttempts

The current number of attempts that a CPE has attempted network entry. This item is set to 0 upon successful completion of registration process and a CPE is admitted into the network. This item is incremented every time a CPE attempts registration, but is unsuccessful. If this value reaches the limit set by wranIfBsMaxNumRegReqAttempts, then the CPE shall restart network entry process.

13.1.2.2.17.4 wranIfRegCapabilityNMEALocStringSize

Size of NMEA location string of the CPE in REG-REQ (see 7.7.7.3.1), in octets.

13.1.2.2.17.5 wranIfRegCapabilityNMEALocString

NMEA location string of the CPE in REG-REQ (see 7.7.7.3.1).

13.1.2.2.17.6 wranIfRegCapabilityCsConfig

Indication in REG-REQ/RSP of how the provider will operate the CPE on an ongoing basis; either with the Ethernet CS only or the IP CS (see 7.7.7.3.2).

13.1.2.2.17.7 wranIfRegCapabilityIpVersion

What version of the IP protocol (either v4 or v6) indicate in REG-REQ/RSP the CPE supports (see 7.7.7.3.3).

13.1.2.2.17.8 wranIfRegCapabilityIpRohcSupport

Indicator in REG-REQ/RSP of whether CPE supports IP Robust Header Compression (ROHC) (see 7.7.7.3.4.1).

13.1.2.2.17.9 wranIfRegCapabilityArqSupport

ARQ Support IE of REG-REQ/RSP in 7.7.7.3.4.2.

13.1.2.2.17.10 wranIfRegCapability2ndMgmtArqWindowSize

Secondary Management flow - ARQ Window Size IE of REG-REQ/RSP defined in 7.7.8.9.17.2.

13.1.2.2.17.11 wranIfRegCapability2ndMgmtArqRetryTxDelay

Secondary Management flow - Transmitter Delay component of ARQ Retry Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.3.

13.1.2.2.17.12 wranIfRegCapability2ndMgmtArqRetryRxDelay

Secondary Management flow - Receiver Delay component of ARQ Retry Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.3.

13.1.2.2.17.13 wranIfRegCapability2ndMgmtArqBlockLifetime

Secondary Management flow - ARQ Block Lifetime IE of REG-REQ/RSP defined in 7.7.8.9.17.4.

13.1.2.2.17.14 wranIfRegCapability2ndMgmtArqSyncLossTimeout

Secondary Management flow - ARQ Sync Loss Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.5.

13.1.2.2.17.15 wranIfRegCapability2ndMgmtArqDeliverInOrder

Secondary Management flow - ARQ Deliver In Order IE of REG-REQ/RSP defined in 7.7.8.9.17.6.

13.1.2.2.17.16 wranIfRegCapability2ndMgmtArqRxPurgeTimeout

Secondary Management flow - ARQ Rx Purge Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.7.

13.1.2.2.17.17 wranIfRegCapability2ndMgmtArqBlockSize

Secondary Management flow - ARQ Block Size IE of REG-REQ/RSP defined in 7.7.8.9.17.8.

13.1.2.2.17.18 wranIfRegCapabilityDsxFLOWControl

DSx Flow Control IE of REG-REQ/RSP in 7.7.7.3.4.4.

13.1.2.2.17.19 wranIfRegCapabilityMcaFlowControl

MCA Flow Control IE of REG-REQ/RSP in 7.7.7.3.4.5.

13.1.2.2.17.20 wranIfRegCapabilityMaxNumMcastGroups

Maximum Number of Multicast Groups IE of REG-REQ/RSP in 7.7.7.3.4.6.

13.1.2.2.17.21 wranIfRegCapabilitySensModeSupportArray

Value of the "Sensing Mode Support Array" of the Measurement Support IE in REG-REQ/RSP in 7.7.7.3.4.7. If the value of this is set to "No Sensing" then wranIfBsCpeMeasSupportReqTable and wranIfBsCpeMeasSupportRspTable will not be stored for the CPE.

13.1.2.2.17.22 wranIfRegCapabilityAntennaModelSize

Length of wranIfRegCapabilityAntennaModel, in octets (see Manufacturer Specific Antenna Model IE of REG-REQ in 7.7.7.3.4.8).

13.1.2.2.17.23 wranIfRegCapabilityAntennaModel

Manufacturer Specific Antenna Model IE of REG-REQ in 7.7.7.3.4.8.

13.1.2.2.17.24 wranIfRegCapabilityCpeResidualDelay

CPE Residual Delay IE of REG-REQ in 7.7.7.3.4.10.

13.1.2.2.17.25 wranIfRegCapability2ndMgmtIpAllocMethod

Method for allocating IP Addresses on Secondary Management Connection IE of REG-REQ/RSP in 7.7.7.3.4.11.

13.1.2.2.17.26 wranIfRegCapabilityCpeOperationalCapability

CPE Operation Capability IE of REG-REQ in 7.7.7.3.4.13.

13.1.2.2.17.27 wranIfRegCapabilityCpeRegistrationTimer

CPE Registration Timer IE of REG-REQ/RSP in 7.7.7.3.5. This value is used to set T30 for the CPE.

13.1.2.2.17.28 wranIfRegCapabilityPermanentSid

Permanent station ID assigned to CPE, when CPE is entering the network under the CPE Privacy method (see 8.7). The format of this IE is defined in 7.7.7.3.4.12.

13.1.2.2.18 wranIfBsCpeMeasSupportCmn

This MIB object is a group containing objects that are common to wranIfBsCpeMeasSupportReqEntry and wranIfBsCpeMeasSupportRspEntry.

13.1.2.2.18.1 wranIfMeasSupportIndex

Index into entry of tables storing Measurement Support IE that is part of REG-REQ/RSP.

13.1.2.2.18.2 wranIfMeasSupportMacAddress

MAC address of CPE. This corresponds to an entry in wranIfBsCpeRegCapabilityReqTable for a registered CPE.

13.1.2.2.18.3 wranIfMeasSupportSignalType

Signal type to which measurement configuration this entry pertains (see Table 237).

13.1.2.2.18.4 wranIfMeasSupportThreshold

Signed number that signifies the sensitivity threshold for the signal type.

13.1.2.2.18.5 wranIfMeasSupportPd

Probability of detection (PD) for the signal type.

13.1.2.2.18.6 wranIfMeasSupportMpfa

Maximum Probability of False Alarm for the signal type.

13.1.2.2.18.7 wranIfMeasSupportRecNumSensPeriods

Recommended number of sensing periods required to sense the signal type.

13.1.2.2.18.8 wranIfMeasSupportRecSensPeriodDuration

Recommended duration of sensing periods, units of symbols.

13.1.2.2.18.9 wranIfMeasSupportRecSensPeriodInterval

Recommended length of sensing period interval, units of integer number of frames.

13.1.2.2.19 wranIfBsCpeSystemParametersTable

This table contains objects that define system constants for REG-REQ/RSP, DSx-REQ/RSP, and MCA-RSP transactions. It only has one entry, as defined by wranIfBsCpeSystemParametersEntry.

13.1.2.2.19.1 wranIfBsCpeSystemParametersEntry

This is a compound object that defines the entry in wranIfBsCpeSystemParametersTable.

13.1.2.2.19.1.1 wranIfBsCpeSystemParametersIndex

Index of entry in the table (defaults to 1).

13.1.2.2.19.1.2 wranIfBsDsxDsxReqRetries

Maximum number of timeout retries for DSx-REQ messages.

13.1.2.2.19.1.3 wranIfBsDsxDsxRspRetires

Maximum number of timeout retries for DSx-RSP messages.

13.1.2.2.19.1.4 wranIfBsT6

Timeout for receiving REG-RSP.

13.1.2.2.19.1.5 wranIfBsT7

Wait for DSx-RSP timeout.

13.1.2.2.19.1.6 wranIfBsT8

Wait for DSA/DSC-RSP timeout.

13.1.2.2.19.1.7 wranIfBsT9

Timeout between BS's transmitting RNG-CMD (success) to a CPE and receiving CBC-REQ from that same CPE.

13.1.2.2.19.1.8 wranIfBsT10

Wait for Transaction End timeout.

13.1.2.2.19.1.9 wranIfBsT13

Time allowed for a CPE, following receipt of a REG-RSP, to send a TFTP-CPLT message to the BS.

13.1.2.2.19.1.10 wranIfBsT14

Wait for DSx-RSP timeout.

13.1.2.2.19.1.11 wranIfBsT15

Wait for MCA-RSP.

13.1.2.2.19.1.12 wranIfBsT16

Wait for bandwidth request grant.

13.1.2.2.19.1.13 wranIfBsT18

Wait for CBC-RSP timeout.

13.1.2.2.19.1.14 wranIfBsT22

Wait for ARQ-Reset.

13.1.2.2.19.1.15 wranIfBsT26

Wait for TFT-RSP.

13.1.2.2.19.1.16 wranIfBsT27Idle

Maximum time between unicast grants to CPE when BS believe CPE transmission quality is good enough.

13.1.2.2.19.1.17 wranIfBsT27Active

Maximum time between unicast grants to CPE when BS believes CPE transmission quality is not good enough.

13.1.2.2.19.1.18 wranIfBsT28

Time allowed for BS to complete the transmission of the backup/candidate channel list to its CPEs after initial registration by a new CPE, including the database service query.

13.1.2.2.20 wranIfBsCpeRegCapabilityDefTable

This object defines a table containing default values of REG-REQ/RSP IEs. This table can be used by the BS to judge/verify a CPE's REG-REQ and used to construct the REG-RSP message. There is one entry in this table defined by wranIfBsCpeRegCapabilityDefEntry.

13.1.2.2.20.1 wranIfBsCpeRegCapabilityDefEntry

This object defines an entry in wranIfBsCpeRegCapabilityDefTable. The objects that make up this entry are defined in wranIfBsCpeRegCapabilityCmn (13.1.2.2.17).

13.1.2.2.21 wranIfBsCpeBasicCapabilityDefTable

This object defines a table containing default values of CBC-REQ/RSP IEs. This table can be used by the BS to judge/verify a CPE's CBC-REQ and used to construct the CBC-RSP message. There is one entry in this table defined by wranIfBsCpeBasicCapabilityDefEntry. The objects that make up this table are defined in wranIfBsCpeBasicCapabilityCmn (13.1.2.2.16).

13.1.2.2.21.1 wranIfBsCpeBasicCapabilityDefEntry

This object defines an entry in wranIfBsCpeBasicCapabilityDefTable. The objects that make up this table are defined in wranIfBsCpeBasicCapabilityCmn (13.1.2.2.16).

13.1.2.2.22 wranIfBsCpeMeasurementSupportDefault

This Table is a compound object containing default values of used to configure the Measurement Support IE REG-REQ/RSP. This table can be used by the BS to judge/verify the Measurement Support IE in CPE's REG-REQ and used to construct the Measurement Support IE sent by the BS in the REG-RSP message. There is one entry for each signal type, defined by wranIfBsCpeMeasurementSupportDefaultEntry.

13.1.2.2.22.1 wranIfBsCpeMeasurementSupportDefaultEntry

A compound object representing the default entries of Measurement Support IE of REG-REQ in 7.7.7.3.4.7. There is one entry for each Signal Type that exists in the Signal Type Array IE in the REG-REQ/RSP. Each entry are defined in wranIfBsCpeMeasSupportCmn (13.1.2.2.18).

To create a new 13.1.2.2.23 with subclauses, change the former 13.1.2.2.15 and its subclauses as follows:

13.1.2.2.23 ~~13.1.2.2.15~~ wranIfBsPhy

This MIB ... is supported.

13.1.2.2.23.1 ~~13.1.2.2.15.1~~ wranIfBsOfdmaPhyUsChannelTable

This object provides a table to describe attributes of upstream channels. It is a compound object that is made up of multiple entries (one for each CPE), each described by wranIfBsOfdmaPhyUsChannelTableEntry.

13.1.2.2.23.1.1 ~~13.1.2.2.15.1.1~~ wranIfBsOfdmaPhyUsChannelEntry

This object is a compound object that represents an entry for the BS-upstream channel.

13.1.2.2.23.1.1.1 wranIfBsOfdmaPhyUsChannelIndex

Index of entry in the table.

13.1.2.2.23.1.1.2 wranIfBsOfdmaPhyUsSid

SID of CPE this entry represents.

13.1.2.2.23.1.1.3 wranIfBsOfdmaPhyUsMacAddress

MAC Address of CPE this entry represents.

13.1.2.2.23.1.1.413.1.2.2.15.1.1.1 wranIfBsOfdmaCtBasedResvTimeout

The number ... same connection.

13.1.2.2.23.1.1.513.1.2.2.15.1.1.2 wranIfBsOfdmaUsCenterFrequency

Upstream center frequency in kHz.

13.1.2.2.23.1.1.613.1.2.2.15.1.1.3 wranIfBsOfdmaUsRadioResource

Indicates the ... radio resources.

13.1.2.2.23.1.1.713.1.2.2.15.1.1.4 wranIfBsOfdmaUsConfigChangeCount

Current UCD change count.

13.1.2.2.23.1.1.813.1.2.2.15.1.1.5 wranIfBsOfdmaUsUcsNotificationCodes

Number of ... UCS Notification.

13.1.2.2.23.1.1.913.1.2.2.15.1.1.6 wranIfBsOfdmaUsInitRngCodes

Number of ... initial ranging.

13.1.2.2.23.1.1.1013.1.2.2.15.1.1.7 wranIfBsOfdmaUsPeriodicRngCodes

Number of ... periodic ranging.

13.1.2.2.23.1.1.1113.1.2.2.15.1.1.8 wranIfBsOfdmaUsBWReqCodes

Number of ... bandwidth requests.

13.1.2.2.23.1.1.1213.1.2.2.15.1.1.9 wranIfBsOfdmaUsPeriodicRngBackoffStart

Represented as ... ranging contention.

13.1.2.2.23.1.1.1313.1.2.2.15.1.1.10 wranIfBsOfdmaUsPeriodicRngBackoffEnd

Represented as ... ranging contention.

13.1.2.2.23.1.1.1413.1.2.2.15.1.1.11 wranIfBsOfdmaUsStartofCodes

Includes first ... mod 256.

13.1.2.2.23.1.1.15 ~~13.1.2.2.15.1.1.12~~ wranIfBsOfdmaUsNormalizedCnrOverride

This is a list of numbers, and follows the specification of the Normalized CNR override as defined in Table 33 and in 8.10.3.2, encoded by a nibble and interpreted by a signed integer. The nibbles are defined in 9.9.4.2. The number encoded by each nibble represents the difference in normalized CNR relative to the previous one.

13.1.2.2.15.1.1.13 ~~wranIfBsOfdmaUsNormalizedCnrValue~~

A signed ... previous line.

13.1.2.2.15.1.1.14 ~~wranIfBsOfdmaUsCpeUpPowerAdjStep~~

CPE specific up power offset adjustment step.

13.1.2.2.23.1.1.16 ~~13.1.2.2.15.1.1.15~~ wranIfBsOfdmaUsInitialRangingInterval

Number of ... interval allocation.

13.1.2.2.15.1.1.16 ~~wranIfBsOfdmaUsTxPowerReport~~

Tx Power report.

13.1.2.2.23.1.1.17 ~~13.1.2.2.15.1.1.17~~ wranIfBsOfdmaUsUcsNotificationBackoffStart

Expressed as ... notification contention.

13.1.2.2.23.1.1.18 ~~13.1.2.2.15.1.1.18~~ wranIfBsOfdmaUsUcsNotificationBackoffEnd

Expressed as ... notification contention.

13.1.2.2.23.1.1.19 ~~13.1.2.2.15.1.1.19~~ wranIfBsOfdmaUsInitialRngBackoffStart

Expressed as ... ranging contention.

13.1.2.2.23.1.1.20 ~~13.1.2.2.15.1.1.20~~ wranIfBsOfdmaUsInitialRngBackoffEnd

Expressed as ... ranging contention.

13.1.2.2.23.1.1.21 ~~13.1.2.2.15.1.1.21~~ wranIfBsOfdmaUsBwRequestBackoffStart

Expressed as ... BW requests.

13.1.2.2.23.1.1.22 ~~13.1.2.2.15.1.1.22~~ wranIfBsOfdmaUsBwRequestBackoffEnd

Expressed as ... BW requests.

13.1.2.2.15.1.1.23 ~~wranIfBsOfdmaUsRelPwrOffsetMacMgmtBurst~~

Relative to ... message transmission.

13.1.2.2.15.1.1.24 ~~wranIfBsOfdmaUsInitialTxTiming~~

Initial timing reference for US transmissions.

13.1.2.2.23.1.1.25 ~~13.1.2.2.15.1.1.25~~ wranIfBsOfdmaUsRangingRegion

US ranging region definition.

13.1.2.2.23.1.1.23 ~~13.1.2.2.15.1.1.26~~ wranIfBsOfdmaUsUcdInterval

Time between transmission of UCD messages.

13.1.2.2.23.1.1.24 ~~13.1.2.2.15.1.1.27~~ wranIfBsOfdmaUsUcdTransition

Time BS ... UCD message.

13.1.2.2.23.1.1.25 ~~13.1.2.2.15.1.1.28~~ wranIfBsOfdmaUsClkCmplInterval

Time between ... CLK-CMP messages.

13.1.2.2.23.1.1.26 ~~13.1.2.2.15.1.1.29~~ wranIfBsOfdmaUsT57

Lost US-MAP ... the CPE).

13.1.2.2.23.1.1.27 ~~13.1.2.2.15.1.1.30~~ wranIfBsOfdmaT58

Number of ... considered lost.

13.1.2.2.23.1.1.28 ~~13.1.2.2.15.1.1.31~~ wranIfBsOfdmaUsCdmaRngRetries

Number of ... RNG-REQs.

13.1.2.2.23.1.1.29 ~~13.1.2.2.15.1.1.32~~ wranIfBsOfdmaUsInvRngReq

Number of ... RNG-REQs.

13.1.2.2.23.1.1.30 ~~13.1.2.2.15.1.1.33~~ wranIfBsOfdmaUsMapProcTime

Time provided ... that map.

13.1.2.2.23.1.1.31 ~~13.1.2.2.15.1.1.34~~ wranIfBsOfdmaUsT3

RNG-CMD ... RNG-REQ.

13.1.2.2.23.1.1.32 ~~13.1.2.2.15.1.1.35~~ wranIfBsOfdmaUsT4

Time to ... ranging opportunity.

13.1.2.2.23.1.1.33 ~~13.1.2.2.15.1.1.36~~ wranIfBsOfdmaUsT5

Time to ... Change response.

13.1.2.2.23.1.1.34 ~~13.1.2.2.15.1.1.37~~ wranIfBsOfdmaUsT12

Wait for UCD descriptor.

13.1.2.2.23.2.13.1.2.2.15.2 wranIfBsOfdmaPhyDsChannelTable

This object provides a table to describe attributes of downstream channels. It is a compound object that is made up of multiple entries (one for each CPE), each described by wranIfBsOfdmaPhyDsChannelTableEntry.

13.1.2.2.23.2.13.1.2.2.15.2.1 wranIfBsOfdmaPhyDsChannelTableEntry

This object is a compound object that represents an entry for each the BS downstream channel in each BS.

13.1.2.2.23.2.1.1 wranIfBsOfdmaPhyDsChannelIndex

Index of entry in the table.

13.1.2.2.23.2.1.2 wranIfBsOfdmaDsBsId

BS ID (MAC Address) of base station.

13.1.2.2.23.2.1.3.13.1.2.2.15.2.1.1 wranIfBsOfdmaDsEirp

The equivalent ... transmitter.

13.1.2.2.23.2.1.4.13.1.2.2.15.2.1.2 wranIfBsOfdmaDsChannelNumber

Current operating channel.

13.1.2.2.23.2.1.5.13.1.2.2.15.2.1.3 wranIfBsOfdmaDsPhyMaxEirp

Initial ranging ... of 1 dBm.

13.1.2.2.23.2.1.6.13.1.2.2.15.2.1.4 wranIfBsOfdmaDsCenterFreq

DS center frequency in kHz.

13.1.2.2.15.2.1.5 wranIfBsOfdmaDsBsId

Base Station Id.

13.1.2.2.23.2.1.7.13.1.2.2.15.2.1.6 wranIfBsOfdmaDsMacVersion

The MAC ... is conformant.

13.1.2.2.23.2.1.8.13.1.2.2.15.2.1.7 wranIfBsOfdmaDsCyclicPrefix

Ratio of ... 1/32.

13.1.2.2.23.2.1.9.13.1.2.2.15.2.1.8 wranIfBsOfdmaDsRadioResource

Average ratio ... radio resources.

13.1.2.2.15.2.1.9 wranIfBsOfdmaDsHysteresisMargin

When the ... network entry.

13.1.2.2.23.2.1.10~~13.1.2.2.15.2.1.10~~ wranIfBsOfdmaDsCellType

This object ... network entry.

13.1.2.2.23.2.1.11~~13.1.2.2.15.2.1.11~~ wranIfBsOfdmaDsConfigChangeCount

Current BS DCD configuration change count.

13.1.2.2.15.2.1.12~~wranIfBsOfdmaDsPowerControlMode~~

Defines the ... to CPE.

13.1.2.2.23.2.1.12~~13.1.2.2.15.2.1.13~~ wranIfBsOfdmaDsFrameDuration

Duration of the DS portion of a frame.

13.1.2.2.23.2.1.13~~13.1.2.2.15.2.1.14~~ wranIfBsOfdmaDsRssiCinrAvgParameter

Bits 0–3 ... averaging parameter.

13.1.2.2.23.2.1.14~~13.1.2.2.15.2.1.15~~ wranIfBsOfdmaDsThresholdAddBsServiceSet

Threshold used ... WRAN service.

13.1.2.2.23.2.1.15~~13.1.2.2.15.2.1.16~~ wranIfBsOfdmaDsThresholdDelBsServiceSet

Threshold used ... diversity set.

13.1.2.2.23.2.1.16~~13.1.2.2.15.2.1.17~~ wranIfBsOfdmaDsDcdInterval

Time between ... DCD messages.

13.1.2.2.23.2.1.17~~13.1.2.2.15.2.1.18~~ wranIfBsOfdmaDsDcdTransition

Time BS ... DCD message.

13.1.2.2.23.2.1.18~~13.1.2.2.15.2.1.19~~ wranIfBsOfdmaDsT56

Time since ... considered lost.

13.1.2.2.23.2.1.19~~13.1.2.2.15.2.1.20~~ wranIfBsOfdmaDsT1

Wait for DCD timeout.

13.1.2.2.23.2.1.20~~13.1.2.2.15.2.1.21~~ wranIfBsOfdmaDsT2

Wait for broadcast ranging timeout.

13.1.2.2.23.2.1.21~~13.1.2.2.15.2.1.22~~ wranIfBsOfdmaDsT20

Time CPE ... given channel.

13.1.2.2.23.2.1.22 13.1.2.2.15.2.1.23 wranIfBsOfdmaDsT21

Time the ... given channel.

13.1.2.2.23.2.1.23 13.1.2.2.15.2.1.24 wranIfBsOfdmaDsTtg

Transmit/Receive Transition Gap.

13.1.2.2.23.3.1.3 13.1.2.2.15.3 wranIfBsOfdmaUcdBurstProfileTable

This table ... wranIfBsOfdmaUcdBurstProfileEntry.

13.1.2.2.23.3.1.3 13.1.2.2.15.3.1 wranIfBsOfdmaUcdBurstProfileEntry

This is ... wranIfBsOfdmaUcdBurstProfileTable.

13.1.2.2.23.3.1.1 13.1.2.2.15.3.1.1 wranIfBsOfdmaUcdUiucIndex

The UIUC ... UCD message.

13.1.2.2.15.3.1.2 wranIfBsOfdmaUcdFecCodeType

Modulation and FEC for upstream.

13.1.2.2.23.3.1.2 13.1.2.2.15.3.1.3 wranIfBsOfdmaUcdUiucExitThreshold

CINR at ... is required.

13.1.2.2.23.3.1.3 13.1.2.2.15.3.1.4 wranIfBsOfdmaUcdUiucEntryThreshold

Minimum CINR ... is required.

13.1.2.2.23.3.1.4 13.1.2.2.15.3.1.5 wranIfBsOfdmaUcdRangingDataRatio

Difference in ... of 1 dB.

13.1.2.2.23.4.1.4 13.1.2.2.15.4 wranIfBsOfdmaDcdBurstProfileTable

This table ... wranIfBsOfdmaDcdBurstProfileEntry.

13.1.2.2.23.4.1.4 13.1.2.2.15.4.1 wranIfBsOfdmaDcdBurstProfileEntry

This is ... wranIfBsOfdmaDcdBurstProfileTable.

13.1.2.2.23.4.1.1 13.1.2.2.15.4.1.1 wranIfBsOfdmaDcdDiucIndex

The DIUC ... DCD message.

13.1.2.2.15.4.1.2 wranIfBsOfdmaDcdFecCodeType

Modulation and FEC for downstream.

13.1.2.2.23.4.1.213.1.2.2.15.4.1.3 wranIfBsOfdmaDcdDiucExitThreshold

CINR at ... is required.

13.1.2.2.23.4.1.313.1.2.2.15.4.1.4 wranIfBsOfdmaDcdDiucEntryThreshold

Minimum CINR ... is required.

13.1.2.2.23.513.1.2.2.15.5 wranIfBsOfdmaDsRegionTable

This table ... wranIfBsOfdmaDsRegionEntry.

13.1.2.2.23.5.113.1.2.2.15.5.1 wranIfBsOfdmaDsRegionEntry

This is ... wranIfBsOfdmaDsRegionTable.

13.1.2.2.23.5.1.113.1.2.2.15.5.1.1 wranIfBsOfdmaDsRegionIndex

Index DS region in table.

13.1.2.2.23.5.1.213.1.2.2.15.5.1.2 wranIfBsOfdmaDsDuration

Number of ... burst region.

13.1.2.2.23.613.1.2.2.15.6 wranIfBsOfdmaUsRegionTable

This table ... wranIfBsOfdmaUsRegionEntry.

13.1.2.2.23.6.113.1.2.2.15.6.1 wranIfBsOfdmaUsRegionEntry

This is compound object that describes each entry in wranIfBsOfdmaUsRegionTable
wranIfUsOfdmaDsRegionTable.

13.1.2.2.23.6.1.113.1.2.2.15.6.1.1 wranIfBsOfdmaUsRegionIndex

Index US region in table.

13.1.2.2.23.6.1.213.1.2.2.15.6.1.2 wranIfBsOfdmaUsDuration

Number of ... burst region.

Insert the following new subclauses (13.1.2.2.24 with its subclauses and 13.1.2.2.25) after 13.1.2.2.23.6.1.2:

13.1.2.2.24 wranIfBsCmMibGroups

This object helps define which MIB groups are available in this module (wranIfBsCm) and which MIB objects are part of each group.

13.1.2.2.24.1 wranIfBsCmRangingGroup

This group contains objects related to management of the ranging process.

13.1.2.2.24.2 wranIfBsCmBasicCapabilityGroup

This group contains objects related to management of the CBC-REQ/RSP process.

13.1.2.2.24.3 wranIfBsCmRegCapabilityGroup

This group contains objects related to management of the REG-REQ/RSP process.

13.1.2.2.24.4 wranIfBsCmMeasSupportGroup

This group contains objects related to management of the measurement process.

13.1.2.2.24.5 wranIfBsCpeCmAntennaGroup

This group contains objects related to management of antenna configuration.

13.1.2.2.24.6 wranIfBsScmCmGroup

This group contains objects related to management of the SCM protocol and SCM status on a CPE/BS.

13.1.2.2.24.7 wranIfBsActionsCmGroup

This group contains objects related to management of actions the BS can take.

13.1.2.2.24.8 wranIfBsMulticastCmGroup

This group contains objects related to management of multicast configuration.

13.1.2.2.24.9 wranIfBsCoexistenceCmGroup

This group contains objects related to management of coexistence configuration.

13.1.2.2.24.10 wranIfBsSystemParametersCmGroup

This group contains objects related to management of system parameter configuration.

13.1.2.2.24.11 wranIfBsPhyCmGroup

This group contains objects related to management of PHY configuration.

13.1.2.2.25 wranIfBsCmMibCompliance

MIB objects that are optional or mandatory for wranIfBsCm compliance.

13.1.2.3 wranIfBsAm

13.1.2.3.1 wranIfBsOtaUsageDataRecordTable

13.1.2.3.1.1 wranIfBsOtaUsageDataRecordEntry

Change the subclauses of 13.1.2.3.1.1 as follows:

13.1.2.3.1.1.1 wranIfBsOtaUsageDataRecordIndex

Index of entry in this table.

13.1.2.3.1.1.2 wranIfBsOtaUsageSid~~wranIfBsSid~~

A 9-bit ... carrying traffic.

13.1.2.3.1.1.3 wranIfBsOtaUsageFid~~wranIfBsFid~~

A 3-bit ... wranIfBsServiceFlowId).

13.1.2.3.1.1.4 wranIfBsOtaUsageSessionId~~wranIfBsSessionId~~

An identifier ... is changing.

13.1.2.3.1.1.4 wranIfBsServiceFlowId

31-bit identifier ... of CPEs).

13.1.2.3.1.1.5 wranIfBsOtaUsageMacSduCount~~wranIfBsMacSduCount~~

Counter of ... and US.

13.1.2.3.1.1.6 wranIfBsOtaUsageOctetCount~~wranIfBsOctetCount~~

Counter of ... air interface.

13.1.2.3.1.1.7 wranIfBsOtaUsageSessionStartTime~~wranIfBsSessionStartTime~~

Date and ... was established.

13.1.2.3.1.1.8 wranIfBsOtaUsageSessionEndTime~~wranIfBsSessionEndTime~~

Date and ... was ended.

13.1.2.3.1.1.9 wranIfBsOtaUsageQoSServiceFlowListSize wranIfBsOtaQoSProfileIndex

Number of items in wranIfBsOtaUsageQoSServiceFlowList. This index points to entry in QoS Profile table that defines the QoS parameter set used in the session.

13.1.2.3.1.1.10 wranIfBsOtaUsageQoSServiceFlowList

A list of SFIDs for each service flow active during this session (i.e., a list of SFIDs that pertain to service flows as defined in wranIfBsActiveSfTable).

13.1.2.3.1.1.11 wranIfBsOtaUsageQoSProfileListSize

Number of items in wranIfBsOtaUsageQoSProfileList.

13.1.2.3.1.1.12 wranIfBsOtaUsageQoSProfileList

A list of indexes into wranIfBsScTable, that point to the definition of the QoS parameter set of each service flow listed in wranIfBsOtaUsageQoSServiceFlowList (and hence were active during this session).

Insert the following new subclauses (13.1.2.3.2, 13.1.2.3.2.1, and 13.1.2.3.3) after 13.1.2.3.1.1.12:

13.1.2.3.2 wranIfBsAmMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.2.3.2.1 wranIfBsOtaUsageDataGroup

This group contains objects related to tracking of OTA resources per CPE.

13.1.2.3.3 wranIfBsAmMibCompliance

MIB objects that are optional and mandatory for wranIfBsAm compliance.

13.1.2.4 wranIfBsPm

Change the second list item in the dashed list in 13.1.2.4 as follows:

- wranIfBsSignalPowerMetricsTable~~wranIfBsRssiCinrMetricsTable~~: Helps track metrics related to measurement of CPE upstream signal by BS and BS downstream signal by CPE.

Insert the following list items at the end of the dashed list in 13.1.2.4:

- wranIfBsPmMibGroups: Helps define which MIB groups are available within this module and which MIB objects are part of each group.
- wranIfBsPmMibCompliance: Defines which groups are optional and mandatory for wranIfBsPm compliance.

13.1.2.4.1 wranIfBsPmConfigurationTable

13.1.2.4.1.1 wranIfBsPmConfigurationEntry

Change the subclauses of 13.1.2.4.1.1 as follows:

13.1.2.4.1.1.1 wranIfBsPmConfigurationEntryIndex

Index of entry in the table (defaults to 1).

13.1.2.4.1.1.213.1.2.4.1.1.1 wranIfBsGranularityInterval

Data rate statistics captured in ~~wranIfBsDataRateStatisticsTable,~~
~~wranIfBsSignalPowerMetricsTable,~~ ~~wranIfBsStartupMetricsTable,~~
~~wranIfBsThroughputMetricsTable,~~ ~~wranIfBsNetworkEntryMetricsTable,~~
~~wranIfBsPacketErrorRateTable,~~ ~~wranIfBsUserMetricsTable,~~
~~wranIfBsServiceFlowMetricsTable,~~ ~~wranIfBsArqMetricsTable,~~ and
~~wranIfBsAuthenticationMetricsTable~~ are measured over the time interval this object specifies.

13.1.2.4.1.1.313.1.2.4.1.1.2 wranIfBsCountersReportInterval

This MIB ... the NCMS.

13.1.2.4.1.1.413.1.2.4.1.1.3 wranIfBsPmMeasurementBitmap

~~This MIB object is a~~ A 13-bit bitmap indicating which of the measurement tables are enabled or disabled.
When a position in bitmap is set (=1), that measurement table is enabled; when it is unset (=0), the table is disabled.

Change 13.1.2.4.2 and its subclauses as follows:

13.1.2.4.2 wranIfBsSignalPowerMetricsTablewranIfBsRssiCinrMetricsTable

This MIB object contains a table that records BS upstream measurement of a CPE's transmissions as well as CPE measurement of BS downstream signal. The data is stored as a histogram. This table is made up of entries defined by ~~wranIfBsSignalPowerMetricsEntry~~~~wranIfBsRssiCinrMetricsEntry~~. Each entry is uniquely identified by the CPE's MAC address and the index of the entry in the histogram.

13.1.2.4.2.1 wranIfBsSignalPowerMetricsEntrywranIfBsRssiCinrMetricsTable

This is a compound object made up objects that represent an entry in ~~wranIfBsSignalPowerMetricsTable~~~~wranIfBsRssiCinrMetricsTable~~.

13.1.2.4.2.1.1 wranIfBsSignalPowerMetricsIndex

Index in histogram to which entry pertains.

13.1.2.4.2.1.213.1.2.4.2.1.1 wranIfBsCpeMacAddress

MAC address of the CPE.

13.1.2.4.2.1.2 wranIfBsCpeHistogramIndex

Index in ... entry pertains.

13.1.2.4.2.1.3 wranIfBsChannelDirection

Direction of ... was done.

...

13.1.2.4.2.1.11 wranIfBsStdDevRssiReport

Standard Deviation RSSI report.

13.1.2.4.2.1.12 wranIfBsMaxEIRPReport

Max EIRP Report.

13.1.2.4.2.1.13 wranIfBsPerScEIRPReport

Per Subchannel EIRP Report.

Change 13.1.2.4.3 and its subclauses as follows:

13.1.2.4.3 wranIfBsStartupMetricsTable

This MIB provides a table to track how CPEs perform during initial network entry and re-entry. This table is made of one entry ~~entries~~, defined by wranIfBsStartupMetricsEntry. This ~~There is one entry~~ reflects startup metrics recorded during the current reporting session ~~for each sector of the BS.~~

13.1.2.4.3.1 wranIfBsStartupMetricsEntry

This object ... wranIfBsStartupMetricsTable.

13.1.2.4.3.1.1 wranIfBsStartupMetricsIndex

Index for entry in this table.

13.1.2.4.3.1.2 wranIfBsNumAuthAttempt

A counter ... authentication attempts.

13.1.2.4.3.1.3 wranIfBsNumAuthSuccess

A counter ... handshake completions.

13.1.2.4.3.1.4 wranIfBsAuthSuccessRate

Success rate ... $(\text{wranIfBsNumAuthSuccess} / \text{wranIfBsNumAuthAttempt})$.

13.1.2.4.3.1.5 wranIfBsNumRangingAttempt

Number of ... requests received.

13.1.2.4.3.1.6 wranIfBsNumRangingSuccess

Number of ... responses sent.

13.1.2.4.3.1.7 wranIfBsRangingSuccessRate

Success rate ... $(\text{wranIfBsNumRangingSuccess} / \text{wranIfBsNumRangingAttempt})$.

13.1.2.4.4 wranIfBsThroughputMetricsTable

13.1.2.4.4.1 wranIfBsThroughputMetricsEntry

Change the subclauses of 13.1.2.4.4.1 as follows:

13.1.2.4.4.1.1 wranIfBsThroughputMetricsIndex

Index of entry in the table.

13.1.2.4.4.1.2 wranIfBsAvgDsUserThroughput

This records ... over time.

13.1.2.4.4.1.3 wranIfBsAvgUsUserThroughput

This records ... over time.

13.1.2.4.4.1.4 wranIfBsAvgDsMacThroughput

This records ... over time.

13.1.2.4.4.1.5 wranIfBsAvgUsMacThroughput

This records ... over time.

13.1.2.4.4.1.6 wranIfBsAvgDsPhyThroughput

This records ... over time.

13.1.2.4.4.1.7 wranIfBsAvgUsPhyThroughput

This records ... over time.

13.1.2.4.4.1.8 wranIfBsPeakDsUserThroughput

This records ... over time.

13.1.2.4.4.1.9 wranIfBsPeakUsUserThroughput

This records ... over time.

13.1.2.4.4.1.10 wranIfBsPeakDsMacThroughput

This records ... over time.

13.1.2.4.4.1.11 wranIfBsPeakUsMacThroughput

This records ... over time.

13.1.2.4.4.1.12 wranIfBsPeakDsPhyThroughput

This records ... over time.

13.1.2.4.4.1.13~~13.1.2.4.4.1.12~~ wranIfBsPeakUsPhyThroughput
wranIfBsAvgUsPhyThroughput

This records ... over time.

13.1.2.4.4.1.14~~13.1.2.4.4.1.13~~ wranIfBsAvgDsCellEdgeThroughput

This records ... using QPSK.

13.1.2.4.4.1.15~~13.1.2.4.4.1.14~~ wranIfBsAvgUsCellEdgeThroughput

This records ... using QPSK.

13.1.2.4.4.1.15 wranIfBsNumThroughputMeasurements

This tracks ... throughput measurements.

13.1.2.4.5 wranIfBsNetworkEntryMetricsTable

13.1.2.4.5.1 wranIfBsNetworkEntryMetricsEntry

Change the subclauses of 13.1.2.4.5.1 as follows:

13.1.2.4.5.1.1 wranIfBsNetworkEntryMetricsIndex

Index into entry in the table.

13.1.2.4.5.1.2~~13.1.2.4.5.1.1~~ wranIfBsAvgNetworkEntryLatency

Average network ... in seconds.

13.1.2.4.5.1.3~~13.1.2.4.5.1.2~~ wranIfBsMaxNetworkEntryLatency

Maximum network ... in seconds.

13.1.2.4.5.1.4~~13.1.2.4.5.1.3~~ wranIfBsAvgNetworkReEntryLatency

Average network ... in seconds.

13.1.2.4.5.1.5~~13.1.2.4.5.1.4~~ wranIfBsMaxNetworkReEntryLatency

Maximum network ... in seconds.

13.1.2.4.5.1.6~~13.1.2.4.5.1.5~~ wranIfBsNumNetworkEntryAttempts

Number of network entry attempts.

13.1.2.4.5.1.7~~13.1.2.4.5.1.6~~ wranIfBsNumNetworkReEntryAttempts

Number of network re-entry attempts.

13.1.2.4.6 wranIfBsPacketErrorRateTable

13.1.2.4.6.1 wranIfBsPacketErrorRateEntry

Change the subclauses of 13.1.2.4.6.1 as follows:

13.1.2.4.6.1.1 wranIfBsPacketErrorRateIndex

Index of entry in the table.

13.1.2.4.6.1.2 wranIfBsDsPacketsSent

Total number ... has sent.

13.1.2.4.6.1.3 wranIfBsDsPacketsErrored

Total number ... been acknowledged.

13.1.2.4.6.1.4 wranIfBsDsPacketErrorRate

wranIfBsDsPacketErrorRate ... of 1e-7.

13.1.2.4.6.1.5 wranIfBsUsPacketsReceived

Total number ... has received.

13.1.2.4.6.1.6 wranIfBsUsPacketsErrored

Total number ... the BS.

13.1.2.4.6.1.7 wranIfBsUSPacketErrorRate

wranIfBsUSPacketErrorRate ... of 1e-7.

13.1.2.4.7 wranIfBsUserMetricsTable

13.1.2.4.7.1 wranIfBsUserMetricsEntry

Change the subclauses of 13.1.2.4.7.1 as follows:

13.1.2.4.7.1.1 wranIfBsUserMetricsIndex

Index of entry in the table.

13.1.2.4.7.1.2 wranIfBsNumActiveUsers

Total number ... on them.

13.1.2.4.7.1.3 wranIfBsNumTotalUsers

Total number ... (REG-REQ/RSP) process.

~~13.1.2.4.7.1.3~~ wranIfBsNumTimeoutUsers

~~Total number of users that are in Timeout.~~

Change 13.1.2.4.8 and its subclauses as follows:

13.1.2.4.8 wranIfBsServiceFlowMetricsTable

This MIB object provides a table to track metrics related to service flows. This table is made up of one entry, multiple entries, one for each BS sector. Each entry is defined by wranIfBsServiceFlowMetricsEntry.

13.1.2.4.8.1 wranIfBsServiceFlowMetricsEntry

This object ... wranIfBsServiceFlowMetricsTable.

13.1.2.4.8.1.1 wranIfBsServiceFlowMetricsIndex

Index of entry in the table.

13.1.2.4.8.1.2 ~~13.1.2.4.8.1.1~~ wranIfBsNumDsaReq

Number of ... reporting period.

13.1.2.4.8.1.3 ~~13.1.2.4.8.1.2~~ wranIfBsNumDsaReqSuccess

Number of ... particular DSA-REQ.

13.1.2.4.8.1.4 ~~13.1.2.4.8.1.3~~ wranIfBsDsaSuccessRate

wranIfBsNumDsaSuccessRate ... $\times 100$.

13.1.2.4.8.1.5 ~~13.1.2.4.8.1.4~~ wranIfBsNumDscReq

Number of ... reporting period.

13.1.2.4.8.1.6 ~~13.1.2.4.8.1.5~~ wranIfBsNumDscReqSuccess

Number of ... particular DSC-REQ.

13.1.2.4.8.1.7 ~~13.1.2.4.8.1.6~~ wranIfBsDscSuccessRate

wranIfBsNumDscSuccessRate ... $\times 100$.

13.1.2.4.8.1.8 ~~13.1.2.4.8.1.7~~ wranIfBsNumDsdReq

Number of ... reporting period.

13.1.2.4.8.1.9 ~~13.1.2.4.8.1.8~~ wranIfBsNumDsdReqSuccess

Number of ... particular DSD-REQ.

13.1.2.4.8.1.10~~13.1.2.4.8.1.9~~ wranIfBsDsdSuccessRate

wranIfBsNumDsdSuccessRate ... $\times 100$.

13.1.2.4.8.1.11~~13.1.2.4.8.1.10~~ wranIfBsMaxActiveServiceFlow

Maximum number ... reporting period.

13.1.2.4.8.1.12~~13.1.2.4.8.1.11~~ wranIfBsAvgActiveServiceFlow

Average number ... reporting period.

13.1.2.4.8.1.13~~13.1.2.4.8.1.12~~ wranIfBsMaxProvisionedServiceFlow

Maximum number ... reporting period.

13.1.2.4.8.1.14~~13.1.2.4.8.1.13~~ wranIfBsAvgProvisionedServiceFlow

Average number ... reporting period.

13.1.2.4.8.1.15~~13.1.2.4.8.1.14~~ wranIfBsMaxDsServiceFlow

Maximum number ... reporting period.

13.1.2.4.8.1.16~~13.1.2.4.8.1.15~~ wranIfBsMaxUsServiceFlow

Maximum number ... reporting period.

13.1.2.4.8.1.17~~13.1.2.4.8.1.16~~ wranIfBsAvgDsServiceFlow

Average number ... reporting period.

13.1.2.4.8.1.18~~13.1.2.4.8.1.17~~ wranIfBsAvgUsServiceFlow

Average number ... reporting period.

13.1.2.4.8.1.19~~13.1.2.4.8.1.18~~ wranIfBsNumSfidAllocated

Number of ... reporting period.

13.1.2.4.9 wranIfBsArqMetricsTable

13.1.2.4.9.1 wranIfBsArqMetricsEntry

Change the subclauses of 13.1.2.4.9.1 as follows:

13.1.2.4.9.1.1 wranIfBsArqMetricsIndex

Index of entry in the table.

13.1.2.4.9.1.213.1.2.4.9.1.1 wranIfBsDsNumArqBlocks

Total number ... reporting period.

13.1.2.4.9.1.313.1.2.4.9.1.2 wranIfBsDsNumArqBlocksDropped

Total number ... at retransmission.

13.1.2.4.9.1.413.1.2.4.9.1.3 wranIfBsDsArqBlockErrorRate

wranIfBsDsArqBlockErrorRate ... of 1e-7.

**13.1.2.4.9.1.513.1.2.4.9.1.4 wranIfBsDsNumArqBlockReTx
wranIfBsDsNumArqBlockReTransmissions**

Total number ... were retransmitted.

13.1.2.4.9.1.613.1.2.4.9.1.5 wranIfBsDsArqBlockEfficiency

$$\text{wranIfBsDsArqBlockEfficiency} = \left(\frac{\text{wranIfBsDsNumArqBlockReTx}}{\text{wranIfBsDsNumArqBlockReTransmissions}} / \text{wranIfBsDsNumArqBlocks} \right) \times 10000000$$
, in units of 1e-7.

13.1.2.4.9.1.713.1.2.4.9.1.6 wranIfBsUsNumArqBlocks

Total number ... reporting period.

13.1.2.4.9.1.8 wranIfBsUsNumArqBlocksDropped

Total number of US ARQ blocks that were dropped, due to unsuccessful attempts at retransmission.

13.1.2.4.9.1.9 wranIfBsUsArqBlockErrorRate

$$\text{wranIfBsUsArqBlockErrorRate} = \left(\frac{\text{wranIfBsUsNumArqBlocksDropped}}{\text{wranIfBsUsNumArqBlocks}} \right) \times 10000000$$
, in units of 1e-7.

**13.1.2.4.9.1.1013.1.2.4.9.1.7 wranIfBsUsNumArqBlockReTx
wranIfBsUsNumArqBlockReTransmissions**

Total number ... reporting period.

13.1.2.4.9.1.1113.1.2.4.9.1.8 wranIfBsUsArqBlockEfficiency

$$\text{wranIfBsUsArqBlockEfficiency} = \left(\frac{\text{wranIfBsUsNumArqBlockReTx}}{\text{wranIfBsUsNumArqBlockReTransmissions}} / \text{wranIfBsUsNumArqBlocks} \right) \times 10000000$$
, in units of 1e-7.

13.1.2.4.10 wranIfBsAuthenticationMetricsTable

13.1.2.4.10.1 wranIfBsAuthenticationMetricsEntry

Change the subclauses of 13.1.2.4.10.1 as follows:

13.1.2.4.10.1.1 wranIfBsAuthenticationMetricsIndex

Index of entry in the table.

~~13.1.2.4.10.1.2~~13.1.2.4.10.1.1 wranIfBsMgmtAuthErrors wranIfBsMgmtAuthenticationErrors

A counter ... properly authenticated.

~~13.1.2.4.10.1.3~~13.1.2.4.10.1.2 wranIfBsDataAuthErrors wranIfBsDataAuthenticationErrors

A counter ... properly authenticated.

~~13.1.2.4.10.1.4~~13.1.2.4.10.1.3 wranIfBsWiMicAuthErrors wranIfBsWiMicAuthenticationErrors

A counter ... properly authenticated.

~~13.1.2.4.10.1.5~~13.1.2.4.10.1.4 wranIfBsCbpAuthErrors wranIfBsCbpAuthenticationErrors

A counter ... properly authenticated.

13.1.2.4.11 wranIfBsCoexistenceStatusTable

13.1.2.4.11.1 wranIfBsCoexistenceStatusEntry

Change the subclauses of 13.1.2.4.11.1 as follows:

13.1.2.4.11.1.1 wranIfBsCoexistenceStatusIndex

Index of entry in the table.

~~13.1.2.4.11.1.2~~13.1.2.4.11.1.1 wranIfBsContentionChannel

Channel number ... contented for).

~~13.1.2.4.11.1.3~~13.1.2.4.11.1.2 wranIfBsFCREQSourceIDwranIfBsFrameContentionSourceID

BS ID ... the FC-REQ.

~~13.1.2.4.11.1.4~~13.1.2.4.11.1.3 wranIfBsFrameContentionSeqNum

Sequence number ... FC-REQ message.

13.1.2.4.11.1~~13.1.2.4.11.1.4~~ wranIfBsFrameContentionNumber

Value of ... the FC-REQ.

13.1.2.4.11.1~~13.1.2.4.11.1.5~~ wranIfBsContentionReqFrameIndexVector

Bitmap index ... current one.

13.1.2.4.12 wranIfBsCoexistenceSourceTable

13.1.2.4.12.1 wranIfBsCoexistenceSourceEntry

Change the subclauses of 13.1.2.4.12.1 as follows:

13.1.2.4.12.1.1 wranIfBsCoexistenceSourceIndex

Index of entry in the table.

13.1.2.4.12.1.2~~13.1.2.4.12.1.1~~ wranIfBsCBPSourceID~~wranIfBsMacAddress~~

BS ID ... Table 9).

13.1.2.4.12.1.3~~13.1.2.4.12.1.2~~ wranIfBsSchDataIndex

SCH Data ... this table.

13.1.2.4.12.1.4~~13.1.2.4.12.1.3~~ wranIfBsSchData

SCH Data ... wranIfBsSchDataIndex.

13.1.2.4.13 wranIfBsCoexistenceResourceListTable

13.1.2.4.13.1 wranIfBsCoexistenceResourceListEntry

Change the subclauses of 13.1.2.4.13.1 as follows:

13.1.2.4.13.1.1 wranIfBsCoexistenceResourceListIndex

Index of entry in the table. When set to 1, refers to a BS own Coexistence Resource.

13.1.2.4.13.1.2~~13.1.2.4.13.1.1~~ wranIfBsCoexistenceResourceID~~wranIfBsMacAddress~~

BS ID ... Table 9).

13.1.2.4.13.1.3~~13.1.2.4.13.1.2~~ wranIfBsSelfCoexistenceCapabilityIndicator
~~wranIfBsSelfCoexistenceCapcityIndicator~~

Field within ... are null.

~~13.1.2.4.13.1.3 wranIfBsNumBackupCandidateChannels~~

~~Number of ... wranIfBsBackupCandidateChannelList.~~

13.1.2.4.13.1.4 wranIfBsNumBackupChannels

Number of backup channels in wranIfBsBackupChannelList
~~wranIfBsBackupCandidateChannelList.~~

13.1.2.4.13.1.5 wranIfBsBackupChannelList~~wranIfBsBackupCandidateChannelList~~

This object is a vector, of the length = 8 bits × wranIfBsNumBackupChannels
~~wranIfBsNumBackupCandidateChannels~~, that contains the backup/candidate channel list received in a CBP burst from a neighbor WRAN.

13.1.2.4.13.1.6 wranIfBsCurrentDSUSSplit

Current US/DS ... neighbor WRAN.

...

13.1.2.4.13.1.12 wranIfBsScwCycleFrameBitmap

DS/US Change ... neighbor WRAN.

13.1.2.4.14 wranIfBsCoexistenceCurrentConfigTable

13.1.2.4.14.1 wranIfBsCoexistenceCurrentConfigEntry

Change the subclauses of 13.1.2.4.14.1 as follows:

13.1.2.4.14.1.1 wranIfBsCoexistenceCurrentConfigIndex

Index of entry in the table.

13.1.2.4.14.1.2~~13.1.2.4.14.1.1~~ wranIfBsContentionChannel

Channel number ... was executed.

13.1.2.4.14.1.3~~13.1.2.4.14.1.2~~ wranIfBsFrameContentionSourceID

BS ID ... won contention.

13.1.2.4.14.1.4~~13.1.2.4.14.1.3~~ wranIfBsAwardedSeqNum

Sequence number ... FC-REQ message.

13.1.2.4.14.1.5~~13.1.2.4.14.1.4~~ wranIfBsContentionRspFrameIndexVector

Sequence number ... FC-REQ message.

13.1.2.4.14.1.6 ~~13.1.2.4.14.1.5~~ wranIfBsContentionRspFrameReleaseTime

Starting from ... contention destination.

Insert the following new subclauses (13.1.2.4.15 with its subclauses and 13.1.2.4.16) after 13.1.2.4.14.1.6:

13.1.2.4.15 wranIfBsPmMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.2.4.15.1 wranIfBsPmConfigGroup

This group contains objects relate to configuration of measurement records used in wranIfBsPm.

13.1.2.4.15.2 wranIfBsPmSignalPowerGroup

This group contains objects related to tracking CPE signal power measurements.

13.1.2.4.15.3 wranIfBsPmStartupGroup

This group contains objects related to tracking CPE performance during network entry and re-entry.

13.1.2.4.15.4 wranIfBsPmThroughputGroup

This group contains objects related to tracking CPE peak/average data rate.

13.1.2.4.15.5 wranIfBsPmNetEntryGroup

This group contains objects related to tracking latency of network entry and re-entry for CPEs.

13.1.2.4.15.6 wranIfBsPmPktErrorGroup

This group contains objects related to tracking packet error rate measurements.

13.1.2.4.15.7 wranIfBsPmUserGroup

This group contains objects related to tracking status of users in the cell.

13.1.2.4.15.8 wranIfBsPmServiceFlowGroup

This group contains objects related to tracking services flow metrics.

13.1.2.4.15.9 wranIfBsPmArqGroup

This group contains objects related to tracking ARQ performance.

13.1.2.4.15.10 wranIfBsPmAuthGroup

This group contains objects related to tracking the number of authentication/encryption errors that occur.

13.1.2.4.15.11 wranIfBsPmCoexStatusGroup

This group contains objects related to tracking the status of on going coexistence (Frame Contention) transactions.

13.1.2.4.15.12 wranIfBsPmCoexSourceGroup

This group contains objects related to tracking which neighbor BSs are attempting a coexistence (Frame Contention) transaction.

13.1.2.4.15.13 wranIfBsPmCoexResourceGroup

This group contains objects related to tracking what resources are used by neighboring WRANs.

13.1.2.4.15.14 wranIfBsPmCoexConfigGroup

This group contains objects related to tracking what resources have been allocated to neighboring WRANs during coexistence (Frame Contention) transactions.

13.1.2.4.16 wranIfBsPmMibCompliance

MIB objects that are optional and mandatory for wranIfBsPm compliance.

Change 13.1.2.5 and its subclauses as follows:

13.1.2.5 wranIfBsScm

This MIB group has objects related to Security Management. The following tables are included in this MIB object:

- ~~wranIfBsScmCapabilityConfiguration~~: Contains information on what cryptographic suite capabilities are supported on the BS.
- ~~wranIfBsCpeCapabilityConfigTable~~: Contains information on what cryptographic suite capabilities are supported on the CPE.
- ~~wranIfBsScmAuthConfigTable~~: Contains information on configuration of SCM attributes, e.g., timers and constants as defined in Clause 8.
- wranIfBsCpeScmAuthStatusTable: Contains information related to the current status of CPE authentication.
- wranIfBsCpeScmSaConfigTable: Contains information related to attributes of SAs that are configured on CPEs.
- wranIfBsCpeTekRefreshTable: Contains information related to ongoing SCM Key-Request/Reply transactions.
- wranIfBsCBPAuthCACertTable: Contains CA root certificates used in CBP Authentication.
- wranIfBsCBPAuthBsImplicitCertTable: Contains BS implicit certificates used in CBP Authentication.
- wranIfBSWiMicAuthCertTable: Contains implicit certificates contained in MSF3 of captured wireless microphone beacons.
- wranIfBsScmMibGroups: Defines which MIB groups are available within this module and which MIB objects are part of each group.

— wranIfBsScmMibCompliance: MIB objects that are optional and mandatory for wranIfBsPm compliance.

13.1.2.5.1 wranIfBsScmCapabilityConfiguration

This MIB ... Table 193.

13.1.2.5.2 wranIfBsCpeScmCapabilityConfigTable

This MIB ... **13.1.2.5.2.1.2** ... Table 193.

13.1.2.5.3 wranIfBsScmAuthConfigTable

This MIB ... **13.1.2.5.3.1.10** ... key exchange.

13.1.2.5.113.1.2.5.4 wranIfBsCpeScmAuthStatusTable

This object ... wranIfBsCpeScmAuthStatusEntry.

13.1.2.5.1.113.1.2.5.4.1 wranIfBsCpeScmAuthStatusEntry

This object ... wranIfBsCpeScmAuthStatusTable.

13.1.2.5.1.1.1 wranIfBsCpeAuthStatusIndex

Index of entry in the table.

13.1.2.5.1.1.213.1.2.5.4.1.1 wranIfBsCpeScmAuthStatus

Current sState of CPE's authentication state machine (see 8.2.2.1) that CPE is in.

13.1.2.5.1.1.313.1.2.5.4.1.2 wranIfBsCpeScmAuthRecentEvent

Indication of ... the ASM.

13.1.2.5.1.1.413.1.2.5.4.1.3 wranIfBsCpeScmNumAuthAttempts

Current number of EAP authentication attempts.

13.1.2.5.1.1.5 wranIfBsCpeScmAuthRecentMsgSize

Size of wranIfBsCpeScmAuthRecentMsg in octets.

13.1.2.5.1.1.613.1.2.5.4.1.4 wranIfBsCpeScmAuthRecentMsg

Contents of ... or EAP-Transfer.

13.1.2.5.1.1.713.1.2.5.4.1.5 wranIfBsCpeScmAuthEapAuthTimerExpiration

Indication of ... to expire.

13.1.2.5.1.1.13.1.2.5.4.1.6 wranIfBsCpeScmAuthGraceTimer1

Indication of ... will expire.

13.1.2.5.1.1.13.1.2.5.4.1.7 wranIfBsCpeScmAuthGraceTimer2

Indication of ... will expire.

13.1.2.5.1.1.1013.1.2.5.4.1.8 wranIfBsCpeScmAk1Lifetime

Remaining lifetime for current (active) AK-will expire.

13.1.2.5.1.1.1113.1.2.5.4.1.9 wranIfBsCpeScmAk2Lifetime

Remaining lifetime for second generation (non-active) AK-will expire.

13.1.2.5.1.124.12 wranIfBsCpeScmConfigRequestSize

Size of wranIfBsCpeScmConfigRequest in octets.

13.1.2.5.1.1.1313.1.2.5.4.1.10 wranIfBsCpeScmConfigRequest

Contents of ... AAA server.

13.1.2.5.1.1.14 wranIfBsCpeScmConfigReplySize

Size of wranIfBsCpeScmConfigReply in octets.

13.1.2.5.1.1.1513.1.2.5.4.1.11 wranIfBsCpeScmConfigReply

Contents of ... to CPE.

13.1.2.5.213.1.2.5.5 wranIfBsCpeScmSaConfigTable

This object provides a table that provides the configuration of the SA attributes that are related to SAs configured on each CPE. This table is maintained on each CPE as well as on the BS. On the BS, this table represents the configuration of SAs for all CPEs under its control. On the CPE, this table is made up of one entry for each SA that a CPE supports. Each entry is defined by wranIfBsCpeScmSaConfigEntrywranIfBsCpeScmSaConfigEntry.

13.1.2.5.2.113.1.2.5.5.1 wranIfBsCpeScmSaConfigEntrywranIfBsCpeScmaConfigEntry

This object ... wranIfBsCpeScmSaConfigTable.

13.1.2.5.2.1.1 wranIfBsCpeScmSaConfigIndex

Index of entry in the table.

13.1.2.5.2.1.213.1.2.5.5.1.1 wranIfBsCpeMacAddress

MAC address of the CPE.

13.1.2.5.2.1.3 13.1.2.5.5.1.2 wranIfBsCpeSaid

SAID of ... entry refers.

13.1.2.5.2.1.4 13.1.2.5.5.1.3 wranIfBsCpeSaType

Type of ... or Group.

13.1.2.5.2.1.5 wranIfBsCpeCryptoSuiteListSize

Number of items in wranIfBsCpeCryptoSuiteList.

13.1.2.5.2.1.6 13.1.2.5.5.1.4 wranIfBsCpeCryptoSuiteList wranIfBsCpeCryptoSuiteCapability

This MIB-object provides a bitmap list that describes the cryptographic suites that the CPE supports for this particular SA. The complete list of suites is provided in Table 193.

**13.1.2.5.2.1.7 13.1.2.5.5.1.5 wranIfBsCpeActiveTekSequenceNumber
wrانIfBsCpeTekN-1SequenceNumber**

The EKS ... this SA.

13.1.2.5.2.1.8 13.1.2.5.5.1.6 wranIfBsCpeActiveTekLifetime wrانIfBsCpeTekN-1Lifetime

The remaining lifetime, in units of time (e.g., seconds), for the current (active) generation of the two TEKS that are configured for this SA.

13.1.2.5.2.1.9 13.1.2.5.5.1.7 wranIfBsCpeActiveTekPn wrانIfBsCpeTekN-1Pn

Current value ... this SA.

**13.1.2.5.2.1.10 13.1.2.5.5.1.8 wranIfBsCpeActiveTekExpireTime
wrانIfBsCpeTekN-1ExpireTime**

Time at which current (active) generation of the two TEKS configured for an SA will expire. This time is calculated as a function of the (Reception Time of Key Reply with TEK-N-1Active TEK) + ($\text{wrانIfBsCpeActiveTekLifetimeTEK-N-1Lifetime}$).

**13.1.2.5.2.1.11 13.1.2.5.5.1.9 wranIfBsCpeNonActiveTekSequenceNumber
wrانIfBsCpeTekNSequenceNumber**

The EKS ... this SA.

13.1.2.5.2.1.12 13.1.2.5.5.1.10 wranIfBsCpeNonActiveTekLifetime wrانIfBsCpeTekNLifetime

The lifetime ... this SA.

13.1.2.5.2.1.13 13.1.2.5.5.1.11 wranIfBsCpeNonActiveTekPn wrانIfBsCpeTekNPn

Current value ... this SA.

13.1.2.5.2.1.1413.1.2.5.5.1.12 wranIfBsCpeNonActiveTekExpireTime
wranIfBsCpeTekNExpireTime

Time at ... TEK N Lifetime.

13.1.2.5.313.1.2.5.6 wranIfBsCpeTekRefreshTable

This MIB ... wranIfBsCpeTekRefreshEntry.

13.1.2.5.3.113.1.2.5.6.1 wranIfBsCpeTekRefreshEntry

This object ... wranIfBsCpeTekRefreshTable.

13.1.2.5.3.1.1 wranIfBsCpeTekRefreshIndex

Index of entry in the table.

13.1.2.5.3.1.213.1.2.5.6.1.1 wranIfBsCpeScmReqTransactionIdwranIfBsCpeScmReqId

Value of SCM-Transaction Identifier ID field of SCM REQ that carried the corresponding Key-Request message (see Table 160).

13.1.2.5.3.1.313.1.2.5.6.1.2 wranIfBsCpeScmKeyReqKeySeqNum

Key Sequence Number of Key-Sequence Key-Request message (see Table 165).

13.1.2.5.3.1.413.1.2.5.6.1.3 wranIfBsCpeScmKeyReqSaid

SAID for ... being requested.

13.1.2.5.3.1.513.1.2.5.6.1.4 wranIfBsCpeScmKeyReqGroupKeyIndicator

Indicator of whether or not Key-Request was for a GSA or not.

13.1.2.5.3.1.613.1.2.5.6.1.5 wranIfBsCpeScmKeyReqCpeRandom

Random number ... the Key-Request.

13.1.2.5.413.1.2.5.7 wranIfBsCBPAuthCACertTable

This object ... wranIfBsCBPAuthCACertEntry.

13.1.2.5.4.113.1.2.5.7.1 wranIfBsCBPAuthCACertEntry

This object ... wranIfBsCBPAuthCACertTable.

13.1.2.5.4.1.1 wranIfBsCBPAuthCACertIndex

Index of entry in the table.

13.1.2.5.4.1.213.1.2.5.7.1.1 wranIfBsCBPAuthCACertCAID

CA ID, ... root certificate.

13.1.2.5.4.1.3~~13.1.2.5.7.1.2~~ wranIfBsCBPAuthCACertKeyID

Key ID, ... root certificate.

13.1.2.5.4.1.4~~13.1.2.5.7.1.3~~ wranIfBsCBPAuthCACertKeyValidityDate

Key Validity ... becomes valid.

13.1.2.5.4.1.5~~13.1.2.5.7.1.4~~ wranIfBsCBPAuthCACertKeyValidityTimePeriod

Key Validity Time Period, length of time from Key Validity Date (Not Before) in 6-month increments, during which CA root certificate is valid.

13.1.2.5.4.1.6~~13.1.2.5.7.1.5~~ wranIfBsCBPAuthCACertVersion

Version of ... certificate supports.

13.1.2.5.4.1.7~~13.1.2.5.7.1.6~~ wranIfBsCBPAuthCACertECDomainParameters

Elliptic Curve ... CA uses.

13.1.2.5.4.1.8 wranIfBsCBPAuthCACertCAPubKrdSize

Size of wranIfBsCBPAuthCACertCAPubKrd in octets.

13.1.2.5.4.1.9~~13.1.2.5.7.1.7~~ wranIfBsCBPAuthCACertCAPubKrd

Public Key ... root certificate.

13.1.2.5.7.1.8 wranIfBsCBPAuthCACertCAPubK

Public Key ... root certificate.

13.1.2.5.5~~13.1.2.5.8~~ wranIfBsCBPAuthBsImplicitCertTable

This object provides a table to store BS implicit certificates for neighbor WRANs that use CBP authentication. There will be one entry for each BS whose implicit certificate is installed (via this object) on the BS or received by CERT-REQ/RSP. A BS may keep an entry for its own implicit certificate in this object. Each entry is defined by wranIfBsCBPAuthBsImplicitCertEntry.

13.1.2.5.5.1~~13.1.2.5.8.1~~ wranIfBsCBPAuthBsImplicitCertEntry

This object ... wranIfBsCBPAuthBsImplicitCertTable.

13.1.2.5.5.1.1 wranIfBsCBPAuthBsImplicitCertIndex

Index of entry in the table.

13.1.2.5.5.1.2~~13.1.2.5.8.1.1~~ wranIfBsCBPAuthBsImplicitCertBsID

BS ID ... belongs to.

13.1.2.5.5.1.3 ~~13.1.2.5.8.1.2~~ wranIfBsCBPAuthBsImplicitCertCAID

CA ID, ... implicit certificate.

13.1.2.5.5.1.4 ~~13.1.2.5.8.1.3~~ wranIfBsCBPAuthBsImplicitCertKeyID

Key ID, ... implicit certificate.

13.1.2.5.5.1.5 ~~13.1.2.5.8.1.4~~ wranIfBsCBPAuthBsImplicitCertKeyValidityDate

Key Validity ... becomes valid.

13.1.2.5.5.1.6 ~~13.1.2.5.8.1.5~~ wranIfBsCBPAuthBsImplicitCertKeyValidityTimePeriod

Key Validity ... is valid.

13.1.2.5.5.1.7 ~~13.1.2.5.8.1.6~~ wranIfBsCBPAuthBsImplicitCertVersion

Version of ... certificate supports.

13.1.2.5.5.1.8 wranIfBsCBPAuthBsImplicitCertPubKrdSize

Size of wranIfBsCBPAuthBsImplicitCertPubKrd in octets.

13.1.2.5.5.1.9 ~~13.1.2.5.8.1.7~~ wranIfBsCBPAuthBsImplicitCertPubKrd

Public Key ... implicit certificate.

13.1.2.5.8.1.8 wranIfBsCBPAuthBsImplicitCertPubK

Public Key ... implicit certificate.

13.1.2.5.8.1.9 wranIfBsCBPAuthBsImplicitCertPrKrd

Private Key ... certificate entries.

13.1.2.5.8.1.10 wranIfBsCBPAuthBsImplicitCertPrKrd

Private Key ... other BSs.

13.1.2.5.6.1 ~~13.1.2.5.9~~ wranIfBsWiMicAuthCertTable

This object provides a table to store wireless microphone implicit certificates contained in MSF3 of decoded wireless microphone beacons. This table is made up of multiple entries, one defined for each unique wireless microphone beacon implicit certificate. Each entry is defined by wranIfBSWiMicAuthCertEntry. Entries are added to this table when a wireless microphone beacon (MSF1+MSF2+MSF3) has been successfully received and decoded.

13.1.2.5.6.1.1 ~~13.1.2.5.9.1~~ wranIfBsWiMicAuthCertEntry

This object ... wranIfBSWiMicAuthCertTable.

13.1.2.5.6.1.1 wranIfBsWiMicAuthCertIndex

Index of entry in the table.

13.1.2.5.6.1.2 wranIfBsWiMicAuthSrcAddress

Source Address ... implicit certificate.

13.1.2.5.6.1.3 wranIfBsWiMicAuthImplicitCertSize

Size of wranIfBsWiMicAuthImplicitCert in octets.

13.1.2.5.6.1.4 wranIfBsWiMicAuthImplicitCert

Wireless microphone ... IEEE Std 802.22.1-2010.

13.1.2.5.7 wranIfBsScmMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.2.5.7.1 wranIfBsScmAuthStatusGroup

This group contains objects related to tracking the current state of a CPEs authentication state machine.

13.1.2.5.7.2 wranIfBsScmSaConfigGroup

This group contains objects related to tracking the configurations of SAs configured on CPEs.

13.1.2.5.7.3 wranIfBsScmTekGroup

This group contains objects related to tracking on going Key-Request transactions.

13.1.2.5.7.4 wranIfBsScmCBPAuthCACertGroup

This group contains objects related to storing CA Root certificates that used to validate BS Implicit Certificates used in CBP authentication.

13.1.2.5.7.5 wranIfBsScmCBPBsCertGroup

This group contains objects related to storing BS implicit certificates used in CBP authentication.

13.1.2.5.7.6 wranIfBsScmWiMicAuthGroup

This group contains objects related to storing wireless microphone beacon (IEEE Std 802.22.1-2010) certificates transmitted in MSF3 of wireless microphone beacons.

13.1.2.5.8 wranIfBsScmMibCompliance

MIB objects that are optional and mandatory for wranIfBsScm.

Change 13.1.3 as follows:

13.1.3 wranIfBsSfMgmtMib

This MIB group provides objects for managing service flows in the network.

Classification rules to be defined by the operator shall be downloadable to the BS and CPEs in a uniform and standardized format. The resulting behavior of a given classification rule shall be standardized and implementation independent. This shall be done by the MIB.

In this MIB group the following tables are defined:

- wranIfBsProvSfTable: Contains information about service flows provisioned by the NCMS.
- wranIfBsScTable: Contains the QoS parameter set for service flows defined for the supported service classes.
- wranIfBsActiveSfTable: Contains information about dynamic service flows that are created/torn-down on-the-fly.
- wranIfBsProvClassifierRuleTable: Contains information about classifier rules as applied to service flows provisioned by the NCMS.
- wranIfBsClassifierRuleTable: Contains information about classifier rules as applied to service flows applied to dynamic service flows.
- wranIfBsSfTrapControl: Defines trap control related to enabling/disabling service flow management event recording.
- wranIfBsSfTrapDefinition: Defines configuration of data recorded with traps.
- wranIfBsSfNotificationObjectsTable: Table that tracks information reported by traps.
- wranIfBsSfMibGroups: Definition of MIB groups available within wranIfBsSfMgmtMib.
- wranIfBsSfMibCompliance: Definition of compliance object for wranIfBsSfMgmtMib.

13.1.3.1 wranIfBsProvSfTable

13.1.3.1.1 wranIfBsProvSfEntry

Change the subclauses of 13.1.3.1.1 as follows:

13.1.3.1.1.1 wranIfBsProvEntryIndex

Index of entry in the table.

13.1.3.1.1.2 wranIfBsCpeProvMacAddress

MAC address ... is provisioned.

13.1.3.1.1.3 wranIfBsProvSfId

Unique identifier ... particular CPE.

13.1.3.1.1.4 wranIfBsProvSfDirection

Indication of ... DS SF.

13.1.3.1.1.513.1.3.1.1.4 wranIfBsProvScIndexwranIfBsScIndex

Index into ... service flow.

13.1.3.1.1.613.1.3.1.1.5 wranIfBsProvCsSpecificationwranIfBsCsSpecification

Indication of which convergence sublayer has been used to encapsulate the higher-layer SDU (see 7.7.8.9.18.1).

13.1.3.1.1.713.1.3.1.1.6 wranIfBsProvSfStatus

Indication of whether or not the provisioned service flow is currently provisioned, admitted, or active (see 7.7.8.9.4 and 7.18.2) ~~or not.~~

13.1.3.1.1.813.1.3.1.1.7 wranIfBsProvSfProvisioningTime

If currently active (see 13.1.3.1.1.713.1.3.1.1.6), the time at which the service flow was provisioned.

13.1.3.1.1.9 wranIfBsProvTargetSaid

SAID of SA to which the service flow is being mapped. Provisioned service flows can be mapped to the Primary or Secondary SA of the CPE.

13.1.3.1.1.10 wranIfBsProvClsRuleListSize

Number of wranIfBsProvClsfrRuleIndex values in wranIfBsProvClsRuleList.

13.1.3.1.1.11 wranIfBsProvClsRuleList

List of wranIfBsProvClsfrRuleIndex values pointing to entries in the wranIfBsProvClassifierRuleTable that contain packet classification rules assigned to this service flow.

Change 13.1.3.2 and its subclauses as follows:

13.1.3.2 wranIfBsScTable

This MIB object provides a table that describes attributes of provisioned and dynamic service flows, such as the QoS parameter set. This table is made up of multiple entries, one for each service class. Each entry is defined by wranIfBsScEntry.

13.1.3.2.1 wranIfBsScEntry

This object ... wranIfBsScTable.

13.1.3.2.1.1 wranIfBsScIndex

Index value ... wranIfBsScTable.

13.1.3.2.1.2 wranIfBsQosSfSfid

SFID of service flow.

13.1.3.2.1.3 wranIfBsQoSsfFid

FID to which service flow is mapped.

13.1.3.2.1.4 wranIfBsQoSServiceClassNameSize

Size, e.g., number of octets, of wranIfBsQoSServiceClassName.

13.1.3.2.1.513.1.3.2.1.2 wranIfBsQoSServiceClassName

Defines the name of the service class associated with this entry. If a service class is not assigned, this will be blank.

13.1.3.2.1.3 wranIfBsQoSTrafficPriority

Priority of ... bandwidth requests.

13.1.3.2.1.6 wranIfBsQoSParameterSetType

Indication of whether the QoS Parameter set defined by this entry is applied to the Provisioned, Admitted, or Active parameter set of the service flow.

13.1.3.2.1.713.1.3.2.1.4 wranIfBsQoSMaxSustainedRate

Peak information/data ... per second.

13.1.3.2.1.813.1.3.2.1.5 wranIfBsQoSTrafficSize

If fixed-length SDUs (see 13.1.3.2.1.1213.1.3.2.1.9) are enabled, this represents the size of SDU assigned to the service flow. If variable-length SDUs (see 13.1.3.2.1.1213.1.3.2.1.19) are enabled, this represents the average size of SDU assigned the service flow.

13.1.3.2.1.913.1.3.2.1.6 wranIfBsQoSMinReservedRate

Minimum required ... per second.

13.1.3.2.1.1013.1.3.2.1.7 wranIfBsQoSToleratedJitter

The maximum ... service flow.

13.1.3.2.1.1113.1.3.2.1.8 wranIfBsQoSMaxLatency

The maximum ... service flow.

13.1.3.2.1.1213.1.3.2.1.9 wranIfBsQoSEnableVariableLengthSdus

Setting this object allows the turning on/off to enable/disable use of variable-length SDUs support. Default is to allow use of variable-length SDUs.

13.1.3.2.1.1313.1.3.2.1.10 wranIfBsQoS SchedulingType

The scheduling ... is BE.

13.1.3.2.1.14~~13.1.3.2.1.11~~ wranIfBsQosArqEnable

Setting this ... is enabled.

13.1.3.2.1.15~~13.1.3.2.1.12~~ wranIfBsQosArqWindowSize

Indication of ... is set.

13.1.3.2.1.16~~13.1.3.2.1.13~~ wranIfBsQosArqTxRetryTimeout

Total time before timing out retransmissions of ARQ blocks (in 10-microsecond blocks). For BS, this should include time to compensate for scheduling and the propagation time for transmission.

13.1.3.2.1.17~~13.1.3.2.1.14~~ wranIfBsQosArqRxRetryTimeout

Total time before timing out reception of ARQ block retransmission (in 10-microsecond blocks). For BS, this should include time to compensate for scheduling and the propagation time for transmission.

13.1.3.2.1.18~~13.1.3.2.1.15~~ wranIfBsQosArqBlockLifetime

The maximum ... is dropped.

13.1.3.2.1.19~~13.1.3.2.1.16~~ wranIfBsQosArqSyncLossTimeout

Timeout for ... become unsynchronized.

13.1.3.2.1.20~~13.1.3.2.1.17~~ wranIfBsQosArqDeliverInOrderEnable

Disable/enables ... the transmitter.

13.1.3.2.1.21~~13.1.3.2.1.18~~ wranIfBsQosArqRxPurgeTimeout

How much ... is received.

13.1.3.2.1.22~~13.1.3.2.1.19~~ wranIfBsQosArqBlockSizeReq

This object ... REG-REQ messages.

13.1.3.2.1.23~~13.1.3.2.1.20~~ wranIfBsQosArqBlockSizeRsp

This object ... REG-RSP messages.

13.1.3.2.1.24~~13.1.3.2.1.21~~ wranIfBsQosReqTxPolicy

This value is a bitmap that enables/disables the following capabilities for a service flow: Use of broadcast BW request for US, use of multicast BW request for US only, piggyback BW requests on data for US transmissions, enable/disable fragmentation, enable/disable packing, and use of CRC for MAC PDU (see Table 83).

13.1.3.2.1.22 wranIfBsCsSpecification

The CS ... service flow.

13.1.3.2.1.23 wranIfBsTargetSaid

SAID of ... being mapped.

13.1.3.2.1.24 wranIfBsFsnType

Indication of ... the connection.

Change 13.1.3.3 and its subclauses as follows:

13.1.3.3 wranIfBsActiveSfTablewranIfBsSfTable

This MIB object provides a table that is used to manage service flows that are currently active between the BS and CPEs. This table is made up of multiple entries, one for each service flow mapped to a particular CPE. Each entry is defined by wranIfBsActiveSfEntrywranIfBsSfEntry.

13.1.3.3.1 wranIfBsActiveSfEntrywranIfBsSfEntry

This object is a compound object that provides the definition of an entry in wranIfBsActiveSfTablewranIfBsSfTable.

13.1.3.3.1.1 wranIfBsActiveSfIndex

Index of entry in wranIfBsActiveSfTable.

13.1.3.3.1.213.1.3.3.1.1 wranIfBsActiveSfSfidwranIfBsSfSfid

SFID of the active service flow that is assigned to a particular CPE.

13.1.3.3.1.2 wranIfBsSfCid

CID (SID ... is mapped.

13.1.3.3.1.3 wranIfBsActiveSfMacAddress

The 48-bit MAC Address assigned to CPE to which this service flow is mapped.

13.1.3.3.1.4 wranIfBsActiveSfSid

SID of CPE assigned to service flow. If wranIfBsActiveSfSid is a multicast SID, there will be multiple entries in this table, one for each wranIfBsActiveSfMacAddress assigned to this service flow with the same wranIfBsActiveSfSid.

13.1.3.3.1.513.1.3.3.1.3 wranIfBsActiveSfDirectionwranIfBsSfDirection

Direction of ... BS (US).

13.1.3.3.1.613.1.3.3.1.4 wranIfBsActiveSfStatuswranIfBsSfState

Current state ... service flow).

13.1.3.3.1.5 wranIfBsSfPriority

Priority of ... be serviced.

...

13.1.3.3.1.23 wranIfBsSfReqTxPolicy

This value ... MAC PDU.

13.1.3.3.1.7 wranIfBsActiveScIndex

Index into a wranIfBsScTable entry that indicates the QoS parameter set for this service flow.

13.1.3.3.1.813.1.3.3.1.24 wranIfBsActiveCsSpecificationwranIfBsCsSpecification

The CS ... service flow.

13.1.3.3.1.913.1.3.3.1.25 wranIfBsActiveTargetSaIdwranIfBsTargetSaId

SAID of ... being mapped.

13.1.3.3.1.26 wranIfBsSfFsnType

Indication of ... the connection.

13.1.3.3.1.10 wranIfBsActiveSfClsRuleListSize

Number of items in wranIfBsActiveClsRuleList.

13.1.3.3.1.11 wranIfBsActiveSfClsRuleList

List of wranIfBsClsfrRuleIndex values pointing to entries in the wranIfBsClassifierRuleTable that contain packet classification rules assigned to this service flow.

13.1.3.4 wranIfBsProvClassifierRuleTable

13.1.3.4.1 wranIfBsProvClassifierRuleEntry

Change the subclauses of 13.1.3.4.1 as follows:

13.1.3.4.1.1 wranIfBsProvClsfrRuleIndexwranIfBsProvClsfrRuleIndex

Index to ... wranIfBsProvClassifierRuleTable.

13.1.3.4.1.2 wranIfBsProvClsfrRuleMap

A bitmap that indicates which classification parameters are included in the classification rule. A parameter exists in this rule if the corresponding bit is set to 1.

13.1.3.4.1.13 13.1.3.4.1.2 wranIfBsProvClsfrRulePriority

Priority of the classification rule. This determines the order in which classification rules are applied.

13.1.3.4.1.14 13.1.3.4.1.3 wranIfBsProvClsfrRuleIpProtocol

Value of ... by IANA.

13.1.3.4.1.5 wranIfBsProvClsfrRuleIpSrcAddrType

Type of IP address that Source IP address from IP header is.

13.1.3.4.1.6 13.1.3.4.1.4 wranIfBsProvClsfrRuleIpSrcAddr

Source IP address from IP header.

13.1.3.4.1.7 13.1.3.4.1.5 wranIfBsProvClsfrRuleIpSrcMask

IP address mask. IP source address (wranIfBsProvClsfrRuleIpSrcAddr
wranIfBsProvClsfrRuleIpSrcAddr) is matched when output of applying (bitwise AND) this value to IP source address from IP packet.

13.1.3.4.1.8 wranIfBsProvClsfrRuleIpDestAddrType

Type of IP address that Destination IP address from IP header is.

13.1.3.4.1.9 13.1.3.4.1.6 wranIfBsProvClsfrRuleIpDestAddr

Destination IP address from IP header.

13.1.3.4.1.10 13.1.3.4.1.7 wranIfBsProvClsfrRuleIpDestMask
wranIfBsProvClsfrRuleIpDestMask

IP address mask. IP destination address (wranIfBsProvClsfrRuleIpDestAddr
wranIfBsProvClsfrRuleIpDestAddr) is matched when output of applying (bitwise AND) this value to IP destination address from IP packet.

13.1.3.4.1.11 13.1.3.4.1.8 wranIfBsProvClsfrRuleSrcPortStart
wranIfBsProvClsfrRuleSrcPortStart

Start (inclusive) of range of source ports against which that packet will be compared ~~against~~.

13.1.3.4.1.12 13.1.3.4.1.9 wranIfBsProvClsfrRuleSrcPortEnd
wranIfBsProvClsfrRuleSrcPortEnd

End (inclusive) ... be compared.

13.1.3.4.1.13 13.1.3.4.1.10 wranIfBsProvClsfrRuleDestPortStart
wranIfBsProvClsfrRuleDestPortStart

Start (inclusive) of range of destination ports against which that packet will be compared ~~against~~.

13.1.3.4.1.14 13.1.3.4.1.11 wranIfBsProvClsfrRuleDestPortEnd
wranIfBsProvClsfrRuleDestPortEnd

End (inclusive) ... be compared.

13.1.3.4.1.15 13.1.3.4.1.12 wranIfBsProvClsfrRuleDestMacAddr
wranIfBsProvClsfrRuleDestMacAddr

Destination MAC ... Ethernet header.

13.1.3.4.1.16 13.1.3.4.1.13 wranIfBsProvClsfrRuleDestMacAddrMask
wranIfBsProvClsfrRuleDestMacMask

MAC address mask. A destination MAC address (wranIfBsProvClsfrRuleDestMacAddr
wranIfBsProvClsfrRuleDestMacAddr) is matched when the destination MAC address from Ethernet header is applied (bitwise AND) with this mask.

13.1.3.4.1.17 13.1.3.4.1.14 wranIfBsProvClsfrRuleSrcMacAddr
wranIfBsProvClsfrRuleSrcMacAddr

Source MAC ... Ethernet header.

13.1.3.4.1.18 13.1.3.4.1.15 wranIfBsProvClsfrRuleSrcMacAddrMask
wranIfBsProvClsfrRuleDestMacMask

MAC address mask. A source MAC address (wranIfBsProvClsfrRuleSrcMacAddr
wranIfBsProvClsfrRuleSrcMacAddr) is matched when the source MAC address from Ethernet header is applied (bitwise AND) with this mask.

13.1.3.4.1.19 13.1.3.4.1.16 wranIfBsProvClsfrRuleEnetProtType
wranIfBsProvClsfrRuleEnetProtType

Identifier of layer 3 protocol type in an Ethernet frame. There are three types defined in Ethernet frame classification: Enable/disable use no layer 3 protocol type in Ethernet frame, EtherType in DIX/SNAP based frames, and DSAP in IEEE 802.3 frames, are used in Ethernet frame classification. If IEEE Std 802.1Q [B9] is supported, the EtherType value in the IEEE 802.1Q header is used.

13.1.3.4.1.20 13.1.3.4.1.17 wranIfBsProvClsfrRuleEnetProtocol
wranIfBsProvClsfrRuleEnetProtocol

Ethernet protocol type value that is used for classification. When wranIfBsProvClsfrRuleEnetProtType is set to EtherType, the value of this object is matched against the 16-bit EtherType value in an Ethernet header or IEEE 802.1Q header (if IEEE Std 802.1Q [B9] is supported). When wranIfBsProvClsfrRuleEnetProtType is set to DSAP, then the DSAP byte in IEEE 802.3 frames is matched against the 8 LSBs of this object's value. This value will be processed based on what is set in wranIfBsProvClsfrRuleEnetProtType.

13.1.3.4.1.21 13.1.3.4.1.18 wranIfBsProvClsfrRuleUserPriLow
wranIfBsProvClsfrRuleUserPriLow

Low value ... being used.

13.1.3.4.1.22~~13.1.3.4.1.19~~ **wranIfBsProvClsfrRuleUserPriHigh**
wranIfBsProvClsfrRuleUserPriHigh

High value ... being used.

13.1.3.4.1.23~~13.1.3.4.1.20~~ **wranIfBsProvClsfrRuleVlanId**~~wranIfBsProvClsfrRuleVlanId~~

VLAN Id ... being used.

13.1.3.4.1.24~~13.1.3.4.1.21~~ **wranIfBsProvClsfrRuleIpv6FlowLabel**
wranIfBsProvClsfrRuleIpv6FlowLabel

Flow label field from IPv6 header. The IPv6 Flow Label field is mapped to the 20 LSBs of this object, and the first 4 MSBs are set to 0.

13.1.3.4.1.25~~13.1.3.4.1.22~~ **wranIfBsProvClsfrRuleIpTypeOfService**
wranIfBsProvClsfrRuleIpTypeOfService

The value to match the IP TOS octet from IP header. The 6 MSBs of the value contained in this object are read in as the DSCP (IETF RFC 2474 [B24]), and the 2 LSBs are ignored.

13.1.3.4.1.23 **wranIfBsProvClsfrRuleMap**

A bitmap ... classification rule.

13.1.3.4.1.24 **wranIfBsProvClsfrRulePktCount**

Counter to ... this rule.

13.1.3.5 wranIfBsClassifierRuleTable

13.1.3.5.1 wranIfBsClassifierRuleEntry

Change the subclauses of 13.1.3.5.1 as follows:

13.1.3.5.1.1 **wranIfBsClsfrRuleIndex**~~wranIfBsClsfrRuleIndex~~

Index to ... wranIfBsClassifierRuleTable.

13.1.3.5.1.2 **wranIfBsClsfrRuleMap**

A bitmap that indicates which classification parameters are included in the classification rule. A parameter exists in this rule if the corresponding bit is set to 1.

13.1.3.5.1.3~~13.1.3.5.1.2~~ **wranIfBsClsfrRulePriority**~~wranIfBsClsfrRulePriority~~

Priority of ... are applied.

13.1.3.5.1.4~~13.1.3.5.1.3~~ **wranIfBsClsfrRuleIpProtocol**~~wranIfBsClsfrRuleIpProtocol~~

Value of ... by IANA.

13.1.3.5.1.5 wranIfBsClsfrRuleIpSrcAddrType

Type of IP address that Source IP address from IP header is.

13.1.3.5.1.6 wranIfBsClsfrRuleIpSrcAddr

Source IP ... IP header.

13.1.3.5.1.7 wranIfBsClsfrRuleIpSrcMask

IP address mask. IP source address (wranIfBsClsfrRuleIpSrcAddr ~~wranIfBsClsfrRuleIpSrcAddr~~) is matched when output of applying (bitwise AND) this value to IP source address from IP packet.

13.1.3.5.1.8 wranIfBsClsfrRuleIpDestAddrType

Type of IP address that Destination IP address from IP header is.

13.1.3.5.1.9 wranIfBsClsfrRuleIpDestAddr

Destination IP address from IP header.

13.1.3.5.1.10 wranIfBsClsfrRuleIpDestMask

IP address mask. IP destination address (wranIfBsClsfrRuleIpDestAddr ~~wranIfBsClsfrRuleIpDestAddr~~) is matched when output of applying (bitwise AND) this value to IP destination address from IP packet.

13.1.3.5.1.11 wranIfBsClsfrRuleSrcPortStart

Start (inclusive) of range of source ports against which that that packet will be compared ~~against~~.

13.1.3.5.1.12 wranIfBsClsfrRuleSrcPortEnd

End (inclusive) ... be compared.

13.1.3.5.1.13 wranIfBsClsfrRuleDestPortStart

Start (inclusive) of range of destination ports against which that that packet will be compared ~~against~~.

13.1.3.5.1.14 wranIfBsClsfrRuleDestPortEnd

End (inclusive) ... be compared.

13.1.3.5.1.15 wranIfBsClsfrRuleDestMacAddr

Destination MAC ... Ethernet header.

13.1.3.5.1.16 wranIfBsClsfrRuleDestMacAddrMask

MAC address mask. A destination MAC address (wranIfBsProvClsfrRuleDestMacAddr ~~wranIfBsProvClsfrRuleDestMacAddr~~) is matched when the destination MAC address from Ethernet header is applied (bitwise AND) with this mask.

13.1.3.5.1.17~~13.1.3.5.1.14~~ wranIfBsClsfrRuleSrcMacAddrwranIfBsClsfrRuleSrcMacAddr

Source MAC ... Ethernet header.

**13.1.3.5.1.18~~13.1.3.5.1.15~~ wranIfBsClsfrRuleSrcMacAddrMask
wranIfBsClsfrRuleDestMacMask**

MAC address mask. A source MAC address (wranIfBsProvClsfrRuleSrcMacAddr
~~wranIfBsProvClsfrRuleSrcMacAddr~~) is matched when the source MAC address from Ethernet header is applied (bitwise AND) with this mask.

13.1.3.5.1.19~~13.1.3.5.1.16~~ wranIfBsClsfrRuleEnetProtTypewranIfBsClsfrRuleEnetProtType

Identifier of layer 3 protocol type in an Ethernet frame. There are three types defined in Ethernet frame classification: Enable/disable use no layer 3 protocol type in Ethernet frame, EtherType in DIX/SNAP based frames, DSAP in IEEE 802.3 frames, are used in Ethernet frame classification. If IEEE Std 802.1Q [B9] is supported, the EtherType value in the IEEE 802.1Q header is used.

13.1.3.5.1.20~~13.1.3.5.1.17~~ wranIfBsClsfrRuleEnetProtocolwranIfBsClsfrRuleEnetProtocol

Ethernet protocol type value that is used for classification. This value will be processed based on what is set in wranIfBsClsfrRuleEnetProtType~~wranIfBsClsfrRuleEnetProtType~~.

13.1.3.5.1.21~~13.1.3.5.1.18~~ wranIfBsClsfrRuleUserPriLowwranIfBsClsfrRuleUserPriLow

Low value ... being used.

13.1.3.5.1.22~~13.1.3.5.1.19~~ wranIfBsClsfrRuleUserPriHighwranIfBsClsfrRuleUserPriHigh

High value ... being used.

13.1.3.5.1.23~~13.1.3.5.1.20~~ wranIfBsClsfrRuleVlanIdwranIfBsClsfrRuleVlanId

VLAN Id ... being used.

**13.1.3.5.1.24~~13.1.3.5.1.21~~ wranIfBsClsfrRuleIpv6FlowLabel
wranIfBsClsfrRuleIpv6FlowLabel**

Flow label field from IPv6 header.

**13.1.3.5.1.25~~13.1.3.5.1.22~~ wranIfBsClsfrRuleIpTypeOfService
wranIfBsClsfrRuleIpTypeOfService**

The value ... (IETF RFC 2474 [B24]).

13.1.3.5.1.23 wranIfBsClsfrRuleMap

A bitmap ... classification rule.

13.1.3.5.1.24 wranIfBsClsfrRulePktCount

Counter to ... this rule.

Insert the following new subclauses (13.1.3.6 to 13.1.3.10) after 13.1.3.5.1.25:

13.1.3.6 wranIfBsSfTrapControl

Defines control elements for traps related to management of service flows. This is a 5-bit field that enables setting a trap for particular Service Flow events: `wranIfBsProvSfChange`, `wranIfBsScChange`, `wranIfBsActiveSfChange`, `wranIfBsProvClassifierRuleChange`, and `wranIfBsClassifierRuleChange`.

13.1.3.7 wranIfBsSfTrapDefinition

This object defines service flow management traps that can be enabled/disabled in `wranIfBsSfTrapControl`.

13.1.3.7.1 wranIfBsProvSfChangeTrap

This trap contains the information related to the status of provisioned service flows.

13.1.3.7.2 wranIfBsScChangeTrap

This trap contains the information related to the status of the configuration of service flow parameters.

13.1.3.7.3 wranIfBsActiveSfChangeTrap

This trap contains the information related to the status of dynamic service flows.

13.1.3.7.4 wranIfBsProvClassifierRuleChangeTrap

This trap contains the information related to the status of classifier rules for provisioned service flows.

13.1.3.7.5 wranIfBsClassifierRuleChangeTrap

This trap contains the information related to the status of classifier rules for dynamic service flows.

13.1.3.8 wranIfBsSfNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by the traps related to the management of service flows. It is made up of one entry containing objects related to the most recent trap/event. The entry is defined by `wranIfBsNotificationObjectsEntry`.

13.1.3.8.1 wranIfBsSfNotificationObjectsEntry

This object defines an entry in `wranIfBsNotificationObjectsTable`.

13.1.3.8.1.1 wranIfBsSfNotificationIndex

Index of entry in the table (defaults to 1).

13.1.3.8.1.2 wranIfBsSfNotificationProvSfStatus

Status of provisioned service flow for which trap is enabled; see `wranIfBsProvSfStatus` (13.1.3.1.1.7).

13.1.3.8.1.3 wranIfBsSfNotificationProvEntryIndex

Index into wranIfBsProvSfTable that contains information on provisioned service that was recently modified.

13.1.3.8.1.4 wranIfBsSfNotificationScEntryIndex

Index into wranIfBsScTable that contains information on modified service flow parameters.

13.1.3.8.1.5 wranIfBsSfNotificationActiveSfIndex

Index into wranIfBsActiveSfTable that contains information on active service flows whose configuration has been updated.

13.1.3.8.1.6 wranIfBsSfNotificationActiveSfStatus

Current status of dynamic service flow; see wranIfBsActiveSfStatus (13.1.3.3.1.6).

13.1.3.8.1.7 wranIfBsSfNotificationProvClsfrRuleIndex

Index of entry in wranIfBsProvClassifierRuleTable that contains entry pertaining to a classifier rule for a provisioned service flow that was recently modified.

13.1.3.8.1.8 wranIfBsSfNotificationProvClsfrRuleMap

Value of wranIfBsProvClsfrRuleMap that contains the configuration of which classifier rules are part of the classifier rule set of a provisioned service flow that was recently modified.

13.1.3.8.1.9 wranIfBsSfNotificationClsfrRuleIndex

Index of entry in wranIfBsClassifierRuleTable that contains entry pertaining to a classifier rule for a dynamic service flow that was recently modified.

13.1.3.8.1.10 wranIfBsSfNotificationProvClsfrRuleMap

Value of wranIfBsClsfrRuleMap that contains the configuration of which classifier rules are part of the classifier rule set of a dynamic service flow that was recently modified.

13.1.3.9 wranIfBsSfMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.3.9.1 wranIfBsProvSfMibGroup

This group contains objects related to the configuration of provisioned service flows.

13.1.3.9.2 wranIfBsScMibGroup

This group contains objects related to the configuration of QoS parameters for provisioned and dynamic service flows.

13.1.3.9.3 wranIfBsActiveSfMibGroup

This group contains objects related to the configuration of dynamic service flows.

13.1.3.9.4 wranIfBsProvClassifierRuleMibGroup

This group contains objects related to the configuration of classifier rules for provisioned service flows.

13.1.3.9.5 wranIfBsClassifierRuleMibGroup

This group contains objects related to the configuration of classifier rules for dynamic service flows.

13.1.3.9.6 wranIfBsSfTrapControlGroup

This group contains objects related to enabling/disabling traps used for service flow management.

13.1.3.9.7 wranIfBsSfNotificationMibGroup

This group contains objects related to traps used for service flow management.

13.1.3.10 wranIfBsSfMibCompliance

MIB objects that are optional and mandatory for service flow management compliance.

Change 13.1.4 and its subclauses as follows:

13.1.4 wranIfCpeMib

This MIB defines objects used for managing CPEs. It is broken up into the following subclauses:

- wranIfCpeConfigurationTable: Definition of system parameters, timers, and constants related to CPE operation.
- wranIfCpeTrapControl: Enabling/disabling of traps ~~and setting thresholds for certain events concerning events related to CPE operation.~~
- wranIfCpeThresholdConfigTable: Table containing configuration bounds for recording CPE events.
- wranIfCpeTrapDefinitions: Definition of traps and objects that can be reported by traps.
- wranIfCpeNotificationObjectsTable: Table containing information related to configured traps.

13.1.4.1 wranIfCpeConfigurationTable

This MIB ... wranIfCpeConfigurationEntry.

13.1.4.1.1 wranIfCpeConfigurationEntry

This object ... wranIfCpeConfigurationTable.

13.1.4.1.1.1 wranIfCpeConfigurationIndex

Index of entry in this table (defaults to 1).

13.1.4.1.1.2 wranIfCpeLostDsMapInterval

Amount of ... considered lost.

13.1.4.1.1.3 wranIfCpeLostUsMapInterval

Amount of ... considered lost.

13.1.4.1.1.4 wranIfCpeContentionRangingRetries

Maximum number ... contention-based ranging.

13.1.4.1.1.5 wranIfCpeContentionBwRetries

Maximum number ... bandwidth requests.

13.1.4.1.1.6 wranIfCpeRegReqRetries

Maximum number ... registration requests.

13.1.4.1.1.7 wranIfCpeTftpBackoffStart

Initial backoff value for TFTP Start backoff.

13.1.4.1.1.8 wranIfCpeTftpBackoffEnd

Last value for TFTP backoff.

13.1.4.1.1.9 wranIfCpeTftpReqRetries

Maximum number ... CPE configuration.

13.1.4.1.1.10 wranIfCpeTftpDownloadRetries

Maximum number ... CPE configuration.

13.1.4.1.1.11 wranIfCpeTftpWait

Time to ... via TFTP.

13.1.4.1.1.12 wranIfCpeToDRetries

Maximum number ... of day.

13.1.4.1.1.13 wranIfCpeToDRetryPeriod

Amount of ... failed attempt.

13.1.4.1.1.14 ~~13.1.4.1.1.13~~ wranIfCpeCBCReqRetries

Maximum number of retries allowed for sending ~~SBC~~CBC request.

13.1.4.1.1.15 ~~13.1.4.1.1.14~~ wranIfCpeTftpCpltRetries

Maximum number ... to BS.

13.1.4.1.1.15 ~~wranIfCpePowerCtrlProcTime~~

Maximum time ... is executed.

13.1.4.1.1.16 ~~wranIfCpeUsMapProcTime~~

Time provided ... frame length.

13.1.4.1.1.17 ~~wranIfCpeRangRspProcTime~~

Maximum time ... in RNG CMD.

13.1.4.1.1.16 ~~13.1.4.1.1.18~~ wranIfCpeInvitedRangRetries

Maximum number ... ranging requests.

13.1.4.1.1.17 ~~13.1.4.1.1.19~~ wranIfCpeDSxReqRetries

Maximum number ... on DSx-REQ.

13.1.4.1.1.18 ~~13.1.4.1.1.20~~ wranIfCpeDSxRspRetries

Maximum number ... on DSx-RSP.

13.1.4.2 wranIfCpeTrapControl

~~wranIfCpeTrapControl~~ is comprised of the following two MIBs that deal with SNMP traps: ~~wranIfCpeTrapControlRegister~~ and ~~wranIfCpeThresholdConfigTable~~.

13.1.4.2.1 ~~wranIfCpeTrapControlRegister~~

Defines a control element for traps related to CPE operation. This MIB object is a bitmap that allows the following SNMP traps to be set for CPEs: ~~wranIfCpeDhcpSuccess,~~
~~wranIfCpeRssiStatusChange,~~ ~~wranIfCpeEirpPerScStatusChange~~
~~wranIfCpeEirpStatusChange,~~ ~~wranIfCpeMaxEirpStatusChange,~~ and
~~wranIfCpeScmStateChange~~ ~~wranIfCpeScmSilentState~~.

13.1.4.3 ~~13.1.4.2.2~~ wranIfCpeThresholdConfigTable

This MIB provides a table that allows the setting of thresholds that can be used to detect the crossing of RSSI and EIRP thresholds. Each table is made up of one entry defined by
wranIfCpeThresholdConfigEntry ~~entries for low and high thresholds for RSSI and EIRP.~~

13.1.4.3.113.1.4.2.2.1 wranIfCpeThresholdConfigEntry

This object ... wranIfCpeThresholdConfigTable.

13.1.4.3.1.1 wranIfCpeThresholdConfigIndex

Index of entry in this table (defaults to 1).

13.1.4.3.1.213.1.4.2.2.1.1 wranIfCpeRssiLowThreshold

Low threshold ... RSSI alarm.

13.1.4.3.1.313.1.4.2.2.1.2 wranIfCpeRssiHighThreshold

High threshold ... RSSI alarm.

13.1.4.3.1.413.1.4.2.2.1.3 wranIfCpeEirpPerScLowThresholdwranIfCpeEirpLowThreshold

Low threshold for generating an EIRP per subcarrier alarm.

13.1.4.3.1.513.1.4.2.2.1.4 wranIfCpeEirpPerScHighThresholdwranIfCpeEirpHighThreshold

High threshold for generating an EIRP per subcarrier alarm.

13.1.4.3.1.6 wranIfCpeMaxEirpLowThreshold

Low threshold for generating a maximum EIRP (over all 60 subchannels) alarm.

13.1.4.3.1.7 wranIfCpeMaxEirpHighThreshold

High threshold for generating a maximum EIRP (over all 60 subchannels) alarm.

NOTE—For information for the former 13.1.4.2.3, see the new 13.1.4.5.

13.1.4.4 wranIfCpeTrapDefinition

This MIB group specifies the definition of CPE traps that can be enabled/disabled in wranIfCpeTrapControl.

13.1.4.4.1 wranIfCpeRssiStatusChangeTrap

This trap indicates that the RSSI is outside the range defined by wranIfCpeRssiLowThreshold and wranIfCpeRssiHighThreshold.

13.1.4.4.2 wranIfCpeEirpPerScStatusChangeTrap

This trap indicates that the EIRP per subcarrier is outside the range defined by wranIfCpeEirpPerScLowThreshold and wranIfCpeEirpPerScHighThreshold.

13.1.4.4.3 wranIfCpeDhcpSuccessTrap

This trap indicates whether a specific CPE has been successful in acquiring an IP address via DHCP.

13.1.4.4.4 wranIfCpeScmStateChangeTrap

This trap indicates that the CPE has entered the Idle state of the SCM Authentication state machine.

13.1.4.4.5 wranIfCpeMaxEirpStatusChangeTrap

This trap indicates that the maximum EIRP per subcarrier is outside the range defined by wranIfCpeMaxEirpLowThreshold and wranIfCpeMaxEirpHighThreshold.

13.1.4.5.1.1 wranIfCpeNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by traps on a particular CPE. There is one entry in this table, one for each CPE's trap defining the notification objects for that particular CPE. Each entry is defined by wranIfCpeNotificationObjectsEntry.

13.1.4.5.1.1.1 wranIfCpeNotificationObjectsEntry

This object ... wranIfCpeNotificationObjectsTable.

13.1.4.5.1.1.1.1 wranIfCpeNotificationObjectsEntryIndex

Index of entry in the table.

13.1.4.5.1.1.1.1.1 wranIfCpeNotificationMacAddress

MAC address ... the trap.

13.1.4.5.1.1.1.1.2 wranIfCpeRssiStatus

An RSSI alarm is generated when RSSI is lower than wranIfCpeRssiLowThreshold or higher than wranIfCpeRssiHighThreshold. This alarm is generated when wranIfCpeRssiStatusChange in wranIfCpeTrapControl is set.

13.1.4.5.1.1.1.1.3 wranIfCpeEirpPerScStatus

An EIRP RSSI alarm is generated when EIRP is lower than wranIfCpeEirpPerScLowThreshold or higher than wranIfCpeEirpPerScHighThreshold. This alarm is generated when wranIfCpeEirpPerScStatusChange in wranIfCpeTrapControl is set.

13.1.4.5.1.5 wranIfCpeMaxEirpStatus

An EIRP alarm is generated when EIRP is lower than wranIfCpeMaxEirpLowThreshold or higher than wranIfCpeMaxEirpHighThreshold. This alarm is generated when wranIfCpeMaxEirpStatusChange in wranIfCpeTrapControl is set.

13.1.4.5.1.6 wranIfCpeDhcpStatus

An DHCP alarm is generated when CPE is able to obtain an IP address via DHCP. This alarm is generated when wranIfCpeDhcpSuccess in wranIfCpeTrapControl is set.

13.1.4.5.1.7 wranIfCpeScmStatus

An SCM state alarm is generated when the CPE's authentication state machine changes state. This alarm is generated when wranIfCpeScmStateChange in wranIfCpeTrapControl is set.

13.1.4.6 wranIfCpeMibGroups

This object helps define which MIB groups are available in this module and which MIB objects are part of each group. Two groups are defined: wranIfCpeMibConfigGroup and wranIfCpeMibNotificationsGroup.

13.1.4.6.1 wranIfCpeMibConfigGroup

This group contains configuration objects for the CPE.

13.1.4.6.2 wranIfCpeTrapControlGroup

This group contains configuration objects related to enabling/disabling traps for the CPE.

13.1.4.6.3 wranIfCpeMibNotificationsGroup

This group contains CPE event notifications.

13.1.4.7 wranIfCpeMibCompliance

MIB objects that are optional and mandatory for CPE conformance.

Change 13.1.5 as follows:

13.1.5 wranIfSmMib

This MIB group deals with objects related to the configuration, operation, and monitoring of the SM. This MIB group is made up of the following objects:

- wranIfSmConfigTable: Definition of system parameters, timers, and constants related to SM operation.
- wranIfSmPendingBlmReqTable: Tracks the status of the execution of ongoing sensing requests (BLM-REQ).
- wranIfSmBlmRepTable: Tracks the status of ongoing reporting (BLM-REP) in response to sensing requests.
- wranIfSmChClassificationStatusTable: Tracks classification status of channels the SM is managing.
- wranIfSmChannelSetTable: Stores information related to the Occupied, Backup, and Local Priority Channel sets used by the SM.
- wranIfSmCurrentStatusTable: Tracks current state of the SM state machine.
- wranIfSmRegTrackingTable: Tracks the location of CPEs currently associated with the BS.
- wranIfSmTrapControl: Control element related to enabling/disabling of traps for the SM.
- wranIfSmTrapDefinition: Definition of traps that can be enabled/disabled in wranIfSnTrapControl.

- wranIfSmNotificationObjectsTable: Contains information related to most recent event raise by a trap.
- wranIfSmMibGroups: Definition of which MIB groups are available within this module and which MIB objects are a part of each group.
- wranIfSmMibCompliance: Defines MIB objects that are optional and mandatory for SM compliance.

13.1.5.1 wranIfSmConfigTable

13.1.5.1.1 wranIfSmConfigEntry

Change the subclauses of 13.1.5.1.1 as follows:

13.1.5.1.1.1 wranIfSmConfigIndex

Index of entry in the table (defaults to 1).

13.1.5.1.1.2 wranIfSmT31

Wait for BLM-REP timeout.

13.1.5.1.1.3 wranIfSmChAvailabilityCheckTime wranIfSmSsaChAvailabilityCheckTime

Time during ... TV channel.

13.1.5.1.1.4 wranIfSmNonOccupancyPeriod wranIfSmSsaNonOccupancyPeriod

The required ... EIRP level.

13.1.5.1.1.5 wranIfSmChannelDetectionTime wranIfSmSsaChannelDetectionTime

Maximum time ... WRAN operation.

13.1.5.1.1.6 wranIfSmChannelSetupTime wranIfSmSsaChannelSetupTime

The window ... TV channel.

13.1.5.1.1.7 wranIfSmChannelOpeningTxTime wranIfSmSsaChannelOpeningTxTime

The aggregate ... Check Time.

13.1.5.1.1.8 wranIfSmChannelMoveTime wranIfSmSsaChannelMoveTime

The time ... related channel.

13.1.5.1.1.9~~13.1.5.1.1.8~~ **wranIfSmChannelClosingTxTime**
wranIfSmSsaChannelClosingTxTime

The aggregate ... Detection Threshold.

13.1.5.1.1.10~~13.1.5.1.1.9~~ **wranIfSmMicProtectionRadius****wranIfSmSsaMicProtectionRadius**

Radius of ... the microphone.

13.1.5.1.1.11~~13.1.5.1.1.10~~ **wranIfSmT41****wranIfSmSsaT41**

Maximum time ... are detected.

13.1.5.1.1.12~~13.1.5.1.1.11~~ **wranIfSmT42****wranIfSmSsaT42**

Maximum time ... are detected.

13.1.5.1.1.13~~13.1.5.1.1.12~~ **wranIfSmT43****wranIfSmSsaT43**

Minimum time ... backup channel.

13.1.5.1.1.14~~13.1.5.1.1.13~~ **wranIfSmT44****wranIfSmSsaT44**

Maximum time ... (self-coexistence mode).

13.1.5.1.1.15~~13.1.5.1.1.14~~ **wranIfSmT45****wranIfSmSsaT45**

Maximum WRAN ... database service.

13.1.5.1.1.16~~13.1.5.1.1.15~~ **wranIfSmT46**

Waiting time ... backup channel.

13.1.5.1.1.17~~13.1.5.1.1.16~~ **wranIfSmT59****wranIfSmSsaT59**

Waiting time ... do so.

13.1.5.1.1.18~~13.1.5.1.1.17~~ **wranIfSmT47****wranIfSmSsaT47**

The prescribed ... database service.

13.1.5.1.1.19~~13.1.5.1.1.18~~ **wranIfSmT48****wranIfSmSsaT48**

Lapse timer ... spectrum sensing.

13.1.5.1.1.20~~13.1.5.1.1.19~~ **wranIfSmT49****wranIfSmSsaT49**

Lapse timer ... spectrum sensing.

13.1.5.1.1.21~~13.1.5.1.1.20~~ **wranIfSmT50****wranIfSmSsaT50**

Lapse timer ... spectrum sensing.

13.1.5.1.1.22~~13.1.5.1.1.21~~ wranIfSmT51~~wranIfSmSsaT51~~

Initiated when ... the SM.

13.1.5.1.1.23~~13.1.5.1.1.22~~ wranIfSmT53~~wranIfSmSsaT53~~

The parameter ... (Annex A).

13.1.5.1.1.24~~13.1.5.1.1.23~~ wranIfSmT54~~wranIfSmSsaT54~~

The parameter ... to T_{sensout} .

13.1.5.1.1.25~~13.1.5.1.1.24~~ wranIfSmT55~~wranIfSmSsaT55~~

The T55 ... required accuracy.

13.1.5.1.1.26~~13.1.5.1.1.25~~ wranIfSmT60~~wranIfSmSsaT60~~

The T60 or T_{sensout} parameter corresponds to the maximum length of time required to carry out the out-of-band sensing process ~~to clear one channel~~ (see Figure 178). Manufacturers need to specify the sensing time required to detect the specified signals with required accuracy for out-of-band sensing.

13.1.5.2 wranIfSmPendingBlmReqTable

13.1.5.2.1 wranIfSmPendingBlmReqEntry

Change the subclauses of 13.1.5.2.1 as follows:

13.1.5.2.1.1 wranIfSmPendinBlmReqIndex

Index of entry in this table.

13.1.5.2.1.2~~13.1.5.2.1.1~~ wranIfSsaPendingBlmReqTransactionId

Transaction ID of BLM-REQ.

13.1.5.2.1.3 wranIfSmPendingBlmReqMsgSize

Size of BLM-REQ message pending a report.

13.1.5.2.1.4~~13.1.5.2.1.2~~ wranIfSmPendingBlmReqMsg

Contents of ... a report.

13.1.5.2.1.5~~13.1.5.2.1.3~~ wranIfSmPendingBlmRspReceived

Indication of ... from SSA.

13.1.5.2.1.6~~13.1.5.2.1.4~~ wranIfSmPendingBlmRspMulticastReceived

If BLM-REQ ... multicast group.

13.1.5.2.1.7~~13.1.5.2.1.5~~ wranIfSmPendingBlmRepTimeout

Indication of ... this BLM-REP.

13.1.5.2.1.8~~13.1.5.2.1.6~~ wranIfSmPendingBlmRepReceived

Indication of ... from SSA.

13.1.5.2.1.9~~13.1.5.2.1.7~~ wranIfSmPendingBlmRepMulticastReceived

If BLM-REQ ... multicast group.

13.1.5.2.1.10~~13.1.5.2.1.8~~ wranIfSsaPendingBlmRepAck

Indication of ... to SSA(s).

13.1.5.3 wranIfSmBlmRepTable

13.1.5.3.1 wranIfSmBlmRepEntry

Change the subclauses of 13.1.5.3.1 as follows:

13.1.5.3.1.1 wranIfSmBlmRepIndex

Index of entry in the table.

13.1.5.3.1.2~~13.1.5.3.1.1~~ wranIfSmBlmRepSid

SID of ... the BLM-REP.

13.1.5.3.1.3~~13.1.5.3.1.2~~ wranIfSmBlmRepTransactionId

Transaction ID ... wranIfSmPendingBlmReqTable.

13.1.5.3.1.4 wranIfSmBlmRepMsgSize

Size of BLM-REP msg.

13.1.5.3.1.5~~13.1.5.3.1.3~~ wranIfSmBlmRepMsg

Contents of BLM-REP msg.

13.1.5.4 wranIfSmChClassificationStatusTable

13.1.5.4.1 wranIfSmChClassificationStatusEntry

Change the subclauses of 13.1.5.4.1 as follows:

13.1.5.4.1.1 wranIfSmChClassificationIndex

Index of entry in this table.

13.1.5.4.1.2 wranIfSmManagedChannel

Channel number of channel being managed.

13.1.5.4.1.3 wranIfSmManagedChannelStatus

The state ... in IPC-UPD).

13.1.5.4.1.4 wranIfSmManagedChannelRecentEvent

Most recent ... current state.

To create a new 13.1.5.5 with subclauses, change the former 13.1.5.5 through 13.1.5.14 as follows:

13.1.5.5 wranIfSmChannelSetTable

This MIB object represents a table that stores information related to the contents of the Occupied, Backup, and Local Priority Channel sets used by the SM (see 10.2.3.2). There is one entry in this table defined by wranIfSmChannelSetEntry.

13.1.5.5.1 wranIfSmChannelSetEntry

This object defines an entry in wranIfSmChannelSetTable. There is only one entry in this table.

13.1.5.5.1.1 wranIfSmChannelSetIndex

Index of entry in the table (defaults to 1).

13.1.5.5.1.2 wranIfSmSizeWranOccupiedChannelSet

Number of ... Channel Set.

13.1.5.5.1.3 wranIfSmWranOccupiedChannelSet

Vector of ... (see 10.2.3.2).

13.1.5.5.1.4 wranIfSmSizeNghbrWranBackupChannelSet

Number of ... Channel Set.

**13.1.5.5.1.5 wranIfSmNghbrWranBackupChannelSet
wranIfSmNghbrOccupiedChannSet**

Vector of ... (see 9.2.3.2).

13.1.5.5.1.6 wranIfSmSizeLocalPrioritySet1

Number of ... Set 1.

13.1.5.5.1.1 ~~13.1.5.10~~ **wranIfSmLocalPrioritySet1**

Vector of ... (see 10.2.3.2).

13.1.5.5.1.2 ~~13.1.5.11~~ **wranIfSmSizeLocalPrioritySet2**

Number of ... Set 2.

13.1.5.5.1.3 ~~13.1.5.12~~ **wranIfSmLocalPrioritySet2**

Vector of ... (see 10.2.3.2).

13.1.5.5.1.4 ~~13.1.5.13~~ **wranIfSmSizeLocalPrioritySet3**

Number of ... wranIfSmSizeWranOccupiedChannelSet.

13.1.5.5.1.5 ~~13.1.5.14~~ **wranIfSmLocalPrioritySet3**

Vector of ... wranIfSmWranOccupiedChannelSet.

To create a new 13.1.5.6 with subclauses, change the former 13.1.5.15 and its subclauses as follows:

13.1.5.6.1 ~~13.1.5.15~~ **wranIfSmCurrentStatusTable**

This MIB ... wranIfSmCurrentStatusEntry

13.1.5.6.1.1 ~~13.1.5.15.1~~ **wranIfSmCurrentStatusEntry**

This object ... wranIfSmCurrentStatusTable.

13.1.5.6.1.1.1 **wranIfSmCurrentStatusIndex**

Index of entry in the table.

13.1.5.6.1.1.1.1 ~~13.1.5.15.1.1~~ **wranIfSmCurrentState**

The state (see Figure 164) that the SM is in.

13.1.5.6.1.1.1.1.1 ~~13.1.5.15.1.1.1~~ **wranIfSmRecentEvent**

Recent event ... in 10.2.6.1.

13.1.5.6.1.1.1.1.1.1 ~~13.1.5.15.1.1.1.1~~ **wranIfSmRecentAction**

Recent action ... in 10.2.6.1.

13.1.5.6.1.1.1.1.1.1.1 ~~13.1.5.15.1.1.1.1.1~~ **wranIfSmInitiateChannelMove**

Current value ... flag.

13.1.5.6.1.6~~13.1.5.15.1.5~~ wranIfSmSelfCoexistenceMode

Current value ... flag.

13.1.5.6.1.7~~13.1.5.15.1.6~~ wranIfSmCurrentOperatingChannel

Current operating channel.

13.1.5.6.1.8~~13.1.5.15.1.7~~ wranIfSmRecentSignalType

Type of signal recently detected (see Table 237).

13.1.5.6.1.9~~13.1.5.15.1.8~~ wranIfSmCurrentT47

Current value of T47.

13.1.5.6.1.10~~13.1.5.15.1.9~~ wranIfSmCurrentT46

Current value of T46.

To create a new 13.1.5.7 with subclauses, change the former 13.1.5.16 and its subclauses as follows:

13.1.5.7~~13.1.5.16~~ wranIfSmRegTrackingTable

This MIB ... wranIfSmRegTrackingEntry.

13.1.5.7.1~~13.1.5.16.1~~ wranIfSmRegTrackingEntry

This object ... wranIfSmRegTrackingTable.

13.1.5.7.1.1 wranIfSmRegTrackingIndex

Index of entry in the table.

13.1.5.7.1.2~~13.1.5.16.1.1~~ wranIfSmRegTrackingCpeSid

SID of ... with BS.

13.1.5.7.1.3~~13.1.5.16.1.2~~ wranIfSmRegTrackingCurrentT30

Current value ... by SM.

13.1.5.7.1.4~~13.1.5.16.1.3~~ wranIfSmRegTrackingLocStringSize

Size of ... in octets.

13.1.5.7.1.5~~13.1.5.16.1.4~~ wranIfSmRegTrackingLocString

CPE's location string.

Insert the following new subclauses (13.1.5.8 to 13.1.5.12) after 13.1.5.7.1.5:

13.1.5.8 wranIfSmTrapControl

Defines control elements for traps related to the operation of the SM. This is a 9-bit field that enables setting a trap for particular SM events: wranIfSmBlmReqChange, wranIfSmBlmRepChange, wranIfSmOccupiedChannelSetChange, wranIfSmNghbrBackupChannelSetChange, wranIfSmLocalPrioritySet1Change, wranIfSmLocalPriority2Change, wranIfSmLocalPriority3Change, wranIfSmCurrentStatusChange, and wranIfSmRegTrackingChange.

13.1.5.9 wranIfSmTrapDefinition

This MIB group specifies the definition of traps that can be enabled/disabled in wranIfSnTrapControl.

13.1.5.9.1 wranIfSmBlmReqChangeTrap

This trap contains the information related to a BLM-REQ that is pending in the SM.

13.1.5.9.2 wranIfSmBlmRepChangeTrap

This trap contains the information related to a BLM-REP that is received by the SM.

13.1.5.9.3 wranIfSmOccupiedChannelSetChangeTrap

This trap contains the information related to the current state of the Occupied Channel Set in the SM.

13.1.5.9.4 wranIfSmNghbrBackupChannelSetChangeTrap

This trap contains the information related to the current state of the Neighbor WRAN Backup Channel Set in the SM.

13.1.5.9.5 wranIfSmLocalPrioritySet1ChangeTrap

This trap contains the information related to the current state of the Local Priority Set 1 in the SM.

13.1.5.9.6 wranIfSmLocalPrioritySet2ChangeTrap

This trap contains the information related to the current state of the Local Priority Set 2 in the SM.

13.1.5.9.7 wranIfSmLocalPrioritySet3ChangeTrap

This trap contains the information related to the current state of the Local Priority Set 3 in the SM.

13.1.5.9.8 wranIfSmCurrentStatusChangeTrap

This trap contains the information related to the current state the SM is in.

13.1.5.9.9 wranIfSmRegTrackingChangeTrap

This trap contains the information related to tracking the location of CPEs within the purview of the BS.

13.1.5.10 wranIfSmNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by traps related to the operation of the SM. It is made up of one entry containing the objects related to the most recent trap/event. The entry is defined by wranIfSmNotificationObjectsEntry.

13.1.5.10.1 wranIfSmNotificationObjectsEntry

This object defines an entry in wranIfSmNotificationObjectsTable.

13.1.5.10.1.1 wranIfSmNotificationObjectsEntryIndex

Index of entry in the table.

13.1.5.10.1.2 wranIfSmNotificationSid

SID of station generating trap. wranIfNotificationSid set == 0 is reserved for traps dealing with channel set management (see wranIfSmOccupiedChannelSetChangeTrap, wranIfSmNghbrBackupChannelSetChangeTrap, wranIfSmLocalPrioritySet1ChangeTrap, wranIfSmLocalPrioritySet2ChangeTrap, wranIfSmLocalPrioritySet3ChangeTrap) and the current state of the SM (see wranIfSmCurrentStatusChangeTrap). wranIfNotificationSid set == 1..511 when dealing with traps for bulk measurement (see wranIfSmBlmReqChangeTrap, wranIfSmBlmRepChangeTrap) or CPE registration tracking (see wranIfSmRegTackingChangeTrap).

13.1.5.10.1.3 wranIfSmNotificationBlmTransactionId

The transaction ID of the bulk measurement transaction. Only pertinent when wranIfSmBlmReqChangeTrap or wranIfSmBlmRepChangeTrap is enabled.

13.1.5.10.1.4 wranIfSmNotificationSizeOccupiedChannelSet

Size of the current/new WRAN Occupied Channel Set. Only pertinent when wranIfSmOccupiedChannelSetChangeTrap is enabled.

13.1.5.10.1.5 wranIfSmNotificationOccupiedChannelSet

The current/new contents of the WRAN Occupied Channel Set. Only pertinent when wranIfSmOccupiedChannelSetChangeTrap is enabled.

13.1.5.10.1.6 wranIfSmNotificationSizeBackupChannelSet

Size of the current/new Neighbor WRAN Backup Channel Set. Only pertinent when wranIfSmNghbrBackupChannelSetChangeTrap is enabled.

13.1.5.10.1.7 wranIfSmNotificationBackupChannelSet

The current/new contents of the Neighbor WRAN Backup Channel Set. Only pertinent when wranIfSmNghbrBackupChannelSetChangeTrap is enabled.

13.1.5.10.1.8 wranIfSmNotificationSizeLocalPrioritySet1

Size of the current/new Local Priority Set 1. Only pertinent when wranIfSmLocalPrioritySet1ChangeTrap is enabled.

13.1.5.10.1.9 wranIfSmNotificationLocalPrioritySet1

The current/new contents of the Local Priority Set 1. Only pertinent when wranIfSmLocalPrioritySet1ChangeTrap is enabled.

13.1.5.10.1.10 wranIfSmNotificationSizeLocalPrioritySet2

Size of the current/new Local Priority Set 2. Only pertinent when wranIfSmLocalPrioritySet2ChangeTrap is enabled.

13.1.5.10.1.11 wranIfSmNotificationLocalPrioritySet2

The current/new contents of the Local Priority Set 2. Only pertinent when wranIfSmLocalPrioritySet2ChangeTrap is enabled.

13.1.5.10.1.12 wranIfSmNotificationSizeLocalPrioritySet3

Size of the current/new Local Priority Set 3. Only pertinent when wranIfSmLocalPrioritySet3ChangeTrap is enabled.

13.1.5.10.1.13 wranIfSmNotificationLocalPrioritySet3

The current/new contents of the Local Priority Set 3. Only pertinent when wranIfSmLocalPrioritySet3ChangeTrap is enabled.

13.1.5.10.1.14 wranIfSmNotificationRecentAction

Value of wranIfSmRecentAction that triggered transition to current state of SM. Only pertinent when wranIfSmCurrentStatusChangeTrap is enabled.

13.1.5.10.1.15 wranIfSmPendingBlmReqStatus

Indicates BLM-RSP pertaining to bulk measurement transaction (defined by wranIfSmNotificationBlmTransactionId) was received from wranIfSmNotificationSid, if wranIfSmNotificationSid is a unicast SID, or if all BLM-RSP received from members of the multicast group identified by wranIfSmNotificationSid.

13.1.5.10.1.16 wranIfSmBlmRepStatus

Indicates whether BLM-ACK has been sent, pertaining to BLM-REP received in bulk measurement transaction defined by wranIfSmNotificationBlmTransactionId.

13.1.5.10.1.17 wranIfSmOccupiedChannelSetStatus

Indication of whether channels have been added or removed when the WRAN Occupied Channel Set is modified.

13.1.5.10.1.18 wranIfSmNghbrBackupChannelSetStatus

Indication of whether channels have been added or removed when the Neighbor WRAN Backup Channel Set is modified.

13.1.5.10.1.19 wranIfSmLocalPrioritySet1Status

Indication of whether channels have been added or removed when the Local Priority Set 1 is modified.

13.1.5.10.1.20 wranIfSmLocalPrioritySet2Status

Indication of whether channels have been added or removed when the Local Priority Set 2 is modified.

13.1.5.10.1.21 wranIfSmLocalPrioritySet3Status

Indication of whether channels have been added or removed when the Local Priority Set 3 is modified.

13.1.5.10.1.22 wranIfSmCurrentStateStatus

Bitmap indicating current value of `Initiate_Channel_Move` flag, value of `Self_Coexistence_Mode` flag, whether operating channel assignment has been changed, whether recently detected signal was properly classified (i.e., not found to be == undetermined), whether T47 expired, and whether T46 has expired.

13.1.5.11 wranIfSmMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are a part of each group.

13.1.5.11.1 wranIfSmConfigGroup

This group contains objects related to configuration of the SM.

13.1.5.11.2 wranIfSmPendingBlmReqGroup

This group contains objects related to tracking pending BLM-REQs.

13.1.5.11.3 wranIfSmBlmRepGroup

This group contains objects related to tracking received BLM-REPs.

13.1.5.11.4 wranIfSmChClassificationGroup

This group contains objects used to track how channels the SM is managing have been classified.

13.1.5.11.5 wranIfSmChannelSetGroup

This group contains objects used to track the various channel sets with which the SM operates.

13.1.5.11.6 wranIfSmCurrentStatusGroup

This group contains objects used to track the current state of the SM.

13.1.5.11.7 wranIfSmRegTrackingGroup

This group contains objects the SM uses to keep track of the location of registered CPEs.

13.1.5.11.8 wranIfSmTrapControlGroup

This group contains objects related to enabling/disabling traps related to SM operation.

13.1.5.11.9 wranIfSmNotificationsGroup

This group contains notification objects related to traps configured for the SM.

13.1.5.12 wranIfSmMibCompliance

Defines MIB objects that are optional and mandatory for SM compliance.

Change 13.1.6 as follows:

13.1.6 wranIfSsaMib

This MIB group deals with objects related to the configuration, operation, and monitoring of the Spectrum Automaton.

The automaton needs to be told what needs to be sensed in the given regulatory domain. This can be done through the MIB referring to the regulatory domain information from Annex A. The CPE also need to be told which type of incumbent requires urgent, less urgent, and non-urgent reporting to the BS (see Table A.7). The background sensing done by the automaton shall be done under the MIB guidance.

This MIB group is made up of the following objects:

- wranIfSsaSensingCapTable: Definition of SSA sensing capabilities.
- wranIfSsaStatusTable: Tracks the status of the SSA state machine.
- wranIfSsaConfigTable: Defines the default configuration of SSA timers and constants.
- wranIfSsaPendingBlmRepTable: Tracks the status of ongoing sensing reporting (BLM-REP) the SSA has been assigned.
- wranIfSsaSensingRecordTable: Tracks status of sensing on each channel.
- wranIfSsaSsfMode0OutputTable: Tracks output of Mode 0 sensing by SSF.
- wranIfSsaSsfMode1OutputTable: Tracks output of Mode 1 sensing by SSF.
- wranIfSsaSsfMode2OutputTable: Tracks output of Mode 2 sensing by SSF.
- wranIfSsaSsfWiMicMSFTable: Tracks output of wireless microphone beacon sensing by SSF.
- wranIfSsaGeolocationTable: Tracks calculation of parameters used in geolocation functions.
- wranIfSsaTrapControl: Defines control element to enable/disable traps related to SSA.
- wranIfSsaTrapDefinition: Definition of traps that can be enabled for SSA monitoring.
- wranIfSsaNotificationObjectsTable: Tracks notification objects reported by SSA traps.
- wranIfSsaMibGroups: Defines MIB groups associated with this module.
- wranIfSsaMibCompliance: Defines MIB objects that are optional and mandatory for SSA compliance.

Change 13.1.6.1 and its subclauses as follows:

13.1.6.1 wranIfSsaSensingCapTable

This MIB object represents a table that stores the current sensing capabilities for an SSA under control of the SM. There is one entry in this table for an SSA, defined by **wranIfSsaSensingCapEntry**. This MIB is stored at the BS and CPE. These values are also stored in **wranIfBsCpeRegCapabilityRspTable** and **wranIfBsRegisteredCpeTable** (see 13.1.2.2.7 and 13.1.2.2.4.2) at the BS, in an entry specific to this CPE.

13.1.6.1.1 wranIfSsaSensingCapEntry

This object represents the entry that stores a CPE's sensing capabilities. The entry is identified by **wranIfSsaSensingCapIndex**.

13.1.6.1.1.1 wranIfSsaSensingCapIndex

Index of entry in this table (defaults to 1).

13.1.6.1.1.2 wranIfSsaSensingThreshold

This object ... -114 dBm).

13.1.6.1.1.3 wranIfSsaSensRecContigPeriodDuration

This object ... length value.

13.1.6.1.1.4 wranIfSsaSensRecNumPeriods

This object ... length value.

13.1.6.1.1.5 wranIfSsaSensRecPeriodInterval

This object ... length value.

13.1.6.2 wranIfSsaStatusTable

13.1.6.2.1 wranIfSsaStatusEntry

Change the subclauses of 13.1.6.2.1 as follows:

13.1.6.2.1.1 wranIfSsaStatusIndex

Index of entry in the table (defaults to 1).

13.1.6.2.1.2 wranIfSsaCurrentState

The current ... Out-of-band Sensing”.

13.1.6.2.1.3 wranIfSsaRecentEvent

The recent ... Figure 173).

13.1.6.2.1.4~~13.1.6.2.1.3~~ wranIfSsaRecentAction

The recent ... Figure 173).

13.1.6.2.1.5 wranIfSsalpcUpdChannelsSize

Number of channels in `wranIfSsaIpcUpdChannels`.

13.1.6.2.1.6~~13.1.6.2.1.4~~ wranIfSsalpcUpdChannels~~wranIfSsalpcProhibitedChannels~~

Contents of ... from SM.

13.1.6.2.1.7~~13.1.6.2.1.5~~ wranIfSsaCurrentT48

Current value of T48 at the SSA in 0.1 s increments from 0 to 60 s.

13.1.6.2.1.8~~13.1.6.2.1.6~~ wranIfSsaCurrentT49

Current value of T49 at the SSA in 0.1 s increments from 0 to 60 s.

13.1.6.2.1.9~~13.1.6.2.1.7~~ wranIfSsaCurrentT50

Current value of T50 at the SSA in 0.1 s increments from 0 to 60 s.

13.1.6.2.1.10~~13.1.6.2.1.8~~ wranIfSsalIntraFrameQpCycleLength

Obtained from ... is canceled.

13.1.6.2.1.11~~13.1.6.2.1.9~~ wranIfSsalIntraFrameQpCycleOffset

Obtained from ... sensing cycle.

13.1.6.2.1.12~~13.1.6.2.1.10~~ wranIfSsalIntraFrameQpCycleFrameBitmap

Obtained from ... period Duration.

13.1.6.2.1.13~~13.1.6.2.1.11~~ wranIfSsalIntraFrameQpDuration

Obtained from ... take place.

13.1.6.2.1.14~~13.1.6.2.1.12~~ wranIfSsalInterFrameQpDuration

Obtained from ... currently scheduled.

13.1.6.2.1.15~~13.1.6.2.1.13~~ wranIfSsalInterFrameQpOffset

Obtained from ... will start.

13.1.6.3 wranIfSsaConfigTable

13.1.6.3.1 wranIfSsaConfigEntry

Change the subclauses of 13.1.6.3.1 as follows:

13.1.6.3.1.1 wranIfSsaConfigIndex

Index of entry in this table.

13.1.6.3.1.213.1.6.3.1.1 wranIfSsaT19

Time DS-channel remains unusable.

13.1.6.3.1.313.1.6.3.1.2 wranIfSsaT29

Wait for BLM-ACK timeout.

13.1.6.3.1.413.1.6.3.1.3 wranIfSsaMaxBlmRepRetries

Maximum number ... sending BLM-REP.

13.1.6.3.1.513.1.6.3.1.4 wranIfSsaChAvailabilityCheckTime wranIfSmSsaChAvailabilityCheckTime

Time during ... TV channel.

13.1.6.3.1.613.1.6.3.1.5 wranIfSsaNonOccupancyPeriodwranIfSmSsaNonOccupancyPeriod

The required ... EIRP level.

13.1.6.3.1.713.1.6.3.1.6 wranIfSsaChannelDetectionTime wranIfSmSsaChannelDetectionTime

Maximum time ... WRAN operation.

13.1.6.3.1.813.1.6.3.1.7 wranIfSsaChannelSetupTimewranIfSmSsaChannelSetupTime

The window ... TV channel.

13.1.6.3.1.913.1.6.3.1.8 wranIfSsaChannelOpeningTxTime wranIfSmSsaChannelOpeningTxTime

The aggregate ... Check Time.

13.1.6.3.1.1013.1.6.3.1.9 wranIfSsaChannelMoveTimewranIfSmSsaChannelMoveTime

The time ... related channel.

13.1.6.3.1.1113.1.6.3.1.10 wranIfSsaChannelClosingTxTime wranIfSmSsaChannelClosingTxTime

The aggregate ... Detection Threshold.

13.1.6.3.1.12 ~~13.1.6.3.1.11~~ wranIfSsaMicProtectionRadiuswranIfSmSsaMicProtectionRadius

Radius of ... the microphone.

13.1.6.3.1.13 ~~13.1.6.3.1.12~~ wranIfSsaT41wranIfSmSsaT41

Maximum time ... are detected.

13.1.6.3.1.14 ~~13.1.6.3.1.13~~ wranIfSsaT42wranIfSmSsaT42

Maximum time ... are detected.

13.1.6.3.1.15 ~~13.1.6.3.1.14~~ wranIfSsaT43wranIfSmSsaT43

Minimum time ... backup channel.

13.1.6.3.1.16 ~~13.1.6.3.1.15~~ wranIfSsaT44wranIfSmSsaT44

Maximum time ... (self-coexistence mode).

13.1.6.3.1.17 ~~13.1.6.3.1.16~~ wranIfSsaT45wranIfSsaSmT45

Maximum WRAN ... database service.

13.1.6.3.1.18 ~~13.1.6.3.1.17~~ wranIfSsaT59wranIfSmSsaT59

Waiting time ... do so.

13.1.6.3.1.19 ~~13.1.6.3.1.18~~ wranIfSsaT47wranIfSmSsaT47

The prescribed ... database service.

13.1.6.3.1.20 ~~13.1.6.3.1.19~~ wranIfSsaT48wranIfSmSsaT48

Lapse timer ... spectrum sensing.

13.1.6.3.1.21 ~~13.1.6.3.1.20~~ wranIfSsaT49wranIfSmSsaT49

Lapse timer ... spectrum sensing.

13.1.6.3.1.22 ~~13.1.6.3.1.21~~ wranIfSsaT50wranIfSmSsaT50

Lapse timer ... spectrum sensing.

13.1.6.3.1.23 ~~13.1.6.3.1.22~~ wranIfSsaT51wranIfSmSsaT51

Initiated when ... the SM.

13.1.6.3.1.24 ~~13.1.6.3.1.23~~ wranIfSsaT53wranIfSmSsaT53

The parameter ... (Annex A).

13.1.6.3.1.25~~13.1.6.3.1.24~~ wranIfSsaT54wranIfSmSsaT54

The parameter ... to T_{sensout} .

13.1.6.3.1.26~~13.1.6.3.1.25~~ wranIfSsaT55wranIfSmSsaT55

The T55 ... in-band sensing.

13.1.6.3.1.27~~13.1.6.3.1.26~~ wranIfSsaT60wranIfSmSsaT60

The T60 ... out-of-band sensing.

13.1.6.4 wranIfSsaPendingBlmRepTable

13.1.6.4.1 wranIfSsaPendingBlmRepEntry

Change the subclauses of 13.1.6.4.1 as follows:

13.1.6.4.1.1 wranIfSsaPendingBlmReqIndex

Index of entry in this table.

13.1.6.4.1.2~~13.1.6.4.1.1~~ wranIfSsaPendingBlmReqTransactionId

Transaction ID for pending BLM-REQ.

13.1.6.4.1.3 wranIfSsaPendingBlmReqMsgSize

Size of BLM-REQ message stored in wranIfSsaPendingBlmReqMsg.

13.1.6.4.1.4~~13.1.6.4.1.2~~ wranIfSsaPendingBlmReqMsg

Contents of pending BLM-REQ message.

13.1.6.4.1.5~~13.1.6.4.1.3~~ wranIfSsaPendingBlmRspSent

Indication of ... been sent.

13.1.6.4.1.6~~13.1.6.4.1.4~~ wranIfSsaPendingBlmRepGenerated

Indication of ... been executed.

13.1.6.4.1.7 wranIfSsaPendingBlmRepMsgSize

Size of BLM-REP message stored in wranIfSsaPendingBlmRepMsg.

13.1.6.4.1.8~~13.1.6.4.1.5~~ wranIfSsaPendingBlmRepMsg

Contents of ... the BLM-REQ.

13.1.6.4.1.1~~13.1.6.4.1.6~~ wranIfSsaPendingBlmRepSent

Indication of ... been sent.

13.1.6.4.1.10~~13.1.6.4.1.7~~ wranIfSsaPendingBlmRepAck

Indication of whether BLM-ACK has been sent to acknowledge all transmitters of BLM-REP messages pertaining to BLM-REQ that was issued, or not BLM-REP pertaining to BLM-REQ has been acknowledged (via BLM-ACK).

13.1.6.4.1.11~~13.1.6.4.1.8~~ wranIfSsaPendingBlmRepNumTx

Current number ... been resent.

13.1.6.5 wranIfSsaSensingRecordTable

13.1.6.5.1 wranIfSsaSensingRecordEntry

Change the subclauses of 13.1.6.5.1 as follows:

13.1.6.5.1.1 wranIfSsaSensingRecordIndex

Index of entry in the table.

13.1.6.5.1.2~~13.1.6.5.1.1~~ wranIfSsaSensingChannel

Channel that ... in IPC-UPD.

13.1.6.5.1.3~~13.1.6.5.1.2~~ wranIfSsaTimeLastSensing

Last time ... was sensed.

13.1.6.5.1.4~~13.1.6.5.1.3~~ wranIfSsaTimeLastPositive

Last time ... this channel.

13.1.6.5.1.5~~13.1.6.5.1.4~~ wranIfSsaSensingPathRssi

RSSI on sensing path.

13.1.6.5.1.6~~13.1.6.5.1.5~~ wranIfSsaWranPathRssi

RSSI on WRAN sensing path.

13.1.6.5.1.7~~13.1.6.5.1.6~~ wranIfSsaSignalType

Type of ... the channel.

13.1.6.5.1.8~~13.1.6.5.1.7~~ wranIfSsaWranServiceAdvertisement

If signal ... neighbor WRAN.

13.1.6.5.1 ~~13.1.6.5.1.8~~ wranIfSsaIdcUpdIndication

Indication if channel is on IPC-UPD.

13.1.6.6 wranIfSsaSsfMode0OutputTable

13.1.6.6.1 wranIfSsaSsfMode0OutputEntry

Change the subclauses of 13.1.6.6.1 as follows:

13.1.6.6.1.1 wranIfSsaSsfMode0OutputIndex

Index of entry in the table.

13.1.6.6.1.2 ~~13.1.6.6.1.1~~ wranIfSsaSsfMode0SignalType

Type of ... be sensed.

13.1.6.6.1.3 ~~13.1.6.6.1.2~~ wranIfSsaSsfMode0SignalPresent

Indication of ... was detected.

13.1.6.7 wranIfSsaSsfMode1OutputTable

13.1.6.7.1 wranIfSsaSsfMode1OutputEntry

Change the subclauses of 13.1.6.7.1 as follows:

13.1.6.7.1.1 wranIfSsaSsfMode1OutputIndex

Index of entry in table.

13.1.6.7.1.2 ~~13.1.6.7.1.1~~ wranIfSsaSsfMode1SignalType

Type of ... be sensed.

13.1.6.7.1.3 ~~13.1.6.7.1.2~~ wranIfSsaSsfMode1SignalPresent

Indication of ... was detected.

13.1.6.7.1.4 ~~13.1.6.7.1.3~~ wranIfSsaSsfMode1SignalConfidence

Confidence level in signal present decision, where 0x00 represents no confidence and 0xFF represents total confidence (see Table 241).

13.1.6.8 wranIfSsaSsfMode2OutputTable

13.1.6.8.1 wranIfSsaSsfMode2OutputEntry

Change the subclauses of 13.1.6.8.1 as follows:

13.1.6.8.1.1 wranIfSsaSsfMode2OutputIndex

Index of entry in the table.

13.1.6.8.1.2 ~~13.1.6.8.1.1~~ wranIfSsaSsfMode2SignalType

Type of ... be sensed.

13.1.6.8.1.3 ~~13.1.6.8.1.2~~ wranIfSsaSsfMode2SignalRssiMean ~~wranIfSsaSsfMode0SignalRssiMean~~

Mean of RSSI signal measurements.

13.1.6.8.1.4 ~~13.1.6.8.1.3~~ wranIfSsaSsfMode2SignalStdDevRssi ~~wranIfSsaSsfMode0SignalStdDevRssi~~

Standard Deviation of RSSI signal measurements.

Change 13.1.6.9 and its subclauses as follows:

13.1.6.9 wranIfSsaSsfWiMicMSFTable ~~wranIfSsaSsfWiMicMSF1Table~~

This object contains the current output ~~the payload of MSF1, MSF1+MSF2, or MSF1+MSF2+MSF3~~ of an IEEE 802.22.1 beacon on recently sensed channels. It is made up of multiple entries for each channel ~~on which one or more MSFs have been a MSF1 was sensed on~~. Each entry is defined by ~~wranIfSsaSsfWiMicMSFEntry~~ ~~wranIfSsaSsfWiMicMSF1Entry~~.

13.1.6.9.1 wranIfSsaSsfWiMicMSFEntry ~~wranIfSsaSsfWiMicMSF1Entry~~

This object represents the entry in wranIfSsaSsfWiMicMSFTable ~~wranIfSsaSsfWiMicMSF1Table~~.

13.1.6.9.1.1 wranIfSsaSsfWiMicMSFIndex

An index to an entry in this table.

13.1.6.9.1.2 ~~13.1.6.9.1.1~~ wranIfSsaSsfWiMicMSFChannel ~~wranIfSsaSsfWiMicMSF1Channel~~

Channel number ... was captured.

13.1.6.9.1.3 wranIfSsaSsfWiMicMSFPayloadSize

Size of MSF payload stored in wranIfSsaSsfWiMicMSFPayload. Indicates whether MSF1 by itself (17 octets), MSF1+MSF2 (68 octets), or MSF1+MSF2+MSF3 (101 octets) have been captured (see Figure 16, 7.2.1, 7.2.2, and 7.2.3 of IEEE Std 802.22.1-2010). This size does not reflect CRC1/CRC2/CRC3 from the MSFs.

13.1.6.9.1.413.1.6.9.1.2 wranIfSsaSsfWiMicMSFPayloadwranIfSsaSsfWiMicMSF1Payload

Payload of MSF1, MSF1+MSF2, or MSF1+MSF2+MSF3, not including the CRC1/CRC2/CRC3 field (see 7.2.1, 7.2.2, 7.2.3 of IEEE Std 802.22.1-2010).

13.1.6.9.1.513.1.6.9.1.3 wranIfSsaSsfWiMicMSFCrc1StatuswranIfSsaSsfWiMicMSF1Crc1Status

Indication of ... of CRC1.

13.1.6.9.1.6 wranIfSsaSsfWiMicMSFCrc2Status

Indication of whether MSF2 passed verification of CRC2.

13.1.6.9.1.7 wranIfSsaSsfWiMicMSFCrc3Status

Indication of whether MSF3 passed verification of CRC3.

Delete 13.1.6.10 to 13.1.6.11.1.3 as follows:

13.1.6.10 wranIfSsaSsfWiMicMSF2Table

This object ... **13.1.6.10.1.3** ... of CRC2.

13.1.6.11 wranIfSsaSsfWiMicMSF3Table

This object ... **13.1.6.11.1.3** ... of CRC3.

To create a new 13.1.6.10 with subclauses, change the former 13.1.6.12 and its subclauses as follows:

13.1.6.1013.1.6.12 wranIfSsaGeolocationTable

This object contains the current parameters and calculations being used by the Geolocation component of the SSA. It is made up of one entry to contain current values being used/calculated in the BS-to-CPE fine ranging, CPE-to-CPE fine ranging, and geolocation calculation function outputs, and final geolocation string. It is made up of one entry, defined by wranIfSsaGeolocationEntry.

13.1.6.10.113.1.6.12.1 wranIfSsaGeolocationEntry

This object ... wranIfSsaGeolocationTable.

13.1.6.10.1.1 wranIfSsaGeolocationIndex

Index of entry in the table.

13.1.6.10.1.2 wranIfSsaGeolocationVernier1Size

Size of Vernier₁ data recorded only at the CPE.

13.1.6.10.1.13.1.6.12.1.1 wranIfSsaGeolocationVernier1

Vernier₁, recorded only at the CPE.

13.1.6.10.1.4 wranIfSsaGeolocationVernier2Size

Size of Vernier₂ data recorded only at the BS.

13.1.6.10.1.513.1.6.12.1.2 wranIfSsaGeolocationVernier2

Vernier₂, recorded only at the BS.

13.1.6.10.1.6 wranIfSsaGeolocationVernier3Size

Size of Vernier₃ data recorded only at the CPE.

13.1.6.10.1.713.1.6.12.1.3 wranIfSsaGeolocationVernier3

Vernier₃, recorded only at the CPE.

13.1.6.10.1.813.1.6.12.1.4 wranIfSsaGeolocationTRange1

T_{Range1}, also ... frame preamble.

13.1.6.10.1.913.1.6.12.1.5 wranIfSsaGeolocationTACbp

TA_{CBP}, Timing ... ranging calculations.

Insert the following new subclauses (13.1.6.11 to 13.1.6.15) after 13.1.6.10.1.9:

13.1.6.11 wranIfSsaTrapControl

Defines control elements for traps related to interaction with the SSA. This is 9-bit field that enables setting a trap for particular CPE events: wranIfSsaSensingCpaChange, wranIfSsaStatusChange, wranIfSsaBlmRepChange, wranIfSsaSensingRecordChange, wranIfSsaSsfMode0Change, wranIfSsaSsfMode1Change, wranIfSsaSsfMode2Change, wranIfSsaSsfWiMicChange, and wranIfSsaGeolocationChange.

13.1.6.12 wranIfSsaTrapDefinition

This MIB group specifies the definition of traps that can be enabled/disabled in wranIfSsaTrapControl.

13.1.6.12.1 wranIfSsaSensingCapChangeTrap

This trap contains information related to the configuration of SSA sensing capabilities.

13.1.6.12.2 wranIfSsaStatusChangeTrap

This traps contains information related to current state of the SSA.

13.1.6.12.3 wranIfSsaBlmRepChangeTrap

This trap contains information related to pending BLM transactions at the SSA.

13.1.6.12.4 wranIfSsaSensingRecordChangeTrap

This trap contains information related to sensing records maintained by the SSA.

13.1.6.12.5 wranIfSsaSsfMode0ChangeTrap

This trap contains information related to sensing output using Mode 0.

13.1.6.12.6 wranIfSsaSsfMode1ChangeTrap

This trap contains information related to sensing output using Mode 1.

13.1.6.12.7 wranIfSsaSsfMode2ChangeTrap

This trap contains information related to sensing output using Mode 2.

13.1.6.12.8 wranIfSsaSsfWiMicMSFChangeTrap

This trap contains information related to sensing and capturing wireless microphone beacons (see IEEE Std 802.22.1-2010).

13.1.6.12.9 wranIfSsaGeolocationChangeTrap

This trap contains information related to terrestrial geolocation.

13.1.6.13 wranIfSsaNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by the traps related to operation of the SSA. It is made up of one entry, containing the objects related to the most recent trap/event. The entry is defined by wranIfSsaNotificationObjectsEntry.

13.1.6.13.1 wranIfSsaNotificationObjectsEntry

Definition of an entry in wranIfSsaNotificationObjectsTable. Each entry is defined by wranIfSsaNotificationIndex.

13.1.6.13.1.1 wranIfSsaNotificationIndex

Index of entry in the table.

13.1.6.13.1.2 wranIfSsaNotificationCurrentState

Current state that SSA is in as defined by current value of wranIfSsaCurrentState.

13.1.6.13.1.3 wranIfSsaNotificationRecentEvent

Recent event that occurred for SSA as defined by current value of wranIfSsaRecentEvent.

13.1.6.13.1.4 wranIfSsaNotificationRecentAction

Recent action SSA has taken as defined by current value of wranIfSsaRecentAction.

13.1.6.13.1.5 wranIfSsaNotificationPendingBlmRepIndex

Index of entry in wranIfSsaPendingBlmRepTable that indicates the handling of which pending BLM-REP has triggered a trap.

13.1.6.13.1.6 wranIfSsaNotificationSensingRecordIndex

Index of entry in wranIfSsaSensingRecordTable that indicates the handling of which sensing record has triggered a trap.

13.1.6.13.1.7 wranIfSsaSsfNotificationMode0OutputIndex

Index of entry in wranIfSsaSsfMode0OutputTable that indicates the handling of which signal type detected by Mode 0 triggered a trap.

13.1.6.13.1.8 wranIfSsaSsfNotificationMode1OutputIndex

Index of entry in wranIfSsaSsfMode1OutputTable that indicates the handling of which signal type detected by Mode 1 triggered a trap.

13.1.6.13.1.9 wranIfSsaSsfNotificationMode1Confidence

Confidence value of entry indexed by wranIfSsaSsfNotificationMode1OutputIndex in wranIfSsaSsfMode1OutputTable that indicates handling of which signal type detected by Mode 1 triggered a trap.

13.1.6.13.1.10 wranIfSsaSsfNotificationMode2OutputIndex

Index of entry in wranIfSsaSsfMode2OutputTable that indicates the handling of which signal type detected by Mode 2 triggered a trap.

13.1.6.13.1.11 wranIfSsaSsfNotificationMode2SignalRssiMean

Current Mean of RSSI signal measurements, between -104 dBm to $+23.5$ dBm in 0.5 dB steps, for which a trap was caught.

13.1.6.13.1.12 wranIfSsaSsfNotificationMode2SignalStdDevRssi

Current Standard Deviation of RSSI signal measurements, between -104 dBm to $+23.5$ dBm in 0.5 dB steps, for which a trap was caught.

13.1.6.13.1.13 wranIfSsaNotificationWiMicMSFIndex

Index of entry in wranIfSsaSsfWiMicMSFTable that indicates the handling of which channel the capture of a wireless microphone beacon MSF has triggered a trap.

13.1.6.13.1.14 wranIfSsaSensingCapabilityStatus

The 8-bit bitmap that indicates changes to the sensing capabilities defined in wranIfSsaSensingCapTable.

13.1.6.13.1.15 wranIfSsaStatus

Concerning the current state of the SSA, this 10-bit bitmap indicates whether what type of change to SSA state occurred to trigger the trap.

13.1.6.13.1.16 wranIfSsaBlmRepStatus

Concerning the current state of pending BLM-REQ messages, this object indicates how far along in the sensing and report generation process is the SSA.

13.1.6.13.1.17 wranIfSsaSensingRecordStatus

A 5-bit bitmap concerning the update of an entry in wranIfSsaSensingRecordTable.

13.1.6.13.1.18 wranIfSsaSsfMode0Status

Whether a specific signal type is present or not present using Mode 0 sensing.

13.1.6.13.1.19 wranIfSsaSsfMode1Status

Whether a specific signal type is present or not present using Mode 1 sensing.

13.1.6.13.1.20 wranIfSsaSsfMode2Status

Whether the mean or standard deviation RSSI for a detected signal has changed.

13.1.6.13.1.21 wranIfSsaSsfWiMicMSFStatus

Indication of how much wireless microphone beacon payload has been received and decoded on a given channel.

13.1.6.13.1.22 wranIfSsaGeolocationStatus

Indication of which geolocation parameters have been updated.

13.1.6.14 wranIfSsaMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.6.14.1 wranIfSsaSensingCapGroup

This group represents objects related to the sensing capabilities supported by the SSA.

13.1.6.14.2 wranIfSsaStatusGroup

This group represents objects related to the current state of the SSA.

13.1.6.14.3 wranIfSsaConfigGroup

This group represents objects related to the configuration of the SSA.

13.1.6.14.4 wranIfSsaPendingBlmRepGroup

This group represents objects related to the pending BLM transactions and sensing reports (BLM-REP) that are to be generated.

13.1.6.14.5 wranIfSsaSensingRecordGroup

This group represents objects related to the sensing status of each channel.

13.1.6.14.6 wranIfSsaSsfMode0OutputGroup

This group represents objects related to output of Mode 0 sensing.

13.1.6.14.7 wranIfSsaSsfMode1OutputGroup

This group represents objects related to output of Mode 1 sensing.

13.1.6.14.8 wranIfSsaSsfMode2OutputGroup

This group represents objects related to output of Mode 2 sensing.

13.1.6.14.9 wranIfSsaSsfWiMicMSFGroup

This group contains objects related to the detection of wireless microphone beacons as defined by IEEE Std 802.22.1-2010.

13.1.6.14.10 wranIfSsaGeolocationGroup

This group contains objects related to geolocation function of the SSA.

13.1.6.14.11 wranIfSsaTrapControlGroup

This group contains objects related to enabling/disabling traps on the SSA.

13.1.6.14.12 wranIfSsaNotificationsGroup

This group contains objects related to traps that are configured for the SSA.

13.1.6.15 wranIfSsaMibCompliance

MIB objects that are optional and mandatory for SSA compliance.

Change 13.1.7 as follows:

13.1.7 wranIfDatabaseServiceMib

This MIB group deals with objects related to the configuration of access to, as well as the interaction with, the database service. This group is made up of the following objects:

- wranIfBsMgmtInfoTable: Stores information on BS's management interface the database service can access.
- wranIfBsDeviceEnlistmentTable: Stores information regarding devices for which BS has attempted registration with database service.
- wranIfDbsChannelIndicationTable: Stores information on channels indicated as available by database service.
- wranIfDbsAccessTable: Stores access information for database service(s) that are available.
- wranIfDbsTrapControl: Enables/Disables recording of traps regarding database service access and interaction.
- wranIfDbsTrapDefinition: Defines traps related to database service access and interaction.
- wranIfDbsNotificationObjectsTable: Stores notification objects related to most recent trap.
- wranIfDbsMibGroups: Definition of MIB groups associated with this module.
- wranIfDbsMibCompliance: Definition of which MIB groups are mandatory or optional for compliance.

13.1.7.1 wranIfBsMgmtInfoTable

13.1.7.1.1 wranIfBsMgmtInfoEntry

Change the subclauses of 13.1.7.1.1 as follows:

13.1.7.1.1.1 wranIfBsMgmtInfoIndex

Index of entry in the table (defaults to 0).

13.1.7.1.1.2 wranIfBsSizeMgmtUrl

Size of Base Station Management URL (see 14.2.1.3).

13.1.7.1.1.3 wranIfBsMgmtUrl

Base Station Management URL (see 14.2.1.3).

13.1.7.1.1.4 wranIfBsSizeMgmtDeviceId

Size of BS FCC Device ID (see 14.2.1.3).

13.1.7.1.1.5 wranIfBsMgmtDeviceId

BS FCC Device ID (see 14.2.1.3).

13.1.7.1.1.6 wranIfBsSizeMgmtSn

Size of BS serial number (see 14.2.1.3).

13.1.7.1.1.7 wranIfBsMgmtSn

BS serial number (see 14.2.1.3).

13.1.7.1.1.8 wranIfBsSizeMgmtLocation

Size of Location data string of BS (see 14.2.1.3).

13.1.7.1.1.913.1.7.1.1.4 wranIfBsMgmtLocation

Location data string of BS.

13.1.7.1.1.1013.1.7.1.1.5 wranIfBsMgmtAntennaHeight

Antenna height at the BS (see 14.2.1.3).

13.1.7.1.1.11 wranIfBsSizeMgmtContactName

Size of Contact Name for person(s) who has ownership of the BS (see 14.2.1.3).

13.1.7.1.1.1213.1.7.1.1.6 wranIfBsMgmtContactName

Contact Name for person(s) who has ownership of the BS (see 14.2.1.3).

13.1.7.1.1.13 wranIfBsSizeMgmtContactPhysAddress

Size of Physical address for the owner of the BS (see 14.2.1.3).

13.1.7.1.1.1413.1.7.1.1.7 wranIfBsMgmtContactPhysAddress

Physical address for contacting the owner of the BS (see 14.2.1.3).

13.1.7.1.1.15 wranIfBsSizeMgmtEmailAddress

Size of E-mail address for the owner of the BS (see 14.2.1.3).

13.1.7.1.1.1613.1.7.1.1.8 wranIfBsMgmtEmailAddress

E-mail address for contacting the owner of the BS (see 14.2.1.3).

13.1.7.1.1.17 wranIfBsSizeMgmtPhoneNumber

Size of Telephone number for the owner of the BS (see 14.2.1.3).

13.1.7.1.1.1813.1.7.1.1.9 wranIfBsMgmtPhoneNumber

Telephone number for contacting the owner of the BS (see 14.2.1.3).

13.1.7.1.1.19 wranIfBsSizeAccessUrl

Size of Base Station Access Service URL (see 14.2.1.3).

13.1.7.1.1.20 wranIfBsAccessUrl

Base Station Access Service URL (see 14.2.1.3).

Change 13.1.7.2 and its subclauses as follows:

13.1.7.2 wranIfDbsDeviceEnlistmentTable~~wranIfBsDeviceEnlistmentTable~~

This object stores information regarding information on devices entering the network that the BS has attempted to enlist/register with the database service. It is made up of multiple entries~~values~~, each defined by wranIfDbsDeviceEnlistmentEntry~~wranIfBsDeviceEnlistmentEntry~~.

13.1.7.2.1 wranIfDbsDeviceEnlistmentEntry~~wranIfBsDeviceEnlistmentEntry~~

This object defines an entry in wranIfDbsDeviceEnlistmentTable~~wranIfBsDeviceEnlistmentTable~~.

13.1.7.2.1.1 wranIfDbsDeviceEnlistmentIndex

Index of entry in the table.

13.1.7.2.1.2~~13.1.7.2.1.1~~ wranIfDbsDeviceEnlistmentConfirmed~~wranIfBsDeviceEnlistmentConfirmed~~

Has this enlistment been confirmed via receipt of M-DB-ENLISTMENT-CONFIRMATION~~M-DEVICE-ENLISTMENT-CONFIRM~~ (see 14.2.1.3.410.7.1.4) from the database service?

13.1.7.2.1.3~~13.1.7.2.1.2~~ wranIfDbsConfirmedDeviceType~~wranIfBsDeviceType~~

Type of ... personal/portable.

13.1.7.2.1.4 wranIfDbsSizeConfirmedDeviceId

Size of Device ID of device that is being enlisted/registered with the database service.

13.1.7.2.1.5~~13.1.7.2.1.3~~ wranIfDbsConfirmedDeviceId~~wranIfBsDeviceId~~

Device ID ... database service.

13.1.7.2.1.6 wranIfDbsSizeConfirmedDeviceSn

Size of Serial number of device that is being enlisted/registered with the database service.

13.1.7.2.1.7~~13.1.7.2.1.4~~ wranIfDbsConfirmedDeviceSn~~wranIfBsDeviceSn~~

Serial number ... database service.

13.1.7.2.1.8 wranIfDbsSizeConfirmedDeviceLocation

Size of location string of device requesting enlistment.

13.1.7.2.1.9~~13.1.7.2.1.5~~ wranIfDbsConfirmedDeviceLocation~~wranIfBsDeviceLocation~~

Location string ... requesting enlistment.

13.1.7.2.1.10 wranIfDbsSizeProxyDeviceId

Device ID of proxy device BS may use to send queries to the database.

13.1.7.2.1.1113.1.7.2.1.6 wranIfDbProxyDeviceIdwranIfBsProxyDeviceId

Device ID ... the database.

13.1.7.2.1.12 wranIfDbSizeProxySn

Size of Serial number of proxy device BS may use to send queries to the database.

13.1.7.2.1.1313.1.7.2.1.7 wranIfDbProxySnwranIfBsProxySn

Serial number ... the database.

13.1.7.2.1.14 wranIfDbSizeRespPartyName

Name of party responsible for device enlistment/registration.

13.1.7.2.1.1513.1.7.2.1.8 wranIfDbRespPartyNamewranIfBsRespPartyName

Name of ... enlistment/registration.

13.1.7.2.1.1613.1.7.2.1.9 wranIfDbConfirmedDeviceAntennaHeightwranIfBsDeviceAntennaHeight

Antenna height ... being enlisted.

13.1.7.2.1.17 wranIfDbSizeConfirmedDeviceContactName

Size of Contact Name for person(s) who has ownership of the device; only pertinent if device type is fixed BS or CPE.

13.1.7.2.1.1813.1.7.2.1.10 wranIfDbConfirmedDeviceContactNamewranIfBsDeviceContactName

Contact Name for person(s) who has ownership of the device; only pertinent if device type is fixed BS or CPE.

13.1.7.2.1.19 wranIfDbSizeConfirmedDeviceContactPhysAddress

Size of Physical address for the owner of the device; only pertinent if device type is fixed BS or CPE.

13.1.7.2.1.2013.1.7.2.1.11 wranIfDbConfirmedDeviceContactPhysAddresswranIfBsDeviceContactPhysAddress

Physical address ... fixed CPE.

13.1.7.2.1.21 wranIfDbSizeConfirmedDeviceEmailAddress

Size of E-mail address for the owner of the device; only pertinent if device type is fixed BS or CPE.

13.1.7.2.1.2213.1.7.2.1.12 wranIfDbConfirmedDeviceEmailAddresswranIfBsDeviceEmailAddress

E-mail address ... fixed CPE.

13.1.7.2.1.23 wranIfDbsSizeConfirmedDevicePhoneNumber

Size of Telephone number for the owner of the device; only pertinent if device type is fixed BS or CPE.

13.1.7.2.1.2413.1.7.2.1.13 wranIfDbsConfirmedDevicePhoneNumber **wranIfBsDevicePhoneNumber**

Telephone number ... fixed CPE.

13.1.7.2.1.2513.1.7.2.1.14 wranIfDbsConfirmedDeviceAntennaInformation **wranIfBsDeviceAntennaInformation**

Antenna information ... database service.

13.1.7.2.1.2613.1.7.2.1.15 wranIfDbsConfirmedDeviceAntennaAzimuth **wranIfBsDeviceAntennaAzimuth**

Antenna azimuth ... database service.

13.1.7.2.1.2713.1.7.2.1.16 wranIfDbsConfirmedDeviceConfirmationMsgTime **wranIfBsDeviceConfirmationMsgTime**

Timestamp of transmission for M-DB-ENLISTMENT-REQUEST ~~M-DB-ENLISTMENT-REQUEST~~.

Change 13.1.7.3 and its subclauses as follows:

13.1.7.3 wranIfDbsChannelIndicationTable

This object stores information on what channels have been indicated (upon receipt of M-DB-AVAILABLE-CHANNEL-INDICATION) as available and their EIRP limit at a given location for a particular device. It is made up of multiple entries, one each for the tuple of location||channel||EIRP||DeviceID. Each entry is defined by wranIfDbsChannelIndicationEntry.

13.1.7.3.1 wranIfDbsChannelIndicationEntry

Compound object ... wranIfDbsChannelIndicationTable.

13.1.7.3.1.1 wranIfDbsChannelIndicationIndex

Index of entry in this table.

13.1.7.3.1.2 wranIfDbsSizeDeviceId

Size of Device ID of device for which channel is indicated as available.

13.1.7.3.1.313.1.7.3.1.1 wranIfDbsDeviceIdwranIfBsDeviceId

Device ID ... as available.

13.1.7.3.1.4 wranIfDbsSizeDeviceSn

Size of Serial number of device for which channel is indicated as available.

13.1.7.3.1.5 ~~13.1.7.3.1.2~~ wranIfDbsDeviceSnwranIfBsDeviceSn

Serial number ... as available.

13.1.7.3.1.6 ~~13.1.7.3.1.3~~ wranIfDbsDeviceChannelNumberwranIfBsDeviceChannelNumber

Channel number ... is indicated.

13.1.7.3.1.7 ~~13.1.7.3.1.4~~ wranIfDbsDeviceMaxAllowedEirpwranIfBsDeviceMaxAllowedEirp

Maximum allowed EIRP on the channel.

13.1.7.3.1.8 wranIfDbsSizeDeviceLocation

Size of Location string of device requesting for which channel availability is indicated.

13.1.7.3.1.9 ~~13.1.7.3.1.5~~ wranIfDbsDeviceLocationwranIfBsDeviceLocation

Location string ... is indicated.

13.1.7.3.1.10 ~~13.1.7.3.1.6~~ wranIfDbsDeviceDbsIndexwranIfBsDeviceDbsIndex

Index of ... channel indication.

13.1.7.4 wranIfDbsAccessTable

13.1.7.4.1 wranIfDbsAccessEntry

Change the subclauses of 13.1.7.4.1 as follows:

13.1.7.4.1.1 wranIfDbsAccessEntryIndex

Index of entry in this table.

13.1.7.4.1.2 wranIfDbsSizeAccessUrl

Size of URL used to access database service.

13.1.7.4.1.3 ~~13.1.7.4.1.2~~ wranIfDbsAccessUrl

URL used to access database service.

13.1.7.4.1.4 ~~13.1.7.4.1.3~~ wranIfDbsAccessCredentialType

Indication of ... database service.

13.1.7.4.1.5 wranIfDbsSizeAccessCertCredential

Size of Certificate Credential BS or proxy device uses to authenticate access to the database; only pertinent when wranIfDbsAccessCredentialType is set to certificate.

13.1.7.4.1.6~~13.1.7.4.1.4~~ **wranIfDbsAccessCertCredential**~~wranIfDbsAccessCredential~~

Certificate Credential BS or proxy device used to authenticate access to the database; only pertinent when wranIfDbsAccessCredentialType is set to service, e.g., password, certificate.

13.1.7.4.1.7 wranIfDbsSizeAccessUserID

Size of login User ID used for accessing the database service; only pertinent when wranIfDbsAccessCredentialType is set to userID and password.

13.1.7.4.1.8 wranIfDbsAccessUserID

Login User ID used for accessing the database service; only pertinent when wranIfDbsAccessCredentialType is set to userID and password.

13.1.7.4.1.9 wranIfDbsSizeAccessPassword

Size of login password (or hash of password) used for accessing the database service; only pertinent when wranIfDbsAccessCredentialType is set to userID and password.

13.1.7.4.1.10 wranIfDbsAccessPassword

Login password (or hash of password) used for accessing the database service; only pertinent when wranIfDbsAccessCredentialType is set to userID and password.

13.1.7.4.1.11~~13.1.7.4.1.5~~ **wranIfDbsAccessLastTxTime**

Time indication ... database service.

13.1.7.4.1.12~~13.1.7.4.1.6~~ **wranIfDbsAccessLastRxTime**

Time indication ... database service.

13.1.7.4.1.13~~13.1.7.4.1.7~~ **wranIfDbsAccessAntennaInfoRequired**

Indication of ... database service.

13.1.7.4.1.14 wranIfDbsAccessPriority

Priority of database service. Higher priority means that a particular database service will be preferred when device enlistment and channel indication requests need to be made.

Insert the following new subclauses (13.1.7.5 to 13.1.7.9) after 13.1.7.4.1.14:

13.1.7.5 wranIfDbsTrapControl

Defines control elements for traps related to interaction with the database service. This is 3-bit field that enables setting a trap for particular CPE events: wranIfDbsAvailabilityChange, wranIfDbsEnlistmentChange, and wranIfDbsChannelIndicationChange.

13.1.7.6 wranIfDbSTrapDefinition

This MIB group specifies the definition of traps that can be enabled/disable in wranIfDbSTrapControl.

13.1.7.6.1 wranIfDbSAvailabilityChangeTrap

This trap contains information related to the last time a particular database service was accessed.

13.1.7.6.2 wranIfDbSEnlistmentChangeTrap

This traps contains information regarding the status of enlistment confirmation for a particular device in the network.

13.1.7.6.3 wranIfDbSChannelIndicationChangeTrap

This trap contains information regarding the status of channel indication responses from the database service.

13.1.7.7 wranIfDbSNotificationObjectsTable

This MIB provides a table to track notification objects that have been reported by the traps related to access to the database. It is made up of one entry containing the objects related to the most recent trap/event. The entry is defined by wranIfDbSNotificationObjectsEntry.

13.1.7.7.1 wranIfDbSNotificationObjectsEntry

Definition of an entry in wranIfDbSNotificationObjectsTable. Each entry is identified by wranIfNotificationDeviceId.

13.1.7.7.1.1 wranIfDbSNotificationObjectsEntryIndex

Index of entry in the table.

13.1.7.7.1.2 wranIfDbSNotificationSizeDeviceId

Size of Device ID of the device for which trap status information is stored.

13.1.7.7.1.3 wranIfDbSNotificationDeviceId

Device ID of the device for which trap status information is stored.

13.1.7.7.1.4 wranIfDbSNotificationSizeDeviceSn

Size of Serial Number of the device for which trap status information is stored.

13.1.7.7.1.5 wranIfDbSNotificationDeviceSn

Serial Number of the device for which trap status information is stored.

13.1.7.7.1.6 wranIfDbSNotificationDbSSizeAccessUrl

Size of Access URL of database service with which device enlistment of channel indication query was exchanged.

13.1.7.7.1.7 wranIfDbsNotificationDbsAccessUrl

Access URL of database service with which device enlistment of channel indication query was exchanged.

13.1.7.7.1.8 wranIfDbsAccessStatus

Indication of whether a message is transmitted or received from database service.

13.1.7.7.1.9 wranIfDbsConfirmedDeviceStatus

Indication of whether the enlistment of the device has been successfully completed.

13.1.7.7.1.10 wranIfDbsChannelIndicationStatus

Indication of whether channels have been indicated as available for the device in question.

13.1.7.8 wranIfDbsMibGroups

This object helps define which MIB groups are available within this module and which MIB objects are part of each group.

13.1.7.8.1 wranIfDbsMgmtGroup

This group contains configuration objects related to the management interface on the BS that the database service can access.

13.1.7.8.2 wranIfDbsEnlistmentGroup

This group contains configuration objects related to enlistment of devices.

13.1.7.8.3 wranIfDbsChannelIndicationGroup

This group contains configuration objects related to indication of available channels.

13.1.7.8.4 wranIfDbsAccessGroup

This group contains configuration objects related to current accessibility of the database service.

13.1.7.8.5 wranIfDbsTrapControlGroup

This group contains configuration objects related to enabling/disabling traps related to the accessibility of the database service.

13.1.7.8.6 wranIfDbsNotificationsGroup

This group contains notification objects related to traps configured for access to the database service.

13.1.7.9 wranIfDbsMibCompliance

Defines MIB objects that are optional and mandatory for database service.

Insert the following new subclauses (13.2 to 13.2.7) after 13.1.7.9:

13.2 MIB module definitions (ASN.1)

13.2.1 wranDevMib

```
IEEE802dot22-WRAN-DEV-MIB ::= BEGIN

IMPORTS
    MODULE-IDENTITY,
    OBJECT-TYPE,
    NOTIFICATION-TYPE,
    Unsigned32, Integer32
        FROM SNMPv2-SMI
    SnmpAdminString
        FROM SNMP-FRAMEWORK-MIB
    TEXTUAL-CONVENTION,
    RowStatus, TruthValue,
    TimeStamp, DateAndTime
        FROM SNMPv2-TC
    InetAddressType, InetAddress
        FROM INET-ADDRESS-MIB
    OBJECT-GROUP,
    MODULE-COMPLIANCE,
    NOTIFICATION-GROUP
        FROM SNMPv2-CONF;

wranDevMib MODULE-IDENTITY
    LAST-UPDATED "201405300000Z" -- May 30, 2014
    ORGANIZATION "IEEE 802.22"
    CONTACT-INFO
        "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
        WG Chair: Apurva N. Mody
        E-mail: apurva.mody@ieee.org

        TGA Chair/Editor: Ranga Reddy
        E-mail: ranga.reddy@ieee.org"
    DESCRIPTION
        "This material is from IEEE Std 802.22a-2014
        Copyright (c) 2014. This MIB Module
        Defines device related manage objects
        for IEEE Std 802.22-2011 base Customer
        Premise Equipment and Base Station and
        is under
        iso(1).std(0).iso8802(8802).wran(22).wranDevMib(1)"
    REVISION "201405300000Z"
    DESCRIPTION
        "The first version of IEEE802dot22-WRAN-DEV-MIB."
    ::= {iso std(0) iso8802(8802) wran(22) 1}

wranDevBsObjects OBJECT IDENTIFIER ::= { wranDevMib 1 }
wranDevCpeObjects OBJECT IDENTIFIER ::= { wranDevMib 2 }
wranDevCommonObjects OBJECT IDENTIFIER ::= { wranDevMib 3 }

wranDevBsObjects OBJECT IDENTIFIER
```

```

                                ::= { wranDevMib 1 }
wranDevBsSoftwareUpgradeTable OBJECT IDENTIFIER
                                ::= { wranDevBsObjects 1 }
wranDevBsNotification          OBJECT IDENTIFIER
                                ::= { wranDevBsObjects 2 }

wranDevBsSoftwareUpgradeTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranDevBsSoftwareUpgradeEntry
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "This table defines objects associated with BS
        software configuration"
    ::= { wranDevBsObjects 1 }

wranDevBsSoftwareUpgradeEntry OBJECT-TYPE
    SYNTAX      wranDevBsSoftwareUpgradeEntry
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "Definition of an entry in
        wranDevBsSoftwareUpgradeTable. Each entry is
        identified by wranDevBsDeviceIndex."
    INDEX { wranDevBsDeviceIndex }
    ::= { wranDevBsSoftwareUpgradeTable 1 }

wranDevBsSoftwareUpgradeEntry ::= SEQUENCE {
    wranDevBsDeviceIndex      INTEGER,
    wranDevBsVendorId         OCTET STRING,
    wranDevBsHwId             OCTET STRING,
    wranDevBsCurrentSwVersion OCTET STRING,
    wranDevBsDownloadSwVersion OCTET STRING,
    wranDevBsUpgradeFileName  OCTET STRING,
    wranDevBsSoftwareUpdgradeAdminState INTEGER,
    wranDevBsDownloadSwProgress INTEGER,
    wranDevBsSoftwareUpgradeTimeStamp DateAndTime }

wranDevBsDeviceIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..10)
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "Index of entry in table."
    ::= { wranDevBsSoftwareUpgradeEntry 1 }

wranDevBsVendorId OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(2..256))
    MAX-ACCESS   read-only
    STATUS      current
    DESCRIPTION
        "This value identifies the managed BS vendor to
        which SW upgrade was applied."
    ::= { wranDevBsSoftwareUpgradeEntry 2 }

wranDevBsHwId OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(2..256))

```

MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Version of HW that SW upgrade is applied to."
 ::= { wranDevBsSoftwareUpgradeEntry 3 }

wranDevBsCurrentSwVersion OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(2..256))
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Version of SW that is currently running on the BS. This value is set by the vendor specified by the Vendor ID. The SW version and HW ID (wranDevBsHwId) should be a unique Tuple. After the downloaded software is activated, the value in this object shall value of this object shall be replaced with the version in wranDevBsDownloadSwVersion."
 ::= { wranDevBsSoftwareUpgradeEntry 4 }

wranDevBsDownloadSwVersion OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(2..256))
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Version of the SW to be downloaded. This value is set by the vendor specified by the Vendor ID. The SW version and HW ID (wranDevBsHwId) should be a unique type. This should be initialized before software is downloaded or activated."
 ::= { wranDevBsSoftwareUpgradeEntry 5 }

wranDevBsUpgradeFileName OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(2..256))
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Fully qualified path name that points to the location of the SW version that is to be downloaded/activated."
 ::= { wranDevBsSoftwareUpgradeEntry 6 }

wranDevBsSoftwareUpgradeAdminState OBJECT-TYPE
SYNTAX INTEGER { null(0), download(1), activate(2) }
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"This value can take on two states. When set to *Download*, the software listed by wranDevBsDownloadSwVersion will be downloaded. When set to *Activate*, the software recently downloaded will be activated. The *Download* and *Activate* procedures are vendor specific operations that are not defined in this standard."
DEFVAL { null }

```
::= { wranDevBsSoftwareUpgradeEntry 7 }
```

```
wranDevBsDownloadSwProgress OBJECT-TYPE
```

```
SYNTAX INTEGER (0..100)
```

```
UNITS "%"
```

```
MAC-ACCESS read-only
```

```
STATUS current
```

```
DESCRIPTION
```

```
"This value shows the progress of the SW download
highlighted by wranDevBsDownloadSwVersion, encoded
as the percentage of the download successfully
completed."
```

```
::= { wranDevBsSoftwareUpgradeEntry 8 }
```

```
wranDevBsSoftwareUpgradeTimeStamp OBJECT-TYPE
```

```
SYNTAX DateAndTime
```

```
MAX-ACCESS read-only
```

```
STATUS current
```

```
DESCRIPTION
```

```
"This value is a timestamp to indicate when the last
SW download or activation took place."
```

```
::= { wranDevBsSoftwareUpgradeEntry 9 }
```

```
-- wranDevBsNotification: Managed Objects related to SNMP traps on BS
```

```
wranDevBsNotification OBJECT IDENTIFIER
```

```
::= { wranDevBsObjects 2 }
```

```
wranDevBsTrapControl OBJECT IDENTIFIER
```

```
::= { wranDevBsNotification 1 }
```

```
wranDevBsTrapDefinition OBJECT IDENTIFIER
```

```
::= { wranDevBsNotification 2 }
```

```
wranDevBsTrapControl OBJECT-TYPE
```

```
SYNTAX BITS { wranDevBsEvent(0),
               wranDevBsLogBuffExceedThreshold(1) }
```

```
MAX-ACCESS read-write
```

```
STATUS current
```

```
DESCRIPTION
```

```
"Defines control elements for traps. This is a 2-bit
field that enables setting a trap to indicate when a
BS event is logged (wranDevBsEvent) or when a event
log buffer size overruns configured threshold
(wranDevBsLogBuffExceedThreshold)."
```

```
::= { wranDevBsNotification 1 }
```

```
-- wranDevBsTrapDefinition: This object groups all of the notification
-- objects for the BS. It is defined to be compatible with SNMPv1,
-- following Sections 8.5 and 8.6 of RFC 2758.
```

```
wranDevBsTrapDefinition OBJECT IDENTIFIER
```

```
::= { wranDevBsNotification 2 }
```

```
wranDevBsEventTrap OBJECT IDENTIFIER
```

```
::= { wranDevBsTrapDefinition 1 }
```

```
wranDevBsLogBuffExceedThresholdTrap OBJECT IDENTIFIER
```

```
::= { wranDevBsTrapDefinition 2 }
```


wranDevBsEventTrap NOTIFICATION-TYPE

OBJECTS { wranDevCmnEventId,
wranDevCmnEventLogIndex,
wranDevCmnEventLoggedTime,
wranDevCmnEventDescription,
wranDevCmnEventSeverity }

STATUS current

DESCRIPTION
"This object is a compound object that contains information the objects in wranDevCmnEventEntry in wranDevCmnEventLogTable that describes the event that is logged. This trap is caught when wranDevBsEvent in wranDevBsTrapControl is set."
 ::= { wranDevBsTrapDefinition 1 }

wranDevBsLogBuffExceedThresholdTrap NOTIFICATION-TYPE

OBJECTS { wranDevCmnEventId,
wranDevCmnEventLogResidualBuffThreshold }

STATUS current

DESCRIPTION
"This object is a compound object that indicates the index of an entry (defined by wranDevCmnEventLogEntry) in wranDevCmnEventLogConfigTable and the object in that entry that defines the ratio (defined by wranDevCmnEventLogResidualBuffThreshold) of used capacity in the Event Log vs. total capacity. This trap is caught when wranDevBsLogBuffExceedThreshold in wranDevBsTrapControl is set."
 ::= { wranDevBsTrapDefinition 2 }

wranDevCpeObjects OBJECT IDENTIFIER
 ::= { wranDevMib 2 }

wranDevCpeConfigFileEncodingTable OBJECT IDENTIFIER
 ::= { wranDevCpeObjects 1 }

wranDevCpeNotification OBJECT IDENTIFIER
 ::= { wranDevCpeObjects 2 }

wranDevCpeConfigFileEncodingTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranDevCpeFileEncodingEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION
"This table defines objects associated with CPE software configuration. This table may only have one entry, defined by a compound attribute, wranDevCpeConfigFileEncodingEntry."
 ::= { wranDevCpeObjects 1 }

wranDevCpeConfigFileEncodingEntry OBJECT-TYPE

SYNTAX wranDevCpeConfigFileEncodingEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION
"Definition of an entry in wranDevBsSoftwareUpgradeTable. Each entry is


```

        identified by wranDevBsDeviceIndex."
INDEX { wranDevCpeDeviceIndex }
 ::= { wranDevCpeConfigFileEncodingTable 1 }

```

```

wranDevCpeConfigFileEncodingEntry ::= SEQUENCE {
    wranDevCpeDeviceIndex          INTEGER,
    wranDevCpeMicConfigSetting     OCTET STRING,
    wranDevBsVendorId             OCTET STRING,
    wranDevBsHwId                 OCTET STRING,
    wranDevCpeConfigFileVersion   OCTET STRING,
    wranDevCpeUpgradeFileName     OCTET STRING,
    wranDevCpeSwTftpServer        InetAddress,
    wranDevCpeTftpServerTimeStamp DateAndTime }

```

```

wranDevCpeDeviceIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..1)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Index of entry in table, defaults to 1."
    ::= { wranDevCpeConfigFileEncodingEntry 1 }

```

```

wranDevCpeMicConfigSetting OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(20))
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This value contains the MIC (Message Integrity Code)
        calculated for the CPE configuration file."
    ::= { wranDevCpeConfigFileEncodingEntry 2 }

```

```

wranDevCpeVendorId OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(2..256))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This value identifies the vendor of the managed CPE
        to which a configuration file upgrade is to be
        applied."
    ::= { wranDevCpeConfigFileEncodingEntry 3 }

```

```

wranDevCpeHwId OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(2..256))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This value identifies the hardware version of the
        CPE to which the configuration file upgrade is to be
        applied."
    ::= { wranDevCpeConfigFileEncodingEntry 4 }

```

```

wranDevCpeConfigFileVersion OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(2..256))
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION

```

"Version of the configuration file to be downloaded. This value is set by the vendor specified by the Vendor ID. The SW version and HW ID (wranDevCpeHwId) should be a unique tuple. This should be initialized before software is downloaded or activated."
 ::= { wranDevCpeConfigFileEncodingEntry 5 }

wranDevCpeUpgradeFileName OBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(2..256))
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Fully qualified path name that points to the location of the SW version that is to be downloaded/activated."
 ::= { wranDevCpeConfigFileEncodingEntry 6 }

wranDevCpeSwTftpServer OBJECT-TYPE
 SYNTAX InetAddress
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "IP address of the TFTP server on which the new configuration file resides."
 ::= { wranDevCpeConfigFileEncodingEntry 7 }

wranDevCpeTftpServerTimeStamp OBJECT-TYPE
 SYNTAX DateAndTime
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "The time the configuration file was in seconds, as defined by IETF RFC 868."
 ::= { wranDevCpeConfigFileEncodingEntry 8 }

-- wranDevCpeNotification: This group of objects relate to SNMP traps
 -- on the CPE. There is a control element that enables/disables the
 -- traps
 -- (wranDevCpeTrapControl) and what event information is logged when a
 -- trap is sent. (wranDevCpeTrapDefinition).

wranDevCpeNotification OBJECT IDENTIFIER
 ::= { wranDevCpeObjects 2 }
 wranDevCpeTrapControl OBJECT IDENTIFIER
 ::= { wranDevCpeNotification 1 }
 wranDevCpeTrapDefinition OBJECT IDENTIFIER
 ::= { wranDevCpeNotification 2 }

wranDevCpeTrapControl OBJECT-TYPE
 SYNTAX BITS { wranDevCpeEvent(0),
 wranDevCpeLogBuffExceedThreshold(1) }
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Defines control elements for traps. This is a 2-bit field that enables setting a trap to indicate when a

CPE event is logged (wranDevCpeEvent) or when a
event log buffer size overruns configured threshold
(wranDevCpeLogBuffExceedThreshold)."

::= { wranDevCpeNotification 1 }

-- wranDevCpeTrapDefinition: This object groups all of the notification
-- objects for the CPE. It is defined to be compatible with SNMPv1,
-- following Sections 8.5 and 8.6 of RFC 2758. It is a compound object
-- made of the elements of a logged BS event
-- (wranDevCpeEventTrap) and the indication of when the ratio used
-- portion to total size of event log has been exceeded
-- (wranDevCpeLogBuffExceedThresholdTrap).

wranDevCpeTrapDefinition OBJECT IDENTIFIER
 ::= { wranDevCpeNotification 2 }
wranDevCpeEventTrap OBJECT IDENTIFIER
 ::= { wranDevCpeTrapDefinition 1 }
wranDevCpeLogBuffExceedThresholdTrap OBJECT IDENTIFIER
 ::= { wranDevCpeTrapDefinition 2 }

wranDevCpeEventTrap NOTIFICATION-TYPE
OBJECTS { wranDevCmnEventId,
 wranDevCmnEventLogIndex,
 wranDevCmnEventLoggedTime,
 wranDevCmnEventDescription,
 wranDevCmnEventSeverity }
STATUS current
DESCRIPTION
 "This object is a compound object that contains
 information the objects in wranDevCmnEventEntry in
 wranDevCmnEventLogTable that describes the event
 that is logged. This trap is caught when
 wranDevCpeEvent in wranDevCpeTrapControl is set."
 ::= { wranDevCpeTrapDefinition 1 }

wranDevCpeLogBuffExceedThresholdTrap NOTIFICATION-TYPE
OBJECTS { wranDevCmnEventId,
 wranDevCmnEventLogResidualBuffThreshold }
STATUS current
DESCRIPTION
 "This object is a compound object that indicates the
 index of an entry (defined by
 wranDevCmnEventLogEntry) in
 wranDevCmnEventLogConfigTable and the object in
 that entry that defines the ratio (defined by
 wranDevCmnEventLogResidualBuffThreshold) of used
 capacity in the Event Log vs. total capacity. This
 trap is caught when wranDevCpeLogBuffExceedThreshold
 in wranDevCpeTrapControl is set."
 ::= { wranDevCpeTrapDefinition 2 }

-- wranDevCommonObjects: This object contains managed elements that are
-- common to the CPE and BS.

wranDevCommonObjects OBJECT IDENTIFIER
 ::= { wranDevMib 3 }

```

wranDevCmnEventLog      OBJECT IDENTIFIER
                        ::= { wranDevCommonObjects 1 }
wranDevCmnSnmpAgent     OBJECT IDENTIFIER
                        ::= { wranDevCommonObjects 2 }
wranDevCmnDeviceConfig  OBJECT IDENTIFIER
                        ::= { wranDevCommonObjects 3 }

```

--wranDevCmnEventLog comprises three tables that control the
-- configuration of event recording and store recorded events.

```

wranDevCmnEventLog      OBJECT IDENTIFIER
                        ::= { wranDevCommonObjects 1 }
wranDevCmnEventLogConfigTable OBJECT IDENTIFIER
                        ::= { wranDevCmnEventLog 1 }
wranDevCmnEventTable    OBJECT IDENTIFIER
                        ::= { wranDevCmnEventLog 2 }
wranDevCmnEventLogTable OBJECT IDENTIFIER
                        ::= { wranDevCmnEventLog 3 }

```

```

wranDevCmnEventLogConfigTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranDevCmnEventLogConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Each entry stores the Event Log configuration for a
        device."
    ::= { wranDevCmnEventLog 1 }

```

```

wranDevCmnEventLogConfigEntry OBJECT-TYPE
    SYNTAX      wranDevCmnEventLogConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Definition of an entry in
        wranDevCmnEventLogConfigTable. Each entry is
        identified by wranDevCmnDeviceIndex."
    INDEX { wranDevCmnDeviceIndex }
    ::= { wranDevCmnEventLogConfigTable 1 }

```

```

wranDevCmnEventLogConfigEntry ::= SEQUENCE {
    wranDevCmnDeviceIndex          INTEGER,
    wranDevCmnEventLogEntryLimit   INTEGER,
    wranDevCmnEventLogLifeTimeLimit INTEGER,
    wranDevCmnEventLogEntryLimitPerEventId INTEGER,
    wranDevCmnEventLogSeverityThreshold INTEGER,
    wranDevCmnEventLogWrapAroundBuffEnable TruthEnable,
    wranDevCmnEventLogLatestEvent   Unsigned32,
    wranDevCmnEventLogPersistenceSupported TruthEnable,
    wranDevCmnEventLogResidualBuffThreshold INTEGER }

```

```

wranDevCmnDeviceIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index value that identifies a BS or CPE entry in the

```

```
wranDevCmnEventLogConfigTable."
 ::= { wranDevCmnEventLogConfigEntry 1 }
```

```
wranDevCmnEventLogEntryLimit OBJECT-TYPE
```

```
SYNTAX      INTEGER (1..10000)
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Maximum number of entries in
 wranDevCmnEventLogConfigTable. If this value is
 changed while entries exist in
 wranDevCmnEventLogTable, old entries will be
 discarded until limit is reached."
```

```
DEFVAL      { 100 }
```

```
::= { wranDevCmnEventLogConfigEntry 2 }
```

```
wranDevCmnEventLogLifeTimeLimit OBJECT-TYPE
```

```
SYNTAX      INTEGER (1..10000)
```

```
UNITS       "minutes"
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"A value of 0 means that an entry is kept
 indefinitely. Any other value is the maximum time
 an entry can exist in wranDevCmnEventLogTable. If
 this value is changed while entries exist in
 wranDevCmnEventLogTable, entries older than this
 limit will be discarded."
```

```
DEFVAL      { 1440 }
```

```
::= { wranDevCmnEventLogConfigEntry 3 }
```

```
wranDevCmnEventLogEntryLimitPerEventId OBJECT-TYPE
```

```
SYNTAX      INTEGER (1..100)
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"The number of log entries that can be logged per
 event."
```

```
DEFVAL      { 10 }
```

```
::= { wranDevCmnEventLogConfigEntry 4 }
```

```
wranDevCmnEventLogSeverityThreshold OBJECT-TYPE
```

```
SYNTAX      INTEGER (emergency(1),
                    alert(2),
                    critical(3),
                    error(4),
                    warning(5),
                    notice(6),
                    informational(7),
                    debug(8))
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Minimum severity level of an event that can be
 logged into the Event Log."
```

```
DEFVAL      { warning }
```

```
::= { wranDevCpeConfigFileEncodingEntry 5 }
```

```
wranDevCmnEventLogWrapAroundBuffEnable    OBJECT-TYPE
    SYNTAX      TruthEnable
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "True (1), indicates that the log buffer will be
        wrapped around with the buffer is full."
    DEFVAL       { true }
    ::= { wranDevCpeConfigFileEncodingEntry 6 }
```

```
wranDevCmnEventLogLatestEvent OBJECT-TYPE
    SYNTAX      Unsigned32 (1..4294967295)
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "Index of latest event in Event Log."
    DEFVAL       { 1 }
    ::= { wranDevCpeConfigFileEncodingEntry 7 }
```

```
wranDevCmnEventLogPersistenceSupported    OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "True (1), indicates that the Event Log persisted
        through power cycle and reset."
    ::= { wranDevCpeConfigFileEncodingEntry 8 }
```

```
wranDevCmnEventLogResidualBuffThreshold    OBJECT-TYPE
    SYNTAX      INTEGER (1..100)
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "Threshold ratio of used capacity for Event Log to
        total capacity of Event Log, that when reached a
        TRAP is issued."
    ::= { wranDevCpeConfigFileEncodingEntry 9 }
```

```
wranDevCmnEventTable    OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranDevCmnEventEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "This compound object defines the types of events
        that are supported by a BS or CPE. Each event is
        defined."
    ::= { wranDevCmnEventLog 2 }
```

```
wranDevCmnEventEntry    OBJECT-TYPE
    SYNTAX      wranDevCmnEventEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "This object defines the parameters of an event entry
```

into the wranDevCmnEventTable. Each entry is indexed by wranDevCmnEventIdentifier."

```
INDEX { wranDevCmnEventIdentifier }
 ::= { wranDevCmnEventTable 1 }
```

```
wranDevCmnEventEntry ::= SEQUENCE {
    wranDevCmnEventIdentifier      INTEGER,
    wranDevCmnEventDescription    SnmpAdminString,
    wranDevCmnEventSeverity       INTEGER,
    wranDevCmnEventNotification  TruthValue,
    wranDevCmnEventNotificationOid OBJECT IDENTIFIER }
```

```
wranDevCmnEventIdentifier OBJECT-TYPE
    SYNTAX      INTEGER (0..100000)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Event Identifier encoded as a numeric value."
    ::= { wranDevCmnEventEntry 1 }
```

```
wranDevCmnEventDescription OBJECT-TYPE
    SYNTAX      SnmpAdminString
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Description of the event in the form of an
        SnmpAdminString"
    ::= { wranDevCmnEventEntry 2 }
```

```
wranDevCmnEventSeverity OBJECT-TYPE
    SYNTAX      INTEGER {emergency(1),
                        alert(2),
                        critical(3),
                        error(4),
                        warning(5),
                        notice(6),
                        informational(7),
                        debug(8)}
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "The severity of the event as assigned by the device.
        The severity assigned to an event is configurable by
        the system."
    DEFVAL      { warning }
    ::= { wranDevCmnEventEntry 3 }
```

```
wranDevCmnEventNotification OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "When True (1), an event notification will be
        reported."
    DEFVAL      { false }
    ::= { wranDevCmnEventEntry 4 }
```


wranDevCmnEventNotificationOid OBJECT-TYPE
 SYNTAX OBJECT IDENTIFIER
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This is the object identifier of a notification object. If wranDevCmnEventNotification True (1), a trap identified by the OID will be reported."
 ::= { wranDevCmnEventEntry 5 }

wranDevCmnEventLogTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranDevCmnEventLogEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This is the log table that stores local events as they happen. This table shall reside in non-volatile memory that may persist after power cycle or reset of the device. The maximum number of entries in this table is determined by the wranDevCmnEventLogEntryLimit. If it is setup as a wrap-around log, then the oldest entry will be remove to make room for the newest entry. If it is not set up as a wrap-around log, then the log will be flushed. Multiple entries are stored in the table. Each entry is defined by wranDevCmnEventLogEntry."
 ::= { wranDevCmnEventLog 3 }

wranDevCmnEventLogEntry OBJECT-TYPE
 SYNTAX wranDevCmnEventLogEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object represents an entry in wranDevCmnEventLogTable. It is indexed by wranDevCmnEventId."
 INDEX { wranDevCmnEventLogId }
 ::= { wranDevCmnEventLogTable 1 }

wranDevCmnEventLogEntry ::= SEQUENCE {
 wranDevCmnEventLogId Unsigned32,
 wranDevCmnEventLoggedTime DateAndTime,
 wranDevCmnEventLogDescription SnmpAdminString,
 wranDevCmnEventLogSeverity INTEGER }

wranDevCmnEventId OBJECT-TYPE
 SYNTAX Unsigned32(1..4294967295)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "A counter used to index entries in the Event Log. When it reaches a maximum value, it will wrap-around if configured to wrap-around or the log will


```

        be flushed if it is not configured to wrap-around."
 ::= { wranDevCmnEventLogEntry 1 }

wranDevCmnEventLoggedTime OBJECT-TYPE
    SYNTAX      TimeStamp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The time that the entry was placed into the Event
        Log. If this event happened just before the last
        initialization of the management system, then this
        value is set to 0."
 ::= { wranDevCmnEventLogEntry 2 }

wranDevCmnEventLogDescription OBJECT-TYPE
    SYNTAX      SnmpAdminString
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Description of the event, in the form of an
        SnmpAdminString"
 ::= { wranDevCmnEventLogEntry 3 }

wranDevCmnEventLogSeverity OBJECT-TYPE
    SYNTAX      INTEGER {emergency(1),
                        alert(2),
                        critical(3),
                        error(4),
                        warning(5),
                        notice(6),
                        informational(7),
                        debug(8)}
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Severity of the recorded event."
    DEFVAL      { warning }
 ::= { wranDevCmnEventLogEntry 4 }

-- wranDevCmnSnmpAgent: This object comprises one table that
-- deals with SNMP agent configuration.

wranDevCmnSnmpAgent OBJECT IDENTIFIER
 ::= { wranDevCommonObjects 2 }
wranDevCmnSnmpV1V2TrapDestTable OBJECT IDENTIFIER
 ::= { wranDevCmnSnmpAgent 1 }

wranDevCmnSnmpV1V2TrapDestTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranDevCmnSnmpV1V2TrapDestEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This compound object deals with the configuration of
        items of the SNMP agent. Each configuration item is
        represented by wranDevCmnSnmpV1V2TrapDestEntry."
 ::= { wranDevCmnSnmpAgent 1 }

```

wranDevCmnSnmpV1V2TrapDestEntry OBJECT-TYPE
 SYNTAX **wranDevCmnSnmpV1V2TrapDestEntry**
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "The compound object contains the parameters that identify the destination of an SNMP trap."
 INDEX { **wranDevCmnSnmpV1V1TrapDestIndex** }
 ::= { **wranDevCmnSnmpV1V2TrapDestTable** 1 }

wranDevCmnSnmpV1V2TrapDestEntry::= SEQUENCE {
wranDevCmnSnmpV1V1TrapDestIndex Unsigned32,
wranDevCmnSnmpV1V2TrapDestIpAddrType InetAddressType,
wranDevCmnSnmpV1V2TrapDestIpAddr InetAddress,
wranDevCmnSnmpV1V2TrapDestPort Integer32,
wranDevCmnSnmpV1V2TrapDestRowStatus RowStatus }

wranDevCmnSnmpV1V1TrapDestIndex OBJECT-TYPE
 SYNTAX INTEGER (1..8)
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "Identifies the trap in the table. This parameter shall have a maximum value of 8."
 ::= { **wranDevCmnSnmpV1V2TrapDestEntry** 1 }

wranDevCmnSnmpV1V2TrapDestIpAddrType OBJECT-TYPE
 SYNTAX InetAddressType
 MAX-ACCESS read-create
 STATUS current
 DESCRIPTION
 "Type of IP address stored in **wranDevCmnSnmpV1V2TrapDestIpAddr**."
 ::= { **wranDevCmnSnmpV1V2TrapDestEntry** 2 }

wranDevCmnSnmpV1V2TrapDestIpAddr OBJECT-TYPE
 SYNTAX InetAddress
 MAX-ACCESS read-create
 STATUS current
 DESCRIPTION
 "SNMP manager's IP address that is configured as a destination for traps."
 ::= { **wranDevCmnSnmpV1V2TrapDestEntry** 3 }

wranDevCmnSnmpV1V2TrapDestPort OBJECT-TYPE
 SYNTAX Integer32 (0..65535)
 MAX-ACCESS read-create
 STATUS current
 DESCRIPTION
 "Port number of SNMP manager application configured as trap destination."
 ::= { **wranDevCmnSnmpV1V2TrapDestEntry** 4 }

wranDevCmnSnmpV1V2TrapDestRowStatus OBJECT-TYPE
 SYNTAX RowStatus

```

MAX-ACCESS    read-create
STATUS        current
DESCRIPTION
    "This object is used to make sure that any write
    operation to multiple columns is treated as an
    atomic operation."
 ::= { wranDevCmnSnmPV1V2TrapDestEntry 5 }

wranDevCmnDeviceConfig OBJECT IDENTIFIER
 ::= { wranDevCommonObjects 3 }
wranDevCmnResetDevice  OBJECT IDENTIFIER
 ::= { wranDevCmnDeviceConfig 1 }
wranDevMibGroups        OBJECT IDENTIFIER
 ::= { wranDevCmnDeviceConfig 2 }
wranDevMibCompliance    OBJECT IDENTIFIER
 ::= { wranDevCmnDeviceConfig 3 }

wranDevCmnResetDevice OBJECT-TYPE
SYNTAX      INTEGER { actionResetDeviceNoAction(0),
                    actionResetDevice(1) }
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "There are two actions defined. When set to
    actionResetDeviceNoAction, no action is taken. When
    set to actionResetDevice, device will reset itself."
 ::= { wranDevCmnDeviceConfig 1 }

-- wranDevMibGroups: This object helps define which MIB groups are
-- necessary to meet conformance and what MIB objects are part of each
-- group.

wranDevMibGroups OBJECT IDENTIFIER
 ::= { wranDevCmnDeviceConfig 2 }
wranDevMibBsGroup OBJECT IDENTIFIER
 ::= { wranDevMibGroups 1 }
wranDevMibBsSwUpgradeGroup OBJECT IDENTIFIER
 ::= { wranDevMibGroups 2 }
wranDevMibCpeGroup OBJECT IDENTIFIER
 ::= { wranDevMibGroups 3 }
wranDevMibCmnGroup OBJECT IDENTIFIER
 ::= { wranDevMibGroups 4 }
wranDevMibBsNotificationGroup OBJECT IDENTIFIER
 ::= { wranDevMibGroups 5 }
wranDevMibCpeNotificationGroup OBJECT IDENTIFIER
 ::= { wranDevMibGroups 6 }
wranDevCpeTrapControlGroup OBJECT IDENTIFIER
 ::= { wranDevMibGroups 7 }
wranDevBsTrapControlGroup OBJECT IDENTIFIER
 ::= { wranDevMibGroups 8 }

wranDevMibBsGroup OBJECT-GROUP
OBJECTS { wranDevBsTrapControl }
STATUS current
DESCRIPTION
    "Group of objects for the BS."

```

```
::= { wranDevMibGroups 1 }
```

```
wranDevMibBsSwUpgradeGroup    OBJECT-GROUP
```

```
OBJECTS    { wranDevBsVendorId, wranDevBsHwId,
              wranDevBsCurrentSwVersion,
              wranDevBsUpgradeFileName,
              wranDevBsSoftwareUpgradeAdminState,
              wranDevBsDownloadSwProgress,
              wranDevBsSoftwareUpgradeAdminState,
              wranDevBsDownloadSwProgress,
              wranDevBsSoftwareUpgradeTimeStamp }
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This group contains the values of the most
recent/current entry in
  wranDevBsSoftwareUpgradeTable."
```

```
::= { wranDevMibGroups 2 }
```

```
wranDevMibCpeGroup            OBJECT-GROUP
```

```
OBJECTS    { wranDevCpeMicConfigSetting,
              wranDevCpeVendorId, wranDevCpeHwId,
              wranDevCpeConfigFileVersion,
              wranDevCpeUpgradeFileName,
              wranDevCpeSwTftpServer,
              wranDevCpeTftpServerTimeStamp,
              wranDevCpeTrapControl }
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"This group contains values of the most
recent/current entry in
  wranDevCpeConfigFileEncodingTable for a particular
  CPE."
```

```
::= { wranDevMibGroups 3 }
```

```
wranDevMibCmnGroup            OBJECT-GROUP
```

```
OBJECTS    { wranDevCmnSnmPV1V2TrapDestIpAddressType,
              wranDevCmnSnmPV1V2TrapDestIpAddress,
              wranDevCmnSnmPV1V2TrapDestPort,
              wranDevCmnSnmPV1V2TrapDestRowStatus,
              wranDevCmnResetDevice, wranDevCmnDeviceIndex,
              wranDevCmnEventLogEntryLimit,
              wranDevCmnEventLogLifeTimeLimit,
              wranDevCmnEventLogEntryLimitPerEventId,
              wranDevCmnEventLogSeverityThreshold,
              wranDevCmnEventLogWrapAroundBuffEnable,
              wranDevCmnEventLogLatestEvent,
              wranDevCmnEventLogPersistenceSupported,
              wranDevCmnEventLogResidualBuffThreshold,
              wranDevCmnEventDescription,
              wranDevCmnEventSeverity,
              wranDevCmnEventNotification,
              wranDevCmnEventNotificationOid,
              wranDevCmnEventId, wranDevCmnEventLoggedTime,
              wranDevCmnEventLogDescription,
              wranDevCmnEventLogSeverity }
```

```
STATUS      current
```

IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands
Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

DESCRIPTION

"It contains the values of most recent/current entry
in wranDevVMnSnmPV1V2TrapDestTable and
wranDevCmnEventLogTable."

::= { wranDevMibGroups 4 }

wranDevMibBsNotificationGroup OBJECT-GROUP

OBJECTS { wranDevBsEventTrap,
wranDevBsLogBuffExceedThresholdTrap }

STATUS current

DESCRIPTION

"Contains the contents of wranDevBsEventTrap and
wranDevBsLogBuffExceedThresholdTrap."

::= { wranDevMibGroups 5 }

wranDevMibCpeNotificationGroup OBJECT-GROUP

OBJECTS { wranDevCpeEventTrap,
wranDevCpeLogBuffExceedThresholdTrap }

STATUS current

DESCRIPTION

"Contains the contents of wranDevCpeEventTrap and
wranDevCpeLogBuffExceedThresholdTrap."

::= { wranDevMibGroups 6 }

wranDevCpeTrapControlGroup OBJECT-GROUP

OBJECTS { wranDevCpeTrapControl }

STATUS current

DESCRIPTION

"Contains objects related to enabling/disabling CPE
device traps."

::= { wranDevMibGroups 7 }

wranDevBsTrapControlGroup OBJECT-GROUP

OBJECTS { wranDevBsTrapControl }

STATUS current

DESCRIPTION

"Contains objects related to enabling/disabling BS
device traps."

::= { wranDevMibGroups 8 }

wranDevMibCompliance MODULE-COMPLIANCE

STATUS current

DESCRIPTION

"MIB object groups that are optional and mandatory
for conformance."

MODULE wranDevMib

MANDATORY-GROUPS { wranDevMibBsGroup,
wranDevMibBsSwUpgradeGroup,
wranDevMibCpeGroup, wranDevMibCmnGroup,
wranDevCpeTrapControlGroup,
wranDevBsTrapControlGroup }

-- OPTIONAL-GROUPS { wranDevMibBsNotificationGroup,
wranDevMibCpeNotificationGroup }

::= { wranDevCmnDeviceConfig 3 }

END

13.2.2 wranIfBsMib

IEEE802dot22-WRAN-IF-BS-MIB ::= BEGIN

IMPORTS

MODULE-IDENTITY,
 OBJECT-TYPE,
 NOTIFICATION-TYPE,
 Unsigned32, Integer32, Counter32
 Counter64
 From SNMPv2-SMI
 SnmpAdminString
 FROM SNMP-FRAMEWORK-MIB
 TEXTUAL-CONVENTION,
 MacAddress, RowStatus, TruthValue,
 TimeStamp, DateAndTime
 FROM SNMPv2-TC
 InetAddressType, InetAddress
 FROM INET-ADDRESS-MIB
 OBJECT-GROUP,
 MODULE-COMPLIANCE,
 NOTIFICATION-GROUP
 FROM SNMPv2-CONF

wranIfBsMib

MODULE-IDENTITY

LAST-UPDATED "201405300000Z" -- May 30, 2014
 ORGANIZATION "IEEE 802.22"
 CONTACT-INFO
 "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
 WG Chair: Apurva N. Mody
 E-mail: apurva.mody@ieee.org

TGa Chair/Editor: Ranga Reddy
 E-mail: ranga.reddy@ieee.org

DESCRIPTION

"This material is from IEEE Std 802.22a-2014
 Copyright (c) 2014. This MIB Module Defines managed
 objects for Base Station based on IEEE Std 802.22-
 2011 and is under
 iso(1).std(0).iso8802(8802).wran(22).wranIfBsMib(2)"

REVISION "201405300000Z"

DESCRIPTION

"The first version of IEEE802dot22-WRAN-IF-BS-
 MIB that provides for management of the base
 station."

::= {iso std(0) iso8802(8802) wran(22) 2}

wranIfBsFm	OBJECT IDENTIFIER ::= { wranIfBsMib 1 }
wranIfBsCm	OBJECT IDENTIFIER ::= { wranIfBsMib 2 }
wranIfBsAm	OBJECT IDENTIFIER ::= { wranIfBsMib 3 }
wranIfBsPm	OBJECT IDENTIFIER ::= { wranIfBsMib 4 }
wranIfBsScm	OBJECT IDENTIFIER ::= { wranIfBsMib 5 }
wranIfBsMibGroups	OBJECT IDENTIFIER ::= { wranIfBsMib 6 }
wranIfBsMibCompliance	OBJECT IDENTIFIER ::= { wranIfBsMib 7 }

-- wranIfBsFm: Exceptions and fault events can be reported using the
-- traps defined in this MIB.

```

wranIfBsTrapControl          OBJECT IDENTIFIER
                              ::= { wranIfBsFm 1 }
wranIfBsTrapDefinition       OBJECT IDENTIFIER
                              ::= { wranIfBsFm 2 }
wranIfBsNotificationObjectsTable OBJECT IDENTIFIER
                              ::= { wranIfBsFm 3 }

wranIfBsTrapControl          OBJECT-TYPE
    SYNTAX      BITS { dynamicService(0),
                      signalPowerMetrics(1),
                      regNotification(2), scmNotification(3),
                      cpeStartupStatusChange(4),
                      txMetrics(5), netEntryMetrics(6),
                      pktErrRateNotification(7),
                      userMetricsNotification(8),
                      coexistenceNotification(9),
                      basicCapabilityNotification(10),
                      rangingNotification(11),
                      authMetricsNotification(12),
                      dynamicServeMetrics(13) }
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object is a bitmap that allows
        enabling/disabling of traps related
        setup/configuration of dynamic service flows (Bit0),
        recording power measurements (Bit1), registration of
        CPEs (Bit2), authentication+keying of CPEs (Bit3),
        startup status of CPEs (Bit4), change in throughput
        & retransmission metrics (Bit5), update of network
        entry metrics (Bit6), update of packet error metrics
        (Bit7), update of user metrics (Bit8), change in
        coexistence status (Bit9), change in basic
        capability configuration of CPEs (Bit10), change in
        ranging status of CPEs (Bit11), update of
        authentication metrics (Bit12), update of dynamic
        service metrics (Bit13). A trap is enabled if the
        bit is set to 1 and disable if set to 0."
    ::= { wranIfBsFm 1 }

wranIfBsTrapDefinition       OBJECT IDENTIFIER
                              ::= { wranIfBsFm 2 }
wranIfBsDynamicServiceTrap   OBJECT IDENTIFIER
                              ::= { wranIfBsTrapDefinition 1 }
wranIfBsSignalPowerMetricsTrap OBJECT IDENTIFIER
                              ::= { wranIfBsTrapDefinition 2 }
wranIfBsRegNotificationTrap  OBJECT IDENTIFIER
                              ::= { wranIfBsTrapDefinition 3 }
wranIfBsScmNotificationTrap  OBJECT IDENTIFIER
                              ::= { wranIfBsTrapDefinition 4 }
wranIfBsStartupStatusTrap    OBJECT IDENTIFIER

```



```

wranIfBsTxMetricsTrap      ::= { wranIfBsTrapDefinition 5 }
                             OBJECT IDENTIFIER
wranIfBsNetEntryMetricsTrap ::= { wranIfBsTrapDefinition 6 }
                             OBJECT IDENTIFIER
wranIfBsPktErrorTrap       ::= { wranIfBsTrapDefinition 7 }
                             OBJECT IDENTIFIER
wranIfBsUserMetricsTrap    ::= { wranIfBsTrapDefinition 8 }
                             OBJECT IDENTIFIER
wranIfBsCoexistenceTrap    ::= { wranIfBsTrapDefinition 9 }
                             OBJECT IDENTIFIER
wranIfBsBasicCapabilityTrap ::= { wranIfBsTrapDefinition 10 }
                             OBJECT IDENTIFIER
wranIfBsRangingTrap        ::= { wranIfBsTrapDefinition 11 }
                             OBJECT IDENTIFIER
wranIfBsAuthMetricsTrap    ::= { wranIfBsTrapDefinition 12 }
                             OBJECT IDENTIFIER
wranIfBsDynamicServiceMetricsTrap ::= { wranIfBsTrapDefinition 13 }
                             OBJECT IDENTIFIER
wranIfBsDynamicServiceTrap ::= { wranIfBsTrapDefinition 14 }
                             NOTIFICATION-TYPE
                             OBJECTS { wranIfBsDynamicServiceType,
                                         wranIfBsDynamicServiceNotificationIndex }
                             STATUS current
                             DESCRIPTION
                                 "This trap contains the information related to
                                 updating the configuration of either provisioned
                                 service flows (wranIfBsProvSfTable) or active
                                 service flows (wranIfBsActiveSfTable)."
```

```

::= { wranIfBsTrapDefinition 1 }

wranIfBsSignalPowerMetricsTrap NOTIFICATION-TYPE
    OBJECTS { wranIfBsSignalPowerNotificationIndex }
    STATUS current
    DESCRIPTION
        "This trap contains the information related to
        updating of signal power metrics
        (wranIfBsSignalPowerMetricsTable)."
```

```

::= { wranIfBsTrapDefinition 2 }

wranIfBsRegNotificationTrap NOTIFICATION-TYPE
    OBJECTS { wranIfBsRegCapabilityNotificationIndex }
    STATUS current
    DESCRIPTION
        "This trap contains the information related to
        indicating successful execution of the registration
        of a CPE (wranIfBsCpeRegCapabilityRspTable)."
```

```

::= { wranIfBsTrapDefinition 3 }

wranIfBsScmNotificationTrap NOTIFICATION-TYPE
    OBJECTS { wranIfBsScmNotificationType,
              wranIfBsScmNotificationIndex }
    STATUS current
    DESCRIPTION
        "This trap contains the information related to
        updating the configuration of either SCM protocol
```



```

        capabilities on a CPE
        (wranIfBsCpeScmCapabilityConfigTable) or current
        authentication status
        (wranIfBsCpeScmAuthConfigTable)."
```

::= { wranIfBsTrapDefinition 4 }

```

wranIfBsStartupStatusTrap      NOTIFICATION-TYPE
OBJECTS      { wranIfBsStartupNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    changes in a CPE's status with regard to network
    entry (wranIfBsStartupMetricsTable)."
```

::= { wranIfBsTrapDefinition 5 }

```

wranIfBsTxMetricsTrap      NOTIFICATION-TYPE
OBJECTS      { wranIfBsTxMetricsType,
                wranIfBsTxMetricsNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    changes in throughput metrics
    (wranIfBsThroughputMetricsTable) or ARQ metrics
    (wranIfBsArqMetricsTable)."
```

::= { wranIfBsTrapDefinition 6 }

```

wranIfBsNetEntryMetricsTrap  NOTIFICATION-TYPE
OBJECTS      { wranIfBsNetEntryMetricsNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    updates in network entry and re-entry latency
    measurements (wranIfBsNetworkEntryMetricsTable)."
```

::= { wranIfBsTrapDefinition 7 }

```

wranIfBsPktErrorTrap      NOTIFICATION-TYPE
OBJECTS      { wranIfBsPktErrorMetricsNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    updates in packet error rate measurements
    (wranIfBsPacketErrorRateTable)."
```

::= { wranIfBsTrapDefinition 8 }

```

wranIfBsUserMetricsTrap NOTIFICATION-TYPE
OBJECTS      { wranIfBsUserMetricsNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    updates in tracking the number of active and non-
    active users in the cell
    (wranIfBsUserMetricsTable)."
```

::= { wranIfBsTrapDefinition 9 }

```

wranIfBsCoexistenceTrap NOTIFICATION-TYPE
OBJECTS      { wranIfBsCoexMetricType,
```

```

        wranIfBsCoexNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    updates in tracking ongoing coexistence (e.g., On-
    Demand Frame Contention transactions
    wranIfBsCoexistenceStatusTable), discovery of new
    potential coexistence sources
    (wranIfBsCoexistenceSourceTable), discovery the
    the resource usage in neighboring networks
    (wranIfBsCoexistenceResourceListTable), and updates
    to a BS's own coexistence configuration
    (wranIfBsCoexistenceCurrentConfigTable)."
```

```
 ::= { wranIfBsTrapDefinition 10 }
```

```

wranIfBsBasicCapabilityTrap    NOTIFICATION-TYPE
OBJECTS      { wranIfBsBasicNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    updates in tracking updates to basic capability
    configuration of CPEs
    (wranIfBsCpeBasicCapabilityRspTable)."
```

```
 ::= { wranIfBsTrapDefinition 11 }
```

```

wranIfBsRangingTrap          NOTIFICATION-TYPE
OBJECTS      { wranIfBsRngNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    updates in tracking updates to status of ranging of
    CPEs (wranIfBsCpeRngCapabilityCmdTable)."
```

```
 ::= { wranIfBsTrapDefinition 12 }
```

```

wranIfBsAuthMetricsTrap    NOTIFICATION-TYPE
OBJECTS      { wranIfBsAuthNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    updates in tracking updates to authentication
    metrics (wranIfBsAuthenticationMetricsTable)."
```

```
 ::= { wranIfBsTrapDefinition 13 }
```

```

wranIfBsDynamicServiceMetricsTrap    NOTIFICATION-TYPE
OBJECTS      { wranIfBsDynSrvMetricsNotificationIndex }
STATUS      current
DESCRIPTION
    "This trap contains the information related to
    updates in tracking metrics current provisioned and
    active service flows
    (wranIfBsServiceFlowMetricsTable)."
```

```
 ::= { wranIfBsTrapDefinition 14 }
```

```

wranIfBsNotificationObjectsTable    OBJECT-TYPE
SYNTAX      SEQUENCE OF wranIfBsNotificationObjectsEntry
MAX-ACCESS  not-accessible
```

STATUS current
 DESCRIPTION
 "This table contains objects that represents notifications reported in BS fault traps. The table is made up of one or more entries."
 ::= { wranIfBsFm 3 }

wranIfBsNotificationObjectsEntry OBJECT-TYPE
 SYNTAX wranIfBsNotificationObjectsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 " This MIB is a compound object that represents an entry in the MIB object wranIfBsNotificationsObjectsTable."
 INDEX { wranIfBsNotificationObjectsIndex }
 ::= { wranIfBsNotificationObjectsTable 1 }

wranIfBsNotificationObjectsEntry ::= SEQUENCE {
 wranIfBsNotificationObjectsIndex INTEGER,
 wranIfBsNotificationMacAddr MacAddress,
 wranIfBsDynamicServiceType INTEGER,
 wranIfBsDynamicServiceNotificationIndex Integer32,
 wranIfBsSignalPowerNotificationIndex Integer32,
 wranIfBsRegCapabilityNotificationIndex Integer32,
 wranIfBsScmNotificationType INTEGER,
 wranIfBsScmNotificationIndex Integer32,
 wranIfBsStartupNotificationIndex INTEGER,
 wranIfBsTxMetricsType INTEGER,
 wranIfBsTxMetricsNotificationIndex INTEGER,
 wranIfBsNetEntryMetricsNotificationIndex INTEGER,
 wranIfBsPktErrorMetricsNotificationIndex INTEGER,
 wranIfBsUserErrorMetricsNotificationIndex INTEGER,
 wranIfBsCoexMetricsType INTEGER,
 wranIfBsCoexNotificationIndex Integer32,
 wranIfBsBasicNotificationIndex Integer32,
 wranIfBsRngNotificationIndex Integer32,
 wranIfBsAuthNotificationIndex INTEGER,
 wranIfBsDynSrvMetricsNotificationIndex INTEGER }

wranIfBsNotificationObjectsIndex OBJECT-TYPE
 SYNTAX INTEGER (1..1)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index of entry in table."
 ::= { wranIfBsNotificationObjectsEntry 1 }

wranIfBsNotificationMacAddr OBJECT-TYPE
 SYNTAX MacAddress
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "MAC Address reporting the notification."
 ::= { wranIfBsNotificationObjectsEntry 2 }

wranIfBsDynamicServiceType OBJECT-TYPE
 SYNTAX INTEGER { provisioned(0), active(1) }
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Indication if the configuration for a provisioned
 or active service flow has been configured."
 ::= { wranIfBsNotificationObjectsEntry 3 }

wranIfBsDynamicServiceNotificationIndex OBJECT-TYPE
 SYNTAX Integer32 (1..2048)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index into wranIfBsProvSfTable or
 wranIfBsActiveSfTable that indicates which service
 flow configuration was added/updated."
 ::= { wranIfBsNotificationObjectsEntry 4 }

wranIfBsSignalPowerNotificationIndex OBJECT-TYPE
 SYNTAX Integer32 (1..261120)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index into wranIfBsSignalPowerMetricsTable that
 indicates the entry that contains updated signal
 power metrics data."
 ::= { wranIfBsNotificationObjectsEntry 5 }

wranIfBsRegCapabilityNotificationIndex OBJECT-TYPE
 SYNTAX wranIfBsRegCapabilityIndex
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index into wranIfBsCpeRegCapabilityRspTable that
 indicates the entry that contains updated
 registration for a CPE."
 ::= { wranIfBsNotificationObjectsEntry 6 }

wranIfBsScmNotificationType OBJECT-TYPE
 SYNTAX INTEGER { scmCapability(0), scmAuthConfig(1) }
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Indication if the configuration of the SCM protocol
 or the authentication status of a CPE has been
 updated."
 ::= { wranIfBsNotificationObjectsEntry 7 }

wranIfBsScmNotificationIndex OBJECT-TYPE
 SYNTAX Integer32 (1..512)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index into wranIfBsCpeScmCapabilityConfigTable that
 indicates which CPE has updated their SCM

configuration or wranIfBsCpeScmAuthConfigTable that indicates which CPE has had their authentication status updated."

::= { wranIfBsNotificationObjectsEntry 8 }

wranIfBsStartupNotificationIndex OBJECT-TYPE

SYNTAX INTEGER (1..1)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This contains the index of entry in wranIfBsStartupMetricsTable that contains data on any changes in a CPE's status with regard to network entry."

::= { wranIfBsNotificationObjectsEntry 9 }

wranIfBsTxMetricsType OBJECT-TYPE

SYNTAX INTEGER { throughput(0), arq(1) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indication if throughput metrics or ARQ metrics have been updated."

::= { wranIfBsNotificationObjectsEntry 10 }

wranIfBsTxMetricsIndex OBJECT-TYPE

SYNTAX INTEGER (1..1)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index into wranIfBsThroughputMetricsTable that indicates changes in measure throughput metrics, or wranIfBsArqMetricsTable that indicates changes in ARQ performance."

::= { wranIfBsNotificationObjectsEntry 11 }

wranIfBsNetEntryMetricsNotificationIndex OBJECT-TYPE

SYNTAX INTEGER (1..1)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This contains the index of entry in wranIfBsNetworkEntryMetricsTable that contains data on any changes in network entry and re-entry latency measurements."

::= { wranIfBsNotificationObjectsEntry 12 }

wranIfBsPktErrorMetricsNotificationIndex OBJECT-TYPE

SYNTAX INTEGER (1..1)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This contains the index of entry in wranIfBsPacketErrorRateTable that contains data on any changes in packet error rate measurements."

::= { wranIfBsNotificationObjectsEntry 13 }

```

wranIfBsUserMetricsNotificationIndex    OBJECT-TYPE
    SYNTAX      INTEGER (1..1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This contains the index of entry in
        wranIfBsUserMetricsTable that contains data on any
        changes in the number of active and non-active users
        in the cell."
    ::= { wranIfBsNotificationObjectsEntry 14 }

wranIfBsCoexMetricsType OBJECT-TYPE
    SYNTAX      INTEGER { odfcTransaction(0),
        potentialCoexSource(1),
        resourceUsage(2),
        coexistenceConfig(3) }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Indication if ongoing On-Demand Frame Coexistence
        Transactions, discovery of new potential coexistence
        resources, discovery of the resource usage in
        neighboring networks, and whether a BS's own
        coexistence configuration have been updated."
    ::= { wranIfBsNotificationObjectsEntry 15 }

wranIfBsCoexNotificationIndex OBJECT-TYPE
    SYNTAX      Integer32 (1..4096)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index into wranIfBsCoexistenaceStatusTable that
        indicates changes in ongoing On-Demand Frame
        Contention transactions,
        wranIfBsCoexistenceSourceTable that indicates
        changes in the discovery of new potential
        coexistence sources,
        wranIfBsCoexistenceResourceListTable that indicates
        discovery of resource usage in neighboring networks,
        or wranIfBsCoexistenceCurrentConfigTable that
        indicates whether a BS's own coexistence
        configuration have been updated."
    ::= { wranIfBsNotificationObjectsEntry 16 }

wranIfBsBasicNotificationIndex    OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityIndex
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This contains the index of entry in
        wranIfBsCpeBasicCapabilityRspTable that contains
        data on any changes in tracking updates to the basic
        capability configuration of CPEs."
    ::= { wranIfBsNotificationObjectsEntry 17 }

```

```

wranIfBsRngNotificationIndex OBJECT-TYPE
    SYNTAX      Integer32 (1..512)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This contains the index of entry in
        wranIfBsCpeRngCapabilityCmdTable that contains data
        on any changes in tracking updates to the status of
        ranging of CPEs."
    ::= { wranIfBsNotificationObjectsEntry 18 }

wranIfBsAuthNotificationIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This contains the index of entry in
        wranIfBsAuthenticationMetricsTable that contains
        data on any changes in tracking updates to
        authentication metrics."
    ::= { wranIfBsNotificationObjectsEntry 19 }

wranIfBsDynSrvMetricsNotificationIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "This contains the index of entry in
        wranIfBsServiceFlowMetricsTable that contains
        information related to tracking metrics of ongoing."
    ::= { wranIfBsNotificationObjectsEntry 20 }

-- wranIfBsFmMibGroups: This object helps define which MIB groups are
-- available in this module (wranIfBsFm) and which MIB objects are
-- part of each group.

wranIfBsFmMibGroups OBJECT IDENTIFIER
    ::= { wranIfBsFm 4 }
wranIfBsFmTrapControlGroup OBJECT IDENTIFIER
    ::= { wranIfBsFmMibGroups 1 }
wranIfBsFmNotificationGroup OBJECT IDENTIFIER
    ::= { wranIfBsFmMibGroups 2 }

wranIfBsFmTrapControlGroup OBJECT-GROUP
    OBJECTS      { wranIfBsTrapControl }
    STATUS      current
    DESCRIPTION
        "This group contains objects related to
        enabling/disabling traps used for service
        flow management."
    ::= { wranIfBsFmMibGroups 1 }

wranIfBsFmNotificationGroup OBJECT-GROUP
    OBJECTS      { wranIfBsDynamicServiceTrap,
        wranIfBsSignalPowerMetricsTrap,
        wranIfBsRegNotificationTrap,

```



```

        wranIfBsScmNotificationTrap,
        wranIfBsStartupStatusTrap,
        wranIfBsTxMetricsTrap,
        wranIfBsNetEntryMetricsTrap,
        wranIfBsPktErrorTrap, wranIfBsUserMetricsTrap,
        wranIfBsCoexistenceTrap,
        wranIfBsBasicCapabilityTrap,
        wranIfBsRangingTrap, wranIfBsAuthMetricsTrap,
        wranIfBsDynamicServiceMetricsTrap,
        wranIfBsNotificationObjectsIndex,
        wranIfBsNotificationMacAddr,
        wranIfBsDynamicServiceType,
        wranIfBsDynamicServiceNotificationIndex,
        wranIfBsSignalPowerNotificationIndex,
        wranIfBsRegCapabilityNotificationIndex,
        wranIfBsScmNotificationType,
        wranIfBsScmNotificationIndex,
        wranIfBsStartupNotificationIndex,
        wranIfBsTxMetricsType,
        wranIfBsTxMetricsNotificationIndex,
        wranIfBsNetEntryMetricsNotificationIndex,
        wranIfBsPktErrorMetricsNotificationIndex,
        wranIfBsUserErrorMetricsNotificationIndex,
        wranIfBsCoexMetricsType,
        wranIfBsCoexNotificationIndex,
        wranIfBsBasicNotificationIndex,
        wranIfBsRngNotificationIndex,
        wranIfBsAuthNotificationIndex,
        wranIfBsDynSrvMetricsNotificationIndex }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    traps used for management of the BS."
 ::= { wranIfBsFmMibGroups 2 }

wranIfBsFmMibCompliance MODULE-COMPLIANCE
STATUS      current
DESCRIPTION
    "MIB objects that are optional and mandatory for
    wranIfBsFm compliance."
MODULE      wranIfBsFm
MANDATORY-GROUPS { wranIfBsFmTrapControlGroup }
-- OPTIONAL-GROUPS { wranIfBsFmNotificationGroup }
 ::= { wranIfBsFm 5 }

-- wranIfBsCm: This MIB group contains various objects related to
-- Configuration Management.

wranIfBsCpeRngCapabilityReqTable      OBJECT IDENTIFIER
 ::= { wranIfBsCm 1 }
wranIfBsCpeRngCapabilityCmdTable      OBJECT IDENTIFIER
 ::= { wranIfBsCm 2 }
wranIfBsCpeBasicCapabilityReqTable    OBJECT IDENTIFIER
 ::= { wranIfBsCm 3 }
wranIfBsCpeBasicCapabilityRspTable    OBJECT IDENTIFIER

```


wranIfBsCpeRegCapabilityReqTable	OBJECT IDENTIFIER ::= { wranIfBsCm 4 }
wranIfBsCpeMeasSupportReqTable	OBJECT IDENTIFIER ::= { wranIfBsCm 5 }
wranIfBsCpeRegCapabilityRspTable	OBJECT IDENTIFIER ::= { wranIfBsCm 6 }
wranIfBsCpeMeasSupportRspTable	OBJECT IDENTIFIER ::= { wranIfBsCm 7 }
wranIfBsCpeAntennaGainTable	OBJECT IDENTIFIER ::= { wranIfBsCm 8 }
wranIfBsScmCapabilityConfiguration	OBJECT IDENTIFIER ::= { wranIfBsCm 9 }
wranIfBsCpeScmCapabilityConfigTable	OBJECT IDENTIFIER ::= { wranIfBsCm 10 }
wranIfBsScmAuthConfigTable	OBJECT IDENTIFIER ::= { wranIfBsCm 11 }
wranIfBsActionsTable	OBJECT IDENTIFIER ::= { wranIfBsCm 12 }
wranIfBsCpeMulticastConfigTable	OBJECT IDENTIFIER ::= { wranIfBsCm 13 }
wranIfBsCoexistenceConfigTable	OBJECT IDENTIFIER ::= { wranIfBsCm 14 }
wranIfBsCpeBasicCapabilityCmn	OBJECT IDENTIFIER ::= { wranIfBsCm 15 }
wranIfBsCpeRegCapabilityCmn	OBJECT IDENTIFIER ::= { wranIfBsCm 16 }
wranIfBsCpeMeasSupportCmn	OBJECT IDENTIFIER ::= { wranIfBsCm 17 }
wranIfBsCpeSystemParametersTable	OBJECT IDENTIFIER ::= { wranIfBsCm 18 }
wranIfBsPhy	OBJECT IDENTIFIER ::= { wranIfBsCm 19 }
	OBJECT IDENTIFIER ::= { wranIfBsCm 20 }

wranIfBsCpeRngCapabilityReqTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsCpeRngCapabilityReqEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object provides a table containing the ranging configuration requested by the CPE in RNG-REQ during network entry. The table is made up of multiple entries, one for each CPE that has sent a RNG-REQ, that is defined by wranIfBsCpeRngCapabilityReqEntry."
 ::= { wranIfBsCm 1 }

wranIfBsCpeRngCapabilityReqEntry OBJECT-TYPE
 SYNTAX wranIfBsCpeRngCapabilityReqEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object is a compound object that defines an entry in wranIfBsCpeRngCapabilityReqTable."
 INDEX { wranIfBsCpeRngCapabilityReqIndex }
 ::= { wranIfBsCpeRngCapabilityReqTable 1 }

```

wranIfBsCpeRngCapabilityReqEntry ::= SEQUENCE {
    wranIfBsCpeRngCapabilityReqIndex Integer32,
    wranIfBsCpeMacAddress             MacAddress,
    wranIfMmpPn                       Integer32,
    wranIfCiphertextIcv               Counter64,
    wranIfRngAnomaly                  BITS }

wranIfBsCpeRngCapabilityReqIndex OBJECT-TYPE
    SYNTAX      Integer32 (1.. 512)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Index of entry in this table."
    ::= { wranIfBsCpeRngCapabilityReqEntry 1 }

wranIfBsCpeMacAddress OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in this table."
    ::= { wranIfBsCpeRngCapabilityReqEntry 2 }

wranIfMmpPn OBJECT-TYPE
    SYNTAX      Integer32 (0..16777215)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Current value of MMP_PN that CPE is using if
        authenticated ranging (see 8.2.4.6.1.2) is used."
    ::= { wranIfBsCpeRngCapabilityReqEntry 3 }

wranIfCiphertextIcv OBJECT-TYPE
    SYNTAX      Counter64
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Calculated value of Ciphertext ICV, calculated over
        RNG-REQ is authenticated ranging (see 8.2.4.6.1.2)."
    ::= { wranIfBsCpeRngCapabilityReqEntry 4 }

wranIfRngAnomaly OBJECT-TYPE
    SYNTAX      BITS { atMaxEIRP(0), atMinEIRP(1),
                      timingAdvTooLarge(2) }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "3-bit bitmap that gives indication of any error
        condition detected by CPE during ranging process."
    ::= { wranIfBsCpeRngCapabilityReqEntry 5 }

wranIfBsCpeRngCapabilityCmdTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfBsCpeRngCapabilityCmdEntry
    MAX-ACCESS  not-accessible
    STATUS      current

```

DESCRIPTION

"This object provides a table containing the ranging configuration the BS is specifying for CPE in the RNG-CMD during network entry. Each table is made up of multiple entries, one for each CPE that a RNG-CMD is sent, that is defined by
wranIfBsCpeRngCapabilityCmdEntry."

::= { wranIfBsCm 2 }

wranIfBsCpeRngCapabilityCmdEntry OBJECT-TYPE
SYNTAX wranIfBsCpeRngCapabilityReqEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION

"This object is a compound object that defines an entry in wranIfBsCpeRngCapabilityCmdTable."

INDEX { wranIfBsCpeRngCapabilityCmdIndex }
::= { wranIfBsCpeRngCapabilityCmdTable 1 }

wranIfBsCpeRngCapabilityCmdEntry ::= SEQUENCE {
wranIfBsCpeRngCapabilityCmdIndex Integer32,
wranIfBsCpeMacAddress MacAddress,
wranIfBsCpeStationId Integer32,
wranIfTimingAdvance Integer32,
wranIfEirpPerSubcarrier INTEGER,
wranIfOffsetFreqAdjust Integer32,
wranIfRangingStatus INTEGER,
wranIfActionSuperFrameNum INTEGER,
wranIfCdmaCode INTEGER,
wranIfTxOpportunityOffset INTEGER }

wranIfBsCpeRngCapabilityCmdIndex OBJECT-TYPE
SYNTAX Integer32 (1.. 512)
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"Index of entry in this table."
::= { wranIfBsCpeRngCapabilityCmdEntry 1 }

wranIfBsCpeMacAddress OBJECT-TYPE
SYNTAX MacAddress
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"MAC Address of CPE that RNG-CMD is sent to. This is used to fill in the MAC Address field of RNG-CMD, when RNG-CMD is sent in response to initial ranging."
::= { wranIfBsCpeRngCapabilityCmdEntry 2 }

wranIfBsCpeStationId OBJECT-TYPE
SYNTAX Integer32 (1..512)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Station ID of CPE that RNG-CMD is sent to. This is

used to fill in the Station ID field of RNG-CMD,
when RNG-CMD is sent in response to initial
ranging."

::= { wranIfBsCpeRngCapabilityCmdEntry 3 }

wranIfTimingAdvance OBJECT-TYPE
SYNTAX Integer32 (0..65535)
UNITS "TU"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Unsigned timing advance to be applied to compensate
for signal propagation delay on both the US and DS,
in number of TU."
::= { wranIfBsCpeRngCapabilityCmdEntry 4 }

wranIfEirpPerSubcarrier OBJECT-TYPE
SYNTAX INTEGER (0..255)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"EIRP to be applied to subcarrier, from -104 dBm to
+23.5 dBm in 0.5 dB steps."
::= { wranIfBsCpeRngCapabilityCmdEntry 5 }

wranIfOffsetFreqAdjust OBJECT-TYPE
SYNTAX Integer32 (0..65535)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Offset frequency adjustment parameter of RNG-CMD."
::= { wranIfBsCpeRngCapabilityCmdEntry 6 }

wranIfRangingStatus OBJECT-TYPE
SYNTAX INTEGER { continue(0), abort(1),
success(2), reRange(3),
reAuth(4), reRngAndreReg(5) }
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Ranging status sent to CPE in RNG-CMD to indicate
what step the CPE should take next."
::= { wranIfBsCpeRngCapabilityCmdEntry 7 }

wranIfActionSuperFrameNum OBJECT-TYPE
SYNTAX INTEGER (0..255)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The superframe number (modulo 256) at which Channel
Action shall be performed."
::= { wranIfBsCpeRngCapabilityCmdEntry 8 }

wranIfCdmaCode OBJECT-TYPE
SYNTAX INTEGER (0..255)
MAX-ACCESS read-only

STATUS current

DESCRIPTION

"CDMA code value to be sent in RNG-CMD to enable dedicated ranging (selected from initial ranging codeset)."

::= { wranIfBsCpeRngCapabilityCmdEntry 9 }

wranIfTxOpportunityOffset OBJECT-TYPE

SYNTAX INTEGER (0..255)

UNITS "symbols"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Transmission opportunity offset sent to CPE in RNG-CMD, to used for dedicated ranging."

::= { wranIfBsCpeRngCapabilityCmdEntry 10 }

wranIfBsCpeBasicCapabilityReqTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCpeBasicCapabilityReqEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object provides a table containing the basic capability information CPEs that have declared to the BS in the CBC-REQ. Each table is made up of multiple entries, one for each CPE that has transmitted the CBC-REQ, that is defined by wranIfBsCpeBasicCapabilityReqEntry."

::= { wranIfBsCm 3 }

wranIfBsCpeBasicCapabilityReqEntry OBJECT-TYPE

SYNTAX wranIfBsCpeBasicCapabilityReqEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that contains information on capabilities that a CPE has declared to a BS during network entry. The list of objects used to make wranIfBsCpeBasicCapabilityReqEntry can be found in 13.1.2.2.16 (wranIfBsCpeBasicCapabilityCmn)."

INDEX { wranIfBsCpeBasicCapabilityReqIndex }

::= { wranIfBsCpeBasicCapabilityReqTable 1 }

wranIfBsCpeBasicCapabilityReqEntry ::= SEQUENCE {

wranIfBsCpeBasicCapabilityReqIndex

wranIfBasicCapbilityIndex,

wranIfBsCpeBasicCapabilityReqMacAddress

wranIfBasicCapabilityMacAddress,

wranIfBsCpeBasicCapabilityReqStationId

wranIfBasicCapbilityStationId,

wranIfBsCpeBasicCapabilityReqMacPduTxAndConstruction

wranIfBasicCapabilityMacPduTxAndConstruction,

wranIfBsCpeBasicCapabilityReqMaxCpeTxEirp

wranIfBasicCapabilityMaxCpeTxEirp,

```
wranIfBsCpeBasicCapabilityReqCpeDemodulator
    wranIfBasicCapabilityCpeDemodulator,
wranIfBsCpeBasicCapabilityReqCpeModulator
    wranIfBasicCapabilityCpeModulator,
wranIfBsCpeBasicCapabilityReqScmVersionSupport
    wranIfBasicCapabilityCpeScmVersionSupport,
wranIfBsCpeBasicCapabilityReqPnWindowSize
    wranIfBasicCapabilityCpePnWindowSize,
wranIfBsCpeBasicCapabilityReqScmFlowControl
    wranIfBasicCapabilityScmFlowControl }
```

```
wranIfBsCpeBasicCapabilityReqIndex OBJECT-TYPE
    SYNTAX      wranIfBasicCapbilityIndex
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityIndex."
    ::= { wranIfBsCpeBasicCapabilityReqEntry 1 }
```

```
wranIfBsCpeBasicCapabilityReqMacAddress OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityMacAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityMacAddress."
    ::= { wranIfBsCpeBasicCapabilityReqEntry 2 }
```

```
wranIfBsCpeBasicCapabilityReqStationId OBJECT-TYPE
    SYNTAX      wranIfBasicCapbilityStationId
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapbilityStationId."
    ::= { wranIfBsCpeBasicCapabilityReqEntry 3 }
```

```
wranIfBsCpeBasicCapabilityReqMacPduTxAndConstruction OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityMacPduTxAndConstruction
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by
        wranIfBasicCapabilityMacPduTxAndConstruction."
    ::= { wranIfBsCpeBasicCapabilityReqEntry 4 }
```

```
wranIfBsCpeBasicCapabilityReqMaxCpeTxEirp OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityMaxCpeTxEirp
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityMaxCpeTxEirp."
    ::= { wranIfBsCpeBasicCapabilityReqEntry 5 }
```

```
wranIfBsCpeBasicCapabilityReqCpeDemodulator OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityCpeDemodulator
    MAX-ACCESS  read-only
    STATUS      current
```


DESCRIPTION

"Defined by wranIfBasicCapabilityCpeDemodulator."
 ::= { wranIfBsCpeBasicCapabilityReqEntry 6 }

wranIfBsCpeBasicCapabilityReqCpeModulator OBJECT-TYPE

SYNTAX wranIfBasicCapabilityCpeModulator

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfBasicCapabilityCpeModulator."
 ::= { wranIfBsCpeBasicCapabilityReqEntry 7 }

wranIfBsCpeBasicCapabilityReqScmVersionSupport OBJECT-TYPE

SYNTAX wranIfBasicCapabilityCpeScmVersionSupport

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by
 wranIfBasicCapabilityCpeScmVersionSupport."
 ::= { wranIfBsCpeBasicCapabilityReqEntry 8 }

wranIfBsCpeBasicCapabilityReqPnWindowSize OBJECT-TYPE

SYNTAX wranIfBasicCapabilityCpePnWindowSize

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfBasicCapabilityCpePnWindowSize."
 ::= { wranIfBsCpeBasicCapabilityReqEntry 9 }

wranIfBsCpeBasicCapabilityReqScmFlowControl OBJECT-TYPE

SYNTAX wranIfBasicCapabilityScmFlowControl

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfBasicCapabilityScmFlowControl."
 ::= { wranIfBsCpeBasicCapabilityReqEntry 10 }

wranIfBsCpeBasicCapabilityRspTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCpeBasicCapabilityRspEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object provides a table containing the basic capability information BS has configured for CPEs in the CBC-RSP. Each table is made up of multiple entries, one for each CPE that has transmitted the CBC-RSP, that is defined by wranIfBsCpeBasicCapabilityRspEntry."
 ::= { wranIfBsCm 4 }

wranIfBsCpeBasicCapabilityRspEntry OBJECT-TYPE

SYNTAX wranIfBsCpeBasicCapabilityRspEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that contains

information on capabilities that a BS has selected for a CPE during network entry. This table reflects the current configuration of a CPE's basic capabilities. The list of objects used to make up wranIfBsCpeBasicCapabilityRspEntry can be found in 13.1.2.2.16 (wranIfBsCpeBasicCapabilityCmn)."

```
INDEX { wranIfBsCpeBasicCapabilityRspIndex }
 ::= { wranIfBsCpeBasicCapabilityRspTable 1 }
```

```
wranIfBsCpeBasicCapabilityRspEntry ::= SEQUENCE {
    wranIfBsCpeBasicCapabilityRspIndex
    wranIfBasicCapbilityIndex,
    wranIfBsCpeBasicCapabilityRspNumAttempts
    wranIfBasicCapabilityNumAttempts,
    wranIfBsCpeBasicCapabilityRspMacAddress
    wranIfBasicCapabilityMacAddress,
    wranIfBsCpeBasicCapabilityRspStationId
    wranIfBasicCapbilityStationId,
    wranIfBsCpeBasicCapabilityRspMacPduTxAndConstruction
    wranIfBasicCapabilityMacPduTxAndConstruction,
    wranIfBsCpeBasicCapabilityRspCpeDemodulator
    wranIfBasicCapabilityCpeDemodulator,
    wranIfBsCpeBasicCapabilityRspCpeModulator
    wranIfBasicCapabilityCpeModulator,
    wranIfBsCpeBasicCapabilityRspScmVersionSupport
    wranIfBasicCapabilityCpeScmVersionSupport,
    wranIfBsCpeBasicCapabilityRspPnWindowSize
    wranIfBasicCapabilityCpePnWindowSize,
    wranIfBsCpeBasicCapabilityRspScmFlowControl
    wranIfBasicCapabilityScmFlowControl }
```

```
wranIfBsCpeBasicCapabilityRspIndex OBJECT-TYPE
    SYNTAX      wranIfBasicCapbilityIndex
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityIndex."
    ::= { wranIfBsCpeBasicCapabilityRspEntry 1 }
```

```
wranIfBsCpeBasicCapabilityRspNumAttempts OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityNumAttempts
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityNumAttempts."
    ::= { wranIfBsCpeBasicCapabilityRspEntry 2 }
```

```
wranIfBsCpeBasicCapabilityRspMacAddress OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityMacAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityMacAddress."
    ::= { wranIfBsCpeBasicCapabilityRspEntry 3 }
```

```
wranIfBsCpeBasicCapabilityRspStationId OBJECT-TYPE
```


SYNTAX wranIfBasicCapbilityStationId
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfBasicCapbilityStationId."
 ::= { wranIfBsCpeBasicCapabilityRspEntry 4 }

wranIfBsCpeBasicCapabilityRspMacPduTxAndConstruction OBJECT-TYPE
 SYNTAX wranIfBasicCapabilityMacPduTxAndConstruction
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by
 wranIfBasicCapabilityMacPduTxAndConstruction."
 ::= { wranIfBsCpeBasicCapabilityRspEntry 5 }

wranIfBsCpeBasicCapabilityRspCpeDemodulator OBJECT-TYPE
 SYNTAX wranIfBasicCapabilityCpeDemodulator
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfBasicCapabilityCpeDemodulator."
 ::= { wranIfBsCpeBasicCapabilityRspEntry 6 }

wranIfBsCpeBasicCapabilityRspCpeModulator OBJECT-TYPE
 SYNTAX wranIfBasicCapabilityCpeModulator
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfBasicCapabilityCpeModulator."
 ::= { wranIfBsCpeBasicCapabilityRspEntry 7 }

wranIfBsCpeBasicCapabilityRspScmVersionSupport OBJECT-TYPE
 SYNTAX wranIfBasicCapabilityCpeScmVersionSupport
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by
 wranIfBasicCapabilityCpeScmVersionSupport."
 ::= { wranIfBsCpeBasicCapabilityRspEntry 8 }

wranIfBsCpeBasicCapabilityRspPnWindowSize OBJECT-TYPE
 SYNTAX wranIfBasicCapabilityCpePnWindowSize
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfBasicCapabilityCpePnWindowSize."
 ::= { wranIfBsCpeBasicCapabilityRspEntry 9 }

wranIfBsCpeBasicCapabilityRspScmFlowControl OBJECT-TYPE
 SYNTAX wranIfBasicCapabilityScmFlowControl
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfBasicCapabilityScmFlowControl."
 ::= { wranIfBsCpeBasicCapabilityRspEntry 10 }

wranIfBsCpeRegCapabilityReqTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsCpeRegCapabilityReqEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object provides a table containing the
 capability information that a CPE has declared to
 the BS in the REG-REQ. Each table is made up of
 multiple entries, one for each CPE, that is defined
 by wranIfBsCpeRegCapabilityReqEntry."
 ::= { wranIfBsCm 5 }

wranIfBsCpeRegCapabilityReqEntry OBJECT-TYPE
 SYNTAX wranIfBsCpeRegCapabilityReqEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object is a compound object that contains
 information on capabilities that a CPE has declared
 to a BS, e.g., through sending a REG-REQ to the BS.
 The objects that make up the entry are defined in
 wranIfBsCpeRegCapabilityCmn (13.1.2.2.17). A REG-REQ
 message comprises objects within this compound
 object, wranIfBsCpeAntennaGainTable(13.1.2.2.9), and
 wranIfBsCpeMeasSupportReqTable
 (13.1.2.2.6)."
 INDEX { wranIfBsCpeRegCapabilityReqIndex }
 ::= { wranIfBsCpeRegCapabilityReqTable 1 }

wranIfBsCpeRegCapabilityReqEntry ::= SEQUENCE {
 wranIfBsCpeRegCapabilityReqIndex
 wranIfRegCapabilityIndex,
 wranIfBsCpeRegCapabilityReqMacAddress
 wranIfRegCapabilityMacAddress,
 wranIfBsCpeRegCapabilityReqNMEALocStringSize
 wranIfRegCapabilityNMEALocStringSize,
 wranIfBsCpeRegCapabilityReqNMEALocString
 wranIfRegCapabilityNMEALocString,
 wranIfBsCpeRegCapabilityReqCsConfig
 wranIfRegCapabilityCsConfig,
 wranIfBsCpeRegCapabilityReqIpVersion
 wranIfRegCapabilityIpVersion,
 wranIfBsCpeRegCapabilityReqIpRochSupport
 wranIfRegCapabilityIpRochSupport,
 wranIfBsCpeRegCapabilityReqArqSupport
 wranIfRegCapabilityArqSupport,
 wranIfBsCpeRegCapabilityReq2ndMgmtArqWindowSize
 wranIfRegCapability2ndMgmtArqWindowSize,
 wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryTxDelay
 wranIfRegCapability2ndMgmtArqRetryTxDelay,
 wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryRxDelay
 wranIfRegCapability2ndMgmtArqRetryRxDelay,
 wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockLifetime
 wranIfRegCapability2ndMgmtArqBlockLifetime,
 wranIfBsCpeRegCapabilityReq2ndMgmtArqSyncLossTimeout

```

        wranIfRegCapability2ndMgmtArqSyncLosTimeout,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqDeliverInOrder
        wranIfRegCapability2ndMgmtArqDeliverInOrder,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqRxPurgeTimeout
        wranIfRegCapability2ndMgmtArqRxPurgeTimeout,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockSize
        wranIfRegCapability2ndMgmtArqBlockSize,
        wranIfBsCpeRegCapabilityReqDsxFLOWControl
        wranIfRegCapabilityDsxFLOWControl,
        wranIfBsCpeRegCapabilityReqMcaFLOWControl
        wranIfRegCapabilityMcaFLOWControl,
        wranIfBsCpeRegCapabilityReqMaxNumMcastGroups
        wranIfRegCapabilityMaxNumMcastGroups,
        wranIfBsCpeRegCapabilityReqSensModeSupportArray
        wranIfRegCapabilitySensModeSupportArray,
        wranIfBsCpeRegCapabilityReqAntennaModelSize
        wranIfRegCapabilityAntennaModelSize,
        wranIfBsCpeRegCapabilityReqAntennaModel
        wranIfRegCapabilityAntennaModel,
        wranIfBsCpeRegCapabilityReqCpeResidualDelay
        wranIfRegCapabilityCpeResidualDelay,
        wranIfBsCpeRegCapabilityReq2ndMgmtIpAllocMethod
        wranIfRegCapability2ndMgmtIpAllocMethod,
        wranIfBsCpeRegCapabilityReqCpeOperationalCapability
        wranIfRegCapabilityCpeOperationalCapability,
        wranIfBsCpeRegCapabilityReqCpeRegistrationTimer
        wranIfRegCapabilityCpeRegistrationTimer }

```

wranIfBsCpeRegCapabilityReqIndex OBJECT-TYPE

SYNTAX wranIfRegCapabilityIndex

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityIndex."

::= { wranIfBsCpeRegCapabilityReqEntry 1 }

wranIfBsCpeRegCapabilityReqMacAddress OBJECT-TYPE

SYNTAX wranIfRegCapabilityMacAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityMacAddress."

::= { wranIfBsCpeRegCapabilityReqEntry 2 }

wranIfBsCpeRegCapabilityReqNMEALocStringSize OBJECT-TYPE

SYNTAX wranIfRegCapabilityNMEALocStringSize

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityNMEALocStringSize."

::= { wranIfBsCpeRegCapabilityReqEntry 3 }

wranIfBsCpeRegCapabilityReqNMEALocString OBJECT-TYPE

SYNTAX wranIfRegCapabilityNMEALocString

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityNMEALocString."

::= { wranIfBsCpeRegCapabilityReqEntry 4 }

wranIfBsCpeRegCapabilityReqCsConfig OBJECT-TYPE

SYNTAX wranIfRegCapabilityCsConfig

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityCsConfig."

::= { wranIfBsCpeRegCapabilityReqEntry 5 }

wranIfBsCpeRegCapabilityReqIpVersion OBJECT-TYPE

SYNTAX wranIfRegCapabilityIpVersion

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityIpVersion."

::= { wranIfBsCpeRegCapabilityReqEntry 6 }

wranIfBsCpeRegCapabilityReqIpRochSupport OBJECT-TYPE

SYNTAX wranIfRegCapabilityIpRochSupport

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityIpRochSupport."

::= { wranIfBsCpeRegCapabilityReqEntry 7 }

wranIfBsCpeRegCapabilityReqArqSupport OBJECT-TYPE

SYNTAX wranIfRegCapabilityArqSupport

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityArqSupport."

::= { wranIfBsCpeRegCapabilityReqEntry 8 }

wranIfBsCpeRegCapabilityReq2ndMgmtArqWindowSize OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqWindowSize

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapability2ndMgmtArqWindowSize."

::= { wranIfBsCpeRegCapabilityReqEntry 9 }

wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryTxDelay OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqRetryTxDelay

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by
wranIfRegCapability2ndMgmtArqRetryTxDelay."

::= { wranIfBsCpeRegCapabilityReqEntry 10 }

wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryRxDelay OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqRetryRxDelay

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by

wranIfRegCapability2ndMgmtArqRetryRxDelay."

::= { wranIfBsCpeRegCapabilityReqEntry 11 }

wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockLifetime OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqBlockLifetime

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by

wranIfRegCapability2ndMgmtArqBlockLifetime."

::= { wranIfBsCpeRegCapabilityReqEntry 12 }

wranIfBsCpeRegCapabilityReq2ndMgmtArqSyncLossTimeout OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqSyncLossTimeout

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by

wranIfRegCapability2ndMgmtArqSyncLossTimeout."

::= { wranIfBsCpeRegCapabilityReqEntry 13 }

wranIfBsCpeRegCapabilityReq2ndMgmtArqDeliverInOrder OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqDeliverInOrder

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by

wranIfRegCapability2ndMgmtArqDeliverInOrder."

::= { wranIfBsCpeRegCapabilityReqEntry 14 }

wranIfBsCpeRegCapabilityReq2ndMgmtArqRxPurgeTimeout OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqRxPurgeTimeout

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by

wranIfRegCapability2ndMgmtArqRxPurgeTimeout."

::= { wranIfBsCpeRegCapabilityReqEntry 15 }

wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockSize OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqBlockSize

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapability2ndMgmtArqBlockSize."

::= { wranIfBsCpeRegCapabilityReqEntry 16 }

wranIfBsCpeRegCapabilityReqDsxFowControl OBJECT-TYPE

SYNTAX wranIfRegCapabilityDsxFowControl

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityDsxFowControl."

```
::= { wranIfBsCpeRegCapabilityReqEntry 17 }
```

```
wranIfBsCpeRegCapabilityReqMcaFlowControl OBJECT-TYPE
    SYNTAX      wranIfRegCapabilityMcaFlowControl
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfRegCapabilityMcaFlowControl."
    ::= { wranIfBsCpeRegCapabilityReqEntry 18 }
```

```
wranIfBsCpeRegCapabilityReqMaxNumMcastGroups OBJECT-TYPE
    SYNTAX      wranIfRegCapabilityMaxNumMcastGroups
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfRegCapabilityMaxNumMcastGroups."
    ::= { wranIfBsCpeRegCapabilityReqEntry 19 }
```

```
wranIfBsCpeRegCapabilityReqSensModeSupportArray OBJECT-TYPE
    SYNTAX      wranIfRegCapabilitySensModeSupportArray
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfRegCapabilitySensModeSupportArray."
    ::= { wranIfBsCpeRegCapabilityReqEntry 20 }
```

```
wranIfBsCpeRegCapabilityReqAntennaModelSize OBJECT-TYPE
    SYNTAX      wranIfRegCapabilityAntennaModelSize
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfRegCapabilityAntennaModelSize."
    ::= { wranIfBsCpeRegCapabilityReqEntry 21 }
```

```
wranIfBsCpeRegCapabilityReqAntennaModel OBJECT-TYPE
    SYNTAX      wranIfRegCapabilityAntennaModel
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfRegCapabilityAntennaModel."
    ::= { wranIfBsCpeRegCapabilityReqEntry 22 }
```

```
wranIfBsCpeRegCapabilityReqCpeResidualDelay OBJECT-TYPE
    SYNTAX      wranIfRegCapabilityCpeResidualDelay
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfRegCapabilityCpeResidualDelay."
    ::= { wranIfBsCpeRegCapabilityReqEntry 23 }
```

```
wranIfBsCpeRegCapabilityReq2ndMgmtIpAllocMethod OBJECT-TYPE
    SYNTAX      wranIfRegCapability2ndMgmtIpAllocMethod
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfRegCapability2ndMgmtIpAllocMethod."
```



```
::= { wranIfBsCpeRegCapabilityReqEntry 24 }
```

```
wranIfBsCpeRegCapabilityReqCpeOperationalCapability OBJECT-TYPE
    SYNTAX      wranIfRegCapabilityCpeOperationalCapability
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by
         wranIfRegCapabilityCpeOperationalCapability."
    ::= { wranIfBsCpeRegCapabilityReqEntry 25 }
```

```
wranIfBsCpeRegCapabilityReqCpeRegistrationTimer OBJECT-TYPE
    SYNTAX      wranIfRegCapabilityCpeRegistrationTimer
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by
         wranIfRegCapabilityCpeRegistrationTimer."
    ::= { wranIfBsCpeRegCapabilityReqEntry 26 }
```

```
wranIfBsCpeMeasSupportReqTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfBsCpeMeasSupportReqEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A compound object representing the Measurement
        Support IE of REG-REQ in 7.7.7.3.4.7. It is made
        up of multiple entries, one for each signal type
        supported by sensing. Each entry is defined by
        wranIfBsCpeMeasSupportReqEntry. Entries for a CPE
        are only present if the value for
        wranIfSensModeSupportArray is anything other than
        'No Sensing'."
    ::= { wranIfBsCm 6 }
```

```
wranIfBsCpeMeasSupportReqEntry OBJECT-TYPE
    SYNTAX      wranIfBsCpeMeasSupportReqEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "A compound object representing the entries of
        Measurement Support IE of REG-REQ in 7.7.7.3.4.7. It
        is made up of multiple objects. A CPE will have one
        entry for each Signal Type in the Signal Type Array
        of the Measurement Support IE. The rest of the
        objects that represent each entry are defined in
        wranIfBsCpeMeasSupportCmn (13.1.2.2.18)."
```

```
INDEX { wranIfBsCpeMeasSupportReqIndex }
::= { wranIfBsCpeMeasSupportReqTable 1 }
```

```
wranIfBsCpeMeasSupportReqEntry ::= SEQUENCE {
    wranIfBsCpeMeasSupportReqIndex
        wranIfMeasSupportIndex,
    wranIfBsCpeMeasSupportReqMacAddress
        wranIfMeasSupportMacAddress,
    wranIfBsCpeMeasSupportReqSignalType
```

```

        wranIfMeasSupportSignalType,
        wranIfBsCpeMeasSupportReqThreshold
        wranIfMeasSupportThreshold,
        wranIfBsCpeMeasSupportReqPd
        wranIfMeasSupportPd,
        wranIfBsCpeMeasSupportReqMpfa
        wranIfMeasSupportMpfa,
        wranIfBsCpeMeasSupportReqRecNumSensPeriods
        wranIfMeasSupportRecNumSensPeriods,
        wranIfBsCpeMeasSupportReqRecSensPeriodDuration
        wranIfMeasSupportRecSensPeriodDuration,
        wranIfBsCpeMeasSupportReqRecSensPeriodInterval
        wranIfMeasSupportRecSensPeriodInterval }

```

wranIfBsCpeMeasSupportReqIndex OBJECT-TYPE

SYNTAX wranIfMeasSupportIndex

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportIndex."

::= { wranIfBsCpeMeasSupportReqEntry 1 }

wranIfBsCpeMeasSupportReqMacAddress OBJECT-TYPE

SYNTAX wranIfMeasSupportMacAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportMacAddress."

::= { wranIfBsCpeMeasSupportReqEntry 2 }

wranIfBsCpeMeasSupportReqSignalType OBJECT-TYPE

SYNTAX wranIfMeasSupportSignalType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportSignalType."

::= { wranIfBsCpeMeasSupportReqEntry 3 }

wranIfBsCpeMeasSupportReqThreshold OBJECT-TYPE

SYNTAX wranIfMeasSupportThreshold

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportThreshold."

::= { wranIfBsCpeMeasSupportReqEntry 4 }

wranIfBsCpeMeasSupportReqPd OBJECT-TYPE

SYNTAX wranIfMeasSupportPd

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportPd."

::= { wranIfBsCpeMeasSupportReqEntry 5 }

wranIfBsCpeMeasSupportReqMpfa OBJECT-TYPE

SYNTAX wranIfMeasSupportMpfa

MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Defined by wranIfMeasSupportMpfa."
 ::= { wranIfBsCpeMeasSupportReqEntry 6 }

wranIfBsCpeMeasSupportReqRecNumSensPeriods OBJECT-TYPE
SYNTAX wranIfMeasSupportRecNumSensPeriods
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Defined by wranIfMeasSupportRecNumSensPeriods."
 ::= { wranIfBsCpeMeasSupportReqEntry 7 }

wranIfBsCpeMeasSupportReqRecSensPeriodDuration OBJECT-TYPE
SYNTAX wranIfMeasSupportRecSensPeriodDuration
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Defined by wranIfMeasSupportRecSensPeriodDuration."
 ::= { wranIfBsCpeMeasSupportReqEntry 8 }

wranIfBsCpeMeasSupportReqRecSensPeriodInterval OBJECT-TYPE
SYNTAX wranIfMeasSupportRecSensPeriodInterval
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Defined by wranIfMeasSupportRecSensPeriodInterval."
 ::= { wranIfBsCpeMeasSupportReqEntry 9 }

wranIfBsCpeRegCapabilityRspTable OBJECT-TYPE
SYNTAX SEQUENCE OF wranIfBsCpeRegCapabilityRspEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This object provides a table containing the capability information that a BS has configured for a CPE in REG-RSP. Each table is made up of multiple entries, one for each CPE, that is defined by wranIfBsCpeRegCapabilityRspEntry."
 ::= { wranIfBsCm 7 }

wranIfBsCpeRegCapabilityRspEntry OBJECT-TYPE
SYNTAX wranIfBsCpeRegCapabilityRspEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This object is a compound object that contains the capabilities information that a BS has configured for the CPE, e.g., through sending a REG-RSP to the CPE. wranIfRegCapabilityPermanentStationId is unique to REG-RSP. The objects that make up the entry are defined in wranIfBsCpeRegCapabilityCmn (13.1.2.2.18). A REG-RSP message comprises objects within this compound and wranIfBsCpeMeasSupportRspTable (13.1.2.2.8)."

```

INDEX { wranIfBsCpeRegCapabilityRspIndex }
::= { wranIfBsCpeRegCapabilityRspTable 1 }

```

```

wranIfBsCpeRegCapabilityRspEntry ::= SEQUENCE {
    wranIfBsCpeRegCapabilityRspIndex
        wranIfRegCapabilityIndex,
    wranIfBsCpeRegCapabilityRspMacAddress
        wranIfRegCapabilityMacAddress,
    wranIfBsCpeRegCapabilityRspNumAttempts
        wranIfRegCapabilityNumAttempts,
    wranIfBsCpeRegCapabilityRspCsConfig
        wranIfRegCapabilityCsConfig,
    wranIfBsCpeRegCapabilityRspIpVersion
        wranIfRegCapabilityIpVersion,
    wranIfBsCpeRegCapabilityRspIpRochSupport
        wranIfRegCapabilityIpRochSupport,
    wranIfBsCpeRegCapabilityRspArqSupport
        wranIfRegCapabilityIpArqSupport,
    wranIfBsCpeRegCapabilityRsp2ndMgmtArqWindowSize
        wranIfRegCapability2ndMgmtArqWindowSize,
    wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryTxDelay
        wranIfRegCapability2ndMgmtArqRetryTxDelay,
    wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryRxDelay
        wranIfRegCapability2ndMgmtArqRetryRxDelay,
    wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockLifetime
        wranIfRegCapability2ndMgmtArqBlockLifetime,
    wranIfBsCpeRegCapabilityRsp2ndMgmtArqSyncLossTimeout
        wranIfRegCapability2ndMgmtArqSyncLossTimeout,
    wranIfBsCpeRegCapabilityRsp2ndMgmtArqDeliverInOrder
        wranIfRegCapability2ndMgmtArqDeliverInOrder,
    wranIfBsCpeRegCapabilityRsp2ndMgmtArqRxPurgeTimeout
        wranIfRegCapability2ndMgmtArqRxPurgeTimeout,
    wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockSize
        wranIfRegCapability2ndMgmtArqBlockSize,
    wranIfBsCpeRegCapabilityRspDsxFLOWControl
        wranIfRegCapabilityDsxFLOWControl,
    wranIfBsCpeRegCapabilityRspMcaFlowControl
        wranIfRegCapabilityMcaFlowControl,
    wranIfBsCpeRegCapabilityRspMaxNumMcastGroups
        wranIfRegCapabilityMaxNumMcastGroups,
    wranIfBsCpeRegCapabilityRspSensModeSupportArray
        wranIfRegCapabilitySensModeSupportArray,
    wranIfBsCpeRegCapabilityRspAntennaModelSize
        wranIfRegCapabilityAntennaModelSize,
    wranIfBsCpeRegCapabilityRspAntennaModel
        wranIfRegCapabilityAntennaModel,
    wranIfBsCpeRegCapabilityRsp2ndMgmtIpAllocMethod
        wranIfRegCapability2ndMgmtIpAllocMethod,
    wranIfBsCpeRegCapabilityRspCpeOperationalCapability
        wranIfRegCapabilityCpeOperationalCapability,
    wranIfBsCpeRegCapabilityRspCpeRegistrationTimer
        wranIfRegCapabilityCpeRegistrationTimer,
    wranIfBsCpeRegCapabilityRspPermanentSid
        wranIfRegCapabilityPermanentSid }

```

wranIfBsCpeRegCapabilityRspIndex OBJECT-TYPE

SYNTAX wranIfRegCapabilityIndex
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "Defined by wranIfRegCapabilityIndex."
 ::= { wranIfBsCpeRegCapabilityRspEntry 1 }

wranIfBsCpeRegCapabilityRspMacAddress OBJECT-TYPE
 SYNTAX wranIfRegCapabilityMacAddress
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfRegCapabilityMacAddress."
 ::= { wranIfBsCpeRegCapabilityRspEntry 2 }

wranIfBsCpeRegCapabilityRspNumAttempts OBJECT-TYPE
 SYNTAX wranIfRegCapabilityNumAttempts
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfRegCapabilityNumAttempts."
 ::= { wranIfBsCpeRegCapabilityRspEntry 3 }

wranIfBsCpeRegCapabilityRspCsConfig OBJECT-TYPE
 SYNTAX wranIfRegCapabilityCsConfig
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfRegCapabilityCsConfig."
 ::= { wranIfBsCpeRegCapabilityRspEntry 4 }

wranIfBsCpeRegCapabilityRspIpVersion OBJECT-TYPE
 SYNTAX wranIfRegCapabilityIpVersion
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfRegCapabilityIpVersion."
 ::= { wranIfBsCpeRegCapabilityRspEntry 5 }

wranIfBsCpeRegCapabilityRspIpRochSupport OBJECT-TYPE
 SYNTAX wranIfRegCapabilityIpRochSupport
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfRegCapabilityIpRochSupport."
 ::= { wranIfBsCpeRegCapabilityRspEntry 6 }

wranIfBsCpeRegCapabilityRspArqSupport OBJECT-TYPE
 SYNTAX wranIfRegCapabilityArqSupport
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfRegCapabilityArqSupport."
 ::= { wranIfBsCpeRegCapabilityRspEntry 7 }

wranIfBsCpeRegCapabilityRsp2ndMgmtArqWindowSize OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqWindowSize
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfRegCapability2ndMgmtArqWindowSize."
 ::= { wranIfBsCpeRegCapabilityRspEntry 8 }

wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryTxDelay OBJECT-TYPE
 SYNTAX wranIfRegCapability2ndMgmtArqRetryTxDelay
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by
 wranIfRegCapability2ndMgmtArqRetryTxDelay."
 ::= { wranIfBsCpeRegCapabilityRspEntry 9 }

wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryRxDelay OBJECT-TYPE
 SYNTAX wranIfRegCapability2ndMgmtArqRetryRxDelay
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by
 wranIfRegCapability2ndMgmtArqRetryRxDelay."
 ::= { wranIfBsCpeRegCapabilityRspEntry 10 }

wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockLifetime OBJECT-TYPE
 SYNTAX wranIfRegCapability2ndMgmtArqBlockLifetime
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by
 wranIfRegCapability2ndMgmtArqBlockLifetime."
 ::= { wranIfBsCpeRegCapabilityRspEntry 11 }

wranIfBsCpeRegCapabilityRsp2ndMgmtArqSyncLossTimeout OBJECT-TYPE
 SYNTAX wranIfRegCapability2ndMgmtArqSyncLossTimeout
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by
 wranIfRegCapability2ndMgmtArqSyncLossTimeout."
 ::= { wranIfBsCpeRegCapabilityRspEntry 12 }

wranIfBsCpeRegCapabilityRsp2ndMgmtArqDeliverInOrder OBJECT-TYPE
 SYNTAX wranIfRegCapability2ndMgmtArqDeliverInOrder
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by
 wranIfRegCapability2ndMgmtArqDeliverInOrder."
 ::= { wranIfBsCpeRegCapabilityRspEntry 13 }

wranIfBsCpeRegCapabilityRsp2ndMgmtArqRxPurgeTimeout OBJECT-TYPE
 SYNTAX wranIfRegCapability2ndMgmtArqRxPurgeTimeout
 MAX-ACCESS read-only
 STATUS current

DESCRIPTION

"Defined by
 wranIfRegCapability2ndMgmtArqRxPurgeTimeout."
 ::= { wranIfBsCpeRegCapabilityRspEntry 14 }

wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockSize OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqBlockSize

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapability2ndMgmtArqBlockSize."
 ::= { wranIfBsCpeRegCapabilityRspEntry 15 }

wranIfBsCpeRegCapabilityRspDsxFowControl OBJECT-TYPE

SYNTAX wranIfRegCapabilityDsxFowControl

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityDsxFowControl."
 ::= { wranIfBsCpeRegCapabilityRspEntry 16 }

wranIfBsCpeRegCapabilityRspMcaFlowControl OBJECT-TYPE

SYNTAX wranIfRegCapabilityMcaFlowControl

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityMcaFlowControl."
 ::= { wranIfBsCpeRegCapabilityRspEntry 17 }

wranIfBsCpeRegCapabilityRspMaxNumMcastGroups OBJECT-TYPE

SYNTAX wranIfRegCapabilityMaxNumMcastGroups

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityMaxNumMcastGroups."
 ::= { wranIfBsCpeRegCapabilityRspEntry 18 }

wranIfBsCpeRegCapabilityRspSensModeSupportArray OBJECT-TYPE

SYNTAX wranIfRegCapabilitySensModeSupportArray

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilitySensModeSupportArray."
 ::= { wranIfBsCpeRegCapabilityRspEntry 19 }

wranIfBsCpeRegCapabilityRspAntennaModelSize OBJECT-TYPE

SYNTAX wranIfRegCapabilityAntennaModelSize

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityAntennaModelSize."
 ::= { wranIfBsCpeRegCapabilityRspEntry 20 }

wranIfBsCpeRegCapabilityRspAntennaModel OBJECT-TYPE

SYNTAX wranIfRegCapabilityAntennaModel

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapabilityAntennaModel."

::= { wranIfBsCpeRegCapabilityRspEntry 21 }

wranIfBsCpeRegCapabilityRsp2ndMgmtIpAllocMethod OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtIpAllocMethod

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfRegCapability2ndMgmtIpAllocMethod."

::= { wranIfBsCpeRegCapabilityRspEntry 22 }

wranIfBsCpeRegCapabilityRspCpeOperationalCapability OBJECT-TYPE

SYNTAX wranIfRegCapabilityCpeOperationalCapability

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by

wranIfRegCapabilityCpeOperationalCapability."

::= { wranIfBsCpeRegCapabilityRspEntry 23 }

wranIfBsCpeRegCapabilityRspCpeRegistrationTimer OBJECT-TYPE

SYNTAX wranIfRegCapabilityCpeRegistrationTimer

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by

wranIfRegCapabilityCpeRegistrationTimer."

::= { wranIfBsCpeRegCapabilityRspEntry 24 }

wranIfBsCpeRegCapabilityRspPermanentSid OBJECT-TYPE

SYNTAX wranIfRegCapabilityPermanentSid

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by

wranIfRegCapabilityPermanentSid."

::= { wranIfBsCpeRegCapabilityRspEntry 25 }

wranIfBsCpeMeasSupportRspTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCpeMeasSupportRspEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A compound object representing the Measurement Support IE of REG-RSP in 7.7.7.3.4.7. It is made up of multiple entries, one for each signal type supported by sensing. Each entry is defined by wranIfBsCpeMeasSupportRspEntry. Entries for a CPE are only present if the value for wranIfSensModeSupportArray is anything other than 'No Sensing'."

::= { wranIfBsCm 8 }

wranIfBsCpeMeasSupportRspEntry

OBJECT-TYPE

SYNTAX wranIfBsCpeMeasSupportRspEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"A compound object representing the entries of Measurement Support IE of REG-RSP in 7.7.7.3.4.7. It is made up of multiple objects. A CPE will have one entry for each Signal Type in the Signal Type Array of the Measurement Support IE. The rest of the objects that represent each entry are defined in wranIfBsCpeMeasSupportCmn (13.1.2.2.18)."

INDEX { wranIfBsCpeMeasSupportRspIndex }
 ::= { wranIfBsCpeMeasSupportRspTable 1 }

wranIfBsCpeMeasSupportRspEntry ::= SEQUENCE {
 wranIfBsCpeMeasSupportRspIndex
 wranIfMeasSupportIndex,
 wranIfBsCpeMeasSupportRspMacAddress
 wranIfMeasSupportMacAddress,
 wranIfBsCpeMeasSupportRspSignalType
 wranIfMeasSupportSignalType,
 wranIfBsCpeMeasSupportRspThreshold
 wranIfMeasSupportThreshold,
 wranIfBsCpeMeasSupportRspPd
 wranIfMeasSupportPd,
 wranIfBsCpeMeasSupportRspMpfa
 wranIfMeasSupportMpfa,
 wranIfBsCpeMeasSupportRspRecNumSensPeriods
 wranIfMeasSupportRecNumSensPeriods,
 wranIfBsCpeMeasSupportRspRecSensPeriodDuration
 wranIfMeasSupportRecSensPeriodDuration,
 wranIfBsCpeMeasSupportRspRecSensPeriodInterval
 wranIfMeasSupportRecSensPeriodInterval }

wranIfBsCpeMeasSupportRspIndex OBJECT-TYPE

SYNTAX wranIfMeasSupportIndex
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "Defined by wranIfMeasSupportIndex."
 ::= { wranIfBsCpeMeasSupportRspEntry 1 }

wranIfBsCpeMeasSupportRspMacAddress OBJECT-TYPE

SYNTAX wranIfMeasSupportMacAddress
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfMeasSupportMacAddress."
 ::= { wranIfBsCpeMeasSupportRspEntry 2 }

wranIfBsCpeMeasSupportRspSignalType OBJECT-TYPE

SYNTAX wranIfMeasSupportSignalType
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by wranIfMeasSupportSignalType."

::= { wranIfBsCpeMeasSupportRspEntry 3 }

wranIfBsCpeMeasSupportRspThreshold OBJECT-TYPE

SYNTAX wranIfMeasSupportThreshold

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportThreshold."

::= { wranIfBsCpeMeasSupportRspEntry 4 }

wranIfBsCpeMeasSupportRspPd OBJECT-TYPE

SYNTAX wranIfMeasSupportPd

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportPd."

::= { wranIfBsCpeMeasSupportRspEntry 5 }

wranIfBsCpeMeasSupportRspMpfa OBJECT-TYPE

SYNTAX wranIfMeasSupportMpfa

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportMpfa."

::= { wranIfBsCpeMeasSupportRspEntry 6 }

wranIfBsCpeMeasSupportRspRecNumSensPeriods OBJECT-TYPE

SYNTAX wranIfMeasSupportRecNumSensPeriods

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportRecNumSensPeriods."

::= { wranIfBsCpeMeasSupportRspEntry 7 }

wranIfBsCpeMeasSupportRspRecSensPeriodDuration OBJECT-TYPE

SYNTAX wranIfMeasSupportRecSensPeriodDuration

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportRecSensPeriodDuration."

::= { wranIfBsCpeMeasSupportRspEntry 8 }

wranIfBsCpeMeasSupportRspRecSensPeriodInterval OBJECT-TYPE

SYNTAX wranIfMeasSupportRecSensPeriodInterval

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportRecSensPeriodInterval."

::= { wranIfBsCpeMeasSupportRspEntry 9 }

wranIfBsCpeAntennaGainTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCpeAntennaGainEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"At the CPE this object represents a compound object"

representing the entries of the CPE Antenna Gain IE (7.7.7.3.4.9), that carries a CPE's receive antenna gain when a CPE transmits a REG-REQ to the BS. At the BS, this object is a compound object that represents the entries for its own transmit antenna gain as well as the receive antenna gain information for each CPE that sent a CPE Antenna Gain IE in a REG-REQ (and successfully completed registration). This object is a table that is made up of multiple entries, each defined by
 wranIfBsCpeAntennaGainEntry."

::= { wranIfBsCm 9 }

wranIfBsCpeAntennaGainEntry OBJECT-TYPE

SYNTAX wranIfBsCpeAntennaGainEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A compound object representing the on-axis gain (in dB) for each channel the CPE's or BS's antenna is capable of operating on."

INDEX { wranIfBsCpeAntennaGainIndex }

::= { wranIfBsCpeAntennaGainTable 1 }

wranIfBsCpeAntennaGainEntry ::= SEQUENCE {

wranIfBsCpeAntennaGainIndex Integer32,

wranIfBsCpeAntennaGainMacAddress MacAddress,

wranIfBsCpeTvChannel INTEGER,

wranIfBsCpeOnAxisGain INTEGER }

wranIfBsCpeAntennaGainIndex OBJECT-TYPE

SYNTAX Integer32 (1.. 131072)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Index of entry in this table."

::= { wranIfBsCpeAntennaGainEntry 1 }

wranIfBsCpeAntennaGainMacAddress OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"MAC Address of the device."

::= { wranIfBsCpeAntennaGainEntry 2 }

wranIfBsCpeTvChannel OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"TV Channel number."

::= { wranIfBsCpeAntennaGainEntry 3 }

wranIfBsCpeOnAxisGain OBJECT-TYPE

SYNTAX INTEGER (0..255)

UNITS "dB"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Maximum gain in the specified TV channel, from -91.5 dB."
 ::= { wranIfBsCpeAntennaGainEntry 4 }

wranIfBsScmCapabilityConfiguration OBJECT-TYPE
 SYNTAX BITS { suite0(0), suite1(1), suite1(2),
 suite3(3), suite4(4), suite5(5),
 suite6(6), suite7(7), suite8(8),
 suite9(9), suiteA(10), suiteB(11),
 suiteC(12), suiteD(13), suiteE(14),
 suiteF(15) }
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This MIB object provides a bitmap that describes the cryptographic suites that the BS supports. The list of suites is provided in Table 193 in 8.4.1. The bit for suite0 corresponds to 'No Protection', and so on. A cryptographic suite is supported when the corresponding bit is set to 1 and disabled/not supported when the suite is not supported. Currently Bit8-Bit15 will all be set to 0."
 ::= { wranIfBsCm 10 }

wranIfBsCpeScmCapabilityConfigTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsCpeScmCapabilityConfigEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This MIB provides a table that contains a listing for the security capabilities of each CPE. CPE stores this table. On the BS, this table is made up of multiple entries, one for each CPE. Each entry is defined by wranIfBsCpeScmCapabilityConfigEntry. Entries on the BS table do not contain the wranIfBsCpeEapTlsTtlsCredential object. The list of capabilities is listed in Table 193."
 ::= { wranIfBsCm 11 }

wranIfBsCpeScmCapabilityConfigEntry OBJECT-TYPE
 SYNTAX wranIfBsCpeScmCapabilityConfigEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object is a compound object that provides the definition of entries in wranIfBsCpeScmCapabilityConfigTable."
 INDEX { wranIfBsCpeScmCapabilityConfigIndex }
 ::= { wranIfBsCpeScmCapabilityConfigTable 1 }

wranIfBsCpeScmCapabilityConfigEntry ::= SEQUENCE {
 wranIfBsCpeScmCapabilityConfigIndex Integer32,

```

wranIfBsCpeScmCapabilityConfigMacAddress  MacAddress,
wranIfBsCpeScmCapabilityConfiguration      BITS,
wranIfBsCpeEapTlsTtlsCredentialSize       Integer32,
wranIfBsCpeEapTlsTtlsCredential           OCTET STRING }

```

wranIfBsCpeScmCapabilityConfigIndex OBJECT-TYPE

SYNTAX Integer32 (1.. 512)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Index of entry in this table."

::= { wranIfBsCpeScmCapabilityConfigEntry 1 }

wranIfBsCpeScmCapabilityConfigMacAddress OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"MAC Address of the CPE."

::= { wranIfBsCpeScmCapabilityConfigEntry 2 }

wranIfBsCpeScmCapabilityConfiguration OBJECT-TYPE

SYNTAX BITS { suite0(0), suite1(1), suite1(2),
suite3(3), suite4(4), suite5(5),
suite6(6), suite7(7), suite8(8),
suite9(9), suiteA(10), suiteB(11),
suiteC(12), suiteD(13), suiteE(14),
suiteF(15) }

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB object provides a bitmap that describes the cryptographic suites that the CPE supports. The list of suites is provided in Table 193 in 8.4.1.

The bit for suite0 corresponds to 'No Protection', and so on. A cryptographic suite is supported when the corresponding bit is set to 1 and disabled/not supported when the suite is not supported. Currently Bit8-Bit15 will all be set to 0."

::= { wranIfBsCpeScmCapabilityConfigEntry 3 }

wranIfBsCpeEapTlsTtlsCredentialSize OBJECT-TYPE

SYNTAX Integer32 (1..10000)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Size, in # of octets, of X.509 certificate that defines the credential the CPE exchanges with the AAA server to perform authentication."

::= { wranIfBsCpeScmCapabilityConfigEntry 4 }

wranIfBsCpeEapTlsTtlsCredential OBJECT-TYPE

SYNTAX OCTET STRING

(SIZEOF(wranIfBsCpeEapTlsTtlsCredentialSize))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"X.509 certificate that defines the credential the CPE exchanges with the AAA server to perform authentication."

::= { wranIfBsCpeScmCapabilityConfigEntry 5 }

wranIfBsCpeScmAuthConfigTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCpeScmAuthConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB provides a table that provides the configuration of the SCM attributes (e.g., timers and other items related to the authentication process). This table is made up of one entry, defined by wranIfBsCpeScmAuthConfigEntry."

::= { wranIfBsCm 12 }

wranIfBsCpeScmAuthConfigEntry OBJECT-TYPE

SYNTAX wranIfBsCpeScmAuthConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that provides the definition of entries in wranIfBsCpeScmCapabilityConfigTable."

INDEX { wranIfBsCpeScmAuthConfigIndex }

::= { wranIfBsCpeScmAuthConfigTable 1 }

wranIfBsCpeScmAuthConfigEntry ::= SEQUENCE {
wranIfBsCmAuthConfigIndex Integer32,
wranIfBsT36 INTEGER,
wranIfBsT37 Integer32,
wranIfBsMaxNumAuthAttempts INTEGER,
wranIfBsT38 INTEGER,
wranIfBsT39 INTEGER,
wranIfBsT40 Integer32,
wranIfBsAkLifetime Integer32,
wranIfBsTekLifetime Integer32,
wranIfBsMaxNumSa Integer32,
wranIfBsT17 INTEGER }

wranIfBsCpeScmAuthConfigIndex OBJECT-TYPE

SYNTAX Integer32 (1.. 512)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Index of entry in this table."

::= { wranIfBsCpeScmAuthConfigEntry 1 }

wranIfBsT36 OBJECT-TYPE

SYNTAX INTEGER (2..30)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"EAP Authentication Timer, T36."

::= { wranIfBsCpeScmAuthConfigEntry 2 }

wranIfBsT37 OBJECT-TYPE

SYNTAX Integer32 (300..3024000)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Authentication Grace Timer, T37."

::= { wranIfBsCpeScmAuthConfigEntry 3 }

wranIfBsMaxNumAuthAttempts OBJECT-TYPE

SYNTAX INTEGER (1..10)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Maximum # of Authentication Attempts."

::= { wranIfBsCpeScmAuthConfigEntry 4 }

wranIfBsT38 OBJECT-TYPE

SYNTAX INTEGER (1..10)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Operational Wait Timeout, T38."

::= { wranIfBsCpeScmAuthConfigEntry 5 }

wranIfBsT39 OBJECT-TYPE

SYNTAX INTEGER (1..10)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Rekey Wait Timeout, T39."

::= { wranIfBsCpeScmAuthConfigEntry 6 }

wranIfBsT40 OBJECT-TYPE

SYNTAX Integer32 (300..302400)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"GTEK/TEK Grace Time, T40."

::= { wranIfBsCpeScmAuthConfigEntry 7 }

wranIfBsAkLifetime OBJECT-TYPE

SYNTAX Integer32 (86400..6048000)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Lifetime BS assigns to new AK."

::= { wranIfBsCpeScmAuthConfigEntry 8 }

wranIfBsTekLifetime OBJECT-TYPE
 SYNTAX Integer32 (1800..604800)
 UNITS "seconds"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Lifetime BS assigns to new TEK."
 ::= { wranIfBsCpeScmAuthConfigEntry 9 }

wranIfBsMaxNumSa OBJECT-TYPE
 SYNTAX Integer32 (1..510)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Maximum # of multicast groups."
 ::= { wranIfBsCpeScmAuthConfigEntry 10 }

wranIfBsT17 OBJECT-TYPE
 SYNTAX Integer32 (5..5)
 UNITS "minutes"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Time for CPE to complete authentication and key exchange."
 ::= { wranIfBsCpeScmAuthConfigEntry 11 }

wranIfBsActionsTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsActionsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object provides a table that stores actions that can be configured to have BS direct a CPE how to act up receiving unsolicited MAC management messages such as RNG-CMD and DREG-CMD. This table is made up of multiple entries, one for each CPE for which an action is set up. Each entry is defined by wranIfBsActionsEntry."
 ::= { wranIfBsCm 13 }

wranIfBsActionsEntry OBJECT-TYPE
 SYNTAX wranIfBsActionsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object defines an entry in wranIfBsActionsTable."
 INDEX { wranIfBsCpeActionsIndex }
 ::= { wranIfBsActionsTable 1 }

wranIfBsActionsEntry ::= SEQUENCE {
 wranIfBsCpeActionsIndex Integer32,
 wranIfBsCpeActionsMacAddress MacAddress,
 wranIfBsCpeActionsRngCpe INTEGER,

```
wranIfBsCpeActionsDeRegCpe    INTEGER,
wranIfBsCpeActionsSchedule    DateAndTime }
```

```
wranIfBsCpeActionsIndex OBJECT-TYPE
    SYNTAX      Integer32 (1.. 512)
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Index of entry in this table."
    ::= { wranIfBsActionsEntry 1 }
```

```
wranIfBsCpeActionsMacAddress OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "MAC Address of CPE that action is directed towards."
    ::= { wranIfBsActionsEntry 2 }
```

```
wranIfBsCpeActionsRngCpe    OBJECT-TYPE
    SYNTAX      INTEGER { continue(0), abort(1), success(2),
                        reRange(3), reAuth(4),
                        reRangeAndreRegister(5),
                        doNothing(15) }
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "When set, the BS will send an unsolicited RNG-CMD to
        a CPE with the Ranging Status field set to the value
        written to this object. No action is to be taken if
        this object is read or if set to an invalid Ranging
        Status value. Valid values for the Ranging Status
        field of RNG-CMD are listed in Table 44."
    ::= { wranIfBsActionsEntry 3 }
```

```
wranIfBsCpeActionsDeRegCpe    OBJECT-TYPE
    SYNTAX      INTEGER { ac0(0), ac1(1), ac2(2),
                        ac3(3), ac4(4), ac5(5),
                        doNothing(15) }
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "When set to an Action code value as defined in Table
        115, the BS will send a DREG-CMD to the CPE with
        that Action Code. No action is to be taken if this
        object is read or an invalid Action Code is
        specified."
    ::= { wranIfBsActionsEntry 4 }
```

```
wranIfBsCpeActionsSchedule    OBJECT-TYPE
    SYNTAX      DateAndTime
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "This object contains the date and time, whereby
        scheduled action, either DREG-CMD or RNG-CMD, is
```


sent to the CPE."
 ::= { wranIfBsActionsEntry 5 }

wranIfBsCpeMcastConfigTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsCpeMcastConfigEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This table contains the configuration of multicast groups and what CPEs are assigned to them. Each table is made up of multiple entries, defined by wranIfBsCpeMcastConfigEntry. A CPE may have multiple entries in this table, one for each multicast group that it belongs to. Entries will be deleted whenever a CPE is asked to leave a multicast group."
 ::= { wranIfBsCm 14 }

wranIfBsCpeMcastConfigEntry OBJECT-TYPE
 SYNTAX wranIfBsCpeMcastConfigEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object defines an entry in wranIfBsCpeMcastConfigTable."
 INDEX { wranIfBsCpeMcastConfigIndex }
 ::= { wranIfBsCpeMcastConfigTable 1 }

wranIfBsCpeMcastConfigEntry ::= SEQUENCE {
 wranIfBsCpeMcastConfigIndex Integer32,
 wranIfBsCpeMcastMacAddress MacAddress,
 wranIfBsCpeMcastSid Integer32,
 wranIfBsCpeMcastPeriodicAllocParameterM INTEGER,
 wranIfBsCpeMcastPeriodicAllocParameterK INTEGER,
 wranIfBsCpeMcastPeriodicAllocParameterN INTEGER }

wranIfBsCpeMcastIndex OBJECT-TYPE
 SYNTAX Integer32 (1..262144)
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "Index of entry in this table."
 ::= { wranIfBsCpeMcastConfigEntry 1 }

wranIfBsCpeMcastMacAddress OBJECT-TYPE
 SYNTAX MacAddress
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This object refers to a CPE's MAC address. It is used to uniquely identify the multicast group configuration for a particular CPE in wranIfBsCpeMcastConfigTable, along with wranIfBsCpeMcastSid."
 ::= { wranIfBsCpeMcastConfigEntry 2 }

wranIfBsCpeMcastSid OBJECT-TYPE

SYNTAX Integer32 (1..512)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object refers to the multicast SID that is assigned to a multicast SID that is assigned to a multicast group."

::= { wranIfBsCpeMcastConfigEntry 3 }

wranIfBsCpeMcastPeriodicAllocParameterM OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object defines the 'M' value (see Table 103) that is used to calculate the periodic allocation for multicast transmission."

::= { wranIfBsCpeMcastConfigEntry 4 }

wranIfBsCpeMcastPeriodicAllocParameterK OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object defines the 'K' value (see Table 103) that is used to calculate the periodic allocation for multicast transmission."

::= { wranIfBsCpeMcastConfigEntry 5 }

wranIfBsCpeMcastPeriodicAllocParameterN OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object defines the 'N' value (see Table 103) that is used to calculate the periodic allocation for multicast transmission."

::= { wranIfBsCpeMcastConfigEntry 6 }

wranIfBsCoexistenceConfigTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCoexistenceConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This table contains configuration items related to Coexistence operation and CBP transmission. It is made up of one entry that represents the default values for Coexistence operation and CBP transmission."

::= { wranIfBsCm 15 }

wranIfBsCoexistenceConfigEntry OBJECT-TYPE

SYNTAX wranIfBsCoexistenceConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object defines an entry in
 wranIfBsCoexistenceConfigTable."
 INDEX { wranIfBsCoexistenceConfigIndex }
 ::= { wranIfBsCoexistenceConfigTable 1 }

wranIfBsCoexistenceConfigEntry ::= SEQUENCE {
 wranIfBsCoexistenceConfigIndex INTEGER,
 wranIfBsT34 Integer32,
 wranIfBsT33 INTEGER,
 wranIfBsT32 INTEGER,
 wranIfBsFcw INTEGER,
 wranIfBsScwBackoffMax INTEGER,
 wranIfBsFcMin INTEGER,
 wranIfBsFcNRange INTEGER,
 wranIfBsSfRel INTEGER,
 wranIfBsT35 INTEGER }

wranIfBsCoexistenceConfigIndex OBJECT-TYPE
 SYNTAX INTEGER (1..1)
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "Index of entry in this table."
 ::= { wranIfBsCoexistenceConfigEntry 1 }

wranIfBsT34 OBJECT-TYPE
 SYNTAX Integer32 (8..900)
 UNITS "seconds"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This governs how often in (seconds) the Device
 Identification IE is transmitted in a CBP burst.
 Recommended value is 300s."
 ::= { wranIfBsCoexistenceConfigEntry 2 }

wranIfBsT33 OBJECT-TYPE
 SYNTAX INTEGER (1..60)
 UNITS "seconds"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Time between transmission of CBP bursts with
 backup/candidate channel list information (see
 7.6.1.3.1.1) to facilitate spectrum etiquette."
 ::= { wranIfBsCoexistenceConfigEntry 3 }

wranIfBsT32 OBJECT-TYPE
 SYNTAX INTEGER (1..32)
 UNITS "superframes"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Time between transmission of CBP bursts with
 backup/candidate channel list information (see
 7.6.1.3.1.1) to facilitate spectrum etiquette."

```
::= { wranIfBsCoexistenceConfigEntry 4 }
```

```
wranIfBsFcfw OBJECT-TYPE
```

```
SYNTAX      INTEGER (1..16)
```

```
UNITS       "superframes"
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Frame contention window, the number of superframes
that a contention destination accumulates frame
contention requests before responding to them."
```

```
::= { wranIfBsCoexistenceConfigEntry 5 }
```

```
wranIfBsScwBackoffMax OBJECT-TYPE
```

```
SYNTAX      INTEGER (1..16)
```

```
UNITS       "superframes"
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Maximum number of superframes for the SCW backoff
window."
```

```
::= { wranIfBsCoexistenceConfigEntry 6 }
```

```
wranIfBsFcMin
```

```
OBJECT-TYPE
```

```
SYNTAX      INTEGER (0..8)
```

```
UNITS       "superframes"
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Maximum number of superframes for the SCW backoff
window."
```

```
::= { wranIfBsCoexistenceConfigEntry 7 }
```

```
wranIfBsFcnRange OBJECT-TYPE
```

```
SYNTAX      INTEGER (4..16)
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Exponent, base 2, defining range of random numbers
for the FCN."
```

```
::= { wranIfBsCoexistenceConfigEntry 8 }
```

```
wranIfBsSfRel
```

```
OBJECT-TYPE
```

```
SYNTAX      INTEGER (5..16)
```

```
UNITS       "superframes"
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Number of superframes, after which a BS releases the
frames won by another BS through frame contention."
```

```
::= { wranIfBsCoexistenceConfigEntry 9 }
```

```
wranIfBsT35 OBJECT-TYPE
```

```
SYNTAX      INTEGER (1..255)
```

```
UNITS       "self-coexistence windows"
```

```
MAX-ACCESS  read-only
```

STATUS current

DESCRIPTION

"SCW backoff timer, timer controlling continuation or exiting of Frame Contention procedure."

::= { wranIfBsCoexistenceConfigEntry 10 }

-- wranIfBsCpeBasicCapabilityCmn: This MIB object is defines group
-- containing objects that are common to
-- wranIfBsCpeBasicCapabilityReqEntry,
-- wranIfBsCpeBasicCapabilityRspEntry, and
-- wranIfBsCpeBasicCapabilityDefEntry.

wranIfBsCpeBasicCapabilityCmn OBJECT IDENTIFIER

::= { wranIfBsCm 16 }

wranIfBasicCapabilityIndex OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 1 }

wranIfBasicCapabilityNumAttempts OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 2 }

wranIfBasicCapabilityMacAddress OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 3 }

wranIfBasicCapabilityStationId OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 4 }

wranIfBasicCapabilityMacPduTxandConstruction OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 5 }

wranIfBasicCapabilityMaxCpeTxEirp OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 6 }

wranIfBasicCapabilityCpeDemodulator OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 7 }

wranIfBasicCapabilityCpeModulator OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 8 }

wranIfBasicCapabilityCpeScmVersionSupport OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 9 }

wranIfBasicCapabilityCpePnWindowSize OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 10 }

wranIfBasicCapabilityCpeScmFlowControl OBJECT IDENTIFIER

::= { wranIfBsCpeBasicCapabilityCmn 11 }

wranIfBasicCapabilityIndex ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Index of entry in this table."

SYNTAX Integer32 (1..511)

wranIfBasicCapabilityNumAttempts ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The current number of attempts that a CPE has attempted basic capability configuration during network entry. This item is set to 0 upon successful completion of registration process and a CPE is admitted into the network. This item is incremented every time a CPE attempts basic capability configuration, but is unsuccessful. If this value reaches the limit set by wranIfBsMaxNumCbcReqAttempts, then the BS shall reject network entry."

SYNTAX INTEGER (5..10)

wranIfBasicCapabilityMacAddress ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The MAC address of the CPE attempting basic capability configuration."

SYNTAX MacAddress

wranIfBasicCapabilityStationId ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"The Station ID of the CPE attempting basic capability configuration."

SYNTAX Integer32 (1..512)

wranIfBasicCapabilityMacPduTxandConstruction

::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"An integer value that indicates the methods for transmission and construction of MAC PDUs that the CPE supports. This reflects the setting of the IE defined in 7.7.11.3.1."

SYNTAX INTEGER { reqPiggybackedWithData(0) }

wranIfBasicCapabilityMaxCpeTxEirp ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"An integer value, encoded in hexadecimal, that indicates the maximum EIRP for which the CPE is configured. This reflects the setting of the IE defined in 7.7.11.3.2.1. On the range from -64 dBm (0x00) to +63.5 dBm (0xFF) in 0.5 dB steps."

SYNTAX INTEGER (0..255)

wranIfBasicCapabilityCpeDemodulator ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"A bit map that encodes the DIUCs that the CPE supports. This reflects the setting of the IE defined in 7.7.11.3.2.2.1. DIUCs are listed in Table 27."

BITS { diuc0(0), diuc1(1), diuc2(2), diuc3(3), diuc4(4),
 diuc5(5), diuc6(6), diuc7(7), diuc8(8), diuc9(9),
 diuc10(10), diuc11(11), diuc12(12), diuc13(13),
 diuc14(14), diuc15(15), diuc16(16), diuc17(17),
 diuc18(18), diuc19(19), diuc20(20), diuc21(21),
 diuc22(22), diuc23(23), diuc24(24), diuc25(25),
 diuc26(26), diuc27(27), diuc28(28), diuc29(29),
 diuc30(30), diuc31(31), diuc32(32), diuc33(33),
 diuc34(34), diuc35(35), diuc36(36), diuc37(37),
 diuc38(38), diuc39(39), diuc40(40), diuc41(41),
 diuc42(42), diuc43(43), diuc44(44), diuc45(45),
 diuc46(46), diuc47(47), diuc48(48), diuc49(49),
 diuc50(50), diuc51(51), diuc52(52), diuc53(53),

```

        diuc54(54), diuc55(55), diuc56(56), diuc57(57),
        diuc58(58), diuc59(59), diuc60(60), diuc61(61),
        diuc62(62), diuc63(63) }

```

```

wranIfBasicCapabilityCpeModulator ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "A bit map that encodes the UIUCs that the CPE
        supports. This reflects the setting of the IE
        defined in 7.7.11.3.2.2.2. UIUCs are listed in Table
        36."
    BITS { uiuc0(0), uiuc1(1), uiuc2(2), uiuc3(3), uiuc4(4),
        uiuc5(5), uiuc6(6), uiuc7(7), uiuc8(8), uiuc9(9),
        uiuc10(10), uiuc11(11), uiuc12(12), uiuc13(13),
        uiuc14(14), uiuc15(15), uiuc16(16), uiuc17(17),
        uiuc18(18), uiuc19(19), uiuc20(20), uiuc21(21),
        uiuc22(22), uiuc23(23), uiuc24(24), uiuc25(25),
        uiuc26(26), uiuc27(27), uiuc28(28), uiuc29(29),
        uiuc30(30), uiuc31(31), uiuc32(32), uiuc33(33),
        uiuc34(34), uiuc35(35), uiuc36(36), uiuc37(37),
        uiuc38(38), uiuc39(39), uiuc40(40), uiuc41(41),
        uiuc42(42), uiuc43(43), uiuc44(44), uiuc45(45),
        uiuc46(46), uiuc47(47), uiuc48(48), uiuc49(49),
        uiuc50(50), uiuc51(51), uiuc52(52), uiuc53(53),
        uiuc54(54), uiuc55(55), uiuc56(56), uiuc57(57),
        uiuc58(58), uiuc59(59), uiuc60(60), uiuc61(61),
        uiuc62(62), uiuc63(63) }

```

```

wranIfBasicCapabilityCpeScmVersionSupport ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Indicator of what version of SCM protocol the CPE
        supports."
    SYNTAX      INTEGER { v1(0) }

```

```

wranIfBasicCapabilityCpePnWindowSize ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Size of PN_WINDOW (see 7.4) that is used to protect
        against replay attacks. This reflects the setting of
        the IE defined in 7.7.11.3.3.2."
    SYNTAX      Integer32 (1..65535)

```

```

wranIfBasicCapabilityCpeScmFlowControl ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Maximum # of ongoing SCM transactions the CPE can
        support. This reflects the setting of the IE defined
        in 7.7.11.3.3.3. Here a value of (0x00) indicates no
        limit, while 0x01-0xFF indicates 1..255
        transactions."
    SYNTAX      INTEGER (0..255)

```

```

-- wranIfBsCpeRegCapabilityCmn: This MIB object is defines group
-- containing objects that are common to
-- wranIfBsCpeRegCapabilityReqEntry,

```



```
-- wranIfBsCpeRegCapabilityRspEntry, and
-- wranIfBsCpeRegCapabilityDefEntry.
```

```
wranIfBsCpeRegCapabilityCmn    OBJECT IDENTIFIER
                                ::= { wranIfBsCm 17 }
wranIfRegCapabilityIndex    OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 1 }
wranIfRegCapabilityMacAddress OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 2 }
wranIfRegCapabilityReqNumAttempts OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 3 }
wranIfRegCapabilityNMEALocStringSize OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 4 }
wranIfRegCapabilityNMEALocString OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 5 }
wranIfRegCapabilityCsConfig OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 6 }
wranIfRegCapabilityIpVersion OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 7 }
wranIfRegCapabilityIpRohcSupport OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 8 }
wranIfRegCapabilityArqSupport OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 9 }
wranIfRegCapability2ndMgmtArqWindowSize OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 10 }
wranIfRegCapability2ndMgmtArqRetryTxDelay OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 11 }
wranIfRegCapability2ndMgmtArqRetryRxDelay OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 12 }
wranIfRegCapability2ndMgmtArqBlockLifetime OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 13 }
wranIfRegCapability2ndMgmtArqSyncLossTimeout OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 14 }
wranIfRegCapability2ndMgmtArqDeliverInOrder OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 15 }
wranIfRegCapability2ndMgmtArqRxPurgeTimeout OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 16 }
wranIfRegCapability2ndMgmtArqBlockSize OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 17 }
wranIfRegCapabilityDsxFLOWControl OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 18 }
wranIfRegCapabilityMcaFlowControl OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 19 }
wranIfRegCapabilityMaxNumMcastGroups OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 20 }
wranIfRegCapabilitySensModeSupportArray OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 21 }
wranIfRegCapabilityAntennaModelSize OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 22 }
wranIfRegCapabilityAntennaModel OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 23 }
wranIfRegCapabilityCpeResidualDelay OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 24 }
wranIfRegCapability2ndMgmtIpAllocMethod OBJECT IDENTIFIER
                                ::= { wranIfBsCpeRegCapabilityCmn 25 }
wranIfRegCapabilityCpeOperationalCapability OBJECT IDENTIFIER
```

```

        ::= { wranIfBsCpeRegCapabilityCmn 26 }
wranIfRegCapabilityCpeRegistrationTimer OBJECT IDENTIFIER
        ::= { wranIfBsCpeRegCapabilityCmn 27 }
wranIfRegCapabilityPermanentStationId OBJECT IDENTIFIER
        ::= { wranIfBsCpeRegCapabilityCmn 28 }

wranIfRegCapabilityIndex ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Index of entry in this table."
    SYNTAX      Integer32 (1..511)

wranIfRegCapabilityMacAddress ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "The MAC address of the CPE that is currently
        registered with BS."
    SYNTAX      MacAddress

wranIfRegCapabilityReqNumAttempts ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "The current number of attempts that a CPE has
        attempted network entry. This item is set to 0
        upon successful completion of registration process
        and a CPE is admitted into the network. This item
        is incremented every time a CPE attempts
        registration, but is unsuccessful. If this value
        reaches the limit set by
        wranIfBsmaxNumRegReqAttempts, then the CPE shall
        restart the network entry process."
    SYNTAX      INTEGER (5..10)

wranIfRegCapabilityNMEALocStringSize ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Size of NMEA Location String of the CPE (see
        7.7.7.3.1), in octets."
    SYNTAX      Integer32 (1..10000)

wranIfRegCapabilityNMEALocString ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "NMEA Location String of the CPE (see
        7.7.7.3.1), in octets."
    SYNTAX      OCTET STRING (SIZE(wranIfRegCapabilityNMEALocStringSize))

wranIfRegCapabilityCsConfig ::= TEXTUAL-CONVENTION
    STATUS      current
    DESCRIPTION
        "Indication in REG-REQ/RSP of how the provider will
        operate the CPE on an ongoing basis; either with
        Ethernet CS only or the IP CS (see 7.7.7.3.2)."
    SYNTAX      INTEGER { ethCS(0), ipCS(1) }

```


wranIfRegCapabilityIpVersion ::= TEXTUAL-CONVENTION
 STATUS current
 DESCRIPTION
 "What version of the IP protocol (either v4 or v6) indicate in REG-REQ/RSP the CPE supports (see 7.7.7.3.3)."
 SYNTAX INTEGER { ipv4(0), ipv6(1) }

wranIfRegCapabilityIpRohcSupport ::= TEXTUAL-CONVENTION
 STATUS current
 DESCRIPTION
 "Indicator in REG-RES/RSP of whether CPE supports IP Robust Header Compression (ROHC), see 7.7.7.3.4.1."
 SYNTAX INTEGER { ipROHCdisabled(0), ipROHCenabled(1) }

wranIfRegCapabilityArqSupport ::= TEXTUAL-CONVENTION
 STATUS current
 DESCRIPTION
 "ARQ Support IE of REG-REQ/RSP in 7.7.7.3.4.2."
 SYNTAX INTEGER { noARQ(0), arqOn2ndMgmtOnly(1), arqOnTransportOnly(2), arqOnall(3) }

wranIfRegCapability2ndMgmtArqWindowSize ::= TEXTUAL-CONVENTION
 STATUS current
 DESCRIPTION
 "Secondary Management flow - ARQ Window Size IE of REG-REQ/RSP defined in 7.7.8.9.17.2. Where ARQ_BSN_MODULUS is the # of unique BSN values = 2^{10} ."
 SYNTAX Integer32 (1..ARQ_BSN_MODULUS/2)

wranIfRegCapability2ndMgmtArqRetryTxDelay ::= TEXTUAL-CONVENTION
 STATUS current
 DESCRIPTION
 "Secondary Management flow - Transmitter delay component of ARQ Retry Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.3. Encoded from 0 to 655350 microseconds in 10-microsecond blocks."
 SYNTAX Integer32 (0..65535)

wranIfRegCapability2ndMgmtArqRetryRxDelay ::= TEXTUAL-CONVENTION
 STATUS current
 DESCRIPTION
 "Secondary Management flow - Receiver delay component of ARQ Retry Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.3. Encoded from 0 to 655350 microseconds in 10-microsecond blocks."
 SYNTAX Integer32 (0..65535)

wranIfRegCapability2ndMgmtArqBlockLifetime ::= TEXTUAL-CONVENTION
 STATUS current
 DESCRIPTION
 "Secondary Management flow - ARQ Block Lifetime IE of REG-REQ/RSP defined in 7.7.8.9.17.4. =0 indicates

Infinite lifetime. =1..65535 # of 10-microsecond blocks."

SYNTAX Integer32 (0..65535)

wranIfRegCapability2ndMgmtArqSyncLossTimeout

::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Secondary Management flow - ARQ Sync Loss Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.5. =0 indicates Infinite timeout. =1..65535 # of 10-microsecond blocks."

SYNTAX Integer32 (0..65535)

wranIfRegCapability2ndMgmtArqDeliverInOrder

::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Secondary Management flow - ARQ Deliver in Order IE of REG-REQ/RSP defined in 7.7.8.9.17.6."

SYNTAX INTEGER { notInOrder(0), orderPreserved(1) }

wranIfRegCapability2ndMgmtArqRxPurgeTimeout

::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Secondary Management flow - ARQ Rx Purge Timeout IE of REG-REQ/RSP defined in 7.7.8.9.17.7. =0 indicates Infinite timeout. =1..65535 # of 10-microsecond blocks."

SYNTAX Integer32 (0..65535)

wranIfRegCapability2ndMgmtArqBlockSize ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Secondary Management flow - ARQ Block Size IE of REG-REQ/RSP defined in 7.7.8.9.17.8"

SYNTAX Integer32 (1..2040)

wranIfRegCapabilityDsxFowControl ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"DSx Flow Control IE of REG-REQ/RSP defined in 7.7.7.3.4.4. =0, no limit. 1..255 indicates # maximum concurrent transactions."

SYNTAX INTEGER (0..255)

wranIfRegCapabilityMcaFlowControl ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"MCA Flow Control IE of REG-REQ/RSP defined in 7.7.7.3.4.5. =0, no limit. 1..255 indicates # maximum concurrent transactions."

SYNTAX INTEGER (0..255)

wranIfRegCapabilityMaxNumMcastGroups ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Maximum # of Multicast Groups IE of REG-REQ/RSP defined in 7.7.7.3.4.5. =0, no limit. 1..255 indicates # maximum concurrent transactions."

SYNTAX INTEGER (0..255)

wranIfRegCapabilitySensModeSupportArray ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Value of the 'Sensing Mode Support Array' of the Measurement Support IE in REG-REQ/RSP in 7.7.7.3.4.7. If the value of this is set to 'No Sensing', then wranIfBsCpeMeasSupportReqTable and wranIfBsCpeMeasSupportRspTable will not be stored for the CPE. Bit4 through Bit7 are reserved and set to 0. A mode is supported when the corresponding bit is set to 1 and disabled when set to 0."

SYNTAX BITS { noSensing(0), mode0(1), mode1(2), mode2(3), res1(4), res2(5), res3(6), res4(7) }

wranIfRegCapabilityAntennaModelSize ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Length of wranIfRegCapabilityAntennaModel, in octets (see Manufacturer Specific Antenna Model IE of REG-REQ in 7.7.7.3.4.8)."

SYNTAX Integer32 (1..65535)

wranIfRegCapabilityAntennaModel ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Manufacturer Specific Antenna Model IE of REG-REQ in 7.7.7.3.4.8."

SYNTAX OCTET STRING (SIZE(wranIfRegCapabilityAntennaModelSize))

wranIfRegCapabilityCpeResidualDelay ::= TEXTUAL-CONVENTION

STATUS current

UNITS "nanoseconds"

DESCRIPTION

"CPE Residual Delay IE of REG-REQ in 7.7.7.3.4.10."

SYNTAX Integer32 (-16777215..16777216)

wranIfRegCapability2ndMgmtIpAllocMethod ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Method for allocating IP Address on Secondary Management Connection IE of REG-REQ in 7.7.7.3.4.11. A method is selected when the bit in corresponding position is set to 1 and is disabled when the bit is set to 0. Bit4-Bit7 Reserved and set to 0."

SYNTAX BITS { DHCPv4(0), MIPv4(1), DHCPv6(2), v6Stateless(3), res1(4), res2(5),

```
res3(6), res4(7) }
```

```
wranIfRegCapabilityCpeOperationalCapability ::= TEXTUAL-CONVENTION
```

```
STATUS current
```

```
DESCRIPTION
```

```
"CPE Operation Capability IE of REG-REQ in  
7.7.7.3.4.13."
```

```
SYNTAX INTEGER { fixed(0), portable(1) }
```

```
wranIfRegCapabilityCpeRegistrationTimer ::= TEXTUAL-CONVENTION
```

```
STATUS current
```

```
DESCRIPTION
```

```
"CPE Registration Timer IE of REG-REQ/RSP in  
7.7.7.3.5. This value is used to set T30 for the  
CPE. =0x0000 is reserved. =0x0001..0xFFFF represents  
time in units of 160 ms blocks. "
```

```
SYNTAX Integer32 (1..65535)
```

```
wranIfRegCapabilityPermanentStationId ::= TEXTUAL-CONVENTION
```

```
STATUS current
```

```
DESCRIPTION
```

```
"Permanent station ID assigned to CPE, when CPE is  
entering the network under the CPE Privacy method  
(see 8.7). The format of this IE is defined in  
7.7.7.3.4.12."
```

```
SYNTAX Integer32 (1..512)
```

```
-- wranIfBsCpeMeasSupportCmn: This MIB object is a group containing  
-- objects that textual conventions used in to  
-- wranIfBsCpeMeasSupportReqEntry, wranIfBsCpeMeasSupportRspEntry, and  
-- wranIfBsCpeMeasSupportDefEntry.
```

```
wranIfBsCpeMeasSupportCmn OBJECT IDENTIFIER
```

```
::= { wranIfBsCm 18 }
```

```
wranIfMeasSupportIndex OBJECT IDENTIFIER
```

```
::= { wranIfBsCpeMeasSupportCmn 1 }
```

```
wranIfMeasSupportMacAddress OBJECT IDENTIFIER
```

```
::= { wranIfBsCpeMeasSupportCmn 2 }
```

```
wranIfMeasSupportSignalType OBJECT IDENTIFIER
```

```
::= { wranIfBsCpeMeasSupportCmn 3 }
```

```
wranIfMeasSupportThreshold OBJECT IDENTIFIER
```

```
::= { wranIfBsCpeMeasSupportCmn 4 }
```

```
wranIfMeasSupportPd OBJECT IDENTIFIER
```

```
::= { wranIfBsCpeMeasSupportCmn 5 }
```

```
wranIfMeasSupportMpfa OBJECT IDENTIFIER
```

```
::= { wranIfBsCpeMeasSupportCmn 6 }
```

```
wranIfMeasSupportRecNumSensPeriods OBJECT IDENTIFIER
```

```
::= { wranIfBsCpeMeasSupportCmn 7 }
```

```
wranIfMeasSupportRecSensPeriodDuration OBJECT IDENTIFIER
```

```
::= { wranIfBsCpeMeasSupportCmn 8 }
```

```
wranIfMeasSupportRecSensPeriodInterval OBJECT IDENTIFIER
```

```
::= { wranIfBsCpeMeasSupportCmn 9 }
```

```
wranIfMeasSupportIndex ::= TEXTUAL-CONVENTION
```

```
STATUS current
```

DESCRIPTION

"Index of entry defined by
 wranIfBsCpeMeasSupportReqEntry or
 wranIfBsCpeMeasSupportRspEntry."

SYNTAX Integer32 (1.. 16384)

wranIfMeasSupportMacAddress ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"MAC address of CPE. This corresponds to an entry in
 wranIfBsCpeRegCapabilityReqTable for a registered
 CPE."

SYNTAX MacAddress

wranIfMeasSupportSignalType ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Signal type to which measurement configuration this
 entry pertains (see Table 237)."

SYNTAX INTEGER { undetermined(0), dot22Wran(1),
 atsc(2), dvbt(3), isdnt(4), ntsc(5),
 pal(6), secam(7), wimic(8),
 dot22dot1SyncBurst(9),
 dot22dot1Msf1(10), dot22dot1Msf2(11),
 dot22dot1Msf3(12) }

wranIfMeasSupportThreshold ::= TEXTUAL-CONVENTION

STATUS current

UNITS "dBm"

DESCRIPTION

"Signed # that signifies the sensitivity threshold
 for the signal type. Values indicates a sensitivity
 threshold in dBm on the range from -127.5 to +128
 dBm in 0.5 dB steps."

SYNTAX Integer32 (0..511)

wranIfMeasSupportPd ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Probability of detection (PD) for the signal type.
 Ranges from 0 (0x00) to 1 (0xFA) in increments of
 0.004."

SYNTAX INTEGER (0..250)

wranIfMeasSupportMpfa ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Maximum Probability of False Alarm for the signal
 type. Probability is specified from 0 (0x00) to
 0.255 (0xFF) in 0.001 increments."

SYNTAX INTEGER (0..255)

wranIfMeasSupportRecNumSensPeriods ::= TEXTUAL-CONVENTION

STATUS current

DESCRIPTION

"Recommended # of sensing periods required to sense

signal type (see Table 238)."
SYNTAX INTEGER (0..127)

wranIfMeasSupportRecSensPeriodDuration ::= TEXTUAL-CONVENTION
STATUS current
UNITS "symbols"
DESCRIPTION
"Recommended duration of sensing periods in units of
symbols (see Table 238)."
SYNTAX Integer32 (0..1023)

wranIfMeasSupportRecSensPeriodInterval ::= TEXTUAL-CONVENTION
STATUS current
UNITS "frames"
DESCRIPTION
"Recommended length of sensing period interval, units
of integer number of frames (see Table 238)."
SYNTAX Integer32 (0..2047)

wranIfBsCpeSystemParametersTable OBJECT-TYPE
SYNTAX SEQUENCE OF wranIfBsCpeSystemParametersEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This table contains objects that define system
constants for REG-REQ/RSP, DSx-REQ/RSP, and MCA-RSP
transactions. It only has one entry, as defined by
wranIfBsCpeSystemParametersEntry."
::= { wranIfBsCm 19 }

wranIfBsCpeSystemParametersEntry OBJECT-TYPE
SYNTAX wranIfBsCpeSystemParametersEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This object defines an entry in
wranIfBsCpeSystemParametersTable."
INDEX { wranIfBsCpeSystemParametersIndex }
::= { wranIfBsCpeSystemParametersTable 1 }

wranIfBsCpeSystemParametersEntry ::= SEQUENCE {
wranIfBsCpeSystemParametersIndex INTEGER,
wranIfBsDsxDsxReqRetries INTEGER,
wranIfBsDsxDsxRspRetries INTEGER,
wranIfBsT6 INTEGER,
wranIfBsT7 INTEGER,
wranIfBsT8 Integer32,
wranIfBsT9 Integer32,
wranIfBsT10 INTEGER,
wranIfBsT13 INTEGER,
wranIfBsT14 INTEGER,
wranIfBsT15 INTEGER,
wranIfBsT16 Integer32,
wranIfBsT18 Integer32,
wranIfBsT22 INTEGER,
wranIfBsT26 INTEGER,

wranIfBsT27Idle	Integer32,
wranIfBsT27Active	Integer32,
wranIfBsT28	Integer32 }

wranIfBsCpeSystemParametersIndex OBJECT-TYPE
 SYNTAX INTEGER (1..1)
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "Index of entry in this table."
 ::= { wranIfBsCpeSystemParametersEntry 1 }

wranIfBsDsxReqRetries OBJECT-TYPE
 SYNTAX INTEGER (3..5)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Maximum number of timeout retries for DSx-REQ
 messages."
 ::= { wranIfBsCpeSystemParametersEntry 2 }

wranIfBsDsxRspRetries OBJECT-TYPE
 SYNTAX INTEGER (3..5)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Maximum number of timeout retries for DSx-RSP
 messages."
 ::= { wranIfBsCpeSystemParametersEntry 3 }

wranIfBsT6 OBJECT-TYPE
 SYNTAX INTEGER (1..3)
 UNITS "seconds"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Timeout for receiving REG-RSP."
 ::= { wranIfBsCpeSystemParametersEntry 4 }

wranIfBsT7 OBJECT-TYPE
 SYNTAX INTEGER (1..250)
 UNITS "seconds"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Timeout for receiving DSx-RSP, representing a range
 from 4 ms to 1 s in 4 ms increments."
 ::= { wranIfBsCpeSystemParametersEntry 5 }

wranIfBsT8 OBJECT-TYPE
 SYNTAX Integer32 (1..300)
 UNITS "milliseconds"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Timeout for receiving DSA-ACK/DSC-ACK, representing

a range from 1 ms to 300 ms in 1 ms increments."
 ::= { wranIfBsCpeSystemParametersEntry 6 }

wranIfBsT9 OBJECT-TYPE

SYNTAX Integer32 (300..1000)
UNITS "milliseconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Timeout between BS's transmitting RNG-CMD (success)
to a CPE and receiving CBC-REQ from that same CPE."
 ::= { wranIfBsCpeSystemParametersEntry 7 }

wranIfBsT10 OBJECT-TYPE

SYNTAX INTEGER (1..3)
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Wait for Transaction End timeout."
 ::= { wranIfBsCpeSystemParametersEntry 8 }

wranIfBsT13 OBJECT-TYPE

SYNTAX INTEGER (1..3)
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Time allowed for CPE, following receipt of a REG-RSP
to send a TFTP-CPLT message to the BS."
 ::= { wranIfBsCpeSystemParametersEntry 9 }

wranIfBsT14 OBJECT-TYPE

SYNTAX INTEGER (10..200)
UNITS "milliseconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Wait for DSx-RSP timeout."
 ::= { wranIfBsCpeSystemParametersEntry 10 }

wranIfBsT15 OBJECT-TYPE

SYNTAX INTEGER (20..200)
UNITS "milliseconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Wait for MCA-RSP."
 ::= { wranIfBsCpeSystemParametersEntry 11 }

wranIfBsT16 OBJECT-TYPE

SYNTAX Integer32 (10..2000)
UNITS "milliseconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION


```

        "Wait for bandwidth request grant."
 ::= { wranIfBsCpeSystemParametersEntry 12 }

```

wranIfBsT18 OBJECT-TYPE

```

SYNTAX      Integer32 (10..2000)
UNITS       "milliseconds"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Wait for CBC-REQ timeout."
 ::= { wranIfBsCpeSystemParametersEntry 13 }

```

wranIfBsT22 OBJECT-TYPE

```

SYNTAX      INTEGER (1..250)
UNITS       "milliseconds"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Wait for ARQ-Reset."
 ::= { wranIfBsCpeSystemParametersEntry 14 }

```

wranIfBsT26 OBJECT-TYPE

```

SYNTAX      INTEGER (1..250)
UNITS       "milliseconds"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Wait for TFT-RSP."
 ::= { wranIfBsCpeSystemParametersEntry 15 }

```

wranIfBsT27Idle OBJECT-TYPE

```

SYNTAX      Integer32 (200..500)
UNITS       "milliseconds"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Maximum time between unicast grants to CPE when BS
    believe CPE transmission quality is good enough."
 ::= { wranIfBsCpeSystemParametersEntry 16 }

```

wranIfBsT27Active OBJECT-TYPE

```

SYNTAX      Integer32 (200..500)
UNITS       "milliseconds"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Maximum time between unicast grants to CPE when BS
    believe CPE transmission quality is not good
    enough."
 ::= { wranIfBsCpeSystemParametersEntry 17 }

```

wranIfBsT28 OBJECT-TYPE

```

SYNTAX      Integer32 (60..300)
UNITS       "seconds"
MAX-ACCESS  read-only
STATUS      current

```

DESCRIPTION

"Time allowed for BS to complete the transmission of the backup/candidate channel list to its CPEs after initial registration by a new CPE, including the database service query."

::= { wranIfBsCpeSystemParametersEntry 18 }

wranIfBsCpeRegCapabilityDefTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCpeRegCapabilityDefEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object defines a table containing default values of REG-REQ/RSP IEs. This table can be used by the BS to judge/verify a CPE's REG-REQ and used to construct the REG-RSP message. There is one entry in this table, defined by wranIfBsCpeRegCapabilityDefEntry."

::= { wranIfBsCm 20 }

wranIfBsCpeRegCapabilityDefEntry OBJECT-TYPE

SYNTAX wranIfBsCpeRegCapabilityDefEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object defines an entry in wranIfBsCpeRegCapabilityDefTable. The objects that make up this entry are defined in wranIfBsCpeRegCapabilityCmn (13.1.2.2.17)."

INDEX { wranIfBsCpeRegCapabilityDefIndex }

::= { wranIfBsCpeRegCapabilityDefTable 1 }

wranIfBsCpeRegCapabilityDefEntry ::= SEQUENCE {

wranIfBsCpeRegCapabilityDefIndex

wranIfRegCapbilityIndex,

wranIfBsCpeRegCapabilityDefCsConfig

wranIfRegCapabilityCsConfig,

wranIfBsCpeRegCapabilityDefIpVersion

wranIfRegCapabilityIpVersion,

wranIfBsCpeRegCapabilityDefIpRochSupport

wranIfRegCapabilityIpRochSupport,

wranIfBsCpeRegCapabilityDefArqSupport

wranIfRegCapabilityArqSupport,

wranIfBsCpeRegCapabilityDef2ndMgmtArqWindowSize

wranIfRegCapability2ndMgmtArqWindowSize,

wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryTxDelay

wranIfRegCapability2ndMgmtArqRetryTxDelay,

wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryRxDelay

wranIfRegCapability2ndMgmtArqRetryRxDelay,

wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockLifetime

wranIfRegCapability2ndMgmtArqBlockLifetime,

wranIfBsCpeRegCapabilityDef2ndMgmtArqSyncLossTimeout

wranIfRegCapability2ndMgmtArqSyncLossTimeout,

wranIfBsCpeRegCapabilityDef2ndMgmtArqDeliverInOrder

wranIfRegCapability2ndMgmtArqDeliverInOrder,

wranIfBsCpeRegCapabilityDef2ndMgmtArqRxPurgeTimeout

```

        wranIfRegCapability2ndMgmtArqRxPurgeTimeout,
        wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockSize
        wranIfRegCapability2ndMgmtArqBlockSize,
        wranIfBsCpeRegCapabilityDefDsxFLOWControl
        wranIfRegCapabilityDsxFLOWControl,
        wranIfBsCpeRegCapabilityDefMcaFlowControl
        wranIfRegCapabilityMcaFlowControl,
        wranIfBsCpeRegCapabilityDefMaxNumMcastGroups
        wranIfRegCapabilityMaxNumMcastGroups,
        wranIfBsCpeRegCapabilityDefSensModeSupportArray
        wranIfRegCapabilitySensModeSupportArray,
        wranIfBsCpeRegCapabilityDef2ndMgmtIpAllocMethod
        wranIfRegCapability2ndMgmtIpAllocMethod,
        wranIfBsCpeRegCapabilityDefCpeOperationalCapability
        wranIfRegCapabilityCpeOperationalCapability,
        wranIfBsCpeRegCapabilityDefCpeRegistrationTimer
        wranIfRegCapabilityCpeRegistrationTimer

```

```

wranIfBsCpeRegCapabilityDefIndex      OBJECT-TYPE
SYNTAX      wranIfRegCapbilityIndex
MAX-ACCESS  not-accessible
STATUS      current
DESCRIPTION
    "Defined by wranIfRegCapbilityIndex."
 ::= { wranIfBsCpeRegCapabilityDefEntry 1 }

```

```

wranIfBsCpeRegCapabilityDefCsConfig  OBJECT-TYPE
SYNTAX      wranIfRegCapabilityCsConfig
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by wranIfRegCapabilityCsConfig."
 ::= { wranIfBsCpeRegCapabilityDefEntry 2 }

```

```

wranIfBsCpeRegCapabilityDefIpVersion OBJECT-TYPE
SYNTAX      wranIfRegCapabilityIpVersion
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by wranIfRegCapabilityIpVersion."
 ::= { wranIfBsCpeRegCapabilityDefEntry 3 }

```

```

wranIfBsCpeRegCapabilityDefIpRochSupport OBJECT-TYPE
SYNTAX      wranIfRegCapabilityIpRochSupport
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by wranIfRegCapabilityIpRochSupport."
 ::= { wranIfBsCpeRegCapabilityDefEntry 4 }

```

```

wranIfBsCpeRegCapabilityDefArqSupport OBJECT-TYPE
SYNTAX      wranIfRegCapabilityArqSupport
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by wranIfRegCapabilityArqSupport."

```

```
::= { wranIfBsCpeRegCapabilityDefEntry 5 }
```

```
wranIfBsCpeRegCapabilityDef2ndMgmtArqWindowSize OBJECT-TYPE
SYNTAX      wranIfRegCapability2ndMgmtArqWindowSize
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by wranIfRegCapability2ndMgmtArqWindowSize."
 ::= { wranIfBsCpeRegCapabilityDefEntry 6 }
```

```
wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryTxDelay OBJECT-TYPE
SYNTAX      wranIfRegCapability2ndMgmtArqRetryTxDelay
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by
     wranIfRegCapability2ndMgmtArqRetryTxDelay."
 ::= { wranIfBsCpeRegCapabilityDefEntry 7 }
```

```
wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryRxDelay OBJECT-TYPE
SYNTAX      wranIfRegCapability2ndMgmtArqRetryRxDelay
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by
     wranIfRegCapability2ndMgmtArqRetryRxDelay."
 ::= { wranIfBsCpeRegCapabilityDefEntry 8 }
```

```
wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockLifetime OBJECT-TYPE
SYNTAX      wranIfRegCapability2ndMgmtArqBlockLifetime
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by
     wranIfRegCapability2ndMgmtArqBlockLifetime."
 ::= { wranIfBsCpeRegCapabilityDefEntry 9 }
```

```
wranIfBsCpeRegCapabilityDef2ndMgmtArqSyncLossTimeout OBJECT-TYPE
SYNTAX      wranIfRegCapability2ndMgmtArqSyncLossTimeout
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by
     wranIfRegCapability2ndMgmtArqSyncLossTimeout."
 ::= { wranIfBsCpeRegCapabilityDefEntry 10 }
```

```
wranIfBsCpeRegCapabilityDef2ndMgmtArqDeliverInOrder OBJECT-TYPE
SYNTAX      wranIfRegCapability2ndMgmtArqDeliverInOrder
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Defined by
     wranIfRegCapability2ndMgmtArqDeliverInOrder."
 ::= { wranIfBsCpeRegCapabilityDefEntry 11 }
```

```
wranIfBsCpeRegCapabilityDef2ndMgmtArqRxPurgeTimeout OBJECT-TYPE
```

SYNTAX wranIfRegCapability2ndMgmtArqRxPurgeTimeout
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Defined by
 wranIfRegCapability2ndMgmtArqRxPurgeTimeout."
 ::= { wranIfBsCpeRegCapabilityDefEntry 12 }

wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockSize OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtArqBlockSize
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Defined by wranIfRegCapability2ndMgmtArqBlockSize."
 ::= { wranIfBsCpeRegCapabilityDefEntry 13 }

wranIfBsCpeRegCapabilityDefDsxFowControl OBJECT-TYPE

SYNTAX wranIfRegCapabilityDsxFowControl
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Defined by wranIfRegCapabilityDsxFowControl."
 ::= { wranIfBsCpeRegCapabilityDefEntry 14 }

wranIfBsCpeRegCapabilityDefMcaFlowControl OBJECT-TYPE

SYNTAX wranIfRegCapabilityMcaFlowControl
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Defined by wranIfRegCapabilityMcaFlowControl."
 ::= { wranIfBsCpeRegCapabilityDefEntry 15 }

wranIfBsCpeRegCapabilityDefMaxNumMcastGroups OBJECT-TYPE

SYNTAX wranIfRegCapabilityMaxNumMcastGroups
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Defined by wranIfRegCapabilityMaxNumMcastGroups."
 ::= { wranIfBsCpeRegCapabilityDefEntry 16 }

wranIfBsCpeRegCapabilityDefSensModeSupportArray OBJECT-TYPE

SYNTAX wranIfRegCapabilitySensModeSupportArray
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Defined by wranIfRegCapabilitySensModeSupportArray."
 ::= { wranIfBsCpeRegCapabilityDefEntry 17 }

wranIfBsCpeRegCapabilityDef2ndMgmtIpAllocMethod OBJECT-TYPE

SYNTAX wranIfRegCapability2ndMgmtIpAllocMethod
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Defined by wranIfRegCapability2ndMgmtIpAllocMethod."
 ::= { wranIfBsCpeRegCapabilityDefEntry 18 }

wranIfBsCpeRegCapabilityDefCpeOperationalCapability OBJECT-TYPE
 SYNTAX **wranIfRegCapabilityCpeOperationalCapability**
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by
 wranIfRegCapabilityCpeOperationalCapability."
 ::= { **wranIfBsCpeRegCapabilityDefEntry** 19 }

wranIfBsCpeRegCapabilityDefCpeRegistrationTimer OBJECT-TYPE
 SYNTAX **wranIfRegCapabilityCpeRegistrationTimer**
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Defined by
 wranIfRegCapabilityCpeRegistrationTimer."
 ::= { **wranIfBsCpeRegCapabilityDefEntry** 20 }

wranIfBsCpeBasicCapabilityDefTable OBJECT-TYPE
 SYNTAX SEQUENCE OF **wranIfBsCpeBasicCapabilityDefEntry**
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object defines a table containing default values of CBC-REQ/RSP IEs. This table can be used by the BS to judge/verify a CPE's CBC-REQ and used to construct the CBC-RSP message. There is one entry in this table defined by
 wranIfBsCpeBasicCapabilityDefEntry."
 ::= { **wranIfBsCm** 21 }

wranIfBsCpeBasicCapabilityDefEntry OBJECT-TYPE
 SYNTAX **wranIfBsCpeBasicCapabilityDefEntry**
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object defines an entry in
 wranIfBsCpeBasicCapabilityDefTable The objects that make up this table are defined in
 wranIfBsCpeBasicCapabilityCmn (13.1.2.2.16)."
 INDEX { **wranIfBsCpeBasicCapabilityDefIndex** }
 ::= { **wranIfBsCpeBasicCapabilityDefTable** 1 }

wranIfBsCpeBasicCapabilityDefEntry ::= SEQUENCE {
 wranIfBsCpeBasicCapabilityDefIndex
 wranIfBasicCapbilityIndex,
 wranIfBsCpeBasicCapabilityDefMacPduTxAndConstruction
 wranIfBasicCapbilityMacPduTxAndConstruction,
 wranIfBsCpeBasicCapabilityDefCpeDemodulator
 wranIfBasicCapabilityCpeDemodulator,
 wranIfBsCpeBasicCapabilityDefCpeModulator
 wranIfBasicCapabilityCpeModulator,
 wranIfBsCpeBasicCapabilityDefScmVersionSupport
 wranIfBasicCapabilityCpeScmVersionSupport,
 wranIfBsCpeBasicCapabilityDefPnWindowSize
 wranIfBasicCapabilityCpePnWindowSize,


```
wranIfBsCpeBasicCapabilityDefScmFlowControl
    wranIfBasicCapabilityScmFlowControl }
```

```
wranIfBsCpeBasicCapabilityDefIndex OBJECT-TYPE
    SYNTAX      wranIfBasicCapbilityIndex
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityIndex."
    ::= { wranIfBsCpeBasicCapabilityDefEntry 1 }
```

```
wranIfBsCpeBasicCapabilityDefMacPduTxAndConstruction OBJECT-TYPE
    SYNTAX      wranIfBasicCapbilityMacPduTxAndConstruction
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by
         wranIfBasicCapbilityMacPduTxAndConstruction."
    ::= { wranIfBsCpeBasicCapabilityDefEntry 2 }
```

```
wranIfBsCpeBasicCapabilityDefCpeDemodulator OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityCpeDemodulator
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityCpeDemodulator."
    ::= { wranIfBsCpeBasicCapabilityDefEntry 3 }
```

```
wranIfBsCpeBasicCapabilityDefCpeModulator OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityCpeModulator
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityCpeModulator."
    ::= { wranIfBsCpeBasicCapabilityDefEntry 4 }
```

```
wranIfBsCpeBasicCapabilityDefScmVersionSupport OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityCpeScmVersionSupport
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by
         wranIfBasicCapabilityCpeScmVersionSupport."
    ::= { wranIfBsCpeBasicCapabilityDefEntry 5 }
```

```
wranIfBsCpeBasicCapabilityDefPnWindowSize OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityCpePnWindowSize
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Defined by wranIfBasicCapabilityCpePnWindowSize."
    ::= { wranIfBsCpeBasicCapabilityDefEntry 6 }
```

```
wranIfBsCpeBasicCapabilityDefScmFlowControl OBJECT-TYPE
    SYNTAX      wranIfBasicCapabilityScmFlowControl
    MAX-ACCESS  read-only
```

STATUS current

DESCRIPTION

"Defined by wranIfBasicCapabilityScmFlowControl."

::= { wranIfBsCpeBasicCapabilityDefEntry 7 }

wranIfBsCpeMeasSupportDefTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCpeMeasSupportDefEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A compound object representing the default configuration of the Measurement Support IE of REG-REQ/RSP. This table can be used by the BS to judge/verify the Measurement Support IE in CPE's REG-REQ and used to construct the Measurement Support IE sent by the BS in the REG-RSP message. There is one entry for each signal type, defined by wranIfBsCpeMeasSupportDefEntry. This table is only valid if the value for wranIfSensModeSupportArray is anything other than 'No Sensing'."

::= { wranIfBsCm 22 }

wranIfBsCpeMeasSupportDefEntry OBJECT-TYPE

SYNTAX wranIfBsCpeMeasSupportDefEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"A compound object representing the entries of wranIfBsCpeMeasSupportDefTable. Each part entry is defined in wranIfBsCpeMeasSupportCmn (13.1.2.2.18)."

INDEX { wranIfBsCpeMeasSupportDefIndex }

::= { wranIfBsCpeMeasSupportDefTable 1 }

wranIfBsCpeMeasSupportReqEntry ::= SEQUENCE {

wranIfBsCpeMeasSupportDefIndex

wranIfMeasSupportIndex,

wranIfBsCpeMeasSupportDefSignalType

wranIfMeasSupportSignalType,

wranIfBsCpeMeasSupportDefThreshold

wranIfMeasSupportThreshold,

wranIfBsCpeMeasSupportDefPd

wranIfMeasSupportPd,

wranIfBsCpeMeasSupportDefMpfa

wranIfMeasSupportMpfa,

wranIfBsCpeMeasSupportDefRecNumSensPeriods

wranIfMeasSupportRecNumSensPeriods,

wranIfBsCpeMeasSupportDefRecSensPeriodDuration

wranIfMeasSupportRecSensPeriodDuration,

wranIfBsCpeMeasSupportDefRecSensPeriodInterval

wranIfMeasSupportRecSensPeriodInterval }

wranIfBsCpeMeasSupportDefIndex OBJECT-TYPE

SYNTAX wranIfMeasSupportIndex

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportIndex."

::= { wranIfBsCpeMeasSupportDefEntry 1 }

wranIfBsCpeMeasSupportDefSignalType OBJECT-TYPE

SYNTAX wranIfMeasSupportSignalType

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportSignalType."

::= { wranIfBsCpeMeasSupportDefEntry 2 }

wranIfBsCpeMeasSupportDefThreshold OBJECT-TYPE

SYNTAX wranIfMeasSupportThreshold

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportThreshold."

::= { wranIfBsCpeMeasSupportDefEntry 3 }

wranIfBsCpeMeasSupportDefPd OBJECT-TYPE

SYNTAX wranIfMeasSupportPd

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportPd."

::= { wranIfBsCpeMeasSupportDefEntry 4 }

wranIfBsCpeMeasSupportDefMpfa OBJECT-TYPE

SYNTAX wranIfMeasSupportMpfa

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportMpfa."

::= { wranIfBsCpeMeasSupportDefEntry 5 }

wranIfBsCpeMeasSupportDefRecNumSensPeriods OBJECT-TYPE

SYNTAX wranIfMeasSupportRecNumSensPeriods

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportRecNumSensPeriods."

::= { wranIfBsCpeMeasSupportDefEntry 6 }

wranIfBsCpeMeasSupportDefRecSensPeriodDuration OBJECT-TYPE

SYNTAX wranIfMeasSupportRecSensPeriodDuration

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportRecSensPeriodDuration."

::= { wranIfBsCpeMeasSupportDefEntry 7 }

wranIfBsCpeMeasSupportDefRecSensPeriodInterval OBJECT-TYPE

SYNTAX wranIfMeasSupportRecSensPeriodInterval

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Defined by wranIfMeasSupportRecSensPeriodInterval."

::= { wranIfBsCpeMeasSupportDefEntry 8 }

-- wranIfBsPhy: This MIB object contains managed objects related to PHY
-- configuration. All object described are related to the OFDMA PHY
-- that is supported.

wranIfBsPhy	OBJECT IDENTIFIER	
	::= { wranIfBsCm 23 }	
wranIfBsOfdmaPhyUsChannelTable	OBJECT IDENTIFIER	
	::= { wranIfBsPhy 1 }	
wranIfBsOfdmaPhyDsChannelTable	OBJECT IDENTIFIER	
	::= { wranIfBsPhy 2 }	
wranIfBsOfdmaUcdBurstProfileTable	OBJECT IDENTIFIER	
	::= { wranIfBsPhy 3 }	
wranIfBsOfdmaDcdBurstProfileTable	OBJECT IDENTIFIER	
	::= { wranIfBsPhy 4 }	
wranIfBsOfdmaDsRegionTable	OBJECT IDENTIFIER	
	::= { wranIfBsPhy 5 }	
wranIfBsOfdamUsRegionTable	OBJECT IDENTIFIER	
	::= { wranIfBsPhy 6 }	
wranIfBsOfdmaPhyUsChannelTable	OBJECT-TYPE	
SYNTAX	SEQUENCE OF wranIfBsOfdmaPhyUsChannelEntry	
MAX-ACCESS	not-accessible	
STATUS	current	
DESCRIPTION	"This object provides a table to describe attributes of upstream channels. It is a compound object that is made up of multiple entries (one for each CPE), described by wranIfBsOfdmaPhyUsChannelTableEntry."	
	::= { wranIfBsPhy 1 }	
wranIfBsOfdmaPhyUsChannelEntry	OBJECT-TYPE	
SYNTAX	wranIfBsOfdmaPhyUsChannelEntry	
MAX-ACCESS	not-accessible	
STATUS	current	
DESCRIPTION	"This object is a compound object that represents an entry a CPE's upstream channel configuration."	
INDEX	{ wranIfBsOfdmaPhyUsChannelIndex }	
	::= { wranIfBsOfdmaPhyUsChannelTable 1 }	
wranIfBsOfdmaPhyUsChannelEntry	::= SEQUENCE {	
wranIfBsOfdmaPhyUsChannelIndex		Integer32,
wranIfBsOfdmaPhyUsSid		Integer32,
wranIfBsOfdmaPhyUsMacAddress		MacAddress,
wranIfBsOfdmaCtBasedResvTimeout		INTEGER,
wranIfBsOfdmaUsCenterFrequency		Integer32,
wranIfBsOfdmasUsRadioResource		INTEGER,
wranIfBsOfdmaUsUcsConfigChangeCount		INTEGER,
wranIfBsOfdmaUsUcsNotificationCodes		INTEGER,
wranIfBsOfdmaUsInitRngCodes		INTEGER,
wranIfBsOfdmaUsPeriodicRngCodes		INTEGER,
wranIfBsOfdmaUsBWReqCodes		INTEGER,

wranIfBsOfdmaUsPeriodicRngBackoffStart	INTEGER,
wranIfBsOfdmaUsPeriodicRngBackoffEnd	INTEGER,
wranIfBsOfdmaUsStartofCodes	INTEGER,
wranIfBsOfdmaUsNormalizedCnrOverride	OCTET STRING,
wranIfBsOfdamUsInitialRangingInterval	INTEGER,
wranIfBsOfdmaUsUcsNotificationBackoffStart	INTEGER,
wranIfBsOfdmaUsUcsNotificationBackoffEnd	INTEGER,
wranIfBsOfdmaUsInitialRngBackoffStart	INTEGER,
wranIfBsOfdmaUsInitialRngBackoffEnd	INTEGER,
wranIfBsOfdmaUsBwRequestBackoffStart	INTEGER,
wranIfBsOfdmaUsBwRequestBackoffEnd	INTEGER,
wranIfBsOfdmaUsUcdInterval	INTEGER,
wranIfBsOfdmaUsUcdTransition	INTEGER,
wranIfBsOfdmaUsClkCmpInterval	INTEGER,
wranIfBsOfdmaUsT57	INTEGER,
wranIfBsOfdmaUsT58	INTEGER,
wranIfBsOfdmaUsCdmaRngRetries	INTEGER,
wranIfBsOfdmaUsInvRngReq	INTEGER,
wranIfBsOfdmaUsMapProcTime	INTEGER,
wranIfBsOfdmaUsT3	INTEGER,
wranIfBsOfdmaUsT4	Integer32,
wranIfBsOfdmaUsT5	INTEGER,
wranIfBsOfdmaUsT12	INTEGER }

wranIfBsOfdmaPhyUsChannelIndex OBJECT-TYPE

SYNTAX Integer32 (1.. 131071)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Index of entry in this table, defaults to 1."

::= { wranIfBsOfdmaPhyUsChannelEntry 1 }

wranIfBsOfdmaPhyUsSid OBJECT-TYPE

SYNTAX Integer32 (0.. 512)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"A 9-bit Station ID that identifies the station whose US is defined in this entry."

::= { wranIfBsOfdmaPhyUsChannelEntry 2 }

wranIfBsOfdmaPhyUsMacAddress OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"MAC Address of CPE whose upstream is defined in this table."

::= { wranIfBsOfdmaPhyUsChannelEntry 3 }

wranIfBsOfdmaCtBasedResvTimeout OBJECT-TYPE

SYNTAX INTEGER (1..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The number of US-MAPs to receive before contention-

based reservation is attempted again for the same connection."

::= { wranIfBsOfdmaPhyUsChannelEntry 4 }

wranIfBsOfdmaUsCenterFrequency OBJECT-TYPE

SYNTAX Integer32 (0..6000000)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Upstream center frequency in kHz."

::= { wranIfBsOfdmaPhyUsChannelEntry 5 }

wranIfBsOfdmaUsRadioResource OBJECT-TYPE

SYNTAX INTEGER (0..100)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indicates the average percentage (ratio) of non-assigned US radio resources to total usable US radio resources (should be the same across all CPEs on the same channel.)"

::= { wranIfBsOfdmaPhyUsChannelEntry 6 }

wranIfBsOfdmaUsConfigChangeCount OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current UCD change count."

::= { wranIfBsOfdmaPhyUsChannelEntry 7 }

wranIfBsOfdmaUsUcsNotificationCodes OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of CDMA codes for UCS Notification."

::= { wranIfBsOfdmaPhyUsChannelEntry 8 }

wranIfBsOfdmaUsInitRngCodes OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of CDMA codes for Initial Ranging."

::= { wranIfBsOfdmaPhyUsChannelEntry 9 }

wranIfBsOfdmaUsPeriodicRngCodes OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of CDMA codes for periodic ranging."

::= { wranIfBsOfdmaPhyUsChannelEntry 10 }

wranIfBsOfdmaUsBwReqCodes OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of CDMA codes for bandwidth requests."

::= { wranIfBsOfdmaPhyUsChannelEntry 11 }

wranIfBsOfdmaUsPeriodicRngBackoffStart OBJECT-TYPE

SYNTAX INTEGER (0..15)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Expressed as a power of 2, initial backoff window size for Periodic ranging."

::= { wranIfBsOfdmaPhyUsChannelEntry 12 }

wranIfBsOfdmaUsPeriodicRngBackoffEnd OBJECT-TYPE

SYNTAX INTEGER (1..15)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Represented in powers of 2, initial size of backoff window used for periodic ranging contention."

::= { wranIfBsOfdmaPhyUsChannelEntry 13 }

wranIfBsOfdmaUsStartofCodes OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Includes first code in block of codes to be used in a particular BS, known as S. The total set of codes ranges from S to

(wranIfBsOfdmaUsInitRngCodes+wranIfBsOfdmaUsPeriodicRngCodes+wranIfBsOfdmaUsBWReqCodes+wranIfBsOfdmaUsUcsNotificationCodes) mod 256."

::= { wranIfBsOfdmaPhyUsChannelEntry 14 }

wranIfBsOfdmaUsNormalizedCnrOverride OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(7))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a list of numbers and follows the specification of the Normalized CNR override as defined in Table 33 and in 8.10.3.2. The number encoded by each nibble represents the difference in normalized CNR relative to the previous one."

::= { wranIfBsOfdmaPhyUsChannelEntry 15 }

wranIfBsOfdamUsInitialRangingInterval OBJECT-TYPE

SYNTAX INTEGER (2..15)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of frames between initial ranging interval allocation."

::= { wranIfBsOfdmaPhyUsChannelEntry 16 }

wranIfBsOfdmaUsUcsNotificationBackoffStart OBJECT-TYPE

SYNTAX INTEGER (0..15)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Represented in powers of 2, initial backoff window size used for UCS notification contention."

::= { wranIfBsOfdmaPhyUsChannelEntry 17 }

wranIfBsOfdmaUsUcsNotificationBackoffEnd OBJECT-TYPE

SYNTAX INTEGER (1..15)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Represented in powers of 2, final backoff window size used for UCS notification contention."

::= { wranIfBsOfdmaPhyUsChannelEntry 18 }

wranIfBsOfdmaUsInitialRngBackoffStart OBJECT-TYPE

SYNTAX INTEGER (0..15)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Represented in powers of 2, initial backoff window size used for initial ranging contention."

::= { wranIfBsOfdmaPhyUsChannelEntry 19 }

wranIfBsOfdmaUsInitialRngBackoffEnd OBJECT-TYPE

SYNTAX INTEGER (1..15)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Represented in powers of 2, final backoff window size used for initial ranging contention."

::= { wranIfBsOfdmaPhyUsChannelEntry 20 }

wranIfBsOfdmaUsBwRequestBackoffStart OBJECT-TYPE

SYNTAX INTEGER (0..15)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Represented in powers of 2, initial backoff window size used for contention-based BW requests contention."

::= { wranIfBsOfdmaPhyUsChannelEntry 21 }

wranIfBsOfdmaUsBwRequestBackoffEnd OBJECT-TYPE

SYNTAX INTEGER (1..15)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Represented in powers of 2, final backoff window size used for contention-based BW requests contention."

::= { wranIfBsOfdmaPhyUsChannelEntry 22 }

wranIfBsOfdmaUsUcdInterval OBJECT-TYPE

SYNTAX INTEGER (1..10)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Time between transmission of UCD messages."

::= { wranIfBsOfdmaPhyUsChannelEntry 23 }

wranIfBsOfdmaUsUcdTransition OBJECT-TYPE

SYNTAX INTEGER (2..5)

UNITS "frames"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Time BS shall wait after repeating a UCD message with an incremented Configuration Change Count before issuing a US-MAP message referring to Upstream_Burst_Profiles defined in that UCD message."

::= { wranIfBsOfdmaPhyUsChannelEntry 24 }

wranIfBsOfdmaUsClkCmpInterval OBJECT-TYPE

SYNTAX INTEGER (50)

UNITS "milliseconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Time between the clock compare measurements used for the generation of CLK-CMP messages."

::= { wranIfBsOfdmaPhyUsChannelEntry 25 }

wranIfBsOfdmaUsT57 OBJECT-TYPE

SYNTAX Integer32 (10..600)

UNITS "milliseconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Lost US-MAP interval, time since last received US-MAP message before upstream synchronization is considered lost (used on the CPE)."

::= { wranIfBsOfdmaPhyUsChannelEntry 26 }

wranIfBsOfdmaUsT58 OBJECT-TYPE

SYNTAX Integer32 (10..600)

UNITS "milliseconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of SCH that can be lost until synchronization is considered lost."


```
::= { wranIfBsOfdmaPhyUsChannelEntry 27 }
```

```
wranOfBsOfdmaUsCdmaRngRetries OBJECT-TYPE
```

```
SYNTAX      INTEGER (1..4)
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"# of retries on CDMA RNG-REQs."
```

```
::= { wranIfBsOfdmaPhyUsChannelEntry 28 }
```

```
wranIfBsOfdmaUsInvRngReq      OBJECT-TYPE
```

```
SYNTAX      INTEGER (16..32)
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"# of retries on inviting RNG-REQs."
```

```
::= { wranIfBsOfdmaPhyUsChannelEntry 29 }
```

```
wranIfBsOfdmaUsMapProcTime    OBJECT-TYPE
```

```
SYNTAX      INTEGER (5)
```

```
UNITS       "symbols"
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Time provided between arrival of the last bit of a  
US-MAP at a CPE and the effectiveness of that map."
```

```
::= { wranIfBsOfdmaPhyUsChannelEntry 30 }
```

```
wranIfBsOfdmaUsT3 OBJECT-TYPE
```

```
SYNTAX      INTEGER (200)
```

```
UNITS       "milliseconds"
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"RNG-CMD reception timeout following the transmission  
of RNG-REQ."
```

```
::= { wranIfBsOfdmaPhyUsChannelEntry 31 }
```

```
wranIfBsOfdmaUsT4 OBJECT-TYPE
```

```
SYNTAX      Integer32 (1..1800)
```

```
UNITS       "seconds"
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Time to wait for unicast ranging opportunity."
```

```
::= { wranIfBsOfdmaPhyUsChannelEntry 32 }
```

```
wranIfBsOfdmaUsT5 OBJECT-TYPE
```

```
SYNTAX      INTEGER (2)
```

```
UNITS       "seconds"
```

```
MAX-ACCESS  read-only
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Time to wait for Upstream Channel Change response."
```

```
::= { wranIfBsOfdmaPhyUsChannelEntry 33 }
```


wranIfBsOfdmaUsT12 OBJECT-TYPE

SYNTAX INTEGER (1..50)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Wait for UCD descriptor."

::= { wranIfBsOfdmaPhyUsChannelEntry 34 }

wranIfBsOfdmaPhyDsChannelTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsOfdmaPhyDsChannelEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object provides a table to describe attributes of downstream channels. It is a compound object that is made up of multiple entries (one for each CPE), described by wranIfBsOfdmaPhyDsChannelTableEntry."

::= { wranIfBsPhy 2 }

wranIfBsOfdmaPhyDsChannelEntry OBJECT-TYPE

SYNTAX wranIfBsOfdmaPhyDsChannelEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that represents an entry a each downstream channel in each BS."

INDEX { wranIfBsOfdmaPhyDsChannelIndex }

::= { wranIfBsOfdmaPhyDsChannelTable 1 }

wranIfBsOfdmaPhyDsChannelEntry ::= SEQUENCE {

wranIfBsOfdmaPhyDsChannelIndex INTEGER,

wranIfBsOfdmaDsBsId MacAddress,

wranIfBsOfdmaDsEirp INTEGER,

wranIfBsOfdmaDsChannelNumber INTEGER,

wranIfBsOfdmaDsPhyMaxEirp INTEGER,

wranIfBsOfdmaDsCenterFreq Integer32,

wranIfBsOfdmaDsMacVersion INTEGER,

wranIfBsOfdmaDsCyclicPrefix INTEGER,

wranIfBsOfdmaDsRadioResource INTEGER,

wranIfBsOfdmaDsCellType INTEGER,

wranIfBsOfdmaDsConfigChangeCount INTEGER,

wranIfBsOfdmaDsFrameDuration OCTET STRING,

wranIfBsOfdmaDsRssiCinrAvgParameter BITS,

wranIfBsOfdmaDsThresholdAddBsServiceSet INTEGER,

wranIfBsOfdmaDsThresholdDelBsServiceSet INTEGER,

wranIfBsOfdmaDsDcdInterval INTEGER,

wranIfBsOfdmaDsDcdTransition INTEGER,

wranIfBsOfdmaDsT56 Integer32,

wranIfBsOfdmaDsT1 INTEGER,

wranIfBsOfdmaDsT2 INTEGER,

wranIfBsOfdmaDsT20 INTEGER,

wranIfBsOfdmaDsT21 INTEGER,

wranIfBsOfdmaDsTtg INTEGER }

wranIfBsOfdmaPhyDsChannelIndex OBJECT-TYPE

SYNTAX INTEGER (1.. 255)
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"Index of entry in this table, defaults to 1."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 1 }

wranIfBsOfdmaDsBsId OBJECT-TYPE
SYNTAX MacAddress
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"BS ID (MAC Address) of the base station."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 2 }

wranIfBsOfdmaDsEirp OBJECT-TYPE
SYNTAX INTEGER (0..255)
UNITS "dBm"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"The equivalent isotropic radiated power of the base station, which is computed for a simple single-antenna transmitter (ranging from -64 dBm to +63.5 dBm in 0.5 dB steps)."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 3 }

wranIfBsOfdmaDsChannelNumber OBJECT-TYPE
SYNTAX INTEGER (0..255)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Current operating channel."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 4 }

wranIfBsOfdmaDsPhyMaxEirp OBJECT-TYPE
SYNTAX INTEGER (0..127)
UNITS "dBm"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Initial ranging maximum EIRP, at BS in units of 1 dBm (ranging from -104 dBm to +23 dBm)."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 5 }

wranIfBsOfdmaDsCenterFreq OBJECT-TYPE
SYNTAX Integer32 (0..10000000)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"DS center frequency in kHz."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 6 }

wranIfBsOfdmaDsMacVersion OBJECT-TYPE
SYNTAX INTEGER (0..255)
MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The MAC version to which the BS is conformant."

::= { wranIfBsOfdmaPhyDsChannelEntry 7 }

wranIfBsOfdmaDsCyclicPrefix OBJECT-TYPE

SYNTAX INTEGER { oneQuarter(0), oneEighth(1),
oneSixteenth(2),
oneThirtySecond(3) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Ratio of CP time to useful symbol time; possible values are 1/4, 1/8, 1/16, and 1/32."

::= { wranIfBsOfdmaPhyDsChannelEntry 8 }

wranIfBsOfdmaDsRadioResource OBJECT-TYPE

SYNTAX INTEGER (0..100)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Average ratio of non-assigned DS radio resources to total usable DS radio resources."

::= { wranIfBsOfdmaPhyDsChannelEntry 9 }

wranIfBsOfdmaDsCellType OBJECT-TYPE

SYNTAX INTEGER { fixed(0), personalPortable(1) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object identifies classes of BSs that can be used by CPE when selecting the cell with which to attempt network entry."

::= { wranIfBsOfdmaPhyDsChannelEntry 10 }

wranIfBsOfdmaDsConfigChangeCount OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current BS DCD configuration change count."

::= { wranIfBsOfdmaPhyDsChannelEntry 11 }

wranIfBsOfdmaDsFrameDuration OBJECT-TYPE

SYNTAX INTEGER (0..63)

UNITS "symbols"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Duration of DS portion of a frame (from the start of frame including preambles)."

::= { wranIfBsOfdmaPhyDsChannelEntry 12 }

wranIfBsOfdmaDsRssiCinrAvgParameter OBJECT-TYPE

SYNTAX BITS { avg0(0), avg1(1), avg2(2), avg3(3) }

UNITS "seconds"

MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Bits 0-3 of default RSSI and CINR averaging
parameter."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 13 }

wranIfBsOfdmaDsThresholdAddBsServiceSet OBJECT-TYPE
SYNTAX INTEGER (0..255)
UNITS "dBm"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Threshold used by CPE to add a neighbor BS to the
list of available WRAN services (ranging from -104
dBm to +23.5 dBm in 0.5 dB steps)."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 14 }

wranIfBsOfdmaDsThresholdDelBsServiceSet OBJECT-TYPE
SYNTAX INTEGER (0..255)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Threshold used by CPE to delete a neighbor BS from
the list of available WRAN services (ranging from
-104 dBm to +23.5 dBm in 0.5 dB steps)."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 15 }

wranIfBsOfdmaDsDcdInterval OBJECT-TYPE
SYNTAX INTEGER (1..10)
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Time between transmission of DCD messages."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 16 }

wranIfBsOfdmaDsDcdTransition OBJECT-TYPE
SYNTAX INTEGER (2..5)
UNITS "frames"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Time BS shall wait after repeating a DCD message
with an incremented Configuration Change Count
before issuing a DS-MAP message referring to
Downstream_Burst_Profiles defined in that DCD
message."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 17 }

wranIfBsOfdmaDsT56 OBJECT-TYPE
SYNTAX Integer32 (10..600)
UNITS "milliseconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"Time since last received DS-MAP message before
downstream synchronization is considered lost."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 18 }

wranIfBsOfdmaDsT1 OBJECT-TYPE
SYNTAX INTEGER (1..50)
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Wait for DCD timeout."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 19 }

wranIfBsOfdmaDsT2 OBJECT-TYPE
SYNTAX INTEGER (1..10)
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Wait for broadcast ranging timeout."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 20 }

wranIfBsOfdmaDsT20 OBJECT-TYPE
SYNTAX INTEGER (1..5)
UNITS "frames"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Time CPE searches for preambles on a given channel."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 21 }

wranIfBsOfdmaDsT21 OBJECT-TYPE
SYNTAX INTEGER (1..10)
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Time the CPE searches for a DS-MAP on a given
channel."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 22 }

wranIfBsOfdmaDsTtg OBJECT-TYPE
SYNTAX INTEGER { 105us(0), 210us(1), 333us(3) }
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Transmit/Receive Transition Gap."
 ::= { wranIfBsOfdmaPhyDsChannelEntry 23 }

wranIfBsOfdmaUcdBurstProfileTable OBJECT-TYPE
SYNTAX SEQUENCE OF wranIfBsOfdmaUcdBurstProfileEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This table contains the UCD burst profile
configurations for each upstream channel. Each entry

in the table is represented by
 wranIfBsOfdmaUcdBurstProfileEntry."
 ::= { wranIfBsPhy 3 }

wranIfBsOfdmaUcdBurstProfileEntry OBJECT-TYPE
 SYNTAX wranIfBsOfdmaUcdBurstProfileEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This is a compound object that defines an entry in
 wranIfBsOfdmaUcdBurstProfileTable."
 INDEX { wranIfBsOfdmaUcdUiucIndex }
 ::= { wranIfBsOfdmaUcdBurstProfileTable 1 }

wranIfBsOfdmaUcdBurstProfileEntry ::= SEQUENCE {
 wranIfBsOfdmaUcdUiucIndex INTEGER,
 wranIfBsOfdmaUcdUicuExitThreshold INTEGER,
 wranIfBsOfdmaUcdUicuEntryThreshold INTEGER,
 wranIfBsOfdmaUcdRangingDataRatio INTEGER }

wranIfBsOfdmaUcdUiucIndex OBJECT-TYPE
 SYNTAX INTEGER (0.. 63)
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "Index of entry in this table, this index value
 maps to the UIUCs listed in Table 36."
 ::= { wranIfBsOfdmaUcdBurstProfileEntry 1 }

wranIfBsOfdmaUcdUicuExitThreshold OBJECT-TYPE
 SYNTAX INTEGER (0..255)
 UNITS "dBm"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "CINR at or below which this UIUC can no longer be
 used where change to a more robust UIUC is required
 (ranging from -104 dBm to +23.5 dBm in 0.5 dB
 steps)."
 ::= { wranIfBsOfdmaUcdBurstProfileEntry 2 }

wranIfBsOfdmaUcdUicuEntryThreshold OBJECT-TYPE
 SYNTAX INTEGER (0..255)
 UNITS "dBm"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Minimum CINR required to start using this UIUC when
 changing from a more robust UIUC is required
 (ranging from -104 dBm to +23.5 dBm in 0.5 dB
 steps)."
 ::= { wranIfBsOfdmaUcdBurstProfileEntry 3 }

wranIfBsOfdmaUcdRangingDataRatio OBJECT-TYPE
 SYNTAX INTEGER (0..127)
 UNITS "dB"

```

MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Difference in power from burst UCD and power to be
    used for CDMA ranging in units of 1 dB (ranging from
    -104 dBm to +23 dBm)."
```

::= { wranIfBsOfdmaUcdBurstProfileEntry 4 }

```

wranIfBsOfdmaDcdBurstProfileTable    OBJECT-TYPE
SYNTAX        SEQUENCE OF wranIfBsOfdmaDcdBurstProfileEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "This table provides configuration for each DCD burst
    profile. It is made up of multiple entries defined
    by wranIfBsOfdmaDcdBurstProfileEntry."
```

::= { wranIfBsPhy 4 }

```

wranIfBsOfdmaDcdBurstProfileEntry    OBJECT-TYPE
SYNTAX        wranIfBsOfdmaDcdBurstProfileEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "This is a compound object that defines an entry in
    wranIfBsOfdmaDcdBurstProfileTable."
```

INDEX { wranIfBsOfdmaDcdDiucIndex }

::= { wranIfBsOfdmaDcdBurstProfileTable 1 }

```

wranIfBsOfdmaDcdBurstProfileEntry    ::= SEQUENCE {
    wranIfBsOfdmaDcdDiucIndex          INTEGER,
    wranIfBsOfdmaDcdDicuExitThreshold  INTEGER,
    wranIfBsOfdmaDcdDicuEntryThreshold INTEGER }
```

```

wranIfBsOfdmaDcdDiucIndex            OBJECT-TYPE
SYNTAX        INTEGER (0.. 63)
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "Index of entry in this table, this index value
    maps to the DIUCs listed in Table 27."
```

::= { wranIfBsOfdmaDcdBurstProfileEntry 1 }

```

wranIfBsOfdmaDcdDicuExitThreshold    OBJECT-TYPE
SYNTAX        INTEGER (0..255)
UNITS         "dBm"
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "CINR at or below which this DIUC can no longer be
    used where change to a more robust DIUC is required
    (ranging from -104 dBm to +23.5 dBm in 0.5 dB
    steps)."
```

::= { wranIfBsOfdmaDcdBurstProfileEntry 2 }

```

wranIfBsOfdmaDcdDicuEntryThreshold    OBJECT-TYPE
SYNTAX        INTEGER (0..255)
```


UNITS "dBm"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Minimum CINR required to start using this DIUC when
 changing from a more robust DIUC is required
 (ranging from -104 dBm to +23.5 dBm in 0.5 dB
 steps)."
 ::= { wranIfBsOfdmaDcdBurstProfileEntry 3 }

wranIfBsOfdmaDsRegionTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsOfdmaDsRegionEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This table provides the configuration of the DS
 subframe. It is made up of entries defined by
 wranIfBsOfdmaDsRegionEntry."
 ::= { wranIfBsPhy 5 }

wranIfBsOfdmaDsRegionEntry OBJECT-TYPE
 SYNTAX wranIfBsOfdmaDsRegionEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This is a compound object that describes each entry
 in wranIfBsOfdmaDsRegionTable."
 INDEX { wranIfBsOfdmaDsRegionIndex }
 ::= { wranIfBsOfdmaDsRegionTable 1 }

wranIfBsOfdmaDsRegionEntry ::= SEQUENCE {
 wranIfBsOfdmaDsRegionIndex INTEGER,
 wranIfBsOfdmaDsDuration INTEGER }

wranIfBsOfdmaDsRegionIndex OBJECT-TYPE
 SYNTAX Integer32 (1.. 512)
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "Index DS region in table."
 ::= { wranIfBsOfdmaDsRegionEntry 1 }

wranIfBsOfdmaDsDuration OBJECT-TYPE
 SYNTAX Integer32 (0..65535)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Number of OFDMA slots allocated to a DS burst
 region."
 ::= { wranIfBsOfdmaDsRegionEntry 2 }

wranIfBsOfdmaUsRegionTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsOfdmaUsRegionEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This table provides the configuration of the DS subframe. It is made up of entries defined by wranIfBsOfdmaUsRegionEntry."

::= { wranIfBsPhy 6 }

wranIfBsOfdmaUsRegionEntry OBJECT-TYPE
SYNTAX wranIfBsOfdmaUsRegionEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This is a compound object that describes each entry in wranIfBsOfdmaUsRegionTable."
INDEX { wranIfBsOfdmaUsRegionIndex }
::= { wranIfBsOfdmaUsRegionTable 1 }

wranIfBsOfdmaUsRegionEntry ::= SEQUENCE {
wranIfBsOfdmaUsRegionIndex INTEGER,
wranIfBsOfdmaUsDuration INTEGER }

wranIfBsOfdmaUsRegionIndex OBJECT-TYPE
SYNTAX Integer32 (1.. 512)
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"Index US region in table."
::= { wranIfBsOfdmaUsRegionEntry 1 }

wranIfBsOfdmaUsDuration OBJECT-TYPE
SYNTAX Integer32 (0..65535)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Number of OFDMA slots allocated to a US burst region."
::= { wranIfBsOfdmaUsRegionEntry 2 }

-- wranIfBsCmMibGroups: This object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

wranIfBsCmMibGroups OBJECT IDENTIFIER
::= { wranIfBsCm 24 }
wranIfBsCmRangingGroup OBJECT IDENTIFIER
::= { wranIfBsCmMibGroups 1 }
wranIfBsCmBasicCapabilityGroup OBJECT IDENTIFIER
::= { wranIfBsCmMibGroups 2 }
wranIfBsCmRegCapabilityGroup OBJECT IDENTIFIER
::= { wranIfBsCmMibGroups 3 }
wranIfBsCmMeasSupportGroup OBJECT IDENTIFIER
::= { wranIfBsCmMibGroups 4 }
wranIfBsCpeCmAntennaGroup OBJECT IDENTIFIER
::= { wranIfBsCmMibGroups 5 }
wranIfBsScmCmGroup OBJECT IDENTIFIER
::= { wranIfBsCmMibGroups 6 }
wranIfBsActionsCmGroup OBJECT IDENTIFIER
::= { wranIfBsCmMibGroups 7 }

```

wranIfBsMulticastCmGroup      OBJECT IDENTIFIER
                                ::= { wranIfBsCmMibGroups 8 }
wranIfBsCoexistenceCmGroup    OBJECT IDENTIFIER
                                ::= { wranIfBsCmMibGroups 9 }
wranIfBsSystemParametersCmGroup OBJECT IDENTIFIER
                                ::= { wranIfBsCmMibGroups 10 }
wranIfBsPhyCmGroup            OBJECT IDENTIFIER
                                ::= { wranIfBsCmMibGroups 11 }

wranIfBsCmRangingGroup        OBJECT-GROUP
OBJECTS                        { wranIfBsCpeRngCapabilityReqIndex,
                                wranIfBsCpeMacAddress, wranIfMmpPn,
                                wranIfCiphertextIcv,
                                wranIfRngAnomaly,
                                wranIfBsCpeRngCapabilityCmdIndex,
                                wranIfBsCpeMacAddress,
                                wranIfBsCpeStationId,
                                wranIfTimingAdvance,
                                wranIfEirpPerSubcarrier,
                                wranIfOffsetFreqAdjust,
                                wranIfRangingStatus,
                                wranIfActionSuperFrameNum,
                                wranIfCdmaCode,
                                wranIfTxOpportunityOffset }
STATUS                        current
DESCRIPTION
    "This group contains objects related to
    management of the ranging process."
    ::= { wranIfBsCmMibGroups 1 }

wranIfBsCmBasicCapabilityGroup OBJECT-GROUP
OBJECTS                        { wranIfBsCpeBasicCapabilityReqIndex,
                                wranIfBsCpeBasicCapabilityReqMacAddress,
                                wranIfBsCpeBasicCapabilityReqStationId,
                                wranIfBsCpeBasicCapabilityReqMacPduTxAndConstruction,
                                wranIfBsCpeBasicCapabilityReqMaxCpeTxEirp,
                                wranIfBsCpeBasicCapabilityReqCpeDemodulator,
                                wranIfBsCpeBasicCapabilityReqCpeModulator,
                                wranIfBsCpeBasicCapabilityReqScmVersionSupport,
                                wranIfBsCpeBasicCapabilityReqPnWindowSize,
                                wranIfBsCpeBasicCapabilityReqScmFlowControl,
                                wranIfBsCpeBasicCapabilityRspIndex,
                                wranIfBsCpeBasicCapabilityRspNumAttempts,
                                wranIfBsCpeBasicCapabilityRspMacAddress,
                                wranIfBsCpeBasicCapabilityRspStationId,
                                wranIfBsCpeBasicCapabilityRspMacPduTxAndConstruction,
                                wranIfBsCpeBasicCapabilityRspCpeDemodulator,
                                wranIfBsCpeBasicCapabilityRspCpeModulator,
                                wranIfBsCpeBasicCapabilityRspScmVersionSupport,
                                wranIfBsCpeBasicCapabilityRspPnWindowSize,
                                wranIfBsCpeBasicCapabilityRspScmFlowControl,
                                wranIfBsCpeBasicCapabilityDefIndex,
                                wranIfBsCpeBasicCapabilityDefMacPduTxAndConstruction,
                                wranIfBsCpeBasicCapabilityDefCpeDemodulator,
                                wranIfBsCpeBasicCapabilityDefCpeModulator,
                                wranIfBsCpeBasicCapabilityDefScmVersionSupport,

```

```

        wranIfBsCpeBasicCapabilityDefPnWindowSize,
        wranIfBsCpeBasicCapabilityDefScmFlowControl }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    management of the CBC-REQ/RSP process."
 ::= { wranIfBsCmMibGroups 2 }

```

```

wranIfBsCmRegCapabilityGroup      OBJECT-GROUP
OBJECTS      { wranIfBsCpeRegCapabilityReqIndex,
        wranIfBsCpeRegCapabilityReqMacAddress,
        wranIfBsCpeRegCapabilityReqNMEALocStringSize,
        wranIfBsCpeRegCapabilityReqNMEALocString,
        wranIfBsCpeRegCapabilityReqCsConfig,
        wranIfBsCpeRegCapabilityReqIpVersion,
        wranIfBsCpeRegCapabilityReqIpRochSupport,
        wranIfBsCpeRegCapabilityReqArqSupport,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqWindowSize,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryTxDelay,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqRetryRxDelay,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockLifetime,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqSyncLossTimeout,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqDeliverInOrder,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqRxPurgeTimeout,
        wranIfBsCpeRegCapabilityReq2ndMgmtArqBlockSize,
        wranIfBsCpeRegCapabilityReqDsxFlowControl,
        wranIfBsCpeRegCapabilityReqMcaFlowControl,
        wranIfBsCpeRegCapabilityReqMaxNumMcastGroups,
        wranIfBsCpeRegCapabilityReqSensModeSupportArray,
        wranIfBsCpeRegCapabilityReqAntennaModelSize,
        wranIfBsCpeRegCapabilityReqAntennaModel,
        wranIfBsCpeRegCapabilityReqCpeResidualDelay,
        wranIfBsCpeRegCapabilityReq2ndMgmtIpAllocMethod,
        wranIfBsCpeRegCapabilityReqCpeOperationalCapability,
        wranIfBsCpeRegCapabilityReqCpeRegistrationTimer,
        wranIfBsCpeRegCapabilityRspIndex,
        wranIfBsCpeRegCapabilityRspMacAddress,
        wranIfBsCpeRegCapabilityRspNumAttempts,
        wranIfBsCpeRegCapabilityRspCsConfig,
        wranIfBsCpeRegCapabilityRspIpVersion,
        wranIfBsCpeRegCapabilityRspIpRochSupport,
        wranIfBsCpeRegCapabilityRspArqSupport,
        wranIfBsCpeRegCapabilityRsp2ndMgmtArqWindowSize,
        wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryTxDelay,
        wranIfBsCpeRegCapabilityRsp2ndMgmtArqRetryRxDelay,
        wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockLifetime,
        wranIfBsCpeRegCapabilityRsp2ndMgmtArqSyncLossTimeout,
        wranIfBsCpeRegCapabilityRsp2ndMgmtArqDeliverInOrder,
        wranIfBsCpeRegCapabilityRsp2ndMgmtArqRxPurgeTimeout,
        wranIfBsCpeRegCapabilityRsp2ndMgmtArqBlockSize,
        wranIfBsCpeRegCapabilityRspDsxFlowControl,
        wranIfBsCpeRegCapabilityRspMcaFlowControl,
        wranIfBsCpeRegCapabilityRspMaxNumMcastGroups,
        wranIfBsCpeRegCapabilityRspSensModeSupportArray,
        wranIfBsCpeRegCapabilityRspAntennaModelSize,
        wranIfBsCpeRegCapabilityRspAntennaModel,

```

```

wranIfBsCpeRegCapabilityRsp2ndMgmtIpAllocMethod,
wranIfBsCpeRegCapabilityRspCpeOperationalCapability,
wranIfBsCpeRegCapabilityRspCpeRegistrationTimer,
wranIfBsCpeRegCapabilityRspPermanentSid,
wranIfBsCpeRegCapabilityDefIndex,
wranIfBsCpeRegCapabilityDefCsConfig,
wranIfBsCpeRegCapabilityDefIpVersion,
wranIfBsCpeRegCapabilityDefIpRochSupport,
wranIfBsCpeRegCapabilityDefArqSupport,
wranIfBsCpeRegCapabilityDef2ndMgmtArqWindowSize,
wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryTxDelay,
wranIfBsCpeRegCapabilityDef2ndMgmtArqRetryRxDelay,
wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockLifetime,
wranIfBsCpeRegCapabilityDef2ndMgmtArqSyncLossTimeout,
wranIfBsCpeRegCapabilityDef2ndMgmtArqDeliverInOrder,
wranIfBsCpeRegCapabilityDef2ndMgmtArqRxPurgeTimeout,
wranIfBsCpeRegCapabilityDef2ndMgmtArqBlockSize,
wranIfBsCpeRegCapabilityDefDsxFLOWControl,
wranIfBsCpeRegCapabilityDefMcaFlowControl,
wranIfBsCpeRegCapabilityDefMaxNumMcastGroups,
wranIfBsCpeRegCapabilityDefSensModeSupportArray,
wranIfBsCpeRegCapabilityDef2ndMgmtIpAllocMethod,
wranIfBsCpeRegCapabilityDefCpeOperationalCapability,
wranIfBsCpeRegCapabilityDefCpeRegistrationTimer }
STATUS      current
DESCRIPTION

```

```

    "This group contains objects related to
    management of the REG-REQ/RSP process."
 ::= { wranIfBsCmMibGroups 3 }

```

```

wranIfBsCmMeasSupportGroup      OBJECT-GROUP
OBJECTS      { wranIfBsCpeMeasSupportReqIndex,
wranIfBsCpeMeasSupportReqMacAddress,
wranIfBsCpeMeasSupportReqSignalType,
wranIfBsCpeMeasSupportReqThreshold,
wranIfBsCpeMeasSupportReqPd,
wranIfBsCpeMeasSupportReqMpfa,
wranIfBsCpeMeasSupportReqRecNumSensPeriods,
wranIfBsCpeMeasSupportReqRecSensPeriodDuration,
wranIfBsCpeMeasSupportReqRecSensPeriodInterval,
wranIfBsCpeMeasSupportRspIndex,
wranIfBsCpeMeasSupportRspMacAddress,
wranIfBsCpeMeasSupportRspSignalType,
wranIfBsCpeMeasSupportRspThreshold,
wranIfBsCpeMeasSupportRspPd,
wranIfBsCpeMeasSupportRspMpfa,
wranIfBsCpeMeasSupportRspRecNumSensPeriods,
wranIfBsCpeMeasSupportRspRecSensPeriodDuration,
wranIfBsCpeMeasSupportRspRecSensPeriodInterval,
wranIfBsCpeMeasSupportDefIndex,
wranIfBsCpeMeasSupportDefSignalType,
wranIfBsCpeMeasSupportDefThreshold,
wranIfBsCpeMeasSupportDefPd,
wranIfBsCpeMeasSupportDefMpfa,
wranIfBsCpeMeasSupportDefRecNumSensPeriods,
wranIfBsCpeMeasSupportDefRecSensPeriodDuration,

```

```

    wranIfBsCpeMeasSupportDefRecSensPeriodInterval }
    STATUS      current
    DESCRIPTION
        "This group contains objects related to
        management of the measurement process."
    ::= { wranIfBsCmMibGroups 4 }

```

```

wranIfBsCpeCmAntennaGroup      OBJECT-GROUP
    OBJECTS      { wranIfBsCpeAntennaGainIndex,
                    wranIfBsCpeAntennaGainMacAddress,
                    wranIfBsCpeTvChannel,
                    wranIfBsCpeOnAxisGain }
    STATUS      current
    DESCRIPTION
        "This group contains objects related to
        management of the antenna configuration."
    ::= { wranIfBsCmMibGroups 5 }

```

```

wranIfBsScmCmGroup            OBJECT-GROUP
    OBJECTS      { wranIfBsScmCapabilityConfiguration,
                    wranIfBsCpeScmCapabilityConfigIndex,
                    wranIfBsCpeScmCapabilityConfigMacAddress,
                    wranIfBsCpeScmCapabilityConfiguration,
                    wranIfBsCpeEapTlsTlsCredentialSize,
                    wranIfBsCpeEapTlsTlsCredential,
                    wranIfBsScmAuthConfigIndex,
                    wranIfBsT36, wranIfBsT37,
                    wranIfBsMaxNumAuthAttempts,
                    wranIfBsT38, wranIfBsT39,
                    wranIfBsT40, wranIfBsAkLifetime,
                    wranIfBsTekLifetime, wranIfBsMaxNumSa,
                    wranIfBsT17 }
    STATUS      current
    DESCRIPTION
        "This group contains objects related to
        management of the SCM protocol and SCM status
        on a CPE/BS."
    ::= { wranIfBsCmMibGroups 6 }

```

```

wranIfBsActionsCmGroup        OBJECT-GROUP
    OBJECTS      { wranIfBsCpeActionsIndex,
                    wranIfBsCpeActionsMacAddress,
                    wranIfBsCpeActionsRngCpe,
                    wranIfBsCpeActionsDeRegCpe,
                    wranIfBsCpeActionsSchedule }
    STATUS      current
    DESCRIPTION
        "This group contains objects related to
        management of actions the BS can take."
    ::= { wranIfBsCmMibGroups 7 }

```

```

wranIfBsMulticastCmGroup      OBJECT-GROUP
    OBJECTS      { wranIfBsCpeMcastConfigIndex,
                    wranIfBsCpeMcastMacAddress,
                    wranIfBsCpeMcastSid,
                    wranIfBsCpeMcastPeriodicAllocParameterM,

```



```

        wranIfBsCpeMcastPeriodicAllocParameterK,
        wranIfBsCpeMcastPeriodicAllocParameterN }
STATUS      current
DESCRIPTION

```

```

    "This group contains objects related to
    management of multicast configuration."
 ::= { wranIfBsCmMibGroups 8 }

```

```

wranIfBsCoexistenceCmGroup      OBJECT-GROUP
OBJECTS      { wranIfBsCoexistenceConfigIndex,
                wranIfBsT34, wranIfBsT33,
                wranIfBsT32, wranIfBsFcw,
                wranIfBsScwBackoffMax,
                wranIfBsFcMin, wranIfBsFcnRange,
                wranIfBsSfRel, wranIfBsT35 }
STATUS      current
DESCRIPTION

```

```

    "This group contains objects related to
    management of coexistence configuration."
 ::= { wranIfBsCmMibGroups 9 }

```

```

wranIfBsSystemParametersCmGroup OBJECT-GROUP
OBJECTS      { wranIfBsCpeSystemParametersIndex,
                wranIfBsDsxReqRetries,
                wranIfBsDsxRspRetries,
                wranIfBsT6, wranIfBsT7, wranIfBsT8,
                wranIfBsT9, wranIfBsT10, wranIfBsT13,
                wranIfBsT14, wranIfBsT15, wranIfBsT16,
                wranIfBsT18, wranIfBsT22, wranIfBsT26,
                wranIfBsT27Idle, wranIfBsT27Active,
                wranIfBsT28 }
STATUS      current
DESCRIPTION

```

```

    "This group contains objects related to
    management of system parameter configuration."
 ::= { wranIfBsCmMibGroups 10 }

```

```

wranIfBsPhyCmGroup      OBJECT-GROUP
OBJECTS      { wranIfBsOfdmaPhyUsChannelIndex,
                wranIfBsOfdmaPhyUsSid,
                wranIfBsOfdmaPhyUsMacAddress,
                wranIfBsOfdmaCtBasedResvTimeout,
                wranIfBsOfdmaUsCenterFrequency, ,
                wranIfBsOfdmasUsRadioResource,
                wranIfBsOfdmaUsUcsConfigChangeCount,
                wranIfBsOfdmaUsUcsNotificationCodes,
                wranIfBsOfdmaUsInitRngCodes,
                wranIfBsOfdmaUsPeriodicRngCodes,
                wranIfBsOfdmaUsBWReqCodes,
                wranIfBsOfdmaUsPeriodicRngBackoffStart,
                wranIfBsOfdmaUsPeriodicRngBackoffEnd,
                wranIfBsOfdmaUsStartofCodes,
                wranIfBsOfdmaUsNormalizedCnrOverride,
                wranIfBsOfdamUsInitialRangingInterval,
                wranIfBsOfdmaUsUcsNotificationBackoffStart,
                wranIfBsOfdmaUsUcsNotificationBackoffEnd,

```

wranIfBsOfdmaUsInitialRngBackoffStart,
wranIfBsOfdmaUsInitialRngBackoffEnd,
wranIfBsOfdmaUsBwRequestBackoffStart,
wranIfBsOfdmaUsBwRequestBackoffEnd,
wranIfBsOfdmaUsUcdInterval,
wranIfBsOfdmaUsUcdTransition,
wranIfBsOfdmaUsClkCmpInterval,
wranIfBsOfdmaUsT57,
wranIfBsOfdmaUsT58,
wranIfBsOfdmaUsCdmaRngRetries,
wranIfBsOfdmaUsInvRngReq,
wranIfBsOfdmaUsMapProcTime,
wranIfBsOfdmaUsT3,
wranIfBsOfdmaUsT4,
wranIfBsOfdmaUsT5,
wranIfBsOfdmaUsT12,
wranIfBsOfdmaPhyDsChannelIndex,
wranIfBsOfdmaDsBsId,
wranIfBsOfdmaDsEirp,
wranIfBsOfdmaDsChannelNumber,
wranIfBsOfdmaDsPhyMaxEirp,
wranIfBsOfdmaDsCenterFreq,
wranIfBsOfdmaDsMacVersion,
wranIfBsOfdmaDsCyclicPrefix,
wranIfBsOfdmaDsRadioResource,
wranIfBsOfdmaDsCellType,
wranIfBsOfdmaDsConfigChangeCount,
wranIfBsOfdmaDsFrameDuration,
wranIfBsOfdmaDsRssiCinrAvgParameter,
wranIfBsOfdmaDsThresholdAddBsServiceSet,
wranIfBsOfdmaDsThresholdDelBsServiceSet,
wranIfBsOfdmaDsDcdInterval,
wranIfBsOfdmaDsDcdTransition,
wranIfBsOfdmaDsT56,
wranIfBsOfdmaDsT1,
wranIfBsOfdmaDsT2,
wranIfBsOfdmaDsT20,
wranIfBsOfdmaDsT21,
wranIfBsOfdmaDsTtg,
wranIfBsOfdmaUcdUiucIndex,
wranIfBsOfdmaUcdUicuExitThreshold,
wranIfBsOfdmaUcdUicuEntryThreshold,
wranIfBsOfdmaUcdRangingDataRatio,
wranIfBsOfdmaDcdDiucIndex,
wranIfBsOfdmaDcdDicuExitThreshold,
wranIfBsOfdmaDcdDicuEntryThreshold,
wranIfBsOfdmaDsRegionIndex,
wranIfBsOfdmaDsDuration,
wranIfBsOfdmaUsRegionIndex,
wranIfBsOfdmaUsDuration }

STATUS current

DESCRIPTION

"This group contains objects related to
management of PHY configuration."

::= { wranIfBsCmMibGroups 11 }


```

wranIfBsCmMibCompliance MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "MIB objects that are optional and mandatory for
        wranIfBsCm compliance."
    MODULE      wranIfBsCm
    MANDATORY-GROUPS { wranIfBsCmRangingGroup,
                        wranIfBsCmBasicCapabilityGroup,
                        wranIfBsCmRegCapabilityGroup,
                        wranIfBsCmMeasSupportGroup,
                        wranIfBsCpeAntennaGroup,
                        wranIfBsActionsGroup,
                        wranIfBsScmGroup,
                        wranIfBsActionsGroup,
                        wranIfBsCoexistenceGroup,
                        wranIfBsSystemParametersGroup,
                        wranIfBsPhyGroup }
    -- OPTIONAL-GROUPS { wranIfBsMulticastGroup }
    ::= { wranIfBsCm 25 }

-- wranIfBsAm: This MIB group contains various objects related to
-- Accounting Management.

wranIfBsOtaUsageDataRecordTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfBsOtaUsageDataRecordEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object contains usage entries that track the
        number of octets/packets transmitted or received
        over the air interface. Records may be transferred
        to an external database, such as an AAA server,
        after which they can be deleted from this table.
        Each entry is defined by
        wranIfBsOtaUsageDataRecordEntry."
    ::= { wranIfBsAm 1 }

wranIfBsOtaUsageDataRecordEntry OBJECT-TYPE
    SYNTAX      wranIfBsOtaUsageDataRecordEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object is a compound object that defines an
        entry in wranIfBsOtaUsageDataRecordTable."
    INDEX { wranIfBsOtaUsageDataRecordIndex }
    ::= { wranIfBsOtaUsageDataRecordTable 1 }

wranIfBsOtaUsageDataRecordEntry ::= SEQUENCE {
    wranIfBsOtaUsageDataRecordIndex Integer32,
    wranIfBsOtaUsageSid Integer32,
    wranIfBsOtaUsageFid INTEGER,
    wranIfBsOtaUsageSessionId Integer32,
    wranIfBsOtaUsageMacSduCount Integer32,
    wranIfBsOtaUsageOctetCount INTEGER,
    wranIfBsOtaUsageSessionStartTime DateAndTime,
    wranIfBsOtaUsageSessionEndTime DateAndTime,

```

wranIfBsOtaUsageQoSServiceFlowListSize	INTEGER,
wranIfBsOtaUsageQoSServiceFlowList	OCTET STRING,
wranIfBsOtaUsageQoSProfileListSize	INTEGER,
wranIfBsOtaUsageQoSProfileList	OCTET STRING }

wranIfBsOtaUsageDataRecordIndex OBJECT-TYPE

SYNTAX Integer32 (1.. 2048)

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Index of entry in this table, defaults to 1."

::= { wranIfBsOtaUsageDataRecordEntry 1 }

wranIfBsOtaUsageSid OBJECT-TYPE

SYNTAX Integer32 (0.. 512)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"A 9-bit Station ID that identifies the station that is carrying traffic."

::= { wranIfBsOtaUsageDataRecordEntry 2 }

wranIfBsOtaUsageFid OBJECT-TYPE

SYNTAX INTEGER (0..7)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"A 3-bit Flow Id that identifies the specific flow assigned to a station that is carrying traffic. For data traffic this identifies the FID that is mapped to a service flow id (i.e., wranIfBsServiceFlowId)."

::= { wranIfBsOtaUsageDataRecordEntry 3 }

wranIfBsOtaUsageSessionId OBJECT-TYPE

SYNTAX Integer32 (0..4294967295)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"An identifier for a session. A session is a segment in time when a service flow is active. Multiple sessions can be created during service flow activation time to allow the BS to track usage during period when service flow configuration is changing."

::= { wranIfBsOtaUsageDataRecordEntry 4 }

wranIfBsOtaUsageMacSduCount OBJECT-TYPE

SYNTAX Integer32 (0.. 4294967295)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Counter of the number of MAC SDUs transmitted on a FID. If the FID represents a basic, primary/secondary management, or multicast management FID, then this deals with traffic transmitted on both the DS and US."

```
::= { wranIfBsOtaUsageDataRecordEntry 5 }
```

```
wranIfBsOtaUsageOctetCount    OBJECT-TYPE
    SYNTAX      Integer32 (0.. 4294967295)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Counter of the number of MAC PDUs that have been
        transmitted and received over the air interface."
    ::= { wranIfBsOtaUsageDataRecordEntry 6 }
```

```
wranIfBsOtaUsageSessionStartTime    OBJECT-TYPE
    SYNTAX      DateAndTime
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Date and time session was established."
    ::= { wranIfBsOtaUsageDataRecordEntry 7 }
```

```
wranIfBsOtaUsageSessionEndTime      OBJECT-TYPE
    SYNTAX      DateAndTime
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Date and time session was ended."
    ::= { wranIfBsOtaUsageDataRecordEntry 8 }
```

```
wranIfBsOtaUsageServiceFlowListSize OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Number of items in
        wranIfBsOtaUsageQoSServiceFlowList."
    ::= { wranIfBsOtaUsageDataRecordEntry 9 }
```

```
wranIfBsOtaUsageServiceFlowList     OBJECT-TYPE
    SYNTAX      OCTET STRING
                (SIZE(wranIfBsOtaUsageServiceFlowListSize*4))
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "A list of service flow Ids (SFIDs), identifying
        each service flow active during this session (i.e.,
        a list of SFIDs that pertain to service flows as
        defined in wranIfBsActiveSfTable)."
    ::= { wranIfBsOtaUsageDataRecordEntry 10 }
```

```
wranIfBsOtaUsageQoSProfileListSize  OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Number of items in
        wranIfBsOtaUsageQoSProfileList."
    ::= { wranIfBsOtaUsageDataRecordEntry 11 }
```

```

    wranIfBsOtaUsageQoSProfileList      OBJECT-TYPE
        SYNTAX      OCTET STRING
        (SIZE(wranIfBsOtaUsageQoSProfileListSize*2))
        MAX-ACCESS  read-write
        STATUS      current
        DESCRIPTION
            "A list of indexes into wranIfBsScTable, that point
            to the definition of the QoS parameter set of each
            service flow listed in
            wranIfBsOtaUsageQoSServiceFlowList (and hence were
            active during this session)."
```

::= { wranIfBsOtaUsageDataRecordEntry 12 }

-- wranIfBsAmMibGroups: This object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

```

    wranIfBsAmMibGroups      OBJECT IDENTIFIER
                                ::= { wranIfBsAm 2 }
    wranIfBsAmOtaUsageDataGroup  OBJECT IDENTIFIER
                                ::= { wranIfBsAmMibGroups 1 }
```

```

    wranIfBsAmOtaUsageDataGroup  OBJECT-GROUP
        OBJECTS      { wranIfBsOtaUsageDataRecordIndex,
                        wranIfBsOtaUsageSid,
                        wranIfBsOtaUsageFid,
                        wranIfBsOtaUsageSessionId,
                        wranIfBsOtaUsageMacSduCount,
                        wranIfBsOtaUsageOctetCount,
                        wranIfBsOtaUsageSessionStartTime,
                        wranIfBsOtaUsageSessionEndTime,
                        wranIfBsOtaUsageQoSServiceFlowListSize,
                        wranIfBsOtaUsageQoSServiceFlowList,
                        wranIfBsOtaUsageQoSProfileListSize,
                        wranIfBsOtaUsageQoSProfileList }
        STATUS      current
        DESCRIPTION
            "This group contains objects related to
            tracking usage of OTA resources per CPE."
        ::= { wranIfBsAmMibGroups 1 }
```

```

    wranIfBsAmMibCompliance  MODULE-COMPLIANCE
        STATUS      current
        DESCRIPTION
            "MIB objects that are optional and mandatory for
            wranIfBsAm compliance."
        MODULE      wranIfBsCm
        MANDATORY-GROUPS { wranIfBsAmOtaUsageDataGroup }
        ::= { wranIfBsAm 3 }
```

-- wranIfBsPm: This MIB group contains various objects related to
-- Performance Management.

```

    wranIfBsPmConfigurationTable
                                OBJECT IDENTIFIER ::= { wranIfBsPm 1 }
```

wranIfBsSignalPowerMetricsTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 2 }

wranIfBsStartupMetricsTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 3 }

wranIfBsThroughputMetricsTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 4 }

wranIfBsNetworkEntryMetricsTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 5 }

wranIfBsPacketErrorRateTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 6 }

wranIfBsUserMetricsTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 7 }

wranIfBsServiceFlowMetricsTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 8 }

wranIfBsArqMetricsTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 9 }

wranIfBsAuthenticationMetricsTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 10 }

wranIfBsCoexistenceStatusTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 11 }

wranIfBsCoexistenceSourceTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 12 }

wranIfBsCoexistenceResourceListTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 13 }

wranIfBsCoexistenceCurrentConfigTable
 OBJECT IDENTIFIER ::= { wranIfBsPm 14 }

wranIfBsPmMibGroups
 OBJECT IDENTIFIER ::= { wranIfBsPm 15 }

wranIfBsPmMibCompliance
 OBJECT IDENTIFIER ::= { wranIfBsPm 16 }

wranIfBsPmConfigurationTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsPmConfigurationEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "The configuration of statistics recording and measurement is captured in this table. There is one entry in this table, defined by wranIfBsPmConfigurationEntry."
 ::= { wranIfBsPm 1 }

wranIfBsPmConfigurationEntry OBJECT-TYPE
 SYNTAX wranIfBsPmConfigurationEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object is a compound object that defines an entry in wranIfBsPmConfigurationTable."
 INDEX { wranIfBsPmConfigurationEntryIndex }
 ::= { wranIfBsPmConfigurationTable 1 }

wranIfBsPmConfigurationEntry ::= SEQUENCE {
 wranIfBsPmConfigurationEntryIndex INTEGER,
 wranIfBsGranularityInterval Integer32,
 wranIfBsCountersReportInterval Integer32,

wranIfBsPmMeasurementBitmap BITS }

wranIfBsOtaUsageDataRecordIndex OBJECT-TYPE

SYNTAX INTEGER (1.. 1)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in this table, defaults to 1."

::= { wranIfBsPmConfigurationEntry 1 }

wranIfBsGranularityInterval OBJECT-TYPE

SYNTAX INTEGER (1.. 255)

UNITS "seconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Data rate statistics captured in wranIfBsRssiCinrMetricsTable, wranIfBsStartupMetricsTable, wranIfBsThroughputMetricsTable, wranIfBsPacketErrorRateTable, wranIfBsUserMetricsTable, wranIfBsServiceFlowMetricsTable, wranIfBsArqMetricsTable, and wranIfBsAuthenticationMetricsTable are measured over the time interval this object specifies."

::= { wranIfBsPmConfigurationEntry 2 }

wranIfBsCountersReportInterval OBJECT-TYPE

SYNTAX INTEGER (1.. 255)

UNITS "minutes"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Determines the interval in which traps in enabled in wranIfBsTrapControl, related to performance measurement, are sent to the NCMS."

::= { wranIfBsPmConfigurationEntry 2 }

wranIfBsPmMeasurementBitmap OBJECT-TYPE

SYNTAX BITS { RssiCinr(0),
Startup(1),
Throughput(2),
NetworkEntry(3),
PacketError(4),
User(5),
ServiceFlow(6),
Arq(7),
Authentication(8),
CoexistenceStatus(9),
CoexistenceSource(10),
CoexistenceResourceList(11),
CoexistenceCurrentConfig(12) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"A 13-bit bitmap indicating which of the measurement tables are enabled or disabled. When a position in the bitmap is set(=1) that measurement table is enabled, when it is unset (=0) the table is disabled. The bitmap position to table assignment is as follows:

Bit0->wranIfBsSignalPowerMetricsTable
 Bit1->wranIfBsStartupMetricsTable
 Bit2->wranIfBsThroughputMetricsTable
 Bit3->wranIfBsNetworkEntryMetricsTable
 Bit4->wranIfBsPacketErrorRateTable
 Bit5->wranIfBsUserMetricsTable
 Bit6->wranIfBsServiceFlowMetricsTable
 Bit7->wranIfBsArqMetricsTable
 Bit8->wranIfBsAuthenticationMetricsTable
 Bit9->wranIfBsCoexistenceStatusTable
 Bit10->wranIfBsCoexistenceSourceTable
 Bit11->wranIfBsCoexistenceResourceListTable
 Bit12->wranIfBsCoexistenceCurrentConfigTable."

::= { wranIfBsPmConfigurationEntry 3 }

wranIfBsSignalPowerMetricsTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsSignalPowerMetricsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This MIB object contains a table that records BS US measurement of a CPE's transmissions, as well as CPE measurement of BS DS signal. The data in each entry is stored as a histogram. This table is made up of entries defined by wranIfBsRssiCinrMetricsEntry. Each entry is uniquely identified by the CPE's MAC Address and the index of the entry in the table."
 ::= { wranIfBsPm 2 }

wranIfBsSignalPowerMetricsEntry OBJECT-TYPE
 SYNTAX wranIfBsSignalPowerMetricsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object is a compound object that defines an entry in wranIfBsRssiCinrMetricsTable."
 INDEX { wranIfBsSignalPowerMetricsIndex }
 ::= { wranIfBsSignalPowerMetricsTable 1 }

wranIfBsSignalPowerMetricsEntry ::= SEQUENCE {
 wranIfBsRssiCinrMetricsIndex Integer32,
 wranIfBsCpeMacAddress MacAddress,
 wranIfBsChannelDirection INTEGER,
 wranIfBsChannelNumber INTEGER,
 wranIfBsStartFrame INTEGER
 wranIfBsMeasurementDuration Integer32,
 wranIfBsSignalReportType INTEGER,
 wranIfBsMeanCinrReport INTEGER,
 wranIfBsMeanRssiReport INTEGER,
 wranIfBsStdDevCinrReport INTEGER,


```
wranIfBsStdDevRssiReport      INTEGER,
wranIfBsMaxEIRPReport        INTEGER,
wranIfBsPerScEIRPReport      INTEGER }
```

```
wranIfBsSignalPowerMetricsIndex  OBJECT-TYPE
SYNTAX      Integer32 (1.. 261120)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Index of entry in this table, defaults to 1."
 ::= { wranIfBsSignalPowerMetricsEntry 1 }
```

```
wranIfBsCpeMacAddress  OBJECT-TYPE
SYNTAX      MacAddress
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "MAC Address of the CPE."
 ::= { wranIfBsSignalPowerMetricsEntry 2 }
```

```
wranIfBsChannelDirection  OBJECT-TYPE
SYNTAX      INTEGER { ds(0), us(1) }
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Direction of channel, whether DS or US, that
    measurement was done on."
 ::= { wranIfBsSignalPowerMetricsEntry 3 }
```

```
wranIfBsChannelNumber  OBJECT-TYPE
SYNTAX      INTEGER
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Channel number that measurement was done on."
 ::= { wranIfBsSignalPowerMetricsEntry 4 }
```

```
wranIfBsStartFrame  OBJECT-TYPE
SYNTAX      INTEGER (0..255)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Frame number in which measurement was conducted in."
 ::= { wranIfBsSignalPowerMetricsEntry 5 }
```

```
wranIfBsMeasurementDuration  OBJECT-TYPE
SYNTAX      Integer32 (1.. 16777215)
UNITS      "symbols"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Duration of measurement period in units of symbol
    period."
 ::= { wranIfBsRssiCinrMetricsEntry 6 }
```

```
wranIfBsSignalReportType  OBJECT-TYPE
```

```

SYNTAX      INTEGER { undetermined(0),
                      ieee802dot22wran(1),
                      atsc(2),
                      dvbt(3),
                      isdbt(4),
                      ntsc(5),
                      pal(6),
                      secam(7),
                      wirelessMicrophone(8),
                      ieee802dot22dot1Sync(9),
                      ieee802dot22dot1Msf1(10),
                      ieee802dot22dot1Msf2(11),
                      ieee802dot22dot1Msf3(12) }

MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Type of signal detected during the measurement
    recorded in this entry."
 ::= { wranIfBsSignalPowerMetricsEntry 7 }

```

```

wranIfBsMeanCinrReport OBJECT-TYPE
SYNTAX      INTEGER (0..255)
UNITS       "dBm"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Mean CINR report, on an interval -64 to +63.5 dBm in
    0.5 dB steps."
 ::= { wranIfBsSignalPowerMetricsEntry 8 }

```

```

wranIfBsMeanRssiReport OBJECT-TYPE
SYNTAX      INTEGER (0..255)
UNITS       "dBm"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Mean RSSI report, on an interval -104 to +23.5 dBm
    in 0.5 dB steps."
 ::= { wranIfBsSignalPowerMetricsEntry 9 }

```

```

wranIfBsStdDevCinrReport OBJECT-TYPE
SYNTAX      INTEGER (0..255)
UNITS       "dBm"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Standard Deviation CINR report, on an interval -64
    to +63.5 dBm in 0.5 dB steps."
 ::= { wranIfBsSignalPowerMetricsEntry 10 }

```

```

wranIfBsStdDevRssiReport OBJECT-TYPE
SYNTAX      INTEGER (0..255)
UNITS       "dBm"
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION

```

"Standard Deviation RSSI report, on an interval -104 to +23.5 dBm in 0.5 dB steps."
 ::= { wranIfBsSignalPowerMetricsEntry 11 }

wranIfBsMaxEIRPReport OBJECT-TYPE
 SYNTAX INTEGER (0..255)
 UNITS "dBm"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Max EIRP report, on an interval -104 to +23.5 dBm in 0.5 dB steps."
 ::= { wranIfBsSignalPowerMetricsEntry 12 }

wranIfBsPerScEIRPReport OBJECT-TYPE
 SYNTAX INTEGER (0..255)
 UNITS "dBm"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Per subchannel EIRP report, on an interval -104 to +23.5 dBm in 0.5 dB steps."
 ::= { wranIfBsSignalPowerMetricsEntry 13 }

wranIfBsStartupMetricsTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsStartupMetricsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This MIB provides a table to track how CPEs perform during initial network entry and re-entry. This table is made of one entry, defined by wranIfBsStartupMetricsEntry. This entry reflects the startup metrics recorded during the current reporting session."
 ::= { wranIfBsPm 3 }

wranIfBsStartupMetricsEntry OBJECT-TYPE
 SYNTAX wranIfBsStartupMetricsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object is a compound object that defines an entry in wranIfBsStartupMetricsTable."
 INDEX { wranIfBsStartupMetricsIndex }
 ::= { wranIfBsStartupMetricsTable 1 }

wranIfBsStartupMetricsEntry ::= SEQUENCE {
 wranIfBsStartupMetricsIndex INTEGER,
 wranIfBsNumAuthAttempt Integer32,
 wranIfBsNumAuthSuccess Integer32,
 wranIfBsAuthSuccessRate INTEGER,
 wranIfBsNumRangingAttempt Integer32,
 wranIfBsNumRangingSuccess Integer32,
 wranIfBsRangingSuccessRate INTEGER,
 wranIfBsMeanCinrReport INTEGER }

wranIfBsStartupMetricsIndex OBJECT-TYPE
SYNTAX INTEGER (1.. 1)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Index of entry in this table, defaults to 1."
 ::= { wranIfBsStartupMetricsEntry 1 }

wranIfBsNumAuthAttempt OBJECT-TYPE
SYNTAX Integer32 (1.. 16777216)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"A counter for the number of CPE authentication attempts."
 ::= { wranIfBsStartupMetricsEntry 2 }

wranIfBsNumAuthSuccess OBJECT-TYPE
SYNTAX Integer32 (1.. 16777216)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"A counter for the number of successful authentication handshake completions. "
 ::= { wranIfBsStartupMetricsEntry 3 }

wranIfBsAuthSuccessRate OBJECT-TYPE
SYNTAX INTEGER (0..100)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Success rate of authentication attempts:
wranIfBsAuthSuccessRate = floor(100 *
wranIfBsNumAuthSuccess / wranIfBsNumAuthAttempts)."
 ::= { wranIfBsStartupMetricsEntry 4 }

wranIfBsNumRangingAttempt OBJECT-TYPE
SYNTAX Integer32 (1.. 16777216)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Number of CPE ranging requests received."
 ::= { wranIfBsStartupMetricsEntry 5 }

wranIfBsNumRangingSuccess OBJECT-TYPE
SYNTAX Integer32 (1.. 16777216)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Number of CPE ranging responses sent."
 ::= { wranIfBsStartupMetricsEntry 6 }

wranIfBsRangingSuccessRate OBJECT-TYPE
SYNTAX INTEGER (0..100)
MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Success rate of ranging attempts:
 $\text{wranIfBsRangingSuccessRate} = \text{floor}(100 * \text{wranIfBsNumRangingSuccess} / \text{wranIfBsNumRangingAttempts})$."
 ::= { wranIfBsStartupMetricsEntry 7 }

wranIfBsThroughputMetricsTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsThroughputMetricsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB object provides a table to record peak/average data rate. This table is made of one entry, defined by wranIfBsThroughputMetricsEntry."
 ::= { wranIfBsPm 4 }

wranIfBsThroughputMetricsEntry OBJECT-TYPE

SYNTAX wranIfBsThroughputMetricsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that defines an entry in wranIfBsThroughputMetricsTable."

INDEX { wranIfBsThroughputMetricsIndex }

::= { wranIfBsThroughputMetricsTable 1 }

wranIfBsThroughputMetricsEntry ::= SEQUENCE {
 wranIfBsThroughputMetricsIndex INTEGER,
 wranIfBsAvgDsUserThroughput Integer32,
 wranIfBsAvgUsUserThroughput Integer32,
 wranIfBsAvgDsMacThroughput Integer32,
 wranIfBsAvgUsMacThroughput Integer32,
 wranIfBsAvgDsPhyThroughput Integer32,
 wranIfBsAvgUsPhyThroughput Integer32,
 wranIfBsPeakDsUserThroughput Integer32,
 wranIfBsPeakUsUserThroughput Integer32,
 wranIfBsPeakDsMacThroughput Integer32,
 wranIfBsPeakUsMacThroughput Integer32,
 wranIfBsPeakDsPhyThroughput Integer32,
 wranIfBsPeakUsPhyThroughput Integer32,
 wranIfBsAvgDsCellEdgeThroughput Integer32,
 wranIfBsAvgUsCellEdgeThroughput Integer32 }

wranIfBsThroughputMetricsIndex OBJECT-TYPE

SYNTAX INTEGER (1.. 1)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in this table, defaults to 1."
 ::= { wranIfBsThroughputMetricsEntry 1 }

wranIfBsAvgDsUserThroughput OBJECT-TYPE

SYNTAX Integer32 (0..4294967295)

UNITS "bps"

MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This records the average user throughput in the DS.
 This is a function of the number of octets of MAC
 SDUs transmitted by the BS to CPEs over time."
 ::= { wranIfBsThroughputMetricsEntry 2 }

wranIfBsAvgUsUserThroughput OBJECT-TYPE
 SYNTAX Integer32 (0..4294967295)
 UNITS "bps"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This records the average user throughput in the US.
 This is a function of the number of octets of MAC
 SDUs transmitted by the CPEs to BS over time."
 ::= { wranIfBsThroughputMetricsEntry 3 }

wranIfBsAvgDsMacThroughput OBJECT-TYPE
 SYNTAX Integer32 (0..4294967295)
 UNITS "bps"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This records the average MAC throughput in the DS.
 This is a function of the number of octets of MAC
 PDUs transmitted by the BS to CPEs over time."
 ::= { wranIfBsThroughputMetricsEntry 4 }

wranIfBsAvgUsMacThroughput OBJECT-TYPE
 SYNTAX Integer32 (0..4294967295)
 UNITS "bps"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This records the average MAC throughput in the US.
 This is a function of the number of octets of MAC
 PDUs transmitted by the CPEs to BS over time."
 ::= { wranIfBsThroughputMetricsEntry 5 }

wranIfBsAvgDsPhyThroughput OBJECT-TYPE
 SYNTAX Integer32 (0..4294967295)
 UNITS "bps"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This records the average PHY throughput in the DS.
 This is a function of the number of burst octets
 (e.g., MAC PDU + PHY overhead) transmitted by the BS
 to CPEs over time."
 ::= { wranIfBsThroughputMetricsEntry 6 }

wranIfBsAvgUsPhyThroughput OBJECT-TYPE
 SYNTAX Integer32 (0..4294967295)
 UNITS "bps"

```

MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "This records the average PHY throughput in the US.
    This is a function of the number of burst octets
    (e.g., MAC PDU + PHY overhead) transmitted by the
    CPEs to BS over time."
 ::= { wranIfBsThroughputMetricsEntry 7 }

```

```

wranIfBsPeakDsUserThroughput OBJECT-TYPE
SYNTAX        Integer32 (0..4294967295)
UNITS         "bps"
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "This records the peak user throughput in the DS.
    This is a function of the number of octets of MAC
    SDUs transmitted by the BS to CPEs over time."
 ::= { wranIfBsThroughputMetricsEntry 8 }

```

```

wranIfBsPeakUsUserThroughput OBJECT-TYPE
SYNTAX        Integer32 (0..4294967295)
UNITS         "bps"
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "This records the peak user throughput in the US.
    This is a function of the number of octets of MAC
    SDUs transmitted by the CPEs to BS over time."
 ::= { wranIfBsThroughputMetricsEntry 9 }

```

```

wranIfBsPeakDsMacThroughput OBJECT-TYPE
SYNTAX        Integer32 (0..4294967295)
UNITS         "bps"
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "This records the peak MAC throughput in the DS.
    This is a function of the number of octets of MAC
    PDUs transmitted by the BS to CPEs over time."
 ::= { wranIfBsThroughputMetricsEntry 10 }

```

```

wranIfBsPeakUsMacThroughput OBJECT-TYPE
SYNTAX        Integer32 (0..4294967295)
UNITS         "bps"
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "This records the peak MAC throughput in the US.
    This is a function of the number of octets of MAC
    PDUs transmitted by the CPEs to BS over time."
 ::= { wranIfBsThroughputMetricsEntry 11 }

```

```

wranIfBsPeakDsPhyThroughput OBJECT-TYPE
SYNTAX        Integer32 (0..4294967295)
UNITS         "bps"

```


MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This records the peak PHY throughput in the DS.
 This is a function of the number of burst octets
 (e.g., MAC PDU + PHY overhead) transmitted by the BS
 to CPEs over time."
 ::= { wranIfBsThroughputMetricsEntry 12 }

wranIfBsPeakUsPhyThroughput OBJECT-TYPE
 SYNTAX Integer32 (0..4294967295)
 UNITS "bps"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This records the peak PHY throughput in the US.
 This is a function of the number of burst octets
 (e.g., MAC PDU + PHY overhead) transmitted by the
 CPEs to BS over time."
 ::= { wranIfBsThroughputMetricsEntry 13 }

wranIfBsAvgDsCellEdgeThroughput OBJECT-TYPE
 SYNTAX Integer32 (0..4294967295)
 UNITS "bps"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This records the average MAC throughput in the DS
 transmitted with the most robust MCS. This is a
 function of the number of octets of MAC PDUs
 transmitted by the BS to the CPEs over time using
 QPSK."
 ::= { wranIfBsThroughputMetricsEntry 14 }

wranIfBsAvgUsCellEdgeThroughput OBJECT-TYPE
 SYNTAX Integer32 (0..4294967295)
 UNITS "bps"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This records the average MAC throughput in the US
 transmitted with the most robust MCS. This is a
 function of the number of octets of MAC PDUs
 transmitted by the CPEs to the BS over time using
 QPSK."
 ::= { wranIfBsThroughputMetricsEntry 15 }

wranIfBsNetworkEntryMetricsTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsNetworkEntryMetricsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This MIB provides a table that contains latency
 (time) for network entry and re-entry. Network entry
 time is measured as the time in between receiving
 the first RNG-REQ from a CPE until the CPE has

received the REG-RSP. Network re-entry process is governed by the policies in (Policy) Table 234. This could required execution of the entire network entry process if the CPE is forced to re-initialize itself or it could only required execution of the CPE initialization procedure through the ranging process (see 7.14.2). There is one entry in the table, defined by wranIfBsNetworkEntryMetricsEntry."

```
::= { wranIfBsPm 5 }
```

```
wranIfBsNetworkEntryMetricsEntry    OBJECT-TYPE
    SYNTAX      wranIfBsNetworkEntryMetricsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object is a compound object that defines an
         entry in wranIfBsNetworkEntryMetricsTable."
    INDEX { wranIfBsNetworkEntryMetricsIndex }
    ::= { wranIfBsNetworkEntryMetricsTable 1 }
```

```
wranIfBsNetworkEntryMetricsEntry    ::= SEQUENCE {
    wranIfBsNetworkEntryMetricsIndex  INTEGER,
    wranIfBsAvgNetworkEntryLatency    Integer32,
    wranIfBsMaxNetworkEntryLatency    Integer32,
    wranIfBsAvgNetworkReEntryLatency  Integer32,
    wranIfBsMaxNetworkReEntryLatency  Integer32,
    wranIfBsNumNetworkEntryAttempts   Integer32,
    wranIfBsNumNetworkReEntryAttempts Integer32 }
```

```
wranIfBsNetworkEntryMetricsIndex    OBJECT-TYPE
    SYNTAX      INTEGER (1.. 1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in this table, defaults to 1."
    ::= { wranIfBsNetworkEntryMetricsEntry 1 }
```

```
wranIfBsAvgNetworkEntryLatency       OBJECT-TYPE
    SYNTAX      Integer32 (1.. 3600000)
    UNITS       "milliseconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Average network entry latency, measured in milli-
         seconds."
    ::= { wranIfBsNetworkEntryMetricsEntry 2 }
```

```
wranIfBsMaxNetworkEntryLatency       OBJECT-TYPE
    SYNTAX      Integer32 (1.. 3600000)
    UNITS       "milliseconds"
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Maximum network entry latency, measured in milli-
         seconds."
    ::= { wranIfBsNetworkEntryMetricsEntry 3 }
```

wranIfBsAvgNetworkReEntryLatency OBJECT-TYPE
 SYNTAX Integer32 (1.. 3600000)
 UNITS "milliseconds"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Average network re-entry latency, measure in milli-seconds."
 ::= { wranIfBsNetworkEntryMetricsEntry 4 }

wranIfBsMaxNetworkReEntryLatency OBJECT-TYPE
 SYNTAX Integer32 (1.. 3600000)
 UNITS "milliseconds"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Average network re-entry latency, measure in milli-seconds."
 ::= { wranIfBsNetworkEntryMetricsEntry 5 }

wranIfBsNumNetworkEntryAttempts OBJECT-TYPE
 SYNTAX Integer32 (1.. 3600000)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Number of network entry attempts."
 ::= { wranIfBsNetworkEntryMetricsEntry 6 }

wranIfBsNumNetworkReEntryAttempts OBJECT-TYPE
 SYNTAX Integer32 (1.. 3600000)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Number of network re-entry attempts."
 ::= { wranIfBsNetworkEntryMetricsEntry 7 }

wranIfBsPacketErrorRateTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfBsPacketErrorRateEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This MIB object contains information about packet error rate measurements. There is one entry in the table, defined by wranIfBsPacketErrorRateEntry."
 ::= { wranIfBsPm 6 }

wranIfBsPacketErrorRateEntry OBJECT-TYPE
 SYNTAX wranIfBsPacketErrorRateEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object is a compound object that defines an entry in wranIfBsPacketErrorRateTable."
 INDEX { wranIfBsPacketErrorRateIndex }
 ::= { wranIfBsPacketErrorRateTable 1 }

```

wranIfBsNetworkEntryMetricsEntry ::= SEQUENCE {
    wranIfBsPacketErrorRateIndex    INTEGER,
    wranIfBsDsPacketsSent            Integer32,
    wranIfBsDsPacketsErrored        Integer32,
    wranIfBsDsPacketsErrorRate      INTEGER,
    wranIfBsUsPacketsSent            Integer32,
    wranIfBsUsPacketsErrored        Integer32,
    wranIfBsUsPacketsErrorRate      INTEGER }

wranIfBsPacketErrorRateIndex OBJECT-TYPE
    SYNTAX      INTEGER (1.. 1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in this table, defaults to 1."
    ::= { wranIfBsPacketErrorRateEntry 1 }

wranIfBsDsPacketsSent OBJECT-TYPE
    SYNTAX      Integer32 (1.. 4294967295)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Total number of MAC SDUs that the BS has sent."
    ::= { wranIfBsPacketErrorRateEntry 2 }

wranIfBsDsPacketsErrored OBJECT-TYPE
    SYNTAX      Integer32 (1.. 4294967295)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Total number of MAC SDUs, including ARQ blocks that
        have not been acknowledged."
    ::= { wranIfBsPacketErrorRateEntry 3 }

wranIfBsDsPacketsErrorRate OBJECT-TYPE
    SYNTAX      Integer32 (1..4294967295)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "DS Packet error rate, as measured:
        wranIfBsPacketErrorRate = (wranIfBsDsPacketsErrored
        / wranIfBsDsPacketsSent) * 100000000, in units of
        1e-7."
    ::= { wranIfBsPacketErrorRateEntry 4 }

wranIfBsUsPacketsReceived OBJECT-TYPE
    SYNTAX      Integer32 (1..4294967295)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Total number of MAC SDUs that the BS has received."
    ::= { wranIfBsPacketErrorRateEntry 5 }

wranIfBsUsPacketsErrored OBJECT-TYPE
    SYNTAX      Integer32 (1.. 4294967295)

```

```

MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Total number of MAC SDUs with CRC errors and/or ARQ
    blocks that required retransmission that have been
    received by BS."
 ::= { wranIfBsPacketErrorRateEntry 6 }

```

```

wranIfBsUsPacketsErrorRate    OBJECT-TYPE
SYNTAX        Integer32 (1.. 4294967295)
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "US Packet error rate, as measured:
    wranIfBsUsPacketsErrorRate =
    (wranIfBsUsPacketsErrored /
    wranIfBsUsPacketsReceived) * 100000000, in unites of
    1e-7."
 ::= { wranIfBsPacketErrorRateEntry 7 }

```

```

wranIfBsUserMetricsTable      OBJECT-TYPE
SYNTAX        SEQUENCE OF wranIfUserMetricsEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "This MIB object provides a table to track the
    current status of users in the cell. There is one
    entry in the table, defined by
    wranIfUserMetricsEntry."
 ::= { wranIfBsPm 7 }

```

```

wranIfUserMetricsEntry        OBJECT-TYPE
SYNTAX        wranIfUserMetricsEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "This object is a compound object that defines an
    entry in wranIfBsUserMetricsTable."
INDEX { wranIfBsUserMetricsIndex }
 ::= { wranIfBsUserMetricsTable 1 }

```

```

wranIfUserMetricsEntry ::= SEQUENCE {
    wranIfBsUserMetricsIndex      INTEGER,
    wranIfBsNumActiveUsers        Integer32,
    wranIfBsNumTotalUsers        Integer32 }

```

```

wranIfBsUserMetricsIndex      OBJECT-TYPE
SYNTAX        INTEGER (1.. 1)
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Index of entry in this table, defaults to 1."
 ::= { wranIfUserMetricsEntry 1 }

```

```

wranIfBsNumActiveUsers        OBJECT-TYPE
SYNTAX        INTEGER (0..512)

```

```

MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Total number of users that have FIDs with active SFs
    on them."
 ::= { wranIfUserMetricsEntry 2 }

```

```

wranIfBsNumTotalUsers      OBJECT-TYPE
SYNTAX                    INTEGER (0..512)
MAX-ACCESS                read-only
STATUS                    current
DESCRIPTION
    "Total number of users that have completed
    registration (REG-REQ/RSP) process."
 ::= { wranIfUserMetricsEntry 3 }

```

```

wranIfBsServiceFlowMetricsTable  OBJECT-TYPE
SYNTAX                    SEQUENCE OF wranIfBsServiceFlowMetricsEntry
MAX-ACCESS                not-accessible
STATUS                    current
DESCRIPTION
    "This MIB object provides a table to track metrics
    related to service flows. There is one entry in the
    table, defined by wranIfBsServiceFlowMetricsEntry."
 ::= { wranIfBsPm 8 }

```

```

wranIfBsServiceFlowMetricsEntry  OBJECT-TYPE
SYNTAX                    wranIfBsServiceFlowMetricsEntry
MAX-ACCESS                not-accessible
STATUS                    current
DESCRIPTION
    "This object is a compound object that defines an
    entry in wranIfBsServiceFlowMetricsTable."
INDEX { wranIfBsServiceFlowMetricsIndex }
 ::= { wranIfBsServiceFlowMetricsTable 1 }

```

```

wranIfBsServiceFlowMetricsEntry ::= SEQUENCE {
    wranIfBsServiceFlowMetricsIndex    INTEGER,
    wranIfBsNumDsaReq                  Integer32,
    wranIfBsNumDsaReqSuccess            Integer32,
    wranIfBsDsaSuccessRate              INTEGER,
    wranIfBsNumDscReq                  Integer32,
    wranIfBsNumDscReqSuccess            Integer32,
    wranIfBsDscSuccessRate              INTEGER,
    wranIfBsNumDsdReq                  Integer32,
    wranIfBsNumDsdReqSuccess            Integer32,
    wranIfDsdSuccessRate                INTEGER,
    wranIfBsMaxActiveServiceFlow        Integer32,
    wranIfBsAvgActiveServiceFlow        Integer32,
    wranIfBsMaxProvisionedServiceFlow   Integer32,
    wranIfBsAvgProvisionedServiceFlow   Integer32,
    wranIfBsMaxDsServiceFlow            Integer32,
    wranIfBsMaxUsServiceFlow            Integer32,
    wranIfBsAvgDsServiceFlow            Integer32,
    wranIfBsAvgUsServiceFlow            Integer32,
    wranIfBsNumSfidAllocated            Integer32 }

```

wranIfBsServiceFlowMetricsIndex OBJECT-TYPE
SYNTAX INTEGER (1.. 1)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Index of entry in this table, defaults to 1."
 ::= { wranIfBsServiceFlowMetricsEntry 1 }

wranIfBsNumDsaReq OBJECT-TYPE
SYNTAX Integer32 (1..4294967295)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Number of DSA-REQ counted during reporting period."
 ::= { wranIfBsServiceFlowMetricsEntry 2 }

wranIfBsNumDsaReqSuccess OBJECT-TYPE
SYNTAX Integer32 (1..4294967295)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Number of successful SF activations counted during reporting period. A successful activation of SF is noted when a BS receives a DSA-RSP with a successful confirmation in response to a particular DSA-REQ."
 ::= { wranIfBsServiceFlowMetricsEntry 3 }

wranIfBsDsaSuccessRate OBJECT-TYPE
SYNTAX INTEGER (0..100)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"wranIfBsDsaSuccessRate = (wranIfBsNumDsaReqSuccess / wranIfBsNumDsaReq) * 100."
 ::= { wranIfBsServiceFlowMetricsEntry 4 }

wranIfBsNumDscReq OBJECT-TYPE
SYNTAX Integer32 (1..4294967295)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Number of DSC-REQ counted during reporting period."
 ::= { wranIfBsServiceFlowMetricsEntry 5 }

wranIfBsNumDscReqSuccess OBJECT-TYPE
SYNTAX Integer32 (1..4294967295)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Number of successful SF modifications counted during reporting period. A successful modification of SF is noted when a BS receives a DSC-RSP with a successful confirmation in response to a particular DSC-REQ."
 ::= { wranIfBsServiceFlowMetricsEntry 6 }

wranIfBsDscSuccessRate OBJECT-TYPE

SYNTAX INTEGER (0..100)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"wranIfBsDscSuccessRate = (wranIfBsNumDscReqSuccess
/ wranIfBsNumDscReq) * 100."

::= { wranIfBsServiceFlowMetricsEntry 7 }

wranIfBsNumDsdReq OBJECT-TYPE

SYNTAX Integer32 (1..4294967295)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of DSD-REQ counted during reporting period."

::= { wranIfBsServiceFlowMetricsEntry 8 }

wranIfBsNumDsdReqSuccess OBJECT-TYPE

SYNTAX Integer32 (1..4294967295)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of successful SF deletions counted during
reporting period. A successful deletion of SF is
noted when a BS receives a DSD-RSP with a successful
confirmation in response to a particular DSD-REQ."

::= { wranIfBsServiceFlowMetricsEntry 9 }

wranIfBsDsdSuccessRate OBJECT-TYPE

SYNTAX INTEGER (0..100)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"wranIfBsDsdSuccessRate = (wranIfBsNumDsdReqSuccess
/ wranIfBsNumDsdReq) * 100."

::= { wranIfBsServiceFlowMetricsEntry 10 }

wranIfBsMaxActiveServiceFlow OBJECT-TYPE

SYNTAX Integer32 (1..4294967295)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Maximum number of service flows active during
reporting period."

::= { wranIfBsServiceFlowMetricsEntry 11 }

wranIfBsAvgActiveServiceFlow OBJECT-TYPE

SYNTAX Integer32 (1..4294967295)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Average number of service flows active during
reporting period."

::= { wranIfBsServiceFlowMetricsEntry 12 }

wranIfBsMaxProvisionedServiceFlow OBJECT-TYPE

SYNTAX Integer32 (1.. 4294967295)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Maximum number of pre-provisioned service flows
 active during reporting period."

::= { wranIfBsServiceFlowMetricsEntry 13 }

wranIfBsAvgProvisionedServiceFlow OBJECT-TYPE

SYNTAX Integer32 (1.. 4294967295)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Average number of pre-provisioned service flows
 active during reporting period."

::= { wranIfBsServiceFlowMetricsEntry 14 }

wranIfBsMaxDsServiceFlow OBJECT-TYPE

SYNTAX Integer32 (1.. 4294967295)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Maximum number of DS service flows active during
 reporting period."

::= { wranIfBsServiceFlowMetricsEntry 15 }

wranIfBsMaxUsServiceFlow OBJECT-TYPE

SYNTAX Integer32 (1.. 4294967295)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Maximum number of US service flows active during
 reporting period."

::= { wranIfBsServiceFlowMetricsEntry 16 }

wranIfBsAvgDsServiceFlow OBJECT-TYPE

SYNTAX Integer32 (1.. 4294967295)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Average number of DS service flows active during
 reporting period."

::= { wranIfBsServiceFlowMetricsEntry 17 }

wranIfBsAvgUsServiceFlow OBJECT-TYPE

SYNTAX Integer32 (1.. 4294967295)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Average number of US service flows active during
 reporting period."

::= { wranIfBsServiceFlowMetricsEntry 18 }

wranIfBsNumSfidAllocated OBJECT-TYPE

SYNTAX Integer32 (1.. 4294967295)
 MAX-ACCESS read-only

```

STATUS      current
DESCRIPTION
    "Number of SFIDs allocated during reporting period."
 ::= { wranIfBsServiceFlowMetricsEntry 19 }

```

```

wranIfBsArqMetricsTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfArqMetricsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This MIB object provides a table to track metrics
         related to service flows. There is one entry in the
         table, defined by wranIfArqMetricsEntry."
    ::= { wranIfBsPm 9 }

```

```

wranIfBsArqMetricsEntry OBJECT-TYPE
    SYNTAX      wranIfArqMetricsEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object is a compound object that defines an
         entry in wranIfBsArqMetricsTable."
    INDEX { wranIfBsArqMetricsIndex }
    ::= { wranIfBsArqMetricsTable 1 }

```

```

wranIfBsArqMetricsEntry ::= SEQUENCE {
    wranIfBsArqMetricsIndex          INTEGER,
    wranIfBsDsNumArqBlocks           Integer32,
    wranIfBsDsNumArqBlocksDropped   Integer32,
    wranIfBsDsNumArqBlockErrorRate  INTEGER,
    wranIfBsDsNumArqBlockReTx       Integer32,
    wranIfBsDsNumArqBlockEfficiency INTEGER,
    wranIfBsUsNumArqBlocks           Integer32,
    wranIfBsUsNumArqBlocksDropped   Integer32,
    wranIfBsUsNumArqBlockErrorRate  INTEGER,
    wranIfBsUsNumArqBlockReTx       Integer32,
    wranIfBsUsNumArqBlockEfficiency INTEGER }

```

```

wranIfBsArqMetricsIndex OBJECT-TYPE
    SYNTAX      INTEGER (1.. 1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in this table, defaults to 1."
    ::= { wranIfBsArqMetricsEntry 1 }

```

```

wranIfBsDsNumArqBlocks OBJECT-TYPE
    SYNTAX      Integer32 (1.. 4294967295)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Total number of ARQ blocks, including
         retransmissions, that BS has sent during reporting
         period."
    ::= { wranIfBsArqMetricsEntry 2 }

```

wranIfBsDsNumArqBlocksDropped OBJECT-TYPE
SYNTAX Integer32 (1.. 4294967295)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Total number of ARQ blocks that were dropped, due to unsuccessful attempts at retransmission."
 ::= { wranIfBsArqMetricsEntry 3 }

wranIfBsDsArqBlockErrorRate OBJECT-TYPE
SYNTAX INTEGER (0..100)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"wranIfBsDsArqBlockErrorRate = (
wranIfBsDsNumArqBlocksDropped / wranIfBsNumArqBlocks
) * 10000000, in units of 1e-7."
 ::= { wranIfBsArqMetricsEntry 4 }

wranIfBsDsNumArqBlockReTx OBJECT-TYPE
SYNTAX Integer32 (1.. 4294967295)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Total number of ARQ blocks that were retransmitted."
 ::= { wranIfBsArqMetricsEntry 5 }

wranIfBsDsArqBlockEfficiency OBJECT-TYPE
SYNTAX INTEGER (0..100)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"wranIfBsDsArqBlockEfficiency = (
wranIfBsDsNumArqBlockReTx / wranIfBsDsNumArqBlocks)
* 10000000, in units of 1e-7."
 ::= { wranIfBsArqMetricsEntry 6 }

wranIfBsUsNumArqBlocks OBJECT-TYPE
SYNTAX Integer32 (1.. 4294967295)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Total number of ARQ blocks, including retransmissions, that BS has received during reporting period."
 ::= { wranIfBsArqMetricsEntry 7 }

wranIfBsUsNumArqBlocksDropped OBJECT-TYPE
SYNTAX Integer32 (1..4294967295)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Total number of US ARQ blocks that were dropped, due to unsuccessful attempts at retransmission."
 ::= { wranIfBsArqMetricsEntry 8 }

```

wranIfBsUsArqBlockErrorRate    OBJECT-TYPE
    SYNTAX      INTEGER (0..100)
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "wranIfBsUsArqBlockErrorRate = (
            wranIfBsUsNumArqBlocksDropped /
            wranIfBsUsNumArqBlocks ) * 10000000, in units of 1e-
            7."
    ::= { wranIfBsArqMetricsEntry 9 }

wranIfBsUsNumArqBlockRetx      OBJECT-TYPE
    SYNTAX      Integer32 (1.. 4294967295)
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "Total number of US ARQ blocks that were
            retransmitted."
    ::= { wranIfBsArqMetricsEntry 10 }

wranIfBsUsArqBlockEfficiency   OBJECT-TYPE
    SYNTAX      INTEGER (0..100)
    MAX-ACCESS   read-only
    STATUS       current
    DESCRIPTION
        "wranIfBsUsArqBlockEfficiency = (
            wranIfBsUsNumArqBlockRetx / wranIfBsUsNumArqBlocks )
            * 10000000, in units of 1e-7."
    ::= { wranIfBsArqMetricsEntry 11 }

wranIfBsAuthenticationMetricsTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfBsAuthenticationMetricsEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "This MIB provides a table to track the number of
            authentication/encryption errors that occur. This
            table is made up of one entry, defined by
            wranIfBsAuthenticationMetricsEntry."
    ::= { wranIfBsPm 10 }

wranIfBsAuthenticationMetricsEntry OBJECT-TYPE
    SYNTAX      wranIfBsAuthenticationMetricsEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "This object is a compound object that defines an
            entry in wranIfBsAuthenticationMetricsTable."
    INDEX { wranIfBsAuthenticationMetricsIndex }
    ::= { wranIfBsAuthenticationMetricsTable 1 }

wranIfBsAuthenticationMetricsEntry ::= SEQUENCE {
    wranIfBsAuthenticationMetricsIndex    INTEGER,
    wranIfBsMgmtAuthErrors                 Integer32,
    wranIfBsDataAuthErrors                 Integer32,
    wranIfBswiMicAuthErrors                Integer32,

```

wranIfBsDsNumArqBlockReTx	Integer32,
wranIfBsDsNumArqBlockEfficiency	INTEGER,
wranIfBsUsNumArqBlocks	Integer32,
wranIfBsUsNumArqBlocksDropped	Integer32,
wranIfBsUsNumArqBlockErrorRate	INTEGER,
wranIfBsUsNumArqBlockReTx	Integer32,
wranIfBsUsNumArqBlockEfficiency	INTEGER }

wranIfBsAuthenticationMetricsIndex OBJECT-TYPE

SYNTAX INTEGER (1.. 1)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in this table, defaults to 1."

::= { wranIfBsAuthenticationMetricsEntry 1 }

wranIfBsMgmtAuthErrors OBJECT-TYPE

SYNTAX INTEGER (1..4294967295)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current count of the number of management messages from CPEs that cannot be properly authenticated."

::= { wranIfBsAuthenticationMetricsEntry 2 }

wranIfBsDataAuthErrors OBJECT-TYPE

SYNTAX INTEGER (1..4294967295)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current count of the number of data messages from CPEs that cannot be properly authenticated."

::= { wranIfBsAuthenticationMetricsEntry 3 }

wranIfBswiMicAuthErrors OBJECT-TYPE

SYNTAX INTEGER (1..4294967295)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current count of the number of wireless microphones beacons (MSF1+MSF2+MSF3) that were not properly authenticated."

::= { wranIfBsAuthenticationMetricsEntry 4 }

wranIfBscbpAuthErrors OBJECT-TYPE

SYNTAX INTEGER (1..4294967295)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current count of the number of CBP bursts from neighboring WRANs that were not properly authenticated."

::= { wranIfBsAuthenticationMetricsEntry 5 }

wranIfBsCoexistenceStatusTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCoexistenceStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB provides a table to track the on going coexistence (Frame Contention) transactions. This table is made up of multiple entries, one for each ongoing transaction. Each entry is defined by wranIfBsCoexistenceStatusEntry. If a Frame Contention Destination receives a FC-REQ from a source on a channel from which it already has a message, then the existing entry is updated."

::= { wranIfBsPm 11 }

wranIfBsCoexistenceStatusEntry OBJECT-TYPE

SYNTAX wranIfBsCoexistenceStatusEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that defines an entry in wranIfBsCoexistenceStatusTable."

INDEX { wranIfBsCoexistenceStatusIndex }

::= { wranIfBsCoexistenceStatusTable 1 }

wranIfBsCoexistenceStatusEntry ::= SEQUENCE {

wranIfBsCoexistenceStatusIndex Integer32,

wranIfBsContentionChannel INTEGER,

wranIfBsFCREQSourceID MacAddress,

wranIfBsFrameContentionSeqNum INTEGER,

wranIfBsFrameContentionNumber Integer32,

wranIfBsContentionReqFrameIndexVector BITS }

wranIfBsCoexistenceStatusIndex OBJECT-TYPE

SYNTAX Integer32 (1..4096)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in this table. At BS can conduct Frame Contention with at most 16 other BSs simultaneously on a given channel."

::= { wranIfBsCoexistenceStatusEntry 1 }

wranIfBsContentionChannel OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Channel # of channel that FC-REQ was received on (i.e., channel that is being contended for)."

::= { wranIfBsCoexistenceStatusEntry 2 }

wranIfBsFCREQSourceID OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"BS ID (MAC Address) of the transmitter of a FC-REQ"

message in a CBP burst. This is pulled from the SCH data in the CBP MAC PDU header pulled from the CBP burst containing the FC-REQ."

::= { wranIfBsCoexistenceStatusEntry 3 }

wranIfBsFrameContentionSeqNum OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Sequence # field of received FC-REQ message."

::= { wranIfBsCoexistenceStatusEntry 4 }

wranIfBsFrameContentionNumber OBJECT-TYPE

SYNTAX Integer32 (0..65535)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Value of the frame contention number (FCN) in FC-REQ."

::= { wranIfBsCoexistenceStatusEntry 5 }

wranIfBsFrameContentionReqFrameIndexVector OBJECT-TYPE

SYNTAX BITS { frame1(0), frame2(1),
frame3(2), frame4(3),
frame5(4), frame6(5),
frame7(6), frame8(7),
frame9(8), frame10(9),
frame11(10), frame12(11),
frame13(12), frame14(13),
frame15(14), frame16(15) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Bitmap index of data frames w/in a superframe that a Frame Contention Source is requesting, to be scheduled in the next superframe after the current one. A frame is selected if the Bit is set to 1 and is not selected when set to 0."

::= { wranIfBsCoexistenceStatusEntry 6 }

wranIfBsCoexistenceSourceTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCoexistenceSourceEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB provides a table to track what neighbor BSs are attempting a coexistence (Frame Contention) transaction with a particular BS or have communicated other information (e.g., Backup/Candidate channel list) via CBP. Each entry is defined by wranIfBsCoexistenceSourceEntry."

::= { wranIfBsPm 12 }

wranIfBsCoexistenceSourceEntry OBJECT-TYPE

SYNTAX wranIfBsCoexistenceSourceEntry

MAX-ACCESS not-accessible
STATUS current
DESCRIPTION

"This object is a compound object that defines an entry in wranIfBsCoexistenceSourceTable."

INDEX { wranIfBsCoexistenceSourceIndex }
::= { wranIfBsCoexistenceSourceTable 1 }

wranIfBsCoexistenceSourceEntry ::= SEQUENCE {
 wranIfBsCoexistenceSourceIndex Integer32,
 wranIfBsCBPSourceID MacAddress,
 wranIfBsSchDataIndex INTEGER,
 wranIfBsSchData OCTET STRING }

wranIfBsCoexistenceSourceIndex OBJECT-TYPE
SYNTAX Integer32 (1..4096)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Index of entry in this table. At BS can conduct Frame Contention with at most 16 other BSs simultaneously on a given channel."
::= { wranIfBsCoexistenceSourceEntry 1 }

wranIfBsCBPSourceID OBJECT-TYPE
SYNTAX MacAddress
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "BS ID of BS that sent CBP burst, obtained from SCH data in CBP MAC PDU header (see Table 1 and Table 9)."
::= { wranIfBsCoexistenceSourceEntry 2 }

wranIfBsSchDataIndex OBJECT-TYPE
SYNTAX INTEGER { FirstSeven(0),
 DsUsSplit(1),
 ScwScheduling(2),
 InterFrameQP(4),
 IntraFrameQP(8) }
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "SCH Data Index field of CBP MAC PDU header. It indicates the length of and indication of what SCH fields comprise the wranIfBsSchData contents. For example (see Table 8), when set to 0 wranIfBsSchData contains 11 octets and comprises the first seven parameters of the SCH."
::= { wranIfBsCoexistenceSourceEntry 3 }

wranIfBsSchData OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(wranIfBsSchDataIndex))
MAX-ACCESS read-only
STATUS current
DESCRIPTION

"SCH Data from CBP MAC PDU header. The length of this field is governed by wranIfBsSchDataIndex."
 ::= { wranIfBsCoexistenceSourceEntry 4 }

wranIfBsCoexistenceResourceListTable OBJECT-TYPE
 SYNTAX

SEQUENCE OF wranIfBsCoexistenceResourceListEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB provides a table to track the resources being used by neighboring WRANs. This includes the Backup/Candidate Lists being transmitted by neighboring WRANs, as well as the DS/US split. This table is made up of multiple entries defined by wranIfBsCoexistenceResourceListEntry."

::= { wranIfBsPm 13 }

wranIfBsCoexistenceResourceListEntry OBJECT-TYPE
 SYNTAX wranIfBsCoexistenceResourceListEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that defines an entry in wranIfBsCoexistenceResourceListTable."

INDEX { wranIfBsCoexistenceResourceListIndex }

::= { wranIfBsCoexistenceResourceListTable 1 }

wranIfBsCoexistenceResourceListEntry ::= SEQUENCE {

wranIfBsCoexistenceResourceListIndex Integer32,

wranIfBsCoexistenceResourceID MacAddress,

wranIfBsSelfCoexistenceCapabilityIndicator

INTEGER,

wranIfBsNumBackupChannels

INTEGER,

wranIfBsBackupChannelList

OCTET STRING,

wranIfBsCurrentDSUSSplit

INTEGER,

wranIfBsClaimedDSUSSplit

INTEGER,

wranIfBsDSUSChangeOffset

INTEGER,

wranIfBsFrameAllocationMap

BITS,

wranIfBsScwCycleLength

INTEGER,

wranIfBsScwCycleOffset

INTEGER,

wranIfBsScwCycleFrameBitmap

BITS }

wranIfBsCoexistenceResourceListIndex OBJECT-TYPE

SYNTAX Integer32 (1..4096)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in this table. When set to 1, refers to a BS's own coexistence resource configuration."

::= { wranIfBsCoexistenceResourceListEntry 1 }

wranIfBsCoexistenceResourceID OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-only

IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands
Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

STATUS current

DESCRIPTION

"BS ID of BS that sent CBP burst, obtained from SCH data in CBP MAC PDU header (see Table 1 and Table 9)."

::= { wranIfBsCoexistenceResourceListEntry 2 }

wranIfBsSelfCoexistenceCapabilityIndicator OBJECT-TYPE

SYNTAX INTEGER { noCapability(0),
onlySE(1),
SEAndFC(2) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Field within SCH Data field of CBP MAC PDU header that indicates what coexistence capabilities a BS supports. If this field is 0000, the remaining fields of this entry are null."

::= { wranIfBsCoexistenceResourceListEntry 3 }

wranIfBsNumBackupChannels OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Number of backup and candidate channels in the wranIfBsBackupChannelList."

::= { wranIfBsCoexistenceResourceListEntry 4 }

wranIfBsBackupChannelList OBJECT-TYPE

SYNTAX OCTET STRING (SIZE(wranIfBsNumBackupChannels))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This object is a vector, of length = 8 bits * wranIfBsBackupChannelList, that contains backup/candidate channel list received in a CBP burst from a neighbor WRAN."

::= { wranIfBsCoexistenceResourceListEntry 5 }

wranIfBsCurrentDSUSSplit OBJECT-TYPE

SYNTAX INTEGER (0..63)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current US/DS split indicated in SCH data of CBP MAC PDU header received from neighbor WRAN."

::= { wranIfBsCoexistenceResourceListEntry 6 }

wranIfBsClaimedDSUSSplit OBJECT-TYPE

SYNTAX INTEGER (0..63)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Claimed US/DS split indicated in SCH data of CBP MAC PDU header received from neighbor WRAN."

```
::= { wranIfBsCoexistenceResourceListEntry 7 }
```

```
wranIfBsDSUSChangeOffset      OBJECT-TYPE
    SYNTAX      Integer32 (0..4095)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "DS/US Change Offset indicated in SCH data of CBP MAC
        PDU header received from neighbor WRAN."
    ::= { wranIfBsCoexistenceResourceListEntry 8 }
```

```
wranIfBsFrameAllocationMap    OBJECT-TYPE
    SYNTAX      BITS { frame1(0), frame2(1),
                        frame3(2), frame4(3),
                        frame5(4), frame5(5),
                        frame7(6), frame8(7),
                        frame9(8), frame10(9),
                        frame11(10), frame12(11),
                        frame13(12), frame14(13),
                        frame15(14), frame16(15) }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Indicates which frames in a superframe are allocated
        to the neighbor WRAN BS. A frame is allocated if the
        bit is set to 1 and unallocated if the bit is set to
        0."
    ::= { wranIfBsCoexistenceResourceListEntry 9 }
```

```
wranIfBsScwCycleLength        OBJECT-TYPE
    SYNTAX      INTEGER { never(0), every1SF(1),
                        every2SF(2), every4SF(4),
                        every8SF(8), every16SF(16) }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "SCW Cycle Length being applied by neighbor WRAN."
    ::= { wranIfBsCoexistenceResourceListEntry 10 }
```

```
wranIfBsScwCycleOffset        OBJECT-TYPE
    SYNTAX      INTEGER { never(0), every1SF(1),
                        every2SF(2), every4SF(4),
                        every8SF(8), every16SF(16) }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "SCW Cycle Offset being applied by neighbor WRAN."
    ::= { wranIfBsCoexistenceResourceListEntry 11 }
```

```
wranIfBsScwCycleFrameBitmap   OBJECT-TYPE
    SYNTAX      BITS { frame1bit1(0), frame1bit2(1),
                        frame2bit1(2), frame2bit2(3),
                        frame3bit1(4), frame3bit2(5),
                        frame4bit1(6), frame4bit2(7),
                        frame5bit1(8), frame5bit2(9),
                        frame6bit1(10), frame6bit2(11),
```

```

frame7bit1(12), frame7bit2(13),
frame8bit1(14), frame8bit2(15),
frame9bit1(16), frame9bit2(17),
frame10bit1(18), frame10bit2(19),
frame11bit1(20), frame11bit2(21),
frame12bit1(22), frame12bit2(23),
frame13bit1(24), frame13bit2(25),
frame14bit1(26), frame14bit2(27),
frame15bit1(28), frame15bit2(29),
frame16bit1(30), frame16bit2(31) }

```

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Valid within the context of a superframe, indicates for each frame if no SCW is setup (00), the BS has setup a reservation-based SCW for itself (01), a reservation-based SCW for a neighboring WRAN (10), or a contention-based SCW to be shared by neighboring WRANs (01). This is set in groups of two bits, e.g., BIT#0 & BIT#1 correspond to frame 1 within the superframe."

::= { wranIfBsCoexistenceResourceListEntry 12 }

wranIfBsCoexistenceCurrentConfigTable OBJECT-TYPE

SYNTAX

SEQUENCE OF wranIfBsCoexistenceCurrentConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB provides a table to track what frame allocation has been awarded to a frame contention winner and when the awarded resource will be released. It is made up of multiple entries, one for each channel that frame contention procedure was executed on, as defined in wranIfBsCoexistenceCurrentConfigEntry. When a frame contention winner is selected, the corresponding entries in wranIfBsCoexistenceCurrentConfigTable are removed."

::= { wranIfBsPm 14 }

wranIfBsCoexistenceCurrentConfigEntry OBJECT-TYPE

SYNTAX wranIfBsCoexistenceCurrentConfigEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that defines an entry in wranIfBsCoexistenceCurrentConfigTable."

INDEX { wranIfBsCoexistenceCurrentConfigIndex }

::= { wranIfBsCoexistenceCurrentConfigTable 1 }

wranIfBsCoexistenceCurrentConfigEntry ::= SEQUENCE {

wranIfBsCoexistenceCurrentConfigIndex

INTEGER,

wranIfBsContentionChannel

INTEGER,

wranIfBsFrameContentionSourceID

MacAddress,

wranIfBsAwardedSeqNum

INTEGER,

```

        wranIfBsContentionRspFrameIndexVector    BITS,
        wranIfBsContentionRspFrameReleaseTime    INTEGER }

wranIfBsCoexistenceCurrentConfigIndex    OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in the table."
    ::= { wranIfBsCoexistenceCurrentConfigEntry 1 }

wranIfBsContentionChannel    OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Channel # of channel that frame contention was
        executed on."
    ::= { wranIfBsCoexistenceCurrentConfigEntry 2 }

wranIfBsFrameContentionSourceID    OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "BS ID of frame contention source that has won
        contention."
    ::= { wranIfBsCoexistenceCurrentConfigEntry 3 }

wranIfBsAwardedSeqNum    OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Sequence number from FC-REQ message of frame
        contention winner."
    ::= { wranIfBsCoexistenceCurrentConfigEntry 4 }

wranIfBsContentionRspFrameIndexVector    OBJECT-TYPE
    SYNTAX      BITS { frame1(0), frame2(1),
                      frame3(2), frame4(3),
                      frame5(4), frame5(5),
                      frame7(6), frame8(7),
                      frame9(8), frame10(9),
                      frame11(10), frame12(11),
                      frame13(12), frame14(13),
                      frame15(14), frame16(15) }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "A bitmap containing the indexes of frames within the
        superframe that the Contention Source has won. When
        a frame is allocated to the contention source, it is
        set to 1. When a frame is not allocated, the
        corresponding bit is set to 0."
    ::= { wranIfBsCoexistenceCurrentConfigEntry 5 }

```


IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands
Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

```

wranIfBsContentionRspFrameReleaseTime    OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Starting from the next superframe, the number of
         superframes after which the channel shall be
         released by the frame contention destination BS."
    ::= { wranIfBsCoexistenceCurrentConfigEntry 6 }

-- wranIfBsPmMibGroups: This object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

wranIfBsPmMibGroups          OBJECT IDENTIFIER
    ::= { wranIfBsPm 15 }
wranIfBsPmConfigGroup        OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 1 }
wranIfBsPmSignalPowerGroup   OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 2 }
wranIfBsPmStartupGroup       OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 3 }
wranIfBsPmThroughputGroup    OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 4 }
wranIfBsPmNetEntryGroup      OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 5 }
wranIfBsPmPktErrorGroup      OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 6 }
wranIfBsPmUserGroup          OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 7 }
wranIfBsPmServiceFlowGroup   OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 8 }
wranIfBsPmArqGroup           OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 9 }
wranIfBsPmAuthGroup          OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 10 }
wranIfBsPmCoexStatusGroup    OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 11 }
wranIfBsPmCoexSourceGroup    OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 12 }
wranIfBsPmCoexResourceGroup  OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 13 }
wranIfBsPmCoexConfigGroup    OBJECT IDENTIFIER
    ::= { wranIfBsPmMibGroups 14 }

wranIfBsPmConfigGroup        OBJECT-GROUP
    OBJECTS      { wranIfBsPmConfigurationEntryIndex,
                    wranIfBsGranularityInterval,
                    wranIfBsCountersReportInterval,
                    wranIfBsPmMeasurementBitmap }
    STATUS      current
    DESCRIPTION
        "This group contains objects configuration of
         measurement records used in wranIfBsPm."
    ::= { wranIfBsPmMibGroups 1 }

```

```

wranIfBsPmSignalPowerGroup          OBJECT-GROUP
OBJECTS { wranIfBsRssiCinrMetricsIndex,
          wranIfBsCpeMacAddress,
          wranIfBsChannelDirection,
          wranIfBsChannelNumber,
          wranIfBsStartFrame,
          wranIfBsMeasurementDuration,
          wranIfBsSignalReportType,
          wranIfBsMeanCinrReport,
          wranIfBsMeanRssiReport,
          wranIfBsStdDevCinrReport,
          wranIfBsStdDevRssiReport,
          wranIfBsMaxEIRPReport,
          wranIfBsPerScEIRPReport }
STATUS current
DESCRIPTION
    "This group contains objects related to
    tracking CPE signal power measurements."
 ::= { wranIfBsPmMibGroups 2 }

wranIfBsPmStartupGroup              OBJECT-GROUP
OBJECTS { wranIfBsStartupMetricsIndex,
          wranIfBsNumAuthAttempt,
          wranIfBsNumAuthSuccess,
          wranIfBsAuthSuccessRate,
          wranIfBsNumRangingAttempt,
          wranIfBsNumRangingSuccess,
          wranIfBsRangingSuccessRate,
          wranIfBsMeanCinrReport }
STATUS current
DESCRIPTION
    "This group contains objects related to
    tracking CPE performance during network entry
    and re-entry."
 ::= { wranIfBsPmMibGroups 3 }

wranIfBsPmThroughputGroup           OBJECT-GROUP
OBJECTS { wranIfBsThroughputMetricsIndex,
          wranIfBsAvgDsUserThroughput,
          wranIfBsAvgUsUserThroughput,
          wranIfBsAvgDsMacThroughput,
          wranIfBsAvgUsMacThroughput,
          wranIfBsAvgDsPhyThroughput,
          wranIfBsAvgUsPhyThroughput,
          wranIfBsPeakDsUserThroughput,
          wranIfBsPeakUsUserThroughput,
          wranIfBsPeakDsMacThroughput,
          wranIfBsPeakUsMacThroughput,
          wranIfBsPeakDsPhyThroughput,
          wranIfBsPeakUsPhyThroughput,
          wranIfBsAvgDsCellEdgeThroughput,
          wranIfBsAvgUsCellEdgeThroughput }
STATUS current
DESCRIPTION
    "This group contains objects related to

```

```

        tracking CPE peak/average data rate."
 ::= { wranIfBsPmMibGroups 4 }

```

```

wranIfBsPmNetEntryGroup      OBJECT-GROUP
OBJECTS                      { wranIfBsNetworkEntryMetricsIndex,
                               wranIfBsAvgNetworkEntryLatency,
                               wranIfBsMaxNetworkEntryLatency,
                               wranIfBsAvgNetworkReEntryLatency,
                               wranIfBsMaxNetworkReEntryLatency,
                               wranIfBsNumNetworkEntryAttempts,
                               wranIfBsNumNetworkReEntryAttempts }
STATUS                       current
DESCRIPTION
    "This group contains objects related to
    tracking latency of network entry and re-entry
    for CPEs."
 ::= { wranIfBsPmMibGroups 5 }

```

```

wranIfBsPmPktErrorGroup      OBJECT-GROUP
OBJECTS                      { wranIfBsPacketErrorRateIndex,
                               wranIfBsDsPacketsSent,
                               wranIfBsDsPacketsErrored,
                               wranIfBsDsPacketsErrorRate,
                               wranIfBsUsPacketsSent,
                               wranIfBsUsPacketsErrored,
                               wranIfBsUsPacketsErrorRate }
STATUS                       current
DESCRIPTION
    "This group contains objects related to
    tracking packet error rate measurements."
 ::= { wranIfBsPmMibGroups 6 }

```

```

wranIfBsPmUserGroup          OBJECT-GROUP
OBJECTS                      { wranIfBsUserMetricsIndex,
                               wranIfBsNumActiveUsers,
                               wranIfBsNumTotalUsers }
STATUS                       current
DESCRIPTION
    "This group contains objects related to
    tracking status of users in the cell."
 ::= { wranIfBsPmMibGroups 7 }

```

```

wranIfBsPmServiceFlowGroup    OBJECT-GROUP
OBJECTS                      { wranIfBsServiceFlowMetricsIndex,
                               wranIfBsNumDsaReq,
                               wranIfBsNumDsaReqSuccess,
                               wranIfBsDsaSuccessRate,
                               wranIfBsNumDscReq,
                               wranIfBsNumDscReqSuccess,
                               wranIfBsDscSuccessRate,
                               wranIfBsNumDsdReq,
                               wranIfBsNumDsdReqSuccess,
                               wranIfDsdSuccessRate,
                               wranIfBsMaxActiveServiceFlow,
                               wranIfBsAvgActiveServiceFlow,
                               wranIfBsMaxProvisionedServiceFlow,

```

```

        wranIfBsAvgProvisionedServiceFlow,
        wranIfBsMaxDsServiceFlow,
        wranIfBsMaxUsServiceFlow,
        wranIfBsAvgDsServiceFlow,
        wranIfBsAvgUsServiceFlow,
        wranIfBsNumSfidAllocated }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    tracking service flow metrics."
 ::= { wranIfBsPmMibGroups 8 }

```

```

wranIfBsPmArqGroup      OBJECT-GROUP
OBJECTS      { wranIfBsArqMetricsIndex,
                wranIfBsDsNumArqBlocks,
                wranIfBsDsNumArqBlocksDropped,
                wranIfBsDsNumArqBlockErrorRate,
                wranIfBsDsNumArqBlockReTx,
                wranIfBsDsNumArqBlockEfficiency,
                wranIfBsUsNumArqBlocks,
                wranIfBsUsNumArqBlocksDropped,
                wranIfBsUsNumArqBlockErrorRate,
                wranIfBsUsNumArqBlockReTx,
                wranIfBsUsNumArqBlockEfficiency }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    tracking ARQ performance."
 ::= { wranIfBsPmMibGroups 9 }

```

```

wranIfBsPmAuthGroup     OBJECT-GROUP
OBJECTS      { wranIfBsAuthenticationMetricsIndex,
                wranIfBsMgmtAuthErrors,
                wranIfBsDataAuthErrors,
                wranIfBsWiMicAuthErrors,
                wranIfBsDsNumArqBlockReTx,
                wranIfBsDsNumArqBlockEfficiency,
                wranIfBsUsNumArqBlocks,
                wranIfBsUsNumArqBlocksDropped,
                wranIfBsUsNumArqBlockErrorRate,
                wranIfBsUsNumArqBlockReTx,
                wranIfBsUsNumArqBlockEfficiency }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    tracking the number of
    authentication/encryption errors that occur."
 ::= { wranIfBsPmMibGroups 10 }

```

```

wranIfBsPmCoexStatusGroup OBJECT-GROUP
OBJECTS      { wranIfBsCoexistenceStatusIndex,
                wranIfBsContentionChannel,
                wranIfBsFCREQSourceID,
                wranIfBsFrameContentionSeqNum,
                wranIfBsFrameContentionNumber,
                wranIfBsContentionReqFrameIndexVector }

```

STATUS current
 DESCRIPTION
 "This group contains objects related to tracking the status of on going coexistence (Frame Contention) transactions."
 ::= { wranIfBsPmMibGroups 11 }

wranIfBsPmCoexSourceGroup OBJECT-GROUP
 OBJECTS { wranIfBsCoexistenceSourceIndex,
 wranIfBsCBPSourceID,
 wranIfBsSchDataIndex,
 wranIfBsSchData }
 STATUS current
 DESCRIPTION
 "This group contains objects related to tracking which neighbor BSs are attempting a coexistence (Frame Contention) transaction."
 ::= { wranIfBsPmMibGroups 12 }

wranIfBsPmCoexResourceGroup OBJECT-GROUP
 OBJECTS { wranIfBsCoexistenceResourceListIndex,
 wranIfBsCoexistenceResourceID,
 wranIfBsSelfCoexistenceCapabilityIndicator,
 wranIfBsNumBackupChannels,
 wranIfBsBackupChannelList,
 wranIfBsCurrentDSUSSplit,
 wranIfBsClaimedDSUSSplit,
 wranIfBsDSUSChangeOffset,
 wranIfBsFrameAllocationMap,
 wranIfBsScwCycleLength,
 wranIfBsScwCycleOffset,
 wranIfBsScwCycleFrameBitmap }
 STATUS current
 DESCRIPTION
 "This group contains objects related to tracking what resources are used by neighboring WRANs."
 ::= { wranIfBsPmMibGroups 13 }

wranIfBsPmCoexConfigGroup OBJECT-GROUP
 OBJECTS { wranIfBsCoexistenceCurrentConfigIndex,
 wranIfBsContentionChannel,
 wranIfBsFrameContentionSourceID,
 wranIfBsAwardedSeqNum,
 wranIfBsContentionRspFrameIndexVector,
 wranIfBsContentionRspFrameReleaseTime }
 STATUS current
 DESCRIPTION
 "This group contains objects related to tracking what resources have been allocated to neighboring WRANs during coexistence (Frame Contention) transactions."
 ::= { wranIfBsPmMibGroups 14 }

wranIfBsPmMibCompliance MODULE-COMPLIANCE

```

STATUS      current
DESCRIPTION
    "MIB objects that are optional and mandatory for
    wranIfBsPm compliance."
MODULE      wranIfBsCm
MANDATORY-GROUPS { wranIfBsPmConfigGroup }
-- OPTIONAL-GROUPS      { wranIfBsPmSignalPowerGroup,
                           wranIfBsPmStartupGroup,
                           wranIfBsPmThroughputGroup,
                           wranIfBsPmNetEntryGroup,
                           wranIfBsPmPktErrorGroup,
                           wranIfBsPmUserGroup,
                           wranIfBsPmServiceFlowGroup,
                           wranIfBsPmArqGroup,
                           wranIfBsPmAuthGroup,
                           wranIfBsPmCoexStatusGroup,
                           wranIfBsPmCoexSourceGroup,
                           wranIfBsPmCoexResourceGroup,
                           wranIfBsPmCoexConfigGroup }

 ::= { wranIfBsPm 16 }

-- wranIfBsScm: This MIB group has objects related to security
-- management.

wranIfBsCpeScmAuthStatusTable
    OBJECT IDENTIFIER ::= { wranIfBsScm 1 }
wranIfBsCpeScmSaConfigTable
    OBJECT IDENTIFIER ::= { wranIfBsScm 2 }
wranIfBsCpeTekRefreshTable
    OBJECT IDENTIFIER ::= { wranIfBsScm 3 }
wranIfBsCBPAuthCACertTable
    OBJECT IDENTIFIER ::= { wranIfBsScm 4 }
wranIfBsCBPAuthBsImplicitCertTable
    OBJECT IDENTIFIER ::= { wranIfBsScm 5 }
wranIfBsWiMicAuthCertTable
    OBJECT IDENTIFIER ::= { wranIfBsScm 6 }
wranIfBsPmMibGroups
    OBJECT IDENTIFIER ::= { wranIfBsScm 7 }
wranIfBsScmMibCompliance
    OBJECT IDENTIFIER ::= { wranIfBsScm 8 }

wranIfBsCpeScmAuthStatusTable OBJECT-TYPE
    SYNTAX
        SEQUENCE OF wranIfBsCpeScmAuthStatusEntry
    MAX-ACCESS not-accessible
    STATUS      current
    DESCRIPTION
        "This object provides a table that stores information
        regarding the current state of the CPE's
        authentication state machine. This table is stored
        on each CPE and made of one entry, defined by
        wranIfBsCpeScmAuthStatusEntry."
    ::= { wranIfBsScm 1 }

wranIfBsCpeScmAuthStatusEntry OBJECT-TYPE
    SYNTAX      wranIfBsCpeScmAuthStatusEntry

```

MAX-ACCESS not-accessible
STATUS current
DESCRIPTION

"This object is a compound object that defines an entry in wranIfBsCpeScmAuthStatusTable."

INDEX { wranIfBsCpeAuthStatusIndex }
::= { wranIfBsCpeScmAuthStatusTable 1 }

wranIfBsCpeScmAuthStatusEntry ::= SEQUENCE {
 wranIfBsCpeAuthStatusIndex INTEGER,
 wranIfBsCpeScmAuthStatus INTEGER,
 wranIfBsCpeScmAuthRecentEvent MacAddress,
 wranIfBsCpeScmNumAuthAttempts INTEGER,
 wranIfBsCpeAuthRecentMsgSize Integer32,
 wranIfBsCpeScmAuthRecentMsg OCTET STRING,
 wranIfBsCpeScmAuthEapAuthTimerExpiration Integer32,
 wranIfBsCpeAuthGraceTimer1 Integer32,
 wranIfBsCpeAuthGraceTimer2 Integer32,
 wranIfBsCpeScmAk1Lifetime Integer32,
 wranIfBsCpeScmAk2Lifetime Integer32,
 wranIfBsCpeScmConfigRequestSize Integer32,
 wranIfBsCpeScmConfigRequest OCTET STRING,
 wranIfBsCpeScmConfigReplySize Integer32,
 wranIfBsCpeScmConfigReply OCTET STRING }

wranIfBsCpeAuthStatusIndex OBJECT-TYPE
SYNTAX INTEGER (1..1)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Index of entry in the table."
::= { wranIfBsCpeScmAuthStatusEntry 1 }

wranIfBsCpeScmAuthStatus OBJECT-TYPE
SYNTAX INTEGER { idle(0), notAuthenticated(1),
 reAuthWait(2), authenticated(3) }
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Current state of CPE's authentication state machine
 (see 8.2.2.1)."
::= { wranIfBsCpeScmAuthStatusEntry 2 }

wranIfBsCpeScmAuthRecentEvent OBJECT-TYPE
SYNTAX INTEGER { startAuth(0), eapTimeout(1),
 eapFailure(2), eapRetryExhaustion(3),
 eapSuccess(4), reAuthNeeded(5),
 authGraceTimeout(6) }
MAX-ACCESS read-only
STATUS current
DESCRIPTION
 "Indication of most recent event (see 8.2.2.4) that
 has occurred in the ASM."
::= { wranIfBsCpeScmAuthStatusEntry 3 }

wranIfBsCpeScmNumAuthAttempts OBJECT-TYPE

SYNTAX INTEGER (1..11)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Current # of EAP authentication attempts."
 ::= { wranIfBsCpeScmAuthStatusEntry 4 }

wranIfBsCpeAuthRecentMsgSize OBJECT-TYPE
SYNTAX Integer32 (1..65535)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Size of wranIfBsCpeScmAuthRecentMsg in octets."
 ::= { wranIfBsCpeScmAuthStatusEntry 5 }

wranIfBsCpeAuthRecentMsg OBJECT-TYPE
SYNTAX OCTETS STRING (SIZE(wranIfCpeAuthRecentMsgSize))
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Contents of most recent authentication message,
either EAP-Start or EAP-Transfer."
 ::= { wranIfBsCpeScmAuthStatusEntry 6 }

wranIfBsCpeScmAuthEapAuthTimerExpiration OBJECT-TYPE
SYNTAX Integer32 (300..3024000)
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Contents of most recent authentication message,
either EAP-Start or EAP-Transfer."
 ::= { wranIfBsCpeScmAuthStatusEntry 7 }

wranIfBsCpeScmAuthGraceTimer1 OBJECT-TYPE
SYNTAX Integer32 (1..3024000)
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Indication of when Authentication Grace timer for
current (active) AK will expire."
 ::= { wranIfBsCpeScmAuthStatusEntry 8 }

wranIfBsCpeScmAuthGraceTimer2 OBJECT-TYPE
SYNTAX Integer32 (1..3024000)
UNITS "seconds"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Indication of when Authentication Grace timer for
second generation (non-active) AK will expire."
 ::= { wranIfBsCpeScmAuthStatusEntry 9 }

wranIfBsCpeScmAk1Lifetime OBJECT-TYPE

IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands
Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

```

SYNTAX      Integer32 (1..6048000)
UNITS        "seconds"
MAX-ACCESS  read-only
STATUS       current
DESCRIPTION
    "Remaining lifetime for current (active) AK."
 ::= { wranIfBsCpeScmAuthStatusEntry 10 }

```

```

wranIfBsCpeScmAk2Lifetime OBJECT-TYPE
SYNTAX      Integer32 (1..6048000)
UNITS        "seconds"
MAX-ACCESS  read-only
STATUS       current
DESCRIPTION
    "Remaining lifetime for second generation (non-
    active) AK."
 ::= { wranIfBsCpeScmAuthStatusEntry 11 }

```

```

wranIfBsCpeScmConfigRequestSize OBJECT-TYPE
SYNTAX      Integer32 (1..65535)
MAX-ACCESS  read-only
STATUS       current
DESCRIPTION
    "Size of wranIfBsCpeScmConfigRequest in octets."
 ::= { wranIfBsCpeScmAuthStatusEntry 12 }

```

```

wranIfBsCpeScmConfigRequest OBJECT-TYPE
SYNTAX      OCTETS STRING (SIZE(wranIfBsCpeScmConfigRequestSize))
MAX-ACCESS  read-only
STATUS       current
DESCRIPTION
    "Contents of SCM configuration request (see Table
    187) sent by CPE, upon initial authentication or re-
    authentication, to AAA server."
 ::= { wranIfBsCpeScmAuthStatusEntry 13 }

```

```

wranIfBsCpeScmConfigReplySize OBJECT-TYPE
SYNTAX      Integer32 (1..65535)
MAX-ACCESS  read-only
STATUS       current
DESCRIPTION
    "Size of wranIfBsCpeScmConfigReply in octets."
 ::= { wranIfBsCpeScmAuthStatusEntry 14 }

```

```

wranIfBsCpeScmConfigReply OBJECT-TYPE
SYNTAX      OCTETS STRING (SIZE(wranIfBsCpeScmConfigReplySize))
MAX-ACCESS  read-only
STATUS       current
DESCRIPTION
    "Contents of SCM configuration reply (see Table
    188) sent by AAA server, upon confirmation of
    initial authentication or re-authentication, to
    CPE."
 ::= { wranIfBsCpeScmAuthStatusEntry 15 }

```

```

wranIfBsCpeScmSaConfigTable    OBJECT-TYPE
    SYNTAX          SEQUENCE OF wranIfBsCpeScmConfigEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object provides a table that provides the
        configuration of the SA attributes that are related
        to SAs configured on each CPE. This table is
        maintained on each CPE as well as on the BS. On the
        BS, this table represents the configuration of SAs
        for all CPEs under its control. On the CPE, this
        table is made up of entry for each SA that a CPE
        supports. Each entry is defined by
        wranIfBsCpeScmSaConfigEntry."
    ::= { wranIfBsScm 2 }

wranIfBsCpeScmSaConfigEntry    OBJECT-TYPE
    SYNTAX          wranIfBsCpeScmSaConfigEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object is a compound object that defines an
        entry in wranIfBsCpeScmSaConfigTable."
    INDEX { wranIfBsCpeScmSaConfigIndex }
    ::= { wranIfBsCpeScmSaConfigTable 1 }

wranIfBsCpeScmSaConfigEntry    ::= SEQUENCE {
    wranIfBsCpeScmSaConfigIndex      Integer32,
    wranIfBsCpeMacAddress            MacAddress,
    wranIfBsCpeSaid                  Integer32,
    wranIfBsCpeSaType                INTEGER,
    wranIfBsCpeCryptoSuiteListSize   INTEGER,
    wranIfBsCpeCryptoSuiteList       OCTET STRING,
    wranIfBsCpeActiveTekSequenceNumber INTEGER,
    wranIfBsCpeActiveTekLifetime     Integer32,
    wranIfBsCpeActiveTekPn           Integer32,
    wranIfBsCpeActiveTekExpireTime    DateAndTime,
    wranIfBsCpeNonActiveTekSequenceNumber INTEGER,
    wranIfBsCpeNonActiveTekLifetime  Integer32,
    wranIfBsCpeNonActiveTekPn        Integer32,
    wranIfBsCpeNonActiveTekExpireTime DateAndTime }

wranIfBsCpeScmSaConfigIndex    OBJECT-TYPE
    SYNTAX          Integer32 (1..65535)
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION
        "Index of entry in the table."
    ::= { wranIfBsCpeScmSaConfigEntry 1 }

wranIfBsCpeMacAddress          OBJECT-TYPE
    SYNTAX          MacAddress
    MAX-ACCESS      read-only
    STATUS          current
    DESCRIPTION

```

"MAC address of CPE."
 ::= { wranIfBsCpeScmSaConfigEntry 2 }

wranIfBsCpeSaid OBJECT-TYPE
 SYNTAX Integer32 (1..65535)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "SAID of SA that this entry refers to."
 ::= { wranIfBsCpeScmSaConfigEntry 3 }

wranIfBsCpeSaType OBJECT-TYPE
 SYNTAX INTEGER { null(0), primary(1),
 secondary(2), group(3) }
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Type of SA, either Null, Primary, Secondary, or
 Group."
 ::= { wranIfBsCpeScmSaConfigEntry 4 }

wranIfBsCpeCryptoSuiteListSize OBJECT-TYPE
 SYNTAX INTEGER (1..255)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Number of items in wranIfBsCpeCryptoSuiteList."
 ::= { wranIfBsCpeScmSaConfigEntry 5 }

wranIfBsCpeCryptoSuiteList OBJECT-TYPE
 SYNTAX OCTET STRING (SIZE(wranIfBsCpeCryptoSuiteListSize))
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "This object provides a list that describes the
 cryptographic suites that the CPE supports for this
 particular SA. The complete list of suites is
 provided in Table 193."
 ::= { wranIfBsCpeScmSaConfigEntry 6 }

wranIfBsCpeActiveTekSequenceNumber OBJECT-TYPE
 SYNTAX INTEGER (0..3)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "The EKS value for the current (active) generation of
 the two TEKs that are configured for this SA."
 ::= { wranIfBsCpeScmSaConfigEntry 7 }

wranIfBsCpeActiveTekLifetime OBJECT-TYPE
 SYNTAX Integer32 (0..604800)
 UNITS "seconds"
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"The remaining lifetime, in units of time (e.g., seconds), for the current (active) generation of the two TEKS that are configured for this SA."

::= { wranIfBsCpeScmSaConfigEntry 8 }

wranIfBsCpeActiveTekPn OBJECT-TYPE

SYNTAX Integer32 (0..16777216)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current value of the PN counter for the current (active) generation of the two TEKS that are configured for this SA."

::= { wranIfBsCpeScmSaConfigEntry 9 }

wranIfBsCpeActiveTekExpireTime OBJECT-TYPE

SYNTAX DateAndTime

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Time at which current (active) generation of the two TEKS configured for an SA will expire. This time is calculated as a function of the (Reception Time of Key Reply with Active Tek) + (wranIfBsCpeActiveTekLifetime)."

::= { wranIfBsCpeScmSaConfigEntry 10 }

wranIfBsCpeNonActiveTekSequenceNumber OBJECT-TYPE

SYNTAX INTEGER (0..3)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The EKS value for the second (non-active) generation of the two TEKS that are configured for this SA."

::= { wranIfBsCpeScmSaConfigEntry 11 }

wranIfBsCpeNonActiveTekLifetime OBJECT-TYPE

SYNTAX Integer32 (0..604800)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The remaining lifetime, in units of time (e.g., seconds), for the second (non-active) generation of the two TEKS that are configured for this SA."

::= { wranIfBsCpeScmSaConfigEntry 12 }

wranIfBsCpeNonActiveTekPn OBJECT-TYPE

SYNTAX Integer32 (0..16777216)

UNITS "seconds"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current value of the PN counter for the second (non-active) generation of the two TEKS that are

configured for this SA."
 ::= { wranIfBsCpeScmSaConfigEntry 13 }

wranIfBsCpeNonActiveTekExpireTime OBJECT-TYPE

SYNTAX DateAndTime

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Time at which current (active) generation of the two
TEKs configured for an SA will expire. This time is
calculated as a function of the (Reception Time of
Key Reply with Non-Active Tek) +
(wranIfBsCpeNonActiveTekLifetime)."

::= { wranIfBsCpeScmSaConfigEntry 14 }

wranIfBsCpeTekRefreshTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCpeTekRefreshEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB object provides a table to track
information related to ongoing Key-Request
transactions. This table has one entry for each
current SCM Key-Request transaction. Each entry is
defined by wranIfBsCpeTekRefreshEntry."

::= { wranIfBsScm 3 }

wranIfBsCpeTekRefreshEntry OBJECT-TYPE

SYNTAX wranIfBsCpeTekRefreshEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that defines an
entry in wranIfBsCpeTekRefreshTable."

INDEX { wranIfBsCpeTekRefreshIndex }

::= { wranIfBsCpeTekRefreshTable 1 }

wranIfBsCpeTekRefreshEntry ::= SEQUENCE {

wranIfBsCpeTekRefreshIndex

wranIfBsCpeScmReqId

wranIfBsCpeScmKeyReqKeySeqNum

wranIfBsCpeScmKeyReqSaid

wranIfBsCpeScmKeyReqGroupKeyIndicator

wranIfBsCpeScmKeyReqCpeRandom

Integer32,

Integer32,

INTEGER,

Integer32,

INTEGER,

Counter64 }

wranIfBsCpeTekRefreshIndex OBJECT-TYPE

SYNTAX Integer32 (1..131070)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in the table."

::= { wranIfBsCpeTekRefreshEntry 1 }

wranIfBsCpeScmReqId OBJECT-TYPE

SYNTAX INTEGER (0..65535)

MAX-ACCESS read-only

STATUS current
DESCRIPTION
"Value of Transaction ID field of SCM REQ that carried the corresponding Key-Request message (see Table 160)."
 ::= { wranIfBsCpeTekRefreshEntry 2 }

wranIfBsCpeScmKeyReqKeySeqNum OBJECT-TYPE
SYNTAX INTEGER (0..15)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Key Sequence Number of Key-Request message (see Table 165)."
 ::= { wranIfBsCpeTekRefreshEntry 3 }

wranIfBsCpeScmKeyReqSaid OBJECT-TYPE
SYNTAX Integer32 (1..65535)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Key Sequence Number of Key-Request message (see Table 165)."
 ::= { wranIfBsCpeTekRefreshEntry 4 }

wranIfBsCpeScmKeyReqGroupKeyIndicator OBJECT-TYPE
SYNTAX INTEGER { unicastSA(0), groupSA(1) }
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Indication of whether Key-Request was for a GSA."
 ::= { wranIfBsCpeTekRefreshEntry 5 }

wranIfBsCpeScmKeyReqCpeRandom OBJECT-TYPE
SYNTAX Counter64 (0..18446744073709551615)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Random number generated by CPE and sent in the Key-Request."
 ::= { wranIfBsCpeTekRefreshEntry 6 }

wranIfBsCBPAuthCACertTable OBJECT-TYPE
SYNTAX SEQUENCE OF wranIfBsCBPAuthCACertEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This object provides a table to CA root certificates (see 8.6.2.3) used to validate CBP BS implicit certificates. There will be one entry for each CA for which a root certificate is installed. Each entry is defined by wranIfBsCBPAuthCACertEntry."
 ::= { wranIfBsScm 4 }

wranIfBsCBPAuthCACertEntry OBJECT-TYPE
 SYNTAX wranIfBsCBPAuthCACertEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object is a compound object that defines an entry in wranIfBsCBPAuthCACertTable."
 INDEX { wranIfBsCBPAuthCACertIndex }
 ::= { wranIfBsCBPAuthCACertTable 1 }

wranIfBsCBPAuthCACertEntry ::= SEQUENCE {
 wranIfBsCBPAuthCACertIndex INTEGER,
 wranIfBsCBPAuthCACertCAID INTEGER,
 wranIfBsCBPAuthCACertKeyID Integer32,
 wranIfBsCBPAuthCACertKeyValidityDate DateAndTime,
 wranIfBsCBPAuthCACertKeyValidityTimePeriod INTEGER,
 wranIfBsCBPAuthCACertVersion INTEGER,
 wranIfBsCBPAuthCACertECDomainParameters INTEGER,
 wranIfBsCBPAuthCACertCAPubKrdSize Integer32,
 wranIfBsCBPAuthCACertCAPubKrd OCTET STRING }

wranIfBsCBPAuthCACertIndex OBJECT-TYPE
 SYNTAX INTEGER (1..255)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index of entry in the table."
 ::= { wranIfBsCBPAuthCACertEntry 1 }

wranIfBsCBPAuthCACertCAID OBJECT-TYPE
 SYNTAX INTEGER (1..255)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "CA ID, identifier of CA in CA root certificate."
 ::= { wranIfBsCBPAuthCACertEntry 2 }

wranIfBsCBPAuthCACertKeyID OBJECT-TYPE
 SYNTAX Integer32 (1..512)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Key ID, identifier of assigned of public key reconstruction data in CA root certificate."
 ::= { wranIfBsCBPAuthCACertEntry 3 }

wranIfBsCBPAuthCACertKeyValidityDate OBJECT-TYPE
 SYNTAX DateAndTime
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Key Validity Date (Not Before), date/time at which CA root certificate becomes valid."
 ::= { wranIfBsCBPAuthCACertEntry 4 }

wranIfBsCBPAuthCACertKeyValidityTimePeriod OBJECT-TYPE

SYNTAX INTEGER (1..128)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Key Validity Time Period, length of time from Key Validity Date (Not Before) in 6-month increments, during which CA root certificate is valid."

::= { wranIfBsCBPAuthCACertEntry 5 }

wranIfBsCBPAuthCACertVersion OBJECT-TYPE

SYNTAX INTEGER (1..64)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Version of CBP Authentication being applied that CA root certificate supports."

::= { wranIfBsCBPAuthCACertEntry 6 }

wranIfBsCBPAuthCACertECDomainParameters OBJECT-TYPE

SYNTAX INTEGER (0..15)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Indication of which EC Domain parameters are associated with this CA root certificate (see Table 197)."

::= { wranIfBsCBPAuthCACertEntry 7 }

wranIfBsCBPAuthCACertCAPubKrdSize OBJECT-TYPE

SYNTAX INTEGER (1..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Size of wranIfBsCBPAuthCACertCAPubKrd in octets."

DEFVAL { 31 }

::= { wranIfBsCBPAuthCACertEntry 8 }

wranIfBsCBPAuthCACertCAPubKrd OBJECT-TYPE

SYNTAX

OCTET STRING (SIZE(wranIfBsCBPAuthCACertCAPubKrdSize))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Public Key Reconstruction Data that can be used to generate the public key associated with CA Root certificate."

::= { wranIfBsCBPAuthCACertEntry 9 }

wranIfBsCBPAuthBsImplicitCertTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsCBPAuthBsImplicitCertEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object provides a table to store BS implicit certificates for neighbor WRANs that use CBP authentication. There will be one entry for each BS

whose implicit certificate is installed (via this object) on the BS or received by CERT-REQ/RSP. A BS make keep an entry for its own implicit certificate in this object. Each is defined

```
wranIfBsCBPAuthBsImplicitCertEntry."
```

```
::= { wranIfBsScm 5 }
```

```
wranIfBsCBPAuthBsImplicitCertEntry OBJECT-TYPE
    SYNTAX      wranIfBsCBPAuthBsImplicitCertEntry
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "This object is a compound object that defines an
        entry in wranIfBsCBPAuthBsImplicitCertTable."
    INDEX { wranIfBsCBPAuthBsImplicitCertIndex }
    ::= { wranIfBsCBPAuthBsImplicitCertTable 1 }
```

```
wranIfBsCBPAuthBsImplicitCertEntry ::= SEQUENCE {
    wranIfBsCBPAuthBsImplicitCertIndex      Integer32,
    wranBsCBPAuthBsImplicitCertBsID         MacAddress,
    wranIfBsCBPAuthBsImplicitCertCAID       INTEGER,
    wranIfBsCBPAuthBsImplicitKeyID          Integer32,
    wranIfBsCBPAuthBsImplicitKeyValidityDate DateAndTime,
    wranIfBsCBPAuthBsImplicitKeyValidityTimePeriod INTEGER,
    wranIfBsCBPAuthBsImplicitCertVersion    INTEGER,
    wranIfBsCBPAuthBsImplicitPubKrdSize     Integer32,
    wranIfBsCBPAuthBsImplicitPubKrd        OCTET STRING }
```

```
wranIfBsCBPAuthBsImplicitCertIndex OBJECT-TYPE
    SYNTAX      Integer32 (1..4080)
    MAX-ACCESS   read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in the table."
    ::= { wranIfBsCBPAuthBsImplicitCertEntry 1 }
```

```
wranBsCBPAuthBsImplicitCertBsID OBJECT-TYPE
    SYNTAX      MacAddress
    MAX-ACCESS   read-only
    STATUS      current
    DESCRIPTION
        "BS ID (MAC Address) of BS that implicit certificates
        belongs to."
    ::= { wranIfBsCBPAuthBsImplicitCertEntry 2 }
```

```
wranIfBsCBPAuthBsImplicitCertCAID OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS   read-only
    STATUS      current
    DESCRIPTION
        "CA ID, identifier of CA in BS implicit certificate."
    ::= { wranIfBsCBPAuthBsImplicitCertEntry 3 }
```

```
wranIfBsCBPAuthBsImplicitKeyID OBJECT-TYPE
    SYNTAX      Integer32 (1..512)
    MAX-ACCESS   read-only
```

STATUS current

DESCRIPTION

"Key ID, identifier of assigned of public key reconstruction data in BS implicit certificate."

::= { wranIfBsCBPAuthBsImplicitCertEntry 4 }

wranIfBsCBPAuthBsImplicitKeyValidityDate OBJECT-TYPE

SYNTAX DateAndTime

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Key Validity Date (Not Before), date/time at which BS implicit certificate becomes valid."

::= { wranIfBsCBPAuthBsImplicitCertEntry 5 }

wranIfBsCBPAuthBsImplicitKeyValidityTimePeriod OBJECT-TYPE

SYNTAX INTEGER (1..128)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Key Validity Time Period, length of time from Key Validity Date (Not Before) in 6-month increments, during which BS implicit certificate is valid."

::= { wranIfBsCBPAuthBsImplicitCertEntry 6 }

wranIfBsCBPAuthBsImplicitCertVersion OBJECT-TYPE

SYNTAX INTEGER (1..64)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Version of CBP Authentication being applied that BS implicit certificate supports."

::= { wranIfBsCBPAuthBsImplicitCertEntry 7 }

wranIfBsCBPAuthBsImplicitPubKrdSize OBJECT-TYPE

SYNTAX INTEGER (1..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Size of wranIfBsCBPAuthCACertCAPubKrd in octets."

DEFVAL { 31 }

::= { wranIfBsCBPAuthBsImplicitCertEntry 8 }

wranIfBsCBPAuthBsImplicitPubKrd OBJECT-TYPE

SYNTAX

OCTET STRING (SIZE(wranIfBsCBPAuthBsImplicitPubKrdSize))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Public Key Reconstruction Data that can be used to generate the public key associated with BS implicit certificate."

::= { wranIfBsCBPAuthBsImplicitCertEntry 9 }

wranIfBswiMicAuthCertTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBswiMicAuthCertEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object provides a table to store wireless microphone implicit certificates contained in MSF3 of decoded wireless microphone beacons. This table is made up of multiple entries, one defined for each unique wireless microphone beacon implicit certificate. Each entry is defined by wranIfBswiMicAuthCertEntry. Entries are added to this table when a wireless microphone beacon (MSF1+MSF2+MSF3) has been successfully received and decoded."

::= { wranIfBsScm 6 }

wranIfBswiMicAuthCertEntry OBJECT-TYPE

SYNTAX wranIfBswiMicAuthCertEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that defines an entry in wranIfBswiMicAuthCertTable."

INDEX { wranIfBswiMicAuthCertIndex }

::= { wranIfBswiMicAuthCertTable 1 }

wranIfBswiMicAuthCertEntry ::= SEQUENCE {

wranIfBswiMicAuthCertIndex Integer32,

wranIfBswiMicAuthSrcAddress MacAddress,

wranIfBswiMicAuthImplicitCertSize Integer32,

wranIfBswiMicAuthImplicitCert OCTET STRING }

wranIfBswiMicAuthCertIndex OBJECT-TYPE

SYNTAX Integer32 (1..4080)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in the table."

::= { wranIfBswiMicAuthCertEntry 1 }

wranIfBswiMicAuthSrcAddress OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Source Address from MSF1 of received wireless microphone beacon. It is stored as a 48-bit IEEE conformant MAC address that identifies the beaconing device associated with the implicit certificate."

::= { wranIfBswiMicAuthCertEntry 2 }

wranIfBswiMicAuthImplicitCertSize OBJECT-TYPE

SYNTAX INTEGER (1..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Size of wranIfBswiMicAuthImplicitCert in octets."

```

DEFVAL { 31 }
 ::= { wranIfBsWiMicAuthCertEntry 3 }

```

```

wranIfBsWiMicAuthImplicitCert OBJECT-TYPE

```

```

SYNTAX

```

```

    OCTET STRING (SIZE(wranIfBsWiMicAuthImplicitCertSize))

```

```

MAX-ACCESS read-only

```

```

STATUS current

```

```

DESCRIPTION

```

```

    "Wireless microphone beacon implicit certificate
    obtained from MSF3 of received wireless microphone
    beacon. Format of implicit certificate is defined in
    7.5.5 of IEEE Std 802.22.1-2010."

```

```

 ::= { wranIfBsWiMicAuthCertEntry 4 }

```

```

-- wranIfBsScmMibGroups: This object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

```

```

wranIfBsScmMibGroups          OBJECT IDENTIFIER
                               ::= { wranIfBsPm 7 }
wranIfBsScmAuthStatusGroup    OBJECT IDENTIFIER
                               ::= { wranIfBsScmMibGroups 1 }
wranIfBsScmSaConfigGroup      OBJECT IDENTIFIER
                               ::= { wranIfBsScmMibGroups 2 }
wranIfBsScmTekGroup           OBJECT IDENTIFIER
                               ::= { wranIfBsScmMibGroups 3 }
wranIfBsScmCBPAuthCACertGroup OBJECT IDENTIFIER
                               ::= { wranIfBsScmMibGroups 4 }
wranIfBsScmCBPBsCertGroup     OBJECT IDENTIFIER
                               ::= { wranIfBsScmMibGroups 5 }
wranIfBsScmWiMicAuthGroup     OBJECT IDENTIFIER
                               ::= { wranIfBsScmMibGroups 6 }

```

```

wranIfBsScmAuthStatusGroup    OBJECT-GROUP

```

```

    OBJECTS { wranIfBsCpeAuthStatusIndex,
               wranIfBsCpeScmAuthStatus,
               wranIfBsCpeScmAuthRecentEvent,
               wranIfBsCpeScmNumAuthAttempts,
               wranIfBsCpeAuthRecentMsgSize,
               wranIfBsCpeScmAuthRecentMsg,
               wranIfBsCpeScmAuthEapAuthTimerExpiration,
               wranIfBsCpeAuthGraceTimer1,
               wranIfBsCepAuthGraceTimer2,
               wranIfBsCpeScmAk1Lifetime,
               wranIfBsCpeScmAk2Lifetime,
               wranIfBsCpeScmConfigRequestSize,
               wranIfBsCpeScmConfigRequest,
               wranIfBsCpeScmConfigReplySize,
               wranIfBsCpeScmConfigReply }

```

```

STATUS current

```

```

DESCRIPTION

```

```

    "This group contains objects related to
    tracking the current state of a CPEs
    authentication state machine."

```

```

 ::= { wranIfBsScmMibGroups 1 }

```

wranIfBsScmSaConfigGroup OBJECT-GROUP
 OBJECTS { wranIfBsCpeScmSaConfigIndex,
 wranIfBsCpeMacAddress,
 wranIfBsCpeSaid,
 wranIfBsCpeSaType,
 wranIfBsCpeCryptoSuiteListSize,
 wranIfBsCpeCryptoSuiteList,
 wranIfBsCpeActiveTekSequenceNumber,
 wranIfBsCpeActiveTekLifetime,
 wranIfBsCpeActiveTekPn,
 wranIfBsCpeActiveTekExpireTime,
 wranIfBsCpeNonActiveTekSequenceNumber,
 wranIfBsCpeNonActiveTekLifetime,
 wranIfBsCpeNonActiveTekPn,
 wranIfBsCpeNonActiveTekExpireTime }
 STATUS current
 DESCRIPTION
 "This group contains objects related to
 tracking the configuration of SAs configured
 on CPEs."
 ::= { wranIfBsScmMibGroups 2 }

wranIfBsScmTekGroup OBJECT-GROUP
 OBJECTS { wranIfBsCpeTekRefreshIndex,
 wranIfBsCpeScmReqId,
 wranIfBsCpeScmKeyReqKeySeqNum,
 wranIfBsCpeScmKeyReqSaid,
 wranIfBsCpeScmKeyReqGroupKeyIndicator,
 wranIfBsCpeScmKeyReqCpeRandom }
 STATUS current
 DESCRIPTION
 "This group contains objects related to
 tracking on going Key-Request transactions."
 ::= { wranIfBsScmMibGroups 3 }

wranIfBsScmCBPAuthCACertGroup OBJECT-GROUP
 OBJECTS { wranIfBsCBPAuthCACertIndex,
 wranIfBsCBPAuthCACertCAID,
 wranIfBsCBPAuthCACertKeyID,
 wranIfBsCBPAuthCACertKeyValidityDate,
 wranIfBsCBPAuthCACertKeyValidityTimePeriod,
 wranIfBsCBPAuthCACertVersion,
 wranIfBsCBPAuthCACertECDomainParameters,
 wranIfBsCBPAuthCACertCAPubKrdSize,
 wranIfBsCBPAuthCACertCAPubKrd }
 STATUS current
 DESCRIPTION
 "This group contains objects related to
 storing CA Root certificates that used to
 validate BS Implicit Certificates."
 ::= { wranIfBsScmMibGroups 4 }

wranIfBsScmCBPBsCertGroup OBJECT-GROUP
 OBJECTS { wranIfBsCBPAuthCACertIndex,
 wranIfBsCBPAuthCACertCAID,


```

        wranIfBsCBPAuthCACertKeyID,
        wranIfBsCBPAuthCACertKeyValidityDate,
        wranIfBsCBPAuthCACertKeyValidityTimePeriod,
        wranIfBsCBPAuthCACertVersion,
        wranIfBsCBPAuthCACertECDomainParameters,
        wranIfBsCBPAuthCACertCAPubKrdSize,
        wranIfBsCBPAuthCACertCAPubKrd }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    storing BS implicit certificates used in CBP
    authentication."
 ::= { wranIfBsScmMibGroups 5 }

wranIfBsScmWiMicAuthGroup      OBJECT-GROUP
OBJECTS      { wranIfBsWiMicAuthCertIndex,
                wranIfBsWiMicAuthSrcAddress,
                wranIfBsWiMicAuthImplicitCertSize,
                wranIfBsWiMicAuthImplicitCert }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    storing wireless microphone beacon (IEEE Std
    802.22.1-2010) certificates transmitted in
    MSF3 of wireless microphone beacons."
 ::= { wranIfBsScmMibGroups 6 }

wranIfBsScmMibCompliance      MODULE-COMPLIANCE
STATUS      current
DESCRIPTION
    "MIB objects that are optional and mandatory for
    wranIfBsScm compliance."
MODULE      wranIfBsScm
MANDATORY-GROUPS { wranIfBsScmAuthStatusGroup,
                    wranIfBsScmSaConfigGroup,
                    wranIfBsScmTekGroup }
-- OPTIONAL-GROUPS { wranIfBsScmCBPAuthCACertGroup,
                    wranIfBsScmCBPBsCertGroup,
                    wranIfBsScmWiMicAuthGroup }
 ::= { wranIfBsScm 8 }

```

END

13.2.3 wranIfBsSfMgmtMib

IEEE802dot22-WRAN-IF-BS-SF-MGMT-MIB ::= BEGIN

IMPORTS

MODULE-IDENTITY,
 OBJECT-TYPE,
 NOTIFICATION-TYPE,
 Unsigned32, Integer32, Counter32,
 Counter64
 FROM SNMPv2-SMI
 SnmpAdminString
 FROM SNMP-FRAMEWORK-MIB
 TEXTUAL-CONVENTION,
 MacAddress, RowStatus, TruthValue,
 TimeStamp, DateAndTime
 FROM SNMPv2-TC
 InetAddressType, InetAddress
 FROM INET-ADDRESS-MIB
 OBJECT-GROUP,
 MODULE-COMPLIANCE,
 NOTIFICATION-GROUP
 FROM SNMPV2-CONF

wranIfBsSfMgmtMib MODULE-IDENTITY
 LAST-UPDATED "201405300000Z" -- May 30, 2014
 ORGANIZATION "IEEE 802.22"
 CONTACT-INFO
 "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
 WG Chair: Apurva N. Mody
 E-mail: apurva.mody@ieee.org
 TGA Chair/Editor: Ranga Reddy
 E-mail: ranga.reddy@ieee.org"

DESCRIPTION

"This material is from IEEE Std 802.22a-2014
 Copyright (c) 2014. This MIB Module Defines managed
 objects for Service Flow management based on
 IEEE Std 802.22-2011 and is under iso(1).std(0)
 .iso8802(8802).wran(22).wranIfBsSfMgmtMib(3)"

REVISION "201405300000Z"

DESCRIPTION

"The first version of IEEE802dot22-WRAN-IF-BS-SF-
 MGMT-MIB that provides for management of service
 flows."

::= {iso std(0) iso8802(8802) wran(22) 3}

wranIfBsProvSfTable	OBJECT IDENTIFIER ::= { wranIfBsSfMgmtMib 1 }
wranIfBsScTable	OBJECT IDENTIFIER ::= { wranIfBsSfMgmtMib 2 }
wranIfBsSfActiveTable	OBJECT IDENTIFIER ::= { wranIfBsSfMgmtMib 3 }
wranIfBsProvClassifierRuleTable	OBJECT IDENTIFIER ::= { wranIfBsSfMgmtMib 4 }
wranIfBsClassifierRuleTable	OBJECT IDENTIFIER

```

wranIfBsSfTrapControl ::= { wranIfBsSfMgmtMib 5 }
                        OBJECT IDENTIFIER
wranIfBsSfTrapDefinition ::= { wranIfBsSfMgmtMib 6 }
                        OBJECT IDENTIFIER
wranIfBsSfNotificationObjectsTable ::= { wranIfBsSfMgmtMib 7 }
                        OBJECT IDENTIFIER
wranIfBsSfMibGroups ::= { wranIfBsSfMgmtMib 8 }
                        OBJECT IDENTIFIER
wranIfBsSfMibCompliance ::= { wranIfBsSfMgmtMib 9 }
                        OBJECT IDENTIFIER
                        ::= { wranIfSfMgmtMib 10 }

wranIfBsProvSfTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfBsProvSfEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This MIB object defines the profiles for services
        that are provisioned by the NCMS. Service flow that
        are provisioned for a particular CPE are tied to
        that CPE via that CPE's MAC Address. This table is
        made up of multiple entries, each specific to a
        particular provisioned service flow. Each entry is
        defined by wranIfBsProvSfEntry. The QoS parameters
        for provisioned service flows are mapped to
        information in wranIfBsScTable. Classification rules
        for provisioned service flows are defined in
        wranIfBsProvClassifierRuleTable."
    ::= { wranIfBsSfMgmtMib 1 }

wranIfBsProvSfEntry OBJECT-TYPE
    SYNTAX      wranIfBsProvSfEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object is a compound object that defines an
        entry in wranIfBsProvSfTable."
    INDEX { wranIfBsProvEntryIndex }
    ::= { wranIfBsProvSfTable 1 }

wranIfBsProvSfEntry ::= SEQUENCE {
    wranIfBsProvEntryIndex      Integer32,
    wranIfBsCpeProvMacAddress   MacAddress,
    wranIfBsProvSfId            Integer32,
    wranIfBsProvSfDirection    INTEGER,
    wranIfBsProvScIndex         Integer32,
    wranIfBsProvCsSpecification INTEGER,
    wranIfBsProvSfStatus        INTEGER,
    wranIfBsProvSfProvisioningTime DateAndTime,
    wranIfBsProvTargetSaid      INTEGER,
    wranIfBsProvClsRuleListSize INTEGER,
    wranIfBsProvClsRuleList     OCTET STRING }

wranIfBsProvEntryIndex OBJECT-TYPE
    SYNTAX      Integer32 (1.. 2048)
    MAX-ACCESS  read-only

```

STATUS current
DESCRIPTION
"Index of entry in this table, defaults to 1."
 ::= { wranIfBsProvSfEntry 1 }

wranIfBsCpeProvMacAddress OBJECT-TYPE
SYNTAX MacAddress
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"MAC Address of CPE with which the service flow is created."
 ::= { wranIfBsProvSfEntry 2 }

wranIfBsProvSfId OBJECT-TYPE
SYNTAX Integer32 (1.. 4294967295)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Unique identifier for the SF that is provisioned between a BS and a particular CPE."
 ::= { wranIfBsProvSfEntry 3 }

wranIfBsProvSfDirection OBJECT-TYPE
SYNTAX INTEGER { ds(0),
us(1) }
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Indication of whether the SF is an US SF or a DS SF."
 ::= { wranIfBsProvSfEntry 4 }

wranIfBsProvScIndex OBJECT-TYPE
SYNTAX Integer32 (1.. 4294967295)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Index into a wranIfBsScTable entry that indicates the QoS parameter set for this service flow."
 ::= { wranIfBsProvSfEntry 5 }

wranIfBsProvCsSpecification OBJECT-TYPE
SYNTAX INTEGER { noCS(0),
ethCS(1),
ipCS(2) }
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Indication of which convergence sublayer has been used to encapsulate the higher-layer SDU (see 7.7.8.9.18.1)."
 ::= { wranIfBsProvSfEntry 6 }

wranIfBsProvSfStatus OBJECT-TYPE
SYNTAX INTEGER { provisioned(0),

```

                                admitted(1),
                                active(2) }
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "Indication of whether the provisioned service
    flow is currently provisioned, admitted, or active
    (see 7.7.8.9.4 and 7.18.2)."
```

```
 ::= { wranIfBsProvSfEntry 7 }
```

wranIfBsProvSfProvisioningTime OBJECT-TYPE

```

SYNTAX        DateAndTime
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "If currently active (see 13.1.3.1.1.7), the time at
    which the service flow was provisioned."
```

```
 ::= { wranIfBsProvSfEntry 8 }
```

wranIfBsProvTargetSaid OBJECT-TYPE

```

SYNTAX        INTEGER { primarySA(0),
                        secondarySA(1) }
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "SAID of SA to which service flow is being mapped.
    Provisioned services flows can be mapped to the
    Primary or Secondary SA."
```

```
 ::= { wranIfBsProvSfEntry 9 }
```

wranIfBsProvClsRuleListSize OBJECT-TYPE

```

SYNTAX        INTEGER (1..255)
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "Number of wranIfBsProvClsfrRuleIndex values in
    wranIfBsProvClsRuleList."
```

```
 ::= { wranIfBsProvSfEntry 10 }
```

wranIfBsProvClsRuleList OBJECT-TYPE

```

SYNTAX        OCTET STRING (SIZE(wranIfBsProvClsRuleListSize))
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "List of wranIfBsProvClsfrRuleIndexValues pointing to
    entries in the wranIfBsProvClassifierRuleTable that
    contain packet classification rules assigned to this
    service flow."
```

```
 ::= { wranIfBsProvSfEntry 11 }
```

wranIfBsScTable OBJECT-TYPE

```

SYNTAX        SEQUENCE OF wranIfBsScEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
```

"This MIB object provides a table that describes attributes of provisioned and dynamic service flows, such as QoS Parameter Set. This table is made up of multiple entries, one for each service class. Each entry is defined by wranIfBsScEntry."
 ::= { wranIfBsSfMgmtMib 2 }

wranIfBsScEntry OBJECT-TYPE
 SYNTAX wranIfBsScEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This object is a compound object that defines an entry in wranIfBsScTable."

INDEX { wranIfBsScIndex }
 ::= { wranIfBsScTable 1 }

wranIfBsScEntry ::= SEQUENCE {
 wranIfBsScIndex Integer32,
 wranIfBsQoSsfSfid Integer32,
 wranIfBsQoSsfFid INTEGER,
 wranIfBsQoSServiceClassNameSize INTEGER,
 wranIfBsQoSServiceClassName OCTET STRING,
 wranIfBsQoSParameterSetType INTEGER,
 wranIfBsQoSMaxSustainedRate Integer32,
 wranIfBsQoSSTrafficSize Integer32,
 wranIfBsQoSMinReservedRate Integer32,
 wranIfBsQoSoleratedJitter Integer32,
 wranIfBsQoSMaxLatency INTEGER,
 wranIfBsQoSEnableVariableLengthSdus TruthValue,
 wranIfBsQoSchedulingType INTEGER,
 wranIfBsQoSArqEnable TruthValue,
 wranIfBsQoSArqWindowSize Integer32,
 wranIfBsQoSArqTxRetryTimeout Integer32,
 wranIfBsQoSArqRxRetryTimeout Integer32,
 wranIfBsQoSArqBlockLifetime Integer32,
 wranIfBsQoSArqSyncLossTimeout Integer32,
 wranIfBsQoSArqDeliverInOrderEnable TruthValue,
 wranIfBsQoSArqRxPurgeTimeout Integer32,
 wranIfBsQoSArqBlockSizeReq Integer32,
 wranIfBsQoSArqBlockSizeRsp Integer32,
 wranIfBsQoSReqTxPolicy BITS }

wranIfBsScIndex OBJECT-TYPE
 SYNTAX Integer32 (1..4096)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Index value to uniquely identify an entry in wranIfBsScTable."

::= { wranIfBsScEntry 1 }

wranIfBsQoSsfSfid OBJECT-TYPE
 SYNTAX Integer32 (1..4294967295)
 MAX-ACCESS read-write
 STATUS current

DESCRIPTION

"SFID of service flow."

::= { wranIfBsScEntry 2 }

wranIfBsQoSsFid OBJECT-TYPE

SYNTAX INTEGER { be(2), nrtPS(3), rtPS(4),
ugs(5), reserved(6) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"FID to which service flow is mapped."

::= { wranIfBsScEntry 3 }

wranIfBsQoSServiceClassNameSize OBJECT-TYPE

SYNTAX INTEGER (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Size, e.g., number of octets, of
wranIfBsQoSServiceClassName."

::= { wranIfBsScEntry 4 }

wranIfBsQoSServiceClassName OBJECT-TYPE

SYNTAX

OCTET STRING (SIZE(wranIfBsQoSServiceClassNameSize))

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Defines the name of the service class associated
with this entry. If service class is not assigned,
this will be blank."

::= { wranIfBsScEntry 5 }

wranIfBsQoSParameterSetType OBJECT-TYPE

SYNTAX INTEGER (0..7)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indication of whether the QoS parameter set
defined by this entry is applied to the Provisioned,
Admitted, or Active Parameter Set of the service
flow (see Table 77)."

::= { wranIfBsScEntry 6 }

wranIfBsQoSMaxSustainedRate OBJECT-TYPE

SYNTAX Integer32 (1.. 16777216)

UNITS "bps"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Peak information/data rate of SDUs carried by the
service flow, defined in units of bits per second."

::= { wranIfBsScEntry 7 }

wranIfBsQoSTrafficSize OBJECT-TYPE

SYNTAX Integer32 (1.. 16777216)

UNITS "bytes"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "If fixed-length SDUs (see 13.1.3.2.1.10) are enabled, this represents the size of the SDU assigned to the service flow. If variable-length SDUs (see 13.1.3.2.1.10) are enabled, this represents the average size of SDU assigned the service flow."
 ::= { wranIfBsScEntry 8 }

wranIfBsQosMinReservedRate OBJECT-TYPE
 SYNTAX Integer32 (1.. 16777216)
 UNITS "bps"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Minimum required information/data rate of SDUs carried by the service flow, defined in units of bits per second."
 ::= { wranIfBsScEntry 9 }

wranIfBsQosToleratedJitter OBJECT-TYPE
 SYNTAX Integer32 (1.. 16777216)
 UNITS "milliseconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "The maximum jitter (variation in delay) that can be suffered by the traffic assigned to the service flow."
 ::= { wranIfBsScEntry 10 }

wranIfBsQosMaxLatency OBJECT-TYPE
 SYNTAX Integer32 (1.. 16777216)
 UNITS "milliseconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "The maximum delay that can be suffered by traffic assigned to the service flow."
 ::= { wranIfBsScEntry 11 }

wranIfBsQosEnableVariableLengthSdus OBJECT-TYPE
 SYNTAX TruthValue
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Setting this object allows the turning on/off of variable-length SDU support. Default is to allow use of variable-length SDUs, Truth(1)."
 ::= { wranIfBsScEntry 12 }

wranIfBsQosSchedulingType OBJECT-TYPE
 SYNTAX INTEGER { be(0), nrtPS(1), rtPS(2), ugs(3) }

MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Setting this object allows the turning on/off of
variable-length SDU support. Default is to allow use
of variable-length SDUs."
::= { wranIfBsScEntry 13 }

wranIfBsQosArqEnable OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Setting this object enables/disables ARQ for a
service flow. Default is that ARQ is enabled,
Truth(1)."
::= { wranIfBsScTable 14 }

wranIfBsQosArqWindowSize OBJECT-TYPE
SYNTAX Integer32 (1..65535)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Indication of the maximum number of unacknowledged
fragments at any given time. Only valid if
wranIfBsQosArqEnable is set."
::= { wranIfBsScEntry 15 }

wranIfBsQosArqTxRetryTimeout OBJECT-TYPE
SYNTAX Integer32 (0..655350)
UNITS "microseconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Total time before timing out retransmissions of ARQ
blocks (in 10-microsecond blocks). For BS, this
should include time to compensate for scheduling and
the propagation time for transmission."
::= { wranIfBsScEntry 16 }

wranIfBsQosArqRxRetryTimeout OBJECT-TYPE
SYNTAX Integer32 (0..655350)
UNITS "microseconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Total time before timing out receptions of ARQ block
retransmission (in 10-microsecond blocks). For BS,
this should include time to compensate for
scheduling and the propagation
time for transmission."
::= { wranIfBsScEntry 17 }

wranIfBsQosArqBlockLifetime OBJECT-TYPE
SYNTAX Integer32 (0..655350)
UNITS "microseconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The maximum amount of time that an ARQ block can be held in the ARQ state machine before it is dropped (in 10-microsecond blocks). Setting this to 0, indicates an indefinite lifetime."

::= { wranIfBsScEntry 18 }

wranIfBsQosArqSyncLossTimeout OBJECT-TYPE

SYNTAX Integer32 (0..655350)

UNITS "microseconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Timeout for determining the that transmitter and receiver state machines have become unsynchronized (in 10-microsecond blocks). Setting this to 0, indicates an indefinite lifetime."

::= { wranIfBsScEntry 19 }

wranIfBsQosArqDeliverInOrderEnable OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Disable/enable ability to deliver ARQ blocks to higher layer at receiver in the same order they were transmitted by the transmitter."

::= { wranIfBsScEntry 20 }

wranIfBsQosArqRxPurgeTimeout OBJECT-TYPE

SYNTAX Integer32 (0..655350)

UNITS "microseconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"How much the ARQ window is advanced after an ARQ fragment is received (in 10-microsecond blocks)."

::= { wranIfBsScEntry 21 }

wranIfBsQosArqBlockSizeReq OBJECT-TYPE

SYNTAX Integer32 (1..2048)

UNITS "bytes"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object defines the value of the ARQ block size included in DSA-REQ and REG-REQ messages."

::= { wranIfBsScEntry 22 }

wranIfBsQosArqBlockSizeRsp OBJECT-TYPE

SYNTAX Integer32 (1..2048)

UNITS "bytes"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This object defines the value of the ARQ block size included in DSA-RSP and REG-RSP messages."

::= { wranIfBsScEntry 23 }

wranIfBsQosReqTxPolicy OBJECT-TYPE

SYNTAX BITS { noUseOfBroadcastBwReqOpportunities(0),
reserved(1),
noPiggyReqWithData(2),
noFragmentationOfData(3),
noSuppressionOfPayloadHeaders(4),
noPacking(5),
reserved(6),
reserved(7) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"This value is a bitmap that enables/disables the following capabilities for a service flow: Use of broadcast BW request for US, use of multicast BW request for US only, piggyback BW requests on data for US transmissions, enable/disable fragmentation, enable/disable packing, and use of CRC for MAC PDU (See Table 83). Bits #1, #6, and #7, are reserved and should default to 0."

::= { wranIfBsScEntry 24 }

wranIfBsActiveSfTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsActiveSfEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB object provides a table that is used to manage service flows that are currently active between the BS and CPEs. This table is made up of multiple entries, one for each service flow mapped to a particular CPE. Each entry is defined by wranIfBsActiveSfEntry."

::= { wranIfBsSfMgmtMib 3 }

wranIfBsActiveSfEntry OBJECT-TYPE

SYNTAX wranIfBsActiveSfEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object is a compound object that defines an entry in wranIfBsActiveSfTable."

INDEX { wranIfBsActiveSfIndex }

::= { wranIfBsActiveSfTable 1 }

wranIfBsActiveSfEntry ::= SEQUENCE {

wranIfBsActiveSfIndex

wranIfBsActiveSfSfid

wranIfBsActiveSfMacAddress

wranIfBsActiveSfSid

wranIfBsActiveSfDirection

Integer32,

Integer32,

MacAddress,

Integer32,

INTEGER,

wranIfBsActiveSfStatus	INTEGER,
wranIfBsActiveScIndex	Integer32,
wranIfBsActiveCsSpecification	INTEGER,
wranIfBsActiveTargetSaid	Integer32,
wranIfBsActiveSfClsRuleListSize	INTEGER,
wranIfBsActiveSfClsRuleList	OCTET STRING }

wranIfBsActiveSfIndex OBJECT-TYPE
SYNTAX Integer32 (1..4096)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Index value to uniquely identify an entry in
wranIfBsActiveSfTable."
::= { wranIfBsActiveSfEntry 1 }

wranIfBsActiveSfSfid OBJECT-TYPE
SYNTAX Integer32 (1.. 4294967296)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"SFID of active service flow that is assigned to a
particular CPE."
::= { wranIfBsActiveSfEntry 2 }

wranIfBsActiveSfMacAddress OBJECT-TYPE
SYNTAX MacAddress
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"48-bit IEEE MAC Address assigned to CPE to which
this service flow is mapped."
::= { wranIfBsActiveSfEntry 3 }

wranIfBsActiveSfSid OBJECT-TYPE
SYNTAX Integer32 (0..511)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"SID of CPE assigned to service flow. If
wranIfBsActiveSfSid is a multicast SID, there will be
multiple entries in this table, one for each
wranIfBsActiveSfMacAddress assigned to this service
flow with the same wranIfBsActiveSfSid."
::= { wranIfBsActiveSfEntry 4 }

wranIfBsActiveSfDirection OBJECT-TYPE
SYNTAX INTEGER { ds(0), us(1) }
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Direction of service flow: BS to CPE (DS), CPE to BS
(US)."
::= { wranIfBsActiveSfEntry 5 }

wranIfBsActiveSfStatus OBJECT-TYPE

```

SYNTAX      INTEGER { inactive(0), provisioned(1),
                    admitted(2), active(3) }
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "Current state of service flow. Service flow can be in
    one of four states: inactive, provisioned, admitted
    (service flow initiated but not received BW yet), or
    active (service flow initiated and there has been BW
    assigned to use on service flow)."
 ::= { wranIfBsActiveSfEntry 6 }

```

```

wranIfBsActiveScIndex OBJECT-TYPE
SYNTAX      Integer32 (1..4096)
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "Index into wranIfBsScTable entry that indicates the
    QoS parameter set for this service flow."
 ::= { wranIfBsActiveSfEntry 7 }

```

```

wranIfBsActiveCsSpecification OBJECT-TYPE
SYNTAX      INTEGER { noCS(0), ethCS(1), ipCS(2) }
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "The CS used for encapsulating SDUs for this service
    flow (see 7.7.8.9.18.1)."
 ::= { wranIfBsActiveSfEntry 8 }

```

```

wranIfBsActiveTargetSaid OBJECT-TYPE
SYNTAX      Integer32 (1..4096)
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "The CS used for encapsulating SDUs for this service
    flow (see 7.7.8.9.18.1)."
 ::= { wranIfBsActiveSfEntry 9 }

```

```

wranIfBsActiveSfClsRuleListSize OBJECT-TYPE
SYNTAX      INTEGER (1..255)
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "Number of items in wranIfBsActiveSfClsRuleList."
 ::= { wranIfBsActiveSfEntry 10 }

```

```

wranIfBsActiveSfClsRuleList OBJECT-TYPE
SYNTAX      OCTET STRING (SIZE(wranIfBsActiveSfClsRuleListSize))
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "List of wranIfBsClsfrRuleIndex values pointing to
    entries in the wranIfBsClassifierRuleTable that
    contain packet classification rules assigned to this

```

```

        service flow."
 ::= { wranIfBsActiveSfEntry 11 }

```

```

wranIfBsProvClassifierRuleTable      OBJECT-TYPE
    SYNTAX          SEQUENCE OF wranIfBsProvClassifierRuleEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This table contains classifier rules that are to be
        applied to service flows for CPEs that are
        provisioned by the NCMS. There are multiple entries
        in this table, one for each classifier rule. Each
        entry is defined by
        wranIfBsProvClassifierRuleEntry."
    ::= { wranIfBsSfMgmtMib 4 }

```

```

wranIfBsProvClassifierRuleEntry      OBJECT-TYPE
    SYNTAX          wranIfBsProvClassifierRuleEntry
    MAX-ACCESS      not-accessible
    STATUS          current
    DESCRIPTION
        "This object is a compound object that provides the
        definition of entries in
        wranIfBsProvClassifierRuleTable."
    INDEX { wranIfBsProvClsfrRuleIndex }
    ::= { wranIfBsProvClassifierRuleTable 1 }

```

```

wranIfBsProvClassifierRuleEntry      ::= SEQUENCE {
    wranIfBsProvClsfrRuleIndex        Integer32,
    wranIfBsProvClsfrRuleMap          BITS,
    wranIfBsProvClsfrRulePriority      INTEGER,
    wranIfBsProvClsfrRuleProtocol     INTEGER,
    wranIfBsProvClsfrRuleIpSrcAddrType InetAddressType,
    wranIfBsProvClsfrRuleIpSrcAddr    InetAddress,
    wranIfBsProvClsfrRuleIpSrcMask    InetAddress,
    wranIfBsProvClsfrRuleIpDestAddrType InetAddressType,
    wranIfBsProvClsfrRuleIpDestAddr    InetAddress,
    wranIfBsProvClsfrRuleIpDestMask    InetAddress,
    wranIfBsProvClsfrRuleSrcPortStart  Integer32,
    wranIfBsProvClsfrRuleSrcPortEnd    Integer32,
    wranIfBsProvClsfrRuleDestPortStart Integer32,
    wranIfBsProvClsfrRuleDestPortEnd    Integer32,
    wranIfBsProvClsfrRuleDestMacAddr    MacAddress,
    wranIfBsProvClsfrRuleDestMacAddrMask MacAddress,
    wranIfBsProvClsfrRuleSrcMacAddr     MacAddress,
    wranIfBsProvClsfrRuleSrcMacAddrMask MacAddress,
    wranIfBsProvClsfrRuleEnetProtType   INTEGER,
    wranIfBsProvClsfrRuleEnetProtocol   Integer32,
    wranIfBsProvClsfrRuleUserPriLow     INTEGER,
    wranIfBsProvClsfrRuleUserPriHigh    INTEGER,
    wranIfBsProvClsfrRuleVlanId         Integer32,
    wranIfBsProvClsfrRuleIpv6FlowLabel  OCTET STRING,
    wranIfBsProvClsfrRuleIpTypeOfService OCTET STRING }

```

```

wranIfBsProvClsfrRuleIndex      OBJECT-TYPE
    SYNTAX          Integer32 (1..65535)

```


MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index value to uniquely identify an entry in
 wranIfBsProvClassifierRuleTable."
 ::= { wranIfBsProvClassifierRuleEntry 1 }

wranIfBsProvClsfrRuleMap OBJECT-TYPE
 SYNTAX BITS { priority(0),
 protocol(1),
 ipSrcAddrType(2),
 ipSrcAddr(3),
 ipSrcMask(4),
 ipDestAddrType(5),
 ipDestAddr(6),
 ipDestMask(7),
 srcPortStart(8),
 srcPortEnd(9),
 destPortStart(10),
 destPortEnd(11),
 destMacAddr(12),
 destMacAddrMask(13),
 srcMacAddr(14),
 srcMacAddrMask(15),
 enetProtType(16),
 enetProtocol(17),
 userPriLow(18),
 userPriHigh(19),
 vlanId(20),
 ipv6FlowLabel(21),
 ipTypeOfService(22) }

MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "A bitmap that indicates which classification
 parameters are included in the classification rule.
 A parameter exists in this rule if the corresponding
 bit is set to 1."
 ::= { wranIfBsProvClassifierRuleEntry 2 }

wranIfBsProvClsfrRulePriority OBJECT-TYPE
 SYNTAX INTEGER (0..255)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Priority of the classification rule. This determines
 the order in which classification rules are
 applied."
 ::= { wranIfBsProvClassifierRuleEntry 3 }

wranIfBsProvClsfrRuleIpProtocol OBJECT-TYPE
 SYNTAX INTEGER (0..255)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Value of IP Protocol field. For IPv6 headers, this

refers to the next header entry in the last header of the IP header list. The value of this field follows the "Protocol Numbers" specification defined by IANA."

::= { wranIfBsProvClassifierRuleEntry 4 }

wranIfBsProvClsfrRuleIpSrcAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Type of IP address that Source IP address from IP header is."

::= { wranIfBsProvClassifierRuleEntry 5 }

wranIfBsProvClsfrRuleIpSrcAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Source IP address from IP header."

::= { wranIfBsProvClassifierRuleEntry 6 }

wranIfBsProvClsfrRuleIpSrcMask OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"IP address mask IP source address (wranIfBsProvClsfrRuleIpSrcAddr) is matched when output of applying (bitwise AND) this value to IP source address from IP packet."

::= { wranIfBsProvClassifierRuleEntry 7 }

wranIfBsProvClsfrRuleIpDestAddrType OBJECT-TYPE

SYNTAX InetAddressType

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Type of IP address that Destination IP address from IP header is."

::= { wranIfBsProvClassifierRuleEntry 8 }

wranIfBsProvClsfrRuleIpDestAddr OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Destination IP address from IP header."

::= { wranIfBsProvClassifierRuleEntry 9 }

wranIfBsProvClsfrRuleIpDestMask OBJECT-TYPE

SYNTAX InetAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"IP address mask. IP destination address (wranIfBsProvClsfrRuleIpDestAddr) is matched when output of applying (bitwise AND) this value to IP destination address from IP packet."

::= { wranIfBsProvClassifierRuleEntry 10 }

wranIfBsProvClsfrRuleSrcPortStart OBJECT-TYPE

SYNTAX Integer32 (0..65535)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Start (inclusive) of range of source ports against which that packet will be compared."

::= { wranIfBsProvClassifierRuleEntry 11 }

wranIfBsProvClsfrRuleSrcPortEnd OBJECT-TYPE

SYNTAX Integer32 (0..65535)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"End (inclusive) of range of source ports against which that packet will be compared."

::= { wranIfBsProvClassifierRuleEntry 12 }

wranIfBsProvClsfrRuleDestPortStart OBJECT-TYPE

SYNTAX Integer32 (0..65535)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Start (inclusive) of range of destination ports against which that packet will be compared."

::= { wranIfBsProvClassifierRuleEntry 13 }

wranIfBsProvClsfrRuleDestPortEnd OBJECT-TYPE

SYNTAX Integer32 (0..65535)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"End (inclusive) of range of destination ports against which that packet will be compared."

::= { wranIfBsProvClassifierRuleEntry 14 }

wranIfBsProvClsfrRuleDestMacAddr OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Destination MAC address to be matched against destination MAC address in Ethernet header."

::= { wranIfBsProvClassifierRuleEntry 15 }

wranIfBsProvClsfrRuleDestMacAddrMask OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"MAC address mask. A destination MAC address (wranIfBsProvClsfrRuleDestMacAddr) is matched when the destination MAC address from Ethernet header is applied (bitwise AND) with this mask."

::= { wranIfBsProvClassifierRuleEntry 16 }

wranIfBsProvClsfrRuleSrcMacAddr OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Source MAC address to be matched against source MAC address in Ethernet header."

::= { wranIfBsProvClassifierRuleEntry 17 }

wranIfBsProvClsfrRuleSrcMacAddrMask OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"MAC address mask. A source MAC address (wranIfBsProvClsfrRuleDestMacAddr) is matched when the source MAC address from Ethernet header is applied (bitwise AND) with this mask."

::= { wranIfBsProvClassifierRuleEntry 18 }

wranIfBsProvClsfrRuleEnetProtType OBJECT-TYPE

SYNTAX INTEGER { noProtocol(0),
ethertype(1),
dsap(2) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Identifier of layer 3 protocol type in an Ethernet frame. There are three types defined in Ethernet frame classification: no layer 3 protocol type in Ethernet frame, EtherType in DIX/SNAP based frames, and DSAP in IEEE 802.3 frames. If 802.1Q is supported, the EtherType value in the 802.1Q header is used."

::= { wranIfBsProvClassifierRuleEntry 19 }

wranIfBsProvClsfrRuleEnetProtocol OBJECT-TYPE

SYNTAX Integer32 (0..65535)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Ethernet protocol type value that is used for classification. When wranIfBsProvClsfrRuleEnetProtType is set to EtherType, the value of this object is matched against the 16-bit EtherType value in an Ethernet header or 802.1Q header (if 802.1Q is supported). When wranIfBsProvClsfrRuleEnetProtType is set to DSAP, the DSAP byte in IEEE 802.3 frames is matched against the 8 LSB of this object's value."

```
::= { wranIfBsProvClassifierRuleEntry 20 }
```

```
wranIfBsProvClsfrRuleUserPriLow      OBJECT-TYPE
```

```
SYNTAX          INTEGER (0..7)
```

```
MAX-ACCESS      read-write
```

```
STATUS          current
```

```
DESCRIPTION
```

```
"Low value (inclusive) in range of 3-bit user
priority value. This field is part of 16 bit tag of
a 802.1Q header. Only valid if 802.1Q is being
used."
```

```
::= { wranIfBsProvClassifierRuleEntry 21 }
```

```
wranIfBsProvClsfrRuleUserPriHigh     OBJECT-TYPE
```

```
SYNTAX          INTEGER (0..7)
```

```
MAX-ACCESS      read-write
```

```
STATUS          current
```

```
DESCRIPTION
```

```
"High value (inclusive) in range of 3-bit user
priority value. This field is part of 16 bit tag of
a 802.1Q header. Only valid if 802.1Q is being
used."
```

```
::= { wranIfBsProvClassifierRuleEntry 22 }
```

```
wranIfBsProvClsfrRuleVlanId          OBJECT-TYPE
```

```
SYNTAX          Integer32 (0..4095)
```

```
MAX-ACCESS      read-write
```

```
STATUS          current
```

```
DESCRIPTION
```

```
"VLAN Id from Ethernet frame. Only valid if 802.1Q is
being used."
```

```
::= { wranIfBsProvClassifierRuleEntry 23 }
```

```
wranIfBsProvClsfrRuleIpv6FlowLabel   OBJECT-TYPE
```

```
SYNTAX          OCTET STRING (SIZE(3))
```

```
MAX-ACCESS      read-write
```

```
STATUS          current
```

```
DESCRIPTION
```

```
"Flow label field from IPv6 header. The IPv6 Flow
Label field is mapped to the 20 LSB of this object;
the first 4 MSB are set to 0."
```

```
::= { wranIfBsProvClassifierRuleEntry 24 }
```

```
wranIfBsProvClsfrRuleIpTypeOfService OBJECT-TYPE
```

```
SYNTAX          OCTET STRING (SIZE(1))
```

```
MAX-ACCESS      read-write
```

```
STATUS          current
```

```
DESCRIPTION
```

```
"The value to match the IP TOS octet from IP header.
The 6 MSBs of the value contained in this object are
read in as the DSCP (RFC 2474), the 2 LSB are
ignored."
```

```
::= { wranIfBsProvClassifierRuleEntry 25 }
```

```
wranIfBsClassifierRuleTable          OBJECT-TYPE
```

SYNTAX SEQUENCE OF wranIfBsClassifierRuleEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This MIB object provides a table to contain classification rules for service flows that are dynamically created/destroyed. There are multiple entries in this table, one for each classifier rule. Each entry is defined by wranIfBsClassifierRuleEntry."

::= { wranIfBsSfMgmtMib 5 }

wranIfBsClassifierRuleEntry OBJECT-TYPE
 SYNTAX wranIfBsClassifierRuleEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This object is a compound object that provides the definition of entries in wranIfBsClassifierRuleTable."

INDEX { wranIfBsClsfrRuleIndex }
 ::= { wranIfBsClassifierRuleTable 1 }

wranIfBsClassifierRuleEntry ::= SEQUENCE {
 wranIfBsClsfrRuleIndex Integer32,
 wranIfBsClsfrRuleMap BITS,
 wranIfBsClsfrRulePriority INTEGER,
 wranIfBsClsfrRuleProtocol INTEGER,
 wranIfBsClsfrRuleIpSrcAddrType InetAddressType,
 wranIfBsClsfrRuleIpSrcAddr InetAddress,
 wranIfBsClsfrRuleIpSrcMask InetAddress,
 wranIfBsClsfrRuleIpDestAddrType InetAddressType,
 wranIfBsClsfrRuleIpDestAddr InetAddress,
 wranIfBsClsfrRuleIpDestMask InetAddress,
 wranIfBsClsfrRuleSrcPortStart Integer32,
 wranIfBsClsfrRuleSrcPortEnd Integer32,
 wranIfBsClsfrRuleDestPortStart Integer32,
 wranIfBsClsfrRuleDestPortEnd Integer32,
 wranIfBsClsfrRuleDestMacAddr MacAddress,
 wranIfBsClsfrRuleDestMacAddrMask MacAddress,
 wranIfBsClsfrRuleSrcMacAddr MacAddress,
 wranIfBsClsfrRuleSrcMacAddrMask MacAddress,
 wranIfBsClsfrRuleEnetProtType INTEGER,
 wranIfBsClsfrRuleEnetProtocol Integer32,
 wranIfBsClsfrRuleUserPriLow INTEGER,
 wranIfBsClsfrRuleUserPriHigh INTEGER,
 wranIfBsClsfrRuleVlanId Integer32,
 wranIfBsClsfrRuleIpv6FlowLabel OCTET STRING,
 wranIfBsClsfrRuleIpTypeOfService OCTET STRING }

wranIfBsClsfrRuleIndex OBJECT-TYPE
 SYNTAX Integer32 (0..65535)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Index value to uniquely identify an entry in

```
wranIfBsClassifierRuleTable."
 ::= { wranIfBsClassifierRuleEntry 1 }
```

```
wranIfBsClsfrRuleMap      OBJECT-TYPE
    SYNTAX      BITS { priority(0),
                        protocol(1),
                        ipSrcAddrType(2),
                        ipSrcAddr(3),
                        ipSrcMask(4),
                        ipDestAddrType(5),
                        ipDestAddr(6),
                        ipDestMask(7),
                        srcPortStart(8),
                        srcPortEnd(9),
                        destPortStart(10),
                        destPortEnd(11),
                        destMacAddr(12),
                        destMacAddrMask(13),
                        srcMacAddr(14),
                        srcMacAddrMask(15),
                        enetProtType(16),
                        enetProtocol(17),
                        userPriLow(18),
                        userPriHigh(19),
                        vlanId(20),
                        ipv6FlowLabel(21),
                        ipTypeOfService(22) }

    MAX-ACCESS      read-write
    STATUS      current
    DESCRIPTION
        "A bitmap that indicates which classification
        parameters are included in the classification rule.
        A parameter exists in this rule if the corresponding
        bit is set to 1."
    ::= { wranIfBsClassifierRuleEntry 2 }
```

```
wranIfBsClsfrRulePriority  OBJECT-TYPE
    SYNTAX      INTEGER (0..255)
    MAX-ACCESS      read-write
    STATUS      current
    DESCRIPTION
        "Priority of the classification rule. This determines
        the order in which classification rules are
        applied."
    ::= { wranIfBsClassifierRuleEntry 3 }
```

```
wranIfBsClsfrRuleIpProtocol OBJECT-TYPE
    SYNTAX      INTEGER (0..255)
    MAX-ACCESS      read-write
    STATUS      current
    DESCRIPTION
        "Value of IP Protocol field. For IPv6 headers, this
        refers to the next header entry in the last header
        of the IP header list. The value of this field
        follows the "Protocol Numbers" specification defined
        by IANA."
```



```
::= { wranIfBsClassifierRuleEntry 4 }
```

```
wranIfBsClsfrRuleIpSrcAddrType      OBJECT-TYPE
    SYNTAX      InetAddressType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Type of IP address that Source IP address
         from IP header is."
    ::= { wranIfBsClassifierRuleEntry 5 }
```

```
wranIfBsClsfrRuleIpSrcAddr          OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Source IP address from IP header."
    ::= { wranIfBsClassifierRuleEntry 6 }
```

```
wranIfBsClsfrRuleIpSrcMask          OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "IP address mask. IP source address
         (wranIfBsClsfrRuleIpSrcAddr) is matched when output
         of applying (bitwise AND) this value to IP source
         address from IP packet."
    ::= { wranIfBsClassifierRuleEntry 7 }
```

```
wranIfBsClsfrRuleIpDestAddrType     OBJECT-TYPE
    SYNTAX      InetAddressType
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Type of IP address that Destination IP
         address from IP header is."
    ::= { wranIfBsClassifierRuleEntry 8 }
```

```
wranIfBsClsfrRuleIpDestAddr         OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Destination IP address from IP header."
    ::= { wranIfBsClassifierRuleEntry 9 }
```

```
wranIfBsClsfrRuleIpDestMask         OBJECT-TYPE
    SYNTAX      InetAddress
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "IP address mask. IP destination address
         (wranIfBsClsfrRuleIpDestAddr) is matched when output
         of applying (bitwise AND) this value to IP
         destination address from IP packet."
```

```
::= { wranIfBsClassifierRuleEntry 10 }
```

```
wranIfBsClsfrRuleSrcPortStart OBJECT-TYPE
```

```
SYNTAX      Integer32 (0..65535)
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Start (inclusive) of range of source ports against  
which that packet will be compared."
```

```
::= { wranIfBsClassifierRuleEntry 11 }
```

```
wranIfBsClsfrRuleSrcPortEnd OBJECT-TYPE
```

```
SYNTAX      Integer32 (0..65535)
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"End (inclusive) of range of source ports against  
which that packet will be compared."
```

```
::= { wranIfBsClassifierRuleEntry 12 }
```

```
wranIfBsClsfrRuleDestPortStart OBJECT-TYPE
```

```
SYNTAX      Integer32 (0..65535)
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Start (inclusive) of range of destination ports  
against which that packet will be compared."
```

```
::= { wranIfBsClassifierRuleEntry 13 }
```

```
wranIfBsClsfrRuleDestPortEnd OBJECT-TYPE
```

```
SYNTAX      Integer32 (0..65535)
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"End (inclusive) of range of destination ports  
against which that packet will be compared."
```

```
::= { wranIfBsClassifierRuleEntry 14 }
```

```
wranIfBsClsfrRuleDestMacAddr OBJECT-TYPE
```

```
SYNTAX      MacAddress
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Destination MAC address to be matched against  
destination MAC address in Ethernet header."
```

```
::= { wranIfBsClassifierRuleEntry 15 }
```

```
wranIfBsClsfrRuleDestMacAddrMask OBJECT-TYPE
```

```
SYNTAX      MacAddress
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"MAC address mask. A destination MAC address  
(wranIfBsClsfrRuleDestMacAddr) is matched when the  
destination MAC address from Ethernet header is  
applied (bitwise AND) with this mask."
```

```
::= { wranIfBsClassifierRuleEntry 16 }
```

```
wranIfBsClsfrRuleSrcMacAddr OBJECT-TYPE
```

```
SYNTAX      MacAddress
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Source MAC address to be matched against source MAC  
address in Ethernet header."
```

```
::= { wranIfBsClassifierRuleEntry 17 }
```

```
wranIfBsClsfrRuleSrcMacAddrMask OBJECT-TYPE
```

```
SYNTAX      MacAddress
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"MAC address mask. A source MAC address  
(wranIfBsClsfrRuleDestMacAddr) is matched when the  
source MAC address from Ethernet header is applied  
(bitwise AND) with this mask."
```

```
::= { wranIfBsClassifierRuleEntry 18 }
```

```
wranIfBsClsfrRuleEnetProtType OBJECT-TYPE
```

```
SYNTAX      INTEGER { noProtocol(0),  
                      ethertype(1),  
                      dsap(2) }
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Identifier of layer 3 protocol type in an Ethernet  
frame. There are three types defined in Ethernet  
frame classification: no layer 3 protocol type in  
Ethernet frame, EtherType in DIX/SNAP based frames,  
and DSAP in IEEE 802.3 frames. If 802.1Q is  
supported, the EtherType value in the 802.1Q header  
is used."
```

```
::= { wranIfBsClassifierRuleEntry 19 }
```

```
wranIfBsClsfrRuleEnetProtocol OBJECT-TYPE
```

```
SYNTAX      Integer32 (0..65535)
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
"Ethernet protocol type value that is used for  
classification. When wranIfBsClsfrRuleEnetProtType  
is set to EtherType, the value of this object is  
matched against the 16-bit EtherType value in an  
Ethernet header or 802.1Q header (if 802.1Q is  
supported). When wranIfBsClsfrRuleEnetProtType is  
set to DSAP, the DSAP byte in IEEE 802.3 frames  
is matched against the 8 LSB of this object's  
value."
```

```
::= { wranIfBsClassifierRuleEntry 20 }
```

```
wranIfBsClsfrRuleUserPriLow OBJECT-TYPE
```

```
SYNTAX      INTEGER (0..7)
```

```

MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "Low value (inclusive) in range of 3-bit user
    priority value. This field is part of 16 bit tag of
    a 802.1Q header. Only valid if 802.1Q is being
    used."
 ::= { wranIfBsClassifierRuleEntry 21 }

```

```

wranIfBsClsfrRuleUserPriHigh OBJECT-TYPE
SYNTAX        INTEGER (0..7)
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "High value (inclusive) in range of 3-bit user
    priority value. This field is part of 16 bit tag of
    a 802.1Q header. Only valid if 802.1Q is being
    used."
 ::= { wranIfBsClassifierRuleEntry 22 }

```

```

wranIfBsClsfrRuleVlanId OBJECT-TYPE
SYNTAX        Integer32 (0..4095)
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "VLAN Id from Ethernet frame. Only valid if 802.1Q is
    being used."
 ::= { wranIfBsClassifierRuleEntry 23 }

```

```

wranIfBsClsfrRuleIpv6FlowLabel OBJECT-TYPE
SYNTAX        OCTET STRING (SIZE(3))
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "Flow label field from IPv6 header. The IPv6 Flow
    Label field is mapped to the 20 LSB of this object;
    the first 4 MSB are set to 0."
 ::= { wranIfBsClassifierRuleEntry 24 }

```

```

wranIfBsClsfrRuleIpTypeOfService OBJECT-TYPE
SYNTAX        OCTET STRING (SIZE(1))
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "The value to match the IP TOS octet from IP header.
    The 6 MSBs of the value contained in this object are
    read in as the DSCP (RFC 2474), the 2 LSB are
    ignored."
 ::= { wranIfBsClassifierRuleEntry 25 }

```

```

wranIfBsSfTrapControl OBJECT-TYPE
SYNTAX        BITS { wranIfBsProvSfChange(0),
                    wranIfBsScChange(1),
                    wranIfBsActiveSfChange(2),
                    wranIfBsProvClassifierRuleChange(3),
                    wranIfBsClassifierRuleChange (4) }

```

MAX-ACCESS read-write
STATUS current
DESCRIPTION

"Defines control elements for traps related to management of service flows. This is a 5-bit field that enables setting a trap for particular Service Flow events: wranIfBsProvSfChange, wranIfBsScChange, wranIfBsActiveSfChange, wranIfBsProvClassifierRuleChange, wranIfBsClassifierRuleChange."

::= { wranIfBsSfMgmtMib 6 }

wranIfBsSfTrapDefinition OBJECT IDENTIFIER
::= { wranIfBsSfMgmtMib 7 }

wranIfBsProvSfChangeTrap OBJECT IDENTIFIER
::= { wranIfBsSfTrapDefinition 1 }

wranIfBsScChangeTrap OBJECT IDENTIFIER
::= { wranIfBsSfTrapDefinition 2 }

wranIfBsActiveSfChangeTrap OBJECT IDENTIFIER
::= { wranIfBsSfTrapDefinition 3 }

wranIfBsProvClassifierRuleChangeTrap OBJECT IDENTIFIER
::= { wranIfBsSfTrapDefinition 4 }

wranIfBsClassifierRuleChangeTrap OBJECT IDENTIFIER
::= { wranIfBsSfTrapDefinition 5 }

wranIfBsProvSfChangeTrap NOTIFICATION-TYPE
OBJECTS { wranIfBsProvSfStatus,
wranIfBsProvEntryIndex }
STATUS current
DESCRIPTION
"This trap contains the information related to the status of provisioned service flows."
::= { wranIfBsSfTrapDefinition 1 }

wranIfBsScChangeTrap NOTIFICATION-TYPE
OBJECTS { wranIfBsScIndex }
STATUS current
DESCRIPTION
"This trap contains the information related to the status of the configuration of service flow parameters."
::= { wranIfBsSfTrapDefinition 2 }

wranIfBsActiveSfChangeTrap NOTIFICATION-TYPE
OBJECTS { wranIfBsActiveSfIndex,
wranIfBsActiveSfStatus }
STATUS current
DESCRIPTION
"This trap contains the information related to the status of dynamic service flows."
::= { wranIfBsSfTrapDefinition 3 }

wranIfBsProvClassifierRuleChangeTrap NOTIFICATION-TYPE
OBJECTS { wranIfBsProvClsfrRuleIndex,
wranIfBsProvClsfrRuleMap }
STATUS current

DESCRIPTION

"This trap contains information related to the status of classifier rules for provisioned service flows."

::= { wranIfBsSfTrapDefinition 4 }

wranIfBsClassifierRuleChangeTrap NOTIFICATION-TYPE

OBJECTS { wranIfBsClsfrRuleIndex,
wranIfBsClsfrRuleMap }

STATUS current

DESCRIPTION

"This trap contains information relate to the status of classifier rules for dynamic service flows."

::= { wranIfBsSfTrapDefinition 5 }

wranIfBsSfNotificationObjectsTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfBsSfNotificationObjectsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This MIB provides a table to track notification objects that have been reported by the traps related to the management of service flows. It is made up of one entry containing objects related to the most recent trap/event. The entry is defined by wranIfBsSfNotificationObjectsEntry."

::= { wranIfBsSfMgmtMib 8 }

wranIfBsSfNotificationObjectsEntry OBJECT-TYPE

SYNTAX wranIfBsSfNotificationObjectsEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object defines an entry in wranIfBsSfNotificationObjectsTable."

INDEX { wranIfBsNotificationIndex }

::= { wranIfBsSfNotificationObjectsTable 1 }

wranIfBsSfNotificationObjectsEntry ::= SEQUENCE {

wranIfBsSfNotificationIndex INTEGER,

wranIfBsSfNotificationProvSfStatus INTEGER,

wranIfBsSfNotificationProvEntryIndex Integer32,

wranIfBsSfNotificationScEntryIndex Integer32,

wranIfBsSfNotificationActiveSfIndex Integer32,

wranIfBsSfNotificationActiveSfStatus INTEGER,

wranIfBsSfNotificationProvClsfrRuleIndex Integer32,

wranIfBsSfNotificationProvClsfrRuleMap

wranIfBsProvClsfrRuleMap,

wranIfBsSfNotificationClsfrRuleIndex Integer32,

wranIfBsSfNotificationClsfrRuleMap

wranIfBsClsfrRuleMap }

wranIfBsSfNotificationIndex OBJECT-TYPE

SYNTAX INTEGER (1..1)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in table."
 ::= { wranIfBsSfNotificationObjectsEntry 1 }

wranIfBsSfNotificationProvSfStatus OBJECT-TYPE
 SYNTAX INTEGER (0..2)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Status of provisioned service flow trap is enabled
 for, see wranIfBsProvSfStatus."
 ::= { wranIfBsSfNotificationObjectsEntry 2 }

wranIfBsSfNotificationProvEntryIndex OBJECT-TYPE
 SYNTAX Integer32 (1..2048)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index into wranIfBsProvSfTable that contains
 information on provisioned service flow that was
 recently modified."
 ::= { wranIfBsSfNotificationObjectsEntry 3 }

wranIfBsSfNotificationScEntryIndex OBJECT-TYPE
 SYNTAX Integer32 (1.. 4294967295)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index into wranIfBsScTable entry that contains
 information on modified service flow parameters."
 ::= { wranIfBsSfNotificationObjectsEntry 4 }

wranIfBsSfNotificationActiveSfIndex OBJECT-TYPE
 SYNTAX Integer32 (1.. 4096)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index into wranIfBsActiveSfTable entry that contains
 information on an active service flow whose
 configuration has been updated."
 ::= { wranIfBsSfNotificationObjectsEntry 5 }

wranIfBsSfNotificationActiveSfStatus OBJECT-TYPE
 SYNTAX INTEGER (0..3)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Current status of dynamic service flow, see
 wranIfBsActiveSfStatus "
 ::= { wranIfBsSfNotificationObjectsEntry 6 }

wranIfBsSfNotificationProvClsfrRuleIndex OBJECT-TYPE
 SYNTAX Integer32 (0..65535)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index of entry in wranIfBsProvClassifierRuleTable

that contains entry pertaining to a classifier rule
for a provisioned service flow that was recently
modified."

::= { wranIfBsSfNotificationObjectsEntry 7 }

wranIfBsSfNotificationProvClsfrRuleMap OBJECT-TYPE

SYNTAX wranIfBsProvClsfrRuleMap

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Value of wranIfBsProvClsfrRuleMap that contains the
configuration of which classifier rules are part of
the classifier rule set of a provisioned service
flow that was recently modified."

::= { wranIfBsSfNotificationObjectsEntry 8 }

wranIfBsSfNotificationClsfrRuleIndex OBJECT-TYPE

SYNTAX Integer32 (0..65535)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in wranIfBsClassifierRuleTable that
contains entry pertaining to a classifier rule for a
dynamic service flow that was recently modified."

::= { wranIfBsSfNotificationObjectsEntry 9 }

wranIfBsSfNotificationClsfrRuleMap OBJECT-TYPE

SYNTAX wranIfBsClsfrRuleMap

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Value of wranIfBsClsfrRuleMap that contains the
configuration of which classifier rules are part of
the classifier rule set of a dynamic service flow
that was recently modified."

::= { wranIfBsSfNotificationObjectsEntry 10 }

-- wranIfBsSfMibGroups: This object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

wranIfBsSfMibGroups OBJECT IDENTIFIER

::= { wranIfBsSfMgmtMib 9 }

wranIfBsProvSfMibGroup OBJECT IDENTIFIER

::= { wranIfBsSfMibGroups 1 }

wranIfBsScMibGroup OBJECT IDENTIFIER

::= { wranIfBsSfMibGroups 2 }

wranIfBsActiveSfMibGroup OBJECT IDENTIFIER

::= { wranIfBsSfMibGroups 3 }

wranIfBsProvClassifierRuleMibGroup OBJECT IDENTIFIER

::= { wranIfBsSfMibGroups 4 }

wranIfBsClassifierRuleMibGroup OBJECT IDENTIFIER

::= { wranIfBsSfMibGroups 5 }

wranIfBsSfTrapControlGroup OBJECT IDENTIFIER

::= { wranIfBsSfMibGroups 6 }

wranIfBsSfNotificationMibGroup OBJECT IDENTIFIER

```
::= { wranIfBsSfMibGroups 7 }
```

```
wranIfBsProvSfMibGroup      OBJECT-GROUP
  OBJECTS                   { wranIfBsProvEntryIndex,
                              wranIfBsCpeProvMacAddress,
                              wranIfBsProvSfId, wranIfBsProvSfDirection,
                              wranIfBsProvScIndex,
                              wranIfBsProvCsSpecification,
                              wranIfBsProvSfStatus,
                              wranIfBsProvSfProvisioningTime,
                              wranIfBsProvTargetSaid,
                              wranIfBsProvClsRuleListSize,
                              wranIfBsProvClsRuleList }
  STATUS                    current
  DESCRIPTION
    "This group contains objects related to the
    configuration of provisioned service flows."
  ::= { wranIfBsSfMibGroups 1 }
```

```
wranIfBsScMibGroup         OBJECT-GROUP
  OBJECTS                   { wranIfBsScIndex,
                              wranIfBsQoSsfid, wranIfBsQoSsfFid,
                              wranIfBsQoSServiceClassNameSize,
                              wranIfBsQoSServiceClassName,
                              wranIfBsQoSParameterSetType,
                              wranIfBsQoSMaxSustainedRate,
                              wranIfBsQoSSTrafficSize,
                              wranIfBsQoSMinReservedRate,
                              wranIfBsQOSToleratedJitter,
                              wranIfBsQoSMaxLatency,
                              wranIfBsQoSEnableVariableLengthSdus,
                              wranIfBsQoSSchedulingType,
                              wranIfBsQoSArqEnable,
                              wranIfBsQoSArqWindowSize,
                              wranIfBsQoSArqTxRetryTimeout,
                              wranIfBsQoSArqRxRetryTimeout,
                              wranIfBsQoSArqBlockLifetime,
                              wranIfBsQoSArqSyncLossTimeout,
                              wranIfBsQoSArqDeliverInOrderEnable,
                              wranIfBsQoSArqRxPurgeTimeout,
                              wranIfBsQoSArqBlockSizeReq,
                              wranIfBsQoSArqBlockSizeRsp,
                              wranIfBsQoSReqTxPolicy }
  STATUS                    current
  DESCRIPTION
    "This group contains objects related to the
    configuration of QoS Parameters for
    provisioned and dynamic service flows."
  ::= { wranIfBsSfMibGroups 2 }
```

```
wranIfBsActiveSfMibGroup   OBJECT-GROUP
  OBJECTS                   { wranIfBsActiveSfIndex, wranIfBsActiveSfSfid,
                              wranIfBsActiveSfMacAddress,
                              wranIfBsActiveSfSid,
                              wranIfBsActiveSfDirection,
                              wranIfBsActiveSfStatus,
```

```

        wranIfBsActiveScIndex,
        wranIfBsActiveCsSpecification,
        wranIfBsActiveTargetSaid,
        wranIfBsActiveSfClsRuleListSize,
        wranIfBsActiveSfClsRuleList }
STATUS      current
DESCRIPTION
    "This group contains objects related to the
    configuration of dynamic service flows."
 ::= { wranIfBsSfMibGroups 3 }

```

```

wranIfBsProvClassifierRuleMibGroup      OBJECT-GROUP
OBJECTS      { wranIfBsProvClsfrRuleIndex,
                wranIfBsProvClsfrRuleMap,
                wranIfBsProvClsfrRulePriority,
                wranIfBsProvClsfrRuleProtocol,
                wranIfBsProvClsfrRuleIpSrcAddrType,
                wranIfBsProvClsfrRuleIpSrcAddr,
                wranIfBsProvClsfrRuleIpSrcMask,
                wranIfBsProvClsfrRuleIpDestAddrType,
                wranIfBsProvClsfrRuleIpDestAddr,
                wranIfBsProvClsfrRuleIpDestMask,
                wranIfBsProvClsfrRuleSrcPortStart,
                wranIfBsProvClsfrRuleSrcPortEnd,
                wranIfBsProvClsfrRuleDestPortStart,
                wranIfBsProvClsfrRuleDestPortEnd,
                wranIfBsProvClsfrRuleDestMacAddr,
                wranIfBsProvClsfrRuleDestMacAddrMask,
                wranIfBsProvClsfrRuleSrcMacAddr,
                wranIfBsProvClsfrRuleSrcMacAddrMask,
                wranIfBsProvClsfrRuleEnetProtType,
                wranIfBsProvClsfrRuleEnetProtocol,
                wranIfBsProvClsfrRuleUserPriLow,
                wranIfBsProvClsfrRuleUserPriHigh,
                wranIfBsProvClsfrRuleVlanId,
                wranIfBsProvClsfrRuleIpv6FlowLabel,
                wranIfBsProvClsfrRuleIpTypeOfService }
STATUS      current
DESCRIPTION
    "This group contains objects related to the
    configuration of classifier rules for
    provisioned service flows."
 ::= { wranIfBsSfMibGroups 4 }

```

```

wranIfBsClassifierRuleMibGroup          OBJECT-GROUP
OBJECTS      { wranIfBsClsfrRuleIndex, wranIfBsClsfrRuleMap,
                wranIfBsClsfrRulePriority,
                wranIfBsClsfrRuleProtocol,
                wranIfBsClsfrRuleIpSrcAddrType,
                wranIfBsClsfrRuleIpSrcAddr,
                wranIfBsClsfrRuleIpSrcMask,
                wranIfBsClsfrRuleIpDestAddrType,
                wranIfBsClsfrRuleIpDestAddr,
                wranIfBsClsfrRuleIpDestMask,
                wranIfBsClsfrRuleSrcPortStart,
                wranIfBsClsfrRuleSrcPortEnd,

```

```

        wranIfBsClsfrRuleDestPortStart,
        wranIfBsClsfrRuleDestPortEnd,
        wranIfBsClsfrRuleDestMacAddr,
        wranIfBsClsfrRuleDestMacAddrMask,
        wranIfBsClsfrRuleSrcMacAddr,
        wranIfBsClsfrRuleSrcMacAddrMask,
        wranIfBsClsfrRuleEnetProtType,
        wranIfBsClsfrRuleEnetProtocol,
        wranIfBsClsfrRuleUserPriLow,
        wranIfBsClsfrRuleUserPriHigh,
        wranIfBsClsfrRuleVlanId,
        wranIfBsClsfrRuleIpv6FlowLabel,
        wranIfBsClsfrRuleIpTypeOfService }
STATUS      current
DESCRIPTION
    "This group contains objects related to the
    configuration of classifier rules for dynamic
    service flows."
 ::= { wranIfBsSfMibGroups 5 }

wranIfBsSfTrapControlGroup      OBJECT-GROUP
OBJECTS      { wranIfBsSfTrapControl }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    enabling/disabling traps used for service
    flow management."
 ::= { wranIfBsSfMibGroups 6 }

wranIfBsSfNotificationMibGroup      OBJECT-GROUP
OBJECTS      { wranIfBsProvSfChangeTrap,
                wranIfBsScChangeTrap,
                wranIfBsActiveSfChangeTrap,
                wranIfBsProvClassifierRuleChangeTrap,
                wranIfBsClassifierRuleChangeTrap,
                wranIfBsSfNotificationIndex,
                wranIfBsSfNotificationProvSfStatus,
                wranIfBsSfNotificationProvEntryIndex,
                wranIfBsSfNotificationScIndex,
                wranIfBsSfNotificationActiveSfIndex,
                wranIfBsSfNotificationActiveSfStatus,
                wranIfBsSfNotificationProvClsfrRuleIndex,
                wranIfBsSfNotificationProvClsfrRuleMap,
                wranIfBsSfProvClsfrRuleMap,
                wranIfBsSfNotificationClsfrRuleIndex,
                wranIfBsSfNotificationClsfrRuleMap }
STATUS      current
DESCRIPTION
    "This group contains objects related to traps
    used for service flow management."
 ::= { wranIfBsSfMibGroups 7 }

wranIfBsSfMibCompliance MODULE-COMPLIANCE
STATUS      current
DESCRIPTION
    "MIB objects that are optional and mandatory for

```

```
        service flow management compliance."
MODULE      wranIfBsSfMgmtMib
MANDATORY-GROUPS { wranIfBsProvSfMibGroup,
                    wranIfBsScMibGroup,
                    wranIfBsSfMibGroup,
                    wranIfBsProvClassifierRuleMibGroup,
                    wranIfBsClassifierRuleMibGroup,
                    wranIfBsSfTrapControlGroup }
-- OPTIONAL-GROUPS      { wranIfBsSfNotificationMibGroup }
::= { wranIfBsSfMgmtMib 10 }
```

END

STANDARDSISO.COM : Click to view the full PDF of ISO/IEC/IEEE DIS 8802-22/Amd 1:2017

13.2.4 wranIfCpeMib

IEEE802dot22-WRAN-IF-CPE-MIB ::= BEGIN

IMPORTS

MODULE-IDENTITY,
 OBJECT-TYPE,
 NOTIFICATION-TYPE,
 Unsigned32, Integer32, Counter32,
 Counter64
 FROM SNMPv2-SMI
 SnmpAdminString
 FROM SNMP-FRAMEWORK-MIB
 TEXTUAL-CONVENTION,
 MacAddress, RowStatus, TruthValue,
 TimeStamp, DateAndTime
 FROM SNMPv2-TC
 InetAddressType, InetAddress
 FROM INET-ADDRESS-MIB
 OBJECT-GROUP,
 MODULE-COMPLIANCE,
 NOTIFICATION-GROUP
 FROM SNMPV2-CONF

wranIfCpeMib

MODULE-IDENTITY

LAST-UPDATED "201405300000Z" -- May 30, 2014
 ORGANIZATION "IEEE 802.22"
 CONTACT-INFO
 "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
 WG Chair: Apurva N. Mody
 E-mail: apurva.mody@ieee.org

TG Chair/Editor: Ranga Reddy
 E-mail: ranga.reddy@ieee.org

DESCRIPTION

"This material is from IEEE Std 802.22a-2014
 Copyright (c) 2014. This MIB Module Defines managed
 objects for Customer Premise Equipment based on
 IEEE Std 802.22-2011 and is under iso(1).std(0)
 .iso8802(8802).wran(22).wranIfCpeMib(4)"

REVISION "201405300000Z"

DESCRIPTION

"The first version of IEEE802dot22-WRAN-IF-CPE-MIB."
 ::= {iso std(0) iso8802(8802) wran(22) 4}

wranIfCpeConfigurationTable	OBJECT IDENTIFIER
	::= { wranIfCpeMib 1 }
wranIfCpeTrapControl	OBJECT IDENTIFIER
	::= { wranIfCpeMib 2 }
wranIfCpeThresholdConfigTable	OBJECT IDENTIFIER
	::= { wranIfCpeMib 3 }
wranIfCpeTrapDefinition	OBJECT IDENTIFIER
	::= { wranIfCpeMib 4 }
wranIfCpeNotificationObjectsTable	OBJECT IDENTIFIER
	::= { wranIfCpeMib 5 }
wranIfCpeMibGroups	OBJECT IDENTIFIER

```

wranIfCpeMibCompliance ::= { wranIfCpeMib 6 }
                                OBJECT IDENTIFIER
                                ::= { wranIfCpeMib 7 }

wranIfCpeConfigurationTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfCpeConfigurationEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This MIB provides a table that provides the values
        for system parameters. The parameters in this table
        are applied to all CPEs in the network, hence there
        is one entry in the table, defined by
        wranIfCpeConfigurationEntry."
    ::= { wranIfCpeMib 1 }

wranIfCpeConfigurationEntry OBJECT-TYPE
    SYNTAX      wranIfCpeConfigurationEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Definition of an entry in
        wranIfCpeConfigurationTable. There is only one entry
        in each CPE."
    ::= { wranIfCpeConfigurationTable 1 }

wranIfCpeConfigurationEntry ::= SEQUENCE {
    wranIfCpeConfigurationIndex      INTEGER,
    wranIfCpeLostDsMapInterval       Integer32,
    wranIfCpeLostUsMapInterval       Integer32,
    wranIfCpeContentionRangingRetries Integer32,
    wranIfCpeContentionBwRetries     Integer32,
    wranIfCpeRegReqRetries           INTEGER,
    wranIfCpeTftpBackoffStart        Integer32,
    wranIfCpeTftpBackoffEnd          Integer32,
    wranIfCpeTftpReqRetries           Integer32,
    wranIfCpeTftpDownloadRetries     Integer32,
    wranIfCpeTftpWait                Integer32,
    wranIfCpeToDRetries              Integer32,
    wranIfCpeToDRetryPeriod          Integer32,
    wranIfCpeCBCReqRetries            INTEGER,
    wranIfCpeTftpCpltRetries          INTEGER,
    wranIfCpeInvitedRangRetries       Integer32,
    wranIfCpeDSxReqRetries            INTEGER,
    wranIfCpeDSxRspRetries            INTEGER }

wranIfCpeConfigurationIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in this table, defaults to 1."
    ::= { wranIfCpeConfigurationEntry 1 }

wranIfCpeLostDsMapInterval OBJECT-TYPE
    SYNTAX      Integer32 (0..600)

```


IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands
Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

UNITS "milliseconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Amount of time (in milliseconds) since reception of
 last DS-MAP before DS synchronization was lost."
 ::= { wranIfCpeConfigurationEntry 2 }

wranIfCpeLostUsMapInterval OBJECT-TYPE
 SYNTAX Integer32 (0..600)
 UNITS "milliseconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Amount of time (in milliseconds) since reception of
 last US-MAP before US synchronization is considered
 lost."
 ::= { wranIfCpeConfigurationEntry 3 }

wranIfCpeContentionRangingRetries OBJECT-TYPE
 SYNTAX Integer32 (16..65535)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Number of retries on contention ranging requests."
 ::= { wranIfCpeConfigurationEntry 4 }

wranIfCpeContentionBwRetries OBJECT-TYPE
 SYNTAX Integer32 (16..65535)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Number of retries on contention bandwidth requests."
 ::= { wranIfCpeConfigurationEntry 5 }

wranIfCpeRegReqRetries OBJECT-TYPE
 SYNTAX INTEGER (1..255)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Maximum number of retries allowed for registration
 requests."
 ::= { wranIfCpeConfigurationEntry 6 }

wranIfCpeTftpBackoffStart OBJECT-TYPE
 SYNTAX Integer32 (1..65535)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Initial backoff for TFTP Start."
 ::= { wranIfCpeConfigurationEntry 7 }

wranIfCpeTftpBackoffEnd OBJECT-TYPE
 SYNTAX Integer32 (1..65535)
 UNITS "seconds"

MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Last value for TFTP backoff."
::= { wranIfCpeConfigurationEntry 8 }

wranIfCpeTftpReqRetries OBJECT-TYPE
SYNTAX Integer32 (16..65535)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Maximum number of retries allowed for attempting
TFTP to get CPE configuration."
::= { wranIfCpeConfigurationEntry 9 }

wranIfCpeTftpDownloadRetries OBJECT-TYPE
SYNTAX Integer32 (3..65535)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Maximum number of retries allowed for re-attempting
TFTP (after failed/corrupted download) to get CPE
configuration."
::= { wranIfCpeConfigurationEntry 10 }

wranIfCpeTftpWait OBJECT-TYPE
SYNTAX Integer32 (2..65535)
UNITS "minutes"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Time to wait before consecutive attempts to obtain
configuration via TFTP."
::= { wranIfCpeConfigurationEntry 11 }

wranIfCpeToDRetries OBJECT-TYPE
SYNTAX Integer32 (3..65535)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Number of retries allowed for establishing Time of
Day, per network entry procedures."
::= { wranIfCpeConfigurationEntry 12 }

wranIfCpeToDRetryPeriod OBJECT-TYPE
SYNTAX Integer32 (5..65535)
UNITS "minutes"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Amount of time to wait before retrying establishment
of time of day after failed attempt."
::= { wranIfCpeConfigurationEntry 13 }

wranIfCpeCBCReqRetries OBJECT-TYPE
SYNTAX INTEGER (3..16)

```

MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "Maximum number of retries for sending CBC request."
DEFVAL { 3 }
::= { wranIfCpeConfigurationEntry 14 }

```

```

wranIfCpeTftpCpltRetries    OBJECT-TYPE
SYNTAX                    INTEGER (3..16)
MAX-ACCESS                read-write
STATUS                    current
DESCRIPTION
    "Maximum number of retries allowed for sending TFTP-
    CPLT messages to BS."
::= { wranIfCpeConfigurationEntry 15 }

```

```

wranIfCpeInvitedRangRetries    OBJECT-TYPE
SYNTAX                    Integer32 (16..65535)
MAX-ACCESS                read-write
STATUS                    current
DESCRIPTION
    "Maximum time number of retries on invited ranging
    requests."
::= { wranIfCpeConfigurationEntry 16 }

```

```

wranIfCpeDSxReqRetries    OBJECT-TYPE
SYNTAX                    INTEGER (1..255)
MAX-ACCESS                read-write
STATUS                    current
DESCRIPTION
    "Number of timeout retries on DSx-REQ."
DEFVAL { 3 }
::= { wranIfCpeConfigurationEntry 17 }

```

```

wranIfCpeDSxRspRetries    OBJECT-TYPE
SYNTAX                    INTEGER (1..255)
MAX-ACCESS                read-write
STATUS                    current
DESCRIPTION
    "Number of timeout retries on DSx-RSP."
DEFVAL { 3 }
::= { wranIfCpeConfigurationEntry 17 }

```

```

wranIfCpeTrapControl    OBJECT-TYPE
SYNTAX                    BITS { wranIfCpeDhcpSuccess(0),
                                wranIfCpeRssiStatusChange(1),
                                wranIfCpeEirpPerScStatusChange(2),
                                wranIfCpeMaxEirpStatusChange(3),
                                wranIfCpeScmStateChange(4) }
MAX-ACCESS                read-write
STATUS                    current
DESCRIPTION
    "Defines control elements for traps related to CPE
    operation. This is a 5-bit field that enables
    setting a trap for particular CPE events:
    wranIfCpeDhcpSuccess, wranIfCpeRssiStatusChange,

```

```

        wranIfCpeEirpPerScStatusChange,
        wranIfCpeMaxEirpStatusChange and
        wranIfCpeScmStateChange."
 ::= { wranIfCpeMib 2 }

```

```

wranIfCpeThresholdConfigTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfCpeThresholdConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This MIB provides a table that allows the setting of
        thresholds that can be used to detect the crossing
        of RSSI and EIRP thresholds. Each table is made of
        one entry defined by wranIfCpeThresholdConfigEntry."
    ::= { wranIfCpeMib 3 }

```

```

wranIfCpeThresholdConfigEntry OBJECT-TYPE
    SYNTAX      wranIfCpeThresholdConfigEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Definition of an entry in
        wranIfCpeConfigurationTable. There is only one entry
        in each CPE."
    ::= { wranIfCpeThresholdConfigTable 1 }

```

```

wranIfCpeThresholdConfigEntry ::= SEQUENCE {
    wranIfCpeThresholdConfigIndex      INTEGER,
    wranIfCpeRssiLowThreshold          INTEGER,
    wranIfCpeRssiHighThreshold         INTEGER,
    wranIfCpeEirpPerScLowThreshold     INTEGER,
    wranIfCpeEirpPerScHighThreshold    INTEGER,
    wranIfCpeMaxEirpLowThreshold       INTEGER,
    wranIfCpeMaxEirpHighThreshold      INTEGER }

```

```

wranIfCpeThresholdConfigIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in this table, defaults to 1."
    ::= { wranIfCpeThresholdConfigEntry 1 }

```

```

wranIfCpeRssiLowThreshold OBJECT-TYPE
    SYNTAX      INTEGER (0..255)
    UNITS       "dBm"
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Low threshold for RSSI alarm trap (between -104 dBm
        to +23.5 dBm in 0.5 dB steps)."
    ::= { wranIfCpeThresholdConfigEntry 2 }

```

```

wranIfCpeRssiHighThreshold OBJECT-TYPE
    SYNTAX      INTEGER (0..255)
    UNITS       "dBm"

```

```

MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "High threshold for RSSI alarm trap (between -104 dBm
    to +23.5 dBm in 0.5 dB steps)."
 ::= { wranIfCpeThresholdConfigEntry 3 }

wranIfCpeEirpPerScLowThreshold      OBJECT-TYPE
SYNTAX      INTEGER (0..255)
UNITS       "dBm"
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "Low threshold for EIRP per subcarrier alarm trap
    (between -104 dBm to +23.5 dBm in 0.5 dB steps)."
 ::= { wranIfCpeThresholdConfigEntry 4 }

wranIfCpeEirpPerScHighThreshold     OBJECT-TYPE
SYNTAX      INTEGER (0..255)
UNITS       "dBm"
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "High threshold for EIRP per subcarrier alarm trap
    (between -104 dBm to +23.5 dBm in 0.5 dB steps)."
 ::= { wranIfCpeThresholdConfigEntry 5 }

wranIfCpeMaxEirpLowThreshold         OBJECT-TYPE
SYNTAX      INTEGER (0..255)
UNITS       "dBm"
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "Low threshold for maximum EIRP (over all 60
    subchannels) alarm trap (between -64 dBm to +63.5
    dBm in 0.5 dB steps)."
 ::= { wranIfCpeThresholdConfigEntry 6 }

wranIfCpeMaxEirpHighThreshold        OBJECT-TYPE
SYNTAX      INTEGER (0..255)
UNITS       "dBm"
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "High threshold for maximum EIRP (over all 60
    subchannels) alarm trap (between -64 dBm to +63.5
    dBm in 0.5 dB steps)."
 ::= { wranIfCpeThresholdConfigEntry 7 }

-- wranIfCpeTrapDefinition: This MIB group specifies the definition of
-- CPE traps that can be enabled/disable in wranIfCpeTrapControl.

wranIfCpeTrapDefinition              OBJECT IDENTIFIER
 ::= { wranIfCpeMib 4 }

wranIfCpeRssiStatusChangeTrap        OBJECT IDENTIFIER
 ::= { wranIfCpeTrapDefinition 1 }

```

```

wranIfCpeEirpPerScStatusChangeTrap      OBJECT IDENTIFIER
 ::= { wranIfCpeTrapDefinition 2 }
wranIfCpeDhcpSuccessTrap                 OBJECT IDENTIFIER
 ::= { wranIfCpeTrapDefinition 3 }
wranIfCpeScmStateChangeTrap              OBJECT IDENTIFIER
 ::= { wranIfCpeTrapDefinition 4 }
wranIfCpeMaxEirpStatusChangeTrap         OBJECT IDENTIFIER
 ::= { wranIfCpeTrapDefinition 5 }

```

```

wranIfCpeRssiStatusChangeTrap NOTIFICATION-TYPE
OBJECTS      { wranIfCpeMacAddress,
               wranIfCpeRssiStatus }
STATUS       current
DESCRIPTION
  "This trap contains the information related to the
   RSSI alarm that is contained in
   wranIfCpeNotificationObjectsTable."
 ::= { wranIfCpeTrapDefinition 1 }

```

```

wranIfCpeEirpPerScStatusChangeTrap NOTIFICATION-TYPE
OBJECTS      { wranIfCpeMacAddress,
               wranIfCpeEirpPerScStatus }
STATUS       current
DESCRIPTION
  "This trap contains the information related to the
   EIRP per subcarrier alarm that is contained in
   wranIfCpeNotificationObjectsTable."
 ::= { wranIfCpeTrapDefinition 2 }

```

```

wranIfCpeDhcpSuccessTrap NOTIFICATION-TYPE
OBJECTS      { wranIfCpeMacAddress,
               wranIfCpeDhcpStatus }
STATUS       current
DESCRIPTION
  "This trap contains the information related to the
   DHCP alarm that is contained in
   wranIfCpeNotificationObjectsTable."
 ::= { wranIfCpeTrapDefinition 3 }

```

```

wranIfCpeScmStateChangeTrap NOTIFICATION-TYPE
OBJECTS      { wranIfCpeMacAddress,
               wranIfCpeScmStatus }
STATUS       current
DESCRIPTION
  "This trap contains the information related to the
   SCM state change alarm that is contained in
   wranIfCpeNotificationObjectsTable."
 ::= { wranIfCpeTrapDefinition 4 }

```

```

wranIfCpeMaxEirpStatusChangeTrap NOTIFICATION-TYPE
OBJECTS      { wranIfCpeMacAddress,
               wranIfCpeMaxEirpStatus }
STATUS       current
DESCRIPTION
  "This trap contains the information related to the
   maximum EIRP (over all 60 subchannels) subcarrier

```

alarm that is contained in
 wranIfCpeNotificationObjectsTable."
 ::= { wranIfCpeTrapDefinition 5 }

wranIfCpeNotificationObjectsTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfCpeNotificationObjectsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This MIB provides a table to track notification
 objects that have been reported by the traps on a
 particular CPE. There is one entry in this table,
 defining the notification objects for that
 particular CPE. Each entry is defined by
 wranIfCpeNotificationObjectsEntry."
 ::= { wranIfCpeMib 5 }

wranIfCpeNotificationObjectsEntry OBJECT-TYPE
 SYNTAX wranIfCpeNotificationObjectsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "Definition of an entry in
 wranIfCpeNotificationObjectsTable. There is only one
 entry in each CPE."
 INDEX { wranIfCpeNotificationMacAddress }
 ::= { wranIfCpeNotificationObjectsTable 1 }

wranIfCpeNotificationObjectsEntry ::= SEQUENCE {
 wranIfCpeNotificationObjectsEntryIndex INTEGER,
 wranIfCpeNotificationMacAddress MacAddress,
 wranIfCpeRssiStatus INTEGER,
 wranIfCpeEirpPerScStatus INTEGER,
 wranIfCpeDhcpStatus INTEGER,
 wranIfCpeScmIdleStatus INTEGER,
 wranIfCpeMaxEirpStatus INTEGER }

wranIfCpeNotificationObjectsEntryIndex OBJECT-TYPE
 SYNTAX INTEGER (1..1)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index of entry in this table, defaults to 1."
 ::= { wranIfCpeNotificationObjectsEntry 1 }

wranIfCpeNotificationMacAddress OBJECT-TYPE
 SYNTAX MacAddress
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "MAC Address of the CPE generating the trap."
 ::= { wranIfCpeNotificationObjectsEntry 2 }

wranIfCpeRssiStatus OBJECT-TYPE
 SYNTAX INTEGER { lowThresholdAlarm(0),
 highThresholdAlarm(1),


```

                                noAlarm(2) }
MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Indication if RSSI alarm was for an RSSI value below
    wranIfCpeRssiLowThreshold, for an RSSI value above
    wranIfCpeRssiHighThreshold, or the RSSI as returned
    to within the bounds set by
    wranIfCpeRssiLowThreshold and
    wranIfCpeRssiHighThreshold."
 ::= { wranIfCpeNotificationObjectsEntry 3 }

wranIfCpeEirpPerScStatus    OBJECT-TYPE
SYNTAX        INTEGER { lowThresholdAlarm(0),
                        highThresholdAlarm(1),
                        noAlarm(2) }

MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Indication if EIRP per subcarrier alarm was for an
    EIRP value below wranIfCpeEirpPerScLowThreshold, for
    an EIRP value above wranIfCpeEirpPerScHighThreshold,
    or the EIRP as returned to within the bounds set by
    wranIfCpeEirpPerScLowThreshold and
    wranIfCpeEirpPerScHighThreshold."
 ::= { wranIfCpeNotificationObjectsEntry 4 }

wranIfCpeDhcpStatus    OBJECT-TYPE
SYNTAX        INTEGER { failure(0),
                        successful(1) }

MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "An DHCP alarm is generated when a CPE is
    successfully able to obtain an IP address or fails
    to obtain an IP address."
 ::= { wranIfCpeNotificationObjectsEntry 5 }

wranIfCpeScmStatus    OBJECT-TYPE
SYNTAX        INTEGER { idle(0),
                        notAuthenticated(1),
                        authenticated(2),
                        reAuthWait(3) }

MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "An SCM alarm is generated when a CPE changes to a
    different state in the SCM Authentication state
    machine."
 ::= { wranIfCpeNotificationObjectsEntry 6 }

wranIfCpeMaxEirpStatus OBJECT-TYPE
SYNTAX        INTEGER { lowThresholdAlarm(0),
                        highThresholdAlarm(1),
                        noAlarm(2) }

MAX-ACCESS    read-only

```

STATUS current

DESCRIPTION

"Indication if maximum EIRP (over all 60 subchannels) was for an EIRP value below wranIfCpeMaxEirpLowThreshold, for an EIRP value above wranIfCpeMaxEirpHighThreshold, or the EIRP as returned to within the bounds set by wranIfCpeMaxEirpLowThreshold and wranIfCpeMaxEirpHighThreshold."

::= { wranIfCpeNotificationObjectsEntry 7 }

-- wranIfCpeMibGroups: This object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

wranIfCpeMibGroups OBJECT IDENTIFIER
::= { wranIfCpeMib 6 }
wranIfCpeMibConfigGroup OBJECT IDENTIFIER
::= { wranIfCpeMibGroups 1 }
wranIfCpeTrapControlGroup OBJECT IDENTIFIER
::= { wranIfCpeMibGroups 2 }
wranIfCpeMibNotificationGroup OBJECT IDENTIFIER
::= { wranIfCpeMibGroups 3 }

wranIfCpeMibConfigGroup OBJECT-GROUP
OBJECTS { wranIfCpeConfigurationIndex,
wranIfCpeLostDsMapInterval,
wranIfCpeLostUsMapInterval,
wranIfCpeContentionRangingRetries,
wranIfCpeContentionBwRetries,
wranIfCpeRegReqRetries,
wranIfCpeTftpBackoffStart,
wranIfCpeTftpBackoffEnd,
wranIfCpeTftpReqRetries,
wranIfCpeTftpDownloadRetries,
wranIfCpeTftpWait, wranIfCpeToDRetries,
wranIfCpeToDRetryPeriod,
wranIfCpeCBCReqRetries,
wranIfCpeTftpCpltRetries,
wranIfCpeInvitedRangRetries,
wranIfCpeInvitedRangRetries,
wranIfCpeDSxReqRetries,
wranIfCpeDSxRspRetries }
STATUS current
DESCRIPTION
"This group contains configuration objects for
the CPE."
::= { wranIfCpeMibGroups 1 }

wranIfCpeTrapControlGroup OBJECT-GROUP
OBJECTS { wranIfCpeTrapControl }
STATUS current
DESCRIPTION
"This group contains configuration objects
related to enabling/disabling traps for the
CPE."

```
::= { wranIfCpeMibGroups 2 }
```

```
wranIfCpeMibNotificationsGroup      OBJECT-TYPE
    OBJECTS      { wranIfCpeThresholdConfigIndex,
                    wranIfCpeRssiLowThreshold,
                    wranIfCpeRssiHighThreshold,
                    wranIfCpeEirpPerScLowThreshold,
                    wranIfCpeEirpPerScHighThreshold,
                    wranIfCpeMaxEirpLowThreshold,
                    wranIfCpeMaxEirpHighThreshold,
                    wranIfCpeNotificationMacAddress,
                    wranIfCpeRssiStatus,
                    wranIfCpeEirpPerScStatus,
                    wranIfCpeMaxEirpStatus,
                    wranIfCpeDhcpStatus,
                    wranIfCpeScmIdleStatus,
                    wranIfCpeRssiStatusChangeTrap,
                    wranIfCpeEirpPerScStatusChangeTrap,
                    wranIfCpeDhcpSuccessTrap,
                    wranIfCpeScmStateChangeTrap,
                    wranIfCpeMaxEirpStatusChangeTrap }
    STATUS      current
    DESCRIPTION
        "This group contains CPE event notifications."
    ::= {wranIfCpeMibGroups 3 }

wranIfCpeMibCompliance      MODULE-COMPLIANCE
    STATUS      current
    DESCRIPTION
        "MIB objects that are optional and mandatory for CPE
        conformance."
    MODULE      wranIfCpeMib
    MANDATORY-GROUPS { wranIfCpeMibConfigGroup,
                        wranIfCpeTrapControlGroup }
    -- OPTIONAL -GROUPS { wranIfCpeMibNotificationsGroup }
    ::= { wranIfCpeMib 7 }
```

```
END
```

13.2.5 wranIfSmMib

IEEE802dot22-WRAN-IF-SM-MIB ::= BEGIN

IMPORTS

MODULE-IDENTITY,
 OBJECT-TYPE,
 NOTIFICATION-TYPE,
 Unsigned32, Integer32, Counter32,
 Counter64
 FROM SNMPv2-SMI
 SnmpAdminString
 FROM SNMP-FRAMEWORK-MIB
 TEXTUAL-CONVENTION,
 MacAddress, RowStatus, TruthValue,
 TimeStamp, DateAndTime
 FROM SNMPv2-TC
 InetAddressType, InetAddress
 FROM INET-ADDRESS-MIB
 OBJECT-GROUP,
 MODULE-COMPLIANCE,
 NOTIFICATION-GROUP
 FROM SNMPV2-CONF

wranIfSmMib MODULE-IDENTITY

LAST-UPDATED "201405300000Z" -- May 30, 2014
 ORGANIZATION "IEEE 802.22"
 CONTACT-INFO
 "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
 WG Chair: Apurva N. Mody
 E-mail: apurva.mody@ieee.org

TGa Chair/Editor: Ranga Reddy
 E-mail: ranga.reddy@ieee.org

DESCRIPTION

"This material is from IEEE Std 802.22a-2014
 Copyright (c) 2014. This MIB Module object is
 related to configuration, operation and monitoring
 of the Spectrum Manager (SM). Objects in this module
 are based on IEEE Std 802.22-2011 and is under
 iso(1).std(0).iso8802(8802).wran(22).wranIfSmMib(5)"

REVISION "201405300000Z"

DESCRIPTION

"The first version of IEEE802dot22-WRAN-IF-SM-MIB."

::= {iso std(0) iso8802(8802) wran(22) 5}

wranIfSmConfigTable	OBJECT IDENTIFIER
	::= { wranIfSmMib 1 }
wranIfSmPendingBlmReqTable	OBJECT IDENTIFIER
	::= { wranIfSmMib 2 }
wranIfSmBlmRepTable	OBJECT IDENTIFIER
	::= { wranIfSmMib 3 }
wranIfSmChClassificationStatusTable	OBJECT IDENTIFIER
	::= { wranIfSmMib 4 }
wranIfSmChannelSetTable	OBJECT IDENTIFIER
	::= { wranIfSmMib 5 }

```

wranIfSmCurrentStatusTable      OBJECT IDENTIFIER
                                ::= { wranIfSmMib 6 }
wranIfSmRegTrackingTable        OBJECT IDENTIFIER
                                ::= { wranIfSmMib 7 }
wranIfSmTrapControl             OBJECT IDENTIFIER
                                ::= { wranIfSmMib 8 }
wranIfSmTrapDefinition          OBJECT IDENTIFIER
                                ::= { wranIfSmMib 9 }
wranIfSmNotificationObjectsTable OBJECT IDENTIFIER
                                ::= { wranIfSmMib 10 }
wranIfSmMibGroups               OBJECT IDENTIFIER
                                ::= { wranIfSmMib 11 }
wranIfSmMibCompliance           OBJECT IDENTIFIER
                                ::= { wranIfSmMib 12 }

```

-- NOTE: In this module "Sm" or "SM" refers to Spectrum Manager, while
-- "Ssa" or "SSA" refers to Spectrum Sensing Automaton.

```

wranIfSmConfigTable      OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfSmConfigEntry
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "This MIB object represents a table that tracks the
        default configuration of SM timers and constants. It
        is made up of one entry, defined by
        wranIfSmConfigEntry."
    ::= { wranIfSmMib 1 }

```

```

wranIfSmConfigEntry      OBJECT-TYPE
    SYNTAX      wranIfSmConfigEntry
    MAX-ACCESS   not-accessible
    STATUS      current
    DESCRIPTION
        "This object defines an entry in wranIfSmConfigTable.
        Each entry is identified by wranIfSmConfigIndex."
    INDEX { wranIfSmConfigIndex }
    ::= { wranIfSmConfigTable 1 }

```

```

wranIfSmConfigEntry      ::= SEQUENCE {
    wranIfSmConfigIndex    INTEGER,
    wranIfSmT31            INTEGER,
    wranIfSmChAvailabilityCheckTime Integer32,
    wranIfSmNonOccupancyPeriod Integer32,
    wranIfSmChannelDetectionTime INTEGER,
    wranIfSmChannelSetupTime  INTEGER,
    wranIfSmChannelOpeningTxTime Integer32,
    wranIfSmChannelMoveTime   INTEGER,
    wranIfSmChannelClosingTxTime Integer32,
    wranIfSmMicProtectionRadius Integer32,
    wranIfSmT41              INTEGER,
    wranIfSmT42              INTEGER,
    wranIfSmT43              INTEGER,
    wranIfSmT44              INTEGER,
    wranIfSmT45              Integer32,
    wranIfSmT46              Integer32,

```

wranIfSmT59	Integer32,
wranIfSmT47	Integer32,
wranIfSmT48	Integer32,
wranIfSmT49	Integer32,
wranIfSmT50	Integer32,
wranIfSmT51	Integer32,
wranIfSmT53	Integer32,
wranIfSmT54	Integer32,
wranIfSmT55	INTEGER,
wranIfSmT60	INTEGER }

wranIfSmConfigIndex OBJECT-TYPE
SYNTAX INTEGER (1..1)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Index of entry in the table, defaults to 1."
 ::= { wranIfSmConfigEntry 1 }

wranIfSmT31 OBJECT-TYPE
SYNTAX INTEGER (1..64)
UNITS "frames"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Wait for BLM-REP timeout."
 ::= { wranIfSmConfigEntry 2 }

wranIfSmChAvailabilityCheckTime OBJECT-TYPE
SYNTAX Integer32 (30..3600)
UNITS "seconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Time during which a TV channel shall be checked for the presence of licensed incumbent signals having a level above the incumbent detection threshold prior to commencement of WRAN operation in the channel, and in the case of TV, a related channel at an EIRP level that can affect the measured TV channel."
 ::= { wranIfSmConfigEntry 3 }

wranIfSmNonOccupancyPeriod OBJECT-TYPE
SYNTAX Integer32 (10..60)
UNITS "minutes"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"The required period during which WRAN device transmissions SHALL NOT occur in a given TV channel because of the detected presence of an incumbent signal in that channel above the Incumbent detection threshold, or in the case of TV, above a given EIRP level."
 ::= { wranIfSmConfigEntry 4 }

wranIfSmChannelDetectionTime OBJECT-TYPE

SYNTAX INTEGER (2..128)

UNITS "seconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Maximum time taken by a WRAN device to detect a licensed incumbent signal above the Incumbent Detection Threshold within a given TV channel during normal WRAN operation."

::= { wranIfSmConfigEntry 5 }

wranIfSmChannelSetupTime OBJECT-TYPE

SYNTAX INTEGER (2..128)

UNITS "seconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The window of time that may be taken by a WRAN CPE to transmit control information to a WRAN base station in order to establish operation with that base station at the prescribed power or, in the case of TV, at or below the allowable EIRP within a given TV channel."

::= { wranIfSmConfigEntry 6 }

wranIfSmChannelOpeningTxTime OBJECT-TYPE

SYNTAX Integer32 (100..480)

UNITS "milliseconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The aggregate duration of control transmissions by WRAN devices during the Channel Setup Time that starts at the end of the Channel Availability Check Time."

::= { wranIfSmConfigEntry 7 }

wranIfSmChannelMoveTime OBJECT-TYPE

SYNTAX INTEGER (2..60)

UNITS "seconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The time taken by WRAN system to cease all interfering transmissions on the current TV channel upon detection of a license incumbent signal above the relevant Incumbent Detection Threshold, or in the case of TV, to alternatively reduces its EIRP to which is allowable within a given TV channel upon detection of a TV signal in the same or a related channel."

::= { wranIfSmConfigEntry 8 }

wranIfSmChannelClosingTxTime OBJECT-TYPE

SYNTAX Integer32 (100..480)

UNITS "milliseconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The aggregate duration of control transmissions by the WRAN devices during the Channel Move/EIRP Reduction Time that starts upon detection of a licensed incumbent signal above the relevant Incumbent Detection Threshold."

::= { wranIfSmConfigEntry 9 }

wranIfSmMicProtectionRadius OBJECT-TYPE

SYNTAX Integer32 (100..100000)

UNITS "meters"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Radius of contour within which the WRAN system cannot operate due to potential interference with the microphone."

::= { wranIfSmConfigEntry 10 }

wranIfSmT41 OBJECT-TYPE

SYNTAX INTEGER (1..10)

UNITS "seconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Maximum time interval allowed before sensing is performed on the candidate channel to ensure that no incumbents are detected."

::= { wranIfSmConfigEntry 11 }

wranIfSmT42 OBJECT-TYPE

SYNTAX INTEGER (1..10)

UNITS "seconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Maximum time interval allowed before sensing is performed on the backup channel to ensure that no incumbents are detected."

::= { wranIfSmConfigEntry 12 }

wranIfSmT43 OBJECT-TYPE

SYNTAX INTEGER (1..100)

UNITS "seconds"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Minimum time duration without detection of any incumbent for a candidate channel to transition to the backup channel."

::= { wranIfSmConfigEntry 13 }

wranIfSmT44 OBJECT-TYPE

SYNTAX INTEGER (1..100)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Maximum time to ensure that the channel move
 information is successfully conveyed to all the
 associated CPEs and BS (self-coexistence mode)."
 ::= { wranIfSmConfigEntry 14 }

wranIfSmT45 OBJECT-TYPE
 SYNTAX Integer32 (0..720)
 UNITS "hours"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Maximum WRAN operation time without access to the
 incumbent database service, from 0 to 72 h in
 0.1-h steps."
 ::= { wranIfSmConfigEntry 15 }

wranIfSmT46 OBJECT-TYPE
 SYNTAX Integer32 (1..4096)
 UNITS "frames"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Waiting time before which the BS moves to the first
 backup channel. This is used to make sure that all
 the CPEs are ready to move to the backup channel
 before BS switches operation to this backup
 channel."
 ::= { wranIfSmConfigEntry 16 }

wranIfSmT59 OBJECT-TYPE
 SYNTAX Integer32 (1..4096)
 UNITS "frames"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Waiting time before which the CPE moves to its
 backup channels if it no longer hears from its BS.
 This is used to make sure that the CPE waits long
 enough after UCS Notification so that BS has had
 time to move to the backup channel, it decided to do
 so."
 ::= { wranIfSmConfigEntry 17 }

wranIfSmT47 OBJECT-TYPE
 SYNTAX Integer32 (0..720)
 UNITS "hours"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "The prescribed time by the WRAN operator to refresh
 the incumbent database service."

```
::= { wranIfSmConfigEntry 18 }
```

```
wranIfSmT48          OBJECT-TYPE
    SYNTAX             Integer32 (0..600)
    UNITS               "seconds"
    MAX-ACCESS          read-write
    STATUS              current
    DESCRIPTION
        "Lapse timer keeps track of whether the Operating
         Channel N has been cleared using spectrum sensing,
         from 0 to 60 s in 0.1 s steps."
    ::= { wranIfSmConfigEntry 19 }
```

```
wranIfSmT49          OBJECT-TYPE
    SYNTAX             Integer32 (0..600)
    UNITS               "seconds"
    MAX-ACCESS          read-write
    STATUS              current
    DESCRIPTION
        "Lapse timer keeps track of whether the Adjacent
         Channel N-1 has been cleared using spectrum sensing,
         from 0 to 60 s in 0.1 s steps."
    ::= { wranIfSmConfigEntry 20 }
```

```
wranIfSmT50          OBJECT-TYPE
    SYNTAX             Integer32 (0..600)
    UNITS               "seconds"
    MAX-ACCESS          read-write
    STATUS              current
    DESCRIPTION
        "Lapse timer keeps track of whether the Adjacent
         Channel N+1 has been cleared using spectrum
         sensing, from 0 to 60 s in 0.1 s steps."
    ::= { wranIfSmConfigEntry 21 }
```

```
wranIfSmT51          OBJECT-TYPE
    SYNTAX             Integer32 (1..600)
    UNITS               "seconds"
    MAX-ACCESS          read-write
    STATUS              current
    DESCRIPTION
        "Initiated when SSA loses contact with the SM."
    ::= { wranIfSmConfigEntry 22 }
```

```
wranIfSmT53          OBJECT-TYPE
    SYNTAX             Integer32 (1..600)
    UNITS               "seconds"
    MAX-ACCESS          read-write
    STATUS              current
    DESCRIPTION
        "The parameter TINsens is used to verify that in-band
         sensing has been done within the required In-service
         monitoring period. The TINsens parameter is driven
         by regulatory domain requirements (Annex A), from 0
         to 60 s in 0.1 s steps."
    ::= { wranIfSmConfigEntry 23 }
```

wranIfSmT54 OBJECT-TYPE
SYNTAX Integer32 (1..600)
UNITS "seconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"The parameter TOUTsens is used to verify that out-of-band sensing has been done within the required "Acquiring a channel monitoring period" specified in Annex A. This value would be used to initialize a lapse timer for each channel in the backup candidate channel list at each CPE so that it is compared to Tsensout, from 0 to 60 s in 0.1 s steps."
 ::= { wranIfSmConfigEntry 24 }

wranIfSmT55 OBJECT-TYPE
SYNTAX INTEGER (1..160)
UNITS "milliseconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"The T55 or Tsensin parameter corresponds to the maximum length of time required to carry out the sensing process on an in-band channel (see Figure 176). Manufacturers need to specify the sensing time required to detect the specified signals with required accuracy, from 0 to 60 s in 0.1 s steps."
 ::= { wranIfSmConfigEntry 25 }

wranIfSmT60 OBJECT-TYPE
SYNTAX INTEGER (20..160)
UNITS "milliseconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"The T60 or Tsensout parameter corresponds to the maximum length of time required to carry out the out-of-band sensing process to clear one channel (see Figure 178). Manufacturers need to specify the sensing time required to detect the specified signals with required accuracy for out-of-band sensing."
 ::= { wranIfSmConfigEntry 26 }

wranIfSmPendingBlmReqTable OBJECT-TYPE
SYNTAX SEQUENCE OF wranIfSmPendingBlmReqEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This MIB object represents a table that tracks the status of the execution of ongoing sensing requests (BLM-REQ). For each BLM-REQ there is a corresponding BLM-RSP to indicate that REQ message was received by the SSA. When an SSA is done with the sensing it

will send a BLM-REP to the SM. This table keeps track of any BLM-REP messages that are pending transmission from the SSA. When a report is received a response is acknowledgement is sent to the SSA, and then the entry corresponding to the report and request will be cleared. Each entry is defined by wranIfSmPendingBlmReqEntry."

```
::= { wranIfSmMib 2 }
```

```
wranIfSmPendingBlmReqEntry OBJECT-TYPE
    SYNTAX      wranIfSmPendingBlmReqEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object defines an entry in
         wranIfSmPendingBlmReqTable. Each entry is identified
         by wranIfSmPendingBlmReqIndex."
    INDEX { wranIfSmPendingBlmReqIndex }
    ::= { wranIfSmPendingBlmReqTable 1 }
```

```
wranIfSmPendingBlmReqEntry ::= SEQUENCE {
    wranIfSmPendingBlmReqIndex          INTEGER,
    wranIfSmPendingBlmReqTransactionId  Integer32,
    wranIfSmPendingBlmReqMsgSize        Integer32,
    wranIfSmPendingBlmReqMsg            OCTET STRING,
    wranIfSmPendingBlmRspReceived        TruthValue,
    wranIfSmPendingBlmRspMulticastReceived TruthValue,
    wranIfSmPendingBlmRepTimeout         Integer32,
    wranIfSmPendingBlmRepReceived         TruthValue,
    wranIfSmPendingBlmRepMulticastReceived TruthValue,
    wranIfSmPendingBlmRepAck              TruthValue }
```

```
wranIfSmPendingBlmReqIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..100)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in the table."
    ::= { wranIfSmPendingBlmReqEntry 1 }
```

```
wranIfSmPendingBlmReqTransactionId OBJECT-TYPE
    SYNTAX      Integer32 (0..65535)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Transaction ID of BLM-REQ."
    ::= { wranIfSmPendingBlmReqEntry 2 }
```

```
wranIfSmPendingBlmReqMsgSize OBJECT-TYPE
    SYNTAX      Integer32 (SIZE(1..65535))
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Size of BLM-REQ pending a report."
    ::= { wranIfSmPendingBlmReqEntry 3 }
```

wranIfSmPendingBlmReqMsg OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(wranIfSmPendingBlmReqMsgSize))
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Contents of BLM-REQ pending a report."
 ::= { wranIfSmPendingBlmReqEntry 4 }

wranIfSmPendingBlmRspReceived OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Indication of whether (Truth(1)) or not (Truth(0))
BLM-RSP pertaining to BLM-REQ has been received from
SSA."
 ::= { wranIfSmPendingBlmReqEntry 5 }

wranIfSmPendingBlmRspMulticastReceived OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"If BLM-REQ was multicast, indication of whether
(Truth(1)) or not (Truth(0)) BLM-RSP pertaining to
BLM-REQ has been received from each SSA (CPE) in the
multicast group."
 ::= { wranIfSmPendingBlmReqEntry 6 }

wranIfSmPendingBlmRepTimeout OBJECT-TYPE
SYNTAX Integer32 (1..640)
UNITS "milliseconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Indication of current value of T31 set for this BLM-
REP."
 ::= { wranIfSmPendingBlmReqEntry 7 }

wranIfSmPendingBlmRepReceived OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Indication of whether (Truth(1)) or not (Truth(0))
BLM-REP pertaining to BLM-REQ has been received from
SSA."
 ::= { wranIfSmPendingBlmReqEntry 8 }

wranIfSmPendingBlmRepMulticastReceived OBJECT-TYPE
SYNTAX TruthValue
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"If BLM-REQ was multicast, indication of whether

(Truth(1)) or not (Truth(0)) BLM-REP pertaining to BLM-REQ has been received from each SSA (CPE) in the multicast group."

::= { wranIfSmPendingBlmReqEntry 9 }

wranIfSsaPendingBlmRepAck OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indication of whether (Truth(1)) or not (Truth(0)) BLM-ACK, has been sent to acknowledge all transmitters of BLM-REP messages pertaining to BLM-REQ that was issued."

::= { wranIfSmPendingBlmReqEntry 10 }

wranIfSmBlmRepTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfSmBlmRepEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object contains BLM-REP messages received in response to BLM-REQ; it is made up of multiple entries, one for each BLM-REP that pertains to a BLM-REQ. Once a BLM-REP has been processed the entry will be removed. Each entry is defined by wranIfSmBlmRepEntry."

::= { wranIfSmMib 3 }

wranIfSmBlmRepEntry OBJECT-TYPE

SYNTAX wranIfSmBlmRepEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object defines an entry in wranIfSmBlmRepTable. Each entry is identified by wranIfSmBlmReqIndex."

INDEX { wranIfSmBlmReqIndex }

::= { wranIfSmBlmRepTable 1 }

wranIfSmBlmRepEntry ::= SEQUENCE {

wranIfSmBlmRepIndex

INTEGER,

wranIfSmBlmRepSid

INTEGER,

wranIfSmBlmRepTransactionId

Integer32,

wranIfSmBlmRepMsgSize

Integer32,

wranIfSmBlmRepMsg

OCTET STRING }

wranIfSmBlmRepIndex OBJECT-TYPE

SYNTAX INTEGER (1..100)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in the table."

::= { wranIfSmBlmRepEntry 1 }

wranIfSmBlmRepSid OBJECT-TYPE

SYNTAX INTEGER (1..512)


```

MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "SID of CPE that sent the BLM-REP."
 ::= { wranIfSmBlmRepEntry 2 }

```

```

wranIfSmBlmRepTransactionId OBJECT-TYPE
SYNTAX        Integer32 (0..65535)
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "Transaction ID of BLM-REP, it should match a
     transaction ID of an entry in
     wranIfSmPendingBlmReqTable."
 ::= { wranIfSmBlmRepEntry 3 }

```

```

wranIfSmBlmRepMsgSize OBJECT-TYPE
SYNTAX        Integer32 (SIZE(1..65535))
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "Size of BLM-REP msg."
 ::= { wranIfSmBlmRepEntry 4 }

```

```

wranIfSmBlmRepMsg OBJECT-TYPE
SYNTAX        OCTET STRING (SIZE(wranIfSmBlmRepMsgSize))
MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "Contents of BLM-REP msg."
 ::= { wranIfSmBlmRepEntry 5 }

```

```

wranIfSmChClassificationStatusTable OBJECT-TYPE
SYNTAX        SEQUENCE OF wranIfSmChClassificationStatusEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "This MIB object represents a table that the status
     for channels that the SM is managing. It is made up
     of multiple entries, one for each channel, as
     defined in wranIfSmChClassificationStatusEntry."
 ::= { wranIfSmMib 4 }

```

```

wranIfSmChClassificationStatusEntry OBJECT-TYPE
SYNTAX        wranIfSmChClassificationStatusEntry
MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "This object defines an entry in
     wranIfSmChClassificationStatusTable. Each entry is
     identified by wranIfSmChClassificationStatusIndex."
INDEX { wranIfSmChClassificationStatusIndex }
 ::= { wranIfSmChClassificationStatusTable 1 }

```

```

wranIfSmChClassificationStatusEntry ::= SEQUENCE {
    wranIfSmChClassificationStatusIndex INTEGER,

```

```

wranIfSmManagedChannel          INTEGER,
wranIfSmManagedChannelStatus    INTEGER,
wranIfSmManagedChannelRecentEvent  INTEGER }

```

```

wranIfSmChClassificationStatusIndex OBJECT-TYPE
SYNTAX      INTEGER (1..255)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Index of entry in the table."
 ::= { wranIfSmChClassificationStatusEntry 1 }

```

```

wranIfSmManagedChannel OBJECT-TYPE
SYNTAX      INTEGER (0..255)
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    " Channel number of channel being managed."
 ::= { wranIfSmChClassificationStatusEntry 2 }

```

```

wranIfSmManagedChannelStatus OBJECT-TYPE
SYNTAX      INTEGER { unclassified(0),
                      candidate(1),
                      protected(2),
                      operating(3),
                      backup(4),
                      disallowed(5) }
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "The state of the channel as set by the states in the
    SM Channel Set Transition Diagram (Figure 162) or
    disallowed state (if channel is in IPC-UPD)."
 ::= { wranIfSmChClassificationStatusEntry 3 }

```

```

wranIfSmManagedChannelRecentEvent OBJECT-TYPE
SYNTAX      INTEGER { disallowed(0),
                      event1(1),
                      event2(2),
                      event3(3),
                      event4(4),
                      event5(5),
                      event6(6),
                      event7(7),
                      event8(8) }
MAX-ACCESS  read-write
STATUS      current
DESCRIPTION
    "Most recent event (see 10.2.3.1) that dictated a
    transition to the current state. disallowed(0)
    pertains to reception of IPC-UPD."
 ::= { wranIfSmChClassificationStatusEntry 4 }

```

```

wranIfSmChannelSetTable OBJECT-TYPE
SYNTAX      SEQUENCE OF wranIfSmChannelSetEntry
MAX-ACCESS  not-accessible

```

STATUS current
 DESCRIPTION
 "This MIB object represents a table that stores information related to the contents of the Occupied, Backup Channel, and Local Priority channel sets used by the Spectrum Manager (see 10.2.3.2)."
 ::= { wranIfSmMib 5 }

wranIfSmChannelSetEntry OBJECT-TYPE
 SYNTAX wranIfSmChannelSetEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object defines an entry in wranIfSmChannelSetTable. There is only one entry in this table."
 INDEX { wranIfSmChannelSetIndex }
 ::= { wranIfSmChannelSetTable 1 }

wranIfSmChannelSetEntry ::= SEQUENCE {
 wranIfSmChannelSetIndex INTEGER,
 wranIfSmSizeWranOccupiedChannelSet INTEGER,
 wranIfSmWranOccupiedChannelSet OCTET STRING,
 wranIfSmSizeNghbrWranBackupChannelSet INTEGER,
 wranIfSmNghbrWranBackupChannelSet OCTET STRING,
 wranIfSmSizeLocalPrioritySet1 INTEGER,
 wranIfSmLocalPrioritySet1 OCTET STRING,
 wranIfSmSizeLocalPrioritySet2 INTEGER,
 wranIfSmLocalPrioritySet2 OCTET STRING,
 wranIfSmSizeLocalPrioritySet3 INTEGER,
 wranIfSmLocalPrioritySet3 OCTET STRING }

wranIfSmChannelSetIndex OBJECT-TYPE
 SYNTAX INTEGER (1..1)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index of entry in the table."
 ::= { wranIfSmChannelSetEntry 1 }

wranIfSmSizeWranOccupiedChannelSet OBJECT-TYPE
 SYNTAX INTEGER (1..256)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Number of channels in WRAN Occupied Channel Set."
 ::= { wranIfSmChannelSetEntry 2 }

wranIfSmWranOccupiedChannelSet OBJECT-TYPE
 SYNTAX
 OCTET STRING
 (SIZE(wranIfSmSizeWranOccupiedChannelSet))
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Vector of channels of length 8 bits ×

wranIfSmSizeWranOccupiedChannelSet that indicate the channels that occupy the WRAN Occupied Channel Set used by the Spectrum Etiquette procedure (see 10.2.3.2)."

::= { wranIfSmChannelSetEntry 3 }

wranIfSmSizeNghbrWranBackupChannelSet OBJECT-TYPE

SYNTAX INTEGER (1..256)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Number of channels in Neighbor WRAN Backup Channel Set."

::= { wranIfSmChannelSetEntry 4 }

wranIfSmNghbrWranBackupChannelSet OBJECT-TYPE

SYNTAX

OCTET STRING

(SIZE(wranIfSmSizeNghbrWranBackupChannelSet))

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Vector of channels of length 8 bits × wranIfSmSizeNghbrWranBackupChannelSet that indicate the channels that occupy the Neighbor WRAN Backup Channel Set used by the Spectrum Etiquette procedure (see 10.2.3.2)."

::= { wranIfSmChannelSetEntry 5 }

wranIfSmSizeLocalPrioritySet1 OBJECT-TYPE

SYNTAX INTEGER (1..256)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Number of channels in Local Priority Set 1."

::= { wranIfSmChannelSetEntry 6 }

wranIfSmLocalPrioritySet1 OBJECT-TYPE

SYNTAX

OCTET STRING (SIZE(wranIfSmSizeLocalPrioritySet1))

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Vector of channels of length 8 bits × wranIfSmSizeLocalPrioritySet1 that indicate the channels that occupy the Local Priority Set 1 used by the Spectrum Etiquette procedure (see 10.2.3.2)."

::= { wranIfSmChannelSetEntry 7 }

wranIfSmSizeLocalPrioritySet2 OBJECT-TYPE

SYNTAX INTEGER (1..256)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Number of channels in Local Priority Set 2."

::= { wranIfSmChannelSetEntry 8 }

wranIfSmLocalPrioritySet2 OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(wranIfSmSizeLocalPrioritySet2))
MAX-ACCESS read-write
STATUS current
DESCRIPTION
 "Vector of channels of length 8 bits ×
 wranIfSmSizeLocalPrioritySet2 that indicate the
 channels that occupy the Local Priority Set 2 used
 by the Spectrum Etiquette procedure (see 10.2.3.2)."
 ::= { wranIfSmChannelSetEntry 9 }

wranIfSmSizeLocalPrioritySet3 OBJECT-TYPE
SYNTAX INTEGER (1..256)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
 "Number of channels in Local Priority Set 3, should
 be the same size as
 wranIfSmSizeWranOccupiedChannelSet."
 ::= { wranIfSmChannelSetEntry 10 }

wranIfSmLocalPrioritySet3 OBJECT-TYPE
SYNTAX OCTET STRING (SIZE(wranIfSmSizeLocalPrioritySet3))
MAX-ACCESS read-write
STATUS current
DESCRIPTION
 "Vector of channels of length 8 bits ×
 wranIfSmSizeLocalPrioritySet3 that indicate the
 channels that occupy the Local Priority Set 3 used
 by the Spectrum Etiquette procedure (see 10.2.3.2).
 Should contain the same channel set as
 wranIfSmWranOccupiedChannelSet."
 ::= { wranIfSmChannelSetEntry 11 }

wranIfSmCurrentStatusTable OBJECT-TYPE
SYNTAX SEQUENCE OF wranIfSmCurrentStatusEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "This MIB object represents a table that the records
 the current status of the SM. This includes the
 state the SM is in, the event that triggered a move
 into that state, as well as the current state of any
 relevant timers. There is one entry in this table
 defined in wranIfSmCurrentStatusEntry."
 ::= { wranIfSmMib 6 }

wranIfSmCurrentStatusEntry OBJECT-TYPE
SYNTAX wranIfSmCurrentStatusEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
 "This object defines an entry in

wranIfSmCurrentStatusTable. There is only one entry in this table."

```
INDEX { wranIfSmCurrentStatusIndex }
 ::= { wranIfSmCurrentStatusTable 1 }
```

```
wranIfSmCurrentStatusEntry ::= SEQUENCE {
    wranIfSmCurrentStatusIndex    INTEGER,
    wranIfSmCurrentState          INTEGER,
    wranIfSmRecentEvent           INTEGER,
    wranIfSmRecentAction          INTEGER,
    wranIfSmInitiateChannelMove   TruthValue,
    wranIfSmSelfCoexistenceMode   TruthValue,
    wranIfSmCurrentOperatingChannel INTEGER,
    wranIfSmRecentSignalType      INTEGER,
    wranIfSmCurrentT47            Integer32,
    wranIfSmCurrentT46            Integer32 }
```

```
wranIfSmCurrentStatusIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in the table."
    ::= { wranIfSmCurrentStatusEntry 1 }
```

```
wranIfSmCurrentState OBJECT-TYPE
    SYNTAX      INTEGER { init(0),
                        operation(1) }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "The state (see Figure 164) that the SM is in. A
        value of 0 indicates that the SM is in the 'Spectrum
        Manager at Network Initialization State', a value of
        1 indicates that the SM is in the 'Spectrum Manager
        at Network Operation' state."
    ::= { wranIfSmCurrentStatusEntry 2 }
```

```
wranIfSmRecentEvent OBJECT-TYPE
    SYNTAX      INTEGER { timeT46expires(0),
                        operatingChannelIdentified(1),
                        initiateChannelMoveSet(2),
                        newCpeRegRequest(3),
                        timerT47expires(4),
                        signalDetected(5),
                        selfCoexistenceModeSet(6) }
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Recent event that triggered a transition into the
        current state as given in 10.2.6.1 "
    ::= { wranIfSmCurrentStatusEntry 3 }
```

```
wranIfSmRecentAction OBJECT-TYPE
    SYNTAX      INTEGER {
        smFindOperatingChannel(0),
```

```

smEstablishNetwork(1),
smInitiateChannelMove(2),
smNewCpeVerification(3),
smDatabaseUpdate(4),
smDetermineSignalTypeExecutePolicies(5),
smSelfCoexistenceMode(6) }

```

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Recent action that was taken when transitioning into the current state as given in 10.2.6.1."

::= { wranIfSmCurrentStatusEntry 4 }

wranIfSmInitiateChannelMove OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current value of Initiate_Channel_Move flag. Truth(1) if the flag is set to 1, Truth(0) if the flag is set to 0."

::= { wranIfSmCurrentStatusEntry 5 }

wranIfSmSelfCoexistenceMode OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current value of Self_Coexistence_Mode flag. Truth(1) if the flag is set to 1, Truth(0) if the flag is set to 0."

::= { wranIfSmCurrentStatusEntry 6 }

wranIfSmCurrentOperatingChannel OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Current operating channel."

::= { wranIfSmCurrentStatusEntry 7 }

wranIfSmRecentSignalType OBJECT-TYPE

```

SYNTAX INTEGER { undetermined(0),
ieee802dot22wran(1),
atsc(2),
dvbt(3),
isdbt(4),
ntsc(5),
pal(6),
secam(7),
wirelessMicrophone(8),
ieee802dot22dot1Sync(9),
ieee802dot22dot1Msf1(10),
ieee802dot22dot1Msf2(11),
ieee802dot22dot1Msf3(12) }

```

MAX-ACCESS read-only

STATUS current
DESCRIPTION
"Type of signal recently detected (see Table 237)."
 ::= { wranIfSmCurrentStatusEntry 8 }

wranIfSmCurrentT47 OBJECT-TYPE
SYNTAX Integer32 (1..720)
UNITS "hours"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Current value of T47, in 0.1 h increments from 0 to 72 h."
 ::= { wranIfSmCurrentStatusEntry 9 }

wranIfSmCurrentT46 OBJECT-TYPE
SYNTAX Integer32 (1..4096)
UNITS "frames"
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Current value of T46."
 ::= { wranIfSmCurrentStatusEntry 10 }

wranIfSmRegTrackingTable OBJECT-TYPE
SYNTAX SEQUENCE OF wranIfSmRegTrackingEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This MIB object represents a table that records the SM's monitoring of CPEs associated with the BS. It contains the location data string and current value of T30 for each CPE. There are multiple entries in this table (one for each CPE) defined in wranIfSmRegTrackingEntry."
 ::= { wranIfSmMib 7 }

wranIfSmRegTrackingEntry OBJECT-TYPE
SYNTAX wranIfSmRegTrackingEntry
MAX-ACCESS not-accessible
STATUS current
DESCRIPTION
"This object defines an entry in wranIfSmRegTrackingTable."
INDEX { wranIfSmRegTrackingIndex }
 ::= { wranIfSmRegTrackingTable 1 }

wranIfSmRegTrackingEntry ::= SEQUENCE {
wranIfSmRegTrackingIndex INTEGER,
wranIfSmRegTrackingCpeSid INTEGER,
wranIfSmRegTrackingCurrentT30 Integer32,
wranIfSmRegTrackingLocStringSize INTEGER,
wranIfSmRegTrackingLocString OCTET STRING }

wranIfSmRegTrackingIndex OBJECT-TYPE
SYNTAX INTEGER (1..255)

MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Index of entry in the table."
 ::= { wranIfSmRegTrackingEntry 1 }

wranIfSmRegTrackingCpeSid OBJECT-TYPE
SYNTAX INTEGER (1..511)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"SID of CPE whose location is being tracked."
 ::= { wranIfSmRegTrackingEntry 2 }

wranIfSmRegTrackingCurrentT30 OBJECT-TYPE
SYNTAX Integer32 (1..65535)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Current value of CPE's T30, as known by SM. From
0.16 s to 10 485.6 s in 0.16 s increments."
 ::= { wranIfSmRegTrackingEntry 3 }

wranIfSmRegTrackingLocStringSize OBJECT-TYPE
SYNTAX INTEGER (1..512)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Size of the location string
(wranIfSmRegTrackingLocString) in octets."
 ::= { wranIfSmRegTrackingEntry 4 }

wranIfSmRegTrackingLocString OBJECT-TYPE
SYNTAX OCTET STRING(SIZE(wranIfSmRegTrackingLocStringSize))
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Size of the location string
(wranIfSmRegTrackingLocString) in octets."
 ::= { wranIfSmRegTrackingEntry 5 }

wranIfSmTrapControl OBJECT-TYPE
SYNTAX BITS { wranIfSmBlmReqChange(0),
wranIfSmBlmRepChange(1),
wranIfSmOccupiedChannelSetChange(2),
wranIfSmNghbrBackupChannelSetChange(3),
wranIfSmLocalPrioritySet1Change(4),
wranIfSmLocalPrioritySet2Change(5),
wranIfSmLocalPrioritySet3Change(6),
wranIfSmCurrentStatusChange(7),
wranIfSmRegTrackingChange(8) }
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Defines control elements for traps related to

operation of the spectrum manager. This is a 9-bit field that enables setting a trap for particular SM events: wranIfSmBlmReqChange, wranIfSmBlmRepChange, wranIfSmOccupiedChannelSetChange, wranIfSmNghbrBackupChannelSetChange, wranIfSmLocalPrioritySet1Change, wranIfSmLocalPrioritySet2Change, wranIfSmLocalPrioritySet3Change, wranIfSmCurrentStatusChange, and wranIfSmRegTrackingChange."

```
::= { wranIfSmMib 8 }
```

```
wranIfSmTrapDefinition      OBJECT IDENTIFIER
                             ::= { wranIfSmMib 9 }
wranIfSmBlmReqChangeTrap    OBJECT IDENTIFIER
                             ::= { wranIfSmTrapDefinition 1 }
wranIfSmBlmRepChangeTrap    OBJECT IDENTIFIER
                             ::= { wranIfSmTrapDefinition 2 }
wranIfSmOccupiedChannelSetChangeTrap OBJECT IDENTIFIER
                             ::= { wranIfSmTrapDefinition 3 }
wranIfSmNghbrBackupChannelSetChangeTrap OBJECT IDENTIFIER
                             ::= { wranIfSmTrapDefinition 4 }
wranIfSmLocalPrioritySet1ChangeTrap OBJECT IDENTIFIER
                             ::= { wranIfSmTrapDefinition 5 }
wranIfSmLocalPrioritySet2ChangeTrap OBJECT IDENTIFIER
                             ::= { wranIfSmTrapDefinition 6 }
wranIfSmLocalPrioritySet3ChangeTrap OBJECT IDENTIFIER
                             ::= { wranIfSmTrapDefinition 7 }
wranIfSmCurrentStatusChangeTrap OBJECT IDENTIFIER
                             ::= { wranIfSmTrapDefinition 8 }
wranIfSmRegTrackingChangeTrap OBJECT IDENTIFIER
                             ::= { wranIfSmTrapDefinition 9 }

wranIfSmBlmReqChangeTrap    NOTIFICATION-TYPE
  OBJECTS { wranIfSmPendingBlmReqTransactionId,
             wranIfSmPendingBlmReqStatus }
  STATUS   current
  DESCRIPTION
    "This trap contains the information related to a BLM-
    REQ that is pending in the SM."
  ::= { wranIfSmTrapDefinition 1 }

wranIfSmBlmRepChangeTrap    NOTIFICATION-TYPE
  OBJECTS { wranIfSmBlmRepTransactionId,
             wranIfSmBlmRepStatus }
  STATUS   current
  DESCRIPTION
    "This trap contains the information related to a BLM-
    REP that is received by the SM."
  ::= { wranIfSmTrapDefinition 2 }

wranIfSmOccupiedChannelSetChangeTrap NOTIFICATION-TYPE
  OBJECTS { wranIfSmSizeWranOccupiedChannelSet,
             wranIfSmWranOccupiedChannelSet,
             wranIfSmOccupiedChannelSetStatus }
```

STATUS current

DESCRIPTION

"This trap contains the information related to the current state of the Occupied Channel Set in the SM."

::= { wranIfSmTrapDefinition 3 }

wranIfSmNghbrBackupChannelSetChangeTrap NOTIFICATION-TYPE

OBJECTS { wranIfSmSizeNghbrWranBackupChannelSet,
wranIfSmNghbrWranBackupChannelSet,
wranIfSmNghbrBackupChannelSetStatus }

STATUS current

DESCRIPTION

"This trap contains the information related to the current state of the Neighbor WRAN Backup Channel Set in the SM."

::= { wranIfSmTrapDefinition 4 }

wranIfSmLocalPrioritySet1ChangeTrap NOTIFICATION-TYPE

OBJECTS { wranIfSmSizeLocalPrioritySet1,
wranIfSmLocalPrioritySet1,
wranIfSmLocalPrioritySet1Status }

STATUS current

DESCRIPTION

"This trap contains the information related to the current state of the Local Priority Set 1 in the SM."

::= { wranIfSmTrapDefinition 5 }

wranIfSmLocalPrioritySet2ChangeTrap NOTIFICATION-TYPE

OBJECTS { wranIfSmSizeLocalPrioritySet2,
wranIfSmLocalPrioritySet2,
wranIfSmLocalPrioritySet2Status }

STATUS current

DESCRIPTION

"This trap contains the information related to the current state of the Local Priority Set 2 in the SM."

::= { wranIfSmTrapDefinition 6 }

wranIfSmLocalPrioritySet3ChangeTrap NOTIFICATION-TYPE

OBJECTS { wranIfSmSizeLocalPrioritySet3,
wranIfSmLocalPrioritySet3,
wranIfSmLocalPrioritySet3Status }

STATUS current

DESCRIPTION

"This trap contains the information related to the current state of the Local Priority Set 3 in the SM."

::= { wranIfSmTrapDefinition 7 }

wranIfSmCurrentStatusChangeTrap NOTIFICATION-TYPE

OBJECTS { wranIfSmRecentAction,
wranIfSmCurrentStateStatus }

STATUS current

DESCRIPTION

"This trap contains the information related to the current state the SM is in."
 ::= { wranIfSmTrapDefinition 8 }

wranIfSmRegTrackingChangeTrap NOTIFICATION-TYPE
 OBJECTS { wranIfSmRegTrackingCpeSid,
 wranIfSmRegTrackingStatus }
 STATUS current
 DESCRIPTION
 "This trap contains the information related to the tracking of the location of CPES within the purview of the BS."
 ::= { wranIfSmTrapDefinition 9 }

wranIfSmNotificationObjectsTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfSmNotificationObjectsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This MIB provides a table to track notification objects that have been reported by the traps related to the operation of the SM. It is made up of one entry containing objects related to the most recent trap/event. The entry is defined by wranIfSmNotificationObjectsEntry."
 ::= { wranIfSmMib 10 }

wranIfSmNotificationObjectsEntry OBJECT-TYPE
 SYNTAX wranIfSmNotificationObjectsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION
 "This object defines an entry in wranIfSmNotificationObjectsTable."
 INDEX { wranIfSmNotificationSid }
 ::= { wranIfSmNotificationObjectsTable 1 }

wranIfSmNotificationObjectsEntry ::= SEQUENCE {
 wranIfSmNotificationObjectsEntryIndex INTEGER,
 wranIfSmNotificationSid INTEGER,
 wranIfSmNotificationBlmTransactionId Integer32,
 wranIfSmNotificationSizeOccupiedChannelSet INTEGER,
 wranIfSmNotificationOccupiedChannelSet OCTET STRING,
 wranIfSmNotificationSizeBackupChannelSet INTEGER,
 wranIfSmNotificationBackupChannelSet OCTET STRING,
 wranIfSmNotificationSizeLocalPrioritySet1 INTEGER,
 wranIfSmNotificationLocalPrioritySet1 OCTET STRING,
 wranIfSmNotificationSizeLocalPrioritySet2 INTEGER,
 wranIfSmNotificationLocalPrioritySet2 OCTET STRING,
 wranIfSmNotificationSizeLocalPrioritySet3 INTEGER,
 wranIfSmNotificationLocalPrioritySet3 OCTET STRING,
 wranIfSmNotificationRecentAction INTEGER,
 wranIfSmPendingBlmReqStatus INTEGER,
 wranIfSmBlmRepStatus INTEGER,
 wranIfSmOccupiedChannelSetStatus INTEGER,
 wranIfSmNghbrBackupChannelSetStatus INTEGER,

wranIfSmLocalPrioritySet1Status	INTEGER,
wranIfSmLocalPrioritySet2Status	Integer32,
wranIfSmLocalPrioritySet3Status	Integer32,
wranIfSmCurrentStateStatus	Integer32,
wranIfSmRegTrackingStatus	Integer32 }

wranIfSmNotificationObjectsEntryIndex OBJECT-TYPE
 SYNTAX INTEGER (1..1)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "The transaction ID of the bulk measurement transaction. Only pertinent when wranIfSmBlmReqChangeTrap or wranIfSmBlmRepChangeTrap is enabled."
 ::= { wranIfSmNotificationObjectsEntry 1 }

wranIfSmNotificationSid OBJECT-TYPE
 SYNTAX INTEGER (0..511)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "SID of station generating trap. wranIfSmNotificationSid set == 0 is reserved for traps dealing with channel set management (see wranIfSmOccupiedChannelSetChangeTrap, wranIfSmNghbrBackupChannelSetChangeTrap, wranIfSmLocalPrioritySet1ChangeTrap, wranIfSmLocalPrioritySet2ChangeTrap, wranIfSmLocalPrioritySet3ChangeTrap) and the current state of the SM (see wranIfSmCurrentStatusChangeTrap). wranIfSmNotificationSid set == 1..511 when dealing with traps for bulk measurement (see wranIfSmBlmReqChangeTrap, wranIfSmBlmRepChangeTrap) or CPE registration tracking (see wranIfSmRegTrackingChangeTrap)."
 ::= { wranIfSmNotificationObjectsEntry 2 }

wranIfSmNotificationBlmTransactionId OBJECT-TYPE
 SYNTAX Integer32 (0..65535)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "The transaction ID of the bulk measurement transaction. Only pertinent when wranIfSmBlmReqChangeTrap or wranIfSmBlmRepChangeTrap is enabled."
 ::= { wranIfSmNotificationObjectsEntry 3 }

wranIfSmNotificationSizeOccupiedChannelSet OBJECT-TYPE
 SYNTAX INTEGER (0..255)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Size of the current/new WRAN Occupied Channel Set

```

        (only pertinent when
        wranIfSmOccupiedChannelSetChangeTrap is enabled)."
 ::= { wranIfSmNotificationObjectsEntry 4 }

```

```

wranIfSmNotificationOccupiedChannelSet    OBJECT-TYPE
SYNTAX      STRING
            (SIZE(wranIfSmNotificationSizeOccupiedChannelSet))
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The current/new contents of the WRAN Occupied
    Channel Set (only pertinent when
    wranIfSmOccupiedChannelSetChangeTrap is enabled)."
 ::= { wranIfSmNotificationObjectsEntry 5 }

```

```

wranIfSmNotificationSizeBackupChannelSet  OBJECT-TYPE
SYNTAX      INTEGER (0..255)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Size of the current/new Neighbor WRAN Backup Channel
    Set (only pertinent when
    wranIfSmNghbrBackupChannelSetChangeTrap is
    enabled)."
 ::= { wranIfSmNotificationObjectsEntry 6 }

```

```

wranIfSmNotificationBackupChannelSet      OBJECT-TYPE
SYNTAX      OCTET STRING
            (SIZE(wranIfSmNotificationSizeBackupChannelSet))
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "The current/new contents of the Neighbor WRAN Backup
    Channel Set (only pertinent when
    wranIfSmNghbrBackupChannelSetChangeTrap is
    enabled)."
 ::= { wranIfSmNotificationObjectsEntry 7 }

```

```

wranIfSmNotificationSizeLocalPrioritySet1 OBJECT-TYPE
SYNTAX      INTEGER (0..255)
MAX-ACCESS  read-only
STATUS      current
DESCRIPTION
    "Size of the current/new Local Priority Set 1 (only
    pertinent when wranIfSmLocalPrioritySet1ChangeTrap
    is enabled)."
 ::= { wranIfSmNotificationObjectsEntry 8 }

```

```

wranIfSmNotificationLocalPrioritySet1     OBJECT-TYPE
SYNTAX      OCTET STRING
            (SIZE(wranIfSmNotificationSizeLocalPrioritySet1))
MAX-ACCESS  read-only
STATUS      current

```


DESCRIPTION

"The current/new contents of the Local Priority Set 1
(only pertinent when
wranIfSmLocalPrioritySet1ChangeTrap is enabled)."
 ::= { wranIfSmNotificationObjectsEntry 9 }

wranIfSmNotificationSizeLocalPrioritySet2 OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Size of the current/new Local Priority Set 2 (only
pertinent when wranIfSmLocalPrioritySet2ChangeTrap
is enabled)."
 ::= { wranIfSmNotificationObjectsEntry 10 }

wranIfSmNotificationLocalPrioritySet2 OBJECT-TYPE

SYNTAX

OCTET STRING

(SIZE(wranIfSmNotificationSizeLocalPrioritySet2))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The current/new contents of the Local Priority Set 2
(only pertinent when
wranIfSmLocalPrioritySet2ChangeTrap is enabled)."
 ::= { wranIfSmNotificationObjectsEntry 11 }

wranIfSmNotificationSizeLocalPrioritySet3 OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Size of the current/new Local Priority Set 3 (only
pertinent when wranIfSmLocalPrioritySet3ChangeTrap
is enabled)."
 ::= { wranIfSmNotificationObjectsEntry 12 }

wranIfSmNotificationLocalPrioritySet3 OBJECT-TYPE

SYNTAX

OCTET STRING

(SIZE(wranIfSmNotificationSizeLocalPrioritySet3))

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The current/new contents of the Local Priority Set 3
(only pertinent when
wranIfSmLocalPrioritySet3ChangeTrap is enabled)."
 ::= { wranIfSmNotificationObjectsEntry 13 }

wranIfSmNotificationRecentAction OBJECT-TYPE

SYNTAX INTEGER (0..6)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Value of wranIfSmRecentAction that triggered

transition to current state of SM (only pertinent when wranIfSmCurrentStatusChangeTrap is enabled)."
 ::= { wranIfSmNotificationObjectsEntry 14 }

wranIfSmPendingBlmReqStatus OBJECT-TYPE
 SYNTAX INTEGER { blmRspUnicastReceived(0),
 blmRspMulticastReceived(1) }
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Indicates BLM-RSP pertaining to bulk measurement transaction (defined by wranIfSmNotificationBlmTransactionId) was received from wranIfSmNotificationSid, if wranIfSmNotificationSid is a unicast SID, or if all BLM-RSP received from members of multicast group identified by wranIfSmNotificationSid."
 ::= { wranIfSmNotificationObjectsEntry 15 }

wranIfSmBlmRepStatus OBJECT-TYPE
 SYNTAX INTEGER { blmRepAcknowledged(0),
 blmRepUnAcknowledged(1) }
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Indicates whether BLM-ACK has been sent, pertaining to BLM-REP received in bulk measurement transaction defined by wranIfSmNotificationBlmTransactionId."
 ::= { wranIfSmNotificationObjectsEntry 16 }

wranIfSmOccupiedChannelSetStatus OBJECT-TYPE
 SYNTAX INTEGER { channelsAdded(0),
 channelsRemoved(1) }
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Indication of whether channels have been added or removed when the WRAN Occupied Channel Set is modified."
 ::= { wranIfSmNotificationObjectsEntry 17 }

wranIfSmNghbrBackupChannelSetStatus OBJECT-TYPE
 SYNTAX INTEGER { channelsAdded(0),
 channelsRemoved(1) }
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Indication of whether channels have been added or removed when the Neighbor WRAN Backup Channel Set is modified."
 ::= { wranIfSmNotificationObjectsEntry 18 }

wranIfSmLocalPrioritySet1Status OBJECT-TYPE
 SYNTAX INTEGER { channelsAdded(0),
 channelsRemoved(1) }

MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Indication of whether channels have been
added or removed when the Local Priority Set 1 is
modified."
 ::= { wranIfSmNotificationObjectsEntry 19 }

wranIfSmLocalPrioritySet2Status OBJECT-TYPE
SYNTAX INTEGER { channelsAdded(0),
channelsRemoved(1) }
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Indication of whether channels have been
added or removed when the Local Priority Set 2 is
modified."
 ::= { wranIfSmNotificationObjectsEntry 20 }

wranIfSmLocalPrioritySet3Status OBJECT-TYPE
SYNTAX INTEGER { channelsAdded(0),
channelsRemoved(1) }
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Indication of whether channels have been
added or removed when the Local Priority Set 3 is
modified."
 ::= { wranIfSmNotificationObjectsEntry 21 }

wranIfSmCurrentStateStatus OBJECT-TYPE
SYNTAX BITS { initiateChannelMoveSet(0),
coexistenceModeSet(1),
currentOperatingChannelChange(2),
signalDetectionClassificationSuccess(3),
expirationT47(4),
expirationT46(5) }
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Bitmap indicating current value of
Initiate_Channel_Move has bit set (bit 0); whether
Self_Coexistence_Mode flag is set (bit 1);
whether the operating channel assignment has
changed (bit 2); whether recently detected signal
was properly classified, e.g., signal type ==
undetermined (bit 3); whether T47
has expired (bit 4); whether T46 has expired
(bit 5). Setting the bit to 0 makes the condition
false, setting the bit to 1 makes the condition
true."
 ::= { wranIfSmNotificationObjectsEntry 22 }

wranIfSmRegTrackingStatus OBJECT-TYPE
SYNTAX INTEGER { locationChanged(0),
locationNotChanged(1) }

IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands
Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

```

MAX-ACCESS    read-only
STATUS        current
DESCRIPTION
    "Indication of whether CPE location,
    pertaining to CPE SID identified by
    wranIfSmNotificationSid, has changed."
 ::= { wranIfSmNotificationObjectsEntry 23 }

```

```

-- wranIfSmMibGroups: this object helps define which MIB groups are
-- available within this module and which MIB objects are a part of
-- each group

```

```

wranIfSmMibGroups          OBJECT IDENTIFIER
                           ::= { wranIfSmMib 11 }
wranIfSmConfigGroup        OBJECT IDENTIFIER
                           ::= { wranIfSmMibGroups 1 }
wranIfSmPendingBlmReqGroup OBJECT IDENTIFIER
                           ::= { wranIfSmMibGroups 2 }
wranIfSmBlmRepGroup        OBJECT IDENTIFIER
                           ::= { wranIfSmMibGroups 3 }
wranIfSmChClassificationGroup OBJECT IDENTIFIER
                           ::= { wranIfSmMibGroups 4 }
wranIfSmChannelSetGroup    OBJECT IDENTIFIER
                           ::= { wranIfSmMibGroups 5 }
wranIfSmCurrentStatusGroup OBJECT IDENTIFIER
                           ::= { wranIfSmMibGroups 6 }
wranIfSmRegTrackingGroup   OBJECT IDENTIFIER
                           ::= { wranIfSmMibGroups 7 }
wranIfSmTrapControlGroup   OBJECT IDENTIFIER
                           ::= { wranIfSmMibGroups 8 }
wranIfSmNotificationsGroup OBJECT IDENTIFIER
                           ::= { wranIfSmMibGroups 9 }

```

```

wranIfSmConfigGroup        OBJECT-GROUP
OBJECTS { wranIfSmConfigIndex, wranIfSmT31,
          wranIfSmChAvailabilityCheckTime,
          wranIfSmNonOccupancyPeriod,
          wranIfSmChannelDetectionTime,
          wranIfSmChannelSetupTime,
          wranIfSmChannelOpeningTxTime,
          wranIfSmChannelMoveTime,
          wranIfSmChannelClosingTxTime,
          wranIfSmMicProtectionRadius,
          wranIfSmT41, wranIfSmT42,
          wranIfSmT43, wranIfSmT44,
          wranIfSmT45, wranIfSmT46, wranIfSmT59,
          wranIfSmT47, wranIfSmT48,
          wranIfSmT49, wranIfSmT50,
          wranIfSmT51, wranIfSmT53,
          wranIfSmT54, wranIfSmT55,
          wranIfSmT60 }
STATUS        current
DESCRIPTION
    "This group contains objects related to
    configuration of the Spectrum Manager."
 ::= { wranIfSmMibGroups 1 }

```

```

wranIfSmPendingBlmReqGroup          OBJECT-GROUP
OBJECTS      { wranIfSmPendingBlmReqIndex,
                wranIfSmPendingBlmReqTransactionId,
                wranIfSmPendingBlmReqMsgSize,
                wranIfSmPendingBlmReqMsg,
                wranIfSmPendingBlmRspReceived,
                wranIfSmPendingBlmRspMulticastReceived,
                wranIfSmPendingBlmRepTimeout,
                wranIfSmPendingBlmRepReceived,
                wranIfSmPendingBlmRepMulticastReceived,
                wranIfSmPendingBlmRepAck }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    tracking pending BLM-REQs."
 ::= { wranIfSmMibGroups 2 }

wranIfSmBlmRepGroup                  OBJECT-GROUP
OBJECTS      { wranIfSmBlmRepIndex, wranIfSmBlmRepSid,
                wranIfSmBlmRepTransactionId,
                wranIfSmBlmRepMsgSize,
                wranIfSmPendingBlmRspReceived,
                wranIfSmBlmRepMsg }
STATUS      current
DESCRIPTION
    "This group contains objects related to
    tracking received BLM-REPs."
 ::= { wranIfSmMibGroups 3 }

wranIfSmChClassificationGroup        OBJECT-GROUP
OBJECTS      { wranIfSmChClassificationStatusIndex,
                wranIfSmManagedChannel,
                wranIfSmManagedChannelStatus,
                wranIfSmManagedChannelRecentEvent }
STATUS      current
DESCRIPTION
    "This group contains objects used to track how
    channels the SM is managing have been
    classified."
 ::= { wranIfSmMibGroups 4 }

wranIfSmChannelSetGroup              OBJECT-GROUP
OBJECTS      { wranIfSmChannelSetIndex,
                wranIfSmSizeWranOccupiedChannelSet,
                wranIfSmWranOccupiedChannelSet,
                wranIfSmSizeNghbrWranBackupChannelSet,
                wranIfSmNghbrWranBackupChannelSet,
                wranIfSmSizeLocalPrioritySet1,
                wranIfSmLocalPrioritySet1,
                wranIfSmSizeLocalPrioritySet2,
                wranIfSmLocalPrioritySet2,
                wranIfSmSizeLocalPrioritySet3,
                wranIfSmLocalPrioritySet3 }
STATUS      current
DESCRIPTION

```

"This group contains objects used to track the various channel sets with which the SM operates."
 ::= { wranIfSmMibGroups 5 }

wranIfSmCurrentStatusGroup OBJECT-GROUP
 OBJECTS { wranIfSmCurrentStatusIndex,
 wranIfSmCurrentState, wranIfSmRecentEvent,
 wranIfSmRecentAction,
 wranIfSmInitiateChannelMove,
 wranIfSmSelfCoexistenceMode,
 wranIfSmCurrentOperatingChannel,
 wranIfSmRecentSignalType, wranIfSmCurrentT147,
 wranIfSmCurrentT46 }
 STATUS current
 DESCRIPTION
 "This group contains objects used to track the current state of the SM."
 ::= { wranIfSmMibGroups 6 }

wranIfSmRegTrackingGroup OBJECT-GROUP
 OBJECTS { wranIfSmRegTrackingIndex,
 wranIfSmRegTrackingCpeSid,
 wranIfSmRegTrackingCurrentT30,
 wranIfSmRegTrackingLocStringSize,
 wranIfSmRegTrackingLocString }
 STATUS current
 DESCRIPTION
 "This group contains objects the SM uses to keep track of the location of registered CPEs."
 ::= { wranIfSmMibGroups 7 }

wranIfSmTrapControlGroup OBJECT-GROUP
 OBJECTS { wranIfSmTrapControl }
 STATUS current
 DESCRIPTION
 "This group contains objects related to enabling/disabling traps related to SM operation."
 ::= { wranIfSmMibGroups 8 }

wranIfSmNotificationsGroup OBJECT-GROUP
 OBJECTS { wranIfSmBlmReqChangeTrap,
 wranIfSmBlmRepChangeTrap,
 wranIfSmOccupiedChannelSetChangeTrap,
 wranIfSmNghbrBackupChannelSetChangeTrap,
 wranIfSmLocalPrioritySet1ChangeTrap,
 wranIfSmLocalPrioritySet2ChangeTrap,
 wranIfSmLocalPrioritySet3ChangeTrap,
 wranIfSmCurrentStatusChangeTrap,
 wranIfSmRegTrackingChangeTrap,
 wranIfSmNotificationSid,
 wranIfSmNotificationBlmTransactionId,
 wranIfSmNotificationSizeOccupiedChannelSet,
 wranIfSmNotificationOccupiedChannelSet,
 wranIfSmNotificationSizeBackupChannelSet,

```

        wranIfSmNotificationBackupChannelSet,
        wranIfSmNotificationSizeLocalPrioritySet1,
        wranIfSmNotificationLocalPrioritySet1,
        wranIfSmNotificationSizeLocalPrioritySet2,
        wranIfSmNotificationLocalPrioritySet2,
        wranIfSmNotificationSizeLocalPrioritySet3,
        wranIfSmNotificationLocalPrioritySet3,
        wranIfSmNotificationRecentAction,
        wranIfSmPendingBlmReqStatus,
        wranIfSmBlmRepStatus,
        wranIfSmOccupiedChannelSetStatus,
        wranIfSmNghbrBackupChannelSetStatus,
        wranIfSmLocalPrioritySet1Status,
        wranIfSmLocalPrioritySet2Status,
        wranIfSmLocalPrioritySet3Status,
        wranIfSmCurentStateStatus }
STATUS      current
DESCRIPTION
    "This group contains notification objects
    related to traps configured for the SM."
 ::= { wranIfSmMibGroups 9 }

wranIfSmMibCompliance  MODULE-COMPLIANCE
STATUS      current
DESCRIPTION
    "MIB objects that are optional and mandatory for SM
    compliance."
MODULE      wranIfSmMib
MANDATORY-GROUPS { wranIfSmConfigGroup, ,
                    wranIfSmChClassificationGroup,
                    wranIfSmChannelSetGroup,
                    wranIfSmCurrentStatusGroup,
                    wranIfSmRegTrackingGroup,
                    wranIfSmTrapControlGroup }
-- OPTIONAL-GROUPS { wranIfSmPendingBlmReqGroup,
                    wranIfSmBlmRepGroup,
                    wranIfSmNotificationsGroup }
 ::= { wranIfSmMib 12 }

END

```


13.2.6 wranIfSsaMib

IEEE802dot22-WRAN-IF-SSA-MIB ::= BEGIN

IMPORTS

MODULE-IDENTITY,
 OBJECT-TYPE,
 NOTIFICATION-TYPE,
 Unsigned32, Integer32, Counter32,
 Counter64
 FROM SNMPv2-SMI
 SnmpAdminString
 FROM SNMP-FRAMEWORK-MIB
 TEXTUAL-CONVENTION,
 MacAddress, RowStatus, TruthValue,
 TimeStamp, DateAndTime
 FROM SNMPv2-TC
 InetAddressType, InetAddress
 FROM INET-ADDRESS-MIB
 OBJECT-GROUP,
 MODULE-COMPLIANCE,
 NOTIFICATION-GROUP
 FROM SNMPV2-CONF

wranIfSsaMib

MODULE-IDENTITY

LAST-UPDATED "201405300000Z" -- May 30, 2014
 ORGANIZATION "IEEE 802.22"
 CONTACT-INFO
 "WG E-mail: STDS-802-22@LISTSERV.IEEE.ORG
 WG Chair: Apurva N. Mody
 E-mail: apurva.mody@ieee.org

TGa Chair/Editor: Ranga Reddy
 E-mail: ranga.reddy@ieee.org

DESCRIPTION

"This material is from IEEE Std 802.22a-2014
 Copyright (c) 2014. This MIB Module object is
 related to configuration, operation and monitoring
 of the Spectrum Sensing Automaton (SSA). Objects in
 this module are based on IEEE Std 802.22-2011 and is
 under iso(1).std(0).iso8802(8802).wran(22)
 .wranIfSsaMib(6)"

REVISION "201405300000Z"

DESCRIPTION

"The first version of IEEE802dot22-WRAN-IF-SSA-MIB."
 ::= {iso std(0) iso8802(8802) wran(22) 6}

wranIfSsaSensingCapTable	OBJECT IDENTIFIER ::= { wranIfSsaMib 1 }
wranIfSsaStatusTable	OBJECT IDENTIFIER ::= { wranIfSsaMib 2 }
wranIfSsaConfigTable	OBJECT IDENTIFIER ::= { wranIfSsaMib 3 }
wranIfSsaPendingBlmRepTable	OBJECT IDENTIFIER ::= { wranIfSsaMib 4 }
wranIfSsaSensingRecordTable	OBJECT IDENTIFIER

```

wranIfSsaSsfMode0OutputTable ::= { wranIfSsaMib 5 }
                                OBJECT IDENTIFIER
wranIfSsaSsfMode1OutputTable ::= { wranIfSsaMib 6 }
                                OBJECT IDENTIFIER
wranIfSsaSsfMode2OutputTable ::= { wranIfSsaMib 7 }
                                OBJECT IDENTIFIER
wranIfSsaSsfWiMicMSFTable    ::= { wranIfSsaMib 8 }
                                OBJECT IDENTIFIER
wranIfSsaGeolocationTable    ::= { wranIfSsaMib 9 }
                                OBJECT IDENTIFIER
wranIfSsaTrapControl         ::= { wranIfSsaMib 10 }
                                OBJECT IDENTIFIER
wranIfSsaTrapDefinition      ::= { wranIfSsaMib 11 }
                                OBJECT IDENTIFIER
wranIfSsaNotificationObjectsTable ::= { wranIfSsaMib 12 }
                                OBJECT IDENTIFIER
wranIfSsaMibGroups           ::= { wranIfSsaMib 13 }
                                OBJECT IDENTIFIER
wranIfSsaMibCompliance       ::= { wranIfSsaMib 14 }
                                OBJECT IDENTIFIER
                                ::= { wranIfSsaMib 15 }

wranIfSsaSensingCapTable    OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfSsaSensingCapEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This MIB object represents a table that stores the
        current sensing capabilities for a SSA under control
        of the SM. There is one entry in this table for a
        SSA, defined by wranIfSsaSensingCapEntry. This MIB
        is stored at the BS and CPE. These values are also
        stored in wranIfBsCpeRegCapabilityRspTable (see
        13.1.2.2.7) at the BS, in an entry specific to a
        particular CPE."
    ::= { wranIfSsaMib 1 }

wranIfSsaSensingCapEntry    OBJECT-TYPE
    SYNTAX      wranIfSsaSensingCapEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object defines an entry in
        wranIfSsaSensingCapTable. The entry is identified by
        wranIfSsaSensingCapIndex."
    INDEX { wranIfSsaSensingCapIndex }
    ::= { wranIfSsaSensingCapTable 1 }

wranIfSsaSensingCapEntry    ::= SEQUENCE {
    wranIfSsaSensingCapIndex    INTEGER,
    wranIfSsaSensingThreshold  INTEGER,
    wranIfSsaSensRecContigPeriodDuration Integer32,
    wranIfSsaSensRecNumPeriods  INTEGER,
    wranIfSsaSensRecPeriodInterval Integer32 }

wranIfSsaSensingCapIndex    OBJECT-TYPE

```

SYNTAX INTEGER (1..1)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Index of entry in the table, defaults to 1."
 ::= { wranIfSsaSensingCapEntry 1 }

wranIfSsaSensingThreshold OBJECT-TYPE
SYNTAX INTEGER (1..255)
UNITS "dBm"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"This object is the recommended sensing threshold that the CPE is capable of supporting. It is in units of dBm, encoded in a single, integer byte value that is assumed to be negative (e.g., 0x01 = -1 dBm, 0x72 = -114 dBm)."
 ::= { wranIfSsaSensingCapEntry 2 }

wranIfSsaSensRecContigPeriodDuration OBJECT-TYPE
SYNTAX Integer32 (0..1023)
UNITS "symbols"
MAX-ACCESS read- write
STATUS current
DESCRIPTION
"This object is the recommended contiguous sensing period duration that the CPE is capable of supporting. It is in integer, in units of symbols. This value ranges from 0 to 1023 and is encoded in a 2-octet length value."
 ::= { wranIfSsaSensingCapEntry 3 }

wranIfSsaSensRecNumPeriods OBJECT-TYPE
SYNTAX INTEGER (1..255)
MAX-ACCESS read- write
STATUS current
DESCRIPTION
"This object is the recommended number of sensing periods that a CPE can support. It is an integer value, encoded in 1-octet length value."
 ::= { wranIfSsaSensingCapEntry 4 }

wranIfSsaSensRecPeriodInterval OBJECT-TYPE
SYNTAX Integer32 (0..2047)
UNITS "frames"
MAX-ACCESS read- write
STATUS current
DESCRIPTION
"This object is the recommended interval between sensing periods that a CPE can support. It is an integer value, in units of frames. It is encoded in a 2-octet length value."
 ::= { wranIfSsaSensingCapEntry 5 }

wranIfSsaStatusTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfSsaStatusEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This MIB object represents a table that tracks what the current state the SSA is in. There is only one entry in this table, to define the current state of the SSA, as well as any parameters of interest for current SSA procedures. This entry is defined by wranIfSsaStatusEntry."

::= { wranIfSsaMib 2 }

wranIfSsaStatusEntry OBJECT-TYPE
 SYNTAX wranIfSsaStatusEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This object defines an entry in wranIfSsaStatusTable. The entry is identified by wranIfSsaStatusIndex."

INDEX { wranIfSsaStatusIndex }
 ::= { wranIfSsaStatusTable 1 }

wranIfSsaStatusEntry ::= SEQUENCE {
 wranIfSsaStatusIndex INTEGER,
 wranIfSsaCurrentState INTEGER,
 wranIfSsaRecentEvent INTEGER,
 wranIfSsaRecentAction INTEGER,
 wranIfSsaIpcUpdChannelSize INTEGER,
 wranIfSsaIpcUpdChannels OCTET STRING,
 wranIfSsaCurrentT48 Integer32,
 wranIfSsaCurrentT49 Integer32,
 wranIfSsaCurrentT50 Integer32,
 wranIfSsaIntraFrameQpCycleLength INTEGER,
 wranIfSsaIntraFrameQpCycleOffset INTEGER,
 wranIfSsaIntraFrameQpCycleFrameBitmap BITS,
 wranIfSsaIntraFrameQpDuration INTEGER,
 wranIfSsaInterFrameQpDuration INTEGER,
 wranIfSsaInterFrameQpOffset Integer32 }

wranIfSsaStatusIndex OBJECT-TYPE
 SYNTAX INTEGER (1..1)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Index of entry in the table, defaults to 1."

::= { wranIfSsaStatusEntry 1 }

wranIfSsaCurrentState OBJECT-TYPE
 SYNTAX INTEGER { inBandSensing(0),
 outOfBandSensing(1) }
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"The current state of the SSA is in (see 10.3.1, Figure 173), either "SSA In-band Sensing" or "SSA

Out-of-band Sensing."
 ::= { wranIfSsaStatusEntry 2 }

wranIfSsaRecentEvent OBJECT-TYPE

SYNTAX

INTEGER { blmReqInBandChannelMeasurements(0),
 quietPeriodEnds(1),
 quietPeriodCommences(2),
 ssaIdleTime(3),
 ssaInitialization(4),
 blmReqOutOfBandChannelMeasurements(5),
 lossOfContactWithSm(6) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The recent event that caused entry in the current
 state (see 10.3.1, Figure 173). "

::= { wranIfSsaStatusEntry 3 }

wranIfSsaRecentAction OBJECT-TYPE

SYNTAX

INTEGER { ssaBlmRepGeneration(0),
 ssaReportSensingResults(1),
 ssaInBandSensing(2),
 ssaIdleTime(3),
 ssaInitialization(4),
 lossOfContactWithSm(5) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The recent action, triggered by recent event, that
 was undertaken while entering into the current state
 (see 10.3.1, Figure 173)."

::= { wranIfSsaStatusEntry 4 }

wranIfSsaIpcUpdChannelsSize OBJECT-TYPE

SYNTAX INTEGER (1..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Number of channels in
 wranIfSsaIpcUpdChannels."

::= { wranIfSsaStatusEntry 5 }

wranIfSsaIpcUpdChannels OBJECT-TYPE

SYNTAX

OCTET STRING
 (SIZE(wranIfSsaIpcUpdChannelsSize))

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Contents of most recent IPC-UPD message received
 from SM."

::= { wranIfSsaStatusEntry 6 }

wranIfSsaCurrentT48 OBJECT-TYPE

SYNTAX Integer32 (1..600)

UNITS "seconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Current value of T48 in in 0.1 s increments from 0 to 60 s."
 ::= { wranIfSsaStatusEntry 7 }

wranIfSsaCurrentT49 OBJECT-TYPE
SYNTAX Integer32 (1..600)
UNITS "seconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Current value of T49 in in 0.1 s increments from 0 to 60 s."
 ::= { wranIfSsaStatusEntry 8 }

wranIfSsaCurrentT50 OBJECT-TYPE
SYNTAX Integer32 (1..600)
UNITS "seconds"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Current value of T50 in in 0.1 s increments from 0 to 60 s."
 ::= { wranIfSsaStatusEntry 9 }

wranIfSsaIntraFrameQpCycleLength OBJECT-TYPE
SYNTAX INTEGER (0..255)
UNITS "superframes"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Obtained from CHQ-REQ or SCH. Specified in number of superframes, it indicates the spacing between the superframes for which the intra-frame quiet period specification is valid. For example, if this field is set 1, the Quiet Period Cycle repeats every superframe; if it is set to 2, the Quiet Period Cycle repeats every 2 superframes, etc. When = 0, no intra-frame quiet period is scheduled or the current intra-frame quiet period is canceled."
 ::= { wranIfSsaStatusEntry 10 }

wranIfSsaIntraFrameQpCycleOffset OBJECT-TYPE
SYNTAX INTEGER (1..255)
UNITS "superframes"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Obtained from CHQ-REQ or SCH. Valid only if intra-frame Sensing Cycle Length > 0. Used for in-band intra-frame sensing. Specified in number of superframes, it indicates the offset from this SCH transmission to the beginning of the first

superframe in the current intra-frame sensing cycle."

::= { wranIfSsaStatusEntry 11 }

wranIfSsaIntraFrameQpCycleFrameBitmap OBJECT-TYPE

SYNTAX BITS { frame1(1), frame2(2), frame3(3),
frame4(4), frame5(5), frame6(6),
frame7(7), frame8(8), frame9(9),
frame10(10), frame11(11), frame12(12),
frame13(13), frame14(14), frame15(15),
frame16(16) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Obtained from CHQ-REQ or SCH. Valid only if Intra-frame Quiet Period Cycle Length > 0. Valid for each superframe identified by the Intra-frame Quiet Period Cycle Length, each bit in the bitmap corresponds to one frame within the superframe. If the bit is set to 0, no intra-frame quiet period shall be scheduled in the corresponding frame. If the bit is set to 1, an intra-frame quiet period shall be scheduled within the corresponding frame for the duration specified by Intra-frame Quiet period Duration."

::= { wranIfSsaStatusEntry 12 }

wranIfSsaIntraFrameQpDuration OBJECT-TYPE

SYNTAX INTEGER (1..16)

UNITS "symbols"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Obtained from CHQ-REQ or SCH. Valid only if Intra-frame Quiet Period Cycle Length > 0. If this field is set to a value different from 0 (zero): it indicates the number of symbols starting from the end of the frame during which no transmission shall take place."

::= { wranIfSsaStatusEntry 13 }

wranIfSsaInterFrameQpDuration OBJECT-TYPE

SYNTAX INTEGER (1..16)

UNITS "frames"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Obtained from CHQ-REQ or SCH. Used for in-band inter-frame sensing, it indicates the duration of the next scheduled quiet period. When > 0, it indicates the number of frames starting from Inter-frame Quiet Period Offset that shall be used to perform inter-frame sensing. When == 0, it cancels the next scheduled quiet period for inter-frame sensing or indicates that no inter-frame sensing are currently scheduled."


```
::= { wranIfSsaStatusEntry 14 }
```

```
wranIfSsaInterFrameQpOffset OBJECT-TYPE
```

```
SYNTAX Integer32 (0..4096)
```

```
UNITS "frames"
```

```
MAX-ACCESS read-write
```

```
STATUS current
```

```
DESCRIPTION
```

"Obtained from CHQ-REQ or SCH. Used for in-band inter-frame sensing, it indicates the time span between the transmission of this information and the next scheduled quiet period for inter-frame sensing. Bit 31-12: set to 0. Bit 11-4: index the superframe number, Bit 3-0: index the frame number when the next scheduled quiet period for inter-frame sensing will start."

```
::= { wranIfSsaStatusEntry 15 }
```

```
wranIfSsaConfigTable OBJECT-TYPE
```

```
SYNTAX SEQUENCE OF wranIfSsaConfigEntry
```

```
MAX-ACCESS not-accessible
```

```
STATUS current
```

```
DESCRIPTION
```

"This MIB object represents a table that tracks what the default configuration of SSA timers and constants. There is only one entry in this table, to define the default configuration of the SSA. This entry is defined by wranIfSsaConfigEntry."

```
::= { wranIfSsaMib 3 }
```

```
wranIfSsaConfigEntry OBJECT-TYPE
```

```
SYNTAX wranIfSsaConfigEntry
```

```
MAX-ACCESS not-accessible
```

```
STATUS current
```

```
DESCRIPTION
```

"This object defines an entry in wranIfSsaConfigTable. The entry is identified by wranIfSsaConfigIndex."

```
INDEX { wranIfSsaConfigIndex }
```

```
::= { wranIfSsaConfigTable 1 }
```

```
wranIfSsaConfigEntry ::= SEQUENCE {
```

```
wranIfSsaConfigIndex
```

```
INTEGER,
```

```
wranIfSsaT19
```

```
Integer32,
```

```
wranIfSsaT29
```

```
Integer32,
```

```
wranIfSsaMaxBlmRepRetries
```

```
INTEGER,
```

```
wranIfSsaChAvailabilityCheckTime
```

```
INTEGER,
```

```
wranIfSsaNonOccupancyPeriod
```

```
Integer32,
```

```
wranIfSsaChannelDetectionTime
```

```
INTEGER,
```

```
wranIfSsaChannelSetupTime
```

```
INTEGER,
```

```
wranIfSsaChannelOpeningTxTime
```

```
Integer32,
```

```
wranIfSsaChannelMoveTime
```

```
INTEGER,
```

```
wranIfSsaChannelClosingTxTime
```

```
INTEGER,
```

```
wranIfSsaMicProtectionRadius
```

```
Integer32,
```

```
wranIfSsaT41
```

```
INTEGER,
```

```
wranIfSsaT42
```

```
INTEGER,
```

wranIfSsaT43	INTEGER,
wranIfSsaT44	INTEGER,
wranIfSsaT45	Integer32,
wranIfSsaT59	Integer32,
wranIfSsaT47	Integer32,
wranIfSsaT48	Integer32,
wranIfSsaT49	Integer32,
wranIfSsaT50	Integer32,
wranIfSsaT51	Integer32,
wranIfSsaT53	Integer32,
wranIfSsaT54	Integer32,
wranIfSsaT55	INTEGER,
wranIfSsaT60	INTEGER }

wranIfSsaConfigIndex OBJECT-TYPE
 SYNTAX INTEGER (1..1)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index of entry in the table, defaults to 1."
 ::= { wranIfSsaConfigEntry 1 }

wranIfSsaT19 OBJECT-TYPE
 SYNTAX Integer32 (30..86400)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Time DS-channel remains unusable."
 ::= { wranIfSsaConfigEntry 2 }

wranIfSsaT29 OBJECT-TYPE
 SYNTAX Integer32 (10..300)
 UNITS "milliseconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Wait for BLM-ACK timeout."
 ::= { wranIfSsaConfigEntry 3 }

wranIfSsaMaxBlmRepRetries OBJECT-TYPE
 SYNTAX INTEGER (3..16)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Maximum number of retry attempts allowed for sending
 BLM-REP."
 ::= { wranIfSsaConfigEntry 4 }

wranIfSsaChAvailabilityCheckTime OBJECT-TYPE
 SYNTAX INTEGER (30..255)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Time during which a TV channel shall be checked for

the presence of licensed incumbent signals having a level above the incumbent detection threshold prior to commencement of WRAN operation in the channel and, in the case of TV, a related channel at an EIRP level that can affect the measured TV channel."

```
::= { wranIfSsaConfigEntry 5 }
```

```
wranIfSsaNonOccupancyPeriod OBJECT-TYPE
```

```
SYNTAX      INTEGER (10..1440)
```

```
UNITS        "minutes"
```

```
MAX-ACCESS   read-write
```

```
STATUS        current
```

```
DESCRIPTION
```

"The required period during which WRAN device transmissions SHALL NOT occur in a given TV channel because of the detected presence of an incumbent signal in that channel above the Incumbent detection threshold or, in the case of TV, above a given EIRP level."

```
::= { wranIfSsaConfigEntry 6 }
```

```
wranIfSsaChannelDetectionTime OBJECT-TYPE
```

```
SYNTAX      INTEGER (2..255)
```

```
UNITS        "seconds"
```

```
MAX-ACCESS   read-write
```

```
STATUS        current
```

```
DESCRIPTION
```

"Maximum time taken by a WRAN device to detect a licensed incumbent signal above the Incumbent Detection Threshold within a given TV channel during normal WRAN operation."

```
::= { wranIfSsaConfigEntry 7 }
```

```
wranIfSsaChannelSetupTime OBJECT-TYPE
```

```
SYNTAX      INTEGER (2..255)
```

```
UNITS        "seconds"
```

```
MAX-ACCESS   read-write
```

```
STATUS        current
```

```
DESCRIPTION
```

"The window of time that may be taken by a WRAN CPE to transmit control information to a WRAN base station in order to establish operation with that base station at the prescribed power or, in the case of TV, at or below the allowable EIRP within a given TV channel."

```
::= { wranIfSsaConfigEntry 8 }
```

```
wranIfSsaChannelOpeningTxTime OBJECT-TYPE
```

```
SYNTAX      Integer32 (100..1000)
```

```
UNITS        "milliseconds"
```

```
MAX-ACCESS   read-write
```

```
STATUS        current
```

```
DESCRIPTION
```

"The aggregate duration of control transmissions by WRAN devices during the Channel Setup Time, which starts at the end of the Channel Availability Check

Time."
 ::= { wranIfSsaConfigEntry 9 }

wranIfSsaChannelMoveTime OBJECT-TYPE
 SYNTAX INTEGER (2..255)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "The time taken by WRAN system to cease all
 interfering transmissions on the current TV channel
 upon detection of a license incumbent signal above
 the relevant Incumbent Detection Threshold or, in
 the case of TV, to alternatively reduces its EIRP to
 which is allowable within a given TV channel upon
 detection of a TV signal in the same or a related
 channel."
 ::= { wranIfSsaConfigEntry 10 }

wranIfSsaChannelClosingTxTime OBJECT-TYPE
 SYNTAX Integer32 (100..1000)
 UNITS "milliseconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "The aggregate duration of control transmissions by
 the WRAN devices during the Channel Move/EIRP
 Reduction Time, which starts upon detection of a
 licensed incumbent signal above the relevant
 Incumbent Detection Threshold."
 ::= { wranIfSsaConfigEntry 11 }

wranIfSsaMicProtectionRadius OBJECT-TYPE
 SYNTAX Integer32 (100..100000)
 UNITS "meters"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Radius of contour within which the WRAN system
 cannot operate due to potential interference with
 the microphone."
 ::= { wranIfSsaConfigEntry 12 }

wranIfSsaT41 OBJECT-TYPE
 SYNTAX INTEGER (1..10)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Maximum time interval allowed before sensing is
 performed on the candidate channel to ensure that no
 incumbents are detected."
 ::= { wranIfSsaConfigEntry 13 }

wranIfSsaT42 OBJECT-TYPE
 SYNTAX INTEGER (1..10)

UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"Maximum time interval allowed before sensing is performed on the backup channel to ensure that no incumbents are detected."

::= { wranIfSsaConfigEntry 14 }

wranIfSsaT43 OBJECT-TYPE
 SYNTAX INTEGER (1..100)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"Minimum time duration without detection of any incumbent for a candidate channel to transition to the backup channel."

::= { wranIfSsaConfigEntry 15 }

wranIfSsaT44 OBJECT-TYPE
 SYNTAX INTEGER (1..10)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"Maximum time to ensure that the channel move information is successfully conveyed to all the associated CPEs and BS (self-coexistence mode)."

::= { wranIfSsaConfigEntry 16 }

wranIfSsaT45 OBJECT-TYPE
 SYNTAX Integer32 (1..720)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"Maximum WRAN operation time without access to the incumbent database service from 0.1 h to 72 h in 0.1 h increments."

::= { wranIfSsaConfigEntry 17 }

wranIfSsaT59 OBJECT-TYPE
 SYNTAX Integer32 (1..4096)
 UNITS "frames"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"Waiting time before which the CPE moves to its backup channels if it no longer hears from its BS. This is used to make sure that the CPE waits long enough after UCS notification so that BS has had time to move to the backup channel, it decided to do so."

::= { wranIfSsaConfigEntry 18 }

wranIfSsaT47 OBJECT-TYPE
 SYNTAX Integer32 (1..4096)
 UNITS "hours"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "The prescribed time by the WRAN operator to refresh
 the incumbent database service, from 0.1 h to 72
 h in 0.1 h increments."
 ::= { wranIfSsaConfigEntry 19 }

wranIfSsaT48 OBJECT-TYPE
 SYNTAX Integer32 (1..600)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Lapse timer keeps track of whether the Operating
 Channel N has been cleared using spectrum sensing,
 from 0.1 s to 60 s in 0.1 s increments."
 ::= { wranIfSsaConfigEntry 20 }

wranIfSsaT49 OBJECT-TYPE
 SYNTAX Integer32 (1..600)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Lapse timer keeps track of whether the Operating
 Channel N-1 has been cleared using spectrum sensing,
 from 0.1 s to 60 s in 0.1 s increments."
 ::= { wranIfSsaConfigEntry 21 }

wranIfSsaT50 OBJECT-TYPE
 SYNTAX Integer32 (1..600)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Lapse timer keeps track of whether the Operating
 Channel N+1 has been cleared using spectrum sensing,
 from 0.1 s to 60 s in 0.1 s increments."
 ::= { wranIfSsaConfigEntry 22 }

wranIfSsaT51 OBJECT-TYPE
 SYNTAX Integer32 (1..600)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION
 "Initiated when SSA loses contact with the SM, from
 0.1 s to 60 s in 0.1 s increments."
 ::= { wranIfSsaConfigEntry 23 }

wranIfSsaT53 OBJECT-TYPE
 SYNTAX Integer32 (1..600)

UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"The parameter TINsens is used to verify that in-band sensing has been done within the required In-service monitoring period. The TINsens parameter is driven by regulatory domain requirements (Annex A), from 0.1 s to 60 s in 0.1 s increments."

::= { wranIfSsaConfigEntry 24 }

wranIfSsaT54 OBJECT-TYPE
 SYNTAX Integer32 (1..600)
 UNITS "seconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"The parameter TOUTsens is used to verify that out-of-band sensing has been done within the required "Acquiring a channel monitoring period" specified in Annex A. This value would be used to initialize a lapse timer for each channel in the backup candidate channel list at each CPE so that it compared to Tsens, from 0.1 s to 60 s in 0.1 s increments."

::= { wranIfSsaConfigEntry 25 }

wranIfSsaT55 OBJECT-TYPE
 SYNTAX INTEGER (1..160)
 UNITS "milliseconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"The T55 or Tsensin parameter corresponds to the maximum length of time required to carry out the in-band sensing process (see Figure 176). Manufacturers need to specify the sensing time required to detect the specified signals with required accuracy for in-band sensing."

::= { wranIfSsaConfigEntry 26 }

wranIfSsaT60 OBJECT-TYPE
 SYNTAX INTEGER (20..160)
 UNITS "milliseconds"
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"The T60 or Tsensout parameter corresponds to the maximum length of time required to carry out the out-of-band sensing process (see Figure 178). Manufacturers need to specify the sensing time required to detect the specified signals with required accuracy for out-of-band sensing."

::= { wranIfSsaConfigEntry 27 }

wranIfSsaPendingBlmRepTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfSsaPendingBlmRepEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This MIB object represents a table that tracks the status of the execution of ongoing reporting (BLM-REP) in response to BLM-REQs. For each BLM-REQ there is a corresponding BLM-RSP to indicate that REQ message was received by the SSA. When an SSA is done with the sensing, it will send a BLM-REP to the SM. This table keeps track of any BLM-REP messages that are pending acknowledgement from the SM. When a report sent in a response is acknowledged, then the entry corresponding to the report and request will be cleared. This entry is defined by wranIfSsaPendingBlmRepEntry."

::= { wranIfSsaMib 4 }

wranIfSsaPendingBlmRepEntry OBJECT-TYPE

SYNTAX wranIfSsaPendingBlmRepEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This object defines an entry in wranIfSsaPendingBlmRepTable. The entry is identified by wranIfSsaPendingBlmRepIndex."

INDEX { wranIfSsaPendingBlmRepIndex }
 ::= { wranIfSsaPendingBlmRepTable 1 }

wranIfSsaPendingBlmRepEntry ::= SEQUENCE {

wranIfSsaPendingBlmRepIndex	INTEGER,
wranIfSsaPendingBlmReqTransactionId	Integer32,
wranIfSsaPendingBlmReqMsgSize	Integer32,
wranIfSsaPendingBlmReqMsg	OCTET STRING,
wranIfSsaPendingBlmRspSent	TruthValue,
wranIfSsaPendingBlmRepGenerated	TruthValue,
wranIfSsaPendingBlmRepMsgSize	Integer32,
wranIfSsaPendingBlmRepMsg	OCTET STRING,
wranIfSsaPendingBlmRepSent	TruthValue,
wranIfSsaPendingBlmRepAck	TruthValue,
wranIfSsaPendingBlmRepNumTx	INTEGER }

wranIfSsaPendingBlmRepIndex OBJECT-TYPE

SYNTAX INTEGER (1..10)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Index of entry in the table."

::= { wranIfSsaPendingBlmRepEntry 1 }

wranIfSsaPendingBlmReqTransactionId OBJECT-TYPE

SYNTAX Integer32 (0..65535)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"Transaction ID for pending BLM-REQ."

```
::= { wranIfSsaPendingBlmRepEntry 2 }
```

```
wranIfSsaPendingBlmReqMsgSize OBJECT-TYPE
```

```
SYNTAX      Integer32 (1..65535)
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Size of BLM-REQ message stored in  
    wranIfSsaPendingBlmReqMsg."
```

```
::= { wranIfSsaPendingBlmRepEntry 3 }
```

```
wranIfSsaPendingBlmReqMsg      OBJECT-TYPE
```

```
SYNTAX
```

```
    OCTET STRING (SIZE(wranIfSsaPendingBlmReqMsgSize))
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Contents of pending BLM-REQ message stored in  
    wranIfSsaPendingBlmReqMsg."
```

```
::= { wranIfSsaPendingBlmRepEntry 4 }
```

```
wranIfSsaPendingBlmRspSent      OBJECT-TYPE
```

```
SYNTAX      TruthValue
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Indication of whether (Truth(1)) or not (Truth(0))  
    BLM-RSP pertaining to BLM-REQ has been sent."
```

```
::= { wranIfSsaPendingBlmRepEntry 5 }
```

```
wranIfSsaPendingBlmRepGenerated OBJECT-TYPE
```

```
SYNTAX      TruthValue
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Indication of whether (Truth(1)) or not (Truth(0))  
    BLM-REP corresponding to BLM-REQ has been generated,  
    i.e., sensing has been executed."
```

```
::= { wranIfSsaPendingBlmRepEntry 6 }
```

```
wranIfSsaPendingBlmRepMsgSize OBJECT-TYPE
```

```
SYNTAX      Integer32 (1..65535)
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Size of BLM-REP message stored in  
    wranIfSsaPendingBlmRepMsg."
```

```
::= { wranIfSsaPendingBlmRepEntry 7 }
```

```
wranIfSsaPendingBlmRepMsg      OBJECT-TYPE
```

```
SYNTAX
```

```
    OCTET STRING (SIZE(wranIfSsaPendingBlmRepMsgSize))
```

```
MAX-ACCESS  read-write
```

```
STATUS      current
```

```
DESCRIPTION
```

```
    "Contents of BLM-REP message that corresponds to the
```

```

        BLM-REQ."
 ::= { wranIfSsaPendingBlmRepEntry 8 }

wranIfSsaPendingBlmRepSent    OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Indication of whether (Truth(1)) or not (Truth(0))
        BLM-REP pertaining to BLM-REQ has been sent. "
 ::= { wranIfSsaPendingBlmRepEntry 9 }

wranIfSsaPendingBlmRepAck    OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Indication of whether (Truth(1)) or not (Truth(0))
        BLM-REP pertaining to BLM-REQ has been acknowledged
        (via BLM-ACK)."
 ::= { wranIfSsaPendingBlmRepEntry 10 }

wranIfSsaPendingBlmRepNumTx  OBJECT-TYPE
    SYNTAX      INTEGER (1..16)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Current number of times that BLM-REP has been
        resent."
 ::= { wranIfSsaPendingBlmRepEntry 11 }

wranIfSsaSensingRecordTable  OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfSsaSensingRecordEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object contains information the sensing status
        of each channel. It is made of multiple entries, one
        for each channel, as defined by
        wranIfSsaSensingRecordEntry."
 ::= { wranIfSsaMib 5 }

wranIfSsaSensingRecordEntry  OBJECT-TYPE
    SYNTAX      wranIfSsaSensingRecordEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This object defines an entry in
        wranIfSsaSensingRecordTable. The entry is identified
        by wranIfSsaSensingRecordIndex."
    INDEX { wranIfSsaSensingRecordIndex }
 ::= { wranIfSsaSensingRecordTable 1 }

wranIfSsaSensingRecordEntry ::= SEQUENCE {
    wranIfSsaSensingRecordIndex    INTEGER,
    wranIfSsaSensingChannel        INTEGER,

```

wranIfSsaTimeLastSensing	DateAndTime,
wranIfSsaTimeLastPositive	DateAndTime,
wranIfSsaSensingPathRssi	INTEGER,
wranIfSsaWranPathRssi	INTEGER,
wranIfSsaSignalType	INTEGER,
wranIfSsaWranServiceAdvertisement	MacAddress,
wranIfSsaIdcUpdIndication	TruthValue }

wranIfSsaSensingRecordIndex OBJECT-TYPE
SYNTAX INTEGER (1..255)
MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Index of entry in the table."
 ::= { wranIfSsaSensingRecordEntry 1 }

wranIfSsaSensingChannel OBJECT-TYPE
SYNTAX INTEGER (0..255)
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Channel that sensing has been conducted on, or not
conducted on if in IPC-UPD."
 ::= { wranIfSsaSensingRecordEntry 2 }

wranIfSsaTimeLastSensing OBJECT-TYPE
SYNTAX DateAndTime
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Last time that this channel was sensed."
 ::= { wranIfSsaSensingRecordEntry 3 }

wranIfSsaTimeLastPositive OBJECT-TYPE
SYNTAX DateAndTime
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"Last time that signal was positively confirmed on
this channel."
 ::= { wranIfSsaSensingRecordEntry 4 }

wranIfSsaSensingPathRssi OBJECT-TYPE
SYNTAX INTEGER (0..255)
UNITS "dBm"
MAX-ACCESS read-write
STATUS current
DESCRIPTION
"RSSI on sensing path, between -104 dBm to +23.5 dBm
in 0.5 dB steps."
 ::= { wranIfSsaSensingRecordEntry 5 }

wranIfSsaWranPathRssi OBJECT-TYPE
SYNTAX INTEGER (0..255)
UNITS "dBm"
MAX-ACCESS read-write

IEEE Std 802.22a-2014

IEEE Standard for Wireless Regional Area Networks

Part 22: Cognitive WRAN MAC and PHY Specifications: Policies and Procedures for Operation in the TV Bands
Amendment 1: Management and Control Plane Interfaces and Procedures and Enhancement to the MIB

STATUS current

DESCRIPTION

"RSSI on WRAN signal path., between -104 dBm to
+23.5 dBm in 0.5 dB steps."

::= { wranIfSsaSensingRecordEntry 6 }

wranIfSsaSignalType OBJECT-TYPE

SYNTAX INTEGER { undetermined(0),
ieee802dot22wran(1),
atsc(2),
dvbt(3),
isdbt(4),
ntsc(5),
pal(6),
secam(7),
wirelessMicrophone(8),
ieee802dot22dot1Sync(9),
ieee802dot22dot1Msf1(10),
ieee802dot22dot1Msf2(11),
ieee802dot22dot1Msf3(12) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Type of signal that was sensed on the channel."

::= { wranIfSsaSensingRecordEntry 7 }

wranIfSsaWranServiceAdvertisement OBJECT-TYPE

SYNTAX MacAddress

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"If signal type was for WRAN, this indicates the BS
ID of the captured SCH from neighbor WRAN."

::= { wranIfSsaSensingRecordEntry 8 }

wranIfSsaIdcUpdIndication OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

" Indication if channel is on IPC-UPD."

::= { wranIfSsaSensingRecordEntry 9 }

wranIfSsaSsfMode0OutputTable OBJECT-TYPE

SYNTAX SEQUENCE OF wranIfSsaSsfMode0OutputEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object contains the current output of SSF Mode
0 sensing. It is made up of multiple entries, one
for each signal type that was sensed. Each entry is
defined by wranIfSsaSsfMode0OutputEntry."

::= { wranIfSsaMib 6 }

wranIfSsaSsfMode0OutputEntry OBJECT-TYPE

SYNTAX wranIfSsaSsfMode0OutputEntry

```

MAX-ACCESS    not-accessible
STATUS        current
DESCRIPTION
    "This object defines an entry in
    wranIfSsaSsfMode00OutputTable. The entry is
    identified by wranIfSsaSsfMode00OutputIndex."
INDEX { wranIfSsaSsfMode00OutputIndex }
 ::= { wranIfSsaSsfMode00OutputTable 1 }

```

```

wanIfSsaSsfMode00OutputEntry ::= SEQUENCE {
    wranIfSsaSsfMode00OutputIndex    INTEGER,
    wranIfSsaSsfMode00SignalType     INTEGER,
    wranIfSsaSsfMode00SignalPresent  TruthValue }

```

```

wanIfSsaSsfMode00OutputIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..32)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in the table."
    ::= { wranIfSsaSsfMode00OutputEntry 1 }

```

```

wanIfSsaSsfMode0SignalType OBJECT-TYPE
    SYNTAX      INTEGER { undetermined(0),
                           ieee802dot22wrn(1),
                           atsc(2),
                           dvbt(3),
                           isdtt(4),
                           ntsc(5),
                           pal(6),
                           secam(7),
                           wirelessMicrophone(8),
                           ieee802dot22dot1Sync(9),
                           ieee802dot22dot1Msf1(10),
                           ieee802dot22dot1Msf2(11),
                           ieee802dot22dot1Msf3(12) }

    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Type of signal that was sensed."
    ::= { wranIfSsaSsfMode00OutputEntry 2 }

```

```

wanIfSsaSsfMode0SignalPresent OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Indication of whether (Truth(1)) or not (Truth(0)) a
        signal of signal type was detected."
    ::= { wranIfSsaSsfMode00OutputEntry 3 }

```

```

wanIfSsaSsfMode10OutputTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfSsaSsfMode10OutputEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION

```

"This object contains the current output of SSF Mode 1 sensing. It is made up of multiple entries, one for each signal type that was sensed. Each entry is defined by wranIfSsaSsfMode1OutputEntry."

::= { wranIfSsaMib 7 }

wranIfSsaSsfMode1OutputEntry OBJECT-TYPE

SYNTAX wranIfSsaSsfMode1OutputEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"This object defines an entry in wranIfSsaSsfMode1OutputTable. The entry is identified by wranIfSsaSsfMode1OutputIndex."

INDEX { wranIfSsaSsfMode1OutputIndex }

::= { wranIfSsaSsfMode1OutputTable 1 }

wranIfSsaSsfMode1OutputEntry ::= SEQUENCE {

wranIfSsaSsfMode1OutputIndex INTEGER,

wranIfSsaSsfMode1SignalType INTEGER,

wranIfSsaSsfMode1SignalPresent TruthValue,

wranIfSsaSsfMode1SignalConfidence INTEGER }

wranIfSsaSsfMode1OutputIndex OBJECT-TYPE

SYNTAX INTEGER (1..32)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in the table."

::= { wranIfSsaSsfMode1OutputEntry 1 }

wranIfSsaSsfMode1SignalType OBJECT-TYPE

SYNTAX INTEGER { undetermined(0),
ieee802dot22wran(1),
atsc(2),
dvbt(3),
isdtt(4),
ntsc(5),
pal(6),
secam(7),
wirelessMicrophone(8),
ieee802dot22dot1Sync(9),
ieee802dot22dot1MsF1(10),
ieee802dot22dot1MsF2(11),
ieee802dot22dot1MsF3(12) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Type of signal that was sensed."

::= { wranIfSsaSsfMode1OutputEntry 2 }

wranIfSsaSsfMode1SignalPresent OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Indication of whether (Truth(1)) or not (Truth(0)) a signal of signal type was detected."
 ::= { wranIfSsaSsfMode10OutputEntry 3 }

wranIfSsaSsfMode1SignalConfidence OBJECT-TYPE
 SYNTAX INTEGER (0..255)
 MAX-ACCESS read-write
 STATUS current
 DESCRIPTION

"Confidence level in signal present decision, where 0x00 represents no confidence and 0xFF represents total confidence (see Table 241)."
 ::= { wranIfSsaSsfMode10OutputEntry 4 }

wranIfSsaSsfMode20OutputTable OBJECT-TYPE
 SYNTAX SEQUENCE OF wranIfSsaSsfMode20OutputEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This object contains the current output of SSF Mode 2 sensing. It is made up of multiple entries, one for each signal type that was sensed. Each entry is defined by wranIfSsaSsfMode20OutputEntry."
 ::= { wranIfSsaMib 8 }

wranIfSsaSsfMode20OutputEntry OBJECT-TYPE
 SYNTAX wranIfSsaSsfMode20OutputEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"This object defines an entry in wranIfSsaSsfMode20OutputTable. The entry is identified by wranIfSsaSsfMode20OutputIndex."

INDEX { wranIfSsaSsfMode20OutputIndex }
 ::= { wranIfSsaSsfMode20OutputTable 1 }

wranIfSsaSsfMode20OutputEntry ::= SEQUENCE {
 wranIfSsaSsfMode20OutputIndex INTEGER,
 wranIfSsaSsfMode2SignalType INTEGER,
 wranIfSsaSsfMode2SignalRssiMean INTEGER,
 wranIfSsaSsfMode2SignalStdDevRssi INTEGER }

wranIfSsaSsfMode20OutputIndex OBJECT-TYPE
 SYNTAX INTEGER (1..32)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Index of entry in the table."
 ::= { wranIfSsaSsfMode20OutputEntry 1 }

wranIfSsaSsfMode2SignalType OBJECT-TYPE
 SYNTAX INTEGER { undetermined(0),
 ieee802dot22wran(1),
 atsc(2),
 dvbt(3),
 isdbt(4),

```

        ntsc(5),
        pal(6),
        secam(7),
        wirelessMicrophone(8),
        ieee802dot22dot1Sync(9),
        ieee802dot22dot1Msf1(10),
        ieee802dot22dot1Msf2(11),
        ieee802dot22dot1Msf3(12) }

MAX-ACCESS    read-write
STATUS        current
DESCRIPTION
    "Type of signal that was sensed."
 ::= { wranIfSsaSsfMode20OutputEntry 2 }

wranIfSsaSsfMode2SignalRssiMean      OBJECT-TYPE
SYNTAX          INTEGER (0..255)
MAX-ACCESS      read-write
STATUS          current
DESCRIPTION
    "Mean of RSSI signal measurements, between -104 dBm
    to +23.5 dBm in 0.5 dB steps."
 ::= { wranIfSsaSsfMode20OutputEntry 3 }

wranIfSsaSsfMode2SignalStdDevRssi    OBJECT-TYPE
SYNTAX          INTEGER (0..255)
MAX-ACCESS      read-write
STATUS          current
DESCRIPTION
    "Standard Deviation of RSSI signal measurements,
    between -104 dBm to +23.5 dBm in 0.5 dB steps."
 ::= { wranIfSsaSsfMode20OutputEntry 4 }

wranIfSsaSsfWiMicMSFTable            OBJECT-TYPE
SYNTAX          SEQUENCE OF wranIfSsaSsfWiMicMSFEntry
MAX-ACCESS      not-accessible
STATUS          current
DESCRIPTION
    "This object contains the current output payload of
    MSF1, MSF1+MSF2, or MSF1+MSF2+MSF3 of IEEE Std
    802.22.1-2010 beacon on recently sensed channels. It
    is made up of multiple entries for each channel one
    or more MSFs have been sensed on. Each entry is
    defined by wranIfSsaSsfWiMicMSFEntry."
 ::= { wranIfSsaMib 9 }

wranIfSsaSsfWiMicMSFEntry            OBJECT-TYPE
SYNTAX          wranIfSsaSsfWiMicMSFEntry
MAX-ACCESS      not-accessible
STATUS          current
DESCRIPTION
    "This object defines an entry in
    wranIfSsaSsfWiMicMSFTable. The entry is identified
    by wranIfSsaSsfWiMicMSFIndex."
INDEX { wranIfSsaSsfWiMicMSFIndex }
 ::= { wranIfSsaSsfWiMicMSFTable 1 }

```

```

wranIfSsaSsfWiMicMSFEntry ::= SEQUENCE {
    wranIfSsaSsfWiMicMSFIndex      INTEGER,
    wranIfSsaSsfWiMicMSFChannel    INTEGER,
    wranIfSsaSsfWiMicMSFPayloadSize INTEGER,
    wranIfSsaSsfWiMicMSFPayload    OCTET STRING,
    wranIfSsaSsfWiMicMSFCrc1Status TruthValue,
    wranIfSsaSsfWiMicMSFCrc2Status TruthValue,
    wranIfSsaSsfWiMicMSFCrc3Status TruthValue }

wranIfSsaSsfWiMicMSFIndex OBJECT-TYPE
    SYNTAX      INTEGER (1..255)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in the table."
    ::= { wranIfSsaSsfWiMicMSFEntry 1 }

wranIfSsaSsfWiMicMSFChannel OBJECT-TYPE
    SYNTAX      INTEGER (0..255)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Type of signal that was sensed."
    ::= { wranIfSsaSsfWiMicMSFEntry 2 }

wranIfSsaSsfWiMicMSFPayloadSize OBJECT-TYPE
    SYNTAX      INTEGER { msf1(0), msf12(1), msf123(2) }
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Size of MSF payload stored in
        wranIfSsaSsfWiMicMSFPayload. Indicates whether MSF1
        by itself (15 octets), MSF1+MSF2 (64 octets), or
        MSF1+MSF2+MSF3 (95 octets) have been captured (see
        Figure 16, 7.2.1, 7.2.2, and 7.2.3 of IEEE
        Std 802.22.1-2010). This size does not include
        CRC1/CRC2/CRC3 from the MSFs."
    ::= { wranIfSsaSsfWiMicMSFEntry 3 }

wranIfSsaSsfWiMicMSFPayload OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(wranIfSsaSsfWiMicMSFPayloadSize))
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Payload of MSF1, MSF1+MSF2, or MSF1+MSF2+MSF3, not
        including CRC1/CRC2/CRC3 fields (see 7.2.1, 7.2.2,
        7.2.3 of IEEE Std 802.22.1-2010)."
    ::= { wranIfSsaSsfWiMicMSFEntry 4 }

wranIfSsaSsfWiMicMSFCrc1Status OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Indication of whether (Truth(1)) or not (Truth(0))

```

```

MSF1 passed verification of CRC1."
 ::= { wranIfSsaSsfWiMicMSFEntry 5 }

```

```

wranIfSsaSsfWiMicMSFCrc2Status      OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "Indication of whether (Truth(1)) or not (Truth(0))
        MSF2 passed verification of CRC2."
    ::= { wranIfSsaSsfWiMicMSFEntry 6 }

```

```

wranIfSsaSsfWiMicMSFCrc3Status      OBJECT-TYPE
    SYNTAX      TruthValue
    MAX-ACCESS   read-write
    STATUS       current
    DESCRIPTION
        "Indication of whether (Truth(1)) or not (Truth(0))
        MSF3 passed verification of CRC3."
    ::= { wranIfSsaSsfWiMicMSFEntry 7 }

```

```

wranIfSsaGeolocationTable      OBJECT-TYPE
    SYNTAX      SEQUENCE OF wranIfSsaGeolocationEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "This object contains the current parameters and
        calculations being used by the Geolocation component
        of the SSA. It is made up of one entry to contain
        current values being used/calculated in the BS-to-
        CPE fine-ranging, CPE-to-CPE fine ranging,
        geolocation calculation functions. It is made up of
        one entry, defined by wranIfSsaGeoLocationEntry. "
    ::= { wranIfSsaMib 10 }

```

```

wranIfSsaGeoLocationEntry      OBJECT-TYPE
    SYNTAX      wranIfSsaGeoLocationEntry
    MAX-ACCESS   not-accessible
    STATUS       current
    DESCRIPTION
        "This object defines an entry in
        wranIfSsaGeolocationTable. The entry is identified
        by wranIfSsaGeoLocationIndex."
    INDEX { wranIfSsaGeoLocationIndex }
    ::= { wranIfSsaGeolocationTable 1 }

```

```

wranIfSsaGeoLocationEntry      ::= SEQUENCE {
    wranIfSsaGeolocationIndex      INTEGER,
    wranIfSsaGeolocationVernier1Size Integer32,
    wranIfSsaGeolocationVernier1   OCTET STRING
    wranIfSsaGeolocationVernier2Size Integer32,
    wranIfSsaGeolocationVernier2   OCTET STRING,
    wranIfSsaGeolocationVernier3Size Integer32,
    wranIfSsaGeolocationVernier3   OCTET STRING,
    wranIfSsaGeolocationTRange1    Integer32,
    wranIfSsaGeolocationTACbp      Integer32 }

```

```

wranIfSsaGeoLocationIndex      OBJECT-TYPE
    SYNTAX      INTEGER (1..1)
    MAX-ACCESS  read-only
    STATUS      current
    DESCRIPTION
        "Index of entry in the table."
    ::= { wranIfSsaGeoLocationEntry 1 }

wranIfSsaGeoLocationVernier1Size  OBJECT-TYPE
    SYNTAX      Integer32 (1..65535)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Size of Vernier1 data recorded only at the CPE."
    ::= { wranIfSsaGeoLocationEntry 2 }

wranIfSsaGeoLocationVernier1  OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(wranIfSsaGeoLocationVernier1Size))
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Vernier1, recorded only at the CPE."
    ::= { wranIfSsaGeoLocationEntry 3 }

wranIfSsaGeoLocationVernier2Size  OBJECT-TYPE
    SYNTAX      Integer32 (1..65535)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Size of Vernier2 data recorded only at the BS."
    ::= { wranIfSsaGeoLocationEntry 4 }

wranIfSsaGeoLocationVernier2  OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(wranIfSsaGeoLocationVernier2Size))
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Vernier2, recorded only at the BS."
    ::= { wranIfSsaGeoLocationEntry 5 }

wranIfSsaGeoLocationVernier3Size  OBJECT-TYPE
    SYNTAX      Integer32 (1..65535)
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "Size of Vernier3 data recorded only at the CPE."
    ::= { wranIfSsaGeoLocationEntry 6 }

wranIfSsaGeoLocationVernier3  OBJECT-TYPE
    SYNTAX      OCTET STRING (SIZE(wranIfSsaGeoLocationVernier3Size))
    MAX-ACCESS  read-write
    STATUS      current

```

DESCRIPTION

"Vernier3, recorded only at the CPE."

::= { wranIfSsaGeoLocationEntry 7 }

wranIfSsaGeoLocationTRange1 OBJECT-TYPE

SYNTAX Integer32 (1..1000)

UNITS "TU"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"TRange1, also known as T52. Set by BS when downstream burst leaves the BS, i.e., at start of frame preamble."

::= { wranIfSsaGeoLocationEntry 5 }

wranIfSsaGeoLocationTACbp OBJECT-TYPE

SYNTAX Integer32 (-1024..+1024)

UNITS "TU"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"TACBP, Timing advance for CBP burst used in ranging calculations."

::= { wranIfSsaGeoLocationEntry 6 }

wranIfSsaTrapControl OBJECT-TYPE

SYNTAX BITS { wranIfSsaSensingCapChange(0),
wranIfSsaStatusChange(1),
wranIfSsaBlmRepChange(2),
wranIfSsaSensingRecordChange(3),
wranIfSsaSsfMode0Change(4),
wranIfSsaSsfMode1Change(5),
wranIfSsaSsfMode2Change(6),
wranIfSsaSsfWiMicMSFChange(7),
wranIfSsaGeoLocationChange(9) }

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Defines control elements for traps related to interaction with the Spectrum Sensing Automaton. This is a 9-bit field that enables setting a trap for particular CPE events:
wranIfSsaSensingCapChange, wranIfSsaStatusChange, wranIfSsaBlmRepChange, wranIfSsaSensingRecordChange, wranIfSsaSsfMode0Change, wranIfSsaSsfMode1Change, wranIfSsaSsfMode2Change, wranIfSsaSsfWiMicMSFChange, wranIfSsaGeoLocationChange."

::= { wranIfSsaMib 11 }

wranIfSsaTrapDefinition

OBJECT IDENTIFIER

::= { wranIfSsaMib 12 }

wranIfSsaSensingCapChangeTrap

OBJECT IDENTIFIER

::= { wranIfSsaTrapDefinition 1 }

wranIfSsaStatusChangeTrap

OBJECT IDENTIFIER

::= { wranIfSsaTrapDefinition 2 }

wranIfSsaBlmRepChangeTrap OBJECT IDENTIFIER
 ::= { wranIfSsaTrapDefinition 3 }

wranIfSsaSensingRecordChangeTrap OBJECT IDENTIFIER
 ::= { wranIfSsaTrapDefinition 4 }

wranIfSsaSsfMode0ChangeTrap OBJECT IDENTIFIER
 ::= { wranIfSsaTrapDefinition 5 }

wranIfSsaSsfMode1ChangeTrap OBJECT IDENTIFIER
 ::= { wranIfSsaTrapDefinition 6 }

wranIfSsaSsfMode2ChangeTrap OBJECT IDENTIFIER
 ::= { wranIfSsaTrapDefinition 7 }

wranIfSsaSsfWiMicMSFChangeTrap OBJECT IDENTIFIER
 ::= { wranIfSsaTrapDefinition 8 }

wranIfSsaGeolocationChangeTrap OBJECT IDENTIFIER
 ::= { wranIfSsaTrapDefinition 9 }

wranIfSsaSensingCapChangeTrap NOTIFICATION-TYPE
 OBJECTS { wranIfSsaSensingCapibilityStatus }
 STATUS current
 DESCRIPTION
 "This trap contains the information related to
 configuration of SSA sensing capabilities."
 ::= { wranIfSsaTrapDefinition 1 }

wranIfSsaStatusChangeTrap NOTIFICATION-TYPE
 OBJECTS { wranIfSsaCurrentState, wranIfSsaRecentEvent,
 wranIfSsaRecentAction, wranIfSsaStatus }
 STATUS current
 DESCRIPTION
 "This trap contains the information related to
 current state of the SSA."
 ::= { wranIfSsaTrapDefinition 2 }

wranIfSsaBlmRepChangeTrap NOTIFICATION-TYPE
 OBJECTS { wranIfSsaPendingBlmRepIndex,
 wranIfSsaBlmRepStatus }
 STATUS current
 DESCRIPTION
 "This trap contains the information related to
 pending BLM transactions at the SSA."
 ::= { wranIfSsaTrapDefinition 3 }

wranIfSsaSensingRecordChangeTrap NOTIFICATION-TYPE
 OBJECTS { wranIfSsaSensingRecordIndex,
 wranIfSsaSensingRecordStatus }
 STATUS current
 DESCRIPTION
 "This trap contains the information related to
 sensing records maintained by the SSA."
 ::= { wranIfSsaTrapDefinition 4 }

wranIfSsaSsfMode0ChangeTrap NOTIFICATION-TYPE
 OBJECTS { wranIfSsaSsfMode0OutputIndex,
 wranIfSsaSsfMode0Status }
 STATUS current
 DESCRIPTION
 "This trap contains the information related to


```

        sensing output using Mode 0."
 ::= { wranIfSsaTrapDefinition 5 }

```

```

wranIfSsaSsfMode1ChangeTrap    NOTIFICATION-TYPE
OBJECTS                        { wranIfSsaSsfMode1OutputIndex,
                                wranIfSsaSsfMode1SignalConfidence,
                                wranIfSsaSsfMode1Status }
STATUS                         current
DESCRIPTION
    "This trap contains the information related to
    sensing output using Mode 1."
 ::= { wranIfSsaTrapDefinition 6 }

```

```

wranIfSsaSsfMode2ChangeTrap    NOTIFICATION-TYPE
OBJECTS                        { wranIfSsaSsfMode2OutputIndex,
                                wranIfSsaSsfMode2SignalRssiMean,
                                wranIfSsaSsfMode2SignalStdDevRssi,
                                wranIfSsaSsfMode2Status }
STATUS                         current
DESCRIPTION
    "This trap contains the information related to
    sensing output using Mode 2."
 ::= { wranIfSsaTrapDefinition 7 }

```

```

wranIfSsaSsfWiMicMSFChangeTrap NOTIFICATION-TYPE
OBJECTS                        { wranIfSsaSsfWiMicMSFIndex,
                                wranIfSsaSsfWiMicMSFStatus }
STATUS                         current
DESCRIPTION
    "This trap contains the information related to
    sensing and capturing wireless microphone beacons
    (see IEEE Std 802.22.1-2010)."
 ::= { wranIfSsaTrapDefinition 8 }

```

```

wranIfSsaGeolocationChangeTrap NOTIFICATION-TYPE
OBJECTS                        { wranIfSsaGeolocationStatus }
STATUS                         current
DESCRIPTION
    "This trap contains the information related to
    terrestrial geolocation."
 ::= { wranIfSsaTrapDefinition 9 }

```

```

wranIfSsaNotificationObjectsTable OBJECT-TYPE
SYNTAX                        SEQUENCE OF wranIfSsaNotificationObjectsEntry
MAX-ACCESS                    not-accessible
STATUS                         current
DESCRIPTION
    "This MIB provides a table to track notification
    objects that have been reported by the traps related
    to operation of the SSA. It is made up of one entry,
    containing the objects related to the most recent
    trap/event. The entry is defined by
    wranIfSsaNotificationObjectsEntry."
 ::= { wranIfSsaMib 13 }

```

```

wranIfSsaNotificationObjectsEntry OBJECT-TYPE

```

SYNTAX wranIfSsaNotificationObjectsEntry
 MAX-ACCESS not-accessible
 STATUS current
 DESCRIPTION

"Definition of an entry in
 wranIfSsaNotificationObjectsTable. Each entry is
 identified by wranIfSsaNotificationIndex."

INDEX { wranIfSsaNotificationIndex }
 ::= { wranIfSsaNotificationObjectsTable 1 }

wranIfSsaNotificationObjectsEntry ::= SEQUENCE {
 wranIfSsaNotificationIndex INTEGER,
 wranIfSsaNotificationCurrentState INTEGER,
 wranIfSsaNotificationRecentEvent INTEGER,
 wranIfSsaNotificationRecentAction INTEGER,
 wranIfSsaNotificationPendingBlmRepIndex INTEGER,
 wranIfSsaNotificationSensingRecordIndex INTEGER,
 wranIfSsaSsfNotificationMode0OutputIndex INTEGER,
 wranIfSsaSsfNotificationMode1OutputIndex INTEGER,
 wranIfSsaSsfNotificationMode1Confidence INTEGER,
 wranIfSsaSsfNotificationMode2OutputIndex INTEGER,
 wranIfSsaSsfNotificationMode2RssiMean INTEGER,
 wranIfSsaSsfNotificationMode2StdDevRssi INTEGER,
 wranIfSsaSsfNotificationWiMicMSFIndex INTEGER,
 wranIfSsaSensingCapibilityStatus BITS,
 wranIfSsaStatus BITS,
 wranIfSsaBlmRepStatus INTEGER,
 wranIfSsaSensingRecordStatus BITS,
 wranIfSsaSsfMode0Status INTEGER,
 wranIfSsaSsfMode1Status INTEGER,
 wranIfSsaSsfMode2Status BITS,
 wranIfSsaSsfWiMicMSFStatus INTEGER,
 wranIfSsaGeolocationStatus INTEGER }

wranIfSsaNotificationIndex OBJECT-TYPE
 SYNTAX INTEGER (1..1)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Index of entry in the table."
 ::= { wranIfSsaNotificationObjectsEntry 1 }

wranIfSsaNotificationCurrentState OBJECT-TYPE
 SYNTAX INTEGER (0..1)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION
 "Current state that SSA is in as defined by current
 value of wranIfSsaCurrentState."
 ::= { wranIfSsaNotificationObjectsEntry 2 }

wranIfSsaNotificationRecentEvent OBJECT-TYPE
 SYNTAX INTEGER (0..6)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Recent event that occurred for SSA as defined by current value of wranIfSsaRecentEvent."
 ::= { wranIfSsaNotificationObjectsEntry 3 }

wranIfSsaNotificationRecentAction OBJECT-TYPE
 SYNTAX INTEGER (0..5)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Recent action SSA has taken as defined by current value of wranIfSsaRecentAction."
 ::= { wranIfSsaNotificationObjectsEntry 4 }

wranIfSsaNotificationPendingBlmRepIndex OBJECT-TYPE
 SYNTAX INTEGER (1..10)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Index of entry in wranIfSsaNotificationPendingBlmRepTable that indicates the handling of which pending BLM-REP has triggered a trap."
 ::= { wranIfSsaNotificationObjectsEntry 5 }

wranIfSsaNotificationSensingRecordIndex OBJECT-TYPE
 SYNTAX INTEGER (1..255)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Index of entry in wranIfSsaNotificationSensingRecordTable that indicates the handling of which sensing record triggered a trap."
 ::= { wranIfSsaNotificationObjectsEntry 6 }

wranIfSsaSsfNotificationMode0OutputIndex OBJECT-TYPE
 SYNTAX INTEGER (1..32)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Index of entry in wranIfSsaSsfNotificationMode0OutputTable that indicates the handling of which signal type detected by Mode 0 triggered a trap."
 ::= { wranIfSsaNotificationObjectsEntry 7 }

wranIfSsaSsfNotificationMode1OutputIndex OBJECT-TYPE
 SYNTAX INTEGER (1..32)
 MAX-ACCESS read-only
 STATUS current
 DESCRIPTION

"Index of entry in wranIfSsaSsfNotificationMode1OutputTable that indicates the handling of which signal type detected by Mode 1 triggered a trap."
 ::= { wranIfSsaNotificationObjectsEntry 8 }

wranIfSsaSsfNotificationMode1Confidence OBJECT-TYPE
 SYNTAX INTEGER (0..255)
 MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Confidence value of entry indexed by
wranIfSsaSsfNotificationMode1OutputIndex in
wranIfSsaSsfMode1OutputTable that indicates the
handling of which signal type detected by Mode 1
triggered a trap."

::= { wranIfSsaNotificationObjectsEntry 9 }

wranIfSsaSsfNotificationMode2OutputIndex OBJECT-TYPE

SYNTAX INTEGER (1..32)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in wranIfSsaSsfMode2OutputTable
that indicates the handling of which signal type
detected by Mode 2 triggered a trap."

::= { wranIfSsaNotificationObjectsEntry 10 }

wranIfSsaSsfNotificationMode2SignalRssiMean OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Current Mean of RSSI signal measurements, between
-104 dBm to +23.5 dBm in 0.5 dB steps, for which
trap was caught."

::= { wranIfSsaNotificationObjectsEntry 11 }

wranIfSsaSsfNotificationMode2SignalStdDevRssi OBJECT-TYPE

SYNTAX INTEGER (0..255)

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"Current Standard Deviation of RSSI signal
measurements, between -104 dBm to +23.5 dBm in
0.5 dB steps, for which trap was caught."

::= { wranIfSsaNotificationObjectsEntry 12 }

wranIfSsaSsfNotificationWiMicMSFIndex OBJECT-TYPE

SYNTAX INTEGER (1..255)

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"Index of entry in wranIfSsaSsfWiMicMSFTable that
indicates which channel the capture of a wireless
microphone beacon MSF has triggered a trap."

::= { wranIfSsaNotificationObjectsEntry 13 }

wranIfSsaSensingCapabilityStatus OBJECT-TYPE

SYNTAX BITS { thresholdIncrease(0),
thresholdDecrease(1),
recContigPeriodDurationIncrease(2),
recContigPeriodDurationDecrease(3),
recNumPeriodsIncrease(4),
recNumPeriodsDecrease(5),

recPeriodIntervalIncrease(6),
recPeriodIntervalDecrease(7) }

MAX-ACCESS read-only
STATUS current
DESCRIPTION
"8-bit bitmap that indicates the following changes to the sensing capabilities defined in wranIfSsaSensingCapTable: Sensing Threshold Increase (Bit0), Sensing Threshold Decrease (Bit1), Contiguous Recording Period Duration Increase (Bit2), Contiguous Recording Period Duration Decrease (Bit3), Number of Recording Periods Increase (Bit4), Number of Recording Periods Decrease (Bit5), Recording Period Interval Increase (Bit6), Recording Interval Period Decrease (Bit7). More than one bit can be set simultaneously. However, if Bit0 is set, Bit1 cannot be set. Same goes for the relationship between Bit2/Bit3, Bit4/Bit5, and Bit6/Bit7."

::= { wranIfSsaNotificationObjectsEntry 14 }

wranIfSsaStatus OBJECT-TYPE
SYNTAX BITS { t48expired(0),
t49expired(1),
t50expired(2),
intraFrameQpCycleLengthChanged(3),
intraFrameQpCycleOffsetChanged(4),
intraFrameQpCycleFrameBitmapChanged(5),
intraFrameQpDurationChanged(6),
interFrameQpDurationChanged(7),
interFrameQpOffsetChanged(8),
incProhibitedChannelsChanged(9) }

MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Concerning the current state of the SSA, this 10-bit bitmap indicates whether T48/T49/T50 have expired, whether any of the Quiet Period parameters have been affected, or whether the prohibited channel list has been updated. More than one bit in this bitmap can be set at the same time."

::= { wranIfSsaNotificationObjectsEntry 15 }

wranIfSsaBlmRepStatus OBJECT-TYPE
SYNTAX INTEGER { blmRspSent(0),
blmRepGenerated(1),
blmRepSent(2),
blmRepAckReceived(3),
blmNumTxInc(4),
blmNumTxExpired(5) }

MAX-ACCESS read-only
STATUS current
DESCRIPTION
"Concerning the current state of pending BLM-REQ messages, this object indicates how far along the sensing and report generation process is the SSA."

When == 5, that indicates that the BLM-REP that corresponds to entry in wranIfSsaPendingBlmRepTable indexed by wranIfSsaNotificationPendingBlmRepIndex has been transmitted to the SM == to the maximum number of retries as indicated by wranIfSsaMaxBlmRepRetries."

::= { wranIfSsaNotificationObjectsEntry 16 }

wranIfSsaSensingRecordStatus OBJECT-TYPE

SYNTAX BITS { timeLastSensedUpdate(0),
timeLastPositiveUpdate(1),
sensingPathRssiUpdate(2),
wranPathRssiUpdate(3),
signalTypeUpdate(4) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"5-bit bitmap concerning the update of an entry in wranIfSsaSensingRecordTable as indexed by wranIfSsaNotificationSensingRecordIndex. More than one bit can set simultaneously."

::= { wranIfSsaNotificationObjectsEntry 17 }

wranIfSsaSsfMode0Status OBJECT-TYPE

SYNTAX INTEGER { signalNotPresent(0),
signalPresent(1) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"wranIfSsaSsfNotificationMode0OutputIndex indexes an entry in wranIfSsaSsfMode0OutputTable that has been updated. For the signal type in that entry (=wranIfSsaSsfNotificationMode0OutputIndex-1), this status indicates whether a signal is present."

::= { wranIfSsaNotificationObjectsEntry 18 }

wranIfSsaSsfMode1Status OBJECT-TYPE

SYNTAX INTEGER { signalNotPresent(0),
signalPresent(1) }

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"wranIfSsaSsfNotificationMode1OutputIndex indexes an entry in wranIfSsaSsfMode1OutputTable that has been updated. For the signal type in that entry (=wranIfSsaSsfNotificationMode1OutputIndex-1), this status indicates whether a signal is present."

::= { wranIfSsaNotificationObjectsEntry 19 }

wranIfSsaSsfMode2Status OBJECT-TYPE

SYNTAX BITS { meanRssiIncrease(0),
meanRssiDecrease(1),
stdDevRssiIncrease(2),
stdDevRssiDecrease(3) }

MAX-ACCESS read-only
STATUS current
DESCRIPTION

"4-bit bitmap that indicates what changes to Mean RSSI or Standard Deviation of RSSI for a detected signal whose entry in wranIfSsaSsfMode2OutputTable is indexed by wranIfSsaSsfNotificationMode2OutputIndex. More than one bit can be set simultaneously. However if Bit0 is set, Bit1 cannot be set. Same relationship goes for Bit2 and Bit3."

::= { wranIfSsaNotificationObjectsEntry 20 }

wranIfSsaSsfWiMicMSFStatus OBJECT-TYPE
SYNTAX INTEGER { crc1OnlyPassed(0),
crc1And2Passed(1),
crc1And2And3Passed(2) }

MAX-ACCESS read-only
STATUS current
DESCRIPTION

"Given entry in wranIfSsaSsfWiMicMSFTable as indexed by wranIfSsaSsfNotificationWiMicMSFIndex, this status details how much of the microphone beacon has been captured and whether all relevant MSF CRC verifications have passed. "

::= { wranIfSsaNotificationObjectsEntry 21 }

wranIfSsaGeolocationStatus OBJECT-TYPE
SYNTAX BITS { vernier1Updated(0),
vernier2Updated(1),
vernier3Updated(2),
tRange1Updated(3),
taCBPUUpdated(4) }

MAX-ACCESS read-only
STATUS current
DESCRIPTION

"5-bit bitmap indicating which aspects of the Geolocation measurement have been updated. More than one bit in this bitmap can be set simultaneously. However, if bit1 (Vernier2 indicator) is set, then Bit0 (Vernier1 indicator) and Bit1 (Vernier3 indicator) cannot be set.

::= { wranIfSsaNotificationObjectsEntry 22 }

-- wranIfSsaMibGroups: this object helps define which MIB groups are
-- available within this module and which MIB objects are part of each
-- group.

wranIfSsaMibGroups OBJECT IDENTIFIER
::= { wranIfSsaMib 14 }
wranIfSsaSensingCapGroup OBJECT IDENTIFIER
::= { wranIfSsaMibGroups 1 }
wranIfSsaStatusGroup OBJECT IDENTIFIER
::= { wranIfSsaMibGroups 2 }
wranIfSsaConfigGroup OBJECT IDENTIFIER
::= { wranIfSsaMibGroups 3 }

wranIfSsaPendingBlmRepGroup OBJECT IDENTIFIER
 ::= { wranIfSsaMibGroups 4 }

wranIfSsaSensingRecordGroup OBJECT IDENTIFIER
 ::= { wranIfSsaMibGroups 5 }

wranIfSsaSsfMode0OutputGroup OBJECT IDENTIFIER
 ::= { wranIfSsaMibGroups 6 }

wranIfSsaSsfMode1OutputGroup OBJECT IDENTIFIER
 ::= { wranIfSsaMibGroups 7 }

wranIfSsaSsfMode2OutputGroup OBJECT IDENTIFIER
 ::= { wranIfSsaMibGroups 8 }

wranIfSsaSsfWiMicMSFGroup OBJECT IDENTIFIER
 ::= { wranIfSsaMibGroups 9 }

wranIfSsaGeolocationGroup OBJECT IDENTIFIER
 ::= { wranIfSsaMibGroups 10 }

wranIfSsaTrapControlGroup OBJECT IDENTIFIER
 ::= { wranIfSsaMibGroups 11 }

wranIfSsaNotificationsGroup OBJECT IDENTIFIER
 ::= { wranIfSsaMibGroups 12 }

wranIfSsaSensingCapGroup OBJECT-GROUP
 OBJECTS { wranIfSsaSensingCapIndex,
 wranIfSsaSensingThreshold,
 wranIfSsaSensRecContigPeriodDuration,
 wranIfSsaSensRecNumPeriods,
 wranIfSsaSensRecPeriodInterval }
 STATUS current
 DESCRIPTION
 "This group represents objects related to the
 sensing capabilities supported by the SSA."
 ::= { wranIfSsaMibGroups 1 }

wranIfSsaStatusGroup OBJECT-GROUP
 OBJECTS { wranIfSsaStatusIndex, wranIfSsaCurrentState,
 wranIfSsaRecentEvent, wranIfSsaRecentAction,
 wranIfSsaIpcUpdChannelsSize,
 wranIfSsaIpcUpdChannels, wranIfSsaCurrentT48,
 wranIfSsaCurrentT49, wranIfSsaCurrentT50,
 wranIfSsaIntraFrameQpCycleLength,
 wranIfSsaIntraFrameQpCycleOffset,
 wranIfSsaIntraFrameQpCycleFrameBitmap,
 wranIfSsaIntraFrameQpDuration,
 wranIfSsaInterFrameQpDuration,
 wranIfSsaInterFrameQpOffset }
 STATUS current
 DESCRIPTION
 "This group represents objects related to the
 current state of the SSA."
 ::= { wranIfSsaMibGroups 2 }

wranIfSsaConfigGroup OBJECT-GROUP
 OBJECTS { wranIfSsaConfigIndex, wranIfSsaT19,
 wranIfSsaT29, wranIfSsaMaxBlmRepRetries,
 wranIfSsaChAvailabilityCheckTime,
 wranIfSmSsaNonOccupancyPeriod,
 wranIfSsaChannelDetectionTime,
 wranIfSsaChannelSetupTime,

```

wranIfSsaChannelOpeningTxTime,
wranIfSsaChannelMoveTime,
wranIfSsaChannelClosingTxTime,
wranIfSsaMicProtectionRadius, wranIfSsaT41,
wranIfSsaT42, wranIfSsaT43, wranIfSsaT44,
wranIfSsaT45, wranIfSsaT59, wranIfSsaT47,
wranIfSsaT48, wranIfSsaT49, wranIfSsaT50,
wranIfSsaT51, wranIfSsaT53, wranIfSsaT54,
wranIfSsaT55 , wranIfSsaT60 }

```

STATUS current

DESCRIPTION

"This group represents objects related to the configuration of the SSA."

::= { wranIfSsaMibGroups 3 }

wranIfSsaPendingBlmRepGroup OBJECT-GROUP

```

OBJECTS { wranIfSsaPendingBlmRepIndex,
wranIfSsaPendingBlmReqTransactionId,
wranIfSsaPendingBlmReqMsgSize,
wranIfSsaPendingBlmReqMsg,
wranIfSsaPendingBlmRspSent,
wranIfSsaPendingBlmRepGenerated,
wranIfSsaPendingBlmRepMsgSize,
wranIfSsaPendingBlmRepMsg,
wranIfSsaPendingBlmRepSent,
wranIfSsaPendingBlmRepAck,
wranIfSsaPendingBlmRepNumTx }

```

STATUS current

DESCRIPTION

"This group represents objects related to the pending BLM transactions and sensing reports (BLM-REP) that are to be generated."

::= { wranIfSsaMibGroups 4 }

wranIfSsaSensingRecordGroup OBJECT-GROUP

```

OBJECTS { wranIfSsaSensingRecordIndex,
wranIfSsaSensingChannel,
wranIfSsaTimeLastSensing,
wranIfSsaTimeLastPositive,
wranIfSsaSensingPathRssi,
wranIfSsaWranPathRssi,
wranIfSsaSignalType,
wranIfSsaWranServiceAdvertisement,
wranIfSsaIdcUpdIndication }

```

STATUS current

DESCRIPTION

"This group represents objects related to the sensing status of each channel."

::= { wranIfSsaMibGroups 5 }

wranIfSsaSsfMode0OutputGroup OBJECT-GROUP

```

OBJECTS { wranIfSsaSsfMode0OutputIndex,
wranIfSsaSsfMode0SignalType,
wranIfSsaSsfMode0SignalPresent }

```

STATUS current

DESCRIPTION