

PUBLICLY AVAILABLE SPECIFICATION

PRE-STANDARD

Radio-frequency connectors –
Part 18: Sectional specification – Radio frequency coaxial connectors of
type SSMA

Withhold
IECNORM.COM: Click to view the full PDF of IEC PAS 61169-18:2009



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2009 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester.

If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

- Catalogue of IEC publications: www.iec.ch/searchpub

The IEC on-line Catalogue enables you to search by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, withdrawn and replaced publications.

- IEC Just Published: www.iec.ch/online_news/justpub

Stay up to date on all new IEC publications. Just Published details twice a month all new publications released. Available on-line and also by email.

- Electropedia: www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 20 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary online.

- Customer Service Centre: www.iec.ch/webstore/custserv

If you wish to give us your feedback on this publication or need further assistance, please visit the Customer Service Centre FAQ or contact us:

Email: csc@iec.ch
Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00

PUBLICLY AVAILABLE SPECIFICATION

PRE-STANDARD

**Radio-frequency connectors –
Part 18: Sectional specification – Radio frequency coaxial connectors of
type SSMA**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

S

ICS 33.120.30

ISBN 978-2-88910-798-8

CONTENTS

FOREWORD.....	3
1 Scope.....	4
2 Normative references	4
3 Mating face and gauge information.....	4
3.1 Dimensions – High performance connectors – Grade1	4
3.1.1 Connector with pin-centre contact.....	5
3.1.2 Connector with socket-centre contact	6
3.2 Gauges	7
3.2.1 Gauge pins for socket-centre contact.....	7
3.2.2 Test procedure	7
3.3 Dimensions – Standard test connectors – Grade 0.....	8
3.3.1 Connector with pin-centre contact.....	8
3.3.2 Connector with socket-centre contact.....	9
4 Quality assessment procedures	10
4.1 General.....	10
4.2 Rating and characteristics (see Clause 6 of IEC 61169-1).....	10
4.3 Test schedule and inspection requirements.....	13
4.3.1 Acceptance tests	13
4.3.2 Periodic tests	14
4.4 Procedures.....	16
4.4.1 Quality conformance inspection.....	16
4.4.2 Qualification approval and its maintenance.....	16
5 Instructions for preparation of detail specifications	16
5.1 Identification of the component.....	16
5.2 Performance.....	16
5.3 Marking, ordering information and related matters.....	17
5.4 Selection of tests, test conditions and severities.....	17
5.5 Blank detail specification pro-forma for type SSMA connector	18
Figure 1 – Connector with pin- centre contact	5
Figure 2 – Connector with socket-centre contact.....	6
Figure 3 – Gauge pins for socket-centre contact	7
Figure 4 – Connector with pin-centre contact	8
Figure 5 – Connector with socket-centre contact.....	9
Table 1 – Dimensions of connector with pin-centre contact	5
Table 2 – Dimensions of connector with socket-centre contact.....	6
Table 3 – Dimensions of gauge pins for socket-centre contact	7
Table 4 – Dimensions of connector with pin-centre contact	8
Table 5 – Dimensions of connector with socket-centre contact.....	9
Table 6 – Rating and characteristics	10
Table 7 – Acceptance tests.....	13
Table 8 – Periodic tests	14

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO-FREQUENCY CONNECTORS –**Part 18: Sectional specification –
Radio frequency coaxial connectors of type SSMA****FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

A PAS is a technical specification not fulfilling the requirements for a standard, but made available to the public.

IEC-PAS 61169-18 has been processed by subcommittee 46F: RF and microwave passive components, of IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories.

The text of this PAS is based on the following document:

This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document

Draft PAS	Report on voting
46F/94/PAS	46F/109/RVD

Following publication of this PAS, which is a pre-standard publication, the technical committee or subcommittee concerned may transform it into an International Standard.

This PAS shall remain valid for an initial maximum period of 3 years starting from the publication date. The validity may be extended for a single 3-year period, following which it shall be revised to become another type of normative document, or shall be withdrawn.

RADIO-FREQUENCY CONNECTORS –

Part 18: Sectional specification – Radio frequency coaxial connectors of type SSMA

1 Scope

This PAS is a sectional specification providing information and rules for preparation of detail specification of SSMA series R.F connectors together with the pro forma blank detail specification.

SSMA series connectors with characteristic impedance 50 Ω are used for millimeter wave applications, connecting with RF cables or micro strips. The operating frequency limit is up to 35 GHz. The coupling thread is 10-36 UNS thread.

It also prescribes mating face dimensions for grade 1 high performance connectors, dimensional detail of grade 0 standard test connectors, gauging information and tests selected from IEC 61169-1 applicable to all detail specifications relating to SSMA series RF connectors.

This specification indicates recommended performance characteristics to be considered when writing a detail specification and it covers test schedules and inspection requirements for assessment levels M and H.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61169-1:1992, *Radio-frequency connectors – Part 1: Generic specification – General requirements and measuring methods*¹⁾

Amendment 1(1996)

Amendment 2 (1997)

3 Mating face and gauge information

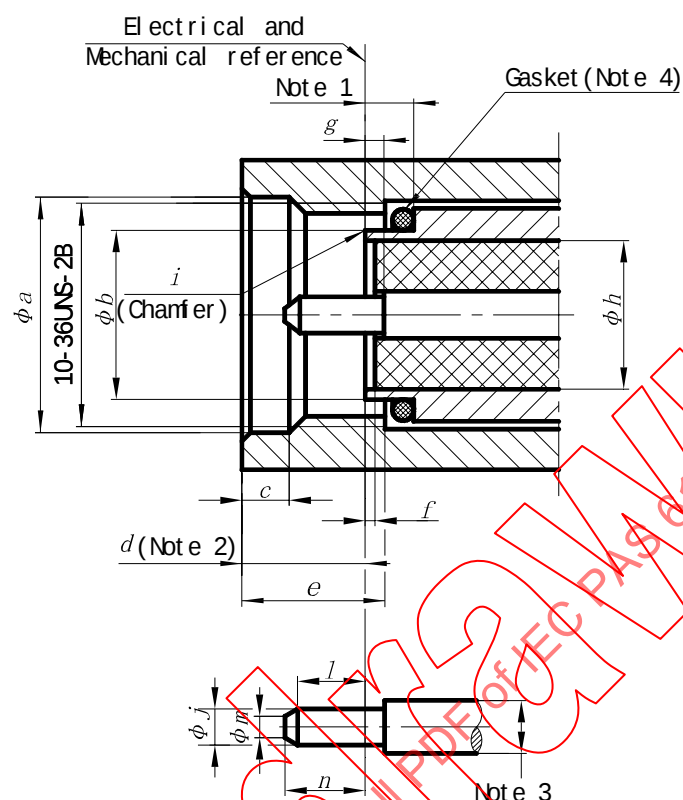
3.1 Dimensions – High performance connectors – Grade1

Inch dimensions are original dimensions.

All undimensioned pictorial configurations are for reference purpose only.

¹⁾ There exists a consolidated edition 1.2 (1998) that comprises IEC 61169-1, its Amendment 1 and its Amendment 2.

3.1.1 Connector with pin-centre contact



NOTE For dimensions and notes, see Table 1.

Figure 1 – Connector with pin- centre contact

Table 1 – Dimensions of connector with pin-centre contact

Ref.	mm		in	
	Min.	Max.	Min.	Max.
a	4,98	-	0,196	-
b	3,15	3,22	0,124	0,126 8
c	0,38	1,14	0,015	0,045
d	-	3,43	-	0,135
e	2,54	-	0,100	-
f	0,00	0,18	0,000	0,007
g	0,00	0,25	0,000	0,010
h	2,79 nominal		0,110 nominal	
i	0,08 max × 45° or R0.08 max		0,003 max × 45° or R0.003 max	
j	0,495	0,528	0,019 5	0,020 8
l	1,00	-	0,039	-
m	-	0,25	-	0,010
n	-	1,65	-	0,065

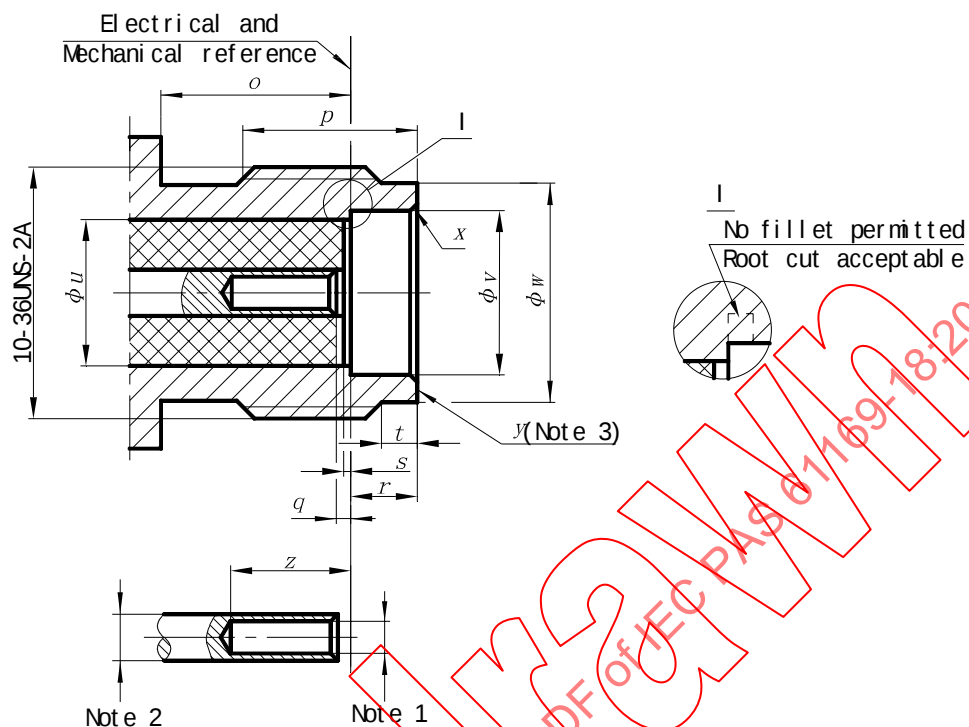
NOTE 1 Dimensions are such that the reference planes coincide and the connectors meet the required environmental performance.

NOTE 2 Dimension for coupling nut to screw forward.

NOTE 3 The diameters are chosen upon the assumption that the PTFE dielectric has a dielectric constant of 2,02 to give an impedance of 50 Ω.

NOTE 4 Gasket should be chosen in grade 1 connector, the design of the gasket is optional.

3.1.2 Connector with socket-centre contact



NOTE For dimensions and notes, see Table 2.

Figure 2 – Connector with socket-centre contact

Table 2 – Dimensions of connector with socket-centre contact

Ref.	mm		in	
	Min.	Max.	Min.	Max.
<i>o</i>	3,91	-	0,154	-
<i>p</i>	4,32	-	0,170	-
<i>q</i>	0,00	0,25	0,000	0,016 0
<i>r</i>	1,88	1,98	0,074	0,078
<i>s</i>	0,00	0,18	0,000	0,007
<i>t</i>	0,38	1,14	0,015	0,045
<i>u</i>	2,79 nominal		0,110 nominal	
<i>v</i>	3,231	3,300	0,127 2	0,130 0
<i>w</i>	3,89	4,06	0,153	0,160
<i>x</i>	45°		45°	
<i>y</i>	0,25	-	0,010	-
<i>z</i>	2,92	-	0,115	-

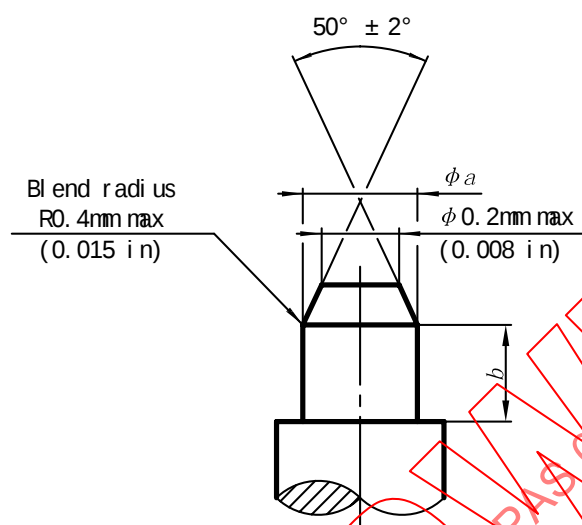
NOTE 1 Resilient contact may be closed or open entry, method of resilience is optional.

NOTE 2 The diameters are chosen upon the assumption that the PTFE dielectric has a dielectric constant of 2,02 to give an impedance of 50 Ω.

NOTE 3 *y* refers to the width of the end surface platform.

3.2 Gauges

3.2.1 Gauge pins for socket-centre contact



NOTE For dimensions and notes, see Table 3.

Figure 3 – Gauge pins for socket-centre contact

Table 3 – Dimensions of gauge pins for socket-centre contact

Gauge A					Gauge B			
Maximum material for sizing purposes					Minimum material for measurement of retention force			
					Mass of gauge: 26 g ± 1 g			
Ref.	mm		in		mm		in	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
<i>a</i>	0,528	0,533	0,0208	0,0210	0,492	0,495	0,0194	0,0195
<i>b</i>	1,25	1,35	0,0492	0,0531	1,25	1,35	0,0492	0,0531
Material: steel, polished, surface roughness: Ra=0,4 µm (16 µin) maximum.								

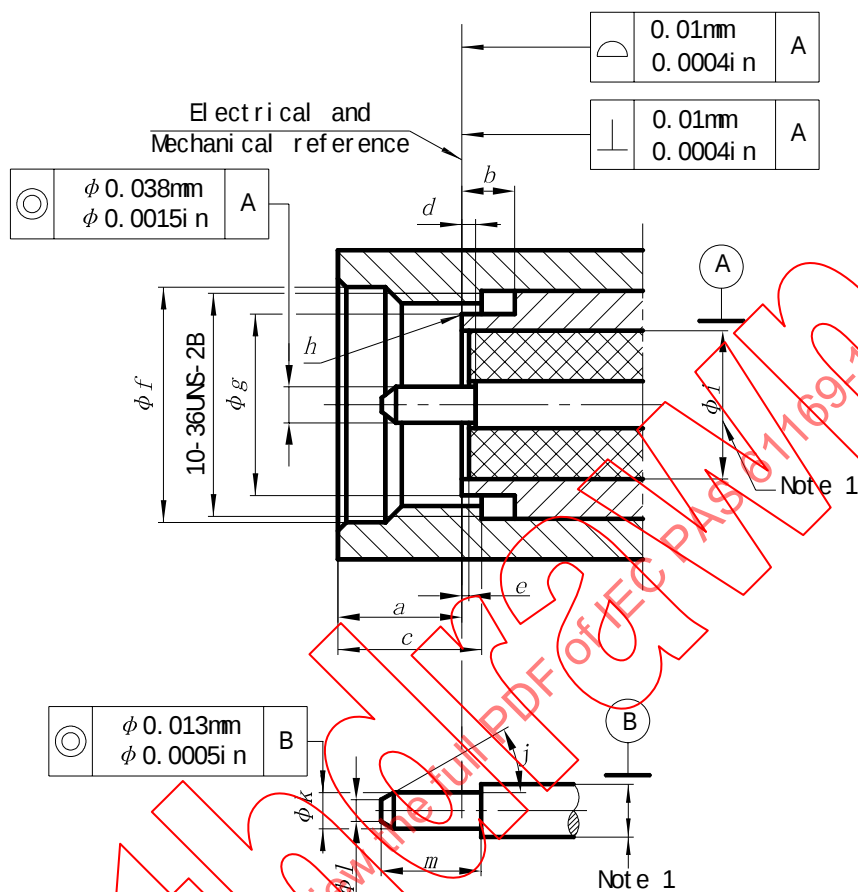
3.2.2 Test procedure

The gauge A shall be inserted into the socket-centre contact three times with a minimum depth of 1,25 mm (0,049 in). This is a sizing operation and should only be carried out when the socket-centre contact is removed from the connector.

After this, the gauge B shall have a withdrawal force of 0,25 N minimum after inserted into socket-centre contact. The contact shall retain the mass of the gauge in a vertical downward position. This test also shall be carried out on connector when the socket-centre contact is not removed.

3.3 Dimensions – Standard test connectors – Grade 0

3.3.1 Connector with pin-centre contact



NOTE For dimensions and notes, see Table 4.

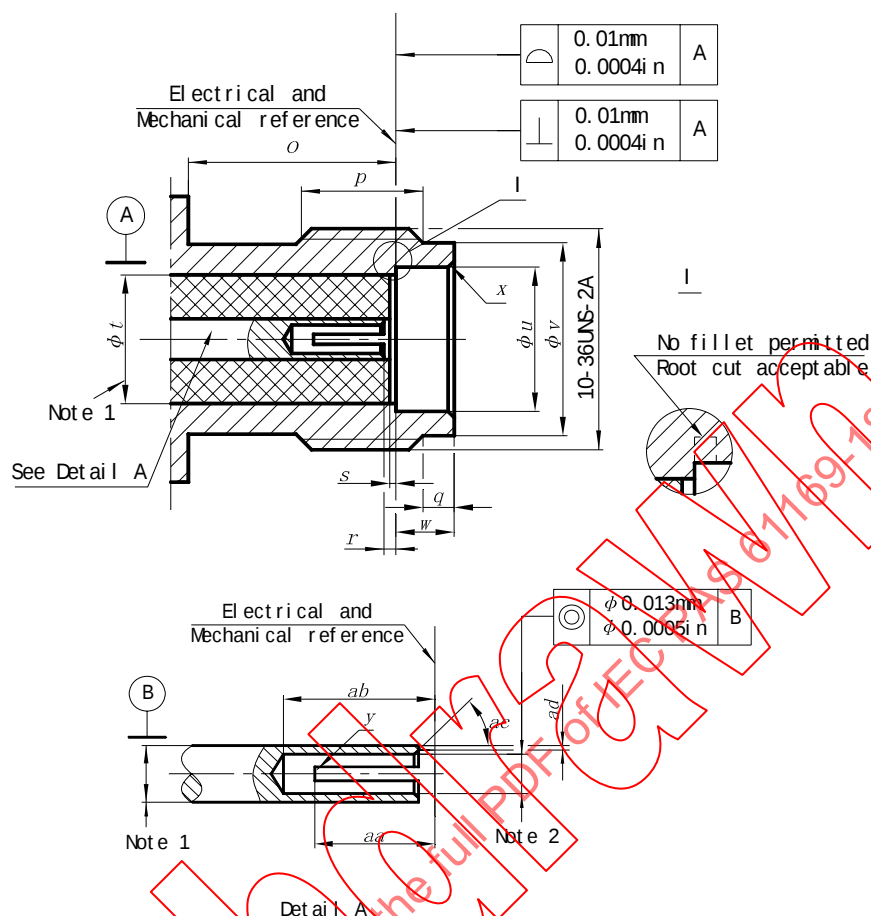
Figure 4 – Connector with pin-centre contact

Table 4 – Dimensions of connector with pin-centre contact

Ref.	mm		in	
	Min.	Max.	Min.	Max.
a	2,54	3,40	0,100	0,134
b	2,03	-	0,080	-
c	2,54	4,32	0,100	0,170
d	0,000	0,076	0,000 0	0,003 0
e	0,000	0,050	0,000 0	0,002 0
f	4,98	5,21	0,196	0,205
g	3,17	3,22	0,125	0,127
h	0,08 max $\times 45^\circ$ or R0.08 max		0,003 max $\times 45^\circ$ or 0,003 max	
i	2,79 nominal		0,110 nominal	
j	35°	48°	35°	48°
k	0,495	0,528	0,0195	0,020 8
l	-	0,25	-	0,010
m	1,40	1,65	0,055	0,065

NOTE 1 The diameters are chosen upon the assumption that the PTFE dielectric has a dielectric constant of 2,02 to give an impedance of $50 \Omega \pm 0,5 \Omega$.

3.3.2 Connector with socket-centre contact



NOTE For dimensions and notes, see Table 5.

Figure 5 – Connector with socket-centre contact

Table 5 – Dimensions of connector with socket-centre contact

Ref.	mm		in	
	Min.	Max.	Min.	Max.
<i>o</i>	3,89	-	0,153	-
<i>p</i>	3,81	-	0,150	-
<i>q</i>	0,38	1,14	0,015	0,045
<i>r</i>	0,000	0,076	0,000 0	0,003 0
<i>s</i>	0,000	0,050	0,000 0	0,002 0
<i>t</i>	2,79 nominal		0,110 nominal	
<i>u</i>	3,23	3,28	0,127	0,129
<i>v</i>	3,89	4,04	0,153	0,159
<i>w</i>	1,88	1,98	0,074	0,078
<i>x</i>	0,13 max × 45°		0,005 max × 45°	
<i>y</i>	2 slots - 0,13/0,15 wide		2 slots - 0,005/0,006 wide	
<i>aa</i>	1,52	1,80	0,060	0,071
<i>ab</i>	2,92	3,30	0,115	0,130
<i>ac</i>	42°	48°	42°	48°
<i>ad</i>	0,05	-	0,002	-

NOTE 1 The diameters are chosen upon the assumption that the PTFE dielectric has a dielectric constant of 2,02 to give an impedance of $50 \Omega \pm 0,5 \Omega$.

NOTE 2 Design for slotting is optional, and should meet electrical and mechanical requirements, when mating with $\varnothing 0,495$ mm to $\varnothing 0,528$ mm ($\varnothing 0,0195$ in to $\varnothing 0,0208$ in) pin.

4 Quality assessment procedures

4.1 General

The following subclauses provide recommended rating, performance and test conditions to be considered when writing a detail specification. They also provide an appropriate schedule of tests with minimum levels of conformance inspection sampling, together with the pro forma blank detail specification (BDS) and instructions for the preparation of a detail specification.

4.2 Rating and characteristics (see Clause 6 of IEC 61169-1)

The values indicated below are recommended for SSMA series RF connectors and are given for the writer of the detail specification. They are applicable for the condition when the connectors are fully mated.

Certain tests are listed without any recommended values being given. These tests will usually not be required. When these tests are required, appropriate values shall be entered in the detail specification at the discretion of the specification writer.

Table 6 – Rating and characteristics

Rating and characteristics	Test method IEC 61169-1 subclause	Values	Remarks including any deviations from standard test method
Electrical			
Nominal impedance		50 Ω	
Frequency range			Or upper frequency limit of cable
Grade 1 connectors		DC to 35GHz	
Reflection factor ¹⁾	9.2.1		
Grade 1 connectors			
- For flexible cable			
- straight styles		≤0,090+0,01f	
- right-angle styles		≤0,090+0,011f	
- For semi-rigid and semi-flexible cable			
- straight styles		≤0,034+0,004f	
- right-angle styles		≤0,048+0,004f	
- Component mounting styles		See DS	
- Solder bucket and PCB mounting styles		See DS	
Centre contact resistance ²⁾	9.2.3		
- initial		≤4,0 mΩ	
- after conditioning		≤10,0 mΩ	
Outer conductor continuity ²⁾	9.2.3		
- initial		≤2,5 mΩ	
- after conditioning		≤7,5 mΩ	
Insulation resistance ²⁾	9.2.5		
- initial		≥ 1GΩ	
-after conditioning		≥ 200 MΩ	
Proof voltage at sea –level ³⁾⁴⁾	9.2.6		
- non-cable styles		750 V	
- semi-rigid and semi-flexible 2,16 mm (0,086 in) diameter		750 V	
- semi-rigid and semi-flexible 1,19 mm (0,047 in) diameter		500 V	

Rating and characteristics	Test method IEC 61169-1 subclause	Values	Remarks including any deviations from standard test method
Proof voltage at 4,4 kPa ³⁾⁴⁾ - non-cable styles - semi-rigid and semi-flexible 2,16 mm (0,086 in) diameter - semi-rigid and semi-flexible 1,19 mm (0,047 in) diameter		150 V 150 V 100 V	4,4 kPa approximately equivalent to 20 km
Environmental test voltage at sea level ³⁾⁴⁾ - non-cable styles - semi-rigid and semi-flexible 2,16 mm (0,086 in) diameter - semi-rigid and Semi-flexible 1,19 mm (0,047 in) diameter Environmental test voltage at 4,4 kPa ³⁾⁴⁾ - non-cable styles - semi-rigid and semi-flexible 2,16 mm (0,086 in) diameter - semi-rigid and semi-flexible 1,19 mm (0,047 in) diameter	9.2.6	250 V 250 V 175 V 65 V 65 V 45 V	4,4 kPa approximately equivalent to 20 km
Screening effectiveness (straight cables only) ⁷⁾	9.2.8	≥ 90 dB, at 1 GHz	
Discharge test (corona effect)	9.2.9	See DS	Extinction voltage
Mechanical Gauge retention force (resilient contacts) -centre contacts -outer contacts Centre contact captivation -axial force -torque Engagement and separation - coupling nut friction Coupling moment - normally moment - moment resistance Mechanical tests on cable fixing - cable rotation (nutation) - cable pulling - cable bending - cable torsion Tensile strength of coupling mechanism Bending moment Vibration	9.3.4 9.3.5 9.3.6 9.3.6 9.3.7.2 9.3.8 9.3.9 9.3.10 9.3.11 9.3.12 9.3.3	≥ 0,25 N na ⁶⁾ 22 N ≤ 0,018 N·m ≤ 0,12 N·m 0,6 N·m to 0,8 N·m 1,1 N·m See DS See DS See DS See DS ≥ 100 N 0,15 N·m 100 m/s ² 10 Hz to 500 Hz	Maximum displacement 0,25 mm in each direction Can be carried out by hand 10 g _n
Impact	9.3.13	na ⁶⁾	

Rating and characteristics	Test method IEC 61169-1 subclause	Values	Remarks including any deviations from standard test method
Shock	9.3.14	500 m/s ² 1/2 sine wave 11 ms	50 g _n
Environmental			
Climatic category	9.4.2	A: 55/125/21 B: 40/085/21	
Sealing non-hermetic	9.4.5.1	≤100 kPa·cm ³ /h max	100 kPa to 110 kPa differential
Hermetic	9.4.5.2	≤10 ⁻³ Pa·cm ³ /s	100 kPa to 110 kPa differential
Salt mist	9.4.6	48 h spray	
Sulphur dioxide	9.4.8	na ⁶⁾	
Endurance			
Mechanical endurance	9.5	500 operations	
High temperature endurance ⁵⁾	9.6	Category A: 250 h at 125 °C Category A: 250 h at 85 °C	
1) These values apply to basic connector. In practice, these may be influenced by the cable used and reference should always be made to the actual values given in the detail specification. 2) Values for a single pair of connectors. 3) Voltages are r.m.s. values of a.c. at 40 Hz to 65 Hz, unless otherwise specified. 4) Some cables usable with these connectors have ratings lower than the values given here. 5) For certain connectors, the upper temperature limit is restricted by the cable characteristics. Reference should be made to the relevant cable specification. When semi-rigid and semi-flexible cables are used, the upper temperature is limited to 115 °C maximum. 6) na -not applicable. 7) When interfaces are fully mated.			

4.3.1 Acceptance tests

Table 7 – Acceptance tests

	Test method IEC61169-1 subclause	Assessment level M (higher)				Assessment level H (lower)			
		Test required	IL	AQL %	Period	Test required	IL	AQL %	Period
Group A1					Lot				Lot
Visual examination	9.1.2	a	II	1.0		a	S-3	1,5	
Group B1					By				By
Outline dimension	9.1.3.1	a	S-4	0.40		a	S-3	4,0	
Mechanical compatibility	9.1.3.3	a	II	1.0		a	S-3	1,5	
Engagement and separation	9.3.6	a	S-4	0.40		a	S-3	1,5	
Gauge retention (resilient contacts)	9.3.4	ia	II	1.0		ia	S-3	1,5	
Sealing					Lot				Lot
non-hermetic	9.4.5.1	ia	II	0.65		ia	S-3	1,0	
hermetic	9.4.5.2	ia	II	0.015		ia	II	0,025	
Voltage proof	9.2.6	a	S-4	0.40		a	II	4,0	
Solderability (d)	9.3.2.1.1	ia	S-4	0.40		ia	S-3	4,0	
Insulation resistance	9.2.5	a	S-4	0.40	a	S-3	4,0		

For the symbols, abbreviations and procedures, see the end of Table 8.

4.3.2 Periodic tests

There are no group C tests for levels H and M.

Table 8 – Periodic tests

	Test method IEC61169-1 subclause	Assessment level M (higher)				Assessment level H (lower)			
		Test required	Number of specimens	Permitted failures per group ¹⁾	Period	Test required	Number of specimens	Permitted failures per group ¹⁾	Period
Group D1 (d)									
Solderability	9.3.2.1.1	ia	6	1	3 years	ia	3	1	3 years
-connector assemblies									
Resistance to soldering heat	9.3.2.1.2	ia				ia			
Mechanical tests on cable fixing									
-cable rotation (nutation)	9.3.7.2	ia				ia			
-cable pulling	9.3.8	ia				ia			
-cable bending	9.3.9	ia				ia			
-cable torsion	9.3.10	ia				ia			
Bending moment	9.3.12	a	6	1	3 years	a	3	1	3 years
Strength of coupling mechanism	9.3.11	ia				ia			
Group D2 (d)									
Contact resistance	9.2.3	a				a	3	1	3 years
Outer conductor and screen continuity	9.2.3								
Centre conductor continuity									
Bump	9.3.13	na				na			
Vibration	9.3.3	a				a			
Shock	9.3.14	a				a			
Damp heat, steady state	9.4.3	a				a			
Salt mist	9.4.6	a				a			
Group D3									
Dimensions piece part and materials	9.1.3.2	a	1 ²⁾	1	3 years	a	1 ²⁾	1	3 years

	Test method IEC61169-1 subclause	Assessment level M (higher)				Assessment level H (lower)			
		Test required	Number of specimens	Permitted failures per group ¹⁾	Period	Test required	Number of specimens	Permitted failures per group ¹⁾	Period
Group D4 (d)									
Mechanical endurance	9.5	a	6	1	3 years	a	3	1	3 years
High temperature endurance	9.6	a				a			
Sulphur dioxide	9.4.8	na				na			
Group D5 (d)									
Reflection factor	9.2.1	a	6	1	3 years	a	3	1	3 years
Screening effectiveness	9.2.8	a				a			
Water Immersion	9.2.7	ia				ia			
Group D6 (d)									
Contact Captivation	9.3.5	ia	6	1	3 years	ia	3	1	3 years
Discharge test (corona effect)	9.2.9	a				a			
Rapid change of temperature	9.4.4	a				a			
Climatic sequence	9.4.2	a				a			
Group D7 (d)									
Resistance to solvents and contaminating fluids	9.7	na	1 ³⁾	1	3 years	na	1 ³⁾	1	3 years

1) For qualification approval, a total of 2 failures only permitted for level H and 1 failure only permitted for level M from groups D1 to D7.

2) One set of piece parts each style and variant unless using common piece parts.

3) Group D7 -number of pairs for each solvent.

ABBREVIATIONS:

a - applicable.

na - not applicable.

ia - test required (if technically applicable).

(d) - destructive test -specimens shall not be returned to stock.

IL-inspection level.

AQL- acceptable quality level.

4.4 Procedures

4.4.1 Quality conformance inspection

This shall consist of test group A1 and B1 on a lot-by-lot basis and test group D1 to D7 on a periodic basis.

4.4.2 Qualification approval and its maintenance

This still consists of three consecutive lots passing test groups A1 and B1 followed by selection of specimens from the lots as appropriate. These specimens shall successfully pass the specified periodic D tests.

5 Instructions for preparation of detail specifications

5.1 General

Detail specifications (DS) writers shall use the appropriate BDS pro-forma. The following pages comprise the pro-forma BDS dedicated for use with 50 Ω type SSMA connectors. As such, it will already have entered on it information relating to

- a) the basic specification number applicable to all the detail specifications covering connector styles of the type covered by the sectional specification,
- b) the connector series designation.

The specification writer should enter the details relating to the connector style/variant(s) to be covered as indicated. The numbers in brackets on the BDS pro-forma correspond to the following indications which shall be given.

5.1 Identification of the component

(5) Enter the following details:

Style: The style designation of the connector including type of fixing and sealing, if applicable.

Attachment: By deletion of the inapplicable options of cable/wire: given for centre and outer conductors.

Special features and markings: As applicable.

(6) Enter details of assessment level and the climatic category.

(7) A reproduction of the outline drawing and details of the panel piercing, if applicable. It shall provide the maximum envelope dimensions, also the position of the reference plane and, in the case of a fixed connector, the position of the mounting plane(s) relative to the front face of the connector.

Any maximum panel thickness limitations for fixed connectors shall be stated.

(8) Particulars of all variants covered by the DS. As appropriate, the information shall include:

- cable types (or sizes) applicable to each variant;
- alternative plated or protective finishes;
- details of alternative mounting flanges having either tapped or plain mounting holes;
- details of alternative solder spills or solder buckets including, when applicable, those for use with microwave integrated circuit (MIC) components.

5.2 Performance

(9) Performance data listing the most important characteristics of the connector taking into account the recommended values in 4.2 of this specification. Deviations from the minimum requirements shall be clearly indicated. Non-applicable parameters shall be marked 'na'.

5.3 Marking, ordering information and related matters

- (10) Insert marking and ordering information as appropriate, together with details of related documents and any invoked structural similarity.

5.4 Selection of tests, test conditions and severities

- (11) 'na' shall be used to indicate non-applicable tests. All tests marked 'a' by the detail specification writer shall be mandatory.

When using the normal procedure with a dedicated BDS, the letter 'a' – for applicable – shall be entered in the 'Test required' column against each of the tests indicated as being mandatory in the test schedule as in 4.3 of this specification. Any additional tests required at the discretion of the specification writer shall also be indicated by an 'a'.

The specification writer shall also indicate, when necessary, details of deviations from the standard test methods and test conditions, including any relevant deviations given in the test schedule of the sectional specification.

The qualification approval and conformance inspection shall be such that the national supervising inspectorate (NSI) shall be satisfied that they are appropriate and in line with those for other connectors within the system providing a reasonably comparable service.

5.5 Blank detail specification pro-forma for type SSMA connector

The following pages contain the complete BDS pro-forma.

(1)		Page 1 of 10			
ELECTRONIC COMPONENT OF ASSESSED QUALITY IN ACCORDANCE WITH GENERIC SPECIFICATION IEC 61169-1 SECTIONAL SPECIFICATION IEC 61169-18 NATIONAL REFERENCE		(4) ISSUE			
(5) Detail specification for Radio frequency coaxial connector of assessed quality			type SSMA		
Style:.....		Special features and markings			
Method of cable/wire+ attachment		centre conductor – solder/crimp+ outer conductor – solder/clamp/crimp + + delete as appropriate			
(6) Assessment level.....	Characteristic impedance 50 Ω	Climatic category...../...../...../			
(7) Outline and maximum dimensions		Panel piercing and mounting details			
(8) Variants					
Variant No.	Description of variant	61196 IEC			
01.....					
.....					
.....					
.....					
.....					
.....					
.....					
.....					
.....					
Information about manufacturers who have components qualified to this detail specification is available through IECQ on-line certificate system.					