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Road vehicles — In-vehicle Ethernet —

Part 11: Application layer to session layer conformance test plans

Véhicules routiers — Ethernet embarqué —

Partie 11: Plans de test de conformité des couches application et session

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 31, *Data communication*.

A list of all parts in the ISO 21111 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The ISO 21111 series includes in-vehicle Ethernet requirements and test plans that are disseminated in other International Standards and complements them with additional test methods and requirements. The resulting requirement and test plans are structured in different documents following the Open Systems Interconnection (OSI) reference model and grouping the documents that depend on the physical media and bit rate used.

In general, the Ethernet requirements are specified in ISO/IEC/IEEE 8802-3. The ISO 21111 series provides supplemental specifications (e.g. wake-up, I/O functionality), which are required for in-vehicle Ethernet applications. In road vehicles, Ethernet networks are used for different purposes requiring different bit-rates. Currently, the ISO 21111 series specifies the 1-Gbit/s optical and 100-Mbit/s electrical physical layer.

The ISO 21111 series contains requirement specifications and test methods related to the in-vehicle Ethernet. This includes requirement specifications for physical layer entity (e.g. connectors, physical layer implementations) providers, device (e.g. electronic control units, gateway units) suppliers, and system (e.g. network systems) designers. Additionally, there are test methods specified for conformance testing and for interoperability testing.

Safety (electrical safety, protection, fire, etc.) and electromagnetic compatibility (EMC) requirements are out of the scope of the ISO 21111 series.

The structure of the specifications given in the ISO 21111 series complies with the Open Systems Interconnection (OSI) reference model specified in ISO/IEC 7498-1[1] and ISO/IEC 10731[4].

ISO 21111-1 defines the terms which are used in this series of standards and provides an overview of the standards for in-vehicle Ethernet including the complementary relations to ISO/IEC/IEEE 8802-3[2], the document structure, type of physical entities, in-vehicle Ethernet specific functionalities and so on.

ISO 21111-2 specifies the interface between reconciliation sublayer and physical entity including reduced gigabit media independent interface (RGMII), and the common physical entity wake-up and synchronized link sleep functionalities, independent from physical media and bit rate.

ISO 21111-3 specifies supplemental requirements to a physical layer capable of transmitting 1-Gbit/s over plastic optical fibre compliant with ISO/IEC/IEEE 8802-3, with specific application to communications inside road vehicles, and a test plan for physical entity conformance testing.

ISO 21111-4 specifies the optical components requirements and test methods for 1-Gbit/s optical invehicle Ethernet.

ISO 21111-5 specifies, for 1-Gbit/s optical in-vehicle Ethernet, requirements on the physical layer at system level, requirements on the interoperability test set-ups, the interoperability test plan that checks the requirements for the physical layer at system level, requirements on the device-level physical layer conformance test set-ups, and device-level physical layer conformance test plan that checks a set of requirements for the OSI physical layer that are relevant for device vendors.

ISO 21111-6 specifies advanced features of an ISO/IEC/IEEE 8802-3 in-vehicle Ethernet physical layer (often also called transceiver), e.g. for diagnostic purposes for in-vehicle Ethernet physical layers. It specifies advanced physical layer features, wake-up and sleep features, physical layer test suite, physical layer control requirements and conformance test plan, physical sublayers test suite and physical sublayers requirements and conformance test plan.

ISO 21111-7 specifies the implementation for ISO/IEC/IEEE 8802-3, which defines the interface implementation for automotive applications together with requirements on components used to realize this Bus Interface Network (BIN). ISO 21111-7 also defines further testing and system requirements for systems implemented according to the system specification. In addition, ISO 21111-7 defines the channels for tests of transceivers with a test wiring harness that simulates various electrical communication channels.

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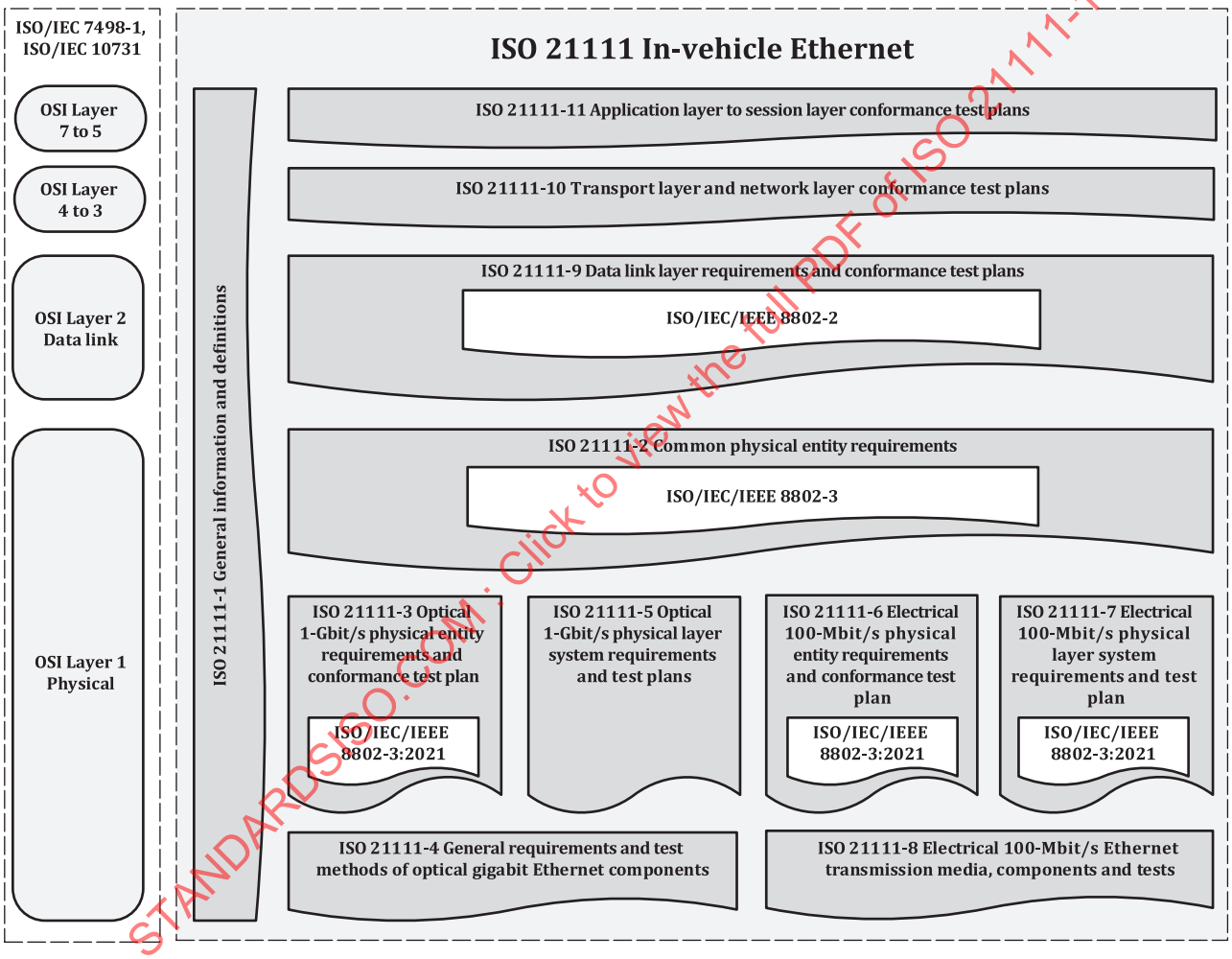
ISO 21111-8 specifies the transmission media, the channel performance and the tests for ISO/IEC/IEEE 8802-3 in-vehicle Ethernet.

ISO 21111-9 specifies the data link layer requirements and conformance test plan. It specifies the requirements and test plan for devices and systems with bridge functionality.

ISO 21111-10 specifies the transport to network layer requirements and conformance test plans. It specifies the requirements and conformance test plan for devices and systems that include functionality related with OSI layers from 4 and 3.

This document specifies the application to session layer requirements and conformance test plans. It specifies the requirements and conformance test plan for devices and systems that include functionality related with OSI layers from 7 to 5.

Figure 1 shows the parts of the ISO 21111 series and the document structure.



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Figure 1 — In-vehicle Ethernet documents reference according to OSI model

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Road vehicles — In-vehicle Ethernet —

Part 11:
Application layer to session layer conformance test plans

1 Scope

This document specifies in-vehicle Ethernet application layer, presentation layer, and session layer conformance test plans (CTP) for electronic control units (ECUs). This document is a collection of all conformance test cases which are recommended to be considered for automotive use and should be referred by car manufacturers within their quality control processes.

The document specifies the scalable Service-Oriented MiddlewarE over Internet Protocol (SOME/IP) and Dynamic Host Configuration Protocol (DHCP) version 4 conformance test cases.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO/IEC 9646-1, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts*

ISO 21111-1, *Road vehicles — In-vehicle Ethernet — Part 1: General information and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21111-1, ISO/IEC 9646-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
PORT1
port number of the upper tester used for UDP communication

3.2
service interface description
description of the implemented SOME/IP services of a IUT including, e.g. all methods, events, and method parameters

4 Symbols and abbreviated terms

4.1 Symbols

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V_{BAT}	voltage of the battery
X	feature in table cell selected
$t_{Param\text{-}Tolerance\text{-}Time}$	tolerance time taken from parameter file
$t_{Client\text{-}Listen\text{-}Time}$	listen time used by ANVL taken from parameter file
$t_{Param\text{-}Process\text{-}Time}$	amount of time the test system Host-1 waits for the IUT to process the PDU
$t_{Param\text{-}Lease\text{-}Time}$	value of DHCP IP address lease time in seconds which is offered to the IUT
$t_{Duration\text{-}Of\text{-}Lease}$	lease time in seconds
$t_{High\text{-}Lease\text{-}Time}$	lease time in seconds set to high value

4.2 Abbreviated terms

ACK	acknowlege
ADDR	address
AL	application layer
ANVL	Automated Network Validation Library
ARP	address resolution protocol
BOM	byte order mark
CTC	conformance test case
CTP	conformance test plan
DHCP	Dynamic Host Configuration Protocol
EMC	electromagnetic compatibility
ETS	enhanced testability service
FIN	finish
ICMP	internet control message protocol
IUT	implementation under test
MSL	maximum segment lifetime
MSS	maximum segment size
PCO	point of control and observation
PHY	physical layer
PRS	protocol requirement specification
PSH	push
QOS	qualitiy of service and audio/video bridging
RPC	remote procedure call

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SL	session layer
SOME/IP	Service-Oriented MiddlewarE over Internet Protocol
SUT	system under test
SYN	synchonise
TCP	transmission control protocol
TIME	time synchronisation
TTL	Time-To-Live
UDP	user datagram protocol

5 Conventions

This document is based on OSI service conventions as specified in ISO/IEC 10731[4].

6 CTP test system set-up and CTC structure

6.1 General

This document specifies a CTP according to the requirements as specified in the ISO/IEC 9646 series. A CTP does not provide qualification of test results but expected responses of the IUT. A CTP is used by a test house to develop a conformance test plan specific for the test system used in their lab environment.

The CTCs specified in this document are organized in such a manner as to simplify the identification of information related to a test and to facilitate in the actual testing process. CTCs are organized into groups, primarily in order to reduce set-up time in the lab environment. The different groups typically also tend to focus on specific aspects of device functionality.

A CTC reference name, for example, "CTC_SOMEIP_ETS_07 – EchoBitfields" is used to organize the CTC name, where the following is included:

— "CTC" which indicates that this is a conformance test case;

— name/subject of CTC;

— supplemental name, for example, ETS, which is enhanced test system;

— CTC number;

— after the hyphen a descriptive name of the CTC follows.

The CTC definitions themselves are intended to provide a high-level description of the purpose, references, prerequisite, steps/procedures, expected responses, remarks, and methodologies pertinent to each test (see 6.3).

6.2 Test system set-up

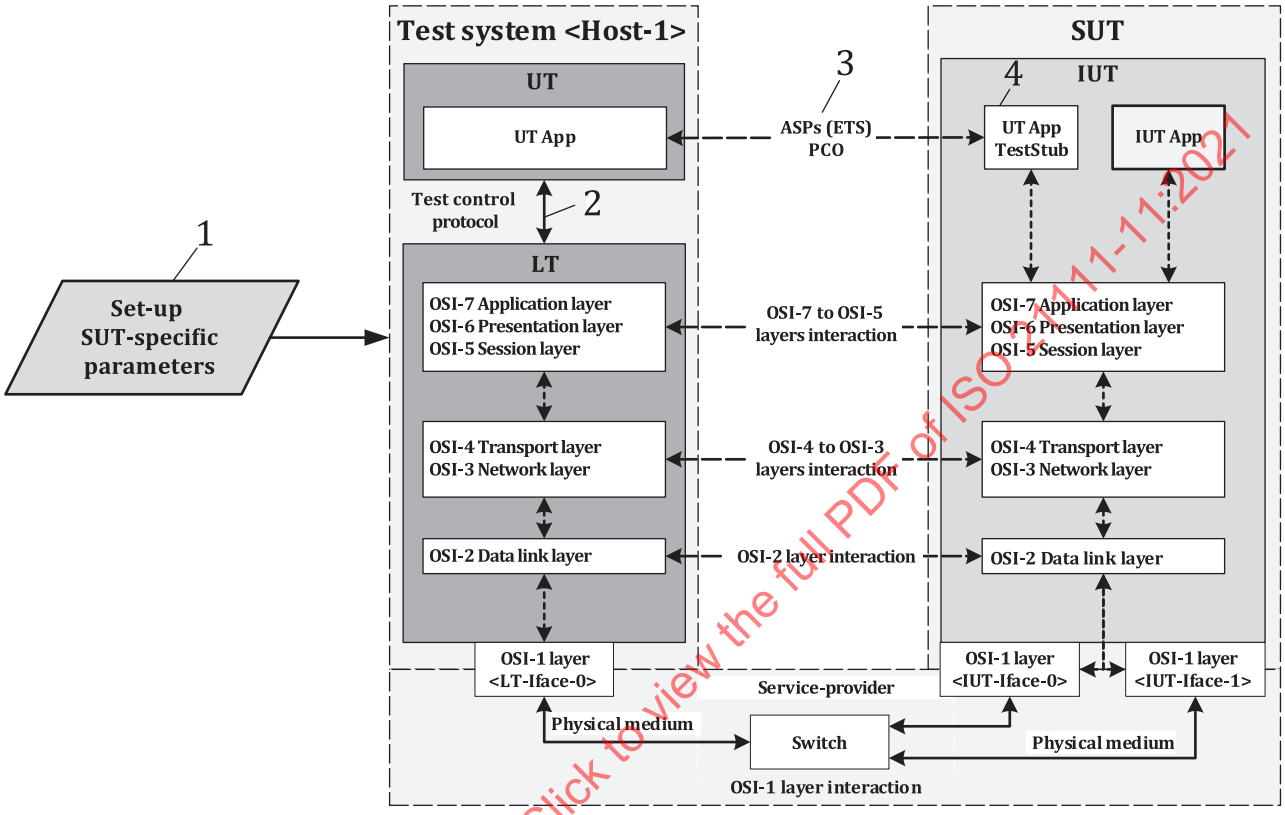
The test system topology follows ISO/IEC 9646-1:1994 and consists of a test set-up which consists of a test system and a system under test (SUT) connected via the physical medium. The test system implements an UT and an LT. The UT uses the test control protocol (Figure 2, key 2) to control the LT. The LT supports the functionality required to test the OSI layer (Figure 2, key 5, key 6, and key 7) of the IUT. The test system uses IUT-specific set-up parameters (Figure 2, key 1) for testing the communication with the IUT.

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The control and measurement functionality is provided by direct logical access to the service interface (dashed line) (Figure 2, key 3) and the associated parameters of the OSI layer. The UT in the IUT (Figure 2, key 4) supports an equivalent part of the abstract service interface (ASPs, PCO) (dashed line) (Figure 2, key 3) and the associated parameters to control and measure the state(s) of the IUT.

The UT conformance test controller in the test system manipulates the service primitive interface parameters in the IUT via the ASPs (ETSs) and PCO of the OSI layers to fulfil the purpose of each CTC.



Key

1 set-up parameters (node's electronic data sheet)
2 test control protocol
3 PCO and ASPs based on ETS
4 UT application with ETS interface
5 OSI layer 7 to 5 protocol
6 OSI layer 4 to 3 protocol
7 OSI layer 2 protocol

Figure 2 — Test system set-up

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6.3 CTC definition

CTCs are independent of one another. Each CTC checks the behaviour of the IUT for a particular purpose of this document. CTCs, which require variations of individual parameters, shall be repeated for each value of the parameter. Each CTC is specified according to a common CTC structure as shown in Table 1.

Table 1 — CTC structure

Item	Content
CTC # – Title	CTC_x.y.z-a – CTC structure

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Table 1 *(continued)*

Item	Content
Purpose	The purpose is a brief statement outlining what the test attempts are to achieve. The test is written at the functional level. It is recommended to begin the description of purpose with "This CTC verifies ...".
Reference	The purpose of reference is to specify source material external to the test suite, including any other references that can be helpful in understanding the test methodology and/or test results. External sources are always referenced by number when mentioned in the test description. Any other references not specified by number are stated with respect to the test suite document itself. EXAMPLE AUTOSAR SOME/IP Example of a Serialization Protocol V1.1.0 R4.1 rev 3: PRS_SOMEIP_00042, PRS_SOMEIP_00099, ...
Prerequisite	The purpose of prerequisites is to specify the test hardware and/or software needed to perform the CTC. This is generally expressed in terms of minimum requirements. In some cases, specific equipment manufacturer/model information may be provided. EXAMPLE The IUT is running and offering the enhanced testability service.
Set-up	The purpose of set-up is to describe the initial configuration of the test environment. Small changes in the configuration should not be included here and are generally covered in the test procedure below. EXAMPLE The test system set-up shall be in accordance with Figure 2.
Step	The test procedure includes the test description, which contains the systematic instructions for carrying out the test. It provides a cookbook approach to testing and may be interspersed with observable results. Each test step shall have a numeric number in ascending order. 1. Configure the IUT as master or as slave. 2. Establish a valid link with the IUT. 3. Monitor the transmissions from the IUT and cause the management to request a PMA reset while simultaneously ceasing transmissions from the test system.
Iteration	The purpose of test iterations is to include test procedure definitions, which are repeated more than once. a) REPEAT step 2 to step 3 with the IUT configured as master, 1 time. b) REPEAT step 2 to step 3 with the IUT configured as slave, 1 time.
Expected response	The purpose of expected response is to describe the expected results to be examined by the test system Host-1 in order to verify that the IUT is operating. When multiple values for an observable are possible, this description provides a short discussion on how to interpret them. The determination of a pass or fail outcome for a particular test is generally based on the successful (or unsuccessful) detection of a specific observable. After iteration a): The IUT stops transmitting with tx_mode = SEND_N and starts transmitting with tx_mode = SEND_I for 1 iteration a). The IUT sets link_status = FAIL. After iteration b): The IUT stops transmitting for 1 iteration b). The IUT sets link_status = FAIL.
Remark	The purpose of remarks is to describe known issues with the test procedure, which can affect test results in certain situations. It can also refer the reader to test suite annexes and/or white papers that can provide more detail regarding these issues.

6.4 Terminology used in CTCs

Table 2 specifies the terminology used in CTCs.

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Table 2 — Terminology used in CTCs

Name	Content
Upper tester (UT)	Entity which is responsible for controlling the LT via the test control protocol and the IUT UT enhanced testability services (ETS) via the abstract service primitives (ASPs).
Lower tester (LT)	Entity which is responsible for validating the implementation under test (IUT).
IUT_CONFIGURE	This entry causes the IUT to configure/execute various commands for clearing cache, adding static address, send echo request, etc.
IUT	Implementation under test in the SUT.
CLEANUP	This is a command, which causes the IUT to remove the static entry from its ARP cache.

6.5 IUT prerequisites – TCP/IP TestStub

6.5.1 General

The TCP/IP TestStub defines interfaces required to test TCP/IP communication stack functionality. This is an enabler for generic test tools and conformance test cases (CTCs).

The protocol parts covered by the TCP/IP TestStub include:

— UDP and TCP – socket connection establishment and termination;

— UDP and TCP – message transmission and reception.

The TCP/IP TestStub is specified in Reference [12] (AUTOSAR). This document references a subset of the AUTOSAR specification.

6.5.2 TCP/IP TestStub methods (service primitives)

Table 3 references *AUTOSAR Testability Protocol and Service Primitives, TC Release 1.2.0*, '6.10 Service Primitives'[12] and indicates the service primitives which are applicable.

Table 3 — TCP/IP TestStub methods (service primitives)

Method name (service primitive)	Identifier	General	UDP	TCP
GET_VERSION	1_{16}	optional	---	---
START_TEST	2_{16}	mandatory	---	---
END_TEST	3_{16}	mandatory	---	---
CLOSE_SOCKET	0_{16}	---	mandatory	mandatory
CREATE_AND_BIND	1_{16}	---	mandatory	mandatory
SEND_DATA	2_{16}	---	mandatory	mandatory
RECEIVE_AND_FORWARD	3_{16}	---	mandatory	mandatory
LISTEN_AND_ACCEPT	4_{16}	---	---	mandatory
CONNECT	5_{16}	---	---	mandatory
SHUTDOWN	7_{16}	---	---	optional

6.5.3 Result codes

Due to different stack implementations there is no generic way to retrieve specific result codes. Only generic result codes are accepted. The referenced TestStub methods are changed as follows.

The TestStub methods in Table 4 have no specific result codes, only generic result codes (E_OK / E_NOK) are allowed.

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Table 4 — Result codes

Chapter in Reference [12]"	TestStub method (service primitive)
6.10.4	CLOSE_SOCKET
6.10.5	CREATE_AND_BIND
6.10.6	SEND_DATA
6.10.7	RECEIVE_AND_FORWARD
6.10.8	LISTEN_AND_ACCEPT
6.10.9	CONNECT
6.11.1	SHUTDOWN

6.6 IUT prerequisites – SOME/IP TestStub

6.6.1 General

The SOME/IP TestStub enhanced testability service (ETS)[12] defines interfaces required to test SOME/IP functionality. This is an enabler for generic test tools and conformance test cases (CTCs).

The protocol parts covered by the SOME/IP TestStub includes:

— SOME/IP Stack – Service discovery;

— SOME/IP Stack – Serialisation;

— SOME/IP Stack – Remote procedure call;

— SOME/IP Stack – Publish/Subscribe.

6.6.2 SOME/IP TestStub methods

6.6.2.1 Overview about methods

Table 5 specifies the list of SOME/IP TestStub methods.

Table 5 — List of SOME/IP TestStub methods

SOME/IP TestStub method name	Method-Id	Fire and forget
checkByteOrder()	$1F_{16}$	---
clientServiceActivate()	$2F_{16}$	X
clientServiceDeactivate()	30_{16}	X
clientServiceSubscribe-Event-Group()	32_{16}	X
echoCommonDatatypes()	23_{16}	---
echoENUM()	17_{16}	---
echoFLOAT64()	12_{16}	---
echoINT8()	$0E_{16}$	---
echoStaticUINT8Array()	36_{16}	---
echoUINT8()	08_{16}	---
echoUINT8Array()	09_{16}	---
echoUINT8Array8BitLength()	$3E_{16}$	---
Key --- empty cell/undefined X method supported		

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Table 5 *(continued)*

SOME/IP TestStub method name	Method-Id	Fire and forget
echoUINT8Array16BitLength()	$3F_{16}$	---
echoUINT8Array2Dim()	35_{16}	---
echoUINT8ArrayMinSize()	37_{16}	---
echoUINT8E2E()	$0B_{16}$	---
echoUINT8RELIABLE()	$0A_{16}$	---
echoUNION()	19_{16}	---
echoUTF16DYNAMIC()	16_{16}	---
echoUTF16FIXED()	14_{16}	---
echoUTF8DYNAMIC()	15_{16}	---
echoUTF8FIXED()	13_{16}	---
resetInterface()	01_{16}	X
suspendInterface()	02_{16}	X
triggerEventUINT8()	03_{16}	X
triggerEventUINT8Array()	04_{16}	X
triggerEventUINT8E2E()	06_{16}	X
triggerEventUINT8Reliable()	05_{16}	X
triggerEventUINT8Multicast()	$3A_{16}$	X
clientServiceGetLastValueOfEventTCP()	$3B_{16}$	---
clientServiceGetLastValueOfEventUDPUnicast()	$3C_{16}$	---
clientServiceGetLastValueOfEventUDPMulticast()	$3D_{16}$	---
echoBitfields()	41_{16}	---
Key --- empty cell/undefined X method supported		

6.6.2.2 SOME/IP service discovery (SOME/IP-SD) control methods

6.6.2.2.1 SOME/IP-SD – State machine of testing methods

Several methods of the SOME/IP TestStub are used to test SOME/IP-SD. Figure 3 shows the SOME/IP-SD– State machine of testing methods.

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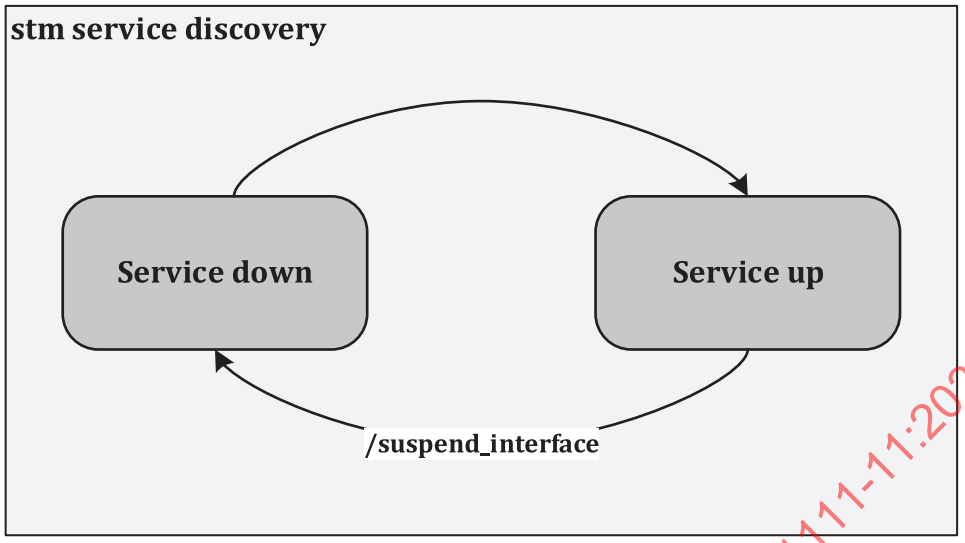


Figure 3 — SOME/IP-SD– State machine of testing methods

6.6.2.2.2 SOME/IP-SD – Method resetInterface()

Table 6 defines the method resetInterface().

Table 6 — Method resetInterface()

Method name	Method content	Method-Id
resetInterface()	This method resets the interface to default values.	01_{16}

Figure 4 shows the method resetInterface().

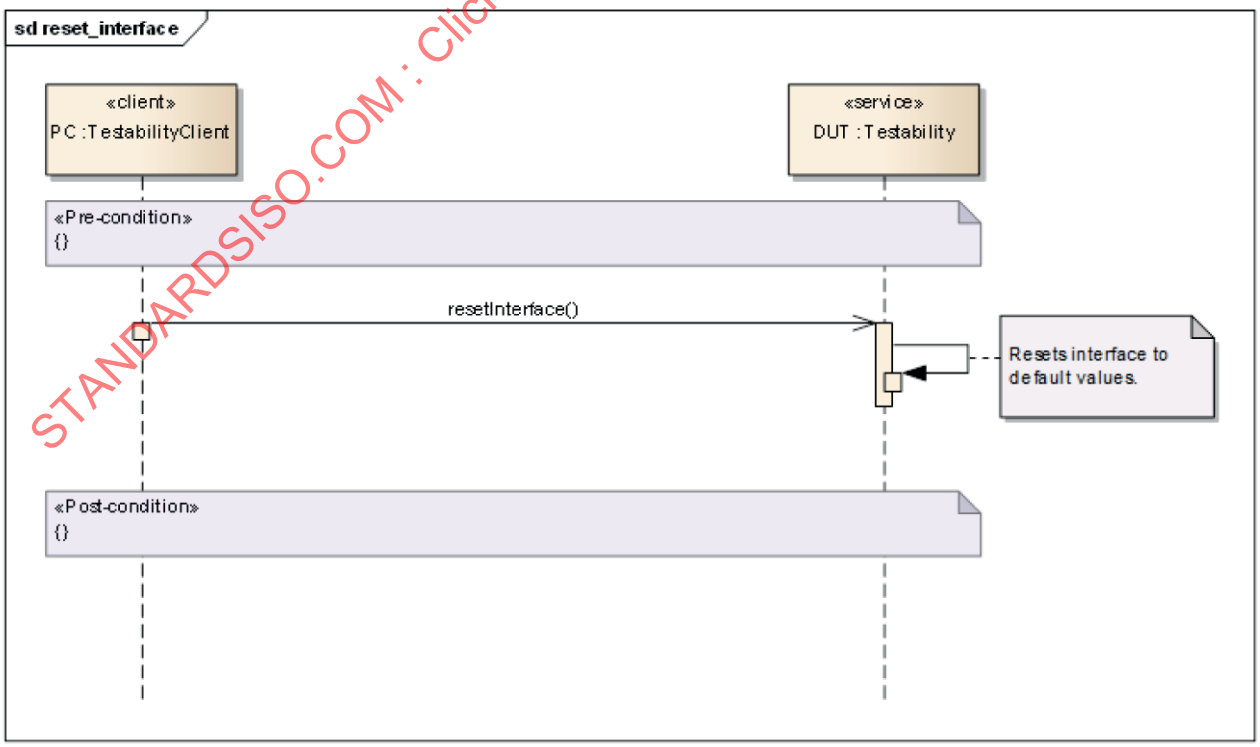


Figure 4 — Method resetInterface()

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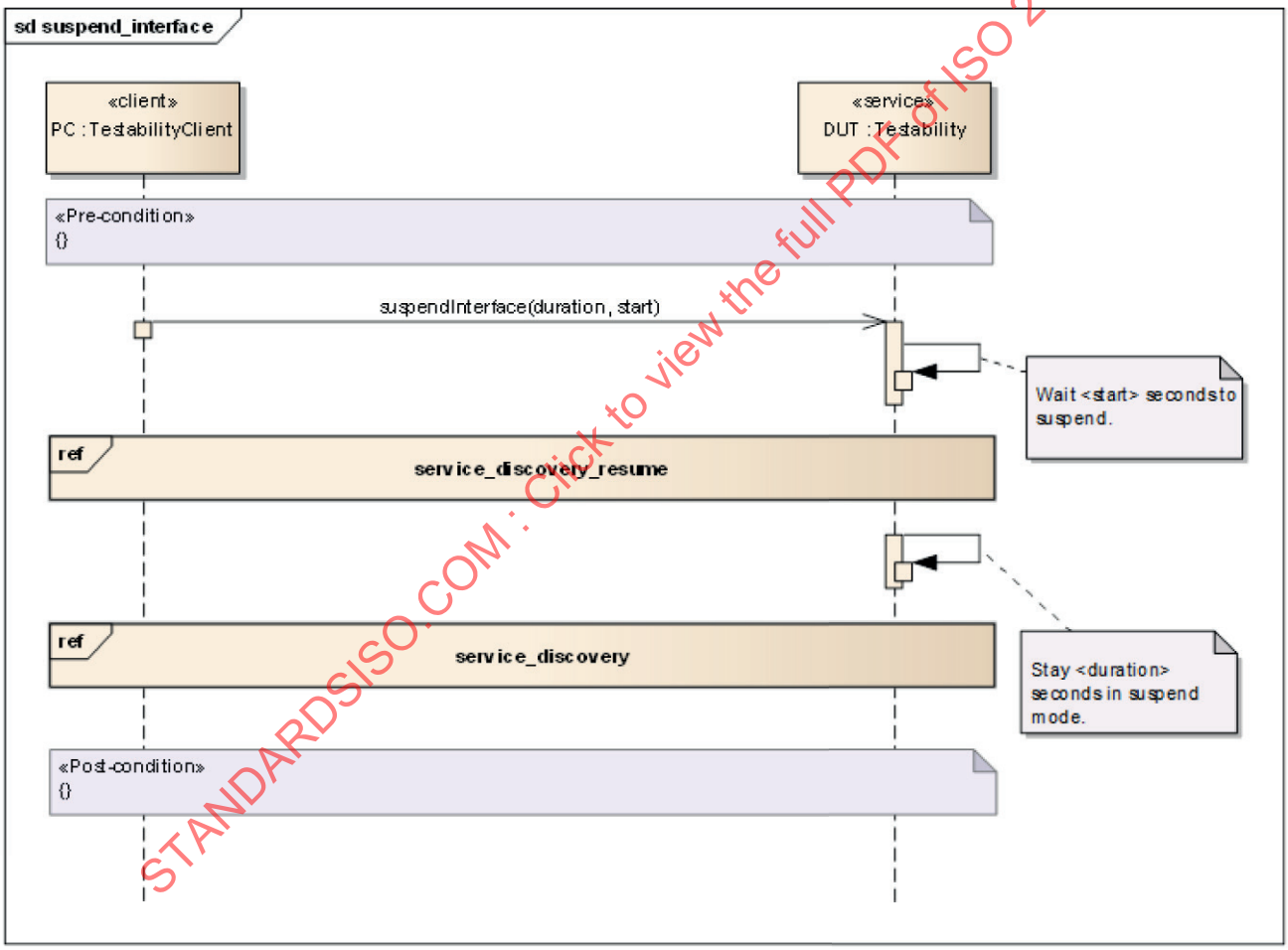
6.6.2.2.3 SOME/IP-SD – Method suspendInterface()

Table 7 defines the method suspendInterface().

Table 7 — Method suspendInterface()

Method name	Method content	Method-Id
suspendInterface()	This method allows to suspend the SOME/IP TestStub; thus, forcing the IUT to stop offering the service and start to reoffer the service after a given time. The input parameters include: — delay – wait time in seconds before the service shall be stopped; — duration – wait time in seconds during between stopping the service and reoffering it again.	02_{16}

Figure 5 shows the method suspendInterface().



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Figure 5 — Method suspendInterface()

6.6.2.3 SOME/IP-SD – Client interaction methods

In order to test the correct function as a client, the SOME/IP TestStub shall support the methods as defined in Table 8.

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Table 8 — Testing client interaction methods

Method name	Method content	Method-Id
clientServiceActivate()	The commands clientServiceActivate() and clientServiceDeactivate() shall instruct the IUT if it shall start its SOME/IP client; thus, they control when the system shall start finding the ETS with the configurable instance identifier (e.g. $00F4_{16}$).	$2F_{16}$
clientServiceDeactivate()		30_{16}
clientServiceSubscribe-Event-Group()	The clientServiceSubscribe-Event-Group shall trigger the subscription behaviour in service discovery.	32_{16}
clientServiceGetLastValueOfEventTCP()	These methods return the last received value of TestEventUINT8Reliable, TestEventUINT8, and TestEventUINT8Multicast respectively.	$3B_{16}$
clientServiceGetLastValueOfEventUDPUnicast()		$3C_{16}$
clientServiceGetLastValueOfEventUDPMulti-cast()		$3D_{16}$

6.6.2.4 SOME/IP serialisation verification methods

6.6.2.4.1 Check byte order method

Table 9 defines the method checkByteOrder().

Table 9 — Method checkByteOrder()

Method name	Method content	Method-Id
checkByteOrder()	This method is used to test the correct handling of the byte order. The input parameters include a uint8 and a big endian uint16, which shall be added and returned as output parameter in UINT32 big endian.	$1F_{16}$

Figure 6 shows the method checkByteOrder().

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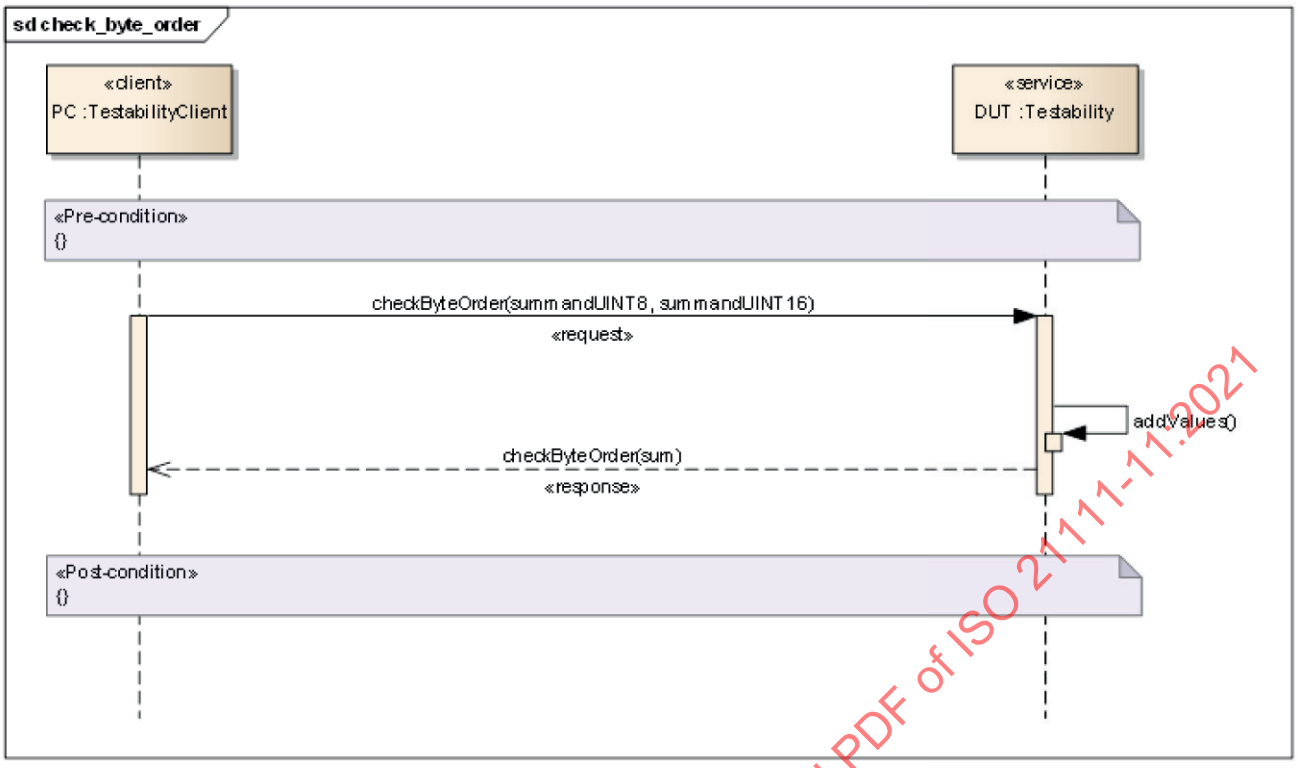


Figure 6 — Method checkByteOrder()

6.6.2.4.2 Echo data types methods

Table 10 defines the methods for echoing data types.

Table 10 — Method echoing data types

Method name	Method content	Method-Id
echoCommonDatatypes()()	This method can be used to test the common data types. The input parameters shall be echoed back in reversed order. The service interface description (6.6.4) describes this in detail.	23_{16}
echoENUM()	The echo-routines echo back the parameters, partly in another order as the parameters coming in. The service interface description (6.6.4) describes this in detail.	17_{16}
echoFLOAT64()		12_{16}
echoINT8()		$0E_{16}$
echoStaticUINT8Array()		36_{16}
echoUINT8()		08_{16}
echoUINT8Array()		09_{16}
echoUINT8Array8 BitLength()		$3E_{16}$
echoUINT8Array16 BitLength()		$3F_{16}$
echoUINT8Array2Dim()		35_{16}
echoUINT8ArrayMinSize()		37_{16}
echoUINT8E2E()		$0B_{16}$
echoUINT8RELIABLE()	This method uses TCP as OSI layer 4 transport protocol.	$0A_{16}$

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Table 10 *(continued)*

Method name	Method content	Method-Id
echoUNION()	The echo-routines echo back the parameters, partly in another order as the parameters coming in. The service interface description (6.6.4) describes this in detail.	19_{16}
echoUTF16DYNAMIC()		16_{16}
echoUTF16FIXED()		14_{16}
echoUTF8DYNAMIC()		15_{16}
echoUTF8FIXED()		13_{16}
echoBitfields()		41_{16}

Three examples are shown in the diagram below.

Figure 7 shows the methods echoUINT8(), echoUINT8reliable(), echoUINT8E2E().

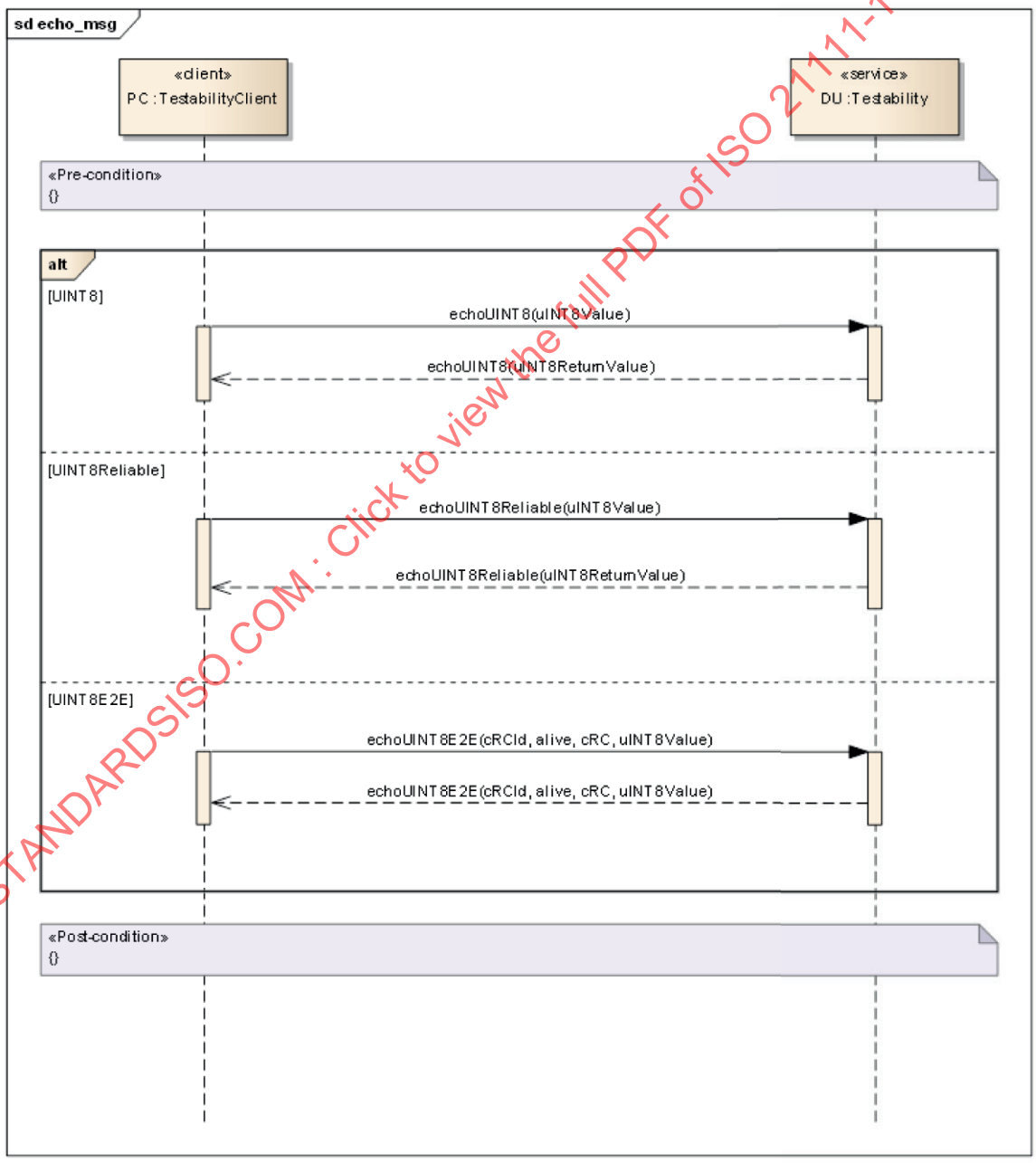


Figure 7 — Methods echoUINT8(), echoUINT8reliable(), echoUINT8E2E()

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6.6.3 SOME/IP TestStub events and fields.

6.6.3.1 Event and field types

Table 11 specifies the SOME/IP TestStub events and fields.

Table 11 — List of SOME/IP TestStub events and fields

Type	SOME/IP TestStub event/field name	Event-Id/Field-Id	Event-Group-Id		
			0002_{16}	0005_{16}	0006_{16}
Event	TestEventUINT8	8001_{16}	X	X	---
Event	TestEventUINT8Array	8002_{16}	X	X	---
Event	TestEventUINT8E2E	8004_{16}	X	X	---
Event	TestEventUINT8Reliable	8003_{16}	X	---	---
Event	TestEventUINT8Multicast	$800B_{16}$	X	X	X
Field	InterfaceVersion	8005_{16} (notify)	X	X	---
		0025_{16} (getter)	X	X	---
Field	TestFieldUINT8	8006_{16} (notify)	X	X	---
		0026_{16} (getter)	X	X	---
		0027_{16} (setter)	X	X	---
Field	TestFieldUINT8Array	8007_{16} (notify)	X	X	---
		0028_{16} (getter)	X	X	---
		0029_{16} (setter)	X	X	---
Field	TestFieldUINT8Reliable	8008_{16} (notify)	X	---	---
		$002A_{16}$ (getter)	X	---	---
		$002B_{16}$ (setter)	X	---	---
Key					
--- empty cell/undefined					
X feature in table cell selected					

6.6.3.2 Event trigger methods

Table 12 defines the event trigger methods.

Table 12 — Event trigger methods

Method name	Method content	Method-Id
triggerEventUINT8()	After the method triggerEventUINT8() (delay, duration, debounceTime) was invoked, the ETS waits t_{delay} seconds and triggers a periodical event TestEventUINT8(UINT8Value) with the passed duration and debounce time. The service interface description (6.6.4) describes this in detail. The transport protocol of the event message is UDP.	03_{16}
triggerEventUINT8Array()	After the method triggerEventUINT8Array()(delay, duration, debounceTime) was invoked, the ETS waits t_{delay} seconds and triggers a periodical event TestEventUINT8Array(UINT8ArrayValue) with the passed duration and debounce time. The service interface description (6.6.4) describes this in detail. The transport protocol of the event message is UDP.	04_{16}

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Table 12 *(continued)*

Method name	Method content	Method-Id
triggerEventUINT8E2E()	After the method triggerEventUINT8E2E()(delay, duration, debounceTime) was invoked, the ETS waits t_{delay} seconds and triggers a periodical event TestEventUINT8E2E(UINT8E2EValue) with the passed duration and debounce time. The service interface description (6.6.4) describes this in detail. The transport protocol of the event message is UDP.	06_{16}
triggerEventUINT8Reliable()	After the method triggerEventUINT8Reliable()(delay, duration, debounceTime) was invoked, the ETS waits t_{delay} seconds and triggers a periodical event TestEventUINT8Reliable(UINT8Value) with the passed duration and debounce time. The service interface description (6.6.4) describes this in detail. The transport protocol of the event message is TCP.	05_{16}
triggerEventUINT8Multicast()	After the method triggerEventUINT8Multicast()(delay, duration, debounceTime) was invoked, the ETS waits t_{delay} seconds and triggers a periodical event TestEventUINT8Multicast(UINT8Value) with the passed duration and debounce time. The event is sent to a multicast address. The service interface description (6.6.4) describes this in detail. The transport protocol of the event message is UDP.	$3A_{16}$

6.6.3.3 Field methods (getter, setter, notifier)

Table 13 specifies the field methods.

Table 13 — Field methods

Field	Method name	Parameter	Data type	Method-Id
InterfaceVersion	testFieldUINT8_Getter	---	---	25_{16}
	testFieldUINT8_Notifier	testFieldUINT8_Notifier_Arg1 (majorVersion) testFieldUINT8_Notifier_Arg2 (minorVersion)	Uint8 Uint32	8005_{16}
TestFieldUINT8	testFieldUINT8_Getter	---	---	26_{16}
	testFieldUINT8_Setter	testFieldUINT8_Setter_Arg1	Uint8	27_{16}
	testFieldUINT8_Notifier	testFieldUINT8_Notifier_Arg1	Uint8	8006_{16}
TestFieldUINT8Array	testFieldUINT8Array_Getter	---	---	28_{16}
	testFieldUINT8Array_Setter	testFieldUINT8Array_Setter_Arg1 (array len) testFieldUINT8Array_Setter_Arg2 (array)	Uint8 Array of Uint8 elements	29_{16}
	testFieldUINT8Array_Notifier	testFieldUINT8Array_Notifier_Arg1 (array len) testFieldUINT8Array_Notifier_Arg2 (array)	Uint8 Array of Uint8 elements	8007_{16}
TestFieldUINT8Reliable	testFieldUINT8Reliable_Getter	---	---	$2A_{16}$
	testFieldUINT8Reliable_Setter	testFieldUINT8Reliable_Setter_Arg1	Uint8	$2B_{16}$
	testFieldUINT8Reliable_Notifier	testFieldUINT8Reliable_Notifier_Arg1	Uint8	8008_{16}

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6.6.4 ETS service interface description

The SOME/IP TestStub service interface description reflects the requirements to be supported by the IUT. Therefore, the manufacturer of the IUT provides the service interface description in case an IUT-specific service interface description is not available. Table 14 specifies the default SOME/IP TestStub interface description to be used.

Table 14 — Default SOME/IP TestStub interface description

Method name	Default parameter	Data type	Comment
checkByteOrder_Req	checkByteOrder_ReqArg1 checkByteOrder_ReqArg2	Uint8 Uint16	ResArg1 = sum of ReqArg1+ ReqArg2
checkByteOrder_Res	checkByteOrder_ResArg1	Uint32	
clientServiceActivate_Req	clientServiceActivate_ReqArg1 (delay)	Uint8	Message Type is REQ_NO_RETURN
clientServiceDeactivate_Req	clientServiceDeactivate_ReqArg1 (delay)	Uint8	Message Type is REQ_NO_RETURN
clientServiceSubscribe-Event-Group_Req	clientServiceSubscribe-Event-Group_ReqArg1 (delay) clientServiceSubscribe-Event-Group_ReqArg2 (duration)	Uint32 Uint32	Message Type is REQ_NO_RETURN
echoCommonDatatypes_Req	echoCommonDatatypes_ReqArg1 echoCommonDatatypes_ReqArg2 echoCommonDatatypes_ReqArg3 echoCommonDatatypes_ReqArg4 echoCommonDatatypes_ReqArg5 echoCommonDatatypes_ReqArg6 echoCommonDatatypes_ReqArg7 echoCommonDatatypes_ReqArg8 echoCommonDatatypes_ReqArg9	Boolean uint8 uint16 uint32 int8 int16 int32 float32 float64	echoCommonDatatypes_ReqArg1 = echoCommonDatatypes_ResArg9 echoCommonDatatypes_ReqArg2 = echoCommonDatatypes_ResArg8 etc.
echoCommonDatatypes_Res	echoCommonDatatypes_ResArg1 echoCommonDatatypes_ResArg2 echoCommonDatatypes_ResArg3 echoCommonDatatypes_ResArg4 echoCommonDatatypes_ResArg5 echoCommonDatatypes_ResArg6 echoCommonDatatypes_ResArg7 echoCommonDatatypes_ResArg8 echoCommonDatatypes_ResArg9	float64 float32 int32 int16 int8 uint32 uint16 uint8 Boolean	
echoENUM_Req	echoENUM_ReqArg1	Uint8	echoENUM_ReqArg1 = echoENUM_ResArg1
echoENUM_Res	echoENUM_ResArg1	Uint8	
echoFLOAT64_Req	echoFLOAT64_ReqArg1	Float64	echoFLOAT64_ReqArg1 = echoFLOAT64_ResArg1
echoFLOAT64_Res	echoFLOAT64_ResArg1	Float64	
echoINT8_Req	echoINT8_ReqArg1	Sint8	echoINT8_ReqArg1 = echoINT8_ResArg1
echoINT8_Res	echoINT8_Res_Arg1	Sint8	

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Table 14 *(continued)*

Method name	Default parameter	Data type	Comment
echoStaticUINT8Array_Req	echoStaticUINT8Array_ReqArg1	Array	Static array of 5 Uint8 elements (without array lenght field) echoStaticUINT8Array_ReqArg1 = echoStaticUINT8Array_ResArg1
echoStaticUINT8Array_Res	echoStaticUINT8Array_ResArg1	Array	
echoUINT8_Req	echoUINT8_ReqArg1	Uint8	echoUINT8_Req = echoUINT8_Res
echoUINT8_Res	echoUINT8_ResArg1	Uint8	
echoUINT8Array_Req	echoUINT8Array_ReqArg1 (array len) echoUINT8Array_ReqArg2 (array)	Uint32 Array	Dynamic array of n Uint8 elements echoUINT8Array_ReqArg1 = echoUINT8Array_ResArg1, echoUINT8Array_ReqArg2 = echoUINT8Array_ResArg2
echoUINT8Array_Res	echoUINT8Array_ResArg1 (array len) echoUINT8Array_ResArg2 (array)	Uint32 Array	
echoUINT8Array8BitLength_Req	echoUINT8Array8BitLength_ReqArg1 (array len) echoUINT8Array8BitLength_ReqArg2 (array)	Uint8 Array	Dynamic array of n Uint8 elements echoUINT8Array8BitLength_ReqArg1 = echoUINT8Array8BitLength_ResArg1, echoUINT8Array8BitLength_ReqArg2 = echoUINT8Array8BitLength_ResArg2
echoUINT8Array8BitLength_Res	echoUINT8Array8BitLength_ResArg1 (array len) echoUINT8Array8BitLength_ResArg2 (array)	Uint8 Array	
echoUINT8Array16BitLength_Req	echoUINT8Array16BitLength_ReqArg1 (array len) echoUINT8Array16BitLength_ReqArg2 (array)	Uint16 Array	Dynamic array of n Uint8 elements echoUINT8Array16BitLength_ReqArg1 = echoUINT8Array16BitLength_ResArg1, echoUINT8Array16BitLength_ReqArg2 = echoUINT8Array16BitLength_ResArg2
echoUINT8Array16BitLength_Res	echoUINT8Array16BitLength_ResArg1 (array len) echoUINT8Array16BitLength_ResArg2 (array)	Uint16 Array	
echoUINT8Array2Dim_Req	echoUINT8Array2Dim_ReqArg1 (array len) echoUINT8Array2Dim_ReqArg2 (array of arrays)	Uint32 Array of arrays	Uint8array: Len (Uint32) Array of n Uint8 elements echoUINT8Array2Dim_ReqArg1 = echoUINT8Array2Dim_ResArg1 echoUINT8Array2Dim_ReqArg2 = echoUINT8Array2Dim_ ResArg2
echoUINT8Array2Dim_Res	echoUINT8Array2Dim_ResArg1 (array len) echoUINT8Array2Dim_ResArg2 (array of arrays)	Uint32 Array of Uint8Arrays	

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Table 14 *(continued)*

Method name	Default parameter	Data type	Comment
echoUINT8ArrayMinSize_Req	echoUINT8ArrayMinSize_ReqArg1 (array len) echoUINT8ArrayMinSize_ReqArg1 (array)	Uint32 Array	Dynamic array of n Uint8 elements with n = 3 .. 5 echoUINT8ArrayMinSize_ReqArg1 = echoUINT8ArrayMinSize_ResArg1, echoUINT8ArrayMinSize_ReqArg2 = echoUINT8ArrayMinSize_ResArg2
echoUINT8ArrayMinSize_Res	echoUINT8ArrayMinSize_ResArg1 (array len) echoUINT8ArrayMinSize_ResArg1 (array)	Uint32 Array	
echoUINT8E2E_Req	echoUINT8E2E_ReqArg1 (len) echoUINT8E2E_ReqArg2 (counter) echoUINT8E2E_ReqArg3 (dataID) echoUINT8E2E_ReqArg4 (crc) echoUINT8E2E_ReqArg5 (value)	Uint32 Uint32 Uint32 Uint32 Uint8	echoUINT8E2E_ReqArg1 = echoUINT8E2E_ResArg1, etc.
echoUINT8E2E_Res	echoUINT8E2E_ResArg1 (len) echoUINT8E2E_ResArg2 (counter) echoUINT8E2E_ResArg3 (dataID) echoUINT8E2E_ResArg4 (crc) echoUINT8E2E_ResArg5 (value)	Uint32 Uint32 Uint32 Uint32 Uint8	
echoUINT8RELIABLE_Req	echoUINT8RELIABLE_ReqArg1	Uint8	echoUINT8RELIABLE_ReqArg1 = echoUINT8RELIABLE_ResArg1 The used Layer 4 protocol is TCP
echoUINT8RELIABLE_Res	echoUINT8RELIABLE_ResArg1	Uint8	
echoUNION_Req	echoUNION_ReqArg1 (len) echoUNION_ReqArg2 (type) echoUNION_ReqArg3 (value)	Uint32 Uint32 See comment	Type 1 = Boolean Type 2 = uint8 Type 3 = uint16 Type 4 = uint32 Type 5 = sint8 Type 6 = sint16 Type 7 = sint32 Type 8 = float32
echoUNION_Res	echoUNION_ResArg1 (len) echoUNION_ResArg2 (type) echoUNION_ResArg3 (value)	Uint32 Uint32 See comment	
echoUTF16DYNAMIC_Req	echoUTF16DYNAMIC_ReqArg1 (len) echoUTF16DYNAMIC_ReqArg2 (string)	Unit32 UTF16	echoUTF16DYNAMIC_ReqArg1 = echoUTF16DYNAMIC_ResArg1, etc.
echoUTF16DYNAMIC_Res	echoUTF16DYNAMIC_ResArg1 (len) echoUTF16DYNAMIC_ResArg2 (string)	Unit32 UTF16	
echoUTF16FIXED_Req	echoUTF16FIXED_ReqArg1 (string)	UTF16Fixed	UTF16Fixed = 64 bytes of string including BOM echoUTF16FIXED_ReqArg1 = echoUTF16FIXED_ResArg1
echoUTF16FIXED_Res	echoUTF16FIXED_ResArg1 (string)	UTF16Fixed	

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Table 14 *(continued)*

Method name	Default parameter	Data type	Comment
echoUTF8DYNAMIC_Req	echoUTF8DYNAMIC_ReqArg1 (len) echoUTF8DYNAMIC_ReqArg2 (string)	Uint32 UTF8	echoUTF8DYNAMIC_ResArg1 = echoUTF8DYNAMIC_ReqArg1, etc
echoUTF8DYNAMIC_Res	echoUTF8DYNAMIC_ResArg1 (len) echoUTF8DYNAMIC_ResArg2 (string)	Uint32 UTF8	
echoUTF8FIXED_Req	echoUTF8FIXED_ReqArg1 (string)	UTF8Fixed	UTF8Fixed = 64 bytes of string including BOM echoUTF8FIXED_ReqArg1 = echoUTF8FIXED_ResArg1
echoUTF8FIXED_Res	echoUTF8FIXED_ResArg1 (string)	UTF8Fixed	
resetInterface_Req	N/A	N/A	Message Type is REQ_NO_RETURN without parameters
suspendInterface_Req	suspendInterface_ReqArg1 (delay) suspendInterface_ReqArg2 (duration)	Uint32 Uint32	Message Type is REQ_NO_RETURN
triggerEventUINT8_Req	triggerEventUINT8_ReqArg1 (delay) triggerEventUINT8_ReqArg2 (duration) triggerEventUINT8_ReqArg3 (debounceTime)	Uint32 Uint32 Uint32	Message Type is REQ_NO_RETURN
triggerEventUINT8Array_Req	triggerEventUINT8Array_ReqArg1 (delay) triggerEventUINT8Array_ReqArg2 (duration) triggerEventUINT8Array_ReqArg3 (debounceTime)	Uint32 Uint32 Uint32	Message Type is REQ_NO_RETURN
triggerEventUINT8E2E_Req	triggerEventUINT8E2E_ReqArg1 (delay) triggerEventUINT8E2E_ReqArg2 (duration) triggerEventUINT8E2E_ReqArg3 (debounceTime)	Uint32 Uint32 Uint32	Message Type is REQ_NO_RETURN
triggerEventUINT8Reliable_Req	triggerEventUINT8Reliable_ReqArg1 (delay) triggerEventUINT8Reliable_ReqArg2 (duration) triggerEventUINT8Reliable_ReqArg3 (debounceTime)	Uint32 Uint32 Uint32	Message Type is REQ_NO_RETURN The used Layer 4 protocol is TCP
triggerEventUINT8Multicast_Req	triggerEventUINT8Multicast_ReqArg1 (delay) triggerEventUINT8Multicast_ReqArg2 (duration) triggerEventUINT8Multicast_ReqArg3 (debounceTime)	Uint32 Uint32 Uint32	Message Type is REQ_NO_RETURN
clientServiceGetLastValueOfE ventTCP_Req	N/A	N/A	---
clientServiceGetLastValueOfE ventTCP_Res	clientServiceGetLastValueOfEventTCP_Res Arg1	Uint8	---
clientServiceGetLastValueOfE ventUDPUnicast_Req	N/A	N/A	---

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Table 14 *(continued)*

Method name	Default parameter	Data type	Comment
clientServiceGetLastValue-OfE ventUDPUnicast_Res	clientServiceGetLastValueOfEventUD-PUni cast_ResArg1	Uint8	---
clientServiceGetLastValue-OfE ventUDPMulticast_Req	N/A	N/A	---
clientServiceGetLastValue-OfE ventUDPMulticast_Res	clientServiceGetLastValueOfEventUDP-Mul ticast_ResArg1	Uint8	---
echoBitfields_Req	echoBitfields_ReqArg1 echoBitfields_ReqArg2 echoBitfields_ReqArg3	uint8 uint16 uint32	echoBitfields_ResArg1 = reversed bit order of echoBitfields_ReqArg1 echoBitfields_ResArg2 = reversed bit order of echoBitfields_ReqArg2 echoBitfields_ResArg3 = reversed bit order of echoBitfields_ReqArg3
echoBitfields_Res	echoBitfields_ResArg1 echoBitfields_ResArg2 echoBitfields_ResArg3	uint8 uint16 uint32	

7 Application, presentation, and session layers CTCs

7.1 AL – SOME/IP

7.1.1 General

The scope of this subclause is to specify CTCs for the scalable Service-Oriented MiddlewarE over IP protocol (SOME/IP).

7.1.2 Referenced specification

All CTCs in 7.1 are in accordance with these RFCs:

— Reference [10];

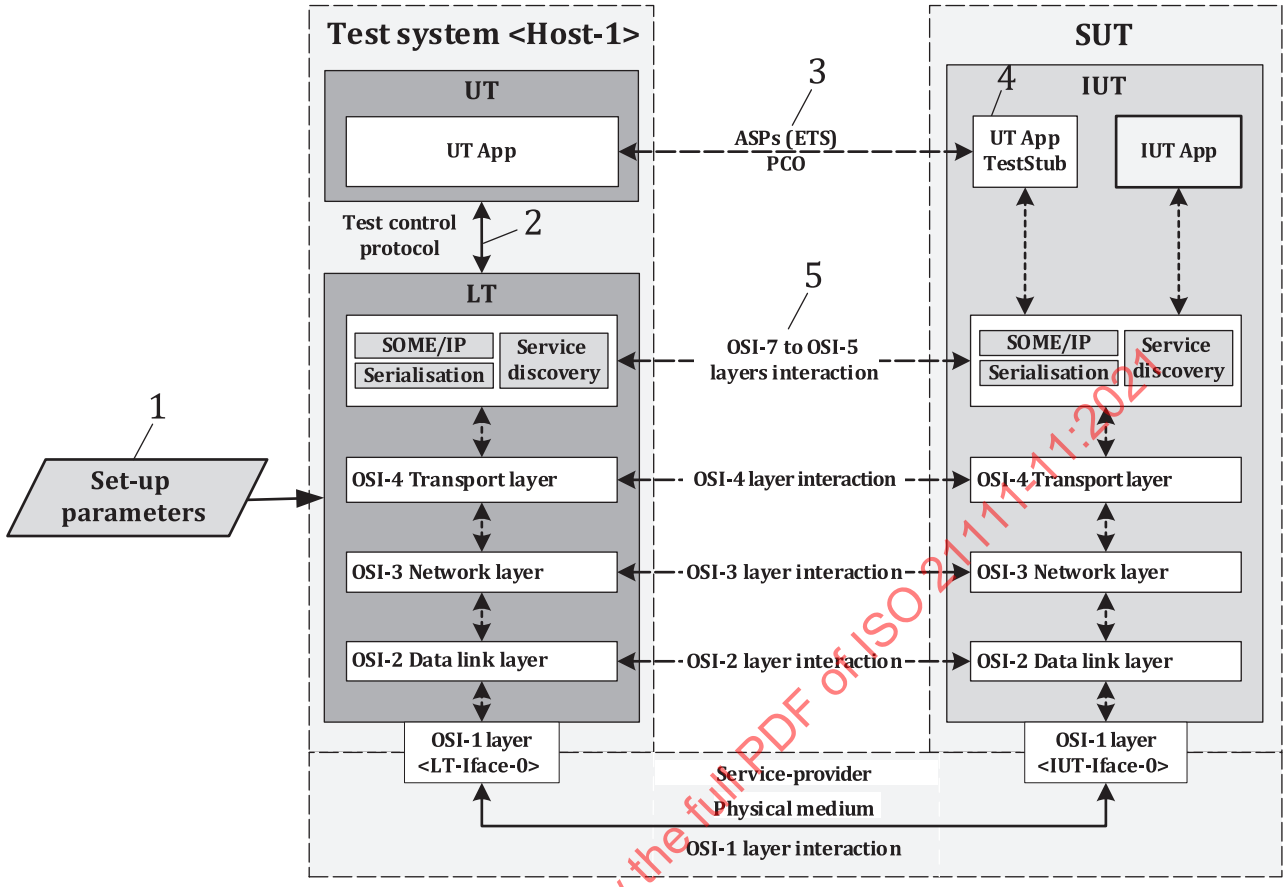
— Reference [11].

7.1.3 Test system topology – AL – SOME/IP, serialisation, and service discovery

Figure 8 shows the test system topology – AL – SOME/IP, serialisation, and service discovery.

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Key

1 IUT-specific set-up parameters (electronic data sheet)
2 test control protocol
3 PCO and ASPs based on ETS
4 UT TestStub application
5 OSI layer 7 SOME/IP, serialisation, and service discovery interaction

Figure 8 — Test system topology – AL – SOME/IP, serialisation, and service discovery

7.1.4 Test system topology and related CTC configuration

The test system Host-1 configuration is required for all CTCs pertaining to SOME/IP tests:

— with correct IUT IP address for the IUT interface connected to the test system interface; and

— with only one IP interface in the IUT.

7.1.5 SOME/IP parameters used in CTCs

7.1.5.1 User defined configuration parameters in SOME/IP for IUT

Table 15 specifies the user defined configuration parameters in SOME/IP for IUT.

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Table 15 — User defined configuration parameters in SOME/IP for IUT

Parameter used in CTCs	Content
Listen-Time-Setting	This is the maximum time interval for which ANVL waits for a packet for cases when a certain event is triggered on the IUT either by some protocol timer or using some external mechanism (script). Default: $0A_{16}$
Millisec-Tolerance-Time-Setting	This is the tolerance time associated with some event in ms. When waiting or listening this number is added with the actual wait-time or listen-time. This is currently used if the IUT's responses are in ms interval. Default: 64_{16}
Process-Time-Setting	This is the time the IUT appoximately takes to process a packet. ANVL uses this process time added to listen time for some time-critical situations while listening for the IUT responses. Default: 02_{16}
Tolerance-Time-Setting	This is the tolerance time associated with an event. When waiting or listening, this number is added to the actual wait-time or listen-time. Default: 01_{16}

7.1.5.2 User defined configuration parameters in SOME/IP for UT and LT

Table 16 specifies the user defined configuration parameters in SOME/IP for UT and LT.

Table 16 — User defined configuration parameters in SOME/IP for UT and LT

Parameter used in CTCs	Content
IUT-Iface-n	n-th interface of IUT
Service-Id-1	service identifier of service 1
Service-Id-2	service identifier of service 2
Service-Id-1-Instance-Id	instance identifier of service 1
Service-Id-1-Maj-Ver	major version supported by service 1
Service-Id-1-Intf-Maj-Ver	interface version of service 1
Service-Id-2-Intf-Maj-Ver	interface version of service 2
Service-Id-1-Time-To-Live	Time-To-Live value of service 1
Service-Id-1-Minor-Ver	minor version supported by service 1
Service-Id-1-Inst-1	first instance identifier of service 1
Evt-Grp-Id-2	event group identifier 2
Evt-Grp-Id-1-Service-1	event group identifier 1 of service 1
Service-Id-1-UDP-Port	UDP port number where service 1 runs
SOMEIP-Multicast-IP-Addr	multicast address used by SOME/IP-SD
Client-1-Curr-Request-Id	current request identifier of client 1
Evt-Id-1-Evt-Grp-Id-1	field event identifier 1 of event group identifier 1 that shall be sent out initially at initial subscription
Evt-Id-1-Evt-Grp-Id-2	field event identifier 1 of event group identifier 2 that shall be sent out initially at initial subscription
Evt-Id-2-Evt-Grp-Id-1	event identifier 2 of event group identifier 1
Event-Id-2-Evt-Grp-Id-2	event identifier 2 of event group identifier 2
Evt-Id-2-Evt-Grp-Id-1-Cyclic-Time	cycle time of event identifier-2 of event group 1 (in this CTC the event identifier 1 is assumed to be a cyclic event)
Evt-Grp-Id-1-Service-1-Multicast-Addr	multicast address of event group identifier 1 of service 1 where the event and notifications shall be multicast

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Table 16 *(continued)*

Parameter used in CTCs	Content
Unknown-Service-Id	invalid service identifier
Unknown-Evt-Grp-Id	invalid event group identifier
Unknown-Method-Id-Service-1	invalid method identifier of service identifier 1
Unknown-Iface-Ver-Maj-Service-1	invalid interface version of service identifier 1
Service-Id-Rep-Base-Intval	repetition base interval of service 1
Service-Id-1-Total-Rep-Intval	total repetition period of service 1 calculated using Formula (1)
Service-Id-1-Initial-Wait-Time	initial wait time for service 1
Service-Id-1-Cycle-Intval	offer cycle interval of service 1
Method-Id-1-Service-Iface-1	first InOut type method listed in service interface description for service 1
Method-Id-1-Service-Iface-2	first InOut type method listed in service interface description for service 2
Service-Id-2-Transport-Port	transport port of service identifier 2 (UDP/TCP)
Service-Id-2-Initial-Wait-Time	time taken by the IUT before sending offer service message
Server-1-IP-Addr	IP address of SOME/IP-SD server 1
Client-1-IP-Addr	ANVL Client-1 IP address
Client-1-UDP-Port	ANVL Client-1 UDP port
Boolean-Foreground	boolean value set to false to indicate script running in foreground
Boolean-Background	boolean value set to true to indicate script running in background
$t_{\text{Param-Tolerance-Time}}$	tolerance time taken from parameter file
$t_{\text{Client-Listen-Time}}$	listen time used by ANVL taken from parameter file
Busy-Wait	indication of ANVL listening to incoming packets while waiting
Lazy-Wait	indication of ANVL not listening to incoming packets while waiting
$t_{\text{Listen-Time}}$	maximum time interval for which ANVL waits for a packet for cases when a certain event has been triggered on the IUT either by some protocol timer or using some external mechanism (script) [Default: 10 s]
$t_{\text{Tolernace-Time}}$	This is the tolerance time associated with an event. When waiting or listening then this number shall be added with the actual wait-time or listen-time. [Default: 1 s]
Source-Port	UDP source port used by the LT, e.g. 12345

$$d_{\text{Repetition_phase_duration}} = R_{\text{base_intval}} \times \left(\left(2^{R_{\max}}\right) - 1\right) \quad (1)$$

where

$d_{\text{Repetition_phase_duration}}$ is the total repetition period of, for example, service;

$R_{\text{base_intval}}$ is the repetition base interval;

$R_{\max}$ is the maximum repetition value.

7.1.6 SOME/IP server CTCs

7.1.6.1 CTC_SOMEIPSRV_FORMAT – Message format

Table 17 specifies the CTC_SOMEIPSRV_FORMAT_01 – Client-Id test case.

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Table 17 — CTC_SOMEIPSRV_FORMAT_01 – Client-Id

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_01 – Client-Id
Purpose	This CTC verifies that the CLIENT-ID is set statically to 0000_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00033 '
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends a SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains the Client-Id set to 0000_{16}.
Remark	---

Table 18 specifies the CTC_SOMEIPSRV_FORMAT_02 – SessionID test case.

Table 18 — CTC_SOMEIPSRV_FORMAT_02 – SessionID

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_02 – SessionID
Purpose	This CTC verifies that after initialisation of the service discovery module, the SessionID for messages sent by the local ECU is 0001_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00034'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to (Service-Id-1-Initial-Wait-Time + $t_{\text{Client-Listen-Time}}$) second on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable

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Table 18 *(continued)*

Item	Content
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains the SessionID which is set to 0001_{16}.
Remark	---

Table 19 specifies the CTC_SOMEIPSRV_FORMAT_03 – Protocol version test case.

Table 19 — CTC_SOMEIPSRV_FORMAT_03 – Protocol version

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_03 – Protocol version
Purpose	This CTC verifies that the value for the protocol version field is statically set to 01_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00141'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains the protocol version which is set to 01_{16}.
Remark	---

Table 20 specifies the CTC_SOMEIPSRV_FORMAT_04 – Interface version test case.

Table 20 — CTC_SOMEIPSRV_FORMAT_04 – Interface version

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_04 – Interface version
Purpose	This CTC verifies that the value for the interface version field is statically set to 01_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00143'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 20 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains the interface version which is set to 01_{16}.
Remark	---

Table 21 specifies the CTC_SOMEIPSRV_FORMAT_05 – Message type test case.

Table 21 — CTC_SOMEIPSRV_FORMAT_05 – Message type

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_05 – Message type
Purpose	This CTC verifies that the value for the message type field is statically set to 02_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00145 '
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains the message type field which is set to 02_{16}.
Remark	---

Table 22 specifies the CTC_SOMEIPSRV_FORMAT_06 – Return code test case.

Table 22 — CTC_SOMEIPSRV_FORMAT_06 – Return code

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_06 – Return code

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Table 22 *(continued)*

Item	Content
Purpose	This CTC verifies that the return code field is statically set to 00_{16}. This test case is for SD message.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3*[10], ' 7.3 SWS_SD_00147'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains the return code which is set to 00_{16}.
Remark	---

Table 23 specifies the CTC_SOMEIPSRV_FORMAT_07 – Reboot flag test case.

Table 23 — CTC_SOMEIPSRV_FORMAT_07 – Reboot flag

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_07 – Reboot flag
Purpose	This CTC verifies that the reboot flag is set to 1_2 for all messages after reboot until the Session-ID of the request ID field wraps and thus starts with 0001_{16} again. After that the reboot flag is set to 0_2.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3*[10], ' 7.3 SWS_SD_00151'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable

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Table 23 *(continued)*

Item	Content
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains the reboot flag bit which is set to 1.
Remark	---

Table 24 specifies the CTC_SOMEIPSRV_FORMAT_08 – Unicast flag test case.

Table 24 — CTC_SOMEIPSRV_FORMAT_08 – Unicast flag

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_08 – Unicast flag
Purpose	This CTC verifies that the unicast flag of the flag field is set to the unicast flag and is set to 1_2, meaning: this ECU supports receiving unicast messages.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3*[10], ' 7.3 SWS_SD_00153'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to `t_Param-Listen-Time` on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains the unicast flag bit which is set to 1.
Remark	---

Table 25 specifies the CTC_SOMEIPSRV_FORMAT_09 – Undefined bits in the flag field test case.

Table 25 — CTC_SOMEIPSRV_FORMAT_09 – Undefined bits in the flag field

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_09 – Undefined bits in the flag field
Purpose	This CTC verifies that the undefined bits within the flag field are statically set to 0_2.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3*[10], ' 7.3 SWS_SD_00154'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 25 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains six flag bits other than reboot and unicast bits which are set to zero.
Remark	---

Table 26 specifies the CTC_SOMEIPSRV_FORMAT_10 – Reserved bits test case.

Table 26 — CTC_SOMEIPSRV_FORMAT_10 – Reserved bits

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_10 – Reserved bits
Purpose	This CTC verifies that all bits of the reserved field are statically set to 0_2.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3*[10], ' 7.3 SWS_SD_00156'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains reserved field set to 00 0000_{16}.
Remark	---

Table 27 specifies the CTC_SOMEIPSRV_FORMAT_11 – Length of the type 1 entry test case.

Table 27 — CTC_SOMEIPSRV_FORMAT_11 – Length of the type 1 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_11 – Length of the type 1 entry
Purpose	This CTC verifies that the length of the type 1 entry is 16 bytes.

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Table 27 *(continued)*

Item	Content
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3*[10], ' 7.3 SWS_SD_00160'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0. 3. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 2: The LT verifies that the received SOME/IP notification message contains: — entry type is set to 01_{16}; — entry length field is set to (Number-Of-Entries × 16).
Remark	---

Table 28 specifies the CTC_SOMEIPSRV_FORMAT_12 – Index first option run of the type 1 entry test case.

Table 28 — CTC_SOMEIPSRV_FORMAT_12 – Index first option run of the type 1 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_12 – Index first option run of the type 1 entry
Purpose	This CTC verifies that the "Index First Option Run" field of the type 1 entry format layout carries the index of the first option of the first option run of this entry in the option array.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00164'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 28 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the index 1st option in entry which is set to 0.
Remark	---

Table 29 specifies the CTC_SOMEIPSRV_FORMAT_13 – Number of option 1 of the type 1 entry test case.

Table 29 — CTC_SOMEIPSRV_FORMAT_13 – Number of option 1 of the type 1 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_13 – Number of option 1 of the type 1 entry
Purpose	This CTC verifies that the "Number of Option 1" of the type 1 entry format layout carries the number of options the first option run uses.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00168'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 29 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the Number of Option 1 in entry array which is greater than or equal to 1.
Remark	---

Table 30 specifies the CTC_SOMEIPSRV_FORMAT_14 – Service identifier field of the type 1 entry test case.

Table 30 — CTC_SOMEIPSRV_FORMAT_14 – Service identifier field of the type 1 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_14 – Service identifier field of the type 1 entry
Purpose	This CTC verifies that the service identifier field of the type 1 entry format layout carries the service identifier of the service, statically configured using the parameter SdServerservice identifier and SdClientservice identifier, depending on being a server or client entry.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00173'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 30 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the following information the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains service identifier field which is set to Service-Id-1.
Remark	---

Table 31 specifies the CTC_SOMEIPSRV_FORMAT_15 – InstanceID field of the type 1 entry test case.

Table 31 — CTC_SOMEIPSRV_FORMAT_15 – InstanceID field of the type 1 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_15 – InstanceID field of the type 1 entry
Purpose	This CTC verifies that the instance identifier field of the type 1 entry format layout carries the instance identifier of the service, statically configured using the parameter SdServerServiceInstanceID and SdClientServiceInstanceID, depending on being a server or client entry.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00175'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 31 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the InstanceID field in entry which is set to Service-Id-1-Instance-Id.
Remark	---

Table 32 specifies the CTC_SOMEIPSRV_FORMAT_16 – Major version field of the type 1 entry test case.

Table 32 — CTC_SOMEIPSRV_FORMAT_16 – Major version field of the type 1 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_16 – Major version field of the type 1 entry
Purpose	This CTC verifies that the major version field of the type 1 entry format layout carries the SdServerServiceMajorVersion and SdClientServiceMajorVersion, depending on being a server or client entry.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00178'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 32 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the major version field in the entry which is set to Service-Id-1-Maj-Ver.
Remark	---

Table 33 specifies the CTC_SOMEIPSRV_FORMAT_17 – Time-To-Live field of the type 1 entry test case.

Table 33 — CTC_SOMEIPSRV_FORMAT_17 – Time-To-Live field of the type 1 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_17 – Time-To-Live field of the type 1 entry
Purpose	This CTC verifies that the Time-To-Live field of the type 1 entry format layout defines the life-time of the entry in seconds configured using the parameter SdServerTimerTTL and SdClient-TimerTTL, except for Stop-entries, which have a Time-To-Live of 0.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00180'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 33 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the Time-To-Live field in the entry which is set to Service-Id-1-Time-To-Live.
Remark	---

Table 34 specifies the CTC_SOMEIPSRV_FORMAT_18 – Minor version field of the type 1 entry test case.

Table 34 — CTC_SOMEIPSRV_FORMAT_18 – Minor version field of the type 1 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_18 – Minor version field of the type 1 entry
Purpose	This CTC verifies that the minor version field of the type 1 entry format layout carries the SdServerServiceMinorVersion and SdClientServiceMinorVersion.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00182'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 34 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the minor version field in the entry which is set to Service-Id-1-Minor-Ver.
Remark	---

Table 35 specifies the CTC_SOMEIPSRV_FORMAT_19 – Type field of the type 2 entry test case.

Table 35 — CTC_SOMEIPSRV_FORMAT_19 – Type field of the type 2 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_19 – Type field of the type 2 entry
Purpose	This CTC verifies that the type field of the type 2 entry format layout carries the value 07_{16} to encode Subscribe-Event-Group-ACK.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00385'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 35 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message.
Remark	---

Table 36 specifies the CTC_SOMEIPSRV_FORMAT_20 – Length of type 2 entries test case.

Table 36 — CTC_SOMEIPSRV_FORMAT_20 – Length of type 2 entries

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_20 – Length of type 2 entries
Purpose	This CTC verifies that the length of type 2 entries is 16 bytes.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00183'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 36 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the entry length field which is set to (Number-Of-Entries × 16).
Remark	---

Table 37 specifies the CTC_SOMEIPSRV_FORMAT_21 – Index first option run field of the type 2 entry test case.

Table 37 — CTC_SOMEIPSRV_FORMAT_21 – Index first option run field of the type 2 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_21 – Index first option run field of the type 2 entry
Purpose	This CTC verifies that the "Index First Option Run" field of the type 2 entry format layout carries the index of the first option of the first option run of this entry in the option array.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00386'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 37 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the index 1st option in entry which is set to 0.
Remark	---

Table 38 specifies the CTC_SOMEIPSRV_FORMAT_23 – Service identifier field of the type 2 entry test case.

Table 38 — CTC_SOMEIPSRV_FORMAT_23 – Service identifier field of the type 2 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_23 – Service identifier field of the type 2 entry
Purpose	This CTC verifies that the service identifier field of the type 2 entry format layout carries the service identifier of the event groups service, statically configured using the parameter SdServerservice identifier and SdClientservice identifier, depending on being a server or client entry.

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Table 38 *(continued)*

Item	Content
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00193'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message.
Remark	---

Table 39 specifies the CTC_SOMEIPSRV_FORMAT_24 – InstanceID field of the type 2 entry test case.

Table 39 — CTC_SOMEIPSRV_FORMAT_24 – InstanceID field of the type 2 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_24 – InstanceID field of the type 2 entry

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Table 39 *(continued)*

Item	Content
Purpose	This CTC verifies that the instance identifier field of the type 2 entry format layout carries the instance identifier of the event groups service statically configured using the parameter SdServerServiceInstanceID and SdClientServiceInstanceID, depending on being a server or client entry.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00195'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the InstanceID field in the entry which is set to Service-Id-1-Instance-Id.
Remark	---

Table 40 specifies the CTC_SOMEIPSRV_FORMAT_25 – Major version field of the type 2 entry test case.

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Table 40 — CTC_SOMEIPSRV_FORMAT_25 – Major version field of the type 2 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_25 –Mmajor version field of the type 2 entry
Purpose	This CTC verifies that the major version field of the type 2 entry format layout carries the SdServerServiceMajorVersion and SdClientServiceMajorVersion, depending on being a server or client entry.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00198'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the major version field in the entry which is set to Service-Id-1-Maj-Ver.
Remark	---

Table 41 specifies the CTC_SOMEIPSRV_FORMAT_26 – Time-To-Live field of the type 2 entry test case.

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Table 41 — CTC_SOMEIPSRV_FORMAT_26 – Time-To-Live field of the type 2 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_26 – Time-To-Live field of the type 2 entry
Purpose	This CTC verifies that the Time-To-Live field of the type 2 entry format layout defines the life-time of the entry in seconds configured using the parameter SdServerTimerTTL and SdClient-TimerTTL, except for Stop- or nack-entries, which use a Time-To-Live of 0.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00200'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the Time-To-Live field in the entry which is set to Service-Id-1-Time-To-Live.
Remark	---

Table 42 specifies the CTC_SOMEIPSRV_FORMAT_27 – Reserved field, which follows the Time-To-Live field of the type 2 entry test case.

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Table 42 — CTC_SOMEIPSRV_FORMAT_27 – Reserved field, which follows the Time-To-Live field of the type 2 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_27 – Reserved field, which follows the Time-To-Live field of the type 2 entry
Purpose	This CTC verifies that the reserved field, which follows the Time-To-Live field of the type 2 entry format layout, is statically set to 0000_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00202'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the reserved field in the entry which is set to 0000_{16}.
Remark	---

Table 43 specifies the CTC_SOMEIPSRV_FORMAT_28 – Event-Group-Id field of the type 2 entry test case.

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Table 43 — CTC_SOMEIPSRV_FORMAT_28 – Event-Group-Id field of the type 2 entry

Item	Content
CTC # – Title	CTC_SOMEIPSRV_FORMAT_28 – Event-Group-Id field of the type 2 entry
Purpose	This CTC verifies that the Event-Group-Id field of the type 2 entry format layout carries the ID of an Evt-Grp, configured using the parameter SdConsumedEvent-Group-Id.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3 SWS_SD_00204'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message.
Remark	---

7.1.6.2 CTC_SOMEIPSRV_OPTIONS – Options array

Table 44 specifies the CTC_SOMEIPSRV_OPTIONS_01 – Length field of the IPv4 endpoint option test case.

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Table 44 — CTC_SOMEIPSRV_OPTIONS_01 – Length field of the IPv4 endpoint option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_01 – Length field of the IPv4 endpoint option
Purpose	This CTC verifies that the length field of the IPv4 endpoint option is set to 0009_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00209'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the length field of the IPv4 EndPoint option which is set to 0009_{16}.
Remark	---

Table 45 specifies the CTC_SOMEIPSRV_OPTIONS_02 – Type field of the IPv4 endpoint option test case.

Table 45 — CTC_SOMEIPSRV_OPTIONS_02 – Type field of the IPv4 endpoint option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_02 – Type field of the IPv4 endpoint option
Purpose	This CTC verifies that the type field of the IPv4 endpoint option is statically set to 04_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00210'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 45 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the option type field of which is set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT.
Remark	---

Table 46 specifies the CTC_SOMEIPSRV_OPTIONS_03 – Reserved field of the IPv4 endpoint option test case.

Table 46 — CTC_SOMEIPSRV_OPTIONS_03 – Reserved field of the IPv4 endpoint option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_03 – Reserved field of the IPv4 endpoint option
Purpose	This CTC verifies that the reserved field of the IPv4 endpoint option (followed by the IPv4-address field) of the configuration option segment is statically set to 00_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00211'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 46 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the first reserved field in the IPv4 EndPoint option which is set to 00_{16}.
Remark	---

Table 47 specifies the CTC_SOMEIPSRV_OPTIONS_04 – IPv4-address field of the IPv4 endpoint option test case.

Table 47 — CTC_SOMEIPSRV_OPTIONS_04 – IPv4-address field of the IPv4 endpoint option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_04 – IPv4-address field of the IPv4 endpoint option
Purpose	This CTC verifies that the IPv4-address field [32 bit] of the IPv4 endpoint option is set to the local IP address of the relevant service or Evt-Grp.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00212'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 47 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the IP address field in the IPv4 EndPoint option which is set to Server-1-IP-Addr.
Remark	---

Table 48 specifies the CTC_SOMEIPSRV_OPTIONS_05 – Reserved field of the IPv4 endpoint option test case.

Table 48 — CTC_SOMEIPSRV_OPTIONS_05 – Reserved field of the IPv4 endpoint option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_05 – Reserved field of the IPv4 endpoint option
Purpose	This CTC verifies that the reserved field of the IPv4 endpoint option is statically set to 00_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00213'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 48 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the second reserved field in IPv4 EndPoint option which is set to 00_{16}.
Remark	---

Table 49 specifies the CTC_SOMEIPSRV_OPTIONS_06 – Layer 4 protocol field of the IPv4 endpoint option test case.

Table 49 — CTC_SOMEIPSRV_OPTIONS_06 – Layer 4 protocol field of the IPv4 endpoint option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_06 – Layer 4 protocol field of the IPv4 endpoint option
Purpose	This CTC verifies that the OSI-layer 4 protocol field [8 bit] (L4-Proto) of the IPv4 endpoint option is set to 11_{16}: UDP.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00214'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 49 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the transport protocol field in IPv4 EndPoint option which is set to 11_{16}.
Remark	---

Table 50 specifies the CTC_SOMEIPSRV_OPTIONS_07 – Port number field of the IPv4 endpoint option test case.

Table 50 — CTC_SOMEIPSRV_OPTIONS_07 – Port number field of the IPv4 endpoint option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_07 – Port number field of the IPv4 endpoint option
Purpose	This CTC verifies that the port number field [16 bit] of the IPv4 endpoint option carries the UDP or TCP port number for the service instance or Evt-Grp.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00215'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 50 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the Port number field in IPv4 EndPoint option which is set to Service-Id-1-UDP-Port.
Remark	---

Table 51 specifies the CTC_SOMEIPSRV_OPTIONS_08 – Length field of the IPv4 Multicast option test case.

Table 51 — CTC_SOMEIPSRV_OPTIONS_08 – Length field of the IPv4 Multicast option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_08 – Length field of the IPv4 Multicast option
Purpose	This CTC verifies that the length field [16 bit] of the IPv4 multicast option is set to 0009_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00390'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 51 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_MULTICAST. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the length field of the IPv4 multicast option which is set to 0009_{16}.
Remark	--

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Table 52 specifies the CTC_SOMEIPSRV_OPTIONS_09 – Type field of the IPv4 multicast option test case.

Table 52 — CTC_SOMEIPSRV_OPTIONS_09 – Type field of the IPv4 multicast option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_09 – Type field of the IPv4 multicast option
Purpose	This CTC verifies that the type field [8 bit] of the IPv4 multicast option is statically set to 14_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00391'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 52 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 4: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the option type field which is set to SOMEIP_OPTION_CTC_IPV4_MULTICAST.
Remark	---

Table 53 specifies the CTC_SOMEIPSRV_OPTIONS_10 – Reserved field after IPv4 address of the IPv4 multicast option test case.

Table 53 — CTC_SOMEIPSRV_OPTIONS_10 – Reserved field after IPv4 address of the IPv4 multicast option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_10 – Reserved field after IPv4 address of the IPv4 multicast option
Purpose	This CTC verifies that the reserved field [8 bit] of the IPv4 multicast option (followed by the IPv4-address field) of the configuration option segment is statically set to 00_{16}.

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Table 53 *(continued)*

Item	Content
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00392'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_MULTICAST. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the first reserved field in IPv4 multicast option which is set to 00_{16}.
Remark	---

Table 54 specifies the CTC_SOMEIPSRV_OPTIONS_11 – IPv4-address field of the IPv4 multicast option test case.

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Table 54 — CTC_SOMEIPSRV_OPTIONS_11 – IPv4-address field of the IPv4 multicast option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_11 – IPv4-address field of the IPv4 multicast option
Purpose	This CTC verifies that the IPv4 address field [32 bit] of the IPv4 multicast option is set to the multicast IP address of the Evt-Grp.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_MULTICAST. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 4: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the IP address field of the IPv4 multicast option which is set to Evt-Grp-Id-1-Service-1-Multicast-Addr.
Remark	---

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Table 55 specifies the CTC_SOMEIPSRV_OPTIONS_12 – Reserved field of the IPv4 multicast option test case.

Table 55 — CTC_SOMEIPSRV_OPTIONS_12 – Reserved field of the IPv4 multicast option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_12 – Reserved field of the IPv4 multicast option
Purpose	This CTC verifies that the reserved field [8 bit] of the IPv4 multicast option is statically set to 00_{16}.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00394'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_MULTICAST. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the second reserved field in IPv4 multicast option which is set to 00_{16}.

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Table 55 *(continued)*

Item	Content
Remark	---

Table 56 specifies the CTC_SOMEIPSRV_OPTIONS_13 – Layer 4 protocol field of the IPv4 multicast option for UDP test case.

Table 56 — CTC_SOMEIPSRV_OPTIONS_13 – Layer 4 protocol field of the IPv4 multicast option for UDP

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_13 – Layer 4 protocol field of the IPv4 multicast option for UDP
Purpose	This CTC verifies that the OSI-layer 4 protocol field [8 bit] (L4-Proto) of the IPv4 multicast option is set to 11_{16} (UDP).
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00395'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_MULTICAST. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.

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Table 56 *(continued)*

Item	Content
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the transport protocol field in IPv4 multicast option which is set to 11_{16}.
Remark	---

Table 57 specifies the CTC_SOMEIPSRV_OPTIONS_14 – Port number field of the IPv4 multicast option test case.

Table 57 — CTC_SOMEIPSRV_OPTIONS_14 – Port number field of the IPv4 multicast option

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_14 – Port number field of the IPv4 multicast option
Purpose	This CTC verifies that the port number field [16 bit] of the IPv4 multicast option does carry the port number for transporting multicast events of the Evt-Grp.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00396'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 57 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in entry array set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — service identifier in entry array set to Service-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_MULTICAST. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message. After step 5: The LT verifies that the received SOME/IP notification message contains the Port number field of the IPv4 multicast option which is set to Service-Id-1-UDP-Port.
Remark	---

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Table 58 specifies the CTC_SOMEIPSRV_OPTIONS_15 – Layer 4 protocol field of the IPv4 endpoint option for TCP test case.

Table 58 — CTC_SOMEIPSRV_OPTIONS_15 – Layer 4 protocol field of the IPv4 endpoint option for TCP

Item	Content
CTC # – Title	CTC_SOMEIPSRV_OPTIONS_15 – Layer 4 protocol field of the IPv4 endpoint option for TCP
Purpose	This CTC verifies that the OSI-layer 4 protocol field [8 bit] (L4-Proto) of the IPv4 endpoint option is set to 11_{16}: UDP.
Reference	*AUTOSAR Specification of Service Discovery, V1.2.0, R4.1 Rev 3* [10], '7.3.9 SWS_SD_00214'

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Table 58 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-2; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-2. 3. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-2; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-2.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the transport protocol field of the IPv4 EndPoint option which is set to 06_{16}.
Remark	---

7.1.6.3 CTC_SOMEIPSRV_SD_MESSAGE – Service discovery messages

Table 59 specifies the CTC_SOMEIPSRV_SD_MESSAGE_01 – InstanceID if all service instances shall be returned test case.

Table 59 — CTC_SOMEIPSRV_SD_MESSAGE_01 – InstanceID if all service instances shall be returned

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_01 – InstanceID if all service instances shall be returned
Purpose	This CTC verifies that the InstanceID set to $FFFF_{16}$, if all service instances are returned.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.1.1 TR_SOMEIP_00351'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 59 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information — service identifier: Service-Id-1; — number of instances: 2. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — SOME/IP find service entry service instance identifier set to $FFFF_{16}$; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — expected offer services' service identifier set to Service-Id-1; — number of expected offer service entries set to 2. 4. The LT shall extract the content of service instance identifier of offer service entry 2 to Extracted-Id-2. 5. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the number of expected offer service entries which is set to 2. After step 4: The LT verifies that the received SOME/IP notification message contains the Service instance identifier of the offer service entry 1 which is not set to Extracted-Inst-Id-2.
Remark	---

Table 60 specifies the CTC_SOMEIPSRV_SD_MESSAGE_02 – InstanceID if a specific instance shall be returned test case.

Table 60 — CTC_SOMEIPSRV_SD_MESSAGE_02 – InstanceID if a specific instance shall be returned

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_02 – InstanceID if a specific instance shall be returned
Purpose	This CTC verifies that the InstanceID is set to is set to the instance identifier of a specific service instance, if just a single service instance is returned.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.1.1 TR_SOMEIP_00351'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 60 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 2. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — SOME/IP find service entry service instance identifier set to $FFFF_{16}$; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — expected offer services' service identifier set to Service-Id-1; — number of expected offer service entries set to 2. 4. The LT shall extract the content of service instance identifier of offer service entry 2 to Extracted-Id-2. 5. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 6. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — SOME/IP find service entry service instance identifier set to Extracted-Inst-Id-1; — service identifier in entry array set to Service-Id-1. 7. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 8. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — SOME/IP find service entry service instance identifier set to Extracted-Inst-Id-2; — service identifier in entry array set to Service-Id-1. 9. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 10. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable

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Table 60 *(continued)*

Item	Content
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 4: The LT verifies that the received SOME/IP notification message contains the number of expected offer service entries which is set to 2. After step 7: The IUT sends the SOME/IP notification message. After step 7: The LT verifies that the received SOME/IP notification message contains the number of expected offer service entries which is set to 1. After step 9: The IUT sends the SOME/IP notification message. After step 9: The LT verifies that the received SOME/IP notification message contains the number of expected offer service entries which is set to 1.
Remark	---

Table 61 specifies the CTC_SOMEIPSRV_SD_MESSAGE_03 – Major version when any version shall be returned test case.

Table 61 — CTC_SOMEIPSRV_SD_MESSAGE_03 – Major version when any version shall be returned

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_03 – Major version when any version shall be returned
Purpose	This CTC verifies that when the major version is set to FF_{16}, services with any version are returned.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.1.1 TR_SOMEIP_00351'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — SOME/IP find service entry service major version set to FF_{16}; — SOME/IP find service entry Time-To-Live set to FF $FFFF_{16}$; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable

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Table 61 *(continued)*

Item	Content
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the major version in the entry array which is set to Service-Id-1-Maj-Ver.
Remark	---

Table 62 specifies the CTC_SOMEIPSRV_SD_MESSAGE_04 – major version when a specific version shall be returned test case.

Table 62 — CTC_SOMEIPSRV_SD_MESSAGE_04 – major version when a specific version shall be returned

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_04 – major version when a specific version shall be returned
Purpose	This CTC verifies that when the major version is set to a value different than FF_{16}, services with this specific major version are returned only.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.1.1 TR_SOMEIP_00351'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — SOME/IP find service entry service major version which set to Service-Id-1-Maj-Ver; — SOME/IP find service entry Time-To-Live which set to FF $FFFF_{16}$; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the major version in the entry which is set to Service-Id-1-Maj-Ver.
Remark	---

Table 63 specifies the CTC_SOMEIPSRV_SD_MESSAGE_05 – Minor version when any version shall be returned test case.

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Table 63 — CTC_SOMEIPSRV_SD_MESSAGE_05 – Minor version when any version shall be returned

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_05 – Minor version when any version shall be returned
Purpose	This CTC verifies that when the minor version is set to FFFF FFFF$_{16}$, services with any version are returned.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.1.1 TR_SOMEIP_00351'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — SOME/IP find service entry service minor version which set to FFFF FFFF$_{16}$; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the minor version in the entry which is set to Service-Id-1-Minor-Ver.
Remark	-

Table 64 specifies the CTC_SOMEIPSRV_SD_MESSAGE_06 – Minor version when a specific version shall be returned test case.

Table 64 — CTC_SOMEIPSRV_SD_MESSAGE_06 – Minor version when a specific version shall be returned

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_06 – Minor version when a specific version shall be returned
Purpose	This CTC verifies that when the minor version is set to a value different to FFFF FFFF$_{16}$, services with this specific minor version are returned only.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.1.1 TR_SOMEIP_00351'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 64 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — SOME/IP find service entry service minor version set to Service-Id-1-Minor-Ver; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the minor version in the entry which is set to Service-Id-1-Minor-Ver.
Remark	---

Table 65 specifies the CTC_SOMEIPSRV_SD_MESSAGE_07 – Time-To-Live and the lifetime of a service instance test case.

Table 65 — CTC_SOMEIPSRV_SD_MESSAGE_07 – Time-To-Live and the lifetime of a service instance

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_07 – Time-To-Live and the lifetime of a service instance
Purpose	This CTC verifies that when the Time-To-Live is set to the lifetime of the service instance, after this lifetime the service instance is considered not been offered.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.1.2 TR_SOMEIP_00356'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 65 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall wait until Service-Id-1-Time-To-Liveto timeout offer service from IUT. 5. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID which set to Client-1-Curr-Request-Id; — SOME/IP send request message service identifier which set to Service-Id-1; — SOME/IP send request message method ID which set to Method-Id-1-Service-Iface-1. 6. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3 The LT verifies that the received SOME/IP notification message contains the Time-To-Live field in the entry which is set to Service-Id-1-Time-To-Live. After step 6: The IUT does not send a SOME/IP response message.
Remark	---

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Table 66 specifies the CTC_SOMEIPSRV_SD_MESSAGE_08 – Offer service entries for IPv4 test case.

Table 66 — CTC_SOMEIPSRV_SD_MESSAGE_08 – Offer service entries for IPv4

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_08 – Offer service entries for IPv4
Purpose	This CTC verifies that an offer service entry always references at least one IPv4 endpoint option to signal how the service is reachable.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.1.2 TR_SOMEIP_00357'

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Table 66 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the SOME/IP expected number of IPv4 endpoint option which is greater than or equal to 1.
Remark	---

Table 67 specifies the CTC_SOMEIPSRV_SD_MESSAGE_09 – Endpoint options port number test case.

Table 67 — CTC_SOMEIPSRV_SD_MESSAGE_09 – Endpoint options port number

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_09 – Endpoint options port number
Purpose	This CTC verifies that the IP addresses and port numbers of the endpoint options are also be used for transporting events and notification events. In the case of UDP, this information is used for the source address and the source port of the events and notification events.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.1.2, — TR_SOMEIP_00360; — TR_SOMEIP_00361'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 67 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of SOME/IP IPv4 endpoint option transport port to Extracted-Port. 6. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 7. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in Subscribe-Event-Group entry set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1. 8. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry set to Service-Id-1; — SOME/IP expected service instance identifier in Subscribe-Event-Group ACK entry set to Extracted-Inst-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 9. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP message expected UDP Src port set to extractedport; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK; — SOME/IP expected event ID in SOME/IP header set to Evt-Id-1-Evt-Grp-Id-1. 10. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable

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Table 67 *(continued)*

Item	Content
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the SOME/IP expected number of IPv4 endpoint option which is greater than or equal to 1. After step 8: The IUT sends the SOME/IP notification message. After step 9: The IUT sends the SOME/IP notification message.
Remark	---

Table 68 specifies the CTC_SOMEIPSRV_SD_MESSAGE_11 – Subscribe-Event-Groupentry type test case.

Table 68 — CTC_SOMEIPSRV_SD_MESSAGE_11 – Subscribe-Event-Groupentry type

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_11 – Subscribe-Event-Groupentry type
Purpose	This CTC verifies that the Subscribe-Event-Group entry type is used to subscribe to an Evt-Grp.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.2.1 TR_SOMEIP_00385'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of SOME/IP IPv4 endpoint option transport port to Extracted-Port. 5. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1.

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Table 68 *(continued)*

Item	Content
	6. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in Subscribe-Event-Group entry set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1. 7. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry set to Service-Id-1; — SOME/IP expected service instance identifier in Subscribe-Event-Group ACK entry set to Extracted-Inst-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 8. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP message expected UDP dest port set to extractedport; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK; — SOME/IP expected event ID in SOME/IP header set to Evt-Id-1-Evt-Grp-Id-1. 9. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the SOME/IP expected number of IPv4 endpoint option which is greater than or equal to 1. After step 7: The IUT sends the SOME/IP notification message. After step 8: The IUT sends the SOME/IP notification message.
Remark	--

Table 69 specifies the CTC_SOMEIPSRV_SD_MESSAGE_13 – Subscribe-Event-GroupAcknowledgment entry type test case.

Table 69 — CTC_SOMEIPSRV_SD_MESSAGE_13 – Subscribe-Event-GroupAcknowledgment entry type

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_13 – Subscribe-Event-GroupAcknowledgment entry type
Purpose	This CTC verifies that the Subscribe-Event-Group acknowledgment entry type is used to indicate that Subscribe-Event-Group entry is accepted. Subscribe-Event-GroupAcknowledgment entries set the entry fields in the following way: type is set to 07_{16} (Subscribe-Event-Group-ACK), service identifier, instance identifier, major version, Event-Group-Id, Time-To-Live, and reserved are the same value as in the subscribe that is being answered.
Reference	AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3[11], '6.7.4.2.3 TR_SOMEIP_00390 and TR_SOMEIP_00391'

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Table 69 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 5. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — SOME/IP Subscribe-Event-Group entry Time-To-Live set to FF $FFFF_{16}$; — service identifier in Subscribe-Event-Group entry set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1; — major version in Subscribe-Event-Group entry set to Service-Id-1-Maj-Ver; — reserved field in Subscribe-Event-Group ACK entry set to 0. 6. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0, containing entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK). 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable

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Table 69 *(continued)*

Item	Content
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 6: The IUT sends the SOME/IP notification message. After step 6: The LT verifies that the received SOME/IP notification message contains: — SOME/IP expected service identifier in Subscribe-Event-Group ACK Entry is set to Service-Id-1; — SOME/IP expected service instance identifier in subscribe Evt-Grp ACK entry is set to Extracted-Inst-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry is set to Evt-Grp-Id-1-Service-1; — Time-To-Live in Subscribe-Event-Group ACK entry is set to FF FFFF$_{16}$; — reserved field in Subscribe-Event-Group ACK entry is set to 0; — major version in Subscribe-Event-Group ACK entry is set to Service-Id-1-Maj-Ver.
Remark	---

Table 70 specifies the CTC_SOMEIPSRV_SD_MESSAGE_14 – Subscribe-Event-GroupNegativeAcknowledgment entry type test case.

Table 70 — CTC_SOMEIPSRV_SD_MESSAGE_14 – Subscribe-Event-GroupNegativeAcknowledgment entry type

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_14 – Subscribe-Event-GroupNegativeAcknowledgment entry type
Purpose	This CTC verifies that the Subscribe-Event-GroupNegativeAcknowledgment entry type is used to indicate that the Subscribe-Event-Group entry is not accepted. Subscribe-Event-GroupNegativeAcknowledgment entries set the entry fields in the following way: type is set to 07$_{16}$ (Subscribe-Event-Group-ACK), $t_{\text{Time-To-Live}}$ is set to 00 0000$_{16}$.
Reference	AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3[11], '6.7.4.2.4, — TR_SOMEIP_00393; — TR_SOMEIP_00394'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 70 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 5. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — SOME/IP Subscribe-Event-Group entry Time-To-Live set to FF $FFFF_{16}$; — service identifier in Subscribe-Event-Group entry set to Unknown-Service-Id; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1; — major version in Subscribe-Event-Group entry set to Service-Id-1-Maj-Ver; — reserved field in Subscribe-Event-Group ACK entry set to 0. 6. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry set to Unknown-Service-Id. 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 6: The IUT sends the SOME/IP notification message. After step 6: The LT verifies that the received SOME/IP notification message contains the Time-To-Live in Subscribe-Event-Group ACK entry which is set to 0.
Remark	---

Table 71 specifies the CTC_SOMEIPSRV_SD_MESSAGE_15 – Subscribe-Event-GroupNegativeAcknowledgment entry type test case.

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Table 71 — CTC_SOMEIPSRV_SD_MESSAGE_15 – Subscribe-Event-GroupNegativeAcknowledgment entry typ

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_15 – Subscribe-Event-GroupNegativeAcknowledgment entry typ
Purpose	This CTC verifies that the Subscribe-Event-GroupNegativeAcknowledgment entry type is used to indicate that the Subscribe-Event-Group entry is not accepted. Subscribe-Event-GroupNegativeAcknowledgment entries set the entry fields in the following way: service identifier, instance identifier, major version, Event-Group-Id, and reserved are the same value as in the subscribe.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.2.4, — TR_SOMEIP_00393; — TR_SOMEIP_00394'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1.

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Table 71 *(continued)*

Item	Content
	5. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — SOME/IP Subscribe-Event-Group entry Time-To-Live set to FF $FFFF_{16}$; — service identifier in Subscribe-Event-Group entry set to Unknown-Service-Id; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1; — major version in Subscribe-Event-Group entry set to Service-Id-1-Maj-Ver; — reserved field in Subscribe-Event-Group ACK entry set to 0. 6. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry set to Unknown-Service-Id. 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 4: The IUT sends the SOME/IP notification message. After step 6: The IUT sends the SOME/IP notification message. After step 6: The LT verifies that the received SOME/IP notification message contains: — SOME/IP expected service instance identifier in Subscribe-Event-Group ACK entry is set to Extracted-Inst-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry is set to Evt-Grp-Id-1-Service-1; — Time-To-Live in Subscribe-Event-Group ACK entry is set to 0; — reserved field in Subscribe-Event-Group ACK entry is set to 0; — major version in Subscribe-Event-Group ACK entry is set to Service-Id-1-Maj-Ver
Remark	---

Table 72 specifies the CTC_SOMEIPSRV_SD_MESSAGE_16 – Subscribe-Event-GroupNegativeAcknowledgment entry type test case.

Table 72 — CTC_SOMEIPSRV_SD_MESSAGE_16 – Subscribe-Event-GroupNegativeAcknowledgment entry type

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_16 – Subscribe-Event-GroupNegativeAcknowledgment entry type
Purpose	This CTC verifies that the Subscribe-Event-GroupNegativeAcknowledgment entry type is used to indicate that Subscribe-Event-Group entry is not accepted due to an unknown service identifier.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.2.4, — TR_SOMEIP_00393; — TR_SOMEIP_00394'

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Table 72 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 5. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — SOME/IP Subscribe-Event-Group entry Time-To-Live set to FF $FFFF_{16}$; — service identifier in Subscribe-Event-Group entry set to Unknown-Service-Id; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1; — major version in Subscribe-Event-Group entry set to Service-Id-1-Maj-Ver; — reserved field in Subscribe-Event-Group ACK entry set to 0. 6. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0, containing entry type shall be set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK). 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 6: The IUT sends the SOME/IP notification message. After step 6: The LT verifies that the received SOME/IP notification message contains: — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry is set to Unknown-Service-Id; — Time-To-Live in Subscribe-Event-Group ACK entry is set to 0.
Remark	---

Table 73 specifies the CTC_SOMEIPSRV_SD_MESSAGE_17 – Subscribe-Event-GroupNegativeAcknowledgment entry type test case.

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Table 73 — CTC_SOMEIPSRV_SD_MESSAGE_17 – Subscribe-Event-GroupNegativeAcknowledgment entry type

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_17 – Subscribe-Event-GroupNegativeAcknowledgment entry type
Purpose	This CTC verifies that the Subscribe-Event-GroupNegativeAcknowledgment entry type is used to indicate that Subscribe-Event-Group entry is not accepted due to an unknown instance identifier.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.2.4 — TR_SOMEIP_00393; — TR_SOMEIP_00394'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 5. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — SOME/IP Subscribe-Event-Group entry Time-To-Live set to FF $FFFF_{16}$; — service identifier in Subscribe-Event-Group entry set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1 + 1; — major version in Subscribe-Event-Group entry set to Service-Id-1-Maj-Ver; — reserved field in Subscribe-Event-Group ACK entry set to 0.

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Table 73 *(continued)*

Item	Content
	6. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry set to Service-Id-1. 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 6: The IUT sends the SOME/IP notification message. After step 6: The LT verifies that the received SOME/IP notification message contains: — SOME/IP expected service instance identifier in Subscribe-Event-Group ACK entry is set to Extracted-Inst-Id-1 + 1; — Time-To-Live in Subscribe-Event-Group ACK entry is set to 0.
Remark	---

Table 74 specifies the CTC_SOMEIPSRV_SD_MESSAGE_18 – Subscribe-Event-GroupNegativeAcknowledgment entry type test case.

Table 74 — CTC_SOMEIPSRV_SD_MESSAGE_18 – Subscribe-Event-GroupNegativeAcknowledgment entry type

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_18 – Subscribe-Event-GroupNegativeAcknowledgment entry type
Purpose	This CTC verifies that the Subscribe-Event-GroupNegativeAcknowledgment entry type is used to indicate that Subscribe-Event-Group entry is not accepted due to an unknown major version.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.2.4, — TR_SOMEIP_00393; — TR_SOMEIP_00394'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 74 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 5. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — SOME/IP Subscribe-Event-Group entry Time-To-Live set to FF $FFFF_{16}$; — service identifier in Subscribe-Event-Group entry set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1; — major version in Subscribe-Event-Group entry set to Service-Id-1-Maj-Ver + 1; — reserved field in Subscribe-Event-Group ACK entry set to 0. 6. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry set to Service-Id-1. 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 6: The IUT sends the SOME/IP notification message. After step 6: The LT verifies that the received SOME/IP notification message contains: — Time-To-Live in Subscribe-Event-Group ACK entry is set to 0; — major version in Subscribe-Event-Group ACK entry is set to Service-Id-1-Maj-Ver + 1.
Remark	---

Table 75 specifies the CTC_SOMEIPSRV_SD_MESSAGE_19 – Subscribe-Event-GroupNegativeAcknowledgment entry type test case.

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Table 75 — CTC_SOMEIPSRV_SD_MESSAGE_19 – Subscribe-Event-GroupNegativeAcknowledgment entry type

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_MESSAGE_19 – Subscribe-Event-GroupNegativeAcknowledgment entry type
Purpose	This CTC verifies that the Subscribe-Event-GroupNegativeAcknowledgment entry type is used to indicate that Subscribe-Event-Group entry was NOT accepted due to an unknown Event-Group-Id.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.4.2.4, — TR_SOMEIP_00393; — TR_SOMEIP_00394'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 5. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — SOME/IP Subscribe-Event-Group entry Time-To-Live set to FF $FFFF_{16}$; — service identifier in Subscribe-Event-Group entry set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Unknown-Evt-Grp-Id; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1; — major version in Subscribe-Event-Group entry set to Service-Id-1-Maj-Ver; — reserved field in Subscribe-Event-Group ACK entry set to 0.

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Table 75 *(continued)*

Item	Content
	6. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry set to Service-Id-1. 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 6: The IUT sends the SOME/IP notification message. After step 6: The LT verifies that the received SOME/IP notification message contains: — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry is set to Unknown-Evt-Grp-Id; — Time-To-Live in Subscribe-Event-Group ACK entry is set to 0.
Remark	---

7.1.6.4 CTC_SOMEIPSRV_SD_BEHAVIOR – Service discovery communication behaviour

Table 76 specifies the CTC_SOMEIPSRV_SD_BEHAVIOR_01 – After messages in the repetition phase the delay is doubled test case.

Table 76 — CTC_SOMEIPSRV_SD_BEHAVIOR_01 – After messages in the repetition phase the delay is doubled

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_BEHAVIOR_01 – After messages in the repetition phase the delay is doubled
Purpose	This CTC verifies that after sending the first message the repetition phase of this service instance/these service instances is entered. After each message is sent in the repetition phase the delay is doubled.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.5.1, — TR_SOMEIP_00404; — TR_SOMEIP_00406'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1.

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Table 76 *(continued)*

Item	Content
	3. The LT Client-1 shall listen up to Service-Id-1-Rep-Base-Intval × 3 + $t_{\text{Param-Tolerance-Time}}$ second on IUT-Iface-0; — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 3: The IUT sends 2 SOME/IP notification messages. After step 3: The LT verifies that the time interval between reception of 1st SOME/IP notification message and 2nd SOME/IP notification message is greater than (Service-Id-1-Rep-Base-Intval × 2 – $t_{\text{Param-Tolerance-Time-Millisec}}$) micro second. After step 3: The LT verifies that the time interval between reception of 1st SOME/IP notification message and 2nd SOME/IP notification message is less than (Service-Id-1-Rep-Base-Intval × 2 + $t_{\text{Param-Tolerance-Time-Millisec}}$) micro second.
Remark	---

Table 77 specifies the CTC_SOMEIPSRV_SD_BEHAVIOR_02 – Main phase offer messages and publish messages cyclically test case.

Table 77 — CTC_SOMEIPSRV_SD_BEHAVIOR_02 – Main phase offer messages and publish messages cyclically

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_BEHAVIOR_02 – Main phase offer messages and publish messages cyclically
Purpose	This CTC verifies that in the main phase offer messages and publish messages are sent cyclically if a CYCLIC_OFFER_DELAY is configured.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.5.1 TR_SOMEIP_00412'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2. Service-Id-1-Cycle-Intval shall have a value > 0.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT shall wait until Service-Id-1-Total-Rep-Intval for IUT to enter main phase;

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Table 77 *(continued)*

Item	Content
	4. The LT Client-1 shall listen up to Service-Id-1-Cycle-Intval × 2 + $t_{Param\text{-}Tolerance\text{-}Time}$ second on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 5. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 4: The IUT sends 2 SOME/IP notification messages. After step 4: The LT verifies that the time interval between reception of 1st SOME/IP notification message and 2nd SOME/IP notification message is greater than (Service-Id-1-Cycle-Intval – $t_{Param\text{-}Tolerance\text{-}Time}$) second. After step 4: The LT verifies that the time interval between reception of 1st SOME/IP notification message and 2nd SOME/IP notification message is less than (Service-Id-1-Cycle-Intval + $t_{Param\text{-}Tolerance\text{-}Time}$) second.
Remark	---

Table 78 specifies the CTC_SOMEIPSRV_SD_BEHAVIOR_03 – Response if the last offer was more than half of cyclic offer delay test case.

Table 78 — CTC_SOMEIPSRV_SD_BEHAVIOR_03 – Response if the last offer was more than half of cyclic offer delay

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_BEHAVIOR_03 – Response if the last offer was more than half of cyclic offer delay
Purpose	This CTC verifies that Find Service messages received with the unicast flag set to 1, are answered with a multicast response if the last Offer Service message is sent 1/2 CYCLIC_OFFER_DELAY or longer ago.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.5.2 TR_SOMEIP_00423'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS. Service-Id-1-Cycle-Intval shall have a value > 0.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2. The IUT shall be configured as a DHCP server and shall be in INIT state. Service-Id-1-Cycle-Intval shall have a value > 0.

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Table 78 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT shall wait until Service-Id-1-Total-Rep-Intval for IUT to enter main phase. 4. The LT Client-1 shall listen up to Service-Id-1-Cycle-Intval second on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 5. The LT shall wait until (Service-Id-1-Cycle-Intval/2) for IUT to consume 0,5 × Cyclic-Offer-Delay. 6. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 7. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1; — SOME/IP message expected IP Dst address set to SOMEIP-Multicast-IP-Addr. 8. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 4: The IUT sends the SOME/IP notification message. After step 7: The IUT sends the SOME/IP notification message.
Remark	---

Table 79 specifies the CTC_SOMEIPSRV_SD_BEHAVIOR_04 – Response for find messages with unicast flag set to 0 test case.

Table 79 — CTC_SOMEIPSRV_SD_BEHAVIOR_04 – Response for find messages with unicast flag set to 0

Item	Content
CTC # – Title	CTC_SOMEIPSRV_SD_BEHAVIOR_04 – Response for find messages with unicast flag set to 0
Purpose	This CTC verifies that Find Service messages received with unicast flag set to 0 (multicast) are answered with a multicast response.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.7.5.2 TR_SOMEIP_00423'

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Table 79 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT shall wait until Service-Id-1-Total-Rep-Intval for IUT to enter main phase. 4. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — Unicast flag in notification message set to 0; — service identifier in entry array set to Service-Id-1. 5. The LT Client-1 shall listen up to Service-Id-1-Cycle-Intval second on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1; — SOME/IP message expected IP Dst address set to SOMEIP-Multicast-IP-Addr. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 2: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP notification message.
Remark	---

7.1.6.5 CTC_SOMEIPSRV_BASIC – Basic functionality

Table 80 specifies the CTC_SOMEIPSRV_BASIC_01 – Define service using the service identifier test case.

Table 80 — CTC_SOMEIPSRV_BASIC_01 – Define service using the service identifier

Item	Content
CTC # – Title	CTC_SOMEIPSRV_BASIC_01 – Define service using the service identifier
Purpose	This CTC verifies that a service is identified using the service-ID.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.1 TR_SOMEIP_00001'

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Table 80 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS. The IUT shall be configured as a DHCP server and is in INIT state.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message.
Remark	---

Table 81 specifies the CTC_SOMEIPSRV_BASIC_02 – reserved values for service instance identifiers test case.

Table 81 — CTC_SOMEIPSRV_BASIC_02 – reserved values for service instance identifiers

Item	Content
CTC # – Title	CTC_SOMEIPSRV_BASIC_02 – reserved values for service instance identifiers
Purpose	This CTC verifies that the service-instance-IDs of 0000_{16} and $FFFF_{16}$ are not to be used for a service, since 0000_{16} is reserved and $FFFF_{16}$ is used to describe all service instances.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.1 TR_SOMEIP_00008'

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Table 81 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — SOME/IP find service entry service instance identifier set to $FFFF_{16}$; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains: — Service instance identifier of offer service entry 1 is not set to 0000_{16}; — Service instance identifier of offer service entry 1 is not set to $FFFF_{16}$.
Remark	---

Table 82 specifies the CTC_SOMEIPSRV_BASIC_03 – Method-Id of a notification has highest bit set to 1 test case.

Table 82 — CTC_SOMEIPSRV_BASIC_03 – Method-Id of a notification has highest bit set to 1

Item	Content
CTC # – Title	CTC_SOMEIPSRV_BASIC_03 – Method-Id of a notification has highest bit set to 1
Purpose	This CTC verifies that the methods use method-IDs with the highest bit set to 0_2, while the method-IDs highest bit is set to 1_2 for events and notifications of fields. Checking for notification.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.1 TR_SOMEIP_00011'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 82 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT shall extract the content of SOME/IP IPv4 endpoint option transport port to Extracted-Port. 5. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 6. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in Subscribe-Event-Group entry set to Service-Id-1; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-1; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1. 7. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry set to Service-Id-1; — SOME/IP expected service instance identifier in Subscribe-Event-Group ACK entry set to Extracted-Inst-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-1. 8. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP message expected UDP dest port set to extractedport; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK; — SOME/IP expected event ID in SOME/IP header set to Evt-Id-1-Evt-Grp-Id-1. 9. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable

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Table 82 *(continued)*

Item	Content
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 3: The LT verifies that the received SOME/IP notification message contains the SOME/IP expected number of IPv4 endpoint option which is greater than or equal to 1. After step 6: The IUT sends the SOME/IP notification message. After step 7: The IUT sends the SOME/IP notification message. After step 7: The LT verifies that the received SOME/IP notification message contains the 0 bit field of method/EventID in SOME/IP packet header which is set to 1.
Remark	---

7.1.6.6 CTC_SOMEIPSRV_ONWIRE – On-wire format

Table 83 specifies the CTC_SOMEIPSRV_ONWIRE_01 – IP addresses and port number of the reponse message test case.

Table 83 — CTC_SOMEIPSRV_ONWIRE_01 – IP addresses and port number of the reponse message

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_01 – IP addresses and port number of the reponse message
Purpose	This CTC verifies that for the response and error message the IP addresses and port number of the transport protocol match the request message.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.1.1'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1.

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Table 83 *(continued)*

Item	Content
	4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP message expected IP source address set to Server-1-IP-Addr; — SOME/IP message expected IP destination address set to Client-1-IP-Addr; — SOME/IP message expected UDP source port set to Service-Id-1-UDP-Port; — SOME/IP message expected UDP destination port set to Client-1-UDP-Port; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message.
Remark	---

Table 84 specifies the CTC_SOMEIPSRV_ONWIRE_02 – MSB of method ID in response message test case.

Table 84 — CTC_SOMEIPSRV_ONWIRE_02 – MSB of method ID in response message

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_02 – MSB of method ID in response message
Purpose	This CTC verifies that with a 16 bit service-ID and a 16 bit method-ID starting with a 0 bit, this allows for up to 65 536 services with up to 32 768 methods each. Checking for 0 bit in MSB of method ID in response message.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.2.1 TR_SOMEIP_00038'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 84 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected return codeshall be set to SOMEIP_RET_CODE_E_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message. After step 5: The LT verifies that the received SOME/IP response message contains the 0-bit field of method/EventID in SOME/IP packet header which is set to 0.
Remark	---

Table 85 specifies the CTC_SOMEIPSRV_ONWIRE_03 – Copy request ID from the request to the response message test case.

Table 85 — CTC_SOMEIPSRV_ONWIRE_03 – Copy request ID from the request to the response message

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_03 – Copy request ID from the request to the response message
Purpose	This CTC verifies that when generating a response message, the server copies the request ID from the request to the response message.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.4 TR_SOMEIP_00043'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 85 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT shall send a SOME/IP notification message. After step 5: The IUT shall send a SOME/IP response message. After step 5: The LT verifies that the received SOME/IP response message contains the SOME/IP packet expected header request ID which is set to Client-1-Curr-Request-Id.
Remark	---

Table 86 specifies the CTC_SOMEIPSRV_ONWIRE_04 – RequestIDs may be reused if response arrived test case.

Table 86 — CTC_SOMEIPSRV_ONWIRE_04 – RequestIDs may be reused if response arrived

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_04 – RequestIDs may be reused if response arrived
Purpose	This CTC verifies that the request IDs might be reused as soon as the response arrived or is not expected to arrive anymore (timeout). Testing first condition where response arrived.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.4 TR_SOMEIP_00044'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 86 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 7. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 8. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message. After step 7: The IUT sends the SOME/IP response message.
Remark	---

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Table 87 specifies the CTC_SOMEIPSRV_ONWIRE_05 – Protocol version test case.

Table 87 — CTC_SOMEIPSRV_ONWIRE_05 – Protocol version

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_05 – Protocol version
Purpose	This CTC verifies that the protocol version is an 8 bit field containing the SOME/IP protocol version, which currently is set to 01_{16}.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.5 TR_SOMEIP_00052'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type shall be set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — Protocol version set to 01_{16}; — service identifier in entry array set to Service-Id-1.

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Table 87 *(continued)*

Item	Content
	4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header protocol version set to FF_{16}; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_WRONG_PROTOCOL_VERSION. 6. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header protocol version set to 01_{16}; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 7. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — Protocol version set to 01_{16}; — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 8. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOMEIP_MSG_TYPE_ERROR message. After step 7: The IUT sends the SOME/IP response message.
Remark	---

Table 88 specifies the CTC_SOMEIPSRV_ONWIRE_06 – Interface version test case.

Table 88 — CTC_SOMEIPSRV_ONWIRE_06 – Interface version

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_06 – Interface version
Purpose	This CTC verifies that the interface version is an 8 bit field that contains the major version of the service interface.

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Table 88 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.6 TR_SOMEIP_00053'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Unknown-Iface-Ver-Maj-Service-1; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1.

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Table 88 *(continued)*

Item	Content
	7. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — Interface version set to Unknown-Iface-Ver-Maj-Service-1; — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_WRONG_INTERFACE_VERSION. 8. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message. After step 5: The LT verifies that the received SOME/IP response message contains interface version which is set to Service-Id-1-Iface-Ver-Maj. After step 7: The IUT sends the SOMEIP_MSG_TYPE_ERROR message.
Remark	---

Table 89 specifies the CTC_SOMEIPSRV_ONWIRE_07 – Message type and response after a request test case.

Table 89 — CTC_SOMEIPSRV_ONWIRE_07 – Message type and response after a request

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_07 – Message type and response after a request
Purpose	This CTC verifies that the message type field is used to differentiate different types of messages and contains the following values: 00_{16} REQUEST: a request expecting a response (even void); 80_{16} RESPONSE: the response message. Testing response message after sending a request.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.7 TR_SOMEIP_00055'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 89 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — Interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message.
Remark	---

Table 90 specifies the CTC_SOMEIPSRV_ONWIRE_10 – Message type and unkown service identifier test case.

Table 90 — CTC_SOMEIPSRV_ONWIRE_10 – Message type and unkown service identifier

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_10 – Message type and unkown service identifier
Purpose	This CTC verifies that the message type field is used to differentiate different types of messages and contain the following value: 81_{16} ERROR: the response containing an error. Checking for error UNKNOWN service identifier.

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Table 90 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.7 TR_SOMEIP_00055'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK.

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Table 90 *(continued)*

Item	Content
	6. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Unknown-Service-Id; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 7. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Unknown-Service-Id; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_UNKNOWN_SERVICE. 8. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message. After step 7: The IUT sends the SOMEIP_MSG_TYPE_ERROR message.
Remark	---

Table 91 specifies the CTC_SOMEIPSRV_ONWIRE_11 – Return code for normal request response test case.

Table 91 — CTC_SOMEIPSRV_ONWIRE_11 – Return code for normal request response

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_11 – Return code for normal request response
Purpose	This CTC verifies that the return code is used to signal whether a request was successfully been processed. Checking for Normal request response communication, i.e. error code E_OK.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.8, TR_SOMEIP_00058; 6.3.6.2, TR_SOMEIP_00191'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 91 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message. After step 5: The LT verifies that the received SOME/IP response message contains return code which is set to SOMEIP_RET_CODE_E_OK.
Remark	---

Table 92 specifies the CTC_SOMEIPSRV_ONWIRE_12 – Return code for an unknown method ID error test case.

Table 92 — CTC_SOMEIPSRV_ONWIRE_12 – Return code for an unknown method ID error

Item	Content
CTC # – Title	CTC_SOMEIPSRV_ONWIRE_12 – Return code for an unknown method ID error
Purpose	This CTC verifies that the return code is used to signal whether a request has been successfully processed. Checking for error in case of unknown method ID in request response communication, i.e. error code E_UNKNOWN_METHOD.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.2.3.8, TR_SOMEIP_00058; 6.3.6.2, TR_SOMEIP_00191'

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Table 92 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Unknown-Method-Id-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Unknown-Method-Id-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOMEIP_MSG_TYPE_ERROR message. After step 5: The LT verifies that the received SOMEIP_MSG_TYPE_ERROR message contains return code which is set to SOMEIP_RET_CODE_E_UNKNOWN_METHOD.
Remark	---

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7.1.6.7 CTC_SOMEIPSRV_RPC – RPC protocol

Table 93 specifies the CTC_SOMEIPSRV_RPC_01 – Use a single TCP connection for all methods test case.

Table 93 — CTC_SOMEIPSRV_RPC_01 – Use a single TCP connection for all methods

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_01 – Use a single TCP connection for all methods

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Table 93 *(continued)*

Item	Content
Purpose	This CTC verifies that the client and server use a single TCP connection for all methods, events, and notifications of a service instance. This test is for methods.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.1.2 TR_SOMEIP_00150'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-2; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-2. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-2. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-2; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-2. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-2; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-2; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-2.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message.
Remark	---

Table 94 specifies the CTC_SOMEIPSRV_RPC_02 – Use a single TCP connection for all notifications test case.

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Table 94 — CTC_SOMEIPSRV_RPC_02 – Use a single TCP connection for all notifications

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_02 – Use a single TCP connection for all notifications
Purpose	This CTC verifies that the client and server use a single TCP connection for all methods, events, and notifications of a service instance. This test is for notifications.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.1.2 TR_SOMEIP_00150'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-2; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-2. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-2. 4. The LT shall extract the content of service instance identifier of offer service entry 1 to Extracted-Inst-Id-1. 5. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 06_{16} (SOMEIP_ENTRY_SUBSCRIBE); — service identifier in Subscribe-Event-Group entry set to Service-Id-2; — Event-Group-Id in Subscribe-Event-Group entry set to Evt-Grp-Id-1-Service-Id-2; — Service instance identifier in Subscribe-Event-Group entry set to Extracted-Inst-Id-1. 6. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 07_{16} (SOMEIP_ENTRY_SUBSCRIBE_ACK); — SOME/IP expected service identifier in Subscribe-Event-Group ACK entry set to Service-Id-2; — SOME/IP expected service instance identifier in Subscribe-Event-Group ACK entry set to Extracted-Inst-Id-1; — SOME/IP expected Event-Group-Id in Subscribe-Event-Group ACK entry set to Evt-Grp-Id-1-Service-Id-2.

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Table 94 *(continued)*

Item	Content
	7. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP expected service identifier set to Service-Id-2; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK; — SOME/IP expected event ID in SOME/IP header set to Evt-Id-1-Evt-Grp-Id-2. 8. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-2.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 6: The IUT sends the SOME/IP notification message. After step 7: The IUT sends the SOME/IP notification message.
Remark	---

Table 95 specifies the CTC_SOMEIPSRV_RPC_03 – Getter of a field method test case.

Table 95 — CTC_SOMEIPSRV_RPC_03 – Getter of a field method

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_03 – Getter of a field method
Purpose	This CTC verifies that the getter of a field is a request/response call that has an empty payload in the request message and the value of the field in the payload of the response message.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.5 TR_SOMEIP_00181'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1.

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Table 95 *(continued)*

Item	Content
	4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-Get-Service-Id-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-Get-Service-Id-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. The LT shall extract the content of SOME/IP packet length to Extracted-Packet-Length. 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message. After step 6: The LT verifies that the received SOME/IP response message contains SOME/IP expected response message payload which is set to Method-Id-Get-Service-Id-1-Resp-Payload-Serialized.
Remark	---

Table 96 specifies the CTC_SOMEIPSRV_RPC_04 – Fire and forget requests test case.

Table 96 — CTC_SOMEIPSRV_RPC_04 – Fire and forget requests

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_04 – Fire and forget requests
Purpose	This CTC verifies that the requests without response message are called fire and forget. The implementation is the same as for request/response with the following differences: There is no response message. The message type is set to REQUEST_NO_RETURN (i.e. 01_{16}).
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.3 TR_SOMEIP_00170'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 96 *(continued)*

Item	Content
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOMEIP_MSG_TYPE_REQUEST_NO_RETURN message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT does not send a SOME/IP response message.
Remark	---

Table 97 specifies the CTC_SOMEIPSRV_RPC_05 – Fire and forget requests shall return no error test case.

Table 97 — CTC_SOMEIPSRV_RPC_05 – Fire and forget requests shall return no error

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_05 – Fire and forget requests shall return no error
Purpose	This CTC verifies that the fire and forget messages do not return an error for methods.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.3, TR_SOMEIP_00171; 6.3.6.2, TR_SOMEIP_00189'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 97 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOMEIP_MSG_TYPE_REQUEST_NO_RETURN message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Unknown-Method-Id-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Unknown-Method-Id-Service-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_UNKNOWN_METHOD. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT does not send a SOMEIP_MSG_TYPE_ERROR message.
Remark	---

Table 98 specifies the CTC_SOMEIPSRV_RPC_06 – Error handling the bits of the return code test case.

Table 98 — CTC_SOMEIPSRV_RPC_06 – Error handling the bits of the return code

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_06 – Error handling the bits of the return code
Purpose	This CTC verifies that the error handling is based on an 8 bit Std_returntype. The two most significant bits are reserved and shall be set to 0_2.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.6.2 TR_SOMEIP_00187'

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Table 98 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Unknown-Method-Id-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Unknown-Method-Id-Service-1. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOMEIP_MSG_TYPE_ERROR message. After step 5: The LT verifies that the received SOMEIP_MSG_TYPE_ERROR message contains most significant 2 bits in return code which is set to 0_2.
Remark	---

Table 99 specifies the CTC_SOMEIPSRV_RPC_07 – Ignore the two most significant bits from return code test case.

Table 99 — CTC_SOMEIPSRV_RPC_07 – Ignore the two most significant bits from return code

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_07 – Ignore the two most significant bits from return code

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Table 99 *(continued)*

Item	Content
Purpose	This CTC verifies that the receiver of a return code ignores the values of the two most significant bits.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.6.2 TR_SOMEIP_00187'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP packet header return code set to $C0_{16}$; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message.
Remark	---

Table 100 specifies the CTC_SOMEIPSRV_RPC_08 – Do not reply to messages already carrying an error test case.

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Table 100 — CTC_SOMEIPSRV_RPC_08 – Do not reply to messages already carrying an error

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_08 – Do not reply to messages already carrying an error
Purpose	This CTC verifies that the implementation does not answer with errors to SOME/IP message already carrying an error (i.e. return code 01_{16} to $1F_{16}$).
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.6.2 TR_SOMEIP_00539'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1.

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Table 100 *(continued)*

Item	Content
	4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP packet header return code set to 01_{16}; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1. 6. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP packet header return code set to $1f_{16}$; — SOME/IP send request message service identifier set to Service-Id-1. — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 7. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1. — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1. 8. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1;
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT does not send a SOMEIP_MSG_TYPE_ERROR message. After step 7: The IUT does not send a SOMEIP_MSG_TYPE_ERROR message.
Remark	---

Table 101 specifies the CTC_SOMEIPSRV_RPC_09 – No payload in error message test case.

Table 101 — CTC_SOMEIPSRV_RPC_09 – No payload in error message

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_09 – No payload in error message
Purpose	This CTC verifies that for the request/response methods the error message is copied over the fields of the SOME/IP header (i.e. message ID, request ID, and interface version) but not the payload. In addition, message type and return code are set to the appropriate values. Checking for no payload in error message.

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Table 101 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.6.2 TR_SOMEIP_00190'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1. — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Unknown-Method-Id-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Unknown-Method-Id-Service-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_UNKNOWN_METHOD. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOMEIP_MSG_TYPE_ERROR message. After step 5: The LT verifies that the received SOMEIP_MSG_TYPE_ERROR message contains SOME/IP packet header length which is set to 8.
Remark	---

Table 102 specifies the CTC_SOMEIPSRV_RPC_10 – Do not return an error if message type is incorrect test case.

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Table 102 — CTC_SOMEIPSRV_RPC_10 – Do not return an error if message type is incorrect

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_10 – Do not return an error if message type is incorrect
Purpose	This CTC verifies that the IUT does not return an error message for events/notifications and fire and forget methods if the message type is set incorrectly to request or response. Checking for fire and forget method.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.6.2 TR_SOMEIP_00537'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-Fire-Forget-Service-Id-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-Fire-Forget-Service-Id-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_NOT_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT does not send a SOMEIP_MSG_TYPE_ERROR message.
Remark	---

Table 103 specifies the CTC_SOMEIPSRV_RPC_11 – Setter of a field and payload test case.

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Table 103 — CTC_SOMEIPSRV_RPC_11 – Setter of a field and payload

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_11 – Setter of a field and payload
Purpose	This CTC verifies that the setter of a field is a request/response call that has the desired value of the field in the payload of the request message and the value that is set to the field in the payload of the response message.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.5 TR_SOMEIP_00182'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-2-Service-Id-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-2-Service-Id-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable

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Table 103 *(continued)*

Item	Content
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOME/IP response message. After step 5: The LT verifies that the received SOME/IP response message contains: — SOME/IP packet header length which is greater than 8; — SOME/IP expected response message payload which is set to Method-Id-2-Service-Id-1-Resp-Serialized.
Remark	---

Table 104 specifies the CTC_SOMEIPSRV_RPC_13 – Different services can share the same port test case.

Table 104 — CTC_SOMEIPSRV_RPC_13 – Different services can share the same port

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_13 – Different services can share the same port
Purpose	This CTC verifies that different services are able to share the same port number of the transport layer protocol used.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.1.3 TR_SOMEIP_00163'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-2; — number of instances: 1. 3. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1; — service identifier in entry array set to Service-Id-2.

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Table 104 *(continued)*

Item	Content
	4. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1; — service identifier in entry array set to Service-Id-2; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 1. 5. The LT shall extract the content of SOME/IP IPv4 endpoint option transport port to Extracted-Trans-Port. 6. The LT shall set the destination port of client1 to extractedTransPort. 7. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 8. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 9. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-2-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-2; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-2. 10. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-2; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-2; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 11. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1. 12. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-2.
Iteration	Not applicable

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Table 104 *(continued)*

Item	Content
Expected response	After step 4: The IUT sends the SOME/IP notification message. After step 8: The IUT sends the SOME/IP response message. After step 10: The IUT sends the SOME/IP response message.
Remark	---

Table 105 specifies the CTC_SOMEIPSRV_RPC_14 – Different instances of the same service shall use different ports test case.

Table 105 — CTC_SOMEIPSRV_RPC_14 – Different instances of the same service shall use different ports

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_14 – Different instances of the same service shall use different ports
Purpose	This CTC verifies that multiple service instances of the same service on one single ECU listen on different ports per service instance.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.1.3 TR_SOMEIP_00163'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 2. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 0016 (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — expected offer services' service identifier set to Service-Id-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 2; — number of expected offer service entries set to 2. 4. The LT shall extract the content of service instance identifier of offer service entry 2 to Extracted-Id-2. 5. The LT shall extract the content of SOME/IP IPv4 endpoint option number 1 transport port to Extracted-Trans-Port-1. 6. The LT shall extract the content of SOME/IP IPv4 endpoint option number 2 transport port to Extracted-Trans-Port-2.

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Table 105 *(continued)*

Item	Content
	7. The LT shall set the destination port of client1 to extractedTransPort1. 8. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 9. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 10. The LT shall set the destination port of client1 to extractedTransPort2. 11. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-2-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 12. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 13. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 4: The LT verifies that the received SOME/IP notification message contains service instance identifier of offer service entry 1 is not set to Extracted-Inst-Id-2. After step 9: The IUT sends the SOME/IP response message. After step 12: The IUT sends the SOME/IP response message.
Remark	---

Table 106 specifies the CTC_SOMEIPSRV_RPC_17 – Multiple instances use multiple TCP connections test case.

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Table 106 — CTC_SOMEIPSRV_RPC_17 – Multiple instances use multiple TCP connections

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_17 – Multiple instances use multiple TCP connections
Purpose	This CTC verifies that when having more than one instance of a service a TCP connection per services instance is needed.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.1.2 TR_SOMEIP_00150'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 2. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to 00_{16} (SOMEIP_ENTRY_FIND_SERVICE); — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 01_{16} (SOMEIP_ENTRY_OFFER_SERVICE); — expected offer services' service identifier set to Service-Id-1; — SOME/IP expected type of option set to SOMEIP_OPTION_CTC_IPV4_ENDPOINT; — SOME/IP expected number of IPv4 endpoint option set to 2; — number of expected offer service entries set to 2. 4. The LT shall extract the content of service instance identifier of offer service entry 2 to Extracted-Id-2. 5. The LT shall extract the content of SOME/IP IPv4 endpoint option number 1 transport port to Extracted-Trans-Port-1. 6. The LT shall extract the content of SOME/IP IPv4 endpoint option number 2 transport port to Extracted-Trans-Port-2.

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Table 106 *(continued)*

Item	Content
	7. The LT shall set the destination port of client1 to extractedTransPort1. 8. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 9. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 10. The IUT shall send a SOME/IP response message. 11. The LT shall set the destination port of client1 to extractedTransPort2. 12. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Method-Id-1-Service-Iface-1. 13. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Method-Id-1-Service-Iface-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_OK. 14. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 4: The LT verifies that the received SOME/IP notification message contains service instance identifier of offer service entry 1 is not set to Extracted-Inst-Id-2. After step 9: The IUT sends the SOME/IP response message. After step 13: The IUT sends the SOME/IP response message.
Remark	---

Table 107 specifies the CTC_SOMEIPSRV_RPC_18 – In response copy message ID test case.

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Table 107 — CTC_SOMEIPSRV_RPC_18 – In response copy message ID

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_18 – In response copy message ID
Purpose	This CTC verifies that for the request/response methods the error message is copied over the fields of the SOME/IP header (i.e. message ID, request ID, and interface version) but not the payload. In addition, message type and return code are set to the appropriate values. Checking for message ID.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.6.2 TR_SOMEIP_00190'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to SOMEIP_ENTRY_FIND_SERVICE; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — entry type set to 0116 (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Unknown-Method-Id-Service-1. 5. The LT Client-1 shall listen up to $t_{Param\text{-}Listen\text{-}Time}$ on IUT-Iface-0 containing: — SOME/IP packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_UNKNOWN_METHOD. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOMEIP_MSG_TYPE_ERROR message. After step 5: The LT verifies that the received SOMEIP_MSG_TYPE_ERROR message contains: — SOME/IP expected service identifier is set to Service-Id-1; — SOME/IP expected method ID is set to Unknown-Method-Id-Service-1.

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Table 107 *(continued)*

Item	Content
Remark	---

Table 108 specifies the CTC_SOMEIPSRV_RPC_19 – In response copy request ID test case.

Table 108 — CTC_SOMEIPSRV_RPC_19 – In response copy request ID

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_19 – In response copy request ID
Purpose	This CTC verifies that for the request/response methods the error message is copied over the fields of the SOME/IP header (i.e. message ID, request ID, and interface version) but not the payload. In addition, message type and return code are set to the appropriate values. Checking for request ID.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.6.2 TR_SOMEIP_00190'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to SOMEIP_ENTRY_FIND_SERVICE; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 0116 (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1. 4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Unknown-Method-Id-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Unknown-Method-Id-Service-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_UNKNOWN_METHOD. 7. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.

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Table 108 *(continued)*

Item	Content
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOMEIP_MSG_TYPE_ERROR message. After step 5: The LT verifies that the received SOMEIP_MSG_TYPE_ERROR message contains SOME/IP packet expected header request ID which is set to Client-1-Curr-Request-Id.
Remark	---

Table 109 specifies the CTC_SOMEIPSRV_RPC_20 – In response copy interface version test case.

Table 109 — CTC_SOMEIPSRV_RPC_20 – In response copy interface version

Item	Content
CTC # – Title	CTC_SOMEIPSRV_RPC_20 – In response copy interface version
Purpose	This CTC verifies that for the request/response methods the error message is copied over the fields of the SOME/IP header (i.e. message ID, request ID, and interface version) but not the payload. In addition, message type and return code are set to the appropriate values. Checking for interface version.
Reference	*AUTOSAR SOME/IP Example for a Serialization Protocol, V1.1.0 R4.1 Rev 3*[11], '6.3.6.2 TR_SOMEIP_00190'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. IUT CONFIGURE: Shall start service on IUT-Iface-0 with the following information: — service identifier: Service-Id-1; — number of instances: 1. 2. The LT Client-1 shall send a SOME/IP notification message to IUT through IUT-Iface-0 containing: — entry type set to SOMEIP_ENTRY_FIND_SERVICE; — service identifier in entry array set to Service-Id-1. 3. The LT Client-1 shall listen up to $t_{\texttt{Param-Listen-Time}}$ on IUT-Iface-0 containing: — entry type set to 0116 (SOMEIP_ENTRY_OFFER_SERVICE); — service identifier in entry array set to Service-Id-1.

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Table 109 *(continued)*

Item	Content
	4. The LT Client-1 shall send a SOME/IP request message to IUT through IUT-Iface-0 containing: — SOME/IP packet send header request ID set to Client-1-Curr-Request-Id; — SOME/IP packet send header interface version set to Service-Id-1-Iface-Ver-Maj; — SOME/IP send request message service identifier set to Service-Id-1; — SOME/IP send request message method ID set to Unknown-Method-Id-Service-1. 5. The LT Client-1 shall listen up to $t_{\text{Param-Listen-Time}}$ on IUT-Iface-0 containing: — SOME/IP Packet expected header request ID set to Client-1-Curr-Request-Id; — SOME/IP expected service identifier set to Service-Id-1; — SOME/IP expected method ID set to Unknown-Method-Id-Service-1; — SOME/IP expected return code set to SOMEIP_RET_CODE_E_UNKNOWN_METHOD. 6. IUT CONFIGURE: Shall stop service on IUT-Iface-0 with the service identifier: Service-Id-1.
Iteration	Not applicable
Expected response	After step 3: The IUT sends the SOME/IP notification message. After step 5: The IUT sends the SOMEIP_MSG_TYPE_ERROR message. After step 5: The LT verifies that the received SOMEIP_MSG_TYPE_ERROR message contains interface version which is set to Service-Id-1-Iface-Ver-Maj.
Remark	---

7.1.7 SOME/IP ETS CTCs

7.1.7.1 CTC_SOMEIP_ETS_01 – Array_Length_longer_as_message_length_allows_it

Table 110 specifies the CTC_SOMEIP_ETS_01 – Array_Length_longer_as_message_length_allows_it test case.

Table 110 — CTC_SOMEIP_ETS_01 – Array_Length_longer_as_message_length_allows_it

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_01 – Array_Length_longer_as_message_length_allows_it
Purpose	This CTC verifies that the IUT returns an error message, when the array length is longer than the SOME/IP length.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00042; — PRS_SOMEIP_00099'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with an array length longer than allowed by the message length using the method echoUINT8().
Iteration	Not applicable

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Table 110 *(continued)*

Item	Content
Expected response	After step 1: The IUT returns the error message MALFORMED_MESSAGE.
Remark	The test also passes if the IUT ignores the request.

7.1.7.2 CTC_SOMEIP_ETS_02 – Array_Length_too_long

Table 111 specifies the CTC_SOMEIP_ETS_02 – Array_Length_too_long test case test case.

Table 111 — CTC_SOMEIP_ETS_02 – Array_Length_too_long

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_02 – Array_Length_too_long
Purpose	This CTC verifies that the IUT returns an error message when the array length is longer than the actual array.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00099; — PRS_SOMEIP_00902'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with the array length longer than the actual array using the method echoUINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the error message MALFORMED_MESSAGE.
Remark	The test also passes if the IUT ignores the request.

7.1.7.3 CTC_SOMEIP_ETS_03 – Array_Length_too_short_strips_Payload

Table 112 specifies the CTC_SOMEIP_ETS_03 – Array_Length_too_short_strips_Payload test case.

Table 112 — CTC_SOMEIP_ETS_03 – Array_Length_too_short_strips_Payload

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_03 – Array_Length_too_short_strips_Payload
Purpose	This CTC verifies that the IUT strips off the payload of the array to the array length when the array length is shorter than the actual array.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00099'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with an array length shorter than the actual array using the method echoUINT8().
Iteration	Not applicable

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Table 112 *(continued)*

Item	Content
Expected response	After step 1: The IUT returns the method response message with a stripped payload.
Remark	---

7.1.7.4 CTC_SOMEIP_ETS_04 – Burst_Test

Table 113 specifies the CTC_SOMEIP_ETS_04 – Burst_Test test case.

Table 113 — CTC_SOMEIP_ETS_04 – Burst_Test

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_04 – Burst_Test
Purpose	This CTC verifies that the IUT can handle a burst of requests in a short time and process them to return an answer to all of them.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00065'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a burst of SOME/IP message requests using the ETS methods.
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message to each request message.
Remark	---

7.1.7.5 CTC_SOMEIP_ETS_05 – Check byte order

Table 114 specifies the CTC_SOMEIP_ETS_05 – Check byte order test case.

Table 114 — CTC_SOMEIP_ETS_05 – Check byte order

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_05 – Check byte order
Purpose	This CTC verifies that the byte order handling of parameters (sending and receiving) is checked.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00065; — PRS_SOMEIP_00191'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with two parameters UINT8 and UINT16 using the method checkByteOrder().
Iteration	Not applicable

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Table 114 *(continued)*

Item	Content
Expected response	After step 1: The IUT returns the method response message with the valid UINT32 value = sum of the two passed parameters (UINT8 + UINT16) in the request message.
Remark	---

7.1.7.6 CTC_SOMEIP_ETS_07 – echoBitfields()

Table 115 specifies the CTC_SOMEIP_ETS_07 – EchoBitfields test case.

Table 115 — CTC_SOMEIP_ETS_07 – EchoBitfields

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_07 – EchoBitfields
Purpose	This CTC verifies that the bitfields and their order (sending and receiving) are checked.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00191; — PRS_SOMEIP_00300'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoBitfields().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with bitfields in reversed order per bitfield compared to the request message.
Remark	---

7.1.7.7 CTC_SOMEIP_ETS_08 – echoCommonDatatypes()

Table 116 specifies the CTC_SOMEIP_ETS_08 – EchoCommonDatatypes test case.

Table 116 — CTC_SOMEIP_ETS_08 – EchoCommonDatatypes

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_08 – EchoCommonDatatypes
Purpose	This CTC verifies the common datatypes (boolean, UINT8/16/32, INT8/16/32, float32) parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00065'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoCommonDatatypes().
Iteration	Not applicable

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Table 116 *(continued)*

Item	Content
Expected response	After step 1: The IUT returns the method response message with the same content (values and order) as in the request message.
Remark	---

7.1.7.8 CTC_SOMEIP_ETS_09 – echoENUM()

Table 117 specifies the CTC_SOMEIP_ETS_09 – EchoENUM test case.

Table 117 — CTC_SOMEIP_ETS_09 – EchoENUM

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_09 – EchoENUM
Purpose	This CTC verifies the enum parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00191'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoENUM().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same content (values and order) as in the request message.
Remark	---

7.1.7.9 CTC_SOMEIP_ETS_19 – echoFLOAT64()

Table 118 specifies the CTC_SOMEIP_ETS_19 – EchoFLOAT64 test case.

Table 118 — CTC_SOMEIP_ETS_19 – EchoFLOAT64

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_19 – EchoFLOAT64
Purpose	This CTC verifies the echoFLOAT64() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00065'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoFLOAT64().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

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7.1.7.10 CTC_SOMEIP_ETS_21 – echoINT8()

Table 119 specifies the CTC_SOMEIP_ETS_21 – EchoINT8 test case.

Table 119 — CTC_SOMEIP_ETS_21 – EchoINT8

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_21 – EchoINT8
Purpose	This CTC verifies the echoINT8() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00065'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.11 CTC_SOMEIP_ETS_22 – echoStaticUINT8Array_One_Dimensional

Table 120 specifies the CTC_SOMEIP_ETS_22 – EchoStaticUINT8Array_One_Dimensional test case.

Table 120 — CTC_SOMEIP_ETS_22 – EchoStaticUINT8Array_One_Dimensional

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_22 – EchoStaticUINT8Array_One_Dimensional
Purpose	This CTC verifies the echoStaticUINT8Array_One-Dimensional parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00099'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoStaticUINT8Array().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.12 CTC_SOMEIP_ETS_27 – echoUINT8()

Table 121 specifies the CTC_SOMEIP_ETS_27 – EchoUINT8 test case.

Table 121 — CTC_SOMEIP_ETS_27 – EchoUINT8

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_27 – EchoUINT8

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Table 121 *(continued)*

Item	Content
Purpose	This CTC verifies the echoUINT8() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00052; — PRS_SOMEIP_00053; — PRS_SOMEIP_00058'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.13 CTC_SOMEIP_ETS_28 – echoUINT8Array()

Table 122 specifies the CTC_SOMEIP_ETS_28 – EchoUINT8Array test case.

Table 122 — CTC_SOMEIP_ETS_28 – EchoUINT8Array

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_28 – EchoUINT8Array
Purpose	This CTC verifies the echoUINT8Array() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00052; — PRS_SOMEIP_00053; — PRS_SOMEIP_00114; — PRS_SOMEIP_00375; — PRS_SOMEIP_00377'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUINT8Array().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

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7.1.7.14 CTC_SOMEIP_ETS_29 – echoUINT8Array16 Bitlength

Table 123 specifies the CTC_SOMEIP_ETS_29 – EchoUINT8Array16 Bitlength test case.

Table 123 — CTC_SOMEIP_ETS_29 – EchoUINT8Array16 Bitlength

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_29 – EchoUINT8Array16 Bitlength
Purpose	This CTC verifies the echoUINT8Array16 BitLength parameters and that the length field is 16 bit long and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00052; — PRS_SOMEIP_00107; — PRS_SOMEIP_00375; — PRS_SOMEIP_00377'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUINT8Array16 Bitlength.
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.15 CTC_SOMEIP_ETS_30 – echoUINT8Array2Dim()

Table 124 specifies the CTC_SOMEIP_ETS_30 – EchoUINT8Array2Dim test case.

Table 124 — CTC_SOMEIP_ETS_30 – EchoUINT8Array2Dim

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_30 – EchoUINT8Array2Dim
Purpose	This CTC verifies the echoUINT8Array2Dim() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00052; — PRS_SOMEIP_00101; — PRS_SOMEIP_00114; — PRS_SOMEIP_00377'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 124 *(continued)*

Item	Content
Step	1. The UT shall send a SOME/IP message using the method echoUINT8Array2Dim().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.16 CTC_SOMEIP_ETS_31 – echoUINT8Array8 Bitlength

Table 125 specifies the CTC_SOMEIP_ETS_31 – EchoUINT8Array8 Bitlength test case.

Table 125 — CTC_SOMEIP_ETS_31 – EchoUINT8Array8 Bitlength

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_31 – EchoUINT8Array8 Bitlength
Purpose	This CTC verifies the echoUINT8Array8 BitLength parameters and that the length field is 8 bit long and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00052; — PRS_SOMEIP_00099'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUINT8Array8 Bitlength.
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.17 CTC_SOMEIP_ETS_32 – echoUINT8ArrayMinSize()

Table 126 specifies the CTC_SOMEIP_ETS_32 – EchoUINT8ArrayMinSize test case.

Table 126 — CTC_SOMEIP_ETS_32 – EchoUINT8ArrayMinSize

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_32 – EchoUINT8ArrayMinSize
Purpose	This CTC verifies the echoUINT8ArrayMinSize() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00114; — PRS_SOMEIP_00377'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 126 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUINT8ArrayMinSize().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.18 CTC_SOMEIP_ETS_33 – echoUINT8ArrayMinSize_too_short

Table 127 specifies the CTC_SOMEIP_ETS_33 – EchoUINT8ArrayMinSize_too_short test case.

Table 127 — CTC_SOMEIP_ETS_33 – EchoUINT8ArrayMinSize_too_short

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_33 – EchoUINT8ArrayMinSize_too_short
Purpose	This CTC verifies the that the IUT can handle an echoUINT8ArrayMinSize() which is shorter than three elements of the array.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00114; — PRS_SOMEIP_00377'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with a too short array using the method echoUINT8ArrayMinSize().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.19 CTC_SOMEIP_ETS_34 – echoUINT8E2E()

Table 128 specifies the CTC_SOMEIP_ETS_34 – EchoUINT8E2E test case.

Table 128 — CTC_SOMEIP_ETS_34 – EchoUINT8E2E

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_34 – EchoUINT8E2E
Purpose	This CTC verifies that the method returns the transferred UINT8 value back to the invoker. The method is E2E protected.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00065'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 128 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUINT8E2E().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.20 CTC_SOMEIP_ETS_35 – echoUINT8RELIABLE()

Table 129 specifies the CTC_SOMEIP_ETS_35 – EchoUINT8RELIABLE test case.

Table 129 — CTC_SOMEIP_ETS_35 – EchoUINT8RELIABLE

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_35 – EchoUINT8RELIABLE
Purpose	This CTC verifies the echoUINT8RELIABLE() parameters and their order and then checks for the handling of a TCP connection (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00065; — PRS_SOMEIP_00708'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUINT8RELIABLE().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.21 CTC_SOMEIP_ETS_37 – echoUINT8RELIABLE_client_closes_CTC_TCP_connection_automatically

Table 130 specifies the CTC_SOMEIP_ETS_37 – echoUINT8RELIABLE_client_closes_CTC_TCP_connection_automatically test case.

Table 130 — CTC_SOMEIP_ETS_37 – echoUINT8RELIABLE_client_closes_CTC_TCP_connection_automatically

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_37 – echoUINT8RELIABLE_client_closes_CTC_TCP_connection_automatically
Purpose	This CTC verifies that the IUT acting as a server does not stop the TCP connection when stopping all services.

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Table 130 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00708; — PRS_SOMEIP_00711'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a reset interface message. 2. The IUT shall not send a FIN, ACK when the service is stopped.
Iteration	Not applicable
Expected response	After step 2: The IUT does not send a FIN, ACK when the service is stopped.
Remark	---

7.1.7.22 CTC_SOMEIP_ETS_38 – echoUNION()

Table 131 specifies the CTC_SOMEIP_ETS_38 – EchoUNION test case.

Table 131 — CTC_SOMEIP_ETS_38 – EchoUNION

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_38 – EchoUNION
Purpose	This CTC verifies the echoUNION() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00119; — PRS_SOMEIP_00126'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUNION().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.23 CTC_SOMEIP_ETS_39 – echoUTF16DYNAMIC()

Table 132 specifies the CTC_SOMEIP_ETS_39 – EchoUTF16DYNAMIC test case.

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Table 132 — CTC_SOMEIP_ETS_39 – EchoUTF16DYNAMIC

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_39 – EchoUTF16DYNAMIC
Purpose	This CTC verifies the echoUNION() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00084; — PRS_SOMEIP_00085; — PRS_SOMEIP_00087; — PRS_SOMEIP_00091; — PRS_SOMEIP_00092; — PRS_SOMEIP_00093; — PRS_SOMEIP_00094; — PRS_SOMEIP_00095; — PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUTF16DYNAMIC().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.24 CTC_SOMEIP_ETS_40 – echoUTF16DYNAMIC_length_too_long_for_String

Table 133 specifies the CTC_SOMEIP_ETS_40 – EchoUTF16DYNAMIC_length_too_long_for_String test case.

Table 133 — CTC_SOMEIP_ETS_40 – EchoUTF16DYNAMIC_length_too_long_for_String

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_40 – EchoUTF16DYNAMIC_length_too_long_for_String
Purpose	This CTC verifies that when the UT sends echoUTF16DYNAMIC() with a length, which is greater than the actual string, the IUT returns an error message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUTF16DYNAMIC() with a length field value, which is greater than the length of actual string.

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Table 133 *(continued)*

Item	Content
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.25 CTC_SOMEIP_ETS_41 – echoUTF16DYNAMIC_length_too_short_for_malformed_String

Table 134 specifies the CTC_SOMEIP_ETS_41 – echoUTF16DYNAMIC_length_too_short_for_malformed_String test case.

Table 134 — CTC_SOME**IP_ETS_41 – echoUTF16DYNAMIC_length_too_short_for_malformed_String**

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_41 – echoUTF16DYNAMIC_length_too_short_for_malformed_String
Purpose	This CTC verifies that according to the SOME/IP specification for UTF-16 strings with dynamic length, devices receiving this type of strings strip off the total amount of bytes received to fit the exact length specified in the string's length field. This CTC requests the IUT to reply aN echoUTF16DYNAMIC() as defined in the testability service, carrying a dynamic UTF-16 string, whose specified length forces the IUT to reduce the received string to only 2 byte, resulting in an invalid payload consisting only of an incomplete BOM.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00084; — PRS_SOMEIP_00085; — PRS_SOMEIP_00087; — PRS_SOMEIP_00091; — PRS_SOMEIP_00092; — PRS_SOMEIP_00093; — PRS_SOMEIP_00094; — PRS_SOMEIP_00095; — PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. See 7.1.5.1 and 7.1.5.2 for parameters used in this CTC. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in Table 15 and Table 16.

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Table 134 *(continued)*

Item	Content
Step	1. The UT shall send a SOME/IP message using the method echoUTF16DYNAMIC() with: — source MAC set to the tester's MAC address; — destination MAC set to the IUT's MAC address; — source port set to 30 492; — destination port set to the UDP endpoint option provided by the IUT's OfferService for the testability service; — source IP set to the LT's IP address; — destination IP set to the UDP endpoint option provided by the IUT's OfferService for the testability service; — Service-ID set to 0101_{16}; — Instance-Id set to 01_{16}; — Method-ID set to 00_{1616}; — payload: 00_{16} 00_{16} 00_{16} 80_{16} FE_{16} FF_{16} 00_{16} 48_{16} 00_{16} 48_{16} 00_{16} $48

Table 135 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with a length which is shorter than the actual string using the method echoUTF16DYNAMIC().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.27 CTC_SOMEIP_ETS_43 – echoUTF16DYNAMIC_odd_number_before_termination

Table 136 specifies the CTC_SOMEIP_ETS_43 – EchoUTF16DYNAMIC_odd_number_before_termination test case.

Table 136 — CTC_SOMEIP_ETS_43 – EchoUTF16DYNAMIC_odd_number_before_termination

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_43 – EchoUTF16DYNAMIC_odd_number_before_termination
Purpose	This CTC verifies that the IUT can handle an echoUTF16DYNAMIC() string which has an odd number by sending a byte more before the termination and the IUT should return an error message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00085; — PRS_SOMEIP_00086; — PRS_SOMEIP_00092; — PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message which has an odd number by sending one additional byte before the termination using the method echoUTF16DYNAMIC().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.28 CTC_SOMEIP_ETS_44 – echoUTF16DYNAMIC_with_odd_number_after_termination

Table 137 specifies the CTC_SOMEIP_ETS_44 – EchoUTF16DYNAMIC_with_odd_number_after_termination test case.

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Table 137 — CTC_SOMEIP_ETS_44 – EchoUTF16DYNAMIC_with_odd_number_after_termination

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_44 – EchoUTF16DYNAMIC_with_odd_number_after_termination
Purpose	This CTC verifies that the IUT can handle an echoUTF16DYNAMIC() string which has an odd number by sending a byte more after the termination and the IUT should strip this byte away.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00085; — PRS_SOMEIP_00086; — PRS_SOMEIP_00092; — PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message which has an odd number by sending one additional byte after the termination using the method echoUTF16DYNAMIC().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with an odd number after the termination and corrected values.
Remark	---

7.1.7.29 CTC_SOMEIP_ETS_45 – echoUTF16DYNAMIC_wrong_BOM

Table 138 specifies the CTC_SOMEIP_ETS_45 – EchoUTF16DYNAMIC_wrong_BOM test case.

Table 138 — CTC_SOMEIP_ETS_45 – EchoUTF16DYNAMIC_wrong_BOM

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_45 – EchoUTF16DYNAMIC_wrong_BOM
Purpose	This CTC verifies that the IUT can handle an echoUTF16DYNAMIC() string which has a wrong BOM and the IUT should return an error.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00087'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with a wrong BOM using the method echoUTF16DYNAMIC().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.30 CTC_SOMEIP_ETS_46 – echoUTF16FIXED()

Table 139 specifies the CTC_SOMEIP_ETS_46 – EchoUTF16FIXED test case.

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Table 139 — CTC_SOMEIP_ETS_46 – EchoUTF16FIXED

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_46 – EchoUTF16FIXED
Purpose	This CTC verifies the echoUTF16FIXED() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00084; — PRS_SOMEIP_00085; — PRS_SOMEIP_00087; — PRS_SOMEIP_00373'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUTF16FIXED().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.31 CTC_SOMEIP_ETS_47 – echoUTF16FIXED_with_odd_number

Table 140 specifies the CTC_SOMEIP_ETS_47 – EchoUTF16FIXED_with_odd_number test case.

Table 140 — CTC_SOMEIP_ETS_47 – EchoUTF16FIXED_with_odd_number

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_47 – EchoUTF16FIXED_with_odd_number
Purpose	This CTC verifies that the IUT can handle an echoUTF16FIXED() string which has an odd number by sending a byte more after the termination and the IUT should strip this byte away.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00085; — PRS_SOMEIP_00086'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message which has an odd number by sending one additional byte after the termination using the method echoUTF16FIXED().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with an odd number after the termination and without the additional byte.
Remark	---

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7.1.7.32 CTC_SOMEIP_ETS_48 – echoUTF8DYNAMIC()

Table 141 specifies the CTC_SOMEIP_ETS_48 – EchoUTF8DYNAMIC test case.

Table 141 — CTC_SOMEIP_ETS_48 – EchoUTF8DYNAMIC

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_48 – EchoUTF8DYNAMIC
Purpose	This CTC verifies the echoUTF8DYNAMIC() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00087; — PRS_SOMEIP_00091; — PRS_SOMEIP_00092; — PRS_SOMEIP_00093; — PRS_SOMEIP_00094; — PRS_SOMEIP_00095; — PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUTF8DYNAMIC().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.33 CTC_SOMEIP_ETS_49 – echoUTF8DYNAMIC_length_too_long_for_String

Table 142 specifies the CTC_SOMEIP_ETS_49 – EchoUTF8DYNAMIC_length_too_long_for_String test case.

Table 142 — CTC_SOMEIP_ETS_49 – EchoUTF8DYNAMIC_length_too_long_for_String

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_49 – EchoUTF8DYNAMIC_length_too_long_for_String
Purpose	This CTC verifies that the IUT can handle an echoUTF8DYNAMIC() string which has a length that is longer than the actual string and the IUT should return an error.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 142 *(continued)*

Item	Content
Step	1. The UT shall send a SOME/IP message which has a length that is longer than the actual string using the method echoUTF8DYNAMIC().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.34 CTC_SOMEIP_ETS_50 – echoUTF8DYNAMIC_length_too_short_for_malformed_String

Table 143 specifies the CTC_SOMEIP_ETS_50 – EchoUTF8DYNAMIC_length_too_short_for_malformed_String test case.

Table 143 — CTC_SOMEIP_ETS_50 – EchoUTF8DYNAMIC_length_too_short_for_malformed_String

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_50 – EchoUTF8DYNAMIC_length_too_short_for_malformed_String
Purpose	This CTC verifies that according to the SOME/IP specification for UTF-8 strings with dynamic length, ECUs receiving this type of strings strip the total amount of bytes received to fit the exact length specified in the string's length field. This CTC requests the IUT to reply an echoUTF8DYNAMIC() as defined in the testability service, carrying a dynamic UTF-8 string, whose specified length forces the IUT to reduce the received string to only 2 byte, resulting in an invalid payload consisting only of an incomplete BOM.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00087; — PRS_SOMEIP_00091; — PRS_SOMEIP_00092; — PRS_SOMEIP_00093; — PRS_SOMEIP_00094; — PRS_SOMEIP_00095; — PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. See 7.1.5.1 and 7.1.5.2 for parameters used in this CTC. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in Table 15 and Table 16.

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Table 143 *(continued)*

Item	Content
Step	1. The UT shall send a SOME/IP message using the method echoUTF16DYNAMIC() with: — source MAC set to the tester's MAC address; — destination MAC set to the IUT's MAC address; — source port set to 30 492; — destination port set to the UDP endpoint option provided by the IUT's OfferService for the testability service; — source IP set to the LT's IP address; — destination IP set to the UDP endpoint option provided by the IUT's OfferService for the testability service; — Service-ID set to 0101_{16}; — Instance-Id set to 01_{16}; — Method-ID set to 0015_{16}; — payload: 00_{16} 00_{16} 00_{16} 80_{16} EF_{16} BB_{16} BF_{16} 48_{16} 48_{16} $48

Table 144 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00914'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message which has a length that is shorter than the actual string using the method echoUTF8DYNAMIC().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.36 CTC_SOMEIP_ETS_52 – EchoUTF8DYNAMIC_wrong_BOM

Table 145 specifies the CTC_SOMEIP_ETS_52 – EchoUTF8DYNAMIC_wrong_BOM test case.

Table 145 — CTC_SOMEIP_ETS_52 – EchoUTF8DYNAMIC_wrong_BOM

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_52 – EchoUTF8DYNAMIC_wrong_BOM
Purpose	This CTC verifies that the IUT can handle an echoUTF8DYNAMIC() string which has a wrong BOM and the IUT should return an error.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00087'; — PRS_SOMEIP_00091; — PRS_SOMEIP_00092; — PRS_SOMEIP_00094; — PRS_SOMEIP_00095; — PRS_SOMEIP_00372'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with wrong BOM using the method echoUTF8DYNAMIC().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.37 CTC_SOMEIP_ETS_53 – EchoUTF8FIXED

Table 146 specifies the CTC_SOMEIP_ETS_53 – EchoUTF8FIXED test case.

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Table 146 — CTC_SOMEIP_ETS_53 – EchoUTF8FIXED

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_53 – EchoUTF8FIXED
Purpose	This CTC verifies the echoUTF8FIXED() parameters and their order (sending and receiving).
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00087; — PRS_SOMEIP_00373'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message using the method echoUTF8FIXED().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with the same value as in the request message.
Remark	---

7.1.7.38 CTC_SOMEIP_ETS_54 – Length_equals_0_Test

Table 147 specifies the CTC_SOMEIP_ETS_54 – Length_equals_0_Test test case.

Table 147 — CTC_SOMEIP_ETS_54 – Length_equals_0_Test

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_54 – Length_equals_0_Test
Purpose	This CTC verifies that the IUT responds with an error message when the SOME/IP length equals zero.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00042'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with length zero using the method echoUINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.39 CTC_SOMEIP_ETS_55 – Length_smaller_than_8_Test

Table 148 specifies the CTC_SOMEIP_ETS_55 – Length_smaller_than_8_Test test case.

Table 148 — CTC_SOMEIP_ETS_55 – Length_smaller_than_8_Test

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_55 – Length_smaller_than_8_Test

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Table 148 *(continued)*

Item	Content
Purpose	This CTC verifies that the IUT responds with an error message when the SOME/IP length is less than 8 byte.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00042'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with length less than 8 bytes using the method echoUINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.40 CTC_SOMEIP_ETS_58 – Length_way_too_long

Table 149 specifies the CTC_SOMEIP_ETS_58 – Length_way_too_long test case.

Table 149 — CTC_SOMEIP_ETS_58 – Length_way_too_long

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_58 – Length_way_too_long
Purpose	This CTC verifies that the LT sends a much longer SOME/IP length than the current payload with a few requests and the IUT returns an error message or does not return any response.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00191; — PRS_SOMEIP_00902'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send SOME/IP messages with a much longer SOME/IP length than the current payload.
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE or ignores the message.
Remark	---

7.1.7.41 CTC_SOMEIP_ETS_59 – ResetInterface_wrong_Fire_and_Forget_package_get_No_Error_back

Table 150 specifies the CTC_SOMEIP_ETS_59 – ResetInterface_wrong_Fire_and_Forget_package_get_No_Error_back test case.

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Table 150 — CTC_SOMEIP_ETS_59 – ResetInterface _wrong_Fire_and_Forget_package_get_No_Error_back

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_59 – ResetInterface_wrong_Fire_and_Forget_package_get_No_Error_back
Purpose	This CTC verifies that the IUT does not answer or sends an error message to a wrong fire and forget message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — PRS_SOMEIP_00171; — PRS_SOMEIP_00189; — PRS_SOMEIP_00701'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall use the method resetInterface() with invalid interface version.
Iteration	Not applicable
Expected response	After step 1: The IUT does not answer and does not send an error message.
Remark	---

7.1.7.42 CTC_SOMEIP_ETS_60 – SD_Discover_Port_and_IP

Table 151 specifies the CTC_SOMEIP_ETS_60 – SD_Discover_Port_and_IP test case.

Table 151 — CTC_SOMEIP_ETS_60 – SD_Discover_Port_and_IP

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_60 – SD_Discover_Port_and_IP
Purpose	This CTC verifies that the IUT has to answer to the LT's multicast FindService with a unicast OfferService, stating all IPs and ports needed to fulfill all possible comunications with it.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00310; — PRS_SOMEIPSD_00357; — PRS_SOMEIPSD_00358; — PRS_SOMEIPSD_00361; — PRS_SOMEIPSD_00362'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send multicast FindService.
Iteration	Not applicable

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Table 151 *(continued)*

Item	Content
Expected response	After step 1: The IUT returns unicast OfferService, stating all IPs and ports needed to fulfill all possible comunications with it.
Remark	---

7.1.7.43 CTC_SOMEIP_ETS_61 – SD_Sending_two_SOMEIP_Messages_in_a_row

Table 152 specifies the CTC_SOMEIP_ETS_61 – SD_Sending_two_SOMEIP_Messages_in_a_row test case.

Table 152 — CTC_SOMEIP_ETS_61 – SD_Sending_two_SOMEIP_Messages_in_a_row

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_61 – SD_Sending_two_SOMEIP_Messages_in_a_row
Purpose	This CTC verifies the sending of three SOME/IP messages in one UDP package. The IUT replies on all three SOME/IP messages and sends the correct response. Check the handling when more SOME/IP messages are in one transport protocol frame.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00310; — PRS_SOMEIPSD_00357; — PRS_SOMEIPSD_00358; — PRS_SOMEIPSD_00361; — PRS_SOMEIPSD_00362'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send two SOME/IP messages in one UDP frame, e.g. using the methods echoUINT8() and echoENUM() in combination.
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method results of both requests in one message or separate messages.
Remark	---

7.1.7.44 CTC_SOMEIP_ETS_63 – String_UTF16FIXED_too_long

Table 153 specifies the CTC_SOMEIP_ETS_63 – String_UTF16FIXED_too_long test case.

Table 153 — CTC_SOMEIP_ETS_63 – String_UTF16FIXED_too_long

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_63 – String_UTF16FIXED_too_long
Purpose	This CTC verifies that the IUT strips off a UTF16FIXED string which is longer than 64 byte and responds with an error message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00911'

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Table 153 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with a string which is longer than 64 Byte using the method echoUTF16FIXED().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.45 CTC_SOMEIP_ETS_64 – String_UTF16FIXED_too_short

Table 154 specifies the CTC_SOMEIP_ETS_64 – String_UTF16FIXED_too_short test case.

Table 154 — CTC_SOMEIP_ETS_64 – String_UTF16FIXED_too_short

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_64 – String_UTF16FIXED_too_short
Purpose	This CTC verifies that the IUT, which has a UTF16FIXED string which is shorter than 64 byte, responds with an error message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00373'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with string which is shorter than 64 byte using the method echoUTF16FIXED().
Iteration	Not applicable
Expected response	After step 2: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.46 CTC_SOMEIP_ETS_65 – String_UTF8FIXED_too_long

Table 155 specifies the CTC_SOMEIP_ETS_65 – String_UTF8FIXED_too_long test case.

Table 155 — CTC_SOMEIP_ETS_65 – String_UTF8FIXED_too_long

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_65 – String_UTF8FIXED_too_long
Purpose	This CTC verifies that the IUT, which has a UTF8FIXED string which is longer than 64 byte, responds with an error message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00911'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 155 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with a string which is longer than 64 byte using the method echoUTF16FIXED().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.47 CTC_SOMEIP_ETS_66 – String_UTF8FIXED_too_short

Table 156 specifies the CTC_SOMEIP_ETS_66 – String_UTF8FIXED_too_short test case.

Table 156 — CTC_SOMEIP_ETS_66 – String_UTF8FIXED_too_short

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_66 – String_UTF8FIXED_too_short
Purpose	This CTC verifies that the IUT, which has a UTF8FIXED string which is shorter than 64 byte, responds with an error message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00373'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with string which is shorter than 64 byte using the method UTF8FIXED.
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.48 CTC_SOMEIP_ETS_67 – UINT8Array_with_Length_0_strips_Payload

Table 157 specifies the CTC_SOMEIP_ETS_67 – UINT8Array_with_Length_0_strips_Payload test case.

Table 157 — CTC_SOMEIP_ETS_67 – UINT8Array_with_Length_0_strips_Payload

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_67 – UINT8Array_with_Length_0_strips_Payload
Purpose	This CTC verifies that the IUT strips off the array to no payload when the array length equals zero.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00114; — PRS_SOMEIP_00375; — PRS_SOMEIP_00377'

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Table 157 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a SOME/IP message with array length equal to zero using the method UINT8Array.
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response message with payload length zero (no payload).
Remark	---

7.1.7.49 CTC_SOMEIP_ETS_68 – Unaligned_SOMEIP_Messages_overTCP

Table 158 specifies the CTC_SOMEIP_ETS_68 – Unaligned_SOMEIP_Messages_overTCP test case.

Table 158 — CTC_SOMEIP_ETS_68 – Unaligned_SOMEIP_Messages_overTCP

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_68 – Unaligned_SOMEIP_Messages_overTCP
Purpose	This CTC verifies that the sending of three SOME/IP messages in one TCP package and one SOME/IP message is unaligned. The IUT replies to all three SOME/IP messages and sends the correct response message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00142; — PRS_SOMEIP_00569'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send three SOME/IP messages in one TCP package with one unaligned SOME/IP message using the method echoUINT8array.
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response messages to all three request messages.
Remark	---

7.1.7.50 CTC_SOMEIP_ETS_69 – Unaligned_SOMEIP_Messages_overUDP

Table 159 specifies the CTC_SOMEIP_ETS_69 – Unaligned_SOMEIP_Messages_overUDP test case.

Table 159 — CTC_SOMEIP_ETS_69 – Unaligned_SOMEIP_Messages_overUDP

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_69 – Unaligned_SOMEIP_Messages_overUDP

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Table 159 *(continued)*

Item	Content
Purpose	This CTC verifies that the sending of three SOME/IP messages in one UDP package and one SOME/IP message is unaligned. The IUT replies on all three SOME/IP messages and sends the correct response message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00142; — PRS_SOMEIP_00569'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send three SOME/IP messages in one UDP package with one unaligned SOME/IP message using the method echoUINT8array.
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response messages to all three request messages.
Remark	---

7.1.7.51 CTC_SOMEIP_ETS_70 – Union_Length_longer_as_mesage_length_allows_it

Table 160 specifies the CTC_SOMEIP_ETS_70 – Union_Length_longer_as_mesage_length_allows_it test case.

Table 160 — CTC_SOMEIP_ETS_70 – Union_Length_longer_as_mesage_length_allows_it

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_70 – Union_Length_longer_as_mesage_length_allows_it
Purpose	This CTC verifies that the IUT responds with an error message when the union length is longer than the SOME/IP length allows it.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00119; — PRS_SOMEIP_00126'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message where the union length is longer than the SOME/IP length allows it using the method echoUNION().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

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7.1.7.52 CTC_SOMEIP_ETS_71 – Union_Length_too_long

Table 161 specifies the CTC_SOMEIP_ETS_71 – Union_Length_too_long test case.

Table 161 — CTC_SOMEIP_ETS_71 – Union_Length_too_long

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_71 – Union_Length_too_long
Purpose	This CTC verifies that the IUT responds with an error message when the union length is longer than the actual union.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00119; — PRS_SOMEIP_00126'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message where the union length is longer than the actual union using the method echoUNION().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.
Remark	---

7.1.7.53 CTC_SOMEIP_ETS_72 – Union_Length_too_short

Table 162 specifies the CTC_SOMEIP_ETS_72 – Union_Length_too_short test case.

Table 162 — CTC_SOMEIP_ETS_72 – Union_Length_too_short

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_72 – Union_Length_too_short
Purpose	This CTC verifies that the LT sends a request where the union length is shorter than the actual message length allowed and the IUT responds with an error message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00119; — PRS_SOMEIP_00126'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message where the union length is is shorter than the actual message length allows it using the method echoUNION().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message MALFORMED_MESSAGE.

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Table 162 *(continued)*

Item	Content
Remark	---

7.1.7.54 CTC_SOMEIP_ETS_73 – Union_with_wrong_type_field_for_union_member_Padding

Table 163 specifies the CTC_SOMEIP_ETS_73 – Union_with_wrong_type_field_for_union_member_Padding test case.

Table 163 — CTC_SOMEIP_ETS_73 – Union_with_wrong_type_field_for_union_member_Padding

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_73 – Union_with_wrong_type_field_for_union_member_Padding
Purpose	This CTC verifies that the IUT responds with the correct union for the type field (with or without padding) when the union has the wrong type field for the payload.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00119; — PRS_SOMEIP_00126'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message where the union has the wrong type field for the payload using the method echoUNION().
Iteration	Not applicable
Expected response	After step 1: The IUT returns the method response messages with the correct union type and adjusted padding.
Remark	---

7.1.7.55 CTC_SOMEIP_ETS_74 – Wrong_Interface_Version

Table 164 specifies the CTC_SOMEIP_ETS_74 – Wrong_Interface_Version test case.

Table 164 — CTC_SOMEIP_ETS_74 – Wrong_Interface_Version

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_74 – Wrong_Interface_Version
Purpose	This CTC verifies that the IUT responds with an error message or ignores it when a wrong interface version arrives in a request message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00053; — PRS_SOMEIP_00058; — PRS_SOMEIP_00190; — PRS_SOMEIP_00191'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 164 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with wrong interface version using the method echoUINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message WRONG_INTERFACE_VERSION or ignores the request message.
Remark	---

7.1.7.56 CTC_SOMEIP_ETS_75 – Wrong_Message_Type

Table 165 specifies the CTC_SOMEIP_ETS_75 – Wrong_Message_Type test case.

Table 165 — CTC_SOMEIP_ETS_75 – Wrong_Message_Type

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_75 – Wrong_Message_Type
Purpose	This CTC verifies that the IUT responds with an error message or ignores it when a wrong message type arrives in a request message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00055; — PRS_SOMEIP_00701'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with wrong message type using the method echoUINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message WRONG_MESSAGE_TYPE or ignores the request message.
Remark	---

7.1.7.57 CTC_SOMEIP_ETS_76 – Wrong_Method_ID

Table 166 specifies the CTC_SOMEIP_ETS_76 – Wrong_Method_ID test case.

Table 166 — CTC_SOMEIP_ETS_76 – Wrong_Method_ID

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_76 – Wrong_Method_ID
Purpose	This CTC verifies that the IUT responds with an error message or ignores it when a wrong method ID arrives in a request message.

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Table 166 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00055; — PRS_SOMEIP_00058; — PRS_SOMEIP_00190; — PRS_SOMEIP_00191'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with wrong method ID using the method echoUINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message UNKNOWN_METHOD or ignores the request message.
Remark	---

7.1.7.58 CTC_SOMEIP_ETS_77 – Wrong_Service_ID

Table 167 specifies the CTC_SOMEIP_ETS_77 – Wrong_Service_ID test case.

Table 167 — CTC_SOMEIP_ETS_77 – Wrong_Service_ID

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_77 – Wrong_Service_ID
Purpose	This CTC verifies that the IUT responds with an error message when a wrong service identifier arrives in a request or the IUT shall ignore the request message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00190; — PRS_SOMEIP_00191'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. See 7.1.5.1 and 7.1.5.2 for parameters used in this CTC. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in Table 15 and Table 16.
Step	1. The UT shall send a SOME/IP message with wrong service identifier using the method echoUINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message UNKNOWN_SERVICE or ignores the request message.
Remark	---

7.1.7.59 CTC_SOMEIP_ETS_78 – Wrong_SOMEIP_Protocol_Version

Table 168 specifies the CTC_SOMEIP_ETS_78 – Wrong_SOMEIP_Protocol_Version test case.

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Table 168 — CTC_SOMEIP_ETS_78 – Wrong_SOMEIP_Protocol_Version

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_78 – Wrong_SOMEIP_Protocol_Version
Purpose	This CTC verifies that the IUT responds with an error message when a wrong protocol version arrives in a request or the IUT shall ignore the request message.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], — 'PRS_SOMEIP_00052; — PRS_SOMEIP_00190; — PRS_SOMEIP_00191'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a SOME/IP message with the wrong protocol version using the method echoU echoUINT8NION.
Iteration	Not applicable
Expected response	After step 1: The IUT returns an error message WRONG_PROTOCOL_VERSION or ignores the request message.
Remark	---

7.1.7.60 CTC_SOMEIP_ETS_81 – SD_ClientServiceActivate_Server_reboot

Table 169 specifies the CTC_SOMEIP_ETS_81 – SD_ClientServiceActivate_Server_reboot test case.

Table 169 — CTC_SOMEIP_ETS_81 – SD_ClientServiceActivate_Server_reboot

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_81 – SD_ClientServiceActivate_Server_reboot
Purpose	This CTC verifies that if the IUT detects a reboot of a server it reacts properly by re-establishing the communication.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00385'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by method clientServiceActivate(). 2. The LT shall send an OfferService to offer the UT's ETS with a TCP endpoint option. 3. The LT shall send a Subscribe-Event-Group-ACK to the IUT. 4. The LT shall simulate a reboot by sending OfferService entries in SOME/IP-SD message with lower Session-ID as before.
Iteration	Not applicable

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Table 169 *(continued)*

Item	Content
Expected response	After step 2: The IUT establishes a TCP-connection with the LT based on the offered endpoint options. After step 2: The IUT subscribes to the Evt-Grp clientServiceSubscribe-Event-Group (0032_{16}). The endpoint option of this subscription matches the parameters of the TCP-connection (IP-address and port). After step 4: The IUT renews its TCP-connection by closing the old one and opening a new one.
Remark	No ICMP (port unreachable) message shall be sent from the IUT.

7.1.7.61 CTC_SOMEIP_ETS_82 – SD_ClientServiceActivate_Server_reboot_2

Table 170 specifies the CTC_SOMEIP_ETS_82 – SD_ClientServiceActivate_Server_reboot_2 test case.

Table 170 — CTC_SOMEIP_ETS_82 – SD_ClientServiceActivate_Server_reboot_2

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_82 – SD_ClientServiceActivate_Server_reboot_2
Purpose	This CTC verifies that if the IUT detects a reboot of a server it reacts properly by using the newly assigned UDP-Port.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00385'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by method clientServiceActivate(). 2. The LT shall send an OfferService to offer the UT's ETS with a UDP endpoint option. 3. The LT shall send a Subscribe-Event-Group-ACK to the IUT. 4. The LT shall send a SOME/IP event to the IUT. 5. The LT shall simulate a reboot by sending OfferService entries in SOME/IP-SD message with lower Session-ID as before. 6. The LT shall send an OfferService to offer the UT's ETS again with another UDP-port in the endpoint option. 7. The LT shall send a Subscribe-Event-Group-ACK to the IUT. 8. The LT shall send a SOME/IP event to the IUT from the new UDP-port.
Iteration	Not applicable
Expected response	After step 2: The IUT subscribes to the Evt-Grp clientServiceSubscribe-Event-Group (0032_{16}). After step 6: The IUT subscribes again to the Evt-Grp clientServiceSubscribe-Event-Group (0032_{16}).
Remark	No ICMP (port unreachable) message is sent from the IUT.

7.1.7.62 CTC_SOMEIP_ETS_84 – SD_ClientServiceDeactivate

Table 171 specifies the CTC_SOMEIP_ETS_84 – SD_ClientServiceDeactivate test case.

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Table 171 — CTC_SOMEIP_ETS_84 – SD_ClientServiceDeactivate

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_84 – SD_ClientServiceDeactivate
Purpose	This CTC verifies that the IUT is expected to stop the client mode, halting all reactions to clientService related requests.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00351; — PRS_SOMEIPSD_00386'; *AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9]: — 'PRS_SOMEIP_00708; — PRS_SOMEIP_00710'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by method clientServiceActivate() with a timeout value of 1 s. 2. The UT shall trigger the IUT to subscribe to the LT's Evt-Grp using the method clientServiceSubscribe-Event-Group(). 3. The LT shall send an OfferService message with the Evt-Grp parameterized in step 2. 4. The UT shall deactivate the IUT's ETS client service mode by method clientServiceDeactivate().
Iteration	Not applicable
Expected response	After step 1: The IUT starts the client start-up phase. After step 3: The IUT sends a Subscribe-Event-Group. After step 4: The IUT sends a StopSubscribe-Event-Group to cancel the subscription of step 3.
Remark	---

7.1.7.63 CTC_SOMEIP_ETS_86 – SD_Evt-Grp_EventsAndFieldsAll_2_TCP

Table 172 specifies the CTC_SOMEIP_ETS_86 – SD_Evt-Grp_EventsAndFieldsAll_2_TCP test case.

Table 172 — CTC_SOMEIP_ETS_86 – SD_Evt-Grp_EventsAndFieldsAll_2_TCP

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_86 – SD_Evt-Grp_EventsAndFieldsAll_2_TCP
Purpose	This CTC verifies that the IUT sends a Subscribe-Event-Group-ACK and all initial fields regarding the Evt-Grp 02_{16}.

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Table 172 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00386; — PRS_SOMEIPSD_00387; — PRS_SOMEIPSD_00391'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 02_{16}.2.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK. After step 1: The IUT sends all initial events to the same IP and port the tester indicated in the Subscribe-Event-Group message: — Interface version method-ID: 8005_{16}; — TestfieldUINT8 method-ID: 8006_{16}; — TestfieldUINT8Array method-ID: 8007_{16}; TestfieldUINT8Reliable method-ID: 8008_{16}.
Remark	---

7.1.7.64 CTC_SOMEIP_ETS_87 – SD_Evt-Grp_EventsAndFieldsUnreliable_5

Table 173 specifies the CTC_SOMEIP_ETS_87 – SD_Evt-Grp_EventsAndFieldsUnreliable_5 test case.

Table 173 — CTC_SOMEIP_ETS_87 – SD_**Evt-Grp_EventsAndFieldsUnreliable_5**

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_87 – SD_Evt-Grp_EventsAndFieldsUnreliable_5
Purpose	This CTC verifies that the IUT sends a Subscribe-Event-Group-ACK and all initial fields regarding the Evt-Grp 05_{16}.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00386; — PRS_SOMEIPSD_00387; — PRS_SOMEIPSD_00391'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 05_{16}.
Iteration	Not applicable

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Table 173 *(continued)*

Item	Content
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK. After step 1: The IUT sends all initial events to the same IP and port the tester indicated in the Subscribe-Event-Group message: — Interface version method-ID: 8005_{16}; — TestfieldUINT8 method-ID: 8006_{16}; — TestfieldUINT8Array method-ID: 8007_{16}.
Remark	---

7.1.7.65 CTC_SOMEIP_ETS_88 – SD_Answer_multiple_subscribes_together

Table 174 specifies the CTC_SOMEIP_ETS_88 – SD_Answer_multiple_subscribes_together test case.

Table 174 — CTC_SOMEIP_ETS_88 – SD_Answer_multiple_subscribes_together

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_88 – SD_Answer_multiple_subscribes_together
Purpose	This CTC verifies that the IUT accepts each Subscribe-Event-Group entry it receives.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00263'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a message with multiple Subscribe-Event-Group entries for the Evt-Grps: — 02_{16}; — 05_{16}; — 05_{16}.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK for each entry.
Remark	---

7.1.7.66 CTC_SOMEIP_ETS_89 – SD_Calling_same_ports_before_and_after_suspendInterface

Table 175 specifies the CTC_SOMEIP_ETS_89 – SD_Calling_same_ports_before_and_after_suspendInterface test case.

Table 175 — CTC_SOMEIP_ETS_89 – SD_Calling_same_ports_before_and_after_suspendInterface

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_89 – SD_Calling_same_ports_before_and_after_suspendInterface
Purpose	This CTC verifies that a certain amount of method calls are made using specific source ports and all against the same SOME/IP port offered by the IUT. Once the LT has finished one request, it performs a new request against the IUT's SOME/IP port and therefore, the IUT is able to resume listening and dispatching requests on that port as soon as a previous request has finished.

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Table 175 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00356; — PRS_SOMEIPSD_00357; — PRS_SOMEIPSD_00364'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send TestFieldUINT8 getter and setter using Source-Port. 2. The UT shall send InterfaceVersion getter using Source-Port + 1. 3. The UT shall send TestFieldUINT8 getter and setter using Source-Port + 2. 4. The UT shall send TestFieldUINT8Array getter and setter using Source-Port + 3. 5. The UT shall trigger SuspendInterface. 6. The UT shall send TestFieldUINT8 getter and setter using Source-Port. 7. The UT shall send InterfaceVersion getter using Source-Port + 1. 8. The UT shall send TestFieldUINT8 getter and setter using Source-Port + 2. 9. The UT shall send TestFieldUINT8Array getter and setter using Source-Port + 3.
Iteration	Not applicable
Expected response	After step 1: The IUT responds normally using the value of Source-Port as destination port. After step 2: The IUT responds normally using the value of Source-Port + 1 as destination port. After step 3: The IUT responds normally using the value of Source-Port + 2 as destination port. After step 4: The IUT responds normally using the value of Source-Port + 3 as destination port. After step 5: The IUT suspends the interface for the given amount of time and sends a StopOfferService message. After step 6: The IUT responds normally using the value of Source-Port as destination port. After step 7: The IUT responds normally using the value of Source-Port + 1 as destination port. After step 8: The IUT responds normally using the value of Source-Port + 2 as destination port. After step 9: The IUT responds normally using the value of Source-Port + 3 as destination port.
Remark	---

7.1.7.67 CTC_SOMEIP_ETS_91 – SD_Check_OfferService_Request_ID_incrementation

Table 176 specifies the CTC_SOMEIP_ETS_91 – SD_Check_OfferService_Request_ID_incrementation test case.

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Table 176 — CTC_SOMEIP_ETS_91 – SD_Check_OfferService_Request_ID_incrementation

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_91 – SD_Check_OfferService_Request_ID_incrementation
Purpose	This CTC verifies that the IUT's regular OfferService messages increments the Session-ID from one iteration to the next one.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00154; — PRS_SOMEIPSD_00157; — PRS_SOMEIPSD_00355'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall observe the IUTs OfferService messages and analyze the Session-IDs.
Iteration	Not applicable
Expected response	After step 1: The IUT increments the Session-IDs of its OfferService messages.
Remark	---

7.1.7.68 CTC_SOMEIP_ETS_92 – SD_Check_Reaction_to_a_Subscribe_with_TTL_0

Table 177 specifies the CTC_SOMEIP_ETS_92 – SD_Check_Reaction_to_a_Subscribe_with_TTL_0 test case.

Table 177 — CTC_SOMEIP_ETS_92 – SD_Check_Reaction_to_a_Subscribe_with_TTL_0

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_92 – SD_Check_Reaction_to_a_Subscribe_with_TTL_0
Purpose	This CTC verifies that the IUT does not respond to a unicast Subscribe-Event-Group request with Time-To-Live = 0 (i.e. StopSubscribe-Event-Group).
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00386; — PRS_SOMEIPSD_00387; — PRS_SOMEIPSD_00391'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a unicast Subscribe-Event-Group message with a Time-To-Live set to 0.
Iteration	Not applicable
Expected response	After step 1: The IUT does not react to the request.
Remark	---

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7.1.7.69 CTC_SOMEIP_ETS_93 – SD_Check_Reboot_Detection_separate_multicast_and_unicast

Table 178 specifies the CTC_SOMEIP_ETS_93 – SD_Check_Reboot_Detection_separate_multicast_and_unicast test case.

Table 178 — CTC_SOMEIP_ETS_93 – SD_Check_Reboot_Detection_separate_multicast_and_unicast

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_93 – SD_Check_Reboot_Detection_separate_multicast_and_unicast
Purpose	This CTC verifies that the IUT detects that the client performed a reboot when sending multicast and unicast messages.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00157'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	**Multicast– Test** 1. The LT shall send a FindService with Session-ID: 0004_{16}. 2. The LT shall subscribe to the Evt-Grp 5_{16} of the offered ETS by the IUT with Session-ID: 0004_{16}. 3. The LT shall send a second FindService with Session-ID: 0005_{16} (1 s after step 1). 4. The LT shall subscribe to the Evt-Grp 5_{16} of the offered ETS by the IUT with Session-ID: 0005_{16}. 5. The LT shall send a third FindService with the Session-ID 0001_{16} (client reboot simulation). 6. The LT shall subscribe to the Evt-Grp 5_{16} of the offered ETS by the IUT with Session-ID: 0001_{16}. **Unicast– Test** 7. The LT shall a subscribe to the Evt-Grp 5_{16} of the offered ETS by the IUT with Session-ID: 0004_{16}. 8. The LT shall send a second subscribe to the Evt-Grp 5_{16} with a higher Session-ID (0005_{16}). 9. The LT shall send a third subscribe to the Evt-Grp 5_{16} with Session-ID 0001_{16} (client reboot simulation). **Unicast and multicast – Robustness test** 10. The LT shall send a FindService with Session-ID: $000A_{16}$. 11. The LT shall subscribe to the Evt-Grp 5_{16} of the offered ETS by the IUT with Session-ID: 0001_{16}. 12. The LT shall send a second FindService with Session-ID: $000B_{16}$ (1 s after step 10). 13. The LT shall subscribe to the Evt-Grp 5_{16} of the offered ETS by the IUT with Session-ID: 0002_{16}.

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Table 178 *(continued)*

Item	Content
Iteration	Not applicable
Expected response	After step 1: The IUT responds with a unicast or multicast offer service message. After step 2: The IUT sends a Subscribe-Event-Group-ACK to the tester. After the acknowledge the IUT immediately sends an initial event (notify of field InterfaceVersion: 8005_{16}) due to the new subscription. After step 3: The IUT responds with a unicast or multicast offer service message. After step 4: The IUT sends a Subscribe-Event-Group-ACK to the LT. After the second subscription the IUT is not allowed to send the initial event again. After step 5: The IUT responds with a unicast or multicast offer service message. After step 6: The IUT sends a Subscribe-Event-Group-ACK to the tester. It is expected that the IUT sends the initial event again, which means that it has detected the client reboot. **Unicast– Test** After step 7: The IUT sends a Subscribe-Event-Group-ACK to the tester. After the acknowledge the IUT immediately sends an initial event (notify of field InterfaceVersion: 8005_{16}) due to the new subscription. After step 8: The IUT sends a Subscribe-Event-Group-ACK to the LT. After the second subscription the IUT is not allowed to send the initial event again. After step 9: The IUT sends a Subscribe-Event-Group-ACK to the LT. It is expected that the IUT sends the initial event again, which means that it has detected the client reboot. **Unicast and multicast – Robustness test** After step 10:The IUT responds with a unicast or multicast offer service message. After step 11: The IUT sends a Subscribe-Event-Group-ACK to the tester. After the acknowledge the IUT immediately sends an initial event (notify of field InterfaceVersion: 8005_{16}) due to the new subscription. After step 12: The IUT responds with a unicast or multicast offer service message. After step 13: The IUT sends a Subscribe-Event-Group-ACK to the LT. After the second subscription the IUT is not allowed to send the initial event again.
Remark	---

7.1.7.70 CTC_SOMEIP_ETS_94 – SD_Check_Reboot_Detection_Server_Side

Table 179 specifies the CTC_SOMEIP_ETS_94 – SD_Check_Reboot_Detection_Server_Side test case.

Table 179 — CTC_SOMEIP_ETS_94 – SD_Check_Reboot_Detection_Server_Side

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_94 – SD_Check_Reboot_Detection_Server_Side
Purpose	This CTC verifies that the IUT detects a reboot of the test system Host-1.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00157'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 179 *(continued)*

Item	Content
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 02_{16}. 2. The UT shall trigger the IUT to send events by using the method TriggerEventUint8. 3. The LT shall send a FindService message with a SessionID of 05_{16}. 4. The LT shall send a FindService message with a SessionID of 05_{16} (to simulated a reboot).
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK. After step 2: The IUT sends a TestEventUint8. After step 3: The IUT continues sending TestEventUint8. After step 4: The IUT stops sending TestEventUint8.
Remark	---

7.1.7.71 CTC_SOMEIP_ETS_95 – SD_Check_subscribe_Evt-Grp_TTL_expired

Table 180 specifies the CTC_SOMEIP_ETS_95 – SD_Check_subscribe_Evt-Grp_TTL_expired test case.

Table 180 — CTC_SOMEIP_ETS_95 – SD_Check_subscribe_Evt-Grp_TTL_expired

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_95 – SD_Check_subscribe_Evt-Grp_TTL_expired
Purpose	This CTC verifies that the IUT detects that the LT's subscription has expired (Time-To-Live = 3) and does not respond to the trigger that the LT invokes after the Time-To-Live expired.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00386'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 02_{16} with a Time-To-Live value of 3 s. 2. The LT shall wait for at least 3 s (until the subscription has expired). 3. The UT shall trigger the IUT to send events by using the method TriggerEventUint8.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK. After step 3: The IUT does not send any TestEventUint8.
Remark	---

7.1.7.72 CTC_SOMEIP_ETS_96 – SD_Check_CTC_TCP_Connection_before_Subscribe-Event-Group

Table 181 specifies the CTC_SOMEIP_ETS_96 – SD_Check_CTC_TCP_Connection_before_ Subscribe-Event-Group test case.

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Table 181 — CTC_SOMEIP_ETS_96 – SD_Check_CTC_TCP_Connection_before_Subscribe-Event-Group

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_96 – SD_Check_CTC_TCP_Connection_before_Subscribe-Event-Group
Purpose	This CTC verifies that the IUT denies a Subscribe-Event-Group request for Evt-Grp 02_{16} with a Subscribe-Event-GroupNAck in case the Subscribe-Event-Group request includes a TCP endpoint option but a TCP connection is not established in advance.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00362'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 02_{16} with a TCP endpoint option (but the corresponding TCP connection is not established).
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck.
Remark	---

7.1.7.73 CTC_SOMEIP_ETS_97 – SD_Client_restarts_CTC_TCP_connection

Table 182 specifies the CTC_SOMEIP_ETS_97 – SD_Client_restarts_CTC_TCP_connection test case.

Table 182 — CTC_SOMEIP_ETS_97 – SD_Client_restarts_CTC_TCP_connection

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_97 – SD_Client_restarts_CTC_TCP_connection
Purpose	This CTC verifies that on the IUT the client mode is started and a Subscribe-Event-Group attempt is triggered, therefore, the IUT tries to establish a TCP connection which is refused by the LT. The IUT reacts to this refusal by trying to re-engage the TCP connection with a second TCP SYN message as soon as it receives another OfferService message.The LT reacts to this, accepting the second TCP SYN and expects that this leads the IUT to finally subscribe. Then the client mode is deactivated in order not to interfere with other CTCs.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00527'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by the method clientServiceActivate() and send a Subscribe-Event-Group. 2. The LT shall refuse the TCP connection. 3. The LT shall accept the second TCP SYN.
Iteration	Not applicable
Expected response	After step 1: The IUT trys to establish a TCP connection. After step 2: The IUT reacts to this refusal by trying to re-engage the TCP connection with a second TCP SYN message as soon as it receives another OfferService message.

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Table 182 *(continued)*

Item	Content
Remark	---

7.1.7.74 CTC_SOMEIP_ETS_98 – SD_ClientService_subscribe_without_method_call

Table 183 specifies the CTC_SOMEIP_ETS_98 – SD_ClientService_subscribe_without_method_call test case.

Table 183 — CTC_SOMEIP_ETS_98 – SD_ClientService_subscribe_without_method_call

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_98 – SD_ClientService_subscribe_without_method_call
Purpose	This CTC verifies that the LT activates the clientService mode on the IUT and starts sending OfferService messages. The IUT does not try to subscribe with each OfferService it receives since the clientServiceSubscribe-Event-Group message that is needed for the IUT to subscribe is not sent by the LT. At the end of the CTC, the ClientService mode is deactivated to prevent it from interfering with other CTCs.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00386'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by the method clientServiceActivate() and start sending OfferService messages.
Iteration	Not applicable
Expected response	After step 1: The UT does not try to subscribe with each OfferService it receives.
Remark	---

7.1.7.75 CTC_SOMEIP_ETS_99 – SD_ClientServiceActivate

Table 184 specifies the CTC_SOMEIP_ETS_99 – SD_ClientServiceActivate test case.

Table 184 — CTC_SOMEIP_ETS_99 – SD_ClientServiceActivate

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_99 – SD_ClientServiceActivate
Purpose	This CTC verifies that the IUT is triggered to enter its client mode without stopping its already running server mode.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], — 'PRS_SOMEIPSD_00350; — PRS_SOMEIPSD_00351'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 184 *(continued)*

Item	Content
Step	1. The UT shall activate the IUT's ETS client service mode by the method clientServiceActivate(). 2. The UT shall deactivate the IUT's ETS client service mode by the method clientServiceDeactivate().
Iteration	Not applicable
Expected response	After step 1: The IUT starts its client start-up procedure and stays ready to behave as a client while it keeps running also the server mode.
Remark	---

7.1.7.76 CTC_SOMEIP_ETS_100 – SD_ClientServiceActivate_no_FindServices_in_Main_Phase

Table 185 specifies the CTC_SOMEIP_ETS_100 – SD_ClientServiceActivate_no_FindServices_in_ Main_Phase test case.

Table 185 — CTC_SOMEIP_ETS_100 – SD_ClientServiceActivate_no_FindServices_in_Main_Phase

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_100 – SD_ClientServiceActivate_no_FindServices_in_Main_Phase
Purpose	This CTC verifies that the clientService mode only sends FindService messages during the start-up phase, not in the main phase.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00351'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by the method clientServiceActivate(). 2. The UT shall deactivate the IUT's ETS client service mode by the method clientServiceDeactivate().
Iteration	Not applicable
Expected response	After step 1: The IUT starts sending FindService messages during the start phase and stops sending FindService messages when entering the main phase.
Remark	---

7.1.7.77 CTC_SOMEIP_ETS_101 – SD_ClientServiceActivate_send_StopOfferService

Table 186 specifies the CTC_SOMEIP_ETS_101 – SD_ClientServiceActivate_send_StopOfferService test case.

Table 186 — CTC_SOMEIP_ETS_101 – SD_ClientServiceActivate_send_StopOfferService

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_101 – SD_ClientServiceActivate_send_StopOfferService
Purpose	This CTC verifies that the client mode is activated on the IUT and when the IUT starts sending FindService messages the LT sends StopOfferService. The IUT is expected to understand that the service and instance-ID that it is looking for are no longer available. It stops sending FindService messages for this service and instance-ID. Multicast FindService messages are still allowed.

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Table 186 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], — 'PRS_SOMEIPSD_00351; — PRS_SOMEIPSD_00363'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by the method clientServiceActivate(). 2. The LT shall send StopOfferService as soon as the first FindService message from the IUT arrives at the LT. 3. The UT shall deactivate the IUT's ETS client service mode by the method clientServiceDeactivate().
Iteration	Not applicable
Expected response	After step 1: The IUT starts sending FindService messages. After step 2: The IUT stops sending FindService messages.
Remark	---

7.1.7.78 CTC_SOMEIP_ETS_103 – SD_ClientServiceGetLastValueOfEventTCP

Table 187 specifies the CTC_SOMEIP_ETS_103 – SD_ClientServiceGetLastValueOfEventTCP test case.

Table 187 — CTC_SOMEIP_ETS_103 – SD_ClientServiceGetLastValueOfEventTCP

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_103 – SD_ClientServiceGetLastValueOfEventTCP
Purpose	This CTC verifies that the UT activates the clientService mode on the IUT, checks its behaviour and triggers it to subscribe to it. After that, it sends it a UINT8 TCP event to the IP and port the IUT indicated with its Subscribe-Event-Group message, valued as 08_{16}. This value is returned by the IUT once the UT triggers the clientServiceGetLastValueOfEventTCP() method, after this, the clientService mode is deactivated on the IUT.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], — 'PRS_SOMEIPSD_00362; — PRS_SOMEIPSD_00380'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 187 *(continued)*

Item	Content
Step	1. The UT shall activate the IUT's ETS client service mode by the method clientServiceActivate(). 2. The LT shall send OfferService messages. 3. The LT shall send a UINT8 TCP event, to the IP and port the IUT indicated with its Subscribe-Event-Group message, valued as 08_{16}. 4. The UT shall trigger the clientServiceGetLastValueOfEventTCP() method. 5. The UT shall deactivate the IUT's ETS client service mode by the method clientServiceDeactivate().
Iteration	Not applicable
Expected response	After step 1: The IUT starts sending FindService messages. After step 2: The IUT sends a Subscribe-Event-Group message. After step 4: The IUT returns the value of step 3.
Remark	---

7.1.7.79 CTC_SOMEIP_ETS_104 – SD_ClientServiceGetLastValueOfEventUDPMulticast

Table 188 specifies the CTC_SOMEIP_ETS_104 – SD_ClientServiceGetLastValueOfEventUDPMulticast test case.

Table 188 — CTC_SOMEIP_ETS_104 – SD_ClientServiceGetLastValueOfEventUDPMulticast

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_104 – SD_ClientServiceGetLastValueOfEventUDPMulticast
Purpose	This CTC verifies that the UT activates the clientService mode on the IUT, checks its behaviour and triggers it to subscribe to it. After that, it sends a UINT8 multicast event to the IP and port the IUT indicated with the LT's Subscribe-Event-Group-ACK message, valued as 08_{16}.This value is returned by the IUT once the UT triggers the clientServiceGetLastValueOfEventUDPMulticast() method, after this, the clientService mode is deactivated on the IUT.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], — 'PRS_SOMEIPSD_00360; — PRS_SOMEIPSD_00361'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by the method clientServiceActivate(). 2. The LT shall send OfferService messages. 3. The LT shall send a UINT8 multicast event, to the IP and port the IUT indicated with its Subscribe-Event-Group message, valued as 08_{16}. 4. The UT shall trigger the clientServiceGetLastValueOfEventUDPMulticast() method. 5. The UT shall deactivate the IUT's ETS client service mode by the method clientServiceDeactivate().

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Table 188 *(continued)*

Item	Content
Iteration	Not applicable
Expected response	After step 1: The IUT starts sending FindService messages. After step 2: The IUT sends a Subscribe-Event-Group message. After step 4: The IUT returns the value of step 3.
Remark	---

7.1.7.80 CTC_SOMEIP_ETS_105 – SD_ClientServiceGetLastValueOfEventUDPUnicast

Table 189 specifies the CTC_SOMEIP_ETS_105 – SD_ClientServiceGetLastValueOfEventUDPUnicast test case.

Table 189 — CTC_SOMEIP_ETS_105 – SD_ClientServiceGetLastValueOfEventUDPUnicast

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_105 – SD_ClientServiceGetLastValueOfEventUDPUnicast
Purpose	This CTC verifies that the UT activates the clientService mode on the IUT, checks its behaviour and triggers it to subscribe to it. After that, it sends it a UINT8 UDP unicast event to the IP and port the IUT indicated with his Subscribe-Event-Group message, valued as 08_{16}. This value has to be returned by the IUT once the UT triggers the clientServiceGetLastValueOfEventUDPUnicast() method, after this, the clientService mode is deactivated on the IUT.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], — 'PRS_SOMEIPSD_00360; — PRS_SOMEIPSD_00361; — PRS_SOMEIPSD_00380'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by the method clientServiceActivate(). 2. The LT shall send OfferService messages. 3. The LT shall send a UINT8 UDP event, to the IP and port the IUT indicated with its Subscribe-Event-Group message, valued as 08_{16}. 4. The UT shall trigger the clientServiceGetLastValueOfEventUDPUnicast() method. 5. The UT shall deactivate the IUT's ETS client service mode by the method clientServiceDeactivate().
Iteration	Not applicable
Expected response	After step 1: The IUT starts sending FindService messages. After step 2: The IUT sends a Subscribe-Event-Group message. After step 4: The IUT returns the value of step 3.
Remark	---

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7.1.7.81 CTC_SOMEIP_ETS_106 – SD_ClientServiceSubscribe-Event-Group

Table 190 specifies the CTC_SOMEIP_ETS_106 – SD_ClientServiceSubscribe-Event-Group test case.

Table 190 — CTC_SOMEIP_ETS_106 – SD_ClientServiceSubscribe-Event-Group

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_106 – SD_ClientServiceSubscribe-Event-Group
Purpose	This CTC verifies that the client mode is activated on the IUT and that it subscribes to the LT.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], — 'PRS_SOMEIPSD_00268; — PRS_SOMEIPSD_00380; — PRS_SOMEIPSD_00385; — PRS_SOMEIPSD_00386'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall activate the IUT's ETS client service mode by the method clientServiceActivate(). 2. The UT shall send a clientServiceSubscribe-Event-Group message. 3. The LT shall send OfferService messages offering the ETS service. 4. The UT shall deactivate the IUT's ETS client service mode by the method clientServiceDeactivate().
Iteration	Not applicable
Expected response	After step 1: The IUT starts sending FindService messages. After step 3: The IUT sends a Subscribe-Event-Group message to subscribe to the ETS service.
Remark	---

7.1.7.82 CTC_SOMEIP_ETS_107 – SD_Consider_Entries_Order

Table 191 specifies the CTC_SOMEIP_ETS_107 – SD_Consider_Entries_Order test case.

Table 191 — CTC_SOMEIP_ETS_107 – SD_Consider_Entries_Order

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_107 – SD_Consider_Entries_Order
Purpose	This CTC verifies that the LT initially subscribes to the IUT and then sends a message containing two entries: a Subscribe-Event-Group with Time-To-Live = 0 and normal Subscribe-Event-Group. The CTC awaits the IUT first to delete the LT from the list of subscribed entities and then a Subscribe-Event-Group-ACK (in this order) for the Subscribe-Event-Group, this one is followed by the initial fields for the subscribed Evt-Grp (05_{16}).
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00263'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 191 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message to subscribe to Evt-Grp 05_{16}. 2. The LT shall send a SD message containing two entries: — StopSubscribe-Event-Group entry (Time-To-Live = 0) for Evt-Grp 05_{16}; — Subscribe-Event-Group entry for Evt-Grp 05_{16} (to re-subscribe).
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK and the initial events. After step 2: The IUT sends a Subscribe-Event-Group-ACK and the initial events again.
Remark	Step 2 corresponds to the resubscription.

7.1.7.83 CTC_SOMEIP_ETS_108 – SD_Deregister_from_Evt-Grp

Table 192 specifies the CTC_SOMEIP_ETS_108 – SD_Deregister_from_Evt-Grp test case.

Table 192 — CTC_SOMEIP_ETS_108 – SD_Deregister_from_Evt-Grp

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_108 – SD_Deregister_from_Evt-Grp
Purpose	The LT tester subscribes and unsubscribes. Right after having received the initial events corresponding to the Subscribe-Event-Group the UT tries to trigger the TestEventUINT8 and expects the IUT to ignore the trigger since the initial subscription is not active anymore.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], — 'PRS_SOMEIPSD_00386; — PRS_SOMEIPSD_00388; — PRS_SOMEIPSD_00389'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message to subscribe to Evt-Grp 05_{16}. 2. The LT shall send a StopSunscribeEvt-Grp message for Evt-Grp 05_{16}. 3. The UT shall send a trigger by using the method TestEventUINT8 to the IUT to send a corresponding event.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK and the initial events. After step 3: The IUT does not send the event as the initial subscription is not active anymore.
Remark	---

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7.1.7.84 CTC_SOMEIP_ETS_109 – SD_Do_not_specify_a_port

Table 193 specifies the CTC_SOMEIP_ETS_109 – SD_Do_not_specify_a_port test case.

Table 193 — CTC_SOMEIP_ETS_109 – SD_Do_not_specify_a_port

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_109 – SD_Do_not_specify_a_port
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message without indicating a port in the endpoint options. This leads the IUT to reject the message.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00380; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message without specifying a port in the endpoint option (port number is 0).
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNack to reject the subscription attempt.
Remark	---

7.1.7.85 CTC_SOMEIP_ETS_110 – SD_Do_not_specify_CTC_IPv4_Address

Table 194 specifies the CTC_SOMEIP_ETS_110 – SD_Do_not_specify_CTC_IPv4_Address test case.

Table 194 — CTC_SOMEIP_ETS_110 – SD_Do_not_specify_CTC_IPv4_Address

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_110 – SD_Do_not_specify_CTC_IPv4_Address
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message which does not indicate IPv4 addresses in the endpoint options (since this is not possible without malforming the message, the transmitted IP is 32.0.0.0), this leads the IUT to reject the message and answer with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00306; — PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00380; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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Table 194 *(continued)*

Item	Content
Step	1. The LT shall send a Subscribe-Event-Group message without specifying a valid IP address in the endpoint option.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNack to reject the subscription attempt.
Remark	---

7.1.7.86 CTC_SOMEIP_ETS_111 – SD_Empty_Entries_Array

Table 195 specifies the CTC_SOMEIP_ETS_111 – SD_Empty_Entries_Array test case.

Table 195 — CTC_SOMEIP_ETS_111 – SD_Empty_Entries_Array

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_111 – SD_Empty_Entries_Array
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message which states a total length of zero for the entries array, though it is not interpreted and therefore, ignored.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00540'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with entries array length zero.
Iteration	Not applicable
Expected response	After step 1: The IUT ignores the Subscribe-Event-Group message (shows no reaction).
Remark	---

7.1.7.87 CTC_SOMEIP_ETS_112 – SD_Empty_Option

Table 196 specifies the CTC_SOMEIP_ETS_112 – SD_Empty_Option test case.

Table 196 — CTC_SOMEIP_ETS_112 – SD_Empty_Option

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_112 – SD_Empty_Option
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group with IPv4Option length = 0. The IUT responds with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00307'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for DefaultEvt-Grp with IPv4Option length = 0.

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Table 196 *(continued)*

Item	Content
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription attempt.
Remark	---

7.1.7.88 CTC_SOMEIP_ETS_113 – SD_Empty_Options_Array

Table 197 specifies the CTC_SOMEIP_ETS_113 – SD_Empty_Options_Array test case.

Table 197 — CTC_SOMEIP_ETS_113 – SD_Empty_Options_Array

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_113 – SD_Empty_Options_Array
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group with IPv4Option length = 0. The IUT responds with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00265; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for DefaultEvt-Grp with options array length = 0.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription attempt.
Remark	---

7.1.7.89 CTC_SOMEIP_ETS_114 – SD_Entries_Length_wrong_combined

Table 198 specifies the CTC_SOMEIP_ETS_114 – SD_Entries_Length_wrong_combined test case.

Table 198 — CTC_SOMEIP_ETS_114 – SD_Entries_Length_wrong_combined

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_114 – SD_Entries_Length_wrong_combined
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group with two correct entries but a shortened entries array length. The IUT responds with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00264; — PRS_SOMEIPSD_00265; — PRS_SOMEIPSD_00393'

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Table 198 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for DefaultEvt-Grp with two correct entries but a shortened entries array length.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription attempt.
Remark	---

7.1.7.90 CTC_SOMEIP_ETS_115 – SD_Entry_references_more_options_than_exist

Table 199 specifies the CTC_SOMEIP_ETS_115 – SD_Entry_references_more_options_than_exist test case.

Table 199 — CTC_SOMEIP_ETS_115 – SD_Entry_references_more_options_than_exist

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_115 – SD_Entry_references_more_options_than_exist
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group with more option references than existing options. The IUT responds with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00393; — PRS_SOMEIPSD_00566'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for DefaultEvt-Grp with more option references than existing options.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription attempt.
Remark	---

7.1.7.91 CTC_SOMEIP_ETS_116 – SD_Entry_references_non_existing_option_type

Table 200 specifies the CTC_SOMEIP_ETS_116 – SD_Entry_references_non_existing_option_type test case.

Table 200 — CTC_SOMEIP_ETS_116 – SD_Entry_references_non_existing_option_type

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_116 – SD_Entry_references_non_existing_option_type

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Table 200 *(continued)*

Item	Content
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group with unknown option type (77_{16}). The IUT responds with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00305; — PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for DefaultEvt-Grp with unknown option type (77_{16}).
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription attempt.
Remark	---

7.1.7.92 CTC_SOMEIP_ETS_117 – SD_Entry_references_options_of_same_kind

Table 201 specifies the CTC_SOMEIP_ETS_117 – SD_Entry_references_options_of_same_kind test case.

Table 201 — CTC_SOMEIP_ETS_117 – SD_Entry_references_options_of_same_kind

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_117 – SD_Entry_references_options_of_same_kind
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group with two options of the same type. The IUT responds with a Subscribe-Event-GroupNAck or ignores the request.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for DefaultEvt-Grp with two options of the same type.
Iteration	Not applicable
Expected response	After step 1: The IUT may send a Subscribe-Event-GroupNAck to reject the subscription attempt or may ignore the request.
Remark	---

7.1.7.93 CTC_SOMEIP_ETS_118 – SD_Ignore_Options_in_FindService

Table 202 specifies the CTC_SOMEIP_ETS_118 – SD_Ignore_Options_in_FindService test case.

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Table 202 — CTC_SOMEIP_ETS_118 – SD_Ignore_Options_in_FindService

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_118 – SD_Ignore_Options_in_FindService
Purpose	This CTC verifies that the LT sends ten FindService messages with IPv4 endpoint option. The IUT ignores the options and responds with at least one unicast OfferService message.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00268'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send ten FindService messages with IPv4 endpoint option in 100 ms intervals.
Iteration	Not applicable
Expected response	After step 1: The IUT sends at least one unicast OfferService message.
Remark	---

7.1.7.94 CTC_SOMEIP_ETS_119 – SD_Indicate_wrong_l4proto_param

Table 203 specifies the CTC_SOMEIP_ETS_119 – SD_Indicate_wrong_l4proto_param test case.

Table 203 — CTC_SOMEIP_ETS_119 – SD_Indicate_wrong_l4proto_param

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_119 – SD_Indicate_wrong_l4proto_param
Purpose	This CTC verifies that the Subscribe-Event-Group message sent by the LT refers to an IPv4Endpoint option with a wrong l4proto parameter (neither UDP or TCP), since this way not all needed endpoint options are present in a correct way and the message has to be rejected with a Subscribe-EventGroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message referencing an IPv4Endpoint option with a wrong l4proto parameter.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a SubscribeEventgroupNAck to reject the subscription request.
Remark	---

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7.1.7.95 CTC_SOMEIP_ETS_120 – SD_Initial_Events_after_Subscribe_with_alternate_IPs

Table 204 specifies the CTC_SOMEIP_ETS_120 – SD_Initial_Events_after_Subscribe_with_alternate_IPs test case.

Table 204 — CTC_SOMEIP_ETS_120 – SD_Initial_Events_after_Subscribe_with_alternate_IPs

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_120 – SD_Initial_Events_after_Subscribe_with_alternate_IPs
Purpose	This CTC verifies that the IUT answers the LT's Subscribe-Event-Group message with a Subscribe-Event-Group-ACK and then sends out the corresponding initial fields for the subscribed event group to the destination stated in the Subscribe-Event-Group endpoint option.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00386; — PRS_SOMEIPSD_00387; — PRS_SOMEIPSD_00391'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message referencing an IPv4Endpoint option which differs from the LT's IP and port number.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK to the IUT's IP address and port. After step 1: The IUT sends the initial fields to the IP address and port given in the endpoint option of the request.
Remark	---

7.1.7.96 CTC_SOMEIP_ETS_121 – SD_Initial_Events_after_Subscribe-Event-Group

Table 205 specifies the CTC_SOMEIP_ETS_121 – SD_Initial_Events_after_Subscribe-Event-Group test case.

Table 205 — CTC_SOMEIP_ETS_121 – SD_Initial_Events_after_Subscribe-Event-Group

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_121 – SD_Initial_Events_after_Subscribe-Event-Group
Purpose	This CTC verifies that the IUT answers the LT's Subscribe-Event-Group message with a Subscribe-Event-Group-ACK and then sends out the corresponding initial fields for the subscribed event group.

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Table 205 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00310; — PRS_SOMEIPSD_00360; — PRS_SOMEIPSD_00361; — PRS_SOMEIPSD_00362; — PRS_SOMEIPSD_00380; — PRS_SOMEIPSD_00386; — PRS_SOMEIPSD_00391'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 05_{16}.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK. After step 1: The IUT sends the initial fields.
Remark	---

7.1.7.97 CTC_SOMEIP_ETS_122 – SD_Interface_Version

Table 206 specifies the CTC_SOMEIP_ETS_122 – SD_Interface_Version test case.

Table 206 — CTC_SOMEIP_ETS_122 – SD_Interface_Version

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_122 – SD_Interface_Version
Purpose	This CTC verifies that the IUT answers with indication of the interface version in the correct format.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00357; — PRS_SOMEIPSD_00360; — PRS_SOMEIPSD_00361'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall trigger the interface version getter method.
Iteration	Not applicable

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Table 206 *(continued)*

Item	Content
Expected response	After step 1: The IUT returns the method response.
Remark	---

7.1.7.98 CTC_SOMEIP_ETS_123 – SD_Length_of_Entry_Array_longer_than_message_allows

Table 207 specifies the CTC_SOMEIP_ETS_123 – SD_Length_of_Entry_Array_longer_than_ message_ allows test case.

Table 207 — CTC_SOMEIP_ETS_123 – SD_Length_of_Entry_Array_longer_than_message_allows

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_123 – SD_Length_of_Entry_Array_longer_than_message_allows
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message whose entry array length exceeds the total message length. The IUT cannot recognize the message and therefore cannot send an answer with a Subscribe-Event-Group-ACK.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00153; — PRS_SOMEIPSD_00265; — PRS_SOMEIPSD_00270'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with an entry array length exceeding the total length of the message.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request.
Remark	---

7.1.7.99 CTC_SOMEIP_ETS_124 – SD_Length_of_Entry_Array_too_long

Table 208 specifies the CTC_SOMEIP_ETS_124 – SD_Length_of_Entry_Array_too_long test case.

Table 208 — CTC_SOMEIP_ETS_124 – SD_Length_of_Entry_Array_too_long

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_124 – SD_Length_of_Entry_Array_too_long
Purpose	This CTC verifies that the message's entry array length does not exceed the total message length but exeeds its maximum limit. The IUT rejects the message.

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Table 208 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00264; — PRS_SOMEIPSD_00265; — PRS_SOMEIPSD_00270; — PRS_SOMEIPSD_00393; — PRS_SOMEIPSD_00566'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with an entry array length exceeding the total length of the message by at least 20 bytes.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request.
Remark	---

7.1.7.100 CTC_SOMEIP_ETS_125 – SD_Length_of_Entry_Array_too_short

Table 209 specifies the CTC_SOMEIP_ETS_125 – SD_Length_of_Entry_Array_too_short test case.

Table 209 — CTC_SOMEIP_ETS_125 – SD_Length_of_Entry_Array_too_short

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_125 – SD_Length_of_Entry_Array_too_short
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message with an entry array length shorter than it should based on the length indicated for each option.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00265; — PRS_SOMEIPSD_00270'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with an entry array length less than the sum of the lengths indicated by each option.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request.
Remark	---

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7.1.7.101 CTC_SOMEIP_ETS_127 – SD_Multicast_FindService

Table 210 specifies the CTC_SOMEIP_ETS_127 – SD_Multicast_FindService test case.

Table 210 — CTC_SOMEIP_ETS_127 – SD_Multicast_FindService

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_127 – SD_Multicast_FindService
Purpose	This CTC verifies that the IUT receives ten multicast FindService messages every 100 ms asking for a valid service-/instance-ID (depending on the IUT). The IUT answers using a unicast OfferService for this service-/instance-ID.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00261; — PRS_SOMEIPSD_00305; — PRS_SOMEIPSD_00306; — PRS_SOMEIPSD_00307'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send ten multicast FindService messages in an interval of 100 ms requesting a valid service-/instance-ID (depending on the IUT).
Iteration	Not applicable
Expected response	After step 1: The IUT responses with at least one unicast OfferService message.
Remark	---

7.1.7.102 CTC_SOMEIP_ETS_128 – SD_Multicast_FindService_Major_Minor_Version_set_to_all

Table 211 specifies the CTC_SOMEIP_ETS_128 – SD_Multicast_FindService_Major_Minor_ Version_set_to_all test case.

Table 211 — CTC_SOMEIP_ETS_128 – SD_Multicast_FindService_Major_Minor_Version_set_to_all

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_128 – SD_Multicast_FindService_Major_Minor_Version_set_to_all
Purpose	This CTC verifies that the IUT receives both, ten multicast FindService request messages with major version and later with a minor version set to FF_{16} (all in 100 ms intervals) and is expected to answer each message with at least one unicast OfferService message.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00268; — PRS_SOMEIPSD_00305; — PRS_SOMEIPSD_00306; — PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00351'

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Table 211 *(continued)*

Item	Content
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send ten multicast FindService messages in an interval of 100 ms with major version set to FF_{16} (minor version set to Default value). 2. The LT shall send ten multicast FindService messages in an interval of 100 ms with minor version set to FFFF $FFFF_{16}$ (major version set to default value).
Iteration	Not applicable
Expected response	After step 1: The IUT responds with at least one unicast OfferService message. After step 2: The IUT responds with at least one unicast OfferService message.
Remark	---

7.1.7.103 CTC_SOMEIP_ETS_130 – SD_Multicast_FindService_with_unicast_Flag_to_0

Table 212 specifies the CTC_SOMEIP_ETS_130 – SD_Multicast_FindService_with_unicast_Flag_to_0 test case.

Table 212 — CTC_SOMEIP_ETS_130 – SD_Multicast_FindService_with_unicast_Flag_to_0

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_130 – SD_Multicast_FindService_with_unicast_Flag_to_0
Purpose	This CTC verifies that the IUT receives a multicast FindService request message with its unicast flag set to 0 and is expected to ignore this flag and to answer with a unicast OfferService message.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00268; — PRS_SOMEIPSD_00305; — PRS_SOMEIPSD_00306; — PRS_SOMEIPSD_00307'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall send a multicast FindService message with the unicast flag set to 0.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a unicast OfferService message.
Remark	---

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7.1.7.104 CTC_SOMEIP_ETS_134 – SD_Option_Length_ends_past_Options_Array_Var_A

Table 213 specifies the CTC_SOMEIP_ETS_134 – SD_Option_Length_ends_past_Options_Array_Var_A test case.

Table 213 — CTC_SOMEIP_ETS_134 – SD_Option_Length_ends_past_Options_Array_Var_A

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_134 – SD_Option_Length_ends_past_Options_Array_Var_A
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message whose option's length surpasses the total message length indicated for the options array and so the message is answered with a Subscribe-Event-GroupNAck or no reply. In variant A of this CTC, the total length indicated in the SOME/IP header is shortened from 60 byte to 48 byte in order to cut the options array and make this one look shorter than it really is. The length of the option array is cut in the same order as in the SOME/IP header (lossing also 12 byte, from 24 byte to 12 byte), only the option's individual length fields are correct.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9], 'PRS_SOMEIP_00042'; *AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00274; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with an actual option length greater than the indicated options array length.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request or ignores the request message.
Remark	---

7.1.7.105 CTC_SOMEIP_ETS_135 – SD_Option_Length_ends_past_Options_Array_Var_B

Table 214 specifies the CTC_SOMEIP_ETS_135 – SD_Option_Length_ends_past_Options_Array_Var_B test case.

Table 214 — CTC_SOMEIP_ETS_135 – SD_Option_Length_ends_past_Options_Array_Var_B

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_135 – SD_Option_Length_ends_past_Options_Array_Var_B
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message whose options have a length which surpasses the length indicated for the options array and so the message is answered with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9],'PRS_SOMEIP_00042'; *AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00274; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 214 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with an actual option length greater than the indicated options array length.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request or ignores the request message.
Remark	---

7.1.7.106 CTC_SOMEIP_ETS_136 – SD_Option_Length_shorter_GT_0_as_specified_for_type

Table 215 specifies the CTC_SOMEIP_ETS_136 – SD_Option_Length_shorter_GT_0_as_specified_for_type test case.

Table 215 — CTC_SOMEIP_ETS_136 – SD_Option_Length_shorter_GT_0_as_specified_for_type

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_136 – SD_Option_Length_shorter_GT_0_as_specified_for_type
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message with a UDP option length less than the specified for the Type (4 byte instead of 9 byte). The message is answered by the IUT with a Subscribe-Event-GroupNAck or is ignored.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with a UDP option length less than the specified for the Type (4 byte instead of 9 byte).
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request or ignores the request.
Remark	---

7.1.7.107 CTC_SOMEIP_ETS_137 – SD_Option_shorter_with_unaligned_next_option

Table 216 specifies the CTC_SOMEIP_ETS_137 – SD_Option_shorter_with_unaligned_next_option test case.

Table 216 — CTC_SOMEIP_ETS_137 – SD_Option_shorter_with_unaligned_next_option

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_137 – SD_Option_shorter_with_unaligned_next_option

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Table 216 *(continued)*

Item	Content
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message whose first option has a length of 14 byte and the second option has a length of 4 byte. Both options have the wrong length but the total expected length for the options array is apparently kept since the missing bytes are deleted from the UDP option and added as dummy bytes at the end of the TCP option. The total SOME/IP length is kept at 60 byte and the missing bytes from the options array are replenished with dummy bytes. The IUT responds to this message with a Subscribe-Event-GroupNAck, since this change of the option field values causes the options to be invalid.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9],'PRS_SOMEIP_00042' *AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00265; — PRS_SOMEIPSD_00274; — PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with: TCP endpoint option length = 14 byte (append dummy bytes); UDP endpoint option length = 4 byte (cut to 4 byte).
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request.
Remark	---

7.1.7.108 CTC_SOMEIP_ETS_138 – SD_Options_Array_longer_than_message_allows

Table 217 specifies the CTC_SOMEIP_ETS_138 – SD_Options_Array_longer_than_message_allows test case.

Table 217 — CTC_SOMEIP_ETS_138 – SD_Options_Array_longer_than_message_allows

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_138 – SD_Options_Array_longer_than_message_allows
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message with the options array length longer than the message itself (option array length is 28_{16} instead of 18_{16}). The IUT returns a Subscribe-Event-Group-ACK. Due to AUTOSAR compatibility purposes it is also allowed to ignore the message.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00390'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.

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Table 217 *(continued)*

Item	Content
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with Options array length > actual length.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK message or ignores the request.
Remark	---

7.1.7.109 CTC_SOMEIP_ETS_139 – SD_Options_Array_too_short

Table 218 specifies the CTC_SOMEIP_ETS_139 – SD_Options_Array_too_short test case.

Table 218 — CTC_SOMEIP_ETS_139 – SD_Options_Array_too_short

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_139 – SD_Options_Array_too_short
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message with an options array length shorter than required (2 byte instead of the original 24 byte). The message is answered with a Subscribe-Event-GroupNAck since the required options for this entry is not accessible anymore.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00265; — PRS_SOMEIPSD_00270; — PRS_SOMEIPSD_00566'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with options array length < actual length.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request.
Remark	---

7.1.7.110 CTC_SOMEIP_ETS_140 – SD_Request_non_existing_Event-Group-Id

Table 219 specifies the CTC_SOMEIP_ETS_140 – SD_Request_non_existing_Event-Group-Id test case.

Table 219 — CTC_SOMEIP_ETS_140 – SD_Request_non_existing_Event-Group-Id

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_140 – SD_Request_non_existing_Event-Group-Id
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message requesting a non existing Evt-Grp-ID. The message is answered with a Subscribe-Event-GroupNAck.

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Table 219 *(continued)*

Item	Content
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00393; — PRS_SOMEIPSD_00394; — PRS_SOMEIPSD_00566'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with non existing Evt-Grp-ID.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request.
Remark	---

7.1.7.111 CTC_SOMEIP_ETS_141 – SD_Request_non_existing_InstanceID

Table 220 specifies the CTC_SOMEIP_ETS_141 – SD_Request_non_existing_InstanceID test case.

Table 220 — CTC_SOMEIP_ETS_141 – SD_Request_non_existing_InstanceID

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_141 – SD_Request_non_existing_InstanceID
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message requesting a non existing instance-ID. The message is answered with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00393; — PRS_SOMEIPSD_00394; — PRS_SOMEIPSD_00566'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with non existing instance-ID.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request.
Remark	---

7.1.7.112 CTC_SOMEIP_ETS_142 – SD_Request_non_existing_Major_Version

Table 221 specifies the CTC_SOMEIP_ETS_142 – SD_Request_non_existing_Major_Version test case.

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Table 221 — CTC_SOMEIP_ETS_142 – SD_Request_non_existing_Major_Version

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_142 – SD_Request_non_existing_Major_Version
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message requesting a non existing major version. The message is answered with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00393; — PRS_SOMEIPSD_00394'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with a non existing major version.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request.
Remark	---

7.1.7.113 CTC_SOMEIP_ETS_143 – SD_Request_non_existing_service identifier

Table 222 specifies the CTC_SOMEIP_ETS_143 – SD_Request_non_existing_service identifier test case.

Table 222 — CTC_SOMEIP_ETS_143 – SD_Request_non_existing_service identifier

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_143 – SD_Request_non_existing_service identifier
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message requesting a non existing service-ID. The message is answered with a Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00386; — PRS_SOMEIPSD_00393; — PRS_SOMEIPSD_00394'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with non existing service-ID.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request.
Remark	---

7.1.7.114 CTC_SOMEIP_ETS_144 – SD_Reserved_Field_Endpoint_Option_set

Table 223 specifies the CTC_SOMEIP_ETS_144 – SD_Reserved_Field_Endpoint_Option_set test case.

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Table 223 — CTC_SOMEIP_ETS_144 – SD_Reserved_Field_Endpoint_Option_set

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_144 – SD_Reserved_Field_Endpoint_Option_set
Purpose	This CTC verifies that the LT sends a Subscribe-Event-Group message with the reserved fields of the endpoint options set. The message is answered with a Subscribe-Event-Group-ACK.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00391'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with reserved fields of the endpoint options set.
Iteration	Not applicable
Expected response	After step 1: The IUT ignores the reserved fields and sends a Subscribe-Event-Group-ACK.
Remark	---

7.1.7.115 CTC_SOMEIP_ETS_146 – SD_ResetInterface

Table 224 specifies the CTC_SOMEIP_ETS_146 – SD_ResetInterface test case.

Table 224 — CTC_SOMEIP_ETS_146 – SD_ResetInterface

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_146 – SD_ResetInterface
Purpose	This CTC verifies that the UT gets the TestFieldUINT8 value hold by the IUT and stores it, later it sets a new, different value. For both requests the LT expects an answer which is checked against the SOME/IP specifications. Once these preparations are completed, the UT triggers the IUT to reset and after waiting 3 s for the reset to complete, it asks again for the TestFieldUINT8 value, expecting it to be at least different from the one set before the reset.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00356'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The UT shall get the TestFieldUINT8 value hold by the IUT and store it. 2. The UT shall set a new, different value. 3. The UT shall trigger the IUT to reset. 4. The UT shall ask again for the TestFieldUINT8 value.
Iteration	Not applicable

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Table 224 *(continued)*

Item	Content
Expected response	After step 1: The IUT returns the value. After step 2: The IUT returns the value. After step 4: The IUT returns the value which is at least different from the one set before the reset.
Remark	---

7.1.7.116 CTC_SOMEIP_ETS_147 – SD_Send_triggerEventUINT8_Evt-Grp_2

Table 225 specifies the CTC_SOMEIP_ETS_147 – SD_Send_triggerEventUINT8_Evt-Grp_2 test case.

Table 225 — CTC_SOMEIP_ETS_147 – SD_Send_triggerEventUINT8_Evt-Grp_2

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_147 – SD_Send_triggerEventUINT8_Evt-Grp_2
Purpose	This CTC verifies that the UT subscribes to an Evt-Grp and triggers the IUT to send TestEventUINT8 events afterwards. The IUT acknowledges the subscription and sends the field events to the IP address and port indicated by the endpoint option in the subscription request.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00310; — PRS_SOMEIPSD_00360; — PRS_SOMEIPSD_00361; — PRS_SOMEIPSD_00380'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 02_{16}. 2. The UT shall trigger the method triggerEventUINT8().
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK. After step 2: The IUT sends the field TestEventUINT8 to the IP and port indicated in the endpoint option of the request.
Remark	---

7.1.7.117 CTC_SOMEIP_ETS_148 – SD_Send_triggerEventUINT8Array_Evt-Grp_2

Table 226 specifies the CTC_SOMEIP_ETS_148 – SD_Send_triggerEventUINT8Array_Evt-Grp_2 test case.

Table 226 — CTC_SOMEIP_ETS_148 – SD_Send_triggerEventUINT8Array_Evt-Grp_2

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_148 – SD_Send_triggerEventUINT8Array_Evt-Grp_2

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Table 226 *(continued)*

Item	Content
Purpose	This CTC verifies that the UT subscribes to an Evt-Grp and triggers the IUT to send TestEventUINT8Array events afterwards. The IUT acknowledges the subscription and sends the field events to the IP address and port indicated by the endpoint option in the subscription request.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00310; — PRS_SOMEIPSD_00380'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a subscribeEvt-Grp message for Evt-Grp 02_{16}. 2. The UT shall trigger the method triggerEventUINT8Array().
Iteration	Not applicable
Expected response	After step 1: The IUT sends a subscribeEvt-GrpACK. After step 2: The IUT sends the field TestEventUINT8Array to the IP and port indicated in the endpoint option of the request.
Remark	---

7.1.7.118 CTC_SOMEIP_ETS_149 – SD_Send_triggerEventUINT8E2E_Evt-Grp_2

Table 227 specifies the CTC_SOMEIP_ETS_149 – SD_Send_triggerEventUINT8E2E_Evt-Grp_2 test case.

Table 227 — CTC_SOMEIP_ETS_149 – SD_Send_triggerEventUINT8E2E_Evt-Grp_2

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_149 – SD_Send_triggerEventUINT8E2E_Evt-Grp_2
Purpose	This CTC verifies that the UT subscribes to an Evt-Grp and triggers the IUT to send TestEventUINT8E2E events. The IUT acknowledges the subscription and sends the field events to the IP address and port indicated by the endpoint option in the subscription request.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00310; — PRS_SOMEIPSD_00380'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 02_{16}. 2. The UT shall trigger the method triggerEventUINT8E2E().
Iteration	Not applicable

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Table 227 *(continued)*

Item	Content
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK. After step 2: The IUT sends the field TestEventUINT8E2E to the IP and port indicated in the endpoint option of the request.
Remark	---

7.1.7.119 CTC_SOMEIP_ETS_150 – SD_Send_triggerEventUINT8Multicast_Evt-Grp_6

Table 228 specifies the CTC_SOMEIP_ETS_150 – SD_Send_triggerEventUINT8Multicast_Evt-Grp_6 test case.

Table 228 — CTC_SOMEIP_ETS_150 – SD_Send_triggerEventUINT8Multicast_Evt-Grp_6

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_150 – SD_Send_triggerEventUINT8Multicast_Evt-Grp_6
Purpose	This CTC verifies that the UT subscribes to an Evt-Grp and triggers the IUT to send TestEventUINT8Multicast events. The IUT acknowledges the subscription and sends the field events to the IP address and port indicated by the endpoint option in the subscription request.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00310; — PRS_SOMEIPSD_00323; — PRS_SOMEIPSD_00324; — PRS_SOMEIPSD_00325; — PRS_SOMEIPSD_00326; — PRS_SOMEIPSD_00380'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 06_{16}. 2. The UT shall trigger the method trigger triggerUINT8Multicast.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK. After step 2: The IUT sends the field TestEventUINT8Multicast to the IP and port indicated in the endpoint option of the request.
Remark	---

7.1.7.120 CTC_SOMEIP_ETS_151 – SD_Send_triggerEventUINT8Reliable_Evt-Grp_2

Table 229 specifies the CTC_SOMEIP_ETS_151 – SD_Send_triggerEventUINT8Reliable_Evt-Grp_2 test case.

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Table 229 — CTC_SOMEIP_ETS_151 – SD_Send_triggerEventUINT8Reliable_Evt-Grp_2

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_151 – SD_Send_triggerEventUINT8Reliable_Evt-Grp_2
Purpose	This CTC verifies that the UT subscribes to an Evt-Grp and triggers the IUT to send TestEventUINT8Reliable events. The IUT acknowledges the subscription and sends the field events to the IP address and port indicated by the endpoint option in the subscription request.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00310; — PRS_SOMEIPSD_00362; — PRS_SOMEIPSD_00380'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message for Evt-Grp 02_{16}. 2. The UT shall trigger the method triggerEventUINT8Reliable().
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-Group-ACK. After step 2: The IUT sends the field TestEventUINT8Reliable to the IP and port indicated in the endpoint option of the request.
Remark	---

7.1.7.121 CTC_SOMEIP_ETS_152 – SD_Session_ID_is_one_after_wrapping

Table 230 specifies the CTC_SOMEIP_ETS_152 – SD_Session_ID_is_one_after_wrapping test case.

Table 230 — CTC_SOMEIP_ETS_152 – SD_Session_ID_is_one_after_wrapping

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_152 – SD_Session_ID_is_one_after_wrapping
Purpose	This CTC verifies that the LT sends multiple FindService messages in order to observe the SessionID incrementation and wrap-around of the OfferService responses. After wrap-around the SessionID starts at 1.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13], 'PRS_SOMEIPSD_00159'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send multiple FindService messages.
Iteration	Not applicable
Expected response	After step 1: The IUT responds with OfferService messages and starts with SessionID 1 after wrap-around.
Remark	---

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7.1.7.122 CTC_SOMEIP_ETS_153 – SD_SOMEIP_Length_shorter_as_expected

Table 231 specifies the CTC_SOMEIP_ETS_153 – SD_SOMEIP_Length_shorter_as_expected test case.

Table 231 — CTC_SOMEIP_ETS_153 – SD_SOMEIP_Length_shorter_as_expected

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_153 – SD_SOMEIP_Length_shorter_as_expected
Purpose	This CTC verifies that the LT subscribes to an Evt-Grp with wrong parameters in the request: SOME/IP length is less than the actual length. The IUT rejects the request with Subscribe-Event-GroupNAck or may ignore the request.
Reference	*AUTOSAR SOME/IP Protocol Specification, FO Release 1.3.0*[9],'PRS_SOMEIP_00042'; *AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00393; — PRS_SOMEIPSD_00566'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.
Step	1. The LT shall send a Subscribe-Event-Group message with a SOME/IP length less than the actual length.
Iteration	Not applicable
Expected response	After step 1: The IUT sends a Subscribe-Event-GroupNAck to reject the subscription request or ignores the request.
Remark	---

7.1.7.123 CTC_SOMEIP_ETS_154 – SD_Specify_an_unexisting_CTC_IPv4_Address

Table 232 specifies the CTC_SOMEIP_ETS_154 – SD_Specify_an_unexisting_CTC_IPv4_Address test case.

Table 232 — CTC_SOMEIP_ETS_154 – SD_Specify_an_unexisting_CTC_IPv4_Address

Item	Content
CTC # – Title	CTC_SOMEIP_ETS_154 – SD_Specify_an_unexisting_CTC_IPv4_Address
Purpose	This CTC verifies that the LT subscribes to an Evt-Grp with wrong parameters in the request: invalid IPv4 address in the EndpointOption. The IUT rejects the request with Subscribe-Event-GroupNAck.
Reference	*AUTOSAR SOME/IP Service Discovery Protocol Specification, FO Release 1.3.0*[13]: — 'PRS_SOMEIPSD_00306; — PRS_SOMEIPSD_00307; — PRS_SOMEIPSD_00380; — PRS_SOMEIPSD_00393'
Prerequisite	The IUT shall be powered on and shall be linked-up with the test system. The IUT shall implement the TCP/IP TestStub in accordance with 6.6. The IUT shall be running and offering the ETS.
Set-up	The test system set-up shall be in accordance with Figure 8. The test system shall be parameterized in accordance with the configuration set-up parameters as specified in 7.1.5.1 and 7.1.5.2.

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