

**Access and Terminals (AT);
Short Message Service (SMS) for PSTN/ISDN;
Test Suites for SMS User Based Solution;
Part 7: Test Suite Structure and Test Purposes (TSS&TP)
user side for functional tests using Protocol 1**



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Contents

Intellectual Property Rights	5
Foreword.....	5
1 Scope	6
2 References	6
3 Definitions and abbreviations.....	7
3.1 Definitions	7
3.2 Abbreviations	8
4 Configuration assumed for the test specification	8
5 Test purposes development	10
5.1 Introduction	10
5.2 Source of test purpose specifications.....	10
5.3 Restrictions and requirements not being tested	10
5.4 Grouping of test purposes.....	11
5.5 Test purpose naming convention.....	11
5.6 Method used for developing test purposes	12
5.7 Method used for test purpose description.....	12
6 Test purposes presentation and environment specification	13
6.1 Introduction	13
6.2 Test Suite Structure (TSS).....	13
6.3 Abstract Service Primitives	13
6.4 Use of UBS1 TL messages (PDUs).....	23
6.4.1 UBS1 TL messages.....	23
6.4.2 UBS1 Transfer Layer message parameters and their default values.....	24
6.4.3 How to interpret messages, parameters and their field values	26
6.4.4 Unexpected or unused TL messages	27
6.5 Behaviour notation	27
6.6 Parametrization and selection.....	28
6.7 Treatment of the "Memory Full" state in the submission phase.....	31
6.8 Preambles	31
6.8.1 PRE_INIT.....	31
6.8.2 PRE_CLEAR_MEM	31
6.8.3 PRE_MEM_FULL	32
6.8.4 PRE_OUTGOING.....	32
6.8.5 PRE_DELIVER.....	32
6.8.6 PRE_INC_DMI	32
6.8.7 PRE_BUSY	33
6.9 Postambles.....	33
6.9.1 General.....	33
6.9.2 POST_TESTER_RELEASE_VB	33
7 Test purpose descriptions	33
7.1 Test purposes for Outgoing SMS call.....	33
7.1.1 Test purposes for SME subaddressing and Deliver Mode Identifier	33
7.1.2 Test purposes for SMS-SUBMIT message format and contents	35
7.1.3 Test purposes for SM text coding	38
7.1.4 Test purposes for SMS-SUBMIT-REPORT	38
7.2 Test purposes for Incoming SMS call	39
7.2.1 Test purposes for SME subaddressing and Deliver Mode Identifier	39
7.2.2 Test purposes for SMS-STATUS-REPORT reception	44
7.2.3 Test purposes for SM text decoding	44
7.2.4 Test purposes for more than one SM in one call.....	45
7.2.5 Test purposes for SM Replace	46
7.2.6 Test purposes for SMS-DELIVER-REPORT	46

Annex A (informative): Bibliography.....48
History49

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Foreword

This ETSI Standard (ES) has been produced by ETSI Technical Committee Access and Terminals (AT), and is now submitted for the ETSI standards Membership Approval Procedure.

The present document is part 7 of a multi-part deliverable. Full details of the entire series can be found in part 1 [9].

1 Scope

The present document provides test suite structure and test purposes for Functional tests for a Terminal Equipment implementing the Short Message Service (SMS) for PSTN/ISDN, UBS Protocol 1 according to ES 201 912 [1].

Basic ISDN or PSTN call procedures apply in order to establish a circuit-switched band connection between such Terminal Equipment and an SM-SC. Tests for these procedures are outside the scope of the present document, although some parameters related to these procedures are used (e.g. SME subaddressing). UBS1 terminals send and receive Data Link messages in the voice-band connection using the FSK signalling as defined in EN 300 659-2 [5] and ES 200 778-2 [8]. Tests for the FSK signalling are outside the scope of the present document. Tests for Data Link Layer have been treated in ES 202 912-2 [10].

Terminal Equipment implementing the Short Message Service (SMS) for PSTN/ISDN according to UBS Protocol 1 are required to implement the Transfer Layer according to ES 201 912 [1]. The Remote Single Layer Embedded Test Method (see ISO/IEC 9646-2 [13]) is used for the UBS Protocol 1 Transfer layer.

Figure 1 gives an overview of the reference architecture used for the UBS Protocol 1 operation. Figure 2 shows the configuration used for testing.

ISO/IEC 9646-1 [12] and ISO/IEC 9646-2 [13] are used as the basis for the test specification methodology.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

- [1] ETSI ES 201 912 (V1.1.1): "Access and Terminals (AT); Short Message Service (SMS) for PSTN/ISDN; Short Message Communication between a fixed network Short Message Terminal Equipment and a Short Message Service Centre".
- [2] ETSI TS 100 900 (V7.2.0): "Digital cellular telecommunications system (Phase 2+) (GSM); Alphabets and language-specific information (GSM 03.38 version 7.2.0)".
- [3] ETSI TS 100 901 (V7.4.0): "Digital cellular telecommunications system (Phase 2+) (GSM); Technical realization of the Short Message Service (SMS) (GSM 03.40 version 7.4.0)".
- [4] ETSI EN 300 659-1 (V1.3.1): "Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services; Part 1: On-hook data transmission".
- [5] ETSI EN 300 659-2 (V1.3.1): "Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services; Part 2: Off-hook data transmission".
- [6] ETSI EN 300 659-3 (V1.3.1): "Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Subscriber line protocol over the local loop for display (and related) services; Part 3: Data link message and parameter codings".
- [7] ETSI ES 200 778-1 (V1.2.2): "Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Protocol over the local loop for display and related services; Terminal equipment requirements; Part 1: On-hook data transmission".

- [8] ETSI ES 200 778-2 (V1.2.2): "Access and Terminals (AT); Analogue access to the Public Switched Telephone Network (PSTN); Protocol over the local loop for display and related services; Terminal equipment requirements; Part 2: Off-hook data transmission".
- [9] ETSI ES 202 912-1 (V1.1.1): "Access and Terminals (AT); Short Message Service (SMS) for PSTN/ISDN; Test Suites for SMS User Based Solution; Part 1: Protocol Implementation Conformance Statement (PICS) proforma specification user side for Data Link Layer Protocol 1".
- [10] ETSI ETSI ES 202 912-2 (V1.1.1): "Access and Terminals (AT); Short Message Service (SMS) for PSTN/ISDN; Test Suites for SMS User Based Solution; Part 2: Test Suite Structure and Test Purposes (TSS&TP) user side for Data Link Layer (DLL) Protocol 1".
- [11] ETSI ETSI ES 202 912-3 (2002-5): "Access and Terminals (AT); Short Message Service (SMS) for PSTN/ISDN; Test Suites for SMS User Based Solution; Part 3: Abstract Test Suite (ATS) user side for Data Link Layer (DLL) Protocol 1".
- [12] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [13] ISO/IEC 9646-2: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

incoming VB-connection: VB-connection initiated by an SM-SC

Lower Test System (LTS): part of the Test System performing basic signalling procedures to establish a VB-connection and to transmit and receive FSK frames

originator (of an SM): SM-TE sending an SM to another SM-TE

outgoing VB-connection: VB-connection initiated by an SM-TE

peer (entities): SM-TE and SM-SC, for which a voice-band connection exists or is pending, are considered as peers

SMS call: an outgoing call established by the SM-TE to the SM-SC in order to submit an SM or an incoming call established by the SM-SC to the SM-TE in order to deliver an SM (in this case the CLI used to establish the call contains the address of the SM-SC stored in the SM-TE)

VB-connection: Voice-Band connection between two peers

NOTE 1: A Voice-band connection is considered to be completed or established, when the basic call control procedures, performed according to the type of network access the SM-TE is connected to (i.e. PSTN or BRA ISDN or PRA ISDN), are completed and the voice-band connection is ready for FSK frame transfer.

NOTE 2: In order to establish an incoming VB-connection, the CLI information has to be previously provided to the terminal equipment. The way of providing CLI (e.g. by DTMF or FSK signalling and using a data transmission associated with ringing or not, etc..., in the case of PSTN) is out of the scope of the present document.

VB-Initiator: entity (SM-TE or SM-SC) initiating a voice-band connection to the peer entity

VB-Responder: entity (SM-TE or SM-SC) having received a voice-band connection attempt from the peer entity

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ASP	Abstract Service Primitive
ATS	Abstract Test Suite
CLI	Calling Line Identification (information)
CLIP	Calling Line Identification Presentation (supplementary service)
DLL	Data Link Layer
DTMF	Dual Tone Multi-Frequency
FSK	Frequency Shift Keying
IA5	International Alphabet No. 5
ISDN	Integrated Services Digital Network
ISO	International Standard Organization
IUT	Implementation Under Test
LT	Lower Tester
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PSTN	Public Switched Telephone Network
SM	Short Message(s)
SME	Short Message Entity
SMS	Short Message Service
SM-SC	Short Message Service Centre
SM-TE	Short Message Terminal Equipment
SUT	System Under Test
TL	Transfer Layer
TP	Test Purpose
TP-FCS	Transfer Protocol - Failure Cause
TSS	Test Suite Structure
TSS&TP	Test Suite Structure and Test Purposes
TTCN	Tree and Tabular Combined Notation
UBS	User Based Solution
UT	Upper Tester
VB	Voice-band

4 Configuration assumed for the test specification

Figure 2, clause 4, ES 201 912 [1] shows the general principle of short message transfer, which consist in a SM submission phase and a SM delivery phase, which is repeated schematically in figure 1.

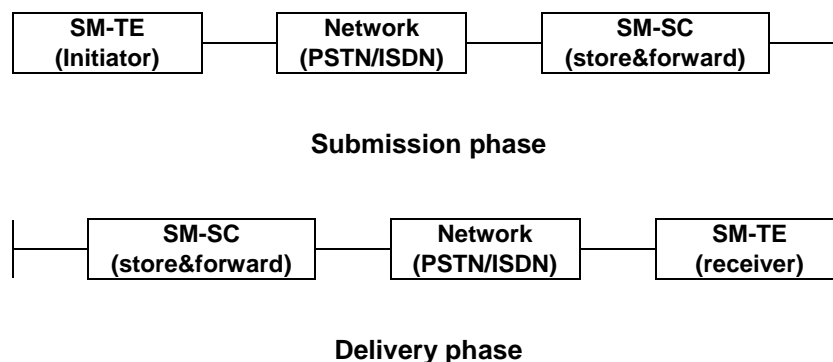


Figure 1: Short Message transfer - General Principle

In the tests specified in the present document, the SM-TE will be tested as an SM originator as well as a SM receiver. No different test configurations are defined for the two different roles the SM-TE take in the two phases. The test configuration shown in figure 2 therefore reflects each of the two phases of figure 1, with some necessary additions.

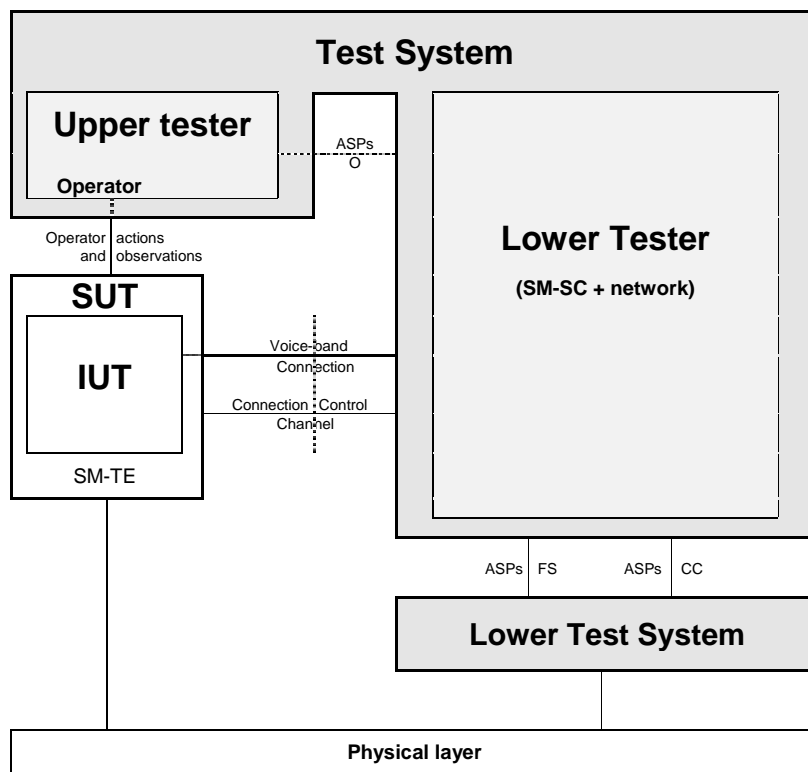


Figure 2: UBS1 test configuration

Explanations:

- 1) The SUT is an SM-TE.
- 2) The Test Method used here is the "Remote Single Layer Embedded" Test Method (see ISO/IEC 9646-1 [12]).
- 3) The IUT is the Transfer Layer implementation of the SM-TE.
- 4) The test system represents the network to which the SUT is attached, and the SM-SC. Correspondingly the SM-TE is physically connected to the test system as if it were connected to a real network.
- 5) The test system carries an Upper Tester and a Lower Tester. The Upper Tester is realized by an operator, controlling and observing the SUT. The test coordination between Lower Tester and the Upper Tester is performed via ASPs at PCO O.
- 6) Conceptually SUT and Lower Tester are connected by two channels:
 - a) the voice-band channel, and
 - b) the signalling control channel.

In most cases the voice-band channel carries a voice-band connection between the SM-TE and the SM-SC (simulated by the tester). In some cases however, where the SUT is brought into a busy state, before the tester initiates an incoming SMS call, one or more voice-band channels are established using ordinary phone calls.

- 7) Virtually the Lower Tester communicates with the SUT via two PCOs:
- a) **FS**
At this PCO the Lower Tester sends and receives FSK frames conceptually exchanged between SM-TE and SM-SC (which are transported over the voice-band channel). The Lower Tester has also to implement DLL messages, timers and procedures, according to the DLL protocol. Appropriate ASPs are applied to use the DLL services for the transfer of TL messages. The DLL procedures required in each test are not explicitly mentioned in the test formulation.
 - b) **CC**
At this PCO the Lower Tester takes the actions of initiating and supervising connection control. The actions are realized by appropriate ASPs (see clause 6.3), while the actual transfer of signalling messages over the CC channel is not subject of this test specification.

Ringling signals are conceptually associated to the CC channel in this testing scheme. This is done to keep the FS PCO free from any signals except for FSK frames conceptually exchanged between SM-TE and SM-SC.

The same principle applies to the transfer of CLI: in the case where CLI has to be transported via FSK signalling, it is done via PCO CC. It is a matter for the test system to distinguish between these different ways of using FSK signalling.

5 Test purposes development

5.1 Introduction

A TP is defined for one or several conformance requirements to be tested. It is expected, that each TP will result in a test case keeping the same name, specified in an ATS based on the present document.

5.2 Source of test purpose specifications

The test purposes are based on the requirements made in ES 201 912 [1] for UBS1. As far as message structures and formats are concerned, the definitions made in TS 100 901 [3] apply.

NOTE: The conformance requirements of ES 201 912 [1], "static" and "dynamic", are collected in ES 202 912-1 [9] (UBS1 PICS), but the PICS tables items are not referred to in the present document.

5.3 Restrictions and requirements not being tested

ES 201 912 [1] contains requirements for SM-TEs by direct specification and by reference to other standards. In particular, ES 201 912 [1] refers to the standards dealing with FSK signalling: EN 300 659-1 [4], EN 300 659-2 [5], EN 300 659-3 [6], ES 200 778-1 [7] and ES 200 778-2 [8].

It is not the intention of the present document to test Physical Layer aspects of FSK signalling or DLL aspects. Appropriate ASPs are applied to use the DLL services for the transfer of TL messages. For tests of the DLL aspects, see ES 202 912-2 [10] and ES 202 912-3 [11].

According to ES 201 912 [1] SM-TEs are attached to PSTN or ISDN networks and perform basic call control procedures according to the type of the network access to establish a voice-band connection between the SM-TE and the SM-SC.

It is not within the scope of the present document to test any signalling associated with basic call control procedures. It is a matter of the test system implementing these tests to install and perform the appropriate procedures.

The initiation and supervision of these procedures is realized in the present document by specific ASPs (see clause 6.3).

According to ES 201 912 [1] the network, i.e. the tester implementing the tests specified here, has to provide the CLI of the SM-SC to the called SM-TE. When the network is a PSTN, CLI can be provided by DTMF signalling or by FSK signalling. It is also a matter of the test system to implement and use the method appropriate for the SM-TE and the network access type.

Only requirements that can be verified by inspection of the UBS Protocol 1 Transfer Layer messages transferred over the voice-band channel are related to test purposes, in coordination with the ASPs necessary for terminal control via an operator and ASPs controlling voice-band connections and CLI provision.

The TL message and parameter specifications in TS 100 901 [3] allow a wide variety of possibilities to provide messages with values, which are not directly related to any TPs specified in the present document. The following restrictions particularly apply for this:

- the SMS-COMMAND message is not used;
- only unformatted text is transferred in the SMS-SUBMIT, SMS-DELIVER and SMS-STATUS-REPORT messages, using the GSM default 7-bit character encoding;
- no user data are transferred in the SMS-SUBMIT-REPORT message.

5.4 Grouping of test purposes

ES 201 912 [1] specifies requirements for the SM-TE functional behaviour and for the mapping of TL messages to/from DLL messages. TS 100 901 [3] specifies format and contents of the TL messages and the TL procedures. The tests are grouped in two main categories:

- 1) Outgoing SMS call related tests, and
- 2) Incoming SMS call related tests.

Detailed information on the test groups and subgroups can be found in clause 6.2.

5.5 Test purpose naming convention

The present document is created together with other similar TSS&TP documents, dealing also with UBS Protocol 2 (UBS2) instead of UBS Protocol 1 (UBS1) and DLL instead of Functional tests (see ES 201 912 [1]).

Therefore the Test purpose naming convention refers also to protocol and layer.

TP names are composed as follows:

Identifier := <Protocol>_<Layer>_<group structure>_<nn>

Where:

<Protocol> = **UBS1**, <Layer> = **FT** and <nn> is a 2-digit sequential number, starting from **01** for each subgroup. <group structure> is composed of sub-identifiers according to the subgroup structure of the group.

EXAMPLE:

UBS1_FT_OUT_SUBMIT

In this case **OUT** refers to group "Outgoing call" and **SUBMIT** refers to subgroup "Submit message format and contents".

For details on groups and subgroups see table 1 in clause 6.2.

5.6 Method used for developing test purposes

Test purposes have only been performed according to the following actions:

- 1) Identify all clauses of ES 201 912 [1] containing behaviour requirements and identify these requirements.
- 2) Determine the requirements not to be tested and identify them (see clause 5.3).
- 3) Define the test purposes structure (see clause 6.2).
- 4) Regarding that the structure is based on the functional requirements defined in ES 201 912 [1] (clause 5 and annex A) and is based on the message formats and procedures defined in TS 100 901 [3], define TPs for all essential functions and procedures and verify the given message formats.
- 5) The MSCs in annex A of ES 201 912 [1] are taken into account.
- 6) The method chosen for the presentation of the test purposes is described in clause 5.7. The method should enable an easy and systematic transition from the test purposes to a TTCN ATS.

5.7 Method used for test purpose description

A TP is described using a table as shown in the following example. The item names appearing in the left column of the example table are present in each TP table.

The right column of the example table contains *descriptive text* and example entries. The descriptive text is in italics, while example entries are in **bold text**.

The rows "**Purpose**", "**Requirem. Ref.**" and "**Selection Expr.**" contain normative contents, the rows "**Preamble**", "**Test description**", "**Pass criteria**" and "**Postamble**" contain just informative contents (the same information, expressed in the TTCN formalism, appear as normative in the .GR file related to the ATS document corresponding to this TSS&TP document).

Test Purpose identifier like UBS1_FT_OUT_SUBMIT_01	
Purpose:	<Textual description of the purpose to be achieved>
Requirem. ref.:	Reference to one or more clauses of ES 201 912 [1], containing a requirement which is tested in connection with the current test purpose. References to standards other than ES 201 912 [1] are added if appropriate. Since ES 201 912 [1] is the basic standard on which this test specification relies, the first paragraph of the "Requirem. ref." cell normally contains only clause numbers, without identifying the standard ES 201 912 [1] explicitly. Whenever a reference to another standards are necessary, a new line is added, identifying this standard, followed by a colon and then clause numbers as for ES 201 912 [1]. EXAMPLE: 5.3.2.1, table 5 EN 300 659-2 [5], 7.3.1
Selection Expr.:	When an entry is present here, it denotes a selection expression (see clause 6.6), specifying a condition for the applicability of this test purpose. If there is no entry, the test purpose is unconditionally applicable. Note that selection expressions can also be defined for a whole group of test purposes , i.e. outside a test purpose table.
Preamble:	Name of a preamble leading to a condition or state, where the test purpose can be verified.
Test description:	Sequence of events intending to lead to the verification of the test purpose. A TTCN-like notation is used (see clause 6.5). Note that unexpected events are not shown here.
Pass criteria:	Special indication of an event (or several events), an "ignore"-behaviour or specific received parameter value(s), being essential for the verification of the test purpose. This can be a copy of one or more lines of the "Test description", or can be a textual explanation.
Postamble:	None or name of a postamble leading to the IDLE condition of the IUT (no VB connection exists).

6 Test purposes presentation and environment specification

6.1 Introduction

After the definition of the **Test Suite Structure**, a suitable environment has to be created in order to formulate the test purpose descriptions properly (i.e. referring to elements of this environment). Apart from this, the environment is specified to support a **systematic transition** from the test purposes to the TTCN ATS. This is e.g. taken into account in the naming conventions and "atomic phrases" used in the descriptions. Test parameters and other objects like Selection Expressions have been collected during the test purposes development to provide this test specification with the necessary parametrization and selection information. It is assumed that these objects will also appear in a TTCN ATS based on this test specification, with a few modifications resulting from the notation change (the Test Parameters e.g. being transformed into **Test Suite Parameters**).

6.2 Test Suite Structure (TSS)

Table 1 shows the structure of the UBS1 Functional tests Test Suite, as well as the TP group identifiers and the number of test purposes produced, per subgroup and in total:

Table 1: Test suite structure for Functional tests for UBS1

Group	Subgroup	Group Identifier	Count
Outgoing SMS call	SME subaddressing and Deliver Mode Identifier	UBS1_FT_OUT_SUBADDRDMI	3
	Submit message format and contents	UBS1_FT_OUT_SUBMIT	3
	SM text coding	UBS1_FT_OUT_TEXTCOD	1
	Submit Report	UBS1_FT_OUT_SUBREP	2
Incoming SMS call	SME subaddressing and Deliver Mode Identifier	UBS1_FT_INC_SUBADDRDMI	10
	Status report reception	UBS1_FT_INC_STATUSREP	1
	SM text decoding	UBS1_FT_INC_TEXTDEC	2
	More SMS in one call	UBS1_FT_INC_MORESMS	1
	SM Replace	UBS1_FT_INC_SMREPLACE	1
	Deliver report	UBS1_FT_INC_DELIVERREP	2
Total:			26

6.3 Abstract Service Primitives

Three classes of ASPs are defined, according to the **PCOs** at which they operate (see figure 2).

PCO	ASP class
O:	ASPs related to the operator (Upper Tester),
FS:	ASPs related to transmission and reception of TL messages via DLL messages, and
CC:	ASPs related to connection control.

Table 2 describes the general functions of the ASPs operating at the 3 PCOs. Detailed descriptions of the ASPs together with their parameters follow.

Table 2: List of ASPs

PCO	ASP Name	Direction	Description
O	OUTGOING_CALL_req	LT->UT	Make the SM-TE initiate a VB connection to the SM-SC in order to send an SM.
	BUSY_req	LT->UT	Make the SM-TE establish one or more phone calls in order to set the SM-TE in the "Busy" condition. (see note 1)
	SUBM_RESULT_VERIF_req	LT->UT	Request the user to verify if the SM-TE indicates the acceptance or rejection of the submitted SM, i.e. that the SMS-SUBMIT-REPORT message has been received without or with a failure cause.
	SUBM_RESULT_VERIF_conf	UT->LT	Indication by the user that the SM-TE has indicated the acceptance or rejection of the submitted SM at the SM-SC.
	DISPL_INF_VERIF_req	LT->UT	Request the user to verify that the indicated text is received in the latest received SM and is displayed in the indicated form. Request the user also to check if the latest SM has replaced a previously received SM (optional).
	DISPL_INF_VERIF_conf	UT->LT	Indication by the user whether the expected text has been received and displayed by the SM-TE.
	STAT_REP_INF_VERIF_req	LT->UT	Request the user to verify whether the information contained in the received SMS-STATUS-REPORT message and concerning the outcome at the recipient of an SM previously sent is made available to the user.
	STAT_REP_INF_VERIF_conf	UT->LT	Indication by the user that the information contained in the received SMS-STATUS-REPORT message and concerning the outcome at the recipient of an SM previously sent is made available to the user.
O	SM_Reception_req	LT->UT	Request the user to check for the next incoming SM whether has been received by the SM-TE (see note 1).
	SM_Reception_conf	UT->LT	Indication by the user that the latest incoming SM has been received by the SM-TE (see note 1).
	SM_Reception2_req	LT->UT	Request the user to check if two incoming SMS within the same SMS call have been received by the SM-TE.
	SM_Reception2_conf	UT->LT	Indication by the user that the two latest incoming SMS within the same SMS call have been received by the SM-TE.
	EMPTY_MEM_req	LT->UT	Request the user to delete the SMS stored in the SM-TE to make the SM-TE memory again available.
	EMPTY_MEM_ind	UT->LT	Indicates that the SM-TE does not contain anymore stored SMS (and can now accept incoming SMS).
CC	INC_CALL_req	LT->LTS	Make the Lower Test System initiate the basic call control procedures for an incoming SMS call, to establish a VB connection from the SM-SC to the SM-TE.
	INC_CALL_conf	LTS->LT	The Lower Test System confirms that the requested basic call control procedures for an incoming SMS call have been successfully completed and the VB connection to the SM-TE is established, or that the connection attempt was not successful.
	OUTG_CALL_ind	LTS->LT	Indication that the SM-TE has initiated the basic call control procedures for an outgoing call (i.e. the LTS has received a call from the SM-TE). (see note 2)
	OUTG_CALL_resp	LT->LTS	Response to the Lower Test System that the basic call control procedures for the outgoing call initiated by the SM-TE have to be completed or rejected.
	CALL_RELEASE_ind	LTS->LT	Indication from the Lower Test System that all existing VB connections have been released by the SM-TE.
	CALL_RELEASE_req	LT->LTS	Request the Lower Test System to release all VB connection(s) to the SM-TE.

PCO	ASP Name	Direction	Description
FS	TRANSFER_DATA_req	LT->LTS	Request the Lower Test System to transfer an SMS-DELIVER TL message or an SMS-STATUS-REPORT TL message, via the DLL_SMS_DATA message, to the IUT on the established VB connection.
	TRANSFER_ACK_req	LT->LTS	Request the Lower Test System to transfer an SMS-SUBMIT-REPORT TL message (indicating that the SM submission was successful), via the DLL_SMS_ACK message, to the IUT on the established VB connection.
	TRANSFER_NACK_req	LT->LTS	Request the Lower Test System to transfer an SMS-SUBMIT-REPORT TL message (indicating that the SM submission was unsuccessful), via the DLL_SMS_NACK message, to the IUT on the established VB connection.
	TRANSFER_SUBMIT_ind	LTS->LT	Indication that an SMS-SUBMIT TL message has been received from the SM-TE on the established VB connection (in a DLL_SMS_DATA message).
	TRANSFER_DELIV_REP_ind	LTS->LT	Indication that an SMS-DELIVER-REPORT TL message has been received from the SM-TE on the established VB connection (in a DLL_SMS_ACK or in a DLL_SMS_NACK message).
NOTE 1: Depending on the kind of the received short message and the terminal implementation the received SM could be stored or displayed or used just to change the terminal settings or state, or to make the terminal perform an action, etc.			
NOTE 2: For an ISDN access more than one call (normal phone call) may be necessary to bring the SM-TE in the state "Busy", where no incoming SMS call is possible. This ASP is only applicable when the SM-TE is able to receive and evaluate off-hook CLI provided by the network (see table 3, ES 201 912 [1]).			
NOTE 3: This ASP is applicable to incoming SMS calls and to incoming non-SMS calls, the latter ones established by the SM-TE to get into the "Busy" state (see ASP "BUSY_req").			

Tables 3 to 27 contain the descriptions of the ASPs used in the present document, including the ASP parameters (if any) and the kinds of values these may assume. No ASP parameter is optional.

Default values are indicated for most of the ASP parameters.

The meaning of "Default value" is:

- If the ASP is applied in a TP behaviour description and no value is indicated explicitly for an ASP parameter, then the application of the default value is assumed. Whenever a value is explicitly indicated for an ASP parameter, this value replaces the default value (at this instance of ASP application).

Table 3: OUTGOING_CALL_req ASP and its parameters

ASP Name: OUTGOING_CALL_req PCO: 0 Direction: LT->UT Description: Make the SM-TE initiate a VB connection to the SM-SC in order to send an SM. After successful VB and DLL connection establishment an SMS-SUBMIT message is expected from the SM-TE, with message parameters presence and contents as specified by the ASP parameters. Optional message parameters, if not explicitly requested by this ASP, may be present or may be omitted.		
Parameter	Default value	Description
STATUSREPREQ	2	Status Report request indication: 0: "Status report not requested" (the SM to be submitted shall not contain a status report request) 1: "Status report via SMS requested" (the SM to be submitted shall contain a status report request) 2: the SM to be submitted may contain or not a status report request
TXT	0	SM text to be transferred: 0: the SM to be submitted contains any unformatted text. 1: the SM to be submitted contains the following text: "the quick brown fox jumps over the lazy dog". 2: the SM to be submitted contains the EURO symbol, i.e. a single character in the extended character set. (see note 1)
SME_SEL	TRUE	Destination SME selection: TRUE: The destination SME subaddress digit (given by ASP parameter SMEID2) has to be appended to the destination SM-TE address digits in the TL parameter "Destination Address", i.e. the user has to enter this digit in some way. FALSE: No destination SME subaddress digit shall be appended to the destination SM-TE address digits in the TL parameter "Destination Address", i.e. the user shall not enter this digit. Parameter SMEID2 has no meaning in this case.
SMEID1	TSPX_SUT_SUBADDR	Subaddress digit of the calling SME. This digit has to be appended to the address digits of the SM-SC to be called (see ASP parameter SCADDR). (see note 3)
SMEID2	TSPX_REMOTE_SME_SUBADDR	Subaddress digit of the called SME.
VALPERIOD	FALSE	TRUE: The "Validity-Period" parameter shall be present in the SMS-SUBMIT message (any syntactically correct value allowed). FALSE: The "Validity-Period" parameter is not required to be present in the SMS-SUBMIT message (but still may be present).
SCADDR	TSPX_SC_ADDR	Address of the SM-SC to be called. (see note 2)
Comments: NOTE 1: The user data expected from the SM-TE always consist of unformatted plain text only. No user data header shall be present and the 7-bit GSM default encoding of the text shall be used. NOTE 2: The "Called Party Number" digits dialled for the outgoing call are composed of SCADDR, SMEID1 and DMI (equal to "0"), in this order.		

Table 4: BUSY_req ASP and its parameters

ASP Name: BUSY_req		
PCO: 0		
Direction: LT->UT		
Description: Make the SM-TE establish one or more phone calls in order to set the SM-TE in the "Busy" condition.		
Parameter	Default value	Description
Comments:		
For an ISDN access more than one call (normal phone call) may be necessary to bring the SM-TE in the "Busy" state, where no incoming SMS call can be accepted. This ASP is only applicable when the SM-TE is able to receive and evaluate off-hook CLI provided by the network (see table 3, ES 201 912 [1] and Test Parameter TSPC_REC_CLI_BUSY).		
The operator shall perform all necessary actions to initiate one or more phone calls from the SM-TE such that the SM-TE enters the "Busy" state.		
The tester shall be able to complete the phone calls by using appropriate signalling at its PCO CC. However it is not required that speech is actually transferred through signalled VB connection(s).		

Table 5: SUBM_RESULT_VERIF_req ASP and its parameters

ASP Name: SUBM_RESULT_VERIF_req		
PCO: 0		
Direction: LT->UT		
Description: Request the user to verify if the SM-TE indicates the acceptance or rejection of the submitted SM, i.e. that the SMS-SUBMIT-REPORT message has been received without or with a failure cause.		
Parameter	Default value	Description
SUBM_RES	TRUE	Expected submission result indication: TRUE: "positive acknowledgement" The display or some other terminal indicator indicates that the submitted SM was accepted by the SM-SC. FALSE: "negative acknowledgement" The display or some other terminal indicator indicates that the submitted SM was rejected by the SM-SC by giving a failure cause in the SMS-SUBMIT-REPORT message.
Comments:		
This ASP is only applicable if the SM-TE supports the indication of a positive and/or negative submission result to the user, i.e. at least one of Test Parameters TSPC_INFORM_USER_POS and TSPC_INFORM_USER_NEG must have been assigned the value TRUE.		

Table 6: SUBM_RESULT_VERIF_conf ASP and its parameters

ASP Name: SUBM_RESULT_VERIF_conf		
PCO: 0		
Direction: UT->LT		
Description: Indication by the user if the SM-TE has indicated the acceptance or rejection of the submitted SM.		
Parameter	Default value	Description
SUBM_RES	TRUE	Submission result indication (see ASP SUBM_RESULT_VERIF_req): TRUE: the display or some other terminal indicator indicates the expected SM submission result. FALSE: the display or some other terminal indicator indicates that the expected SM submission result indication has not been given by the terminal.
Comments:		

Table 7: DISPL_INF_VERIF_req ASP and its parameters

ASP Name: DISPL_INF_VERIF_req		
PCO: O		
Direction: LT->UT		
Description: Request the user to verify that the indicated text is received in the latest received SM and is displayed in the indicated form. Request the user also to check if the latest SM has replaced a previously received SM (optional).		
Parameter	Default value	Description
TXT	"the quick brown fox jumps over the lazy dog"	Text expected to be displayed on the receiving SM-TE
REPINFO	0	0: do not check for any replacement 1: verify that the latest SM has replaced the previously received SM. 2: verify that the latest SM has not replaced the previously received SM.
Comments: Parameter TXT is passed as an IA5 String. In any case it contains text in quotes, as shown above for the "Default value". If characters from the extended character set have to be indicated, the human-readable explanation of each of these characters is enclosed in "<>" characters. E.g. to request the verification that the EURO character is displayed, TXT is passed the value "<EURO symbol>".		

Table 8: DISPL_INF_VERIF_conf ASP and its parameters

ASP Name: DISPL_INF_VERIF_conf		
PCO: O		
Direction: UT->LT		
Description: Indication by the user whether the text displayed by the SM-TE is the expected text.		
Parameter	Default value	Description
VERIF_IND	TRUE	Text verification indication: TRUE: the SM-TE displays the expected SM text, specified in the parameter TXT of the DISPL_INF_VERIF_req ASP. FALSE: the SM-TE displays a SM text different from the expected one specified in the parameter TXT of the DISPL_INF_VERIF_req ASP.
Comments:		

Table 9: STAT_REP_INF_VERIF_req ASP and its parameters

ASP Name: STAT_REP_INF_VERIF_req		
PCO: O		
Direction: LT->UT		
Description: Request the user to verify whether the information contained in the received SMS-STATUS-REPORT message and concerning the outcome at the recipient of an SM previously sent is made available to the user.		
Parameter	Default value	Description
Comments:		

Table 10: STAT_REP_INF_VERIF_conf ASP and its parameters

ASP Name: STAT_REP_INF_VERIF_conf		
PCO: O		
Direction: UT->LT		
Description: Indication by the user that the information contained in the received SMS-STATUS-REPORT message and concerning the outcome at the recipient of an SM previously sent is made available to the user.		
Parameter	Default value	Description
VERIF_IND	TRUE	Status report indication: TRUE: the information about the outcome at the recipient of an SM previously sent is available to the user. FALSE: the information about the outcome at the recipient of an SM previously sent is not available to the user.
Comments:		

Table 11: SM_Reception_req ASP and its parameters

ASP Name: SM_Reception_req		
PCO: O		
Direction: LT->UT		
Description: Request the user to check if the latest incoming SM has been received by the SM-TE.		
Parameter	Default value	Description
Comments:		

Table 12: SM_Reception_conf ASP and its parameters

ASP Name: SM_Reception_conf		
PCO: O		
Direction: UT->LT		
Description: Indication by the user that the latest incoming SM has been received by the SM-TE.		
Parameter	Default value	Description
RECEPT_IND	TRUE	SM reception indication: TRUE: the incoming SM has been received by the SM-TE. FALSE: the incoming SM has not been received by the SM-TE.
Comments:		

Table 13: SM_Reception2_req ASP and its parameters

ASP Name: SM_Reception2_req		
PCO: O		
Direction: LT->UT		
Description: Request the user to check if two incoming SMs within the same SMS call have been received by the SM-TE.		
Parameter	Default value	Description
Comments:		

Table 14: SM_Reception2_conf ASP and its parameters

ASP Name: SM_Reception2_conf		
PCO: O		
Direction: UT->LT		
Description: Indication by the user that the two latest incoming SMs within the same SMS call have been received by the SM-TE.		
Parameter	Default value	Description
RECEPT_IND	TRUE	SM reception indication: TRUE: the two incoming SMs within the same SMS call have been received by the SM-TE. FALSE: the two incoming SMs within the same SMS call have not been received by the SM-TE.
Comments:		

Table 15: EMPTY_MEM_req ASP and its parameters

ASP Name: EMPTY_MEM_req		
PCO: O		
Direction: LT->UT		
Description: Request the user to delete the SMs stored in the SM-TE to make the SM-TE memory again available.		
Parameter	Default value	Description
Comments:		

Table 16: EMPTY_MEM_ind ASP and its parameters

ASP Name: EMPTY_MEM_ind		
PCO: O		
Direction: UT->LT		
Description: Indicates that the SM-TE does not contain any more stored SMs (and can now accept new incoming SMs).		
Parameter	Default value	Description
Comments:		

Table 17: INC_CALL_req ASP and its parameters

ASP Name: INC_CALL_req		
PCO: CC		
Direction: LT->LTS		
Description: Make the Lower Test System initiate the basic call control procedures for an incoming SMS call, to establish a VB connection from the SM-SC to the SM-TE.		
Parameter	Default value	Description
CLDTE	TSPX_SUT_DIGITS	Address of the SUT to be called from the SM-SC (to be used as Called Party Number digits).
SCADDR	TSPX_SC_ADDR	Address of the calling SM-SC.
SMEID	TSPX_SUT_SUBADDR	Subaddress of the called SME inside the SM-TE.
DMI	"0"	Deliver Mode Identifier.
Comments:		
The LTS initiates a call to the SM-TE, using CLDTE as Called Party Number digits and sending the digits contained in SCADDR, SMEID and DMI (in this order) as Calling Party Number digits.		
Note that the ASP parameters CLDTE, SCADDR, SMEID and DMI are IA5 strings, and that format adaptations may be necessary to be performed according to the digits format used for the signalling protocol implemented in the LTS.		

Table 18: INC_CALL_conf ASP and its parameters

ASP Name:	INC_CALL_conf	
PCO:	CC	
Direction:	LTS->LT	
Description:	The Lower Test System confirms that the requested basic call control procedures for an incoming SMS call have been successfully completed and the VB connection to the SM-TE is established, or that the connection attempt was not successful (rejected by appropriate signalling).	
Parameter	Default value	Description
ESTCONF	TRUE	TRUE: the requested VB connection to the SM-TE/SME has been successfully established and the DLL_SMS_EST message has been received. Otherwise FALSE .
Comments: This ASP will not be issued by the LTS if the SM-TE does not answer the incoming call attempt.		

Table 19: OUTG_CALL_ind ASP and its parameters

ASP Name:	OUTG_CALL_ind	
PCO:	CC	
Direction:	LTS->LT	
Description:	Indication that the SM-TE has initiated the basic call control procedures for an outgoing call (i.e. the LTS has received a call from the SM-TE).	
Parameter	Default value	Description
SCADDR	TSPX_SC_ADDR	Address of the called SM-SC.
SMEID	TSPX_SUT_SUBADDR	Subaddress of the calling SME.
DMI	"0"	Deliver Mode Identifier
Comments: This ASP is applicable to incoming SMS calls and to incoming non-SMS calls, the latter ones established by the SM-TE to get into the "Busy" state (see ASP "BUSY_req"). The LTS shall distinguish SMS calls from other calls by comparing the received Called Party Number digits with TSPX_SC_ADDR, which contains the unique address digits of the SM-SC. If the digits in TSPX_SC_ADDR form the leading part of the received dialled Called Party Number digits and there are exactly two digits remaining, these two digits shall be mapped on the SMEID and DMI parameters of the ASP, in this order and SCADDR shall be assigned the value TSPX_SC_ADDR. In all other cases all digits in the received Called Party Number shall be mapped on the SCADDR ASP parameter and the other parameters shall get the value "OMIT". Note that the 3 ASP parameters SCADDR, SMEID and DMI are IA5 strings, so that depending on the signalling protocol implemented in the LTS, format adaptations may be necessary.		

Table 20: OUTG_CALL_resp ASP and its parameters

ASP Name:	OUTG_CALL_resp	
PCO:	CC	
Direction:	LT->LTS	
Description:	Response to the Lower Test System that the basic call control procedures for an outgoing call have to be completed or refused. If the value is TRUE the VB connection is completed and the DLL_SMS_EST message is sent.	
Parameter	Default value	Description
ESTRESP	TRUE	TRUE if the outgoing call is to be accepted, otherwise FALSE.
ESTDLL	TRUE	TRUE if the DLL_SMS_EST message has to be sent after the VB connection is established, otherwise FALSE.
Comments: The value "TRUE" for ESTDLL is only applicable if the ESTRESP value is also "TRUE" and the OUTG_CALL_ind ASP leading to this response ASP indicates an SMS call.		

Table 21: CALL_RELEASE_ind ASP and its parameters

ASP Name:	CALL_RELEASE_ind	
PCO:	CC	
Direction:	LTS->LT	
Description:	Indication from the Lower Test System that all existing VB connections have been released by the SM-TE.	
Parameter	Default value	Description
Comments:		
This ASP shall be issued by the LTS when the last VB connection is released. In the case that the SM-TE is tested for its behaviour in the "Busy" state, more than one VB connections may exist (which are then no SMS calls), while in all other cases at most one VB connection exists during testing.		
No confirmation is issued by the tester. It is a matter of the test system to complete the release procedures. The LTS shall not issue this ASP when the tester has issued a CALL_RELEASE_req before.		

Table 22: CALL_RELEASE_req ASP and its parameters

ASP Name:	CALL_RELEASE_req	
PCO:	CC	
Direction:	LT->LTS	
Description:	Request the Lower Test System to release all VB connection(s) to the SM-TE.	
Parameter	Default value	Description
Comments:		
In the case that the SM-TE is tested for its behaviour in the "Busy" state, more than one VB connections may exist (which are then no SMS calls), while in all other cases at most one VB connection exists during testing.		
No confirmation is expected by the LT from the LTS. The LTS shall complete the release procedures when receiving this ASP.		
When this ASP is received by the LTS after VB release has been signalled by the SM-TE (release collision), the LTS shall continue the VB release as if no CALL_RELEASE_req were received.		

Table 23: TRANSFER_DATA_req ASP and its parameters

ASP Name:	TRANSFER_DATA_req	
PCO:	FS	
Direction:	LT->LTS	
Description:	Request the Lower Test System to transfer an SMS-DELIVER TL message or an SMS-STATUS-REPORT TL message, via the DLL_SMS_DATA message, to the IUT on the established VB connection.	
Parameter	Default value	Description
PDU	-	DLL_SMS_DATA message to be transmitted, containing an SMS-DELIVER TL message or an SMS-reiSTATUS-REPORT TL message as specified in clause 6.4.
Comments:		

Table 24: TRANSFER_ACK_req ASP and its parameters

ASP Name:	TRANSFER_ACK_req	
PCO:	FS	
Direction:	LT->LTS	
Description:	Request the Lower Test System to transfer an SMS-SUBMIT-REPORT TL message (indicating that the SM submission was successful), via the DLL_SMS_ACK message, to the IUT on the established VB connection.	
Parameter	Default value	Description
PDU	-	DLL_SMS_ACK message to be transmitted, containing the SMS-SUBMIT-REPORT TL message as specified in clause 6.4
Comments:		

Table 25: TRANSFER_NACK_req ASP and its parameters

ASP Name:	TRANSFER_NACK_req	
PCO:	FS	
Direction:	LT->LTS	
Description:	Request the Lower Test System to transfer an SMS-SUBMIT-REPORT TL message (indicating that the SM submission was unsuccessful), via the DLL_SMS_NACK message, to the IUT on the established VB connection.	
Parameter	Default value	Description
PDU	-	DLL_SMS_NACK message to be transmitted, containing a SMS-SUBMIT-REPORT TL message with a failure indication as specified in clause 6.4
Comments:		

Table 26: TRANSFER_SUBMIT_ind ASP and its parameters

ASP Name:	TRANSFER_SUBMIT_ind	
PCO:	FS	
Direction:	LTS->LT	
Description:	Indication that an SMS-SUBMIT TL message has been received from the SM-TE on the established VB connection (in a DLL_SMS_DATA message).	
Parameter	Default value	Description
PDU	-	Received TL message as specified in clause 6.4.
Comments:		

Table 27: TRANSFER_DELIV_REP_ind ASP and its parameters

ASP Name:	TRANSFER_DELIV_REP_ind	
PCO:	FS	
Direction:	LTS->LT	
Description:	Indication that an SMS-DELIVER-REPORT TL message has been received from the SM-TE on the established VB connection (in a DLL_SMS_ACK or in a DLL_SMS_NACK message).	
Parameter	Default value	Description
PDU	-	Received SMS-DELIVER-REPORT TL message as specified in clause 6.4.
Comments:		

6.4 Use of UBS1 TL messages (PDUs)

6.4.1 UBS1 TL messages

Table 28 lists the UBS1 TL messages used in the present document:

Table 28: List of UBS1 Transfer Layer messages

Message name	Purpose description
SMS-SUBMIT	Used by the SM-TE for SM submission to the SM-SC.
SMS-DELIVER	Used by the SM-SC for SM delivery to the SM-TE.
SMS-SUBMIT-REPORT	Used by the SM-SC for reporting to the SM-TE the confirmation or the rejection of the submitted SM.
SMS-DELIVER-REPORT	Used by the SM-TE for reporting to the SM-SC the confirmation or the rejection of the delivered SM.
SMS-STATUS-REPORT	Used by the SM-SC to inform the sender of the outcome of a short message at the recipient.

NOTE: The SMS-COMMAND message defined in TS 100 901 [3] is not used in this test specification.

These message names will be used (without abbreviation) in the TP textual descriptions and TP behaviour descriptions.

The UBS1 Transfer Layer messages and their parameters together with the parameters' statuses (Mandatory, Optional) are defined in defined in clause 9 of TS 100 901 [3]. These definitions are not repeated here. When referring to these message parameter names the prefix "TP-" is omitted.

6.4.2 UBS1 Transfer Layer message parameters and their default values

In the TP behaviour descriptions UBS1 Transfer Layer messages will be transmitted and received, and an information must be given what parameters are present and what values the parameter fields have. Considering the fact that there is a large number of parameters and fields, **default values** are defined for the parameter fields in table 29 below, separately for the transmit (TX) and the receive (RX) direction, as seen from the perspective of the tester.

When a parameter is only applicable for the TX direction or only for the RX direction, the "default value" fields for the opposite direction are marked "N/A" (not applicable).

The following kinds of default value indications are possible:

- a) Test Parameter (e.g. TSPX_SUT_DIGITS; see table 30);
- b) mnemonic field code values defined in the parameter tables in clause B.2.2 in annex B of 1 [1] (e.g. value **"TP-Protocol-Identifier not present"** for the **"TP-Protocol-Identifier presence"** bit (bit 0) in the **"TP-Parameter-Indicator"** parameter;
- c) "-" or "OMIT"
when a field is optional: to indicate omission of this field;
- d) "?"
to indicate any value compatible with the field definition inside the parameter definition (only RX direction);
- e) "*"
 - when a field is optional: to indicate omission of this field or any value compatible with the field definition inside the parameter definition (only RX direction);
- f) "N/A" ("not applicable");
- g) Textual description.

Table 29: UBS1 Transfer Layer messages parameter fields and their default values

Parameter	Field(s)	TX default value	RX default value
Data-Coding-Scheme	Coding group (bits 7..6)	"00"b (General data coding)	?
	General data coding values (bits 5..0)	"000000"b (uncompressed, no message class meaning, GSM 7 bit default alphabet)	?
Destination-Address	Address length	N/A	Number(Called TE address digits) + 1 (see note 1)
	Type of number	N/A	TSPX_REMOTE_TE_TON
	Numbering plan identification	N/A	TSPX_REMOTE_TE_NPI
	Called TE address digits	N/A	TSPX_REMOTE_TE_DIGITS
	Called SME subaddress digit	N/A	TSPX_REMOTE_SME_SUBA DDR
Discharge-Time	Discharge-Time	TSPX_DISCHARGE_TIME	N/A
Failure-Cause	Failure-Cause	"SC system failure"	?
Message-Reference		Message-Reference value received in previous SMS-SUBMIT message, containing a status report request.	?
Message-Type-Indicator		According to type of message to be transmitted. There is no "unknown" message transmitted.	According to type of message to be received.
More-Messages-to-Send		"No more messages are waiting for the MS in this SC"	N/A

Parameter	Field(s)	TX default value	RX default value
Originating-Address	Address length	Number(Calling TE address digits) + 1 (see note 1)	N/A
	Type of number	TSPX_REMOTE_TE_TON	N/A
	Numbering plan identification	TSPX_REMOTE_TE_NPI	N/A
	Calling TE address digits	TSPX_REMOTE_TE_DIGITS	N/A
	Calling SME subaddress digit	TSPX_REMOTE_SME_SUBA DDR	N/A
Parameter-Indicator	Protocol-Identifier presence	"TP-Protocol-Identifier not present"	?
	Data-Coding-Scheme presence	"TP-Data-Coding-Scheme not present"	?
	User-Data-Length and User-Data presence	"TP-User-Data-Length and TP-User-Data not present"	?
Protocol-Identifier	Assignment of bits 5..0	"00"b	* (presence depending on Parameter-Indicator value received)
	Bits 5..0	"00000"b (straightforward simple SM transfer)	* (presence depending on Parameter-Indicator value received)
Recipient-Address	Address length	Number(Called TE address digits) + 1 (see note 1)	N/A
	Type of number	TSPX_REMOTE_TE_TON	N/A
	Numbering plan identification	TSPX_REMOTE_TE_NPI	N/A
	Called TE address digits	TSPX_REMOTE_TE_DIGITS	N/A
	Called SME subaddress digit	TSPX_REMOTE_SME_SUBA DDR	N/A
Reject-Duplicates	Reject-Duplicates indicator	N/A	?
Reply-Path	Reply-Path indicator	"TP-Reply-Path parameter is not set in this SMS-DELIVER"	?
Service-Centre-Time-Stamp	Service-Centre-Time-Stamp value	TSPX_SC_TIME_STAMP	N/A
Status	Status value	"Short message received by the SME"	N/A
Status-Report-Indication	Status-Report-Indication value	"A status report shall not be returned to the SME"	N/A
Status-Report-Qualifier	Status-Report-Qualifier value	"The SMS-STATUS-REPORT is the result of a SMS-SUBMIT"	N/A
Status-Report-Request	Status-Report-Request value	N/A	?
User-Data-Header-Indicator	User-Data-Header-Indicator value	"The TP-UD field contains only the short message"	"The TP-UD field contains only the short message"
User-Data-Length	User-Data-Length value	Number of characters in standard data (for SMS-DELIVER or SMS-STATUS-REPORT) OMIT (SMS-SUBMIT-REPORT) (see note 2)	? (SMS-SUBMIT) OMIT (SMS-DELIVER-REPORT) (see note 4)
User-Data	User-Data contents	SMS-DELIVER: standardized text (the quick brown fox jumps over the lazy dog) SMS-SUBMIT-REPORT: OMIT SMS-STATUS-REPORT: standardized text (your message was correctly delivered at the recipient) (see note 3)	? (SMS-SUBMIT) * (SMS-DELIVER-REPORT) (see note 4)

Parameter	Field(s)	TX default value	RX default value
Validity-Period	Validity-Period value	N/A	? (see note 5)
Validity-Period-Format	Validity-Period-Format indicator	N/A	? (see note 5)
NOTE 1: According to clause 9.1.2.5 (Address fields) of TS 100 901 [3] the Address-length field contains only the number of useful semi-octets in the address value, i.e. excluding any semi-octets containing only fill bits, and does not comprise the "Type-of-number" and "Numbering-plan-identification" fields. Since the "SME subaddress" digit is transferred in the address value (as last digit), the length is by 1 greater than the number of related TE address digits.			
NOTE 2: Since the standard data do not make use of the character set extension, this is equal to the number of 7-bit encoded characters to be transmitted.			
NOTE 3: In this test specification only uncompressed data without any special formatting are transmitted. The default standard text to be transferred (and to be displayed at the called SM-TE) is "the quick brown fox...", for the SMS-DELIVER message, or "your message was correctly delivered at the recipient", for the SMS-STATUS-REPORT message, where the GSM default 7-bit encoding is used in both cases.			
NOTE 4: Except for the test(s), where the user data encoding and display is tested, any user data and user data length are accepted. In any case only uncompressed data without any special formatting are expected to be received.			
NOTE 5: Any Validity-Period Format, including "TP-VP field not present", is accepted.			

6.4.3 How to interpret messages, parameters and their field values

When exchanging TL messages in the TP descriptions, information must be given on the presence and contents of parameters in these messages. The description given below is based on the following facts:

- 1) For the TL messages the parameter presence conditions (column "provision" in the message tables) are defined in clause 9.2.2 of TS 100 901 [3].
- 2) Default values for parameter fields are specified in table 29.

The following principles apply for the presentation of messages to be **transmitted by the tester**:

- a) When a parameter applicable to the message is not explicitly indicated, and its status is "Mandatory", it is included in the message and transmitted with its default field values.
- b) When a parameter applicable to the message is not explicitly indicated, and its status is "Optional", it is **not** included in the message. The only exception is the SMS-DELIVER message, for which the optional User-Data parameter is sent containing the default text indicated in table 29.
- c) When a parameter applicable to the message is indicated to be "**present**" (independent of the parameter's status), it is included in the message and transmitted with its default field values.
- d) When a parameter applicable to the message is indicated in some other way than "**present**", then at least one field value must be explicitly specified for this parameter. The parameter is included in the message and transmitted with the specified field value(s), all other field values (if there are any) being transmitted with their default values.

The following principle applies for the presentation of messages to be **received from the IUT**:

- i) When a parameter applicable to the message is not explicitly indicated, and its status is "Mandatory", it is required to be included in the message and is expected to be received with its default field values.
- ii) When a parameter applicable to the message is not explicitly indicated, and its status is "Optional", it is **not** required to be included in the message. When it is present, it is accepted with any field values being compatible with the field specifications.
- iii) When a "Mandatory" parameter applicable to the message is indicated to be "present", it is required to be included in the message and is expected to be received with its default field values.

NOTE: It is clearly not necessary to specify the presence of a "Mandatory" parameter, but there may be reasons to emphasize it.

- iv) When an "Optional" parameter applicable to the message is indicated to be "**present**", it is required to be included in the message and is expected to be received with any field values being compatible with the field specifications.
- v) When a parameter applicable to the message is indicated in some other way than "**present**", then at least one field value must be explicitly specified for this parameter. The parameter is expected to be included in the message, having the specified field value(s), while all other field values (if there are any) are only accepted with their default values.

Examples can be found in clause 6.5.

6.4.4 Unexpected or unused TL messages

The SMS-COMMAND message is not used in this test specification.

All other TL messages are used and no one is ever treated as an "unexpected acceptable message", i.e the TL messages received during testing must be in order and contents as specified in the test tables of clause 7.

6.5 Behaviour notation

This clause describes the principles used when filling the "**Test description**" entry of the TP tables (see sample in clause 5.7 and the behaviour notation of preambles and postambles).

The notation used to describe the trees containing the required operations and signalling control primitives, is a TTCN-like notation, showing what is sent (symbol "!") and received (symbol "?") by the tester (playing the role of the SM-SC).

ASPs are sent as shown in the following TTCN-like form:

O!OUTGOING_CALL_req

where **O** denotes the PCO used with the ASP, **!** denotes "transmission" and the **ASP name** follows.

Since default values have been defined for the ASP parameters, parameter values are only required to be indicated when they differ from the default value.

EXAMPLE 1:

O!OUTGOING_CALL_req(SME_SEL= FALSE)

In this case an SM not containing a destination SME subaddress is requested to be transmitted by the SM-TE (instead of default SME_SEL= TRUE, indicating an SM containing a destination SME subaddress).

The same principle applies for received ASPs, the symbol **!** being replaced by **?**.

EXAMPLE 2:

CC?OUTG_CALL_ind

In this case the LT receives an indication from the LTS that there is an incoming call from the SM-TE (being requested at the SM-TE as in example 1).

There is one important exception for the presentation of ASPs:

To increase the readability, ASP names TRANSFER_DATA_req, TRANSFER_ACK_req, TRANSFER_SUBMIT_ind, TRANSFER_SM_TE_STA_ind and TRANSFER_DELIV_REP_ind are normally not shown. It is assumed that:

- the SMS-DELIVER and SMS-STATUS-REPORT messages are transferred using the **TRANSFER_DATA_req** ASP;
- the SMS-SUBMIT-REPORT message used to indicate a successful submission, is transferred using the **TRANSFER_ACK_req** ASP;

- the SMS-SUBMIT-REPORT message used to indicate an unsuccessful submission, is transferred using the **TRANSFER_NACK_req** ASP;
- the SMS-SUBMIT message is received using the **TRANSFER_SUBMIT_ind** ASP;
- the SMS-DELIVER-REPORT message is received using the **TRANSFER_DELIV_REP_ind** ASP;

TL message names are directly used instead for transmission and reception.

Examples for TL message transmission and reception:

EXAMPLE 3:

FS!SMS-STATUS-REPORT

The SMS-STATUS-REPORT is transmitted with all its applicable parameters set to their default values (see table 29).

EXAMPLE 4:

FS!SMS-STATUS-REPORT(Status= "Short message received by the SME")

This has the same effect as the previous example, since the "Status " parameter is indicated with value "Short message received by the SME", which is the default value.

EXAMPLE 5:

FS?SMS-SUBMIT(Status-Report-Request= "A status report is requested")

The SMS-SUBMIT message is expected to contain the Status-Report-Request parameter with value "A status report is requested". All mandatory parameters are expected with their default values. Optional parameters may be present.

Preambles and Postambles:

- The description of Preambles and Postamble starts with an **Objective** definition.
- The behaviour description ends with the preamble or postamble name. Between start and end the notation is as described above for "**Test description**".
- Each preamble shows the state from where it starts (idle or a different state reached by the execution of another preamble), then it shows the operations executed in this preamble and finally the state or configuration reached, using the notation described above.
- Each test purpose description shows the state from where it starts by identifying a preamble.

Other:

When the tester expects a reaction from the IUT following the transmission of a PDU or ASP, the start of an "**acknowledgement timer**" is assumed, but normally not indicated in the test description.

Notes are put into the behaviour descriptions whenever it appears to be necessary.

6.6 Parametrization and selection

NOTE: During the TSS&TP development Test Parameters have been collected in table 30 and 31. Test Parameter names starting with "TSPX" are used for test parametrization and will correspond to PIXIT items, TS Parameter names starting with "TSPC" are used for selection and normally correspond to PICS items. Only Test Parameters referred to in the TP description tables appear here. It is assumed that the Test Parameters defined here will be transformed into TTCN "Test Suite Parameters" in an ATS based on this TSS&TP, presumably in a one-to-one fashion.

Table 30 shows the Test Parameters that are necessary to parameterize the test descriptions to the necessary extent. They will normally appear as ASP parameter values or PDU field contents. It is also possible that they appear in [] brackets as qualifiers for different branches of behaviour (see clause 6.5).

Table 30 specifies the Test Parameter **name**, its **type** (normally a string, integer or Boolean type) and the **explanation** what it is used for.

Table 30: Test Parameters used for parametrization (associated with PIXIT items)

Test Parameter name	Type	Description
TSPX_SC_ADDR	IA5STRING	Address of the SM-SC to be called by the SUT and stored in the SUT.
TSPX_SME_ID_UNDEFINED	IA5STRING(1)	Subaddress value which does not correspond to an SME defined/set in the SUT.
TSPX_REMOTE_SME_SUBADDR	IA5STRING(1)	Subaddress of an SME defined/set in the destination SM-TE (as seen from the SUT).
TSPX_REMOTE_TE_DIGITS	IA5STRING	Address digits of the destination SM-TE to be called by the SUT. (see note)
TSPX_REMOTE_TE_NPI	BITSTRING(4)	Numbering-plan-identification the SUT sets in the Destination-Address to address the destination SM-TE.
TSPX_REMOTE_TE_TON	BITSTRING(3)	Type-of-number the SUT sets in the Destination-Address to address the destination SM-TE.
TSPX_SUT_SUBADDR	IA5STRING(1)	Subaddress of an SME defined/set in the SUT (referred to as SME1). This is the default SME subaddress.
TSPX_SUT_DIGITS	IA5STRING	Address of the SM-TE to be called from the SM-SC (Called Party Number digits).
TSPX_DISCHARGE_TIME	OCTETSTRING(7)	The Discharge-Time value the tester sends in an SMS-STATUS-REPORT message. The parameter shall be given a value according to the semi-octet representation specified in clause 9.2.3.11 of TS 100 901 [3].
TSPX_SC_TIME_STAMP	OCTETSTRING(7)	The time to be indicated in an SMS-DELIVER message saying when the SM-SC has received this SM from the originating SM-TE. The time value provided for testing shall have the date of the test execution (taking into account that other information, like "hour", are not exactly correct). The parameter shall be given a value according to the semi-octet representation specified in clause 9.2.3.11 of TS 100 901 [3].
TSPX_NUM_PHONE_CALLS	INTEGER	Number of phone calls initiated by the SM-TE to bring it into the "Busy" state.
TSPX_NUM_REATTEMPTS	INTEGER	Number of automatic reattempts the SM-TE makes to submit an SM, when the SM-SC always returns Failure cause "SC system failure" in the SMS-SUBMIT-REPORT message. The first submission attempt (started by ASP OUTGOING_CALL_req) is not counted as a "reattempt". The value shall consequently be 0, if the SM-TE does not perform an automatic reattempt at all.

Test Parameter name	Type	Description
TSPX_CALL_BACK_TIME	INTEGER	Time in seconds after which the SM-TE, which has not accepted a previous SMS call with DMI equal to 2..9, has initiated an SMS call to the SM-SC in order to collect the SM (in situations where automatic collection is required; see table 3 in clause 5.5.6 of ES 201 912 [1]). This timer parameter is used in 2 situations: <ol style="list-style-type: none"> to ensure that within this time the SM-TE actually collects the SM, or to ensure that the SM-TE, having not initiated collection of the SM within this time, will not perform automatic collection of the SM at all.
TSPX_CALL_ACCEPT_TIME	INTEGER	Time in milliseconds after which an SM-TE, having received an incoming call and not having signalled acceptance of the call, is assumed not to answer the call.
TSPX_NUM_SMS_MEM_FULL	INTEGER	Minimum number of SMS-DELIVER messages of 160 text characters ("the quick brown fox jumps over the lazy dog 012345678 the quick brown fox jumps over the lazy dog 012345678 the quick brown fox jumps over the lazy dog 01234567") to be sent by the tester in order to make the SM-TE enter the "Memory Full" state.
NOTE: For Test Parameters containing address digits the following requirement applies: each digit is represented either as one of the IA5 characters "0" to "9", or as one of the special IA5 characters "*", "#", "a", "b" or "c". Address fields in TL parameters encode address digits in the BCD code. When Test Parameters containing address digits are to be inserted in these TL parameters, code transformation is assumed as specified in clause 9.1.2.3 of TS 100 901 [3].		

Table 31 shows the Test Parameters that are necessary to formulate the selection conditions as BOOLEAN expressions. Table 31 specifies the Test Parameter name (Boolean type), and the explanation when it is TRUE or FALSE. These Test Parameters correspond to PIXIT items.

Table 31: Test Parameters used for selection

Test Parameter name	Description
TSPC_SM_REPLACE	TRUE if the SM-TE supports the SM replace feature (see clause 9.2.3.9 of TS 100 901 [3]). Otherwise FALSE.
TSPC_STATUS_REP_REQ	TRUE if the SM-TE supports the status report request feature (see clauses 3.2.9 and 9.2.3.5 of TS 100 901 [3]). Otherwise FALSE.
TSPC_INFORM_USER_POS	TRUE if the SM-TE supports the indication of a positive submission result to the user. Otherwise FALSE.
TSPC_INFORM_USER_NEG	TRUE if the SM-TE supports the indication of a negative submission result (accordingly to the reception of an SMS-SUBMIT-REPORT message with failure cause) to the user. Otherwise FALSE.
TSPC_EXT_CHAR_SET	TRUE if the SM-TE supports the extended character set table (see TS 100 900 [2]). Otherwise FALSE.
TSPC_REC_CLI_BUSY	TRUE if the SM-TE supports the off-hook CLI reception (see table 3 in clause 5.5.6 of ES 201 912 [1]). Otherwise FALSE.
TSPC_REC_MORE_SMS	TRUE if the SM-TE can receive more than one SM within one VB connection. Otherwise FALSE.
TSPC_VALIDITY_PERIOD	TRUE if the SM-TE can send the "Validity-Period" parameter in the SMS-SUBMIT message (in any format). See clauses 9.2.3.3 and 9.2.3.12 of TS 100 901 [3]. Otherwise FALSE.
Comments:	

Table 32 shows the selection conditions formulated as BOOLEAN expressions. Table 32 specifies the **Selection expression ID** or **name**, the Boolean Expression, and a verbal description when a TP carrying this Selection Expression is applicable for execution with an IUT or not. In its simplest form, the Boolean Expression just refers to a (Boolean) Test Parameter associated with a PICS item. Combinations using Boolean operators like **AND**, **OR** or **NOT** are also allowed.

Table 32: Selection expressions

Selection expression ID	Expression	Description
Sel_SMRReplace	TSPC_SM_REPLACE	Selects a TP in case that the SM-TE supports the SM replace feature.
Sel_StatusRepReq	TSPC_STATUS_REP_REQ	Selects a TP in case that the SM-TE supports the status report request feature.
Sel_InformUserSubmissPos	TSPC_INFORM_USER_POS	Selects a TP in case that the SM-TE supports the indication of a positive submission result to the user.
Sel_InformUserSubmissNeg	TSPC_INFORM_USER_NEG	Selects a TP in case that the SM-TE supports the indication of a negative submission result to the user.
Sel_ExtCharSet	TSPC_EXT_CHAR_SET	Selects a TP in case that the SM-TE supports the extended character set table.
Sel_ReceiveCliBusy	TSPC_REC_CLI_BUSY	Selects a TP in case that the SM-TE supports the off-hook CLI reception.
Sel_ReceiveMoreSMS	TSPC_REC_MORE_SMS	Selects a TP in case that the SM-TE can receive more than one SM within one VB connection.
Sel_ValidityPeriod	TSPC_VALIDITY_PERIOD	Selects a TP in case that the SM-TE can send the "Validity-Period" parameter in the SMS-SUBMIT message.
Comments:		

6.7 Treatment of the "Memory Full" state in the submission phase

In case the SM-TE does not allow the submission of an SM because the SM-TE has entered the "Memory Full" state and this state is not required/expected in the current test, the test should be run again, after having made the necessary operations to free the memory.

6.8 Preambles

6.8.1 PRE_INIT

Objective: The preamble has the formal objective to initialize the terminal and test equipment before attempting the next VB connection and DLL connection. A particular behaviour is not associated with this preamble. It is assumed however, that at the end of this preamble no VB connection exists.

6.8.2 PRE_CLEAR_MEM

Objective: To make sure that all the memory is available at the beginning of test cases.

```
PRE_CLEAR_MEM
+PRE_INIT
O!EMPTY_MEM_req
O?EMPTY_MEM_ind
PRE_CLEAR_MEM
```

6.8.3 PRE_MEM_FULL

Objective: To make the memory of the SM-TE full, such that no incoming SM can be stored, a standardized text of length 160 characters is delivered to the SM-TE repeatedly.

```

PRE_MEM_FULL
+PRE_INIT
Set COUNTER=0
While (COUNTER < TSPX_NUM_SMs_MEM_FULL)
Set COUNTER=COUNTER+1
CC!INC_CALL_req
CC?INC_CALL_conf
FS!SMS-DELIVER (User Data = "the quick brown fox jumps over the lazy dog 012345678 the quick brown fox jumps
over the lazy dog 012345678 the quick brown fox jumps over the lazy dog 01234567")
FS?SMS-DELIVER-REPORT
CC!CALL_RELEASE_req
Wait a while
End While
PRE_MEM_FULL

```

NOTE: both an SMS-DELIVER-REPORT indicating a successful delivery or an SMS-DELIVER-REPORT indicating a unsuccessful delivery with failure cause can be accepted.

6.8.4 PRE_OUTGOING

Objective: To let the SM-TE establish an outgoing VB connection, in order to submit a standard SM with any unformatted text.

```

PRE_OUTGOING
+PRE_INIT!OUTGOING_CALL_req
CC?OUTG_CALL_ind
CC!OUTG_CALL_resp
PRE_OUTGOING

```

6.8.5 PRE_DELIVER

Objective: To let the SM-SC deliver a standard SM.

```

PRE_DELIVER
PRE_CLEAR_MEM
CC!INC_CALL_req
CC?INC_CALL_conf
FS!SMS-DELIVER
PRE_DELIVER

```

6.8.6 PRE_INC_DMI

Objective: To let the SM-SC initiate an incoming call. The Deliver Mode Identifier to be applied is parameterized as **DmiP**.

```

PRE_INC_DMI(DmiP: IA5String)
PRE_CLEAR_MEM
CC!INC_CALL_req(DMI= DmiP)
PRE_INC_DMI

```


6.8.7 PRE_BUSY

Objective: To let the SM-TE establish outgoing phone calls, such that it gets into the "Busy" state.

```

PRE_BUSY
+PRE_INIT
O!BUSY_req
Number-of-calls = 0
While Number-of-calls < TSPX_NUM_PHONE_CALLS
  CC?OUTG_CALL_ind(SCADDR= ?, SMEID= OMIT, DMI= OMIT)
  CC!OUTG_CALL_resp
  Increase Number-of-calls by 1
End While
Wait a while
PRE_BUSY

```

6.9 Postambles

6.9.1 General

The following postamble is used to ensure that the VB connections are released at the end of a TP. In this postamble the tester is the initiator (of the release).

In some cases the release can already occur in the TP body. In this case the use of the postamble is not intended to repeat release signalling.

6.9.2 POST_TESTER_RELEASE_VB

Objective: Release of the VB connections by the tester, independently of what the status of the DLL connection is and who is the originator of the call.

```

POST_TESTER_RELEASE_VB
CC!CALL_RELEASE_req
POST_TESTER_RELEASE_VB

```

7 Test purpose descriptions

7.1 Test purposes for Outgoing SMS call

7.1.1 Test purposes for SME subaddressing and Deliver Mode Identifier

UBS1_FT_OUT_SUBADDRDMI_01	
Purpose:	Verify that in case the user enters a destination SME to which the SM is addressed, the TL parameter "Destination address" of the SM sent by the SM-TE contains the destination phone number followed by the destination SME Subaddress defined by the user.
Requirements refs:	5.2.1
Selection Cond.:	
Preamble:	PRE_INIT
Test description:	O!OUTGOING_CALL_req(SME_SEL= TRUE, SMEID2= TSPX_REMOTE_SME_SUBADDR) CC?OUTG_CALL_ind CC!OUTG_CALL_resp FS?SMS-SUBMIT(Destination-Address= (Address-length= Len(TSPX_REMOTE_TE_DIGITS) + 1, Address-value= TSPX_REMOTE_TE_DIGITS + TSPX_REMOTE_SME_SUBADDR)) FS!SMS-SUBMIT-REPORT
Pass criteria:	SMS-SUBMIT message received, where the Destination-Address parameter contains the address value composed of TSPX_REMOTE_TE_DIGITS + TSPX_REMOTE_SME_SUBADDR (destination phone number followed by the destination SME Subaddress).
Postamble:	POST_TESTER_RELEASE_VB

UBS1_FT_OUT_SUBADDRDMI_02	
Purpose:	Verify that in case the user does not enter a destination SME to which the SM is addressed, the TL parameter "Destination address" of the SM sent by the SM-TE contains only the destination phone number defined by the user.
Requirements refs:	5.2.1
Selection Cond.:	
Preamble:	PRE_INIT
Test description:	O!OUTGOING_CALL_req(SME_SEL= FALSE) CC?OUTG_CALL_ind CC!OUTG_CALL_resp FS?SMS-SUBMIT(Destination-Address= (Address-length= Len(TSPX_REMOTE_TE_DIGITS), Address-value= TSPX_REMOTE_TE_DIGITS)) FS!SMS-SUBMIT-REPORT
Pass criteria:	SMS-SUBMIT message received, where the Destination-Address parameter contains the address value given by TSPX_REMOTE_TE_DIGITS (destination phone number only, no destination SME Subaddress digit present).
Postamble:	POST_TESTER_RELEASE_VB

UBS1_FT_OUT_SUBADDRDMI_03	
Purpose:	Verify that in case of an outgoing SMS call established to submit an SM, the SM-TE dials the SM-SC number stored in the SM-TE, followed by its own SME Subaddress set in the SM-TE and the digit 0.
Requirements refs:	5.5.7
Selection Cond.:	
Preamble:	PRE_INIT
Test description:	O!OUTGOING_CALL_req(SMEID1= TSPX_SUT_SUBADDR, SCADDR= TSPX_SC_ADDR) CC?OUTG_CALL_ind(SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI="0") CC!OUTG_CALL_resp FS?SMS-SUBMIT FS!SMS-SUBMIT-REPORT
Pass criteria:	OUTG_CALL_ind ASP received with parameters SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR and DMI= "0"
Postamble:	POST_TESTER_RELEASE_VB

7.1.2 Test purposes for SMS-SUBMIT message format and contents

UBS1_FT_OUT_SUBMIT_01	
Purpose:	Verify that the SMS-SUBMIT TL message sent by the SM-TE is compliant to TS 100 901 [3],9.2.2.2.
Requirements refs:	TS 100 901 [3] 9.2.2.2
Selection Cond.:	
Preamble:	PRE_OUTGOING
Test description:	FS?SMS-SUBMIT(Data-Coding-Scheme= ?, Destination-Address= (Address-length= Len(TSPX_REMOTE_TE_DIGITS) + 1, Type-of-number= TSPX_REMOTE_TE_TON, Numbering-plan-identification= TSPX_REMOTE_TE_NPI, Address-value= TSPX_REMOTE_TE_DIGITS + TSPX_REMOTE_SME_SUBADDR), Message-Reference= ?, Protocol-Identifier= ?, Reply-Path= ?, Status-Report-Request= ?, User-Data-Header-Indicator= "The TP-UD field contains only the short message", User-Data= any text without formatting and without user data header, User-Data-Length= compatible with user data contents, Validity-Period-Format= ?, Validity-Period= *) FS!SMS-SUBMIT-REPORT
Pass criteria:	The following checks are made with respect to the presence of the SMS-SUBMIT TL parameters and values of fields contained in these parameters: <ol style="list-style-type: none"> 1.) The Data-Coding-Scheme parameter must be present. 2.) The Destination-Address comprises Called TE address digits plus destination subaddress digit (if present), has a correct length value and the expected values for "Type of number" and "Numbering plan identification". 3.) The Message-Reference contains any value in the range between 0 to 255. 4.) The Protocol-Identifier parameter must be present. 5.) The Reply-Path and Status-Report-Request fields contain any value (single bit). 6.) The User-Data-Header-Indicator specifies "The TP-UD field contains only the short message". 7.) The User-Data contain any text without formatting and without user data header. 8.) The User-Data-Length is compatible with the user data contents. 9.) The Validity-Period-Format field may indicate presence or non-presence of the Validity-Period parameter. 10.) The Validity-Period parameter is exactly then present, when the Validity-Period-Format field indicates its presence. The contents of the Validity-Period parameter may then be any value compatible with its format specification.
Postamble:	POST_TESTER_RELEASE_VB

UBS1_FT_OUT_SUBMIT_02	
Purpose:	Verify that, if the user requests, when composing the SM, a status report for the SM to be sent, the SMS-SUBMIT TL message sent by the SM-TE is compliant to TS 100 901 [3], 9.2.2.2 and contains the optional parameter Status-Report-Request with value "A status report is requested".
Requirements refs:	TS 100 901 [3], 9.2.2.2
Selection Cond.:	Sel_StatusRepReq
Preamble:	PRE_INIT
Test description:	O!OUTGOING_CALL_req(STATUSREPREQ= 1) CC?OUTG_CALL_ind CC!OUTG_CALL_resp FS?SMS-SUBMIT(Data-Coding-Scheme= ?, Destination-Address= (Address-length= Len(TSPX_REMOTE_TE_DIGITS) + 1, Type-of-number= TSPX_REMOTE_TE_TON, Numbering-plan-identification= TSPX_REMOTE_TE_NPI, Address-value= TSPX_REMOTE_TE_DIGITS + TSPX_REMOTE_SME_SUBADDR), Message-Reference= ?, Protocol-Identifier= ?, Reply-Path= ?, Status-Report-Request= "A status report is requested", User-Data-Header-Indicator= "The TP-UD field contains only the short message", User-Data= any text without formatting and without user data header, User-Data-Length= compatible with user data contents, Validity-Period-Format= ?, Validity-Period= *) FS!SMS-SUBMIT-REPORT
Pass criteria:	The following checks are made with respect to the presence of the SMS-SUBMIT TL parameters and values of fields contained in these parameters: <ol style="list-style-type: none"> 1) The Data-Coding-Scheme parameter must be present. 2) The Destination-Address comprises Called TE address digits plus destination subaddress digit (if present), has a correct length value and the expected values for "Type of number" and "Numbering plan identification". 3) The Message-Reference contains any value in the range between 0 to 255. 4) The Protocol-Identifier parameter must be present. 5) The Reply-Path field contain any value (single bit). 6) The Status-Report-Request fields indicates "A status report is requested". 7) The User-Data-Header-Indicator specifies "The TP-UD field contains only the short message". 8) The User-Data contain any text without formatting and without user data header. 9) The User-Data-Length is compatible with the user data contents. 10) The Validity-Period-Format field may indicate presence or non-presence of the Validity-Period parameter. 11) The Validity-Period parameter is exactly then present, when the Validity-Period-Format field indicates its presence. The contents of the Validity-Period parameter may then be any value compatible with its format specification.
Postamble:	POST_TESTER_RELEASE_VB

UBS1_FT_OUT_SUBMIT_03	
Purpose:	Verify that, if the user, when composing the SM, indicates the Validity Period of the SM to be sent, the SMS-SUBMIT TL message sent by the SM-TE is compliant to TS 100 901 [3], 9.2.2.2 and contains the optional parameter Validity-Period (with a value correspondent to the value chosen by the user).
Requirements refs:	TS 100 901 [3], 9.2.2.2
Selection Cond.:	Sel_VValidityPeriod
Preamble:	PRE_INIT
Test description:	O!OUTGOING_CALL_req(VALPERIOD= TRUE) CC?OUTG_CALL_ind CC!OUTG_CALL_resp FS?SMS-SUBMIT(Data-Coding-Scheme= ?, Destination-Address= (Address-length= Len(TSPX_REMOTE_TE_DIGITS) + 1, Type-of-number= TSPX_REMOTE_TE_TON, Numbering-plan-identification= TSPX_REMOTE_TE_NPI, Address-value= TSPX_REMOTE_TE_DIGITS + TSPX_REMOTE_SME_SUBADDR), Message-Reference= ?, Protocol-Identifier= ?, Reply-Path= ?, Status-Report-Request= ?, User-Data-Header-Indicator= "The TP-UD field contains only the short message", User-Data= any text without formatting and without user data header, User-Data-Length= compatible with user data contents, Validity-Period-Format= "TP-VP field present - relative format" or "TP-VP field present - enhanced format" or "TP-VP field present - absolute format", Validity-Period= ?) FS!SMS-SUBMIT-REPORT
Pass criteria:	The following checks are made with respect to the presence of the SMS-SUBMIT TL parameters and values of fields contained in these parameters: <ol style="list-style-type: none"> 1) The Data-Coding-Scheme parameter must be present. 2) The Destination-Address comprises Called TE address digits plus destination subaddress digit (if present), has a correct length value and the expected values for "Type of number" and "Numbering plan identification". 3) The Message-Reference contains any value in the range between 0 to 255. 4) The Protocol-Identifier parameter must be present. 5) The Reply-Path and Status-Report-Request fields contain any value (single bit). 6) The User-Data-Header-Indicator specifies "The TP-UD field contains only the short message". 7) The User-Data contain any text without formatting and without user data header. 8) The User-Data-Length is compatible with the user data contents. 9) The Validity-Period-Format field indicates presence of the Validity-Period parameter (in any format). 10) The Validity-Period parameter is present with contents compatible with its format specification.
Postamble:	POST_TESTER_RELEASE_VB

7.1.3 Test purposes for SM text coding

UBS1_FT_OUT_TEXTCOD_01	
Purpose:	Verify that the text characters typed by the user when composing a message without header are coded accordingly to the reference character table and put as the User-Data parameter content into the SMS-SUBMIT TL message sent by the SM-TE (e.g. request the user to type the following text: "the quick brown fox jumps over the lazy dog" and verify that the User-Data parameter content is the series of octets: "74h 74h 19h 14h AFh A7h C7h 6Bh 90h 58h FEh BEh BBh 41h E6h 37h 1Eh A4h AEh B7h E1h 73h D0h DBh 5Eh 96h 83h E8h E8h 32h 88h 1Dh D6h E7h 41h E4h F7h 19h").
Requirements refs:	TS 100 900 [2]; TS 100 901 [3], 9.2.2.2, 9.2.3.23 and 9.2.3.24
Selection Cond.:	
Preamble:	PRE_INIT
Test description:	O!OUTGOING_CALL_req(TXT= 1) CC?OUTG_CALL_ind CC!OUTG_CALL_resp FS?SMS-SUBMIT(User-Data-Header-Indicator= "The TP-UD field contains only the short message", User-Data= "the quick brown fox jumps over the lazy dog", User-Data-Length= 43) NOTE: The user data are transferred in the 7-bit default GSM encoding. The sequence of octets for this text string is "74h 74h 19h 14h AFh A7h C7h 6Bh 90h 58h FEh BEh BBh 41h E6h 37h 1Eh A4h AEh B7h E1h 73h D0h DBh 5Eh 96h 83h E8h E8h 32h 88h 1Dh D6h E7h 41h E4h F7h 19h" FS!SMS-SUBMIT-REPORT
Pass criteria:	The SMS-SUBMIT message is received with User-Data-Header-Indicator= "The TP-UD field contains only the short message", User-Data-Length= 43 (septetts), User-Data= "the quick brown fox jumps over the lazy dog" (in the 7-bit default GSM encoding).
Postamble:	POST_TESTER_RELEASE_VB

7.1.4 Test purposes for SMS-SUBMIT-REPORT

UBS1_FT_OUT_SUBREP_01	
Purpose:	Verify that the SM-TE, after having established an SMS call to the SM-SC and received an SMS-SUBMIT-REPORT (indicating a successful reception by the SM-SC) in response to an SMS-SUBMIT message, indicates to the user that the SM sent was correctly received by the SM-SC.
Requirements refs:	TS 100 901 [3], 9.2.2.2 and 9.2.2.2a
Selection Cond.:	Sel_InformUserSubmissPos
Preamble:	PRE_OUTGOING
Test description:	FS?SMS-SUBMIT FS!SMS-SUBMIT-REPORT CC?CALL_RELEASE_ind OISUBM_RESULT_VERIF_req(SUBM_RES= TRUE) O?SUBM_RESULT_VERIF_conf(SUBM_RES= TRUE)
Pass criteria:	The operator confirms that the SM-TE has provided an indication to the user that the SM sent was correctly received by the SM-SC.
Postamble:	None

UBS1_FT_OUT_SUBREP_02	
Purpose:	Verify that the SM-TE, after having established an SMS call to the SM-SC and received an SMS-SUBMIT-REPORT (indicating an unsuccessful reception by the SM-SC) in response to an SMS-SUBMIT message, indicates to the user that the SM sent was not correctly received by the SM-SC (in case the terminal makes several submission attempts, verify that the indication is given to the user at least after the end of the last attempt).
Requirements refs:	TS 100 901 [3], 9.2.2.2, 9.2.2.2a and 9.2.3.22
Selection Cond.:	Sel_InformUserSubmissNeg
Preamble:	PRE_OUTGOING
Test description:	FS?SMS-SUBMIT FS!SMS-SUBMIT-REPORT(Failure-Cause= "SC system failure") Number-of-actual-reattempts = 0 While Number-of-actual-reattempts < TSPX_NUM_REATTEMPTS CC?CALL_RELEASE_ind CC?OUTG_CALL_ind CC!OUTG_CALL_resp FS?SMS-SUBMIT(same as received for the first time) FS!SMS-SUBMIT-REPORT(Failure-Cause= "SC system failure") Increase Number-of-actual-reattempts by 1 End While CC?CALL_RELEASE_ind O!SUBM_RESULT_VERIF_req(SUBM_RES= FALSE) O?SUBM_RESULT_VERIF_conf(SUBM_RES= TRUE) (see note)
Pass criteria:	The SM-TE sends exactly TSPX_NUM_REATTEMPTS + 1 SMS-SUBMIT messages with the same contents. After having received the (TSPX_NUM_REATTEMPTS + 1)the SMS-SUBMIT-REPORT message the SM-TE indicates to the user that the SM sent was not correctly received by the SM-SC.
Postamble:	None
	NOTE: It is acceptable that the SM-TE indicates to the user that the SM sent was not correctly received by the SM-SC after each time the SMS-SUBMIT-REPORT (Failure-Cause= "SC system failure") has been received by the SM-TE, although this is not required.

7.2 Test purposes for Incoming SMS call

7.2.1 Test purposes for SME subaddressing and Deliver Mode Identifier

UBS1_FT_INC_SUBADDRDMI_01	
Purpose:	Verify that, if the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is different from the values of each SME defined in the receiving SM-TE, the SM-TE does not accept the SMS call.
Requirements refs:	5.2.2, 5.5.6
Selection Cond.:	
Preamble:	PRE_INIT
Test description:	CC!INC_CALL_req(CLDTE= TSPX_SUT_DIGITS, SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SME_ID_UNDEFINED, DMI= "0") START CALL_ACCEPT_TIMER (TSPX_CALL_ACCEPT_TIME) ?TIMEOUT CALL_ACCEPT_TIMER
Pass criteria:	The SM-TE does not accept the SMS call
Postamble:	None

UBS1_FT_INC_SUBADDRDMI_02	
Purpose:	Verify that the SM-TE, being in idle state and having sufficient memory for at least one SM, in case the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is equal to one of the SME values defined in the receiving SM-TE and the Deliver Mode Identifier value contained in the CLI information sent to establish the SMS call is equal to 0, accepts the SMS call and the incoming SM is received by the SM-TE.
Requirements refs:	5.2.2, 5.5.65.2.2, 5.5.6, table 3
Selection Cond.:	
Preamble:	PRE_INC_DMI(DmiP= "0")
Test description:	CC?INC_CALL_conf FS!SMS-DELIVER FS?SMS-DELIVER-REPORT CC!CALL_RELEASE_req O!SM_Reception_req O?SM_Reception_conf
Pass criteria:	The operator confirms that the new SM has been received by the SM-TE.
Postamble:	None

UBS1_FT_INC_SUBADDRDMI_03	
Purpose:	Verify that the SM-TE, being in idle state and having sufficient memory for at least one SM, in case the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is equal to one of the SME values defined in the receiving SM-TE and the Deliver Mode Identifier value contained in the CLI information sent to establish the SMS call is equal to 1, accepts the SMS call and the incoming SM is received by the SM-TE.
Requirements refs:	5.2.2, 5.5.65.2.2, 5.5.6, table 3
Selection Cond.:	
Preamble:	PRE_INC_DMI(DmiP= "1")
Test description:	CC?INC_CALL_conf FS!SMS-DELIVER FS?SMS-DELIVER-REPORT CC!CALL_RELEASE_req O!SM_Reception_req O?SM_Reception_conf
Pass criteria:	The operator confirms that the new SM has been received by the SM-TE.
Postamble:	None

UBS1_FT_INC_SUBADDRDMI_04	
Purpose:	Verify that the SM-TE, being in idle state and having sufficient memory for at least one SM, in case the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is equal to one of the SME values defined in the receiving SM-TE and the Deliver Mode Identifier value contained in the CLI information sent to establish the SMS call is equal to 2 or 3 or....9, does not accept the call and after some time it calls back the SM-SC. Verify also that the number dialled by the SM-TE (the SME contained in the SM-TE) is the SM-SC number extended by the respective SME Subaddress and the DMI received in the triggering SMS call.
Requirements refs:	5.2.2, 5.5.65.2.2, 5.5.6, table 3, A.2.1
Selection Cond.:	
Preamble:	PRE_INC_DMI(DmiP= "2")
Test description:	START CALL_ACCEPT_TIMER (TSPX_CALL_ACCEPT_TIME) ?TIMEOUT CALL_ACCEPT_TIMER START CALL_BACK_TIMER (TSPX_CALL_BACK_TIME) CC?OUTG_CALL_ind(SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI="2") CC!OUTG_CALL_resp FS!SMS-DELIVER FS?SMS-DELIVER-REPORT
Pass criteria:	The SM-TE does not accept the call and after some time it calls back the SM-SC. The number dialled by the SM-TE, when calling back the SM-SC, is the SM-SC number extended by the respective SME Subaddress and the DMI received in the triggering SMS call.
Postamble:	POST_TESTER_RELEASE_VB

UBS1_FT_INC_SUBADDRDMI_05	
Purpose:	Verify that the SM-TE, being in idle state and having not sufficient memory for at least one SM, in case the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is equal to one of the SME values defined in the receiving SM-TE and the Deliver Mode Identifier value contained in the CLI information sent to establish the SMS call is equal to 0, accepts the SMS call and rejects the SM sending the SMS-DELIVER-REPORT (with parameter value TP-FCS="SIM SMS storage full") TL message indicating an unsuccessful SM reception.
Requirements refs:	5.2.2, 5.5.65.2.2, 5.5.6, table 3, TS 100 901 [3], 9.2.2.1a (i) and 9.2.3.22
Selection Cond.:	
Preamble:	PRE_MEM_FULL
Test description:	CC!INC_CALL_req(CLDTE= TSPX_SUT_DIGITS, SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI= "0") CC?INC_CALL_conf FS!SMS-DELIVER FS?SMS-DELIVER-REPORT(Failure-Cause = SIM SMS storage full) CC?CALL_RELEASE_ind O!SM_Reception_req O?SM_Reception_conf(RECEPT_IND= FALSE)
Pass criteria:	The SM-TE accepts the SMS call and rejects the SM sending the SMS-DELIVER-REPORT (with parameter value TP-FCS="SIM SMS storage full") TL message indicating an unsuccessful SM reception.
Postamble:	None

UBS1_FT_INC_SUBADDRDMI_06	
Purpose:	Verify that the SM-TE, being in idle state and having not sufficient memory for at least one SM, in case the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is equal to one of the SME values defined in the receiving SM-TE and the Deliver Mode Identifier value contained in the CLI information sent to establish the SMS call is equal to 1, does not accept the SMS call.
Requirements refs:	5.2.2, 5.5.6, table 3
Selection Cond.:	
Preamble:	PRE_MEM_FULL
Test description:	CC!INC_CALL_req(CLDTE= TSPX_SUT_DIGITS, SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI= "1") START CALL_ACCEPT_TIMER (TSPX_CALL_ACCEPT_TIME) ?TIMEOUT CALL_ACCEPT_TIMER
Pass criteria:	The SM-TE does not accept the SMS call.
Postamble:	None

UBS1_FT_INC_SUBADDRDMI_07	
Purpose:	Verify that the SM-TE, being in idle state and having not sufficient memory for at least one SM, in case the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is equal to one of the SME values defined in the receiving SM-TE and the Deliver Mode Identifier value contained in the CLI information sent to establish the SMS call is equal to 2 or 3 or....9, does not accept the SMS call. Verify also that in the optional case that the SM-TE calls back the SM-SC after some time after the user has deleted one or more SMs stored in its memory, the number dialled by the SM-TE (the SME contained in the SM-TE) is the SM-SC number extended by the respective SME Subaddress and the DMI received in the triggering SMS call.
Requirements refs:	5.2.2, 5.5.6, table 3, A.2.1
Selection Cond.:	
Preamble:	PRE_MEM_FULL
Test description:	CCI:INC_CALL_req(CLDTE= TSPX_SUT_DIGITS, SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI= "2") START CALL_ACCEPT_TIMER (TSPX_CALL_ACCEPT_TIME) ?TIMEOUT CALL_ACCEPT_TIMER O!EMPTY_MEM_req O?EMPTY_MEM_ind START CALL_BACK_TIMER (TSPX_CALL_BACK_TIME) CC?OUTG_CALL_ind(SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI= "2") CC!OUTG_CALL_resp FS!SMS-DELIVER FS?SMS-DELIVER-REPORT CC!CALL_RELEASE_req ?TIMEOUT CALL_BACK_TIMER
Pass criteria:	The SM-TE does not accept the SMS call. Moreover, in the optional case that the SM-TE, after the user has deleted one or more SMs stored in its memory, calls back the SM-SC after some time, the number dialled by the SM-TE is the SM-SC number extended by the respective SME Subaddress and the DMI received in the triggering SMS call.
Postamble:	None

UBS1_FT_INC_SUBADDRDMI_08	
Purpose:	Verify that, if the SM-TE is busy and supports Off-Hook CLIP, in case the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is equal to one of the SME values defined in the receiving SM-TE and the Deliver Mode Identifier value contained in the CLI information sent to establish the SMS call is equal to 0, the SM-TE does not accept the SMS call and does not call back the SM-SC later.
Requirements refs:	5.2.2, 5.5.6, table 3
Selection Cond.:	Sel_ReceiveCliBusy
Preamble:	PRE_BUSY
Test description:	CC!INC_CALL_req(CLDTE= TSPX_SUT_DIGITS, SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI= "0") START CALL_BACK_TIMER (TSPX_CALL_BACK_TIME) ?TIMEOUT CALL_BACK_TIMER
Pass criteria:	The SM-TE does not accept the SMS call and does not call back the SM-SC later.
Postamble:	None

UBS1_FT_INC_SUBADDRDMI_09	
Purpose:	Verify that, if the SM-TE is busy and supports Off-Hook CLIP, in case the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is equal to one of the SME values defined in the receiving SM-TE and the Deliver Mode Identifier value contained in the CLI information sent to establish the SMS call is equal to 1, the SM-TE does not accept the SMS call and does not call back the SM-SC later.
Requirements refs:	5.2.2, 5.5.6, table 3
Selection Cond.:	Sel_ReceiveCliBusy
Preamble:	PRE_BUSY
Test description:	CC!INC_CALL_req(CLDTE= TSPX_SUT_DIGITS, SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI= "1") START CALL_BACK_TIMER (TSPX_CALL_BACK_TIME) ?TIMEOUT CALL_BACK_TIMER
Pass criteria:	The SM-TE does not accept the SMS call and does not call back the SM-SC later.
Postamble:	None

UBS1_FT_INC_SUBADDRDMI_10	
Purpose:	Verify that, if the SM-TE is busy and supports Off-Hook CLIP, in case the Called SME Subaddress value contained in the CLI information sent to establish the SMS call is equal to one of the SME values defined in the receiving SM-TE and the Deliver Mode Identifier value contained in the CLI information sent to establish the SMS call is equal to 2 or 3 or....9, the SM-TE does not accept the SMS call. Verify also that in the optional case that the SM-TE calls back the SM-SC after some time after the SM-TE gets back to the idle state, the number dialled by the SM-TE (the SME contained in the SM-TE) is the SM-SC number extended by the respective SME Subaddress and the DMI received in the triggering SMS call.
Requirements refs:	5.2.2, 5.5.6 table 3
Selection Cond.:	Sel_ReceiveCliBusy
Preamble:	PRE_CLEAR_MEM
Test description:	<pre> O!BUSY_req Number-of-calls = 0 While Number-of-calls < TSPX_NUM_PHONE_CALLS CC?OUTG_CALL_ind(SCADDR= ?, SMEID= OMIT, DMI= OMIT) CC!OUTG_CALL_resp Increase Number-of-calls by 1 Wait a while End While CC!INC_CALL_req(CLDTE= TSPX_SUT_DIGITS, SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI= "2") START CALL_ACCEPT_TIMER (TSPX_CALL_ACCEPT_TIME) ?TIMEOUT CALL_ACCEPT_TIMER CC!CALL_RELEASE_req Wait a while START CALL_BACK_TIMER (TSPX_CALL_BACK_TIME) CC?OUTG_CALL_ind(SCADDR= TSPX_SC_ADDR, SMEID= TSPX_SUT_SUBADDR, DMI= "2") CC!OUTG_CALL_resp FS!SMS-DELIVER FS?SMS-DELIVER-REPORT CC!CALL_RELEASE_req ?TIMEOUT CALL_BACK_TIMER </pre>
Pass criteria:	The SM-TE does not accept the SMS call. Moreover, in the optional case that the SM-TE, after it gets back to the idle state, call backs the SM-SC after some time, the number dialled by the SM-TE is the SM-SC number extended by the respective SME Subaddress and the DMI received in the triggering SMS call.
Postamble:	None

7.2.2 Test purposes for SMS-STATUS-REPORT reception

UBS1_FT_INC_STATUSREP_01	
Purpose:	Verify that the SM-TE, after having established an SMS call and sent an SM containing a status report request (using the Status-Report-Request parameter with value "A status report is requested" in the SMS-SUBMIT TL message) and received afterwards an SMS call bearing an Status Report with the information concerning the outcome at the recipient of the SM previously sent (via the SMS-STATUS-REPORT TL message), makes this information available to the user.
Requirements refs:	TS 100 901 [3], 9.2.2.2, 9.2.2.3 and 9.2.3.5
Selection Cond.:	Sel_StatusRepReq
Preamble:	PRE_INIT
Test description:	O!OUTGOING_CALL_req(STATUSREPREQ= 1) CC?OUTG_CALL_ind CC!OUTG_CALL_resp FS?SMS-SUBMIT(Status-Report-Request= "A status report is requested") FS!SMS-SUBMIT-REPORT CC!CALL_RELEASE_req Wait a while O!EMPTY_MEM_req O?EMPTY_MEM_ind CC!INC_CALL_req CC?INC_CALL_conf FS!SMS-STATUS-REPORT(User-Data-Header-Indicator= "The TP-UD field contains only the short message", User-Data-Length= 53, User-Data= Standardized text ("your message was correctly delivered at the recipient"), Status= "Short message received by the SME") FS?SMS-DELIVER-REPORT CC!CALL_RELEASE_req O!STAT_REP_INF_VERIF_req O?STAT_REP_INF_VERIF_conf
Pass criteria:	The operator confirms that the information about the outcome at the recipient of the SM previously sent is made available to the user. This information may be based on the received Status value or the received text.
Postamble:	None

7.2.3 Test purposes for SM text decoding

UBS1_FT_INC_TEXTDEC_01	
Purpose:	Verify that the SM-TE, having received an SMS-DELIVER TL message containing no user data header (i.e. with User-Data-Header-Indicator parameter value set to 0) and with the User-Data parameter containing the sequence of bytes: "74h 74h 19h 14h AFh A7h C7h 6Bh 90h 58h FEh BEh BBh 41h E6h 37h 1Eh A4h AEh B7h E1h 73h D0h DBh 5Eh 96h 83h E8h E8h 32h 88h 1Dh D6h E7h 41h E4h F7h 19h", displays to the user, when reading the SM, the following text: "the quick brown fox jumps over the lazy dog".
Requirements refs:	TS 100 900 [2], TS 100 901 [3], 9.2.2.1, 9.2.3.23 and 9.2.3.24
Selection Cond.:	
Preamble:	PRE_INC_DMI(DmiP= "0")
Test description:	CC?INC_CALL_conf FS!SMS-DELIVER(User-Data-Header-Indicator= "The TP-UD field contains only the short message", User-Data-Length= 43, User-Data= Standardized text ("the quick brown fox ...")) (see note) FS?SMS-DELIVER-REPORT CC!CALL_RELEASE_req O!DISPL_INF_VERIF_req(TXT= "the quick brown fox jumps over the lazy dog") O?DISPL_INF_VERIF_conf
Pass criteria:	The operator confirms that the SM-TE displays to the user, when reading the latest received SM, the indicated standardized text.
Postamble:	None
	NOTE: The user data are transferred in the 7-bit default GSM encoding. The sequence of octets for this text string is "74h 74h 19h 14h AFh A7h C7h 6Bh 90h 58h FEh BEh BBh 41h E6h 37h 1Eh A4h AEh B7h E1h 73h D0h DBh 5Eh 96h 83h E8h E8h 32h 88h 1Dh D6h E7h 41h E4h F7h 19h"

UBS1_FT_INC_TEXTDEC_02	
Purpose:	Verify that the SM-TE, having received an SMS-DELIVER TL message containing no user data header (i.e. with User-Data-Header-Indicator parameter value set to 0) and with User-Data parameter containing the sequence of bytes: "9Bh 32h", displays the Euro symbol.
Requirements refs:	TS 100 900 [2], TS 100 901 [3], 9.2.2.1, 9.2.3.23 and 9.2.3.24
Selection Cond.:	Sel_ExtCharSet
Preamble:	PRE_INC_DMI(DmiP= "0")
Test description:	CC?INC_CALL_conf FS!SMS-DELIVER(User-Data-Header-Indicator= "The TP-UD field contains only the short message", User-Data-Length= 2, User-Data= <EURO symbol>) (see note) FS?SMS-DELIVER-REPORT CC!CALL_RELEASE_req O!DISPL_INF_VERIF_req(TXT= "<EURO symbol>") O?DISPL_INF_VERIF_conf
Pass criteria:	The operator confirms that the SM-TE displays to the user, when reading the latest received SM, the EURO symbol (and no other symbol or text).
Postamble:	None
	NOTE: The user data are transferred in the 7-bit default GSM encoding and using the extended character set. The sequence of octets for this text string is "9Bh 32h".

7.2.4 Test purposes for more than one SM in one call

UBS1_FT_INC_MORESMS_01	
Purpose:	Verify that the SM-TE correctly receives two straight-forward SMs within the same SMS call.
Requirements refs:	A.2.3
Selection Cond.:	Sel_ReceiveMoreSMs
Preamble:	PRE_INC_DMI(DmiP= "0")
Test description:	CC?INC_CALL_conf FS!SMS-DELIVER (More-Messages-to Send = "More messages are waiting for the MS in this SC") FS?SMS-DELIVER-REPORT Wait a while FS!SMS-DELIVER FS?SMS-DELIVER-REPORT CC!CALL_RELEASE_req O!SM_Reception2_req O?SM_Reception2_conf
Pass criteria:	Indication by the operator that the two latest incoming SMs within the same SMS call have been received by the SM-TE.
Postamble:	None

7.2.5 Test purposes for SM Replace

UBS1_FT_INC_SMREPLACE_01	
Purpose:	Verify that the SM-TE, having enough memory to store at least 1 SM, replaces an SM previously received with a new SM of the same type (i.e. with the same Originating-Address parameter value as the previous SMS-DELIVER message and with Protocol Identifier parameter identifying the same Replace Short Message TypeX as the previous SMS-DELIVER message) and indicates the reception of a new message to the user.
Requirements refs:	TS 100 901 [3], 9.2.2.1 and 9.2.3.9
Selection Cond.:	Sel_SMReplace
Preamble:	PRE_INC_DMI(DmiP= "0")
Test description:	CC?INC_CALL_conf FS!SMS-DELIVER(Protocol-Identifier= (Assignment of bits 5..0= "01"b, bits 5..0= "000001"b (Replace Short Message Type 1)), User-Data= "Short message to be replaced", User-Data-Length= 28) FS?SMS-DELIVER-REPORT CC!CALL_RELEASE_req O!DISPL_INF_VERIF_req(TXT= "Short message to be replaced") O?DISPL_INF_VERIF_conf Wait a while CC!INC_CALL_req(DMI= "0") CC?INC_CALL_conf FS!SMS-DELIVER(Protocol-Identifier= (Assignment of bits 5..0= "01"b, bits 5..0= "000001"b (Replace Short Message Type 1)), User-Data= "Replacing Short message", User-Data-Length= 23) FS?SMS-DELIVER-REPORT CC?CALL_RELEASE_ind O!DISPL_INF_VERIF_req(TXT= "Replacing Short message", REPINFO= 1) O?DISPL_INF_VERIF_conf
Pass criteria:	The operator confirms that the first SM has been received with the specified text, and the second SM has been received with the specified text, replacing the first SM.
Postamble:	None

7.2.6 Test purposes for SMS-DELIVER-REPORT

UBS1_FT_INC_DELIVERREP_01	
Purpose:	Verify that the SM-TE, being not in the memory full state, sends in response to a correct SMS-DELIVER TL message containing a straight-forward SM, an SMS-DELIVER-REPORT message indicating a successful SM reception. Verify also that the format of the SMS-DELIVER-REPORT is compliant to TS 100 901 [3] (V7.4.0) 9.2.2.1a (ii).
Requirements refs:	5.3.3.1, TS 100 901 [3], 9.2.2.1a (ii)
Selection Cond.:	
Preamble:	PRE_DELIVER
Test description:	FS?SMS-DELIVER-REPORT(User-Data-Header-Indicator= ?, Parameter-Indicator= (Protocol-Indicator presence= ?, Data-Coding-Scheme presence= ?, User-Data/User-Data-Length presence= ?), Protocol-Indicator= *, Data-Coding-Scheme= *, User-Data-Length= compatible with User-Data (if present), User-Data= *)
Pass criteria:	The following checks are made with respect to the presence of the SMS-DELIVER-REPORT TL parameters and values of fields contained in these parameters: <ol style="list-style-type: none"> 1) The User-Data-Header-Indicator bit is not checked; 2) The Parameter-Indicator may indicate presence or non-presence of the Protocol-Indicator, Data-Coding-Scheme and User-Data-Length/User-Data parameters; 3) The Protocol-Indicator parameter shall be present exactly when the Protocol-Indicator parameter indicates its presence; in this case it may have any defined value; 4) The Data-Coding-Scheme parameter shall be present exactly when the Protocol-Indicator parameter indicates its presence; in this case it may have any defined value; 5) The User-Data-Length shall be present exactly when the Protocol-Indicator parameter indicates its presence; in this case it shall be compatible with the user data contents; 6) The User-Data shall be present exactly when the Protocol-Indicator parameter indicates its presence; in this case it may have any value.
Postamble:	POST_TESTER_RELEASE_VB

UBS1_FT_INC_DELIVERREP_02	
Purpose:	Verify that the SM-TE, after having established an SMS call and sent an SM containing a status report request (using the Status-Report-Request parameter with value "A status report is requested" in the SMS-SUBMIT TL message) and having received afterwards, being not in the memory full state, a Status Report (via the SMS-STATUS-REPORT TL message), acknowledges the reception of the SMS-STATUS-REPORT TL message by an SMS-DELIVER-REPORT message indicating the successful reception of the status report. Verify also that the format of the SMS-DELIVER-REPORT is compliant to TS 100 901 [3], 9.2.2.1a (ii).
Requirements refs:	5.3.3.1 TS 100 901 [3], 9.2.2.1a (ii), 9.2.2.2, 9.2.2.3 and 9.2.3.5
Selection Cond.:	Sel_StatusRepReq
Preamble:	PRE_INIT
Test description:	O!OUTGOING_CALL_req(STATUSREPREQ= 1) CC?OUTG_CALL_ind CC!OUTG_CALL_resp FS?SMS-SUBMIT(Status-Report-Request= "A status report is requested") FS!SMS-SUBMIT-REPORT CC?CALL_RELEASE_ind Wait a while O!EMPTY_MEM_req O?EMPTY_MEM_ind CC!INC_CALL_req CC?INC_CALL_conf FS!SMS-STATUS-REPORT(User-Data-Header-Indicator= "The TP-UD field contains only the short message", User-Data-Length= 53, User-Data= Standardized text ("your message was correctly delivered at the recipient"), Status= "Short message received by the SME") FS?SMS-DELIVER-REPORT(User-Data-Header-Indicator= ?, Parameter-Indicator= (Protocol-Identifier presence= ?, Data-Coding-Scheme presence= ?, User-Data/User-Data-Length presence= ?), Protocol-Identifier= (Assignment of bits 5..0= "00"b, bits 5..0= "00000"b (straightforward simple SM transfer)) if present, Data-Coding-Scheme= (General data coding, uncompressed, no message class meaning, GSM 7 bit default alphabet) if present, User-Data-Length= compatible with User-Data (if present), User-Data= *)
Pass criteria:	The following checks are made with respect to the presence of the SMS-DELIVER-REPORT TL parameters and values of fields contained in these parameters: <ol style="list-style-type: none"> 1) The User-Data-Header-Indicator bit is not checked; 2) The Parameter-Indicator may indicate presence or non-presence of the Protocol-Identifier, Data-Coding-Scheme and User-Data-Length/User-Data parameters; 3) The Protocol-Identifier parameter shall be present exactly when the Protocol-Identifier parameter indicates its presence; in this case it may have any defined value; 4) The Data-Coding-Scheme parameter shall be present exactly when the Protocol-Identifier parameter indicates its presence; in this case it may have any defined value; 5) The User-Data-Length shall be present exactly when the Protocol-Identifier parameter indicates its presence; in this case it shall be compatible with the user data contents; 6) The User-Data shall be present exactly when the Protocol-Identifier parameter indicates its presence; in this case it may have any value.
Postamble:	POST_TESTER_RELEASE_VB

Annex A (informative): Bibliography

ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

History

Document history		
V1.1.1	December 2002	Membership Approval Procedure MV 20030207: 2002-12-10 to 2003-02-07