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Core Network and Interoperability Testing (INT);
S1AP Conformance Testing for the S1-MME interface;
(3GPP™ Release 13);
Part 2: Test Suite Structure (TSS) and Test Purposes (TP)

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Core Network and Interoperability Testing (INT).

The present document is part 2 of a multi-part deliverable. Full details of the entire series can be found in part 1 [2].

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

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1 Scope

The present document provides the Test Suite Structure (TSS) and Test Purposes (TP) for the test specification for the S1AP protocol on the S1-MME interface as specified in ETSI TS 136 413 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [4] and ETSI ETS 300 406 [5].

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at https://docbox.etsi.org/Reference/.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

[1] ETSI TS 136 413 (V13.4.0): "LTE; Evolved Universal Terrestrial Radio Access Network (E-UTRAN); S1 Application Protocol (S1AP) (3GPP TS 36.413 version 13.4.0 Release 13)".

[2] ETSI TS 103 497-1: "Core Network and Interoperability Testing (INT); S1AP Conformance Testing for the S1-MME interface; (3GPPTM Release 13); Part 1: Protocol Implementation Conformance Statement (PICS)".

[3] ISO/IEC 9646-1: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".

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

[5] ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[6] ETSI TS 123 203: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Policy and charging control architecture (3GPP TS 23.203)".

[7] ETSI TS 125 413: "Universal Mobile Telecommunications System (UMTS); UTRAN Iu interface Radio Access Network Application Part (RANAP) signalling (3GPP TS 25.413)".

[8] ETSI TS 148 018: "Digital cellular telecommunications system (Phase 2+) (GSM); General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN); BSS GPRS protocol (BSSGP) (3GPP TS 48.018)".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

Not applicable.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ETSI TS 136 413 [1] and the following apply:

Abstract Test Method (ATM): Refer to ISO/IEC 9646-1 [3].

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [3].

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [3].

Test Purpose (TP): Refer to ISO/IEC 9646-1 [3].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 136 413 [1] and the following apply:

TP	Test Purpose
TSS	Test Suite Structure

4 Test configurations

4.1 Introduction

Test purposes of the present document address the VoLTE functional entities eNB and MME that are accessible via the standardized S1-MME interface.

4.2 Test configuration using the S1-MME interface

The S1-MME interface is located between the eNB and the MME.

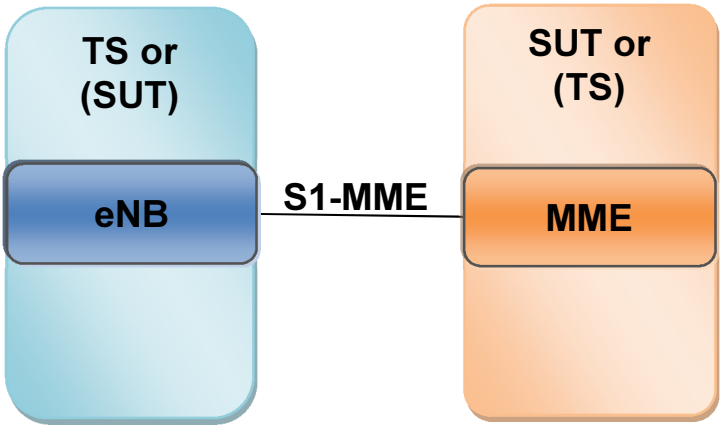

Figure 1: Test configuration CF_S1-MME

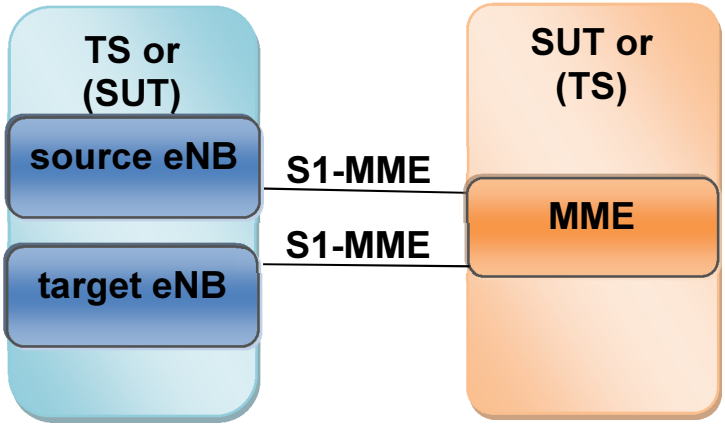

Figure 2: Test configuration CF_2S1-MME

5 Test Suite Structure (TSS) and Test Purposes (TP)

5.1 Test Suite Structure

5.1.1 TP naming convention

TPs are numbered, starting at 01, within each group. Groups are organized according to the TSS.

Table 1: TP identifier naming convention scheme

Identifier: **<TP>_<iut>_<scope>_<nn>**		
<tp> = Test Purpose:	fixed to "TP"	
<interface or protocol>	Interface or protocol: S1AP	
<iut> = type of IUT:	ENB or MME	
<scope> = group	RAB	E-RAB Management procedures
	CMP	Context Management procedures
	HAS	Handover Signalling
	PAG	Paging
	NAS	NAS transport
	MNP	Management procedures
	STP	S1 CDMA2000 Tunnelling Procedures
	UEC	UE Capability Info Indication
	TRP	Trace Procedures
	LRP	Location Reporting Procedures
	WTP	Warning Message Transmission Procedures
	EIT	eNB Direct Information Transfer
	MIT	MME Direct Information Transfer
	ECT	eNB Configuration Transfer
	MCT	MME Configuration Transfer
	LPP	LPPa transport
	ERR	Unknown, Unforseen and Erroneous Protocol Data
<nn> = sequential number	(01 to 99)	

5.1.2 Test strategy

As the base specification in ETSI TS 136 413 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification ETSI TS 103 497-1 [2].

5.1.3 TP structure

Each TP has been written in a manner which is consistent with all other TPs. The intention of this is to make the TPs more readable and checkable. A particular structure has been used which is illustrated in Table 2. Table 2 should be read in conjunction with any TP, i.e. please use a TP as an example to facilitate the full comprehension of Table 2.

Table 2: Structure of a single TP

TP part	Text	Example
Header	**<Identifier>** **<clause number in base ETSI TS 136 413 [1]>** **<PICS reference>**	**see Table 1** **clause 8.2.1.1** **A.2/3**
Summary	*Short free text description of the test objective*	Verify that the IUT can successfully process all mandatory IEs in a E-RAB_SETUP_REQUEST received due to establishment-RAB management procedure.
Configuration	*Test configuration as described in clause 4.2*	CF_S1-MME
Initial condition (optional)	*Free text description of the condition that the IUT has reached before the test purpose applies.*	
Start point	Ensure that the IUT in the <state> *see ETSI TS 136 413 [1], clause 8.1* *and/or further actions before stimulus* *if the action is sending/receiving* *see below for message structure*	Handover Preparation having sent a HANDOVER_REQUIRED
Stimulus	<**trigger**>, *see below for message structure* *or* <goal>	on receipt of a HANDOVER_COMMAND (see note 2)
Reaction	<**action**>. *if the action is sending* *see below for message structure* <next action>, *etc.*	sends, saves, does, etc.
Message structure	<message type> *a)* containing a(n) <IE name> IE (see note 4) *b)* indicating <coding of the field> and *back to a) or b) (see note 3)*	Message exchange, etc. (see note 2)

NOTE 1: Text in italics will not appear in TPs and text between <> is filled in for each TP and may differ from one TP to the next.

NOTE 2: All messages are considered as "valid and compatible" unless otherwise specified in the test purpose. This includes the presence of all mandatory IEs as specified in ETSI TS 136 413 [1].

NOTE 3: An IE can be embedded into another IE. This is expressed by indentations, e.g. if Message1 contains IE1 and IE2 where IE1 has IE3 embedded this will be expressed like this:

```
sends/receives Message 1
    containing IE1
        containing IE3
            indicating ...
    containing IE2
        indicating ...
```

NOTE 4: IE value fields used for e.g. identification or address should be equal in the scope of TP if not stated otherwise.

5.2 Test Purposes

5.2.1 PICS references

All PICS items referred to in this clause are as specified in ETSI TS 103 497-1 [2] unless indicated otherwise by another numbered reference. PICS items are only meant for test selection, therefore only PICS items with status optional or conditional are explicitly mentioned.

5.2.2 S1_MME interface

5.2.2.1 eNB Role

5.2.2.1.1 Test selection

The IUT takes the role of the eNB; PICS A.2/1.

5.2.2.1.2 E-RAB management group

TP_S1AP_ENB_RAB_01	**Standards Reference: Clauses 8.2.1.2 (1st dashed line in 5th dashed list) and 9.1.3.1 and 9.1.3.2**	**PICS item: PICS A.3/1.1**
Summary:	Verify that the IUT can successfully process all mandatory IEs in an E-RAB_SETUP_REQUEST received due to E-RAB management procedure and send E-RAB_SETUP_RESPONSE with successfully established E-RABs included in the E-RAB_Setup_List IE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an E-RAB_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Setup_List containing an E-RAB_Setup Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID	
Comments:		

TP_S1AP_ENB_RAB_02	**Standards Reference: Clauses 8.2.1.2 (2nd dashed line in 5th dashed list) and 9.1.3.1 and 9.1.3.2**	**PICS item: PICS A.3/1.1**
Summary:	Verify that the IUT after receiving an E-RAB_SETUP_REQUEST with failed E-RAB sends an E-RAB_SETUP_RESPONSE with E-RAB_Failed_to_Setup_List	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID indicating value A containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU containing an E-RAB_to_be_Setup Item 2(not acceptable data for eNB) containing an E-RAB_ID indicating value B(different to value A) containing an E-RAB_Level_QoS_Parameters containing QCI indicating not supported QCI value(255) containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an E-RAB_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Setup_List containing an E-RAB_Setup Item 1 containing an E-RAB_ID indicating value A containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID indicating value B containing a Cause indicating 'not-supported-QCI-value'	
Comments:		

TP_S1AP_ENB_RAB_03	**Standards Reference: Clauses 8.2.1.2 (3rd numbered list) and 9.1.3.1 and 9.1.3.2**	**PICS item: PICS A.3/1.1.1**
Summary:	Verify that the IUT if it is interacted with handover preparation procedure sends E-RAB_SETUP_RESPONSE with appropriate cause value and continue with handover preparation procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an E-RAB_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating 'S1 intra system Handover triggered' **or** indicating 'S1 inter system Handover triggered' **or** indicating 'X2 Handover triggered' **sends a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoUTRAN containing a Cause containing a Target ID containing a Source_to_Target_Transparent_Container containing a Source RNC_to_Target RNC_Transparent_Container indicating a UE History Information	
Comments:		

TP_S1AP_ENB_RAB_04	**Standards Reference:** **Clauses 8.2.1.4 ¶ 1,** **9.1.3.1 and 9.1.3.2** **ETSI TS 123 203 [6], Table 6.1.7**	**PICS item:** **PICS A.3/1.1**
Summary:	Verify that the IUT on receipt of an E-RAB_SETUP_REQUEST message containing an E-RAB Level QoS Parameters IE which contains a QCI IE indicating a GBR bearer and which does not contain the GBR QoS Information IE sends an E-RAB_SETUP_RESPONSE with failed E-RAB	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating GBR bearer **not** containing GBR QoS Information containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an E-RAB_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate cause value	
Comments:		

TP_S1AP_ENB_RAB_05	Standards Reference: Clauses 8.2.1.4 ¶ 2, 9.1.3.1 and 9.1.3.2	PICS item: PICS A.3/1.1
Summary:	Verify that the IUT on receipt of an E-RAB_SETUP_REQUEST message containing several E-RABs set to the same value sends an E-RAB_SETUP_RESPONSE with failed E-RABs	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID indicating value A containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU containing an E-RAB_to_be_Setup Item 2 containing an E-RAB_ID indicating value A containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an E-RAB_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating 'Multiple E-RAB_ID instances' containing an E-RAB_List Item 2 containing an E-RAB_ID containing a Cause indicating 'Multiple E-RAB_ID instances'	
Comments:		

TP_S1AP_ENB_RAB_06	**Standards Reference:** **Clauses 8.2.1.4 ¶ 3,** **9.1.3.1 and 9.1.3.2**	**PICS item:** **PICS A.3/1.1**
Summary:	Verify that the IUT on receipt an E-RAB_SETUP_REQUEST message containing an E-RAB ID IE set to the value that identifies already active E-RAB sends an E-RAB_SETUP_RESPONSE with failed E-RABs	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID indicating new E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an E-RAB_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Setup_List containing an E-RAB_Setup Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID indicating already active E-RAB containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an E-RAB_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating 'Multiple E-RAB_ID instances'	
Comments:		

TP_S1AP_ENB_RAB_07	Standards Reference: Clauses 8.2.1.4 ¶ 4, 9.1.3.1 and 9.1.3.2	PICS item: PICS A.3/1.1
Summary:	Verify that the IUT on receipt of an E-RAB_SETUP_REQUEST message containing both the Correlation ID and the SIPTO Correlation ID IEs for the same E-RAB sends an E-RAB_SETUP_RESPONSE with failed E-RAB	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU containing a Correlation_ID containing a SIPTO_Correlation_ID **sends an E-RAB_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate cause value	
Comments:		

TP_S1AP_ENB_RAB_08	Standards Reference: Clauses 8.2.2.2 (1st dashed line in 4th dashed list), 9.1.3.3 and 9.1.3.4	PICS item: PICS A.3/1.2
Summary:	Verify that the IUT can successfully process all mandatory IEs in an E-RAB_MODIFY_REQUEST received due to E-RAB management procedure and sends an E-RAB_MODIFY_RESPONSE with successfully modified E-RAB included in the E-RAB_Modify_List IE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFY_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a NAS-PDU **sends an E-RAB_MODIFY_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Modify_List containing an E-RAB_Modify Item 1 containing an E-RAB_ID	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_09	**Standards Reference: Clauses 8.2.2.2 (2nd dashed line in 4th dashed list), 9.1.3.3 and 9.1.3.4**	**PICS item: PICS A.3/1.2**
Summary:	Verify that the IUT after receiving an E-RAB_MODIFY_REQUEST with failed E-RAB sends an E-RAB_MODIFY_RESPONSE with E-RAB_Failed_to_Modify_List	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFY_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating not supported QCI value(255) containing a NAS-PDU **sends an E-RAB_MODIFY_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **not** containing an E-RAB_Modify_List containing an E-RAB_Failed _to_Modify_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating 'not-supported-QCI-value'	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_10	**Standards Reference: Clauses 8.2.2.2 (1st numbered list), 9.1.3.3 and 9.1.3.4**	**PICS item: PICS A.3/1.2.1**
Summary:	Verify that the IUT if it is interacted with handover preparation procedure sends E-RAB_MODIFY_RESPONSE with appropriate cause value and continue with handover preparation procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFY_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating not supported QCI value(255) containing a NAS-PDU **sends an E-RAB_MODIFY_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **not** containing an E-RAB_Modify_List containing an E-RAB_Failed _to_Modify_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating 'S1 intra system Handover triggered' **or** indicating 'S1 inter system Handover triggered' **or** indicating 'X2 Handover triggered' **sends a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoUTRAN containing a Cause containing a Target ID containing a Source_to_Target_Transparent_Container containing a Source RNC_to_Target RNC_Transparent_Container indicating a UE History Information	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_11	**Standards Reference:** **Clauses 8.2.2.4 ¶ 1,** **9.1.3.3 and 9.1.3.4 and** **ETSI TS 123 203 [6], Table 6.1.7**	**PICS item:** **PICS A.3/1.2**
Summary:	Verify that the IUT on receipt of an E-RAB MODIFY REQUEST message containing an E-RAB Level QoS Parameters IE which contains a QCI IE indicating a GBR bearer and which does not contain the GBR QoS Information IE then the IUT sends an E-RAB_MODIFY_RESPONSE with failed E-RAB	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFY_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating GBR bearer **not** containing GBR QoS Information containing a NAS-PDU **sends an E-RAB_MODIFY_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **not** containing an E-RAB_Modify_List containing an E-RAB_Failed _to_Modify_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_12	Standards Reference: Clauses 8.2.2.4 ¶ 2, 9.1.3.3 and 9.1.3.4	PICS item: PICS A.3/1.2
Summary:	Verify that the IUT on receipt of an E-RAB MODIFY REQUEST message containing several E-RABs set to the same value sends an E-RAB_MODIFY_RESPONSE with failed E-RABs	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFY_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID indicating value A containing an E-RAB_Level_QoS_Parameters containing a NAS-PDU containing an E-RAB_to_be_Modified Item 2 containing an E-RAB_ID indicating value A containing an E-RAB_Level_QoS_Parameters containing a NAS-PDU **sends an E-RAB_MODIFY_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **not** containing an E-RAB_Modify_List containing an E-RAB_Failed _to_Modify_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating 'Multiple E-RAB_ID instances' containing an E-RAB_List Item 2 containing an E-RAB_ID containing a Cause indicating 'Multiple E-RAB_ID instances'	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_13	Standards Reference: Clauses 8.2.2.4 ¶ 3, 9.1.3.3 and 9.1.3.4	PICS item: PICS A.3/1.2
Summary:	Verify that the IUT on receipt of an E-RAB MODIFY REQUEST message containing some unknown E-RAB_ID IEs sends out an E-RAB_MODIFY_RESPONSE with cause value 'Unknown E-RAB ID'	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFY_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID indicating unknown value containing an E-RAB_Level_QoS_Parameters containing a NAS-PDU **sends an E-RAB_MODIFY_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **not** containing an E-RAB_Modify_List containing an E-RAB_Failed _to_Modify_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating 'Unknown E-RAB ID'	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_14	Standards Reference: Clauses 8.2.3.2.1 (1st dashed line in 2nd dashed list), 9.1.3.5 and 9.1.3.6	PICS item: PICS A.3/1.3
Summary:	Verify that the IUT can successfully process all mandatory IEs in an E-RAB_RELEASE_COMMAND received due to E-RAB management procedure and send E-RAB_RELEASE_RESPONSE with successfully released E-RABs included in the E-RAB_Released_List IE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_RELEASE_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID **sends an E-RAB_RELEASE_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Released_List containing an E-RAB_Released Item 1 containing an E-RAB_ID	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_15	Standards Reference: Clauses 8.2.3.2.1 ¶ 13, 9.1.3.5 and 9.1.3.6	PICS item: PICS A.3/1.3
Summary:	Verify that the IUT can report message location information of the UE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_RELEASE_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID **sends an E-RAB_RELEASE_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Released_List containing an E-RAB_Released Item 1 containing an E-RAB_ID containing a User_Location_Information	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_16	Standards Reference: Clauses 8.2.3.2.1 ¶ 14, 9.1.3.5 and 9.1.3.6	PICS item: PICS A.3/1.3
Summary:	Verify that the IUT after received E-RAB_RELEASE_RESPONSE containing E-RAB ID is able to receive an E-RAB_SETUP_REQUEST message requesting establishment of an E-RAB with this E-RAB ID	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_RELEASE_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID **sends an E-RAB_RELEASE_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Released_List containing an E-RAB_Released Item 1 containing an E-RAB_ID **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID indicating released value containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an E-RAB_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Setup_List containing an E-RAB_Setup Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_17	Standards Reference: Clauses 8.2.3.2.2 and 9.1.3.7	PICS item: PICS A.3/1.4
Summary:	Verify that the IUT can send an E-RAB_RELEASE_INDICATION with at least one E-RAB IE to indicate an E-RAB release indication	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an E-RAB Release indication procedure, **sends an E-RAB_RELEASE_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Released_List containing an E-RAB_Released Item 1 containing an E-RAB_ID	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_18	Standards Reference: Clauses 8.2.3.2.2 ¶ 3 and 9.1.3.7	PICS item: PICS A.3/1.4 MESSAGE LOCATION INFORMATION OF UE
Summary:	Verify that the IUT can send an E-RAB_RELEASE_INDICATION with at least one E-RAB IE to indicate an E-RAB release indication and report message location information of the UE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an E-RAB Release indication procedure, **sends an E-RAB_RELEASE_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Released_List containing an E-RAB_Released Item 1 containing an E-RAB_ID containing an User_Location_Information	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_19	Standards Reference: Clauses 8.2.3.2.3 ¶ 1, 9.1.3.5 and 9.1.3.6	PICS item: PICS A.3/1.3
Summary:	Verify that the IUT on receipt of an E-RAB RELEASE COMMAND message containing several E-RABs set to the same value initiate the release of corresponding E-RAB and ignore the duplication and sends an E-RAB_RELEASE_RESPONSE with released E-RAB	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_RELEASE_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID indicating value A containing an E-RAB_to_be_Released Item 2 containing an E-RAB_ID indicating value A **sends an E-RAB_RELEASE_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Released_List containing an E-RAB_Released Item 1 containing an E-RAB_ID indicating value A	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_RAB_20	Standards Reference: Clauses 8.2.3.2.3 ¶ 3, 9.1.3.5 and 9.1.3.6	PICS item: PICS A.3/1.3
Summary:	Verify that the IUT on receipt of an E-RAB_RELEASE_COMMAND message containing some unknown E-RAB_ID IEs sends out an E-RAB_RELEASE_RESPONSE with cause value 'Unknown E-RAB ID'	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_RELEASE_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID indicating unknown value **sends an E-RAB_RELEASE_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **not** containing an E-RAB_Released_List containing an E-RAB_Failed _to_Release_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating 'Unknown E-RAB ID'	
Comments:		

TP_S1AP_ENB_RAB_21	Standards Reference: Clauses 8.2.4.2 and 9.1.3.8	PICS item: PICS A.3/1.5
Summary:	Verify that the IUT can send an E-RAB_MODIFICATION_INDICATION with at least one E-RAB IE to indicate an E-RAB modification indication	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an E-RAB Modification indication procedure, **sends an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a DL_GTP-TEID	
Comments:	Preamble action: E-RAB Setup is exchanged	

5.2.2.1.3 Context management group

TP_S1AP_ENB_CMP_01	**Standards Reference: Clauses 8.3.1.2 (1st dashed line in 7th dashed list), 9.1.4.1 and 9.1.4.3**	**PICS item: PICS A.3/2.1**
Summary:	Verify that the IUT can successfully process all mandatory IEs in an INITIAL_CONTEXT_SETUP_REQUEST received due to context management procedure and send INITIAL_CONTEXT_SETUP_RESPONSE with successfully established E-RABs included in the E-RAB_Setup_List IE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a UE_Security_Capabilities containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Setup_List containing an E-RAB_Setup Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID	
Comments:		

TP_S1AP_ENB_CMP_02	**Standards Reference: Clauses 8.3.1.2 (2nd dashed line in 7th dashed list), 9.1.4.1 and 9.1.4.3**	**PICS item: PICS A.3/2.1**
Summary:	Verify that the IUT after receiving an INITIAL_CONTEXT_SETUP_REQUEST with failed E-RAB sends an INITIAL_CONTEXT_SETUP_RESPONSE with E-RAB_Failed_to_Setup_List	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID indicating value A containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_to_be_Setup Item 2 containing an E-RAB_ID indicating value B(different to value A) containing an E-RAB_Level_QoS_Parameters containing QCI indicating not supported QCI value(255) containing a Transport_Layer_Address containing a GTP-TEID containing a UE_Security_Capabilities containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Setup_List containing an E-RAB_Setup Item 1 containing an E-RAB_ID indicating value A containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID indicating value B containing a Cause indicating 'not-supported-QCI-value'	
Comments:		

TP_S1AP_ENB_CMP_03	**Standards Reference:** **Clauses 8.3.1.2 and 8.3.1.4 ¶ 1, 9.1.4.1 and 9.1.4.3**	**PICS item:** **PICS A.3/2.1**
Summary:	Verify that the IUT on receipt of an INITIAL_CONTEXT_SETUP_REQUEST message containing an E-RAB Level QoS Parameters IE which contains a QCI IE indicating a GBR bearer and which does not contain the GBR QoS Information IE sends an INITIAL_CONTEXT_SETUP_RESPONSE with failed E-RAB	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating GBR bearer **not** containing GBR QoS Information containing a Transport_Layer_Address containing a GTP-TEID containing a UE_Security_Capabilities containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate cause value	
Comments:		

TP_S1AP_ENB_CMP_04	**Standards Reference:** **Clauses 8.3.1.2, 8.3.1.4 ¶ 2, 9.1.4.1 and 9.1.4.3**	**PICS item:** **PICS A.3/2.1**
Summary:	Verify that the IUT on receipt of an INITIAL_CONTEXT_SETUP_REQUEST message containing several E-RABs set to the same value sends an INITIAL_CONTEXT_SETUP_RESPONSE with failed E-RABs	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID indicating value A containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_to_be_Setup Item 2 containing an E-RAB_ID indicating value A containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a UE_Security_Capabilities containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID indicating value A containing a Cause indicating 'Multiple E-RAB_ID instances' containing an E-RAB_List Item 2 containing an E-RAB_ID indicating value A containing a Cause indicating 'Multiple E-RAB_ID instances'	
Comments:		

TP_S1AP_ENB_CMP_05	Standards Reference: Clauses 8.3.1.3, 8.3.1.4 ¶ 3, 9.1.4.1 and 9.1.4.3	PICS item: PICS A.3/2.1
Summary:	Verify that the IUT on receipt of an INITIAL_CONTEXT_SETUP_REQUEST message containing not supported algorithms for encryption defined in the Encryption Algorithms IE in the UE Security Capabilities IE then IUT sends INITIAL_CONTEXT_SETUP_FAILURE message	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a UE_Security_Capabilities containing an Encription_Algorithms indicating not supported algorithm containing an Integrity_Protection_Algorithms containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating 'Encryption and/or integrity protection algorithms not supported'	
Comments:		

TP_S1AP_ENB_CMP_06	Standards Reference: Clauses 8.3.1.3, 8.3.1.4 ¶ 4, 9.1.4.1 and 9.1.4.3	PICS item: PICS A.3/2.1
Summary:	Verify that the IUT on receipt of an INITIAL_CONTEXT_SETUP_REQUEST message containing not supported algorithms for encryption defined in the Integrity Protection Algorithms IE in the UE Security Capabilities IE then IUT sends INITIAL_CONTEXT_SETUP_FAILURE message	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UEa UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a UE_Security_Capabilities containing an Encription_Algorithms containing an Integrity_Protection_Algorithms indicating not supported algorithm containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating 'Encryption and/or integrity protection algorithms not supported'	
Comments:		

TP_S1AP_ENB_CMP_07	Standards Reference: Clauses 8.3.1.3, 8.3.1.4 ¶ 5, 9.1.4.1 and 9.1.4.3	PICS item: PICS A.3/2.1
Summary:	Verify that the IUT on receipt of an INITIAL_CONTEXT_SETUP_REQUEST message not containing CSG Membership Status IE and the cell accessed by the UE is a hybrid cell the IUT sends INITIAL_CONTEXT_SETUP_FAILURE message	
Configuration:	CF_S1-MME(see NOTE1)	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID **not** containing a CSG Membership_Status **sends an INITIAL_CONTEXT_SETUP_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating 'CSG Subscription Expiry'	
Comments:	NOTE1: This test requires specific condition - UE is a hybrid cell	

TP_S1AP_ENB_CMP_08	Standards Reference: Clauses 8.3.1.2, 8.3.1.4 ¶ 6, 9.1.4.1 and 9.1.4.3	PICS item: PICS A.3/2.1
Summary:	Verify that the IUT on receipt of an INITIAL_CONTEXT_SETUP_REQUEST message containing both the Correlation ID and the SIPTO Correlation ID IEs for the same E-RAB sends an INITIAL_CONTEXT_SETUP_RESPONSE with failed E-RAB	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a Correlation_ID containing a SIPTO_Correlation_ID containing a UE_Security_Capabilities containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Setup_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate cause value	
Comments:		

TP_S1AP_ENB_CMP_09	Standards Reference: Clauses 8.3.2.2 ¶ 1, 2 and 9.1.4.5	PICS item: PICS A.3/2.2
Summary:	Verify that the IUT can send a UE_CONTEXT_RELEASE_REQUEST to release the UE-associated logical S1-connection	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** release of the UE associated logical S1-connection, **sends a UE_CONTEXT_RELEASE_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate value	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_CMP_10	Standards Reference: Clauses 8.3.3.2 ¶ 2, 4, 9.1.4.6 and 9.1.4.7	PICS item: PICS A.3/2.3
Summary:	Verify that the IUT on receipt of a UE_CONTEXT_RELEASE_COMMAND containing an MME_UE_S1AP_ID IE the IUTsends a UE_CONTEXT_RELEASE_COMPLETE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_RELEASE_COMMAND** containing an MME_UE_S1AP_ID containing a Cause indicating value from Table 3 **sends a UE_CONTEXT_RELEASE_COMPLETE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:	Preamble action: Initial Context Setup procedure is exchanged	

Table 3: Cause values

Test purpose variants	Cause values
VA_01	User Inactivity
VA_02	Radio Connection With UE Lost
VA_03	CSG Subscription Expiry
VA_04	SC Fallback triggered
VA_05	Redirection towards 1xRTT
VA_06	Inter-RAT Redirection
VA_07	UE Not Available for PS Service

TP_S1AP_ENB_CMP_11	Standards Reference: Clauses 8.3.3.2 ¶ 2, 4, 9.1.4.6 and 9.1.4.7	PICS item: PICS A.3/2.3
Summary:	Verify that the IUT on receipt of a UE_CONTEXT_RELEASE_COMMAND containing a UE_S1AP_ID_pair IE the IUT sends a UE_CONTEXT_RELEASE_COMPLETE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_RELEASE_COMMAND** containing a UE_S1AP_ID_pair containing a Cause indicating value from Table 3 **sends a UE_CONTEXT_RELEASE_COMPLETE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:	Preamble action: Initial Context Setup procedure is exchanged	

TP_S1AP_ENB_CMP_12	Standards Reference: Clauses 8.3.3.3 ¶ 1, 9.1.4.1 and 9.1.4.3	PICS item: PICS A.3/2.2
Summary:	Verify that the IUT in case if UE Context Release procedure is not initiated towards the eNB before the expiry of timer $TS1_{RELOCOverall}$ the IUT sends request to the MME to release the UE context	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a UE_Security_Capabilities containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Setup_List containing an E-RAB_Setup Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID **to indicate** timer expiry **sends a UE_CONTEXT_RELEASE_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate value	
Comments:		

TP_S1AP_ENB_CMP_13	Standards Reference: Clauses 8.3.4.2 (last two paragraphs), 9.1.4.8 and 9.1.4.9	PICS item: PICS A.3/2.4
Summary:	Verify that the IUT can successfully process all mandatory IEs in a UE_CONTEXT_MODIFICATION_REQUEST received due to UE context modification management procedure and send UE_CONTEXT_MODIFICATION_RESPONSE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_MODIFICATION_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate indicating new value **sends a UE_CONTEXT_MODIFICATION_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:	Preamble action: Initial Context Setup procedure is exchanged	

TP_S1AP_ENB_CMP_14	Standards Reference: Clauses 8.3.4.4, 9.1.4.8 and 9.1.4.10	PICS item: PICS A.3/2.4
Summary:	Verify that the IUT on receipt of a UE_CONTEXT_MODIFICATION_REQUEST message containing the CS Fallback Indicator IE and one of the security IEs (either the Security Key IE or the UE Security Capabilities IE) then IUT sends UE_CONTEXT_MODIFICATION_FAILURE message with appropriate cause value	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_MODIFICATION_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a CS_Fallback_Indicator containing a Security_Key **sends a UE_CONTEXT_MODIFICATION_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: Initial Context Setup procedure is exchanged	

TP_S1AP_ENB_CMP_15	Standards Reference: Clauses 8.3.4.4, 9.1.4.8 and 9.1.4.10	PICS item: PICS A.3/2.4
Summary:	Verify that the IUT on receipt of a UE_CONTEXT_MODIFICATION_REQUEST message containing the CS Fallback Indicator IE and one of the security IEs (either the Security Key IE or the UE Security Capabilities IE) then IUT sends UE_CONTEXT_MODIFICATION_FAILURE message with appropriate cause value	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_MODIFICATION_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a CS_Fallback_Indicator containing a UE_Security_Capabilities **sends a UE_CONTEXT_MODIFICATION_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: Initial Context Setup procedure is exchanged	

TP_S1AP_ENB_CMP_16	Standards Reference: Clauses 8.3.5.1, 8.3.5.2 ¶ 3, 9.1.4.11 and 9.1.4.12	PICS item: PICS A.3/2.5
Summary:	Verify that the IUT can successfully process all mandatory IEs in a UE_RADIO_CAPABILITY_MATCH_REQUEST received due to UE Radio Capability Match procedure and send UE_RADIO_CAPABILITY_MATCH_RESPONSE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_RADIO_CAPABILITY_MATCH_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Radio_Capability **sends a UE_RADIO_CAPABILITY_MATCH_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Voice_Support_Match_Indicator	
Comments:		

TP_S1AP_ENB_CMP_17	Standards Reference: Clauses 8.3.6.2 and 9.1.4.13	PICS item: PICS A.3/2.6
Summary:	Verify that the IUT is able to send a UE_CONTEXT_MODIFICATION_INDICATION to indicate UE context modification indication procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a UE context modification indication **sends a UE_CONTEXT_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:		

TP_S1AP_ENB_CMP_18	Standards Reference: Clauses 8.3.7.2 and 9.1.4.15	PICS item: PICS A.3/2.7
Summary:	Verify that the IUT is able to send a UE_CONTEXT_SUSPEND_REQUEST to indicate UE context suspend procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a UE context modification procedure **sends a UE_CONTEXT_SUSPEND_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:		

TP_S1AP_ENB_CMP_19	Standards Reference: Clauses 8.3.8.2 and 9.1.4.17	PICS item: PICS A.3/2.8
Summary:	Verify that the IUT is able to send a UE_CONTEXT_RESUME_REQUEST to indicate UE context resume procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a UE context resume procedure **sends a UE_CONTEXT_RESUME_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:		

5.2.2.1.4 Handover signalling group

TP_S1AP_ENB_HAS_01	Standards Reference: Clauses 8.4.1.2 ¶ 2 and 9.1.5.1	PICS item: PICS A.3/3.1
Summary:	Verify that the IUT is able to send a HANDOVER_REQUIRED request containing Handover Type IE with IntraLTE to indicate handover preparation procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a handover preparation procedure **sends a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Cause containing a Target ID containing a Source_to_Target_Transparent_Container	
Comments:		

TP_S1AP_ENB_HAS_02	Standards Reference: Clauses 8.4.1.2 ¶ 3 and 9.1.5.1, ETSI TS 125 413 [7], clause 9.2.1.28	PICS item: PICS A.3/3.1
Summary:	Verify that the IUT is able to send a HANDOVER_REQUIRED request containing Handover Type IE with LTEtoUTRAN to indicate handover preparation procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a handover preparation procedure **sends a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoUTRAN containing a Cause containing a Target ID containing a Source_to_Target_Transparent_Container containing a Source RNC_to_Target RNC_Transparent_Container indicating a UE History Information	
Comments:		

TP_S1AP_ENB_HAS_03	Standards Reference: Clauses 8.4.1.2 ¶ 3 and 9.1.5.1, ETSI TS 148 018 [8], clause 11.3.79	PICS item: PICS A.3/3.1
Summary:	Verify that the IUT is able to send a HANDOVER_REQUIRED request containing Handover Type IE with LTEtoGERAN to indicate handover preparation procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a handover preparation procedure **sends a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoGERAN containing a Cause containing a Target ID containing a Source_to_Target_Transparent_Container containing a Source BSS_to_Target BSS_Transparent_Container	
Comments:		

TP_S1AP_ENB_HAS_04	**Standards Reference: Clauses 8.4.1.2 (1st numbered list) and 9.1.5.1**	**PICS item: PICS A.3/1.2 and 3.1 and 3.5**
Summary:	Verify that the IUT reacts according to the standard in case if Handover Preparation procedure is interacted with E-RAB management procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a handover preparation procedure **sends a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Cause containing a Target ID containing a Source_to_Target_Transparent_Container **on receipt of an E-RAB_MODIFY_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a NAS-PDU **continue with case 1** **sends a HANDOVER_CANCEL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value **sends an E-RAB_MODIFY_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Modify_List containing an E-RAB_Modify Item 1 containing an E-RAB_ID **or continue with case 2** **sends an E-RAB_MODIFY_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **not** containing an E-RAB_Modify_List containing an E-RAB_Failed _to_Modify_List containing an E-RAB_List Item 1 containing an E-RAB_ID containing a Cause indicating 'S1 intra system Handover Triggered' or indicating 'S1 inter system Handover Triggered' **receives a HANDOVER_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing an E_RABs_Subject_to_Forwarding_List containing an E_RABs_Subject_to_Forwarding_Item 1 containing an E-RAB_ID containing a Target_to_Source_Transparent_Container	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_HAS_05	Standards Reference: Clauses 8.4.1.3 ¶ 3 and 9.1.5.1	PICS item: PICS A.3/3.1 and 3.5
Summary:	Verify that the IUT reacts according to the standard in case if Handover Preparation procedure is interacted with Handover Cancel procedure.	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a handover preparation procedure **sends a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Cause containing a Target ID containing a Source_to_Target_Transparent_Container **to indicate no response before timer TS1RELOCprep expires** **sends a HANDOVER_CANCEL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value.	
Comments:		

TP_S1AP_ENB_HAS_06	Standards Reference: Clauses 8.4.2.2 and 9.1.5.5	PICS item: PICS A.3/3.2
Summary:	Verify that the IUT can successfully process all mandatory IEs in a HANDOVER_REQUEST message containing Handover Type IE with IntraLTE received due to handover resource allocation procedure and sends HANDOVER_REQUEST_ACKNOWLEDGE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUEST** containing an MME_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Cause containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RABs_To_Be_Setup_List containing an E-RABs_To_Be_Setup_Item1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_Level_QoS_Parameters containing a Source_to_Target_Transparent_Container containing a UE_Security_Capabilities containing a Security_Context **sends a HANDOVER_REQUEST_ACKNOWLEDGE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RABs_Admitted_List containing an E-RABs_Admitted_Item1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID containing a Target_to_Source_Transparent_Container	
Comments:		

TP_S1AP_ENB_HAS_07	Standards Reference: Clauses 8.4.2.2 and 9.1.5.5	PICS item: PICS A.3/3.2
Summary:	Verify that the IUT can successfully process all mandatory IEs in a HANDOVER_REQUEST message containing Handover Type IE with UTRANtoLTE received due to handover resource allocation procedure and sends HANDOVER_REQUEST_ACKNOWLEDGE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUEST** containing an MME_UE_S1AP_ID containing a Handover_Type indicating UTRANtoLTE containing a Cause containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RABs_To_Be_Setup_List containing an E-RABs_To_Be_Setup_Item1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_Level_QoS_Parameters containing a Source_to_Target_Transparent_Container containing a UE_Security_Capabilities containing a Security_Context containing a NAS_Security_Parameters_to_E-UTRAN **sends a HANDOVER_REQUEST_ACKNOWLEDGE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RABs_Admitted_List containing an E-RABs_Admitted_Item1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID containing a Target_to_Source_Transparent_Container	
Comments:		

TP_S1AP_ENB_HAS_08	Standards Reference: Clauses 8.4.2.2 and 9.1.5.5	PICS item: PICS A.3/3.2
Summary:	Verify that the IUT can successfully process all mandatory IEs in a HANDOVER_REQUEST message containing Handover Type IE with GERANtoLTE received due to handover resource allocation procedure and sends HANDOVER_REQUEST_ACKNOWLEDGE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUEST** containing an MME_UE_S1AP_ID containing a Handover_Type indicating GERANtoLTE containing a Cause containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RABs_To_Be_Setup_List containing an E-RABs_To_Be_Setup_Item1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_Level_QoS_Parameters containing a Source_to_Target_Transparent_Container containing a UE_Security_Capabilities containing a Security_Context containing a NAS_Security_Parameters_to_E-UTRAN **sends a HANDOVER_REQUEST_ACKNOWLEDGE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RABs_Admitted_List containing an E-RABs_Admitted_Item1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID containing a Target_to_Source_Transparent_Container	
Comments:		

TP_S1AP_ENB_HAS_09	Standards Reference: Clauses 8.4.2.3 ¶ 2 and 9.1.5.6	PICS item: PICS A.3/3.2
Summary:	Verify that the IUT on receipt of a HANDOVER_REQUEST message not containing CSG_Membership Status IE and containing CSG_Id IE which does not correspond to the CSG_ID of the target cell the IUT sends HANDOVER_FAILURE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUEST** containing an MME_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Cause containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RABs_To_Be_Setup_List containing an E-RABs_To_Be_Setup_Item1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_Level_QoS_Parameters containing a Source_to_Target_Transparent_Container containing a UE_Security_Capabilities containing a Security_Context containing a CSG_Membership_Status **not** containing a CSG_Id **sends a HANDOVER_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause	
Comments:		

TP_S1AP_ENB_HAS_10	Standards Reference: Clauses 8.4.3.2 ¶ 1 and 9.1.5.7	PICS item: PICS A.3/3.3
Summary:	Verify that the IUT is able to send a HANDOVER_NOTIFY request to indicate handover notification procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a handover notification procedure **sends a HANDOVER_NOTIFY** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-UTRAN_CGI containing a TAI	
Comments:		

TP_S1AP_ENB_HAS_11	Standards Reference: Clauses 8.4.4.2 ¶ 1 and 9.1.5.8	PICS item: PICS A.3/3.4
Summary:	Verify that the IUT is able to send a PATH_SWITCH_REQUEST message to indicate path switch procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a path switch procedure **sends a PATH_SWITCH_REQUEST** containing an eNB_UE_S1AP_ID containing an E-RAB_To_Be_Switched_in_Downlink_List containing an E-RABs_Switched_in_Downlink_Item 1 containing an E-RAB_ID containing a Transport_Layer_address containing a GTP-TEID containing a Source_MME_UE_S1AP_ID containing an E-UTRAN_CGI containing a TAI containing a UE_Security_Capabilities	
Comments:		

TP_S1AP_ENB_HAS_12	Standards Reference: Clauses 8.4.5.2 ¶ 1, 2 and 9.1.5.11	PICS item: PICS A.3/3.5
Summary:	Verify that the IUT is able to send a HANDOVER_CANCEL message to indicate handover cancel procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a handover cancel procedure **sends a HANDOVER_CANCEL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: Handover Preparation Procedure started	

TP_S1AP_ENB_HAS_13	Standards Reference: Clauses 8.4.6.2 ¶ 1, 2, 9.1.5.13, 9.2.1.31 and 9.2.1.32	PICS item: PICS A.3/3.6
Summary:	Verify that the IUT is able to send an eNB_STATUS_TRANSFER message to indicate eNB status transfer procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a eNB status transfer procedure **sends an eNB_STATUS_TRANSFER** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an eNB_Status_Transfer_Transparent_Container containing an E-RAB_Subject_to_Status_Transfer_List containing an E-RAB_Subject_to_Status_Transfer_Item 1 containing an E-RAB_ID containing a UL_Count_Value containing a PDCP-SN containing an HFN containing a DL_Count_Value	
Comments:	Preamble action: Handover Preparation Procedure during intra LTE S1 handover	

5.2.2.1.5 Paging group

Void.

5.2.2.1.6 NAS transport group

TP_S1AP_ENB_NAS_01	Standards Reference: Clauses 8.6.2.1 ¶ 1 and 9.1.7.1	PICS item: PICS A.3/5.1
Summary:	Verify that the IUT can send an INITIAL_UE_MESSAGE to indicate the initiation of a NAS Transport procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** the initiation of a NAS Transport procedure, **sends an INITIAL_UE_MESSAGE** containing an eNB_UE_S1AP_ID containing a NAS-PDU containing a TAI containing a PLMN_Identity containing a TAC containing an E-UTRAN_CGI containing a PLMN_Identity containing a Cell_Identity containing a RRC_Establishment_Cause	
Comments:	Preamble action: E-RAB Setup is initiated	

TP_S1AP_ENB_NAS_02	Standards Reference: Clauses 8.6.2.3 ¶ 1 and 9.1.7.3	PICS item: PICS A.3/5.3
Summary:	Verify that the IUT can send an UPLINK_NAS_TRANSPORT to indicate an ongoing NAS Transport procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an ongoing NAS Transport procedure, **sends an UPLINK_NAS_TRANSPORT** containing an MME UE S1AP ID containing an eNB_UE_S1AP_ID containing a NAS-PDU containing a TAI containing a PLMN_Identity containing a TAC containing an E-UTRAN_CGI containing a PLMN_Identity containing a Cell_Identity containing a RRC_Establishment_Cause	
Comments:	Preamble action: E-RAB Setup is initiated	

TP_S1AP_ENB_NAS_03	Standards Reference: Clauses 8.6.2.4 and 9.1.7.4	PICS item: PICS A.3/5.4
Summary:	Verify that the IUT can send a NAS_NON_DELIVERY_INDICATION to indicate the eNB was unable to ensure that the message has been received by the UE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a UE has not received a INITIAL_UE_MESSAGE, **sends a NAS_NON_DELIVERY_INDICATION** containing an MME UE S1AP ID containing an eNB_UE_S1AP_ID containing a NAS-PDU containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: E-RAB Setup is initiated, and a NAS procedure is initiated	

5.2.2.1.7 Management group

TP_S1AP_ENB_MNP_01	Standards Reference: Clauses 8.7.1.2.1 ¶ 2, 9.1.8.1 and 9.1.8.2	PICS item: PICS A.3/6.1.2
Summary:	Verify that the IUT can successfully process all mandatory IEs in a RESET and sends a RESET_ACKNOWLEDGE due to a Reset procedure initiated from the MME	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a RESET** containing a Cause indicating an appropriate cause value containing a Reset_Type containing a S1_Interface indicating a value 'Reset_all' **sends a RESET_ACKNOWLEDGE** containing a UE-associated_logical_S1-connection_list	
Comments:		

TP_S1AP_ENB_MNP_02	Standards Reference: Clauses 8.7.1.2.2 ¶ 1, 9.1.8.1 and 9.1.8.2	PICS item: PICS A.3/6.1.2
Summary:	Verify that the IUT can send an RESET due to a Reset procedure initiated from the E-UTRAN	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Reset procedure initiated from the E-UTRAN, **sends a RESET** containing a Cause indicating the appropriate cause value containing a Reset_Type containing a S1_Interface indicating a value 'Reset_all'	
Comments:		

TP_S1AP_ENB_MNP_03	Standards Reference: Clauses 8.7.1.3.2, 9.1.8.1 and 9.1.8.2	PICS item: PICS A.3/6.1.1
Summary:	Verify that the IUT can successfully manage Reset procedure in case of Abnormal Condition at the E-UTRAN	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a RESET** containing a Cause indicating an appropriate cause value containing a Reset_Type containing a Part_of_S1_interface indicating one empty 'UE-associated_logical_S1-connection' **sends a RESET_ACKNOWLEDGE** containing a empty UE-associated_logical_S1-connection_list	
Comments:		

TP_S1AP_ENB_MNP_04	Standards Reference: Clauses 8.7.2.2 and 9.1.8.3	PICS item: PICS A.3/6.2.2
Summary:	Verify that the IUT can send an ERROR_INDICATION due to an Error Indication procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an Error Indication procedure, **sends an ERROR_INDICATION** (containing a Cause or containing a Criticality_Diagnostics)	
Comments:		

TP_S1AP_ENB_MNP_05	Standards Reference: Clauses 8.7.3.2 ¶ 1, 9.1.8.4 and 9.1.8.5	PICS item: PICS A.3/6.3
Summary:	Verify that the IUT can send a S1_SETUP_REQUEST to indicate a S1 Setup procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a S1 Setup procedure, **sends an S1_SETUP_REQUEST** containing a Global_eNB_ID containing a Supported_TAs containing a TAC containing a Default_Paging_DRX	
Comments:		

TP_S1AP_ENB_MNP_06	Standards Reference: Clauses 8.7.4.2 ¶ 1, 9.1.8.7 and 9.1.8.8	PICS item: PICS A.3/6.4
Summary:	Verify that the IUT can send an ENB_CONFIGURATION_UPDATE to indicate an eNB Configuration Update procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an eNB Configuration Update procedure, **sends an ENB_CONFIGURATION_UPDATE** containing a Global_eNB_ID containing a Supported_TAs containing a TAC	
Comments:		

TP_S1AP_ENB_MNP_07	Standards Reference: Clauses 8.7.5.2 ¶ 1, 9.1.8.10 and 9.1.8.11	PICS item: PICS A.3/6.5
Summary:	Verify that the IUT can successfully process all mandatory IEs in an MME_CONFIGURATION_UPDATE and sends an MME_CONFIGURATION_UPDATE_ACKNOWLEDGE due to an MME Configuration Update procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an MME_CONFIGURATION_UPDATE** **may** containing a Served_GUMMEIs **may** containing a Served_PLMNs **sends an MME_CONFIGURATION_UPDATE_ACKNOWLEDGE**	
Comments:		

TP_S1AP_ENB_MNP_08	Standards Reference: Clauses 8.7.5.3, 9.1.8.10 and 9.1.8.12	PICS item: PICS A.3/6.5
Summary:	Verify that the IUT can successfully process all mandatory IEs in an MME_CONFIGURATION_UPDATE and sends an MME CONFIGURATION UPDATE_FAILURE due to an invalid MME Configuration Update procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an MME_CONFIGURATION_UPDATE** containing a Broadcast_PLMNs indicating at least one unknown PLMN identity **sends an MME_CONFIGURATION_UPDATE_FAILURE** containing a Cause indicating an appropriate cause value	
Comments:		

5.2.2.1.8 S1 CDMA 2000 tunnelling group

TP_S1AP_ENB_STP_01	Standards Reference: Clauses 8.8.2.2 ¶ 1, 9.1.9.2 and 9.2.1.23	PICS item: PICS A.3/7.2
Summary:	Verify that the IUT can send an UPLINK_S1_CDMA2000_TUNNELLING containing CDMA2000-PDU IE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a CDMA2000 to be forwarded, **sends an UPLINK_S1_CDMA2000_TUNNELLING** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a CDMA2000_RAT_Type containing a CDMA2000_Sector_ID containing a CDMA2000_PDU	
Comments:	Preamble action: E-RAB Setup is exchanged	

5.2.2.1.9 UE capability info indication group

TP_S1AP_ENB_UEC_01	Standards Reference: Clauses 8.9.2 and 9.1.10	PICS item: PICS A.3/8
Summary:	Verify that the IUT can send a UE_CAPABILITY_INFO_INDICATION to indicate capability-related information update	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** capability-related information update, **sends a UE_CAPABILITY_INFO_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Radio_Capability.	
Comments:	Preamble action: E-RAB Setup is exchanged	

5.2.2.1.10 Trace group

TP_S1AP_ENB_TRP_01	Standards Reference: Clauses 8.10.1.2 ¶ 8, 8.10.2.2, 9.1.11.1 and 9.1.11.2	PICS item: PICS A.3/9.1 and A.3/9.2
Summary:	Verify that the IUT can successfully send a TRACE_FAILURE_INDICATION on TRACE_START	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a TRACE_START** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Trace_Activation containing an E-UTRAN_Trace_ID containing a Interfaces_To_Trace indicating value 'S1-MME' containing a Trace_depth indicating value 'maximum' containing a Trace_Collection_Entity_IP_Address **not** containing an MDT_Configuration **sends aTRACE_FAILURE_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-UTRAN_Trace_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: E-RAB Setup is exchanged, and a handover procedure is initiated	

TP_S1AP_ENB_TRP_02	Standards Reference: Clauses 8.10.3.2 ¶ 3, 8.10.2.2, 9.1.11.3 and 9.1.11.2	PICS item: PICS A.3/9.2 and A.3/9.3
Summary:	Verify that the IUT can successfully send a TRACE_FAILURE_INDICATION on DEACTIVATE_TRACE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a DEACTIVATE_TRACE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-UTRAN_Trace_ID **sends a TRACE_FAILURE_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-UTRAN_Trace_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: E-RAB Setup is exchanged, and TRACE_START procedure succeed, and a handover procedure is initiated	

TP_S1AP_ENB_TRP_03	Standards Reference: Clauses 8.10.4.2 and 9.1.18	PICS item: PICS A.3/9.4
Summary:	Verify that the IUT can send a CELL_TRAFFIC_TRACE when the conditions required for tracing are met	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** the conditions required for tracing are met, **sends a CELL_TRAFFIC_TRACE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-UTRAN_Trace_ID containing an E-UTRAN_CGI containing a PLMN_Identity containing a Cell_Identity containing a Trace_Collection_Entity_IP_Address	
Comments:	Preamble action: E-RAB Setup is exchanged	

5.2.2.1.11 Location reporting group

TP_S1AP_ENB_LRP_01	Standards Reference: Clauses 8.11.1.2 ¶ 2 (1st dashed line), 9.1.12.1, 9.1.12.3, 9.2.1.16, 9.2.1.34 and 9.2.1.38	PICS item: PICS A.3/10.1 and A.3/10.3
Summary:	Verify that the IUT can process all mandatory IEs in a LOCATION_REPORTING_CONTROL containing Event Type IE indicating Directly and sends a LOCATION_REPORT	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a LOCATION_REPORTING_CONTROL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Request_Type containing an Event_Type indicating Directly containing a Report_Area indicating ECGI **sends a LOCATION_REPORT** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-UTRAN_CGI containing a PLMN_Identity containing a Cell_Identity containing a TAI containing a PLMN_Identity containing a TAC containing a Request_Type containing a Event_Type containing a Report_Area	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_LRP_02	Standards Reference: Clauses 8.11.1.2 ¶ 2 (2nd dashed line), 9.1.12.1, 9.1.12.3, 9.2.1.16, 9.2.1.34 and 9.2.1.38	PICS item: PICS A.3/10.1 and A.3/10.3
Summary:	Verify that the IUT can process all mandatory IEs in a LOCATION_REPORTING_CONTROL containing Event Type IE indicating Change of service cell and sends a LOCATION_REPORT	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a LOCATION_REPORTING_CONTROL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Request_Type containing a Event_Type indicating change_of_service_cell containing a Report_Area indicating ECGI **when UE changes to new cell** **sends a LOCATION_REPORT** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a E-UTRAN_CGI containing a TAI containing a PLMN_Identity containing a TAC containing a Request_Type containing a Event_Type containing a Report_Area	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_LRP_03	Standards Reference: Clauses 8.11.1.2 ¶ 2 (3rd dashed line), 9.1.12.1, 9.1.12.3, 9.2.1.16, 9.2.1.34 and 9.2.1.38	PICS item: PICS A.3/10.1 and A.3/10.3
Summary:	Verify that the IUT can process all mandatory IEs in a LOCATION_REPORTING_CONTROL containing Event Type IE indicating Stop change of service cell and sends a LOCATION_REPORT	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a LOCATION_REPORTING_CONTROL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Request_Type containing a Event_Type indicating stop_change_of_service_cell containing a Report_Area indicating ECGI **when UE stop reporting at change of serving cell** **sends a LOCATION_REPORT** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a E-UTRAN_CGI containing a TAI containing a PLMN_Identity containing a TAC containing a Request_Type containing a Event_Type containing a Report_Area	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_LRP_04	Standards Reference: Clauses 8.11.2.2 ¶ 1 and 9.1.12.2	PICS item: PICS A.3/10.1 and A.3/10.2
Summary:	Verify that the IUT can send a LOCATION REPORT_FAILURE_INDICATION	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a LOCATION_REPORTING_CONTROL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Request_Type containing a Event_Type containing a Report_Area **sends a LOCATION_REPORT_FAILURE_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: E-RAB Setup is exchanged, and a handover procedure is initiated	

5.2.2.1.12 Warning message transmission group

TP_S1AP_ENB_WTP_01	Standards Reference: Clauses 8.12.1.2 ¶ 1, 9.1.13.1 and 9.1.13.2	PICS item: PICS A.3/11.1
Summary:	Verify that the IUT can successfully process all mandatory IEs in a WRITE-REPLACE_WARNING_REQUEST received and sends a WRITE-REPLACE_WARNING_RESPONSE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an WRITE-REPLACE_WARNING_REQUEST** containing a Message_Identifier containing a Serial_Number containing a Repetition Period containing an Number_of_Broadcasts_Requested **sends an WRITE-REPLACE_WARNING_RESPONSE** containing a Serial_Number	
Comments:		

TP_S1AP_ENB_WTP_02	Standards Reference: Clauses 8.12.2.2 ¶ 1, 3, 9.1.13.3 and 9.1.13.4	PICS item: PICS A.3/11.2
Summary:	Verify that the IUT can successfully process all mandatory IEs in an KILL_REQUEST received and sends a KILL_RESPONSE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a KILL_REQUEST** containing a Message_Identifier containing a Serial_Number **sends a KILL_RESPONSE** containing a Message_Identifier containing a Serial_Number	
Comments:	Preamble action: A warning message procedure is exchanged	

TP_S1AP_ENB_WTP_03	Standards Reference: Clauses 8.12.3.2 and 9.1.13.5	PICS item: PICS A.3/11.3
Summary:	Verify that the IUT can send a PWS_RESTART_INDICATION to indicate a PWS Restart Indication procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a PWS Restart Indication procedure, **sends a PWS_RESTART_INDICATION** containing an E-CGI_List_for_Restart indicating a valid list of E-CGI containing a Global_eNB_ID containing a TAI_List_for_Restart indicating a valid list of eNB identifier containing an Emergency_Area_ID_List_for_Restart indicating an empty list	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_WTP_04	Standards Reference: Clauses 8.12.4.2 and 9.1.13.6	PICS item: PICS A.3/11.4
Summary:	Verify that the IUT can send a PWS_FAILURE_INDICATION to indicate PWS Failure Indication procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a PWS Failure Indication procedure, **sends a PWS_FAILURE_INDICATION** containing a PWS failed E-CGI List indicating a valid list of E-CGI containing a Global_eNB_ID	
Comments:		

5.2.2.1.13 eNB direct information transfer group

TP_S1AP_ENB_EIT_01	Standards Reference: Clauses 8.13.2.1, 9.1.14 and 9.2.3.23	PICS item: PICS A.3/12
Summary:	Verify that the IUT can send an ENB_DIRECT_INFORMATION_TRANSFER to indicate an eNB Direct Information Transfer procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an eNB Direct Information Transfer procedure, **sends an ENB_DIRECT_INFORMATION_TRANSFER** containing an Inter-system_Information_Transfer_Type containing a RIM containing a RIM_Transfer containing a RIM_Information containing a RIM_Routing_Address	
Comments:		

5.2.2.1.14 MME direct information transfer group

Void.

5.2.2.1.15 eNB configuration transfer group

TP_S1AP_ENB_ECT_01	Standards Reference: Clauses 8.15.2.1 and 9.1.16	PICS item: PICS A.3/14
Summary:	Verify that the IUT can send an ENB_CONFIGURATION_TRANSFER to indicate an eNB Configuration Transfer procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an eNB Configuration Transfer procedure, **sends an ENB_CONFIGURATION_TRANSFER** containing a SON_Configuration_Transfer containing a Target_eNB-ID containing a Source_eNB-ID containing a SON_Information containing a SON_Information_Request indicating X2TNL_Configuration_Info containing an X2_TNL_Configuration_Info	
Comments:		

5.2.2.1.16 MME configuration transfer group

Void.

5.2.2.1.17 LPPa transport group

TP_S1AP_ENB_LPP_01	Standards Reference: Clauses 8.17.2.2 and 9.1.19.2	PICS item: PICS A.3/16.2
Summary:	Verify that the IUT can send a UPLINK_UE_ASSOCIATED_LPPA_TRANSPORT to indicate a LPPa Transport procedure using a UE associated signalling	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a LPPa Transport procedure using a UE associated signalling, **sends a UPLINK_UE_ASSOCIATED_LPPA_TRANSPORT** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Routing_ID indicating a valid routing identifier value containing an LPPa-PDU	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_ENB_LPP_02	Standards Reference: Clauses 8.17.2.4 and 9.1.19.4	PICS item: PICS A.3/16.4
Summary:	Verify that the IUT can send a UPLINK_NON_UE_ASSOCIATED_LPPA_TRANSPORT to indicate a LPPa Transport procedure using a non-UE associated signalling	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a LPPa Transport procedure using a non-UE associated signalling, **sends a UPLINK_NON_UE_ASSOCIATED_LPPA_TRANSPORT** containing a Routing_ID indicating a valid routing identifier value containing an LPPa-PDU	
Comments:		

5.2.2.1.18 Unknown, Unforseen and Erroneous Protocol Data group

TP_S1AP_ENB_ERR_01	Standards Reference: Clause 10.3.4.1 ¶ 8	PICS item: PICS A.3/2.1, A.3/6.2.2 and A.3/17.2
Summary:	Verify that the IUT rejects the procedure using Error Indication Procedure if the message contains different types of received criticality information of the Procedure Code IE and include Procedure Code IE, Triggering Message IE and Procedure Criticality IE in the Criticality Diagnostics IE within ERROR_INDICATION	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** with Criticality set to value from Table 4 containing an MME UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU containing a UE_Security_Capabilities containing an Encription_Algorithms indicating not supported algorithm containing an Integrity_Protection_Algorithms containing a Security_Key **sends an ERROR_INDICATION** containing a Criticality_Diagnostics containing a Procedure_Code containing a Triggering_Message containing a Procedure_Criticality	
Comments:		

Table 4: Criticality values

Test purpose variants	Criticality values:
VA_01	Ignore
VA_02	Notify

TP_S1AP_ENB_ERR_02	**Standards Reference:** **Clause 10.3.4.2 ¶ 3 (1st dashed line) and 13**	**PICS item:** **PICS A.3/2.1, NOT A.3/6.2.2 and A.3/17**
Summary:	Verify that the IUT rejects the procedure if the message contains not comprehended IEs/IE groups marked with 'Reject IE' or 'Ignore IE and Notify Sender' and include Information Element Criticality Diagnostics IE in the Criticality Diagnostics IE for each reported IEs/IE groups within the response message for this procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an Unknown_ID containing Criticality indicating Reject or Ignore and Notify Sender containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU containing a UE_Security_Capabilities containing an Encription_Algorithms indicating not supported algorithm containing an Integrity_Protection_Algorithms containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating appropriate Protocol Cause containing a Criticality_Diagnostics containing an Information Element Criticality_Diagnostics containing an IE_Criticality containing an IE_ID containing an IE_Type_of_Error	
Comments:		

TP_S1AP_ENB_ERR_03	**Standards Reference:** **Clause 10.3.4.2 ¶ 4 (2nd dashed line) and 14**	**PICS item:** **PICS A.3/1.1, A.3/6.2.2 and A.3/17.2**
Summary:	Verify that the IUT rejects the procedure using Error Indication Procedure if the message contains not comprehended IEs/IE groups marked with 'Reject IE' or 'Ignore IE and Notify Sender' and include Procedure Code IE, Triggering Message IE and Procedure Criticality IE and Information Element Criticality Diagnostics IE in the Criticality Diagnostics IE for each reported IEs/IE groups within ERROR_INDICATION	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an Unknown_ID containing Criticality indicating Reject or Ignore and Notify Sender containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an ERROR_INDICATION** containing a Criticality_Diagnostics containing a Procedure_Code containing a Triggering_Message containing a Procedure_Criticality containing an Information Element Criticality_Diagnostics containing an IE_Criticality containing an IE_ID containing an IE_Type_of_Error	
Comments:		

TP_S1AP_ENB_ERR_04	**Standards Reference:** **Clause 10.3.5 ¶ 3 (1st dashed line) and 13**	**PICS item:** **PICS A.3/2.1, NOT A.3/6.2.2 and A.3/17**
Summary:	Verify that the IUT rejects the procedure if the message not contains mandatory IEs/IE groups and include Information Element Criticality Diagnostics IE in the Criticality Diagnostics IE for each reported IEs/IE groups within the response message for this procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME UE_S1AP_ID **not** containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU containing a UE_Security_Capabilities containing an Encription_Algorithms indicating not supported algorithm containing an Integrity_Protection_Algorithms containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating appropriate Protocol Cause containing a Criticality_Diagnostics containing an Information Element Criticality_Diagnostics containing an IE_Criticality containing an IE_ID containing an IE_Type_of_Error	
Comments:		

TP_S1AP_ENB_ERR_05	Standards Reference: Clause 10.3.5 ¶ 4 (2nd dashed line) and 14	PICS item: PICS A.3/1.1, A.3/6.2.2 and A.3/17.2
Summary:	Verify that the IUT rejects the procedure using Error Indication Procedure if the message not contains mandatory IEs/IE groups and include Procedure Code IE, Triggering Message IE and Procedure Criticality IE and Information Element Criticality Diagnostics IE in the Criticality Diagnostics IE for each reported IEs/IE groups within ERROR_INDICATION	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID **not** containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an ERROR_INDICATION** containing a Criticality_Diagnostics containing a Procedure_Code containing a Triggering_Message containing a Procedure_Criticality containing an Information Element Criticality_Diagnostics containing an IE_Criticality containing an IE_ID containing an IE_Type_of_Error	
Comments:		

TP_S1AP_ENB_ERR_06	Standards Reference: Clause 10.3.6 ¶ 2 (1st dashed line)	PICS item: PICS A.3/2.1, NOT A.3/6.2.2 and A.3/17
Summary:	Verify that the IUT rejects the procedure if the message contains too many occurrences of the same IEs/IE groups with the response message for this procedure and report the cause value 'Abstract Syntax Error(Falsely Constructed Message)'	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an eNB_UE_S1AP_ID(same IE as already present) containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU containing a UE_Security_Capabilities containing an Encription_Algorithms indicating not supported algorithm containing an Integrity_Protection_Algorithms containing a Security_Key **sends an INITIAL_CONTEXT_SETUP_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating 'Abstract Syntax Error(Falsely Constructed Message)'	
Comments:		

TP_S1AP_ENB_ERR_07	Standards Reference: Clause 10.3.5 ¶ 3 (2nd dashed line)	PICS item: PICS A.3/1.1, A.3/6.2.2 and A.3/17.2
Summary:	Verify that the IUT terminates the procedure that does not have a message to report unsuccessful outcome and the message contains too many occurrences of the same IEs/IE groups and initiate Error Indication Procedure with cause value 'Abstract Syntax Error(Falsely Constructed Message)'	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an eNB_UE_S1AP_ID(same IE as already present) containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an ERROR_INDICATION** containing a Cause indicating 'Abstract Syntax Error(Falsely Constructed Message)'	
Comments:		

TP_S1AP_ENB_ERR_08	Standards Reference: Clause 10.3.6 ¶ 2	PICS item: PICS A.3/1.1, A.3/6.2.2 and A.3/17
Summary:	Verify that the IUT initiate an Error Indication procedure with inclusion of only the previously received AP ID from the peer node and appropriate cause value in case if AP ID has been stored previously for another UE-associated logical connection for same peer node	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID indicating already used AP ID containing an eNB_UE_S1AP_ID indicating already used AP ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU **sends an ERROR_INDICATION** containing an eNB_UE_S1AP_ID containing a Cause indicating 'Unknown or already allocated eNB UE S1AP ID'	
Comments:	Preamble action: E-RAB Setup is exchanged	

5.2.2.2 MME Role

5.2.2.2.1 Test selection

The IUT takes the role of the MME; PICS A.2/2.

5.2.2.2.2 E-RAB management group

TP_S1AP_MME_RAB_01	Standards Reference: Clauses 8.2.1.2 and 9.1.3.1	PICS item: PICS A.4/1.1
Summary:	Verify that the IUT can send an E-RAB_SETUP_REQUEST with at least one E-RAB IE to indicate an E-RAB Setup procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an E-RAB Setup procedure, **sends an E-RAB_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a Transport_Layer_Address containing a GTP-TEID containing a NAS-PDU	
Comments:		

TP_S1AP_MME_RAB_02	Standards Reference: Clauses 8.2.2.2 and 9.1.3.3	PICS item: PICS A.4/1.2
Summary:	Verify that the IUT can send an E-RAB_MODIFY_REQUEST with at least one E-RAB IE to indicate an E-RAB Modify procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an E-RAB Modify procedure, **sends an E-RAB_MODIFY_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing a QCI indicating value 5 containing a NAS-PDU	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_RAB_03	Standards Reference: Clauses 8.2.3.2 and 9.1.3.5	PICS item: PICS A.4/1.3
Summary:	Verify that the IUT can send an E-RAB_RELEASE_COMMAND with at least one E-RAB IE to indicate an E-RAB Release procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an E-RAB Release procedure, **sends an E-RAB_RELEASE_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_RAB_04	Standards Reference: Clauses 8.2.4.2 (1st dashed line in 1st dashed list), 9.1.3.8 and 9.1.3.9	PICS item: PICS A.4/1.4
Summary:	Verify that the IUT can successfully process all mandatory IEs in an E-RAB_MODIFICATION_INDICATION received due to E-RAB Modification Indication procedure and send E-RAB_MODIFICATION_CONFIRM with successfully modified E-RABs included in the E-RAB_Modified_List IE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a DL_GTP-TEID **sends an E-RAB_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Modify_List containing an E-RAB_Modify Item 1 containing an E-RAB_ID	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_RAB_05	Standards Reference: Clauses 8.2.4.2 (2nd dashed line in 1st dashed list), 9.1.3.8 and 9.1.3.9	PICS item: PICS A.4/1.4
Summary:	Verify that the IUT after receiving an E-RAB_MODIFICATION_INDICATION with failed E-RAB sends an E-RAB_MODIFICATION_CONFIRM with E-RAB_Failed_to_Modify_List	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address indicating not acceptable value containing a DL_GTP-TEID **sends an E-RAB_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Modify_List containing an E-RAB_Failed_to_Modify Item 1 containing an E-RAB_ID containing a Cause indicating 'Transport Resource Unavailable' or indicating 'Unspecified'	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_RAB_06	Standards Reference: Clauses 8.2.4.2 (3rd dashed line in 1st dashed list), 9.1.3.8 and 9.1.3.9	PICS item: PICS A.4/1.5
Summary:	Verify that the IUT after receiving an E-RAB_MODIFICATION_INDICATION with E-RAB sends an E-RAB_MODIFICATION_CONFIRM with E-RAB_to_be_Released_List	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a DL_GTP-TEID **sends an E-RAB_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate value	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_RAB_07	Standards Reference: Clauses 8.2.4.2 ¶ 11, 9.1.3.8 and 9.1.3.9	PICS item: PICS A.4/1.5
Summary:	Verify that the IUT can successfully process CSG Membership Info IE in an E-RAB_MODIFICATION_INDICATION received due to E-RAB Modification Indication procedure and send E-RAB_MODIFICATION_CONFIRM with CSG Membership Status IE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a DL_GTP-TEID containing a CSG_Membership_Info containing a CSG_Membership_Status containing a CSG_Id **sends an E-RAB_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Modify_List containing an E-RAB_Modify Item 1 containing an E-RAB_ID containing a CSG_Membership_Info	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_RAB_08	**Standards Reference:** **Clauses 8.2.4.4 ¶ 1, 2,** **9.1.3.8 and 9.1.3.9**	**PICS item:** **PICS A.4/1.5**
Summary:	Verify that the IUT in case of interaction with UE Context Release Request procedure on receipt of an E-RAB_MODIFICATION_INDICATION which does not contain all the RABs previously included in the UE context the IUT triggers the UE context release procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing **only one** E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a DL_GTP-TEID **sends an E-RAB_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate value. **sends a UE_CONTEXT_RELEASE_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate value	
Comments:	Preamble action: INITIAL_CONTEXT_SETUP_REQUEST containing at least two E-RABs and INITIAL_CONTEXT_SETUP_RESPONSE are exchanged	

TP_S1AP_MME_RAB_09	**Standards Reference: Clauses 8.2.4.4 ¶ 1, 3, 9.1.3.8 and 9.1.3.9**	**PICS item: PICS A.4/1.5**
Summary:	Verify that the IUT in case of interaction with UE Context Release Request procedure on receipt of an E-RAB_MODIFICATION_INDICATION containing several E-RAB ID IEs set to the same value the IUT triggers the UE context release procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID indicating value A containing a Transport_Layer_Address containing a DL_GTP-TEID containing an E-RAB_to_be_Modified Item 2 containing an E-RAB_ID indicating value A containing a Transport_Layer_Address containing a DL_GTP-TEID **sends an E-RAB_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID indicating value A containing a Cause indicating an appropriate value. **sends a UE_CONTEXT_RELEASE_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate value	
Comments:	Preamble action: INITIAL_CONTEXT_SETUP_REQUEST containing at least two E-RABs and INITIAL_CONTEXT_SETUP_RESPONSE are exchanged	

TP_S1AP_MME_RAB_10	Standards Reference: Clauses 8.2.4.4 ¶ 1, 4, 9.1.3.8 and 9.1.3.9	PICS item: PICS A.4/1.5
Summary:	Verify that the IUT in case of interaction with UE Context Release Request procedure on receipt of an E-RAB_MODIFICATION_INDICATION containing CSG membership Info IE and does not contain the Cell Access Mode IE set to "hybrid" then the IUT triggers the UE Context Release procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a DL_GTP-TEID containing a CSG_Membership_Info containing a CSG_Membership_Status containing a CSG_Id containing a Cell_Access_Mode **not** indicating "hybrid" **sends an E-RAB_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Released_List containing an E-RAB_to_be_Released Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate value **sends a UE_CONTEXT_RELEASE_COMMAND** (containing an MME_UE_S1AP_ID **or** containing a UE_S1AP_ID_pair) containing a Cause indicating an appropriate value	
Comments:	Preamble action: E-RAB_Setup is exchanged Postamble action: IUT receives UE_Context_Release_Complete	

5.2.2.2.3 Context management group

TP_S1AP_MME_CMP_01	Standards Reference: Clauses 8.3.1.2 and 9.1.4.1	PICS item: PICS A.4/2.1
Summary:	Verify that the IUT can send an INITIAL_CONTEXT_SETUP_REQUEST with at least one E-RAB IE to indicate the Initial Context Setup procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an Initial Context Setup procedure, **sends an INITIAL_CONTEXT_SETUP_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate containing an E-RAB_to_be_Setup_List containing an E-RAB_to_be_Setup Item 1 containing an E-RAB_ID containing an E-RAB_Level_QoS_Parameters containing QCI indicating value 5 containing a Transport_Layer_Address containing a GTP-TEID containing a UE_Security_Capabilities containing a Security_Key	
Comments:		

TP_S1AP_MME_CMP_02	Standards Reference: Clauses 8.3.2.2 ¶ 3, 4, 8.3.3.2, 9.1.4.5 and 9.1.4.6	PICS item: PICS A.4/2.2
Summary:	Verify that the IUT after received UE_CONTEXT_RELEASE_REQUEST sends UE_CONTEXT_RELEASE_COMMAND	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_RELEASE_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating value from Table 3 **sends a UE_CONTEXT_RELEASE_COMMAND** (containing an MME_UE_S1AP_ID **or** containing a UE_S1AP_ID_pair) containing a Cause indicating an appropriate value	
Comments:	Preamble action: Initial Context Setup procedure is exchanged Postamble action: IUT receives Context Release Complete	

TP_S1AP_MME_CMP_03	Standards Reference: Clauses 8.3.4.2 and 9.1.4.8	PICS item: PICS A.4/2.4
Summary:	Verify that the IUT is able to send a UE_CONTEXT_MODIFICATION_REQUEST to partly modify the established UE Context	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a UE Context Modification procedure, **sends a UE_CONTEXT_MODIFICATION_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a UE_Aggregate_Maximum_Bit_Rate	
Comments:	Preamble action: Initial Context Setup procedure is exchanged	

TP_S1AP_MME_CMP_04	Standards Reference: Clauses 8.3.5.1 and 9.1.4.11	PICS item: PICS A.4/2.5
Summary:	Verify that the IUT is able to send a UE_RADIO_CAPABILITY_MATCH_REQUEST to indicate UE Radio Capability Match procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a UE Radio Capability Match procedure, **sends a UE_RADIO_CAPABILITY_MATCH_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:		

TP_S1AP_MME_CMP_05	Standards Reference: Clauses 8.3.6.2, 9.1.4.13 and 9.1.4.14	PICS item: PICS A.4/2.6
Summary:	Verify that the IUT can successfully process all mandatory IEs in a UE_CONTEXT_MODIFICATION_INDICATION received due to UE Context Modification Indication procedure and send UE_CONTEXT_MODIFICATION_CONFIRM	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **sends a UE_CONTEXT_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:	Preamble action: Initial Context setup is exchanged	

TP_S1AP_MME_CMP_06	Standards Reference: Clauses 8.3.6.2 ¶ 1, 9.1.4.13 and 9.1.4.14	PICS item: PICS A.4/2.6
Summary:	Verify that the IUT can successfully process CSG Membership Info IE in a UE_CONTEXT_MODIFICATION_INDICATION received due to UE Context Modification Procedure and send UE_CONTEXT_MODIFICATION_CONFIRM with CSG Membership Status IE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a CSG_Membership_Info containing a CSG_Membership_Status containing a CSG_Id **sends a UE_CONTEXT_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a CSG_Membership_Info	
Comments:	Preamble action: Initial Context setup is exchanged	

TP_S1AP_MME_CMP_07	Standards Reference: Clauses 8.3.6.2, 8.3.6.4, 9.1.4.6 and 9.1.4.13	PICS item: PICS A.4/2.6
Summary:	Verify that the IUT in case of interaction with UE Context Release procedure on receipt of a UE_CONTEXT_MODIFICATION_INDICATION containing CSG membership Info IE and not contain the Cell Access Mode IE set to "hybrid" the IUT triggers the UE Context Release procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a CSG_Membership_Info containing a CSG_Membership_Status containing a CSG_Id containing a Cell_Access_Mode **not** indicating "hybrid" **sends a UE_CONTEXT_MODIFICATION_CONFIRM** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **sends a UE_CONTEXT_RELEASE_COMMAND** (containing an MME_UE_S1AP_ID **or** containing a UE_S1AP_ID_pair) containing a Cause indicating an appropriate value	
Comments:	Preamble action: Initial Context setup is exchanged Postamble action: IUT receives Context Release Complete	

TP_S1AP_MME_CMP_08	Standards Reference: Clauses 8.3.7.2, 9.1.4.15 and 9.1.4.16	PICS item: PICS A.4/2.7
Summary:	Verify that the IUT can successfully process all mandatory IEs in a UE_CONTEXT_SUSPEND_REQUEST received due to UE Context Suspend procedure and send UE_CONTEXT_SUSPEND_RESPONSE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_SUSPEND_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **sends a UE_CONTEXT_SUSPEND_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:	Preamble action: Initial Context setup is exchanged	

TP_S1AP_MME_CMP_09	Standards Reference: Clauses 8.3.8.2, 9.1.4.17 and 9.1.4.18	PICS item: PICS A.4/2.8
Summary:	Verify that the IUT can successfully process all mandatory IEs in a UE_CONTEXT_RESUME_REQUEST received due to UE Context Resume procedure and sends UE_CONTEXT_RESUME_RESPONSE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_RESUME_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **sends a UE_CONTEXT_RESUME_RESPONSE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:	Preamble action: Initial Context setup is exchanged	

TP_S1AP_MME_CMP_10	Standards Reference: Clauses 8.3.8.3, 9.1.4.17 and 9.1.4.19	PICS item: PICS A.4/2.8
Summary:	Verify that the IUT can successfully process all mandatory IEs in a UE_CONTEXT_RESUME_REQUEST received due to UE Context Resume procedure and sends UE_CONTEXT_RESUME_FAILURE if the IUT is not able to resume a single E-RAB	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_RESUME_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Resume_List containing an E-RAB_Failed_to_Resume_Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate value. **sends a UE_CONTEXT_RESUME_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause	
Comments:	Preamble action: Initial Context setup is exchanged	

TP_S1AP_MME_CMP_11	Standards Reference: Clauses 8.3.9.2 and 9.1.4.20	PICS item: PICS A.4/2.9
Summary:	Verify that the IUT is able to send a CONNECTION_ESTABLISHMENT_INDICATION to indicate Connection Establishment Indication procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Connection Establishment Indication procedure, **sends a CONNECTION_ESTABLISHMENT_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:		

5.2.2.2.4 Handover signalling group

TP_S1AP_MME_HAS_01	Standards Reference: Clauses 8.4.1.2 ¶ 2, 9.1.5.1 and 9.1.5.2	PICS item: PICS A.4/3.1
Summary:	Verify that the IUT can successfully process all mandatory IEs in a HANDOVER_REQUIRED request containing Handover Type IE with IntraLTE received due to Handover Preparation procedure and sends HANDOVER_COMMAND	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Cause containing a Target ID containing a Target eNB-ID containing a Global eNB_ID containing a Selected_TAI containing a Source_to_Target_Transparent_Container **sends a HANDOVER_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Target_to_Source_Transparent_Container	
Comments:		

TP_S1AP_MME_HAS_02	Standards Reference: Clauses 8.4.1.2 ¶ 3, 7, 9.1.5.1 and 9.1.5.2, ETSI TS 125 413 [7], clauses 9.2.1.28 and 9.2.1.30	PICS item: PICS A.4/3.1
Summary:	Verify that the IUT can successfully process all mandatory IEs in a HANDOVER_REQUIRED request containing Handover Type IE with LTEtoUTRAN received due to Handover Preparation procedure and sends HANDOVER_COMMAND	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoUTRAN containing a Cause containing a Target ID containing a Target RNC_ID containing a LAI containing a RNC_ID containing a Source_to_Target_Transparent_Container containing a Source RNC_to_Target RNC_Transparent_Container indicating a UE History Information **sends a HANDOVER_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoUTRAN containing a NAS_Security_Parameters_from_E-UTRAN containing a Target_to_Source_Transparent_Container containing a Target RNC_to_Source RNC_Transparent_Container	
Comments:		

TP_S1AP_MME_HAS_03	**Standards Reference:** **Clauses 8.4.1.2 ¶ 3, 7, 9.1.5.1 and 9.1.5.2,** **ETSI TS 148 018 [8], clauses 11.3.79 and 11.3.80**	**PICS item:** **PICS A.4/3.1**
Summary:	Verify that the IUT can successfully process all mandatory IEs in a HANDOVER_REQUIRED request containing Handover Type IE with LTEtoGERAN received due to Handover Preparation procedure and sends HANDOVER_COMMAND	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoGERAN containing a Cause containing a Target ID containing a CGI containing a PLMN_Identity containing a LAC containing a CI containing a Source_to_Target_Transparent_Container containing a Source BSS_to_Target BSS_Transparent_Container **sends a HANDOVER_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoGERAN containing a NAS_Security_Parameters_from_E-UTRAN containing a Target_to_Source_Transparent_Container containing a Target BSS_to_Source BSS_Transparent_Container	
Comments:		

TP_S1AP_MME_HAS_04	**Standards Reference: Clauses 8.4.1.2 ¶ 12, 9.1.5.1 and 9.1.5.2**	**PICS item: PICS A.4/3.1 and A.4/3.2**
Summary:	Verify that the IUT on receipt of a HANDOVER_REQUIRED request containing the CSG_Id IE and Cell Access Mode IE set to'hybrid' due to Handover Preparation procedure then the IUT provide the membership status of UE and the CSG_Id to the target side	
Configuration:	CF_2S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUIRED** from source eNB containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Cause containing a Target ID containing a Target eNB-ID containing a Global eNB_ID containing a Selected_TAI containing a Source_to_Target_Transparent_Container containing a CSG_Id containing a Cell_Access_Mode indicating 'hybrid' **sends a HANDOVER_COMMAND** to source eNB containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Target_to_Source_Transparent_Container **sends a HANDOVER_REQUEST** to target eNB containing an MME_UE_S1AP_ID containing a Handover_Type containing a Cause containing a UE Aggregate Maximum Bit Rate containing an E-RABs_To_Be_Setup_List containing an E-RABs_To_Be_Setup_Item1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_Level_QoS_Parameters containing a Source_to_Target_Transparent_Container containing a UE_Security_Capabilities containing a Security_Context containing a CSG_Id containing a Cell_Access_Mode	
Comments:		

TP_S1AP_MME_HAS_05	**Standards Reference: Clauses 8.4.1.2 (1st dashed line in 1st and 3rd dashed list), 9.1.5.1 and 9.1.5.2**	**PICS item: PICS A.4/3.1**
Summary:	Verify that the IUT in case the SRVCC operation is performed and the SRVCC HO Indication IE in the HANDOVER_REQUIRED message indicates that handover is prepared only for CS domain and the target system is GERAN the IUT sends appropriate HANDOVER_COMMAND message	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoGERAN containing a Cause containing a Target ID containing a CGI containing a PLMN_Identity containing a LAC containing a CI containing a SRVCC_HO_Indication indicating CS only containing a Source_to_Target_Transparent_Container containing a Old BSS_to_New BSS_Information **not** containing a Source_to_Target_Transparent_Container_Secondary **sends a HANDOVER_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoGERAN containing a NAS_Security_Parameters_from_E-UTRAN containing a Target_to_Source_Transparent_Container containing a Layer_3_Information **not** containing a Target_to_Source_Transparent_Container_Secondary	
Comments:		

TP_S1AP_MME_HAS_06	**Standards Reference: Clauses 8.4.1.2 (2nd dashed line in 1st and 3rd dashed list), 9.1.5.1 and 9.1.5.2**	**PICS item: PICS A.4/3.1**
Summary:	Verify that the IUT in case the SRVCC operation is performed and the SRVCC HO Indication IE in the HANDOVER_REQUIRED message indicates that handover is prepared only for CS domain and the target system is UTRAN the IUT sends appropriate HANDOVER_COMMAND message	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoUTRAN containing a Cause containing a Target ID containing a Target RNC_ID containing a LAI containing a RNC_ID containing a SRVCC_HO_Indication indicating CS only containing a Source_to_Target_Transparent_Container containing a SourceRNC_to_TargetRNC_Transparent_Container indicating a UE_History_Information **not** containing a Source_to_Target_Transparent_Container_Secondary **sends a HANDOVER_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoUTRAN containing a NAS_Security_Parameters_from_E-UTRAN containing a Target_to_Source_Transparent_Container containing a TargetRNC_to_SourceRNC_Transparent_Container **not** containing a Target_to_Source_Transparent_Container_Secondary	
Comments:		

TP_S1AP_MME_HAS_07	**Standards Reference: Clauses 8.4.1.2 (1st dashed line in 2nd and 4th dashed list), 9.1.5.1 and 9.1.5.2**	**PICS item: PICS A.4/3.1**
Summary:	Verify that the IUT in case the SRVCC operation is performed and the SRVCC HO Indication IE in the HANDOVER_REQUIRED message indicates that handover is prepared for PS and CS domain and the target system is GERAN with DTM HO support and the Handover Preparation procedure has succeeded in the CS and PS the IUT sends appropriate HANDOVER_COMMAND message	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoGERAN containing a Cause containing a Target ID containing a CGI containing a PLMN_Identity containing a LAC containing a CI containing a SRVCC_HO_Indication indicating PS and CS containing a Source_to_Target_Transparent_Container containing a SourceBSS_to_Target BSS_Transparent_Container containing a Source_to_Target_Transparent_Container_Secondary containing a Old BSS_to_New BSS_Information **sends a HANDOVER_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoGERAN containing a NAS_Security_Parameters_from_E-UTRAN containing a Target_to_Source_Transparent_Container containing a Layer_3_Information containing a Target_to_Source_Transparent_Container_Secondary containing a TargetBSS_to_Source BSS_Transparent_Container	
Comments:		

TP_S1AP_MME_HAS_08	Standards Reference: Clauses 8.4.1.2 (2nd dashed line in 2nd and 4th dashed list), 9.1.5.1 and 9.1.5.2	PICS item: PICS A.4/3.1
Summary:	Verify that the IUT in case the SRVCC operation is performed and the SRVCC HO Indication IE in the HANDOVER_REQUIRED message indicates that handover is prepared for PS and CS domain and the target system is UTRAN the IUT sends appropriate HANDOVER_COMMAND message	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoUTRAN containing a Cause containing a Target ID containing a Target RNC_ID containing a LAI containing a RNC_ID containing a SRVCC_HO_Indication indicating PS and CS containing a Source_to_Target_Transparent_Container containing a SourceRNC_to_TargetRNC_Transparent_Container indicating a UE_History_Information **not** containing a Source_to_Target_Transparent_Container_Secondary **sends a HANDOVER_COMMAND** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating LTEtoUTRAN containing a NAS_Security_Parameters_from_E-UTRAN containing a Target_to_Source_Transparent_Container containing a TargetRNC_to_SourceRNC_Transparent_Container **not** containing a Target_to_Source_Transparent_Container_Secondary	
Comments:		

TP_S1AP_MME_HAS_09	Standards Reference: Clauses 8.4.1.3 ¶ 2, 9.1.5.1 and 9.1.5.2	PICS item: PICS A.4/3.1
Summary:	Verify that the IUT sends HANDOVER_PREPARATION_FAILURE if the CSE Id IE and no Cell Access Mode IE are received in the HANDOVER_REQUIRED message and the access control is unsuccessful and none of the E-RABs has particular ARP value	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_REQUIRED** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Handover_Type indicating IntraLTE containing a Cause containing a Target ID containing a Target eNB-ID containing a Global eNB_ID containing a Selected_TAI containing a Source_to_Target_Transparent_Container containing a CSG Id **not** containing a Cell_Access_Mode **sends a HANDOVER_PREPARATION_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: E-RAB Setup is exchanged with none particular ARP value	

TP_S1AP_MME_HAS_10	Standards Reference: Clauses 8.4.2.2 and 9.1.5.4	PICS item: PICS A.4/3.2
Summary:	Verify that the IUT is able to send a HANDOVER_REQUEST message containing Handover Type IE to indicate Handover Resource Allocation procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Handover Resource Allocation procedure **sends a HANDOVER_REQUEST** containing an MME_UE_S1AP_ID containing a Handover_Type containing a Cause containing a UE Aggregate Maximum Bit Rate containing an E-RABs_To_Be_Setup_List containing an E-RABs_To_Be_Setup_Item1 containing an E-RAB_ID containing a Transport_Layer_Address containing a GTP-TEID containing an E-RAB_Level_QoS_Parameters containing a Source_to_Target_Transparent_Container containing a UE_Security_Capabilities containing a Security_Context	
Comments:		

TP_S1AP_MME_HAS_11	Standards Reference: Clauses 8.4.4.2 ¶ 3 and 9.1.5.9	PICS item: PICS A.4/3.4
Summary:	Verify that the IUT can successfully process all mandatory IEs in a PATH_SWITCH_REQUEST message received due to Path Switch Request procedure and sends PATH_SWITCH_REQUEST_ACKNOWLEDGE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a PATH_SWITCH_REQUEST** containing an eNB_UE_S1AP_ID containing an E-RAB_To_Be_Switched_in_Downlink_List containing an E-RABs_Switched_in_Downlink_Item 1 containing an E-RAB_ID containing a Transport_Layer_address containing a GTP-TEID containing a Source_MME_UE_S1AP_ID containing an E-UTRAN_CGI containing a TAI containing a UE_Security_Capabilities **sends a PATH_SWITCH_REQUEST_ACKNOWLEDGE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Security_Context	
Comments:		

TP_S1AP_MME_HAS_12	Standards Reference: Clauses 8.4.4.3 ¶ 1 and 9.1.5.10	PICS item: PICS A.4/3.4
Summary:	Verify that the IUT in case if EPC fails to switch the downlink GTP tunnel endpoints toward a new GTP tunnel endpoint for all E-RABs included in the E-RAB_To_Be_Switched _in_Downlink_List IE during the execution of Path Switch Request procedure the IUT sends PATH_SWITCH_REQUEST_FAILURE with an appropriate cause value	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a PATH_SWITCH_REQUEST** containing an eNB_UE_S1AP_ID containing an E-RAB_To_Be_Switched_in_Downlink_List containing an E-RABs_Switched_in_Downlink_Item 1 containing an E-RAB_ID containing a Transport_Layer_address containing a GTP-TEID containing a Source_MME_UE_S1AP_ID containing an E-UTRAN_CGI containing a TAI containing a UE_Security_Capabilities **sends a PATH_SWITCH_REQUEST_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value	
Comments:		

TP_S1AP_MME_HAS_13	Standards Reference: Clauses 8.4.4.4 ¶ 1 and 9.1.5.10	PICS item: PICS A.4/3.4
Summary:	Verify that the IUT receives a PATH_SWITCH_REQUEST message containing several E-RAB ID IEs set to the same value the IUT sends the PATH_SWITCH_REQUEST_FAILURE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a PATH_SWITCH_REQUEST** containing an eNB_UE_S1AP_ID containing an E-RAB_To_Be_Switched_in_Downlink_List containing an E-RABs_Switched_in_Downlink_Item 1 containing an E-RAB_ID indicating value A containing a Transport_Layer_address containing a GTP-TEID containing an E-RABs_Switched_in_Downlink_Item 2 containing an E-RAB_ID indicating value A containing a Transport_Layer_address containing a GTP-TEID containing a Source_MME_UE_S1AP_ID containing an E-UTRAN_CGI containing a TAI containing a UE_Security_Capabilities **sends a PATH_SWITCH_REQUEST_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value	
Comments:		

TP_S1AP_MME_HAS_14	Standards Reference: Clauses 8.4.4.4 ¶ 2 and 9.1.5.10	PICS item: PICS A.4/3.4
Summary:	Verify that the IUT receives a PATH_SWITCH_REQUEST message without CSG Membership Status IE and without CSG Id IE the IUT sends the PATH_SWITCH_REQUEST_FAILURE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a PATH_SWITCH_REQUEST** containing an eNB_UE_S1AP_ID containing an E-RAB_To_Be_Switched_in_Downlink_List containing an E-RABs_Switched_in_Downlink_Item 1 containing an E-RAB_ID containing a Transport_Layer_address containing a GTP-TEID containing a Source_MME_UE_S1AP_ID containing an E-UTRAN_CGI containing a TAI containing a UE_Security_Capabilities **not** containing a CSG_Membership_Status **not** containing a CSG_ID **sends a PATH_SWITCH_REQUEST_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value	
Comments:		

TP_S1AP_MME_HAS_15	Standards Reference: Clauses 8.4.5.2 ¶ 3 and 9.1.5.11	PICS item: PICS A.4/3.5
Summary:	Verify that the IUT can successfully process all mandatory IEs in a HANDOVER_CANCEL message received due to Handover Cancel procedure and sends HANDOVER_CANCEL_ACKNOWLEDGE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a HANDOVER_CANCEL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value **sends a HANDOVER_CANCEL_ACKNOWLEDGE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID	
Comments:	Preamble action: Handover Preparation procedure started	

TP_S1AP_MME_HAS_16	Standards Reference: Clauses 8.4.7.2 ¶ 1, 9.1.5.14 and 9.2.1.31 and 9.2.1.32	PICS item: PICS A.4/3.7
Summary:	Verify that the IUT is able to send an MME_STATUS_TRANSFER message to indicate MME Status Transfer procedure	
Configuration:	CF_2S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an eNB_STATUS_TRANSFER** from source eNB containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value containing an eNB_Status_Transfer_Transparent_Container containing an E-RAB_Subject_to_Status_Transfer_List containing an E-RAB_Subject_to_Status_Transfer_Item 1 containing an E-RAB_ID containing a UL_Count_Value containing a PDCP-SN containing an HFN containing a DL_Count_Value **sends an MME_STATUS_TRANSFER** to target eNB containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an eNB_Status_Transfer_Transparent_Container containing an E-RAB_Subject_to_Status_Transfer_List containing an E-RAB_Subject_to_Status_Transfer_Item 1 containing an E-RAB_ID containing a UL_Count_Value containing a PDCP-SN containing an HFN containing a DL_Count_Value	
Comments:	Preamble action: Handover Preparation procedure started	

5.2.2.2.5 Paging group

TP_S1AP_MME_PAG_01	Standards Reference: Clauses 8.5.2 ¶ 1 and 9.1.6	PICS item: PICS A.4/4
Summary:	Verify that the IUT can send a PAGING to indicate a Paging procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Paging procedure, **sends a PAGING** containing a UE_Identity_Index_value containing a UE_Paging_Identity containing a S-TMSI containing an IMSI containing a CN_Domain	
Comments:	Preamble action: E-RAB Setup is exchanged	

5.2.2.2.6 NAS transport group

TP_S1AP_MME_NAS_01	Standards Reference: Clauses 8.6.2.2 ¶ 1 and 9.1.7.2	PICS item: PICS A.4/5.2
Summary:	Verify that the IUT can send a DOWNLINK_NAS_TRANSPORT to indicate an ongoing NAS Transport procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an ongoing NAS Transport procedure, **sends a DOWNLINK_NAS_TRANSPORT** containing an MME UE S1AP ID containing an eNB_UE_S1AP_ID containing a NAS-PDU	
Comments:	Preamble action: E-RAB Setup is exchanged, and a NAS procedure is initiated	

TP_S1AP_MME_NAS_02	Standards Reference: Clauses 8.6.2.5 ¶ 1 and 9.1.7.5	PICS item: PICS A.4/5.5
Summary:	Verify that the IUT can send a REROUTE_NAS_REQUEST to indicate a Reroute NAS Request procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Reroute NAS Request procedure, **sends a REROUTE_NAS_REQUEST** containing an eNB_UE_S1AP_ID containing a S1_Message containing an MME_Group_ID	
Comments:	Preamble action: E-RAB Setup is exchanged, and a NAS procedure is initiated	

5.2.2.2.7 Management group

TP_S1AP_MME_MNP_01	Standards Reference: Clauses 8.7.1.2.1 ¶ 2, 9.1.8.1 and 9.1.8.2	PICS item: PICS A.4/6.1.2
Summary:	Verify that the IUT can send a RESET to indicate a Reset procedure initiated from the MME	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Reset procedure initiated from the MME, **sends a RESET** containing a Cause indicating an appropriate cause value containing a Reset_Type containing a S1_Interface indicating a value 'Reset_all'	
Comments:		

TP_S1AP_MME_MNP_02	Standards Reference: Clauses 8.7.1.2.2 ¶ 1, 9.1.8.1 and 9.1.8.2	PICS item: PICS A.4/6.1.1
Summary:	Verify that the IUT can send process successfully all mandatory IEs in a RESET and sends a RESET_ACKNOWLEDGE due to a Reset procedure initiated from the E-UTRAN	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a RESET** containing a Cause indicating an appropriate cause value containing a Reset_Type containing an S1_Interface indicating value 'Reset_all' **sends a RESET_ACKNOWLEDGE** containing a UE-associated_logical_S1-connection_list	
Comments:		

TP_S1AP_MME_MNP_03	Standards Reference: Clauses 8.7.1.3.2 ¶ 1, 9.1.8.1 and 9.1.8.2	PICS item: PICS A.4/6.1.1
Summary:	Verify that the IUT can successfully all mandatory IEs in a RESET and sends a RESET_ACKNOWLEDGE due to a Reset procedure in case of Abnormal Condition at the EPC	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a RESET** containing a Cause indicating an appropriate cause value containing a Reset_Type containing a Part_of_S1_interface indicating an empty 'UE-associated_logical_S1-connection' **sends a RESET_ACKNOWLEDGE** containing a UE-associated_logical_S1-connection_list indicating an empty 'UE-associated_logical_S1-connection'	
Comments:		

TP_S1AP_MME_MNP_04	Standards Reference: Clauses 8.7.2.2 and 9.1.8.3	PICS item: PICS A.4/6.2.2
Summary:	Verify that the IUT can send an ERROR_INDICATION due to an Error Indication procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an Error Indication procedure, **sends an ERROR_INDICATION** (containing a Cause or containing a Criticality_Diagnostics)	
Comments:		

TP_S1AP_MME_MNP_05	Standards Reference: Clauses 8.7.3.2 ¶ 1, 9.1.8.4 and 9.1.8.5	PICS item: PICS A.4/6.3
Summary:	Verify that the IUT can process all mandatory IEs in a S1_SETUP_REQUEST and sends a S1_SETUP_RESPONSE to indicate a S1 Setup procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a S1_SETUP_REQUEST** containing a Global_eNB_ID containing a Supported_TAs containing a TAC containing a Default_Paging_DRX **sends a S1_SETUP_RESPONSE**	
Comments:		

TP_S1AP_MME_MNP_06	Standards Reference: Clauses 8.7.3.2 ¶ 1, 9.1.8.4 and 9.1.8.6	PICS item: PICS A.4/6.3
Summary:	Verify that the IUT can process all mandatory IEs in a S1_SETUP_REQUEST and sends a S1_SETUP_FAILURE to indicate an invalid S1 Setup procedure due to an unknown PLMN identities	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a S1_SETUP_REQUEST** containing a Global_eNB_ID containing a Supported_TAs containing a TAC containing a Broadcast_PLMNs indicating at least one unknown PLMN identity **sends a S1_SETUP_FAILURE** containing a Cause indicating the cause value 'Unknown PLMN	
Comments:		

TP_S1AP_MME_MNP_07	Standards Reference: Clauses 8.7.4.2 ¶ 1, 9.1.8.7 and 9.1.8.8	PICS item: PICS A.4/6.4
Summary:	Verify that the IUT can process all mandatory IEs in an ENB_CONFIGURATION_UPDATE and sends an ENB_CONFIGURATION_UPDATE_ACKNOWLEDGE to indicate an eNB Configuration Update procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an ENB_CONFIGURATION_UPDATE** containing a Global_eNB_ID containing a Supported_TAs containing a TAC **sends an ENB_CONFIGURATION_UPDATE_ACKNOWLEDGE**	
Comments:		

TP_S1AP_MME_MNP_08	Standards Reference: Clauses 8.7.3.2 ¶ 1, 9.1.8.7 and 9.1.8.9	PICS item: PICS A.4/6.4
Summary:	Verify that the IUT can process all mandatory IEs in an ENB_CONFIGURATION_UPDATE and sends an ENB_CONFIGURATION_UPDATE_FAILURE to indicate an invalid eNB Configuration Update procedure due to an invalid Global eNB identifier	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an ENB_CONFIGURATION_UPDATE** containing a Global_eNB_ID indicating an invalid value **sends an ENB_CONFIGURATION_UPDATE_FAILURE** containing a Cause indicating an appropriate cause value	
Comments:		

TP_S1AP_MME_MNP_09	Standards Reference: Clauses 8.7.4.2 ¶ 1 and 9.1.8.10	PICS item: PICS A.4/6.5
Summary:	Verify that the IUT can send an ENB_CONFIGURATION_UPDATE to indicate an eNB Configuration Update procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an eNB Configuration Update procedure, **sends an ENB_CONFIGURATION_UPDATE** containing a Global_eNB_ID containing a Supported_TAs containing a TAC	
Comments:		

TP_S1AP_MME_MNP_10	Standards Reference: Clauses 8.7.6.2 ¶ 1 and 9.1.8.13	PICS item: PICS A.4/6.6
Summary:	Verify that the IUT can send an OVERLOAD_START to indicate an Overload Start procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an Overload Start procedure, **sends an OVERLOAD_START** containing an Overload_Response	
Comments:		

TP_S1AP_MME_MNP_11	Standards Reference: Clauses 8.7.7.2 ¶ 1 and 9.1.8.14	PICS item: PICS A.4/6.7
Summary:	Verify that the IUT can send an OVERLOAD_STOP to indicate an Overload Stop procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an Overload Stop procedure, **sends an OVERLOAD_STOP**	
Comments:	Preamble action: an Overload Start procedure is exchanged	

5.2.2.2.8 S1 CDMA 2000 tunnelling group

TP_S1AP_MME_STP_01	Standards Reference: Clauses 8.8.2.1 ¶ 1 and 9.1.9.1	PICS item: PICS A.4/7.1
Summary:	Verify that the IUT can send a DOWNLINK_S1_CDMA2000_TUNNELLING	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a CDMA2000 signalling event, **sends a DOWNLINK_S1_CDMA2000_TUNNELLING** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID **not** containing an E-RABs_Subject_to_Forwarding_Lis containing a CDMA2000_HO_type containing a CDMA2000_PDU	
Comments:	Preamble action: E-RAB Setup is exchanged	

5.2.2.2.9 UE capability info indication group

Void.

5.2.2.2.10 Trace group

TP_S1AP_MME_TRP_01	Standards Reference: Clauses 8.10.1.2 ¶ 1, 9.1.11.1 and 9.2.1.4	PICS item: PICS A.4/9.1
Summary:	Verify that the IUT can send a TRACE_START message to indicate Trace Start procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Trace Start procedure, **sends a TRACE_START** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Trace_Activation containing an E-UTRAN_Trace_ID containing a Interfaces_To_Trace indicating value 'S1-MME' containing a Trace_depth indicating value 'maximum' containing a Trace_Collection_Entity_IP_Address	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_TRP_02	Standards Reference: Clauses 8.10.1.2 ¶ 1 and 9.1.11.2	PICS item: PICS A.4/9.3
Summary:	Verify that the IUT can successfully process all mandatory IEs in a DEACTIVATE_TRACE	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Deactivate Trace procedure, **sends a DEACTIVATE_TRACE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-UTRAN_Trace_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: E-RAB Setup is exchanged, and Trace Start procedure succeed	

TP_S1AP_MME_TRP_03	Standards Reference: Clauses 8.10.2.2, 9.1.11.1 and 9.1.11.2	PICS item: PICS A.4/9.1 and A.4/9.2
Summary:	Verify that the IUT can successfully process all mandatory IEs in a TRACE_FAILURE_INDICATION	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Trace Start procedure, **sends a TRACE_START** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Trace_Activation containing an E-UTRAN_Trace_ID containing a Interfaces_To_Trace indicating value 'S1-MME' containing a Trace_depth indicating value 'maximum' containing a Trace_Collection_Entity_IP_Address **not** containing MDT_Configuration **on receipt a TRACE_FAILURE_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-UTRAN_Trace_ID containing a Cause indicating an appropriate cause value **cancels the TRACE_START procedure**	
Comments:	Preamble action: E-RAB Setup is exchanged	
Note:	TP check if IUT is able to accept TRACE_FAILURE_INDICATION message but there is no additional action to verify response from IUT side. In case if this TP is not reasonable in the meantime of validation it could be removed	

5.2.2.2.11 Location reporting group

TP_S1AP_MME_LRP_01	Standards Reference: Clauses 8.11.1.2 ¶ 1, 9.1.12.1, 9.1.12.3, 9.2.1.16, 9.2.1.34 and 9.2.1.38	PICS item: PICS A.4/10.1 and A.4/10.3
Summary:	Verify that the IUT can send a LOCATION_REPORTING_CONTROL	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Location Reporting Control procedure, **sends a LOCATION_REPORTING_CONTROL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Request_Type containing a Event_Type containing a Report_Area indicating ECGI	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_LRP_02	Standards Reference: Clauses 8.11.2.2 ¶ 1, 9.1.12.1, 9.1.12.3, 9.2.1.16, 9.2.1.34 and 9.2.1.38	PICS item: PICS A.4/10.1 and A.4/10.3
Summary:	Verify that the IUT can send a LOCATION_REPORTING_CONTROL and process all mandatory IEs in a LOCATION REPORT_FAILURE_INDICATION	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Location Reporting Control procedure, **sends a LOCATION_REPORTING_CONTROL** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Request_Type containing a Event_Type indicating Directly containing a Report_Area indicating ECGI **receives a LOCATION_REPORT_FAILURE_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating an appropriate cause value	
Comments:	Preamble action: E-RAB Setup is exchanged, and a Handover procedure is initiated	
Note:	TP check if IUT is able to accept LOCATION REPORT FAILURE INDICATION message but there is no additional action to verify response from IUT side. In case if this TP is not reasonable in the meantime of validation it could be removed	

5.2.2.2.12 Warning message transmission group

TP_S1AP_MME_WTP_01	Standards Reference: Clauses 8.12.1.2 ¶ 1, 9.1.13.1 and 9.1.13.2	PICS item: PICS A.4/11.1
Summary:	Verify that the IUT can send a WRITE-REPLACE_WARNING_REQUEST to indicate a Warning Message Transmission procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a Warning Message Transmission procedure, **sends a WRITE-REPLACE_WARNING_REQUEST** containing a Message_Identifier containing a Serial_Number containing a Repetition Period containing an Number_of_Broadcasts_Requested	
Comments:		

TP_S1AP_MME_WTP_02	Standards Reference: Clauses 8.12.2.2 ¶ 1, 9.1.13.3 and 9.1.13.4	PICS item: PICS A.4/11.2
Summary:	Verify that the IUT can send a KILL_REQUEST to cancel an already ongoing broadcast of a Warning Message Transmission procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a cancellation of an ongoing Warning Message Transmission procedure, **sends a KILL_REQUEST** containing a Message_Identifier containing a Serial_Number	
Comments:	Preamble action: A warning message procedure is exchanged	

5.2.2.2.13 eNB direct information transfer group

Void.

5.2.2.2.14 MME direct information transfer group

TP_S1AP_MME_MIT_01	Standards Reference: Clauses 8.14.2.1, 9.1.15 and 9.2.3.23	PICS item: PICS A.4/13
Summary:	Verify that the IUT can send an MME_DIRECT_INFORMATION_TRANSFER to indicate an MME Direct Information Transfer procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an MME Direct Information Transfer procedure, **sends an MME_DIRECT_INFORMATION_TRANSFER** containing an Inter-system_Information_Transfer_Type containing a RIM containing a RIM_Transfer containing a RIM_Information	
Comments:		

5.2.2.2.15 eNB configuration transfer group

Void.

5.2.2.2.16 MME configuration transfer group

TP_S1AP_MME_MCT_01	Standards Reference: Clauses 8.16.2.1 and 9.1.17	PICS item: PICS A.4/15
Summary:	Verify that the IUT can send an MME_CONFIGURATION_TRANSFER to indicate an MME Configuration Transfer procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** an MME Configuration Transfer procedure, **sends an MME_CONFIGURATION_TRANSFER** containing a SON_Configuration_Transfer containing a Target_eNB-ID containing a Source_eNB-ID containing a SON_Information	
Comments:		

5.2.2.2.17 LPPa transport group

TP_S1AP_MME_LPP_01	Standards Reference: Clauses 8.17.2.1 and 9.1.19.1	PICS item: PICS A.4/16.1
Summary:	Verify that the IUT can send a DOWNLINK_UE_ASSOCIATED_LPPA_TRANSPORT to indicate a LPPa Transport procedure using a UE associated signalling	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a LPPa Transport procedure using a UE associated signalling, **sends a DOWNLINK_UE_ASSOCIATED_LPPA_TRANSPORT** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Routing_ID indicating a valid routing identifier value containing an LPPa-PDU	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_LPP_02	Standards Reference: Clauses 8.17.2.3 and 9.1.19.3	PICS item: PICS A.4/16.3
Summary:	Verify that the IUT can send a DOWNLINK_NON_UE_ASSOCIATED_LPPA_TRANSPORT to indicate a LPPa Transport procedure using a non-UE associated signalling	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **to indicate** a LPPa Transport procedure using a non-UE associated signalling, **sends a DOWNLINK_NON_UE_ASSOCIATED_LPPA_TRANSPORT** containing a Routing_ID indicating a valid routing identifier value containing an LPPa-PDU	
Comments:		

5.2.2.2.18 Unknown, Unforseen and Erroneous Protocol Data group

TP_S1AP_MME_ERR_01	Standards Reference: Clause 10.3.4.1 ¶ 8	PICS item: PICS A.4/2.8, A.4/6.2.2 and A.4/17.2
Summary:	Verify that the IUT rejects the procedure using Error Indication Procedure if message contains different types of received criticality information of the Procedure Code IE and include Procedure Code IE, Triggering Message IE and Procedure Criticality IE in the Criticality Diagnostics IE within ERROR_INDICATION	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_RESUME_REQUEST** with Criticality set to value from Table 5 containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Resume_List containing an E-RAB_Failed_to_Resume_Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate value **sends an ERROR_INDICATION** containing a Criticality_Diagnostics containing a Procedure_Code containing a Triggering_Message containing a Procedure_Criticality	
Comments:	Preamble action: Initial Context setup is exchanged	

Table 5: Criticality values

Test purpose variants	Criticality values
VA_01	Ignore
VA_02	Notify

TP_S1AP_MME_ERR_02	Standards Reference: Clause 10.3.4.2 ¶ 3 (1st dashed line) and 13	PICS item: PICS A.4/2.8, NOT A.4/6.2.2 and A.4/17
Summary:	Verify that the IUT rejects the procedure if the message contains not comprehended IEs/IE groups marked with 'Reject IE' or 'Ignore IE and Notify Sender' and include Information Element Criticality Diagnostics IE in the Criticality Diagnostics IE for each reported IEs/IE groups within the response message for this procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_RESUME_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an Unknown_ID containing Criticality indicating Reject or Ignore and Notify Sender containing an E-RAB_Failed_to_Resume_List containing an E-RAB_Failed_to_Resume_Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate value **sends a UE_CONTEXT_RESUME_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating appropriate Protocol Cause containing a Criticality_Diagnostics containing an Information Element Criticality_Diagnostics containing an IE_Criticality containing an IE_ID containing an IE_Type_of_Error	
Comments:	Preamble action: Initial Context setup is exchanged	

TP_S1AP_MME_ERR_03	Standards Reference: Clause 10.3.4.2 ¶ 4 (2nd dashed line) and 14	PICS item: PICS A.4/1.4, A.4/6.2.2 and A.4/17.2
Summary:	Verify that the IUT rejects the procedure using Error Indication Procedure if the message contains not comprehended IEs/IE groups marked with 'Reject IE' or 'Ignore IE and Notify Sender' and include Procedure Code IE, Triggering Message IE and Procedure Criticality IE and Information Element Criticality Diagnostics IE in the Criticality Diagnostics IE for each reported IEs/IE groups within ERROR_INDICATION	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an Unknown_ID containing Criticality indicating Reject or Ignore and Notify Sender containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a DL_GTP-TEID **sends an ERROR_INDICATION** containing a Criticality_Diagnostics containing a Procedure_Code containing a Triggering_Message containing a Procedure_Criticality containing an Information Element Criticality_Diagnostics containing an IE_Criticality containing an IE_ID containing an IE_Type_of_Error	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_ERR_04	Standards Reference: Clause 10.3.5 ¶ 3 (1st dashed line) and 13	PICS item: PICS A.4/2.8, NOT A.4/6.2.2 and A.4/17
Summary:	Verify that the IUT rejects the procedure if the message not contains mandatory IEs/IE groups and include Information Element Criticality Diagnostics IE in the Criticality Diagnostics IE for each reported IEs/IE groups within the response message for this procedure	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_RESUME_REQUEST** containing an MME_UE_S1AP_ID **not** containing an eNB_UE_S1AP_ID containing an E-RAB_Failed_to_Resume_List containing an E-RAB_Failed_to_Resume_Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate value **sends a UE_CONTEXT_RESUME_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating appropriate Protocol Cause containing a Criticality_Diagnostics containing an Information Element Criticality_Diagnostics containing an IE_Criticality containing an IE_ID containing an IE_Type_of_Error	
Comments:	Preamble action: Initial Context setup is exchanged	

TP_S1AP_MME_ERR_05	Standards Reference: Clause 10.3.5 ¶ 4 (2nd dashed line) and 14	PICS item: PICS A.4/1.4, A.4/6.2.2 and A.4/17.2
Summary:	Verify that the IUT rejects the procedure using Error Indication Procedure if the message not contains mandatory IEs/IE groups and include Procedure Code IE, Triggering Message IE and Procedure Criticality IE and Information Element Criticality Diagnostics IE in the Criticality Diagnostics IE for each reported IEs/IE groups within ERROR_INDICATION	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID **not** containing an eNB_UE_S1AP_ID containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a DL_GTP-TEID **sends an ERROR_INDICATION** containing a Criticality_Diagnostics containing a Procedure_Code containing a Triggering_Message containing a Procedure_Criticality containing an Information Element Criticality_Diagnostics containing an IE_Criticality containing an IE_ID containing an IE_Type_of_Error	
Comments:	Preamble action: E-RAB Setup is exchanged	

TP_S1AP_MME_ERR_06	Standards Reference: Clause 10.3.6 ¶ 2 (1st dashed line)	PICS item: PICS A.4/2.8, NOT A.4/6.2.2 and A.4/17
Summary:	Verify that the IUT rejects the procedure if the message contains too many occurrences of the same IEs/IE groups with the response message for this procedure and report the cause value 'Abstract Syntax Error(Falsely Constructed Message)'	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of a UE_CONTEXT_RESUME_REQUEST** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an eNB_UE_S1AP_ID(same IE as already present) containing an E-RAB_Failed_to_Resume_List containing an E-RAB_Failed_to_Resume_Item 1 containing an E-RAB_ID containing a Cause indicating an appropriate value **sends a UE_CONTEXT_RESUME_FAILURE** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing a Cause indicating 'Abstract Syntax Error(Falsely Constructed Message)'	
Comments:	Preamble action: Initial Context setup is exchanged	

TP_S1AP_MME_ERR_07	Standards Reference: Clause 10.3.6 ¶ 3 (2nd dashed line)	PICS item: PICS A.4/1.4, A.4/6.2.2 and A.4/17.2
Summary:	Verify that the IUT terminates the procedure that does not have a message to report unsuccessful outcome and a message that contains too many occurrences of the same IEs/IE groups and initiate Error Indication Procedure with cause value 'Abstract Syntax Error(Falsely Constructed Message)'	
Configuration:	CF_S1-MME	
Test purpose:	Ensure that the IUT **on receipt of an E-RAB_MODIFICATION_INDICATION** containing an MME_UE_S1AP_ID containing an eNB_UE_S1AP_ID containing an eNB_UE_S1AP_ID(same IE as already present) containing an E-RAB_to_be_Modified_List containing an E-RAB_to_be_Modified Item 1 containing an E-RAB_ID containing a Transport_Layer_Address containing a DL_GTP-TEID **sends an ERROR_INDICATION** containing a Cause indicating 'Abstract Syntax Error(Falsely Constructed Message)'	
Comments:	Preamble action: E-RAB Setup is exchanged	

History

Document history		
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