



TECHNICAL SPECIFICATION

**Core Network and Interoperability Testing (INT);
Network Interoperability Test Description for
emergency services over 5G;
(3GPP™ Release 16);
Part 3: Abstract Test Suite (ATS)
and partial Protocol Implementation eXtra Information for
Testing (PIXIT) pro forma specification**

Reference

DTS/INT-00188-3

Keywords

5G, ATS, interoperability, PIXIT, testing

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Important notice

The present document can be downloaded from the
[ETSI Search & Browse Standards](#) application.

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format on [ETSI deliver](#) repository.

Users should be aware that the present document may be revised or have its status changed,
this information is available in the [Milestones listing](#).

If you find errors in the present document, please send your comments to
the relevant service listed under [Committee Support Staff](#).

If you find a security vulnerability in the present document, please report it through our
[Coordinated Vulnerability Disclosure \(CVD\)](#) program.

Notice of disclaimer & limitation of liability

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

No representation or warranty is made that this deliverable is technically accurate or sufficient or conforms to any law and/or governmental rule and/or regulation and further, no representation or warranty is made of merchantability or fitness for any particular purpose or against infringement of intellectual property rights.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2026.
All rights reserved.

Contents

Intellectual Property Rights	4
Foreword.....	4
Modal verbs terminology.....	4
1 Scope	5
2 References	5
2.1 Normative references	5
2.2 Informative references.....	6
3 Definition of terms, symbols and abbreviations.....	6
3.1 Terms.....	6
3.2 Symbols.....	6
3.3 Abbreviations	7
4 Abstract Test Method (ATM).....	7
4.1 Introduction	7
4.2 Test architecture	7
4.3 Interconnection of TS and SUT.....	10
4.4 Implementation of TS.....	10
4.5 Test Adapter	13
Annex A (normative): Network Interoperability Test Description for emergency services over VoNR Partial PIXIT pro forma.....	14
A.1 The right to copy	14
A.2 Identification summary.....	14
A.3 ATS summary	14
A.4 Test laboratory.....	14
A.5 Client identification.....	15
A.6 SUT	15
A.7 Protocol layer information.....	15
A.8 PIXIT items	15
A.8.1 Introduction	15
A.8.2 PIXIT items for the Gm Interface	15
A.8.3 PIXIT items for the Ic Interface	16
A.8.4 PIXIT items for the Mw, Mm, Mx, Mi, Ml Interfaces	16
A.8.5 PIXIT items for the ISC Interface	17
A.8.6 PIXIT items for the Cx Interface.....	17
A.8.7 PIXIT items for the N1N2 Interface.....	18
A.8.8 PIXIT items for the N5 Interface.....	18
A.8.9 PIXIT items for the Rx Interface.....	18
A.8.10 PIXIT items for the N26 Interface.....	19
A.8.11 PIXIT items for Policy Authorization Service	19
A.8.12 Interface independent PIXIT items.....	19
A.8.13 LibCommon items	20
Annex B (normative): Abstract Test Suite (ATS).....	21
B.1 The TTCN-3 Module.....	21
Annex C (informative): Bibliography.....	22
Annex D (informative): Change history	23
History	24

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the [ETSI IPR online database](#).

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™**, **LTE™** and **5G™** logo are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

Foreword

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

The present document is part 3 of a multi-part deliverable. Full details of the entire series can be found in part 1 ETSI TS 103 796-1 [9].

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).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

1 Scope

The present document specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) pro forma for emergency services over 5G in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [i.2] and ETSI ETS 300 406 [i.3].

The test notation used in the ATS is TTCN-3 (see ETSI ES 201 873-1 [i.4]).

The following test specification and design considerations can be found in the body of the present document:

- the overall test suite structure;
- the testing architecture;
- the test methods and port definitions;
- the test configurations;
- TTCN styles and conventions;
- the partial PIXIT pro forma;
- the modules containing the TTCN-3 ATS.

Annex A provides the Partial Implementation Extra Information for Testing (PIXIT) pro forma.

Annex B provides the Abstract Test Suite (ATS) part of the ATS.

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 in the [ETSI docbox](#).

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 124 229](#): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 (3GPP TS 24.229 Release 16)".
- [2] [ETSI TS 129 165](#): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; Inter-IMS Network to Network Interface (NNI) (3GPP TS 29.165 Release 16)".
- [3] [ETSI TS 129 228](#): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; IP Multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and message contents (3GPP TS 29.228 Release 16)".
- [4] [ETSI TS 129 229](#): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Cx and Dx interfaces based on the Diameter protocol; Protocol details (3GPP TS 29.229 Release 16)".

- [5] [ETSI TS 129 214](#): "Universal Mobile Telecommunications System (UMTS); LTE; 5G; Policy and charging control over Rx reference point (3GPP TS 29.214 Release 16)".
- [6] [ETSI TS 129 514](#): "5G; 5G System; Policy Authorization Service; Stage 3 (3GPP TS 29.514 Release 16)".
- [7] [ETSI TS 124 501 \(V16.14.0\)](#): "5G; Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3 (3GPP TS 24.501 version 16.14.0 Release 16)".
- [8] [ETSI TS 129 502](#): "5G; 5G System; Session Management Services; Stage 3 (3GPP TS 29.502 Release 16)".
- [9] [ETSI TS 103 796-1](#): "Core Network and Interoperability Testing (INT); Network Interoperability Test Description for emergency services over 5G; (3GPP™ Release 16); Part 1: Test Purposes".
- [10] [ISO/IEC 9646-6](#): "Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 6: Protocol profile test specification".

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 may be useful in implementing an ETSI deliverable or add to the reader's understanding, but are not required for conformance to the present document.

- [i.1] ISO/IEC 9646-1: "Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts".
- [i.2] ISO/IEC 9646-7: "Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 7: Implementation Conformance Statements".
- [i.3] ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [i.4] ETSI ES 201 873-1: "Methods for Testing and Specification (MTS); The Testing and Test Control Notation version 3; Part 1: TTCN-3 Core Language".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ISO/IEC 9646-7 [i.2], ETSI TS 124 229 [1], ETSI TS 129 165 [2], ETSI TS 129 228 [3], ETSI TS 129 229 [4], ETSI TS 129 214 [5], ETSI TS 129 514 [6], ETSI TS 124 501 [7] and ETSI TS 129 502 [8] apply.

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ISO/IEC 9646-1 [i.1], ISO/IEC 9646-6 [10], ISO/IEC 9646-7 [i.2], ETSI TS 124 229 [1], ETSI TS 129 165 [2], ETSI TS 129 228 [3], ETSI TS 129 229 [4], ETSI TS 129 214 [5], ETSI TS 129 514 [6], ETSI TS 124 501 [7] and ETSI TS 129 502 [8] apply.

4 Abstract Test Method (ATM)

4.1 Introduction

The following clauses describe the ATM used to test the VoNR interoperability emergency services over 5G in physical/virtual environments.

4.2 Test architecture

The test architecture foreseen is a complex system of all involved components. The following figures give an overview. Figure 1 shows the network entities involved in the interoperability testing and the mapping to test components. Figure 2 adds a more technical view of the implementation plans for the test system components.

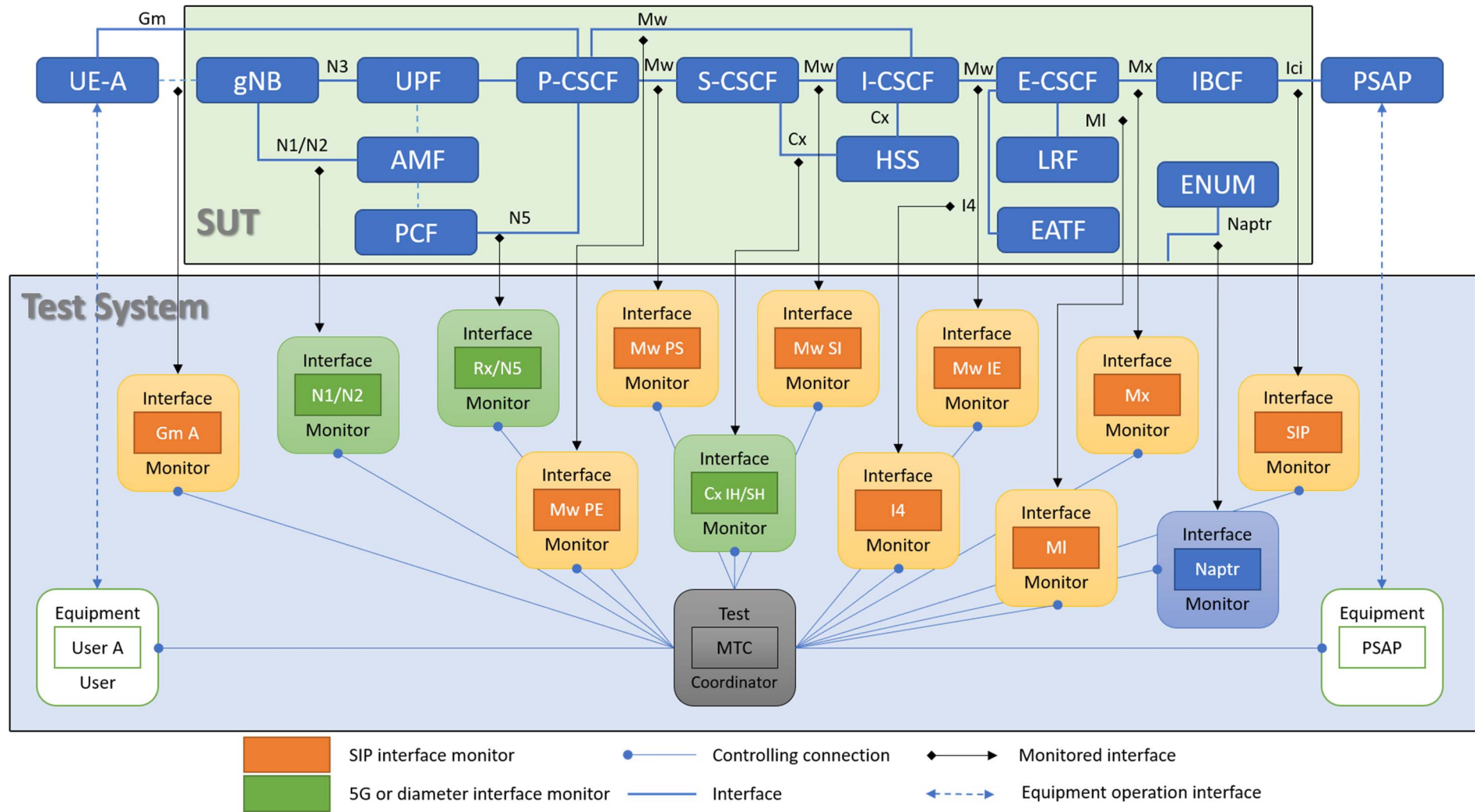


Figure 1: VoNR emergency interoperability test system configuration

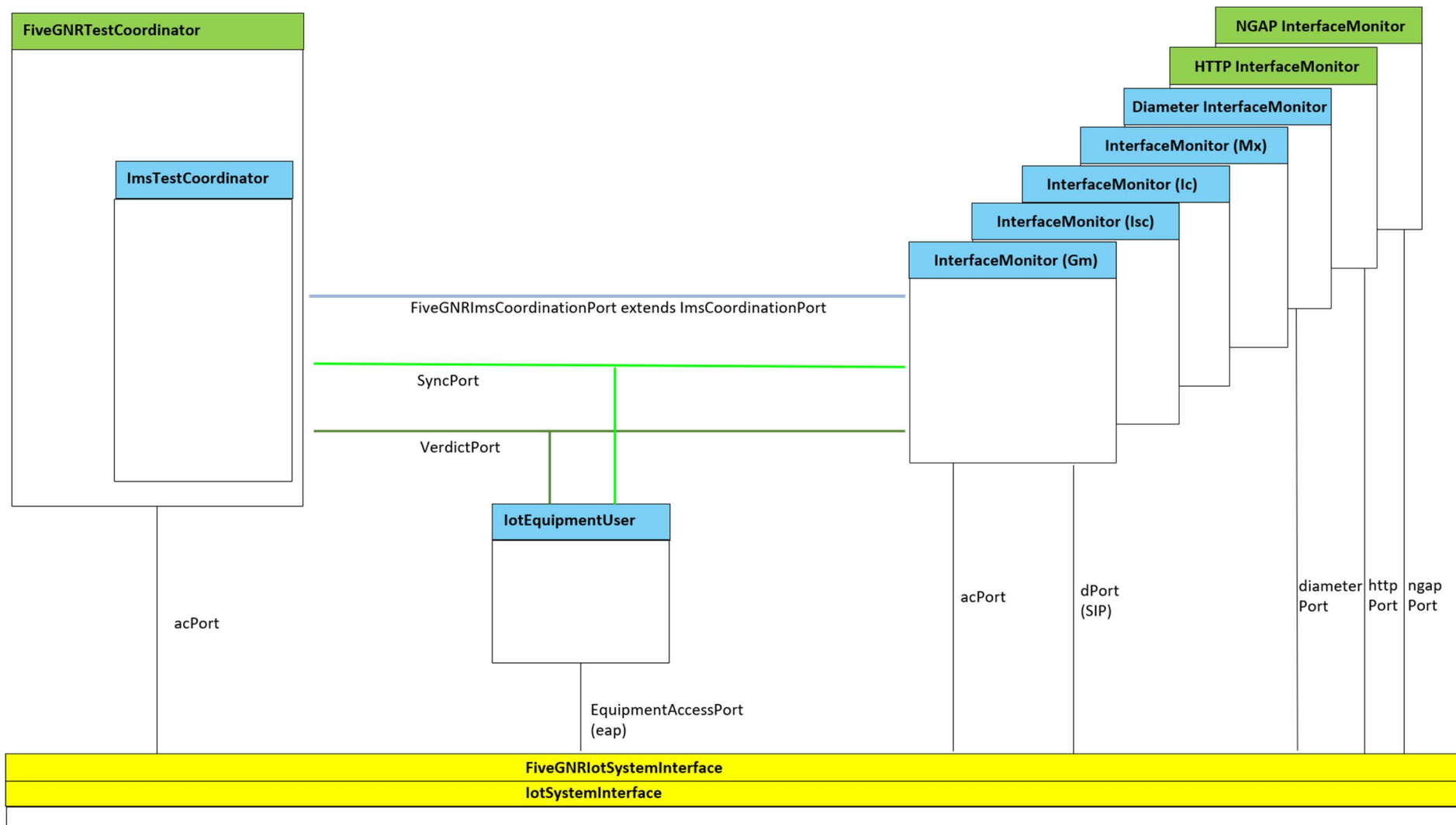


Figure 2: VoNR interoperability test component view

4.3 Interconnection of TS and SUT

The interconnection of the Test System (TS) and the System Under Test (SUT) is depicted in Figure 2.

The `ImsTestCoordinator` controls the overall test execution by coordinating the `ImsInterfacesMonitor` components on the SIP and Diameter interfaces under observation. It synchronizes those test components and receives individual test verdicts from them which are processed for the determination of the final overall test verdict.

`ImsTestCoordinator` and the `ImsInterfacesMonitor` components connect through the `IoTSystemInterface` to the SUT. The `ImsEquipmentUser` entity is responsible for the connection and management of external equipment.

4.4 Implementation of TS

The implementation of the TS in TTCN-3 is depicted in Figure 3 and Figure 4 which gives the names of all test components and the related TTCN-3 ports, variables and timers. It also shows the connections between the test components via `ImsCoordinationPort`, `VerdictPort` and `SyncPort` and the connections to the `IoTSystemInterface` via `SipPort`, `DiameterPort`, `eaPort` and `acPort` in Figure 3 and `httpPort` and `ngapPort` in Figure 4.

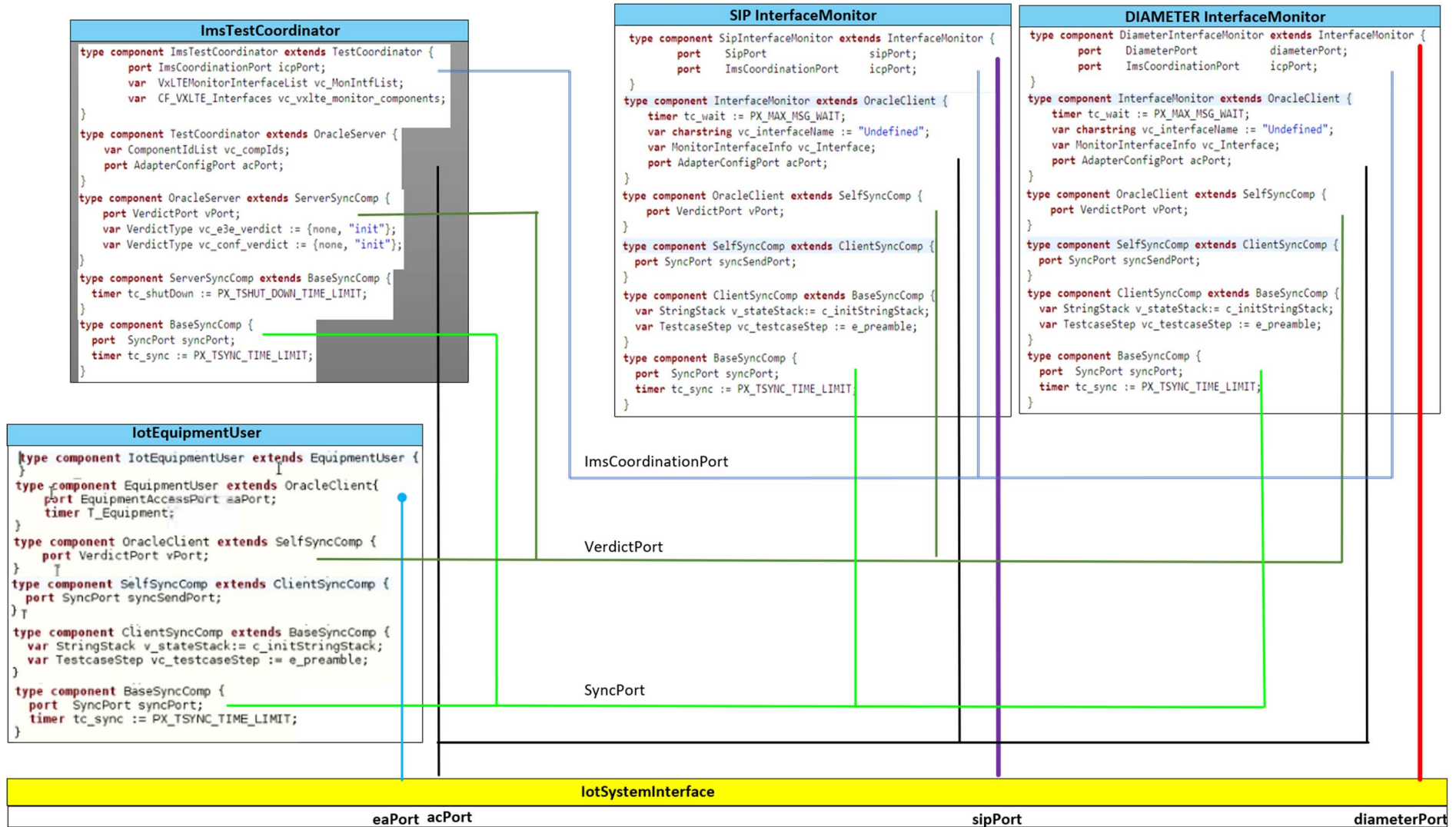


Figure 3: VoNR IMS interoperability test component implementation

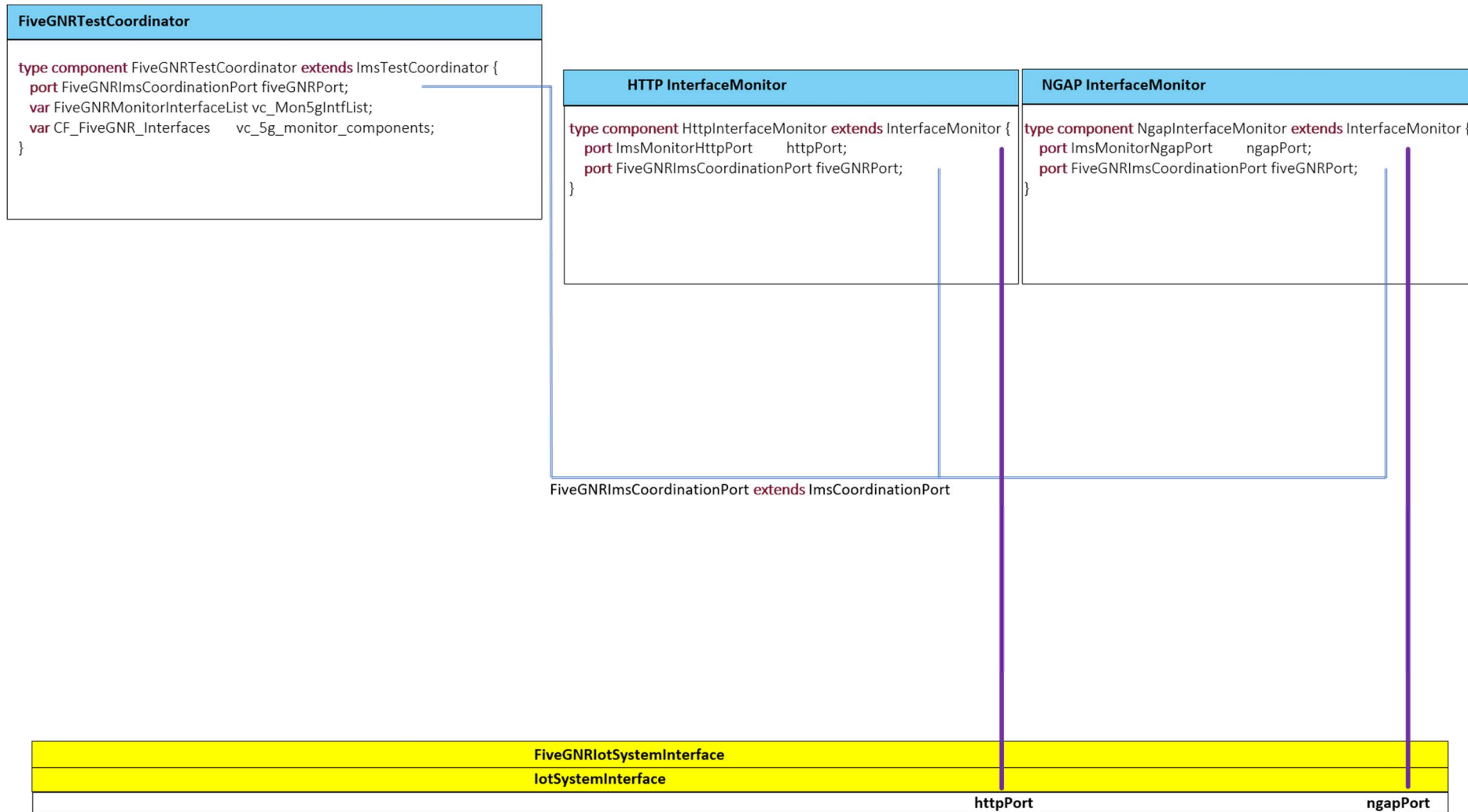


Figure 4: VoNR 5GC interoperability test component implementation

4.5 Test Adapter

For execution of the tests the Test Adapter (TA) will be developed. For the Diameter interfaces there are two possibilities for communicating over the TA that have to be considered:

- ATS provides only Diameter messages; or
- ATS provides Diameter messages and LL primitives.

Annex A (normative): Network Interoperability Test Description for emergency services over VoNR Partial PIXIT pro forma

A.1 The right to copy

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the Partial PIXIT pro forma in this annex so that it can be used for its intended purposes and may further publish the completed Partial PIXIT.

The PIXIT pro forma is based on ISO/IEC 9646-6. Any additional information which may be needed can be found in this international standard document.

A.2 Identification summary

Table A.1

PIXIT Number:	
Test Laboratory Name:	
Date of Issue:	
Issued to:	

A.3 ATS summary

Table A.2

Protocol Specification:	This interoperability test specification covers several protocol specifications for the SIP and DIAMETER protocols. In the below tables, references are given to the protocol specifications in force per interface.
Protocol to be tested:	
ATS Specification:	ETSI TS 103 796-3, Annex B
Abstract Test Method:	ETSI TS 103 796-3, clause 4

A.4 Test laboratory

Table A.3

Test Laboratory Identification:	
Test Laboratory Manager:	
Means of Testing:	
SAP Address:	

A.5 Client identification

Table A.4

Client Identification:	
Client Test manager:	
Test Facilities required:	

A.6 SUT

Table A.5

Name:	
Version:	
SCS Number:	
Machine configuration:	
Operating System Identification:	
IUT Identification:	
PICS Reference for IUT:	
Limitations of the SUT:	
Environmental Conditions:	

A.7 Protocol layer information

The protocol identification is presented in the clauses below per interface.

The PICS reference for all interfaces is: ETSI TS 103 796-1.

A.8 PIXIT items

A.8.1 Introduction

Tables in this clause need to be filled by the IUT Manufacturer to specify how the IUT needs to be configured with IUT specific values or describe IUT specific procedures required for complete testing of the IUT.

The present document describes interoperability testing spanning several interfaces. For a better understanding, namely in cases where not all interfaces are under observation, the PIXIT tables are presented per interface under test.

Each PIXIT item corresponds to a Module Parameter of the ATS.

A.8.2 PIXIT items for the Gm Interface

The Gm interface connects a UE with a P-CSCF using the SIP and SDP protocols as defined in ETSI TS 124 229.

Table A.6: Gm interface ports and addresses

Item	Identifier	Type	Description
1	PX_SIP_GMA_UE_IPADDR	Charstring	Gm IP address of UE
2	PX_SIP_GMA_UE_PORT	Integer	Gm Port number of UE
3	PX_SIP_GMA_PCSCF_IPADDR	Charstring	Gm IP address of P-CSCF
4	PX_SIP_GMA_PCSCF_PORT	Integer	Gm Port number of P-CSCF
5	PX_SIP_GMA_MONITORENABLED	Boolean	Is monitoring of the Gm interface at network A enabled?
6	PX_SIP_GMA_INTERFACENAME	Charstring	Gm interface name

A.8.3 PIXIT items for the Ic Interface

The Ic interface connects an IBCF with another IBCF using the SIP and SDP protocols as defined in ETSI TS 129 165.

Table A.7: Ic interface ports and addresses

Item	Identifier	Type	Description
1	PX_SIP_IC_IBCF_A_IPADDR	Charstring	Ic IP address of IBCF of network A
2	PX_SIP_IC_IBCF_A_PORT	Integer	Ic Port number of IBCF of network A
3	PX_SIP_IC_IBCF_B_IPADDR	Charstring	Ic IP address of IBCF of network B
4	PX_SIP_IC_IBCF_B_PORT	Integer	Ic Port number of IBCF of network B
5	PX_SIP_IC_MONITORENABLED	Boolean	Is monitoring of the Ic interface enabled?
6	PX_SIP_IC_INTERFACENAME	Charstring	Ic interface name

A.8.4 PIXIT items for the Mw, Mm, Mx, Mi, MI Interfaces

The Mw interface connects an x-CSCF with another x-CSCF or an IBCF and Mm, Mx, MI, Mi connected to E-CSCF using the SIP and SDP protocols as defined in ETSI TS 124 229.

Table A.8: Mw interface ports and addresses

Item	Identifier	Type	Description
1	PX_SIP_MW_P_CSCF_IPADDR	Charstring	Mw IP address of P-CSCF
2	PX_SIP_MW_P_CSCF_PORT	Integer	Mw Port number of P-CSCF
3	PX_SIP_MW_I_CSCF_IPADDR	Charstring	Mw IP address of I-CSCF
4	PX_SIP_MW_I_CSCF_PORT	Integer	Mw Port number of I-CSCF
5	PX_SIP_MW_S_CSCF_IPADDR	Charstring	Mw IP address of S-CSCF
6	PX_SIP_MW_S_CSCF_PORT	Integer	Mw Port number of S-CSCF
7	PX_SIP_MW_E_CSCF_IPADDR	Charstring	Mw IP address of E-CSCF
8	PX_SIP_MW_E_CSCF_PORT	Integer	Mw Port number of E-CSCF
9	PX_SIP_ML_LRF_IPADDR	Charstring	MI IP address of LRF
10	PX_SIP_ML_LRF_PORT	Integer	MI Port number of LRF
11	PX_SIP_MW_IBCF_IPADDR	Charstring	Mw IP address of IBCF
12	PX_SIP_MW_IBCF_PORT	Integer	Mw Port number of IBCF
13	PX_SIP_MW_PI_MONITORENABLED	Boolean	Is monitoring of the Mw/PI interface enabled?
14	PX_SIP_MW_PS_MONITORENABLED	Boolean	Is monitoring of the Mw/PS interface enabled?
15	PX_SIP_MW_IS_MONITORENABLED	Boolean	Is monitoring of the Mw/IS interface enabled?
16	PX_SIP_MW_IB_MONITORENABLED	Boolean	Is monitoring of the Mw/IB interface enabled?
17	PX_SIP_MM_B_PSAP_MONITORENABLED	Boolean	Is monitoring of the PSAP connection only?
18	PX_SIP_MW_EB_MONITORENABLED	Boolean	Is monitoring of the Mw/EB interface enabled?
19	PX_SIP_ML_E_LRF_MONITORENABLED	Boolean	Is monitoring of the MI/E-LRF interface enabled?
20	PX_SIP_MI_E_BCF_MONITORENABLED	Boolean	Is monitoring of the MI/E-BCF interface enabled?
21	PX_SIP_MW_PI_INTERFACENAME	Charstring	Mw/PI interface name
22	PX_SIP_MW_PS_INTERFACENAME	Charstring	Mw/PS interface name
23	PX_SIP_MW_IS_INTERFACENAME	Charstring	Mw/IS interface name
24	PX_SIP_MW_PB_INTERFACENAME	Charstring	Mw/PB interface name
25	PX_SIP_MW_IB_INTERFACENAME	Charstring	Mw/IB interface name
26	PX_SIP_MM_B_PSAP_INTERFACENAME	Charstring	Mm/IBCF-PSAP interface name
27	PX_SIP_MW_EB_INTERFACENAME	Charstring	Mw/ECSCF-IBCF interface name
28	PX_SIP_MI_EB_INTERFACENAME	Charstring	Mw/ECSCF-BCF interface name
29	PX_SIP_ML_E_LRF_INTERFACENAME	Charstring	Mw/ECSCF-LRF interface name

A.8.5 PIXIT items for the ISC Interface

The ISC interface connects an S-CSCF with an AS using the SIP and SDP protocols as defined in ETSI TS 129 165.

Table A.9: Isc interface ports and addresses

Item	Identifier	Type	Description
1	PX_SIP_ISC_S_CSCF_IPADDR	Charstring	Isc IP address of S-CSCF
2	PX_SIP_ISC_S_CSCF_PORT	Integer	Isc Port number of S-CSCF
3	PX_SIP_ISC_AS_IPADDR	Charstring	Isc IP address of AS
4	PX_SIP_ISC_AS_PORT	Integer	Isc Port number of AS
5	PX_SIP_ISC_MONITORENABLED	Boolean	Is monitoring of the ISC interface enabled?
6	PX_SIP_ISC_INTERFACENAME	Charstring	Isc interface name

A.8.6 PIXIT items for the Cx Interface

The Cx interface connects an I- or S-CSCF with an HSS using the Diameter protocol as defined ETSI TS 129 228 and ETSI TS 129 229.

Table A.10: Cx interface ports and addresses

Item	Identifier	Type	Description
1	PX_DIAMETER_CX_I_CSCF_IPADDR	Charstring	Cx IP address of I-CSCF
2	PX_DIAMETER_CX_I_CSCF_PORT	Integer	Cx Port number of I-CSCF
3	PX_DIAMETER_CX_S_CSCF_IPADDR	Charstring	Cx IP address of S-CSCF
4	PX_DIAMETER_CX_S_CSCF_PORT	Integer	Cx Port number of S-CSCF
5	PX_DIAMETER_CX_HSS_IPADDR	Charstring	Cx IP address of HSS
6	PX_DIAMETER_CX_HSS_PORT	Integer	Cx Port number of HSS
7	PX_DIAMETER_CX_IH_MONITORENABLED	Boolean	Is monitoring of the Cx/Sh interface enabled?
8	PX_DIAMETER_CX_SH_MONITORENABLED	Boolean	Is monitoring of the Cx/lh interface enabled?
9	PX_DIAMETER_SINGLE_INTERFACE	Boolean	Can both CX_IH and CX_SH interfaces be treated as one interface?
10	PX_DIAMETER_CX_IH_INTERFACENAME	Charstring	Cx/lh interface name
11	PX_DIAMETER_CX_SH_INTERFACENAME	Charstring	Cx/Sh interface name

A.8.7 PIXIT items for the N1N2 Interface

The N1N2 interface connects a UE/gNB with an AMF using the NGAP/NAS protocol as defined in ETSI TS 124 501.

Table A.11: N1N2 interface ports and addresses

Item	Identifier	Type	Description
1	PX_NGAP_N1N2_GNB_IPADDR	Charstring	N1N2 IP address of gNB
2	PX_NGAP_N1N2_GNB_PORT	Integer	N1N2 Port number of gNB
3	PX_NGAP_N1N2_AMF_IPADDR	Charstring	N1N2 IP address of AMF
4	PX_NGAP_N1N2_AMF_PORT	Integer	N1N2 Port number of AMF
5	PX_NGAP_N1N2_MONITORENABLED	Boolean	Is monitoring of the N1N2 interface enabled?
6	PX_NGAP_N1N2_INTERFACENAME	Charstring	N5 interface name

A.8.8 PIXIT items for the N5 Interface

The N5 interface connects a P-CSCF with a PCF using the HTTP-2 protocol as defined in ETSI TS 129 514.

Table A.12: N5 interface ports and addresses

Item	Identifier	Type	Description
1	PX_HTTP_N5_P_CSCF_IPADDR	Charstring	N5 IP address of P-CSCF
2	PX_HTTP_N5_P_CSCF_PORT	Integer	N5 Port number of P-CSCF
3	PX_HTTP_N5_PCF_IPADDR	Charstring	N5 IP address of PCF
4	PX_HTTP_N5_PCF_PORT	Integer	N5 Port number of PCF
5	PX_HTTP_N5_MONITORENABLED	Boolean	Is monitoring of the N5 interface enabled?
6	PX_HTTP_N5_INTERFACENAME	Charstring	N5 interface name

A.8.9 PIXIT items for the Rx Interface

The Rx interface connects a P-CSCF with a PCRF using the Diameter protocol as defined in ETSI TS 129 214.

Table A.13: Rx interface ports and addresses

Item	Identifier	Type	Description
1	PX_DIAMETER_RX_P_CSCF_IPADDR	Charstring	Rx IP address of P-CSCF
2	PX_DIAMETER_RX_P_CSCF_PORT	Integer	Rx Port number of P-CSCF
3	PX_DIAMETER_RX_PCRF_IPADDR	Charstring	Rx IP address of PCRF
4	PX_DIAMETER_RX_PCRF_PORT	Integer	Rx Port number of PCRF
5	PX_DIAMETER_RX_MONITORENABLED	Boolean	Is monitoring of the Rx interface enabled?
6	PX_DIAMETER_RX_INTERFACENAME	Charstring	Rx interface name

A.8.10 PIXIT items for the N26 Interface

The N26 interface connects an AMF with an MME using the HTTP-2 protocol as defined in ETSI TS 129 502.

Table A.14: N26 interface ports and addresses

Item	Identifier	Type	Description
1	PX_GTP_N26_AMF_IPADDR	Charstring	N26 IP address of AMF
2	PX_GTP_N26_AMF_PORT	Integer	N26 Port number of AMF
3	PX_GTP_N26_MME_IPADDR	Charstring	N26 IP address of MME
4	PX_GTP_N26_MME_PORT	Integer	N26 Port number of MME
5	PX_GTP_N26_MONITORENABLED	Boolean	Is monitoring of the N26 interface enabled?
6	PX_GTP_N26_INTERFACENAME	Charstring	N26 interface name

A.8.11 PIXIT items for Policy Authorization Service

Table A.15: Interface independent PIXIT items

Item	Identifier	Type	Description
1	PX_SUPPORTED_FEATURES	Charstring	list of Supported features
2	PX_AF_REQ_DATA	Struct	Information that the AF requested to be exposed
3	PX_SERVICE_URN	Charstring	URN value of the served UE
4	PX_IPV4_ADDR	Charstring	IPv4 Address of the served UE
5	PX_GPSI	Charstring	Generic Public Subscription Identifier value
6	PX_PEI	Charstring	PEI value
7	PX_SUPI	Charstring	Subscription Permanent Identifier value

A.8.12 Interface independent PIXIT items

Table A.16: Interface independent PIXIT items

Item	Identifier	Type	Description
1	PX_MAX_MSG_WAIT	Float	Maximum time limit used by monitor components for waiting for expected incoming messages
2	PX_EUT_TRIGGER_RESPONSE	Float	Maximum time limit used by trigger component for waiting for EUT response after command has been sent
3	PX_PSAP_REGISTERED	Boolean	Is PSAP registered to the IMS?
4	PX_ECALL	Boolean	Is emergency call issued by eCall?
5	PX_URN_SERVICE_SOS	SipUrl	Emergency service urn

A.8.13 LibCommon items

Table A.17: PIXIT for LibCommon

Item	Identifier	Type	Description
1	PX_TSYNC_TIME_LIMIT	Float	Default time limit for a sync client to reach a synchronization point
2	PX_TSHUT_DOWN_TIME_LIMIT	Float	Default time limit for a sync client to finish its execution of the shutdown default

Annex B (normative): Abstract Test Suite (ATS)

B.1 The TTCN-3 Module

This ATS has been produced using the Testing and Test Control Notation (TTCN-3) according to ETSI ES 201 873-1 [i.4].

This test suite has been compiled error-free using two different TTCN-3 compilers.

The TTCN-3 library modules corresponding to the ATS are released in the ETSI forge repository:

- <https://forge.etsi.org/rep/int/vx5g/emergency-5g-iop.git>.

Annex C (informative): Bibliography

- ETSI TS 103 796-2: "Core Network and Interoperability Testing (INT); Network Interoperability Test Description for emergency services over 5G; (3GPP™ Release 16); Part 2: Test Descriptions".

Annex D (informative): Change history

Date	Version	Information about changes
January 2025	V0.0.1	Skeleton draft
June 2025	V0.0.2	Early draft for INT#61
October 2025	V0.0.3	Early draft for INT#62
March 2026	V0.0.5	Final draft for INT#63

History

Version	Date	Status
V1.1.1	May 2026	Publication