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**5G;
5GS;
User Equipment (UE) conformance specification;
Part 2: Common Implementation Conformance Statement (ICS)
proforma
(3GPP TS 38.508-2 version 15.2.0 Release 15)**



Reference

RTS/TSGR-0538508-2v120

Keywords

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Foreword

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- x the first digit:
 - 1 presented to TSG for information;
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 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

The present document is part 2 of a multi-part deliverable covering the 5G System (5GS) User Equipment (UE) protocol conformance specification, as identified below:

- 3GPP TS 38.508-1 [11]: "5GS; User Equipment (UE) conformance specification; Part 1: Common test environment".
- 3GPP TS 38.508-2: "**5GS; User Equipment (UE) conformance specification; Part 2: Common Implementation Conformance Statement (ICS) proforma**" (the present document).

1 Scope

The present document provides the Implementation Conformance Statement (ICS) proforma for 5G New Radio (NR) User Equipment (UE), in compliance with the relevant requirements.

Special conformance testing functions can be found in 3GPP TS 38.509 [12] and 3GPP TS 36.509 [14] and the common test environments are included in 3GPP TS 38.508-1 [11] and 3GPP TS 36.508 [13].

The present document is valid for UE implemented according to 3GPP Releases starting from Release 15 up to the Release indicated on the cover page of the present document.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 38.523-1: "5GS; UE conformance specification; Part 1: Protocol conformance specification".
- [3] 3GPP TS 38.523-2: "5GS; User Equipment (UE) conformance specification; Part 2: Applicability of protocol test cases".
- [4] 3GPP TS 38.523-3: "5GS; User Equipment (UE) conformance specification; Part 3: Protocol Test Suites".
- [5] 3GPP TS 38.521-1: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 1: Range 1 Standalone".
- [6] 3GPP TS 38.521-2: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 2: Range 2 Standalone".
- [7] 3GPP TS 38.521-3: "NR; User Equipment (UE) conformance specification; Radio transmission and reception; Part 3: Range 1 and Range 2 Interworking operation with other radios".
- [8] 3GPP TS 38.521-4: "NR; User Equipment conformance specification; Radio transmission and reception; Part 4: Performance".
- [9] 3GPP TS 38.522: "NR; User Equipment (UE) conformance specification; Applicability of radio transmission, radio reception and radio resource management test cases".
- [10] 3GPP TS 38.523: "NR; User Equipment (UE) conformance specification; Radio resource management".
- [11] 3GPP TS 38.508-1: "5GS; User Equipment (UE) conformance specification; Part 1: Common test environment".
- [12] 3GPP TS 38.509: "5GS; Special conformance testing functions for UE".
- [13] 3GPP TS 36.508: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRAN); Common Test Environments for User Equipment (UE) Conformance Testing".

- [14] 3GPP TS 36.509: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Special conformance testing functions for User Equipment (UE)".
- [15] 3GPP TS 34.229-2: "Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) specification".
- [16] 3GPP TS 36.523-2: "Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access (E-UTRAN); User Equipment (UE) conformance specification; Part 2: Implementation Conformance Statement (ICS) proforma specification".
- [17] 3GPP TS 38.306: "NR; User Equipment (UE) radio access capabilities".
- [18] ISO/IEC 9646-7: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [19] 3GPP TS 38.307: "NR; User Equipments (UEs) supporting a release-independent frequency band".
- [20] 3GPP TS 37.340: "Evolved Universal Terrestrial Radio Access (E-UTRA) and NR; Multi-connectivity; Stage 2".
- [21] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description; Stage 2".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [5] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [5].

Implementation Conformance Statement (ICS): statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented

ICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS

Implementation extra Information for Testing (IXIT): A statement made by a supplier or implementer of an UEUT which contains or references all of the information (in addition to that given in the ICS) related to the UEUT and its testing environment, which will enable the test laboratory to run an appropriate test suite against the UEUT

IXIT proforma: A document, in the form of a questionnaire, which when completed for an UEUT becomes an IXIT

Protocol Implementation Conformance Statement (PICS): An ICS for an implementation or system claimed to conform to a given protocol specification

Protocol Implementation extra Information for Testing (PIXIT): An IXIT related to testing for conformance to a given protocol specification

Static conformance review: A review of the extent to which the static conformance requirements are claimed to be supported by the UEUT, by comparing the answers in the ICS(s) with the static conformance requirements expressed in the relevant specification(s)

3.2 Symbols

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

<symbol> <Explanation>

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

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

| | |
|-------|---|
| FFS | For Further Study |
| ICS | Implementation Conformance Statement |
| IXIT | Implementation extra Information for Testing |
| PICS | Protocol Implementation Conformance Statement |
| PIXIT | Protocol Implementation extra Information for Testing |
| SCS | System Conformance Statement |
| TC | Test Case |
| UEUT | User Equipment Under Test |

Annex A (normative): ICS proforma for NR/5GS Generation User Equipment

Notwithstanding the provisions of the copyright clause related to the text of the present document, The Organizational Partners of 3GPP grant that users of the present document may freely reproduce the ICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed ICS.

A.1 Guidance for completing the ICS proforma

A.1.1 Purposes and structure

The purpose of this ICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in relevant specifications may provide information about the implementation in a standardised manner.

The ICS proforma is subdivided into clauses for the following categories of information:

- instructions for completing the ICS proforma;
- identification of the implementation;
- identification of the protocol;
- ICS proforma tables (for example: UE implementation types, Teleservices, etc).

A.1.2 Abbreviations and conventions

The ICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [18].

Item column

The item column contains a number which identifies the item in the table.

Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

Reference column

The reference column gives reference to the relevant 3GPP core specifications.

Release column

The release column indicates the earliest release from which the capability or option is relevant.

Mnemonic column

The Mnemonic column contains mnemonic identifiers for each item.

Comments column

This column is left blank for particular use by the reader of the present document.

References to items

For each possible item answer (answer in the support column) within the ICS proforma there exists a unique reference, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns shall be discriminated by letters (a, b, etc.), respectively.

A.1.3 Instructions for completing the ICS proforma

The supplier of the implementation may complete the ICS proforma in each of the spaces provided. More detailed instructions are given at the beginning of the different clauses of the ICS proforma.

A.2 Identification of the User Equipment

Identification of the User Equipment should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

A.2.1 Date of the statement

.....

A.2.2 User Equipment Under Test (UEUT) identification

UEUT name:

.....
.....

Hardware configuration:

.....
.....
.....

Software configuration:

.....
.....
.....

A.2.3 Product supplier

Name:

.....

Address:

.....
.....
.....

Telephone number:

.....
Facsimile number:

.....
E-mail address:

.....
Additional information:
.....
.....
.....

A.2.4 Client

Name:

.....
Address:
.....
.....
.....

Telephone number:

.....
Facsimile number:

.....
E-mail address:

.....
Additional information:
.....
.....
.....

A.2.5 ICS contact person

Name:

.....
Telephone number:

.....
Facsimile number:

.....
E-mail address:

.....

Additional information:

.....

.....

A.3 Identification of the protocol

This ICS proforma applies to the 3GPP standards listed in the normative references clause of the present document.

A.4 ICS proforma tables

A.4.1 UE Implementation Types

Table A.4.1-1: UE Radio Technologies

| Item | UE Radio Technologies | Ref. | Release | Mnemonic | Comments |
|------|-----------------------|-----------------------|---------|----------|----------|
| 1 | NR FDD | 38.101-1, 38.101-2 | Rel-15 | pc_nrFDD | |
| 2 | NR TDD | 38.101-1, 38.101-2 | Rel-15 | pc_nrTDD | |

Table A.4.1-2: UE general functionality

| Item | UE Functionality | Ref. | Release | Mnemonic | Comments |
|------|----------------------------------|-------------|---------|--------------------|----------|
| 1 | Support of multiple NR FDD bands | 38.101, 5.2 | Rel-15 | pc_nrFDD_MultiBand | |
| 2 | Support of multiple NR TDD bands | 38.101, 5.2 | Rel-15 | pc_nrTDD_MultiBand | |

Table A.4.1-3: RAN-CN Interface Options

| Item | UE support of RAN-CN Interface Options | Ref. | Release | Mnemonic | Comments |
|------|--|--------|---------|-----------------|----------|
| 1 | NG-RAN NR | 38.300 | Rel-15 | pc_NG_RAN_NR | Option 2 |
| 2 | EN-DC | 37.340 | Rel-15 | pc_EN_DC | Option 3 |
| 3 | NE-DC | 37.340 | Rel-15 | pc_NE_DC | Option 4 |
| 4 | NG-RAN E-UTRA | 38.300 | Rel-15 | pc_NG_RAN_EUTRA | Option 5 |
| 5 | NGEN-DC | 37.340 | Rel-15 | pc_NGEN_DC | Option 7 |

Table A.4.1-4: NSA DC UE Radio Technologies

| Item | NSA UE Radio Technologies | Ref. | Release | Mnemonic | Comments |
|------|---|------------------|---------|------------------------------------|----------|
| 1 | Intra-Band Contiguous EN-DC | 38.101-3, 5.2B.2 | Rel-15 | pc_IntraBand_Contiguous_ENDC | |
| 2 | Intra-Band Non-Contiguous EN-DC | 38.101-3, 5.2B.3 | Rel-15 | pc_IntraBand_Non_Contiguous_ENDC | |
| 3 | Inter-Band EN-DC within FR1 | 38.101-3, 5.2B.4 | Rel-15 | pc_InterBand_ENDC_WithinFR1 | |
| 4 | Inter-Band EN-DC including FR2 | 38.101-3, 5.2B.5 | Rel-15 | pc_InterBand_ENDC_IncludingFR2 | |
| 5 | Inter-band EN-DC including both FR1 and FR2 | 38.101-3, 5.2B.6 | Rel-15 | pc_InterBand_ENDC_IncludingFR1_FR2 | |
| 6 | Inter-band NR-DC between FR1 and FR2 | 38.101-3, 5.2B.6 | Rel-15 | pc_InterBand_NRDC_BetweenFR1_FR2 | |

Table A.4.1-5: 5GS UE Core Technologies

| Item | 5GS UE Core Technologies | Ref. | Release | Mnemonic | Comments |
|------|--------------------------|--------|---------|----------|----------|
| 1 | UE Supports 5GS Core | 24.501 | Rel-15 | pc_5GCN | |

A.4.2 UE Service Capabilities

A.4.2.1 3GPP Standardised UE Service Capabilities

A.4.2.1.1 Bearer Services

Table A.4.2.1.1-1: Definition of Bearer Services

| Item | Definition of Bearer Services | Ref. | Release | Mnemonic | Comments |
|------|-------------------------------|------|---------|----------|----------|
| 1 | FFS | | | | |

A.4.3 Baseline Implementation Capabilities

Table A.4.3-1: Supported protocols

| Item | Supported protocols | Ref. | Release | Mnemonic | Comments |
|------|----------------------------------|--------|---------|----------|----------|
| 1 | 5GS Mobility Management | 24.501 | Rel-15 | | |
| 2 | 5GS Session Management | 24.501 | Rel-15 | | |
| 3 | Radio Resource Control | 38.331 | Rel-15 | | |
| 4 | Service Data Adaptation Protocol | 37.324 | Rel-15 | | |
| 5 | Packet Data Convergence Protocol | 38.323 | Rel-15 | | |
| 6 | Radio Link Control | 38.322 | Rel-15 | | |
| 7 | Medium Access Control | 38.321 | Rel-15 | | |
| 8 | Physical Layer | 38.201 | Rel-15 | | |

Table A.4.3-2: Special Conformance Testing Functions

| Item | Special Conformance Testing Functions | Ref. | Release | Mnemonic | Comments |
|------|---------------------------------------|--------|---------|----------|----------|
| 1 | UE test loop | 38.509 | Rel-15 | | |

A.4.3.1 RF Baseline Implementation Capabilities

NOTE: The values indicated in column "Release" in tables A.4.3.1-1 and A.4.3.1-2 below are to be understood as the specifications release version in which a band was introduced and not as a mandate that a UE conforming to particular release shall support a particular band. For further guidance to release independent bands see TS 38.307 [19].

Table A.4.3.1-1: NR FDD FR1 RF Baseline Implementation Capabilities

| Item | NR FDD RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|---------------|---------|------------------|------------|
| 1 | NR Frequency band: 1920-1980, 2110-2170 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand1_Supp | NR Band 1 |
| 2 | NR Frequency band: 1850-1910, 1930-1990 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand2_Supp | NR Band 2 |
| 3 | NR Frequency band: 1710-1785, 1805-1880 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand3_Supp | NR Band 3 |
| 4 | NR Frequency band: 824-849, 869-894 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand5_Supp | NR Band 5 |
| 5 | NR Frequency band: 2500-2570, 2620-2690 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand7_Supp | NR Band 7 |
| 6 | NR Frequency band: 880-915, 925-960 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand8_Supp | NR Band 8 |
| 7 | NR Frequency band: 832-862, 791-821 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand20_Supp | NR Band 20 |
| 8 | NR Frequency band: 703-748, 758-803 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand28_Supp | NR Band 28 |
| 9 | NR Frequency band: 1710-1780, 2110-2200 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand66_Supp | NR Band 66 |
| 10 | NR Frequency band: 1695-1710, 1995-2020 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand70_Supp | NR Band 70 |

Table A.4.3.1-2: NR TDD FR1 RF Baseline Implementation Capabilities

| Item | NR TDD RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|---------------|---------|------------------|------------|
| 1 | NR Frequency band: 2570-2620 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand38_Supp | NR Band 38 |
| 2 | NR Frequency band: 2496-2690 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand41_Supp | NR Band 41 |
| 3 | NR Frequency band: 3300–4200 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand77_Supp | NR Band 77 |
| 4 | NR Frequency band: 3300–3800 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand78_Supp | NR Band 78 |
| 5 | NR Frequency band: 4400–5000 MHz | 38.101-1, 5.2 | Rel-15 | pc_nrBand79_Supp | NR Band 79 |

Table A.4.3.1-3: NR FR2 TDD RF Baseline Implementation Capabilities

| Item | NR TDD RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|---------------|---------|-------------------|-------------|
| 1 | NR Frequency band: 26500-29500 MHz | 38.101-2, 5.2 | Rel-15 | pc_nrBand257_Supp | NR Band 257 |
| 2 | NR Frequency band: 24250-27500 MHz | 38.101-2, 5.2 | Rel-15 | pc_nrBand258_Supp | NR Band 258 |
| 3 | NR Frequency band: 37000–40000 MHz | 38.101-2, 5.2 | Rel-15 | pc_nrBand260_Supp | NR Band 260 |
| 4 | NR Frequency band: 27500–28350 MHz | 38.101-2, 5.2 | Rel-15 | pc_nrBand261_Supp | NR Band 261 |

Table A.4.3.1-4: NR PC2 RF Baseline Implementation Capabilities

| Item | NR PC2 RF Baseline Implementation Capabilities | Ref. | Release | Mnemonic | Comments |
|------|--|-----------------|---------|----------------------|------------|
| 1 | NR Frequency band: 2496-2690 MHz | 38.101-1, 6.2.1 | Rel-15 | pc_nrBand41_PC2_Supp | NR Band 41 |
| 2 | NR Frequency band: 3300-4200 MHz | 38.101-1, 6.2.1 | Rel-15 | pc_nrBand77_PC2_Supp | NR Band 77 |
| 3 | NR Frequency band: 3300–3800 MHz | 38.101-1, 6.2.1 | Rel-15 | pc_nrBand78_PC2_Supp | NR Band 78 |
| 4 | NR Frequency band: 4400–5000 MHz | 38.101-1, 6.2.1 | Rel-15 | pc_nrBand79_PC2_Supp | NR Band 79 |

A.4.3.2 Physical Layer Baseline Implementation Capabilities

Table A.4.3.2-1: UE Physical Layer Baseline Implementation Capabilities

| Item | UE Physical Layer Baseline Implementation Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|--|---------------|---------|-------------------------------|-----|---|----------|
| 1 | Support PDSCH reception based on semi-persistent scheduling | 38.306, 4.2.7 | Rel-15 | pc_downlinkSPS | No | | |
| 2 | Support 256QAM for PDSCH for FR1 | 38.306, 4.2.7 | Rel-15 | pc_pdsch_256QAM_FR1 | Yes | | |
| 3 | Support 256QAM for PDSCH for FR2 | 38.306, 4.2.7 | Rel-15 | pc_pdsch_256QAM_FR2 | No | | |
| 4 | Support 256QAM for PUSCH for FR1 | 38.306, 4.2.7 | Rel-15 | pc_pusch_256QAM_FR1 | No | | |
| 5 | Support receiving PDSCH using PDSCH mapping type A with less than seven symbols | 38.306, 4.2.7 | Rel-15 | pc_pdsch_MappingTypeA | Yes | | |
| 6 | Support receiving PDSCH using PDSCH mapping type B | 38.306, 4.2.7 | Rel-15 | pc_pdsch_MappingTypeB | Yes | | |
| 7 | Support resource allocation Type 0 for PUSCH | 38.306, 4.2.7 | Rel-15 | pc_ra_Type0_PUSCH | No | | |
| 8 | Support scaling factor 0.75 is applied to the band in the max data rate calculation | 38.306, 4.2.7 | Rel-15 | pc_scalingFactor0dot75 | | | |
| 9 | Support handover using a contention free random access on PRACH resources that are associated with CSI-RS resources of the target cell | 38.306, 4.2.7 | Rel-15 | pc_csi_RS_CFRA_ForHO | No | | |
| 10 | Support Type 1 PUSCH transmissions with configured grant | 38.306, 4.2.7 | Rel-15 | pc_configuredUL_GrantType 1 | No | | |
| 11 | Support Type 2 PUSCH transmissions with configured grant | 38.306, 4.2.7 | Rel-15 | pc_configuredUL_GrantType 2 | No | | |
| 12 | Support PDSCH Reception when configured with higher layer parameter aggregationFactorDL > 1 | 38.306, 4.2.7 | Rel-15 | pc_pdsch_RepetitionMultiSlots | No | | |
| 13 | Supports supplemental uplink with dynamic switch (DCI based selection of PUSCH carrier) | 38.306, 4.2.7 | Rel-15 | pc_dynamicSwitch_SUL | FFS | | |

A.4.3.3 PDCP Implementation Capabilities

Table A.4.3.3-1: UE PDCP Implementation Capabilities

| Item | UE PDCP Implementation Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|---|---------------|---------|------------|-----|---|----------|
| 1 | Support 12 bit length of PDCP sequence number | 38.306, 4.2.4 | Rel-15 | pc_shortSN | Yes | | |

A.4.3.4 RLC Implementation Capabilities

Table A.4.3.4-1: UE RLC Implementation Capabilities

| Item | UE RLC Implementation Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|--|---------------|---------|-------------------|-----|---|----------|
| 1 | Support RLC AM with 12 bit length of RLC sequence number | 38.306, 4.2.5 | Rel-15 | pc_am_WithShortSN | Yes | | |
| 2 | Support RLC UM with 12 bit length of RLC sequence number | 38.306, 4.2.5 | Rel-15 | pc_um_WithLongSN | Yes | | |
| 3 | Support RLC UM with 6 bit length of RLC sequence number | 38.306, 4.2.5 | Rel-15 | pc_um_WithShortSN | Yes | | |

A.4.3.5 MAC Implementation Capabilities

Table A.4.3.5-1: UE MAC Implementation Capabilities

| Item | UE MAC Implementation Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|---|---------------|---------|------------------------|-----|---|----------|
| 1 | Support long DRX cycle | 38.306, 4.2.6 | Rel-15 | pc_longDRX_Cycle | Yes | | |
| 2 | Support short DRX cycle | 38.306, 4.2.6 | Rel-15 | pc_shortDRX_Cycle | Yes | | |
| 3 | Support skipping of UL transmission for an uplink grant indicated on PDCCH if no data is available for transmission | 38.306, 4.2.6 | Rel-15 | pc_skipUplinkTxDynamic | No | | |

A.4.3.6 Measurement Capabilities

Table A.4.3.6-1: UE Measurement Capabilities

| Item | UE Measurement Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|---|---------------|---------|---------------------------------|-----|---|----------|
| 1 | Support NR measurements and events A triggered reporting | 38.306, 4.2.9 | Rel-15 | pc_eventA_MeasAndReport | Yes | | |
| 2 | Support two independent measurement gap configurations for FR1 and FR2 | 38.306, 4.2.9 | Rel-15 | pc_independentGapConfig | No | | |
| 3 | Support NR intra-frequency and inter-frequency measurements and at least periodical reporting | 38.306, 4.2.9 | Rel-15 | pc_intraAndInterF_MeasAndReport | Yes | | |
| 4 | Support CSI-RSRP and CSI-RSRQ measurement as specified in TS38.215 [21], where CSI-RS resource is configured with an associated SS/PBCH | 38.306, 4.2.9 | Rel-15 | pc_csi_RSRP_AndRSRQ_MeasWithSSB | No | | |

A.4.3.7 General Capabilities

Table A.4.3.7-1: UE General Capabilities

| Item | UE General Capabilities | Ref. | Release | Mnemonic | M | If indicated "Yes" the feature shall be implemented and successfully tested for the corresponding release | Comments |
|------|---|---------------|---------|---------------------------------|-----|---|----------|
| 1 | Support UL transmission via either MCG path or SCG path for the split SRB as specified in TS 37.340[20] | 38.306, 4.2.2 | Rel-15 | pc_splitSRB_WithOneUL_Path | No | | |
| 2 | Support UL transmission via both MCG path and SCG path for the split DRB as specified in TS 37.340[20] | 38.306, 4.2.2 | Rel-15 | pc_splitDRB_withUL_Both_MCG_SCG | Yes | | |
| 3 | Support direct SRB between the SN and the UE as specified in TS 37.340[20] | 38.306, 4.2.2 | Rel-15 | pc_srb3 | Yes | | |
| 4 | Support of reflective QoS | 38.306, 4.2.2 | Rel-15 | pc_as_ReflectiveQoS | No | | |

A.4.4 Additional information

Table A.4.4-1: Additional information

| Item | Additional information | Ref. | Release | Mnemonic | Comments |
|------|------------------------------|-------------------------------|---------|------------|---|
| 1 | Support of ICMP or ICMP IPv6 | RFC 792 OR RFC 4443, RFC 4884 | NA | pc_IP_Ping | UE supports ICMP or ICMPv6 protocol to enable IP Ping Operation |

Annex B (informative): Change history

| Change history | | | | | | | |
|----------------|--------------------|-----------|----------|-----|-----|--|-------------|
| Date | Meeting | TDoc | CR | Rev | Cat | Subject/Comment | New version |
| 2017-12 | RAN5#77 | R5-176852 | - | - | - | Introduction of TS 38.508-2 | 0.1.0 |
| 2018-04 | RAN5#2-5G-NR Adhoc | R5-182069 | - | - | - | Addition of several required PICS | 0.2.1 |
| 2018-05 | RAN5#79 | R5-183271 | - | - | - | Addition of Missing PICS | 1.0.0 |
| 2018-06 | RAN#80 | RP-181208 | - | - | - | put under revision control as v15.0.0 with small editorial changes | 15.0.0 |
| 2018-09 | RAN#81 | R5-185161 | 000 1 | 1 | F | Addition of PICS | 15.1.0 |
| 2018-12 | RAN#82 | R5-187040 | 001 0 | - | F | Addition of new band into RF baseline implementation capabilities | 15.2.0 |
| 2018-12 | RAN#82 | R5-187777 | 001 1 | 1 | F | Addition of PICS | 15.2.0 |

History

| Document history | | |
|-------------------------|--------------|-------------|
| V15.0.0 | July 2018 | Publication |
| V15.1.0 | October 2018 | Publication |
| V15.2.0 | April 2019 | Publication |
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