**3GPP TSG-RAN WG2 Meeting #117 electronic R2-2203925**

**Electronic Meeting, February 21 – March 3, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.306** | **CR** | **Draft** | **rev** | **-** | **Current version:** | **16.7.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network | **x** | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | UE capabilities for NR QoE | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CMCC | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_QoE-Core | | | | |  | ***Date:*** | | | 2022-03-03 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The following agreements related to UE capabilities for NR QMC are added:  At RAN2#116bis-e:   * [031] Introduce QoE UE capability parameters for each service type i.e., streaming, MTSI and VR. * [031] Introduce UE capability parameter(s) for RAN visible QoE. * [031] Introduce a new sub-section in TS 38.306 to capture QoE related capabilities. * [031] Agree that no differentiation for FDD/TDD or FR1/FR2 is needed for QoE related capabilities.   At RAN2#117:   * [008] A parameter per service type indicating whether UE supports RAN visible QoE capability. * [008] RRC segmentation capability can be optional with UE capability parameter (one extra bit). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The following are added to support NR QoE:  - Add references for TS 24.247, TS 24.114 and TS 24.118.   * Add abbreviation for QoE.   - Add QoE measurement parameters as a new sub-section.  - Add *qoe-Streaming-MeasReport-r17* to indicate whether the UE supports NR QoE Measurement Collection for streaming services.  - Add *qoe-MTSI-MeasReport-r17* to indicate whether the UE supports NR QoE Measurement Collection for MTSI services.  - Add *qoe-VR-MeasReport-r17* to indicate whether the UE supports NR QoE Measurement Collection for VR services.  - Add *ran-VisibleQoE-Streaming-MeasReport-r17* to indicate whether the UE supports RAN visible QoE Measurement Collection for streaming services.  - Add *ran-VisibleQoE-VR-MeasReport-r17* to indicate whether the UE supports RAN visible QoE Measurement Collection for VR services.   * Add *ul-MeasurementReportAppLayer-Seg-r17* to indicate whether the UE supports RRC segmentation of the MeasurementReportAppLayer message in UL. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The network does not know what NR QMC related capabilities UE supports. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 3.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS38.331 CR Draft | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | |  | | --- | |  | | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

START OF CHANGES

# 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 38.101-1: "NR; User Equipment (UE) radio transmission and reception Part 1: Range 1 Standalone".

[3] 3GPP TS 38.101-2: "NR; User Equipment (UE) radio transmission and reception Part 2: Range 2 Standalone".

[4] 3GPP TS 38.101-3: "NR; User Equipment (UE) radio transmission and reception Part 3: Range 1 and Range 2 Interworking operation with other radios".

[5] 3GPP TS 38.133: "NR; Requirements for support of radio resource management".

[6] 3GPP TS 38.211: "NR; Physical channels and modulation".

[7] 3GPP TS 37.340: "Evolved Universal Terrestrial Radio Access (E-UTRA) and NR Multi-connectivity".

[8] 3GPP TS 38.321: "NR; Medium Access Control (MAC) protocol specification".

[9] 3GPP TS 38.331: "NR; Radio Resource Control (RRC) protocol specification".

[10] 3GPP TS 38.212: "NR; Multiplexing and channel coding".

[11] 3GPP TS 38.213: "NR; Physical layer procedures for control".

[12] 3GPP TS 38.214: "NR; Physical layer procedures for data".

[13] 3GPP TS 38.215: "NR; Physical layer measurements".

[14] 3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA) radio transmission and reception".

[15] 3GPP TS 36.306: "Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE) radio access capabilities".

[16] 3GPP TS 38.323: "NR; Packet Data Convergence Protocol (PDCP) specification".

[17] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA) Radio Resource Control (RRC); Protocol Specification".

[18] 3GPP TS 38.101-4: "NR; User Equipment (UE) radio transmission and reception Part 4: Performance requirements".

[19] 3GPP TS 36.213: "Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures".

[20] 3GPP TS 25.306: "UE radio access capabilities".

[21] 3GPP TS 38.304: "User Equipment (UE) procedures in Idle mode and RRC Inactive state".

[22] 3GPP TS 37.355: " LTE Positioning Protocol (LPP)".

[23] 3GPP TS 38.340: "NR; Backhaul Adaptation Protocol (BAP) specification".

[24] 3GPP TR 38.822: "NR; User Equipment (UE) feature list".

[25] 3GPP TS 37.324: "E-UTRA and NR; Service Data Adaptation Protocol (SDAP) specification"

[26] 3GPP TS 38.314: "NR; Layer 2 Measurements".

[27] 3GPP TS 36.133: "Evolved Universal Terrestrial Radio Access (E-UTRA); Requirements for support of radio resource management".

[28] 3GPP TS 38.300: "NR; NR and NG-RAN Overall Description; Stage-2".

[XX] 3GPP TS 26.247: "Transparent end-to-end Packet-switched Streaming Service (PSS); Progressive Download and Dynamic Adaptive Streaming over HTTP (3GP-DASH)".

[YY] 3GPP TS 26.114: " IP Multimedia Subsystem (IMS); Multimedia Telephony; Media handling and interaction".

[ZZ] 3GPP TS 26.118: "Virtual Reality (VR) profiles for streaming applications".

NEXT CHANGES

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 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 TR 21.905 [1].

BAP Backhaul Adaptation Protocol

BC Band Combination

BT Bluetooth

DAPS Dual Active Protocol Stack

DL Downlink

EHC Ethernet Header Compression

FS Feature Set

FSPC Feature Set Per Component-carrier

IAB-MT Integrated Access Backhaul Mobile Termination

MAC Medium Access Control

MCG Master Cell Group

MN Master Node

MR-DC Multi-RAT Dual Connectivity

PDCP Packet Data Convergence Protocol

QoE Quality of Experience

RLC Radio Link Control

RTT Round Trip Time

SCG Secondary Cell Group

SDAP Service Data Adaptation Protocol

SN Secondary Node

UL Uplink

WLAN Wireless Local Area Network

NEXT CHANGES

4.2.x QoE measurement parameters

| Definitions for parameters | Per | M | FDD-TDD DIFF | FR1-FR2 DIFF |
| --- | --- | --- | --- | --- |
| ***qoe-Streaming-MeasReport-r17***  Indicates whether the UE supports NR QoE Measurement Collection for streaming services, see TS 26.247[XX]. | UE | No | No | No |
| ***qoe-MTSI-MeasReport-r17***  Indicates whether the UE supports NR QoE Measurement Collection for MTSI services, see TS 26.114[YY]. | UE | No | No | No |
| ***qoe-VR-MeasReport-r17***  Indicates whether the UE supports NR QoE Measurement Collection for VR services, see TS 26.118[ZZ]. | UE | No | No | No |
| ***ran-VisibleQoE-Streaming-MeasReport-r17***  Indicates whether the UE supports RAN visible QoE Measurement Collection for streaming services. | UE | No | No | No |
| ***ran-VisibleQoE-VR-MeasReport-r17***  Indicates whether the UE supports RAN visible QoE Measurement Collection for VR services. | UE | No | No | No |
| ***ul-MeasurementReportAppLayer-Seg-r17***  Indicates whether the UE supports RRC segmentation of the MeasurementReportAppLayer message in UL, as specified in TS 38.331 [9]. | UE | No | No | No |

END OF CHANGES

# Annex A: R2 feature list for this CR

### 4.2.x NR\_QoE-Core

Table 4.2.X-1: Layer-2 and Layer-3 feature list for NR\_QoE-Core

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Features | Index | Feature group | Components | Prerequisite feature groups | Field name in TS 38.331 | Parent IE in TS 38.331 [2] | Need of FDD/TDD differentiation | Need of FR1/FR2 differentiation | Note | Mandatory/Optional |
| X. NR\_QoE-Core | X-1 | NR QoE measurement collection | Indicates whether the UE supports NR QoE Measurement Collection for streaming services. |  | *qoe-Streaming-MeasReport-r17* | *qoe-Parameters-r17* | No | No |  | Optional with capability signalling |
| X-2 | NR QoE measurement collection | Indicates whether the UE supports NR QoE Measurement Collection for MTSI services. |  | *qoe-MTSI-* *MeasReport-r17* | *qoe-Parameters-r17* | No | No |  | Optional with capability signalling |
| X-3 | NR QoE measurement collection | Indicates whether the UE supports NR QoE Measurement Collection for VR services. |  | *qoe-VR-* *MeasReport-r17* | *qoe-Parameters-r17* | No | No |  | Optional with capability signalling |
| X-4 | RAN visible QoE measurement collection | Indicates whether the UE supports RAN visible QoE Measurement Collection for streaming services. |  | *ran-VisibleQoE-Streaming-MeasReport-r17* | *qoe-Parameters-r17* | No | No |  | Optional with capability signalling |
| X-5 | RAN visible QoE measurement collection | Indicates whether the UE supports RAN visible QoE Measurement Collection for VR services. |  | *ran-VisibleQoE-VR-MeasReport-r17* | *qoe-Parameters-r17* | No | No |  | Optional with capability signalling |
| X-6 | NR QoE measurement collection | Indicates whether the UE supports RRC segmentation of the MeasurementReportAppLayer message in UL. |  | *ul-MeasurementReportAppLayer-Seg-r17* | *qoe-Parameters-r17* | No | No |  | Optional with capability signalling |