**3GPP TSG-RAN WG2 Meeting #124 *R2-23xxxxx***

**Chicago, USA, 13 – 17 November, 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **36.306** | **CR** | **XXXX** | **rev** | **-** | **Current version:** | **17.4.0** |  |
|  | | | | | | | | |
| *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:*** | Running CR 36306 for UE capability for R18 SONMDT | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon, CATT | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_ENDC\_SON\_MDT\_enh2-Core | | | | |  | ***Date:*** | | | 2023-10-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Introduction of R18 features on SON and MDT. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Based on RAN2#123bis agreements, R18 UE capabilities for SON and MDT are defined, which includes:  2: Introduce an optional feature without signalling for LTE RLF report for voice fallback in LTE. This feature is for the case an RLF occurs shortly after successful HO from NR to E-UTRAN for voice fallback.  9: Introduce a new UE capability bit (optional with signalling) for RACH report about NR RACH Report in LTE. This bit indicates whether the UE supports NR RACH report in LTE, upon request from the network.  12: Introduce a new UE capability bit (optional with signalling) for signalling based logged MDT override protection in LTE. This bit indicates whether the UE supports the override protection of the signalling based logged measurements configured in E-UTRA when going to NR. | | | | | | | | |
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| ***Consequences if not approved:*** | | No R18 UE capabilities for SON and MDT are defined. | | | | | | | | |
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| ***Clauses affected:*** | | 4.3.12.x (New), 4.3.13.x (New), 6.10.x (New) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 36.331 CRxxxx | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

### 4.3.12 SON parameters

#### 4.3.12.1 *rach-Report*

This parameter defines whether the UE supports delivery of *rachReport* upon request from the network.

#### 4.3.12.2 *anr-Report-r16*

This field indicates whether the UE supports ANR measurement configuration and reporting in RRC\_IDLE as specified in TS 36.304 [14] and TS 36.331 [5]. This feature is only applicable if the UE supports any *ue-Category-NB*.

#### 4.3.12.3 *rach-Report-r16*

This field indicates whether the UE supports delivery of *rachReport* upon request from the network as specified in TS 36.331 [5] when connected to EPC. This feature is only applicable if the UE supports any *ue-Category-NB*.

#### 4.3.12.x *rach-ReportForNR-r18*

This field indicates whether the UE supports NR RACH report in LTE, upon request from the network.

### 4.3.13 UE-based network performance measurement parameters

#### 4.3.13.1 *loggedMeasurementsIdle*

This parameter defines whether the UE supports logged measurements including logging in *any cell selection* state in RRC\_IDLE upon request from the network as specified in TS 36.331 [5] and TS 36.304 [14]. A UE that supports logged measurements in RRC\_IDLE shall also support a minimum of 64kB memory for log storage.

#### 4.3.13.2 *standaloneGNSS-Location*

This parameter defines whether the UE is equipped with a standalone GNSS receiver that may be used to provide detailed location information in RRC measurement report and logged measurements in RRC\_IDLE. The GNSS receiver may be used to provide the location when operating in the NTN cell.

#### 4.3.13.3 Void

#### 4.3.13.4 *loggedMBSFNMeasurements-r12*

This parameter defines whether the UE supports logged MBSFN measurement in RRC\_IDLE and RRC\_CONNECTED upon request from the network. A UE that supports logged MBSFN measurements shall also support a minimum of 64kB memory for log storage. A UE that supports logged MBSFN measurements shall also support logged measurements in RRC\_IDLE upon request from the network.

#### 4.3.13.5 *locationReport-r14*

This parameter defines whether the UE supports reporting of its geographical location information to eNB.

#### 4.3.13.6 *loggedMeasBT-r15*

This parameter indicates whether the UE supports Bluetooth measurements in RRC\_IDLE mode.

#### 4.3.13.7 *loggedMeasWLAN-r15*

This parameter indicates whether the UE supports WLAN measurements in RRC\_IDLE mode.

#### 4.3.13.8 *immMeasBT-r15*

This parameter indicates whether the UE supports Bluetooth measurements in RRC\_CONNECTED mode.

#### 4.3.13.9 *immMeasWLAN-r15*

This parameter indicates whether the UE supports WLAN measurements in RRC\_CONNECTED mode.

#### 4.3.13.10 *ul-PDCP-AvgDelay-r16*

This parameter indicates whether the UE supports UL PDCP Packet Average Delay measurement (as specified in TS 38.314 [41]) and reporting in RRC\_CONNECTED state.

#### 4.3.13.11 *loggedMeasIdleEventL1-r17*

This parameter defines whether the UE supports event triggered logged measurements for *eventL1* in RRC\_IDLE upon request from the network. A UE indicating support of *loggedMeasIdleEventL1-r17* shall also indicate support of *loggedMeasurementsIdle*.

#### 4.3.13.12 *loggedMeasIdleEventOutOfCoverage-r17*

This parameter defines whether the UE supports event triggered logged measurements for event *outOfCoverage* in RRC\_IDLE upon request from the network. A UE indicating support of *loggedMeasIdleEventOutOfCoverage-r17* shall also indicate support of *loggedMeasurementsIdle*.

#### 4.3.13.13 *loggedMeasUncomBarPre-r17*

This parameter indicates whether the UE supports logging of uncompensated barometric pressure measurement in RRC\_IDLE mode.

#### 4.3.13.14 *immMeasUncomBarPre-r17*

This parameter indicates whether the UE supports uncompensated barometric pressure measurement in RRC\_CONNECTED mode.

#### 4.3.13.x *sigBasedEUTRA-LoggedMeasOverrideProtect-r18*

This field indicates whether the UE supports the override protection of the signalling based logged measurements configured in E-UTRA when entering RRC\_CONNECTED state in NR.

*<Next modification>*

## 6.10 SON features

### 6.10.1 Radio Link Failure Report for inter-RAT MRO

It is optional for UE to include *previousUTRA-CellId* and *selectedUTRA-CellId* in *RLF-Report* upon request from the network as specified in TS 36.331 [5].

### 6.10.2 Radio Link Failure Report for NB-IoT

It is optional for UE to support the storage of *RLF-Report* and the reporting in *UEInformationResponse* message as specified in TS 36.331 [5] when connected to EPC. This feature is only applicable if the UE supports any *ue-Category-NB*.

### 6.10.3 Radio Link Failure Report for inter-RAT MRO NR

It is optional for UE to include *previousNR-PCellId*, *failedNR-PCellId* and *nrReconnectCellId* in *RLF-Report* upon request from the network as specified in TS 36.331 [5].

### 6.10.x LTE RLF report for voice fallback in LTE

It is optional for UE to include *xxx* in *RLF-Report* upon request from the network as specified in TS 36.331 [5], when an RLF occurs shortly after successful HO from NR to E-UTRAN for voice fallback.