**3GPP TSG-RAN WG2 Meeting #117 electronic *R2-2203668***

**Online, 21 February – 03 March, 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **36.306** | **CR** | **1838** | **rev** | 1 | **Current version:** | **16.7.0** |  |
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| *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:*** | On introducing height information reporting in MDT reports [LTE-Height-MDT] | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | KDDI, Ericsson, Qualcomm | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17 | | | | |  | ***Date:*** | | | 2022-03-02 |
|  |  | | | |  | |  | | |  |
| ***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 MDT measurement reports included in NR includes the measurements related to the UE’s height information. This information is included as follows in TS 38.331.  Sensor-LocationInfo-r16 ::= SEQUENCE {  sensor-MeasurementInformation-r16 OCTET STRING OPTIONAL,  sensor-MotionInformation-r16 OCTET STRING OPTIONAL,  ...  }  ***sensor-MeasurementInformation***  This field provides barometric pressure measurements as *Sensor-MeasurementInformation* defined in TS 37.355 [49]. The first/leftmost bit of the first octet contains the most significant bit.  The UE includes the barometric pressure measurements in the logged MDT reports and immediate MDT reports based on the network configurations. In the case of immediate MDT, the UE obtains the configuration related to the inclusion of barometric pressure measurements in the *otherConfig* whereas for the logged MDT, the UE obtains the configurations related to the inclusion of baromteric pressure measurements in the *loggedMeasurementConfiguration*.  The height information so included in the MDT reports aids the operator to build a 3D coverage map of their deployment.  Such height related information is missing in the LTE MDT reports. | | | | | | | | |
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| ***Summary of change:*** | | A UE capability indicating whether the UE supports logging of uncompensated barometric pressure measurement in RRC\_IDLE mode.  A UE capability indicating whether the UE supports logging of uncompensated barometric pressure measurement in RRC\_CONNECTED mode. | | | | | | | | |
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| ***Consequences if not approved:*** | | Height information reporting is not configurable by the network for the MDT reports as netowrk is not aware if the UE supports the height measurement reporting in MDT logs, thus leading to inability of the operator to build 3D coverage maps. | | | | | | | | |
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| ***Clauses affected:*** | | 4.3.13.x (new), 4.3.13.y (new) | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 36.331 CR4756  TS 37.320 CR0114 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev 0: Introduction of a single UE capability for uncompensated barometric pressure reporting in MDT.  Rev 1: Defined separate UE capabilities for uncompensated barometric pressure reporting for logged MDT and immediate MDT. | | | | | | | | |

/\*Start of first change\*/

### 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.

#### 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.x *loggedMeasUncomBarPre-r17*

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

#### 4.3.13.y *immMeasUncomBarPre-r17*

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

/\*end of first change\*/