**3GPP TSG- Meeting #139-e *TDoc S5-215201***

**e-meeting, 11 - 20 October 2021**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **32.423** | **CR** | 0125 | **rev** | **1** | **Current version:** | 17.2.0 |  |
|  |
| *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 |  | Radio Access Network | **X** | Core Network | **X** |

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|  |
| ***Title:***  | Add MDT polluted measurement indication for trace record in NR |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | e\_5GMDT |  | ***Date:*** | 2021-10-11 |
|  |  |  |  |  |
| ***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 canbe 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)* |
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| ***Reason for change:*** | Add MDT polluted measurement indication in trace record M4, M5, M6, M7 for the case of immediate MDT in NR so that the TCE is able to correlate and filter out the affected measurement. This is the alignment with LS S5-215026/R3-214429. |
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| ***Summary of change:*** | * Add MDT polluted measurement indication in NR trace record, M4,M5,M6,M7.
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| ***Consequences if not approved:*** |  |
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| ***Clauses affected:*** | 4.34.1,4.34.3 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **x** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **x** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** | See also LS S5-215026/R3-214429 from RAN3 |
|  |  |
| ***This CR's revision history:*** |  |

***First change***

### 4.34.1 Trace Record for Immediate MDT measurements

The following table contains the Trace record description for NR immediate MDT measurements.
The trace record is the same for management based activation and for signalling based activation.

| MDT measurement name | Measurement attribute name(s) | Measurement attribute definition | Notes |
| --- | --- | --- | --- |
| M1 | RSRPs | List of RSRP values received in RRC measurement report. One value per measured cell. For beam level granularity, one value per measured beam. | TS 32.422 [3]TS 37.320 [32]TS 38.331 [21] |
| RSRQs | List of RSRQ values received in RRC measurement report. One value per measured cell. For beam level granularity, one value per measured beam. | TS 32.422 [3]TS 37.320 [32]TS 38.331 [21] |
| PCIs | List of Physical Cell Identity of measured cells. The order of PCI values in the list should be the same as the corresponding measured values in the RSRPs, RSRQs and SINRs attributes. | TS 38.331 [21] |
| SINRs | List of SINR values received in RRC measurement report. One value per measured cell. | TS 38.215 [42]TS 32.422 [3]TS 37.320 [32] |
| Triggering event | Event that triggered the M1 measurement report, used only in case of RRM configured measurements (events A1, A2, A3, A4, A5, A6, B1 or B2) | TS 32.422 [3]TS 37.320 [32] |
| UE location | UE positioning information and sensors data | TS 38.331 [21] |
| in-device coexistence interference | See clause 4.34.3 | TS 38.331 [21] |
| M2 | PH distr  | Distribution of the power headroom samples reported by the UE during the collection period.  | TS 38.213 [37]TS 32.422 [3]TS 37.320 [32] |
| in-device coexistence interference | See clause 4.34.3 | TS 38.331 [21] |
| M3 (Not supported in rel. 16) |  |  |  |
| M4 | UL volumes | List of measured UL volumes in bytes per DRB. One value per DRB per UE. | TS 32.422 [3]TS 37.320 [32]TS 28.552 [36]TS 32.425 [39] |
| DL volumes | List of measured DL volumes in bytes per DRB. One value per DRB per UE. | TS 32.422 [3]TS 37.320 [32]TS 28.552 [36] |
| QoS level (QCI in option 3 or mapped 5QI in other options). | List of QoS levels of the DRBs for which the volume and throughput measurements apply. The order of QoS values in the list should be the same as the corresponding measured values in the UL volumes and DL volumes attributes. | TS 32.422 [3]TS 37.320 [32]TS 28.552 [36]TS 32.425 [39]TS 32.425 [39] |
| in-device coexistence interference | See clause 4.34.3 | TS 38.331 [21] |
| M5 | UL Thp Time | Throughput time used for calculation of the uplink throughput (per UE). | TS 38.314 [35]TS 32.422 [3]TS 37.320 [32] |
| UL Thp Volume | Throughput volume used for calculation of the uplink throughput (per UE). | TS 38.314 [35]TS 32.422 [3]TS 37.320 [32] |
| UL LastTTI Volume | Volume transmitted in the last TTI and excluded from throughput calculation in the uplink. | TS 38.314 [35]TS 32.422 [3]TS 37.320 [32] |
| DL Thp Times | List of throughput times used for calculation of the downlink throughput per DRB per UE. One value per DRB. | TS 38.314 [35]TS 32.422 [3]TS 37.320 [32]TS 32.425 [39] |
| DL Thp Volumes | List of throughput times used for calculation of the downlink throughput per DRB per UE. One value per DRB. | TS 38.314 [35]TS 32.422 [3]TS 37.320 [32]TS 32.425 [39] |
| QoS level (QCI in option 3 or mapped 5QI in other options). | List of QoS levels of the DRBs for which the volume and throughput measurements apply. The order of QoS values in the list should be the same as the corresponding measured values in the UL volumes and DL volumes attributes. | TS 32.422 [3]TS 37.320 [32]TS 28.552 [36]TS 32.425 [39] |
| DL Thp Time UE | Throughput time used for calculation of the downlink throughput (per UE). | TS 38.314 [35]TS 32.422 [3]TS 37.320 [32] |
| DL Thp Volume UE | Throughput volume used for calculation of the downlink throughput (per UE). | TS 38.314 [35]TS 32.422 [3]TS 37.320 [32] |
| DL LastTTI Volume | Volume transmitted in the last TTI and excluded from the throughput calculation in the downlink (per UE). | TS 38.314 [35]TS 32.422 [3]TS 37.320 [32] |
| in-device coexistence interference | See clause 4.34.3 | TS 38.331 [21] |
| M6 | DL packet delay per QoS level (per QCI in option 3 or mapped 5QI in other options). | L2 Packet Delay for OAM performance observability or for QoS verification of MDT per DRB per UE  | TS 37.320 [32]TS 28.552 [36]TS 32.425 [39] |
| UL packet delay per QoS level (per QCI in option 3 or mapped 5QI in other options). | Excess Packet Delay Ratio in Layer PDCP for QoS verification of MDT per DRB per UE . | TS 38.314 [W]TS 37.320 [32]TS 28.552 [36]TS 32.425 [39] |
| in-device coexistence interference | See clause 4.34.3 | TS 38.331 [21] |
| M7 | DL packet loss rate per QoS level (per QCI in option 3 or mapped 5QI in other options). | packets that are lost at Uu transmission, for OAM performance observability per DRB per UE. | TS 37.320 [32]TS 28.552 [36]TS 32.425 [39] |
| UL packet loss rate per QoS level (per QCI in option 3 or mapped 5QI in other options). | packets that are lost in the UL, for OAM performance observability or QoS verification of MDT per DRB per UE. | TS 38.314 [W]TS 37.320 [32]TS 28.552 [36]TS 32.425 [39] |
| in-device coexistence interference | See clause 4.34.3 | TS 38.331 [21] |
| M8 | RSSI (WLAN, Bluetooth®) | RSSI measurement by UE. | TS 37.320 [32] |
| in-device coexistence interference | See clause 4.34.3 | TS 38.331 [21] |
| M9 | RTT (WLAN) | RTT measurement by UE. | TS 37.320 [32] |
| in-device coexistence interference | See clause 4.34.3 | TS 38.331 [21] |

***Next changes***

### 4.34.3 Trace Record for polluted measurement indication

The following table contains the Trace record description for NR polluted indication information. The trace record is the same for management based activation and for signalling based activation.

| MDT measurement name | Measurement attribute name(s) | Measurement attribute definition | Notes |
| --- | --- | --- | --- |
| in-device coexistence interference | IDC assistance information  | it is applied as polluted measurement indication in which interference factors of IDC (In-Device Coexistence) shall be included in the case of immediate MDT measurement if available | TS 38.331 [21] |

***End of changes***