**3GPP TSG-SA5 Meeting #156 *S5-244941***

**Maastricht, Netherlands, 19 - 23 August 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **28.558** | **CR** |  | **rev** | 1 | **Current version:** | **19.0.0** |  |
|  |
| *For* [***HELP***](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 |  |

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|  |
| ***Title:***  | Rel-19 CR TS 28.558 Add M4 measurement for NR |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** | 2024-08-22 |
|  |  |  |  |  |
| ***Category:*** | **A** |  | ***Release:*** | Rel-19 |
|  | *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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | RAN3 LS R3-243941 (S5-243797) requests SA5 to add the missing M4 measurement for NR in TS 28.558. |
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| ***Summary of change:*** | Introduce the M4 measurement for NR. |
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| ***Consequences if not approved:*** | No M4 measurement for NR. Misalignment between RAN3 and SA5. |
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| ***Clauses affected:*** | 6.3.1.X (New) |
|  |  |
|  | **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:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

**First Change**

#### 6.3.1.X UE Data Volume

##### 6.3.1.X.1 Measurements valid for non-split gNB

###### 6.3.1.X.1.1 DL PDCP SDU Data Volume

a) This measurement provides the Data Volume (amount of PDCP SDU bits) in the downlink delivered to PDCP layer. The measurement can be filtered per PLMN ID and per QoS level (mapped 5QI or QCI in NR option 3) and per supported S-NSSAI. This measurement is also referred to as DL M4 in TS 37.320 [x] clause 5.4.1.1. The unit is Mbit.

b) CC

c) This measurement is obtained by counting the number of bits entering the NG-RAN PDCP layers. The measurement is performed at the PDCP SDU level. The measurement is performed per PLMN ID and per QoS level (mapped 5QI or QCI in NR option 3) and per S-NSSAI.

d) Each measurement is an integer value representing the number of bits measured in Mbits (1MBits=1000\*1000 bits). The number of measurements is equal to the number of PLMNs multiplied by the number of QoS levels multiplied by the number of SNSSAIs.

[Total no. of measurement instances] x [no. of filter values for all measurements] (DL and UL) ≤ 100.

e) The measurement name has the form DRB.PdcpSduVolumeDlUe\_*Filter*
, where *Filter* is a combination of *PLMN ID*, *QoS level* and *SNSSAI*, where *PLMN ID* represents PLMN ID, *QoS level* represents the mapped 5QI or QCI level, and *SNSSAI* represents S-NSSAI.

f) NRCellCU

g) S-TMSI

h) One usage of this measurement is to support ML training and performance evaluation.

###### 6.3.1.X.1.2 UL PDCP SDU Data Volume

a) This measurement provides the Data Volume (amount of PDCP SDU bits) in the uplink delivered from PDCP layer to higher layers. The measurement can be filtered per PLMN ID and per QoS level (mapped 5QI or QCI in NR option 3) and per supported S-NSSAI. This measurement is also referred to as UL M4 in TS 37.320 [x] clause 5.4.1.1. The unit is Mbit.

b) CC

c) This measurement is obtained by counting the number of bits delivered from PDCP layer to higher layers. The measurement is performed per PLMN ID and per QoS level (mapped 5QI or QCI in NR option 3) and per S-NSSAI.

d) Each measurement is an integer value representing the number of bits measured in Mbits (1MBits=1000\*1000 bits). The number of measurements is equal to the number of PLMNs multiplied by the number of QoS levels multiplied by the number of S-NSSAIs.

[Total no. of measurement instances] x [no. of filter values for all measurements] (DL and UL) ≤ 100.

e) The measurement name has the form DRB.PdcpSduVolumeUlUe\_*Filter*
, where *Filter* is a combination of *PLMN ID*, *QoS level* and *SNSSAI*, where *PLMN ID* represents PLMN ID, *QoS level* represents the mapped 5QI or QCI level, and *SNSSAI* represents S-NSSAI.

f) NRCellCU

g) S-TMSI

h) One usage of this measurement is to support ML training and performance evaluation.

##### 6.3.1.X.2 Measurements valid for split gNB

###### 6.3.1.X.2.1 DL PDCP SDU Data Volume

a) This measurement provides the Data Volume (amount of PDCP SDU bits) in the downlink delivered to PDCP layer. The measurement can be filtered per PLMN ID and per QoS level (mapped 5QI or QCI in NR option 3) and per supported S-NSSAI. This measurement is also referred to as DL M4 in TS 37.320 [x] clause 5.4.1.1. The unit is Mbit.

b) CC

c) This measurement is obtained by counting the number of bits entering the NG-RAN PDCP layers. The measurement is performed at the PDCP SDU level. The measurement is calculated per PLMN ID and per QoS level (mapped 5QI or QCI in NR option 3) and per supported S-NSSAI.

d) Each measurement is an integer value representing the number of bits measured in Mbits (1MBits=1000\*1000 bits). The number of measurements is equal to the number of PLMNs multiplied by the number of QoS levels multiplied by the number of S-NSSAIs.

[Total no. of measurement instances] x [no. of filter values for all measurements] (DL and UL) ≤ 100.

e) The measurement name has the form QosFlow.PdcpSduVolumeDlUe\_*Filter*
, where *Filter* is a combination of *PLMN ID*, *QoS level* and *SNSSAI*, where *PLMN ID* represents PLMN ID, *QoS level* represents the mapped 5QI or QCI level, and *SNSSAI* represents S-NSSAI.

f) NRCellCU, GNBCUUPFunction

g) S-TMSI

h) One usage of this measurement is to support ML training and performance evaluation.

###### 6.3.1.X.2.2 UL PDCP SDU Data Volume

a) This measurement provides the Data Volume (amount of PDCP SDU bits) in the uplink delivered from PDCP layer to higher layers. The measurement can be filtered per PLMN ID and per QoS level (mapped 5QI or QCI in NR option 3) and per supported S-NSSAI. This measurement is also referred to as UL M4 in TS 37.320 [x] clause 5.4.1.1. The unit is Mbit.

b) CC

c) This measurement is obtained by counting the number of bits delivered from PDCP layer to higher layers. The measurement is calculated per PLMN ID and QoS level (mapped 5QI or QCI in NR option 3) and per supported S-NSSAI.

d) Each measurement is an integer value representing the number of bits measured in Mbits (1MBits=1000\*1000 bits). The number of measurements is equal to the number of PLMNs multiplied by the number of QoS levels multiplied by the number of S-NSSAIs.

[Total no. of measurement instances] x [no. of filter values for all measurements] (DL and UL) ≤ 100.

e) The measurement name has the form QosFlow.PdcpSduVolumeUlUe\_*Filter*
, where *Filter* is a combination of *PLMN ID*, *QoS level* and *SNSSAI*, where *PLMN ID* represents PLMN ID, *QoS level* represents the mapped 5QI or QCI level, and *SNSSAI* represents S-NSSAI.

f) NRCellCU, GNBCUUPFunction

g) S-TMSI

h) One usage of this measurement is to support ML training and performance evaluation.

**End of Changes**