**3GPP TSG- Meeting #**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
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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 |  | Radio Access Network | **x** | Core Network |  |

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| ***Title:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | Measurement with respect to “Average PDCP re-ordering delay in the UL” is today missing in TS 28.552 measurement specification. This UL delay measurement is needed for evaluation of UL packet delay performance in NG-RAN.RAN L2 measurements specification TS 38.314 have defined one measurement named “Average PDCP re-ordering delay in the UL per DRB per UE.”  |
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| ***Summary of change:*** | A measurement named “Average PDCP re-ordering delay in UL“ have been added. The measurement definition from TS 38.314 is re-used.  |
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| ***Consequences if not approved:*** | It will not be possible to monitor the UL re-ordering delay in gNB-CU-UP. |
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| ***Clauses affected:*** | 5.1.1.1.x (new) |
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|  | **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:*** |  |

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| **1st modified section** |

##### 5.1.1.1.x Average PDCP re-ordering delay in the UL

a) This measurement provides the average (arithmetic mean) PDCP re-ordering delay on the uplink, ie the delay within the gNB-CU-UP. The measurement is optionally split into subcounters per QoS level (mapped 5QI or QCI in NR option 3) and subcounters per S-NSSAI.

b) DER (n=1)

c) This measurement is obtained according to the definition in TS 38.314 [29], named “Average PDCP re-ordering delay in the UL per DRB per UE. Separate counters are optionally maintained for each mapped 5QI (or QCI for option 3) and for each S-NSSAI. Each measurement is an real representing the mean delay in the unit 0,1milliseconds.

d) The number of measurements is equal to one. If the optional measurements are perfomed, the number of measurements is equal to the number of mapped 5QIs/QCIs plus the number of S-NSSAIs.

e) The measurement name has the form DRB.PdcpReordDelayUl, DRB.PdcpReordDelayUl.*QOS* where *QOS* identifies the target quality of service class, and DRB.PdcpReordDelayUl.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) GNBCUUPFunction

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this measurement is for performance assurance within integrity area (user plane connection quality).

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| **End of modified section** |