3GPP TSG SA WG5 Meeting 135-e TDoc S5-211235

electronic meeting, online, 25 January - 3 February 2021

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **28.552** | **CR** | **0286** | **rev** | **-** | **Current version:** | **17.1.0** |  |
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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 |  | Radio Access Network | **x** | Core Network |  |

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| ***Title:***  | Rel-17 CR TS 28.552 Add PLMN granularity for Radio resource utilization measurements |
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| ***Source to WG:*** | China Unicom, ZTE, HUAWEI |
| ***Source to TSG:*** | S5 |
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| ***Work item code:*** | MANS |  | ***Date:*** | 2021-01-13 |
|  |  |  |  |  |
| ***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:*** | Radio resource usage information in a time period per cell for each Participating Operator in the Shared E-UTRAN/NG-RAN, such as PRB usage information per PLMN, should be added to guarantee necessary information acquisition for multiple operators. |
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| ***Summary of change:*** | Add PLMN granularity for Radio resource utilization measurements. |
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| ***Consequences if not approved:*** | Imcomplete granularity potentially affects the diagnosis of network problems. |
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| ***Clauses affected:*** | 5.1.1.2 |
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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 ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** |  |

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| **First change** |

##### 5.1.1.2.5 DL PRB used for data traffic

a) This measurement provides the number of physical resource blocks (PRBs) in average used in downlink for data traffic. The measurement is optionally split into subcounters per QoS level (mapped 5QI or QCI in NR option 3) and subcounters per supported S-NSSAI and subcounters per supported PLMN ID.

b) SI.

c) Each measurement is obtained as the averagenumber (arithmetic mean) of all PRBs used for DL data traffic transmission per S-NSSAI and per PLMN ID during a time period *T.*

d) Each measurement is a single integer value. If the optional measurements are perfomed, the number of measurements is equal to the number of QoS levels and the number of supported S-NSSAIs and the number of supported PLMN.

e) RRU.PrbUsedDl, or optionally RRU.PrbUsedDl.*QoS,* where the *QoS* identifies the target quality of service class and RRU.PrbUsedDl.*SNSSAI*, where SNSSAI identifies the S-NSSAI, and RRU.PrbUsedDl.*PLMN*, where PLMN identifies the PLMN ID.

f) NRCellDU.

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this measurement is for monitoring the DL PRB load of the radio physical layer per S-NSSAI.

##### 5.1.1.2.7 UL PRB used for data traffic

a) This measurement provides the number of physical resource blocks (PRBs) in average used in uplink for data traffic. The measurement is optionally split into subcounters per QoS level (mapped 5QI or QCI in NR option 3) and subcounters per supported S-NSSAI and subcounters per supported PLMN ID.

b) SI

c) Each measurement is obtained as the average number (arithmetic mean) of all PRBs used for UL data traffic transmission per S-NSSAI and per PLMN ID during a time period *T.*

d) Each measurement (number of PRBs) is a single integer value. If the optional measurements are perfomed, the number of measurements is equal to the number of QoS levels and the number of supported S-NSSAIs and the number of supported PLMN.

e) RRU.PrbUsedUl, or optionally RRU.PrbUsedUl.*QoS,* where the *QoS* identifies the target quality of service class andRRU.PrbUsedUl.*SNSSAI*, where *SNSSAI* identifies the S-NSSAI,andRRU.PrbUsedUl.*PLMN*, where PLMN identifies the PLMN ID

f) NRCellDU.

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this measurement is for monitoring the UL PRB load of the radio physical layer per S-NSSAI.

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| **End of changes** |