**3GPP TSG-RAN2 Meeting #109bis\_e *R2-200xxxx (was R2-2002572)***

**Electronic, April 20 – 30, 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **36.331** | **CR** | **4235** | **rev** | **1** | **Current version:** | **15.9.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Corrections on the number of DRBs | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated, Samsung, Nokia | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI15 | | | | |  | ***Date:*** | | | 2020-04-29 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-15 |
|  | *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-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:*** | | 1.  It is not clear how the minimum requirement for the number of DRBs applies in case of PDCP duplication.  2.  It is not clear in which 5G architecture options the minimum requirement for the number of DRBs applies, due to various DRB termination options involving multiple Cell Groups and RATs. | | | | | | | | |
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| ***Summary of change:*** | | 1.   * It is clarified that the number of RLC bearers the UE shall support is 8 or 15 (depends on the UE support for *extendedNumberOfDRBs-r15*). * It is clarified that the maximum number of DRBs configured with PDCP duplication and with RLC entity(ies) associated with a MAC entity is 8.   2.  It is clarified that the requirement for the number of DRBs in this specification is applicable in EN-DC, NGEN-DC, LTE standalone.  **Impact Analysis**:  Impacted 5G architecture options:  EN-DC, NGEN-DC, (LTE standalone, including LTE-DC)  Impacted functionality:  The minimum UE requirement for the number of DRBs.  Inter-operability:   * If the network is implemented according to the CR and the UE is not; The network may configure DRBs exceeding the UE capability. The UE may consider the configuration invalid. * If the UE is implemented according to the CR and the network is not; The network may configure DRBs exceeding the UE capability. The UE may consider the configuration invalid. | | | | | | | | |
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| ***Consequences if not approved:*** | | The network may configure DRBs exceeding the UE capability. The UE may consider the configuration invalid. | | | | | | | | |
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| ***Clauses affected:*** | | 11.1 | | | | | | | | |
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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:*** | |  | | | | | | | | |

11.1 UE capability related constraints

The following table lists constraints regarding the UE capabilities that E-UTRAN is assumed to take into account.

| **Parameter** | **Description** | **Value** | **NB-IoT** |
| --- | --- | --- | --- |
| #DRBs | The number of DRBs that a UE shall support | 8, 15  NOTE2  NOTE3 | (0, 1, 2)  NOTE1 |
| #RLC bearers | The number of RLC entities/bearers associated with DRBs that a UE shall support | 8, 15  NOTE2  NOTE3 | (0, 1, 2)  NOTE1 |
| #RLC-AM | The number of RLC AM entities that a UE shall support | 10, 17 | (2, 3)  NOTE1 |
| #minCellperMeasObjectEUTRA | The minimum number of neighbour cells (excluding black list cells) that a UE shall be able to store within a MeasObjectEUTRA. NOTE. | 32 | N/A |
| #minBlackCellRangesperMeasObjectEUTRA | The minimum number of blacklist cell PCI ranges that a UE shall be able to store within a MeasObjectEUTRA | 32 | N/A |
| #minCellperMeasObjectUTRA | The minimum number of neighbour cells that a UE shall be able to store within a MeasObjectUTRA. NOTE. | 32 | N/A |
| #minCellperMeasObjectGERAN | The minimum number of neighbour cells that a UE shall be able to store within a measObjectGERAN. NOTE. | 32 | N/A |
| #minCellperMeasObjectCDMA2000 | The minimum number of neighbour cells that a UE shall be able to store within a measObjectCDMA2000. NOTE. | 32 | N/A |
| #minCellTotal | The minimum number of neighbour cells (excluding black list cells) that UE shall be able to store in total in all measurement objects configured | 256 | N/A |
| NOTE: In case of CGI reporting, the limit regarding the cells E-UTRAN can configure includes the cell for which the UE is requested to report CGI i.e. the amount of neighbour cells that can be included is at most (# minCellperMeasObjectRAT - 1), where RAT represents EUTRA/UTRA/GERAN/CDMA2000 respectively. | | | |
| NOTE1: #DRBs and #RLC bearers based on UE capability, #RLC-AM =#DRBs + 2. | | | |
| NOTE2: ‘15’ applies when the UE supports *extendedNumberOfDRBs-r15*. The maximum number of DRBs configured with PDCP duplication and with RLC entity(ies) associated with a MAC entity is 8. | | | |
| NOTE3: The requirement is applicable in EN-DC, NGEN-DC and LTE standalone. | | | |