**3GPP TSG-RAN2 Meeting #120R2-221xxxx (Revision of R2-2212533)**

Toulouse, France, November 14th - 18th 2022

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **37.340** | **CR** | **0353** | **rev** | **-** | **Current version:** | **17.2.0** |  |
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| *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:*** | Miscellaneous corrections on TS 37.340 for ePowSav | | | | | | | | | |
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| ***Source to WG:*** | Xiaomi, CATT, MediaTek Inc, Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_UE\_pow\_sav\_enh-Core | | | | |  | ***Date:*** | | | 2022-11-04 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***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 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | Corrections on TS 37.340 for ePowSav to captured the agreement of RAN2#119e meeting  RAN2#119 meeting minutes:   |  | | --- | | * For Case 1, we go with Alt 1 (no configuration restriction) * For Case 2, BFD and RLM is not operating, and thus BFD and RLM relaxation and the associated reporting can also be considered non-operational (regardless configuration), can consider TS update to make this clear. * UE do the reporting regardless the SCG activation state (as long as bfd-and-RLM configuration is true). * UAI for SCG RLM/BFD relaxation is reported over MCG, if SCG is deactivated with *bfd-and-RLM* configuration is true. | | | | | | | | | |
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| ***Summary of change:*** | | Corrections on TS 37.340 for ePowSav to captured the agreement of RAN2#119e meeting   1. Capture in 7.10 that UE will initiate UAI for the relaxation state report of RLM/BFD measurements for SCG, and this UAI for SCG RLM/BFD relaxation is reported over MCG. 2. Capture in 7.14 that RLM/BFD relaxation and SCG deactivation with *bfd-and-RLM* configuration is true/false can be configured simultaneously.   **Impact analysis**  Impacted 5G architecture options:  NR-DC, EN-DC, (NG)EN-DC  Impacted functionality  RLM/BFD relaxation  Inter-operability:   1. If the network is implemented according to the CR and the UE is not, there is no inter-operability issues. 2. If the UE is implemented according to the CR and the network is not, there is no inter-operability issues. | | | | | | | | |
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| ***Consequences if not approved:*** | | R17 UE Power Saving for NR is not clearly captured. RLM/BFD relaxation with SCG deactivation case will be missing. | | | | | | | | |
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| ***Clauses affected:*** | | 7.10, 7.14 | | | | | | | | |
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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:*** | |  | | | | | | | | |

*Start of change*

## 7.10 UE assistance information

In MR-DC, the UE can be configured to report MCG specific UE assistance information if the MN is a gNB and/or SCG specific UE assistance information if the SN is a gNB, if it prefers an adjustment on the connected mode DRX parameters, the maximum aggregated bandwidth, the maximum number of secondary component carriers, the maximum number of MIMO layers, whether the UE prefers the SCG to be deactivated, the minimum scheduling offset for cross-slot scheduling cycle length, and/or whether the UE is applying RLM/BFD measurements relaxation for power saving. In these cases, it is up to the network whether to accommodate the preference or how to use the relaxation status indications. SCG specific UE assistance information for power saving can be configured by the network via SRB1 or SRB3. SCG specific UE assistance information for power saving is directly transmitted to the SN via SRB3, if SRB3 is configured and the SCG is activated, otherwise UE transmits SCG specific UE assistance information for power saving in a transparent container to the MN. When network simultaneously configures the UE to perform radio link monitoring on the SCG and beam failure detection on the SCG while the SCG is deactivated, UE assistance information for the relaxation state report of RLM/BFD measurements for SCG is reported over MCG. UE can implicitly indicate a preference for NR SCG release by indicating zero number of carriers and zero aggregated maximum bandwidth in both FR1 and FR2.

*Start of next change*

## 7.14 RLM/BFD relaxation

For RLM and BFD relaxation, network may configure low mobility criterion in the NR PCell for the case of NE-DC/NR-DC, and in the NR PSCell for the case of EN-DC and NGEN-DC. MN informs SN when low mobility criterion has been configured in the NR PCell for NR-DC.

For RLM relaxation, network may configure good serving cell criterion in the NR PCell for the case of NE-DC/NR-DC, and in the NR PSCell for the case of EN-DC, NGEN-DC and NR-DC.

For BFD relaxation, network may configure good serving cell criterion in the NR PCell and/or SCell(s) for the case of NE-DC/NR-DC, and in the NR PSCell and/or SCell(s) for the case of EN-DC, NGEN-DC and NR-DC.

For RLM/BFD relaxation, network may simultaneously configure the UE to perform radio link monitoring on the SCG and beam failure detection on the SCG while SCG is deactivated. In such case, UE initiates UAI for the relaxation state report of RLM/BFD measurements for SCG.

For RLM/BFD relaxation, network may simultaneously configure the UE not to perform radio link monitoring on the SCG and beam failure detection on the SCG while SCG is deactivated. In such case, UE assistance information for the relaxation state report of RLM/BFD measurements for SCG will not be initiated.

*End of change*