**3GPP TSG-RAN WG2 # RAN2 Meeting #118 electronic *R2-220xxxx***

Online, May 9-20, 2022

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **37.340** | **CR** | xxxx | **rev** | **-** | **Current version:** | **17.0.0** |  |
|  |
| *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 | **x** | Radio Access Network | **x** | Core Network |  |

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|  |
| ***Title:***  | Introduction of UE power saving enhancements In 37.340 |
|  |  |
| ***Source to WG:*** | Xiaomi, Nokia, Nokia Shanghai Bell,ZTE Corporation, Sanechips |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | NR\_UE\_pow\_sav\_enh-Core |  | ***Date:*** | 2022-05-24 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | R17 |
|  | *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:*** | This CR introduces the support of Rel-17 UE power saving enhancements in NR. |
|  |  |
| ***Summary of change:*** | Introduction of general description of RLM/BFD for Rel-17 UE power saving enhancements in NR.1)Add abbreviations;2)Capture the RRC signalling for DC cases on how to provide the RLM/BFD relaxation criteiras for MN and SN nodes; and capture RAN2#118-e agreement: MN informs SN when low mobility criterion has been configured in NR PCell;3) Updated the UAI part to captured the agreement of RAN#95 meeting. |
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| ***Consequences if not approved:*** | R17 UE Power Saving for NR is not supported. |
|  |  |
| ***Clauses affected:*** | 3.2, 7 |
|  |  |
|  | **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*

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in TR 21.905 [1] and TS 36.300 [2].

BFD Beam Failure Detection

CHO Conditional Handover

CLI Cross Link Interference

CPA Conditional PSCell Addition

CPC Conditional PSCell Change

DAPS Dual Active Protocol Stack

DC Intra-E-UTRA Dual Connectivity

DCP DCI with CRC scrambled by PS-RNTI

EN-DC E-UTRA-NR Dual Connectivity

IAB Integrated Access and Backhaul

MCG Master Cell Group

MN Master Node

MR-DC Multi-Radio Dual Connectivity

NE-DC NR-E-UTRA Dual Connectivity

NGEN-DC NG-RAN E-UTRA-NR Dual Connectivity

NR-DC NR-NR Dual Connectivity

RLM Radio Link Monitoring

SCG Secondary Cell Group

SMTC SS/PBCH block Measurement Timing Configuration

SN Secondary Node

V2X Vehicle-to-Everything

*Start of next change*

# 7 RRC related aspects

## 7.x RLM/BFD relaxation

RLM relaxation may be enabled/disabled on per-CG basis while the BFD relaxation may be enabled/disabled on per serving cell basis.

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

For RLM relaxation, network may configure good serving cell criterion in 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 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.

*Start of next 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, and/or the minimum scheduling offset for cross-slot scheduling cycle length or if it changes its relaxation status for RLM/BFD measurements for power saving. In these cases, it is up to the network whether to accommodate the preference or 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, otherwise UE transmits SCG specific UE assistance information for power saving in a transparent container to the MN. 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.

*End of change*