**3GPP TSG-RAN WG2 Meeting #111-e R2-200xxxx**

**Electronic, 17th Aug. – 28th Aug. 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.304** | **CR** | **0186** | **rev** | **1** | **Current version:** | **16.1.0** |  |
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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 | **X** | Radio Access Network | **X** | Core Network |  |

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| ***Title:***  | CR for UE Power Saving in NR |
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| ***Source to WG:*** | vivo |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | NR\_UE\_pow\_sav-Core |  | ***Date:*** | 2020-09-01 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-16 |
|  | *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:*** | 1. In RAN2#111-e meeting, the re-structuring for 38.304 Section 5.2.4.9.0 proposed in [[R2-2006685](file:///C%3A%5CUsers%5Cpanidx%5CDocuments%5CRAN2_111-e%5CDocs%5CR2-2006685.zip)] has been discussed. It was agreed that the restructuring for this section is needed to address the issues in this contribution.
2. Some changes in [[R2-2007063](file:///C%3A%5CUsers%5Cpanidx%5CDocuments%5CRAN2_111-e%5CDocs%5CR2-2007063.zip)] are agreed to be merged into this CR.
3. RAN4 have made some conclusions on *highPriorityMeasRelax* in the LS [R4-2012122].
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| ***Summary of change:*** | In clause 5.2.4.7.0, 1. Update the description of parameter *highPriorityMeasRelax* based on latest conclusion in RAN4.

In clause 5.2.4.9.0:1. Restructure the conditions for RRM relaxation for power saving.
2. Clarify that the inter frequency measurements including: NR inter-frequency and inter-RAT frequency measurements.
3. The latest conclusions in RAN4 LS [R4-2012122] have been captured.

**Impact analysis**Impacted 5G architecture options:NR SAImpacted functionality:RRM in idle/inactive modeInter-operability:1. If the network is implemented according to the CR and the UE is not, there is no compatibility issues.
2. If the UE is implemented according to the CR and the network is not, there is no compatibility issues.
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| ***Consequences if not approved:*** | The latest conclusions for RRM measurement relaxation in power saving in both RAN2 and RAN4 will not be captured in specification.  |
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| ***Clauses affected:*** | 5.2.4.7.0, 5.2.4.9.0 |
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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:*** |  |
|  |  |
| ***This CR's revision history:*** | The original CR is R2-2006685. |

Start of change

5.2.4.7 Cell reselection parameters in system information broadcasts

5.2.4.7.0 General reselection parameters

**highPriorityMeasRelax**

This indicates whether measurement on higher priority frequency is allowed to be relaxed as specified in clause 5.2.4.9.0.

Next change

5.2.4.9 Relaxed measurement

5.2.4.9.0 Relaxed measurement rules

When the UE is required to perform measurements of intra-frequency or NR inter-frequencies or inter-RAT frequency cells according to the measurement rules in clause 5.2.4.2:

- if lowMobilityEvaluation is configured and cellEdgeEvaluation is not configured; and

- if the UE has performed normal intra-frequency, NR inter-frequency, or inter-RAT frequency measurements for at least TSearchDeltaP after (re-)selecting a new cell; and

- if the relaxed measurement criterion in clause 5.2.4.9.1 is fulfilled for a period of TSearchDeltaP:

- the UE may choose to perform relaxed measurements for intra-frequency cells according to relaxation methods in clauses 4.2.2.9 in TS 38.133 [8];

- if the serving cell fulfils Srxlev > SnonIntraSearchP and Squal > SnonIntraSearchQ:

- for any NR inter-frequency or inter-RAT frequency of higher priority, if less than 1 hour has passed since measurements of corresponding frequency cell(s) for cell (re-)selection were last performed; and,

- if *highPriorityMeasRelax* is configured with value *true*:

- the UE may choose not to perform measurement on this frequency cell(s);

- else (i.e. the serving cell fulfils Srxlev ≤ SnonIntraSearchP or Squal ≤ SnonIntraSearchQ):

- the UE may choose to perform relaxed measurements for NR inter-frequency or inter-RAT frequency cells according to relaxation methods in clauses 4.2.2.10, and 4.2.2.11 in TS 38.133 [8];

- if *cellEdgeEvaluation* is configured and *lowMobilityEvaluation* is not configured; and

- if the relaxed measurement criterion in clause 5.2.4.9.2 is fulfilled:

- the UE may choose to perform relaxed measurements for intra-frequency cells according to relaxation methods in clauses 4.2.2.9 in TS 38.133 [8];

- if the serving cell fulfils Srxlev ≤ SnonIntraSearchP or Squal ≤ SnonIntraSearchQ:

- the UE may choose to perform relaxed measurements for NR inter-frequency or inter-RAT frequency cells according to relaxation methods in clauses 4.2.2.10, and 4.2.2.11 in TS 38.133 [8];

- if both lowMobilityEvaluation and cellEdgeEvaluation are configured:

- if the UE has performed normal intra-frequency, NR inter-frequency, or inter-RAT frequency measurements for at least TSearchDeltaP after (re-)selecting a new cell; and

- if the relaxed measurement criterion in clause 5.2.4.9.1 is fulfilled for a period of TSearchDeltaP; and

- if the relaxed measurement criterion in clause 5.2.4.9.2 is fulfilled:

- for any intra-frequency, NR inter-frequency, or inter-RAT frequency, if less than 1 hour has passed since measurements of corresponding frequency cell(s) for cell (re-)selection were last performed:

- the UE may choose not to perform measurement for measurements on this frequency cell(s);

- else:

- if the UE has performed normal intra-frequency, NR inter-frequency, or inter-RAT frequency measurements for at least TSearchDeltaP after (re-)selecting a new cell, and the relaxed measurement criterion in clause 5.2.4.9.1 is fulfilled for a period of TSearchDeltaP; or,

- if the relaxed measurement criterion in clause 5.2.4.9.2 is fulfilled:

- if combineRelaxedMeasCondition is not configured:

- the UE may choose to perform relaxed measurements for intra-frequency, NR inter-frequency cells of equal or lower priority, or inter-RAT frequency cells of equal or lower priority according to relaxation methods in clauses 4.2.2.9, 4.2.2.10, and 4.2.2.11 in TS 38.133 [8];

- if the serving cell fulfils Srxlev ≤ SnonIntraSearchP or Squal ≤ SnonIntraSearchQ:

- the UE may choose to perform relaxed measurement for NR inter-frequency cells of higher priority, or inter-RAT frequency cells of higher priority according to relaxation methods in clauses 4.2.2.10, and 4.2.2.11 in TS 38.133 [8];

The above relaxed measurements and no measurement are not applicable for frequencies that are included in *VarMeasIdleConfig*, if configured and for which the UE supports dual connectivity or carrier aggregation between those frequencies and the frequency of the current serving cell.

End of change