**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** | | | | | | | | |
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|  | **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:*** | | | 2020-06-15 |
|  |  | | | |  | |  | | |  |
| ***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 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. In RAN2#111-e meeting, the re-structuring for 38.304 Section 5.2.4.9.0 proposaled in [[R2-2006685](file:///C:\Users\panidx\Documents\RAN2_111-e\Docs\R2-2006685.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:\Users\panidx\Documents\RAN2_111-e\Docs\R2-2007063.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:*** | | 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 captuered. | | | | | | | | |
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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:*** | | 5.2.4.9.0 | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

Start of 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 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 such frequency cells 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 cells;

- 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 cell, if less than 1 hour has passed since measurements of such frequency cell for cell (re-)selection were last performed:

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

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

- the UE may choose not to perform measurement for measurements on this frequency cells;

- else:

- if the UE has performed normal intra-frequency, 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-frequencies 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