**3GPP TSG-RAN WG4 Meeting #**

**, Japan, – May 2024**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.133** | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *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 |  | Core Network |  |

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|  |
| ***Title:***  | Maintenance draftCR on interruption requirements for measurements without gap |
|  |  |
| ***Source to WG:*** | Intel Corporation |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_MG\_enh2-Core |  | ***Date:*** | 2024-05-06 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | Rel-18 |
|  | *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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | Interruption length requirements are missing for DRX cases. |
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| ***Summary of change:*** | Specify interruption length requirements for DRX cases. |
|  |  |
| ***Consequences if not approved:*** | Incorrect requirements are observed. |
|  |  |
| ***Clauses affected:*** | 8.2.2.2.19 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

### <<Start of Change1>>

##### 8.2.2.2.19 Interruptions due to measurements without gap carried out by UE supporting *NeedForInterruptionInfoNR*

When a UE supports *NeedForInterruptionInfoNR-r18* measurements and indicates *no-gap-with-interruption* on intra-frequency SSB-based or inter-frequency SSB-based measurements, the UE is allowed to cause interruptions while performing measurements on the frequency layers of the bands for which *no-gap-with-interruption* is indicated. Requirements in this section apply only when the UE is in SA operation mode.

The UE is allowed to cause interruption with interruption ratio no more than the requirements specified below upon UE measurements on a specific frequency layer that corresponds to the configured MO, where Tcycle,i is the interruption cycle on a certain frequency layer i, specified in Table 8.2.2.2.19-1, where CSSFoutside\_gap,i is defined in clause 9.1.5.1 for measurement conducted outside measurement gaps.

Table 8.2.2.2.19-1: Tcycle,i length for inter/intra-frequency measurement target carrier i

|  |  |
| --- | --- |
| DRX cycle | TCycle,i |
| No DRX | max (80ms, SMTC period) x CSSFoutside\_gap,i |
| DRX cycle ≤ 320ms | 1.5\*max(80ms, SMTC period, DRX cycle) x CSSFoutside\_gap,i |
| DRX cycle>320ms | DRX cycle x CSSFoutside\_gap,i |

*Editors’ note: Discussion is ongoing on* *cases where DRX is configured. Further update to this sub-clause subjects to the final conclusion.*

UE is allowed to cause interruption on a certain frequency layer i with the maximum interruption ratio that equals $\frac{2L}{T\_{cycle,i}}$.

The total allowed maximum interruption ratio (D) on each of the active serving cells due to UE measurements without gap applied in this sub-clause is specified as

 $D= \sum\_{i=1}^{N}\frac{2L}{T\_{cycle,i}}$

Where,

- N is the total number of configured SSB based frequency layers to be measured outside gap including intra-frequency and inter-frequency target carriers where UE indicates that interruption is needed through *[no-gap-with-interruption]*, and

- L is the maximum interruption length for each interruption occasion specified in the Table 8.2.2.2.19-2 and 8.2.2.2.19-3.

The interruptions are allowed for all the active serving cells in the same FR as all NR MOs being measured with interruption if UE supports per-FR measurement gaps, and all the active serving cells if UE does not support per-FR measurement gaps.

Table 8.2.2.2.19-2: Interruption length L in FR1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | SCS (kHz) of victim cell | NR Slot length (ms) of victim cell | Number of interrupted slots in the victim cell (slots) | Interruption length L (ms) |
| 0 | 15 | 1 | [1] | [1] |
| 1 | 30 | 0.5 | [2] | [1] |
| 2 | 60 | 0.25 | [4] | [1] |

Table 8.2.2.2.19-3: Interruption length L in FR2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | SCS (kHz) of victim cell | NR Slot length (ms) of victim cell | Number of interrupted slots in the victim cell (slots) | Interruption length L (ms) |
| 2 | 60 | 0.25 | [3] | [0.75] |
| 3 | 120 | 0.125 | [6] | [0.75] |

### <<End of Change1>>