**3GPP TSG-RAN2 Meeting #128 *R2-2411211***

**Orlando, US, 18 – 22 Nov, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **36.306** | **CR** | **1903** | **rev** | **-** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *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:*** | Capability on measurement gap enhancements | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_MG\_enh2 | | | | |  | ***Date:*** | | | 2024-11-29 |
|  |  | | | |  | |  | | |  |
| ***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 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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 1) In RAN4 feature list R4-2410748/R2-2406232, the LTE feature group “Simultaneous reception of EUTRAN data and NR SSB with different numerology” was added. However, this has not been captured in the specification.  2) In the existing capability *interRAT-NeedForInterruptionNR-r18*, the wording “The UE shall only include this field if it indicates measurement gap is not required in the corresponding *interRAT-NeedForGapsNR-r16* field” may lead to the wrong interpretation that UE shall always include the field if it indicates measurement gap is not required in the corresponding *interRAT-NeedForGapsNR-r16* field, and based on RAN4 discussion the capability is optionally reported. | | | | | | | | |
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| ***Summary of change:*** | | 1) Capture the LTE UE feature “Simultaneous reception of EUTRAN data and NR SSB with different numerology” in the specification.  2) Update the description of *interRAT-NeedForInterruptionNR-r18* as “The UE includes this field only if it indicates measurement gap is not required in the corresponding *interRAT-NeedForGapsNR-r16* field”.  **Impact analysis**  Impacted functionality:  SSB-based inter-RAT measurements on NR  Inter-operability:  If the UE is implemented according to this CR but the network is not, or vice versa, the consequences if not approved remain. | | | | | | | | |
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| ***Consequences if not approved:*** | | 1) The NW will always apply scheduling restriction, even if the UE supports simultaneous reception, which may result in performance degradation.  2) The capability *interRAT-NeedForInterruptionNR-r18* remains ambiguous. | | | | | | | | |
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| ***Clauses affected:*** | | 4.3.6.53, 4.3.6.xx (new) | | | | | | | | |
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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

### 4.3.6 Measurement parameters

<unrelated parts omitted>

4.3.6.53 *interRAT-NeedForInterruptionNR-r18*

This field defines for each supported E-UTRA band or band combination whether interruption is required to perform SSB based inter-RAT measurements without gap on each supported NR band. Value *no-gap-with-interruption* indicates measurement gap is not needed but interruption is needed, and value *no-gap-no-interruption* indicates neither measurement gap nor interruption is needed. The UE includes this field only if it indicates measurement gap is not required in the corresponding *interRAT-NeedForGapsNR-r16* field.

4.3.6.xx *simultaneousRxDataSSB-DiffNumerology-FR1-r18*

This field defines whether the UE supports concurrent SSB-based inter-RAT measurement on NR FR1 cell and PDCCH or PDSCH reception from the serving cell with a different numerology. The UE includes this field only if it indicates support of *interRAT-NeedForInterruptionNR-r18* for at least one target band in at least one band combination. This field only applies if *interRAT-NeedForInterruptionNR-r18* is reported for the target band in the band combination.

End of Change