**3GPP TSG-RAN WG4 Meeting #116 Rev of R4-2509678**

**Bengaluru, India, August 25th – 29th, 2025**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **draftCR** | **rev** | **1** | **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:*** | DraftCR on measurements of intra-frequency NR cells for UE with LP-WUR in IDLE and INACTIVE state | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | OPPO | | | | | | | | | |
| ***Source to TSG:*** | R4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_LPWUS-Core | | | | |  | ***Date:*** | | | 2025-08-26 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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. The relaxed MR intra-frequency neighbour cell measurement requirements for UE with LP-WUR in IDLE and INACTIVE state need to be defined. | | | | | | | | |
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| ***Summary of change:*** | | 1. Introduce the relaxed MR intra-frequency neighbour cell measurement requirements for UE with LP-WUR in IDLE and INACTIVE state. | | | | | | | | |
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| ***Consequences if not approved:*** | | The relaxed MR intra-frequency neighbour cell measurement requirements for UE with LP-WUR in IDLE and INACTIVE state are missing. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | New 4.X.2.4, 4.XA.2.4, 5.X.2.4, 5.XA.2.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | | **X** |  | Test specifications | | | | TS 38.533 | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

# <Start of Change 1>

#### 4.X.2.4 Measurements of intra-frequency NR cells for UE with LP-WUR

For a UE supporting LP-WUR capability and not configured with eDRX\_IDLE cycle, the requirements in clause 4.2.2.3 for FR1 and FR2-1 apply except for the requirements specified in this clause when the relaxed measurement criterion defined in 5.2.4.x.2 in TS 38.304 [1] is fulfilled.

The UE shall be able to evaluate whether a newly detectable intra-frequency cell meets the reselection criteria defined in TS 38.304 [1] within KLPW x Tdetect,NR\_Intrawhen that Treselection= 0, where KLPW = 16.

The UE shall measure SS-RSRP and SS-RSRQ at least every KLPW x Tmeasure,NR\_Intra for intra-frequency cells that are identified and measured according to the measurement rules.

The UE shall filter SS-RSRP and SS-RSRQ measurements of each measured intra-frequency cell using at least 2 measurements. Within the set of measurements used for the filtering, at least two measurements shall be spaced by at least KLPW x Tmeasure,NR\_Intra/2.

For an intra-frequency cell that has been already detected, but that has not been reselected to, the filtering shall be such that the UE shall be capable of evaluating that the intra-frequency cell has met reselection criterion defined in TS 38.304 [1] within KLPW x Tevaluate,NR\_Intra when Treselection = 0, provided that:

when *rangeToBestCell* is not configured:

- the cell is at least 3 dB better ranked in FR1.

when *rangeToBestCell* is configured:

- the cell has the highest number of beams above the threshold *absThreshSS-BlocksConsolidation* among all detected cells whose cell-ranking criterion R value in TS 38.304 [1] is within *rangeToBestCell* of the cell-ranking criterion R value of the highest ranked cell.

- if there are multiple such cells, the cell has the highest rank among them.

- the cell is at least 3 dB better ranked in FR1 if the current serving cell is among them.

Tdetect,NR\_Intra, Tmeasure,NR\_Intra and Tevaluate,NR\_Intra are specified in table 4.2.2.3-1 for FR1 and FR2-1.

# <End of Change 1>

# < Start of Change 2>

### 4.XA.2.4 Measurements of intra-frequency NR cells for RedCap UE with LP-WUR

For a Redcap UE supporting LP-WUR capability and not configured with eDRX\_IDLE cycle, the requirements in clause 4.2B.2.3 apply except for the requirements specified in this clause when the relaxed measurement criterion defined in 5.2.4.x.2 in TS 38.304 [1] is fulfilled.

The UE shall be able to evaluate whether a newly detectable intra-frequency cell meets the reselection criteria defined in TS 38.304 [1] within KLPW x Tdetect,NR\_Intra\_RedCapwhen that Treselection= 0, where KLPW = 16.

The UE shall measure SS-RSRP and SS-RSRQ at least every KLPW x Tmeasure,NR\_Intra\_RedCap for intra-frequency cells that are identified and measured according to the measurement rules.

The UE shall filter SS-RSRP and SS-RSRQ measurements of each measured intra-frequency cell using at least 2 measurements. Within the set of measurements used for the filtering, at least two measurements shall be spaced by at least KLPW x Tmeasure,NR\_Intra\_RedCap /2.

For an intra-frequency cell that has been already detected, but that has not been reselected to, the filtering shall be such that the UE shall be capable of evaluating that the intra-frequency cell has met reselection criterion defined in TS 38.304 [1] within KLPW x Tevaluate,NR\_Intra\_RedCap when Treselection = 0, provided that:

when rangeToBestCell is not configured:

- the cell is at least 3 dB better ranked in FR1 or 4.5 dB better ranked in FR2 for 2 Rx RedCap.

- the cell is at least 4 dB better ranked in FR1 for 1 Rx RedCap.

when rangeToBestCell is configured:

- the cell has the highest number of beams above the threshold absThreshSS-BlocksConsolidation among all detected cells whose cell-ranking criterion R value in TS 38.304 [1] is within rangeToBestCell of the cell-ranking criterion R value of the highest ranked cell.

- if there are multiple such cells, the cell has the highest rank among them.

- the cell is at least 3 dB better ranked in FR1 or 4.5 dB better ranked in FR2 if the current serving cell is among them for 2 Rx RedCap.

- the cell is at least 4 dB better ranked in FR1 if the current serving cell is among them for 1 Rx RedCap.

Tdetect,NR\_Intra\_RedCap, Tmeasure,NR\_Intra\_RedCap and Tevaluate,NR\_Intra\_RedCap are specified in table 4.2B.2.3-1.

# < End of Change 2>

# <Start of Change 3>

#### 5.X.2.4 Measurements of intra-frequency NR cells for UE with LP-WUR

The requirements in clause 4.X.2.4 shall apply.

# < End of Change 3>

# < Start of Change 4>

### 5.XA.2.4 Measurements of intra-frequency NR cells for RedCap UE with LP-WUR

The requirements in clause 4.XA.2.4 shall apply.

# < End of Change 4>