**3GPP TSG-RAN WG4 Meeting #116 R4-2509777**

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

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUET** |
|  |
|  | **38.133** | **CR** | **draftCR** | **rev** |  | **Current version:** | **19.1.0** |  |
|  |
| *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-ReqUEts*](http://www.3gpp.org/Change-Requests)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | (NR\_LPWUS) draftCR on 5.X.2.3 MR serving cell measurement and evaluation requirements |
|  |  |
| ***Source to WG:*** | Xiaomi |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NR\_LPWUS-Core |  | ***Date:*** | 2025-08-13 |
|  |  |  |  |  |
| ***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 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:*** | Add MR serving cell measurement and evaluation requirements in RRC\_INACTIVE mode for UE capable of LP-WUS based on progress in NR\_LPWUS-Core. |
|  |  |
| ***Summary of change:*** | Add MR serving cell measurement and evaluation requirements in RRC\_INACTIVE mode for UE capable of LP-WUS based on progress in NR\_LPWUS-Core. |
|  |  |
| ***Consequences if not approved:*** | MR serving cell measurement and evaluation requirements for UE capable of LP-WUS are incomplete. |
|  |  |
| ***Clauses affected:*** | NEW 5.X.2.3 |
|  |  |
|  | **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 1>

5.X.2.3 Measurement and evaluation of serving cell by MR

The requirements in this clause apply when UE is configured with eDRX\_IDLE, otherwise the requirements in clause 4.X.2.3 shall apply.

The requirements in this claue apply for UE measurement and evaluation of serving cell using MR, when LP-WUS UE is not in [RRM offloading mode] as defined in [1] and the configured eDRX\_IDLE cycles≤10.24 s.

5.X.2.3.1 Requirements for evaluation of cell selection criterion

When LP-WUS UE is not in [RRM relaxation mode] as defined in [1], the requirements in clause 5.1.2.2 shall apply.

When LP-WUS UE is in [RRM relaxation mode] as defined in [1], and LP-WUS UE is configured with eDRX\_IDLE and LP-WUS UE is not configured with eDRX by *ran-ExtendedPagingCycleConfig-r18* or *eDRX-AllowedInactive-r18* is not signalled in SIB1, the LP-WUS UE shall measure the SS-RSRP and SS-RSRQ level of the serving cell and evaluate the cell selection criterion S defined in TS 38.304 [1] for the serving cell at least once every 16\*T for FR1, where T is determined according to clause 7.1 in [1].

The LP-WUS UE shall filter the SS-RSRP and SS-RSRQ measurements of the serving cell using at least 2 measurements. Within the set of measurements used for the filtering, at least two measurements shall be spaced by 8 T.

If UE is not configured with eDRX by *ran-ExtendedPagingCycleConfig-r18* or *eDRX-AllowedInactive-r18* is not signalled in SIB1 and the LP-WUS UE has evaluated according to table 5.X.2.3.1-1 in 16\*Nserv consecutive T cycles that the serving cell does not fulfil the cell selection criterion S, the LP-WUS UE shall initiate the measurements of all neighbour cells indicated by the serving cell, regardless of the measurement rules currently limiting LP-WUS UE measurement activities.

If the LP-WUS UE in RRC\_ INACTIVE has not found any new suitable cell based on searches and measurements using the intra-frequency, inter-frequency and inter-RAT information indicated in the system information during the time T’, the LP-WUS UE shall initiate cell selection procedures for the selected PLMN as defined in TS 38.304 [1], where:

- T’= 10 s, if the UE is not configured with eDRX\_INACTIVE cycle, or

- T’= MAX (10 s, one eDRX\_INACTIVE cycle) if the UE is configured with eDRX\_INACTIVE cycle for FR1

**Table 5.X.2.3.1-1: Nserv for UE configured with eDRX\_IDLE cycle, (Frequency range FR1)**

|  |  |  |  |
| --- | --- | --- | --- |
| eDRX\_IDLE cycle length [s] | DRX or eDRX INACTIVE cycle length[s] | T [s] | Nserv [number of 16\*T ] |
| 2.56 ≤eDRX\_IDLE cycle length ≤10.24 | 0.32 ≤DRX\_Inactive cycle length ≤2.56; or2.56 ≤eDRX\_Inactive cycle length ≤10.24 if inactive eDRX is configured  | 0.32 | 4 |
|  |  | 0.64 | 4 |
|  |  | 1.28 | 2 |
|  |  | 2.56 | 2 |
|  |  | 5.12 | 2 |
|  |  | 10.24  | 2 |
| NOTE1: T is determined according to clause 7.1 in [1]. |

5.X.2.3.2 Requirements for evaluation of LP-WUS UE related conditions

When LP-WUS UE is not in [RRM relaxation mode] as defined in [1], and LP-WUS UE is configured with eDRX\_IDLE and LP-WUS UE is not configured with eDRX by *ran-ExtendedPagingCycleConfig-r18* or *eDRX-AllowedInactive-r18* is not signalled in SIB1, the LP-WUS UE shall measure the SS-RSRP and SS-RSRQ level of the serving cell and evaluate the following LP-WUR related conditions defined in TS 38.304 [1], if configured,

- [entry condition for LP-WUS monitoring]

- [entry condition for RRM relaxation]

- [entry condition for RRM offloading]

*- FFS: exit condition for RRM relaxation*

for the serving cell at least once every M1\*T; where:

- T is determined according to clause 7.1 in [1],

- M1=2 if SMTC periodicity (TSMTC) > 20 ms and DRX cycle ≤ 0.64 second, otherwise M1=1.

The LP-WUS UE shall filter the SS-RSRP and SS-RSRQ measurements of the serving cell using at least 2 measurements. Within the set of measurements used for the filtering, at least two measurements shall be spaced by T/2.

If the LP-WUS UE has evaluated according to table 5.X.2.3.2-1 in Nserv consecutive T that the serving cell fulfils the entry condition for [LP-WUR monitoring, RRM relaxation or RRM offloading], the LP-WUS UE shall perform corresponding actions as defined in clause XX in [1].

*FFS: If the UE has evaluated according to table 5.X.2.3.2-1 in Nserv consecutive DRX cycles that the serving cell fulfils the exit condition for [RRM relaxation], the UE shall perform corresponding actions as defined in clause YY in [1].*

**Table 5.X.2.3.2-1: Nserv for UE configured with eDRX\_IDLE cycle when UE is not in [RRM relaxation mode]**

|  |  |  |  |
| --- | --- | --- | --- |
| eDRX\_IDLE cycle length [s] | DRX or eDRX INACTIVE cycle length[s] | T [s] | Nserv [number of T ] |
| 2.56 ≤eDRX\_IDLE cycle length ≤10.24 | 0.32 ≤DRX\_Inactive cycle length ≤2.56; or2.56 ≤eDRX\_Inactive cycle length ≤10.24 if inactive eDRX is configured  | 0.32 | 4\*M1 |
|  |  | 0.64 | 4\*M1 |
|  |  | 1.28 | 2 |
|  |  | 2.56 | 2 |
|  |  | 5.12 | 2 |
|  |  | 10.24  | 2 |
| NOTE1: T is determined according to clause 7.1 in [1]. |

When LP-WUS UE is in [RRM relaxation mode] as defined in [1], and LP-WUS UE is configured with eDRX\_IDLE and LP-WUS UE is not configured with eDRX by *ran-ExtendedPagingCycleConfig-r18* or *eDRX-AllowedInactive-r18* is not signalled in SIB1, the LP-WUS UE shall measure the SS-RSRP and SS-RSRQ level of the serving cell and evaluate the following LP-WUR related conditions defined in TS 38.304 [1], if configured,

- [entry condition for LP-WUS monitoring]

- [entry condition for RRM offloading]

*- FFS: exit condition for RRM relaxation*

for the serving cell at least once every 16\*T, where T is determined according to clause 7.1 in [1].

The LP-WUS UE shall filter the SS-RSRP and SS-RSRQ measurements of the serving cell using at least 2 measurements. Within the set of measurements used for the filtering, at least two measurements shall be spaced by 8\*T.

If the LP-WUS UE has evaluated according to table 5.X.2.3.2-2 in 16\*Nserv consecutive T cycles that the serving cell fulfils the entry condition for [LP-WUR monitoring or RRM offloading], the LP-WUS UE shall perform corresponding actions as defined in clause XX in [1].

*FFS: If the* LP-WUS *UE has evaluated according to table 5.X.2.3.2-2 in 16\*Nserv consecutive DRX cycles that the serving cell fulfils the exit condition for [RRM relaxation], the* LP-WUS *UE shall perform corresponding actions as defined in clause YY in [1].*

**Table 5.X.2.3.2-2: Nserv for UE configured with eDRX\_IDLE cycle when UE is in [RRM relaxation mode]**

|  |  |  |  |
| --- | --- | --- | --- |
| eDRX\_IDLE cycle length [s] | DRX or eDRX INACTIVE cycle length[s] | T [s] | Nserv [number of 16\*T ] |
| 2.56 ≤eDRX\_IDLE cycle length ≤10.24 | 0.32 ≤DRX\_Inactive cycle length ≤2.56; or2.56 ≤eDRX\_Inactive cycle length ≤10.24 if inactive eDRX is configured  | 0.32 | 4 |
|  |  | 0.64 | 4 |
|  |  | 1.28 | 2 |
|  |  | 2.56 | 2 |
|  |  | 5.12 | 2 |
|  |  | 10.24  | 2 |
| NOTE1: T is determined according to clause 7.1 in [1]. |

<End of Change 1>