3GPP TSG-RAN WG4 Meeting # 99-e R4-2110354

Electronic Meeting, May. 19-27, 2021

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **36.133** | **CR** | **7097** | **rev** | **-** | **Current version:** | **14.18.0** |  |
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| *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 |  | Core Network |  |

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| ***Title:***  | CR on requirements of cell reselection for NB-IoT R14 |
|  |  |
| ***Source to WG:*** | Huawei, HiSilicon, MediaTek inc |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | NB\_IOT-Core |  | ***Date:*** | 2021-05-01 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-14 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | In the cell reselection requirements for inter-frequency measurement for NB-IoT, the definition of Pcarrier is not defined and there is redundant content need to be removed. There are also some misalignments between Rel-13 spec and subsequent release where some changes are not implemented. |
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| ***Summary of change:*** | 1. Add the defination of Pcarrier
2. Remove the redundant content
3. Correct the misalignments.
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| ***Consequences if not approved:*** | The requirements are not correct |
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| ***Clauses affected:*** | 4.6.2.5  |
|  |  |
|  | **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>

#### 4.6.2.5 Measurements of inter-frequency NB cells for UE category NB1 in normal coverage

The UE shall be able to identify new inter-frequency cells and perform NRSRP measurements of identified inter-frequency cells if carrier frequency information is provided by the serving NB-IoT cell, even if no explicit neighbour list with physical layer cell identities is provided.

If Srxlev ≤ SnonIntraSearchP then the UE shall search for and measure inter-frequency layers in preparation for possible reselection.

The UE shall be able to evaluate whether a newly detectable inter-frequency cell meets the reselection criteria defined in TS36.304 within Pcarrier \* Tdetect,NB\_Inter\_NC, if at least carrier frequency information is provided for inter-frequency neighbour cells by the serving NB-IoT cells when Treselection = 0 provided that the reselection criteria is met by a margin of at least Y dB, where Pcarrier is the number of inter-frequency carriers for which carrier frequency information was provided by the serving NB-IoT cell and ‘Y’ is specified by Table 4.6.2.6-3 (when Q1 -6 dB). An inter-frequency cell is considered to be detectable according to NRSRP, NRSRP Ês/Iot, NSCH\_RP and NSCH Ês/Iot defined in Annex B.1.5 for a corresponding Band.

The UE shall filter NRSRP measurements of each measured inter-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 Tmeasure, Inter\_NB-IoT\_NC/2.

If an inter-frequency cell 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 inter-frequency cell has met reselection criterion defined TS 36.304 within Pcarrier \* Tevaluate,NB\_Inter\_NC. When evaluating cells for reselection, the side conditions for NRSRP, NRSRP Ês/Iot, NSCH\_RP and NSCH Ês/Iot apply to both serving and inter-frequency cells.

If Treselection timer has a non zero value and the inter-frequency cell is better ranked than the serving NB-IoT cell, the UE shall evaluate this inter-frequency cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

For UE not configured with eDRX\_IDLE cycle, Tdetect,NB\_Inter\_NC, Tmeasure,NB\_Inter\_NC and Tevaluate, NB\_inter\_NC are specified in Table 4.6.2.5-1. For UE configured with eDRX\_IDLE cycle, Tdetect,NB\_Inter\_NC, Tmeasure,NB\_Inter\_NC and Tevaluate, NB\_inter\_NC are specified in Table 4.6.2.5-2, where the requirements apply provided that the serving NB-IoT cell is configured with eDRX\_IDLE and is the same in all PTWs during any of Tdetect,NB\_Inter\_NC, Tmeasure,NB\_Inter\_NC and Tevaluate, NB\_inter\_NC when multiple PTWs are used.

###### <End of Change 1>