**3GPP TSG-RAN 2 Meeting #**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | **2** | **Current version:** |  |  |
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| *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 | **X** | Core Network |  |

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| ***Title:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | IoT\_NTN\_enh-Core |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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)* |
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| ***Reason for change:*** | At RAN2#125bis it was agreed * RAN2 has agreed that the time based measurement is also applicable for feeder link switchover case for cell reselection in NR NTN. And the following is captured in 38.300:

*The time-based measurement initiation may be applicable for the feeder link switchover case for cell (re)selection.** + The same principle is applied to IoT NTN.
* It is not clear how to perform the cell measurement if the network does not provide the ephemeris information of neighbour cell. For NR NTN, the following is captured in 38.300:

*For a UE in Idle/Inactive mode it's up to UE implementation whether to perform NTN neighbour cell measurements on a cell indicated in SIB3/SIB4 but not included in SIB19.**For a UE in Connected mode, it's up to UE implementation whether to perform NTN neighbour cell measurements on a cell included in the measurement configuration but not included in SIB19.** + The same principle is applied to IoT NTN.
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| ***Summary of change:*** | 1. Clarify that the time based measurement may be applicable for the feeder link switchover for cell (re)selection.
2. Clarify it is up to UE implementation whether to perform NTN neighbour cell measurements if the network does not provide the ephemeris information of this neighbour cell.
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| ***Consequences if not approved:*** | Stage 2 remains unclear for IoT NTN |
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| ***Clauses affected:*** | 23.21.4.3 |
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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 ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** | R2-2403776 CR1401 was In principle agreed after RAN2#125bis.R2-2405453 CR1401r1 was a direct copy submitted to RAN2#126.This CR1401r2 is updated after online discussion to only capture the parts that were specififc for Rel-18. |

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| START OF CHANGE |

#### 23.21.4.3 Measurements

The principles described in clause 10.1.3 apply in NTN unless specified otherwise.

To enable measurements, the network may provide neighbouring cell assistance information via system information.

The following can optionally be used for measurements on neighbour cells in RRC\_IDLE as specified in TS 36.331 [16]:

- The timing and location information associated to the serving cell provided in SIB3 and SIB31;

- Timing information when the neighbour cell starts serving the current geographical area;

- Location information refers:

- In the quasi-Earth fixed cell scenario, to the reference location of the serving cell and a distance threshold to the reference location;

- In the Earth moving cell scenario, to the reference location of the serving cell at the epoch time and a distance threshold to the reference location.

The following measurement triggers can be configured in RRC\_CONNECTED for the purpose of RRC reestablishment or handover as specified in TS 36.331 [16]:

- A time-based trigger condition;

- A location-based trigger condition.

The time-based measurement initiation may be applicable for the feeder link switchover case for cell (re)selection.

For a UE in idle mode, it is up to UE implementation whether to perform NTN neighbour cell measurements on an NTN cell which is indicated in SIB3/SIB5 but without corresponding satellite information in SIB33.

For a UE in connected mode, it is up to UE implementation whether to perform NTN neighbour cell measurements on an NTN cell which is included in the measurement configuration but without corresponding satellite information in SIB33.

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| END OF CHANGE |