**3GPP TSG-RAN WG2 Meeting #131 *R2-2505223***

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

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  | **38.306** | **CR** | **1319** | **rev** | **-** | **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:***  | Introduction of UAV mobility enhancements [UAV\_Mobility] |
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| ***Source to WG:*** | CATT, NTT DOCOMO, LG Electronics Inc., Kyocera, LGU+, China Telecom, NEC, SK Telecom, Qualcomm Incorporated, Ericsson, Nokia |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | TEI19 |  | ***Date:*** | 2025-08-15 |
|  |  |  |  |  |
| ***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)* |
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| ***Reason for change:*** | To introudce CHO enhancement and idle/inactive enhancement for UAV |
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| ***Summary of change:*** | To support the following mobility enhancements for UAV:1. Altitude based CHO event
2. Altitude based SSB measurement for idle/inactive UE
3. UAV dedicated frequency for cell reselection
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| ***Consequences if not approved:*** | CHO enhancement and idle/inactive enhancement are not supported for UAV. |
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| ***Clauses affected:*** | 4.2.24, 5.6 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 38.331 CR 5399 TS 38.304 CR 0439TS 38.300 CR 1004 |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| Start of change |

### 4.2.24 Aerial UE Parameters

| **Definitions for parameters** | **Per** | **M** | **FDD-TDD DIFF** | **FR1-FR2 DIFF** |
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| ***aerialUE-Capability-r18***Indicates whether the UE supports aerial UE communication as described in TS 38.300 [28] clause 16.18. | UE | No | No | No |
| ***altitudeMeas-r18***Indicates whether the UE supports altitude based measurement reporting as specified in TS 38.331 [9]. It is mandatory if the UE supports *aerialUE-Capability-r18*. | UE | CY | No | No |
| ***altitudeBasedSSB-ToMeasure-r18***Indicates whether the UE supports altitude based *ssb-ToMeasure* as specified in TS 38.331 [9]. | UE | No | No | No |
| ***condEventAxHy-r19***Indicates whether the UE supports condEvents A3H1, A3H2, A5H1, and A5H2 as specified in TS 38.331 [9]. If the UE indicates support of *condEventAxHy-r19*, the UE shall also support *eventAxHy-r18*. | UE | No | No | No |
| ***eventAxHy-r18***Indicates whether the UE supports events A3H1, A3H2, A4H1, A4H2, A5H1, and A5H2 as specified in TS 38.331 [9]. If the UE indicates support of *eventAxHy-r18*, then the UE additionally supports *multipleCellsMeasExtension-r18* for eventA3H1, eventA3H2, eventA4H1, eventA4H2, eventA5H1, and eventA5H2 as specified in TS 38.331 [9]. | UE | No | No | No |
| ***flightPathReporting-r18***Indicates whether the UE supports reporting of the flight path plan through the procedure defined in TS 38.331 [9]. | UE | No | No | No |
| ***flightPathAvailabilityIndicationUAI-r18***Indicates whether the UE supports indication of the flight path availability through the UAI message as defined in TS 38.331 [9]. If a UE supports this capability, the UE shall also support *flightPathReporting-r18.* | UE | No | No | No |
| ***multipleCellsMeasExtension-r18***Indicates whether the UE supports measurement reporting triggered based on a number of cells for eventA3, eventA4, and eventA5 as specified in TS 38.331 [9]. It is mandatory if the UE supports *aerialUE-Capability-r18*. | UE  | CY | No | No |
| ***nr-NS-PmaxListAerial-r18***Indicates whether the UE supports the mechanisms defined for cells broadcasting *nr-NS-PmaxListAerial* and *frequencyBandListAerial* as specified in TS 38.331 [9]. It is mandatory if the UE supports *aerialUE-Capability-r18*. | UE | CY | No | No |
| ***simulMultiTriggerSingleMeasReport-r18***Indicates whether the UE supports, for all the events of the same type for which the measurement reporting was triggered, measurement reporting considering only the configuration of the event with the smallest value between the altitude of the UE and the corresponding altitude threshold, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***sl-A2X-Service-r18***Indicates whether the UE supports A2X service(s) which include BRID, DAA or both using A2X communication as specified in TS 38.331 [9]. This field also indicates whether the UE supports the dedicated resource pools as specified in TS 38.331 for the corresponding A2X service(s). A UE supporting this feature shall also support NR sidelink in at least one sidelink band. | UE | No | No | No |

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| Next change |

## 5.6 RRM measurement features

| **Definitions for feature** |
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| **Altitude based measurement in IDLE/INACTIVE**It is optional for the UE in RRC\_IDLE or in RRC\_INACTIVE to support altitude based SSB measurement as specified in TS 38.304 [21]. This feature is only applicable if the UE supports *aerialUE-Capability-r18*. |
| **Cell reselection from TN to NTN**It is optional for the UE in RRC\_IDLE or in RRC\_INACTIVE in a TN cell to support the measurement of NTN neighbour cells for cell reselection based on the information acquired in SIB19 as specified in TS 38.304 [21] andin TS 38.133 [5]. This feature is only applicable if the UE supports *nonTerrestrialNetwork-r17*. |
| **Enhanced inter-frequency IDLE/INACTIVE measurements for HST FR2**It is optional for UE to support RRM requirement for inter-frequency measurements in idle and inactive mode to support FR2 high speed up to 350 km/h, as specified in TS 38.133 [5].A UE supporting this feature shall also indicate support of PC6 in *ue-PowerClass-v1700*. |
| **Enhanced RRM requirements for measurements in IDLE and INACTIVE modes**It is optional for UE to support enhanced RRM requirements for measurements for NTN bands (FR1 only and FDD only) in RRC\_IDLE/RRC\_INACTIVE as specified in TS 38.133 [5]. If UE does not support this feature, other NTN measurement requirements (as specified in TS 38.133 [5], clause 4.2C.2 for RRC\_IDLE and clause 5.1C.2 for RRC\_INACTIVE) are applied. |
| **Enhanced RRM requirements for measurements in IDLE and INACTIVE modes for ATG**It is optional for the UE in RRC\_IDLE/RRC\_INACTIVE to support the enhanced inter-frequency cell re-selection requirements for ATG (as specified in TS 38.133 [5], Table 4.2D.2.4-2). If UE does not support this feature, other measurement requirements as specified in TS 38.133 [5], Table 4.2D.2.4-1 are applied. |
| **Enhanced RRM requirements for measurements in IDLE and INACTIVE modes for FR2-NTN**It is optional for UE to support enhanced RRM requirements for measurements for FDD FR2-NTN bands in RRC\_IDLE/RRC\_INACTIVE as specified in TS 38.133 [5]. If UE does not support this feature, other NTN measurement requirements (as specified in TS 38.133 [5], clause 4.2C.2 for RRC\_IDLE and clause 5.1C.2 for RRC\_INACTIVE) are applied. |
| **High speed inter-frequency IDLE/INACTIVE measurements**It is optional for UE to support high speed inter-frequency measurements in RRC\_IDLE/RRC\_INACTIVE as specified in TS 38.133 [5]. |
| **Location-based measurement initiation**It is optional for the UE in RRC\_IDLE/RRC\_INACTIVE to support location based RRM measurements of neighbour cells in NTN (quasi-)Earth fixed cell as specified in TS 38.304 [21]. |
| **Location-based measurement initiation for NTN Earth-moving cell**It is optional for the UE in RRC\_IDLE/RRC\_INACTIVE to support location based RRM measurements of neighbour cells in NTN Earth-moving cell as specified in TS 38.304 [21]. |
| **Relaxed measurement**It is optional for UE to support relaxed RRM measurements of neighbour cells in RRC\_IDLE/RRC\_INACTIVE as specified in TS 38.304 [21]. |
| **Rel-17 relaxed measurement for RRC\_IDLE/RRC\_INACTIVE**It is optional for (e)RedCap UE to support Rel-17 relaxed RRM measurements of neighbour cells in RRC\_IDLE/RRC\_INACTIVE as specified in TS 38.304 [21]. |
| **Skipping TN measurements**It is optional for the UE in RRC\_IDLE/RRC\_INACTIVE to support skipping the neighbour cell measurements for TN neighbour cells in an area where there is no TN network coverage as specified in TS 38.304 [21]. |
| **SMTC adjustment for RRC\_IDLE/RRC\_INACTIVE**It is optional for the UE in RRC\_IDLE/RRC\_INACTIVE to support SMTC adjustment based on propagation delay difference between serving and neighbour cells. |
| **Time-based measurement initiation**It is optional for the UE in RRC\_IDLE/RRC\_INACTIVE to support time based RRM measurements of neighbour cells in NTN quasi-Earth fixed cell as specified in TS 38.304 [21]. |
| **Time-based measurement initiation for NTN Earth-moving cell**It is optional for the UE in RRC\_IDLE/RRC\_INACTIVE to support time based RRM measurements of neighbour cells in NTN Earth-moving cell as specified in TS 38.304 [21]. |
| **UAV frequency prioritization for cell reselection**It is optional for the UE in RRC\_IDLE or in RRC\_INACTIVE to prioritize UAV frequency for cell reselection as specified in TS 38.304 [21]. This feature is only applicable if the UE supports *aerialUE-Capability-r18*. |

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| End of change |