**3GPP TSG-RAN WG2 Meeting #125 *R2-230xxxx***

**Athens, Greece, February 26th – March 1st, 2024**

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.306** | **CR** | **-** | **rev** | **-** | **Current version:** | **18.0.0** |  |
|  |
| *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-Requests*](http://www.3gpp.org/Change-Requests)*.* |
|  |

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

|  |
| --- |
|  |
| ***Title:***  | Updates to UE capabilities for Rel-18 NR NTN Enh. |
|  |  |
| ***Source to WG:*** | Intel Corporation |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | NR\_NTN\_enh-Core |  | ***Date:*** | 2024-03-07 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-18 |
|  | *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)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | Updates to UE capabilities for Rel-18 NR NTN Enh. |
|  |  |
| ***Summary of change:*** | 1. Define a new UE capability for *ntn-VSAT-AntennaType-r18* as part of general parameters section (section 4.2.2).
2. Define a new UE capability for *ntn-VSAT-MobilityType-r18* as part of general parameters section (section 4.2.2).
3. Define a new UE capability for *eventD2-MeasReportTrigger-r18* as part of *MeasAndMobParameters* section (section 4.2.9).
 |
|  |  |
| ***Consequences if not approved:*** | NR NTN Enh. WI is not completed |
|  |  |
| ***Clauses affected:*** | 4.2.2, 4.2.9 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **x** |  |  Other core specifications  | TS/TR 38.331 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:*** |  |

1. ***Modified section***

### 4.2.2 General parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Definitions for parameters | Per | M | FDD-TDD DIFF | **FR1-FR2**DIFF |
| ***accessStratumRelease***Indicates the access stratum release the UE supports as specified in TS 38.331 [9]. | UE | Yes | No | No |
| ***additionalBSR-Table-r18***Indicates whether the UE supports the BSR enhancements associated with the additional BSR table as specified in TS 38.321 [8] and TS 38.331 [9]. | UE | No | No | No |
| ***airToGroundNetwork-r18***Indicates whether the UE supports air to ground network access. If the UE indicates this capability the UE shall support the following ATG essential features, e.g., acquiring ATG cell specific SIBxx and ATG cell specific P-Max. | UE | No | No | FR1 only |
| ***crossCarrierSchedulingConfigurationRelease-r17***Indicates whether the UE supports using *crossCarrierSchedulingConfigRelease* to release the configurations configured by *crossCarrierSchedulingConfig*. | UE | No | No | No |
| ***delayBudgetReporting***Indicates whether the UE supports delay budget reporting as specified in TS 38.331 [9]. | UE | No | No | No |
| ***delayStatusReport-r18***Indicates whether the UE supports the delay status report of the buffered data as specified in TS 38.321 [8], TS 38.331 [9], TS 38.323 [16] and TS 38.322 [36]. | UE | No | No | No |
| ***disableCG-RetransmissionMonitoring-r18***Indicates whether the UE supports to disable monitoring for retransmissions corresponding to a *ConfiguredGrantConfig* as specified in TS 38.321 [8] and TS 38.331 [9]. | UE | No | No | No |
| ***dl-DedicatedMessageSegmentation-r16***Indicates whether the UE supports reception of segmented DL RRC messages. | UE | No | No | No |
| ***drx-Preference-r16***Indicates whether the UE supports providing its preference of a cell group on DRX parameters for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***enhancedDRX-r18***Indicates whether the UE supports DRX enhancements including the support of non-integer DRX periodicity and addressing the SFN wrap around as specified in TS 38.331 [9] and TS 38.321 [8]. | UE | No | No | No |
| ***gNB-SideRTT-BasedPDC-r17***Indicates whether the UE supports gNB-side RTT-based PDC, as specified in TS 38.300 [28]. A UE supporting this feature shall also support *rtt-BasedPDC-CSI-RS-ForTracking-r17* and/or *rtt-BasedPDC-PRS-r17*. | UE | No | No | No |
| ***hardSatelliteSwitchResyncNTN-r18***Indicates whether UE supports hard satellite switch with re-sync, as specified in TS 38.331 [9].A UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17*.When UE supports this feature and does not support *softSatelliteSwitchResyncNTN-r18*, this UE is able to perform hard satellite switch with re-sync in a network supporting soft satellite switch with re-sync, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***inactiveState***Indicates whether the UE supports RRC\_INACTIVE as specified in TS 38.331 [9]. This capability is not applicable to NCR-MT. | UE | Yes | No | No |
| ***inactiveStateNTN-r17***Indicates whether the UE supports RRC\_INACTIVE in NTN as specified in TS 38.331 [9]. It is mandated if the UE indicates the support of *nonTerrestrialNetwork-r17*. | UE | CY | No | No |
| ***inactiveStatePO-Determination-r17***Indicates whether the UE supports to use the same i\_s to determine PO in RRC\_INACTIVE state as in RRC\_IDLE state. | UE | No | No | No |
| ***inDeviceCoexInd-r16***Indicates whether the UE supports reporting of affected NR carrier frequencies in IDC assistance information as specified in TS 38.331 [9]. | UE | No | No | No |
| ***inDeviceCoexIndAutonomousDenial-r18***Indicates whether the UE supports IDC autonomous denial as specified in TS 38.331 [9]. A UE supporting this feature shall also support *inDeviceCoexInd-r16*. | UE | No | No | No |
| ***inDeviceCoexIndFDM-r18***Indicates whether the UE supports reporting of affected NR carrier frequency ranges in IDC assistance information as specified in TS 38.331 [9]. A UE supporting this feature shall also support *inDeviceCoexInd-r16*. | UE | No | No | No |
| ***inDeviceCoexIndTDM-r18***Indicates whether the UE supports reporting of IDC TDM assistance information as specified in TS 38.331 [9]. A UE supporting this feature shall also support *inDeviceCoexInd-r16*. | UE | No | No | No |
| ***maxBW-Preference-r16, maxBW-Preference-r17***Indicates whether the UE supports providing its preference of a cell group on the maximum aggregated bandwidth for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | Yes(Incl FR2-2 DIFF) |
| ***maxCC-Preference-r16***Indicates whether the UE supports providing its preference of a cell group on the maximum number of secondary component carriers for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***maxMIMO-LayerPreference-r16, maxMIMO-LayerPreference-r17***Indicates whether the UE supports providing its preference of a cell group on the maximum number of MIMO layers for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | Yes(Incl FR2-2 DIFF) |
| ***maxMRB-Add-r17***Indicates the additional maximum number of MRBs that the UE supports for MBS multicast reception in RRC\_CONNECTED as specified in TS 38.331 [9].For the UE indicating support of *multicastInactive-r18*, this capability is also applicable to multicast reception in RRC\_INACTIVE, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***mcgRLF-RecoveryViaSCG-r16***Indicates whether the UE supports recovery from MCG RLF via split SRB1 (if supported) and via SRB3 (if supported) as specified in TS 38.331[9]. | UE | No | No | No |
| ***minSchedulingOffsetPreference-r16***Indicates whether the UE supports providing its preference on the minimum scheduling offset for cross-slot scheduling of the cell group for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***mpsPriorityIndication-r16***Indicates whether the UE supports *mpsPriorityIndication* on RRC release with redirect as defined in TS 38.331 [9]. | UE | No | No | No |
| ***mt-SDT-r18***Indicates whether the UE supports initiating MT-SDT procedure via random access procedure with 4-step RA type and if UE supports *twoStepRACH-r16*, with 2-step RA type, in response to the reception of MT-SDT indication in paging message, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***mt-SDT-NTN-r18***Indicates whether the UE supports initiating MT-SDT procedure in NTN via random access procedure with 4-step RA type and if UE supports *twoStepRACH-r16* for NTN, with 2-step RA type, in response to the reception of MT-SDT indication in paging message, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***multiRx-FR2-Preference-r18***Indicates whether the UE supports providing multi-Rx operation preference (i.e. not supporting simultaneous reception with different QCL-typeD) for FR2, as defined in TS 38.331 [9]. | UE | No | No | FR2 only |
| ***musim-CapabilityRestriction-r18***Indicates whether the UE supports providing MUSIM assistance information with temporary capability restriction and capability restriction indication (i.e., *musim-CapabilityRestrictionIndication*), as defined in TS 38.331 [9]. | UE | No | No | No |
| ***musim-GapPreference-r17***Indicates whether the UE supports providing MUSIM assistance information with MUSIM gap preference and related MUSIM gap configuration, as defined in TS 38.331 [9]. UE supporting this feature supports 3 periodic gaps and 1 aperiodic gap. | UE | No | No | No |
| ***musim-GapPriorityPreference-r18***Indicates whether the UE supports providing MUSIM assistance information with periodic MUSIM gap priority preference and related periodic MUSIM gap priority configuration, and its preference of keeping all collided MUSIM gaps, as defined in TS 38.331 [9]. A UE supporting this feature shall support *musim-GapPreference-r17.* | UE | No | No | No |
| ***musimLeaveConnected-r17***Indicates whether the UE supports providing MUSIM assistance information with indication of leaving RRC\_CONNECTED state as defined in TS 38.331 [9]. | UE | No | No | No |
| ***nonTerrestrialNetwork-r17***Indicates whether the UE supports NR NTN access. If the UE indicates this capability the UE shall support the following NTN essential features, e.g., timer extension in MAC/RLC/PDCP layers and RACH adaptation to handle long RTT, acquiring NTN specific SIB and more than one TAC per PLMN broadcast in one cell. | UE | No | No | No |
| ***ntn-ScenarioSupport-r17***Indicates whether the UE supports the NTN features in GSO scenario or NGSO scenario. If a UE does not include this field but includes *nonTerrestrialNetwork-r17*, the UE supports the NTN features for both GSO and NGSO scenarios, and also supports mobility between GSO and NGSO scenarios. | UE | No | No | No |
| ***ntn-VSAT-AntennaType-r18***Indicates whether a VSAT UE uses electronic or mechanical steering antenna. A UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17*. | UE | No | No | FR2 only |
| ***ntn-VSAT-MobilityType-r18***Indicates whether a VSAT UE is a mobile or fixed VSAT. A UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17*. | UE | No | No | FR2 only |
| ***onDemandSIB-Connected-r16***Indicates whether the UE supports the on-demand request procedure of SIB(s) or posSIB(s) while in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***overheatingInd***Indicates whether the UE supports overheating assistance information. | UE | No | No | No |
| ***pei-SubgroupingSupportBandList-r17***Indicates whether the UE supports receiving paging early indication in DCI format 2\_7 as specified in TS 38.304 [21] for a list of frequency band. The UE shall support UEID based subgrouping for a frequency band if it indicates supporting of paging early indication reception for the frequency band. The set of OFDM symbols within a slot where UE can monitor the PEI PDCCH in Type 2A CSS is the same as the requirement for paging PDCCH in Type 2 CSS for IDLE and INACTIVE mode UEs. | UE | No | No | No |
| ***partialFR2-FallbackRX-Req***Indicates whether the UE meets only a partial set of the UE minimum receiver requirements for the eligible FR2 fallback band combinations as defined in Clause 4.2 of TS 38.101-2 [3] and Clause 4.2 of TS 38.101-3 [4]. If not indicated, the UE shall meet all the UE minimum receiver requirements for all the FR2 fallback combinations in TS 38.101-2 [3] and TS 38.101-3 [4]. The UE shall support configuration of any of the FR2 fallback band combinations regardless of the presence or the absence of this field. | UE | No | No | No |
| ***pdu-SetDiscard-r18***Indicates whether the UE supports PDU set based discard operation (i.e. *pdu-SetDiscard-r18* configuration, as specified in TS 38.331 [9]).UE supporting *pdu-SetDiscard-r18* shall also support the ability to identify PDU sets for UL XR traffic. | UE | No | No | No |
| ***psi-BasedDiscard-r18***Indicates whether the UEs supports PSI based discard (i.e. *discardTimerForLowImportance-r18* configuration, as specified in TS 38.331 [9]).UE supporting *psi-BasedDiscard-r18* shall also support the ability to identify PDU sets and PSI for UL XR traffic. | UE | No | No | No |
| ***ra-InsteadCG-SDT-r18***Indicates whether the UE supports the selection of RACH resources instead of configured grant type 1 resource when triggering resume for MO-SDT or MT-SDT and next configured grant type 1 resource is too far, as specified in TS 38.331 [9].A UE supporting this feature shall also indicate the support of *cg-SDT-r17,* or *mt-CG-SDT-r18.* | UE | No | No | No |
| ***ra-SDT-r17***Indicates whether the UE supports initiating MO-SDT procedure (i.e. transmission of data and/or signalling over allowed radio bearers in RRC\_INACTIVE state) via Random Access procedure (i.e., RA-SDT) with 4-step RA type and if UE supports *twoStepRACH-r16,* with 2-step RA type, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***ra-SDT-NTN-r17***Indicates whether the UE supports initiating MO-SDT procedure (i.e. transmission of data and/or signalling over allowed radio bearers in RRC\_INACTIVE state) in NTN via Random Access procedure (i.e., RA-SDT) with 4-step RA type and if UE supports *twoStepRACH-r16* for NTN*,* with 2-step RA type, as specified in TS 38.331 [9]. A UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17*. | UE | No | No | No |
| ***redirectAtResumeByNAS-r16***Indicates whether the UE supports reception of *redirectedCarrierInfo* in an *RRCRelease* message in response to an *RRCResumeRequest* or *RRCResumeRequest1* which is triggered by the NAS layer, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***reducedCP-Latency***Indicates whether the UE supports reduced control plane latency as defined in TS 38.331 [9] | UE | No | No | No |
| ***referenceTimeProvision-r16***Indicates whether the UE supports provision of referenceTimeInfo in *DLInformationTransfer* message and in SIB9 and reference time information preference indication via assistance information, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***releasePreference-r16***Indicates whether the UE supports providing its preference assistance information to transition out of RRC\_CONNECTED for power saving, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***requirementTypeIndication-r18***Indicates whether the UE supports network control of requirement applicability for UE supporting interBandMRDC-WithOverlapDL-Bands-r16. This field is only applicable to the UE indicating *interBandMRDC-WithOverlapDL-Bands-r16*.The UE supports this feature shall also indicate support of *interBandMRDC-WithOverlapDL-Bands-r16*. | UE | No | No | FR1 only |
| ***resumeAfterSDT-Release-r18***Indicates whether the UE supports immediate RRC connection resume procedure triggering after receiving *RRCRelease* message with a *resumeIndication* included during an ongoing SDT procedure, as specified in TS 38.331 [9].The UE indicating support of this feature shall also support any of *ra-SDT-r17*, *ra-SDT-NTN-r17*, *cg-SDT-r17*, *mt-SDT-r18, mt-SDT-NTN-r18* or *mt-CG-SDT-r18*. | UE | No | No | No |
| ***resumeWithStoredMCG-SCells-r16***Indicates whether the UE supports not deleting the stored MCG SCell configuration when initiating the resume procedure. | UE | No | No | No |
| ***resumeWithStoredSCG-r16***Indicates whether the UE supports not deleting the stored SCG configuration when initiating resume. The UE which indicates support for *resumeWithStoredSCG-r16* shall also indicate support for *resumeWithSCG-Config-r16*. | UE | No | No | No |
| ***resumeWithSCG-Config-r16***Indicates whether the UE supports (re-)configuration of an SCG during the resume procedure. | UE | No | No | No |
| ***sliceInfoforCellReselection-r17***Indicates whether the UE supports slice-based cell reselection information in SIB and on RRC release for slice-based cell reselection in RRC \_IDLE and RRC INACTIVE as defined in TS 38.304 [21]. | UE | No | No | No |
| ***splitSRB-WithOneUL-Path***Indicates whether the UE supports UL transmission via MCG path and DL reception via either MCG path or SCG path, as specified for the split SRB in TS 37.340 [7]. The UE shall not set the FDD/TDD specific fields for this capability (i.e. it shall not include this field in *UE-MRDC-CapabilityAddXDD-Mode*). | UE | No | No | No |
| ***softSatelliteSwitchResyncNTN-r18***Indicates whether UE supports soft satellite switch with re-sync, as specified in TS 38.331 [9].A UE supporting this feature shall also indicate support of *hardSatelliteSwitchResyncNTN-r18.* | UE | No | No | No |
| ***splitDRB-withUL-Both-MCG-SCG***Indicates whether the UE supports UL transmission via both MCG path and SCG path for the split DRB as specified in TS 37.340 [7]. The UE shall not set the FDD/TDD specific fields for this capability (i.e. it shall not include this field in *UE-MRDC-CapabilityAddXDD-Mode*). | UE | Yes | No | No |
| ***srb3***Indicates whether the UE supports SRB3 which is a direct SRB between the SN and the UE as specified in TS 37.340 [7]. The UE shall not set the FDD/TDD specific fields for this capability (i.e. it shall not include this field in *UE-MRDC-CapabilityAddXDD-Mode*). This field is not applied to NE-DC. | UE | Yes | No | No |
| ***srb-SDT-NTN-r17***Indicates whether the UE supports the usage of signalling radio bearer SRB2 for MO-SDT (over RA-SDT or CG-SDT) or MT-SDT (over RA or CG-SDT) in NTN, as specified in TS 38.331 [9].A UE supporting this feature shall also indicate support of *ra-SDT-NTN-r17*, *cg-SDT-r17*, *mt-SDT-NTN-r18* or *mt-CG-SDT-r18* in NTN bands. A UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17*. | UE | No | No | No |
| ***srb-SDT-r17***Indicates whether the UE supports the usage of signalling radio bearer SRB2 for MO-SDT (over RA-SDT or CG-SDT) or MT-SDT (over RA or CG-SDT), as specified in TS 38.331 [9].A UE supporting this feature shall also indicate support of *ra-SDT-r17 cg-SDT-r17*, *mt-SDT-r18* or *mt-CG-SDT-r18*. | UE | No | No | No |
| ***ul-GapFR2-Pattern-r17***Indicates FR2 UL gap pattern(s) supported by the UE for NR SA, for NR-DC without FR2-FR2 band combination, for NE-DC, and for (NG)EN-DC, if UE supports a band in FR2. The leading / leftmost bit (bit 0) corresponds to the FR2 UL gap pattern 0, the next bit corresponds to the FR2 UL gap pattern 1, as specified in TS 38.133 [5] and so on. The UE shall set at least one of the bits to 1 for FR2 UL gap pattern 1 and 3, if the UE indicates support for *ul-GapFR2-r17* in an FR2 band. | UE | CY | No | FR2 only |
| ***ul-RRC-Segmentation-r16***Indicates whether the UE supports uplink RRC segmentation of *UECapabilityInformation* as specified in TS 38.331 [9]. | UE | No | No | No |
| ***ul-TrafficInfo-r18***Indicates whether UE supports sending UE assistance information with UL traffic information such as jitter range, burst arrival time, data burst periodicity and whether UE is able to identify PDU Set related information per UL QoS flow as specified in TS 38.331 [9]. | UE | No | No | No |

1. ***Modified section***

### 4.2.9 *MeasAndMobParameters*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Definitions for parameters | Per | M | FDD-TDD DIFF | FR1-FR2 DIFF |
| ***cellIndividualOffsetPerMeasEvent-r18***Indicates whether the UE supports the configuration of a cell individual offset per measurement event within *reportConfigNR* or *reportConfigInterRAT* as specified in TS 38.331 [9]. | UE | No | No | No |
| ***cli-RSSI-Meas-r16***Indicates whether the UE can perform CLI RSSI measurements as specified in TS 38.215 [13] and supports periodical reporting and measurement event triggering as specified in TS 38.331 [9]. If the UE supports this feature, the UE needs to report *maxNumberCLI-RSSI-r16*. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measurement resources to be measured. | UE | No | TDD only | Yes |
| ***cli-SRS-RSRP-Meas-r16***Indicates whether the UE can perform SRS RSRP measurements as specified in TS 38.215 [13] and supports periodical reporting and measurement event triggering based on SRS-RSRP as specified in TS 38.331 [9]. If the UE supports this feature, the UE needs to report *maxNumberCLI-SRS-RSRP-r16* and *maxNumberPerSlotCLI-SRS-RSRP-r16*. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measurement resources to be measured. | UE | No | TDD only | Yes |
| ***concurrentMeasGap-r17***Indicates whether the UE supports the concurrent measurements gaps as specified in TS 38.133 [5]. The capability signalling comprises the following parameters:- *concurrentPerUE-OnlyMeasGap-r17* indicates whether the UE supports more than 1 per-UE measurement gap configurations (i.e. gap combination configuration id = 2 as specified in TS 38.133 [5]), or*-* *concurrentPerUE-PerFRCombMeasGap-r17* indicates whether the UE supports all concurrent gap combination configurations as specified in TS 38.133 [5] including support of more than 1 per-UE measurement gap configurations. For UE capable of Rel-15 per-FR gap (*independentGapConfig*), this field indicates whether the UE supports more than 1 per-FR gap measurement gap configurations in an FR, or simultaneous 1 per UE measurement gap plus 1 per-FR measurement gap configurations in an FR, or more than 1 per-UE measurement gap configurations (i.e. gap combination configuration id = 2 as specified in TS 38.133 [5]). | UE | No | No | No |
| ***concurrentMeasGapEUTRA-r17***Indicates whether the UE support the configurations of E-UTRAN measurement objectives associated with more than 1 concurrent measurement gaps as specified in TS 38.133 [5]. The UE indicating support of this feature shall also indicate support of *concurrentMeasGap-r17*. | UE | No | No | No |
| ***condHandoverFDD-TDD-r16***Indicates whether the UE supports conditional handover between FDD and TDD cells. The parameter can only be set if *condHandover-r16* is set for both FDD and TDD. The UE that indicates support of this feature shall also indicate support of *handoverFDD-TDD*. | UE | No | No | No |
| ***condHandoverFR1-FR2-r16***Indicates whether the UE supports conditional handover HO between FR1 and FR2. The parameter can only be set if *condHandover-r16* is set for both FR1 and FR2. The UE that indicates support of this feature shall also indicate support of *handoverFR1-FR2*. | UE | No | No | No |
| ***condHandoverWithSCG-NRDC-r17***Indicates whether the UE supports conditional handover with NR SCG configuration for NR-DC. The UE indicating support of this feature shall also indicate the support of *condHandover-r16* and support of at least one NR-DC band combination. | UE | No | No | No |
| ***csi-RS-RLM***Indicates whether the UE can perform radio link monitoring procedure based on measurement of CSI-RS as specified in TS 38.213 [11] and TS 38.133 [5]. This parameter needs FR1 and FR2 differentiation. If the UE supports this feature, the UE needs to report *maxNumberResource-CSI-RS-RLM*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *csi-RS-RLM-r16* applies. | UE | Yes | No | Yes |
| ***csi-RSRP-AndRSRQ-MeasWithSSB***Indicates whether the UE can perform CSI-RSRP and CSI-RSRQ measurement as specified in TS 38.215 [13], where CSI-RS resource is configured with an associated SS/PBCH. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. If the UE supports this feature, the UE needs to report *maxNumberCSI-RS-RRM-RS-SINR*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *csi-RS-RLM-r16* applies. | UE | No | No | Yes |
| ***csi-RSRP-AndRSRQ-MeasWithoutSSB***Indicates whether the UE can perform CSI-RSRP and CSI-RSRQ measurement as specified in TS 38.215 [13], where CSI-RS resource is configured for a cell that transmits SS/PBCH block and without an associated SS/PBCH block. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. If the UE supports this feature, the UE needs to report *maxNumberCSI-RS-RRM-RS-SINR*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *csi-RSRP-AndRSRQ-MeasWithoutSSB-r16* applies. | UE | No | No | Yes |
| ***csi-SINR-Meas***Indicates whether the UE can perform CSI-SINR measurements based on configured CSI-RS resources as specified in TS 38.215 [13]. If this parameter is indicated for FR1 and FR2 differently, each indication corresponding to the frequency range of measured target cell. If the UE supports this feature, the UE needs to report *maxNumberCSI-RS-RRM-RS-SINR*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *csi-SINR-Meas-r16* applies. | UE | No | No | Yes |
| ***deriveSSB-IndexFromCellInterNon-NCSG-r17***Indicates whether the UE supports configuration of *deriveSSB-IndexFromCellInter-r17* in *MeasObjectNR*. This field applies to NR SA, MN configured measurements when NR-DC or NE-DC is configured, and SN configured measurements when NR-DC or (NG)EN-DC is configured. UE supporting this feature is required to meet the measurement requirements in TS 38.133 [5]. This field applies only to non-NCSG capable UEs (i.e. UEs not supporting *ncsg-MeasGapNR-Patterns-r17*). | UE | No | No | No |
| ***eutra-AutonomousGaps-r16***Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when MR-DC is not configured.  | UE | No | No | No |
| ***eutra-AutonomousGaps-NEDC-r16***Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when NE-DC is configured. | UE | No | No | No |
| ***eutra-AutonomousGaps-NRDC-r16***Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when NR-DC is configured. | UE | No | No | No |
| ***eutra-CGI-Reporting***Defines whether the UE supports acquisition of relevant CGI-information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the (NG)EN-DC and NE-DC are not configured or, when consistent DRX is configured in NR-DC. The consistent DRX configuration implies that MN and SN have the same DRX cycle and on-duration configured by MN completely contains on-duration configured by SN. It is mandated if the UE supports EUTRA. It is optional for (e)RedCap UEs. | UE | CY | No | No |
| ***eutra-CGI-Reporting-NEDC***Defines whether the UE supports acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when theNE-DCis configured. | UE | No | No | No |
| ***eutra-CGI-Reporting-NRDC***Defines whether the UE supports acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when theNR-DC is configured wherein MN and SN have different DRX cycles, or on-duration configured by MN does not contain on-duration configured by SN if the DRX cycles are the same. | UE | No | No | No |
| ***eutra-NeedForGapNCSG-Reporting-r17***Indicates whether the UE supports reporting of the NCSG and measurement gap requirement information for E-UTRA target bands in the UE response to a network configuration RRC message as specified in TS 38.331 [9]. | UE | No | No | No |
| ***eventA-MeasAndReport***Indicates whether the UE supports NR measurements and events A triggered reporting as specified in TS 38.331 [9]. This field only applies to SN configured measurement when (NG)EN-DC is configured. For NR SA, MN and SN configured measurement when NR-DC is configured, and MN configured measurement when NE-DC is configured, this feature is mandatory supported. | UE | Yes | Yes | No |
| ***eventB-MeasAndReport***Indicates whether the UE supports EUTRA measurement and event B triggered reporting as specified in TS 38.331 [9]. It is mandated if the UE supports EUTRA. | UE | CY | No | No |
| ***eventD1-MeasReportTrigger-r17***Indicates whether the UE supports location-based triggered measurement reporting (i.e., event D1) as specified in TS 38.331 [9]. It is mandated if the UE supports *locationBasedCondHandover-r17* in any NTN band. | UE | CY | No | No |
| ***eventD2-MeasReportTrigger-r18***Indicates whether the UE supports location-based triggered measurement reporting for an NTN Earth-moving system (i.e., event D2) as specified in TS 38.331 [9]. It is mandated if the UE supports *locationBasedCondHandoverEMC-r18* in any NTN band. | UE | CY | No | No |
| ***gNB-ID-LengthReporting-r17***Indicates whether the UE supports acquisition and reporting of gNB ID length from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired gNB ID length to the network as specified in TS 38.331 [9] when (NG)EN-DC and NE-DC are not configured or, when consistent DRX is configured in NR-DC. The consistent DRX configuration implies that MN and SN have the same DRX cycle and on-duration configured by MN completely contains on-duration configured by SN. It is mandated if UE supports NR CGI reporting (NG)EN-DC and NE-DC are not configured or, when consistent DRX is configured in NR-DC. | UE | CY | No | No |
| ***gNB-ID-LengthReporting-ENDC-r17***Indicates whether the UE supports acquisition and reporting of gNB ID length from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired gNB ID length to the network as specified in TS 38.331 [9] when the (NG)EN-DC is configured. It is mandated if UE supports NR CGI reporting when (NG)EN-DC is configured. | UE | CY | No | No |
| ***gNB-ID-LengthReporting-NEDC-r17***Indicates whether the UE supports acquisition and reporting of gNB ID length from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired gNB ID length to the network as specified in TS 38.331 [9] when the NE-DC is configured. It is mandated if UE supports NR CGI reporting when NE-DC is configured. | UE | CY | No | No |
| ***gNB-ID-LengthReporting-NRDC-r17***Indicates whether the UE supports acquisition and reporting of gNB ID length from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired gNB ID length to the network as specified in TS 38.331 [9] when the NR-DC is configured wherein MN and SN have different DRX cycles, or on-duration configured by MN does not contain on-duration configured by SN if the DRX cycles are the same. It is mandated if UE supports NR CGI reporting when NR-DC is configured. | UE | CY | No | No |
| ***gNB-ID-LengthReporting-NPN-r17***Indicates whether the UE supports acquisition of NPN-relevant gNB ID length from a neighbouring intra-frequency or inter-frequency NR NPN cell by reading the SI of the neighbouring cell and reporting the acquired gNB ID length to the network as specified in TS 38.331 [9]. It is mandated if UE supports NPN CGI reporting. | UE | CY | No | No |
| ***handoverLTE-5GC, handoverLTE-5GC-r17***Indicates whether the UE supports HO to EUTRA connected to 5GC. It is mandated if the UE supports EUTRA connected to 5GC. | UE | CY | Yes | Yes(Incl FR2-2 DIFF) |
| ***handoverFDD-TDD***Indicates whether the UE supports HO between FDD and TDD. It is mandated if the UE supports both FDD and TDD. This field only applies to NR SA/NR-DC/NE-DC (e.g. PCell handover). For PSCell change when (NG)EN-DC/NR-DC is configured, this feature is mandatory supported. UEs supporting this shall indicate support of *handoverInterF* for both FDD and TDD. | UE | Yes | No | No |
| ***handoverFR1-FR2***Indicates whether the UE supports HO between FR1 and FR2. Support is mandatory for the UE supporting both FR1 and FR2. This field only applies to NR SA/NR-DC/NE-DC (e.g. PCell handover). For PSCell change when (NG)EN-DC/NR-DC is configured, this feature is mandatory supported. UEs supporting this shall indicate support of *handoverInterF* for both FR1 and FR2. | UE | Yes | No | No |
| ***handoverFR1-FR2-2-r17***Indicates whether the UE supports HO between FR1 and FR2-2. This field only applies to NR SA/NR-DC/NE-DC (e.g. PCell handover) and PSCell change when (NG)EN-DC/NR-DC is configured. UEs supporting this shall indicate support of *handoverInterF* for both FR1 and FR2-2. | UE | No | No | No |
| ***handoverFR2-1-FR2-2-r17***Indicates whether the UE supports HO between FR2-1 and FR2-2. This field only applies to NR SA/NR-DC/NE-DC (e.g. PCell handover) and PSCell change when (NG)EN-DC/NR-DC is configured. UEs supporting this shall indicate support of *handoverInterF* for both FR2-1 and FR2-2. | UE | No | No | No |
| ***handoverInterF, handoverInterF-r17***Indicates whether the UE supports inter-frequency HO. It indicates the support for inter-frequency HO from the corresponding duplex mode and from frequency range indicated to be supported as described in Annex B. This field only applies to NR SA/NR-DC/NE-DC (e.g. PCell handover). For PSCell change when (NG)EN-DC/NR-DC is configured, this feature is mandatory supported. | UE | Yes | Yes | Yes(Incl FR2-2 DIFF) |
| ***handoverLTE-EPC, handoverLTE-EPC-r17***Indicates whether the UE supports HO to EUTRA connected to EPC. It is mandated if the UE supports EUTRA connected to EPC. | UE | CY | Yes | Yes(Incl FR2-2 DIFF) |
| ***idleInactiveNR-MeasReport-r16, idleInactiveNR-MeasReport-r17***Indicates whether the UE supports configuration of NR SSB measurements in RRC\_IDLE/RRC\_INACTIVE and reporting of the corresponding results upon network request as specified in TS 38.331 [9]. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. | UE | No | No | Yes(Incl FR2-2 DIFF) |
| ***idleInactiveNR-MeasBeamReport-r16***Indicates whether the UE supports beam level measurements in RRC\_IDLE/RRC\_INACTIVE and reporting of the corresponding beam measurement results upon network request as specified in TS 38.331 [9]. A UE supports this feature shall also support *idleInactiveNR-MeasReport-r16*. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. | UE | No | No | Yes |
| ***idleInactiveEUTRA-MeasReport-r16***Indicates whether the UE supports configuration of E-UTRA measurements in RRC\_IDLE/RRC\_INACTIVE and reporting of the corresponding results upon network request as specified in TS 38.331 [9]. | UE | No | No | No |
| ***idleInactive-ValidityArea-r16***Indicates whether the UE supports configuration of a validity area for NR measurements in RRC\_IDLE/RRC\_INACTIVE as specified in TS 38.331 [9]. | UE | No | No | No |
| ***increasedNumberofCSIRSPerMO-r16***Indicates support of up to 192 CSI-RS resource for L3 mobility configuration per measurement object configured with *associatedSSB*. | UE | No | No | Yes |
| ***independentGapConfig***This field indicates whether the UE supports two independent measurement gap configurations for FR1 and FR2 specified in clause 9.1.2 of TS 38.133 [5]. The field also indicates whether the UE supports the FR2 inter-RAT measurement without gaps when (NG)EN-DC is not configured. | UE | No | No | No |
| ***independentGapConfig-maxCC-r17***This field indicates whether the UE supports two independent measurement gap configurations for FR1 and FR2 as specified in clause 9.1.2 of TS 38.133 [5] while the number of configured serving cells is less than or equal to the indicated number.The capability signaling includes the following parameters:- *fr1-Only-r17* indicates the maximum number of configured serving cells when only NR FR1 serving cells are configured- *fr2-Only-r17* indicates the maximum number of configured serving cells when only NR FR2 serving cells are configured- *fr1-AndFR2-r17* indicates the maximum number of configured serving cells when both NR FR1 and NR FR2 serving cells are configuredThe absence of the *fr1-Only-r17* or *fr2-Only-r17* field indicates that per-FR gap is not supported when only FR1 or FR2 serving cells are configured. Absence of the *fr1-AndFR2* field indicates that per-FR-gap is not supported when both FR1 and FR2 serving cells are configured. Value "1" for *fr1-Only-r17* or *fr2-Only-r17* indicates support of the per-FR gap when only PCell is configured (no additional CC). Value "2" for *fr1-Only-r17* or *fr2-Only-r17* indicates support of the per-FR gap when PCell and 1 additional CC are configured, and so on. Value "1" or "2" for *fr1-AndFR2-r17* indicates the support of per-FR gap when PCell and "1" additional CC are configured.UE indicating support of this feature in *UE-NR-Capability* shall not indicate support of *independentGapConfig* in *UE-NR-Capability*. | UE | No | No | No |
| ***independentGapConfigPRS-r17***Indicates whether the UE supports two independent measurement gap configurations for FR1 and FR2 for PRS measurement, as specified in clause 9.1.2 of TS 38.133 [5]. | UE | No | No | No |
| ***intraAndInterF-MeasAndReport***Indicates whether the UE supports NR intra-frequency and inter-frequency measurements and at least periodical reporting. This field only applies to SN configured measurement when (NG)EN-DC is configured. For NR SA, MN and SN configured measurement when NR-DC is configured, and MN configured measurement when NE-DC is configured, this feature is mandatory supported. | UE | Yes | Yes | No |
| ***interFrequencyMeas-NoGap-r16***Indicates whether the UE can perform inter-frequency SSB based measurements without measurement gaps if the SSB is completely contained in the active BWP of the UE as specified in TS 38.133 [5]. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of cells to be measured. | UE | No | No | Yes |
| ***interSatMeas-r17***Indicates whether the UE supports inter-satellite measurement as specified in TS 38.331 [9]. It is mandatory if the UE supports *nonTerrestrialNetwork-r17*. | UE | CY | No | No |
| ***l3-MeasUnknownSCellActivation-r18***Indicates whether the UE supports reporting valid L3 measurement results triggered by the unknown SCell activation commandUE is required to meet the shortened SCell activation delay requirement in TS 38.133 [5] if the feature is supported, including single SCell activation, single PUCCH SCell activation, and multiple SCell activation with/without PUCCH SCell. | UE | No | No | No |
| ***maxNumberCLI-RSSI-r16***Defines the maximum number of CLI-RSSI measurement resources for CLI RSSI measurement. If the UE supports *cli-RSSI-Meas-r16*, the UE shall report this capability. | UE | CY | TDD only | No |
| ***maxNumberCLI-SRS-RSRP-r16***Defines the maximum number of SRS-RSRP measurement resources for SRS-RSRP measurement. If the UE supports *cli-SRS-RSRP-Meas-r16*, the UE shall report this capability.NOTE 1: A slot is based on minimum SCS among active BWPs across all CCs configured for SRS-RSRP measurement.NOTE 2: A SRS resource occasion that overlaps with the slot is counted as one measurement resource in the slot. | UE | CY | TDD only | No |
| ***maxNumberCSI-RS-RRM-RS-SINR***Defines the maximum number of CSI-RS resources for RRM and RS-SINR measurement across all measurement frequencies per slot. If UE supports any of *csi-RSRP-AndRSRQ-MeasWithSSB*, *csi-RSRP-AndRSRQ-MeasWithoutSSB*, and *csi-SINR-Meas*, UE shall report this capability.NOTE: A slot is based on minimum SCS among all measurement frequencies configured for RRM and RS-SINR measurement. | UE | CY | No | No |
| ***maxNumberPerSlotCLI-SRS-RSRP-r16***Defines the maximum number of SRS-RSRP measurement resources per slot for SRS-RSRP measurement. If the UE supports *cli-SRS-RSRP-Meas-r16*, the UE shall report this capability. | UE | CY | TDD only | No |
| ***maxNumberResource-CSI-RS-RLM***Defines the maximum number of CSI-RS resources within a slot per spCell for CSI-RS based RLM. If UE supports any of *csi-RS-RLM* and *ssb-AndCSI-RS-RLM*, UE shall report this capability. | UE | CY | No | Yes |
| ***measSequenceConfig-r18***Indicates whether the UE supports configuration of *measSequence-r18* in *MeasObjectNR* and *MeasObjectEUTRA* for recommended sequence for intra/inter-RAT intra/inter-frequency measurement. | UE | No | No | No |
| ***ncsg-MeasGapNR-Patterns-r17***Indicates whether the UE supports NR-only NCSG patterns. The left most bit in the bitmap corresponds to NCSG pattern #0 and the right most bit in the bitmap corresponds to NCSG pattern #23. A bit in the bitmap is set to 1 if the corresponding pattern is supported by the UE. NCSG patterns #0 to #23 are as specified in TS 38.133 [5].NCSG patterns #2 and #3 are mandatory (i.e. the corresponding bits in the bitmap is set to 1) if the UE includes this field. NCSG patterns #17 and #18 are mandatory (i.e. the corresponding bits in the bitmap is set to 1) if UE includes this field and supports a FR2 band. UEs supporting this shall indicate support of *nr-NeedForGapNCSG-Reporting-r17*. | UE | No | No | No |
| ***ncsg-MeasGapPatterns-r17***Indicates whether the UE supports NCSG patterns. The left most bit in the bitmap corresponds to NCSG pattern #0 and the right most bit in the bitmap corresponds to NCSG pattern #23. A bit in the bitmap is set to 1 if the corresponding pattern is supported by the UE. NCSG patterns #0 to #23 are as specified in TS 38.133 [5].NCSG patterns #0 and #1 are mandatory (i.e. the corresponding bits in the bitmap is set to 1) if the UE includes this field. NCSG patterns #13 and #14 are mandatory (i.e. the corresponding bits in the bitmap is set to 1) if UE supports *ncsg-MeasGapPerFR-r17* or if the UE is NCSG capable and supports FR2 band in standalone mode. UEs supporting this shall indicate support of *nr-NeedForGapNCSG-Reporting-r17* or *eutra-NeedForGapNCSG-Reporting-r17*. | UE | No | No | No |
| ***ncsg-MeasGapPerFR-r17***Indicates whether the UE supports per-FR NCSG. UEs supporting this shall indicate support of *nr-NeedForGapNCSG-Reporting-r17*. | UE | No | No | No |
| ***ncsg-SymbolLevelScheduleRestrictionInter-r17***Indicates whether the UE supports performing measurement with NCSG based on flag *deriveSSB-IndexFromCell-inter* and meeting the following requirements that the scheduling restriction in FR2 serving cell during NCSG ML is on SSB symbol level. UEs supporting this shall indicate support of *nr-NeedForGapNCSG-Reporting-r17*. | UE | No | No | FR2 only |
| ***nr-AutonomousGaps-r16***Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when MR-DC is not configured. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. | UE | No | No | Yes |
| ***nr-AutonomousGaps-ENDC-r16***Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when (NG)EN-DC is configured. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. | UE | No | No | Yes |
| ***nr-AutonomousGaps-NEDC-r16***Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when NE-DC is configured. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. | UE | No | No | Yes |
| ***nr-AutonomousGaps-NRDC-r16***Defines whether the UE supports, upon configuration of *useAutonomousGaps* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell using autonomous gap and reporting the acquired information to the network as specified in TS 38.331 [9] when NR-DC is configured. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. | UE | No | No | Yes |
| ***nr-CGI-Reporting***Defines whether the UE supports acquisition of relevant CGI-information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when (NG)EN-DC and NE-DC are not configured or, when consistent DRX is configured in NR-DC. The consistent DRX configuration implies that MN and SN have the same DRX cycle and on-duration configured by MN completely contains on-duration configured by SN. It is optional for (e)RedCap UEs. | UE | CY | No | No |
| ***nr-CGI-Reporting-ENDC***Defines whether the UE supports acquisition of relevant CGI-information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the (NG)EN-DC is configured. | UE | Yes | No | No |
| ***nr-CGI-Reporting-NEDC***Defines whether the UE supports acquisition of relevant information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the NE-DC is configured. | UE | Yes | No | No |
| ***nr-CGI-Reporting-NPN-r16***Defines whether the UE supports acquisition of NPN-relevant CGI-information from a neighbouring intra-frequency or inter-frequency NR NPN cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9]. If UE supports NPN, UE shall report this capability. It is optional for (e)RedCap UEs. | UE | CY | No | No |
| ***nr-CGI-Reporting-NRDC***Defines whether the UE supports acquisition of relevant information from a neighbouring intra-frequency or inter-frequency NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 38.331 [9] when the NR-DC is configured wherein MN and SN have different DRX cycles, or on-duration configured by MN does not contain on-duration configured by SN if the DRX cycles are the same. | UE | Yes | No | No |
| ***nr-NeedForGapNCSG-Reporting-r17***Indicates whether the UE supports reporting of the NCSG and measurement gap requirement information for SSB based measurement in the UE response to a network configuration RRC message as specified in TS 38.331 [9]. | UE | No | No | No |
| ***nr-NeedForGap-Reporting-r16***Indicates whether the UE supports reporting the measurement gap requirement information for NR target in the UE response to a network configuration RRC message. | UE | No | No | No |
| ***nr-NeedForInterruptionReport-r18***Indicates whether the UE supports reporting the interruption requirement information for SSB based measurement towards NR target without gap in the UE response to a network configuration RRC message. The UE supporting this feature shall also indicate support of *nr-NeedForGap-Reporting-r16*. | UE | No | No | No |
| ***parallelMeasurementGap-r17***Indicates whether the UE supports 2 parallel measurement gaps for NTN SSB based RRM measurements. If a UE does not include this field but includes *nonTerrestrialNetwork-r17*, the UE supports 1 measurement gap for NTN SSB based RRM measurements. If this parameter is indicated, a UE shall also support that two parallel measurement gaps with the same gap type can be associated to one frequency layer. A UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17*. | UE | No | FDD only | FR1 only |
| ***parallelSMTC-r17***Indicates whether the UE supports NTN SSB based RRM measurements on target cells belonging to 4 SMTC-s on a single frequency carrier. If a UE does not include this field but includes *nonTerrestrialNetwork-r17*, the UE supports NTN SSB based RRM measurements on target cells belonging to 2 SMTC-s on a single frequency carrier. | UE | No | FDD only | FR1 only |
| ***periodicEUTRA-MeasAndReport***Indicates whether the UE supports periodic EUTRA measurement and reporting. It is mandated if the UE supports EUTRA. | UE | CY | No | No |
| ***pcellT312-r16***Indicates whether the UE supports T312 based fast failure recovery for PCell. | UE | No | No | No |
| ***preconfiguredUE-AutonomousMeasGap-r17***Indicates whether the UE supports the preconfigured measurement gap with UE-autonomous mechanism for activation and deactivation as specified in TS 38.133 [5]. | UE | No | No | No |
| ***preconfiguredNW-ControlledMeasGap-r17***Indicates whether the UE supports the preconfigured measurement gap with network-controlled mechanism for activation and deactivation as specified in TS 38.133 [5]. | UE | No | No | No |
| ***reportAddNeighMeasForPeriodic-r16***Defines whether the UE supports periodic reporting of best neighbour cells per serving frequency, as defined in TS 38.331 [9]. It is optional for RedCap UEs. | UE | CY | No | No |
| ***serviceLinkPropDelayDiffReporting-r17***Indicates whether the UE supports the reporting of service link propagation delay difference between serving cell and neighbour cell(s). A UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17*. | UE | No | No | No |
| ***shortMeasInterval-r18***Indicates whether the UE supports using SSB periodicity instead of SMTC periodicity for the measurement interval during unknown SCell activation when the SMTC is only configured in measurement object for enhanced unknown SCell activation requirement and performing L1-RSRP measurement in non-DRX mode even DRX is configured during unknown SCell activation.UE is required to meet the shortened SCell activation delay requirement in TS 38.133 [5] if the feature is supported. | UE | No | No | No |
| ***simultaneousRxDataSSB-DiffNumerology***Indicates whether the UE supports concurrent intra-frequency measurement on serving cell or neighbouring cell and PDCCH or PDSCH reception from the serving cell with a different numerology as defined in clause 8 and 9 of TS 38.133 [5]. | UE | No | No | Yes |
| ***simultaneousRxDataSSB-DiffNumerology-Inter-r16***Indicates whether the UE supports concurrent SSB based inter-frequency measurement without measurement gap on neighbouring cell and PDCCH or PDSCH reception from the serving cell with a different numerology as defined in clause 8 and 9 of TS 38.133 [5]. UE indicates support of this indicates support of *interFrequencyMeas-NoGap-r16*. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range where the SSB and PDCCH/PDSCH are received. | UE | No | No | Yes |
| ***sftd-MeasPSCell***Indicates whether the UE supports SFTD measurements between the PCell and a configured PSCell. If this capability is included in UE-MRDC-Capability, it indicates that the UE supports SFTD measurement between PCell and PSCell in (NG)EN-DC. If this capability is included in UE-NR-Capability, it indicates that the UE supports SFTD measurement between PCell and PSCell in NR-DC. | UE | No | Yes | No |
| ***sftd-MeasPSCell-NEDC***Indicates whether the UE supports SFTD measurement between the NR PCell and a configured E-UTRA PSCell in NE-DC. | UE | No | Yes | No |
| ***sftd-MeasNR-Cell***Indicates whether the SFTD measurement with and without measurement gaps between the EUTRA PCell and the NR cells is supported by the UE which is capable of EN-DC/NGEN-DC when EN-DC/NGEN-DC is not configured. The SFTD measurement without gaps can be used when the UE supports at least one EN-DC band combination consisting of the set of the current E-UTRA serving frequencies and the NR frequency where SFTD measurement is configured. In UE-NR-Capability, this field is not used, and UE does not include the field. | UE | No | Yes | No |
| ***sftd-MeasNR-Neigh***Indicates whether the inter-frequency SFTD measurement with and without measurement gaps between the NR PCell and inter-frequency NR neighbour cells is supported by the UE when MR-DC is not configured. The SFTD measurement without gaps can be used when the UE supports at least one DC or CA band combination consisting of the set of the current NR serving frequencies and the NR frequency where SFTD measurement is configured.  | UE | No | Yes | No |
| ***sftd-MeasNR-Neigh-DRX***Indicates whether the inter-frequency SFTD measurement using DRX off period between the NR PCell and the inter-frequency NR neighbour cells is supported by the UE when MR-DC is not configured. | UE | No | Yes | No |
| ***ssb-RLM***Indicates whether the UE can perform radio link monitoring procedure based on measurement of SS/PBCH block as specified in TS 38.213 [11] and TS 38.133 [5]. This field shall be set to *supported*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *ssb-RLM-DynamicChAccess-r16* or *ssb-RLM-Semi-StaticChAccess-r16* applies. | UE | Yes | No | No |
| ***ssb-AndCSI-RS-RLM***Indicates whether the UE can perform radio link monitoring procedure based on measurement of SS/PBCH block and CSI-RS as specified in TS 38.213 [11] and TS 38.133 [5]. If the UE supports this feature, the UE needs to report *maxNumberResource-CSI-RS-RLM*. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *ssb-AndCSI-RS-RLM-r16* applies. | UE | No | No | No |
| ***ss-SINR-Meas***Indicates whether the UE can perform SS-SINR measurement as specified in TS 38.215 [13]. If this parameter is indicated for FR1 and FR2 differently, each indication corresponds to the frequency range of measured target cell. This applies only to non-shared spectrum channel access. For shared spectrum channel access, *ss-SINR-Meas-r16* applies. | UE | No | No | Yes |
| ***supportedGapPattern***Indicates measurement gap pattern(s) optionally supported by the UE for NR SA, for NR-DC, for NE-DC and for independent measurement gap configuration on FR2 in (NG)EN-DC. The leading / leftmost bit (bit 0) corresponds to the gap pattern 2, the next bit corresponds to the gap pattern 3, as specified in TS 38.133 [5] and so on. The UE shall set the bits corresponding to the measurement gap pattern 13, 14, 17, 18 and 19 to 1 if the UE is an NR standalone capable UE that supports a band in FR2 or if the UE is an (NG)EN-DC capable UE that supports *independentGapConfig* and supports a band in FR2. | UE | CY | No | No |
| ***supportedGapPattern-r16***Indicates measurement gap pattern(s) optionally supported by the UE for NR SA, for NR-DC for PRS measurement and NR/E-UTRA RRM measurement. The leading / leftmost bit (bit 0) corresponds to the gap pattern 24, the next bit corresponds to the gap pattern 25, as specified in TS 38.133 [5]. The applicability of the gap patterns 24 and 25 is defined in clause 9.1.2 of TS 38.133 [5]. A UE that indicates support of this capability shall indicate support of *NR-DL-PRS-ProcessingCapability-r16* defined in TS 37.355 [22]. | UE | No | No | No |
| ***supportedGapPattern-NRonly-r16***Indicates measurement gap pattern(s) optionally supported by the UE for NR SA and NR-DC when the frequencies to be measured within this measurement gap are all NR frequencies. The leading / leftmost bit (bit 0) corresponds to the gap pattern 2, the next bit corresponds to the gap pattern 3 and so on. The UE shall set the bits corresponding to the measurement gap pattern 2, 3 and 11 to 1. | UE | FD | No | No |
| ***supportedGapPattern-NRonly-NEDC-r16***Indicates whether the UE supports gap patterns 2, 3 and 11 in NE-DC when the frequencies to be measured within this measurement gap are all NR frequencies. | UE | No | No | No |

***End of the modified section***

# Annex: RAN2 UE capability feature list

According to the following agreements made in RAN2#116-e, RAN2 determined UE capabilities in the feature list format for TR 38.822 is included.

* Include an annex containing the RAN2 determined UE capabilities in the feature list format in the running UE capability CRs (similar to annex containing RAN2 agreements) for easy compilation into the TR38.822 in the later stage.
* For capabilities developed in R2, WIs will provide input to the mega CR.

**Table 7.2.x-1: Layer-2 and Layer-3 feature list for NR\_NTN\_enh**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Features | Index | Feature group | Components | Prerequisite feature groups | Field name in TS 38.331 [2] | Parent IE in TS 38.331 [2] | Need of FDD/TDD differentiation | Need of FR1/FR2 differentiation | Note | Mandatory/Optional |
| X. NR\_NTN\_enh-Core | x-1 | NTN RACH-less handover | Indicates whether the UE supports RACH-less handover in NTN | 34-1 (For NTN bands, a UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17)* | *rachLessHandoverNTN-r18* | *BandNR* | N/A | N/A | UE shall set the capability value consistently for all FDD-FR1 NTN bands. | Optional with capability signalling |
| x-2 | Hard satellite switch with re-sync | Indicates whether UE supports hard satellite switch with re-sync, as specified in TS 38.331 [9]. | 34-1 (For NTN bands, a UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17)* | *hardSatelliteSwitchResyncNTN-r18* | *UE-NR-Capability-v18xy* | No | No | When UE supports this feature and does not support *softSatelliteSwitchResyncNTN-r18*, this UE is able to perform hard satellite switch with re-sync in a network supporting soft satellite switch with re-sync, as specified in TS 38.331. | Optional with capability signalling |
| x-3 | Soft satellite switch with re-sync | Indicates whether UE supports soft satellite switch with re-sync, as specified in TS 38.331 [9]. | A UE supporting this feature shall also indicate support of *hardSatelliteSwitch-ResyncNTN-r18.* | *softSatelliteSwitchResyncNTN-r18* | *UE-NR-Capability-v18xy* | No | No |  | Optional with capability signalling |
| x-4 | Location based conditional handover for an NTN Earth-moving system  | Indicates whether the UE supports location based conditional handover for an NTN Earth-moving system, i.e. *condEventD2* as specified in TS 38.331 [9]. | A UE supporting this feature shall also indicate the support of *condHandover-r16* for NTN bands and the support of *nonTerrestrialNetwork-r17*.  | *locationBasedCondHandoverEMC-r18* | *BandNR* | N/A | N/A | UE shall set the capability value consistently for all FDD-FR1 NTN bands. | Optional with capability signalling |
| x-5 | 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. |  | N/A | N/A | N/A | N/A |  | Optional without capability signalling |
| x-6 | Location based measurement initiation in NTN Earth-moving system | It is optional for the UE in RRC\_IDLE/RRC\_INACTIVE to support location based RRM measurements of neighbour cells in NTN Earth-moving system as specified in 38.304 [21]. |  | N/A | N/A | N/A | N/A |  | Optional without capability signalling |
| x-7 | Time based measurement initiation in NTN Earth-moving system | It is optional for the UE in RRC\_IDLE/RRC\_INACTIVE to support time based RRM measurements of neighbour cells in NTN Earth-moving system as specified in TS 38.304 [21]. |  | N/A | N/A | N/A | N/A |  | Optional without capability signalling |
| x-8 | NTN VSAT Antenna Type | Indicates whether a VSAT UE uses electronic or mechanical steering antenna.  | A UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17*. | *ntn-VSAT-AntennaType-r18* | *UE-NR-Capability-v18xy* | No | FR2 only |  | Optional with capability signalling |
| x-9 | NTN VSAT Mobility Type | Indicates whether a VSAT UE is a mobile or fixed VSAT. | A UE supporting this feature shall also indicate the support of *nonTerrestrialNetwork-r17*. | *ntn-VSAT-MobilityType-r18* | *UE-NR-Capability-v18xy* | No | FR2 only |  | Optional with capability signalling |
| x-10 | Event D2 Meas. Report Trigger | Indicates whether the UE supports location-based triggered measurement reporting for an NTN Earth-moving system (i.e., event D2) as specified in TS 38.331 [9]. |  | *eventD2-MeasReportTrigger-r18* | *MeasAndMobParametersCommon* | No | No | It is mandated if the UE supports *locationBasedCondHandoverEMC-r18* in any NTN band. | Optional with capability signalling |