**3GPP TSG-RAN2 Meeting #128 *R2-241xxxx***

**Orlando, US, 18 - 22 Nov, 2024**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **36.331** | **CR** | **-** | **rev** | **-** | **Current version:** | **17.10.0** |  |
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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 network signalling of maximum number of UL segments  |
|  |  |
| ***Source to WG:*** | Huawei, HiSilicon  |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | TEI17 |  | ***Date:*** | 2024-11-xx  |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-17 |
|  | *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:*** | RAN2 agreed that the network can indicate the maximum number of UL segments allowed to be used by the UE for UL RRC segmentation of UE capability information reporting. It is also agreed that this mechanism should be applied for both LTE and NR from Rel-17, and early implementable from Rel-16. |
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| ***Summary of change:*** | Capture the following in the specification:1. The UE indicates its support for the network-requested maximum number of UL segments, in *RRCSetupComplete* message.
2. The network indicates the maximum number of UL segments the UE is allowed to use.
3. The UE generates *UECapabilityInformation* ensuring the total size of the message does not exceed the maximum allowed size according to the maximum number of UL segments the UE is allowed to use.
4. RRC processing delay requirement is defined as:

560 + max(0, n-7)\*80 [ms], where n is the number of segments.***Implementation of this CR by a Release 16 UE will not cause compatibility issues.*****Impact analysis**Impacted 5G architecture options:(NG)EN-DC, LTEImpacted functionality:UE capability enquiry and reporting procedureInter-operability:* If the network is implemented according to the CR and the UE is not; there is no inter-operability problem.
* If the UE is implemented according to the CR and the network is not; there is no inter-operability problem.
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| ***Consequences if not approved:*** | UL RRC segmentation for UECapabilityInformation message can be utilized only if the network supports the maximum number of UL segments as supported by the current standard. |
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| ***Clauses affected:*** | 5.3.3.4, 5.6.3.3, 5.6.22.3, 6.2.2, 6.3.6, 11.2, Annex G |
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|  | **Y** | **N** |  |  |
| ***Other specs*** | **Y** |  |  Other core specifications  | TS/TR36.306 CRxxxx  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

Start of Change

5.3.3.4 Reception of the *RRCConnectionSetup* by the UE

NOTE 1: Prior to this, lower layer signalling is used to allocate a C-RNTI. For further details see TS 36.321 [6];

The UE shall:

1> except when the UE connected to 5GC is a BL UE or UE in CE, if the *RRCConnectionSetup* is received in response to an *RRCConnectionResumeRequest* from a suspended RRC connection:

2> if the UE is resuming an RRC connection after early security reactivation in accordance with conditions in 5.3.3.18:

3> discard any current AS security context including the KRRCenc key, the KRRCint key, the KUPint key and the KUPenc key;

2> release all radio resources, including release of the RLC entity, the MAC configuration and the associated PDCP entity for all established or suspended RBs, except for SRB0;

2> discard the stored UE AS context and *resumeIdentity*;

2> if stored, discard the stored *nextHopChainingCount*;

2> if stored, discard the stored *drb-ContinueROHC*;

2> indicate to upper layers fallback of the RRC connection;

1> if the *RRCConnectionSetup* is received in response to an *RRCConnectionResumeRequest* from RRC\_INACTIVE:

2> stop T380 if running;

2> discard the stored UE Inactive AS context;

2> release *rrc-InactiveConfig*, if configured;

1> if the UE connected to 5GC is a BL UE or UE in CE, and the *RRCConnectionSetup* is received in response to an *RRCConnectionResumeRequest* from a suspended RRC connection:

2> discard the stored UE AS context and *resumeIdentity*;

2> if stored, discard the stored *nextHopChainingCount*;

2> if stored, discard the stored *drb-ContinueROHC*;

1> if the *RRCConnectionSetup* is received in response to an *RRCConnectionResumeRequest* from RRC\_INACTIVE; or

1> if the UE connected to 5GC is a BL UE or UE in CE, and the *RRCConnectionSetup* is received in response to an *RRCConnectionResumeRequest* from a suspended RRC connection:

2> discard any current AS security context including the KRRCenc key, the KRRCint key, the KUPint key and the KUPenc key;

2> release radio resources for all established RBs except SRB0, including release of the RLC entities, of the associated PDCP entities and of SDAP entities;

2> release the RRC configuration except for the default L1 parameter values, default MAC main configuration and CCCH;

2> apply the default NR PDCP configuration as specified in TS 38.331 [82], clause 9.2.1.1 for SRB1;

2> use NR PDCP for all subsequent messages received and sent by the UE via SRB1;

2> indicate to upper layers fallback of the RRC connection;

1> if the *RRCConnectionSetup* is received in response to an *RRCEarlyDataRequest* or *RRCConnectionResumeRequest* for transmission using PUR:

2> instruct the associated MAC entity to start *timeAlignmentTimer*;

1> perform the radio resource configuration procedure in accordance with the received *radioResourceConfigDedicated* and as specified in 5.3.10.0;

1> if stored, discard the cell reselection priority information provided by the *idleModeMobilityControlInfo* or inherited from another RAT;

1> if stored, discard the *altFreqPriorities* provided by the *RRCConnectionRelease*;

1> if stored, discard the dedicated offset provided by the *redirectedCarrierOffsetDedicated*;

1> stop timer T300;

1> if T302 is running:

2> stop timer T302;

2> if the UE is connected to 5GC:

3> perform the actions as specified in 5.3.16.4;

1> stop timer T303, if running;

1> stop timer T305, if running;

1> stop timer T306, if running;

1> stop timer T308, if running;

1> perform the actions as specified in 5.3.3.7;

1> stop timer T320, if running;

1> stop timer T350, if running;

1> perform the actions as specified in 5.6.12.4;

1> release *rclwi-Configuration*, if configured, as specified in 5.6.16.2;

1> stop timer T360, if running;

1> stop timer T322, if running;

1> if timer T331 is running:

2> stop timer T331;

2> perform the actions as specified in 5.6.20.3;

1> stop timer T323, if running;

1> forward the *dedicatedInfoNAS,* if received, to the upper layers;

1> if T309 is running:

2> stop timer T309 for all access categories;

2> perform the actions as specified in 5.3.16.4.

1> enter RRC\_CONNECTED;

1> stop the cell re-selection procedure;

1> consider the current cell to be the PCell;

1> except for NB-IoT:

2> if the UE supports RLF report for inter-RAT MRO EUTRA as defined in TS 38.306 [87], and if the UE has radio link failure or handover failure information available in *VarRLF-Report* of TS 38.331 [82] and if the RPLMN is included in *plmn-IdentityList* stored in *VarRLF-Report* of TS 38.331 [82]:

3> if *reconnectCellId* in *VarRLF-Report* of TS 38.331 [82] is not set, and if the UE failed to perform reestablishment:

4> set *timeUntilReconnection* in *VarRLF-Report* of TS 38.331 [82] to the time that elapsed since the last radio link failure or handover failure;

4> set *eutraReconnectCellId* in *reconnectCellId* in *VarRLF-Report* of TS 38.331 [82] to the global cell identity and the tracking area code of the PCell;

2> if the UE radio link failure or handover failure information available in *VarRLF-Report* and if the RPLMN is included in *plmn-IdentityList* stored in *VarRLF-Report*:

3> if *reconnectCellId* in *VarRLF-Report* is not set, and if the UE failed to perform reestablishment:

4> set *timeUntilReconnection* in *VarRLF-Report* to the time that elapsed since the last radio link failure or handover failure;

4> set *eutraReconnectCellId* in *reconnectCellId* in *VarRLF-Report* to the global cell identity and the tracking area code of the PCell;

1> set the content of *RRCConnectionSetup**Complete* message as follows:

2> if the *RRCConnectionSetup* is received in response to an *RRCConnectionResumeRequest*:

3> if upper layers provide an S-TMSI:

4> set the *s-TMSI* to the value received from upper layers;

3> else if upper layers provide a 5G-S-TMSI:

4> if the UE is a NB-IoT UE:

5> set the *ng-5G-S-TMSI* to the value received from upper layers;

4> else:

5> set the *ng-5G-S-TMSI-Bits* to *ng-5G-S-TMSI* with the value received from upper layers;

2> else if upper layers provide a 5G-S-TMSI:

3> except for NB-IoT, set the *ng-5G-S-TMSI-Bits* to *ng-5G-S-TMSI-Part2* to the leftmost 8 bits of 5G-S-TMSI received from upper layers;

2> set the *selectedPLMN-Identity* to the PLMN selected by upper layers (see TS 23.122 [11], TS 24.301 [35] for E-UTRA/EPC and TS 24.501 [95] for E-UTRA/5GC) from the PLMN(s) included in the *plmn-IdentityList* in *SystemInformationBlockType1* (or *SystemInformationBlockType1-NB* in NB-IoT);

2> if upper layers provide the 'Registered MME', include and set the *registeredMME* as follows:

3> if the PLMN identity of the 'Registered MME' is different from the PLMN selected by the upper layers:

4> include the *plmnIdentity* in the *registeredMME* and set it to the value of the PLMN identity in the 'Registered MME' received from upper layers;

3> set the *mmegi* andthe *mmec* to the value received from upper layers;

2> if upper layers provided the 'Registered MME':

3> include and set the *gummei-Type* to the value provided by the upper layers;

2> if upper layers provide the 'Registered AMF', include and set the *registeredAMF* as follows:

3> if the PLMN identity of the 'Registered AMF' is different from the PLMN selected by the upper layers:

4> include the *plmnIdentity* in the *registeredAMF* and set it to the value of the PLMN identity in the 'Registered AMF' received from upper layers;

3> set the *amf-Identifier* to AMF Identifier of the 'Registered AMF' received from upper layers;

2> if upper layers provided the 'Registered AMF':

3> include and set the *guami-Type* to the value provided by the upper layers;

2> if upper layers provide one or more S-NSSAI (see TS 23.003 [27]):

3> include the *s-NSSAI-list* and set the content to the values provided by the upper layers;

2> if the UE supports CIoT EPS optimisation(s):

3> include a*ttachWithoutPDN-Connectivity* if received from upper layers;

3> include *up-CIoT-EPS-Optimisation* if received from upper layers;

3> except for NB-IoT, include *cp-CIoT-EPS-Optimisation* if received from upper layers;

2> if the UE supports CIoT 5GS optimisation(s):

3> for NB-IoT, include *ng-U-DataTransfer* if received from upper layers;

3> except for NB-IoT, include *cp-CIoT-5GS-Optimisatoin* if received from upper layers;

2> if connecting as an RN:

3> include the *rn-SubframeConfigReq*;

2> if the *RRCConnectionSetup* is received in response to *RRCEarlyDataRequest*:

3> set the *dedicatedInfoNAS* to a zero-length octet string;

2> else:

3> set the *dedicatedInfoNAS* to include the information received from upper layers;

2> if the *RRCConnectionSetup* is not in response to transmission using PUR and the UE has a stored *pur-Config* including *pur-ConfigID*:

3> include the stored *pur-ConfigID*;

2> if the UE is connected to EPC:

3> except for NB-IoT:

4> include the *mobilityState* and set it to the mobility state (as specified in TS 36.304 [4]) of the UE just prior to entering RRC\_CONNECTED state;

4> if the UE has flight path information available:

5> include *flightPathInfoAvailable*;

3> for NB-IoT:

4> if the UE has radio link failure information available in *VarRLF-Report-NB* and if the RPLMN is included in *plmn-IdentityList* stored in *VarRLF-Report-NB*:

5> include *rlf-InfoAvailable*;

4> if the UE has ANR measurements information available in *VarANR-MeasReport-NB* and if the RPLMN is included in *plmn-IdentityList* stored in *VarANR-MeasReport-NB*:

5> include *anr-InfoAvailable*;

3> include *dcn-ID* if a DCN-ID value (see TS 23.401 [41]) is received from upper layers;

2> else (i.e. the UE is connected to 5GC):

3> if the UE is a BL UE:

4> include *lte-M*;

2> except for NB-IoT:

3> if the UE has radio link failure or handover failure information available in *VarRLF-Report* and if the RPLMN is included in *plmn-IdentityList* stored in *VarRLF-Report*:

4> include *rlf-InfoAvailable*;

3> if the UE has MBSFN logged measurements available for E-UTRA and if the RPLMN is included in *plmn-IdentityList* stored in *VarLogMeasReport*:

4> include *logMeasAvailableMBSFN*;

3> if the UE has logged measurements available for E-UTRA and if the RPLMN is included in *plmn-IdentityList* stored in *VarLogMeasReport*:

4> include *logMeasAvailable*;

4> if Bluetooth measurement results are included in the logged measurements the UE has available:

5> include *logMeasAvailableBT*;

4> if WLAN measurement results are included in the logged measurements the UE has available:

5> include *logMeasAvailableWLAN*;

3> if the UE has connection establishment failure information available in *VarConnEstFailReport* and if the RPLMN is equal to *plmn-Identity* stored in *VarConnEstFailReport*:

4> include *connEstFailInfoAvailable*;

3> if the UE supports storage of mobility history information and the UE has mobility history information available in *VarMobilityHistoryReport*:

4> include the *mobilityHistoryAvail*;

3> if the SIB2 contains *idleModeMeasurements* and the UE has E-UTRA idle/inactive measurement information concerning cells other than the PCell available in *VarMeasIdleReport*; or

3> if the SIB2 contains *idleModeMeasurementsNR* and the UE has NR idle/inactive measurement information available in *VarMeasIdleReport*:

4> include the *idleMeasAvailable*;

3> if upper layers indicate that access to RLOS is initiated (see TS 23.401 [41] clause 4.3.8.3):

4> set *rlos-Request* to *true*;

2> if UE needs UL gaps during continuous uplink transmission:

3> include *ue-CE-NeedULGaps*;

2> for NB-IoT:

3> if the UE supports serving cell idle mode measurements reporting and *servingCellMeasInfo* is present in *SystemInformationBlockType2-NB*:

4> set the *measResultServCell* to include the measurements of the serving cell;

NOTE 2: The UE includes the latest results of the serving cell measurements as used for cell selection/ reselection evaluation, which are performed in accordance with the performance requirements as specified in TS 36.133 [16].

2> if connecting as an IAB-node:

3> include *iab-NodeIndication;*

2> if the UE is connected to NTN:

3> include *gnss-validityDuration* in accordance with the remaining time of the GNSS validity duration;

2> if UE supports uplink RRC Segmentation of *UECapabilityInformation* according to the network indication *rrc-SegAllowed*:

3> except for NB-IoT, may *include ul-RRC-Segmentation* if upper layers indicate that they are performing an Attach or TA Update;

2> if the UE supports uplink RRC Segmentation of *UECapabilityInformation* according to the network indication *rrc-MaxCapaSegAllowed*:

3> except for NB-IoT, may include the *ul-RRC-MaxCapaSegments* if upper layers indicate that they are performing an Attach or TA Update;

1> submit the *RRCConnectionSetupComplete* message to lower layers for transmission;

1> for NB-IoT:

2> if the UE supports connected mode measurements and *connMeasConfig* is present in *SystemInformationBlockType3-NB*:

3> perform measurements as specified in 5.5.8.

1> the procedure ends.

#### 5.6.3.3 Reception of the *UECapabilityEnquiry* by the UE

The UE shall:

1> for NB-IoT, set the contents of *UECapabilityInformation* message as follows:

2> include the UE Radio Access Capability Parameters within the *ue-Capability*;

2> include *ue-RadioPagingInfo*;

2> submit the *UECapabilityInformation* message to lower layers for transmission, upon which the procedure ends;

1> else, set the contents of *UECapabilityInformation* message as follows:

2> if the *ue-CapabilityRequest* includes *eutra*:

3> include the *UE-EUTRA-Capability* within a *ue-CapabilityRAT-Container* and with the *rat-Type* set to *eutra*;

3> if the UE supports FDD and TDD:

4> set all fields of *UECapabilityInformation*, except field *fdd-Add-UE-EUTRA-Capabilities* and *tdd-Add-UE-EUTRA-Capabilities* (including their sub-fields), to include the values applicable for both FDD and TDD (i.e. functionality supported by both modes);

4> if (some of) the UE capability fields have a different value for FDD and TDD:

5> if for FDD, the UE supports additional functionality compared to what is indicated by the previous fields of *UECapabilityInformation*:

6> include field *fdd-Add-UE-EUTRA-Capabilities* and set it to include fields reflecting the additional functionality applicable for FDD;

5> if for TDD, the UE supports additional functionality compared to what is indicated by the previous fields of *UECapabilityInformation*:

6> include field *tdd-Add-UE-EUTRA-Capabilities* and set it to include fields reflecting the additional functionality applicable for TDD;

NOTE 1: The UE includes fields of *XDD-Add-UE-EUTRA-Capabilities* in accordance with the following:

- The field is included only if one or more of its sub-fields (or bits in the feature group indicators string) has a value that is different compared to the value signalled elsewhere within *UE-EUTRA-Capability*;

(this value signalled elsewhere is also referred to as the *Common value*, that is supported for both XDD modes)

- For the fields that are included in *XDD-Add-UE-EUTRA-Capabilities*, the UE sets:

- the sub-fields (or bits in the feature group indicators string) that are not allowed to be different to the same value as the *Common value*;

- the sub-fields (or bits in the feature group indicators string) that are allowed to be different to a value indicating at least the same functionality as indicated by the *Common value*;

3> else (UE supports single xDD mode):

4> set all fields of *UECapabilityInformation*, except field *fdd-Add-UE-EUTRA-Capabilities* and *tdd-Add-UE-EUTRA-Capabilities* (including their sub-fields), to include the values applicable for the xDD mode supported by the UE;

3> compile a list of band combinations, candidate for inclusion in the *UECapabilityInformation* message, comprising of band combinations supported by the UE according to the following priority order (i.e. listed in order of decreasing priority):

4> include all non-CA bands, regardless of whether UE supports carrier aggregation, only:

- if the UE includes *ue-Category-v1020* (i.e. indicating category 6 to 8); or

- if for at least one of the non-CA bands, the UE supports more MIMO layers with TM9 and TM10 than implied by the UE category; or

- if the UE supports TM10 with one or more CSI processes; or

- if the UE supports 1024QAM in DL;

4> if the *UECapabilityEnquiry* message includes *requestedFrequencyBands* and UE supports *requestedFrequencyBands*:

5> include all 2DL+1UL CA band combinations, only consisting of bands included in *requestedFrequencyBands*;

5> include all other CA band combinations, only consisting of bands included in *requestedFrequencyBands*, and prioritized in the order of *requestedFrequencyBands*, (i.e. first include remaining band combinations containing the first-listed band, then include remaining band combinations containing the second-listed band, and so on);

4> else (no requested frequency bands):

5> include all 2DL+1UL CA band combinations;

5> include all other CA band combinations;

4> if UE supports *maximumCCsRetrieval* and if the *UECapabilityEnquiry* message includes the *requestedMaxCCsDL* and the *requestedMaxCCsUL* (i.e. both UL and DL maximums are given):

5> remove from the list of candidates the band combinations for which the number of CCs in DL exceeds the value indicated in the *requestedMaxCCsDL* or for which the number of CCs in UL exceeds the value indicated in the *requestedMaxCCsUL*;

5> indicate in *requestedCCsUL* the same value as received in *requestedMaxCCsUL*;

5> indicate in *requestedCCsDL* the same value as received in *requestedMaxCCsDL*;

4> else if UE supports *maximumCCsRetrieval* and if the *UECapabilityEnquiry* message includes the *requestedMaxCCsDL* (i.e. only DL maximum limit is given):

5> remove from the list of candidates the band combinations for which the number of CCs in DL exceeds the value indicated in the *requestedMaxCCsDL*;

5> indicate value in *requestedCCsDL* the same value as received in *requestedMaxCCsDL*;

4> else if UE supports *maximumCCsRetrieval* and if the *UECapabilityEnquiry* message includes the *requestedMaxCCsUL* (i.e. only UL maximum limit is given):

5> remove from the list of candidates the band combinations for which the number of CCs in UL exceeds the value indicated in the *requestedMaxCCsUL*;

5> indicate in *requestedCCsUL* the same value as received in *requestedMaxCCsUL;*

4> if the UE supports *reducedIntNonContComb* and the *UECapabilityEnquiry* message includes *requestReducedIntNonContComb*:

5> set *reducedIntNonContCombRequested* to true;

5> remove from the list of candidates the intra-band non-contiguous CA band combinations which support is implied by another intra-band non-contiguous CA band combination included in the list of candidates as specified in TS 36.306 [5], clause 4.3.5.21:

4> if the UE supports *requestReducedFormat* and UE supports *skipFallbackCombinations* and *UECapabilityEnquiry* message includes *requestSkipFallbackComb*:

5> set *skipFallbackCombRequested* to true;

5> for each band combination included in the list of candidates (including 2DL+1UL CA band combinations), starting with the ones with the lowest number of DL and UL carriers, that concerns a fallback band combination of another band combination included in the list of candidates as specified in TS 36.306 [5]:

6> remove the band combination from the list of candidates;

6> include *differentFallbackSupported* in the band combination included in the list of candidates whose fallback concerns the removed band combination, if its capabilities differ from the removed band combination;

4> if the UE supports *requestReducedFormat* and *diffFallbackCombReport*, and *UECapabilityEnquiry* message includes *requestDiffFallbackCombList*:

5> if the UE does not support *skipFallbackCombinations* or *UECapabilityEnquiry* message does not include *requestSkipFallbackComb*:

6> remove all band combination from the list of candidates;

5> for each CA band combination indicated in *requestDiffFallbackCombList*:

6> include the CA band combination, if not already in the list of candidates;

6> include the fallback combinations for which the supported UE capabilities are different from the capability of the CA band combination;

5> include CA band combinations indicated in *requestDiffFallbackCombList* into *requestedDiffFallbackCombList*;

3> if the *UECapabilityEnquiry* message includes *requestReducedFormat* and UE supports *requestReducedFormat*:

4> include in *supportedBandCombinationReduced* as many as possible of the band combinations included in the list of candidates, including the non-CA combinations, determined according to the rules and priority order defined above;

3> else:

4> if the *UECapabilityEnquiry* message includes *requestedFrequencyBands* and UE supports *requestedFrequencyBands*:

5> include in *supportedBandCombination* as many as possible of the band combinations included in the list of candidates, including the non-CA combinations and up to 5DL+5UL CA band combinations, determined according to the rules and priority order defined above;

5> include in *supportedBandCombinationAdd* as many as possible of the remaining band combinations included in the list of candidates, (i.e. the candidates not included in *supportedBandCombination)*, up to 5DL+5UL CA band combinations, determined according to the rules and priority order defined above;

4> else:

5> include in *supportedBandCombination* as many as possible of the band combinations included in the list of candidates, including the non-CA combinations and up to 5DL+5UL CA band combinations, determined according to the rules defined above;

5> if it is not possible to include in *supportedBandCombination* all the band combinations to be included according to the above, selection of the subset of band combinations to be included is left up to UE implementation;

3> indicate in *requestedBands* the same bands and in the same order as included in *requestedFrequencyBands*, if received;

3> if the UE is a category 0, M1 or M2 UE, or supports any UE capability information in *ue-RadioPagingInfo,* according to TS 36.306 [5]:

4> include *ue-RadioPagingInfo* and set the fields according to TS 36.306 [5];

3> if the UE supports (NG)EN-DC or NE-DC and if *requestedFreqBandsNR-MRDC* is included in the request:

4> include into *featureSetsEUTRA* the feature sets that are applicable for the received *requestedFreqBandsNR-MRDC* and *requestedCapabilityCommon* as specified in TS 38.331 [82], clause 5.6.1.4.

NOTE 2: The network must include the *requestedFreqBandsNR-MRDC* in order to obtain feature sets for E-UTRA and MR-DC.

NOTE 3: Even if the network requests (only) capabilities for *eutra*, it may include NR band numbers in the *requestedFreqBandsNR-MRDC* in order to ensure that the UE includes all necessary feature sets (i.e. E-UTRA and NR) needed for subsequently requested *eutra-nr* capabilities.

3> if the *UECapabilityEnquiry* message includes *requestSTTI-SPT-Capability* and if the UE supports short TTI and/or SPT (i.e., *sTTI-SPT-Supported*):

4> for each band combination the UE included in a field of the *UECapabilityInformation* message in accordance with the previous:

5> if the UE supports short TTI, include the short TTI capabilities for each of the band combinations using the *stti-SPT-BandParameters*;

5> if the UE supports SPT, include the SPT capabilities for each of the band combinations using the *stti-SPT-BandParameters*;

NOTE 4: The UE may have to add/repeat the band combinations to the list of band combinations included earlier, to include short TTI capabilities and/or SPT capabilities.

3> if the *UECapabilityEnquiry* message includes *sidelinkRequest*:

4> for a sidelink band combination the UE included in *v2x-SupportedBandCombinationListEUTRA-NR*:

5> if the UE supports partial sensing for a band of the sidelink band combination, include the partial sensing capabilities for the band using the *v2x-BandParametersEUTRA-NR-v1710*;

4> set *sidelinkRequested* to true;

2> if the *ue-CapabilityRequest* includes *geran-cs* and if the UE supports GERAN CS domain:

3> include the UE radio access capabilities for GERAN CS within a *ue-CapabilityRAT-Container* and with the *rat-Type* set to *geran-cs*;

2> if the *ue-CapabilityRequest* includes *geran-ps* and if the UE supports GERAN PS domain:

3> include the UE radio access capabilities for GERAN PS within a *ue-CapabilityRAT-Container* and with the *rat-Type* set to *geran-ps*;

2> if the *ue-CapabilityRequest* includes *utra* and if the UE supports UTRA:

3> include the UE radio access capabilities for UTRA within a *ue-CapabilityRAT-Container* and with the *rat-Type* set to *utra*;

2> if the *ue-CapabilityRequest* includes *cdma2000-1XRTT* and if the UE supports CDMA2000 1xRTT:

3> include the UE radio access capabilities for CDMA2000 within a *ue-Capability**RAT-Container* and with the *rat-Type* set to *cdma2000-1XRTT*;

2> if the *ue-CapabilityRequest* includes *nr* and if the UE supports NR:

3> include the UE radio access capabilities for NR within a *ue-CapabilityRAT-Container*, with the *rat-Type* set to *nr*;

3> include band combinations and feature sets as specified in TS 38.331 [82], clause 5.6.1.4, considering the included *requestedFreqBandsNR-MRDC*, *requestedCapabilityNR*, the *eutra-nr-only* flag and *requestedCapabilityCommon* (if present);

2> if the *ue-CapabilityRequest* includes *eutra-nr* and if the UE supports (NG)EN-DC or NE-DC:

3> include the UE radio access capabilities for EUTRA-NR within a *ue-CapabilityRAT-Container*, with the *rat-Type* set to *eutra-nr*;

3> include band combinations as specified in TS 38.331 [82], clause 5.6.1.4, considering the included *requestedFreqBandsNR-MRDC*, *requestedCapabilityNR* (if present) and *requestedCapabilityCommon* (if included)*;*

1> if the RRC message segmentation is enabled based on the field *rrc-SegAllowed* received, and the encoded RRC message is larger than the maximum supported size of a PDCP SDU specified in TS 36.323 [8]:

2> consider the maximum number of UL segments the UE is allowed to use when segmenting the *UECapabilityInformation* message is 16;

2> initiate the UL message segment transfer procedure as specified in clause 5.6.22;

1> else if the RRC message segmentation is enabled based on the field *rrc-MaxCapaSegAllowed* received, and the encoded RRC message is larger than the maximum supported size of a PDCP SDU specified in TS 36.323 [8]:

2> consider the maximum number of UL segments the UE is allowed to use when segmenting the *UECapabilityInformation* message to be the value indicated by *rrc-MaxCapaSegAllowed*;

2> initiate the UL message segment transfer procedure as specified in clause 5.6.22;

1> else:

2> submit the *UECapabilityInformation* message to lower layers for transmission, upon which the procedure ends;

#### 5.6.22.3 Actions related to transmission of *ULDedicatedMessageSegment* message

The UE shall segment the encoded RRC PDU based on the maximum supported size of a PDCP SDU specified in TS 36.323 [8] and the maximum number of UL segments according to *rrc-SegAllowed* or *rrc-MaxCapaSegAllowed*, if received. UE shall minimize the number of segments and set the contents of the *ULDedicatedMessageSegment* messages as follows:

1> For each new UL DCCH message, set the *segmentNumber* to 0 for the first message segment and increment the *segmentNumber* for each subsequent RRC message segment;

1> set *rrc-MessageSegmentContainer* to include the segment of the UL DCCH message corresponding to the *segmentNumber*;

1> if the segment included in the *rrc-MessageSegmentContainer* is the last segment of the UL DCCH message:

2> set the *rrc-MessageSegmentType* to *lastSegment*;

1> else:

2> set the *rrc-MessageSegmentType* to *notLastSegment*;

1> submit all the *ULDedicatedMessageSegment* messages generated for the segmented RRC message to lower layers for transmission in ascending order based on the *segmentNumber*, upon which the procedure ends.

### 6.2.2 Message definitions

#### – *RRCConnectionSetupComplete*

The *RRCConnectionSetupComplete* message is used to confirm the successful completion of an RRC connection establishment.

Signalling radio bearer: SRB1

RLC-SAP: AM

Logical channel: DCCH

Direction: UE to E‑UTRAN

*RRCConnectionSetupComplete message*

-- ASN1START

RRCConnectionSetupComplete ::= SEQUENCE {

 rrc-TransactionIdentifier RRC-TransactionIdentifier,

 criticalExtensions CHOICE {

 c1 CHOICE{

 rrcConnectionSetupComplete-r8 RRCConnectionSetupComplete-r8-IEs,

 spare3 NULL, spare2 NULL, spare1 NULL

 },

 criticalExtensionsFuture SEQUENCE {}

 }

}

RRCConnectionSetupComplete-r8-IEs ::= SEQUENCE {

 selectedPLMN-Identity INTEGER (1..maxPLMN-r11),

 registeredMME RegisteredMME OPTIONAL,

 dedicatedInfoNAS DedicatedInfoNAS,

 nonCriticalExtension RRCConnectionSetupComplete-v8a0-IEs OPTIONAL

}

RRCConnectionSetupComplete-v8a0-IEs ::= SEQUENCE {

 lateNonCriticalExtension OCTET STRING (CONTAINING RRCConnectionSetupComplete-v8x0-IEs) OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1020-IEs OPTIONAL

}

-- Late non-critical extensions:

RRCConnectionReconfiguration-v8x0-IEs ::= SEQUENCE {

 -- Following field is only for pre REL-17 late non-critical extensions

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension RRCConnectionReconfiguration-v17x0-IEs OPTIONAL

}

RRCConnectionSetupComplete-v17x0-IEs ::= SEQUENCE {

 ul-RRC-MaxCapaSegments-r17 ENUMERATED {true} OPTIONAL,

 -- Following field is only for late non-critical extensions from REL-17

 nonCriticalExtension SEQUENCE{} OPTIONAL

}

-- Regular non-critical extensions:

RRCConnectionSetupComplete-v1020-IEs ::= SEQUENCE {

 gummei-Type-r10 ENUMERATED {native, mapped} OPTIONAL,

 rlf-InfoAvailable-r10 ENUMERATED {true} OPTIONAL,

 logMeasAvailable-r10 ENUMERATED {true} OPTIONAL,

 rn-SubframeConfigReq-r10 ENUMERATED {required, notRequired} OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1130-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1130-IEs ::= SEQUENCE {

 connEstFailInfoAvailable-r11 ENUMERATED {true} OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1250-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1250-IEs ::= SEQUENCE {

 mobilityState-r12 ENUMERATED {normal, medium, high, spare} OPTIONAL,

 mobilityHistoryAvail-r12 ENUMERATED {true} OPTIONAL,

 logMeasAvailableMBSFN-r12 ENUMERATED {true} OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1320-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1320-IEs ::= SEQUENCE {

 ce-ModeB-r13 ENUMERATED {supported} OPTIONAL,

 s-TMSI-r13 S-TMSI OPTIONAL,

 attachWithoutPDN-Connectivity-r13 ENUMERATED {true} OPTIONAL,

 up-CIoT-EPS-Optimisation-r13 ENUMERATED {true} OPTIONAL,

 cp-CIoT-EPS-Optimisation-r13 ENUMERATED {true} OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1330-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1330-IEs ::= SEQUENCE {

 ue-CE-NeedULGaps-r13 ENUMERATED {true} OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1430-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1430-IEs ::= SEQUENCE {

 dcn-ID-r14 INTEGER (0..65535) OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1530-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1530-IEs ::= SEQUENCE {

 logMeasAvailableBT-r15 ENUMERATED {true} OPTIONAL,

 logMeasAvailableWLAN-r15 ENUMERATED {true} OPTIONAL,

 idleMeasAvailable-r15 ENUMERATED {true} OPTIONAL,

 flightPathInfoAvailable-r15 ENUMERATED {true} OPTIONAL,

 connectTo5GC-r15 ENUMERATED {true} OPTIONAL,

 registeredAMF-r15 RegisteredAMF-r15 OPTIONAL,

 s-NSSAI-list-r15 SEQUENCE(SIZE (1..maxNrofS-NSSAI-r15)) OF S-NSSAI-r15 OPTIONAL,

 ng-5G-S-TMSI-Bits-r15 CHOICE {

 ng-5G-S-TMSI-r15 NG-5G-S-TMSI-r15,

 ng-5G-S-TMSI-Part2-r15 BIT STRING (SIZE (8))

 } OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1540-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1540-IEs ::= SEQUENCE {

 gummei-Type-v1540 ENUMERATED {mappedFrom5G-v1540} OPTIONAL,

 guami-Type-r15 ENUMERATED {native, mapped} OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1610-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1610-IEs ::= SEQUENCE {

 rlos-Request-r16 ENUMERATED {true} OPTIONAL,

 cp-CIoT-5GS-Optimisation-r16 ENUMERATED {true} OPTIONAL,

 up-CIoT-5GS-Optimisation-r16 ENUMERATED {true} OPTIONAL,

 pur-ConfigID-r16 PUR-ConfigID-r16 OPTIONAL,

 lte-M-r16 ENUMERATED {true} OPTIONAL,

 iab-NodeIndication-r16 ENUMERATED {true} OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1690-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1690-IEs ::= SEQUENCE {

 ul-RRC-Segmentation-r16 ENUMERATED {true} OPTIONAL,

 nonCriticalExtension RRCConnectionSetupComplete-v1710-IEs OPTIONAL

}

RRCConnectionSetupComplete-v1710-IEs ::= SEQUENCE {

 gnss-ValidityDuration-r17 GNSS-ValidityDuration-r17 OPTIONAL, nonCriticalExtension SEQUENCE {} OPTIONAL

}

RegisteredMME ::= SEQUENCE {

 plmn-Identity PLMN-Identity OPTIONAL,

 mmegi BIT STRING (SIZE (16)),

 mmec MMEC

}

RegisteredAMF-r15 ::= SEQUENCE {

 plmn-Identity-r15 PLMN-Identity OPTIONAL,

 amf-Identifier-r15 AMF-Identifier-r15

}

-- ASN1STOP

| *RRCConnectionSetupComplete* field descriptions |
| --- |
| ***attachWithoutPDN-Connectivity***This field is used to indicate that the UE performs an Attach without PDN connectivity procedure, as indicated by the upper layers and specified in TS 24.301 [35]. |
| ***cp-CIoT-5GS-Optimisation***This field is included when the UE supports the Control plane CIoT 5GS optimisation, as indicated by the upper layers, see TS 24.501 [95]. |
| ***cp-CIoT-EPS-Optimisation***This field is included when the UE supports the Control plane CIoT EPS Optimisation, as indicated by the upper layers, see TS 24.301 [35]. |
| ***ce-ModeB***Indicates whether the UE supports operation in CE mode B, as specified in TS 36.306 [5]. |
| ***connectTo5GC***This field is not used in the specification. It shall not be sent by the UE. |
| ***dcn-ID***The Dedicated Core Network Identity, see TS 23.401 [41]. |
| ***guami-Type***This field is used to indicate whether the GUAMI included is native (derived from native 5G-GUTI) or mapped (from EPS, derived from EPS GUTI) as specified in TS 24.501 [95]. |
| ***gummei-Type***This field is used to indicate whether the GUMMEI included is native (assigned by EPC) or mapped. The value native indicates the GUMMEI is native, mapped indicates the GUMMEI is mapped from 2G/3G identifiers, and mappedFrom5G indicates the GUMMEI is mapped from 5G identifiers. A UE that sets *gummei-Type-v1540* to mappedFrom5G shall also include *gummei-Type-r10* and set it to native. |
| ***iab-NodeIndication***This field is used to indicate that the connection is being established by an IAB-node as specified in TS 38.300 [106]. |
| ***idleMeasAvailable***Indication that the UE has idle/inactive measurement report available. |
| ***lte-M***Indicates the UE is category M. |
| ***mmegi***Provides the Group Identity of the registered MME within the PLMN, as provided by upper layers, see TS 23.003 [27]. |
| ***mobilityState***This field indicates the UE mobility state (as defined in TS 36.304 [4], clause 5.2.4.3) just prior to UE going into RRC\_CONNECTED state. The UE indicates the value of *medium* and *high* when being in Medium-mobility and High-mobility states respectively. Otherwise the UE indicates the value *normal*. |
| ***ng-5G-S-TMSI-Part2***The leftmost 8 bits of 5G-S-TMSI. |
| ***registeredAMF***This field is used to transfer the GUAMI of the AMF where the UE is registered, as provided by upper layers, see TS 23.003 [27]. |
| ***registeredMME***This field is used to transfer the GUMMEI of the MME where the UE is registered, as provided by upper layers. |
| ***rlos-Request***Indicates whether the UE is initiating RLOS as specified in TS 23.401 [41]. |
| ***rn-SubframeConfigReq***If present, this field indicates that the connection establishment is for an RN and whether a subframe configuration is requested or not. |
| ***selectedPLMN-Identity***Index of the PLMN selected by the UE from the *plmn-IdentityList* fields included in SIB1. 1 if the 1st PLMN is selected from the 1st *plmn-IdentityList* included in SIB1, 2 if the 2nd PLMN is selected from the same *plmn-IdentityList*, or when no more PLMN are present within the same *plmn-IdentityList*, then the PLMN listed 1st in the subsequent *plmn-IdentityList* within the same SIB1 and so on. |
| ***s-NSSAI-List***This field is a list of S-NSSAI as indicated by the upper layers. The UE can report up to eight S-NSSAI per NSSAI, see TS 23.003 [27]. |
| ***ue-CE-NeedULGaps***Indicates whether the UE needs uplink gaps during continuous uplink transmission in FDD as specified in TS 36.211 [21] and TS 36.306 [5]. |
| ***ul-RRC-MaxCapaSegments***This field indicates the UE supports uplink RRC segmentation of *UECapabilityInformation* according to the network indiction *rrc-MaxCapaSegAllowed*. |
| ***ul-RRC-Segmentation***This field indicates the UE supports uplink RRC segmentation of *UECapabilityInformation*. |
| ***up-CIoT-5GS-Optimisation***This field is included when the UE supports the User plane CIoT 5GS optimisation, as indicated by the upper layers, see TS 24.501 [95]. |
| ***up-CIoT-EPS-Optimisation***This field is included when the UE supports the User plane CIoT EPS Optimisation, as indicated by the upper layers, see TS 24.301 [35]. |

#### – *UECapabilityEnquiry*

The *UECapabilityEnquiry* message is used to request the transfer of UE radio access capabilities for E‑UTRA as well as for other RATs.

Signalling radio bearer: SRB1

RLC-SAP: AM

Logical channel: DCCH

Direction: E‑UTRAN to UE

*UECapabilityEnquiry message*

-- ASN1START

UECapabilityEnquiry ::= SEQUENCE {

 rrc-TransactionIdentifier RRC-TransactionIdentifier,

 criticalExtensions CHOICE {

 c1 CHOICE {

 ueCapabilityEnquiry-r8 UECapabilityEnquiry-r8-IEs,

 spare3 NULL, spare2 NULL, spare1 NULL

 },

 criticalExtensionsFuture SEQUENCE {}

 }

}

UECapabilityEnquiry-r8-IEs ::= SEQUENCE {

 ue-CapabilityRequest UE-CapabilityRequest,

 nonCriticalExtension UECapabilityEnquiry-v8a0-IEs OPTIONAL

}

UECapabilityEnquiry-v8a0-IEs ::= SEQUENCE {

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension UECapabilityEnquiry-v1180-IEs OPTIONAL

}

UECapabilityEnquiry-v1180-IEs ::= SEQUENCE {

 requestedFrequencyBands-r11 SEQUENCE (SIZE (1..16)) OF FreqBandIndicator-r11 OPTIONAL,

 nonCriticalExtension UECapabilityEnquiry-v1310-IEs OPTIONAL

}

UECapabilityEnquiry-v1310-IEs ::= SEQUENCE {

 requestReducedFormat-r13 ENUMERATED {true} OPTIONAL, -- Need ON

 requestSkipFallbackComb-r13 ENUMERATED {true} OPTIONAL, -- Need ON

 requestedMaxCCsDL-r13 INTEGER (2..32) OPTIONAL, -- Need ON

 requestedMaxCCsUL-r13 INTEGER (2..32) OPTIONAL, -- Need ON

 requestReducedIntNonContComb-r13 ENUMERATED {true} OPTIONAL, -- Need ON

 nonCriticalExtension UECapabilityEnquiry-v1430-IEs OPTIONAL

}

UECapabilityEnquiry-v1430-IEs ::= SEQUENCE {

 requestDiffFallbackCombList-r14 BandCombinationList-r14 OPTIONAL, -- Need ON

 nonCriticalExtension UECapabilityEnquiry-v1510-IEs OPTIONAL

}

UECapabilityEnquiry-v1510-IEs ::= SEQUENCE {

 requestedFreqBandsNR-MRDC-r15 OCTET STRING OPTIONAL,

 nonCriticalExtension UECapabilityEnquiry-v1530-IEs OPTIONAL

}

UECapabilityEnquiry-v1530-IEs ::= SEQUENCE {

 requestSTTI-SPT-Capability-r15 ENUMERATED {true} OPTIONAL,

 eutra-nr-only-r15 ENUMERATED {true} OPTIONAL,

 nonCriticalExtension UECapabilityEnquiry-v1550-IEs OPTIONAL

}

UECapabilityEnquiry-v1550-IEs ::= SEQUENCE {

 requestedCapabilityNR-r15 OCTET STRING OPTIONAL,

 nonCriticalExtension UECapabilityEnquiry-v1560-IEs OPTIONAL

}

UECapabilityEnquiry-v1560-IEs ::= SEQUENCE {

 requestedCapabilityCommon-r15 OCTET STRING OPTIONAL,

 nonCriticalExtension UECapabilityEnquiry-v1610-IEs OPTIONAL

}

UECapabilityEnquiry-v1610-IEs ::= SEQUENCE {

 rrc-SegAllowed-r16 ENUMERATED {enabled} OPTIONAL, -- Need ON

 nonCriticalExtension UECapabilityEnquiry-v1710-IEs OPTIONAL

}

UECapabilityEnquiry-v1710-IEs ::= SEQUENCE {

 sidelinkRequest-r17 ENUMERATED {true} OPTIONAL, -- Need ON

 nonCriticalExtension UECapabilityEnquiry-v17x0-IEs OPTIONAL

}

UECapabilityEnquiry-v17x0-IEs ::= SEQUENCE {

 rrc-MaxCapaSegAllowed-r17 INTEGER (2..16) OPTIONAL, -- Need ON

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

UE-CapabilityRequest ::= SEQUENCE (SIZE (1..maxRAT-Capabilities)) OF RAT-Type

-- ASN1STOP

| *UECapabilityEnquiry* field descriptions |
| --- |
| ***eutra-nr-only***Indicates that the UE is requested to provide UE capabilities related to (NG)EN-DC only as specified in TS38.331 [82]. |
| ***requestDiffFallbackCombList***List of CA band combinations for which the UE is requested to provide different capabilities for their fallback band combinations in conjunction with the capabilities supported for the CA band combinations in this list. The UE shall exclude fallback band combinations for which their supported UE capabilities are the same as the CA band combination indicated in this list. |
| ***requestReducedFormat***Indicates that the UE is requested to provide supported CA band combinations in the *supportedBandCombinationReduced-r13* instead of the *supportedBandCombination-r10*. The E-UTRAN includes this field if *requestSkipFallbackComb* or *requestDiffFallbackCombList* is included in the message. |
| ***requestSkipFallbackComb***Indicates that the UE shall explicitly exclude fallback CA band combinations in capability signalling.  |
| ***ue-CapabilityRequest***List of the RATs for which the UE is requested to transfer the UE radio access capabilities i.e. E-UTRA, UTRA, GERAN-CS, GERAN-PS, CDMA2000. A separate *RAT-Type* value applies for some EUTRA-NR capabilities that are transferred by a separate UE capability container, used in case of MRDC. |
| ***requestedFrequencyBands***List of frequency bands for which the UE is requested to provide supported CA band combinations and non CA bands. |
| ***requestedFreqBandsNR-MRDC***Interpreted as *FreqBandList* IE as specified in TS 38.331 [82]. It concerns a list of NR and/ or E-UTRA frequency bands for which the UE is requested to provide its supported NR CA and/or MR-DC band combinations (i.e. within the UE capability containers for NR and MR-DC, as requested by E-UTRAN) and feature sets corresponding to the MR-DC band combinations (i.e. within the UE capability containers for LTE and NR, as requested by E-UTRAN). |
| ***requestedCapabilityCommon***Contains the filter common for all requested MR-DC related capability containers as defined by *UE-CapabilityRequestFilterCommon* IE in TS 38.331 [82]. |
| ***requestedCapabilityNR***Interpreted as *UE-CapabilityRequestFilterNR* IE as specified in TS 38.331 [82], in which the field *frequencyBandListFilter* is omitted. |
| ***requestedMaxCCsDL, requestedMaxCCsUL***Indicates the maximum number of CCs for which the UE is requested to provide supported CA band combinations and non-CA bands. |
| ***requestReducedIntNonContComb***Indicates that the UE shall explicitly exclude supported intra-band non-contiguous CA band combinations other than included in capability signalling as specified in TS 36.306 [5], clause 4.3.5.21.  |
| ***requestSTTI-SPT-Capability***Indicates that the UE is requested to provide its supported short TTI and SPT capabilities in capability signalling.  |
| ***rrc-SegAllowed***A one-shot field that indicates that the UE is enabled to segment the response message into a series of *ULDedicatedMessageSegment* messages. The field is present only if *rrc-MaxCapaSegAllowed* is not present. |
| ***rrc-MaxCapaSegAllowed***This field is used to enable the UL message segment transfer for *UECapabilityInformation* message with the number of segments requested by the network. The field is present only if *rrc-SegAllowed* is not present. |

### 6.3.6 Other information elements

#### – *UE-EUTRA-Capability*

The IE *UE-EUTRA-Capability* is used to convey the E-UTRA UE Radio Access Capability Parameters, see TS 36.306 [5], and the Feature Group Indicators for mandatory features (defined in Annexes B.1 and C.1) to the network. The IE *UE-EUTRA-Capability* is transferred in E-UTRA or in another RAT.

NOTE 0: For (UE capability specific) guidelines on the use of keyword OPTIONAL, see Annex A.3.5.

*UE-EUTRA-Capability* information element

-- ASN1START

UE-EUTRA-Capability ::= SEQUENCE {

 accessStratumRelease AccessStratumRelease,

 ue-Category INTEGER (1..5),

 pdcp-Parameters PDCP-Parameters,

 phyLayerParameters PhyLayerParameters,

 rf-Parameters RF-Parameters,

 measParameters MeasParameters,

 featureGroupIndicators BIT STRING (SIZE (32)) OPTIONAL,

 interRAT-Parameters SEQUENCE {

 utraFDD IRAT-ParametersUTRA-FDD OPTIONAL,

 utraTDD128 IRAT-ParametersUTRA-TDD128 OPTIONAL,

 utraTDD384 IRAT-ParametersUTRA-TDD384 OPTIONAL,

 utraTDD768 IRAT-ParametersUTRA-TDD768 OPTIONAL,

 geran IRAT-ParametersGERAN OPTIONAL,

 cdma2000-HRPD IRAT-ParametersCDMA2000-HRPD OPTIONAL,

 cdma2000-1xRTT IRAT-ParametersCDMA2000-1XRTT OPTIONAL

 },

 nonCriticalExtension UE-EUTRA-Capability-v920-IEs OPTIONAL

}

-- Late non critical extensions

UE-EUTRA-Capability-v9a0-IEs ::= SEQUENCE {

 featureGroupIndRel9Add-r9 BIT STRING (SIZE (32)) OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-r9 UE-EUTRA-CapabilityAddXDD-Mode-r9 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-r9 UE-EUTRA-CapabilityAddXDD-Mode-r9 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v9c0-IEs OPTIONAL

}

UE-EUTRA-Capability-v9c0-IEs ::= SEQUENCE {

 interRAT-ParametersUTRA-v9c0 IRAT-ParametersUTRA-v9c0 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v9d0-IEs OPTIONAL

}

UE-EUTRA-Capability-v9d0-IEs ::= SEQUENCE {

 phyLayerParameters-v9d0 PhyLayerParameters-v9d0 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v9e0-IEs OPTIONAL

}

UE-EUTRA-Capability-v9e0-IEs ::= SEQUENCE {

 rf-Parameters-v9e0 RF-Parameters-v9e0 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v9h0-IEs OPTIONAL

}

UE-EUTRA-Capability-v9h0-IEs ::= SEQUENCE {

 interRAT-ParametersUTRA-v9h0 IRAT-ParametersUTRA-v9h0 OPTIONAL,

 -- Following field is only to be used for late REL-9 extensions

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v10c0-IEs OPTIONAL

}

UE-EUTRA-Capability-v10c0-IEs ::= SEQUENCE {

 otdoa-PositioningCapabilities-r10 OTDOA-PositioningCapabilities-r10 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v10f0-IEs OPTIONAL

}

UE-EUTRA-Capability-v10f0-IEs ::= SEQUENCE {

 rf-Parameters-v10f0 RF-Parameters-v10f0 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v10i0-IEs OPTIONAL

}

UE-EUTRA-Capability-v10i0-IEs ::= SEQUENCE {

 rf-Parameters-v10i0 RF-Parameters-v10i0 OPTIONAL,

 -- Following field is only to be used for late REL-10 extensions

 lateNonCriticalExtension OCTET STRING (CONTAINING UE-EUTRA-Capability-v10j0-IEs) OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v11d0-IEs OPTIONAL

}

UE-EUTRA-Capability-v10j0-IEs ::= SEQUENCE {

 rf-Parameters-v10j0 RF-Parameters-v10j0 OPTIONAL,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

UE-EUTRA-Capability-v11d0-IEs ::= SEQUENCE {

 rf-Parameters-v11d0 RF-Parameters-v11d0 OPTIONAL,

 otherParameters-v11d0 Other-Parameters-v11d0 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v11x0-IEs OPTIONAL

}

UE-EUTRA-Capability-v11x0-IEs ::= SEQUENCE {

 -- Following field is only to be used for late REL-11 extensions

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v12b0-IEs OPTIONAL

}

UE-EUTRA-Capability-v12b0-IEs ::= SEQUENCE {

 rf-Parameters-v12b0 RF-Parameters-v12b0 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v12x0-IEs OPTIONAL

}

UE-EUTRA-Capability-v12x0-IEs ::= SEQUENCE {

 -- Following field is only to be used for late REL-12 extensions

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1370-IEs OPTIONAL

}

UE-EUTRA-Capability-v1370-IEs ::= SEQUENCE {

 ce-Parameters-v1370 CE-Parameters-v1370 OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v1370 UE-EUTRA-CapabilityAddXDD-Mode-v1370 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1370 UE-EUTRA-CapabilityAddXDD-Mode-v1370 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1380-IEs OPTIONAL

}

UE-EUTRA-Capability-v1380-IEs ::= SEQUENCE {

 rf-Parameters-v1380 RF-Parameters-v1380 OPTIONAL,

 ce-Parameters-v1380 CE-Parameters-v1380,

 fdd-Add-UE-EUTRA-Capabilities-v1380 UE-EUTRA-CapabilityAddXDD-Mode-v1380,

 tdd-Add-UE-EUTRA-Capabilities-v1380 UE-EUTRA-CapabilityAddXDD-Mode-v1380,

 nonCriticalExtension UE-EUTRA-Capability-v1390-IEs OPTIONAL

}

UE-EUTRA-Capability-v1390-IEs ::= SEQUENCE {

 rf-Parameters-v1390 RF-Parameters-v1390 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v13e0a-IEs OPTIONAL

}

UE-EUTRA-Capability-v13e0a-IEs ::= SEQUENCE {

 lateNonCriticalExtension OCTET STRING (CONTAINING UE-EUTRA-Capability-v13e0b-IEs) OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1470-IEs OPTIONAL

}

UE-EUTRA-Capability-v13e0b-IEs ::= SEQUENCE {

 phyLayerParameters-v13e0 PhyLayerParameters-v13e0,

 -- Following field is only to be used for late REL-13 extensions

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

UE-EUTRA-Capability-v1470-IEs ::= SEQUENCE {

 mbms-Parameters-v1470 MBMS-Parameters-v1470 OPTIONAL,

 phyLayerParameters-v1470 PhyLayerParameters-v1470 OPTIONAL,

 rf-Parameters-v1470 RF-Parameters-v1470 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v14a0-IEs OPTIONAL

}

UE-EUTRA-Capability-v14a0-IEs ::= SEQUENCE {

 phyLayerParameters-v14a0 PhyLayerParameters-v14a0,

 nonCriticalExtension UE-EUTRA-Capability-v14b0-IEs OPTIONAL

}

UE-EUTRA-Capability-v14b0-IEs ::= SEQUENCE {

 rf-Parameters-v14b0 RF-Parameters-v14b0 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v14x0-IEs OPTIONAL

}

UE-EUTRA-Capability-v14x0-IEs ::= SEQUENCE {

 -- Following field is only to be used for late REL-14 extensions

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v15x0-IEs OPTIONAL

}

UE-EUTRA-Capability-v15x0-IEs ::= SEQUENCE {

 -- Following field is only to be used for late REL-15 extensions

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v16c0-IEs OPTIONAL

}

UE-EUTRA-Capability-v16c0-IEs ::= SEQUENCE {

 measParameters-v16c0 MeasParameters-v16c0,

 -- Following field is only to be used for late REL-16 extensions

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v17x0-IEs OPTIONAL

}

UE-EUTRA-Capability-v17x0-IEs ::= SEQUENCE {

 ul-RRC-MaxCapaSegments-r17 ENUMERATED {supported} OPTIONAL,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

-- Regular non critical extensions

UE-EUTRA-Capability-v920-IEs ::= SEQUENCE {

 phyLayerParameters-v920 PhyLayerParameters-v920,

 interRAT-ParametersGERAN-v920 IRAT-ParametersGERAN-v920,

 interRAT-ParametersUTRA-v920 IRAT-ParametersUTRA-v920 OPTIONAL,

 interRAT-ParametersCDMA2000-v920 IRAT-ParametersCDMA2000-1XRTT-v920 OPTIONAL,

 deviceType-r9 ENUMERATED {noBenFromBatConsumpOpt} OPTIONAL,

 csg-ProximityIndicationParameters-r9 CSG-ProximityIndicationParameters-r9,

 neighCellSI-AcquisitionParameters-r9 NeighCellSI-AcquisitionParameters-r9,

 son-Parameters-r9 SON-Parameters-r9,

 nonCriticalExtension UE-EUTRA-Capability-v940-IEs OPTIONAL

}

UE-EUTRA-Capability-v940-IEs ::= SEQUENCE {

 lateNonCriticalExtension OCTET STRING (CONTAINING UE-EUTRA-Capability-v9a0-IEs) OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1020-IEs OPTIONAL

}

UE-EUTRA-Capability-v1020-IEs ::= SEQUENCE {

 ue-Category-v1020 INTEGER (6..8) OPTIONAL,

 phyLayerParameters-v1020 PhyLayerParameters-v1020 OPTIONAL,

 rf-Parameters-v1020 RF-Parameters-v1020 OPTIONAL,

 measParameters-v1020 MeasParameters-v1020 OPTIONAL,

 featureGroupIndRel10-r10 BIT STRING (SIZE (32)) OPTIONAL,

 interRAT-ParametersCDMA2000-v1020 IRAT-ParametersCDMA2000-1XRTT-v1020 OPTIONAL,

 ue-BasedNetwPerfMeasParameters-r10 UE-BasedNetwPerfMeasParameters-r10 OPTIONAL,

 interRAT-ParametersUTRA-TDD-v1020 IRAT-ParametersUTRA-TDD-v1020 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1060-IEs OPTIONAL

}

UE-EUTRA-Capability-v1060-IEs ::= SEQUENCE {

 fdd-Add-UE-EUTRA-Capabilities-v1060 UE-EUTRA-CapabilityAddXDD-Mode-v1060 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1060 UE-EUTRA-CapabilityAddXDD-Mode-v1060 OPTIONAL,

 rf-Parameters-v1060 RF-Parameters-v1060 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1090-IEs OPTIONAL

}

UE-EUTRA-Capability-v1090-IEs ::= SEQUENCE {

 rf-Parameters-v1090 RF-Parameters-v1090 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1130-IEs OPTIONAL

}

UE-EUTRA-Capability-v1130-IEs ::= SEQUENCE {

 pdcp-Parameters-v1130 PDCP-Parameters-v1130,

 phyLayerParameters-v1130 PhyLayerParameters-v1130 OPTIONAL,

 rf-Parameters-v1130 RF-Parameters-v1130,

 measParameters-v1130 MeasParameters-v1130,

 interRAT-ParametersCDMA2000-v1130 IRAT-ParametersCDMA2000-v1130,

 otherParameters-r11 Other-Parameters-r11,

 fdd-Add-UE-EUTRA-Capabilities-v1130 UE-EUTRA-CapabilityAddXDD-Mode-v1130 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1130 UE-EUTRA-CapabilityAddXDD-Mode-v1130 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1170-IEs OPTIONAL

}

UE-EUTRA-Capability-v1170-IEs ::= SEQUENCE {

 phyLayerParameters-v1170 PhyLayerParameters-v1170 OPTIONAL,

 ue-Category-v1170 INTEGER (9..10) OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1180-IEs OPTIONAL

}

UE-EUTRA-Capability-v1180-IEs ::= SEQUENCE {

 rf-Parameters-v1180 RF-Parameters-v1180 OPTIONAL,

 mbms-Parameters-r11 MBMS-Parameters-r11 OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v1180 UE-EUTRA-CapabilityAddXDD-Mode-v1180 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1180 UE-EUTRA-CapabilityAddXDD-Mode-v1180 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v11a0-IEs OPTIONAL

}

UE-EUTRA-Capability-v11a0-IEs ::= SEQUENCE {

 ue-Category-v11a0 INTEGER (11..12) OPTIONAL,

 measParameters-v11a0 MeasParameters-v11a0 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1250-IEs OPTIONAL

}

UE-EUTRA-Capability-v1250-IEs ::= SEQUENCE {

 phyLayerParameters-v1250 PhyLayerParameters-v1250 OPTIONAL,

 rf-Parameters-v1250 RF-Parameters-v1250 OPTIONAL,

 rlc-Parameters-r12 RLC-Parameters-r12 OPTIONAL,

 ue-BasedNetwPerfMeasParameters-v1250 UE-BasedNetwPerfMeasParameters-v1250 OPTIONAL,

 ue-CategoryDL-r12 INTEGER (0..14) OPTIONAL,

 ue-CategoryUL-r12 INTEGER (0..13) OPTIONAL,

 wlan-IW-Parameters-r12 WLAN-IW-Parameters-r12 OPTIONAL,

 measParameters-v1250 MeasParameters-v1250 OPTIONAL,

 dc-Parameters-r12 DC-Parameters-r12 OPTIONAL,

 mbms-Parameters-v1250 MBMS-Parameters-v1250 OPTIONAL,

 mac-Parameters-r12 MAC-Parameters-r12 OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v1250 UE-EUTRA-CapabilityAddXDD-Mode-v1250 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1250 UE-EUTRA-CapabilityAddXDD-Mode-v1250 OPTIONAL,

 sl-Parameters-r12 SL-Parameters-r12 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1260-IEs OPTIONAL

}

UE-EUTRA-Capability-v1260-IEs ::= SEQUENCE {

 ue-CategoryDL-v1260 INTEGER (15..16) OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1270-IEs OPTIONAL

}

UE-EUTRA-Capability-v1270-IEs ::= SEQUENCE {

 rf-Parameters-v1270 RF-Parameters-v1270 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1280-IEs OPTIONAL

}

UE-EUTRA-Capability-v1280-IEs ::= SEQUENCE {

 phyLayerParameters-v1280 PhyLayerParameters-v1280 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1310-IEs OPTIONAL

}

UE-EUTRA-Capability-v1310-IEs ::= SEQUENCE {

 ue-CategoryDL-v1310 ENUMERATED {n17, m1} OPTIONAL,

 ue-CategoryUL-v1310 ENUMERATED {n14, m1} OPTIONAL,

 pdcp-Parameters-v1310 PDCP-Parameters-v1310,

 rlc-Parameters-v1310 RLC-Parameters-v1310,

 mac-Parameters-v1310 MAC-Parameters-v1310 OPTIONAL,

 phyLayerParameters-v1310 PhyLayerParameters-v1310 OPTIONAL,

 rf-Parameters-v1310 RF-Parameters-v1310 OPTIONAL,

 measParameters-v1310 MeasParameters-v1310 OPTIONAL,

 dc-Parameters-v1310 DC-Parameters-v1310 OPTIONAL,

 sl-Parameters-v1310 SL-Parameters-v1310 OPTIONAL,

 scptm-Parameters-r13 SCPTM-Parameters-r13 OPTIONAL,

 ce-Parameters-r13 CE-Parameters-r13 OPTIONAL,

 interRAT-ParametersWLAN-r13IRAT-ParametersWLAN-r13,

 laa-Parameters-r13 LAA-Parameters-r13 OPTIONAL,

 lwa-Parameters-r13 LWA-Parameters-r13 OPTIONAL,

 wlan-IW-Parameters-v1310 WLAN-IW-Parameters-v1310,

 lwip-Parameters-r13 LWIP-Parameters-r13,

 fdd-Add-UE-EUTRA-Capabilities-v1310 UE-EUTRA-CapabilityAddXDD-Mode-v1310 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1310 UE-EUTRA-CapabilityAddXDD-Mode-v1310 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1320-IEs OPTIONAL

}

UE-EUTRA-Capability-v1320-IEs ::= SEQUENCE {

 ce-Parameters-v1320 CE-Parameters-v1320 OPTIONAL,

 phyLayerParameters-v1320 PhyLayerParameters-v1320 OPTIONAL,

 rf-Parameters-v1320 RF-Parameters-v1320 OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v1320 UE-EUTRA-CapabilityAddXDD-Mode-v1320 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1320 UE-EUTRA-CapabilityAddXDD-Mode-v1320 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1330-IEs OPTIONAL

}

UE-EUTRA-Capability-v1330-IEs ::= SEQUENCE {

 ue-CategoryDL-v1330 INTEGER (18..19) OPTIONAL,

 phyLayerParameters-v1330 PhyLayerParameters-v1330 OPTIONAL,

 ue-CE-NeedULGaps-r13 ENUMERATED {true} OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1340-IEs OPTIONAL

}

UE-EUTRA-Capability-v1340-IEs ::= SEQUENCE {

 ue-CategoryUL-v1340 INTEGER (15) OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1350-IEs OPTIONAL

}

UE-EUTRA-Capability-v1350-IEs ::= SEQUENCE {

 ue-CategoryDL-v1350 ENUMERATED {oneBis} OPTIONAL,

 ue-CategoryUL-v1350 ENUMERATED {oneBis} OPTIONAL,

 ce-Parameters-v1350 CE-Parameters-v1350,

 nonCriticalExtension UE-EUTRA-Capability-v1360-IEs OPTIONAL

}

UE-EUTRA-Capability-v1360-IEs ::= SEQUENCE {

 other-Parameters-v1360 Other-Parameters-v1360 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1430-IEs OPTIONAL

}

UE-EUTRA-Capability-v1430-IEs ::= SEQUENCE {

 phyLayerParameters-v1430 PhyLayerParameters-v1430,

 ue-CategoryDL-v1430 ENUMERATED {m2} OPTIONAL,

 ue-CategoryUL-v1430 ENUMERATED {n16, n17, n18, n19, n20, m2} OPTIONAL,

 ue-CategoryUL-v1430b ENUMERATED {n21} OPTIONAL,

 mac-Parameters-v1430 MAC-Parameters-v1430 OPTIONAL,

 measParameters-v1430 MeasParameters-v1430 OPTIONAL,

 pdcp-Parameters-v1430 PDCP-Parameters-v1430 OPTIONAL,

 rlc-Parameters-v1430 RLC-Parameters-v1430,

 rf-Parameters-v1430 RF-Parameters-v1430 OPTIONAL,

 laa-Parameters-v1430 LAA-Parameters-v1430 OPTIONAL,

 lwa-Parameters-v1430 LWA-Parameters-v1430 OPTIONAL,

 lwip-Parameters-v1430 LWIP-Parameters-v1430 OPTIONAL,

 otherParameters-v1430 Other-Parameters-v1430,

 mmtel-Parameters-r14 MMTEL-Parameters-r14 OPTIONAL,

 mobilityParameters-r14 MobilityParameters-r14 OPTIONAL,

 ce-Parameters-v1430 CE-Parameters-v1430,

 fdd-Add-UE-EUTRA-Capabilities-v1430 UE-EUTRA-CapabilityAddXDD-Mode-v1430 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1430 UE-EUTRA-CapabilityAddXDD-Mode-v1430 OPTIONAL,

 mbms-Parameters-v1430 MBMS-Parameters-v1430 OPTIONAL,

 sl-Parameters-v1430 SL-Parameters-v1430 OPTIONAL,

 ue-BasedNetwPerfMeasParameters-v1430 UE-BasedNetwPerfMeasParameters-v1430 OPTIONAL,

 highSpeedEnhParameters-r14 HighSpeedEnhParameters-r14 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1440-IEs OPTIONAL

}

UE-EUTRA-Capability-v1440-IEs ::= SEQUENCE {

 lwa-Parameters-v1440 LWA-Parameters-v1440,

 mac-Parameters-v1440 MAC-Parameters-v1440,

 nonCriticalExtension UE-EUTRA-Capability-v1450-IEs OPTIONAL

}

UE-EUTRA-Capability-v1450-IEs ::= SEQUENCE {

 phyLayerParameters-v1450 PhyLayerParameters-v1450 OPTIONAL,

 rf-Parameters-v1450 RF-Parameters-v1450 OPTIONAL,

 otherParameters-v1450 OtherParameters-v1450,

 ue-CategoryDL-v1450 INTEGER (20) OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1460-IEs OPTIONAL

}

UE-EUTRA-Capability-v1460-IEs ::= SEQUENCE {

 ue-CategoryDL-v1460 INTEGER (21) OPTIONAL,

 otherParameters-v1460 Other-Parameters-v1460,

 nonCriticalExtension UE-EUTRA-Capability-v1510-IEs OPTIONAL

}

UE-EUTRA-Capability-v1510-IEs ::= SEQUENCE {

 irat-ParametersNR-r15 IRAT-ParametersNR-r15 OPTIONAL,

 featureSetsEUTRA-r15 FeatureSetsEUTRA-r15 OPTIONAL,

 pdcp-ParametersNR-r15 PDCP-ParametersNR-r15 OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v1510 UE-EUTRA-CapabilityAddXDD-Mode-v1510 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1510 UE-EUTRA-CapabilityAddXDD-Mode-v1510 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1520-IEs OPTIONAL

}

UE-EUTRA-Capability-v1520-IEs ::= SEQUENCE {

 measParameters-v1520 MeasParameters-v1520,

 nonCriticalExtension UE-EUTRA-Capability-v1530-IEs OPTIONAL

}

UE-EUTRA-Capability-v1530-IEs ::= SEQUENCE {

 measParameters-v1530 MeasParameters-v1530 OPTIONAL,

 otherParameters-v1530 Other-Parameters-v1530 OPTIONAL,

 neighCellSI-AcquisitionParameters-v1530 NeighCellSI-AcquisitionParameters-v1530 OPTIONAL,

 mac-Parameters-v1530 MAC-Parameters-v1530 OPTIONAL,

 phyLayerParameters-v1530 PhyLayerParameters-v1530 OPTIONAL,

 rf-Parameters-v1530 RF-Parameters-v1530 OPTIONAL,

 pdcp-Parameters-v1530 PDCP-Parameters-v1530 OPTIONAL,

 ue-CategoryDL-v1530 INTEGER (22..26) OPTIONAL,

 ue-BasedNetwPerfMeasParameters-v1530 UE-BasedNetwPerfMeasParameters-v1530 OPTIONAL,

 rlc-Parameters-v1530 RLC-Parameters-v1530 OPTIONAL,

 sl-Parameters-v1530 SL-Parameters-v1530 OPTIONAL,

 extendedNumberOfDRBs-r15 ENUMERATED {supported} OPTIONAL,

 reducedCP-Latency-r15 ENUMERATED {supported} OPTIONAL,

 laa-Parameters-v1530 LAA-Parameters-v1530 OPTIONAL,

 ue-CategoryUL-v1530 INTEGER (22..26) OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v1530 UE-EUTRA-CapabilityAddXDD-Mode-v1530 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1530 UE-EUTRA-CapabilityAddXDD-Mode-v1530 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1540-IEs OPTIONAL

}

UE-EUTRA-Capability-v1540-IEs ::= SEQUENCE {

 phyLayerParameters-v1540 PhyLayerParameters-v1540 OPTIONAL,

 otherParameters-v1540 Other-Parameters-v1540,

 fdd-Add-UE-EUTRA-Capabilities-v1540 UE-EUTRA-CapabilityAddXDD-Mode-v1540 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1540 UE-EUTRA-CapabilityAddXDD-Mode-v1540 OPTIONAL,

 sl-Parameters-v1540 SL-Parameters-v1540 OPTIONAL,

 irat-ParametersNR-v1540 IRAT-ParametersNR-v1540 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1550-IEs OPTIONAL

}

UE-EUTRA-Capability-v1550-IEs ::= SEQUENCE {

 neighCellSI-AcquisitionParameters-v1550 NeighCellSI-AcquisitionParameters-v1550 OPTIONAL,

 phyLayerParameters-v1550 PhyLayerParameters-v1550,

 mac-Parameters-v1550 MAC-Parameters-v1550,

 fdd-Add-UE-EUTRA-Capabilities-v1550 UE-EUTRA-CapabilityAddXDD-Mode-v1550,

 tdd-Add-UE-EUTRA-Capabilities-v1550 UE-EUTRA-CapabilityAddXDD-Mode-v1550,

 nonCriticalExtension UE-EUTRA-Capability-v1560-IEs OPTIONAL

}

UE-EUTRA-Capability-v1560-IEs ::= SEQUENCE {

 pdcp-ParametersNR-v1560 PDCP-ParametersNR-v1560,

 irat-ParametersNR-v1560 IRAT-ParametersNR-v1560,

 appliedCapabilityFilterCommon-r15 OCTET STRING OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v1560 UE-EUTRA-CapabilityAddXDD-Mode-v1560,

 tdd-Add-UE-EUTRA-Capabilities-v1560 UE-EUTRA-CapabilityAddXDD-Mode-v1560,

 nonCriticalExtension UE-EUTRA-Capability-v1570-IEs OPTIONAL

}

UE-EUTRA-Capability-v1570-IEs ::= SEQUENCE {

 rf-Parameters-v1570 RF-Parameters-v1570 OPTIONAL,

 irat-ParametersNR-v1570 IRAT-ParametersNR-v1570 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v15a0-IEs OPTIONAL

}

UE-EUTRA-Capability-v15a0-IEs ::= SEQUENCE {

 neighCellSI-AcquisitionParameters-v15a0 NeighCellSI-AcquisitionParameters-v15a0,

 eutra-5GC-Parameters-r15 EUTRA-5GC-Parameters-r15 OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v15a0 UE-EUTRA-CapabilityAddXDD-Mode-v15a0 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v15a0 UE-EUTRA-CapabilityAddXDD-Mode-v15a0 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1610-IEs OPTIONAL

}

UE-EUTRA-Capability-v1610-IEs ::= SEQUENCE {

 highSpeedEnhParameters-v1610 HighSpeedEnhParameters-v1610 OPTIONAL,

 neighCellSI-AcquisitionParameters-v1610 NeighCellSI-AcquisitionParameters-v1610 OPTIONAL,

 mbms-Parameters-v1610 MBMS-Parameters-v1610 OPTIONAL,

 pdcp-Parameters-v1610 PDCP-Parameters-v1610 OPTIONAL,

 mac-Parameters-v1610 MAC-Parameters-v1610 OPTIONAL,

 phyLayerParameters-v1610 PhyLayerParameters-v1610 OPTIONAL,

 measParameters-v1610 MeasParameters-v1610 OPTIONAL,

 pur-Parameters-r16 PUR-Parameters-r16 OPTIONAL,

 eutra-5GC-Parameters-v1610 EUTRA-5GC-Parameters-v1610 OPTIONAL,

 otherParameters-v1610 Other-Parameters-v1610 OPTIONAL,

 dl-DedicatedMessageSegmentation-r16 ENUMERATED {supported} OPTIONAL,

 mmtel-Parameters-v1610 MMTEL-Parameters-v1610,

 irat-ParametersNR-v1610 IRAT-ParametersNR-v1610 OPTIONAL,

 rf-Parameters-v1610 RF-Parameters-v1610 OPTIONAL,

 mobilityParameters-v1610 MobilityParameters-v1610 OPTIONAL,

 ue-BasedNetwPerfMeasParameters-v1610 UE-BasedNetwPerfMeasParameters-v1610,

 sl-Parameters-v1610 SL-Parameters-v1610 OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v1610 UE-EUTRA-CapabilityAddXDD-Mode-v1610 OPTIONAL,

 tdd-Add-UE-EUTRA-Capabilities-v1610 UE-EUTRA-CapabilityAddXDD-Mode-v1610 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1630-IEs OPTIONAL

}

UE-EUTRA-Capability-v1630-IEs ::= SEQUENCE {

 rf-Parameters-v1630 RF-Parameters-v1630 OPTIONAL,

 sl-Parameters-v1630 SL-Parameters-v1630 OPTIONAL,

 earlySecurityReactivation-r16 ENUMERATED {supported} OPTIONAL,

 mac-Parameters-v1630 MAC-Parameters-v1630,

 measParameters-v1630 MeasParameters-v1630 OPTIONAL,

 fdd-Add-UE-EUTRA-Capabilities-v1630 UE-EUTRA-CapabilityAddXDD-Mode-v1630,

 tdd-Add-UE-EUTRA-Capabilities-v1630 UE-EUTRA-CapabilityAddXDD-Mode-v1630,

 nonCriticalExtension UE-EUTRA-Capability-v1650-IEs OPTIONAL

}

UE-EUTRA-Capability-v1650-IEs ::= SEQUENCE {

 otherParameters-v1650 Other-Parameters-v1650 OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1660-IEs OPTIONAL

}

UE-EUTRA-Capability-v1660-IEs ::= SEQUENCE {

 irat-ParametersNR-v1660 IRAT-ParametersNR-v1660,

 nonCriticalExtension UE-EUTRA-Capability-v1690-IEs OPTIONAL

}

UE-EUTRA-Capability-v1690-IEs ::= SEQUENCE {

 other-Parameters-v1690 Other-Parameters-v1690,

 nonCriticalExtension UE-EUTRA-Capability-v1700-IEs OPTIONAL

}

UE-EUTRA-Capability-v1700-IEs ::= SEQUENCE {

 measParameters-v1700 MeasParameters-v1700 OPTIONAL,

 ue-BasedNetwPerfMeasParameters-v1700 UE-BasedNetwPerfMeasParameters-v1700 OPTIONAL,

 phyLayerParameters-v1700 PhyLayerParameters-v1700,

 ntn-Parameters-r17 NTN-Parameters-r17 OPTIONAL,

 irat-ParametersNR-v1700 IRAT-ParametersNR-v1700 OPTIONAL,

 mbms-Parameters-v1700 MBMS-Parameters-v1700,

 nonCriticalExtension UE-EUTRA-Capability-v1710-IEs OPTIONAL

}

UE-EUTRA-Capability-v1710-IEs ::= SEQUENCE {

 irat-ParametersNR-v1710 IRAT-ParametersNR-v1710,

 neighCellSI-AcquisitionParameters-v1710 NeighCellSI-AcquisitionParameters-v1710 OPTIONAL,

 sl-Parameters-v1710 SL-Parameters-v1710 OPTIONAL,

 sidelinkRequested-r17 ENUMERATED {true} OPTIONAL,

 nonCriticalExtension UE-EUTRA-Capability-v1720-IEs OPTIONAL

}

UE-EUTRA-Capability-v1720-IEs ::= SEQUENCE {

 ntn-Parameters-v1720 NTN-Parameters-v1720,

 nonCriticalExtension UE-EUTRA-Capability-v1730-IEs OPTIONAL

}

UE-EUTRA-Capability-v1730-IEs ::= SEQUENCE {

 phyLayerParameters-v1730 PhyLayerParameters-v1730,

 nonCriticalExtension UE-EUTRA-Capability-v1770-IEs OPTIONAL

}

UE-EUTRA-Capability-v1770-IEs ::= SEQUENCE {

 measParameters-v1770 MeasParameters-v1770,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-r9 ::= SEQUENCE {

 phyLayerParameters-r9 PhyLayerParameters OPTIONAL,

 featureGroupIndicators-r9 BIT STRING (SIZE (32)) OPTIONAL,

 featureGroupIndRel9Add-r9 BIT STRING (SIZE (32)) OPTIONAL,

 interRAT-ParametersGERAN-r9 IRAT-ParametersGERAN OPTIONAL,

 interRAT-ParametersUTRA-r9 IRAT-ParametersUTRA-v920 OPTIONAL,

 interRAT-ParametersCDMA2000-r9 IRAT-ParametersCDMA2000-1XRTT-v920 OPTIONAL,

 neighCellSI-AcquisitionParameters-r9 NeighCellSI-AcquisitionParameters-r9 OPTIONAL,

 ...

}

UE-EUTRA-CapabilityAddXDD-Mode-v1060 ::= SEQUENCE {

 phyLayerParameters-v1060 PhyLayerParameters-v1020 OPTIONAL,

 featureGroupIndRel10-v1060 BIT STRING (SIZE (32)) OPTIONAL,

 interRAT-ParametersCDMA2000-v1060 IRAT-ParametersCDMA2000-1XRTT-v1020 OPTIONAL,

 interRAT-ParametersUTRA-TDD-v1060 IRAT-ParametersUTRA-TDD-v1020 OPTIONAL,

 ...,

 [[ otdoa-PositioningCapabilities-r10 OTDOA-PositioningCapabilities-r10 OPTIONAL

 ]]

}

UE-EUTRA-CapabilityAddXDD-Mode-v1130 ::= SEQUENCE {

 phyLayerParameters-v1130 PhyLayerParameters-v1130 OPTIONAL,

 measParameters-v1130 MeasParameters-v1130 OPTIONAL,

 otherParameters-r11 Other-Parameters-r11 OPTIONAL,

 ...

}

UE-EUTRA-CapabilityAddXDD-Mode-v1180 ::= SEQUENCE {

 mbms-Parameters-r11 MBMS-Parameters-r11

}

UE-EUTRA-CapabilityAddXDD-Mode-v1250 ::= SEQUENCE {

 phyLayerParameters-v1250 PhyLayerParameters-v1250 OPTIONAL,

 measParameters-v1250 MeasParameters-v1250 OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1310 ::= SEQUENCE {

 phyLayerParameters-v1310 PhyLayerParameters-v1310 OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1320 ::= SEQUENCE {

 phyLayerParameters-v1320 PhyLayerParameters-v1320 OPTIONAL,

 scptm-Parameters-r13 SCPTM-Parameters-r13 OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1370 ::= SEQUENCE {

 ce-Parameters-v1370 CE-Parameters-v1370 OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1380 ::= SEQUENCE {

 ce-Parameters-v1380 CE-Parameters-v1380

}

UE-EUTRA-CapabilityAddXDD-Mode-v1430 ::= SEQUENCE {

 phyLayerParameters-v1430 PhyLayerParameters-v1430 OPTIONAL,

 mmtel-Parameters-r14 MMTEL-Parameters-r14 OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1510 ::= SEQUENCE {

 pdcp-ParametersNR-r15 PDCP-ParametersNR-r15 OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1530 ::= SEQUENCE {

 neighCellSI-AcquisitionParameters-v1530 NeighCellSI-AcquisitionParameters-v1530 OPTIONAL,

 reducedCP-Latency-r15 ENUMERATED {supported} OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1540 ::= SEQUENCE {

 eutra-5GC-Parameters-r15 EUTRA-5GC-Parameters-r15 OPTIONAL,

 irat-ParametersNR-v1540 IRAT-ParametersNR-v1540 OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1550 ::= SEQUENCE {

 neighCellSI-AcquisitionParameters-v1550 NeighCellSI-AcquisitionParameters-v1550 OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1560 ::= SEQUENCE {

 pdcp-ParametersNR-v1560 PDCP-ParametersNR-v1560

}

UE-EUTRA-CapabilityAddXDD-Mode-v15a0 ::= SEQUENCE {

 phyLayerParameters-v1530 PhyLayerParameters-v1530 OPTIONAL,

 phyLayerParameters-v1540 PhyLayerParameters-v1540 OPTIONAL,

 phyLayerParameters-v1550 PhyLayerParameters-v1550 OPTIONAL,

 neighCellSI-AcquisitionParameters-v15a0 NeighCellSI-AcquisitionParameters-v15a0

}

UE-EUTRA-CapabilityAddXDD-Mode-v1610 ::= SEQUENCE {

 phyLayerParameters-v1610 PhyLayerParameters-v1610 OPTIONAL,

 pur-Parameters-r16 PUR-Parameters-r16 OPTIONAL,

 measParameters-v1610 MeasParameters-v1610 OPTIONAL,

 eutra-5GC-Parameters-v1610 EUTRA-5GC-Parameters-v1610 OPTIONAL,

 irat-ParametersNR-v1610 IRAT-ParametersNR-v1610 OPTIONAL,

 neighCellSI-AcquisitionParameters-v1610 NeighCellSI-AcquisitionParameters-v1610 OPTIONAL,

 mobilityParameters-v1610 MobilityParameters-v1610 OPTIONAL

}

UE-EUTRA-CapabilityAddXDD-Mode-v1630 ::= SEQUENCE {

 measParameters-v1630 MeasParameters-v1630

}

AccessStratumRelease ::= ENUMERATED {

 rel8, rel9, rel10, rel11, rel12, rel13,

 rel14, rel15, ..., rel16, rel17}

FeatureSetsEUTRA-r15 ::= SEQUENCE {

 featureSetsDL-r15 SEQUENCE (SIZE (1..maxFeatureSets-r15)) OF FeatureSetDL-r15 OPTIONAL,

 featureSetsDL-PerCC-r15 SEQUENCE (SIZE (1..maxPerCC-FeatureSets-r15)) OF FeatureSetDL-PerCC-r15 OPTIONAL,

 featureSetsUL-r15 SEQUENCE (SIZE (1..maxFeatureSets-r15)) OF FeatureSetUL-r15 OPTIONAL,

 featureSetsUL-PerCC-r15 SEQUENCE (SIZE (1..maxPerCC-FeatureSets-r15)) OF FeatureSetUL-PerCC-r15 OPTIONAL,

 ...,

 [[ featureSetsDL-v1550 SEQUENCE (SIZE (1..maxFeatureSets-r15)) OF FeatureSetDL-v1550 OPTIONAL

 ]]

}

MobilityParameters-r14 ::= SEQUENCE {

 makeBeforeBreak-r14 ENUMERATED {supported} OPTIONAL,

 rach-Less-r14 ENUMERATED {supported} OPTIONAL

}

MobilityParameters-v1610 ::= SEQUENCE {

 cho-r16 ENUMERATED {supported} OPTIONAL,

 cho-FDD-TDD-r16 ENUMERATED {supported} OPTIONAL,

 cho-Failure-r16 ENUMERATED {supported} OPTIONAL,

 cho-TwoTriggerEvents-r16 ENUMERATED {supported} OPTIONAL

}

DC-Parameters-r12 ::= SEQUENCE {

 drb-TypeSplit-r12 ENUMERATED {supported} OPTIONAL,

 drb-TypeSCG-r12 ENUMERATED {supported} OPTIONAL

}

DC-Parameters-v1310 ::= SEQUENCE {

 pdcp-TransferSplitUL-r13 ENUMERATED {supported} OPTIONAL,

 ue-SSTD-Meas-r13 ENUMERATED {supported} OPTIONAL

}

MAC-Parameters-r12 ::= SEQUENCE {

 logicalChannelSR-ProhibitTimer-r12 ENUMERATED {supported} OPTIONAL,

 longDRX-Command-r12 ENUMERATED {supported} OPTIONAL

}

MAC-Parameters-v1310 ::= SEQUENCE {

 extendedMAC-LengthField-r13 ENUMERATED {supported} OPTIONAL,

 extendedLongDRX-r13 ENUMERATED {supported} OPTIONAL

}

MAC-Parameters-v1430 ::= SEQUENCE {

 shortSPS-IntervalFDD-r14 ENUMERATED {supported} OPTIONAL,

 shortSPS-IntervalTDD-r14 ENUMERATED {supported} OPTIONAL,

 skipUplinkDynamic-r14 ENUMERATED {supported} OPTIONAL,

 skipUplinkSPS-r14 ENUMERATED {supported} OPTIONAL,

 multipleUplinkSPS-r14 ENUMERATED {supported} OPTIONAL,

 dataInactMon-r14 ENUMERATED {supported} OPTIONAL

}

MAC-Parameters-v1440 ::= SEQUENCE {

 rai-Support-r14 ENUMERATED {supported} OPTIONAL

}

MAC-Parameters-v1530 ::= SEQUENCE {

 min-Proc-TimelineSubslot-r15 SEQUENCE (SIZE(1..3)) OF ProcessingTimelineSet-r15 OPTIONAL,

 skipSubframeProcessing-r15 SkipSubframeProcessing-r15 OPTIONAL,

 earlyData-UP-r15 ENUMERATED {supported} OPTIONAL,

 dormantSCellState-r15 ENUMERATED {supported} OPTIONAL,

 directSCellActivation-r15 ENUMERATED {supported} OPTIONAL,

 directSCellHibernation-r15 ENUMERATED {supported} OPTIONAL,

 extendedLCID-Duplication-r15 ENUMERATED {supported} OPTIONAL,

 sps-ServingCell-r15 ENUMERATED {supported} OPTIONAL

}

MAC-Parameters-v1550 ::= SEQUENCE {

 eLCID-Support-r15 ENUMERATED {supported} OPTIONAL

}

MAC-Parameters-v1610 ::= SEQUENCE {

 directMCG-SCellActivationResume-r16 ENUMERATED {supported} OPTIONAL,

 directSCG-SCellActivationResume-r16 ENUMERATED {supported} OPTIONAL,

 earlyData-UP-5GC-r16 ENUMERATED {supported} OPTIONAL,

 rai-SupportEnh-r16 ENUMERATED {supported} OPTIONAL

}

MAC-Parameters-v1630 ::= SEQUENCE {

 directSCG-SCellActivationNEDC-r16 ENUMERATED {supported} OPTIONAL

}

NTN-Parameters-r17 ::= SEQUENCE {

 ntn-Connectivity-EPC-r17 ENUMERATED {supported} OPTIONAL,

 ntn-TA-Report-r17 ENUMERATED {supported} OPTIONAL,

 ntn-PUR-TimerDelay-r17 ENUMERATED {supported} OPTIONAL,

 ntn-OffsetTimingEnh-r17 ENUMERATED {supported} OPTIONAL,

 ntn-ScenarioSupport-r17 ENUMERATED {ngso,gso} OPTIONAL

}

NTN-Parameters-v1720 ::= SEQUENCE {

 ntn-SegmentedPrecompensationGaps-r17 ENUMERATED {sym1,sl1,sf1} OPTIONAL

}

ProcessingTimelineSet-r15 ::= ENUMERATED {set1, set2}

RLC-Parameters-r12 ::= SEQUENCE {

 extended-RLC-LI-Field-r12 ENUMERATED {supported}

}

RLC-Parameters-v1310 ::= SEQUENCE {

 extendedRLC-SN-SO-Field-r13 ENUMERATED {supported} OPTIONAL

}

RLC-Parameters-v1430 ::= SEQUENCE {

 extendedPollByte-r14 ENUMERATED {supported} OPTIONAL

}

RLC-Parameters-v1530 ::= SEQUENCE {

 flexibleUM-AM-Combinations-r15 ENUMERATED {supported} OPTIONAL,

 rlc-AM-Ooo-Delivery-r15 ENUMERATED {supported} OPTIONAL,

 rlc-UM-Ooo-Delivery-r15 ENUMERATED {supported} OPTIONAL

}

PDCP-Parameters ::= SEQUENCE {

 supportedROHC-Profiles ROHC-ProfileSupportList-r15,

 maxNumberROHC-ContextSessions ENUMERATED {

 cs2, cs4, cs8, cs12, cs16, cs24, cs32,

 cs48, cs64, cs128, cs256, cs512, cs1024,

 cs16384, spare2, spare1} DEFAULT cs16,

 ...

}

PDCP-Parameters-v1130 ::= SEQUENCE {

 pdcp-SN-Extension-r11 ENUMERATED {supported} OPTIONAL,

 supportRohcContextContinue-r11 ENUMERATED {supported} OPTIONAL

}

PDCP-Parameters-v1310 ::= SEQUENCE {

 pdcp-SN-Extension-18bits-r13 ENUMERATED {supported} OPTIONAL

}

PDCP-Parameters-v1430 ::= SEQUENCE {

 supportedUplinkOnlyROHC-Profiles-r14 SEQUENCE {

 profile0x0006-r14 BOOLEAN

 },

 maxNumberROHC-ContextSessions-r14 ENUMERATED {

 cs2, cs4, cs8, cs12, cs16, cs24, cs32,

 cs48, cs64, cs128, cs256, cs512, cs1024,

 cs16384, spare2, spare1} DEFAULT cs16

}

PDCP-Parameters-v1530 ::= SEQUENCE {

 supportedUDC-r15 SupportedUDC-r15 OPTIONAL,

 pdcp-Duplication-r15 ENUMERATED {supported} OPTIONAL

}

PDCP-Parameters-v1610 ::= SEQUENCE {

 pdcp-VersionChangeWithoutHO-r16 ENUMERATED {supported} OPTIONAL,

 ehc-r16 ENUMERATED {supported} OPTIONAL,

 continueEHC-Context-r16 ENUMERATED {supported} OPTIONAL,

 maxNumberEHC-Contexts-r16 ENUMERATED {cs2, cs4, cs8, cs16, cs32, cs64, cs128, cs256,

 cs512, cs1024, cs2048, cs4096, cs8192, cs16384,

 cs32768, cs65536} OPTIONAL,

 jointEHC-ROHC-Config-r16 ENUMERATED {supported} OPTIONAL

}

SupportedUDC-r15 ::= SEQUENCE {

 supportedStandardDic-r15 ENUMERATED {supported} OPTIONAL,

 supportedOperatorDic-r15 SupportedOperatorDic-r15 OPTIONAL

}

SupportedOperatorDic-r15 ::= SEQUENCE {

 versionOfDictionary-r15 INTEGER (0..15),

 associatedPLMN-ID-r15 PLMN-Identity

}

PhyLayerParameters ::= SEQUENCE {

 ue-TxAntennaSelectionSupported BOOLEAN,

 ue-SpecificRefSigsSupported BOOLEAN

}

PhyLayerParameters-v920 ::= SEQUENCE {

 enhancedDualLayerFDD-r9 ENUMERATED {supported} OPTIONAL,

 enhancedDualLayerTDD-r9 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v9d0 ::= SEQUENCE {

 tm5-FDD-r9 ENUMERATED {supported} OPTIONAL,

 tm5-TDD-r9 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v1020 ::= SEQUENCE {

 twoAntennaPortsForPUCCH-r10 ENUMERATED {supported} OPTIONAL,

 tm9-With-8Tx-FDD-r10 ENUMERATED {supported} OPTIONAL,

 pmi-Disabling-r10 ENUMERATED {supported} OPTIONAL,

 crossCarrierScheduling-r10 ENUMERATED {supported} OPTIONAL,

 simultaneousPUCCH-PUSCH-r10 ENUMERATED {supported} OPTIONAL,

 multiClusterPUSCH-WithinCC-r10 ENUMERATED {supported} OPTIONAL,

 nonContiguousUL-RA-WithinCC-List-r10 NonContiguousUL-RA-WithinCC-List-r10 OPTIONAL

}

PhyLayerParameters-v1130 ::= SEQUENCE {

 crs-InterfHandl-r11 ENUMERATED {supported} OPTIONAL,

 ePDCCH-r11 ENUMERATED {supported} OPTIONAL,

 multiACK-CSI-Reporting-r11 ENUMERATED {supported} OPTIONAL,

 ss-CCH-InterfHandl-r11 ENUMERATED {supported} OPTIONAL,

 tdd-SpecialSubframe-r11 ENUMERATED {supported} OPTIONAL,

 txDiv-PUCCH1b-ChSelect-r11 ENUMERATED {supported} OPTIONAL,

 ul-CoMP-r11 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v1170 ::= SEQUENCE {

 interBandTDD-CA-WithDifferentConfig-r11 BIT STRING (SIZE (2)) OPTIONAL

}

PhyLayerParameters-v1250 ::= SEQUENCE {

 e-HARQ-Pattern-FDD-r12 ENUMERATED {supported} OPTIONAL,

 enhanced-4TxCodebook-r12 ENUMERATED {supported} OPTIONAL,

 tdd-FDD-CA-PCellDuplex-r12 BIT STRING (SIZE (2)) OPTIONAL,

 phy-TDD-ReConfig-TDD-PCell-r12 ENUMERATED {supported} OPTIONAL,

 phy-TDD-ReConfig-FDD-PCell-r12 ENUMERATED {supported} OPTIONAL,

 pusch-FeedbackMode-r12 ENUMERATED {supported} OPTIONAL,

 pusch-SRS-PowerControl-SubframeSet-r12 ENUMERATED {supported} OPTIONAL,

 csi-SubframeSet-r12 ENUMERATED {supported} OPTIONAL,

 noResourceRestrictionForTTIBundling-r12 ENUMERATED {supported} OPTIONAL,

 discoverySignalsInDeactSCell-r12 ENUMERATED {supported} OPTIONAL,

 naics-Capability-List-r12 NAICS-Capability-List-r12 OPTIONAL

}

PhyLayerParameters-v1280 ::= SEQUENCE {

 alternativeTBS-Indices-r12 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v1310 ::= SEQUENCE {

 aperiodicCSI-Reporting-r13 BIT STRING (SIZE (2)) OPTIONAL,

 codebook-HARQ-ACK-r13 BIT STRING (SIZE (2)) OPTIONAL,

 crossCarrierScheduling-B5C-r13 ENUMERATED {supported} OPTIONAL,

 fdd-HARQ-TimingTDD-r13 ENUMERATED {supported} OPTIONAL,

 maxNumberUpdatedCSI-Proc-r13 INTEGER(5..32) OPTIONAL,

 pucch-Format4-r13 ENUMERATED {supported} OPTIONAL,

 pucch-Format5-r13 ENUMERATED {supported} OPTIONAL,

 pucch-SCell-r13 ENUMERATED {supported} OPTIONAL,

 spatialBundling-HARQ-ACK-r13 ENUMERATED {supported} OPTIONAL,

 supportedBlindDecoding-r13 SEQUENCE {

 maxNumberDecoding-r13 INTEGER(1..32) OPTIONAL,

 pdcch-CandidateReductions-r13 ENUMERATED {supported} OPTIONAL,

 skipMonitoringDCI-Format0-1A-r13 ENUMERATED {supported} OPTIONAL

 } OPTIONAL,

 uci-PUSCH-Ext-r13 ENUMERATED {supported} OPTIONAL,

 crs-InterfMitigationTM10-r13 ENUMERATED {supported} OPTIONAL,

 pdsch-CollisionHandling-r13 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v1320 ::= SEQUENCE {

 mimo-UE-Parameters-r13 MIMO-UE-Parameters-r13 OPTIONAL

}

PhyLayerParameters-v1330 ::= SEQUENCE {

 cch-InterfMitigation-RefRecTypeA-r13 ENUMERATED {supported} OPTIONAL,

 cch-InterfMitigation-RefRecTypeB-r13 ENUMERATED {supported} OPTIONAL,

 cch-InterfMitigation-MaxNumCCs-r13 INTEGER (1.. maxServCell-r13) OPTIONAL,

 crs-InterfMitigationTM1toTM9-r13 INTEGER (1.. maxServCell-r13) OPTIONAL

}

PhyLayerParameters-v13e0 ::= SEQUENCE {

 mimo-UE-Parameters-v13e0 MIMO-UE-Parameters-v13e0

}

PhyLayerParameters-v1430 ::= SEQUENCE {

 ce-PUSCH-NB-MaxTBS-r14 ENUMERATED {supported} OPTIONAL,

 ce-PDSCH-PUSCH-MaxBandwidth-r14 ENUMERATED {bw5, bw20} OPTIONAL,

 ce-HARQ-AckBundling-r14 ENUMERATED {supported} OPTIONAL,

 ce-PDSCH-TenProcesses-r14 ENUMERATED {supported} OPTIONAL,

 ce-RetuningSymbols-r14 ENUMERATED {n0, n1} OPTIONAL,

 ce-PDSCH-PUSCH-Enhancement-r14 ENUMERATED {supported} OPTIONAL,

 ce-SchedulingEnhancement-r14 ENUMERATED {supported} OPTIONAL,

 ce-SRS-Enhancement-r14 ENUMERATED {supported} OPTIONAL,

 ce-PUCCH-Enhancement-r14 ENUMERATED {supported} OPTIONAL,

 ce-ClosedLoopTxAntennaSelection-r14 ENUMERATED {supported} OPTIONAL,

 tdd-SpecialSubframe-r14 ENUMERATED {supported} OPTIONAL,

 tdd-TTI-Bundling-r14 ENUMERATED {supported} OPTIONAL,

 dmrs-LessUpPTS-r14 ENUMERATED {supported} OPTIONAL,

 mimo-UE-Parameters-v1430 MIMO-UE-Parameters-v1430 OPTIONAL,

 alternativeTBS-Index-r14 ENUMERATED {supported} OPTIONAL,

 feMBMS-Unicast-Parameters-r14 FeMBMS-Unicast-Parameters-r14 OPTIONAL

}

PhyLayerParameters-v1450 ::= SEQUENCE {

 ce-SRS-EnhancementWithoutComb4-r14 ENUMERATED {supported} OPTIONAL,

 crs-LessDwPTS-r14 ENUMERATED {supported} OPTIONAL}

PhyLayerParameters-v1470 ::= SEQUENCE {

 mimo-UE-Parameters-v1470 MIMO-UE-Parameters-v1470 OPTIONAL,

 srs-UpPTS-6sym-r14 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v14a0 ::= SEQUENCE {

 ssp10-TDD-Only-r14 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v1530 ::= SEQUENCE {

 stti-SPT-Capabilities-r15 SEQUENCE {

 aperiodicCsi-ReportingSTTI-r15 ENUMERATED {supported} OPTIONAL,

 dmrs-BasedSPDCCH-MBSFN-r15 ENUMERATED {supported} OPTIONAL,

 dmrs-BasedSPDCCH-nonMBSFN-r15 ENUMERATED {supported} OPTIONAL,

 dmrs-PositionPattern-r15 ENUMERATED {supported} OPTIONAL,

 dmrs-SharingSubslotPDSCH-r15 ENUMERATED {supported} OPTIONAL,

 dmrs-RepetitionSubslotPDSCH-r15 ENUMERATED {supported} OPTIONAL,

 epdcch-SPT-differentCells-r15 ENUMERATED {supported} OPTIONAL,

 epdcch-STTI-differentCells-r15 ENUMERATED {supported} OPTIONAL,

 maxLayersSlotOrSubslotPUSCH-r15 ENUMERATED {oneLayer,twoLayers,fourLayers}

 OPTIONAL,

 maxNumberUpdatedCSI-Proc-SPT-r15 INTEGER(5..32) OPTIONAL,

 maxNumberUpdatedCSI-Proc-STTI-Comb77-r15 INTEGER(1..32) OPTIONAL,

 maxNumberUpdatedCSI-Proc-STTI-Comb27-r15 INTEGER(1..32) OPTIONAL,

 maxNumberUpdatedCSI-Proc-STTI-Comb22-Set1-r15 INTEGER(1..32) OPTIONAL,

 maxNumberUpdatedCSI-Proc-STTI-Comb22-Set2-r15 INTEGER(1..32) OPTIONAL,

 mimo-UE-ParametersSTTI-r15 MIMO-UE-Parameters-r13 OPTIONAL,

 mimo-UE-ParametersSTTI-v1530 MIMO-UE-Parameters-v1430 OPTIONAL,

 numberOfBlindDecodesUSS-r15 INTEGER(4..32) OPTIONAL,

 pdsch-SlotSubslotPDSCH-Decoding-r15 ENUMERATED {supported} OPTIONAL,

 powerUCI-SlotPUSCH ENUMERATED {supported} OPTIONAL,

 powerUCI-SubslotPUSCH ENUMERATED {supported} OPTIONAL,

 slotPDSCH-TxDiv-TM9and10 ENUMERATED {supported} OPTIONAL,

 subslotPDSCH-TxDiv-TM9and10 ENUMERATED {supported} OPTIONAL,

 spdcch-differentRS-types-r15 ENUMERATED {supported} OPTIONAL,

 srs-DCI7-TriggeringFS2-r15 ENUMERATED {supported} OPTIONAL,

 sps-cyclicShift-r15 ENUMERATED {supported} OPTIONAL,

 spdcch-Reuse-r15 ENUMERATED {supported} OPTIONAL,

 sps-STTI-r15 ENUMERATED {slot, subslot, slotAndSubslot}

 OPTIONAL,

 tm8-slotPDSCH-r15 ENUMERATED {supported} OPTIONAL,

 tm9-slotSubslot-r15 ENUMERATED {supported} OPTIONAL,

 tm9-slotSubslotMBSFN-r15 ENUMERATED {supported} OPTIONAL,

 tm10-slotSubslot-r15 ENUMERATED {supported} OPTIONAL,

 tm10-slotSubslotMBSFN-r15 ENUMERATED {supported} OPTIONAL,

 txDiv-SPUCCH-r15 ENUMERATED {supported} OPTIONAL,

 ul-AsyncHarqSharingDiff-TTI-Lengths-r15 ENUMERATED {supported} OPTIONAL

 } OPTIONAL,

 ce-Capabilities-r15 SEQUENCE {

 ce-CRS-IntfMitig-r15 ENUMERATED {supported} OPTIONAL,

 ce-CQI-AlternativeTable-r15 ENUMERATED {supported} OPTIONAL,

 ce-PDSCH-FlexibleStartPRB-CE-ModeA-r15 ENUMERATED {supported} OPTIONAL,

 ce-PDSCH-FlexibleStartPRB-CE-ModeB-r15 ENUMERATED {supported} OPTIONAL,

 ce-PDSCH-64QAM-r15 ENUMERATED {supported} OPTIONAL,

 ce-PUSCH-FlexibleStartPRB-CE-ModeA-r15 ENUMERATED {supported} OPTIONAL,

 ce-PUSCH-FlexibleStartPRB-CE-ModeB-r15 ENUMERATED {supported} OPTIONAL,

 ce-PUSCH-SubPRB-Allocation-r15 ENUMERATED {supported} OPTIONAL,

 ce-UL-HARQ-ACK-Feedback-r15 ENUMERATED {supported} OPTIONAL

 } OPTIONAL,

 shortCQI-ForSCellActivation-r15 ENUMERATED {supported} OPTIONAL,

 mimo-CBSR-AdvancedCSI-r15 ENUMERATED {supported} OPTIONAL,

 crs-IntfMitig-r15 ENUMERATED {supported} OPTIONAL,

 ul-PowerControlEnhancements-r15 ENUMERATED {supported} OPTIONAL,

 urllc-Capabilities-r15 SEQUENCE {

 pdsch-RepSubframe-r15 ENUMERATED {supported} OPTIONAL,

 pdsch-RepSlot-r15 ENUMERATED {supported} OPTIONAL,

 pdsch-RepSubslot-r15 ENUMERATED {supported} OPTIONAL,

 pusch-SPS-MultiConfigSubframe-r15 INTEGER (0..6) OPTIONAL,

 pusch-SPS-MaxConfigSubframe-r15 INTEGER (0..31) OPTIONAL,

 pusch-SPS-MultiConfigSlot-r15 INTEGER (0..6) OPTIONAL,

 pusch-SPS-MaxConfigSlot-r15 INTEGER (0..31) OPTIONAL,

 pusch-SPS-MultiConfigSubslot-r15 INTEGER (0..6) OPTIONAL,

 pusch-SPS-MaxConfigSubslot-r15 INTEGER (0..31) OPTIONAL,

 pusch-SPS-SlotRepPCell-r15 ENUMERATED {supported} OPTIONAL,

 pusch-SPS-SlotRepPSCell-r15 ENUMERATED {supported} OPTIONAL,

 pusch-SPS-SlotRepSCell-r15 ENUMERATED {supported} OPTIONAL,

 pusch-SPS-SubframeRepPCell-r15 ENUMERATED {supported} OPTIONAL,

 pusch-SPS-SubframeRepPSCell-r15 ENUMERATED {supported} OPTIONAL,

 pusch-SPS-SubframeRepSCell-r15 ENUMERATED {supported} OPTIONAL,

 pusch-SPS-SubslotRepPCell-r15 ENUMERATED {supported} OPTIONAL,

 pusch-SPS-SubslotRepPSCell-r15 ENUMERATED {supported} OPTIONAL,

 pusch-SPS-SubslotRepSCell-r15 ENUMERATED {supported} OPTIONAL,

 semiStaticCFI-r15 ENUMERATED {supported} OPTIONAL,

 semiStaticCFI-Pattern-r15 ENUMERATED {supported} OPTIONAL

 } OPTIONAL,

 altMCS-Table-r15 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v1540 ::= SEQUENCE {

 stti-SPT-Capabilities-v1540 SEQUENCE {

 slotPDSCH-TxDiv-TM8-r15 ENUMERATED {supported}

 } OPTIONAL,

 crs-IM-TM1-toTM9-OneRX-Port-v1540 ENUMERATED {supported} OPTIONAL,

 cch-IM-RefRecTypeA-OneRX-Port-v1540 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v1550 ::= SEQUENCE {

 dmrs-OverheadReduction-r15 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v1610 ::= SEQUENCE {

 ce-Capabilities-v1610 SEQUENCE {

 ce-CSI-RS-Feedback-r16 ENUMERATED {supported} OPTIONAL,

 ce-CSI-RS-FeedbackCodebookRestriction-r16 ENUMERATED {supported} OPTIONAL,

 crs-ChEstMPDCCH-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 crs-ChEstMPDCCH-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 crs-ChEstMPDCCH-CSI-r16 ENUMERATED {supported} OPTIONAL,

 crs-ChEstMPDCCH-ReciprocityTDD-r16 ENUMERATED {supported} OPTIONAL,

 etws-CMAS-RxInConnCE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 etws-CMAS-RxInConnCE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 mpdcch-InLteControlRegionCE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 mpdcch-InLteControlRegionCE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 pdsch-InLteControlRegionCE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 pdsch-InLteControlRegionCE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 multiTB-Parameters-r16 CE-MultiTB-Parameters-r16 OPTIONAL,

 resourceResvParameters-r16 CE-ResourceResvParameters-r16 OPTIONAL

 } OPTIONAL,

 widebandPRG-Slot-r16 ENUMERATED {supported} OPTIONAL,

 widebandPRG-Subslot-r16 ENUMERATED {supported} OPTIONAL,

 widebandPRG-Subframe-r16 ENUMERATED {supported} OPTIONAL,

 addSRS-r16 SEQUENCE {

 addSRS-FrequencyHopping-r16 ENUMERATED {supported} OPTIONAL,

 addSRS-AntennaSwitching-r16 ENUMERATED {useBasic} OPTIONAL,

 addSRS-CarrierSwitching-r16 ENUMERATED {supported} OPTIONAL

 } OPTIONAL,

 virtualCellID-BasicSRS-r16 ENUMERATED {supported} OPTIONAL,

 virtualCellID-AddSRS-r16 ENUMERATED {supported} OPTIONAL

}

PhyLayerParameters-v1700 ::= SEQUENCE {

 ce-Capabilities-v1700 SEQUENCE {

 ce-PDSCH-14HARQProcesses-r17 ENUMERATED {supported} OPTIONAL,

 ce-PDSCH-14HARQProcesses-Alt2-r17 ENUMERATED {supported} OPTIONAL,

 ce-PDSCH-MaxTBS-r17 ENUMERATED {supported} OPTIONAL

 } OPTIONAL

}

PhyLayerParameters-v1730 ::= SEQUENCE {

 csi-SubframeSet2ForDormantSCell-r17 ENUMERATED {supported} OPTIONAL

}

MIMO-UE-Parameters-r13 ::= SEQUENCE {

 parametersTM9-r13 MIMO-UE-ParametersPerTM-r13 OPTIONAL,

 parametersTM10-r13 MIMO-UE-ParametersPerTM-r13 OPTIONAL,

 srs-EnhancementsTDD-r13 ENUMERATED {supported} OPTIONAL,

 srs-Enhancements-r13 ENUMERATED {supported} OPTIONAL,

 interferenceMeasRestriction-r13 ENUMERATED {supported} OPTIONAL

}

MIMO-UE-Parameters-v13e0 ::= SEQUENCE {

 mimo-WeightedLayersCapabilities-r13 MIMO-WeightedLayersCapabilities-r13 OPTIONAL

}

MIMO-UE-Parameters-v1430 ::= SEQUENCE {

 parametersTM9-v1430 MIMO-UE-ParametersPerTM-v1430 OPTIONAL,

 parametersTM10-v1430 MIMO-UE-ParametersPerTM-v1430 OPTIONAL

}

MIMO-UE-Parameters-v1470 ::= SEQUENCE {

 parametersTM9-v1470 MIMO-UE-ParametersPerTM-v1470,

 parametersTM10-v1470 MIMO-UE-ParametersPerTM-v1470

}

MIMO-UE-ParametersPerTM-r13 ::= SEQUENCE {

 nonPrecoded-r13 MIMO-NonPrecodedCapabilities-r13 OPTIONAL,

 beamformed-r13 MIMO-UE-BeamformedCapabilities-r13 OPTIONAL,

 channelMeasRestriction-r13 ENUMERATED {supported} OPTIONAL,

 dmrs-Enhancements-r13 ENUMERATED {supported} OPTIONAL,

 csi-RS-EnhancementsTDD-r13 ENUMERATED {supported} OPTIONAL

}

MIMO-UE-ParametersPerTM-v1430 ::= SEQUENCE {

 nzp-CSI-RS-AperiodicInfo-r14 SEQUENCE {

 nMaxProc-r14 INTEGER(5..32),

 nMaxResource-r14 ENUMERATED {n1, n2, n4, n8}

 } OPTIONAL,

 nzp-CSI-RS-PeriodicInfo-r14 SEQUENCE {

 nMaxResource-r14 ENUMERATED {n1, n2, n4, n8}

 } OPTIONAL,

 zp-CSI-RS-AperiodicInfo-r14 ENUMERATED {supported} OPTIONAL,

 ul-dmrs-Enhancements-r14 ENUMERATED {supported} OPTIONAL,

 densityReductionNP-r14 ENUMERATED {supported} OPTIONAL,

 densityReductionBF-r14 ENUMERATED {supported} OPTIONAL,

 hybridCSI-r14 ENUMERATED {supported} OPTIONAL,

 semiOL-r14 ENUMERATED {supported} OPTIONAL,

 csi-ReportingNP-r14 ENUMERATED {supported} OPTIONAL,

 csi-ReportingAdvanced-r14 ENUMERATED {supported} OPTIONAL

}

MIMO-UE-ParametersPerTM-v1470 ::= SEQUENCE {

 csi-ReportingAdvancedMaxPorts-r14 ENUMERATED {n8, n12, n16, n20, n24, n28} OPTIONAL

}

MIMO-CA-ParametersPerBoBC-r13 ::= SEQUENCE {

 parametersTM9-r13 MIMO-CA-ParametersPerBoBCPerTM-r13 OPTIONAL,

 parametersTM10-r13 MIMO-CA-ParametersPerBoBCPerTM-r13 OPTIONAL

}

MIMO-CA-ParametersPerBoBC-r15 ::= SEQUENCE {

 parametersTM9-r15 MIMO-CA-ParametersPerBoBCPerTM-r15 OPTIONAL,

 parametersTM10-r15 MIMO-CA-ParametersPerBoBCPerTM-r15 OPTIONAL

}

MIMO-CA-ParametersPerBoBC-v1430 ::= SEQUENCE {

 parametersTM9-v1430 MIMO-CA-ParametersPerBoBCPerTM-v1430 OPTIONAL,

 parametersTM10-v1430 MIMO-CA-ParametersPerBoBCPerTM-v1430 OPTIONAL

}

MIMO-CA-ParametersPerBoBC-v1470 ::= SEQUENCE {

 parametersTM9-v1470 MIMO-CA-ParametersPerBoBCPerTM-v1470,

 parametersTM10-v1470 MIMO-CA-ParametersPerBoBCPerTM-v1470

}

MIMO-CA-ParametersPerBoBCPerTM-r13 ::= SEQUENCE {

 nonPrecoded-r13 MIMO-NonPrecodedCapabilities-r13 OPTIONAL,

 beamformed-r13 MIMO-BeamformedCapabilityList-r13 OPTIONAL,

 dmrs-Enhancements-r13 ENUMERATED {different} OPTIONAL

}

MIMO-CA-ParametersPerBoBCPerTM-v1430 ::= SEQUENCE {

 csi-ReportingNP-r14 ENUMERATED {different} OPTIONAL,

 csi-ReportingAdvanced-r14 ENUMERATED {different} OPTIONAL

}

MIMO-CA-ParametersPerBoBCPerTM-v1470 ::= SEQUENCE {

 csi-ReportingAdvancedMaxPorts-r14 ENUMERATED {n8, n12, n16, n20, n24, n28} OPTIONAL

}

MIMO-CA-ParametersPerBoBCPerTM-r15 ::= SEQUENCE {

 nonPrecoded-r13 MIMO-NonPrecodedCapabilities-r13 OPTIONAL,

 beamformed-r13 MIMO-BeamformedCapabilityList-r13 OPTIONAL,

 dmrs-Enhancements-r13 ENUMERATED {different} OPTIONAL,

 csi-ReportingNP-r14 ENUMERATED {different} OPTIONAL,

 csi-ReportingAdvanced-r14 ENUMERATED {different} OPTIONAL

}

MIMO-NonPrecodedCapabilities-r13 ::= SEQUENCE {

 config1-r13 ENUMERATED {supported} OPTIONAL,

 config2-r13 ENUMERATED {supported} OPTIONAL,

 config3-r13 ENUMERATED {supported} OPTIONAL,

 config4-r13 ENUMERATED {supported} OPTIONAL

}

MIMO-UE-BeamformedCapabilities-r13 ::= SEQUENCE {

 altCodebook-r13 ENUMERATED {supported} OPTIONAL,

 mimo-BeamformedCapabilities-r13 MIMO-BeamformedCapabilityList-r13

}

MIMO-BeamformedCapabilityList-r13 ::= SEQUENCE (SIZE (1..maxCSI-Proc-r11)) OF MIMO-BeamformedCapabilities-r13

MIMO-BeamformedCapabilities-r13 ::= SEQUENCE {

 k-Max-r13 INTEGER (1..8),

 n-MaxList-r13 BIT STRING (SIZE (1..7)) OPTIONAL

}

MIMO-WeightedLayersCapabilities-r13 ::= SEQUENCE {

 relWeightTwoLayers-r13 ENUMERATED {v1, v1dot25, v1dot5, v1dot75, v2, v2dot5, v3, v4},

 relWeightFourLayers-r13 ENUMERATED {v1, v1dot25, v1dot5, v1dot75, v2, v2dot5, v3, v4} OPTIONAL,

 relWeightEightLayers-r13 ENUMERATED {v1, v1dot25, v1dot5, v1dot75, v2, v2dot5, v3, v4} OPTIONAL,

 totalWeightedLayers-r13 INTEGER (2..128)

}

NonContiguousUL-RA-WithinCC-List-r10 ::= SEQUENCE (SIZE (1..maxBands)) OF NonContiguousUL-RA-WithinCC-r10

NonContiguousUL-RA-WithinCC-r10 ::= SEQUENCE {

 nonContiguousUL-RA-WithinCC-Info-r10 ENUMERATED {supported} OPTIONAL

}

RF-Parameters ::= SEQUENCE {

 supportedBandListEUTRA SupportedBandListEUTRA

}

RF-Parameters-v9e0 ::= SEQUENCE {

 supportedBandListEUTRA-v9e0 SupportedBandListEUTRA-v9e0 OPTIONAL

}

RF-Parameters-v1020 ::= SEQUENCE {

 supportedBandCombination-r10 SupportedBandCombination-r10

}

RF-Parameters-v1060 ::= SEQUENCE {

 supportedBandCombinationExt-r10 SupportedBandCombinationExt-r10

}

RF-Parameters-v1090 ::= SEQUENCE {

 supportedBandCombination-v1090 SupportedBandCombination-v1090 OPTIONAL

}

RF-Parameters-v10f0 ::= SEQUENCE {

 modifiedMPR-Behavior-r10 BIT STRING (SIZE (32)) OPTIONAL

}

RF-Parameters-v10i0 ::= SEQUENCE {

 supportedBandCombination-v10i0 SupportedBandCombination-v10i0 OPTIONAL

}

RF-Parameters-v10j0 ::= SEQUENCE {

 multiNS-Pmax-r10 ENUMERATED {supported} OPTIONAL

}

RF-Parameters-v1130 ::= SEQUENCE {

 supportedBandCombination-v1130 SupportedBandCombination-v1130 OPTIONAL

}

RF-Parameters-v1180 ::= SEQUENCE {

 freqBandRetrieval-r11 ENUMERATED {supported} OPTIONAL,

 requestedBands-r11 SEQUENCE (SIZE (1.. maxBands)) OF FreqBandIndicator-r11 OPTIONAL,

 supportedBandCombinationAdd-r11 SupportedBandCombinationAdd-r11 OPTIONAL

}

RF-Parameters-v11d0 ::= SEQUENCE {

 supportedBandCombinationAdd-v11d0 SupportedBandCombinationAdd-v11d0 OPTIONAL

}

RF-Parameters-v1250 ::= SEQUENCE {

 supportedBandListEUTRA-v1250 SupportedBandListEUTRA-v1250 OPTIONAL,

 supportedBandCombination-v1250 SupportedBandCombination-v1250 OPTIONAL,

 supportedBandCombinationAdd-v1250 SupportedBandCombinationAdd-v1250 OPTIONAL,

 freqBandPriorityAdjustment-r12 ENUMERATED {supported} OPTIONAL

}

RF-Parameters-v1270 ::= SEQUENCE {

 supportedBandCombination-v1270 SupportedBandCombination-v1270 OPTIONAL,

 supportedBandCombinationAdd-v1270 SupportedBandCombinationAdd-v1270 OPTIONAL

}

RF-Parameters-v1310 ::= SEQUENCE {

 eNB-RequestedParameters-r13 SEQUENCE {

 reducedIntNonContCombRequested-r13 ENUMERATED {true} OPTIONAL,

 requestedCCsDL-r13 INTEGER (2..32) OPTIONAL,

 requestedCCsUL-r13 INTEGER (2..32) OPTIONAL,

 skipFallbackCombRequested-r13 ENUMERATED {true} OPTIONAL

 } OPTIONAL,

 maximumCCsRetrieval-r13 ENUMERATED {supported} OPTIONAL,

 skipFallbackCombinations-r13 ENUMERATED {supported} OPTIONAL,

 reducedIntNonContComb-r13 ENUMERATED {supported} OPTIONAL,

 supportedBandListEUTRA-v1310 SupportedBandListEUTRA-v1310 OPTIONAL,

 supportedBandCombinationReduced-r13 SupportedBandCombinationReduced-r13 OPTIONAL

}

RF-Parameters-v1320 ::= SEQUENCE {

 supportedBandListEUTRA-v1320 SupportedBandListEUTRA-v1320 OPTIONAL,

 supportedBandCombination-v1320 SupportedBandCombination-v1320 OPTIONAL,

 supportedBandCombinationAdd-v1320 SupportedBandCombinationAdd-v1320 OPTIONAL,

 supportedBandCombinationReduced-v1320 SupportedBandCombinationReduced-v1320 OPTIONAL

}

RF-Parameters-v1380 ::= SEQUENCE {

 supportedBandCombination-v1380 SupportedBandCombination-v1380 OPTIONAL,

 supportedBandCombinationAdd-v1380 SupportedBandCombinationAdd-v1380 OPTIONAL,

 supportedBandCombinationReduced-v1380 SupportedBandCombinationReduced-v1380 OPTIONAL

}

RF-Parameters-v1390 ::= SEQUENCE {

 supportedBandCombination-v1390 SupportedBandCombination-v1390 OPTIONAL,

 supportedBandCombinationAdd-v1390 SupportedBandCombinationAdd-v1390 OPTIONAL,

 supportedBandCombinationReduced-v1390 SupportedBandCombinationReduced-v1390 OPTIONAL

}

RF-Parameters-v12b0 ::= SEQUENCE {

 maxLayersMIMO-Indication-r12 ENUMERATED {supported} OPTIONAL

}

RF-Parameters-v1430 ::= SEQUENCE {

 supportedBandCombination-v1430 SupportedBandCombination-v1430 OPTIONAL,

 supportedBandCombinationAdd-v1430 SupportedBandCombinationAdd-v1430 OPTIONAL,

 supportedBandCombinationReduced-v1430 SupportedBandCombinationReduced-v1430 OPTIONAL,

 eNB-RequestedParameters-v1430 SEQUENCE {

 requestedDiffFallbackCombList-r14 BandCombinationList-r14

 } OPTIONAL,

 diffFallbackCombReport-r14 ENUMERATED {supported} OPTIONAL

}

RF-Parameters-v1450 ::= SEQUENCE {

 supportedBandCombination-v1450 SupportedBandCombination-v1450 OPTIONAL,

 supportedBandCombinationAdd-v1450 SupportedBandCombinationAdd-v1450 OPTIONAL,

 supportedBandCombinationReduced-v1450 SupportedBandCombinationReduced-v1450 OPTIONAL

}

RF-Parameters-v1470 ::= SEQUENCE {

 supportedBandCombination-v1470 SupportedBandCombination-v1470 OPTIONAL,

 supportedBandCombinationAdd-v1470 SupportedBandCombinationAdd-v1470 OPTIONAL,

 supportedBandCombinationReduced-v1470 SupportedBandCombinationReduced-v1470 OPTIONAL

}

RF-Parameters-v14b0 ::= SEQUENCE {

 supportedBandCombination-v14b0 SupportedBandCombination-v14b0 OPTIONAL,

 supportedBandCombinationAdd-v14b0 SupportedBandCombinationAdd-v14b0 OPTIONAL,

 supportedBandCombinationReduced-v14b0 SupportedBandCombinationReduced-v14b0 OPTIONAL

}

RF-Parameters-v1530 ::= SEQUENCE {

 sTTI-SPT-Supported-r15 ENUMERATED {supported} OPTIONAL,

 supportedBandCombination-v1530 SupportedBandCombination-v1530 OPTIONAL,

 supportedBandCombinationAdd-v1530 SupportedBandCombinationAdd-v1530 OPTIONAL,

 supportedBandCombinationReduced-v1530 SupportedBandCombinationReduced-v1530 OPTIONAL,

 powerClass-14dBm-r15 ENUMERATED {supported} OPTIONAL

}

RF-Parameters-v1570 ::= SEQUENCE {

 dl-1024QAM-ScalingFactor-r15 ENUMERATED {v1, v1dot2, v1dot25},

 dl-1024QAM-TotalWeightedLayers-r15 INTEGER (0..10)

}

RF-Parameters-v1610 ::= SEQUENCE {

 supportedBandCombination-v1610 SupportedBandCombination-v1610 OPTIONAL,

 supportedBandCombinationAdd-v1610 SupportedBandCombinationAdd-v1610 OPTIONAL,

 supportedBandCombinationReduced-v1610 SupportedBandCombinationReduced-v1610 OPTIONAL

}

RF-Parameters-v1630 ::= SEQUENCE {

 supportedBandCombination-v1630 SupportedBandCombination-v1630 OPTIONAL,

 supportedBandCombinationAdd-v1630 SupportedBandCombinationAdd-v1630 OPTIONAL,

 supportedBandCombinationReduced-v1630 SupportedBandCombinationReduced-v1630 OPTIONAL

}

SkipSubframeProcessing-r15 ::= SEQUENCE {

 skipProcessingDL-Slot-r15 INTEGER (0..3) OPTIONAL,

 skipProcessingDL-SubSlot-r15 INTEGER (0..3) OPTIONAL,

 skipProcessingUL-Slot-r15 INTEGER (0..3) OPTIONAL,

 skipProcessingUL-SubSlot-r15 INTEGER (0..3) OPTIONAL

}

SPT-Parameters-r15 ::= SEQUENCE {

 frameStructureType-SPT-r15 BIT STRING (SIZE (3)) OPTIONAL,

 maxNumberCCs-SPT-r15 INTEGER (1..32) OPTIONAL

}

STTI-SPT-BandParameters-r15 ::= SEQUENCE {

 dl-1024QAM-Slot-r15 ENUMERATED {supported} OPTIONAL,

 dl-1024QAM-SubslotTA-1-r15 ENUMERATED {supported} OPTIONAL,

 dl-1024QAM-SubslotTA-2-r15 ENUMERATED {supported} OPTIONAL,

 simultaneousTx-differentTx-duration-r15 ENUMERATED {supported} OPTIONAL,

 sTTI-CA-MIMO-ParametersDL-r15 CA-MIMO-ParametersDL-r15 OPTIONAL,

 sTTI-CA-MIMO-ParametersUL-r15 CA-MIMO-ParametersUL-r15,

 sTTI-FD-MIMO-Coexistence ENUMERATED {supported} OPTIONAL,

 sTTI-MIMO-CA-ParametersPerBoBCs-r15 MIMO-CA-ParametersPerBoBC-r13 OPTIONAL,

 sTTI-MIMO-CA-ParametersPerBoBCs-v1530 MIMO-CA-ParametersPerBoBC-v1430 OPTIONAL,

 sTTI-SupportedCombinations-r15 STTI-SupportedCombinations-r15 OPTIONAL,

 sTTI-SupportedCSI-Proc-r15 ENUMERATED {n1, n3, n4} OPTIONAL,

 ul-256QAM-Slot-r15 ENUMERATED {supported} OPTIONAL,

 ul-256QAM-Subslot-r15 ENUMERATED {supported} OPTIONAL,

 ...

}

STTI-SupportedCombinations-r15 ::= SEQUENCE {

 combination-22-r15 DL-UL-CCs-r15 OPTIONAL,

 combination-77-r15 DL-UL-CCs-r15 OPTIONAL,

 combination-27-r15 DL-UL-CCs-r15 OPTIONAL,

 combination-22-27-r15 SEQUENCE (SIZE (1..2)) OF DL-UL-CCs-r15 OPTIONAL,

 combination-77-22-r15 SEQUENCE (SIZE (1..2)) OF DL-UL-CCs-r15 OPTIONAL,

 combination-77-27-r15 SEQUENCE (SIZE (1..2)) OF DL-UL-CCs-r15 OPTIONAL

}

DL-UL-CCs-r15 ::= SEQUENCE {

 maxNumberDL-CCs-r15 INTEGER (1..32) OPTIONAL,

 maxNumberUL-CCs-r15 INTEGER (1..32) OPTIONAL

}

SupportedBandCombination-r10 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-r10

SupportedBandCombinationExt-r10 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParametersExt-r10

SupportedBandCombination-v1090 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1090

SupportedBandCombination-v10i0 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v10i0

SupportedBandCombination-v1130 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1130

SupportedBandCombination-v1250 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1250

SupportedBandCombination-v1270 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1270

SupportedBandCombination-v1320 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1320

SupportedBandCombination-v1380 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1380

SupportedBandCombination-v1390 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1390

SupportedBandCombination-v1430 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1430

SupportedBandCombination-v1450 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1450

SupportedBandCombination-v1470 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1470

SupportedBandCombination-v14b0 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v14b0

SupportedBandCombination-v1530 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1530

SupportedBandCombination-v1610 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1610

SupportedBandCombination-v1630 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1630

SupportedBandCombinationAdd-r11 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-r11

SupportedBandCombinationAdd-v11d0 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v10i0

SupportedBandCombinationAdd-v1250 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1250

SupportedBandCombinationAdd-v1270 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1270

SupportedBandCombinationAdd-v1320 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1320

SupportedBandCombinationAdd-v1380 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1380

SupportedBandCombinationAdd-v1390 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1390

SupportedBandCombinationAdd-v1430 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1430

SupportedBandCombinationAdd-v1450 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1450

SupportedBandCombinationAdd-v1470 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1470

SupportedBandCombinationAdd-v14b0 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v14b0

SupportedBandCombinationAdd-v1530 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1530

SupportedBandCombinationAdd-v1610 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1610

SupportedBandCombinationAdd-v1630 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1630

SupportedBandCombinationReduced-r13 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-r13

SupportedBandCombinationReduced-v1320 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1320

SupportedBandCombinationReduced-v1380 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1380

SupportedBandCombinationReduced-v1390 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1390

SupportedBandCombinationReduced-v1430 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1430

SupportedBandCombinationReduced-v1450 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1450

SupportedBandCombinationReduced-v1470 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1470

SupportedBandCombinationReduced-v14b0 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v14b0

SupportedBandCombinationReduced-v1530 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1530

SupportedBandCombinationReduced-v1610 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1610

SupportedBandCombinationReduced-v1630 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1630

BandCombinationParameters-r10 ::= SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF BandParameters-r10

BandCombinationParametersExt-r10 ::= SEQUENCE {

 supportedBandwidthCombinationSet-r10 SupportedBandwidthCombinationSet-r10 OPTIONAL

}

BandCombinationParameters-v1090 ::= SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF BandParameters-v1090

BandCombinationParameters-v10i0::= SEQUENCE {

 bandParameterList-v10i0 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 BandParameters-v10i0 OPTIONAL

}

BandCombinationParameters-v1130 ::= SEQUENCE {

 multipleTimingAdvance-r11 ENUMERATED {supported} OPTIONAL,

 simultaneousRx-Tx-r11 ENUMERATED {supported} OPTIONAL,

 bandParameterList-r11 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF BandParameters-v1130 OPTIONAL,

 ...

}

BandCombinationParameters-r11 ::= SEQUENCE {

 bandParameterList-r11 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 BandParameters-r11,

 supportedBandwidthCombinationSet-r11 SupportedBandwidthCombinationSet-r10 OPTIONAL,

 multipleTimingAdvance-r11 ENUMERATED {supported} OPTIONAL,

 simultaneousRx-Tx-r11 ENUMERATED {supported} OPTIONAL,

 bandInfoEUTRA-r11 BandInfoEUTRA,

 ...

}

BandCombinationParameters-v1250::= SEQUENCE {

 dc-Support-r12 SEQUENCE {

 asynchronous-r12 ENUMERATED {supported} OPTIONAL,

 supportedCellGrouping-r12 CHOICE {

 threeEntries-r12 BIT STRING (SIZE(3)),

 fourEntries-r12 BIT STRING (SIZE(7)),

 fiveEntries-r12 BIT STRING (SIZE(15))

 } OPTIONAL

 } OPTIONAL,

 supportedNAICS-2CRS-AP-r12 BIT STRING (SIZE (1..maxNAICS-Entries-r12)) OPTIONAL,

 commSupportedBandsPerBC-r12 BIT STRING (SIZE (1.. maxBands)) OPTIONAL,

 ...

}

BandCombinationParameters-v1270 ::= SEQUENCE {

 bandParameterList-v1270 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 BandParameters-v1270 OPTIONAL

}

BandCombinationParameters-r13 ::= SEQUENCE {

 differentFallbackSupported-r13 ENUMERATED {true} OPTIONAL,

 bandParameterList-r13 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF BandParameters-r13,

 supportedBandwidthCombinationSet-r13 SupportedBandwidthCombinationSet-r10 OPTIONAL,

 multipleTimingAdvance-r13 ENUMERATED {supported} OPTIONAL,

 simultaneousRx-Tx-r13 ENUMERATED {supported} OPTIONAL,

 bandInfoEUTRA-r13 BandInfoEUTRA,

 dc-Support-r13 SEQUENCE {

 asynchronous-r13 ENUMERATED {supported} OPTIONAL,

 supportedCellGrouping-r13 CHOICE {

 threeEntries-r13 BIT STRING (SIZE(3)),

 fourEntries-r13 BIT STRING (SIZE(7)),

 fiveEntries-r13 BIT STRING (SIZE(15))

 } OPTIONAL

 } OPTIONAL,

 supportedNAICS-2CRS-AP-r13 BIT STRING (SIZE (1..maxNAICS-Entries-r12)) OPTIONAL,

 commSupportedBandsPerBC-r13 BIT STRING (SIZE (1.. maxBands)) OPTIONAL

}

BandCombinationParameters-v1320 ::= SEQUENCE {

 bandParameterList-v1320 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 BandParameters-v1320 OPTIONAL,

 additionalRx-Tx-PerformanceReq-r13 ENUMERATED {supported} OPTIONAL

}

BandCombinationParameters-v1380 ::= SEQUENCE {

 bandParameterList-v1380 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 BandParameters-v1380 OPTIONAL

}

BandCombinationParameters-v1390 ::= SEQUENCE {

 ue-CA-PowerClass-N-r13 ENUMERATED {class2} OPTIONAL

}

BandCombinationParameters-v1430 ::= SEQUENCE {

 bandParameterList-v1430 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 BandParameters-v1430 OPTIONAL,

 v2x-SupportedTxBandCombListPerBC-r14 BIT STRING (SIZE (1.. maxBandComb-r13)) OPTIONAL,

 v2x-SupportedRxBandCombListPerBC-r14 BIT STRING (SIZE (1.. maxBandComb-r13)) OPTIONAL

}

BandCombinationParameters-v1450 ::= SEQUENCE {

 bandParameterList-v1450 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 BandParameters-v1450 OPTIONAL

}

BandCombinationParameters-v1470 ::= SEQUENCE {

 bandParameterList-v1470 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 BandParameters-v1470 OPTIONAL,

 srs-MaxSimultaneousCCs-r14 INTEGER (1..31) OPTIONAL

}

BandCombinationParameters-v14b0 ::= SEQUENCE {

 bandParameterList-v14b0 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 BandParameters-v14b0 OPTIONAL

}

BandCombinationParameters-v1530 ::= SEQUENCE {

 bandParameterList-v1530 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF BandParameters-v1530 OPTIONAL,

 spt-Parameters-r15 SPT-Parameters-r15 OPTIONAL

}

-- If an additional band combination parameter is defined, which is supported for MR-DC,

-- it shall be defined in the IE CA-ParametersEUTRA in TS 38.331 [82].

BandCombinationParameters-v1610 ::= SEQUENCE {

 measGapInfoNR-r16 MeasGapInfoNR-r16 OPTIONAL,

 bandParameterList-v1610 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF BandParameters-v1610 OPTIONAL,

 interFreqDAPS-r16 SEQUENCE {

 interFreqAsyncDAPS-r16 ENUMERATED {supported} OPTIONAL,

 interFreqMultiUL-TransmissionDAPS-r16 ENUMERATED {supported} OPTIONAL

 } OPTIONAL

}

BandCombinationParameters-v1630 ::= SEQUENCE {

 v2x-SupportedTxBandCombListPerBC-v1630 BIT STRING (SIZE (1..maxBandCombSidelinkNR-r16)) OPTIONAL,

 v2x-SupportedRxBandCombListPerBC-v1630 BIT STRING (SIZE (1..maxBandCombSidelinkNR-r16)) OPTIONAL,

 scalingFactorTxSidelink-r16 SEQUENCE (SIZE (1..maxBandCombSidelinkNR-r16)) OF ScalingFactorSidelink-r16 OPTIONAL,

 scalingFactorRxSidelink-r16 SEQUENCE (SIZE (1..maxBandCombSidelinkNR-r16)) OF ScalingFactorSidelink-r16 OPTIONAL,

 interBandPowerSharingSyncDAPS-r16 ENUMERATED {supported} OPTIONAL,

 interBandPowerSharingAsyncDAPS-r16 ENUMERATED {supported} OPTIONAL

}

ScalingFactorSidelink-r16 ::= ENUMERATED {f0p4, f0p75, f0p8, f1}

SupportedBandwidthCombinationSet-r10 ::= BIT STRING (SIZE (1..maxBandwidthCombSet-r10))

BandParameters-r10 ::= SEQUENCE {

 bandEUTRA-r10 FreqBandIndicator,

 bandParametersUL-r10 BandParametersUL-r10 OPTIONAL,

 bandParametersDL-r10 BandParametersDL-r10 OPTIONAL

}

BandParameters-v1090 ::= SEQUENCE {

 bandEUTRA-v1090 FreqBandIndicator-v9e0 OPTIONAL,

 ...

}

BandParameters-v10i0::= SEQUENCE {

 bandParametersDL-v10i0 SEQUENCE (SIZE (1..maxBandwidthClass-r10)) OF CA-MIMO-ParametersDL-v10i0

}

BandParameters-v1130 ::= SEQUENCE {

 supportedCSI-Proc-r11 ENUMERATED {n1, n3, n4}

}

BandParameters-r11 ::= SEQUENCE {

 bandEUTRA-r11 FreqBandIndicator-r11,

 bandParametersUL-r11 BandParametersUL-r10 OPTIONAL,

 bandParametersDL-r11 BandParametersDL-r10 OPTIONAL,

 supportedCSI-Proc-r11 ENUMERATED {n1, n3, n4} OPTIONAL

}

BandParameters-v1270 ::= SEQUENCE {

 bandParametersDL-v1270 SEQUENCE (SIZE (1..maxBandwidthClass-r10)) OF CA-MIMO-ParametersDL-v1270

}

BandParameters-r13 ::= SEQUENCE {

 bandEUTRA-r13 FreqBandIndicator-r11,

 bandParametersUL-r13 BandParametersUL-r13 OPTIONAL,

 bandParametersDL-r13 BandParametersDL-r13 OPTIONAL,

 supportedCSI-Proc-r13 ENUMERATED {n1, n3, n4} OPTIONAL

}

BandParameters-v1320 ::= SEQUENCE {

 bandParametersDL-v1320 MIMO-CA-ParametersPerBoBC-r13

}

BandParameters-v1380 ::= SEQUENCE {

 txAntennaSwitchDL-r13 INTEGER (1..32) OPTIONAL,

 txAntennaSwitchUL-r13 INTEGER (1..32) OPTIONAL

}

BandParameters-v1430 ::= SEQUENCE {

 bandParametersDL-v1430 MIMO-CA-ParametersPerBoBC-v1430 OPTIONAL,

 ul-256QAM-r14 ENUMERATED {supported} OPTIONAL,

 ul-256QAM-perCC-InfoList-r14 SEQUENCE (SIZE (2..maxServCell-r13)) OF UL-256QAM-perCC-Info-r14 OPTIONAL,

 srs-CapabilityPerBandPairList-r14 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 SRS-CapabilityPerBandPair-r14 OPTIONAL

}

BandParameters-v1450 ::= SEQUENCE {

 must-CapabilityPerBand-r14 MUST-Parameters-r14 OPTIONAL

}

BandParameters-v1470 ::= SEQUENCE {

 bandParametersDL-v1470 MIMO-CA-ParametersPerBoBC-v1470 OPTIONAL

}

BandParameters-v14b0 ::= SEQUENCE {

 srs-CapabilityPerBandPairList-v14b0 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF SRS-CapabilityPerBandPair-v14b0 OPTIONAL

}

BandParameters-v1530 ::= SEQUENCE {

 ue-TxAntennaSelection-SRS-1T4R-r15 ENUMERATED {supported} OPTIONAL,

 ue-TxAntennaSelection-SRS-2T4R-2Pairs-r15 ENUMERATED {supported} OPTIONAL,

 ue-TxAntennaSelection-SRS-2T4R-3Pairs-r15 ENUMERATED {supported} OPTIONAL,

 dl-1024QAM-r15 ENUMERATED {supported} OPTIONAL,

 qcl-TypeC-Operation-r15 ENUMERATED {supported} OPTIONAL,

 qcl-CRI-BasedCSI-Reporting-r15 ENUMERATED {supported} OPTIONAL,

 stti-SPT-BandParameters-r15 STTI-SPT-BandParameters-r15 OPTIONAL

}

BandParameters-v1610 ::= SEQUENCE {

 intraFreqDAPS-r16 SEQUENCE {

 intraFreqAsyncDAPS-r16 ENUMERATED {supported} OPTIONAL,

 dummy ENUMERATED {supported} OPTIONAL,

 intraFreqTwoTAGs-DAPS-r16 ENUMERATED {supported} OPTIONAL

 } OPTIONAL,

 addSRS-FrequencyHopping-r16 ENUMERATED {supported} OPTIONAL,

 addSRS-AntennaSwitching-r16 SEQUENCE {

 addSRS-1T2R-r16 ENUMERATED {supported} OPTIONAL,

 addSRS-1T4R-r16 ENUMERATED {supported} OPTIONAL,

 addSRS-2T4R-2pairs-r16 ENUMERATED {supported} OPTIONAL,

 addSRS-2T4R-3pairs-r16 ENUMERATED {supported} OPTIONAL

 } OPTIONAL,

 srs-CapabilityPerBandPairList-v1610 SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF

 SRS-CapabilityPerBandPair-v1610 OPTIONAL

}

V2X-BandParameters-r14 ::= SEQUENCE {

 v2x-FreqBandEUTRA-r14 FreqBandIndicator-r11,

 bandParametersTxSL-r14 BandParametersTxSL-r14 OPTIONAL,

 bandParametersRxSL-r14 BandParametersRxSL-r14 OPTIONAL

}

V2X-BandParameters-v1530 ::= SEQUENCE {

 v2x-EnhancedHighReception-r15 ENUMERATED {supported} OPTIONAL

}

BandParametersTxSL-r14 ::= SEQUENCE {

 v2x-BandwidthClassTxSL-r14 V2X-BandwidthClassSL-r14,

 v2x-eNB-Scheduled-r14 ENUMERATED {supported} OPTIONAL,

 v2x-HighPower-r14 ENUMERATED {supported} OPTIONAL

}

BandParametersRxSL-r14 ::= SEQUENCE {

 v2x-BandwidthClassRxSL-r14 V2X-BandwidthClassSL-r14,

 v2x-HighReception-r14 ENUMERATED {supported} OPTIONAL

}

V2X-BandwidthClassSL-r14 ::= SEQUENCE (SIZE (1..maxBandwidthClass-r10)) OF V2X-BandwidthClass-r14

UL-256QAM-perCC-Info-r14 ::= SEQUENCE {

 ul-256QAM-perCC-r14 ENUMERATED {supported} OPTIONAL

}

FeatureSetDL-r15 ::= SEQUENCE {

 mimo-CA-ParametersPerBoBC-r15 MIMO-CA-ParametersPerBoBC-r15 OPTIONAL,

 featureSetPerCC-ListDL-r15 SEQUENCE (SIZE (1..maxServCell-r13)) OF FeatureSetDL-PerCC-Id-r15

}

FeatureSetDL-v1550 ::= SEQUENCE {

 dl-1024QAM-r15 ENUMERATED {supported} OPTIONAL

}

FeatureSetDL-PerCC-r15 ::= SEQUENCE {

 fourLayerTM3-TM4-r15 ENUMERATED {supported} OPTIONAL,

 supportedMIMO-CapabilityDL-MRDC-r15 MIMO-CapabilityDL-r10 OPTIONAL,

 supportedCSI-Proc-r15 ENUMERATED {n1, n3, n4} OPTIONAL

}

FeatureSetUL-r15 ::= SEQUENCE {

 featureSetPerCC-ListUL-r15 SEQUENCE (SIZE(1..maxServCell-r13)) OF FeatureSetUL-PerCC-Id-r15

}

FeatureSetUL-PerCC-r15 ::= SEQUENCE {

 supportedMIMO-CapabilityUL-r15 MIMO-CapabilityUL-r10 OPTIONAL,

 ul-256QAM-r15 ENUMERATED {supported} OPTIONAL

}

FeatureSetDL-PerCC-Id-r15 ::= INTEGER (0..maxPerCC-FeatureSets-r15)

FeatureSetUL-PerCC-Id-r15 ::= INTEGER (0..maxPerCC-FeatureSets-r15)

BandParametersUL-r10 ::= SEQUENCE (SIZE (1..maxBandwidthClass-r10)) OF CA-MIMO-ParametersUL-r10

BandParametersUL-r13 ::= CA-MIMO-ParametersUL-r10

CA-MIMO-ParametersUL-r10 ::= SEQUENCE {

 ca-BandwidthClassUL-r10 CA-BandwidthClass-r10,

 supportedMIMO-CapabilityUL-r10 MIMO-CapabilityUL-r10 OPTIONAL

}

CA-MIMO-ParametersUL-r15 ::= SEQUENCE {

 supportedMIMO-CapabilityUL-r15 MIMO-CapabilityUL-r10 OPTIONAL

}

BandParametersDL-r10 ::= SEQUENCE (SIZE (1..maxBandwidthClass-r10)) OF CA-MIMO-ParametersDL-r10

BandParametersDL-r13 ::= CA-MIMO-ParametersDL-r13

CA-MIMO-ParametersDL-r10 ::= SEQUENCE {

 ca-BandwidthClassDL-r10 CA-BandwidthClass-r10,

 supportedMIMO-CapabilityDL-r10 MIMO-CapabilityDL-r10 OPTIONAL

}

CA-MIMO-ParametersDL-v10i0 ::= SEQUENCE {

 fourLayerTM3-TM4-r10 ENUMERATED {supported} OPTIONAL

}

CA-MIMO-ParametersDL-v1270 ::= SEQUENCE {

 intraBandContiguousCC-InfoList-r12 SEQUENCE (SIZE (1..maxServCell-r10)) OF IntraBandContiguousCC-Info-r12

}

CA-MIMO-ParametersDL-r13 ::= SEQUENCE {

 ca-BandwidthClassDL-r13 CA-BandwidthClass-r10,

 supportedMIMO-CapabilityDL-r13 MIMO-CapabilityDL-r10 OPTIONAL,

 fourLayerTM3-TM4-r13 ENUMERATED {supported} OPTIONAL,

 intraBandContiguousCC-InfoList-r13 SEQUENCE (SIZE (1..maxServCell-r13)) OF IntraBandContiguousCC-Info-r12

}

CA-MIMO-ParametersDL-r15 ::= SEQUENCE {

 supportedMIMO-CapabilityDL-r15 MIMO-CapabilityDL-r10 OPTIONAL,

 fourLayerTM3-TM4-r15 ENUMERATED {supported} OPTIONAL,

 intraBandContiguousCC-InfoList-r15 SEQUENCE (SIZE (1..maxServCell-r13)) OF

 IntraBandContiguousCC-Info-r12 OPTIONAL

}

IntraBandContiguousCC-Info-r12 ::= SEQUENCE {

 fourLayerTM3-TM4-perCC-r12 ENUMERATED {supported} OPTIONAL,

 supportedMIMO-CapabilityDL-r12 MIMO-CapabilityDL-r10 OPTIONAL,

 supportedCSI-Proc-r12 ENUMERATED {n1, n3, n4} OPTIONAL

}

CA-BandwidthClass-r10 ::= ENUMERATED {a, b, c, d, e, f, ...}

V2X-BandwidthClass-r14 ::= ENUMERATED {a, b, c, d, e, f, ..., c1-v1530}

MIMO-CapabilityUL-r10 ::= ENUMERATED {twoLayers, fourLayers}

MIMO-CapabilityDL-r10 ::= ENUMERATED {twoLayers, fourLayers, eightLayers}

MUST-Parameters-r14 ::= SEQUENCE {

 must-TM234-UpTo2Tx-r14 ENUMERATED {supported} OPTIONAL,

 must-TM89-UpToOneInterferingLayer-r14 ENUMERATED {supported} OPTIONAL,

 must-TM10-UpToOneInterferingLayer-r14 ENUMERATED {supported} OPTIONAL,

 must-TM89-UpToThreeInterferingLayers-r14 ENUMERATED {supported} OPTIONAL,

 must-TM10-UpToThreeInterferingLayers-r14 ENUMERATED {supported} OPTIONAL

}

SupportedBandListEUTRA ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandEUTRA

SupportedBandListEUTRA-v9e0::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandEUTRA-v9e0

SupportedBandListEUTRA-v1250 ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandEUTRA-v1250

SupportedBandListEUTRA-v1310 ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandEUTRA-v1310

SupportedBandListEUTRA-v1320 ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandEUTRA-v1320

SupportedBandEUTRA ::= SEQUENCE {

 bandEUTRA FreqBandIndicator,

 halfDuplex BOOLEAN

}

SupportedBandEUTRA-v9e0 ::= SEQUENCE {

 bandEUTRA-v9e0 FreqBandIndicator-v9e0 OPTIONAL

}

SupportedBandEUTRA-v1250 ::= SEQUENCE {

 dl-256QAM-r12 ENUMERATED {supported} OPTIONAL,

 ul-64QAM-r12 ENUMERATED {supported} OPTIONAL

}

SupportedBandEUTRA-v1310 ::= SEQUENCE {

 ue-PowerClass-5-r13 ENUMERATED {supported} OPTIONAL

}

SupportedBandEUTRA-v1320 ::= SEQUENCE {

 intraFreq-CE-NeedForGaps-r13 ENUMERATED {supported} OPTIONAL,

 ue-PowerClass-N-r13 ENUMERATED {class1, class2, class4} OPTIONAL

}

MeasParameters ::= SEQUENCE {

 bandListEUTRA BandListEUTRA

}

MeasParameters-v1020 ::= SEQUENCE {

 bandCombinationListEUTRA-r10 BandCombinationListEUTRA-r10

}

MeasParameters-v1130 ::= SEQUENCE {

 rsrqMeasWideband-r11 ENUMERATED {supported} OPTIONAL

}

MeasParameters-v11a0 ::= SEQUENCE {

 benefitsFromInterruption-r11 ENUMERATED {true} OPTIONAL

}

MeasParameters-v1250 ::= SEQUENCE {

 timerT312-r12 ENUMERATED {supported} OPTIONAL,

 alternativeTimeToTrigger-r12 ENUMERATED {supported} OPTIONAL,

 incMonEUTRA-r12 ENUMERATED {supported} OPTIONAL,

 incMonUTRA-r12 ENUMERATED {supported} OPTIONAL,

 extendedMaxMeasId-r12 ENUMERATED {supported} OPTIONAL,

 extendedRSRQ-LowerRange-r12 ENUMERATED {supported} OPTIONAL,

 rsrq-OnAllSymbols-r12 ENUMERATED {supported} OPTIONAL,

 crs-DiscoverySignalsMeas-r12 ENUMERATED {supported} OPTIONAL,

 csi-RS-DiscoverySignalsMeas-r12 ENUMERATED {supported} OPTIONAL

}

MeasParameters-v1310 ::= SEQUENCE {

 rs-SINR-Meas-r13 ENUMERATED {supported} OPTIONAL,

 allowedCellList-r13 ENUMERATED {supported} OPTIONAL,

 extendedMaxObjectId-r13 ENUMERATED {supported} OPTIONAL,

 ul-PDCP-Delay-r13 ENUMERATED {supported} OPTIONAL,

 extendedFreqPriorities-r13 ENUMERATED {supported} OPTIONAL,

 multiBandInfoReport-r13 ENUMERATED {supported} OPTIONAL,

 rssi-AndChannelOccupancyReporting-r13 ENUMERATED {supported} OPTIONAL

}

MeasParameters-v1430 ::= SEQUENCE {

 ceMeasurements-r14 ENUMERATED {supported} OPTIONAL,

 ncsg-r14 ENUMERATED {supported} OPTIONAL,

 shortMeasurementGap-r14 ENUMERATED {supported} OPTIONAL,

 perServingCellMeasurementGap-r14 ENUMERATED {supported} OPTIONAL,

 nonUniformGap-r14 ENUMERATED {supported} OPTIONAL

}

MeasParameters-v1520 ::= SEQUENCE {

 measGapPatterns-r15 BIT STRING (SIZE (8)) OPTIONAL

}

MeasParameters-v1530 ::= SEQUENCE {

 qoe-MeasReport-r15 ENUMERATED {supported} OPTIONAL,

 qoe-MTSI-MeasReport-r15 ENUMERATED {supported} OPTIONAL,

 ca-IdleModeMeasurements-r15 ENUMERATED {supported} OPTIONAL,

 ca-IdleModeValidityArea-r15 ENUMERATED {supported} OPTIONAL,

 heightMeas-r15 ENUMERATED {supported} OPTIONAL,

 multipleCellsMeasExtension-r15 ENUMERATED {supported} OPTIONAL

}

MeasParameters-v1610 ::= SEQUENCE {

 bandInfoNR-v1610 SEQUENCE (SIZE (1..maxBands)) OF MeasGapInfoNR-r16 OPTIONAL,

 altFreqPriority-r16 ENUMERATED {supported} OPTIONAL,

 ce-DL-ChannelQualityReporting-r16 ENUMERATED {supported} OPTIONAL,

 ce-MeasRSS-Dedicated-r16 ENUMERATED {supported} OPTIONAL,

 eutra-IdleInactiveMeasurements-r16 ENUMERATED {supported} OPTIONAL,

 nr-IdleInactiveMeasFR1-r16 ENUMERATED {supported} OPTIONAL,

 nr-IdleInactiveMeasFR2-r16 ENUMERATED {supported} OPTIONAL,

 idleInactiveValidityAreaList-r16 ENUMERATED {supported} OPTIONAL,

 measGapPatterns-NRonly-r16 ENUMERATED {supported} OPTIONAL,

 measGapPatterns-NRonly-ENDC-r16 ENUMERATED {supported} OPTIONAL

}

MeasParameters-v1630 ::= SEQUENCE {

 nr-IdleInactiveBeamMeasFR1-r16 ENUMERATED {supported} OPTIONAL,

 nr-IdleInactiveBeamMeasFR2-r16 ENUMERATED {supported} OPTIONAL,

 ce-MeasRSS-DedicatedSameRBs-r16 ENUMERATED {supported} OPTIONAL

}

MeasParameters-v16c0 ::= SEQUENCE {

 nr-CellIndividualOffset-r16 ENUMERATED {supported} OPTIONAL

}

MeasParameters-v1700 ::= SEQUENCE {

 sharedSpectrumMeasNR-EN-DC-r17 SEQUENCE (SIZE (1..maxBandsNR-r15)) OF SharedSpectrumMeasNR-r17 OPTIONAL,

 sharedSpectrumMeasNR-SA-r17 SEQUENCE (SIZE (1..maxBandsNR-r15)) OF SharedSpectrumMeasNR-r17 OPTIONAL

}

MeasParameters-v1770 ::= SEQUENCE {

 gaplessMeas-FR2-maxCC-r17 INTEGER (1..32) OPTIONAL

}

SharedSpectrumMeasNR-r17 ::= SEQUENCE {

 nr-RSSI-ChannelOccupancyReporting-r17 BOOLEAN

}

MeasGapInfoNR-r16 ::= SEQUENCE {

 interRAT-BandListNR-EN-DC-r16 InterRAT-BandListNR-r16 OPTIONAL,

 interRAT-BandListNR-SA-r16 InterRAT-BandListNR-r16 OPTIONAL

}

BandListEUTRA ::= SEQUENCE (SIZE (1..maxBands)) OF BandInfoEUTRA

BandCombinationListEUTRA-r10 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandInfoEUTRA

BandInfoEUTRA ::= SEQUENCE {

 interFreqBandList InterFreqBandList,

 interRAT-BandList InterRAT-BandList OPTIONAL

}

InterFreqBandList ::= SEQUENCE (SIZE (1..maxBands)) OF InterFreqBandInfo

InterFreqBandInfo ::= SEQUENCE {

 interFreqNeedForGaps BOOLEAN

}

InterRAT-BandList ::= SEQUENCE (SIZE (1..maxBands)) OF InterRAT-BandInfo

InterRAT-BandListNR-r16 ::= SEQUENCE (SIZE (1..maxBandsNR-r15)) OF InterRAT-BandInfoNR-r16

InterRAT-BandInfo ::= SEQUENCE {

 interRAT-NeedForGaps BOOLEAN

}

InterRAT-BandInfoNR-r16 ::= SEQUENCE {

 interRAT-NeedForGapsNR-r16 BOOLEAN

}

IRAT-ParametersNR-r15 ::= SEQUENCE {

 en-DC-r15 ENUMERATED {supported} OPTIONAL,

 eventB2-r15 ENUMERATED {supported} OPTIONAL,

 supportedBandListEN-DC-r15 SupportedBandListNR-r15 OPTIONAL

}

IRAT-ParametersNR-v1540 ::= SEQUENCE {

 eutra-5GC-HO-ToNR-FDD-FR1-r15 ENUMERATED {supported} OPTIONAL,

 eutra-5GC-HO-ToNR-TDD-FR1-r15 ENUMERATED {supported} OPTIONAL,

 eutra-5GC-HO-ToNR-FDD-FR2-r15 ENUMERATED {supported} OPTIONAL,

 eutra-5GC-HO-ToNR-TDD-FR2-r15 ENUMERATED {supported} OPTIONAL,

 eutra-EPC-HO-ToNR-FDD-FR1-r15 ENUMERATED {supported} OPTIONAL,

 eutra-EPC-HO-ToNR-TDD-FR1-r15 ENUMERATED {supported} OPTIONAL,

 eutra-EPC-HO-ToNR-FDD-FR2-r15 ENUMERATED {supported} OPTIONAL,

 eutra-EPC-HO-ToNR-TDD-FR2-r15 ENUMERATED {supported} OPTIONAL,

 ims-VoiceOverNR-FR1-r15 ENUMERATED {supported} OPTIONAL,

 ims-VoiceOverNR-FR2-r15 ENUMERATED {supported} OPTIONAL,

 sa-NR-r15 ENUMERATED {supported} OPTIONAL,

 supportedBandListNR-SA-r15 SupportedBandListNR-r15 OPTIONAL

}

IRAT-ParametersNR-v1560 ::= SEQUENCE {

 ng-EN-DC-r15 ENUMERATED {supported} OPTIONAL

}

IRAT-ParametersNR-v1570 ::= SEQUENCE {

 ss-SINR-Meas-NR-FR1-r15 ENUMERATED {supported} OPTIONAL,

 ss-SINR-Meas-NR-FR2-r15 ENUMERATED {supported} OPTIONAL

}

IRAT-ParametersNR-v1610 ::= SEQUENCE {

 nr-HO-ToEN-DC-r16 ENUMERATED {supported} OPTIONAL,

 ce-EUTRA-5GC-HO-ToNR-FDD-FR1-r16 ENUMERATED {supported} OPTIONAL,

 ce-EUTRA-5GC-HO-ToNR-TDD-FR1-r16 ENUMERATED {supported} OPTIONAL,

 ce-EUTRA-5GC-HO-ToNR-FDD-FR2-r16 ENUMERATED {supported} OPTIONAL,

 ce-EUTRA-5GC-HO-ToNR-TDD-FR2-r16 ENUMERATED {supported} OPTIONAL

}

IRAT-ParametersNR-v1660 ::= SEQUENCE {

 extendedBand-n77-r16 ENUMERATED {supported} OPTIONAL

}

IRAT-ParametersNR-v1700 ::= SEQUENCE {

 eutra-5GC-HO-ToNR-TDD-FR2-2-r17 ENUMERATED {supported} OPTIONAL,

 eutra-EPC-HO-ToNR-TDD-FR2-2-r17 ENUMERATED {supported} OPTIONAL,

 ce-EUTRA-5GC-HO-ToNR-TDD-FR2-2-r17 ENUMERATED {supported} OPTIONAL,

 ims-VoiceOverNR-FR2-2-r17 ENUMERATED {supported} OPTIONAL

}

IRAT-ParametersNR-v1710 ::= SEQUENCE {

 extendedBand-n77-2-r17 ENUMERATED {supported} OPTIONAL

}

EUTRA-5GC-Parameters-r15 ::= SEQUENCE {

 eutra-5GC-r15 ENUMERATED {supported} OPTIONAL,

 eutra-EPC-HO-EUTRA-5GC-r15 ENUMERATED {supported} OPTIONAL,

 ho-EUTRA-5GC-FDD-TDD-r15 ENUMERATED {supported} OPTIONAL,

 ho-InterfreqEUTRA-5GC-r15 ENUMERATED {supported} OPTIONAL,

 ims-VoiceOverMCG-BearerEUTRA-5GC-r15 ENUMERATED {supported} OPTIONAL,

 inactiveState-r15 ENUMERATED {supported} OPTIONAL,

 reflectiveQoS-r15 ENUMERATED {supported} OPTIONAL

}

EUTRA-5GC-Parameters-v1610 ::= SEQUENCE {

 ce-InactiveState-r16 ENUMERATED {supported} OPTIONAL,

 ce-EUTRA-5GC-r16 ENUMERATED {supported} OPTIONAL

}

PDCP-ParametersNR-r15 ::= SEQUENCE {

 rohc-Profiles-r15 ROHC-ProfileSupportList-r15,

 rohc-ContextMaxSessions-r15 ENUMERATED {

 cs2, cs4, cs8, cs12, cs16, cs24, cs32,

 cs48, cs64, cs128, cs256, cs512, cs1024,

 cs16384, spare2, spare1} DEFAULT cs16,

 rohc-ProfilesUL-Only-r15 SEQUENCE {

 profile0x0006-r15 BOOLEAN

 },

 rohc-ContextContinue-r15 ENUMERATED {supported} OPTIONAL,

 outOfOrderDelivery-r15 ENUMERATED {supported} OPTIONAL,

 sn-SizeLo-r15 ENUMERATED {supported} OPTIONAL,

 ims-VoiceOverNR-PDCP-MCG-Bearer-r15 ENUMERATED {supported} OPTIONAL,

 ims-VoiceOverNR-PDCP-SCG-Bearer-r15 ENUMERATED {supported} OPTIONAL

}

PDCP-ParametersNR-v1560 ::= SEQUENCE {

 ims-VoNR-PDCP-SCG-NGENDC-r15 ENUMERATED {supported} OPTIONAL

}

ROHC-ProfileSupportList-r15 ::= SEQUENCE {

 profile0x0001-r15 BOOLEAN,

 profile0x0002-r15 BOOLEAN,

 profile0x0003-r15 BOOLEAN,

 profile0x0004-r15 BOOLEAN,

 profile0x0006-r15 BOOLEAN,

 profile0x0101-r15 BOOLEAN,

 profile0x0102-r15 BOOLEAN,

 profile0x0103-r15 BOOLEAN,

 profile0x0104-r15 BOOLEAN

}

SupportedBandListNR-r15 ::= SEQUENCE (SIZE (1..maxBandsNR-r15)) OF SupportedBandNR-r15

SupportedBandNR-r15 ::= SEQUENCE {

 bandNR-r15 FreqBandIndicatorNR-r15

}

IRAT-ParametersUTRA-FDD ::= SEQUENCE {

 supportedBandListUTRA-FDD SupportedBandListUTRA-FDD

}

IRAT-ParametersUTRA-v920 ::= SEQUENCE {

 e-RedirectionUTRA-r9 ENUMERATED {supported}

}

IRAT-ParametersUTRA-v9c0 ::= SEQUENCE {

 voiceOverPS-HS-UTRA-FDD-r9 ENUMERATED {supported} OPTIONAL,

 voiceOverPS-HS-UTRA-TDD128-r9 ENUMERATED {supported} OPTIONAL,

 srvcc-FromUTRA-FDD-ToUTRA-FDD-r9 ENUMERATED {supported} OPTIONAL,

 srvcc-FromUTRA-FDD-ToGERAN-r9 ENUMERATED {supported} OPTIONAL,

 srvcc-FromUTRA-TDD128-ToUTRA-TDD128-r9 ENUMERATED {supported} OPTIONAL,

 srvcc-FromUTRA-TDD128-ToGERAN-r9 ENUMERATED {supported} OPTIONAL

}

IRAT-ParametersUTRA-v9h0 ::= SEQUENCE {

 mfbi-UTRA-r9 ENUMERATED {supported}

}

SupportedBandListUTRA-FDD ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandUTRA-FDD

SupportedBandUTRA-FDD ::= ENUMERATED {

 bandI, bandII, bandIII, bandIV, bandV, bandVI,

 bandVII, bandVIII, bandIX, bandX, bandXI,

 bandXII, bandXIII, bandXIV, bandXV, bandXVI, ...,

 bandXVII-8a0, bandXVIII-8a0, bandXIX-8a0, bandXX-8a0,

 bandXXI-8a0, bandXXII-8a0, bandXXIII-8a0, bandXXIV-8a0,

 bandXXV-8a0, bandXXVI-8a0, bandXXVII-8a0, bandXXVIII-8a0,

 bandXXIX-8a0, bandXXX-8a0, bandXXXI-8a0, bandXXXII-8a0}

IRAT-ParametersUTRA-TDD128 ::= SEQUENCE {

 supportedBandListUTRA-TDD128 SupportedBandListUTRA-TDD128

}

SupportedBandListUTRA-TDD128 ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandUTRA-TDD128

SupportedBandUTRA-TDD128 ::= ENUMERATED {

 a, b, c, d, e, f, g, h, i, j, k, l, m, n,

 o, p, ...}

IRAT-ParametersUTRA-TDD384 ::= SEQUENCE {

 supportedBandListUTRA-TDD384 SupportedBandListUTRA-TDD384

}

SupportedBandListUTRA-TDD384 ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandUTRA-TDD384

SupportedBandUTRA-TDD384 ::= ENUMERATED {

 a, b, c, d, e, f, g, h, i, j, k, l, m, n,

 o, p, ...}

IRAT-ParametersUTRA-TDD768 ::= SEQUENCE {

 supportedBandListUTRA-TDD768 SupportedBandListUTRA-TDD768

}

SupportedBandListUTRA-TDD768 ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandUTRA-TDD768

SupportedBandUTRA-TDD768 ::= ENUMERATED {

 a, b, c, d, e, f, g, h, i, j, k, l, m, n,

 o, p, ...}

IRAT-ParametersUTRA-TDD-v1020 ::= SEQUENCE {

 e-RedirectionUTRA-TDD-r10 ENUMERATED {supported}

}

IRAT-ParametersGERAN ::= SEQUENCE {

 supportedBandListGERAN SupportedBandListGERAN,

 interRAT-PS-HO-ToGERAN BOOLEAN

}

IRAT-ParametersGERAN-v920 ::= SEQUENCE {

 dtm-r9 ENUMERATED {supported} OPTIONAL,

 e-RedirectionGERAN-r9 ENUMERATED {supported} OPTIONAL

}

SupportedBandListGERAN ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandGERAN

SupportedBandGERAN ::= ENUMERATED {

 gsm450, gsm480, gsm710, gsm750, gsm810, gsm850,

 gsm900P, gsm900E, gsm900R, gsm1800, gsm1900,

 spare5, spare4, spare3, spare2, spare1, ...}

IRAT-ParametersCDMA2000-HRPD ::= SEQUENCE {

 supportedBandListHRPD SupportedBandListHRPD,

 tx-ConfigHRPD ENUMERATED {single, dual},

 rx-ConfigHRPD ENUMERATED {single, dual}

}

SupportedBandListHRPD ::= SEQUENCE (SIZE (1..maxCDMA-BandClass)) OF BandclassCDMA2000

IRAT-ParametersCDMA2000-1XRTT ::= SEQUENCE {

 supportedBandList1XRTT SupportedBandList1XRTT,

 tx-Config1XRTT ENUMERATED {single, dual},

 rx-Config1XRTT ENUMERATED {single, dual}

}

IRAT-ParametersCDMA2000-1XRTT-v920 ::= SEQUENCE {

 e-CSFB-1XRTT-r9 ENUMERATED {supported},

 e-CSFB-ConcPS-Mob1XRTT-r9 ENUMERATED {supported} OPTIONAL

}

IRAT-ParametersCDMA2000-1XRTT-v1020 ::= SEQUENCE {

 e-CSFB-dual-1XRTT-r10 ENUMERATED {supported}

}

IRAT-ParametersCDMA2000-v1130 ::= SEQUENCE {

 cdma2000-NW-Sharing-r11 ENUMERATED {supported} OPTIONAL

}

SupportedBandList1XRTT ::= SEQUENCE (SIZE (1..maxCDMA-BandClass)) OF BandclassCDMA2000

IRAT-ParametersWLAN-r13 ::= SEQUENCE {

 supportedBandListWLAN-r13 SEQUENCE (SIZE (1..maxWLAN-Bands-r13)) OF WLAN-BandIndicator-r13 OPTIONAL

}

CSG-ProximityIndicationParameters-r9 ::= SEQUENCE {

 intraFreqProximityIndication-r9 ENUMERATED {supported} OPTIONAL,

 interFreqProximityIndication-r9 ENUMERATED {supported} OPTIONAL,

 utran-ProximityIndication-r9 ENUMERATED {supported} OPTIONAL

}

NeighCellSI-AcquisitionParameters-r9 ::= SEQUENCE {

 intraFreqSI-AcquisitionForHO-r9 ENUMERATED {supported} OPTIONAL,

 interFreqSI-AcquisitionForHO-r9 ENUMERATED {supported} OPTIONAL,

 utran-SI-AcquisitionForHO-r9 ENUMERATED {supported} OPTIONAL

}

NeighCellSI-AcquisitionParameters-v1530 ::= SEQUENCE {

 reportCGI-NR-EN-DC-r15 ENUMERATED {supported} OPTIONAL,

 reportCGI-NR-NoEN-DC-r15 ENUMERATED {supported} OPTIONAL

}

NeighCellSI-AcquisitionParameters-v1550 ::= SEQUENCE {

 eutra-CGI-Reporting-ENDC-r15 ENUMERATED {supported} OPTIONAL,

 utra-GERAN-CGI-Reporting-ENDC-r15 ENUMERATED {supported} OPTIONAL

}

NeighCellSI-AcquisitionParameters-v15a0 ::= SEQUENCE {

 eutra-CGI-Reporting-NEDC-r15 ENUMERATED {supported} OPTIONAL

}

NeighCellSI-AcquisitionParameters-v1610 ::= SEQUENCE {

 eutra-SI-AcquisitionForHO-ENDC-r16 ENUMERATED {supported} OPTIONAL,

 nr-AutonomousGaps-ENDC-FR1-r16 ENUMERATED {supported} OPTIONAL,

 nr-AutonomousGaps-ENDC-FR2-r16 ENUMERATED {supported} OPTIONAL,

 nr-AutonomousGaps-FR1-r16 ENUMERATED {supported} OPTIONAL,

 nr-AutonomousGaps-FR2-r16 ENUMERATED {supported} OPTIONAL

}

NeighCellSI-AcquisitionParameters-v1710 ::= SEQUENCE {

 gNB-ID-Length-Reporting-NR-EN-DC-r17 ENUMERATED {supported} OPTIONAL,

 gNB-ID-Length-Reporting-NR-NoEN-DC-r17 ENUMERATED {supported} OPTIONAL

}

SON-Parameters-r9 ::= SEQUENCE {

 rach-Report-r9 ENUMERATED {supported} OPTIONAL

}

PUR-Parameters-r16 ::= SEQUENCE {

 pur-CP-5GC-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 pur-CP-5GC-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 pur-UP-5GC-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 pur-UP-5GC-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 pur-CP-EPC-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 pur-CP-EPC-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 pur-UP-EPC-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 pur-UP-EPC-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 pur-CP-L1Ack-r16 ENUMERATED {supported} OPTIONAL,

 pur-FrequencyHopping-r16 ENUMERATED {supported} OPTIONAL,

 pur-PUSCH-NB-MaxTBS-r16 ENUMERATED {supported} OPTIONAL,

 pur-RSRP-Validation-r16 ENUMERATED {supported} OPTIONAL,

 pur-SubPRB-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 pur-SubPRB-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL

}

UE-BasedNetwPerfMeasParameters-r10 ::= SEQUENCE {

 loggedMeasurementsIdle-r10 ENUMERATED {supported} OPTIONAL,

 standaloneGNSS-Location-r10 ENUMERATED {supported} OPTIONAL

}

UE-BasedNetwPerfMeasParameters-v1250 ::= SEQUENCE {

 loggedMBSFNMeasurements-r12 ENUMERATED {supported}

}

UE-BasedNetwPerfMeasParameters-v1430 ::= SEQUENCE {

 locationReport-r14 ENUMERATED {supported} OPTIONAL

}

UE-BasedNetwPerfMeasParameters-v1530 ::= SEQUENCE {

 loggedMeasBT-r15 ENUMERATED {supported} OPTIONAL,

 loggedMeasWLAN-r15 ENUMERATED {supported} OPTIONAL,

 immMeasBT-r15 ENUMERATED {supported} OPTIONAL,

 immMeasWLAN-r15 ENUMERATED {supported} OPTIONAL

}

UE-BasedNetwPerfMeasParameters-v1610 ::= SEQUENCE {

 ul-PDCP-AvgDelay-r16 ENUMERATED {supported} OPTIONAL

}

UE-BasedNetwPerfMeasParameters-v1700 ::= SEQUENCE {

 loggedMeasIdleEventL1-r17 ENUMERATED {supported} OPTIONAL,

 loggedMeasIdleEventOutOfCoverage-r17 ENUMERATED {supported} OPTIONAL,

 loggedMeasUncomBarPre-r17 ENUMERATED {supported} OPTIONAL,

 immMeasUncomBarPre-r17 ENUMERATED {supported} OPTIONAL

}

OTDOA-PositioningCapabilities-r10 ::= SEQUENCE {

 otdoa-UE-Assisted-r10 ENUMERATED {supported},

 interFreqRSTD-Measurement-r10 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-r11 ::= SEQUENCE {

 inDeviceCoexInd-r11 ENUMERATED {supported} OPTIONAL,

 powerPrefInd-r11 ENUMERATED {supported} OPTIONAL,

 ue-Rx-TxTimeDiffMeasurements-r11 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-v11d0 ::= SEQUENCE {

 inDeviceCoexInd-UL-CA-r11 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-v1360 ::= SEQUENCE {

 inDeviceCoexInd-HardwareSharingInd-r13 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-v1430 ::= SEQUENCE {

 bwPrefInd-r14 ENUMERATED {supported} OPTIONAL,

 rlm-ReportSupport-r14 ENUMERATED {supported} OPTIONAL

}

OtherParameters-v1450 ::= SEQUENCE {

 overheatingInd-r14 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-v1460 ::= SEQUENCE {

 nonCSG-SI-Reporting-r14 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-v1530 ::= SEQUENCE {

 assistInfoBitForLC-r15 ENUMERATED {supported} OPTIONAL,

 timeReferenceProvision-r15 ENUMERATED {supported} OPTIONAL,

 flightPathPlan-r15 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-v1540 ::= SEQUENCE {

 inDeviceCoexInd-ENDC-r15 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-v1610 ::= SEQUENCE {

 resumeWithStoredMCG-SCells-r16 ENUMERATED {supported} OPTIONAL,

 resumeWithMCG-SCellConfig-r16 ENUMERATED {supported} OPTIONAL,

 resumeWithStoredSCG-r16 ENUMERATED {supported} OPTIONAL,

 resumeWithSCG-Config-r16 ENUMERATED {supported} OPTIONAL,

 mcgRLF-RecoveryViaSCG-r16 ENUMERATED {supported} OPTIONAL,

 overheatingIndForSCG-r16 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-v1650 ::= SEQUENCE {

 mpsPriorityIndication-r16 ENUMERATED {supported} OPTIONAL

}

Other-Parameters-v1690 ::= SEQUENCE {

 ul-RRC-Segmentation-r16 ENUMERATED {supported} OPTIONAL

}

MBMS-Parameters-r11 ::= SEQUENCE {

 mbms-SCell-r11 ENUMERATED {supported} OPTIONAL,

 mbms-NonServingCell-r11 ENUMERATED {supported} OPTIONAL

}

MBMS-Parameters-v1250 ::= SEQUENCE {

 mbms-AsyncDC-r12 ENUMERATED {supported} OPTIONAL

}

MBMS-Parameters-v1430 ::= SEQUENCE {

 fembmsDedicatedCell-r14 ENUMERATED {supported} OPTIONAL,

 fembmsMixedCell-r14 ENUMERATED {supported} OPTIONAL,

 subcarrierSpacingMBMS-khz7dot5-r14 ENUMERATED {supported} OPTIONAL,

 subcarrierSpacingMBMS-khz1dot25-r14 ENUMERATED {supported} OPTIONAL

}

MBMS-Parameters-v1470 ::= SEQUENCE {

 mbms-MaxBW-r14 CHOICE {

 implicitValue NULL,

 explicitValue INTEGER(2..20)

 },

 mbms-ScalingFactor1dot25-r14 ENUMERATED {n3, n6, n9, n12} OPTIONAL,

 mbms-ScalingFactor7dot5-r14 ENUMERATED {n1, n2, n3, n4} OPTIONAL

}

MBMS-Parameters-v1610 ::= SEQUENCE {

 mbms-ScalingFactor2dot5-r16 ENUMERATED {n2, n4, n6, n8} OPTIONAL,

 mbms-ScalingFactor0dot37-r16 ENUMERATED {n12, n16, n20, n24} OPTIONAL,

 mbms-SupportedBandInfoList-r16 SEQUENCE (SIZE (1..maxBands)) OF MBMS-SupportedBandInfo-r16

}

MBMS-Parameters-v1700 ::= SEQUENCE {

 mbms-SupportedBandInfoList-v1700 SEQUENCE (SIZE (1..maxBands)) OF MBMS-SupportedBandInfo-v1700 OPTIONAL

}

MBMS-SupportedBandInfo-r16 ::= SEQUENCE {

 subcarrierSpacingMBMS-khz2dot5-r16 ENUMERATED {supported} OPTIONAL,

 subcarrierSpacingMBMS-khz0dot37-r16 SEQUENCE {

 timeSeparationSlot2-r16 ENUMERATED {supported} OPTIONAL,

 timeSeparationSlot4-r16 ENUMERATED {supported} OPTIONAL

 } OPTIONAL

}

MBMS-SupportedBandInfo-v1700 ::= SEQUENCE {

 pmch-Bandwidth-n40-r17 ENUMERATED {supported} OPTIONAL,

 pmch-Bandwidth-n35-r17 ENUMERATED {supported} OPTIONAL,

 pmch-Bandwidth-n30-r17 ENUMERATED {supported} OPTIONAL

}

FeMBMS-Unicast-Parameters-r14 ::= SEQUENCE {

 unicast-fembmsMixedSCell-r14 ENUMERATED {supported} OPTIONAL,

 emptyUnicastRegion-r14 ENUMERATED {supported} OPTIONAL

}

SCPTM-Parameters-r13 ::= SEQUENCE {

 scptm-ParallelReception-r13 ENUMERATED {supported} OPTIONAL,

 scptm-SCell-r13 ENUMERATED {supported} OPTIONAL,

 scptm-NonServingCell-r13 ENUMERATED {supported} OPTIONAL,

 scptm-AsyncDC-r13 ENUMERATED {supported} OPTIONAL

}

CE-Parameters-r13 ::= SEQUENCE {

 ce-ModeA-r13 ENUMERATED {supported} OPTIONAL,

 ce-ModeB-r13 ENUMERATED {supported} OPTIONAL

}

CE-Parameters-v1320 ::= SEQUENCE {

 intraFreqA3-CE-ModeA-r13 ENUMERATED {supported} OPTIONAL,

 intraFreqA3-CE-ModeB-r13 ENUMERATED {supported} OPTIONAL,

 intraFreqHO-CE-ModeA-r13 ENUMERATED {supported} OPTIONAL,

 intraFreqHO-CE-ModeB-r13 ENUMERATED {supported} OPTIONAL

}

CE-Parameters-v1350 ::= SEQUENCE {

 unicastFrequencyHopping-r13 ENUMERATED {supported} OPTIONAL

}

CE-Parameters-v1370 ::= SEQUENCE {

 tm9-CE-ModeA-r13 ENUMERATED {supported} OPTIONAL,

 tm9-CE-ModeB-r13 ENUMERATED {supported} OPTIONAL

}

CE-Parameters-v1380 ::= SEQUENCE {

 tm6-CE-ModeA-r13 ENUMERATED {supported} OPTIONAL

}

CE-Parameters-v1430 ::= SEQUENCE {

 ce-SwitchWithoutHO-r14 ENUMERATED {supported} OPTIONAL

}

CE-MultiTB-Parameters-r16 ::= SEQUENCE {

 pdsch-MultiTB-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 pdsch-MultiTB-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 pusch-MultiTB-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 pusch-MultiTB-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 ce-MultiTB-64QAM-r16 ENUMERATED {supported} OPTIONAL,

 ce-MultiTB-EarlyTermination-r16 ENUMERATED {supported} OPTIONAL,

 ce-MultiTB-FrequencyHopping-r16 ENUMERATED {supported} OPTIONAL,

 ce-MultiTB-HARQ-AckBundling-r16 ENUMERATED {supported} OPTIONAL,

 ce-MultiTB-Interleaving-r16 ENUMERATED {supported} OPTIONAL,

 ce-MultiTB-SubPRB-r16 ENUMERATED {supported} OPTIONAL

}

CE-ResourceResvParameters-r16 ::= SEQUENCE {

 subframeResourceResvDL-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 subframeResourceResvDL-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 subframeResourceResvUL-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 subframeResourceResvUL-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 slotSymbolResourceResvDL-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 slotSymbolResourceResvDL-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 slotSymbolResourceResvUL-CE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 slotSymbolResourceResvUL-CE-ModeB-r16 ENUMERATED {supported} OPTIONAL,

 subcarrierPuncturingCE-ModeA-r16 ENUMERATED {supported} OPTIONAL,

 subcarrierPuncturingCE-ModeB-r16 ENUMERATED {supported} OPTIONAL

}

LAA-Parameters-r13 ::= SEQUENCE {

 crossCarrierSchedulingLAA-DL-r13 ENUMERATED {supported} OPTIONAL,

 csi-RS-DRS-RRM-MeasurementsLAA-r13 ENUMERATED {supported} OPTIONAL,

 downlinkLAA-r13 ENUMERATED {supported} OPTIONAL,

 endingDwPTS-r13 ENUMERATED {supported} OPTIONAL,

 secondSlotStartingPosition-r13 ENUMERATED {supported} OPTIONAL,

 tm9-LAA-r13 ENUMERATED {supported} OPTIONAL,

 tm10-LAA-r13 ENUMERATED {supported} OPTIONAL

}

LAA-Parameters-v1430 ::= SEQUENCE {

 crossCarrierSchedulingLAA-UL-r14 ENUMERATED {supported} OPTIONAL,

 uplinkLAA-r14 ENUMERATED {supported} OPTIONAL,

 twoStepSchedulingTimingInfo-r14 ENUMERATED {nPlus1, nPlus2, nPlus3} OPTIONAL,

 uss-BlindDecodingAdjustment-r14 ENUMERATED {supported} OPTIONAL,

 uss-BlindDecodingReduction-r14 ENUMERATED {supported} OPTIONAL,

 outOfSequenceGrantHandling-r14 ENUMERATED {supported} OPTIONAL

}

LAA-Parameters-v1530 ::= SEQUENCE {

 aul-r15 ENUMERATED {supported} OPTIONAL,

 laa-PUSCH-Mode1-r15 ENUMERATED {supported} OPTIONAL,

 laa-PUSCH-Mode2-r15 ENUMERATED {supported} OPTIONAL,

 laa-PUSCH-Mode3-r15 ENUMERATED {supported} OPTIONAL

}

WLAN-IW-Parameters-r12 ::= SEQUENCE {

 wlan-IW-RAN-Rules-r12 ENUMERATED {supported} OPTIONAL,

 wlan-IW-ANDSF-Policies-r12 ENUMERATED {supported} OPTIONAL

}

LWA-Parameters-r13 ::= SEQUENCE {

 lwa-r13 ENUMERATED {supported} OPTIONAL,

 lwa-SplitBearer-r13 ENUMERATED {supported} OPTIONAL,

 wlan-MAC-Address-r13 OCTET STRING (SIZE (6)) OPTIONAL,

 lwa-BufferSize-r13 ENUMERATED {supported} OPTIONAL

}

LWA-Parameters-v1430 ::= SEQUENCE {

 lwa-HO-WithoutWT-Change-r14 ENUMERATED {supported} OPTIONAL,

 lwa-UL-r14 ENUMERATED {supported} OPTIONAL,

 wlan-PeriodicMeas-r14 ENUMERATED {supported} OPTIONAL,

 wlan-ReportAnyWLAN-r14 ENUMERATED {supported} OPTIONAL,

 wlan-SupportedDataRate-r14 INTEGER (1..2048) OPTIONAL

}

LWA-Parameters-v1440 ::= SEQUENCE {

 lwa-RLC-UM-r14 ENUMERATED {supported} OPTIONAL

}

WLAN-IW-Parameters-v1310 ::= SEQUENCE {

 rclwi-r13 ENUMERATED {supported} OPTIONAL

}

LWIP-Parameters-r13 ::= SEQUENCE {

 lwip-r13 ENUMERATED {supported} OPTIONAL

}

LWIP-Parameters-v1430 ::= SEQUENCE {

 lwip-Aggregation-DL-r14 ENUMERATED {supported} OPTIONAL,

 lwip-Aggregation-UL-r14 ENUMERATED {supported} OPTIONAL

}

NAICS-Capability-List-r12 ::= SEQUENCE (SIZE (1..maxNAICS-Entries-r12)) OF NAICS-Capability-Entry-r12

NAICS-Capability-Entry-r12 ::= SEQUENCE {

 numberOfNAICS-CapableCC-r12 INTEGER(1..5),

 numberOfAggregatedPRB-r12 ENUMERATED {

 n50, n75, n100, n125, n150, n175,

 n200, n225, n250, n275, n300, n350,

 n400, n450, n500, spare},

 ...

}

SL-Parameters-r12 ::= SEQUENCE {

 commSimultaneousTx-r12 ENUMERATED {supported} OPTIONAL,

 commSupportedBands-r12 FreqBandIndicatorListEUTRA-r12 OPTIONAL,

 discSupportedBands-r12 SupportedBandInfoList-r12 OPTIONAL,

 discScheduledResourceAlloc-r12 ENUMERATED {supported} OPTIONAL,

 disc-UE-SelectedResourceAlloc-r12 ENUMERATED {supported} OPTIONAL,

 disc-SLSS-r12 ENUMERATED {supported} OPTIONAL,

 discSupportedProc-r12 ENUMERATED {n50, n400} OPTIONAL

}

SL-Parameters-v1310 ::= SEQUENCE {

 discSysInfoReporting-r13 ENUMERATED {supported} OPTIONAL,

 commMultipleTx-r13 ENUMERATED {supported} OPTIONAL,

 discInterFreqTx-r13 ENUMERATED {supported} OPTIONAL,

 discPeriodicSLSS-r13 ENUMERATED {supported} OPTIONAL

}

SL-Parameters-v1430 ::= SEQUENCE {

 zoneBasedPoolSelection-r14 ENUMERATED {supported} OPTIONAL,

 ue-AutonomousWithFullSensing-r14 ENUMERATED {supported} OPTIONAL,

 ue-AutonomousWithPartialSensing-r14 ENUMERATED {supported} OPTIONAL,

 sl-CongestionControl-r14 ENUMERATED {supported} OPTIONAL,

 v2x-TxWithShortResvInterval-r14 ENUMERATED {supported} OPTIONAL,

 v2x-numberTxRxTiming-r14 INTEGER(1..16) OPTIONAL,

 v2x-nonAdjacentPSCCH-PSSCH-r14 ENUMERATED {supported} OPTIONAL,

 slss-TxRx-r14 ENUMERATED {supported} OPTIONAL,

 v2x-SupportedBandCombinationList-r14 V2X-SupportedBandCombination-r14 OPTIONAL

}

SL-Parameters-v1530 ::= SEQUENCE {

 slss-SupportedTxFreq-r15 ENUMERATED {single, multiple} OPTIONAL,

 sl-64QAM-Tx-r15 ENUMERATED {supported} OPTIONAL,

 sl-TxDiversity-r15 ENUMERATED {supported} OPTIONAL,

 ue-CategorySL-r15 UE-CategorySL-r15 OPTIONAL,

 v2x-SupportedBandCombinationList-v1530 V2X-SupportedBandCombination-v1530 OPTIONAL

}

SL-Parameters-v1540 ::= SEQUENCE {

 sl-64QAM-Rx-r15 ENUMERATED {supported} OPTIONAL,

 sl-RateMatchingTBSScaling-r15 ENUMERATED {supported} OPTIONAL,

 sl-LowT2min-r15 ENUMERATED {supported} OPTIONAL,

 v2x-SensingReportingMode3-r15 ENUMERATED {supported} OPTIONAL

}

SL-Parameters-v1610 ::= SEQUENCE {

 sl-ParameterNR-r16 OCTET STRING OPTIONAL,

 dummy V2X-SupportedBandCombinationEUTRA-NR-r16 OPTIONAL

}

SL-Parameters-v1630 ::= SEQUENCE {

 v2x-SupportedBandCombinationListEUTRA-NR-r16 V2X-SupportedBandCombinationEUTRA-NR-v1630 OPTIONAL

}

SL-Parameters-v1710 ::= SEQUENCE {

 v2x-SupportedBandCombinationListEUTRA-NR-v1710 V2X-SupportedBandCombinationEUTRA-NR-v1710 OPTIONAL

}

UE-CategorySL-r15 ::= SEQUENCE {

 ue-CategorySL-C-TX-r15 INTEGER(1..5),

 ue-CategorySL-C-RX-r15 INTEGER(1..4)

}

V2X-SupportedBandCombination-r14 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF V2X-BandCombinationParameters-r14

V2X-SupportedBandCombination-v1530 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF V2X-BandCombinationParameters-v1530

V2X-BandCombinationParameters-r14 ::= SEQUENCE (SIZE (1.. maxSimultaneousBands-r10)) OF V2X-BandParameters-r14

V2X-BandCombinationParameters-v1530 ::= SEQUENCE (SIZE (1.. maxSimultaneousBands-r10)) OF V2X-BandParameters-v1530

V2X-SupportedBandCombinationEUTRA-NR-r16 ::= SEQUENCE (SIZE (1..maxBandCombSidelinkNR-r16)) OF V2X-BandParametersEUTRA-NR-r16

V2X-SupportedBandCombinationEUTRA-NR-v1630 ::= SEQUENCE (SIZE (1..maxBandCombSidelinkNR-r16)) OF V2X-BandCombinationParametersEUTRA-NR-v1630

V2X-SupportedBandCombinationEUTRA-NR-v1710 ::= SEQUENCE (SIZE (1..maxBandCombSidelinkNR-r16)) OF V2X-BandCombinationParametersEUTRA-NR-v1710

V2X-BandCombinationParametersEUTRA-NR-v1630 ::= SEQUENCE {

 bandListSidelinkEUTRA-NR-r16 SEQUENCE (SIZE (1.. maxSimultaneousBands-r10)) OF V2X-BandParametersEUTRA-NR-r16,

 bandListSidelinkEUTRA-NR-v1630 SEQUENCE (SIZE (1.. maxSimultaneousBands-r10)) OF V2X-BandParametersEUTRA-NR-v1630

}

V2X-BandCombinationParametersEUTRA-NR-v1710 ::= SEQUENCE (SIZE (1..maxSimultaneousBands-r10)) OF V2X-BandParametersEUTRA-NR-v1710

V2X-BandParametersEUTRA-NR-r16 ::= CHOICE {

 eutra SEQUENCE {

 v2x-BandParameters1-r16 V2X-BandParameters-r14 OPTIONAL,

 v2x-BandParameters2-r16 V2X-BandParameters-v1530 OPTIONAL

 },

 nr SEQUENCE {

 v2x-BandParametersNR-r16 OCTET STRING OPTIONAL

 }

}

V2X-BandParametersEUTRA-NR-v1630 ::= CHOICE {

 eutra NULL,

 nr SEQUENCE {

 tx-Sidelink-r16 ENUMERATED {supported} OPTIONAL,

 rx-Sidelink-r16 ENUMERATED {supported} OPTIONAL

 }

}

V2X-BandParametersEUTRA-NR-v1710 ::= SEQUENCE {

 v2x-BandParametersEUTRA-NR-v1710 OCTET STRING OPTIONAL

}

SupportedBandInfoList-r12 ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandInfo-r12

SupportedBandInfo-r12 ::= SEQUENCE {

 support-r12 ENUMERATED {supported} OPTIONAL

}

FreqBandIndicatorListEUTRA-r12 ::= SEQUENCE (SIZE (1..maxBands)) OF FreqBandIndicator-r11

MMTEL-Parameters-r14 ::= SEQUENCE {

 delayBudgetReporting-r14 ENUMERATED {supported} OPTIONAL,

 pusch-Enhancements-r14 ENUMERATED {supported} OPTIONAL,

 recommendedBitRate-r14 ENUMERATED {supported} OPTIONAL,

 recommendedBitRateQuery-r14 ENUMERATED {supported} OPTIONAL

}

MMTEL-Parameters-v1610 ::= SEQUENCE {

 recommendedBitRateMultiplier-r16 ENUMERATED {supported} OPTIONAL

}

SRS-CapabilityPerBandPair-r14 ::= SEQUENCE {

 retuningInfo SEQUENCE {

 rf-RetuningTimeDL-r14 ENUMERATED {n0, n0dot5, n1, n1dot5, n2, n2dot5, n3,

 n3dot5, n4, n4dot5, n5, n5dot5, n6, n6dot5,

 n7, spare1} OPTIONAL,

 rf-RetuningTimeUL-r14 ENUMERATED {n0, n0dot5, n1, n1dot5, n2, n2dot5, n3,

 n3dot5, n4, n4dot5, n5, n5dot5, n6, n6dot5,

 n7, spare1} OPTIONAL

 }

}

SRS-CapabilityPerBandPair-v14b0 ::= SEQUENCE {

 srs-FlexibleTiming-r14 ENUMERATED {supported} OPTIONAL,

 srs-HARQ-ReferenceConfig-r14 ENUMERATED {supported} OPTIONAL

}

SRS-CapabilityPerBandPair-v1610::= SEQUENCE {

 addSRS-CarrierSwitching-r16 ENUMERATED {supported} OPTIONAL

}

HighSpeedEnhParameters-r14 ::= SEQUENCE {

 measurementEnhancements-r14 ENUMERATED {supported} OPTIONAL,

 demodulationEnhancements-r14 ENUMERATED {supported} OPTIONAL,

 prach-Enhancements-r14 ENUMERATED {supported} OPTIONAL

}

HighSpeedEnhParameters-v1610 ::= SEQUENCE {

 measurementEnhancementsSCell-r16 ENUMERATED {supported} OPTIONAL,

 measurementEnhancements2-r16 ENUMERATED {supported} OPTIONAL,

 demodulationEnhancements2-r16 ENUMERATED {supported} OPTIONAL,

 interRAT-enhancementNR-r16 ENUMERATED {supported} OPTIONAL

}

-- ASN1STOP

## 11.2 Processing delay requirements for RRC procedures

The UE performance requirements for RRC procedures are specified in the following tables, by means of a value N:

N = the number of 1ms subframes from the end of reception of the E-UTRAN -> UE message on the UE physical layer up to when the UE shall be ready for the reception of uplink grant for the UE -> E-UTRAN response message with no access delay other than the TTI-alignment (e.g. excluding delays caused by scheduling, the random access procedure or physical layer synchronisation).

NOTE: No processing delay requirements are specified for RN-specific procedures.



Figure 11.2-1: Illustration of RRC procedure delay

Table 11.2-1: UE performance requirements for RRC procedures for UEs other than NB-IoT UEs

| **Procedure title:** | **E-UTRAN -> UE** | **UE -> E-UTRAN** | **N** | **Notes** |
| --- | --- | --- | --- | --- |
| **RRC Connection Control Procedures** |
| RRC connection establishment | *RRCConnectionSetup or RRCConnectionResume* | *RRCConnectionSetupComplete or RRCConnectionResumeComplete* | 15 or 3 | N = 3 applies for the case of reception of *RRCConnectionResume* if *reducedCP-LatencyEnabled* is configured, the UE supports reduced CP latency, and the RRC message only includes MAC and PHY (re-)configurations and does not include (re-)configurations of DRX, SPS, SCells, and MIMO. Further, the UL grant is sent using PDCCH DCI format 0 in common search space. In this scenario, the RRC procedure delay can extend beyond the reception of the UL grant, up to 7 ms.For other cases N = 15 applies. |
| RRC connection release | *RRCConnectionRelease* |  | NA |  |
| RRC connection re-configuration (radio resource configuration, possibly including configuration of conditional reconfigurations) | *RRCConnectionReconfiguration* | *RRCConnectionReconfigurationComplete* | 15 | Same requirement is applicable regardless of the number of target candidates being configured, if conditional reconfigurations are included in the message, |
| RRC connection re-configuration (measurement configuration) | *RRCConnectionReconfiguration* | *RRCConnectionReconfigurationComplete* | 15 |  |
| RRC connection re-configuration (intra-LTE mobility) | *RRCConnectionReconfiguration* | *RRCConnectionReconfigurationComplete* | 15 |  |
| RRC connection reconfiguration (SCell addition/release) | *RRCConnectionReconfiguration* | *RRCConnectionReconfigurationComplete* | 20 |  |
| RRC connection reconfiguration (SCG establishment/ release, SCG cell addition/ release) | *RRCConnectionReconfiguration* | *RRCConnectionReconfigurationComplete* | 20 |  |
| RRC connection re-configuration (NR measurement configuration) | *RRCConnectionReconfiguration* | *RRCConnectionReconfigurationComplete* | 15 |  |
| RRC connection reconfiguration (NR SCG establishment/ /modification/release) | *RRCConnectionReconfiguration* | *RRCConnectionReconfigurationComplete* | 20 |  |
| RRC connection re-configuration (intra-LTE mobility with NR SCG establishment/ /modification/release) | *RRCConnectionReconfiguration* | *RRCConnectionReconfigurationComplete* | 20 |  |
| RRC connection re-configuration | *DLDedicatedMessageSegment* | *RRCConnectionReconfigurationComplete* | 20+( Nseg-1)\*10 | Nsegis number of RRC segments |
| RRC connection re-establishment | *RRCConnectionReestablishment* | *RRCConnectionReestablishmentComplete* | 15 |  |
| Initial security activation | *SecurityModeCommand* | *SecurityModeCommandComplete/SecurityModeCommandFailure* | 10 |  |
| Initial security activation + RRC connection re-configuration (RB establishment) | *SecurityModeCommand, RRCConnectionReconfiguration* | *RRCConnectionReconfigurationComplete* | 20 | The two DL messages are transmitted in the same TTI |
| EDT or transmission using PUR | *RRCEarlyDataComplete* or *RRCConnectionRelease* |  | NA |  |
| Paging | *Paging* |  | NA |  |
| RRC connection resume (SCG establishment/ restoration/release) | *RRCConnectionResume* | *RRCConnectionResumeComplete* | 20 |  |
| RRC connection resume (MCG SCell addition/restoration/release) | *RRCConnectionResume* | *RRCConnectionResumeComplete* | 20 |  |
| RRC connection resume | *DLDedicatedMessageSegment* | *RRCConnectionResumeComplete* | 20+( Nseg-1)\*10 | Nsegis number of RRC segments |
| **Inter RAT mobility** |
| Handover to E-UTRA | *RRCConnectionReconfiguration (sent by other RAT)* | *RRCConnectionReconfigurationComplete* | NA | The performance of this procedure is specified in TS 45.010 [50] in case of handover from GSM and TS 25.133 [29], TS 25.123 [30] in case of handover from UTRA, and TS 38.133 [84] in case of handover from NR. |
| Handover from E-UTRA | *MobilityFromEUTRACommand* |  | NA | The performance of this procedure is specified in TS 36.133 [16] |
| Handover from E-UTRA to CDMA2000 | *HandoverFromEUTRAPreparationRequest (CDMA2000)* |  | NA | Used to trigger the handover preparation procedure with a CDMA2000 RAT.The performance of this procedure is specified in TS 36.133 [16] |
| **Measurement procedures** |
| Measurement Reporting |  | *MeasurementReport* | NA |  |
| **Other procedures** |
| UE capability transfer | *UECapabilityEnquiry* | *UECapabilityInformation* | 10/ 80 | N = 80 applies in case the UE has to report at least one of the following UE capabilities.- MR-DC band combinations.- NR band combinations- EUTRA feature sets |
| UE capability transfer | *UECapabilityEnquiry* | *ULDedicatedMessageSegment* | 80 | Applicable when UL RRC segmentation is enabled by the field *rrc-SegAllowed*. |
| UE capability transfer | *UECapabilityEnquiry* | *ULDedicatedMessageSegment* | 560+max (0, Nseg-7)\*80 | Applicable when UL RRC segmentation is enabled by the field *rrc-MaxCapaSegAllowed*.Nseg is the value indicated by *rrc-MaxCapaSegAllowed*. |
| Counter check | *CounterCheck* | *CounterCheckResponse* | 10 |  |
| Proximity indication |  | *ProximityIndication* | NA |  |
| UE information | *UEInformationRequest* | *UEInformationResponse* | 15 |  |
| MBMS counting | *MBMSCountingRequest* | *MBMSCountingResponse* | NA |  |
| MBMS interest indication |  | *MBMSInterestIndication* | NA |  |
| In-device coexistence indication |  | *InDeviceCoexIndication* | NA |  |
| UE assistance information |  | *UEAssistanceInformation* | NA |  |
| SCG failure information |  | *SCGFailureInformation* | NA |  |
| NR SCG failure information |  | *SCGFailureInformationNR* | NA |  |
| Sidelink UE information |  | *SidelinkUEInformation* | NA |  |
| WLAN Connection Status Reporting |  | *WLANConnectionStatusReport* | NA |  |
| PUR Configuration Request |  | *PURConfigurationRequest* | NA |  |

Table 11.2-2: UE performance requirements for RRC procedures for NB-IoT UEs

| **Procedure title:** | **E-UTRAN -> UE** | **UE -> E-UTRAN** | **N** | **Notes** |
| --- | --- | --- | --- | --- |
| **RRC Connection Control Procedures** |
| RRC connection establishment | *RRCConnectionSetup-NB or RRCConnectionResume-NB* | *RRCConnectionSetupComplete-NB or RRCConnectionResumeComplete-NB* | 45 |  |
| RRC connection release | *RRCConnectionRelease-NB* |  | NA |  |
| RRC connection re-configuration (radio resource configuration) | *RRCConnectionReconfiguration-NB* | *RRCConnectionReconfigurationComplete-NB* | 45 |  |
| RRC connection re-establishment | *RRCConnectionReestablishment-NB* | *RRCConnectionReestablishmentComplete-NB* | 45 |  |
| Initial security activation | *SecurityModeCommand* | *SecurityModeCommandComplete/SecurityModeCommandFailure* | 35 |  |
| Initial security activation + RRC connection re-configuration (RB establishment) | *SecurityModeCommand, RRCConnectionReconfiguration-NB* | *RRCConnectionReconfigurationComplete-NB* | 55 | The two DL messages are transmitted in the same TTI |
| EDT or transmission using PUR | *RRCEarlyDataComplete-NB* or *RRCConnectionRelease-NB* |  | NA |  |
| Paging | *Paging-NB* |  | NA |  |
| **Other procedures** |
| UE capability transfer | *UECapabilityEnquiry-NB* | *UECapabilityInformation-NB* | 35 |  |
| UE information | *UEInformationRequest-NB* | *UEInformationResponse-NB* | 45 |  |
| PUR Configuration Request |  | *PURConfigurationRequest-NB* | NA |  |

Annex G (normative): List of CRs Containing Early Implementable Features and Corrections

This annex lists the Change Requests (CRs) whose changes may be implemented by a UE of an earlier release than which the CR was approved in (i.e. CRs that contain on their coversheets the sentence "Implementation of this CR from Rel-N will not cause interoperability issues").

Table G-1: List of CRs Containing Early Implementable Features and Corrections

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TDoc Number (RP-xxxxxx): CR Title | CR Number(s) | CR Revision Number(s) | Earliest Implementable Release | Additional Information |
| RP-181233: Successful acknowledgement of RRCConnectionRelease for BL and CE UE | 3324 | 1 | Release 13 | *RRCConnectionRelease* message, for which the poll bit is not set, can be considered succesfully acknowledged when UE has sent HARQ ACK feedback. |
| RP-182674: CR for T312 on LTE HetNet mobility | 3506 | 5 | Release 12 | Remove T312 in leaving condition for event trigger. |
| RP-182671: Corrections on paging monitoring and SI acquisition in RRC\_CONNECTED for BL UEs and UEs in CE | 3647 | 2 | Release 13 |  |
| RP-190548: Update description of ack-NACK-NumRepetitions | 3899 | 2 | Release 13 |  |
| RP-190548: Corrections of NB-IoT Access Barring | 3900 | 2 | Release 13 |  |
| RP-191382: SI update notification and access barring in NB-IoT | 4020 | 2 | Release 13 |  |
| RP-192195 : Correction on handling of SCell(s) during Make Before Break handover | 3986 | 3 | Release 14 |  |
| RP-192940: Stop using redirectedCarrierOffsetDedicated after reselection to another frequency | 4144 | 1 | Release 14 |  |
| RP-200338: Corrections to T312 and Discovery Signals measurement | 4198 | 1 | Release 12 |  |
| RP-200367: Correction on H1 and H2 events | 4103 | 2 | Release 15 |  |
| RP-201166: Allowing PDCP version change without handover | 4262 | 2 | Release 15 |  |
| RP-201166: upperLayerIndication enhancements | 4266 | 3 | Release 15 |  |
| RP-201192: Relaxed serving cell measurement for UEs using WUS | 4344 | - | Release 15 |  |
| RP-202780: Corrections to the field descriptions for TDD/FDD capability differentiation, and to nMaxResource value range | 4389 | 5 | Release 12 | The CR corrects multiple UE capability field descriptions introduced in various releases, the changes are early implementable back to the release in which the corresponding capability was introduced. |
| RP-202789: Correction on uac-AC1-SelectAssistInfo | 4488 | 2 | Release 15 |  |
| RP-211481: Clarification on the initiation of RNA update | 4651 | 1 | Release 15 |  |
| RP-212596: Distinguishing support of extended band n77 | 4723 | 2 | Release 15 |  |
| RP-220472: Introduction of carrier specific NRSRP thresholds for NPRACH resource selection | 4777 | 1 | Release 14 |  |
| RP-221738: Distinguishing support of band n77 restrictions in Canada | 4799 | 2 | Release 15 |  |
| RP-232570: Addition of extended number range for NS value | 4917 | 6 | Release 16 |  |
| RP-24xxxx: Introduction of network signalling of maximum number of UL segments | xxxx | x | Release 16 |  |
| NOTE 1: In case a CR has mirror CR(s), the mirror CR(s) are not listed.NOTE 2: The Additional Information column briefly describes the content of a CR in cases where the CR title may not be descriptive enough. If the CR title is descriptive enough, then the Additional Information column may be left blank. |

End of Change