**3GPP TSG-RAN2 Meeting #126 draft*R2-240xx***

**Fukuoka, Japan, May 20-24, 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.331** | **CR** | **5004** | **rev** | **3** | **Current version:** | **18.1.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Corrections to Enhanced LTE Support for UAV (Uncrewed Aerial Vehicles) | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incorporated, Nokia | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE\_UAV\_enh-Core | | | | |  | ***Date:*** | | | 2024-06-06 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be 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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 1. RAN2 received LS from RAN4 in R4-2403830/R2-2402137 and discussed the LS and the related NR RILs N135 and J061. RAN2#125bis agreed to use TP in R2-2403725 section 2.1 as a baseline for NR and make further updates as needed. Similar changes are needed for LTE. 2. In SIB2, legacy singalling only included NS but no Pmax. However, *freqInfoAerial-r18* and *multiBandInfoListAerial-r18* included the NS-Pmax list. Update is needed to only include NS. 3. In SIB3, the *NS-PmaxListAerial-r18*, if included, is applied for intra-freq reselection, so the *freqBandIndicatorAerial-r18* is not needed. 4. *MultiBandInfoListAerial-r18* included only *NS-PmaxListAerial-r18* but the corresponding frequeny band information was missing. This information is needed (except for SIB3). 5. If *Aerial-specific NS/Pmax* is not signalled, the value provided by legacy signalling for the same frequency band applies. 6. RAN4 concluded to keep the signalling for Pmax. This was missing in the *NS-PmaxValueNR-Aerial-r18*. 7. The UE capability *multiNS-PmaxAerial-r18* has been introduced as standalone field in *UE-EUTRA-Capability-v1800-IEs*. However, it is an RF related capability (similar to *multiNS-Pmax-r10*, *multiNS-Pmax-r13* which have been grouped within *RF-Parameters*). 8. RAN2#125bis agreed to capture *sl-A2X-Service-r18* as a per-UE capability in LTE spec. 9. RAN2#126 agreed the following during ASN.1 review: “Move the Rel-18 aerial-related extensions from CarrierFreqNR-r15 to CarrierFreqListNR-v1810.” | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. Make corrections to clarify (according to RAN4 LS) that if network includes *Aerial-specific NS-Pmax* list, but Aerial UE doesn’t support any of the NS values, then the cell should be barred. 2. Update *SIB2>>freqInfoAerial-r18* and *multiBandInfoListAerial-r18* to include only aerial specific NS values. 3. Remove *freqBandIndicatorAerial-r18* from SIB3. 4. Add *freqBandIndicatorAerial-r18* in the *MultiBandInfoListAerial-r18* (by creating new IE *MultiBandInfoAerial-r18*). Add Cond NotSIB3 to clarify the frequency band indicator field is not present in SIB3. 5. Clarify that if Aerial-specific NS/Pmax is not signalled, the value provided by legacy signalling for the same frequency band applies. 6. Add *additionalPmaxNR-r18* in *NS-PmaxValueNR-Aerial-r18*. 7. Move *multiNS-PmaxAerial-r18* from *UE-EUTRA-Capability-v1800-IEs* to *RF-Parameters.* 8. Move *sl-A2X-Service-r18* to *SL-Parameters-v1800* (i.e. per UE level)*.* 9. Move *multiBandInfoListAerial-r18*, *ns-PmaxListNR-Aerial-r18* and *multiBandNsPmaxListNR-Aerial-r18* from *CarrierFreqNR-r15* to *CarrierFreqNR-v1810*. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | eUAV specifications remain ambiguous or incomplete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.2.7, 5.2.2.10, 6.3.1, 6.3.4, 6.3.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 36.306 CR 1884 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

Start of Changes

#### 5.2.2.7 Actions upon reception of the *SystemInformationBlockType1* message

Upon receiving the *SystemInformationBlockType1* or *SystemInformationBlockType1-BR* either via broadcast or via dedicated signalling, the UE shall:

1> if the upper layers indicate the selected core network type as 5GC:

2> if the *cellAccessRelatedInfoList-5GC* contains an entry with the *plmn-Identity* or *plmn-Index* of the selected PLMN:

3> in the remainder of the procedures use *plmn-IdentityList*, *trackingAreaCode*, and *cellIdentity* for the cell as received in the corresponding *cellAccessRelatedInfoList-5GC* containing the selected PLMN;

1> else if the *cellAccessRelatedInfoList* contains an entry with the *PLMN-Identity* of the selected PLMN:

2> in the remainder of the procedures use *plmn-IdentityList*, *trackingAreaCode*, *trackingAreaList* and *cellIdentity* for the cell as received in the corresponding *cellAccessRelatedInfoList* containing the selected PLMN;

1> if in RRC\_IDLE or in RRC\_CONNECTED while T311 is running; and

1> if the UE is a category 0 UE according to TS 36.306 [5]; and

1> if *category0Allowed* is not included in *SystemInformationBlockType1*:

2> consider the cell as barred in accordance with TS 36.304 [4];

1> if in RRC\_CONNECTED while T311 is not running, and the UE supports multi-band cells as defined by bit 31 in *featureGroupIndicators*:

2> disregard the *freqBandIndicator* and *multiBandInfoList*, ifreceived, while in RRC\_CONNECTED;

2> forward the *cellIdentity* to upper layers;

2> forward the *trackingAreaCode* to upper layers;

2> forward the *trackingAreaList* to upper layers, if present;

1> else:

2> if UE is IAB-MT and if *iab-Support* is not provided for the selected PLMN nor the registered PLMN nor PLMN of the equivalent PLMN list:

3> consider the cell as barred for IAB-MT in accordance with TS 36.304 [4];

3> perform barring as if *intraFreqReselection* is set to allowed, and as if the *csg-Indication* is set to *FALSE*;

2> else:

3> if the frequency band indicated in the *freqBandIndicator* or *freqBandIndicatorAerial* is part of the frequency bands supported by the UE and it is not a downlink only band; or

3> if the UE supports *multiBandInfoList,* and if one or more of the frequency bands indicated in the *multiBandInfoList* or *multiBandInfoListAerial* are part of the frequency bands supported by the UE and they are not downlink only bands:

4> forward the *cellIdentity* to upper layers;

4> forward the *trackingAreaCode* to upper layers;

4> forward the *trackingAreaList* to upper layers, if present;

4> forward the PLMN identity to upper layers;

4> if in RRC\_INACTIVE and the forwarded information does not trigger message transmission by upper layers:

5> if the serving cell does not belong to the configured *ran-NotificationAreaInfo*:

6> initiate an RNA update as specified in 5.3.17.2;

4> forward the *ims-EmergencySupport* to upper layers, if present;

4> forward the *eCallOverIMS-Support* to upper layers, if present;

4> if the UE is capable of 5G NAS:

5> forward the *ims-EmergencySupport5GC* to upper layers, if present;

5> forward the *eCallOverIMS-Support5GC* to upper layers, if present;

5> forward *cp-CIoT-5GS-Optimisation* to upper layers, if present for the selected PLMN;

5> forward *up-CIoT-5GS-Optimisation* to upper layers, if present for the selected PLMN;

4> if the UE is aerial UE and for the frequency band selected by the UE (from *freqBandIndicatorAerial* or *multiBandInfoListAerial*), the *freqBandInfoAerial* or the *multiBandInfoListAerial* is present and the UE capable of *multiNS-Pmax* does not support any of the *additionalSpectrumEmission* in the *NS-PmaxListAerial* within the *freqBandInfoAerial* or *multiBandInfoListAerial*:

5> consider the cell as barred in accordance with TS 36.304 [4];

5> perform barring as if *intraFreqReselection* is set to *notAllowed*,and as if the *csg-Indication* is set to *FALSE*, upon which the procedure ends;

4> else if the UE is aerial UE and for the frequency band selected by the UE (from *freqBandIndicatorAerial* or *multiBandInfoListAerial*), the *freqBandInfoAerial* or the *multiBandInfoListAerial* is present and the UE capable of *multiNS-Pmax* supports at least one *additionalSpectrumEmission* in the *NS-PmaxListAerial* within the *freqBandInfoAerial* or *multiBandInfoListAerial*:

5> apply the first listed *additionalSpectrumEmission* which it supports among the values included in *NS-PmaxListAerial* within *freqBandInfoAerial* or *multiBandInfoListAerial*;

5> if the *additionalPmax* is present in the same entry of the selected *additionalSpectrumEmission* within *NS-PmaxListAerial*:

6> apply the *additionalPmax*;

5> else:

6> apply the *p-Max*;

4> else if, for the frequency band selected by the UE (from *freqBandIndicator* or *multiBandInfoList*), the *freqBandInfo* or the *multiBandInfoList-v10j0* is present and the UE capable of *multiNS-Pmax* supports at least one *additionalSpectrumEmission* in the *NS-PmaxList* within the *freqBandInfo* or *multiBandInfoList-v10j0*:

5> apply the first listed *additionalSpectrumEmission* which it supports among the values included in *NS-PmaxList* within *freqBandInfo* or *multiBandInfolist-v10j0*;

5> if the *additionalPmax* is present in the same entry of the selected *additionalSpectrumEmission* within *NS-PmaxList*:

6> apply the *additionalPmax*;

5> else:

6> apply the *p-Max*;

4> else:

5> apply the *additionalSpectrumEmission* in *SystemInformationBlockType2* and the *p-Max*;

3> else:

4> consider the cell as barred in accordance with TS 36.304 [4]; and

4> perform barring as if *intraFreqReselection* is set to *notAllowed*,and as if the *csg-Indication* is set to *FALSE*;

Upon receiving the *SystemInformationBlockType1-NB*, the UE shall:

1> if the upper layers indicate the selected core network type as 5GC:

2> in the remainder of the procedures use *plmn-IdentityList*, *trackingAreaCode*, and *cellIdentity* for the cell as received in the *cellAccessRelatedInfo-5GC*;

1> else:

2> in the remainder of the procedures use *plmn-IdentityList*, *trackingAreaCode*, *trackingAreaList* and *cellIdentity* for the cell as received in the *cellAccessRelatedInfo*;

1> if the frequency band indicated in the *freqBandIndicator* is part of the frequency bands supported by the UE; or

1> if one or more of the frequency bands indicated in the *multiBandInfoList* are part of the frequency bands supported by the UE:

2> forward the *cellIdentity* to upper layers;

2> forward the *trackingAreaCode* to upper layers;

2> forward the *trackingAreaList* to upper layers, if present;

2> if *attachWithoutPDN-Connectivity* is received for the selected PLMN:

3> forward the a*ttachWithoutPDN-Connectivity* to upper layers;

2> else:

3> indicate to upper layers that *attachWithoutPDN-Connectivity* is not present;

2> if the UE is capable of 5G NAS:

3> forward *ng-U-DataTransfer* to upper layers, if present for the selected PLMN;

3> forward *up-CIoT-5GS-Optimisation* to upper layers, if present for the selected PLMN;

2> if, for the frequency band selected by the UE (from *freqBandIndicator* or *multiBandInfoList*), the *freqBandInfo* is present and the UE capable of *multiNS-Pmax* supports at least one *additionalSpectrumEmission* in the *NS-PmaxList* within the *freqBandInfo*:

3> apply the first listed *additionalSpectrumEmission* which it supports among the values included in *NS-PmaxList* within *freqBandInfo*;

3> if the *additionalPmax* is present in the same entry of the selected *additionalSpectrumEmission* within *NS-PmaxList*:

4> apply the *additionalPmax*;

3> else:

4> apply the *p-Max*;

2> else:

3> apply the *additionalSpectrumEmission* in *SystemInformationBlockType2-NB* and the *p-Max*;

1> else:

2> consider the cell as barred in accordance with TS 36.304 [4]; and

2> perform barring as if *intraFreqReselection* is set to *notAllowed*.

No UE requirements related to the contents of *SystemInformationBlockType1-MBMS* apply other than those specified elsewhere e.g. within procedures using the concerned system information, and/ or within the corresponding field descriptions.

#### 5.2.2.8 Actions upon reception of *SystemInformation* messages

No UE requirements related to the contents of the *SystemInformation* messages apply other than those specified elsewhere e.g. within procedures using the concerned system information, and/ or within the corresponding field descriptions.

#### 5.2.2.9 Actions upon reception of *SystemInformationBlockType2*

Upon receiving *SystemInformationBlockType2*, the UE shall:

1> apply the configuration included in the *radioResourceConfigCommon*;

1> derive the DRX cycle as specified in TS 36.304 [4], clause 7.1;

1> if the *mbsfn-SubframeConfigList* is included:

2> consider that DL assignments may occur in the MBSFN subframes indicated in the *mbsfn-SubframeConfigList* under the conditions specified in TS 36.213 [23], clause 7.1;

1> apply the specified PCCH configuration defined in 9.1.1.3;

1> not apply the *timeAlignmentTimerCommon*;

1> if in RRC\_CONNECTED and UE is configured with RLF timers and constants values received within *rlf-TimersAndConstants*:

2> not update its values of the timers and constants in *ue-TimersAndConstants* except for the value of timer T300;

1> if in RRC\_CONNECTED while T311 is not running; and the UE supports multi-band cells as defined by bit 31 in *featureGroupIndicators* or *multipleNS-Pmax*:

2> disregard the *additionalSpectrumEmission* and *ul-CarrierFreq*, ifreceived, while in RRC\_CONNECTED;

1> if *attachWithoutPDN-Connectivity* is received for the selected PLMN:

2> forward a*ttachWithoutPDN-Connectivity* to upper layers;

1> else:

2> indicate to upper layers that *attachWithoutPDN-Connectivity* is not present;

1> if *cp-CIoT-EPS-Optimisation* is received for the selected PLMN:

2> forward *cp-CIoT-EPS-Optimisation* to upper layers;

1> else:

2> indicate to upper layers that *cp-CIoT-EPS-Optimisation* is not present;

1> if *up-CIoT-EPS-Optimisation* is received for the selected PLMN:

2> forward *up-CIoT-EPS-Optimisation* to upper layers;

1> else:

2> indicate to upper layers that *up-CIoT-EPS-Optimisation* is not present;

1> if *SystemInformationBlockType26a* is not present:

2> to upper layers either forward *upperLayerIndication*, if present for the selected PLMN, or otherwise indicate absence of this field;

NOTE: *upperLayerIndication* is an indication to upper layers that the UE has entered a coverage area that offers 5G capabilities.

1> to upper layers either forward *rlos-Enabled*, if present, or otherwise indicate absence of this field;

Upon receiving *SystemInformationBlockType2-NB*, the UE shall:

1> apply the configuration included in the *radioResourceConfigCommon*;

1> derive the DRX cycle as specified in TS 36.304 [4], clause 7.1;

1> if *SystemInformationBlockType22-NB* is scheduled:

2> read and act on information sent in *SystemInformationBlockType22-NB*;

1> apply the specified PCCH configuration defined in 9.1.1.3.

1> if in RRC\_CONNECTED and UE is configured with RLF timers and constants values received within *rlf-TimersAndConstants*:

2> not update its values of the timers and constants in *ue-TimersAndConstants* except for the value of timer T300;

Upon receiving *SystemInformationBlockType2* (*SystemInformationBlockType2-NB* in NB-IoT), the UE shall:

1> if *up-PUR-5GC* is not included and the UE connected to 5GC in RRC\_IDLE with a suspended RRC connection is configured with *pur-Config*; or

1> if *up-PUR-EPC* is not included and the UE connected to EPC in RRC\_IDLE with a suspended RRC connection is configured with *pur-Config*; or

1> if *cp-PUR-5GC* is not included and the UE connected to 5GC in RRC\_IDLE without a suspended RRC connection is configured with *pur-Config*; or

1> if *cp-PUR-EPC* is not included and the UE connected to EPC in RRC\_IDLE without a suspended RRC connection is configured with *pur-Config*:

2> if *pur-TimeAlignmentTimer* is configured, indicate to lower layers that *pur-TimeAlignmentTimer* is released;

2> release *pur-Config*;

2> discard previously stored *pur-Config*.

#### 5.2.2.10 Actions upon reception of *SystemInformationBlockType3*

Upon receiving *SystemInformationBlockType3*, the UE shall:

1> if in RRC\_IDLE, the *redistributionServingInfo* is included and the UE is redistribution capable:

2> perform E-UTRAN inter-frequency redistribution procedure as specified in TS 36.304 [4], clause 5.2.4.10;

1> if in RRC\_IDLE, or in RRC\_CONNECTED while T311 is running:

2> if, for the frequency band selected by the UE (from the procedure in clause 5.2.2.7) to represent the serving cell's carrier frequency, the *freqBandInfo* or the *multiBandInfoList-v10j0* (for aerial UE the *freqBandInfoAerial* or the *multiBandInfoListAerial*) is present in *SystemInformationBlockType3* and the UE capable of *multiNS-Pmax* supports at least one *additionalSpectrumEmission* in the *NS-PmaxList* within the *freqBandInfo* or *multiBandInfoList-v10j0* (for aerial UE the *NS-PmaxListAerial* within the *freqBandInfoAerial* or the *multiBandInfoListAerial*):

3> if the UE is aerial UE, apply the first listed *additionalSpectrumEmission* which it supports among the values included in *NS-PmaxListAerial* within *freqBandInfoAerial* or *multiBandInfoListAerial*;

3> else, apply the first listed *additionalSpectrumEmission* which it supports among the values included in *NS-PmaxList* within *freqBandInfo* or *multiBandInfoList-v10j0*;

3> if the *additionalPmax* is present in the same entry of the selected *additionalSpectrumEmission* within *NS-PmaxList* (for aerial UE the *NS-PmaxListAerial*):

4> apply the *additionalPmax*;

3> else:

4> apply the *p-Max*;

2> else:

3> apply the *p-Max*;

Upon receiving *SystemInformationBlockType3-NB*, the UE shall:

1> if in RRC\_IDLE, or in RRC\_CONNECTED while T311 is running:

2> if, for the frequency band selected by the UE (from the procedure in clause 5.2.2.7) to represent the serving cell's carrier frequency, the *freqBandInfo* or the *multiBandInfoList* is present in *SystemInformationBlockType3-NB* and the UE capable of *multiNS-Pmax* supports at least one *additionalSpectrumEmission* in the *NS-PmaxList* within the *freqBandInfo* or the *multiBandInfoList*:

3> apply the first listed *additionalSpectrumEmission* which it supports among the values included in *NS-PmaxList* within *freqBandInfo* or *multiBandInfoList*;

3> if the *additionalPmax* is present in the same entry of the selected *additionalSpectrumEmission* within *NS-PmaxList*:

4> apply the *additionalPmax*;

3> else:

4> apply the *p-Max*;

2> else:

3> apply the *p-Max*;

#### 5.2.2.11 Actions upon reception of *SystemInformationBlockType4*

No UE requirements related to the contents of this *SystemInformationBlock (SystemInformationBlockType4* or *SystemInformationBlockType4-NB)* apply other than those specified elsewhere e.g. within procedures using the concerned system information, and/ or within the corresponding field descriptions.

#### 5.2.2.12 Actions upon reception of *SystemInformationBlockType5*

Upon receiving *SystemInformationBlockType5*, the UE shall:

1> if in RRC\_IDLE, the *redistributionInterFreqInfo* is included and the UE is redistribution capable:

2> perform E-UTRAN inter-frequency redistribution procedure as specified in TS 36.304 [4], clause 5.2.4.10;

1> if in RRC\_IDLE, or in RRC\_CONNECTED while T311 is running:

2> if the frequency band selected by the UE to represent a non-serving E UTRA carrier frequency is not a downlink only band:

3> if, for the selected frequency band, the *freqBandInfo* or the *multiBandInfoList-v10j0* (for aerial UE the *freqBandInfoAerial* or the *multiBandInfoListAerial*) is present and the UE capable of *multiNS-Pmax* supports at least one *additionalSpectrumEmission* in the *NS-PmaxList* within *freqBandInfo* or *multiBandInfoList-v10j0* (for aerial UE the NS-PmaxListAerial within the *freqBandInfoAerial* or the *multiBandInfoListAerial*):

4> if the UE is aerial UE, apply the first listed *additionalSpectrumEmission* which it supports among the values included in *NS-PmaxListAerial* within *freqBandInfoAerial* or *multiBandInfoListAerial*;

4> else, apply the first listed *additionalSpectrumEmission* which it supports among the values included in *NS-PmaxList* within *freqBandInfo* or *multiBandInfoList-v10j0*;

4> if the *additionalPmax* is present in the same entry of the selected *additionalSpectrumEmission* within *NS-PmaxList* (for aerial UE the *NS-PmaxListAerial*):

5> apply the *additionalPmax*;

4> else:

5> apply the *p-Max*;

3> else:

4> apply the *p-Max*;

1> if in RRC\_IDLE or RRC\_INACTIVE, and T331 is running:

2> perform the actions as specified in 5.6.20.1a;

Upon receiving *SystemInformationBlockType5-NB*, the UE shall:

1> if in RRC\_IDLE, or in RRC\_CONNECTED while T311 is running:

2> if, for the frequency band selected by the UE (from *multiBandInfoList*) to represent a non-serving NB-IoT carrier frequency, the *freqBandInfo* is present and the UE capable of *multiNS-Pmax* supports at least one *additionalSpectrumEmission* in the *NS-PmaxList* within the *freqBandInfo*:

3> apply the first listed *additionalSpectrumEmission* which it supports among the values included in *NS-PmaxList* within *freqBandInfo*;

3> if the *additionalPmax* is present in the same entry of the selected *additionalSpectrumEmission* within *NS-PmaxList*:

4> apply the *additionalPmax*;

3> else:

4> apply the *p-Max*;

2> else:

3> apply the *p-Max*;

Next Changes

### 6.2.2 Message definitions

<<unchanged text skipped>>

#### – *SystemInformationBlockType1*

*SystemInformationBlockType1* contains information relevant when evaluating if a UE is allowed to access a cell and defines the scheduling of other system information. *SystemInformationBlockType1-BR* uses the same structure as *SystemInformationBlockType1*.

Signalling radio bearer: N/A

RLC-SAP: TM

Logical channels: BCCH and BR-BCCH

Direction: E‑UTRAN to UE

*SystemInformationBlockType1 message*

-- ASN1START

SystemInformationBlockType1-BR-r13 ::= SystemInformationBlockType1

SystemInformationBlockType1 ::= SEQUENCE {

cellAccessRelatedInfo SEQUENCE {

plmn-IdentityList PLMN-IdentityList,

trackingAreaCode TrackingAreaCode,

cellIdentity CellIdentity,

cellBarred ENUMERATED {barred, notBarred},

intraFreqReselection ENUMERATED {allowed, notAllowed},

csg-Indication BOOLEAN,

csg-Identity CSG-Identity OPTIONAL -- Need OR

},

cellSelectionInfo SEQUENCE {

q-RxLevMin Q-RxLevMin,

q-RxLevMinOffset INTEGER (1..8) OPTIONAL -- Need OP

},

p-Max P-Max OPTIONAL, -- Need OP

freqBandIndicator FreqBandIndicator,

schedulingInfoList SchedulingInfoList,

tdd-Config TDD-Config OPTIONAL, -- Cond TDD

si-WindowLength ENUMERATED {

ms1, ms2, ms5, ms10, ms15, ms20,

ms40},

systemInfoValueTag INTEGER (0..31),

nonCriticalExtension SystemInformationBlockType1-v890-IEs OPTIONAL

}

SystemInformationBlockType1-v890-IEs::= SEQUENCE {

lateNonCriticalExtension OCTET STRING (CONTAINING SystemInformationBlockType1-v8h0-IEs) OPTIONAL,

nonCriticalExtension SystemInformationBlockType1-v920-IEs OPTIONAL

}

-- Late non critical extensions

SystemInformationBlockType1-v8h0-IEs ::= SEQUENCE {

multiBandInfoList MultiBandInfoList OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType1-v9e0-IEs OPTIONAL

}

SystemInformationBlockType1-v9e0-IEs ::= SEQUENCE {

freqBandIndicator-v9e0 FreqBandIndicator-v9e0 OPTIONAL, -- Cond FBI-max

multiBandInfoList-v9e0 MultiBandInfoList-v9e0 OPTIONAL, -- Cond mFBI-max

nonCriticalExtension SystemInformationBlockType1-v10j0-IEs OPTIONAL

}

SystemInformationBlockType1-v10j0-IEs ::= SEQUENCE {

freqBandInfo-r10 NS-PmaxList-r10 OPTIONAL, -- Need OR

multiBandInfoList-v10j0 MultiBandInfoList-v10j0 OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType1-v10l0-IEs OPTIONAL

}

SystemInformationBlockType1-v10l0-IEs ::= SEQUENCE {

freqBandInfo-v10l0 NS-PmaxList-v10l0 OPTIONAL, -- Need OR

multiBandInfoList-v10l0 MultiBandInfoList-v10l0 OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType1-v10x0-IEs OPTIONAL

}

SystemInformationBlockType1-v10x0-IEs ::= SEQUENCE {

-- This field is only for late non-critical extensions from Rel-10 or Rel-11 onwards

lateNonCriticalExtension OCTET STRING OPTIONAL,

nonCriticalExtension SystemInformationBlockType1-v12j0-IEs OPTIONAL

}

SystemInformationBlockType1-v12j0-IEs ::= SEQUENCE {

schedulingInfoList-v12j0 SchedulingInfoList-v12j0 OPTIONAL, -- Need OR

schedulingInfoListExt-r12 SchedulingInfoListExt-r12 OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType1-v15g0-IEs OPTIONAL

}

SystemInformationBlockType1-v15g0-IEs ::= SEQUENCE {

bandwidthReducedAccessRelatedInfo-v15g0 SEQUENCE {

posSchedulingInfoList-BR-r15 SchedulingInfoList-BR-r13

} OPTIONAL, -- Need OR

nonCriticalExtension SEQUENCE {} OPTIONAL

}

-- Regular non critical extensions

SystemInformationBlockType1-v920-IEs ::= SEQUENCE {

ims-EmergencySupport-r9 ENUMERATED {true} OPTIONAL, -- Need OR

cellSelectionInfo-v920 CellSelectionInfo-v920 OPTIONAL, -- Cond RSRQ

nonCriticalExtension SystemInformationBlockType1-v1130-IEs OPTIONAL

}

SystemInformationBlockType1-v1130-IEs ::= SEQUENCE {

tdd-Config-v1130 TDD-Config-v1130 OPTIONAL, -- Cond TDD-OR

cellSelectionInfo-v1130 CellSelectionInfo-v1130 OPTIONAL, -- Cond WB-RSRQ

nonCriticalExtension SystemInformationBlockType1-v1250-IEs OPTIONAL

}

SystemInformationBlockType1-v1250-IEs ::= SEQUENCE {

cellAccessRelatedInfo-v1250 SEQUENCE {

category0Allowed-r12 ENUMERATED {true} OPTIONAL -- Need OP

},

cellSelectionInfo-v1250 CellSelectionInfo-v1250 OPTIONAL, -- Cond RSRQ2

freqBandIndicatorPriority-r12 ENUMERATED {true} OPTIONAL, -- Cond mFBI

nonCriticalExtension SystemInformationBlockType1-v1310-IEs OPTIONAL

}

SystemInformationBlockType1-v1310-IEs ::= SEQUENCE {

hyperSFN-r13 BIT STRING (SIZE (10)) OPTIONAL, -- Need OR

eDRX-Allowed-r13 ENUMERATED {true} OPTIONAL, -- Need OR

cellSelectionInfoCE-r13 CellSelectionInfoCE-r13 OPTIONAL, -- Need OP

bandwidthReducedAccessRelatedInfo-r13 SEQUENCE {

si-WindowLength-BR-r13 ENUMERATED {

ms20, ms40, ms60, ms80, ms120,

ms160, ms200, spare},

si-RepetitionPattern-r13 ENUMERATED {everyRF, every2ndRF, every4thRF,

every8thRF},

schedulingInfoList-BR-r13 SchedulingInfoList-BR-r13 OPTIONAL, -- Cond SI-BR

fdd-DownlinkOrTddSubframeBitmapBR-r13 CHOICE {

subframePattern10-r13 BIT STRING (SIZE (10)),

subframePattern40-r13 BIT STRING (SIZE (40))

} OPTIONAL, -- Need OP

fdd-UplinkSubframeBitmapBR-r13 BIT STRING (SIZE (10)) OPTIONAL, -- Need OP

startSymbolBR-r13 INTEGER (1..4),

si-HoppingConfigCommon-r13 ENUMERATED {on,off},

si-ValidityTime-r13 ENUMERATED {true} OPTIONAL, -- Need OP

systemInfoValueTagList-r13 SystemInfoValueTagList-r13 OPTIONAL -- Need OR

} OPTIONAL, -- Cond BW-reduced

nonCriticalExtension SystemInformationBlockType1-v1320-IEs OPTIONAL

}

SystemInformationBlockType1-v1320-IEs ::= SEQUENCE {

freqHoppingParametersDL-r13 SEQUENCE {

mpdcch-pdsch-HoppingNB-r13 ENUMERATED {nb2, nb4} OPTIONAL, -- Need OR

interval-DLHoppingConfigCommonModeA-r13 CHOICE {

interval-FDD-r13 ENUMERATED {int1, int2, int4, int8},

interval-TDD-r13 ENUMERATED {int1, int5, int10, int20}

} OPTIONAL, -- Need OR

interval-DLHoppingConfigCommonModeB-r13 CHOICE {

interval-FDD-r13 ENUMERATED {int2, int4, int8, int16},

interval-TDD-r13 ENUMERATED { int5, int10, int20, int40}

} OPTIONAL, -- Need OR

mpdcch-pdsch-HoppingOffset-r13 INTEGER (1..maxAvailNarrowBands-r13) OPTIONAL -- Need OR

} OPTIONAL, -- Cond Hopping

nonCriticalExtension SystemInformationBlockType1-v1350-IEs OPTIONAL

}

SystemInformationBlockType1-v1350-IEs ::= SEQUENCE {

cellSelectionInfoCE1-r13 CellSelectionInfoCE1-r13 OPTIONAL, -- Need OP

nonCriticalExtension SystemInformationBlockType1-v1360-IEs OPTIONAL

}

SystemInformationBlockType1-v1360-IEs ::= SEQUENCE {

cellSelectionInfoCE1-v1360 CellSelectionInfoCE1-v1360 OPTIONAL, -- Cond QrxlevminCE1

nonCriticalExtension SystemInformationBlockType1-v1430-IEs OPTIONAL

}

SystemInformationBlockType1-v1430-IEs ::= SEQUENCE {

eCallOverIMS-Support-r14 ENUMERATED {true} OPTIONAL, -- Need OR

tdd-Config-v1430 TDD-Config-v1430 OPTIONAL, -- Cond TDD-OR

cellAccessRelatedInfoList-r14 SEQUENCE (SIZE (1..maxPLMN-1-r14)) OF

CellAccessRelatedInfo-r14 OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType1-v1450-IEs OPTIONAL

}

SystemInformationBlockType1-v1450-IEs ::= SEQUENCE {

tdd-Config-v1450 TDD-Config-v1450 OPTIONAL, -- Cond TDD-OR

nonCriticalExtension SystemInformationBlockType1-v1530-IEs OPTIONAL

}

SystemInformationBlockType1-v1530-IEs ::= SEQUENCE {

hsdn-Cell-r15 ENUMERATED {true} OPTIONAL, -- Need OR

cellSelectionInfoCE-v1530 CellSelectionInfoCE-v1530 OPTIONAL, -- Need OP

crs-IntfMitigConfig-r15 CHOICE {

crs-IntfMitigEnabled NULL,

crs-IntfMitigNumPRBs ENUMERATED {n6, n24}

} OPTIONAL, -- Need OR

cellBarred-CRS-r15 ENUMERATED {barred, notBarred},

plmn-IdentityList-v1530 PLMN-IdentityList-v1530 OPTIONAL, -- Need OR

posSchedulingInfoList-r15 PosSchedulingInfoList-r15 OPTIONAL, -- Need OR

cellAccessRelatedInfo-5GC-r15 SEQUENCE {

cellBarred-5GC-r15 ENUMERATED {barred, notBarred},

cellBarred-5GC-CRS-r15 ENUMERATED {barred, notBarred},

cellAccessRelatedInfoList-5GC-r15 SEQUENCE (SIZE (1..maxPLMN-r11)) OF

CellAccessRelatedInfo-5GC-r15

} OPTIONAL, -- Need OP

ims-EmergencySupport5GC-r15 ENUMERATED {true} OPTIONAL, -- Need OR

eCallOverIMS-Support5GC-r15 ENUMERATED {true} OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType1-v1540-IEs OPTIONAL

}

SystemInformationBlockType1-v1540-IEs ::= SEQUENCE {

si-posOffset-r15 ENUMERATED {true} OPTIONAL, -- Need ON

nonCriticalExtension SystemInformationBlockType1-v1610-IEs OPTIONAL

}

SystemInformationBlockType1-v1610-IEs ::= SEQUENCE {

eDRX-Allowed-5GC-r16 ENUMERATED {true} OPTIONAL, -- Need OR

transmissionInControlChRegion-r16 ENUMERATED {true} OPTIONAL, -- Cond BW-reduced

campingAllowedInCE-r16 ENUMERATED {true} OPTIONAL, -- Need OR

plmn-IdentityList-v1610 PLMN-IdentityList-v1610 OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType1-v1700-IEs OPTIONAL

}

SystemInformationBlockType1-v1700-IEs ::= SEQUENCE {

cellAccessRelatedInfo-NTN-r17 SEQUENCE {

cellBarred-NTN-r17 ENUMERATED {barred, notBarred},

plmn-IdentityList-v1700 PLMN-IdentityList-v1700 OPTIONAL -- Need OR

} OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType1-v1800-IEs OPTIONAL

}

SystemInformationBlockType1-v1800-IEs ::= SEQUENCE {

freqBandIndicatorAerial-r18 FreqBandIndicator-r11 OPTIONAL, -- Need OR

freqBandInfoAerial-r18 NS-PmaxListAerial-r18 OPTIONAL, -- Need OR

multiBandInfoListAerial-r18 MultiBandInfoListAerial-r18 OPTIONAL, -- Need OR

nonCriticalExtension SEQUENCE {} OPTIONAL

}

PLMN-IdentityList ::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo

PLMN-IdentityInfo ::= SEQUENCE {

plmn-Identity PLMN-Identity,

cellReservedForOperatorUse ENUMERATED {reserved, notReserved}

}

PLMN-IdentityList-v1530 ::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo-v1530

PLMN-IdentityInfo-v1530 ::= SEQUENCE {

cellReservedForOperatorUse-CRS-r15 ENUMERATED {reserved, notReserved}

}

PLMN-IdentityList-r15::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo-r15

PLMN-IdentityList-v1610::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo-v1610

PLMN-IdentityList-v1700::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo-v1700

PLMN-IdentityInfo-r15 ::= SEQUENCE {

plmn-Identity-5GC-r15 CHOICE{

plmn-Identity-r15 PLMN-Identity,

plmn-Index-r15 INTEGER (1..maxPLMN-r11)

},

cellReservedForOperatorUse-r15 ENUMERATED {reserved, notReserved},

cellReservedForOperatorUse-CRS-r15 ENUMERATED {reserved, notReserved}

}

PLMN-IdentityInfo-v1610 ::= SEQUENCE {

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

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

iab-Support-r16 ENUMERATED {true} OPTIONAL -- Need OR

}

PLMN-IdentityInfo-v1700 ::= SEQUENCE {

trackingAreaList-r17 TrackingAreaList-r17 OPTIONAL -- Need OP

}

SchedulingInfoList ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SchedulingInfo

SchedulingInfoList-v12j0 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SchedulingInfo-v12j0

SchedulingInfoListExt-r12 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SchedulingInfoExt-r12

SchedulingInfo ::= SEQUENCE {

si-Periodicity SI-Periodicity-r12,

sib-MappingInfo SIB-MappingInfo

}

SchedulingInfo-v12j0 ::= SEQUENCE {

sib-MappingInfo-v12j0 SIB-MappingInfo-v12j0 OPTIONAL -- Need OR

}

SchedulingInfoExt-r12 ::= SEQUENCE {

si-Periodicity-r12 SI-Periodicity-r12,

sib-MappingInfo-r12 SIB-MappingInfo-v12j0

}

SchedulingInfoList-BR-r13 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SchedulingInfo-BR-r13

SchedulingInfo-BR-r13 ::= SEQUENCE {

si-Narrowband-r13 INTEGER (1..maxAvailNarrowBands-r13),

si-TBS-r13 ENUMERATED {b152, b208, b256, b328, b408, b504, b600, b712, b808, b936}

}

SIB-MappingInfo ::= SEQUENCE (SIZE (0..maxSIB-1)) OF SIB-Type

SIB-MappingInfo-v12j0 ::= SEQUENCE (SIZE (1..maxSIB-1)) OF SIB-Type-v12j0

-- Note: The IE SIB-Type (without suffix) will not be extended any further in this release of the specification. If needed, the IE SIB-Type-v12j0 will be used for new SIB(s).

SIB-Type ::= ENUMERATED {

sibType3, sibType4, sibType5, sibType6,

sibType7, sibType8, sibType9, sibType10,

sibType11, sibType12-v920, sibType13-v920,

sibType14-v1130, sibType15-v1130,

sibType16-v1130, sibType17-v1250, sibType18-v1250,

..., sibType19-v1250, sibType20-v1310, sibType21-v1430,

sibType24-v1530, sibType25-v1530, sibType26-v1530,

sibType26a-v1610, sibType27-v1610, sibType28-v1610,

sibType29-v1610

}

SIB-Type-v12j0 ::= ENUMERATED {

sibType19-v1250, sibType20-v1310, sibType21-v1430,

sibType24-v1530, sibType25-v1530, sibType26-v1530,

sibType26a-v1610, sibType27-v1610, sibType28-v1610,

sibType29-v1610, sibType30-v1700, sibType31-v1700, sibType32-v1700,

sibType33-v1800, spare2, spare1, ...}

SI-Periodicity-r12 ::= ENUMERATED {rf8, rf16, rf32, rf64, rf128, rf256, rf512}

SystemInfoValueTagList-r13 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SystemInfoValueTagSI-r13

SystemInfoValueTagSI-r13 ::= INTEGER (0..3)

CellSelectionInfo-v920 ::= SEQUENCE {

q-QualMin-r9 Q-QualMin-r9,

q-QualMinOffset-r9 INTEGER (1..8) OPTIONAL -- Need OP

}

CellSelectionInfo-v1130 ::= SEQUENCE {

q-QualMinWB-r11 Q-QualMin-r9

}

CellSelectionInfo-v1250 ::= SEQUENCE {

q-QualMinRSRQ-OnAllSymbols-r12 Q-QualMin-r9

}

CellAccessRelatedInfo-r14 ::= SEQUENCE {

plmn-IdentityList-r14 PLMN-IdentityList,

trackingAreaCode-r14 TrackingAreaCode,

cellIdentity-r14 CellIdentity

}

CellAccessRelatedInfo-5GC-r15 ::= SEQUENCE {

plmn-IdentityList-r15 PLMN-IdentityList-r15,

ran-AreaCode-r15 RAN-AreaCode-r15 OPTIONAL, -- Need OR

trackingAreaCode-5GC-r15 TrackingAreaCode-5GC-r15,

cellIdentity-5GC-r15 CellIdentity-5GC-r15

}

CellIdentity-5GC-r15 ::= CHOICE{

cellIdentity-r15 CellIdentity,

cellId-Index-r15 INTEGER (1..maxPLMN-r11)

}

TrackingAreaList-r17 ::= SEQUENCE (SIZE (1..maxTAC-r17)) OF TrackingAreaCode

PosSchedulingInfoList-r15 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF PosSchedulingInfo-r15

PosSchedulingInfo-r15 ::= SEQUENCE {

posSI-Periodicity-r15 ENUMERATED {rf8, rf16, rf32, rf64, rf128, rf256, rf512},

posSIB-MappingInfo-r15 PosSIB-MappingInfo-r15

}

PosSIB-MappingInfo-r15 ::= SEQUENCE (SIZE (1..maxSIB)) OF PosSIB-Type-r15

PosSIB-Type-r15 ::= SEQUENCE {

encrypted-r15 ENUMERATED { true } OPTIONAL, -- Need OP

gnss-id-r15 GNSS-ID-r15 OPTIONAL, -- Need OP

sbas-id-r15 SBAS-ID-r15 OPTIONAL, -- Need OP

posSibType-r15 ENUMERATED { posSibType1-1,

posSibType1-2,

posSibType1-3,

posSibType1-4,

posSibType1-5,

posSibType1-6,

posSibType1-7,

posSibType2-1,

posSibType2-2,

posSibType2-3,

posSibType2-4,

posSibType2-5,

posSibType2-6,

posSibType2-7,

posSibType2-8,

posSibType2-9,

posSibType2-10,

posSibType2-11,

posSibType2-12,

posSibType2-13,

posSibType2-14,

posSibType2-15,

posSibType2-16,

posSibType2-17,

posSibType2-18,

posSibType2-19,

posSibType3-1,

...,

posSibType1-8-v1610,

posSibType2-20-v1610,

posSibType2-21-v1610,

posSibType2-22-v1610,

posSibType2-23-v1610,

posSibType2-24-v1610,

posSibType2-25-v1610,

posSibType4-1-v1610,

posSibType5-1-v1610,

posSibType1-9-v1700,

posSibType1-10-v1700,

posSibType2-17a-v1770,

posSibType2-18a-v1770,

posSibType2-20a-v1770,

posSibType1-11-v1800,

posSibType1-12-v1800,

posSibType2-26-v1800, posSibType2-27-v1800

},

...

}

-- ASN1STOP

| *SystemInformationBlockType1* field descriptions |
| --- |
| ***bandwithReducedAccessRelatedInfo***  Access related information for BL UEs and UEs in CE. NOTE 3. |
| ***campingAllowedInCE***  Indicates whether non-BL UE is allowed to camp in the non-standalone BL cell in enhanced coverage mode when S-criterion for normal coverage is fulfilled. The field is not applicable for standalone BL cell. |
| ***category0Allowed***  The presence of this field indicates category 0 UEs are allowed to access the cell. |
| ***cellAccessRelatedInfoList***  This field contains a list allowing signalling of access related information per PLMN. One PLMN can be included in only one entry of this list. NOTE 4. |
| ***cellAccessRelatedInfoList-5GC***  This field contains a PLMN list and a list allowing signalling of access related information per PLMN for PLMNs that provides connectivity to 5GC. One PLMN can be included in only one entry of this list. NOTE4 |
| ***cellBarred, cellBarred-CRS***  barred means the cell is barred, as defined in TS 36.304 [4]. |
| ***cellBarred-5GC, cellBarred-5GC-CRS***  barred means the cell is barred for connectivity to 5GC, as defined in TS 36.304 [4]. |
| ***cellBarred-NTN***  barred means the cell is barred for connectivity to NTN, as defined in TS 36.304 [4].  E-UTRAN always includes *cellBarred-NTN* and sets *cellBarred* to 'barred' in an NTN cell. | |
| ***cellIdentity***  Indicates the cell identity. NOTE 2. |
| ***cellId-Index***  The index of the cell ID in the PLMN lists for EPC, indicates UE the corresponding cell ID is used for 5GC. Value 1 indicates the cell ID of the 1st PLMN list for EPC in the SIB1. Value 2 indicates the cell ID of the 2nd PLMN list for EPC, and so on. |
| ***cellReservedForOperatorUse, cellReservedForOperatorUse-CRS***  As defined in TS 36.304 [4]. |
| ***cellSelectionInfoCE***  Cell selection information for BL UEs and UEs in CE. If absent, coverage enhancement S criteria is not applicable. NOTE 3. |
| ***cellSelectionInfoCE1***  Cell selection information for BL UEs and UEs in CE supporting CE Mode B. E-UTRAN includes this IE only if *cellSelectionInfoCE* is present in *SystemInformationBlockType1-BR*. NOTE 3. | |
| ***cp-CIoT-5GS-Optimisation***  Indicates whether the UE is allowed to establish the connection with Control plane CIoT 5GS optimisation, see TS 24.501 [95]. |
| ***crs-IntfMitigConfig***  *crs-IntfMitigEnabled* indicates CRS interference mitigation is enabled for the cell, as specified in TS 36.133 [16], clause 3.6.1.1. For BL UEs supporting *ce-CRS-IntfMitig,* presence of *crs-IntfMitigNumPRBs* indicates CRS interference mitigation is enabled in the cell, as specified in TS 36.133 [16], clauses 3.6.1.2 and 3.6.1.3, and the value of *crs-IntfMitigNumPRBs* indicates number of PRBs, i.e. 6 or 24 PRBs, for CRS transmission in the central cell BW when CRS interference mitigation is enabled. For UEs not supporting this feature, the behaviour is undefined if this field is configured and the field *cellBarred* in *SystemInformationBlockType1* (*SystemInformationBlockType1-BR* for BL UEs or UEs in CE) is set to *notbarred*. | |
| ***csg-Identity***  Identity of the Closed Subscriber Group the cell belongs to. |
| ***csg-Indication***  If set to TRUE the UE is only allowed to access the cell if it is a CSG member cell, if selected during manual CSG selection or to obtain limited service, see TS 36.304 [4]. |
| ***eCallOverIMS-Support***  Indicates whether the cell supports eCall over IMS services via EPC for UEs as defined in TS 23.401 [41]. If absent, eCall over IMS via EPC is not supported by the network in the cell.NOTE 2. |
| ***eCallOverIMS-Support5GC***  Indicates whether the cell supports eCall over IMS services via 5GC as defined in TS 23.401 [41]. If absent, eCall over IMS via 5GC is not supported by the network in the cell.NOTE 2. |
| ***eDRX-Allowed***  The presence of this field indicates if idle mode extended DRX is allowed in the cell for the UE connected to EPC. The UE shall stop using extended DRX in idle mode if *eDRX-Allowed* is not present when connected to EPC. |
| ***eDRX-Allowed-5GC***  The presence of this field indicates if idle mode extended DRX is allowed in the cell for the UE connected to 5GC. The UE shall stop using extended DRX in idle mode if *eDRX-Allowed-5GC* is not present when connected to 5GC. |
| ***encrypted***  The presence of this field indicates that the posSibType is encrypted as specified in TS 36.355 [54]. |
| ***fdd-DownlinkOrTddSubframeBitmapBR***  The set of valid subframes for FDD downlink or TDD transmissions, see TS 36.213 [23].  If this field is present, *SystemInformationBlockType1-BR-r13* is transmitted in *RRCConnectionReconfiguration*, and if *RRCConnectionReconfiguration* does not include *systemInformationBlockType2Dedicated*, UE may assume the valid subframes in fdd-*DownlinkOrTddSubframeBitmapBR* are not indicated as MBSFN subframes. If this field is not present, the set of valid subframes is the set of non-MBSFN subframes as indicated by *mbsfn-SubframeConfigList*. If neither this field nor *mbsfn-SubframeConfigList* is present, all subframes are considered as valid subframes for FDD downlink transmission, all DL subframes according to the uplink-downlink configuration (see TS 36.211 [21]) are considered as valid subframes for TDD DL transmission, and all UL subframes according to the uplink-downlink configuration (see TS 36.211 [21]) are considered as valid subframes for TDD UL transmission.  The first/leftmost bit corresponds to the subframe #0 of the radio frame satisfying SFN mod x = 0, where x is the size of the bit string divided by 10. Value 0 in the bitmap indicates that the corresponding subframe is invalid for transmission. Value 1 in the bitmap indicates that the corresponding subframe is valid for transmission. |
| ***fdd-UplinkSubframeBitmapBR***  The set of valid subframes for FDD uplink transmissions for BL UEs, see TS 36.213 [23].  If the field is not present, then UE considers all uplink subframes as valid subframes for FDD uplink transmissions.  The first/leftmost bit corresponds to the subframe #0 of the radio frame satisfying SFN mod x = 0, where x is the size of the bit string divided by 10. Value 0 in the bitmap indicates that the corresponding subframe is invalid for transmission. Value 1 in the bitmap indicates that the corresponding subframe is valid for transmission. |
| ***freqBandIndicatorPriority***  If the field is present and supported by the UE, the UE shall prioritize the frequency bands in the *multiBandInfoList* field in decreasing priority order. Only if the UE does not support any of the frequency band in *multiBandInfoList,* the UE shall use the value in *freqBandIndicator* field. Otherwise, the UE applies frequency band according to the rules defined in *multiBandInfoList.* NOTE 2. |
| ***freqBandInfo***  A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs, TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs and TS 36.102 [113], table 6.2A.3-1, for NTN capable UE, for the frequency band in *freqBandIndicator*. If E-UTRAN includes *freqBandInfo-v10l0* it includes the same number of entries, and listed in the same order, as in *freqBandInfo-r10*. |
| ***freqHoppingParametersDL***  Downlink frequency hopping parameters for BR versions of SI messages, MPDCCH/PDSCH of paging, MPDCCH/PDSCH of RAR/Msg4 and unicast MPDCCH/PDSCH. If not present, the UE is not configured downlink frequency hopping. |
| ***gnss-ID***  The presence of this field indicates that the *posSibType* is for a specific GNSS. |
| ***hsdn-Cell***  This field indicates this is a HSDN cell as specified in TS 36.304 [4]. |
| ***hyperSFN***  Indicates hyper SFN which increments by one when the SFN wraps around. |
| ***iab-Support***  This field combines both the support of IAB-node and the cell status for IAB-node. If the field is present, the cell supports IAB-nodes and the cell is also considered as a candidate for cell (re)selection for IAB-nodes; if the field is absent, the cell does not support IAB and/or the cell is barred for IAB-node. | |
| ***ims-EmergencySupport***  Indicates whether the cell supports IMS emergency bearer services via EPC for UEs in limited service mode. If absent, IMS emergency call via EPC is not supported by the network in the cell for UEs in limited service mode.NOTE 2. |
| ***ims-EmergencySupport5GC***  Indicates whether the cell supports IMS emergency bearer services for UEs in limited service mode via 5GC. If absent, IMS emergency call via 5GC is not supported by the network in the cell for UEs in limited service mode. NOTE 2. |
| ***intraFreqReselection***  Used to control cell reselection to intra-frequency cells when the highest ranked cell is barred, or treated as barred by the UE, as specified in TS 36.304 [4].NOTE 2. |
| ***multiBandInfoList***  A list of additional frequency band indicators, as defined in TS 36.101 [42], table 5.5-1 and TS 36.102 [113], table 5.2-1, for NTN capable UE that the cell belongs to. If the UE supports the frequency band in the *freqBandIndicator* field it shall apply that frequency band. Otherwise, the UE shall apply the first listed band which it supports in the *multiBandInfoList* field. If E-UTRAN includes *multiBandInfoList-v9e0* it includes the same number of entries, and listed in the same order, as in *multiBandInfoList* (i.e. without suffix). See Annex D for more descriptions. The UE shall ignore the rule defined in this field description if *freqBandIndicatorPriority*is present and supported by the UE. |
| ***multiBandInfoList-v10j0***  A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs, TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs and TS 36.102 [113], table 6.2A.3-1, for NTN capable UE, for the frequency bands in *multiBandInfoList* (i.e. without suffix) and *multiBandInfoList-v9e0*. If E-UTRAN includes *multiBandInfoList-v10j0*, it includes the same number of entries, and listed in the same order, as in *multiBandInfoList* (i.e. without suffix). If E-UTRAN includes *multiBandInfoList-v10l0* it includes the same number of entries, and listed in the same order, as in *multiBandInfoList-v10j0*. |
| ***plmn-IdentityList***  List of PLMN identities. The first listed *PLMN-Identity* is the primary PLMN.If *plmn-IdentityList-v1530* is included, E-UTRAN includes the same number of entries, and listed in the same order, as in *plmn-IdentityList* (without suffix). If *plmn-IdentityList-v1610* is included, E-UTRAN includes the same number of entries, and listed in the same order, as in *plmn-IdentityList-r15*. If *plmn-IdentityList-v1700* is included, E-UTRAN includes the same number of entries, and listed in the same order, as in *plmn-IdentityList* (without suffix). NOTE 2. |
| ***plmn-Index***  Index of the PLMN in the *plmn-IdentityList* fields included in SIB1 for EPC, indicating the same PLMN ID is connected to 5GC. Value 1 indicates the 1st PLMN in the 1st *plmn-IdentityList* included in SIB1, value 2 indicates the 2nd PLMN in the same *plmn-IdentityList*, or when no more PLMNs are present within the same *plmn-IdentityList*, then the PLMN listed 1st in the subsequent *plmn-IdentityList* within the same SIB1 and so on. NOTE 6. |
| ***p-Max***  Value applicable for the cell. If absent the UE applies the maximum power according to its capability as specified in TS 36.101 [42], clause 6.2.2.NOTE 2. This field is ignored by IAB-MT. The IAB-MT applies output power and emissions requirements, as specified in TS 38.174 [107]. |
| ***posSchedulingInfoList-BR***  Indicates additional scheduling information of positioning SI messages for BL UEs and UEs in CE. E-UTRAN always includes this field if *posSchedulingInfoList-r15* is included in *SystemInformationBlockType1-BR*, and includes the same number of entries, and listed in the same order, as in *posSchedulingInfoList-r15*. |
| ***posSIB-MappingInfo***  List of the posSIBs mapped to this *SystemInformation* message. |
| ***posSibType***  The positioning SIB type is defined in TS 36.355 [54]. |
| ***q-QualMin***  Parameter "Qqualmin" in TS 36.304 [4]. If *cellSelectionInfo-v920* is not present, the UE applies the (default) value of negative infinity for Qqualmin. NOTE 1. |
| ***q-QualMinRSRQ-OnAllSymbols***  If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, perform RSRQ measurement on all OFDM symbols in accordance with TS 36.214 [48]. NOTE 1. |
| ***q-QualMinOffset***  Parameter "Qqualminoffset" in TS 36.304 [4]. Actual value Qqualminoffset = field value [dB]. If *cellSelectionInfo-v920* is not present or the field is not present, the UE applies the (default) value of 0 dB for Qqualminoffset.Affects the minimum required quality level in the cell. |
| ***q-QualMinWB***  If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, use a wider bandwidth in accordance with TS 36.133 [16]. NOTE 1. |
| ***q-RxLevMinOffset***  Parameter Qrxlevminoffset in TS 36.304 [4]. Actual value Qrxlevminoffset = field value \* 2 [dB]. If absent, the UE applies the (default) value of 0 dB for Qrxlevminoffset*.* Affects the minimum required Rx level in the cell. |
| ***sbas-ID***  The presence of this field indicates that the *posSibType* is for a specific SBAS. |
| ***schedulingInfoList***  Indicates scheduling information of SI messages. The *schedulingInfoList-v12j0* (if present) provides additional SIBs mapped into the SI message scheduled via *schedulingInfoList* (without suffix). If E-UTRAN includes *schedulingInfoList-v12j0*, it includes the same number of entries, and listed in the same order, as in *schedulingInfoList* (without suffix). |
| ***schedulingInfoListExt***  Indicates scheduling information of additional SI messages. The UE concatenates the entries of *schedulingInfoListExt* to the entries in *schedulingInfoList*, according to the general concatenation principles for list extension as defined in 5.1.2. If the *schedulingInfoListExt* is present, E-UTRAN ensures that the total number of entries of this field plus *schedulingInfoList* (without suffix) shall not exceed the value of *maxSI-Message*. |
| ***sib-MappingInfo***  List of the SIBs mapped to this *SystemInformation* message. There is no mapping information of SIB2; it is always present in the first *SystemInformation* message listed in the *schedulingInfoList* (without suffix) list. If present, *sib-MappingInfo-v12j0* indicates one or more additional SIBs mapped to the concerned SI message listed in the *schedulingInfoList* (without suffix) list. If *schedulingInfoList-v12j0* or *schedulingInfoListExt-r12* is present, E-UTRAN does not include any value indicating SIB of type 19 or higher in *sib-MappingInfo* (without suffix). If *schedulingInfoList-v12j0* is present, E-UTRAN ensures that the total number of entries of this field plus *sib-MappingInfo* (without suffix) shall not exceed the value of *maxSIB-1*. |
| ***si-HoppingConfigCommon***  Frequency hopping activation/deactivation for BR versions of SI messages and MPDCCH/PDSCH of paging. |
| ***si-Narrowband***  This field indicates the index of a narrowband used to broadcast the SI message towards BL UEs and UEs in CE, see TS 36.211 [21], clause 6.4.1 and TS 36.213 [23], clause 7.1.6. Field values (1..*maxAvailNarrowBands-r13*) correspond to narrowband indices (0..*maxAvailNarrowBands-r13*-1) as specified in TS 36.211 [21]. |
| ***si-RepetitionPattern***  Indicates the radio frames within the SI window used for SI message transmission. Value everyRF corresponds to every radio frame, value every2ndRF corresponds to every 2 radio frames, and so on. The first transmission of the SI message is transmitted from the first radio frame of the SI window. |
| ***si-Periodicity, posSI-Periodicity***  Periodicity of the SI-message in radio frames, such that rf8 denotes 8 radio frames, rf16 denotes 16 radio frames, and so on. If the *si-posOffset* is configured, the *posSI-Periodicity* of rf8 cannot be used. |
| ***si-posOffset***  This field, if present and set to *true* indicates that the SI messages in *PosSchedulingInfoList* are scheduled with an offset of 8 radio frames compared to SI messages in *SchedulingInfoList*. *si-posOffset* may be present only if the shortest configured SI message periodicity for SI messages in *SchedulingInfoList* is 80ms. |
| ***si-TBS***  This field indicates the transport block size information used to broadcast the SI message towards BL UEs and UEs in CE, see TS 36.213 [23], Table 7.1.7.2.1-1, for a 6 PRB bandwidth and a QPSK modulation. |
| ***schedulingInfoList-BR***  Indicates additional scheduling information of SI messages for BL UEs and UEs in CE. It includes the same number of entries, and listed in the same order, as in *schedulingInfoList* (without suffix). |
| ***si-ValidityTime***  Indicates system information validity timer. If set to TRUE, the timer is set to 3h, otherwise the timer is set to 24h. |
| ***si-WindowLength, si-WindowLength-BR***  Common SI scheduling window for all SIs. Unit in milliseconds, where ms1 denotes 1 millisecond, ms2 denotes 2 milliseconds and so on. In case s*i-WindowLength-BR-r13* is present and the UE is a BL UE or a UE in CE, the UE shall use s*i-WindowLength-BR-r13* and ignore the original field *si-WindowLength* (without suffix). UEs other than BL UEs or UEs in CE shall ignore the extension field s*i-WindowLength-BR-r13.* |
| ***startSymbolBR***  For BL UEs and UEs in CE, indicates the OFDM starting symbol for any MPDCCH, PDSCH scheduled on the same cell except the PDSCH carrying *SystemInformationBlockType1-BR*, see TS 36.213 [23]. Values 1, 2, and 3 are applicable for *dl-Bandwidth* greater than 10 resource blocks. Values 2, 3, and 4 are applicable otherwise. |
| ***systemInfoValueTagList***  Indicates SI message specific value tags for BL UEs and UEs in CE. It includes the same number of entries, and listed in the same order, as in *schedulingInfoList* (without suffix). |
| ***systemInfoValueTagSI***  SI message specific value tag as specified in clause 5.2.1.3. Common for all SIBs within the SI message other than MIB, SIB1, SIB10, SIB11, SIB12, SIB14, SIB31 and SIB33. |
| ***systemInfoValueTag***  Common for all SIBs other than MIB, MIB-MBMS, SIB1, SIB1-MBMS, SIB10, SIB11, SIB12, SIB14 and SIB31. Change of MIB, MIB-MBMS, SIB1 and SIB1-MBMS is detected by acquisition of the corresponding message. |
| ***tdd-Config***  Specifies the TDD specific physical channel configurations. NOTE 2. |
| ***trackingAreaCode/trackingAreaCode-5GC***  A *trackingAreaCode* that is common for all the PLMNs listed. NOTE2. NOTE 5. |
| ***trackingAreaList***  A list of tracking area codes for the PLMN listed.  For the first entry in *plmn-IdentityList-v1700*: If this field is present,thelist oftracking area codes include the tracking area code in *trackingAreaCode*(without suffix) andthe tracking area codesin *trackingAreaList*. If this field is absent, *trackingAreaCode* (without suffix) applies.  For other entries in *plmn-IdentityList-v1700*: If this field is present,thelist oftracking area codes include the tracking area codesin *trackingAreaList*. If this field is absent, the list of tracking area codes of the preceding entry in *plmn-IdentityList-v1700* applies.  The total number of signalled tracking area codes across all PLMNs cannot be more than *maxTAC-r17*. | |
| ***transmissionInControlChRegion***  Indicates, for BL UEs and UEs in CE, LTE control channel region may be used for DL broadcast transmission. NOTE 3. |
| ***up-CIoT-5GS-Optimisation***  Indicates whether the UE is allowed to resume the connection with User plane CIoT 5GS optimisation, see TS 24.501 [95]. |

NOTE 1: The value the UE applies for parameter "Qqualmin" in TS 36.304 [4] depends on the *q-QualMin* fields signalled by E-UTRAN and supported by the UE. In case multiple candidate options are available, the UE shall select the highest priority candidate option according to the priority order indicated by the following table (top row is highest priority).

|  |  |  |
| --- | --- | --- |
| q-QualMinRSRQ-OnAllSymbols | q-QualMinWB | Value of parameter "Qqualmin" in TS 36.304 [4] |
| Included | Included | *q-QualMinRSRQ-OnAllSymbols* – (*q-QualMin* – *q-QualMinWB*) |
| Included | Not included | *q-QualMinRSRQ-OnAllSymbols* |
| Not included | Included | *q-QualMinWB* |
| Not included | Not included | *q-QualMin* |

NOTE 2: E-UTRAN sets this field to the same value for all instances of SIB1 message that are broadcasted within the same cell.

NOTE 3: E-UTRAN configures this field only in the BR version of SIB1 message.

NOTE 4: E-UTRAN configures at most 6 EPC PLMNs in total (i.e. across all the PLMN lists except for PLMN lists in *cellAccessRelatedInfoList-5GC* in SIB1). E-UTRAN configures at most 6 5GC PLMNs in total (i.e. across all the PLMN lists in *cellAccessRelatedInfoList-5GC* in SIB1).

NOTE 5: E-UTRAN configures only one value for this parameter per PLMN.

NOTE 6: E-UTRAN configures *plmn-Index* only if the *cellBarred* is set to *notBarred.*

| Conditional presence | Explanation |
| --- | --- |
| *BW-reduced* | The field is optional present, Need OR, if *schedulingInfoSIB1-BR* in MIB is set to a value greater than 0. Otherwise the field is not present. |
| *FBI-max* | The field is mandatory present if *freqBandIndicator* (i.e. without suffix) is set to *maxFBI*. Otherwise the field is not present. |
| *mFBI* | The field is optional present, Need OR, if *multiBandInfoList* is present. Otherwise the field is not present. |
| *mFBI-max* | The field is mandatory present if one or more entries in *multiBandInfoList* (i.e. without suffix, introduced in -v8h0) is set to *maxFBI*. Otherwise the field is not present. |
| *RSRQ* | The field is mandatory present if SIB3 is being broadcast and *threshServingLowQ* is present in SIB3; otherwise optionally present, Need OP. |
| *RSRQ2* | The field is mandatory present if *q-QualMinRSRQ-OnAllSymbols* is present in SIB3; otherwise it is not present and the UE shall delete any existing value for this field. |
| *Hopping* | The field is mandatory present if *si-HoppingConfigCommon* field is broadcasted and set to *on*. Otherwise the field is optionally present, need OP. |
| *QrxlevminCE1* | The field is optionally present, Need OR, if *q-RxLevMinCE1-r13* is set below -140 dBm. Otherwise the field is not present. |
| *TDD* | This field is mandatory present for TDD; it is not present for FDD and the UE shall delete any existing value for this field. |
| *TDD-OR* | The field is optional present for TDD, need OR; it is not present for FDD. |
| *WB-RSRQ* | The field is optionally present, need OP if the measurement bandwidth indicated by *allowedMeasBandwidth* in *systemInformationBlockType3* is 50 resource blocks or larger; otherwise it is not present. |
| *SI-BR* | The field is mandatory present if *schedulingInfoSIB1-BR* is included in MIB with a value greater than 0. Otherwise the field is not present. |

Next Changes

### 6.3.1 System information blocks

<<unchanged text skipped>>

#### – *SystemInformationBlockType2*

The IE *SystemInformationBlockType2* contains radio resource configuration information that is common for all UEs.

NOTE: UE timers and constants related to functionality for which parameters are provided in another SIB are included in the corresponding SIB.

*SystemInformationBlockType2* information element

-- ASN1START

SystemInformationBlockType2 ::= SEQUENCE {

ac-BarringInfo SEQUENCE {

ac-BarringForEmergency BOOLEAN,

ac-BarringForMO-Signalling AC-BarringConfig OPTIONAL, -- Need OP

ac-BarringForMO-Data AC-BarringConfig OPTIONAL -- Need OP

} OPTIONAL, -- Need OP

radioResourceConfigCommon RadioResourceConfigCommonSIB,

ue-TimersAndConstants UE-TimersAndConstants,

freqInfo SEQUENCE {

ul-CarrierFreq ARFCN-ValueEUTRA OPTIONAL, -- Need OP

ul-Bandwidth ENUMERATED {n6, n15, n25, n50, n75, n100}

OPTIONAL, -- Need OP

additionalSpectrumEmission AdditionalSpectrumEmission

},

mbsfn-SubframeConfigList MBSFN-SubframeConfigList OPTIONAL, -- Need OR

timeAlignmentTimerCommon TimeAlignmentTimer,

...,

lateNonCriticalExtension OCTET STRING (CONTAINING SystemInformationBlockType2-v8h0-IEs) OPTIONAL,

[[ ssac-BarringForMMTEL-Voice-r9 AC-BarringConfig OPTIONAL, -- Need OP

ssac-BarringForMMTEL-Video-r9 AC-BarringConfig OPTIONAL -- Need OP

]],

[[ ac-BarringForCSFB-r10 AC-BarringConfig OPTIONAL -- Need OP

]],

[[ ac-BarringSkipForMMTELVoice-r12 ENUMERATED {true} OPTIONAL, -- Need OP

ac-BarringSkipForMMTELVideo-r12 ENUMERATED {true} OPTIONAL, -- Need OP

ac-BarringSkipForSMS-r12 ENUMERATED {true} OPTIONAL, -- Need OP

ac-BarringPerPLMN-List-r12 AC-BarringPerPLMN-List-r12 OPTIONAL -- Need OP

]],

[[ voiceServiceCauseIndication-r12 ENUMERATED {true} OPTIONAL -- Need OP

]],

[[ acdc-BarringForCommon-r13 ACDC-BarringForCommon-r13 OPTIONAL, -- Need OP

acdc-BarringPerPLMN-List-r13 ACDC-BarringPerPLMN-List-r13 OPTIONAL -- Need OP

]],

[[

udt-RestrictingForCommon-r13 UDT-Restricting-r13 OPTIONAL, -- Need OR

udt-RestrictingPerPLMN-List-r13 UDT-RestrictingPerPLMN-List-r13 OPTIONAL, -- Need OR

cIoT-EPS-OptimisationInfo-r13 CIOT-EPS-OptimisationInfo-r13 OPTIONAL, -- Need OP

useFullResumeID-r13 ENUMERATED {true} OPTIONAL -- Need OP

]],

[[ unicastFreqHoppingInd-r13 ENUMERATED {true} OPTIONAL -- Need OP

]],

[[ mbsfn-SubframeConfigList-v1430 MBSFN-SubframeConfigList-v1430 OPTIONAL, -- Need OP

videoServiceCauseIndication-r14 ENUMERATED {true} OPTIONAL -- Need OP

]],

[[ plmn-InfoList-r15 PLMN-InfoList-r15 OPTIONAL -- Need OP

]],

[[ cp-EDT-r15 ENUMERATED {true} OPTIONAL, -- Need OR

up-EDT-r15 ENUMERATED {true} OPTIONAL, -- Need OR

idleModeMeasurements-r15 ENUMERATED {true} OPTIONAL, -- Need OR

reducedCP-LatencyEnabled-r15 ENUMERATED {true} OPTIONAL -- Need OR

]],

[[ mbms-ROM-ServiceIndication-r15 ENUMERATED {true} OPTIONAL -- Need OR

]],

[[ rlos-Enabled-r16 ENUMERATED {true} OPTIONAL, -- Need OR

earlySecurityReactivation-r16 ENUMERATED {true} OPTIONAL, -- Need OR

cp-EDT-5GC-r16 ENUMERATED {true} OPTIONAL, -- Need OR

up-EDT-5GC-r16 ENUMERATED {true} OPTIONAL, -- Need OR

cp-PUR-EPC-r16 ENUMERATED {true} OPTIONAL, -- Need OR

up-PUR-EPC-r16 ENUMERATED {true} OPTIONAL, -- Need OR

cp-PUR-5GC-r16 ENUMERATED {true} OPTIONAL, -- Need OR

up-PUR-5GC-r16 ENUMERATED {true} OPTIONAL, -- Need OR

mpdcch-CQI-Reporting-r16 ENUMERATED {fourBits, both} OPTIONAL, -- Need OR

rai-ActivationEnh-r16 ENUMERATED {true} OPTIONAL, -- Need OR

idleModeMeasurementsNR-r16 ENUMERATED {true} OPTIONAL -- Need OR

]],

[[ gnss-PositionFixDurationReporting-r18 ENUMERATED {true} OPTIONAL, -- Need OR

freqBandIndicatorAerial-r18 FreqBandIndicator-r11 OPTIONAL, -- Need OR

freqInfoAerial-r18 AdditionalSpectrumEmission-r18 OPTIONAL, -- Need OR

multiBandInfoListAerial-r18 SEQUENCE (SIZE (1..maxMultiBands)) OF AdditionalSpectrumEmission-r18 OPTIONAL -- Need OR

]]

}

SystemInformationBlockType2-v8h0-IEs ::= SEQUENCE {

multiBandInfoList SEQUENCE (SIZE (1..maxMultiBands)) OF AdditionalSpectrumEmission OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType2-v9e0-IEs OPTIONAL

}

SystemInformationBlockType2-v9e0-IEs ::= SEQUENCE {

ul-CarrierFreq-v9e0 ARFCN-ValueEUTRA-v9e0 OPTIONAL, -- Cond ul-FreqMax

nonCriticalExtension SystemInformationBlockType2-v9i0-IEs OPTIONAL

}

SystemInformationBlockType2-v9i0-IEs ::= SEQUENCE {

-- Following field is for any non-critical extensions from REL-9

nonCriticalExtension OCTET STRING (CONTAINING SystemInformationBlockType2-v10m0-IEs) OPTIONAL,

dummy SEQUENCE {} OPTIONAL

}

SystemInformationBlockType2-v10m0-IEs ::= SEQUENCE {

freqInfo-v10l0 SEQUENCE {

additionalSpectrumEmission-v10l0 AdditionalSpectrumEmission-v10l0

} OPTIONAL,

multiBandInfoList-v10l0 SEQUENCE (SIZE (1..maxMultiBands)) OF

AdditionalSpectrumEmission-v10l0 OPTIONAL,

nonCriticalExtension SystemInformationBlockType2-v10n0-IEs OPTIONAL

}

SystemInformationBlockType2-v10n0-IEs ::= SEQUENCE {

-- Following field is for non-critical extensions up-to REL-12

lateNonCriticalExtension OCTET STRING OPTIONAL,

nonCriticalExtension SystemInformationBlockType2-v13c0-IEs OPTIONAL

}

SystemInformationBlockType2-v13c0-IEs ::= SEQUENCE {

uplinkPowerControlCommon-v13c0 UplinkPowerControlCommon-v1310 OPTIONAL, -- Need OR

-- Following field is for non-critical extensions from REL-13

nonCriticalExtension SEQUENCE {} OPTIONAL

}

AC-BarringConfig ::= SEQUENCE {

ac-BarringFactor ENUMERATED {

p00, p05, p10, p15, p20, p25, p30, p40,

p50, p60, p70, p75, p80, p85, p90, p95},

ac-BarringTime ENUMERATED {s4, s8, s16, s32, s64, s128, s256, s512},

ac-BarringForSpecialAC BIT STRING (SIZE(5))

}

MBSFN-SubframeConfigList ::= SEQUENCE (SIZE (1..maxMBSFN-Allocations)) OF MBSFN-SubframeConfig

MBSFN-SubframeConfigList-v1430 ::= SEQUENCE (SIZE (1..maxMBSFN-Allocations)) OF MBSFN-SubframeConfig-v1430

AC-BarringPerPLMN-List-r12 ::= SEQUENCE (SIZE (1.. maxPLMN-r11)) OF AC-BarringPerPLMN-r12

AC-BarringPerPLMN-r12 ::= SEQUENCE {

plmn-IdentityIndex-r12 INTEGER (1..maxPLMN-r11),

ac-BarringInfo-r12 SEQUENCE {

ac-BarringForEmergency-r12 BOOLEAN,

ac-BarringForMO-Signalling-r12 AC-BarringConfig OPTIONAL, -- Need OP

ac-BarringForMO-Data-r12 AC-BarringConfig OPTIONAL -- Need OP

} OPTIONAL, -- Need OP

ac-BarringSkipForMMTELVoice-r12 ENUMERATED {true} OPTIONAL, -- Need OP

ac-BarringSkipForMMTELVideo-r12 ENUMERATED {true} OPTIONAL, -- Need OP

ac-BarringSkipForSMS-r12 ENUMERATED {true} OPTIONAL, -- Need OP

ac-BarringForCSFB-r12 AC-BarringConfig OPTIONAL, -- Need OP

ssac-BarringForMMTEL-Voice-r12 AC-BarringConfig OPTIONAL, -- Need OP

ssac-BarringForMMTEL-Video-r12 AC-BarringConfig OPTIONAL -- Need OP

}

ACDC-BarringForCommon-r13 ::= SEQUENCE {

acdc-HPLMNonly-r13 BOOLEAN,

barringPerACDC-CategoryList-r13 BarringPerACDC-CategoryList-r13

}

ACDC-BarringPerPLMN-List-r13 ::= SEQUENCE (SIZE (1.. maxPLMN-r11)) OF ACDC-BarringPerPLMN-r13

ACDC-BarringPerPLMN-r13 ::= SEQUENCE {

plmn-IdentityIndex-r13 INTEGER (1..maxPLMN-r11),

acdc-OnlyForHPLMN-r13 BOOLEAN,

barringPerACDC-CategoryList-r13 BarringPerACDC-CategoryList-r13

}

BarringPerACDC-CategoryList-r13 ::= SEQUENCE (SIZE (1..maxACDC-Cat-r13)) OF BarringPerACDC-Category-r13

BarringPerACDC-Category-r13 ::= SEQUENCE {

acdc-Category-r13 INTEGER (1..maxACDC-Cat-r13),

acdc-BarringConfig-r13 SEQUENCE {

ac-BarringFactor-r13 ENUMERATED {

p00, p05, p10, p15, p20, p25, p30, p40,

p50, p60, p70, p75, p80, p85, p90, p95},

ac-BarringTime-r13 ENUMERATED {s4, s8, s16, s32, s64, s128, s256, s512}

} OPTIONAL -- Need OP

}

UDT-Restricting-r13 ::= SEQUENCE {

udt-Restricting-r13 ENUMERATED {true} OPTIONAL, --Need OR

udt-RestrictingTime-r13 ENUMERATED {s4, s8, s16, s32, s64, s128, s256, s512} OPTIONAL --Need OR

}

UDT-RestrictingPerPLMN-List-r13 ::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF UDT-RestrictingPerPLMN-r13

UDT-RestrictingPerPLMN-r13 ::= SEQUENCE {

plmn-IdentityIndex-r13 INTEGER (1..maxPLMN-r11),

udt-Restricting-r13 UDT-Restricting-r13 OPTIONAL --Need OR

}

CIOT-EPS-OptimisationInfo-r13 ::= SEQUENCE (SIZE (1.. maxPLMN-r11)) OF CIOT-OptimisationPLMN-r13

CIOT-OptimisationPLMN-r13::= SEQUENCE {

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

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

attachWithoutPDN-Connectivity-r13 ENUMERATED {true} OPTIONAL -- Need OP

}

PLMN-InfoList-r15 ::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-Info-r15

PLMN-Info-r15 ::= SEQUENCE {

upperLayerIndication-r15 ENUMERATED {true} OPTIONAL -- Need OR

}

-- ASN1STOP

| *SystemInformationBlockType2* field descriptions |
| --- |
| ***ac-BarringFactor***  If the random number drawn by the UE is lower than this value, access is allowed. Otherwise the access is barred. The values are interpreted in the range [0,1): p00 = 0, p05 = 0.05, p10 = 0.10,…, p95 = 0.95. Values other than p00 can only be set if all bits of the corresponding *ac-BarringForSpecialAC* are set to 0. |
| ***ac-BarringForCSFB***  Access class barring for mobile originating CS fallback. |
| ***ac-BarringForEmergency***  Access class barring for AC 10. |
| ***ac-BarringForMO-Data***  Access class barring for mobile originating calls. |
| ***ac-BarringForMO-Signalling***  Access class barring formobile originating signalling. |
| ***ac-BarringForSpecialAC***  Access class barring for AC 11-15. The first/ leftmost bit is for AC 11, the second bit is for AC 12, and so on. |
| ***ac-BarringTime***  Mean access barring time value in seconds. |
| ***acdc-BarringConfig***  Barring configuration for an ACDC category. If the field is absent, access to the cell is considered as not barred for the ACDC category in accordance with clause 5.3.3.13. |
| ***acdc-Category***  Indicates the ACDC category as defined in TS 24.105 [72]. |
| ***acdc-OnlyForHPLMN***  Indicates whether ACDC is applicable for UEs not in their HPLMN for the corresponding PLMN. *TRUE* indicates that ACDC is applicable only for UEs in their HPLMN for the corresponding PLMN. *FALSE* indicates that ACDC is applicable for both UEs in their HPLMN and UEs not in their HPLMN for the corresponding PLMN. |
| ***additionalSpectrumEmission***  The UE requirements related to IE *AdditionalSpectrumEmission* are defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs and TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs. NOTE 1. |
| ***attachWithoutPDN-Connectivity***  If present, the field indicates that attach without PDN connectivity as specified in TS 24.301 [35] is supported for this PLMN. |
| ***barringPerACDC-CategoryList***  A list of barring information per ACDC category according to the order defined in TS 22.011 [10]. The first entry in the list corresponds to the highest ACDC category of which applications are the least restricted in access attempts at a cell, the second entry in the list corresponds to the ACDC category of which applications are restricted more than applications of the highest ACDC category in access attempts at a cell, and so on. The last entry in the list corresponds to the lowest ACDC category of which applications are the most restricted in access attempts at a cell. |
| ***cIoT-EPS-OptimisationInfo***  A list of CIoT EPS related parameters. Value 1 indicates parameters for the PLMN listed 1st in the 1st *plmn-IdentityList* included in SIB1. Value 2 indicates parameters for the PLMN listed 2nd in the same *plmn-IdentityList,* or when no more PLMN are present within the same *plmn-IdentityList,* then the value indicates paramters for PLMN listed 1st in the subsequent *plmn-IdentityList* within the same SIB1 and so on.NOTE 1. |
| ***cp-CIoT-EPS-Optimisation***  This field indicates if the UE is allowed to establish the connection with Control plane CIoT EPS Optimisation, see TS 24.301 [35]. |
| ***cp-EDT***  This field indicates whether the UE is allowed to initiate CP-EDT when connected to EPC, see 5.3.3.1b. |
| ***cp-EDT-5GC***  This field indicates whether the UE is allowed to initiate CP-EDT when connected to 5GC, see 5.3.3.1b. |
| ***cp-PUR-5GC***  This field indicates whether CP transmission using PUR is supported in the cell when connected to 5GC, see 5.3.3.1c. |
| ***cp-PUR-EPC***  This field indicates whether CP transmission using PUR is supported in the cell when connected to EPC, see 5.3.3.1c. |
| ***dummy***  This field is not used in the specification. If received it shall be ignored by the UE. |
| ***earlySecurityReactivation***  If present, this field indicates that early security reactivation when resuming a suspended RRC connection as specified in 5.3.3.18 is supported. |
| ***gnss-PositionFixDurationReporting***  If present, this field indicates that UEs capable of performing GNSS position fix in RRC\_CONNECTED are configured to include the time duration required to acquire a GNSS position in *RRCConnectionSetupComplete*, *RRCConnectionResumeComplete*, and *RRCConnectionReestablishmentComplete*. |
| ***idleModeMeasurements***  This field indicates that a UE that is configured for EUTRA idle/inactive measurements shall perform the measurements while camping in this cell and report availability of these measurements when establishing or resuming a connection in this cell. If absent, a UE is not required to perform EUTRA idle/inactive measurements. |
| ***idleModeMeasurementsNR***  This field indicates that a UE that is configured for NR idle/inactive measurements shall perform the measurements while camping in this cell and report availability of these measurements when establishing or resuming a connection in this cell. If absent, a UE is not required to perform NR idle/inactive measurements. |
| ***mbms-ROM-ServiceIndication***  This field indicates whether the UE is allowed to send*MBMSInterestIndication* message for the purpose of indicating receive only mode MBMS service parameters. | |
| ***mbsfn-SubframeConfigList***  Defines the subframes that are reserved for MBSFN in downlink.  NOTE 1. If the cell is a FeMBMS/Unicast mixed cell, EUTRAN includes *mbsfn-SubframeConfigList-v1430*. If a FeMBMS/Unicast mixed cell does not use sub-frames #4 or #9 as MBSFN sub-frames, *mbsfn-SubframeConfigList-v1430* is still included and indicates all sub-frames as non-MBSFN sub-frames. |
| ***mpdcch-CQI-Reporting***  This field indicates if downlink channel quality reporting during random access procedureis allowed, see TS 36.321 [6]. Value 'fourBits' indicates 4-bit CQI reporting is allowed and value 'both' indicates both 2-bit and 4-bit reporting are allowed. |
| ***multiBandInfoList***  A list of *AdditionalSpectrumEmission* i.e. one for each additional frequency band included in *multiBandInfoList* in *SystemInformationBlockType1,* listed in the same order. If E-UTRAN includes *multiBandInfoList-v10l0* it includes the same number of entries, and listed in the same order, as in *multiBandInfoList*. |
| ***plmn-IdentityIndex***  Index of the PLMN across the *plmn-IdentityList* fields included in SIB1. Value 1 indicates the PLMN listed 1st in the 1st *plmn-IdentityList* included in SIB1. Value 2 indicates the PLMN listed 2nd in 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.NOTE 1. |
| ***plmn-InfoList***  If E-UTRAN includes this field, it includes the same number of entries, and listed in the same order as PLMNs across the plmn-IdentityList fields included in SIB1. I.e. the first entry corresponds to the first entry of the combined list that results from concatenating the entries included in the second to the original plmn-IdentityList field. |
| ***rai-ActivationEnh***  Indicates whether UE connected to EPC is allowed to report the AS release assistance indication using the DCQR and AS RAI MAC CE in the cell as specified in TS 36.321 [6]. | |
| ***reducedCP-LatencyEnabled***  If present, reduced control plane latency is enabled. UEs supporting reduced CP latency transmit Msg3 according to timing as specified in TS 36.213 [23] when transmitting *RRCConnectionResumeRequest* in Msg3. | |
| ***rlos-Enabled***  Indicates whether access to RLOS is allowed as specified in TS 23.401 [41]. | |
| ***ssac-BarringForMMTEL-Video***  Service specific access class barring for MMTEL video originating calls. |
| ***ssac-BarringForMMTEL-Voice***  Service specific access class barring for MMTEL voice originating calls. |
| ***udt-Restricting***  Value TRUE indicates that the UE should indicate to the higher layers to restrict unattended data traffic TS 22.101 [77] irrespective of the UE being in RRC\_IDLE or RRC\_CONNECTED. The UE shall not indicate to the higher layers if the UE has one or more Access Classes, as stored on the USIM, with a value in the range 11..15, which is valid for the UE to use according to TS 22.011 [10] and TS 23.122 [11]. |
| ***udt-RestrictingTime***  If present and when the *udt-Restricting* changes from TRUE, the UE runs a timer for a period equal to rand \* *udt-RestrictingTime*, where rand is a random number drawn that is uniformly distributed in the range 0 ≤ rand < 1 value in seconds. The timer stops if *udt-Restricting* changes to TRUE. Upon timer expiry, the UE indicates to the higher layers that the restriction is alleviated. |
| ***unicastFreqHoppingInd***  This field indicates if the UE is allowed to indicate support of frequency hopping for unicast MPDCCH/PDSCH/PUSCH as described in TS 36.321 [6]. This field is included only in the BR version of SI message carrying *SystemInformationBlockType2.* |
| ***ul-Bandwidth***  Parameter: transmission bandwidth configuration, NRB, in uplink, see TS 36.101 [42], table 5.6-1 and TS 36.108 [114], table 5.3A-1. Value n6 corresponds to 6 resource blocks, n15 to 15 resource blocks and so on. If for FDD this parameter is absent, the uplink bandwidth is equal to the downlink bandwidth. For TDD this parameter is absent and it is equal to the downlink bandwidth. NOTE 1. |
| ***ul-CarrierFreq***  For FDD: If absent, the (default) value determined from the default TX-RX frequency separation defined in TS 36.101 [42], table 5.7.3-1 and 36.108 [114], table 5.4A.2-1, applies.  For TDD: This parameter is absent and it is equal to the downlink frequency. NOTE 1. |
| ***up-CIoT-EPS-Optimisation***  This field indicates if the UE is allowed to resume the connection with User plane CIoT EPS Optimisation, see TS 24.301 [35]. |
| ***up-EDT***  This field indicates whether the UE is allowed to initiate UP-EDT when connected to EPC, see 5.3.3.1b. |
| ***up-EDT-5GC***  This field indicates whether the UE is allowed to initiate UP-EDT when connected to 5GC, see 5.3.3.1b. |
| ***up-PUR-5GC***  This field indicates whether UP transmission using PUR is supported in the cell when connected to 5GC, see 5.3.3.1c. |
| ***up-PUR-EPC***  This field indicates whether UP transmission using PUR is supported in the cell when connected to EPC, see 5.3.3.1c. |
| ***upperLayerIndication***  Indication to be provided to upper layers. |
| ***useFullResumeID***  This field indicates if the UE indicates full resume ID of 40 bits in *RRCConnectionResumeRequest*. |
| ***videoServiceCauseIndication***  Indicates whether the UE is requested to use the establishment cause *mo-VoiceCall* for mobile originating MMTEL video calls. |
| ***voiceServiceCauseIndication***  Indicates whether UE is requested to use the establishment cause *mo-VoiceCall* for mobile originating MMTEL voice calls. |

| Conditional presence | Explanation |
| --- | --- |
| *ul-FreqMax* | The field is mandatory present if *ul-CarrierFreq* (i.e. without suffix) is present and set to *maxEARFCN*. Otherwise the field is not present. |

NOTE 1: E-UTRAN sets this field to the same value for all instances of SI message that are broadcasted within the same cell.

#### – *SystemInformationBlockType3*

The IE *SystemInformationBlockType3* contains cell re-selection information common for intra-frequency, inter-frequency and/ or inter-RAT cell re-selection (i.e. applicable for more than one type of cell re-selection but not necessarily all) as well as intra-frequency cell re-selection information other than neighbouring cell related.

*SystemInformationBlockType3* information element

-- ASN1START

SystemInformationBlockType3 ::= SEQUENCE {

cellReselectionInfoCommon SEQUENCE {

q-Hyst ENUMERATED {

dB0, dB1, dB2, dB3, dB4, dB5, dB6, dB8, dB10,

dB12, dB14, dB16, dB18, dB20, dB22, dB24},

speedStateReselectionPars SEQUENCE {

mobilityStateParameters MobilityStateParameters,

q-HystSF SEQUENCE {

sf-Medium ENUMERATED {

dB-6, dB-4, dB-2, dB0},

sf-High ENUMERATED {

dB-6, dB-4, dB-2, dB0}

}

} OPTIONAL -- Need OP

},

cellReselectionServingFreqInfo SEQUENCE {

s-NonIntraSearch ReselectionThreshold OPTIONAL, -- Need OP

threshServingLow ReselectionThreshold,

cellReselectionPriority CellReselectionPriority

},

intraFreqCellReselectionInfo SEQUENCE {

q-RxLevMin Q-RxLevMin,

p-Max P-Max OPTIONAL, -- Need OP

s-IntraSearch ReselectionThreshold OPTIONAL, -- Need OP

allowedMeasBandwidth AllowedMeasBandwidth OPTIONAL, -- Need OP

presenceAntennaPort1 PresenceAntennaPort1,

neighCellConfig NeighCellConfig,

t-ReselectionEUTRA T-Reselection,

t-ReselectionEUTRA-SF SpeedStateScaleFactors OPTIONAL -- Need OP

},

...,

lateNonCriticalExtension OCTET STRING (CONTAINING SystemInformationBlockType3-v10j0-IEs) OPTIONAL,

[[ s-IntraSearch-v920 SEQUENCE {

s-IntraSearchP-r9 ReselectionThreshold,

s-IntraSearchQ-r9 ReselectionThresholdQ-r9

} OPTIONAL, -- Need OP

s-NonIntraSearch-v920 SEQUENCE {

s-NonIntraSearchP-r9 ReselectionThreshold,

s-NonIntraSearchQ-r9 ReselectionThresholdQ-r9

} OPTIONAL, -- Need OP

q-QualMin-r9 Q-QualMin-r9 OPTIONAL, -- Need OP

threshServingLowQ-r9 ReselectionThresholdQ-r9 OPTIONAL -- Need OP

]],

[[ q-QualMinWB-r11 Q-QualMin-r9 OPTIONAL -- Cond WB-RSRQ

]],

[[ q-QualMinRSRQ-OnAllSymbols-r12 Q-QualMin-r9 OPTIONAL -- Cond RSRQ

]],

[[ cellReselectionServingFreqInfo-v1310 CellReselectionServingFreqInfo-v1310 OPTIONAL, -- Need OP

redistributionServingInfo-r13 RedistributionServingInfo-r13 OPTIONAL, --Need OR

cellSelectionInfoCE-r13 CellSelectionInfoCE-r13 OPTIONAL, -- Need OP

t-ReselectionEUTRA-CE-r13 T-ReselectionEUTRA-CE-r13 OPTIONAL-- Need OP

]],

[[ cellSelectionInfoCE1-r13 CellSelectionInfoCE1-r13 OPTIONAL -- Need OP

]],

[[ cellSelectionInfoCE1-v1360 CellSelectionInfoCE1-v1360 OPTIONAL -- Cond QrxlevminCE1

]],

[[ cellReselectionInfoCommon-v1460 CellReselectionInfoCommon-v1460 OPTIONAL -- Need OR

]],

[[ cellReselectionInfoHSDN-r15 CellReselectionInfoHSDN-r15 OPTIONAL, -- Need OR

cellSelectionInfoCE-v1530 CellSelectionInfoCE-v1530 OPTIONAL, -- Need OP

crs-IntfMitigNeighCellsCE-r15 ENUMERATED {enabled} OPTIONAL -- Need OP

]],

[[ cellReselectionServingFreqInfo-v1610 CellReselectionServingFreqInfo-v1610 OPTIONAL -- Need OR

]],

[[ t-Service-r17 TimeOffsetUTC-r17 OPTIONAL -- Need OR

]],

[[ satelliteAssistanceInfoList-r18

SEQUENCE (SIZE(1..maxSat-r17)) OF SatelliteId-r18 OPTIONAL, -- Need OR

freqBandInfoAerial-r18 NS-PmaxListAerial-r18 OPTIONAL, -- Need OR

multiBandInfoListAerial-r18 MultiBandInfoListAerial-r18 OPTIONAL -- Need OR

]]

}

RedistributionServingInfo-r13 ::= SEQUENCE {

redistributionFactorServing-r13 INTEGER(0..10),

redistributionFactorCell-r13 ENUMERATED{true} OPTIONAL, --Need OP

t360-r13 ENUMERATED {min4, min8, min16, min32,infinity,

spare3,spare2,spare1},

redistrOnPagingOnly-r13 ENUMERATED {true} OPTIONAL --Need OP

}

CellReselectionServingFreqInfo-v1310 ::= SEQUENCE {

cellReselectionSubPriority-r13 CellReselectionSubPriority-r13

}

CellReselectionServingFreqInfo-v1610 ::= SEQUENCE {

altCellReselectionPriority-r16 CellReselectionPriority OPTIONAL, -- Need OR

altCellReselectionSubPriority-r16 CellReselectionSubPriority-r13 OPTIONAL -- Need OR

}

-- Late non critical extensions

SystemInformationBlockType3-v10j0-IEs ::= SEQUENCE {

freqBandInfo-r10 NS-PmaxList-r10 OPTIONAL, -- Need OR

multiBandInfoList-v10j0 MultiBandInfoList-v10j0 OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType3-v10l0-IEs OPTIONAL

}

SystemInformationBlockType3-v10l0-IEs ::= SEQUENCE {

freqBandInfo-v10l0 NS-PmaxList-v10l0 OPTIONAL, -- Need OR

multiBandInfoList-v10l0 MultiBandInfoList-v10l0 OPTIONAL, -- Need OR

nonCriticalExtension SEQUENCE {} OPTIONAL

}

CellReselectionInfoCommon-v1460 ::= SEQUENCE {

s-SearchDeltaP-r14 ENUMERATED {dB6, dB9, dB12, dB15}

}

CellReselectionInfoHSDN-r15 ::= SEQUENCE {

cellEquivalentSize-r15 INTEGER(2..16)

}

-- ASN1STOP

| *SystemInformationBlockType3* field descriptions |
| --- |
| ***allowedMeasBandwidth***  If absent, the value corresponding to the downlink bandwidth indicated by the *dl-Bandwidth* included in *MasterInformationBlock* applies. |
| ***altCellReselectionPriority***  Alternative cell reselection priorities to be used by the UEs for which the *altFreqPriorities* is set to *true* in the *RRCConnectionRelease* message. |
| ***altCellReselectionSubPriority***  Alternative cell reselection sub-priorities to be used by the UEs for which the *altFreqPriorities* is set to *true* in the *RRCConnectionRelease* message. |
| ***cellEquivalentSize***  The number of cell count used for mobility state estimation for this cell as specified in TS 36.304 [4]. |
| ***cellSelectionInfoCE***  Parameters included in coverage enhancement S criteria for BL UEs and UEs in CE, applicable for intra-frequency neighbour cells. If absent, coverage enhancement S criteria is not applicable. |
| ***cellSelectionInfoCE1***  Parameters included in coverage enhancement S criteria for BL UEs and UEs in CE supporting CE Mode B, applicable for intra-frequency neighbour cells. E-UTRAN includes this IE only if *cellSelectionInfoCE* in SIB3 is present. | |
| ***cellReselectionInfoCommon***  Cell re-selection information common for cells. |
| ***cellReselectionServingFreqInfo***  Information common for Cell re-selection to inter-frequency and inter-RAT cells. |
| ***crs-IntfMitigNeighCellsCE***  For BL UEs supporting *ce-CRS-IntfMitig*, this field indicates CRS interference mitigation, as specified in TS 36.133 [16], clause 3.6.1.2 and 3.6.1.3, is enabled in any of the intra-frequency neibhour cells, and the UE shall perform intra-frequency neighbour cell RRM measurements in the center 6 PRBs. |
| ***freqBandInfo***  A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs, TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs and TS 36.102 [113], table 6.2A.3-1, for NTN capable UE, applicable for the intra-frequency neighouring E-UTRA cells if the UE selects the frequency band from *freqBandIndicator* in *SystemInformationBlockType1*. If E-UTRAN includes *freqBandInfo-v10l0* it includes the same number of entries, and listed in the same order, as in *freqBandInfo-r10*. |
| ***intraFreqcellReselectionInfo***  Cell re-selection information common for intra-frequency cells. |
| ***multiBandInfoList-v10j0***  A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs, TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs and TS 36.102 [113], table 6.2A.3-1, for NTN capable UE, applicable for the intra-frequency neighouring E-UTRA cells if the UE selects the frequency bands in *multiBandInfoList* (i.e. without suffix) or *multiBandInfoList-v9e0*. If E-UTRAN includes *multiBandInfoList-v10j0*, it includes the same number of entries, and listed in the same order, as in *multiBandInfoList* (i.e. without suffix). If E-UTRAN includes *multiBandInfoList-v10l0* it includes the same number of entries, and listed in the same order, as in *multiBandInfoList-v10j0*. |
| ***p-Max***  Value applicable for the intra-frequency neighbouring E-UTRA cells. If absent the UE applies the maximum power according to its capability as specified in TS 36.101 [42], clause 6.2.2. This field is ignored by IAB-MT. The IAB-MT applies output power and emissions requirements, as specified in TS 38.174 [107]. |
| ***redistrOnPagingOnly***  If this field is present and the UE is redistribution capable, the UE shall only wait for the paging message to trigger E-UTRAN inter-frequency redistribution procedure as specified in clause 5.2.4.10 of TS 36.304 [4]. |
| ***q-Hyst***  Parameter *Qhyst* in TS 36.304 [4], Value in dB. Value dB1 corresponds to 1 dB, dB2 corresponds to 2 dB and so on. |
| ***q-HystSF***  Parameter "Speed dependent ScalingFactor for *Qhyst*" in TS 36.304 [4]. The sf-Medium and sf-High concern the additional hysteresis to be applied, in Medium and High Mobility state respectively, to *Qhyst* as defined in TS 36.304 [4]. In dB. Value dB-6 corresponds to -6dB, dB-4 corresponds to -4dB and so on. |
| ***q-QualMin***  Parameter "Qqualmin" in TS 36.304 [4], applicable for intra-frequency neighbour cells. If the field is not present, the UE applies the (default) value of negative infinity for Qqualmin. NOTE 1. |
| ***q-QualMinRSRQ-OnAllSymbols***  If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, perform RSRQ measurement on all OFDM symbols in accordance with TS 36.214 [48]. NOTE 1. |
| ***q-QualMinWB***  If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, use a wider bandwidth in accordance with TS 36.133 [16]. NOTE 1. |
| ***q-RxLevMin***  Parameter "Qrxlevmin" in TS 36.304 [4], applicable for intra-frequency neighbour cells. |
| ***redistributionFactorCell***  If *redistributionFactorCell* is present, *redistributionFactorServing* is only applicable for the serving cell otherwise it is applicable for serving frequency |
| ***redistributionFactorServing***  Parameter *redistributionFactorServing* in TS 36.304 [4]. |
| ***s-IntraSearch***  Parameter "SIntraSearchP" in TS 36.304 [4]. If the field *s-IntraSearchP* is present, the UE applies the value of *s-IntraSearchP* instead. Otherwise if neither *s-IntraSearch* nor *s-IntraSearchP* is present, the UE applies the (default) value of infinity for SIntraSearchP. |
| ***s-IntraSearchP***  Parameter "SIntraSearchP" in TS 36.304 [4]. See descriptions under *s-IntraSearch*. |
| ***s-IntraSearchQ***  Parameter "SIntraSearchQ" in TS 36.304 [4]. If the field is not present, the UE applies the (default) value of 0 dB for SIntraSearchQ. |
| ***s-NonIntraSearch***  Parameter "SnonIntraSearchP" in TS 36.304 [4]. If the field *s-NonIntraSearchP* is present, the UE applies the value of *s-NonIntraSearchP* instead. Otherwise if neither *s-NonIntraSearch* nor *s-NonIntraSearchP* is present, the UE applies the (default) value of infinity for SnonIntraSearchP. |
| ***s-NonIntraSearchP***  Parameter "SnonIntraSearchP" in TS 36.304 [4]. See descriptions under *s-NonIntraSearch*. |
| ***s-NonIntraSearchQ***  Parameter "SnonIntraSearchQ" in TS 36.304 [4]. If the field is not present, the UE applies the (default) value of 0 dB for SnonIntraSearchQ. |
| ***s-SearchDeltaP***  Parameter "SSearchDeltaP" in TS 36.304 [4]. This parameter is only applicable for UEs supporting relaxed monitoring as specified in TS 36.306 [5]. Value dB6 corresponds to 6 dB, dB9 corresponds to 9 dB and so on. |
| ***satelliteAssistanceInfoList***  List of satellite ID(s), used to associate with the satellite assistance information for intra-frequency neighbour cell measurements. |
| ***speedStateReselectionPars***  Speed dependent reselection parameters, see TS 36.304 [4]. If this field is absent, i.e, *mobilityStateParameters* is also not present, UE behaviour is specified in TS 36.304 [4]. |
| ***t-Service***  Time information on when a NTN quasi-Earth fixed cell is going to stop serving the area it is currently covering, as specified in TS 36.304 [4]. | |
| ***t360***  Parameter "T360" in TS 36.304 [4]. Value *min4* corresponds to 4 minutes, value *min8* corresponds to 8 minutes, and so on. |
| ***threshServingLow***  Parameter "ThreshServing, LowP" in TS 36.304 [4]. |
| ***threshServingLowQ***  Parameter "ThreshServing, LowQ" in TS 36.304 [4]. |
| ***t-ReselectionEUTRA***  Parameter "TreselectionEUTRA" in TS 36.304 [4]. |
| ***t-ReselectionEUTRA-SF***  Parameter "Speed dependent ScalingFactor for TreselectionEUTRA" in TS 36.304 [4]. If the field is not present, the UE behaviour is specified in TS 36.304 [4]. |

NOTE 1: The value the UE applies for parameter "Qqualmin" in TS 36.304 [4] depends on the *q-QualMin* fields signalled by E-UTRAN and supported by the UE. In case multiple candidate options are available, the UE shall select the highest priority candidate option according to the priority order indicated by the following table (top row is highest priority).

|  |  |  |
| --- | --- | --- |
| q-QualMinRSRQ-OnAllSymbols | q-QualMinWB | Value of parameter "Qqualmin" in TS 36.304 [4] |
| Included | Included | *q-QualMinRSRQ-OnAllSymbols* – (*q-QualMin* – *q-QualMinWB*) |
| Included | Not included | *q-QualMinRSRQ-OnAllSymbols* |
| Not included | Included | *q-QualMinWB* |
| Not included | Not included | *q-QualMin* |

| Conditional presence | Explanation |
| --- | --- |
| *QrxlevminCE1* | The field is optionally present, Need OR, if *q-RxLevMinCE1-r13* is set below -140 dBm. Otherwise the field is not present. |
| *RSRQ* | The field is optionally present, Need OR, if *threshServingLowQ* is present in SIB3; otherwise it is not present. |
| *WB-RSRQ* | The field is optionally present, need OP if the measurement bandwidth indicated by *allowedMeasBandwidth* is 50 resource blocks or larger; otherwise it is not present. |

#### – *SystemInformationBlockType4*

The IE *SystemInformationBlockType4* contains neighbouring cell related information relevant only for intra-frequency cell re-selection. The IE includes cells with specific re-selection parameters as well as exclude-listed cells.

*SystemInformationBlockType4* information element

-- ASN1START

SystemInformationBlockType4 ::= SEQUENCE {

intraFreqNeighCellList IntraFreqNeighCellList OPTIONAL, -- Need OR

intraFreqExcludedCellList IntraFreqExcludedCellList OPTIONAL, -- Need OR

csg-PhysCellIdRange PhysCellIdRange OPTIONAL, -- Cond CSG

...,

lateNonCriticalExtension OCTET STRING OPTIONAL,

[[ intraFreqNeighHSDN-CellList-r15 IntraFreqNeighHSDN-CellList-r15 OPTIONAL -- Need OR

]],

[[ rss-ConfigCarrierInfo-r16 RSS-ConfigCarrierInfo-r16 OPTIONAL, -- Cond RSS

intraFreqNeighCellList-v1610 IntraFreqNeighCellList-v1610 OPTIONAL -- Cond RSS

]]

}

IntraFreqNeighCellList ::= SEQUENCE (SIZE (1..maxCellIntra)) OF IntraFreqNeighCellInfo

IntraFreqNeighCellList-v1610 ::= SEQUENCE (SIZE (1..maxCellIntra)) OF IntraFreqNeighCellInfo-v1610

IntraFreqNeighHSDN-CellList-r15 ::= SEQUENCE (SIZE (1..maxCellIntra)) OF PhysCellIdRange

IntraFreqNeighCellInfo ::= SEQUENCE {

physCellId PhysCellId,

q-OffsetCell Q-OffsetRange,

...

}

IntraFreqNeighCellInfo-v1610 ::= SEQUENCE {

rss-MeasPowerBias-r16 RSS-MeasPowerBias-r16

}

IntraFreqExcludedCellList ::= SEQUENCE (SIZE (1..maxExcludedCell)) OF PhysCellIdRange

-- ASN1STOP

| *SystemInformationBlockType4* field descriptions |
| --- |
| ***csg-PhysCellIdRange***  Set of physical cell identities reserved for CSG cells on the frequency on which this field was received. The received *csg-PhysCellIdRange* applies if less than 24 hours has elapsed since it was received and the UE is camped on a cell of the same primary PLMN where this field was received. The 3 hour validity restriction (clause 5.2.1.3) does not apply to this field. The UE shall not apply any stored *csg-PhysCellIdRange* when it is in *any cell selection* state defined in TS 36.304 [4]. |
| ***intraFreqExcludedCellList***  List of exclude-listed intra-frequency neighbouring cells. |
| ***intraFreqNeighCellList***  List of intra-frequency neighbouring cells with specific cell re-selection parameters. *intraFreqNeighCellList-v1610* indicates list of RSS assistance information which is used for the corresponding *physCellId*. If E-UTRAN includes *intraFreqNeighCellList-v1610*, it includes the same number of entries, and listed in the same order, as in *intraFreqNeighCellList* (i.e. without suffix)*.* If *intraFreqNeighCellList-v1610* is absent, measurement based on RSS is not applicable for all the neighbour cells in *intraFreqNeighCellList* (i.e. without suffix). |
| ***intraFreqNeighHSDN-CellList***  List of intra-frequency neighbouring HSDN cells as specified in TS 36.304 [4]. |
| ***q-OffsetCell***  Parameter "Qoffsets,n" in TS 36.304 [4]. |
| ***rss-ConfigCarrierInfo***  RSS configurations for this carrier frequency. If absent and *rss-MeasConfig* is included in SIB2, RSS is collocated (time and frequency domain) in all cells. | |

| Conditional presence | Explanation |
| --- | --- |
| *CSG* | This field is optional, need OP, for non-CSG cells, and mandatory for CSG cells. |
| *RSS* | This field is optional, need OP, if *rss-MeasConfig* is included in SIB2. Otherwise the field is not present, and the UE shall delete any existing value for this field. |

#### – *SystemInformationBlockType5*

The IE *SystemInformationBlockType5* contains information relevant for inter-frequency cell re-selection (i.e. information about other E‑UTRA frequencies and inter-frequency neighbouring cells relevant for cell re-selection) and information relevant for E-UTRA and NR idle/inactive measurements. The IE includes cell re-selection parameters common for a frequency as well as cell specific re-selection parameters.

*SystemInformationBlockType5* information element

-- ASN1START

SystemInformationBlockType5 ::= SEQUENCE {

interFreqCarrierFreqList InterFreqCarrierFreqList,

...,

lateNonCriticalExtension OCTET STRING (CONTAINING SystemInformationBlockType5-v8h0-IEs) OPTIONAL,

[[ interFreqCarrierFreqList-v1250 InterFreqCarrierFreqList-v1250 OPTIONAL, -- Need OR

interFreqCarrierFreqListExt-r12 InterFreqCarrierFreqListExt-r12 OPTIONAL -- Need OR

]],

[[ interFreqCarrierFreqListExt-v1280 InterFreqCarrierFreqListExt-v1280 OPTIONAL -- Need OR

]],

[[ interFreqCarrierFreqList-v1310 InterFreqCarrierFreqList-v1310 OPTIONAL, -- Need OR

interFreqCarrierFreqListExt-v1310 InterFreqCarrierFreqListExt-v1310 OPTIONAL -- Need OR

]],

[[ interFreqCarrierFreqList-v1350 InterFreqCarrierFreqList-v1350 OPTIONAL, -- Need OR

interFreqCarrierFreqListExt-v1350 InterFreqCarrierFreqListExt-v1350 OPTIONAL -- Need OR

]],

[[ interFreqCarrierFreqListExt-v1360 InterFreqCarrierFreqListExt-v1360 OPTIONAL -- Need OR

]],

[[ scptm-FreqOffset-r14 INTEGER (1..8) OPTIONAL -- Need OP

]],

[[ interFreqCarrierFreqList-v1530 InterFreqCarrierFreqList-v1530 OPTIONAL, -- Need OR

interFreqCarrierFreqListExt-v1530 InterFreqCarrierFreqListExt-v1530 OPTIONAL, -- Need OR

measIdleConfigSIB-r15 MeasIdleConfigSIB-r15 OPTIONAL -- Need OR

]],

[[ interFreqCarrierFreqList-v1610 InterFreqCarrierFreqList-v1610 OPTIONAL, -- Need OR

interFreqCarrierFreqListExt-v1610 InterFreqCarrierFreqListExt-v1610 OPTIONAL, -- Need OR

measIdleConfigSIB-NR-r16 MeasIdleConfigSIB-NR-r16 OPTIONAL -- Need OR

]],

[[ interFreqCarrierFreqList-v1800 InterFreqCarrierFreqList-v1800 OPTIONAL, -- Need OR

interFreqCarrierFreqListExt-v1800 InterFreqCarrierFreqListExt-v1800 OPTIONAL -- Need OR

]]

}

-- Late non critical extensions

SystemInformationBlockType5-v8h0-IEs ::= SEQUENCE {

interFreqCarrierFreqList-v8h0 SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v8h0 OPTIONAL, -- Need OP

nonCriticalExtension SystemInformationBlockType5-v9e0-IEs OPTIONAL

}

SystemInformationBlockType5-v9e0-IEs ::= SEQUENCE {

interFreqCarrierFreqList-v9e0 SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v9e0 OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType5-v10j0-IEs OPTIONAL

}

SystemInformationBlockType5-v10j0-IEs ::= SEQUENCE {

interFreqCarrierFreqList-v10j0 SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v10j0 OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType5-v10l0-IEs OPTIONAL

}

SystemInformationBlockType5-v10l0-IEs ::= SEQUENCE {

interFreqCarrierFreqList-v10l0 SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v10l0 OPTIONAL, -- Need OR

nonCriticalExtension SystemInformationBlockType5-v13a0-IEs OPTIONAL

}

SystemInformationBlockType5-v13a0-IEs ::= SEQUENCE {

-- Late non critical extensions from REL-10 upto REL-12

lateNonCriticalExtension OCTET STRING OPTIONAL, -- Need OR

interFreqCarrierFreqList-v13a0 InterFreqCarrierFreqList-v13a0 OPTIONAL, -- Need OR

-- Late non critical extensions from REL-13

nonCriticalExtension SEQUENCE {} OPTIONAL

}

InterFreqCarrierFreqList ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo

InterFreqCarrierFreqList-v1250 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1250

InterFreqCarrierFreqList-v1310 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1310

InterFreqCarrierFreqList-v1350 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1350

InterFreqCarrierFreqList-v13a0 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1360

InterFreqCarrierFreqList-v1530 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1530

InterFreqCarrierFreqList-v1610 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1610

InterFreqCarrierFreqList-v1800 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1800

InterFreqCarrierFreqListExt-r12 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-r12

InterFreqCarrierFreqListExt-v1280 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v10j0

InterFreqCarrierFreqListExt-v1310 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1310

InterFreqCarrierFreqListExt-v1350 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1350

InterFreqCarrierFreqListExt-v1360 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1360

InterFreqCarrierFreqListExt-v1530 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1530

InterFreqCarrierFreqListExt-v1610 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1610

InterFreqCarrierFreqListExt-v1800 ::= SEQUENCE (SIZE (1..maxFreq)) OF InterFreqCarrierFreqInfo-v1800

InterFreqCarrierFreqInfo ::= SEQUENCE {

dl-CarrierFreq ARFCN-ValueEUTRA,

q-RxLevMin Q-RxLevMin,

p-Max P-Max OPTIONAL, -- Need OP

t-ReselectionEUTRA T-Reselection,

t-ReselectionEUTRA-SF SpeedStateScaleFactors OPTIONAL, -- Need OP

threshX-High ReselectionThreshold,

threshX-Low ReselectionThreshold,

allowedMeasBandwidth AllowedMeasBandwidth,

presenceAntennaPort1 PresenceAntennaPort1,

cellReselectionPriority CellReselectionPriority OPTIONAL, -- Need OP

neighCellConfig NeighCellConfig,

q-OffsetFreq Q-OffsetRange DEFAULT dB0,

interFreqNeighCellList InterFreqNeighCellList OPTIONAL, -- Need OR

interFreqExcludedCellList InterFreqExcludedCellList OPTIONAL, -- Need OR

...,

[[ q-QualMin-r9 Q-QualMin-r9 OPTIONAL, -- Need OP

threshX-Q-r9 SEQUENCE {

threshX-HighQ-r9 ReselectionThresholdQ-r9,

threshX-LowQ-r9 ReselectionThresholdQ-r9

} OPTIONAL -- Cond RSRQ

]],

[[ q-QualMinWB-r11 Q-QualMin-r9 OPTIONAL -- Cond WB-RSRQ

]]

}

InterFreqCarrierFreqInfo-v8h0 ::= SEQUENCE {

multiBandInfoList MultiBandInfoList OPTIONAL -- Need OR

}

InterFreqCarrierFreqInfo-v9e0 ::= SEQUENCE {

dl-CarrierFreq-v9e0 ARFCN-ValueEUTRA-v9e0 OPTIONAL, -- Cond dl-FreqMax

multiBandInfoList-v9e0 MultiBandInfoList-v9e0 OPTIONAL -- Need OR

}

InterFreqCarrierFreqInfo-v10j0 ::= SEQUENCE {

freqBandInfo-r10 NS-PmaxList-r10 OPTIONAL, -- Need OR

multiBandInfoList-v10j0 MultiBandInfoList-v10j0 OPTIONAL -- Need OR

}

InterFreqCarrierFreqInfo-v10l0 ::= SEQUENCE {

freqBandInfo-v10l0 NS-PmaxList-v10l0 OPTIONAL, -- Need OR

multiBandInfoList-v10l0 MultiBandInfoList-v10l0 OPTIONAL -- Need OR

}

InterFreqCarrierFreqInfo-v1250 ::= SEQUENCE {

reducedMeasPerformance-r12 ENUMERATED {true} OPTIONAL, -- Need OP

q-QualMinRSRQ-OnAllSymbols-r12 Q-QualMin-r9 OPTIONAL -- Cond RSRQ2

}

InterFreqCarrierFreqInfo-r12 ::= SEQUENCE {

dl-CarrierFreq-r12 ARFCN-ValueEUTRA-r9,

q-RxLevMin-r12 Q-RxLevMin,

p-Max-r12 P-Max OPTIONAL, -- Need OP

t-ReselectionEUTRA-r12 T-Reselection,

t-ReselectionEUTRA-SF-r12 SpeedStateScaleFactors OPTIONAL, -- Need OP

threshX-High-r12 ReselectionThreshold,

threshX-Low-r12 ReselectionThreshold,

allowedMeasBandwidth-r12 AllowedMeasBandwidth,

presenceAntennaPort1-r12 PresenceAntennaPort1,

cellReselectionPriority-r12 CellReselectionPriority OPTIONAL, -- Need OP

neighCellConfig-r12 NeighCellConfig,

q-OffsetFreq-r12 Q-OffsetRange DEFAULT dB0,

interFreqNeighCellList-r12 InterFreqNeighCellList OPTIONAL, -- Need OR

interFreqExcludedCellList-r12 InterFreqExcludedCellList OPTIONAL, -- Need OR

q-QualMin-r12 Q-QualMin-r9 OPTIONAL, -- Need OP

threshX-Q-r12 SEQUENCE {

threshX-HighQ-r12 ReselectionThresholdQ-r9,

threshX-LowQ-r12 ReselectionThresholdQ-r9

} OPTIONAL, -- Cond RSRQ

q-QualMinWB-r12 Q-QualMin-r9 OPTIONAL, -- Cond WB-RSRQ

multiBandInfoList-r12 MultiBandInfoList-r11 OPTIONAL, -- Need OR

reducedMeasPerformance-r12 ENUMERATED {true} OPTIONAL, -- Need OP

q-QualMinRSRQ-OnAllSymbols-r12 Q-QualMin-r9 OPTIONAL, -- Cond RSRQ2

...

}

InterFreqCarrierFreqInfo-v1310 ::= SEQUENCE {

cellReselectionSubPriority-r13 CellReselectionSubPriority-r13 OPTIONAL, -- Need OP

redistributionInterFreqInfo-r13 RedistributionInterFreqInfo-r13 OPTIONAL, --Need OP

cellSelectionInfoCE-r13 CellSelectionInfoCE-r13 OPTIONAL, -- Need OP

t-ReselectionEUTRA-CE-r13 T-ReselectionEUTRA-CE-r13 OPTIONAL -- Need OP

}

InterFreqCarrierFreqInfo-v1350 ::= SEQUENCE {

cellSelectionInfoCE1-r13 CellSelectionInfoCE1-r13 OPTIONAL -- Need OP

}

InterFreqCarrierFreqInfo-v1360 ::= SEQUENCE {

cellSelectionInfoCE1-v1360 CellSelectionInfoCE1-v1360 OPTIONAL -- Cond QrxlevminCE1

}

InterFreqCarrierFreqInfo-v1530 ::= SEQUENCE {

hsdn-Indication-r15 BOOLEAN,

interFreqNeighHSDN-CellList-r15 InterFreqNeighHSDN-CellList-r15 OPTIONAL, -- Need OR

cellSelectionInfoCE-v1530 CellSelectionInfoCE-v1530 OPTIONAL -- Need OP

}

InterFreqCarrierFreqInfo-v1610 ::= SEQUENCE {

altCellReselectionPriority-r16 CellReselectionPriority OPTIONAL, -- Need OR

altCellReselectionSubPriority-r16 CellReselectionSubPriority-r13 OPTIONAL, -- Need OR

rss-ConfigCarrierInfo-r16 RSS-ConfigCarrierInfo-r16 OPTIONAL, -- Cond RSS

interFreqNeighCellList-v1610 InterFreqNeighCellList-v1610 OPTIONAL -- Cond RSS

}

InterFreqCarrierFreqInfo-v1800 ::= SEQUENCE {

satelliteAssistanceInfoList-r18 SEQUENCE (SIZE(1..maxSat-r17)) OF SatelliteId-r18

OPTIONAL, -- Need OR

freqBandIndicatorAerial-r18 FreqBandIndicator-r11 OPTIONAL, -- Need OR

freqBandInfoAerial-r18 NS-PmaxListAerial-r18 OPTIONAL, -- Need OR

multiBandInfoListAerial-r18 MultiBandInfoListAerial-r18 OPTIONAL -- Need OR

}

InterFreqNeighCellList ::= SEQUENCE (SIZE (1..maxCellInter)) OF InterFreqNeighCellInfo

InterFreqNeighCellList-v1610 ::= SEQUENCE (SIZE (1..maxCellInter)) OF InterFreqNeighCellInfo-v1610

InterFreqNeighHSDN-CellList-r15 ::= SEQUENCE (SIZE (1..maxCellInter)) OF PhysCellIdRange

InterFreqNeighCellInfo ::= SEQUENCE {

physCellId PhysCellId,

q-OffsetCell Q-OffsetRange

}

InterFreqNeighCellInfo-v1610 ::= SEQUENCE {

rss-MeasPowerBias-r16 RSS-MeasPowerBias-r16

}

InterFreqExcludedCellList ::= SEQUENCE (SIZE (1..maxExcludedCell)) OF PhysCellIdRange

RedistributionInterFreqInfo-r13 ::= SEQUENCE {

redistributionFactorFreq-r13 RedistributionFactor-r13 OPTIONAL, --Need OP

redistributionNeighCellList-r13 RedistributionNeighCellList-r13 OPTIONAL --Need OP

}

RedistributionNeighCellList-r13 ::= SEQUENCE (SIZE (1..maxCellInter)) OF RedistributionNeighCell-r13

RedistributionNeighCell-r13 ::= SEQUENCE {

physCellId-r13 PhysCellId,

redistributionFactorCell-r13 RedistributionFactor-r13

}

RedistributionFactor-r13 ::= INTEGER(1..10)

-- ASN1STOP

| *SystemInformationBlockType5* field descriptions |
| --- |
| ***altCellReselectionPriority***  Alternative cell reselection priorities to be used by the UEs for which the *altFreqPriorities* is set to *true* in the *RRCConnectionRelease* message. |
| ***altCellReselectionSubPriority***  Alternative cell reselection sub-priorities to be used by the UEs for which the *altFreqPriorities* is set to *true* in the *RRCConnectionRelease* message. |
| ***cellSelectionInfoCE***  Parameters included in coverage enhancement S criteria for BL UEs and UEs in CE, applicable for inter-frequency neighbour cells. If absent, coverage enhancement S criteria is not applicable. |
| ***cellSelectionInfoCE1***  Parameters included in coverage enhancement S criteria for BL UEs and UEs in CE supporting CE Mode B. E-UTRAN includes this IE only in an entry of *InterFreqCarrierFreqList-v1350* or *InterFreqCarrierFreqListExt-v1350* if *cellSelectionInfoCE* is present in the corresponding entry of *InterFreqCarrierFreqList-v1310* or *InterFreqCarrierFreqListExt-v1310* is present. | |
| ***freqBandInfo***  A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs, TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs and TS 36.102 [113], table 6.2A.3-1, for NTN capable UE, for the frequency band represented by *dl-CarrierFreq* for which cell reselection parameters are common. If E-UTRAN includes *freqBandInfo-v10l0* it includes the same number of entries, and listed in the same order, as in *freqBandInfo-r10*. |
| ***hsdn-Indication***  Indicates whether there are deployed HSDN cells or not on the the DL carrier frequency indicated by *dl-CarrierFreq-r12*. |
| ***interFreqCarrierFreqList***  List of neighbouring inter-frequencies. E-UTRAN does not configure more than one entry for the same physical frequency regardless of the E-ARFCN used to indicate this. If E-UTRAN includes *interFreqCarrierFreqList-v8h0*, *interFreqCarrierFreqList-v9e0*, *InterFreqCarrierFreqList-v1250, InterFreqCarrierFreqList-v1310, InterFreqCarrierFreqList-v1350,* *InterFreqCarrierFreqList-v13a0*, *InterFreqCarrierFreqList-v1530, InterFreqCarrierFreqList-v1610*, and/or *InterFreqCarrierFreqList-v1800*, it includes the same number of entries, and listed in the same order, as in *interFreqCarrierFreqList* (i.e. without suffix). See Annex D for more descriptions. |
| ***interFreqCarrierFreqListExt***  List of additional neighbouring inter-frequencies, i.e. extending the size of the inter-frequency carrier list using the general principles specified in 5.1.2. E-UTRAN does not configure more than one entry for the same physical frequency regardless of the E-ARFCN used to indicate this. EUTRAN may include *interFreqCarrierFreqListExt* even if *interFreqCarrierFreqList* (i.e without suffix) does not include *maxFreq* entries. If E-UTRAN includes *InterFreqCarrierFreqListExt-v1310, InterFreqCarrierFreqListExt-v1350,* *InterFreqCarrierFreqListExt-v1360*, *InterFreqCarrierFreqListExt-v1530, InterFreqCarrierFreqListExt-v1610,* and/or *InterFreqCarrierFreqListExt-v1800*, it includes the same number of entries, and listed in the same order, as in *interFreqCarrierFreqListExt-r12.* |
| ***interFreqExcludedCellList***  List of exclude-listed inter-frequency neighbouring cells. |
| ***interFreqNeighCellList***  List of inter-frequency neighbouring cells with specific cell re-selection parameters. *interFreqNeighCellList-v1610* indicates list of RSS assistance information which is used for the corresponding *physCellId*. If E-UTRAN includes *interFreqNeighCellList-v1610* in *interFreqCarrierFreqList-v1610 / interFreqCarrierFreqListExt-v1610*, it includes the same number of entries, and listed in the same order, as in *interFreqNeighCellList* (i.e. without suffix) / *interFreqNeighCellList-r12.* If *interFreqNeighCellList-v1610* is absent in *interFreqCarrierFreqList-v1610/ interFreqCarrierFreqListExt-v1610*, measurement based on RSS is not applicable for all the neighbour cells in *interFreqNeighCellList* (i.e. without suffix) / *interFreqNeighCellList-r12*. |
| ***interFreqNeighHSDN-CellList***  List of inter-frequency neighbouring HSDN cells as specified in TS 36.304 [4]. |
| ***measIdleConfigSIB***  Indicates E-UTRA measurement configuration to be stored and used by the UE while in RRC\_IDLE or RRC\_INACTIVE. |
| ***measIdleConfigSIB-NR***  Indicates the NR measurement configuration to be stored and used by the UE while in RRC\_IDLE or RRC\_INACTIVE. |
| ***multiBandInfoList***  Indicates the list of frequency bands in addition to the band represented by dl-CarrierFreq for which cell reselection parameters are common. E-UTRAN indicates at most *maxMultiBands* frequency bands (i.e. the total number of entries across both *multiBandInfoList* and *multiBandInfoList-v9e0* is below this limit). |
| ***multiBandInfoList-v10j0***  A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs, TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs and TS 36.102 [113], table 6.2A.3-1, for NTN capable UE, for the frequency bands in *multiBandInfoList* (i.e. without suffix) and *multiBandInfoList-v9e0*. If E-UTRAN includes *multiBandInfoList-v10j0*, it includes the same number of entries, and listed in the same order, as in *multiBandInfoList* (i.e. without suffix). If E-UTRAN includes *multiBandInfoList-v10l0* it includes the same number of entries, and listed in the same order, as in *multiBandInfoList-v10j0.* |
| ***p-Max***  Value applicable for the neighbouring E-UTRA cells on this carrier frequency. If absent the UE applies the maximum power according to its capability as specified in TS 36.101 [42], clause 6.2.2. This field is ignored by IAB-MT. The IAB-MT applies output power and emissions requirements, as specified in TS 38.174 [107]. |
| ***q-OffsetCell***  Parameter "Qoffsets,n" in TS 36.304 [4]. |
| ***q-OffsetFreq***  Parameter "Qoffsetfrequency" in TS 36.304 [4]. |
| ***q-QualMin***  Parameter "Qqualmin" in TS 36.304 [4]. If the field is not present, the UE applies the (default) value of negative infinity for Qqualmin. NOTE 1. |
| ***q-QualMinRSRQ-OnAllSymbols***  If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, perform RSRQ measurement on all OFDM symbols in accordance with TS 36.214 [48]. NOTE 1. |
| ***q-QualMinWB***  If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, use a wider bandwidth in accordance with TS 36.133 [16]. NOTE 1. |
| ***redistributionFactorFreq***  Parameter *redistributionFactorFreq* in TS 36.304 [4]. |
| ***redistributionFactorCell***  Parameter *redistributionFactorCell* in TS 36.304 [4]. |
| ***reducedMeasPerformance***  Value *TRUE* indicates that the neighbouring inter-frequency is configured for reduced measurement performance, see TS 36.133 [16]. If the field is not included, the neighbouring inter-frequency is configured for normal measurement performance, see TS 36.133 [16]. |
| ***rss-ConfigCarrierInfo***  RSS configuration for this carrier frequency. If absent and *rss-MeasConfig* is included in *SIB2*, RSS is collocated (time and frequency domain) in all cells on this carrier. |
| ***satelliteAssistanceInfoList***  List of satellite ID(s), used to associate with the satellite assistance information for neighbour cell measurements on this frequency. If the field is not present for a frequency and *SystemInformationBlockType33* is broadcast, the UE considers the cells on the frequency to be terrestrial cells. |
| ***scptm-FreqOffset***  Parameter QoffsetSCPTM in TS 36.304 [4]. Actual value QoffsetSCPTM = field value \* 2 [dB]. If the field is not present, the UE uses infinite dBs for the SC-PTM frequency offset with cell ranking as specified in TS 36.304 [4]. |
| ***threshX-High***  Parameter "ThreshX, HighP" in TS 36.304 [4]. |
| ***threshX-HighQ***  Parameter "ThreshX, HighQ" in TS 36.304 [4]. |
| ***threshX-Low***  Parameter "ThreshX, LowP" in TS 36.304 [4]. |
| ***threshX-LowQ***  Parameter "ThreshX, LowQ" in TS 36.304 [4]. |
| ***t-ReselectionEUTRA***  Parameter "TreselectionEUTRA" in TS 36.304 [4]. |
| ***t-ReselectionEUTRA-SF***  Parameter "Speed dependent ScalingFactor for TreselectionEUTRA" in TS 36.304 [4]. If the field is not present, the UE behaviour is specified in TS 36.304 [4]. |

NOTE 1: The value the UE applies for parameter "Qqualmin" in TS 36.304 [4] depends on the *q-QualMin* fields signalled by E-UTRAN and supported by the UE. In case multiple candidate options are available, the UE shall select the highest priority candidate option according to the priority order indicated by the following table (top row is highest priority).

|  |  |  |
| --- | --- | --- |
| q-QualMinRSRQ-OnAllSymbols | q-QualMinWB | Value of parameter "Qqualmin" in TS 36.304 [4] |
| Included | Included | *q-QualMinRSRQ-OnAllSymbols* – (*q-QualMin* – *q-QualMinWB*) |
| Included | Not included | *q-QualMinRSRQ-OnAllSymbols* |
| Not included | Included | *q-QualMinWB* |
| Not included | Not included | *q-QualMin* |

| Conditional presence | Explanation |
| --- | --- |
| *dl-FreqMax* | The field is mandatory present if, for the corresponding entry in *InterFreqCarrierFreqList* (i.e. without suffix), *dl-CarrierFreq* (i.e. without suffix) is set to *maxEARFCN*. Otherwise the field is not present. |
| *QrxlevminCE1* | The field is optionally present, Need OR, if *q-RxLevMinCE1-r13* is set below -140 dBm. Otherwise the field is not present. |
| *RSRQ* | The field is mandatory present if *threshServingLowQ* is present in *systemInformationBlockType3*; otherwise it is not present. |
| *RSRQ2* | The field is mandatory present for all EUTRA carriers listed in SIB5 if *q-QualMinRSRQ-OnAllSymbols* is present in SIB3; otherwise it is not present and the UE shall delete any existing value for this field. |
| *RSS* | This field is optional, need OP, if *rss-MeasConfig* is included in SIB2. Otherwise the field is not present, and the UE shall delete any existing value for this field. |
| *WB-RSRQ* | The field is optionally present, need OP if the measurement bandwidth indicated by *allowedMeasBandwidth* is 50 resource blocks or larger; otherwise it is not present. |

#### – *SystemInformationBlockType6*

The IE *SystemInformationBlockType6* contains information relevant only for inter-RAT cell re-selection i.e. information about UTRA frequencies and UTRA neighbouring cells relevant for cell re-selection. The IE includes cell re-selection parameters common for a frequency.

*SystemInformationBlockType6* information element

-- ASN1START

SystemInformationBlockType6 ::= SEQUENCE {

carrierFreqListUTRA-FDD CarrierFreqListUTRA-FDD OPTIONAL, -- Need OR

carrierFreqListUTRA-TDD CarrierFreqListUTRA-TDD OPTIONAL, -- Need OR

t-ReselectionUTRA T-Reselection,

t-ReselectionUTRA-SF SpeedStateScaleFactors OPTIONAL, -- Need OP

...,

lateNonCriticalExtension OCTET STRING (CONTAINING SystemInformationBlockType6-v8h0-IEs) OPTIONAL,

[[ carrierFreqListUTRA-FDD-v1250 SEQUENCE (SIZE (1..maxUTRA-FDD-Carrier)) OF

CarrierFreqInfoUTRA-v1250 OPTIONAL, -- Cond UTRA-FDD

carrierFreqListUTRA-TDD-v1250 SEQUENCE (SIZE (1..maxUTRA-TDD-Carrier)) OF

CarrierFreqInfoUTRA-v1250 OPTIONAL, -- Cond UTRA-TDD

carrierFreqListUTRA-FDD-Ext-r12 CarrierFreqListUTRA-FDD-Ext-r12 OPTIONAL, -- Cond UTRA-FDD

carrierFreqListUTRA-TDD-Ext-r12 CarrierFreqListUTRA-TDD-Ext-r12 OPTIONAL -- Cond UTRA-TDD

]]

}

SystemInformationBlockType6-v8h0-IEs ::= SEQUENCE {

carrierFreqListUTRA-FDD-v8h0 SEQUENCE (SIZE (1..maxUTRA-FDD-Carrier)) OF CarrierFreqInfoUTRA-FDD-v8h0 OPTIONAL, -- Cond UTRA-FDD

nonCriticalExtension SEQUENCE {} OPTIONAL

}

CarrierFreqInfoUTRA-v1250 ::= SEQUENCE {

reducedMeasPerformance-r12 ENUMERATED {true} OPTIONAL -- Need OP

}

CarrierFreqListUTRA-FDD ::= SEQUENCE (SIZE (1..maxUTRA-FDD-Carrier)) OF CarrierFreqUTRA-FDD

CarrierFreqUTRA-FDD ::= SEQUENCE {

carrierFreq ARFCN-ValueUTRA,

cellReselectionPriority CellReselectionPriority OPTIONAL, -- Need OP

threshX-High ReselectionThreshold,

threshX-Low ReselectionThreshold,

q-RxLevMin INTEGER (-60..-13),

p-MaxUTRA INTEGER (-50..33),

q-QualMin INTEGER (-24..0),

...,

[[ threshX-Q-r9 SEQUENCE {

threshX-HighQ-r9 ReselectionThresholdQ-r9,

threshX-LowQ-r9 ReselectionThresholdQ-r9

} OPTIONAL -- Cond RSRQ

]]

}

CarrierFreqInfoUTRA-FDD-v8h0 ::= SEQUENCE {

multiBandInfoList SEQUENCE (SIZE (1..maxMultiBands)) OF FreqBandIndicator-UTRA-FDD OPTIONAL -- Need OR

}

CarrierFreqListUTRA-FDD-Ext-r12 ::= SEQUENCE (SIZE (1..maxUTRA-FDD-Carrier)) OF

CarrierFreqUTRA-FDD-Ext-r12

CarrierFreqUTRA-FDD-Ext-r12 ::= SEQUENCE {

carrierFreq-r12 ARFCN-ValueUTRA,

cellReselectionPriority-r12 CellReselectionPriority OPTIONAL, -- Need OP

threshX-High-r12 ReselectionThreshold,

threshX-Low-r12 ReselectionThreshold,

q-RxLevMin-r12 INTEGER (-60..-13),

p-MaxUTRA-r12 INTEGER (-50..33),

q-QualMin-r12 INTEGER (-24..0),

threshX-Q-r12 SEQUENCE {

threshX-HighQ-r12 ReselectionThresholdQ-r9,

threshX-LowQ-r12 ReselectionThresholdQ-r9

} OPTIONAL, -- Cond RSRQ

multiBandInfoList-r12 SEQUENCE (SIZE (1..maxMultiBands)) OF FreqBandIndicator-UTRA-FDD OPTIONAL, -- Need OR

reducedMeasPerformance-r12 ENUMERATED {true} OPTIONAL, -- Need OP

...

}

CarrierFreqListUTRA-TDD ::= SEQUENCE (SIZE (1..maxUTRA-TDD-Carrier)) OF CarrierFreqUTRA-TDD

CarrierFreqUTRA-TDD ::= SEQUENCE {

carrierFreq ARFCN-ValueUTRA,

cellReselectionPriority CellReselectionPriority OPTIONAL, -- Need OP

threshX-High ReselectionThreshold,

threshX-Low ReselectionThreshold,

q-RxLevMin INTEGER (-60..-13),

p-MaxUTRA INTEGER (-50..33),

...

}

CarrierFreqListUTRA-TDD-Ext-r12 ::= SEQUENCE (SIZE (1..maxUTRA-TDD-Carrier)) OF

CarrierFreqUTRA-TDD-r12

CarrierFreqUTRA-TDD-r12 ::= SEQUENCE {

carrierFreq-r12 ARFCN-ValueUTRA,

cellReselectionPriority-r12 CellReselectionPriority OPTIONAL, -- Need OP

threshX-High-r12 ReselectionThreshold,

threshX-Low-r12 ReselectionThreshold,

q-RxLevMin-r12 INTEGER (-60..-13),

p-MaxUTRA-r12 INTEGER (-50..33),

reducedMeasPerformance-r12 ENUMERATED {true} OPTIONAL, -- Need OP

...

}

FreqBandIndicator-UTRA-FDD ::= INTEGER (1..86)

-- ASN1STOP

| *SystemInformationBlockType6* field descriptions |
| --- |
| ***carrierFreqListUTRA-FDD***  List of carrier frequencies of UTRA FDD. E-UTRAN does not configure more than one entry for the same physical frequency regardless of the ARFCN used to indicate this. If E-UTRAN includes *carrierFreqListUTRA-FDD-v8h0* and/or *carrierFreqListUTRA-FDD-v1250*, it includes the same number of entries, and listed in the same order, as in *carrierFreqListUTRA-FDD* (i.e. without suffix). See Annex D for more descriptions. |
| ***carrierFreqListUTRA-FDD-Ext***  List of additional carrier frequencies of UTRA FDD. E-UTRAN does not configure more than one entry for the same physical frequency regardless of the ARFCN used to indicate this. EUTRAN may include *carrierFreqListUTRA-FDD-Ext* even if *carrierFreqListUTRA-FDD* (i.e without suffix) does not include *maxUTRA-FDD-Carrier* entries. |
| ***carrierFreqListUTRA-TDD***  List of carrier frequencies of UTRA TDD. E-UTRAN does not configure more than one entry for the same physical frequency regardless of the ARFCN used to indicate this If E-UTRAN includes *carrierFreqListUTRA-TDD-v1250*, it includes the same number of entries, and listed in the same order, as in *carrierFreqListUTRA-TDD* (i.e. without suffix). |
| ***carrierFreqListUTRA-TDD-Ext***  List of additional carrier frequencies of UTRA TDD. E-UTRAN does not configure more than one entry for the same physical frequency regardless of the ARFCN used to indicate this. EUTRAN may include *carrierFreqListUTRA-TDD-Ext* even if *carrierFreqListUTRA-TDD* (i.e without suffix) does not include *maxUTRA-TDD-Carrier* entries. |
| ***multiBandInfoList***  Indicates the list of frequency bands in addition to the band represented by carrierFreq in the *CarrierFreqUTRA-FDD* for which UTRA cell reselection parameters are common. |
| ***p-MaxUTRA***  The maximum allowed transmission power on the (uplink) carrier frequency, see TS 25.304 [40]. In dBm |
| ***q-QualMin***  Parameter "Qqualmin" in TS 25.304 [40]. Actual value = field value [dB]. |
| ***q-RxLevMin***  Parameter "Qrxlevmin" in TS 25.304 [40]. Actual value = field value \* 2+1 [dBm]. |
| ***reducedMeasPerformance***  Value *TRUE* indicates that the UTRA carrier frequency is configured for reduced measurement performance, see TS 36.133 [16]. If the field is not included, the UTRA carrier frequency is configured for normal measurement performance, see TS 36.133 [16]. |
| ***t-ReselectionUTRA***  Parameter "TreselectionUTRAN" in TS 36.304 [4]. |
| ***t-ReselectionUTRA-SF***  Parameter "Speed dependent ScalingFactor for TreselectionUTRA" in TS 36.304 [4]. If the field is not present, the UE behaviour is specified in TS 36.304 [4]. |
| ***threshX-High***  Parameter "ThreshX, HighP" in TS 36.304 [4]. |
| ***threshX-HighQ***  Parameter "ThreshX, HighQ" in TS 36.304 [4]. |
| ***threshX-Low***  Parameter "ThreshX, LowP" in TS 36.304 [4]. |
| ***threshX-LowQ***  Parameter "ThreshX, LowQ" in TS 36.304 [4]. |

| Conditional presence | Explanation |
| --- | --- |
| *RSRQ* | The field is mandatory present if the *threshServingLowQ* is present in *systemInformationBlockType3*; otherwise it is not present. |
| *UTRA-FDD* | The field is optionally present, need OR, if the *carrierFreqListUTRA-FDD* is present. Otherwise it is not present. |
| *UTRA-TDD* | The field is optionally present, need OR, if the *carrierFreqListUTRA-TDD* is present. Otherwise it is not present. |

#### – *SystemInformationBlockType7*

The IE *SystemInformationBlockType7* contains information relevant only for inter-RAT cell re-selection i.e. information about GERAN frequencies relevant for cell re-selection. The IE includes cell re-selection parameters for each frequency.

*SystemInformationBlockType7* information element

-- ASN1START

SystemInformationBlockType7 ::= SEQUENCE {

t-ReselectionGERAN T-Reselection,

t-ReselectionGERAN-SF SpeedStateScaleFactors OPTIONAL, -- Need OR

carrierFreqsInfoList CarrierFreqsInfoListGERAN OPTIONAL, -- Need OR

...,

lateNonCriticalExtension OCTET STRING OPTIONAL

}

CarrierFreqsInfoListGERAN ::= SEQUENCE (SIZE (1..maxGNFG)) OF CarrierFreqsInfoGERAN

CarrierFreqsInfoGERAN ::= SEQUENCE {

carrierFreqs CarrierFreqsGERAN,

commonInfo SEQUENCE {

cellReselectionPriority CellReselectionPriority OPTIONAL, -- Need OP

ncc-Permitted BIT STRING (SIZE (8)),

q-RxLevMin INTEGER (0..45),

p-MaxGERAN INTEGER (0..39) OPTIONAL, -- Need OP

threshX-High ReselectionThreshold,

threshX-Low ReselectionThreshold

},

...

}

-- ASN1STOP

| *SystemInformationBlockType7* field descriptions |
| --- |
| ***carrierFreqs***  The list of GERAN carrier frequencies organised into one group of GERAN carrier frequencies. |
| ***carrierFreqsInfoList***  Provides a list of neighbouring GERAN carrier frequencies, which may be monitored for neighbouring GERAN cells. The GERAN carrier frequencies are organised in groups and the cell reselection parameters are provided per group of GERAN carrier frequencies. |
| ***commonInfo***  Defines the set of cell reselection parameters for the group of GERAN carrier frequencies. |
| ***ncc-Permitted***  Field encoded as a bit map, where bit N is set to "0" if a BCCH carrier with NCC = N-1 is not permitted for monitoring and set to "1" if the BCCH carrier with NCC = N-1 is permitted for monitoring; N = 1 to 8; bit 1 of the bitmap is the leading bit of the bit string. |
| ***p-MaxGERAN***  Maximum allowed transmission power for GERAN on an uplink carrier frequency, see TS 45.008 [28]. Value in dBm. Applicable for the neighbouring GERAN cells on this carrier frequency. If *pmaxGERAN* is absent, the maximum power according to the UE capability is used. |
| ***q-RxLevMin***  Parameter "Qrxlevmin" in TS 36.304 [4], minimum required RX level in the GSM cell. The actual value of Qrxlevmin in dBm = (field value \* 2) − 115. |
| ***threshX-High***  Parameter "ThreshX, HighP" in TS 36.304 [4]. |
| ***threshX-Low***  Parameter "ThreshX, LowP" in TS 36.304 [4]. |
| ***t-ReselectionGERAN***  Parameter "TreselectionGERAN" in TS 36.304 [4]. |
| ***t-ReselectionGERAN-SF***  Parameter "Speed dependent ScalingFactor for TreselectionGERAN" in TS 36.304 [4]. If the field is not present, the UE behaviour is specified in TS 36.304 [4]. |

#### – *SystemInformationBlockType8*

The IE *SystemInformationBlockType8* contains information relevant only for inter-RAT cell re-selection i.e. information about CDMA2000 frequencies and CDMA2000 neighbouring cells relevant for cell re-selection. The IE includes cell re-selection parameters common for a frequency as well as cell specific re-selection parameters.

*SystemInformationBlockType8* information element

-- ASN1START

SystemInformationBlockType8 ::= SEQUENCE {

systemTimeInfo SystemTimeInfoCDMA2000 OPTIONAL, -- Need OR

searchWindowSize INTEGER (0..15) OPTIONAL, -- Need OR

parametersHRPD SEQUENCE {

preRegistrationInfoHRPD PreRegistrationInfoHRPD,

cellReselectionParametersHRPD CellReselectionParametersCDMA2000 OPTIONAL -- Need OR

} OPTIONAL, -- Need OR

parameters1XRTT SEQUENCE {

csfb-RegistrationParam1XRTT CSFB-RegistrationParam1XRTT OPTIONAL, -- Need OP

longCodeState1XRTT BIT STRING (SIZE (42)) OPTIONAL, -- Need OR

cellReselectionParameters1XRTT CellReselectionParametersCDMA2000 OPTIONAL -- Need OR

} OPTIONAL, -- Need OR

...,

lateNonCriticalExtension OCTET STRING OPTIONAL,

[[ csfb-SupportForDualRxUEs-r9 BOOLEAN OPTIONAL, -- Need OR

cellReselectionParametersHRPD-v920 CellReselectionParametersCDMA2000-v920 OPTIONAL, -- Cond NCL-HRPD

cellReselectionParameters1XRTT-v920 CellReselectionParametersCDMA2000-v920 OPTIONAL, -- Cond NCL-1XRTT

csfb-RegistrationParam1XRTT-v920 CSFB-RegistrationParam1XRTT-v920 OPTIONAL, -- Cond REG-1XRTT

ac-BarringConfig1XRTT-r9 AC-BarringConfig1XRTT-r9 OPTIONAL -- Cond REG-1XRTT

]],

[[ csfb-DualRxTxSupport-r10 ENUMERATED {true} OPTIONAL -- Cond REG-1XRTT

]],

[[ sib8-PerPLMN-List-r11 SIB8-PerPLMN-List-r11 OPTIONAL -- Need OR

]]

}

CellReselectionParametersCDMA2000 ::= SEQUENCE {

bandClassList BandClassListCDMA2000,

neighCellList NeighCellListCDMA2000,

t-ReselectionCDMA2000 T-Reselection,

t-ReselectionCDMA2000-SF SpeedStateScaleFactors OPTIONAL -- Need OP

}

CellReselectionParametersCDMA2000-r11 ::= SEQUENCE {

bandClassList BandClassListCDMA2000,

neighCellList-r11 SEQUENCE (SIZE (1..16)) OF NeighCellCDMA2000-r11,

t-ReselectionCDMA2000 T-Reselection,

t-ReselectionCDMA2000-SF SpeedStateScaleFactors OPTIONAL -- Need OP

}

CellReselectionParametersCDMA2000-v920 ::= SEQUENCE {

neighCellList-v920 NeighCellListCDMA2000-v920

}

NeighCellListCDMA2000 ::= SEQUENCE (SIZE (1..16)) OF NeighCellCDMA2000

NeighCellCDMA2000 ::= SEQUENCE {

bandClass BandclassCDMA2000,

neighCellsPerFreqList NeighCellsPerBandclassListCDMA2000

}

NeighCellCDMA2000-r11 ::= SEQUENCE {

bandClass BandclassCDMA2000,

neighFreqInfoList-r11 SEQUENCE (SIZE (1..16)) OF NeighCellsPerBandclassCDMA2000-r11

}

NeighCellsPerBandclassListCDMA2000 ::= SEQUENCE (SIZE (1..16)) OF NeighCellsPerBandclassCDMA2000

NeighCellsPerBandclassCDMA2000 ::= SEQUENCE {

arfcn ARFCN-ValueCDMA2000,

physCellIdList PhysCellIdListCDMA2000

}

NeighCellsPerBandclassCDMA2000-r11 ::= SEQUENCE {

arfcn ARFCN-ValueCDMA2000,

physCellIdList-r11 SEQUENCE (SIZE (1..40)) OF PhysCellIdCDMA2000

}

NeighCellListCDMA2000-v920 ::= SEQUENCE (SIZE (1..16)) OF NeighCellCDMA2000-v920

NeighCellCDMA2000-v920 ::= SEQUENCE {

neighCellsPerFreqList-v920 NeighCellsPerBandclassListCDMA2000-v920

}

NeighCellsPerBandclassListCDMA2000-v920 ::= SEQUENCE (SIZE (1..16)) OF NeighCellsPerBandclassCDMA2000-v920

NeighCellsPerBandclassCDMA2000-v920 ::= SEQUENCE {

physCellIdList-v920 PhysCellIdListCDMA2000-v920

}

PhysCellIdListCDMA2000 ::= SEQUENCE (SIZE (1..16)) OF PhysCellIdCDMA2000

PhysCellIdListCDMA2000-v920 ::= SEQUENCE (SIZE (0..24)) OF PhysCellIdCDMA2000

BandClassListCDMA2000 ::= SEQUENCE (SIZE (1..maxCDMA-BandClass)) OF BandClassInfoCDMA2000

BandClassInfoCDMA2000 ::= SEQUENCE {

bandClass BandclassCDMA2000,

cellReselectionPriority CellReselectionPriority OPTIONAL, -- Need OP

threshX-High INTEGER (0..63),

threshX-Low INTEGER (0..63),

...

}

AC-BarringConfig1XRTT-r9 ::= SEQUENCE {

ac-Barring0to9-r9 INTEGER (0..63),

ac-Barring10-r9 INTEGER (0..7),

ac-Barring11-r9 INTEGER (0..7),

ac-Barring12-r9 INTEGER (0..7),

ac-Barring13-r9 INTEGER (0..7),

ac-Barring14-r9 INTEGER (0..7),

ac-Barring15-r9 INTEGER (0..7),

ac-BarringMsg-r9 INTEGER (0..7),

ac-BarringReg-r9 INTEGER (0..7),

ac-BarringEmg-r9 INTEGER (0..7)

}

SIB8-PerPLMN-List-r11 ::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF SIB8-PerPLMN-r11

SIB8-PerPLMN-r11 ::= SEQUENCE {

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

parametersCDMA2000-r11 CHOICE {

explicitValue ParametersCDMA2000-r11,

defaultValue NULL

}

}

ParametersCDMA2000-r11 ::= SEQUENCE {

systemTimeInfo-r11 CHOICE {

explicitValue SystemTimeInfoCDMA2000,

defaultValue NULL

} OPTIONAL, -- Need OR

searchWindowSize-r11 INTEGER (0..15),

parametersHRPD-r11 SEQUENCE {

preRegistrationInfoHRPD-r11 PreRegistrationInfoHRPD,

cellReselectionParametersHRPD-r11 CellReselectionParametersCDMA2000-r11 OPTIONAL -- Need OR

} OPTIONAL, -- Need OR

parameters1XRTT-r11 SEQUENCE {

csfb-RegistrationParam1XRTT-r11 CSFB-RegistrationParam1XRTT OPTIONAL, -- Need OP

csfb-RegistrationParam1XRTT-Ext-r11 CSFB-RegistrationParam1XRTT-v920 OPTIONAL, -- Cond REG-1XRTT-PerPLMN

longCodeState1XRTT-r11 BIT STRING (SIZE (42)) OPTIONAL, -- Cond PerPLMN-LC

cellReselectionParameters1XRTT-r11 CellReselectionParametersCDMA2000-r11 OPTIONAL, -- Need OR

ac-BarringConfig1XRTT-r11 AC-BarringConfig1XRTT-r9 OPTIONAL, -- Cond REG-1XRTT-PerPLMN

csfb-SupportForDualRxUEs-r11 BOOLEAN OPTIONAL, -- Need OR

csfb-DualRxTxSupport-r11 ENUMERATED {true} OPTIONAL -- Cond REG-1XRTT-PerPLMN

} OPTIONAL, -- Need OR

...

}

-- ASN1STOP

| *SystemInformationBlockType8* field descriptions |
| --- |
| ***ac-BarringConfig1XRTT***  Contains the access class barring parameters the UE uses to calculate the access class barring factor, see C.S0097 [53]. |
| ***ac-Barring0to9***  Parameter used for calculating the access class barring factor for access overload classes 0 through 9. It is the parameter "PSIST" in C.S0004 [34] for access overload classes 0 through 9. |
| ***ac-BarringEmg***  Parameter used for calculating the access class barring factor for emergency calls and emergency message transmissions for access overload classes 0 through 9. It is the parameter "PSIST\_EMG" in C.S0004 [34]. |
| ***ac-BarringMsg***  Parameter used for modifying the access class barring factor for message transmissions. It is the parameter "MSG\_PSIST" in C.S0004 [34]. |
| ***ac-BarringN***  Parameter used for calculating the access class barring factor for access overload class N (N = 10 to 15). It is the parameter "PSIST" in C.S0004 [34] for access overload class N. |
| ***ac-BarringReg***  Parameter used for modifying the access class barring factor for autonomous registrations. It is the parameter "REG\_PSIST" in C.S0004 [34]. |
| ***bandClass***  Identifies the Frequency Band in which the Carrier can be found. Details can be found in C.S0057 [24, Table 1.5]. |
| ***bandClassList***  List of CDMA2000 frequency bands. |
| ***cellReselectionParameters1XRTT***  Cell reselection parameters applicable only to CDMA2000 1xRTT system. |
| ***cellReselectionParameters1XRTT-Ext***  Cell reselection parameters applicable for cell reselection to CDMA2000 1XRTT system. |
| ***cellReselectionParameters1XRTT-v920***  Cell reselection parameters applicable for cell reselection to CDMA2000 1XRTT system. The field is not present if *cellReselectionParameters1XRTT* is not present; otherwise it is optionally present. |
| ***cellReselectionParametersHRPD***  Cell reselection parameters applicable for cell reselection to CDMA2000 HRPD system |
| ***cellReselectionParametersHRPD-Ext***  Cell reselection parameters applicable for cell reselection to CDMA2000 HRPD system. |
| ***cellReselectionParametersHRPD-v920***  Cell reselection parameters applicable for cell reselection to CDMA2000 HRPD system. The field is not present if *cellReselectionParametersHRPD* is not present; otherwise it is optionally present. |
| ***csfb-DualRxTxSupport***  Value TRUE indicates that the network supports dual Rx/Tx enhanced 1xCSFB, which enables UEs capable of dual Rx/Tx enhanced 1xCSFB to switch off their 1xRTT receiver/transmitter while camped in E-UTRAN [51]. |
| ***csfb-RegistrationParam1XRTT***  Contains the parameters the UE will use to determine if it should perform a CDMA2000 1xRTT Registration/Re-Registration. This field is included if either CSFB or enhanced CS fallback to CDMA2000 1xRTT is supported. |
| **csfb-SupportForDualRxUEs**  Value TRUE indicates that the network supports dual Rx CSFB [51]. |
| ***longCodeState1XRTT***  The state of long code generation registers in CDMA2000 1XRTT system as defined in C.S0002 [12], clause 1.3, at ms, where *t* equals to the *cdma-SystemTime*. This field is required for reporting CGI for 1xRTT, SRVCC handover and enhanced CS fallback to CDMA2000 1xRTT operation. Otherwise this IE is not needed. This field is excluded when estimating changes in system information, i.e. changes of *longCodeState1XRTT* should neither result in system information change notifications nor in a modification of *systemInfoValueTag* in SIB1. |
| ***neighCellList***  List of CDMA2000 neighbouring cells. The total number of neighbouring cells in neighCellList for each RAT (1XRTT or HRPD) is limited to 32. |
| ***neighCellList-v920***  Extended List of CDMA2000 neighbouring cells. The combined total number of CDMA2000 neighbouring cells in both *neighCellList* and *neighCellList-v920* is limited to 32 for HRPD and 40 for 1xRTT. |
| ***neighCellsPerFreqList***  List of carrier frequencies and neighbour cell ids in each frequency within a CDMA2000 Band, see C.S0002 [12] or C.S0024 [26]. |
| ***neighCellsPerFreqList-v920***  Extended list of neighbour cell ids, in the same CDMA2000 Frequency Band as the corresponding instance in "NeighCellListCDMA2000". |
| ***parameters1XRTT***  Parameters applicable for interworking with CDMA2000 1XRTT system. |
| ***parametersCDMA2000***  Provides the corresponding SIB8 parameters for the CDMA2000 network associated with the PLMN indicated in *plmn-Identity*. A choice is used to indicate whether for this PLMN the parameters are signalled explicitly or set to the (default) values common for all PLMNs i.e. the values not included in *sib8-PerPLMN-List*. |
| ***parametersHRPD***  Parameters applicable only for interworking with CDMA2000 HRPD systems. |
| ***physCellIdList***  Identifies the list of CDMA2000 cell ids, see C.S0002 [12] or C.S0024 [26]. |
| ***physCellIdList-v920***  Extended list of CDMA2000 cell ids, in the same CDMA2000 ARFCN as the corresponding instance in "NeighCellsPerBandclassCDMA2000". |
| ***plmn-Identity***  Indicates the PLMN associated with this CDMA2000 network. Value 1 indicates the PLMN listed 1st in the 1st *plmn-IdentityList* included in SIB1, value 2 indicates the PLMN listed 2nd in 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. A PLMN which identity is not indicated in the *sib8-PerPLMN-List*, does not support inter-working with CDMA2000. |
| ***preRegistrationInfoHRPD***  The CDMA2000 HRPD Pre-Registration Information tells the UE if it should pre-register with the CDMA2000 HRPD network and identifies the Pre-registration zone to the UE. |
| ***searchWindowSize***  The search window size is a CDMA2000 parameter to be used to assist in searching for the neighbouring pilots. For values see C.S0005 [25], Table 2.6.6.2.1-1, and C.S0024 [26], Table 8.7.6.2-4. This field is required for a UE with *rx-ConfigHRPD*= *single* and/ or *rx-Config1XRTT*= *single* to perform handover, cell re-selection, UE measurement based redirection and enhanced 1xRTT CS fallback from E-UTRAN to CDMA2000 according to this specification and TS 36.304 [4]. |
| ***sib8-PerPLMN-List***  This field provides the values for the interworking CDMA2000 networks corresponding, if any, to the UE's RPLMN. |
| ***systemTimeInfo***  Information on CDMA2000 system time. This field is required for a UE with *rx-ConfigHRPD*= *single* and/ or *rx-Config1XRTT*= *single* to perform handover, cell re-selection, UE measurement based redirection and enhanced 1xRTT CS fallback from E-UTRAN to CDMA2000 according to this specification and TS 36.304 [4]. This field is excluded when estimating changes in system information, i.e. changes of *systemTimeInfo* should neither result in system information change notifications nor in a modification of *systemInfoValueTag* in SIB1.  For the field included in *ParametersCDMA2000*, a choice is used to indicate whether for this PLMN the parameters are signalled explicitly or set to the (default) value common for all PLMNs i.e. the value not included in *sib8-PerPLMN-List*. |
| ***threshX-High***  Parameter "ThreshX, HighP" in TS 36.304 [4]. This specifies the high threshold used in reselection towards this CDMA2000 band class expressed as an unsigned binary number equal to FLOOR (-2 x 10 x log10 Ec/Io) in units of 0.5 dB, as defined in C.S0005 [25]. |
| ***threshX-Low***  Parameter "ThreshX, LowP" in TS 36.304 [4]. This specifies the low threshold used in reselection towards this CDMA2000 band class expressed as an unsigned binary number equal to FLOOR (-2 x 10 x log10 Ec/Io) in units of 0.5 dB, as defined in C.S0005 [25]. |
| ***t-ReselectionCDMA2000***  Parameter "TreselectionCDMA\_HRPD" or "TreselectionCDMA\_1xRTT" in TS 36.304 [4]. |
| ***t-ReselectionCDMA2000-SF***  Parameter "Speed dependent ScalingFactor for TreselectionCDMA-HRPD" or TreselectionCDMA-1xRTT" in TS 36.304 [4]. If the field is not present, the UE behaviour is specified in TS 36.304 [4]. |

| Conditional presence | Explanation |
| --- | --- |
| *NCL-1XRTT* | The field is optional present, need OR, if *cellReselectionParameters1xRTT* is present; otherwise it is not present. |
| *NCL-HRPD* | The field is optional present, need OR, if *cellReselectionParametersHRPD* is present; otherwise it is not present. |
| *PerPLMN-LC* | The field is optional present, need OR, when *systemTimeInfo* is included in *SIB8PerPLMN* for this CDMA2000 network; otherwise it is not present. |
| *REG-1XRTT* | The field is optional present, need OR, if *csfb-RegistrationParam1XRTT* is present; otherwise it is not present. |
| *REG-1XRTT-PerPLMN* | The field is optional present, need OR, if *csfb-RegistrationParam1XRTT* is included in *SIB8PerPLMN* for this CDMA2000 network; otherwise it is not present. |

#### – *SystemInformationBlockType9*

The IE *SystemInformationBlockType9* contains a home eNB name (HNB Name).

*SystemInformationBlockType9* information element

-- ASN1START

SystemInformationBlockType9 ::= SEQUENCE {

hnb-Name OCTET STRING (SIZE(1..48)) OPTIONAL, -- Need OR

...,

lateNonCriticalExtension OCTET STRING OPTIONAL

}

-- ASN1STOP

| *SystemInformationBlockType9* field descriptions |
| --- |
| ***hnb-Name***  Carries the name of the home eNB, coded in UTF-8 with variable number of bytes per character, see TS 22.011 [10]. |

#### – *SystemInformationBlockType10*

The IE *SystemInformationBlockType10* contains an ETWS primary notification.

*SystemInformationBlockType10* information element

-- ASN1START

SystemInformationBlockType10 ::= SEQUENCE {

messageIdentifier BIT STRING (SIZE (16)),

serialNumber BIT STRING (SIZE (16)),

warningType OCTET STRING (SIZE (2)),

dummy OCTET STRING (SIZE (50)) OPTIONAL, -- Need OP

...,

lateNonCriticalExtension OCTET STRING OPTIONAL

}

-- ASN1STOP

| *SystemInformationBlockType10* field descriptions |
| --- |
| ***messageIdentifier***  Identifies the source and type of ETWS notification. The leading bit (which is equivalent to the leading bit of the equivalent IE defined in TS 36.413 [39], clause 9.2.1.44) contains bit 7 of the first octet of the equivalent IE, defined in and encoded according to TS 23.041 [37], clause 9.4.3.2.1, while the trailing bit contains bit 0 of the second octet of the same equivalent IE. |
| ***serialNumber***  Identifies variations of an ETWS notification. The leading bit (which is equivalent to the leading bit of the equivalent IE defined in TS 36.413 [39], clause 9.2.1.45), contains bit 7 of the first octet of the equivalent IE, defined in and encoded according to TS 23.041 [37], clause 9.4.3.2.2, while the trailing bit contains bit 0 of the second octet of the same equivalent IE. |
| ***dummy***  This field is not used in the specification. If received it shall be ignored by the UE. |
| ***warningType***  Identifies the warning type of the ETWS primary notification and provides information on emergency user alert and UE popup. The first octet (which is equivalent to the first octet of the equivalent IE defined in TS 36.413 [39], clause 9.2.1.50) contains the first octet of the equivalent IE defined in and encoded according to TS 23.041 [37], clause 9.3.24, and so on. |

#### – *SystemInformationBlockType11*

The IE *SystemInformationBlockType11* contains an ETWS secondary notification.

*SystemInformationBlockType11* information element

-- ASN1START

SystemInformationBlockType11 ::= SEQUENCE {

messageIdentifier BIT STRING (SIZE (16)),

serialNumber BIT STRING (SIZE (16)),

warningMessageSegmentType ENUMERATED {notLastSegment, lastSegment},

warningMessageSegmentNumber INTEGER (0..63),

warningMessageSegment OCTET STRING,

dataCodingScheme OCTET STRING (SIZE (1)) OPTIONAL, -- Cond Segment1

...,

lateNonCriticalExtension OCTET STRING OPTIONAL

}

-- ASN1STOP

| *SystemInformationBlockType11* field descriptions |
| --- |
| ***dataCodingScheme***  Identifies the alphabet/coding and the language applied variations of an ETWS notification. The octet (which is equivalent to the octet of the equivalent IE defined in TS 36.413 [39], clause 9.2.1.52), contains the octet of the equivalent IE defined in TS 23.041 [37], clause 9.4.3.2.3, and encoded according to TS 23.038 [38]. |
| ***messageIdentifier***  Identifies the source and type of ETWS notification. The leading bit (which is equivalent to the leading bit of the equivalent IE defined in TS 36.413 [39], clause 9.2.1.44), contains bit 7 of the first octet of the equivalent IE, defined in and encoded according to TS 23.041 [37], clause 9.4.3.2.1, while the trailing bit contains bit 0 of second octet of the same equivalent IE. |
| ***serialNumber***  Identifies variations of an ETWS notification. The leading bit (which is equivalent to the leading bit of the equivalent IE defined in TS 36.413 [39], clause 9.2.1.45) contains bit 7 of the first octet of the equivalent IE, defined in and encoded according to TS 23.041 [37], clause 9.4.3.2.2, while the trailing bit contains bit 0 of second octet of the same equivalent IE. |
| ***warningMessageSegment***  Carries a segment of the *Warning Message Contents* IE defined in TS 36.413 [39], clause 9.2.1.53. The first octet of the *Warning Message Contents* IE is equivalent to the first octet of the *CB data* IE defined in and encoded according to TS 23.041 [37], clause 9.4.2.2.5, and so on. |
| ***warningMessageSegmentNumber***  Segment number of the ETWS warning message segment contained in the SIB. A segment number of zero corresponds to the first segment, one corresponds to the second segment, and so on. |
| ***warningMessageSegmentType***  Indicates whether the included ETWS warning message segment is the last segment or not. |

| Conditional presence | Explanation |
| --- | --- |
| *Segment1* | The field is mandatory present in the first segment of SIB11, otherwise it is not present. |

#### – *SystemInformationBlockType12*

The IE *SystemInformationBlockType12* contains a CMAS notification.

*SystemInformationBlockType12* information element

-- ASN1START

SystemInformationBlockType12-r9 ::= SEQUENCE {

messageIdentifier-r9 BIT STRING (SIZE (16)),

serialNumber-r9 BIT STRING (SIZE (16)),

warningMessageSegmentType-r9 ENUMERATED {notLastSegment, lastSegment},

warningMessageSegmentNumber-r9 INTEGER (0..63),

warningMessageSegment-r9 OCTET STRING,

dataCodingScheme-r9 OCTET STRING (SIZE (1)) OPTIONAL, -- Cond Segment1

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ warningAreaCoordinatesSegment-r15 OCTET STRING OPTIONAL -- Need OR

]]

}

-- ASN1STOP

| *SystemInformationBlockType12* field descriptions |
| --- |
| ***dataCodingScheme***  Identifies the alphabet/coding and the language applied variations of a CMAS notification. The octet (which is equivalent to the octet of the equivalent IE defined in TS 36.413 [39], clause 9.2.1.52), contains the octet of the equivalent IE defined in TS 23.041 [37], clause 9.4.3.2.3, and encoded according to TS 23.038 [38]. |
| ***messageIdentifier***  Identifies the source and type of CMAS notification. The leading bit (which is equivalent to the leading bit of the equivalent IE defined in TS 36.413 [39], clause 9.2.1.44) contains bit 7 of the first octet of the equivalent IE, defined in and encoded according to TS 23.041 [37], clause 9.4.3.2.1, while the trailing bit contains bit 0 of second octet of the same equivalent IE. |
| ***serialNumber***  Identifies variations of a CMAS notification. The leading bit (which is equivalent to the leading bit of the equivalent IE defined in TS 36.413 [39], clause 9.2.1.45), contains bit 7 of the first octet of the equivalent IE, defined in and encoded according to TS 23.041 [37], clause 9.4.3.2.2, while the trailing bit contains bit 0 of second octet of the same equivalent IE. |
| ***warningAreaCoordinatesSegment***  If present, carries a segment, with one or more octets, of the geographical area where the CMAS warning message is valid as defined in [98]. The first octet of the first *warningAreaCoordinatesSegment* is equivalent to the first octet of Warning Area Coordinates IE defined in and encoded according to TS 23.041 [37] and so on. |
| ***warningMessageSegment***  Carries a segment, with one or more octets, of the *Warning Message Contents* IE defined in TS 36.413 [39]. The first octet of the *Warning Message Contents* IE is equivalent to the first octet of the *CB data* IE defined in and encoded according to TS 23.041 [37], clause 9.4.2.2.5, and so on. |
| ***warningMessageSegmentNumber***  Segment number of the CMAS warning message segment contained in the SIB. A segment number of zero corresponds to the first segment, one corresponds to the second segment, and so on. If warning area coordinates are provided for the warning message, then this field applies to both warning message segment and warning area coordinates segment. |
| ***warningMessageSegmentType***  Indicates whether the included CMAS warning message segment is the last segment or not. If warning area coordinates are provided for the warning message, then this field applies to both warning message segment and warning area coordinates segment. |

| Conditional presence | Explanation |
| --- | --- |
| *Segment1* | The field is mandatory present in the first segment of SIB12, otherwise it is not present. |

#### – *SystemInformationBlockType13*

The IE *SystemInformationBlockType13* contains the information required to acquire the MBMS control information associated with one or more MBSFN areas.

*SystemInformationBlockType13* information element

-- ASN1START

SystemInformationBlockType13-r9 ::= SEQUENCE {

mbsfn-AreaInfoList-r9 MBSFN-AreaInfoList-r9,

notificationConfig-r9 MBMS-NotificationConfig-r9,

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[

notificationConfig-v1430 MBMS-NotificationConfig-v1430 OPTIONAL

]],

[[

mbsfn-AreaInfoList-r16 MBSFN-AreaInfoList-r16 OPTIONAL -- Need OR

]],

[[

mbsfn-AreaInfoList-r17 MBSFN-AreaInfoList-r17 OPTIONAL -- Cond Ded15or25PRB

]]

}

-- ASN1STOP

| *SystemInformationBlockType13* field descriptions |
| --- |
| ***notificationConfig***  Indicates the MBMS notification related configuration parameters. The UE shall ignore this field when *dl-Bandwidth* included in *MasterInformationBlock* is set to n6. |

| Conditional presence | Explanation |
| --- | --- |
| *Ded15or25PRB* | The field is optionally present, need OR, for an MBMS-dedicated cell when *dl-Bandwidth-MBMS* is set to n15 or n25. Otherwise the field is not present. |

#### – *SystemInformationBlockType14*

The IE *SystemInformationBlockType14* contains the EAB parameters.

*SystemInformationBlockType14* information element

-- ASN1START

SystemInformationBlockType14-r11 ::= SEQUENCE {

eab-Param-r11 CHOICE {

eab-Common-r11 EAB-Config-r11,

eab-PerPLMN-List-r11 SEQUENCE (SIZE (1..maxPLMN-r11)) OF EAB-ConfigPLMN-r11

} OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ eab-PerRSRP-r15 ENUMERATED {thresh0, thresh1, thresh2, thresh3} OPTIONAL -- Need OR

]]

}

EAB-ConfigPLMN-r11 ::= SEQUENCE {

eab-Config-r11 EAB-Config-r11 OPTIONAL -- Need OR

}

EAB-Config-r11 ::= SEQUENCE {

eab-Category-r11 ENUMERATED {a, b, c},

eab-BarringBitmap-r11 BIT STRING (SIZE (10))

}

-- ASN1STOP

| *SystemInformationBlockType14* field descriptions |
| --- |
| ***eab-BarringBitmap***  Extended access class barring for AC 0-9. The first/ leftmost bit is for AC 0, the second bit is for AC 1, and so on. |
| ***eab-Category***  Indicates the category of UEs for which EAB applies. Value *a* corresponds to all UEs, value *b* corresponds to the UEs that are neither in their HPLMN nor in a PLMN that is equivalent to it, and value *c* corresponds to the UEs that are neither in the PLMN listed as most preferred PLMN of the country where the UEs are roaming in the operator-defined PLMN selector list on the USIM, nor in their HPLMN nor in a PLMN that is equivalent to their HPLMN, see TS 22.011 [10]. |
| ***eab-Common***  The EAB parameters applicable for all PLMN(s). |
| ***eab-PerPLMN-List***  The EAB parameters per PLMN, listed in the same order as the PLMN(s) listed across the *plmn-IdentityList* fields in *SystemInformationBlockType1*. |
| ***eab-PerRSRP***  Access barring per RSRP. Value *thresh0* means access to the cell is barred when in enhanced coverage as specified in TS 36.304 [4] and does not apply to UEs satisfying S criteria for normal coverage. Value *thresh1* is compared to the first entry configured in *rsrp-ThresholdsPrachInfoList*, value thresh2 is compared to the second entry configured in *rsrp-ThresholdsPrachInfoList* and so on. |

#### – *SystemInformationBlockType15*

The IE *SystemInformationBlockType15* contains the MBMS Service Area Identities (SAI) of the current and/ or neighbouring carrier frequencies.

*SystemInformationBlockType15* information element

-- ASN1START

SystemInformationBlockType15-r11 ::= SEQUENCE {

mbms-SAI-IntraFreq-r11 MBMS-SAI-List-r11 OPTIONAL, -- Need OR

mbms-SAI-InterFreqList-r11 MBMS-SAI-InterFreqList-r11 OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ mbms-SAI-InterFreqList-v1140 MBMS-SAI-InterFreqList-v1140 OPTIONAL -- Cond InterFreq

]],

[[ mbms-IntraFreqCarrierType-r14 MBMS-CarrierType-r14 OPTIONAL, -- Need OR

mbms-InterFreqCarrierTypeList-r14

MBMS-InterFreqCarrierTypeList-r14 OPTIONAL -- Need OR

]]

}

MBMS-SAI-List-r11 ::= SEQUENCE (SIZE (1..maxSAI-MBMS-r11)) OF MBMS-SAI-r11

MBMS-SAI-r11 ::= INTEGER (0..65535)

MBMS-SAI-InterFreqList-r11 ::= SEQUENCE (SIZE (1..maxFreq)) OF MBMS-SAI-InterFreq-r11

MBMS-SAI-InterFreqList-v1140 ::= SEQUENCE (SIZE (1..maxFreq)) OF MBMS-SAI-InterFreq-v1140

MBMS-SAI-InterFreq-r11 ::= SEQUENCE {

dl-CarrierFreq-r11 ARFCN-ValueEUTRA-r9,

mbms-SAI-List-r11 MBMS-SAI-List-r11

}

MBMS-SAI-InterFreq-v1140 ::= SEQUENCE {

multiBandInfoList-r11 MultiBandInfoList-r11 OPTIONAL -- Need OR

}

MBMS-InterFreqCarrierTypeList-r14 ::= SEQUENCE (SIZE (1..maxFreq)) OF MBMS-CarrierType-r14

MBMS-CarrierType-r14 ::= SEQUENCE {

carrierType-r14 ENUMERATED {mbms, fembmsMixed, fembmsDedicated},

frameOffset-r14 INTEGER (0..3) OPTIONAL -- Need OR

}

-- ASN1STOP

| *SystemInformationBlockType15* field descriptions |
| --- |
| ***carrierType***  Indicates whether the carrier is pre-Rel-14 MBMS carrier (*mbms*) or FeMBMS/Unicast mixed carrier (*fembmsMixed*) or MBMS-dedicated carrier (*fembmsDedicated*). |
| ***frameOffset***  For MBMS-dedicated carrier, the *frameOffset* gives the radio frame which contains PBCH by SFN mod 4 = *frameOffset*. |
| ***mbms-InterFreqCarrierTypeList***  Indicates whether this is an feMBMS carrier. The field is included only if *mbms-SAI-InterFreqList-r11* is included. The number of entries is the same in both fields and carrier type relates to the frequency indicated in *mbms-SAI-InterFreqList-r11* in the corresponding entry index. |
| ***mbms-IntraFreqCarrierType***  Contains indication whether the carrier is pre-Rel-14 MBMS carrier, FeMBMS/Unicast mixed carrier or MBMS-dedicated carrier. |
| ***mbms-SAI-InterFreqList***  Contains a list of neighboring frequencies including additional bands, if any, that provide MBMS services and the corresponding MBMS SAIs. |
| ***mbms-SAI-IntraFreq***  Contains the list of MBMS SAIs for the current frequency. A duplicate MBMS SAI indicates that this and all following SAIs are not offered by this cell but only by neighbour cells on the current frequency. For MBMS service continuity, the UE shall use all MBMS SAIs listed in *mbms-SAI-IntraFreq* to derive the MBMS frequencies of interest. |
| ***mbms-SAI-List***  Contains a list of MBMS SAIs for a specific frequency. |
| ***multiBandInfoList***  A list of additional frequency bands applicable for the cells participating in the MBSFN transmission. |

| Conditional presence | Explanation |
| --- | --- |
| *InterFreq* | The field is optionally present, need OR, if the *mbms-SAI-InterFreqList-r11* is present. Otherwise it is not present. |

#### – *SystemInformationBlockType16*

The IE *SystemInformationBlockType16* contains information related to GPS time and Coordinated Universal Time (UTC). The UE may use the parameters provided in this system information block to obtain the UTC, the GPS and the local time.

NOTE: The UE may use the time information for numerous purposes, possibly involving upper layers e.g. to assist GPS initialisation, to synchronise the UE clock (a.o. to determine MBMS session start/ stop).

*SystemInformationBlockType16* information element

-- ASN1START

SystemInformationBlockType16-r11 ::= SEQUENCE {

timeInfo-r11 SEQUENCE {

timeInfoUTC-r11 INTEGER (0..549755813887),

dayLightSavingTime-r11 BIT STRING (SIZE (2)) OPTIONAL, -- Need OR

leapSeconds-r11 INTEGER (-127..128) OPTIONAL, -- Need OR

localTimeOffset-r11 INTEGER (-63..64) OPTIONAL -- Need OR

} OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ timeReferenceInfo-r15 TimeReferenceInfo-r15 OPTIONAL -- Need OR

]]

}

-- ASN1STOP

| *SystemInformationBlockType16* field descriptions |
| --- |
| ***dayLightSavingTime***  It indicates if and how daylight saving time (DST) is applied to obtain the local time. The semantics is the same as the semantics of the *Daylight Saving Time* IE in TS 24.301 [35] and TS 24.008 [49]. The first/leftmost bit of the bit string contains the b2 of octet 3, i.e. the value part of the *Daylight Saving Time* IE, and the second bit of the bit string contains b1 of octet 3. |
| ***leapSeconds***  Number of leap seconds offset between GPS Time and UTC. UTC and GPS time are related i.e. GPS time -*leapSeconds* = UTC time. |
| ***localTimeOffset***  Offset between UTC and local time in units of 15 minutes. Actual value = field value \* 15 minutes. Local time of the day is calculated as UTC time + *localTimeOffset*. |
| ***timeInfoUTC***  Coordinated Universal Time corresponding to the SFN boundary at or immediately after the ending boundary of the SI-window in which *SystemInformationBlockType16* is transmitted. In an NTN cell, the indicated time is referenced at the uplink time synchronization reference point (RP), i.e., UE should take into account the propagation delay between UE and RP when determining the UTC time at the UE. The field counts the number of UTC seconds in 10 ms units since 00:00:00 on Gregorian calendar date 1 January, 1900 (midnight between Sunday, December 31, 1899 and Monday, January 1, 1900). NOTE 1.  This field is excluded when estimating changes in system information, i.e. changes of *timeInfoUTC* should neither result in system information change notifications nor in a modification of *systemInfoValueTag* in SIB1. |

NOTE 1: The UE may use this field together with the leapSeconds field to obtain GPS time as follows: GPS Time (in seconds) = timeInfoUTC (in seconds) - 2,524,953,600 (seconds) + leapSeconds, where 2,524,953,600 is the number of seconds between 00:00:00 on Gregorian calendar date 1 January, 1900 and 00:00:00 on Gregorian calendar date 6 January, 1980 (start of GPS time).

#### – *SystemInformationBlockType17*

The IE *SystemInformationBlockType17* contains information relevant for traffic steering between E-UTRAN and WLAN.

*SystemInformationBlockType17* information element

-- ASN1START

SystemInformationBlockType17-r12 ::= SEQUENCE {

wlan-OffloadInfoPerPLMN-List-r12 SEQUENCE (SIZE (1..maxPLMN-r11)) OF

WLAN-OffloadInfoPerPLMN-r12 OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...

}

WLAN-OffloadInfoPerPLMN-r12 ::= SEQUENCE {

wlan-OffloadConfigCommon-r12 WLAN-OffloadConfig-r12 OPTIONAL, -- Need OR

wlan-Id-List-r12 WLAN-Id-List-r12 OPTIONAL, -- Need OR

...

}

WLAN-Id-List-r12 ::= SEQUENCE (SIZE (1..maxWLAN-Id-r12)) OF WLAN-Identifiers-r12

WLAN-Identifiers-r12 ::= SEQUENCE {

ssid-r12 OCTET STRING (SIZE (1..32)) OPTIONAL, -- Need OR

bssid-r12 OCTET STRING (SIZE (6)) OPTIONAL, -- Need OR

hessid-r12 OCTET STRING (SIZE (6)) OPTIONAL, -- Need OR

...

}

-- ASN1STOP

| *SystemInformationBlockType17* field descriptions |
| --- |
| ***bssid***  Basic Service Set Identifier (BSSID) defined in IEEE 802.11-2012 [67]. |
| ***hessid***  Homogenous Extended Service Set Identifier (HESSID) defined in IEEE 802.11-2012 [67]. |
| ***ssid***  Service Set Identifier (SSID) defined in IEEE 802.11-2012 [67]. |
| ***wlan-OffloadInfoPerPLMN-List***  The WLAN offload configuration per PLMN includes the same number of entries, listed in the same order as the PLMN(s) listed across the *plmn-IdentityList* fields in *SystemInformationBlockType1*. |

#### – *SystemInformationBlockType18*

The IE *SystemInformationBlockType18* indicates E-UTRAN supports the sidelink UE information procedure and may contain sidelink communication related resource configuration information.

*SystemInformationBlockType18* information element

-- ASN1START

SystemInformationBlockType18-r12 ::= SEQUENCE {

commConfig-r12 SEQUENCE {

commRxPool-r12 SL-CommRxPoolList-r12,

commTxPoolNormalCommon-r12 SL-CommTxPoolList-r12 OPTIONAL, -- Need OR

commTxPoolExceptional-r12 SL-CommTxPoolList-r12 OPTIONAL, -- Need OR

commSyncConfig-r12 SL-SyncConfigList-r12 OPTIONAL -- Need OR

} OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ commTxPoolNormalCommonExt-r13 SL-CommTxPoolListExt-r13 OPTIONAL, -- Need OR

commTxResourceUC-ReqAllowed-r13 ENUMERATED {true} OPTIONAL, -- Need OR

commTxAllowRelayCommon-r13 ENUMERATED {true} OPTIONAL -- Need OR

]]

}

-- ASN1STOP

| *SystemInformationBlockType18* field descriptions |
| --- |
| ***commRxPool***  Indicates the resources by which the UE is allowed to receive sidelink communication while in RRC\_IDLE and while in RRC\_CONNECTED. |
| ***commSyncConfig***  Indicates the configuration by which the UE is allowed to receive and transmit synchronisation information. E-UTRAN configures *commSyncConfig* including *txParameters* when configuring UEs by dedicated signalling to transmit synchronisation information. |
| ***commTxAllowRelayCommon***  Indicates whether the UE is allowed to transmit relay related sidelink communication data using the transmission pools included in *SystemInformationBlockType18* i.e. either via *commTxPoolNormalCommon*, *commTxPoolNormalCommonExt* or via *commTxPoolExceptional*. |
| ***commTxPoolExceptional***  Indicates the resources by which the UE is allowed to transmit sidelink communication in exceptional conditions, as specified in 5.10.4. |
| ***commTxPoolNormalCommon***  Indicates the resources by which the UE is allowed to transmit sidelink communication while in RRC\_IDLE or when in RRC\_CONNECTED while transmitting sidelink via a frequency other than the primary. |
| ***commTxPoolNormalCommonExt***  Indicates transmission resource pool(s) in addition to the pool(s) indicated by field *commTxPoolNormalCommon*, by which the UE is allowed to transmit sidelink communication while in RRC\_IDLE or when in RRC\_CONNECTED while transmitting sidelink via a frequency other than the primary. E-UTRAN configures *commTxPoolNormalCommonExt* only when it configures *commTxPoolNormalCommon*. |
| ***commTxResourceUC-ReqAllowed***  Indicates whether the UE is allowed to request transmission pools for non-relay related one-to-one sidelink communication. |

#### – *SystemInformationBlockType19*

The IE *SystemInformationBlockType19* indicates E-UTRAN supports the sidelink UE information procedure and may contain sidelink discovery related resource configuration information.

*SystemInformationBlockType19* information element

-- ASN1START

SystemInformationBlockType19-r12 ::= SEQUENCE {

discConfig-r12 SEQUENCE {

discRxPool-r12 SL-DiscRxPoolList-r12,

discTxPoolCommon-r12 SL-DiscTxPoolList-r12 OPTIONAL, -- Need OR

discTxPowerInfo-r12 SL-DiscTxPowerInfoList-r12 OPTIONAL, -- Cond Tx

discSyncConfig-r12 SL-SyncConfigList-r12 OPTIONAL -- Need OR

} OPTIONAL, -- Need OR

discInterFreqList-r12 SL-CarrierFreqInfoList-r12 OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ discConfig-v1310 SEQUENCE {

discInterFreqList-v1310 SL-CarrierFreqInfoList-v1310 OPTIONAL, -- Need OR

gapRequestsAllowedCommon ENUMERATED {true} OPTIONAL -- Need OR

} OPTIONAL, -- Need OR

discConfigRelay-r13 SEQUENCE {

relayUE-Config-r13 SL-DiscConfigRelayUE-r13,

remoteUE-Config-r13 SL-DiscConfigRemoteUE-r13

} OPTIONAL, -- Need OR

discConfigPS-13 SEQUENCE {

discRxPoolPS-r13 SL-DiscRxPoolList-r12,

discTxPoolPS-Common-r13 SL-DiscTxPoolList-r12 OPTIONAL -- Need OR

} OPTIONAL -- Need OR

]]

}

SL-CarrierFreqInfoList-r12 ::= SEQUENCE (SIZE (1..maxFreq)) OF SL-CarrierFreqInfo-r12

SL-CarrierFreqInfoList-v1310 ::= SEQUENCE (SIZE (1..maxFreq)) OF SL-CarrierFreqInfo-v1310

SL-CarrierFreqInfo-r12::= SEQUENCE {

carrierFreq-r12 ARFCN-ValueEUTRA-r9,

plmn-IdentityList-r12 PLMN-IdentityList4-r12 OPTIONAL -- Need OP

}

SL-DiscConfigRelayUE-r13 ::= SEQUENCE {

threshHigh-r13 RSRP-RangeSL4-r13 OPTIONAL, -- Need OR

threshLow-r13 RSRP-RangeSL4-r13 OPTIONAL, -- Need OR

hystMax-r13 ENUMERATED {dB0, dB3, dB6, dB9, dB12, dBinf} OPTIONAL, -- Cond ThreshHigh

hystMin-r13 ENUMERATED {dB0, dB3, dB6, dB9, dB12} OPTIONAL -- Cond ThreshLow

}

SL-DiscConfigRemoteUE-r13 ::= SEQUENCE {

threshHigh-r13 RSRP-RangeSL4-r13 OPTIONAL, -- Need OR

hystMax-r13 ENUMERATED {dB0, dB3, dB6, dB9, dB12} OPTIONAL, -- Cond ThreshHigh

reselectionInfoIC-r13 ReselectionInfoRelay-r13

}

ReselectionInfoRelay-r13 ::= SEQUENCE {

q-RxLevMin-r13 Q-RxLevMin,

-- Note that the mapping of invidual values may be different for PC5, but the granularity/

-- number of values is same as for Uu

filterCoefficient-r13 FilterCoefficient,

minHyst-r13 ENUMERATED {dB0, dB3,

dB6, dB9, dB12, dBinf} OPTIONAL -- Need OR

}

SL-CarrierFreqInfo-v1310::= SEQUENCE {

discResourcesNonPS-r13 SL-ResourcesInterFreq-r13 OPTIONAL, -- Need OR

discResourcesPS-r13 SL-ResourcesInterFreq-r13 OPTIONAL, -- Need OR

discConfigOther-r13 SL-DiscConfigOtherInterFreq-r13 OPTIONAL, -- Need OR

...

}

PLMN-IdentityList4-r12 ::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo2-r12

PLMN-IdentityInfo2-r12 ::= CHOICE {

plmn-Index-r12 INTEGER (1..maxPLMN-r11),

plmnIdentity-r12 PLMN-Identity

}

SL-DiscTxResourcesInterFreq-r13 ::= CHOICE {

acquireSI-FromCarrier-r13 NULL,

discTxPoolCommon-r13 SL-DiscTxPoolList-r12,

requestDedicated-r13 NULL,

noTxOnCarrier-r13 NULL

}

SL-DiscConfigOtherInterFreq-r13::= SEQUENCE {

txPowerInfo-r13 SL-DiscTxPowerInfoList-r12 OPTIONAL, -- Cond Tx

refCarrierCommon-r13 ENUMERATED {pCell} OPTIONAL, -- Need OR

discSyncConfig-r13 SL-SyncConfigListNFreq-r13 OPTIONAL, -- Need OR

discCellSelectionInfo-r13 CellSelectionInfoNFreq-r13 OPTIONAL -- Need OR

}

SL-ResourcesInterFreq-r13 ::= SEQUENCE {

discRxResourcesInterFreq-r13 SL-DiscRxPoolList-r12 OPTIONAL, -- Need OR

discTxResourcesInterFreq-r13 SL-DiscTxResourcesInterFreq-r13 OPTIONAL -- Need OR

}

-- ASN1STOP

| *SystemInformationBlockType19* field descriptions |
| --- |
| ***discCellSelectionInfo***  Parameters that may be used by the UE to select/ reselect a cell on the concerned non serving frequency. If absent, the UE acquires the information from the target cell on the concerned frequency. See TS 36.304 [4], clause 11.4. |
| ***discInterFreqList***  Indicates the neighbouring frequencies on which sidelink discovery announcement is supported. May also provide further information i.e. reception resource pool and/ or transmission resource pool, or an indication how resources could be obtained. |
| ***discRxPool***  Indicates the resources by which the UE is allowed to receive non-PS related sidelink discovery announcements while in RRC\_IDLE and while in RRC\_CONNECTED. |
| ***discRxPoolPS***  Indicates the resources by which the UE is allowed to receive PS related sidelink discovery announcements while in RRC\_IDLE and while in RRC\_CONNECTED. |
| ***discRxResourcesInterFreq***  Indicates the resource pool configuration for receiving discovery announcements on a carrier frequency. |
| ***discSyncConfig***  Indicates the configuration by which the UE is allowed to receive and transmit synchronisation information. E-UTRAN configures *discSyncConfig* including *txParameters* when configuring UEs by dedicated signalling to transmit synchronisation information. |
| ***discTxPoolCommon***  Indicates the resources by which the UE is allowed to transmit non-PS related sidelink discovery announcements while in RRC\_IDLE. |
| ***discTxPoolPS-Common***  Indicates the resources by which the UE is allowed to transmit PS related sidelink discovery announcements while in RRC\_IDLE. |
| ***discTxResourcesInterFreq***  For the concerned frequency, either provides the UE with a pool of sidelink discovery announcement transmission resources the UE is allowed to use while in RRC\_IDLE, or indicates whether such transmission is allowed, and if so how the UE may obtain the required resources. Value *noTxOnCarrier* indicates that the UE is not allowed to transmit sidelink discovery announcements on the concerned frequency. Value *acquireSI-FromCarrier* indicates that the required resources are to be obtained by autonomously acquiring SIB19 and other relevant SIBs from the concerned frequency. Value *requestDedicated* indicates, that for the concerned carrier, the required sidelink discovery resources are to be obtained by means of a dedicated resource request using the *SidelinkUEInformation* message. |
| ***plmn-IdentityList***  List of PLMN identities for the neighbouring frequency indicated by *carrierFreq*. Absence of the field indicates the same PLMN identities as listed across the *plmn-IdentityList* fields (without suffix) in *SystemInformationBlockType1*. |
| ***plmn-Index***  Index of the corresponding entry across the *plmn-IdentityList* fields (without suffix) within *SystemInformationBlockType1*. |
| ***refCarrierCommon***  Indicates if the PCell (RRC\_CONNECTED)/ serving cell (RRC\_IDLE) is to be used as reference for DL measurements and synchronization, instead of the DL frequency paired with the one used to transmit sidelink discovery announcements on, see TS 36.213 [23], clause 14.3.1. |
| ***reselectionInfoIC***  Includes the parameters used by the UE when selecting/ reselecting a sidelink relay UE. |
| ***SL-CarrierFreqInfoList-v1310***  If included, the UE shall include the same number of entries, and listed in the same order, as in *SL-CarrierFreqInfoList-r12*. |
| ***threshHigh, threshLow (relayUE)***  Indicates when a sidelink remote UE or sidelink relay UE that is in network coverage may use the broadcast PS related sidelink discovery Tx resource pool, if broadcast, or request Tx resources by dedicated signalling otherwise. For remote UEs, this parameter is used similarly for relay related sidelink communication. |

| Conditional presence | Explanation |
| --- | --- |
| *ThreshHigh* | The field is mandatory present if *threshHigh* is included in the corresponding IE. Otherwise the field is not present and UE shall delete any existing value for this field. |
| *ThreshLow* | The field is mandatory present if *threshLow* is included. Otherwise the field is not present UE shall delete any existing value for this field. |
| *Tx* | The field is mandatory present if *discTxPoolCommon* is included. Otherwise the field is optional present, need OR. |

#### – *SystemInformationBlockType20*

The IE *SystemInformationBlockType20* contains the information required to acquire the control information associated transmission of MBMS using SC-PTM.

*SystemInformationBlockType20* information element

-- ASN1START

SystemInformationBlockType20-r13 ::= SEQUENCE {

sc-mcch-RepetitionPeriod-r13 ENUMERATED {rf2, rf4, rf8, rf16, rf32, rf64, rf128, rf256},

sc-mcch-Offset-r13 INTEGER (0..10),

sc-mcch-FirstSubframe-r13 INTEGER (0..9),

sc-mcch-duration-r13 INTEGER (2..9) OPTIONAL,

sc-mcch-ModificationPeriod-r13 ENUMERATED {rf2, rf4, rf8, rf16, rf32, rf64, rf128, rf256,

rf512, rf1024, r2048, rf4096, rf8192, rf16384, rf32768,

rf65536},

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ br-BCCH-Config-r14 SEQUENCE {

dummy ENUMERATED {rf1},

dummy2 ENUMERATED {rf1},

mpdcch-Narrowband-SC-MCCH-r14 INTEGER (1..maxAvailNarrowBands-r13),

mpdcch-NumRepetition-SC-MCCH-r14 ENUMERATED {r1, r2, r4, r8, r16,

r32, r64, r128, r256},

mpdcch-StartSF-SC-MCCH-r14 CHOICE {

fdd-r14 ENUMERATED {v1, v1dot5, v2, v2dot5, v4,

v5, v8, v10},

tdd-r14 ENUMERATED {v1, v2, v4, v5, v8, v10, v20}

},

mpdcch-PDSCH-HoppingConfig-SC-MCCH-r14 ENUMERATED {off, ce-ModeA, ce-ModeB},

sc-mcch-CarrierFreq-r14 ARFCN-ValueEUTRA-r9,

sc-mcch-Offset-BR-r14 INTEGER (0..10),

sc-mcch-RepetitionPeriod-BR-r14 ENUMERATED {rf32, rf128, rf512, rf1024,

rf2048, rf4096, rf8192, rf16384},

sc-mcch-ModificationPeriod-BR-r14 ENUMERATED { rf32, rf128, rf256, rf512, rf1024,

rf2048, rf4096, rf8192, rf16384, rf32768,

rf65536, rf131072, rf262144, rf524288,

rf1048576}

} OPTIONAL, -- Need OR

sc-mcch-SchedulingInfo-r14 SC-MCCH-SchedulingInfo-r14 OPTIONAL, -- Need OP

pdsch-maxNumRepetitionCEmodeA-SC-MTCH-r14

ENUMERATED { r16, r32 } OPTIONAL, -- Need OR

pdsch-maxNumRepetitionCEmodeB-SC-MTCH-r14

ENUMERATED {

r192, r256, r384, r512, r768, r1024,

r1536, r2048} OPTIONAL -- Need OR

]],

[[ sc-mcch-RepetitionPeriod-v1470 ENUMERATED {rf1} OPTIONAL, -- Need OR

sc-mcch-ModificationPeriod-v1470 ENUMERATED {rf1} OPTIONAL -- Need OR

]]

}

SC-MCCH-SchedulingInfo-r14::= SEQUENCE {

onDurationTimerSCPTM-r14 ENUMERATED {psf10, psf20, psf100, psf300,

psf500, psf1000, psf1200, psf1600},

drx-InactivityTimerSCPTM-r14 ENUMERATED {psf0, psf1, psf2, psf4, psf8, psf16,

psf32, psf64, psf128, psf256, ps512,

psf1024, psf2048, psf4096, psf8192, psf16384},

schedulingPeriodStartOffsetSCPTM-r14 CHOICE {

sf10 INTEGER(0..9),

sf20 INTEGER(0..19),

sf32 INTEGER(0..31),

sf40 INTEGER(0..39),

sf64 INTEGER(0..63),

sf80 INTEGER(0..79),

sf128 INTEGER(0..127),

sf160 INTEGER(0..159),

sf256 INTEGER(0..255),

sf320 INTEGER(0..319),

sf512 INTEGER(0..511),

sf640 INTEGER(0..639),

sf1024 INTEGER(0..1023),

sf2048 INTEGER(0..2047),

sf4096 INTEGER(0..4095),

sf8192 INTEGER(0..8191)

},

...

}

-- ASN1STOP

| ***SystemInformationBlockType20* field descriptions** |
| --- |
| ***br-BCCH-Config-r14***  The field is present if *SystemInformationBlockType20* is sent on BR-BCCH. Otherwise the field is absent. |
| ***dummy***  This field is not used in the specification. If received it shall be ignored by the UE. |
| ***drx-InactivityTimerSCPTM***  Timer for listening to SC-MCCH scheduling in TS 36.321 [6]. Value in number of MPDCCH sub-frames. Value psf0 corresponds to 0 MPDCCH sub-frame, psf1 corresponds to 1 MPDCCH sub-frame and so on. |
| ***mpdcch-Narrowband-SC-MCCH***  Narrowband for MPDCCH for SC-MCCH, see TS 36.213 [23]. |
| ***mpdcch-NumRepetitions-SC-MCCH***  The maximum number of MPDCCH repetitions the UE needs to monitor for SC-MCCH, see TS 36.213 [23]. |
| ***mpdcch-StartSF-SC-MCCH***  Configuration of the starting subframes of the MPDCCH search space for SC-MCCH, see TS 36.213 [23]. |
| ***mpdcch-PDSCH-HoppingConfig-SC-MCCH***  Frequency hopping configuration for MPDCCH/PDSCH for SC-MCCH, see TS 36.213 [23]. |
| ***onDurationTimerSCPTM***  Indicates the duration in subframes during which SC-MCCH may be scheduled in MPDCCH sub-frames, see TS 36.321 [6]. |
| ***pdsch-maxNumRepetitionCEmodeA-SC-MTCH***  Maximum value to indicate the set of PDSCH repetition numbers for SC-MTCH to UEs in CE mode A, see TS 36.213 [23]. |
| ***pdsch-maxNumRepetitionCEmodeB-SC-MTCH***  Maximum value to indicate the set of PDSCH repetition numbers for SC-MTCH CE to UEs in mode B, see TS 36.213 [23]. |
| ***schedulingPeriodStartOffsetSCPTM***  *SCPTM-SchedulingCycle* and *SCPTM-SchedulingOffset* in TS 36.321 [6]. The value of *SCPTM-SchedulingCycle* is in number of sub-frames. Value sf10 corresponds to 10 sub-frames, sf20 corresponds to 20 sub-frames and so on. The value of *SCPTM-SchedulingOffset* is in number of sub-frames. |
| ***sc-mcch-CarrierFreq***  Downlink carrier used for all multicast SC-MCCH transmissions. |
| ***sc-mcch-duration***  Indicates, starting from the subframe indicated by *sc-mcch-FirstSubframe*, the duration in subframes during which SC-MCCH may be scheduled in PDCCH sub-frames, see TS 36.321 [6]. Absence of this IE means that SC-MCCH is only scheduled in the subframe indicated by *sc-mcch-FirstSubframe*. |
| ***sc-mcch-ModificationPeriod***  Defines periodically appearing boundaries, i.e. radio frames for which SFN mod *sc-mcch-ModificationPeriod* = 0. The contents of different transmissions of SC-MCCH information can only be different if there is at least one such boundary in-between them. Value rf2 corresponds to 2 radio frames, value rf4 corresponds to 4 radio frames and so on. In case sc-mcch-ModificationPeriod-v1470 is configured, the UE shall ignore the configuration of *sc-mcch-ModificationPeriod-r13*. |
| ***sc-mcch-ModificationPeriod-BR***  Defines periodically appearing boundaries for BL UE or UE in CE, i.e. radio frames for which (H-SFN\*1024 + SFN) mod *sc-mcch-ModificationPeriod-BR* = 0 if hyperSFN is present in *SystemInformationBlockType1-BR* or radio frames for which SFN mod *sc-mcchModificationPeriod-BR* = 0 otherwise.The contents of different transmissions of SC-MCCH information can only be different if there is at least one such boundary in-between them. Value rf32 corresponds to 32 radio frames, value rf128 corresponds to 128 radio frames and so on. |
| ***sc-mcch-FirstSubframe***  Indicates the first subframe in which SC-MCCH is scheduled |
| ***sc-mcch-Offset***  Indicates, together with the *sc-mcch-RepetitionPeriod*, the radio frames in which SC-MCCH is scheduled i.e. SC-MCCH is scheduled in radio frames for which: SFN mod sc-*mcch-RepetitionPeriod* = *sc-mcch-Offset*. |
| ***sc-mcch-Offset-BR***  Indicates, together with the *sc-mcch-RepetitionPeriod-BR*, the boundary of the SC-MCCH repetition period for BL UE or UE in CE: (H-SFN\*1024 + SFN) mod *sc-mcch-RepetitionPeriod-BR* = *sc-mcch-Offset-BR* if hyperSFN is present in *SystemInformationBlockType1-*BR or radio frames for which (SFN mod mod *sc-mcch-RepetitionPeriod-BR*) = *sc-mcch-Offset-BR* otherwise. |
| ***sc-mcch-RepetitionPeriod***  Defines the interval between transmissions of SC-MCCH information, in radio frames. Value rf2 corresponds to 2 radio frames, rf4 corresponds to 4 radio frames and so on. In case *sc-mcch-RepetitionPeriod-v1470* is configured, the UE shall ignore the configuration of *sc-mcch-RepetitionPeriod-r13*. |
| ***sc-mcch-RepetitionPeriod-BR***  Defines the interval between transmissions of SC-MCCH information for BL UE or UE in CE, in radio frames. Value rf32 corresponds to 32 radio frames, rf128 corresponds to 128 radio frames and so on. |
| ***sc-mcch-SchedulingInfo***  DRX information for the SC-MCCH. If this field is absent, DRX is not used for SC-MCCH reception. |

#### – *SystemInformationBlockType21*

The IE *SystemInformationBlockType21* contains V2X sidelink communication configuration.

*SystemInformationBlockType21* information element

-- ASN1START

SystemInformationBlockType21-r14 ::= SEQUENCE {

sl-V2X-ConfigCommon-r14 SL-V2X-ConfigCommon-r14 OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ anchorCarrierFreqListNR-r16 SL-NR-AnchorCarrierFreqList-r16 OPTIONAL -- Need OR

]],

[[ sl-A2X-ConfigCommon-r18 SL-A2X-ConfigCommon-r18 OPTIONAL -- Need OR

]]

}

SL-V2X-ConfigCommon-r14 ::= SEQUENCE {

v2x-CommRxPool-r14 SL-CommRxPoolListV2X-r14 OPTIONAL, -- Need OR

v2x-CommTxPoolNormalCommon-r14 SL-CommTxPoolListV2X-r14 OPTIONAL, -- Need OR

p2x-CommTxPoolNormalCommon-r14 SL-CommTxPoolListV2X-r14 OPTIONAL, -- Need OR

v2x-CommTxPoolExceptional-r14 SL-CommResourcePoolV2X-r14 OPTIONAL, -- Need OR

v2x-SyncConfig-r14  SL-SyncConfigListV2X-r14 OPTIONAL, -- Need OR

v2x-InterFreqInfoList-r14  SL-InterFreqInfoListV2X-r14 OPTIONAL, -- Need OR

v2x-ResourceSelectionConfig-r14 SL-CommTxPoolSensingConfig-r14 OPTIONAL, -- Need OR

zoneConfig-r14 SL-ZoneConfig-r14 OPTIONAL, -- Need OR

typeTxSync-r14 SL-TypeTxSync-r14 OPTIONAL, -- Need OR

thresSL-TxPrioritization-r14 SL-Priority-r13 OPTIONAL, -- Need OR

anchorCarrierFreqList-r14 SL-AnchorCarrierFreqList-V2X-r14 OPTIONAL, -- Need OR

offsetDFN-r14 INTEGER (0..1000) OPTIONAL, -- Need OR

cbr-CommonTxConfigList-r14 SL-CBR-CommonTxConfigList-r14 OPTIONAL -- Need OR

}

SL-A2X-ConfigCommon-r18 ::= SEQUENCE {

a2x-CommRxPool-r18 SL-CommRxPoolListV2X-r14 OPTIONAL, -- Need OR

a2x-commTxPool-r18 SL-CommTxPoolListV2X-r14 OPTIONAL -- Need OR

}

-- ASN1STOP

| *SystemInformationBlockType21* field descriptions |
| --- |
| ***a2x-CommRxPool***  Indicates the resources by which the UE is allowed to receive sidelink communication for A2X services. |
| ***a2x-CommTxPool***  Indicates the resources by which the UE is allowed to transmit sidelink communication for A2X services. |
| ***anchorCarrierFreqList***  Indicates EUTRA carrier frequencies which may include inter-carrier resource configuration for V2X sidelink communication. |
| ***anchorCarrierFreqListNR***  Indicates NR carrier frequencies which may include inter-carrier resource configuration for V2X sidelink communication. |
| ***cbr-CommonTxConfigList***  Indicates the common list of CBR ranges and the list of PSSCH transmissions parameter configurations available to configure congestion control to the UE for V2X sidelink communication. |
| ***offsetDFN***  Indicates the timing offset for the UE to determine DFN timing when GNSS is used for timing reference for the PCell. Value 0 corresponds to 0 milliseconds, value 1 corresponds to 0.001 milliseconds, value 2 corresponds to 0.002 milliseconds, and so on. |
| ***p2x-CommTxPoolNormalCommon***  Indicates the resources by which the UE is allowed to transmit P2X related V2X sidelink communication. *zoneID* is not configured in the pools in this field. |
| ***thresSL-TxPrioritization***  Indicates the threshold used to determine whether SL V2X transmission is prioritized over uplink transmission if they overlap in time (see TS 36.321 [6]). This value shall overwrite *thresSL-TxPrioritization* configured in *SL-V2X-Preconfiguration* if any. |
| ***typeTxSync***  Indicates the prioritized synchronization type (i.e. eNB or GNSS) for performing V2X sidelink communication on the carrier frequency on which this field is broadcast. |
| ***v2x-CommRxPool***  Indicates the resources by which the UE is allowed to receive V2X sidelink communication while in RRC\_IDLE and in RRC\_CONNECTED. |
| ***v2x-CommTxPoolExceptional***  Indicates the resources by which the UE is allowed to transmit V2X sidelink communication in exceptional conditions, as specified in 5.10.13. |
| ***v2x-CommTxPoolNormalCommon***  Indicates the resources by which the UE is allowed to transmit non-P2X related V2X sidelink communication when in RRC\_IDLE or when in RRC\_CONNECTED while transmitting V2X sidelink communication via a frequency other than the primary. E-UTRAN configures one resource pool per zone. |
| ***v2x-InterFreqInfoList***  Indicates synchronization and resource allocation configurations of neighboring frequencies for V2X sidelink communication. |
| ***v2x-ResourceSelectionConfig***  Indicates V2X sidelink communication configurations used for UE autonomous resource selection. |
| ***v2x-SyncConfig***  Indicates the configuration by which the UE is allowed to receive and transmit synchronisation information for V2X sidelink communication. E-UTRAN configures *v2x-*S*yncConfig* including *txParameters* when configuring UEs to transmit synchronisation information. |
| ***zoneConfig***  Indicates zone configurations used for V2X sidelink communication in 5.10.13.2. |

#### – *SystemInformationBlockType24*

The IE *SystemInformationBlockType24* contains information relevant for inter-RAT cell re-selection (i.e. information about NR frequencies and NR neighbouring cells relevant for cell re-selection), which can also be used for NR idle/inactive measurements. The IE includes cell re-selection parameters common for a frequency.

*SystemInformationBlockType24* information element

-- ASN1START

SystemInformationBlockType24-r15 ::= SEQUENCE {

carrierFreqListNR-r15 CarrierFreqListNR-r15 OPTIONAL, -- Need OR

t-ReselectionNR-r15 T-Reselection,

t-ReselectionNR-SF-r15 SpeedStateScaleFactors OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ carrierFreqListNR-v1610 CarrierFreqListNR-v1610 OPTIONAL -- Need OR

]],

[[ carrierFreqListNR-v1700 CarrierFreqListNR-v1700 OPTIONAL -- Need OR

]],

[[ carrierFreqListNR-v1720 CarrierFreqListNR-v1720 OPTIONAL -- Need OR

]],

[[ carrierFreqListNR-v1810 CarrierFreqListNR-v1810 OPTIONAL -- Need OR

]]

}

CarrierFreqListNR-r15 ::= SEQUENCE (SIZE (1..maxFreq)) OF CarrierFreqNR-r15

CarrierFreqListNR-v1610 ::= SEQUENCE (SIZE (1..maxFreq)) OF CarrierFreqNR-v1610

CarrierFreqListNR-v1700 ::= SEQUENCE (SIZE (1..maxFreq)) OF CarrierFreqNR-v1700

CarrierFreqListNR-v1720 ::= SEQUENCE (SIZE (1..maxFreq)) OF CarrierFreqNR-v1720

CarrierFreqListNR-v1810 ::= SEQUENCE (SIZE (1..maxFreq)) OF CarrierFreqNR-v1810

CarrierFreqNR-r15 ::= SEQUENCE {

carrierFreq-r15 ARFCN-ValueNR-r15,

multiBandInfoList-r15 MultiFrequencyBandListNR-r15 OPTIONAL, -- Need OR

multiBandInfoListSUL-r15 MultiFrequencyBandListNR-r15 OPTIONAL, -- Need OR

measTimingConfig-r15 MTC-SSB-NR-r15 OPTIONAL, -- Need OR

subcarrierSpacingSSB-r15 ENUMERATED {kHz15, kHz30, kHz120, kHz240},

ss-RSSI-Measurement-r15 SS-RSSI-Measurement-r15 OPTIONAL, -- Cond RSRQ2

cellReselectionPriority-r15 CellReselectionPriority OPTIONAL, -- Need OP

cellReselectionSubPriority-r15 CellReselectionSubPriority-r13 OPTIONAL, -- Need OR

threshX-High-r15 ReselectionThreshold,

threshX-Low-r15 ReselectionThreshold,

threshX-Q-r15 SEQUENCE {

threshX-HighQ-r15 ReselectionThresholdQ-r9,

threshX-LowQ-r15 ReselectionThresholdQ-r9

} OPTIONAL, -- Cond RSRQ

q-RxLevMin-r15 INTEGER (-70..-22),

q-RxLevMinSUL-r15 INTEGER (-70..-22) OPTIONAL, -- Need OR

p-MaxNR-r15 P-MaxNR-r15,

ns-PmaxListNR-r15 NS-PmaxListNR-r15 OPTIONAL, -- Need OR

q-QualMin-r15 INTEGER (-43..-12) OPTIONAL, -- Need OP

deriveSSB-IndexFromCell-r15 BOOLEAN,

maxRS-IndexCellQual-r15 MaxRS-IndexCellQualNR-r15 OPTIONAL, -- Need OR

threshRS-Index-r15 ThresholdListNR-r15 OPTIONAL, -- Need OR

...,

[[ multiBandNsPmaxListNR-v1550 MultiBandNsPmaxListNR-1-v1550 OPTIONAL, -- Need OR

multiBandNsPmaxListNR-SUL-v1550 MultiBandNsPmaxListNR-v1550 OPTIONAL, -- Need OR

ssb-ToMeasure-r15 SSB-ToMeasure-r15 OPTIONAL -- Need OR

]],

[[ ns-PmaxListNR-v1760 NS-PmaxListNR-v1760 OPTIONAL, -- Need OR

multiBandNsPmaxListNR-v1760 MultiBandNsPmaxListNR-1-v1760 OPTIONAL, -- Need OR

multiBandNsPmaxListNR-SUL-v1760 MultiBandNsPmaxListNR-v1760 OPTIONAL -- Need OR

]]

}

CarrierFreqNR-v1610 ::= SEQUENCE {

smtc2-LP-r16 MTC-SSB2-LP-NR-r16 OPTIONAL, -- Need OR

ssb-PositionQCL-CommonNR-r16 SSB-PositionQCL-RelationNR-r16 OPTIONAL, -- Cond SharedSpectrum2

allowedCellListNR-r16 AllowedCellListNR-r16 OPTIONAL, -- Cond SharedSpectrum

highSpeedCarrierNR-r16 ENUMERATED {true} OPTIONAL -- Need OR

}

CarrierFreqNR-v1700 ::= SEQUENCE {

nr-FreqNeighHSDN-CellList-r17 NR-FreqNeighHSDN-CellList-r17 OPTIONAL -- Need OR

}

CarrierFreqNR-v1720 ::= SEQUENCE {

subcarrierSpacingSSB-r17 ENUMERATED {kHz480, spare1} OPTIONAL, -- Need OR

ssb-PositionQCL-CommonNR-r17 SSB-PositionQCL-RelationNR-r17 OPTIONAL -- Cond SharedSpectrum2

}

CarrierFreqNR-v1810 ::= SEQUENCE {

,

mobileIAB-CellList-r18 PhysCellIdRangeNR-r16 OPTIONAL, -- Need OR

mobileIAB-Freq-r18 ENUMERATED {true} OPTIONAL -- Need OR

}

MultiBandNsPmaxListNR-1-v1550 ::= SEQUENCE (SIZE (1.. maxMultiBandsNR-1-r15)) OF NS-PmaxListNR-r15

MultiBandNsPmaxListNR-v1550 ::= SEQUENCE (SIZE (1.. maxMultiBandsNR-r15)) OF NS-PmaxListNR-r15

MultiBandNsPmaxListNR-1-v1760 ::= SEQUENCE (SIZE (1.. maxMultiBandsNR-1-r15)) OF NS-PmaxListNR-v1760

MultiBandNsPmaxListNR-v1760 ::= SEQUENCE (SIZE (1.. maxMultiBandsNR-r15)) OF NS-PmaxListNR-v1760

MultiBandNsPmaxListNR-Aerial-1-r18 ::= SEQUENCE (SIZE (1.. maxMultiBandsNR-1-r15)) OF NS-PmaxListNR-Aerial-r18

AllowedCellListNR-r16 ::= SEQUENCE (SIZE (1..maxCellAllowedNR-r16)) OF PhysCellIdNR-r15

NR-FreqNeighHSDN-CellList-r17 ::= SEQUENCE (SIZE (1..maxCellNR-r17)) OF PhysCellIdRangeNR-r16

-- ASN1STOP

|  |
| --- |
| *SystemInformationBlockType24* field descriptions |
| ***allowedCellListNR***  List of allow-listed neighbouring NR cells. |
| ***carrierFreqListNR***  List of carrier frequencies of NR carriers. These frequencies correspond to GSCN values as specified in TS 38.101 [85]. If the *carrierFreqListNR-v1610* is present, it contains the same number of entries, listed in the same order as in the *carrierFreqListNR* (without suffix). |
| ***cellReselectionPriority***  The field concerns the absolute priority of the concerned carrier frequency as used by the cell reselection procedure. Corresponds with parameter "priority" in TS 36.304 [4]. |
| ***deriveSSB-IndexFromCell***  The field indicates whether the UE may use, to derive the SSB index of a cell on the indicated SSB frequency and subcarrier spacing, the timing of any detected cell with the same SSB frequency and subcarrier spacing. If this field is set to TRUE, the UE assumes SFN and frame boundary alignment across cells on the same NR carrier frequency as specified in TS 36.133 [16]. |
| ***highSpeedCarrierNR***  If the field is present, the UE shall apply the enhanced inter-RAT NR measurement requirements to support high speed up to 500 km/h as specified in TS 36.133 [16] to the NR carrier. |
| ***maxRS-IndexCellQual***  Number of SS blocks to average for cell measurement derivation. Corresponds to the parameter *nrofSS-BlocksToAverage* in TS 38.304 [92]. |
| ***measTimingConfig***  Used to configure measurement timing configurations, i.e., timing occasions at which the UE measures SSBs. If the field is absent, the UE assumes that SSB periodicity is 5ms in this frequency. |
| ***mobileIAB-CellList***  List of neighbouring mobile IAB cells as specified in TS 36.304 [4]. |
| ***mobileIAB-Freq***  If present, it indicates that a mobile IAB node may be deployed on the NR frequency. |
| ***multiBandInfoList***  Indicates the list of frequency bands for which the NR cell reselection parameters apply. The UE shall select the first listed band which it supports in the *multiBandInfoList* field to represent the NR neighbour carrier frequency. The network always includes this field. |
| ***multiBandInfoListAerial***  Indicates the list of frequency bands for which the NR cell reselection parameters apply. The aerial UE shall select the first listed band which it supports in the *multiBandInfoListAerial* field to represent the NR neighbour carrier frequency. |
| ***multiBandInfoListSUL***  Indicates the list of frequency bands for which the NR cell reselection parameters apply. The UE shall select the first listed band which it supports in the *multiBandInfoListSUL* field to represent the NR neighbour carrier frequency. |
| ***multiBandNsPmaxListNR***  Indicates the *NS-PmaxListNR* configuration for the NR frequency band(s) listed in *multiBandInfoList*. The first entry corresponds to the second listed band in *multiBandInfoList*, and second entry corresponds to the third listed band in *multiBandInfoList*, and so on. |
| ***multiBandNsPmaxListNR-Aerial***  Indicates the *NS-PmaxListNR-Aerial* configuration for the NR frequency band(s) listed in *multiBandInfoListAerial*. The first entry corresponds to the second listed band in *multiBandInfoListAerial*, and second entry corresponds to the third listed band in *multiBandInfoListAerial*, and so on. |
| ***multiBandNsPmaxListNR-SUL***  Indicates the *NS-PmaxListNR* configuration for the NR SUL frequency band(s) listed in *multiBandInfoListSUL*. The first entry corresponds to the first listed band in *multiBandInfoListSUL*, and second entry corresponds to the second listed band in *multiBandInfoListSUL*, and so on. |
| ***nr-FreqNeighHSDN-CellList***  List of neighbouring NR HSDN cells as specified in TS 38.304 [92]. |
| ***ns-PmaxListNR***  Indicates a list of *additionalPmax* and *additionalSpectrumEmission*, corresponds to the first listed band in the *multiBandInfoList*. |
| ***ns-PmaxListNR-Aerial***  Indicates a list of *additionalPmax* and *additionalSpectrumEmission* for aerial UE, corresponds to the first listed band in the *multiBandInfoListAerial*. |
| ***p-MaxNR***  Indicates the maximum power for NR (see TS 38.104 [91]). |
| ***q-QualMin***  Parameter "Qqualmin" in TS 36.304 [4], applicable for NR neighbour cells. If the field is not present, the UE applies the (default) value of negative infinity for Qqualmin. The actual value Qqualmin = field value [dB]. |
| ***q-RxLevMin***  Parameter "Qrxlevmin" in TS 38.304 [92], applicable for NR neighbour cells. The actual value Qrxlevmin = field value \* 2 [dBm]. |
| ***q-RxLevMinSUL***  Parameter "Qrxlevmin" in TS 38.304 [92], applicable for NR neighbouring cells. The actual value Qrxlevmin = field value \* 2 [dBm]. |
| ***smtc2-LP***  Measurement timing configuration for inter-RAT neighbour cells in NR with a Long Periodicity (LP) indicated by periodicity in *smtc2-LP*. The timing offset and duration are equal to the offset and duration indicated in *measTimingConfig* in *CarrierFreqNR*. The periodicity in *smtc2-LP* can only be set to a value strictly larger than the periodicity in *measTimingConfig* in *CarrierFreqNR* (e.g. if *measTimingConfig* indicates sf20 the Long Periodicity can only be set to sf40, sf80 or sf160, if *measTimingConfig* indicates sf160, *smtc2-LP* cannot be configured). The *pci-List*, if present, includes the physical cell identities of the inter-RAT neighbour cells with Long Periodicity. If *smtc2-LP* is absent, the UE assumes that there are no inter-RAT neighbour cells with a Long Periodicity. |
| ***ssb-PositionQCL-CommonNR***  Indicates the QCL relationship between SS/PBCH blocks for NR neighbor cells on the indicated frequency as specified in TS 38.213 [88], clause 4.1. If *ssb-PositionQCL-CommonNR-r17* is present, the UE ignores *ssb-PositionQCL-CommonNR-r16*. |
| ***ssb-ToMeasure***  The set of SS blocks to be measured within the SMTC measurement duration (see TS 38.215 [89]). When the field is absent the UE measures on all SS-blocks. |
| ***ss-RSSI-Measurements***  Indicates the SSB-based RSSI measurement configuration. If the field is absent, the UE behaviour is defined in TS 38.215 [89], clause 5.1.3. |
| ***subcarrierSpacingSSB***  Indicates the subcarrier spacing of SSB of NR frequency. Only the values 15 kHz or 30 kHz (FR1), 120 kHz or 240 kHz (FR2-1), 120 kHz or 480 kHz (FR2-2) are applicable. If *subcarrierSpacingSSB-r17* is present, the UE ignores *subcarrierSpacingSSB-r15*. |
| ***threshRS-Index***  List of thresholds for consolidation of L1 measurements per RS index. Corresponds to the parameter *absThreshSS-BlocksConsolidation* in TS 38.304 [92]. |
| ***threshX-High***  Parameter "ThreshX, HighP" in TS 36.304 [4]. |
| ***threshX-HighQ***  Parameter "ThreshX, HighQ" in TS 36.304 [4]. |
| ***threshX-Low***  Parameter "ThreshX, LowP" in TS 36.304 [4]. |
| ***threshX-LowQ***  Parameter "ThreshX, LowQ" in TS 36.304 [4]. |
| ***t-ReselectionNR***  Parameter "TreselectionNR" in TS 36.304 [4]. |
| ***t-ReselectionNR-SF***  Parameter "Speed dependent ScalingFactor for TreselectionNR" in TS 36.304 [4]. If the field is not present, the UE behaviour is specified in TS 36.304 [4]. |

| Conditional presence | Explanation |
| --- | --- |
| *RSRQ* | The field is mandatory present if the *threshServingLowQ* is present in *systemInformationBlockType3*; otherwise it is not present. |
| *RSRQ2* | The field is optional Need OP if the *threshServingLowQ* is present in *systemInformationBlockType3*; otherwise it is not present. |
| *SharedSpectrum* | The field is optional Need OP if NR operates with shared spectrum channel access; otherwise, it is not present. |
| *SharedSpectrum2* | The field is mandatory present if NR operates with shared spectrum channel access; otherwise, it is not present. |

#### – *SystemInformationBlockType25*

The IE *SystemInformationBlockType25* contains the UAC parameters.

*SystemInformationBlockType25* information element

-- ASN1START

SystemInformationBlockType25-r15 ::= SEQUENCE {

uac-BarringForCommon-r15 UAC-BarringPerCatList-r15 OPTIONAL, -- Need OP

uac-BarringPerPLMN-List-r15 UAC-BarringPerPLMN-List-r15 OPTIONAL, -- Need OP

uac-BarringInfoSetList-r15 UAC-BarringInfoSetList-r15,

uac-AC1-SelectAssistInfo-r15 CHOICE {

plmnCommon-r15 UAC-AC1-SelectAssistInfo-r15,

individualPLMNList-r15 SEQUENCE (SIZE (2..maxPLMN-r11)) OF UAC-AC1-SelectAssistInfo-r15

} OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ ab-PerRSRP-r16 ENUMERATED {thresh0, thresh1, thresh2, thresh3} OPTIONAL -- Need OR

]],

[[

uac-AC1-SelectAssistInfo-r16 SEQUENCE (SIZE (2..maxPLMN-r11)) OF UAC-AC1-SelectAssistInfo-r16 OPTIONAL -- Need OR

]],

[[

uac-BarringInfoSetList-v1700 UAC-BarringInfoSetList-v1700 OPTIONAL -- Cond MINT

]]

}

UAC-BarringPerPLMN-List-r15::= SEQUENCE (SIZE (1.. maxPLMN-r11)) OF UAC-BarringPerPLMN-r15

UAC-BarringPerPLMN-r15 ::= SEQUENCE {

plmn-IdentityIndex-r15 INTEGER (1.. maxPLMN-r11),

uac-AC-BarringListType-r15 CHOICE{

uac-ImplicitAC-BarringList-r15 SEQUENCE (SIZE(maxAccessCat-1-r15)) OF UAC-BarringInfoSetIndex-r15,

uac-ExplicitAC-BarringList-r15 UAC-BarringPerCatList-r15

} OPTIONAL -- Need OR

}

UAC-BarringPerCatList-r15 ::= SEQUENCE (SIZE (1..maxAccessCat-1-r15)) OF UAC-BarringPerCat-r15

UAC-BarringPerCat-r15 ::= SEQUENCE {

accessCategory-r15 INTEGER (1..maxAccessCat-1-r15),

uac-barringInfoSetIndex-r15 UAC-BarringInfoSetIndex-r15

}

UAC-BarringInfoSetIndex-r15 ::= INTEGER (1..maxBarringInfoSet-r15)

UAC-BarringInfoSetList-r15 ::= SEQUENCE (SIZE (1..maxBarringInfoSet-r15)) OF UAC-BarringInfoSet-r15

UAC-BarringInfoSetList-v1700 ::= SEQUENCE (SIZE(1..maxBarringInfoSet-r15)) OF UAC-BarringInfoSet-v1700

UAC-BarringInfoSet-r15 ::= SEQUENCE {

uac-BarringFactor-r15 ENUMERATED {

p00, p05, p10, p15, p20, p25, p30, p40,

p50, p60, p70, p75, p80, p85, p90, p95},

uac-BarringTime-r15 ENUMERATED {s4, s8, s16, s32, s64, s128, s256, s512},

uac-BarringForAccessIdentity-r15 BIT STRING (SIZE(7))

}

UAC-BarringInfoSet-v1700 ::= SEQUENCE {

uac-BarringFactorForAI3-r17 ENUMERATED {p00, p05, p10, p15, p20, p25, p30, p40,

p50, p60, p70, p75, p80, p85, p90, p95} OPTIONAL -- Need OP

}

UAC-AC1-SelectAssistInfo-r15::= ENUMERATED {a, b, c}

UAC-AC1-SelectAssistInfo-r16::= ENUMERATED {a, b, c, notConfigured}

-- ASN1STOP

|  |
| --- |
| *SystemInformationBlockType25* field descriptions |
| ***accessCategory***  The Access Category according to TS 22.261 [96]. |
| ***ab-PerRSRP***  Access barring per RSRP. Value *thresh0* means access to the cell is barred when UE is in enhanced coverage as specified in TS 36.304 [4] and does not apply to UEs satisfying S criteria for normal coverage. Value *thresh1* is compared to the first entry configured in *rsrp-ThresholdsPrachInfoList*, value thresh2 is compared to the second entry configured in *rsrp-ThresholdsPrachInfoList* and so on. E-UTRA/5GC includes this field only in the BR version of *SystemInformationBlockType25.* |
| ***uac-AC-BarringListType***  Access control parameters for each access category valid only for a specific PLMN. UE behaviour upon absence of this field is specified in clause 5.3.16.2. |
| ***uac-AC1-SelectAssistInfo***  Information used to determine whether Access Category 1 applies to the UE, as defined in TS 22.261 [96]. If *plmnCommon* is chosen, the *UAC-AC1-SelectAssistInfo* is applicable to all the PLMNs in *cellAccessRelatedInfoList-5GC*. If *individualPLMNList* is chosen, the 1st entry in the list corresponds to the first PLMN in *cellAccessRelatedInfoList-5GC*, the 2nd entry in the list corresponds to the second PLMN in *cellAccessRelatedInfoList-5GC* and so on. If *uac-AC1-SelectAssistInfo-r16* is present, the UE shall ignore the *uac-AC1-SelectAssistInfo-r15*. Value *notConfigured* indicates that Access Category1 is not configured for the corresponding PLMN. The corresponding *UAC-AC1-SelectAssistInfo* for the selected PLMN is forwarded to upper layers, if present and set to *a*, *b* or *c*. |
| ***uac-BarringFactor***  Represents the probability that access attempt would be allowed during access barring check. |
| ***uac-BarringFactorForAI3***  Barring factor applicable for Access Identity 3. Represents the probability that access attempt would be allowed during access barring check. If absent, the UE considers the access attempt as allowed. |
| ***uac-BarringForAccessIdentity***  Indicates whether access attempt is allowed for each Access Identity. The leftmost bit, bit 0 in the bit string corresponds to Access Identity 1, bit 1 in the bit string corresponds to Access Identity 2, bit 2 in the bit string corresponds to Access Identity 11, bit 3 in the bit string corresponds to Access Identity 12 and so on. Value 0 means that access attempt is allowed for the corresponding access identity. |
| ***uac-BarringForCommon***  Common access control parameters for each access category. Common values are used for all PLMNs, unless overwritten by the PLMN specific configuration provided in *uac-BarringPerPLMN-List.* The parameters are specified by providing an index to the set of configurations (*uac-BarringInfoSetList*). UE behaviour upon absence of this field is specified in clause 5.3.16.2. |
| ***uac-barringInfoSetIndex***  Index of the entry in field *uac-BarringInfoSetList*. Value 1 corresponds to the first entry in *uac-BarringInfoSetList,* value 2 corresponds to the second entry in this list and so on. An index value referring to an entry not included in *uac-BarringInfoSetList* indicates no barring. |
| ***uac-BarringInfoSetList***  List of access control parameter sets. Each access category can be configured with access parameters corresponding to a particular set by *uac-barringInfoSetIndex*. Association of an access category with an index that has no corresponding entry in the *uac-BarringInfoSetList* is valid configuration and indicates no barring. |
| ***uac-BarringPerPLMN-List***  Access control parameters for each access category valid only for a specific PLMN. |
| ***uac-BarringTime***  The average time in seconds before a new access attempt is to be performed after an access attempt was barred at access barring check for the same access category, see 5.3.16.5. |

| Conditional presence | Explanation |
| --- | --- |
| *MINT* | The field is optionally present, Need OR, in a cell that provides a configuration for disaster roaming, otherwise it is absent. |

#### – *SystemInformationBlockType26*

The IE *SystemInformationBlockType26* contains V2X sidelink communication configurations which can be used jointly with those included in *SystemInformationBlockType21*.

*SystemInformationBlockType26* information element

-- ASN1START

SystemInformationBlockType26-r15 ::= SEQUENCE {

v2x-InterFreqInfoList-r15 SL-InterFreqInfoListV2X-r14 OPTIONAL, -- Need OR

cbr-pssch-TxConfigList-r15 SL-CBR-PPPP-TxConfigList-r15 OPTIONAL, -- Need OR

v2x-PacketDuplicationConfig-r15 SL-V2X-PacketDuplicationConfig-r15 OPTIONAL, -- Need OR

syncFreqList-r15 SL-V2X-SyncFreqList-r15 OPTIONAL, -- Need OR

slss-TxMultiFreq-r15 ENUMERATED{true} OPTIONAL, -- Need OR

v2x-FreqSelectionConfigList-r15 SL-V2X-FreqSelectionConfigList-r15 OPTIONAL, -- Need OR

threshS-RSSI-CBR-r15 INTEGER (0..45) OPTIONAL, -- Need OR

...,

lateNonCriticalExtension OCTET STRING OPTIONAL

}

-- ASN1STOP

|  |
| --- |
| *SystemInformationBlockType26* field descriptions |
| ***cbr-pssch-TxConfigList***  Indicates the mapping between PPPPs, CBR ranges by using indexes of the entry in *cbr-RangeCommonConfigList* included in SIB21, and PSSCH transmission parameters and CR limit by using indexes of the entry in *sl-CBR-PSSCH-TxConfigList* included in SIB21. The configurations in this field apply to all the resource pools on all the carrier frequencies included in SIB26 for V2X sidelink communication transmission. The *mcs-PSSCH-RangeList-r15* included in this field also applies to all the resource pools on all the carrier frequencies included in SIB21 for V2X sidelink communication transmission. |
| ***slss-TxMultiFreq***  Value TRUE indicates the UE transmits SLSS on multiple carrier frequencies for V2X sidelink communication. If this field is absent, the UE transmits SLSS only on the synchronisation carrier frequency. |
| ***syncFreqList***  Indicates a list of candidate carrier frequencies that can be used for the synchronisation of V2X sidelink communication. |
| ***threshS-RSSI-CBR***  Indicates the S-RSSI threshold for determining the contribution of a sub-channel to the CBR measurement, as specified in TS 36.214 [48]. Value 0 corresponds to -112 dBm, value 1 to -110 dBm, value n to (-112 + n\*2) dBm, and so on. If included, the *threshS-RSSI-CBR* in *SL-CommResourcePoolV2X* in SIB26 is absent. |
| ***v2x-FreqSelectionConfigList***  Indicates the configuration information for the carrier selection for V2X sidelink communication transmission on the carrier frequency where the field is broadcast. |
| ***v2x-PacketDuplicationConfig***  Indicates the configuration information for sidelink packet duplication for V2X sidelink communication. |
| ***v2x-InterFreqInfoList***  If this field includes a carrier frequency which is included in SIB21 and some configuration(s) for that carrier are already included in SIB21, the corresponding configuration(s) for that carrier frequency are not included in this field. |

#### – *SystemInformationBlockType26a*

The IE *SystemInformationBlockType26a* contains NR bands list which can be used for EN-DC operation with the serving cell.

*SystemInformationBlockType26a* information element

-- ASN1START

SystemInformationBlockType26a-r16 ::= SEQUENCE {

plmn-InfoList-r16 PLMN-InfoList-r16,

bandListENDC-r16 BandListENDC-r16,

lateNonCriticalExtension OCTET STRING OPTIONAL,

...

}

BandListENDC-r16 ::= SEQUENCE (SIZE (1.. maxBandsENDC-r16)) OF FreqBandIndicatorNR-r15

PLMN-InfoList-r16 ::= SEQUENCE (SIZE (0..maxPLMN-r11)) OF PLMN-Info-r16

PLMN-Info-r16 ::= SEQUENCE {

nr-BandList-r16 BIT STRING (SIZE(maxBandsENDC-r16)) OPTIONAL -- Need OR

}

-- ASN1STOP

|  |
| --- |
| *SystemInformationBlockType26a* field descriptions |
| ***bandListENDC***  A list of NR bands which can be configured as SCG in EN-DC operation with serving cell for the forwarding of *upperLayerIndication* to upper layers. |
| ***plmn-InfoList***  This field includes the same number of entries, and listed in the same order as PLMNs across the *plmn-IdentityList* fields *plmn-IdentityList* and *plmn-IdentityList-r14* included in SIB1. I.e. the first entry corresponds to the first entry of the combined list that results from concatenating the entries included in the second to the original *plmn-IdentityList* field in SIB1. If the size of the field is set to 0, all bands in *bandListENDC* apply for all PLMNs listed in SIB1. |
| ***nr-BandList***  This field indicates a list of bands and is encoded as a bitmap, where the bit N is set to "1" if the current serving cell supports EN-DC operation with the *N*-th NR band in *bandListENDC*. The bits which have no corresponding bands in *bandListENDC* shall be set to 0; bit 1 of the bitmap is the leading bit of the bit string. |

#### – *SystemInformationBlockType27*

The IE *SystemInformationBlockType27* contains information relevant only for inter-RAT cell selection i.e. assistance information about NB-IoT frequencies for cell selection.

*SystemInformationBlockType27* information element

-- ASN1START

SystemInformationBlockType27-r16 ::= SEQUENCE {

carrierFreqListNBIOT-r16 CarrierFreqListNBIOT-r16 OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...

}

CarrierFreqListNBIOT-r16 ::= SEQUENCE (SIZE (1.. maxFreqNBIOT-r16)) OF CarrierFreqNBIOT-r16

CarrierFreqNBIOT-r16 ::= SEQUENCE {

carrierFreq-r16 ARFCN-ValueEUTRA-r9,

carrierFreqOffset-r16 ENUMERATED {v-10, v-9, v-8dot5, v-8, v-7, v-6, v-5, v-4dot5,

v-4,v-3, v-2, v-1, v-0dot5, v0, v1, v2, v3, v3dot5,

v4, v5, v6, v7, v7dot5, v8, v9}

}

-- ASN1STOP

|  |
| --- |
| *SystemInformationBlockType27* field descriptions |
| ***carrierFreqListNBIOT***  Provides a list of neighbouring NB-IoT carrier frequencies, which may be searched for neighbouring NB-IoT cells. |
| ***carrierFreq***  Provides the ARFCN applicable for the NB-IoT carrier frequency as defined in TS 36.101 [42], Table 5.7.3-1. |
| ***carrierFreqOffset***  Offset of the NB-IoT channel number to EARFCN as defined in TS 36.101 [42], clause 5.7.3F. Value *v-10* means -10, *v-9* means -9, and so on. The values *v-8dot5*, *v-4dot5*, *v3dot5* and *v7dot5* are only applicable for a carrier in a TDD band. |

#### – *SystemInformationBlockType28*

The IE *SystemInformationBlockType28* contains NR sidelink communication configuration.

*SystemInformationBlockType28* information element

-- ASN1START

SystemInformationBlockType28-r16 ::= SEQUENCE {

segmentNumber-r16 INTEGER (0..63),

segmentType-r16 ENUMERATED {notLastSegment,lastSegment},

segmentContainer-r16 OCTET STRING,

lateNonCriticalExtension OCTET STRING OPTIONAL,

...

}

-- ASN1STOP

|  |
| --- |
| *SystemInformationBlockType28* field descriptions |
| ***segmentContainer***  Container for the configuration for NR sidelink communication, this field includes a segment of *SIB12-IEs* as specified in TS 38.331 [82]. The size of the included segment in this container should be small enough that the SIB message size is less than or equal to the maximum size of a LTE SI i.e. 2216 bits.  This field is not applicable to 5GS Proximity based Services (ProSe) as defined in TS 23.304 [112] in this release. |
| ***segmentNumber***  This field identifies the sequence number of a segment of *SIB12-IEs* IE as specified in TS 38.331 [82]. A segment number of zero corresponds to the first segment, a segment number of one corresponds to the second segment, and so on. |
| ***segmentType***  This field indicates whether the included segment is the last segment or not. |

#### – *SystemInformationBlockType29*

The IE *SystemInformationBlockType29* contains common resource reservation, e.g. for coexistence with NR.

*SystemInformationBlockType29* information element

-- ASN1START

SystemInformationBlockType29-r16 ::= SEQUENCE {

resourceReservationConfigCommonDL-r16 ResourceReservationConfigDL-r16 OPTIONAL, -- Need OR

resourceReservationConfigCommonUL-r16 ResourceReservationConfigUL-r16 OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...

}

-- ASN1STOP

#### – *SystemInformationBlockType30*

The IE *SystemInformationBlockType30* contains configurations of disaster roaming information.

*SystemInformationBlockType30* information element

-- ASN1START

SystemInformationBlockType30-r17 ::= SEQUENCE {

commonPLMNsWithDisasterCondition-r17 SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-Identity OPTIONAL, -- Need OR

applicableDisasterInfoList-r17 SEQUENCE (SIZE (1..maxPLMN-r11)) OF ApplicableDisasterInfo-r17 OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...

}

ApplicableDisasterInfo-r17 ::= CHOICE {

noDisasterRoaming-r17 NULL,

disasterRelatedIndication-r17 NULL,

commonPLMNs-r17 NULL,

dedicatedPLMNs-r17 SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-Identity

}

-- ASN1STOP

|  |
| --- |
| ***SystemInformationBlockType30* field descriptions** |
| ***commonPLMNsWithDisasterCondition***  A list of PLMN(s) for which disaster condition applies and that disaster inbound roaming is accepted, which can be commonly applicable to the PLMNs sharing the cell. |
| ***applicableDisasterInfoList***  A list indicating the applicable disaster roaming information for the networks indicated by *plmn-IdentityList-r15* in *CellAccessRelatedInfo-5GC-r15*. The first entry in this list indicates the disaster roaming information applicable for the network(s) in the first entry of *plmn-IdentityList*, the second entry in this list indicates the disaster roaming information applicable for the network(s) in the second entry on *plmn-IdentityList*, and so on. Each entry in this list can either be having the value *noDisasterRoaming*, *disasterRelatedIndication*, *commonPLMNs*, or *dedicatedPLMNs*. If an entry in this list takes the value *noDisasterRoaming*, disaster inbound roaming is not allowed in this network(s). If an entry in this list takes the value *disasterRelatedIndication*, the meaning of this field for this network(s) is as specified for "disaster related indication" in TS 23.122 [11], clause 4.4.3.1.1. If an entry in this list takes the value *commonPLMNs*, the PLMN(s) with disaster conditions indicated in the field *commonPLMNsWithDisasterCondition* apply for this network(s). If an entry in this list contains the value *dedicatedPLMNs*, the listed PLMN(s) are the PLMN(s) with disaster conditions that the network(s) corresponding to this entry accepts disaster inbound roamers from. |

#### *– SystemInformationBlockType31*

The IE *SystemInformationBlockType31* contains satellite assistance information for the serving cell. *SystemInformationBlockType31* is only signalled for an NTN cell.

*SystemInformationBlockType31* information element

-- ASN1START

SystemInformationBlockType31-r17 ::= SEQUENCE {

servingSatelliteInfo-r17 ServingSatelliteInfo-r17,

lateNonCriticalExtension OCTET STRING OPTIONAL,

...

}

ServingSatelliteInfo-r17 ::= SEQUENCE {

ephemerisInfo-r17 CHOICE {

stateVectors EphemerisStateVectors-r17,

orbitalParameters EphemerisOrbitalParameters-r17

},

nta-CommonParameters-r17 SEQUENCE {

nta-Common-r17 INTEGER (0..8316827) OPTIONAL, -- Need OP

nta-CommonDrift-r17 INTEGER (-261935..261935) OPTIONAL, -- Need OP

nta-CommonDriftVariation-r17 INTEGER (0..29479) OPTIONAL -- Need OP

},

ul-SyncValidityDuration-r17 ENUMERATED {s5, s10, s15, s20, s25, s30, s35, s40,

s45, s50, s55, s60, s120, s180, s240, s900},

epochTime-r17 SEQUENCE {

startSFN-r17 INTEGER (0..1023),

startSubFrame-r17 INTEGER (0..9)

} OPTIONAL, -- Need OP

k-Offset-r17 INTEGER (0..1023),

k-Mac-r17 INTEGER (1..512) OPTIONAL, -- Need OP

...,

[[ satelliteId-r18 SatelliteId-r18 OPTIONAL, -- Need OR

referenceLocation-r18 CHOICE {

fixedReferenceLocation-r18 ReferenceLocation-r18,

movingReferenceLocation-r18 ReferenceLocation-r18

} OPTIONAL, -- Need OR

distanceThresh-r18 INTEGER(0..65535) OPTIONAL -- Need OR

]]

}

-- ASN1STOP

|  |
| --- |
| *SystemInformationBlockType31* field descriptions |
| ***distanceThresh***  Distance from the serving cell reference location and is used in location-based measurement initiation in RRC\_IDLE (as specified in TS 36.304 [4]) and RRC\_CONNECTED. Each step represents 50m. |
| ***epochTime***  Epoch time of the satellite ephemeris data and common TA parameters, see TS 36.213 [23]. This field also indicates the epoch time for the reference location of earth moving cells if present. The reference point for epoch time of the serving satellite ephemeris and Common TA parameters is the uplink time synchronization reference point.  *epochTime* is the starting time of a DL subframe indicated by *startSFN* and *startSubframe*. For serving cell, the *startSFN* indicates the current SFN or the next upcoming SFN after the frame where the message indicating the *epochTime* is received.  If the field is absent, the UE uses the starting time of the DL subframe corresponding to the end of the SI window during which the SI message carrying SIB31(-NB) is transmitted.  E-UTRAN always includes *epochTime* when SIB31(-NB) is provided through dedicated signalling.  In case of handover or conditional handover, this field is based on the timing of the target cell, i.e. the *startSFN* and *startSubFrame* number indicated in this field refers to the SFN and sub-frame of the target cell, and UE considers the target cell epoch time (indicated by the *startSFN* and *startSubFrame* in this field) to be the frame nearest to the frame where *RRCConnectionReconfiguration* message is received. |
| ***k-Mac***  Scheduling offset used when downlink and uplink frame timing are not aligned at the eNB, see TS 36.213 [23]. Unit in ms.  If the field if absent, the UE uses the (default) value of 0. |
| ***k-Offset***  Scheduling offset used in the timing relationships in NTN, see TS 36.213 [23]. Unit in ms. |
| ***nta-Common***  Network-controlled common TA, see TS 36.213 [23]. Unit of μs.  Step of 32.55208 ×10-3 μs. Actual value = field value \* 32.55208 ×10-3.  If the field is absent, the UE uses the (default) value of 0. |
| ***nta-CommonDrift***  Drift rate of the common TA, see TS 36.213 [23]. Unit of μs/s.  Step of 0.2 ×10-3 μs/s. Actual value = field value \* 0.2 ×10-3.  If the field is absent, the UE uses the (default) value of 0. |
| ***nta-CommonDriftVariation***  Drift rate variation of the common TA, see TS 36.213 [23]. Unit of μs/s2.  Step of 0.2 ×10-4 μs/s2. Actual value = field value \* 0.2 ×10-4.  If the field is absent, the UE uses the (default) value of 0. |
| ***orbitalParameters***  Instantaneous values of the satellite orbital parameters. The signalled values are valid at least for the duration as defined by *ul-SyncValidityDuration* and *epochTime*. |
| ***referenceLocation***  Reference location of the NTN (quasi-)earth fixed cell or earth moving cell, used in location-based measurement initiation in RRC\_IDLE (as specified in TS 36.304 [4]) and RRC\_CONNECTED if *distanceThresh* is also configured. If configured by an earth moving cell, the broadcast reference location corresponds to the epoch time and is also used in the evaluation of of Event D2 and CondEvent D2, and the UE derives the real-time reference location based on the serving satellite ephemeris, see TS 36.304 [4]. |
| ***stateVectors***  Instantaneous values of the satellite state vectors. The signalled values are valid at least for the duration as defined by *ul-SyncValidityDuration* and *epochTime*. |
| ***ul-SyncValidityDuration***  Validity duration of the satellite ephemeris data and common TA parameters, i.e. maximum time duration (from *epochTime*) during which the UE can apply the satellite ephemeris without acquiring new satellite ephemeris, see TS 36.213 [23]. Unit in second.  Value *s5* corresponds to 5 seconds, value *s10* corresponds to 10 seconds and so on.  The *ul-SyncValidityDuration* is only updated when at least one of *epochTime*, *nta-CommonParameters*, *ephemerisInfo* is updated. |

#### – *SystemInformationBlockType32*

The IE *SystemInformationBlockType32* contains satellite assistance information for prediction of discontinuous coverage. *SystemInformationBlockType32* is only signalled in a NTN cell.

*SystemInformationBlockType32* information element

-- ASN1START

SystemInformationBlockType32-r17 ::= SEQUENCE {

satelliteInfoList-r17 SatelliteInfoList-r17 OPTIONAL, -- Need OR

lateNonCriticalExtension OCTET STRING OPTIONAL,

...,

[[ satelliteInfoList-v1800 SatelliteInfoList-v1800 OPTIONAL -- Need OR

]]

}

SatelliteInfoList-r17 ::= SEQUENCE (SIZE (1..maxSat-r17)) OF SatelliteInfo-r17

SatelliteInfoList-v1800 ::= SEQUENCE (SIZE (1..maxSat-r17)) OF CarrierFreqList-v1800

SatelliteInfo-r17 ::= SEQUENCE {

satelliteId-r17 INTEGER (0..255),

serviceInfo-r17 SEQUENCE {

tle-EphemerisParameters-r17 TLE-EphemerisParameters-r17 OPTIONAL, -- Need OR

t-ServiceStart-r17 TimeOffsetUTC-r17 OPTIONAL -- Need OR

},

footprintInfo-r17 SEQUENCE {

referencePoint-r17 SEQUENCE {

longitude-r17 INTEGER (-131072..131071),

latitude-r17 INTEGER (-131072..131071)

} OPTIONAL, -- Need OR

elevationAngles-r17 SEQUENCE {

elevationAngleRight-r17 INTEGER (-14..14),

elevationAngleLeft-r17 INTEGER (-14..14) OPTIONAL -- Need OP

} OPTIONAL, -- Need OR

radius-r17 INTEGER (1..256) OPTIONAL -- Need OR

}

}

CarrierFreqList-v1800 ::= SEQUENCE (SIZE (1..maxFreq)) OF ARFCN-ValueEUTRA

-- ASN1STOP

|  |
| --- |
| *SystemInformationBlockType32* field descriptions |
| ***carrierFreqList***  Includes a list of E-UTRA frequencies, see TS 36.304 [4]. |
| ***elevationAngleLeft, elevationAngleRight***  Leftmost and rightmost (with reference to the satellite direction) elevation angle. Unit in degree.  Step of 5 degree. Actual value = field value \* 5.  If the field *elevationAngleLeft* is absent, the leftmost elevation angle is equal to the value of field *elevationAngleRight*. |
| ***footprintInfo***  Satellite footprint.  E-UTRAN may configure *elevationAngles* and/or *radius* for earth moving cell.  E-UTRAN may configure *referencePoint* and *radius* for quasi-earth fixed cell. |
| ***latitude***  Latitude of the reference point. Unit in degree.  Step of 360 / 262144 degree. Actual value = field value \* (360 / 262144). |
| ***longitude***  Longitude of the reference point. Unit in degree.  Step of 360 / 262144 degree. Actual value = field value \* (360 / 262144). |
| ***radius***  Distance between the reference point and the edge of the satellite or beam coverage. Unit in km.  Step of 10 km. Actual value = field value \* 10. |
| ***satelliteInfoList***  List of satellite information. If E-UTRAN includes *satelliteInfoList-v1800*, it includes the same number of entries, and listed in the same order, as in *satelliteInfoList-r17*. |
| ***serviceInfo***  Information on when the satellite will provide coverage.  E-UTRAN always configures *tle-EphemerisParameters* for a satellite with earth moving cell(s) and always configures *t-ServiceStart* for a quasi-earth fixed cell. |
| ***tle-EphemerisParameters***  Mean values of the satellite orbital parameters based on the TLE set format for estimating in-coverage and out-of-coverage periods for a satellite with earth moving cell(s), see TS 36.304 [4]. |
| ***t-ServiceStart***  Time information on when the incoming satellite is going to start serving the area for quasi-earth fixed cell. |

#### – *SystemInformationBlockType33*

The IE *SystemInformationBlockType33* contains satellite assistance information for neighbour cells.

*SystemInformationBlockType33* information element

-- ASN1START

SystemInformationBlockType33-r18 ::= SEQUENCE {

neighSatelliteInfoList-r18 NeighSatelliteInfoList-r18 OPTIONAL, -- Need OR

neighValidityDuration-r18 ENUMERATED {s5, s10, s15, s20, s25, s30, s35, s40,

s45, s50, s55, s60, s120, s180, s240, s900}

OPTIONAL, -- Need OP

lateNonCriticalExtension OCTET STRING OPTIONAL,

...

}

NeighSatelliteInfoList-r18 ::= SEQUENCE (SIZE(1..maxSat-r17)) OF NeighSatelliteInfo-r18

NeighSatelliteInfo-r18 ::= SEQUENCE {

satelliteId-r18 SatelliteId-r18,

ephemerisInfo-r18 CHOICE {

stateVectors-r18 EphemerisStateVectors-r17,

orbitalParameters-r18 EphemerisOrbitalParameters-r17

},

nta-CommonParameters-r18 SEQUENCE {

nta-Common-r18 INTEGER (0..8316827) OPTIONAL, -- Need OP

nta-CommonDrift-r18 INTEGER (-261935..261935) OPTIONAL, -- Need OP

nta-CommonDriftVariation-r18 INTEGER (0..29479) OPTIONAL -- Need OP

},

epochTime-r18 SEQUENCE {

startSFN-r18 INTEGER (0..1023),

startSubFrame-r18 INTEGER (0..9)

} OPTIONAL, -- Need OP

k-Mac-r18 INTEGER (1..512) OPTIONAL, -- Need OP

t-ServiceStartNeigh-r18 TimeOffsetUTC-r17 OPTIONAL, -- Need OR

...

}

-- ASN1STOP

|  |
| --- |
| *SystemInformationBlockType33* field descriptions |
| ***epochTime***  Epoch time of the neighbour satellite ephemeris data and common TA parameters, see TS 36.213 [23]. The reference point for epoch time of the neighbour satellite ephemeris and Common TA parameters is the uplink time synchronization reference point when this field is provided in an NTN cell and the eNB when this field is provided in a TN cell.  *epochTime* is the starting time of a DL subframe indicated by *startSFN* and *startSubframe*. If this field is absent, the UE uses epoch time of the serving cell, otherwise the field is based on the timing of the serving cell, i.e. the SFN and sub-frame number indicated in this field refers to the SFN and sub-frame of the serving cell. *The startSFN* indicates the SFN nearest to the frame where the message indicating the *epochTime* is received. |
| ***k-Mac***  Scheduling offset used when downlink and uplink frame timing are not aligned at the eNB, see TS 36.213 [23]. Unit in ms.  If the field if absent, the UE uses the (default) value of 0. |
| ***neighValidityDuration***  Validity duration of the neighbour satellite ephemeris data and common TA parameters, i.e. maximum time duration (from *epochTime*) during which the UE can apply the satellite ephemeris without acquiring new satellite ephemeris, see TS 36.213 [23]. Unit in second.  Value *s5* corresponds to 5 seconds, value *s10* corresponds to 10 seconds and so on.  If this field is absent, the UE uses validity duration from the serving cell assistance information. |
| ***nta-Common***  Network-controlled common TA, see TS 36.213 [23]. Unit of μs.  Step of 32.55208 ×10-3 μs. Actual value = field value \* 32.55208 ×10-3.  If the field is absent, the UE uses the (default) value of 0. |
| ***nta-CommonDrift***  Drift rate of the common TA, see TS 36.213 [23]. Unit of μs/s.  Step of 0.2 ×10-3 μs/s. Actual value = field value \* 0.2 ×10-3.  If the field is absent, the UE uses the (default) value of 0. |
| ***nta-CommonDriftVariation***  Drift rate variation of the common TA, see TS 36.213 [23]. Unit of μs/s2.  Step of 0.2 ×10-4 μs/s2. Actual value = field value \* 0.2 ×10-4.  If the field is absent, the UE uses the (default) value of 0. |
| ***t-ServiceStartNeigh***  Indicates the earliest time when the area covered by the current serving cell is going to be covered by the neighbour cell(s) served by the satellite indicated by *satelliteId*, see 5.5.3.1, 5.5.8 and 36.304 [4]. This field is only present for the neighbour cell(s) provided via NTN quasi-Earth fixed system. |

Next Changes

### 6.3.4 Mobility control information elements

<<unchanged text skipped>>

#### – *MultiBandInfoList*

*MultiBandInfoList* information element

-- ASN1START

MultiBandInfoList ::= SEQUENCE (SIZE (1..maxMultiBands)) OF FreqBandIndicator

MultiBandInfoList-v9e0 ::= SEQUENCE (SIZE (1..maxMultiBands)) OF MultiBandInfo-v9e0

MultiBandInfoList-v10j0 ::= SEQUENCE (SIZE (1..maxMultiBands)) OF NS-PmaxList-r10

MultiBandInfoList-v10l0 ::= SEQUENCE (SIZE (1..maxMultiBands)) OF NS-PmaxList-v10l0

MultiBandInfoList-r11 ::= SEQUENCE (SIZE (1..maxMultiBands)) OF FreqBandIndicator-r11

MultiBandInfo-v9e0 ::= SEQUENCE {

freqBandIndicator-v9e0 FreqBandIndicator-v9e0 OPTIONAL -- Need OP

}

MultiBandInfoListAerial-r18 ::= SEQUENCE (SIZE (1..maxMultiBands)) OF MultiBandInfoAerial-r18

MultiBandInfoAerial-r18 ::= SEQUENCE {

freqBandIndicatorAerial-r18 FreqBandIndicator-r11 OPTIONAL, -- Cond NotSIB3

ns-PmaxListAerial-r18 NS-PmaxListAerial-r18 OPTIONAL -- Need OP

}

-- ASN1STOP

| Conditional presence | Explanation |
| --- | --- |
| *NotSIB3* | The field is absent for *SIB3*. Otherwise it is optional. |

<<unchanged text skipped>>

#### – *NS-PmaxList*

The IE *NS-PmaxList* concerns a list of *additionalPmax* and *additionalSpectrumEmission*, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs, TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs andTS 36.102 [113], table 6.2A.3-1, for NTN capable UE, for a given frequency band. E-UTRAN does not include the same value of *additionalSpectrumEmission* in *SystemInformationBlockType2* within this list. For a given frequency band, if *NS-PmaxListAerial* is absent, the value indicated by the *NS-PmaxList* for the same E-UTRA frequency band number applies, if present.

*NS-PmaxList* information element

-- ASN1START

NS-PmaxList-r10 ::= SEQUENCE (SIZE (1..maxNS-Pmax-r10)) OF NS-PmaxValue-r10

NS-PmaxList-v10l0 ::= SEQUENCE (SIZE (1..maxNS-Pmax-r10)) OF NS-PmaxValue-v10l0

NS-PmaxListAerial-r18 ::= SEQUENCE (SIZE (1..maxNS-Pmax-r10)) OF NS-PmaxValueAerial-r18

NS-PmaxValue-r10 ::= SEQUENCE {

additionalPmax-r10 P-Max OPTIONAL, -- Need OP

additionalSpectrumEmission AdditionalSpectrumEmission

}

NS-PmaxValue-v10l0 ::= SEQUENCE {

additionalSpectrumEmission-v10l0 AdditionalSpectrumEmission-v10l0 OPTIONAL -- Need OP

}

NS-PmaxValueAerial-r18 ::= SEQUENCE {

additionalPmax-r18 P-Max OPTIONAL, -- Need OP

additionalSpectrumEmission-r18 AdditionalSpectrumEmission-r18 OPTIONAL -- Need OP

}

-- ASN1STOP

#### *– NS-PmaxListNR*

The IE *NS-PmaxListNR* concerns a list of *additionalPmax* and *additionalSpectrumEmission*, as defined in TS 38.101-1 [85], table 6.2.3.1-1A and TS 38.101-2 [100], table 6.2.3.1-2 for a given frequency band.

*NS-PmaxListNR* information element

-- ASN1START

NS-PmaxListNR-r15 ::= SEQUENCE (SIZE (1..8)) OF NS-PmaxValueNR-r15

NS-PmaxValueNR-r15 ::= SEQUENCE {

additionalPmaxNR-r15 P-MaxNR-r15 OPTIONAL, -- Need ON

additionalSpectrumEmissionNR-r15 AdditionalSpectrumEmissionNR-r15

}

NS-PmaxListNR-v1760 ::= SEQUENCE (SIZE (1..8)) OF NS-PmaxValueNR-v1760

NS-PmaxValueNR-v1760 ::= SEQUENCE {

additionalSpectrumEmissionNR-v1760 AdditionalSpectrumEmissionNR-v1760 OPTIONAL -- Need OR

}

NS-PmaxListNR-Aerial-r18 ::= SEQUENCE (SIZE (1..8)) OF NS-PmaxValueNR-Aerial-r18

NS-PmaxValueNR-Aerial-r18 ::= SEQUENCE {

additionalPmaxNR-r18 P-MaxNR-r15 OPTIONAL, -- Need OP

additionalSpectrumEmissionNR-r18 AdditionalSpectrumEmissionNR-r18 OPTIONAL -- Need OP

}

-- ASN1STOP

Next Changes

### 6.3.6 Other information elements

<<unchanged text skipped>>

#### – *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 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 UE-EUTRA-Capability-v1800-IEs OPTIONAL

}

UE-EUTRA-Capability-v1800-IEs ::= SEQUENCE {

measParameters-v1800 MeasParameters-v1800 OPTIONAL,

rf-Parameters-v1800 RF-Parameters-v1800 OPTIONAL,

ntn-Parameters-v1800 NTN-Parameters-v1800 OPTIONAL,

-- A2X capabilities

sl-Parameters-v1800 SL-Parameters-v1800 OPTIONAL,

son-Parameters-v1800 SON-Parameters-v1800,

ue-BasedNetwPerfMeasParameters-v1800 UE-BasedNetwPerfMeasParameters-v1800,

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, rel18}

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

}

NTN-Parameters-v1800 ::= SEQUENCE {

ntn-EventA4BasedCHO-r18 ENUMERATED {supported} OPTIONAL,

ntn-LocationBasedCHO-EFC-r18 ENUMERATED {supported} OPTIONAL,

ntn-LocationBasedCHO-EMC-r18 ENUMERATED {supported} OPTIONAL,

ntn-TimeBasedCHO-r18 ENUMERATED {supported} OPTIONAL,

eventD1-MeasReportTrigger-r18 ENUMERATED {supported} OPTIONAL,

eventD2-MeasReportTrigger-r18 ENUMERATED {supported} OPTIONAL,

ntn-LocationBasedMeasTrigger-EFC-r18 ENUMERATED {supported} OPTIONAL,

ntn-LocationBasedMeasTrigger-EMC-r18 ENUMERATED {supported} OPTIONAL,

ntn-TimeBasedMeasTrigger-r18 ENUMERATED {supported} OPTIONAL,

ntn-RRC-HarqDisableSingleTB-CE-ModeA-r18 ENUMERATED {supported} OPTIONAL,

ntn-RRC-HarqDisableMultiTB-CE-ModeA-r18 ENUMERATED {supported} OPTIONAL,

ntn-RRC-HarqDisableSingleTB-CE-ModeB-r18 ENUMERATED {supported} OPTIONAL,

ntn-OverriddenHarqDisableSingleTB-CE-ModeB-r18 ENUMERATED {supported} OPTIONAL,

ntn-DCI-HarqDisableSingleTB-CE-ModeB-r18 ENUMERATED {supported} OPTIONAL,

ntn-RRC-HarqDisableMultiTB-CE-ModeB-r18 ENUMERATED {supported} OPTIONAL,

ntn-OverriddenHarqDisableMultiTB-CE-ModeB-r18 ENUMERATED {supported} OPTIONAL,

ntn-DCI-HarqDisableMultiTB-CE-ModeB-r18 ENUMERATED {supported} OPTIONAL,

ntn-SemiStaticHarqDisableSPS-r18 ENUMERATED {supported} OPTIONAL,

ntn-UplinkHarq-ModeB-SingleTB-r18 ENUMERATED {supported} OPTIONAL,

ntn-UplinkHarq-ModeB-MultiTB-r18 ENUMERATED {supported} OPTIONAL,

ntn-HarqEnhScenarioSupport-r18 ENUMERATED {ngso,gso} OPTIONAL,

ntn-Triggered-GNSS-Fix-r18 ENUMERATED {supported} OPTIONAL,

ntn-Autonomous-GNSS-Fix-r18 ENUMERATED {supported} OPTIONAL,

ntn-UplinkTxExtension-r18 ENUMERATED {supported} OPTIONAL,

ntn-GNSS-EnhScenarioSupport-r18 ENUMERATED {ngso,gso} 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

}

RF-Parameters-v1800 ::= SEQUENCE {

supportedBandListEUTRA-v1800 SupportedBandListEUTRA-v1800 OPTIONAL,

supportedBandCombination-v1800 SupportedBandCombination-v1800 OPTIONAL,

supportedBandCombinationAdd-v1800 SupportedBandCombinationAdd-v1800 OPTIONAL,

supportedBandCombinationReduced-v1800 SupportedBandCombinationReduced-v1800 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

SupportedBandCombination-v1800 ::= SEQUENCE (SIZE (1..maxBandComb-r10)) OF BandCombinationParameters-v1800

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

SupportedBandCombinationAdd-v1800 ::= SEQUENCE (SIZE (1..maxBandComb-r11)) OF BandCombinationParameters-v1800

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

SupportedBandCombinationReduced-v1800 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF BandCombinationParameters-v1800

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

}

BandCombinationParameters-v1800 ::= SEQUENCE {

measGapInfoNR-r18 MeasGapInfoNR-r18 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

SupportedBandListEUTRA-v1800 ::= SEQUENCE (SIZE (1..maxBands)) OF SupportedBandEUTRA-v1800

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

}

SupportedBandEUTRA-v1800 ::= SEQUENCE {

lowerMSD-MRDC-r18 SEQUENCE (SIZE (1..maxLowerMSD-r18)) OF LowerMSD-MRDC-r18 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

}

MeasParameters-v1800 ::= SEQUENCE {

bandInfoNR-v1800 SEQUENCE (SIZE (1..maxBands)) OF MeasGapInfoNR-r18

}

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

}

MeasGapInfoNR-r18 ::= SEQUENCE {

interRAT-BandListNR-EN-DC-r18 InterRAT-BandListNR-r18 OPTIONAL,

interRAT-BandListNR-SA-r18 InterRAT-BandListNR-r18 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-BandListNR-r18 ::= SEQUENCE (SIZE (1..maxBandsNR-r15)) OF InterRAT-BandInfoNR-r18

InterRAT-BandInfo ::= SEQUENCE {

interRAT-NeedForGaps BOOLEAN

}

InterRAT-BandInfoNR-r16 ::= SEQUENCE {

interRAT-NeedForGapsNR-r16 BOOLEAN

}

InterRAT-BandInfoNR-r18 ::= SEQUENCE {

interRAT-NeedForInterruptionNR-r18

ENUMERATED {no-gap-with-interruption, no-gap-no-interruption} OPTIONAL

}

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

}

LowerMSD-MRDC-r18 ::= SEQUENCE {

aggressorband1-r18 FreqBandIndicatorNR-r15,

aggressorband2-r18 FreqBandIndicator-r11 OPTIONAL,

msd-Information-r18 SEQUENCE (SIZE (1.. maxLowerMSD-Info-r18)) OF MSD-Information-r18

}

MSD-Information-r18 ::= SEQUENCE {

msd-Type-r18 ENUMERATED {harmonic, harmonicMixing, crossBandIsolation, imd2,

imd3, imd4, imd5, all, spare8, spare7, spare6,

spare5,spare4, spare3, spare2, spare1},

msd-PowerClass-r18 ENUMERATED {pc1dot5, pc2, pc3},

msd-Class-r18 ENUMERATED {classI, classII, classIII, classIV, classV, classVI,

classVII, classVIII }

}

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

}

SON-Parameters-v1800 ::= SEQUENCE {

rach-ReportForNR-r18 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

}

UE-BasedNetwPerfMeasParameters-v1800 ::= SEQUENCE {

sigBasedEUTRA-LoggedMeasOverrideProtect-r18 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

}

SL-Parameters-v1800 ::= SEQUENCE {

sl-A2X-SupportedBandCombinationList-r18 SL-A2X-SupportedBandCombination-r18, 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

}

SL-A2X-SupportedBandCombination-r18 ::= SEQUENCE (SIZE (1..maxBandComb-r13)) OF SL-A2X-BandCombinationParameters-r18

SL-A2X-BandCombinationParameters-r18 ::= SEQUENCE (SIZE (1.. maxSimultaneousBands-r10)) OF SL-A2X-BandParameters-r18

SL-A2X-BandParameters-r18 ::= SEQUENCE {

a2x-FreqBandEUTRA-r18 FreqBandIndicator-r11,

a2x-BandParametersTxSL-r18 BandParametersTxA2X-r18 OPTIONAL,

a2x-BandParametersRxSL-r18 BandParametersRxA2X-r18 OPTIONAL

}

BandParametersTxA2X-r18 ::= SEQUENCE {

a2x-BandwidthClassTxSL-r18 V2X-BandwidthClassSL-r14

}

BandParametersRxA2X-r18 ::= SEQUENCE {

a2x-BandwidthClassRxSL-r18 V2X-BandwidthClassSL-r14

}

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

| *UE-EUTRA-Capability* field descriptions | | *FDD/ TDD diff* |
| --- | --- | --- |
| ***accessStratumRelease***  Set to rel17 in this version of the specification. NOTE 7. | | - |
| ***additionalRx-Tx-PerformanceReq***  Indicates whether the UE supports the additional Rx and Tx performance requirement for a given band combination as specified in TS 36.101 [42]. | | - |
| ***addSRS***  Presence of this field indicates the UE supports the additional SRS symbol(s) within the normal UL subframes in TDD as described in TS 36.213 [23]. | | - |
| ***addSRS-1T2R***  Indicates whether the UE supports selecting one antenna among two antennas to transmit additional SRS symbol(s) for the corresponding band of the band combination as described in TS 36.213 [23]. | | - |
| ***addSRS-1T4R***  Indicates whether the UE supports selecting one antenna among four antennas to transmit additional SRS symbol(s) for the corresponding band of the band combination as described in TS 36.213 [23]. | | - |
| ***addSRS-2T4R-2Pairs***  Indicates whether the UE supports selecting one antenna pair between two antenna pairs to transmit additional SRS symbol(s) simultaneously for the corresponding band of the band combination as described in TS 36.213 [23]. | | - |
| ***addSRS-2T4R-3Pairs***  Indicates whether the UE supports selecting one antenna pair among three antenna pairs to transmit additional SRS symbol(s) simultaneously for the corresponding band of the band combination as described in TS 36.213 [23]. | | - |
| ***addSRS-AntennaSwitching (in addSRS)***  Value *useBasic* indicates the antenna switching capabilities for additional SRS symbol(s) for a band of band combination for which the capability is not signalled in *bandParameterList-v1610* is the same as indicated by *bandParameterList-v1380* and/or *bandParameterList-v1530* for the concerned band of band combination. | | - |
| ***addSRS-AntennaSwitching (in bandParameterList-v1610)***  If signalled, the field indicates the antenna switching capabilities for additional SRS symbol(s) for the concerned band of band combination. | | - |
| ***addSRS-CarrierSwitching (in addSRS)***  Indicates whether carrier switching is supported for additional SRS symbol(s) for all band pairs of band combinations for which UE supports SRS carrier switching. This field is included only if *srs-CapabilityPerBandPairList-r14* is included. If this field is included, *addSRS-CarrierSwitching* (in *bandParameterList-v1610*) is not included. | | - |
| ***addSRS-CarrierSwitching (in bandParameterList-v1610)***  Indicates whether carrier switching is supported for additional SRS symbol(s) for the concerned band pair of band combination. This field is included only if *srs-CapabilityPerBandPairList-r14* is included.If this field is included, *addSRS-CarrierSwitching* (in *addSRS*) is not included. | | - |
| ***addSRS-FrequencyHopping (in addSRS)***  Indicates whether frequency hopping is supported for additional SRS symbol(s) for all bands of band combinations for which the capability is not signalled in *bandParameterList-v1610*. | | - |
| ***addSRS-FrequencyHopping (in bandParameterList-v1610)***  If signalled, the field indicates whether frequency hopping is supported for additional SRS symbol(s) for the concerned band of band combination. | | - |
| ***allowedCellList***  Indicates whether the UE supports EUTRA allowed-cell listing to limit the set of cells applicable for measurements. | | - |
| ***alternativeTBS-Indices***  Indicates whether the UE supports alternative TBS indices *I*TBS 26A and 33A as specified in TS 36.213 [23]. | | - |
| ***alternativeTBS-Index***  Indicates whether the UE supports alternative TBS index ITBS 33B as specified in TS 36.213 [23]. | | No |
| ***alternativeTimeToTrigger***  Indicates whether the UE supports alternativeTimeToTrigger. | | No |
| ***altFreqPriority***  Indicates whether the UE supports alternative cell reselection priority. | | No |
| ***altMCS-Table***  Indicates whether the UE supports the 6-bit MCS table as specified in TS 36.212 [22] and TS 36.213 [23]. | | Yes |
| ***aperiodicCSI-Reporting***  Indicates whether the UE supports aperiodic CSI reporting with 3 bits of the CSI request field size as specified in TS 36.213 [23], clause 7.2.1 and/or aperiodic CSI reporting mode 1-0 and mode 1-1 as specified in TS 36.213 [23], clause 7.2.1. The first bit is set to "1" if the UE supports the aperiodic CSI reporting with 3 bits of the CSI request field size. The second bit is set to "1" if the UE supports the aperiodic CSI reporting mode 1-0 and mode 1-1. | | No |
| ***aperiodicCsi-ReportingSTTI***  Indicates whether the UE supports aperiodic CSI reporting for short TTI as specified in TS 36.213 [23], clause 7.2.1. | | Yes |
| ***appliedCapabilityFilterCommon***  Contains the filter, applied by the UE, common for all MR-DC related capability containers that are requested and as defined by *UE-CapabilityRequestFilterCommon* IE in TS 38.331 [82]. | | - |
| ***assistInfoBitForLC***  Indicates whether the UE supports assistance information bit for local cache. | | - |
| ***aul***  Indicates whether the UE supports AUL as specified n TS 36.321 [6]. | | - |
| ***bandCombinationListEUTRA***  One entry corresponding to each supported band combination listed in the same order as in *supportedBandCombination.* | | - |
| ***BandCombinationParameters-v1090, BandCombinationParameters-v10i0, BandCombinationParameters-v1270***  If included, the UE shall include the same number of entries, and listed in the same order, as in *BandCombinationParameters-r10*. | | - |
| ***BandCombinationParameters-v1130***  The field is applicable to each supported CA bandwidth class combination (i.e. CA configuration in TS 36.101 [42], clause 5.6A.1) indicated in the corresponding band combination. If included, the UE shall include the same number of entries, and listed in the same order, as in *BandCombinationParameters-r10*. | | - |
| ***bandEUTRA***  E‑UTRA band as defined in TS 36.101 [42] and TS 36.102 [113] for NTN capable UE. In case the UE includes *bandEUTRA-v9e0* or *bandEUTRA-v1090*, the UE shall set the corresponding entry of *bandEUTRA* (i.e. without suffix) or *bandEUTRA-r10* respectively to *maxFBI*. | | - |
| ***bandInfoNR-v1610, bandInfoNR-v1800***  One entry corresponding to each supported E-UTRA band listed in the same order as in *supportedBandListEUTRA*. If *bandInfoNR-v1610* is absent, network assumes gap is required when measurement is performed on any NR bands while UE is served by cell(s) belongs to a E-UTRA band listed in *supportedBandListEUTRA* except for the FR2 inter-RAT measurement which depends on the support of *independentGapConfig*. | | - |
| ***bandListEUTRA***  One entry corresponding to each supported E‑UTRA band listed in the same order as in *supportedBandListEUTRA*. | | - |
| ***bandParameterList-v1380***  If included, the UE shall include the same number of entries listed in the same order as the band entries in the corresponding band combination. | | - |
| ***bandParametersUL, bandParametersDL***  Indicates the supported parameters for the band. Each of *CA-MIMO-ParametersUL* and *CA-MIMO-ParametersDL* can be included only once for one band in a single band combination entry. | | - |
| ***beamformed (in MIMO-CA-ParametersPerBoBCPerTM)***  If signalled, the field indicates for a particular transmission mode, the UE capabilities concerning beamformed EBF/ FD-MIMO operation (class B) applicable for the concerned band combination. | | - |
| ***beamformed (in MIMO-UE-ParametersPerTM)***  Indicates for a particular transmission mode, the UE capabilities concerning beamformed EBF/ FD-MIMO operation (class B) applicable for band combinations for which the concerned capabilities are not signalled. | | Yes |
| ***benefitsFromInterruption***  Indicates whether the UE power consumption would benefit from being allowed to cause interruptions to serving cells when performing measurements of deactivated SCell carriers for *measCycleSCell* of less than 640ms, as specified in TS 36.133 [16]. | | No |
| ***bwPrefInd***  Indicates whether the UE supports maximum PDSCH/PUSCH bandwidth preference indication. | | - |
| ***ca-BandwidthClass***  The CA bandwidth class supported by the UE as defined in TS 36.101 [42], Table 5.6A-1.  The UE explicitly includes all the supported CA bandwidth class combinations in the band combination signalling. Support for one CA bandwidth class does not implicitly indicate support for another CA bandwidth class. | | - |
| ***ca-IdleModeMeasurements***  Indicates whether UE supports reporting measurements performed during RRC\_IDLE. | | - |
| ***ca-IdleModeValidityArea***  Indicates whether UE supports validity area for IDLE measurements during RRC\_IDLE. | | - |
| ***cch-IM-RefRecTypeA-OneRX-Port***  This field defines whether the DL Category 1bis or the DL Category M2 UE supports Type A downlink control channel interference mitigation (CCH-IM) receiver "LMMSE-IRC + CRS-IC" for PDCCH/PCFICH/PHICH/EPDCCH receive processing (Enhanced downlink control channel performance requirements Type A in TS 36.101 [6]). | | No |
| ***cch-InterfMitigation-RefRecTypeA, cch-InterfMitigation-RefRecTypeB, cch-InterfMitigation-MaxNumCCs***  The field *cch-InterfMitigation-RefRecTypeA* defines whether the UE supports Type A downlink control channel interference mitigation (CCH-IM) receiver "LMMSE-IRC + CRS-IC" for PDCCH/PCFICH/PHICH/EPDCCH receive processing (Enhanced downlink control channel performance requirements Type A in the TS 36.101 [6]). The field *cch-InterfMitigation-RefRecTypeB* defines whether the UE supports Type B downlink CCH-IM receiver "E-LMMSE-IRC + CRS-IC" for PDCCH/PCFICH/PHICH receive processing in synchronous networks (Enhanced downlink control channel performance requirements Type B in the TS 36.101 [6]). The UE supporting the capability defined by *cch-InterfMitigation-RefRecTypeB-r13* shall also support the capability defined by *cch-InterfMitigation-RefRecTypeA-r13*.  If the UE sets one or more of the fields *cch-InterfMitigation-RefRecTypeA* and *cch-InterfMitigation-RefRecTypeB* to "supported", the UE shall include the parameter *cch-InterfMitigation-MaxNumCCs* to indicate that the UE supports CCH-IM on at least one arbitrary downlink CC for up to *cch-InterfMitigation-MaxNumCCs* downlink CC CA configuration. The UE shall not include the parameter *cch-InterfMitigation-MaxNumCCs* if neither *cch-InterfMitigation-RefRecTypeA* nor *cch-InterfMitigation-RefRecTypeB* is present. The UE may not perform CCH-IM on more than 1 DL CCs. For example, the UE sets "*cch-InterfMitigation-MaxNumCCs* = 3"to indicate that UE supports CCH-IM on at least one DL CC for supported non-CA, 2DL CA and 3DL CA configurations. For CA scenarios, the CCH-IM is guaranteed to be supported on at least one arbitrary component carrier. | | - |
| ***cdma2000-NW-Sharing***  Indicates whether the UE supports network sharing for CDMA2000. | | - |
| ***ce-ClosedLoopTxAntennaSelection***  Indicates whether the UE supports UL closed-loop Tx antenna selection in CE mode A, as specified in TS 36.212 [22]. | | Yes |
| ***ce-CQI-AlternativeTable***  Indicates whether the UE supports alternative CQI table in CE mode A. See TS 36.213 [22]. | | Yes |
| ***ce-CRS-IntfMitig***  Indicates whether UE supports CRS interference mitigation, i.e., value *supported* indicates UE does not rely on the CRS outside certain PRBs and subframes as defined in TS 36.133 [16], clauses 3.6.1.2 and 3.6.1.3, and TS 36.213 [23] when operating in coverage enhancement mode. | | Yes |
| ***ce-CSI-RS-Feedback***  Indicates whether the UE supports CSI-RS based feedback when the UE is operating in CE mode A, as specified in TS 36.213 [23]. | | Yes |
| ***ce-CSI-RS-FeedbackCodebookRestriction***  Indicates whether the UE supports CSI-RS based feedback with codebook subset restriction when the UE in CE is operating in CE mode A, as specified in TS 36.213 [23]. | | Yes |
| ***ce-DL-ChannelQualityReporting***  Indicates whether UE operating in CE mode supports aperiodic DL channel quality reporting in RRC\_CONNECTED. | | Yes |
| ***ce-EUTRA-5GC***  Indicates whether the UE operating in CE mode A or B supports E-UTRA/5GC. | | Yes |
| ***ce-EUTRA-5GC-HO-ToNR-FDD-FR1***  Indicates whether the UE operating in CE mode A or B supports handover from E-UTRA/5GC to NR FDD FR1. | | Yes |
| ***ce-EUTRA-5GC-HO-ToNR-TDD-FR1***  Indicates whether the UE operating in CE mode A or B supports handover from E-UTRA/5GC to NR TDD FR1. | | Yes |
| ***ce-EUTRA-5GC-HO-ToNR-FDD-FR2***  Indicates whether the UE operating in CE mode A or B supports handover from E-UTRA/5GC to NR FDD FR2. | | Yes |
| ***ce-EUTRA-5GC-HO-ToNR-TDD-FR2***  Indicates whether the UE operating in CE mode A or B supports handover from E-UTRA/5GC to NR TDD FR2-1. | | Yes |
| ***ce-EUTRA-5GC-HO-ToNR-TDD-FR2-2***  Indicates whether the UE operating in CE mode A or B supports handover from E-UTRA/5GC to NR TDD FR2-2. | | - |
| ***ce-HARQ-AckBundling***  Indicates whether the UE supports HARQ-ACK bundling in half duplex FDD in CE mode A, as specified in TS 36.212 [22] and TS 36.213 [23]. | | - |
| ***ce-InactiveState***  Indicates whether UE operating in CE mode supports RRC\_INACTIVE when connected to 5GC. A UE including this field also supports short eDRX cycles in RRC\_INACTIVE when connected to 5GC. | | No |
| ***ce-MeasRSS-Dedicated, ce-MeasRSS-DedicatedSameRBs***  Indicates whether the UE operating in CE mode A/B supports receiving neighbour cell RSS information in dedicated signalling and performing serving cell and neighbour cell measurements based on RSS in RRC\_CONNECTED as specified in TS 36.306 [5] and TS 36.133 [16]. | | Yes |
| ***ce-ModeA, ce-ModeB***  Indicates whether the UE supports operation in CE mode A and/or B, as specified in TS 36.211 [21] and TS 36.213 [23]. | | - |
| ***crs-ChEstMPDCCH-CE-ModeA, crs-ChEstMPDCCH-CE-ModeB***  Indicates whether UE operating in CE mode A/B supports using CRS for improving MPDCCH channel estimation. | | Yes |
| ***crs-ChEstMPDCCH-CSI***  Indicates whether UE operating in CE mode A supports CSI-based mapping for improving MPDCCH channel estimation. | | Yes |
| ***crs-ChEstMPDCCH-ReciprocityTDD***  Indicates whether UE operating in CE mode A supports using CRS for improving MPDCCH channel estimation with reciprocity-based candidates in TDD. | | No |
| ***ceMeasurements***  Indicates whether the UE supports intra-frequency RSRQ measurements and inter-frequency RSRP and RSRQ measurements in RRC\_CONNECTED, as specified in TS 36.133 [16] and TS 36.304 [4]. | | - |
| ***ce-MultiTB-64QAM***  Indicates whether the UE supports downlink 64QAM for multiple TB scheduling in connected mode for PDSCH when operating in CE mode A, as specified in TS 36.211 [21] and TS 36.213 [23]. This field can be included only if *ce-PUSCH-SubPRB-Allocation* is included. | | Yes |
| ***ce-MultiTB-EarlyTermination***  Indicates whether the UE supports early termination of PUSCH transmission for multiple TB scheduling in connected mode, as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***ce-MultiTB-FrequencyHopping***  Indicates whether the UE supports frequency hopping for multiple TB scheduling for PDSCH/PUSCH in connected mode, as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***ce-MultiTB-HARQ-AckBundling***  Indicates whether the UE supports downlink HARQ-ACK bundling for multiple TB scheduling in connected mode when operating in CE mode A, as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***ce-MultiTB-Interleaving***  Indicates whether the UE supports TB interleaving for multiple TB scheduling in connected mode for PDSCH/PUSCH when operating in CE mode A or B, as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***ce-MultiTB-SubPRB***  Indicates whether the UE supports sub-PRB allocation for multiple TB scheduling for PUSCH in connected mode, as specified in TS 36.211 [21] and TS 36.213 [23]. This field can be included only if *ce-PUSCH-SubPRB-Allocation* is included. | | Yes |
| ***ce-PDSCH-14HARQProcesses, ce-PDSCH-14HARQProcesses-Alt2***  Indicates whether the UE supports 14-HARQ processes, as specified in TS 36.212 [22]. | | - |
| ***ce-PDSCH-64QAM***  Indicates whether the UE supports 64QAM for non-repeated unicast PDSCH in CE mode A. | | Yes |
| ***ce-PDSCH-FlexibleStartPRB-CE-ModeA*, *ce-PDSCH-FlexibleStartPRB-CE-ModeB*,**  ***ce-PUSCH-FlexibleStartPRB-CE-ModeA*, *ce-PUSCH-FlexibleStartPRB-CE-ModeB***  This field indicates whether UE supports flexible starting PRB for PDSCH/PUSCH when operating in coverage enhancement mode A/B, as specified in TS 36.211 [21] and TS 36.213 [22]. | | Yes |
| ***ce-PDSCH-MaxTBS***  Indicates whether the UE supports downlink TBS of 1736 bits, as specified in TS 36.212 [22]. | | - |
| ***ce-PDSCH-PUSCH-Enhancement***  Indicates whether the UE supports new numbers of repetitions for PUSCH and modulation restrictions for PDSCH/PUSCH in CE mode A as specified in TS 36.212 [22] and TS 36.213 [23]. | | No |
| ***ce-PDSCH-PUSCH-MaxBandwidth***  Indicates the maximum supported PDSCH/PUSCH channel bandwidth in CE mode A and B, as specified in TS 36.212 [22] and TS 36.213 [23]. Value bw5 corresponds to 5 MHz and value bw20 corresponds to 20 MHz. If the field is absent the maximum PDSCH/PUSCH channel bandwidth in CE mode A and B is 1.4 MHz. If the setting of this parameter is 20 MHz, the max supported PUSCH channel bandwidth in CE mode A is 5 MHz. The maximum PUSCH channel bandwidth in CE mode B is 1.4 MHz regardless of the setting of this parameter. Parameter: transmission bandwidth configuration, see TS 36.101 [42], table 5.6-1. | | Yes |
| ***ce-PDSCH-TenProcesses***  Indicates whether the UE supports 10 DL HARQ processes in FDD in CE mode A. | | Yes |
| ***ce-PUCCH-Enhancement***  Indicates whether the UE supports repetition levels 64 and 128 for PUCCH in CE Mode B, as specified in TS 36.211 [21] and in TS 36.213 [23]. | | No |
| ***ce-PUSCH-NB-MaxTBS***  Indicates whether the UE supports 2984 bits max UL TBS in 1.4 MHz in CE mode A operation, as specified in TS 36.212 [22] and TS 36.213 [23]. | | Yes |
| ***ce-PUSCH-SubPRB-Allocation***  Indicates whether the UE supports sub-PRB resource allocation for PUSCH in CE mode A or B, as specified in TS 36.211 [21], TS 36.212 [22] and TS 36.213 [23]. | | Yes |
| ***ce-RetuningSymbols***  Indicates the number of retuning symbols in CE mode A and B as specified in TS 36.211 [21]. Value n0 corresponds to 0 retuning symbols and value n1 corresponds to 1 retuning symbol. If the field is absent the number of retuning symbols in CE mode A and B is 2. | | No |
| ***ce-SchedulingEnhancement***  Indicates whether the UE supports dynamic HARQ-ACK delay for HD-FDD in CE mode A as specified in TS 36.212 [22] and TS 36.213 [23]. | | No |
| ***ce-SRS-Enhancement***  Indicates whether the UE supports SRS coverage enhancement in TDD with support of SRS combs 2 and 4 as specified in TS 36.213 [23]. This field can be included only if *ce-SRS-EnhancementWithoutComb4* is not included. | | Yes |
| ***ce-SRS-EnhancementWithoutComb4***  Indicates whether the UE supports SRS coverage enhancement in TDD with support of SRS comb 2 but without support of SRS comb 4 as specified in TS 36.213 [23]. This field can be included only if *ce-SRS-Enhancement* is not included. | | - |
| ***ce-SwitchWithoutHO***  Indicates whether the UE supports switching between normal mode and enhanced coverage mode without handover. | | - |
| ***ce-UL-HARQ-ACK-Feedback***  This field indicates whether UE supports uplink HARQ ACK feedback when operating in coverage enhancement, as specified in TS36.213 [22]. | | Yes |
| ***channelMeasRestriction***  Indicates for a particular transmission mode whether the UE supports channel measurement restriction. | | Yes |
| ***cho***  Indicates whether the UE supports conditional handover including execution condition, candidate cell configuration and maximum 8 candidate cells. | | Yes |
| ***cho-Failure***  Indicates whether the UE supports conditional handover during re-establishment procedure when the selected cell is configured as candidate cell for condition handover. | | Yes |
| ***cho-FDD-TDD***  Indicates whether the UE supports conditional handover between FDD and TDD cells. | | No |
| ***cho-TwoTriggerEvents***  Indicates whether the UE supports 2 trigger events for same execution condition. It is mandatory supported if the UE suppors *cho*. | | Yes |
| ***codebook-HARQ-ACK***  Indicates whether the UE supports determining HARQ ACK codebook size based on the DAI-ased solution and/or the number of configured CCs. The first bit is set to "1" if the UE supports the DAI-based codebook size determination. The second bit is set to "1" if the UE supports the codebook determination based on the number of configured CCs. | | No |
| ***commMultipleTx***  Indicates whether the UE supports multiple transmissions of sidelink communication to different destinations in one SC period. If *commMultipleTx-r13* is set to supported then the UE support 8 transmitting sidelink processes. | | - |
| ***commSimultaneousTx***  Indicates whether the UE supports simultaneous transmission of EUTRA and sidelink communication (on different carriers) in all bands for which the UE indicated sidelink support in a band combination (using *commSupportedBandsPerBC*). | | - |
| ***commSupportedBands***  Indicates the bands on which the UE supports sidelink communication, by an independent list of bands i.e. separate from the list of supported E-UTRA band, as indicated in *supportedBandListEUTRA*. | | - |
| ***commSupportedBandsPerBC***  Indicates, for a particular band combination, the bands on which the UE supports simultaneous reception of EUTRA and sidelink communication. If the UE indicates support simultaneous transmission (using *commSimultaneousTx*), it also indicates, for a particular band combination, the bands on which the UE supports simultaneous transmission of EUTRA and sidelink communication. The first bit refers to the first band included in *commSupportedBands*, with value 1 indicating sidelink is supported. | | - |
| ***configN (in MIMO-CA-ParametersPerBoBCPerTM)***  If signalled, the field indicates for a particular transmission mode whether the UE supports non-precoded EBF/ FD-MIMO (class A) related configuration N for the concerned band combination. | | - |
| ***configN (in MIMO-UE-ParametersPerTM)***  Indicates for a particular transmission mode whether the UE supports non-precoded EBF/ FD-MIMO (class A) related configuration N for band combinations for which the concerned capabilities are not signalled. | | Yes |
| ***continueEHC-Context***  Indicates that the UE supports EHC context continuation operation where the UE keeps the established EHC context(s) upon PDCP re-establishment, as specified in TS 36.323 [8]. | | No |
| ***crossCarrierScheduling*** | | Yes |
| ***crossCarrierScheduling-B5C***  Indicates whether the UE supports cross carrier scheduling beyond 5 DL CCs. | | No |
| ***crossCarrierSchedulingLAA-DL***  Indicates whether the UE supports cross-carrier scheduling from a licensed carrier for LAA cell(s) for downlink. This field can be included only if *downlinkLAA* is included. | | - |
| ***crossCarrierSchedulingLAA-UL***  Indicates whether the UE supports cross-carrier scheduling from a licensed carrier for LAA cell(s) for uplink. This field can be included only if *uplinkLAA* is included. | | - |
| ***crs-DiscoverySignalsMeas***  Indicates whether the UE supports CRS based discovery signals measurement, and PDSCH/EPDCCH RE mapping with zero power CSI-RS configured for discovery signals. | | Yes |
| ***crs-IM-TM1-toTM9-OneRX-Port***  Indicates whether the DL Cateogry 1bis UE ot the DL Category M2 UE supports CRS interference mitigation (IM) while operating in the following transmission modes (TM): TM 1, TM 2, …, TM 8 and TM 9. | | No |
| ***crs-InterfHandl***  Indicates whether the UE supports CRS interference handling. | | Yes |
| ***crs-InterfMitigationTM10***  The field defines whether the UE supports CRS interference mitigation in transmission mode 10. The UE supporting the *crs-InterfMitigationTM10* capability shall also support the *crs-InterfHandl* capability. | | No |
| ***crs-InterfMitigationTM1toTM9***  Indicates whether the UE supports CRS interference mitigation (IM) while operating in the following transmission modes (TM): TM 1, TM 2, …, TM 8 and TM 9. The UE shall not include the field if it does not support CRS IM in TMs 1-9. If the field is present, the UE supports CRS-IM on at least one arbitrary downlink CC for up to *crs-InterfMitigationTM1toTM9-r13* downlink CC CA configuration. The UE signals *crs-InterfMitigationTM1toTM9-r13* value to indicate the maximum *crs-InterfMitigationTM1toTM9-r13* downlink CC CA configuration where UE may apply CRS IM. For example, the UE sets "*crs-InterfMitigationTM1toTM9-r13* = 3" to indicate that the UE supports CRS-IM on at least one DL CC for supported non-CA, 2DL CA and 3DL CA configurations. The UE supporting the *crs-InterfMitigationTM1toTM9-r13* capability shall also support the *crs-InterfHandl-r11* capability. | | - |
| ***crs-IntfMitig***  Indicate whether the UE supports CRS interference mitigation as specified in TS 36.133 [16], clause 3.6.1.1. | | Yes |
| ***crs-LessDwPTS***  Indicates whether the UE supports TDD special subframe configuration 10 without CRS transmission on the 5th symbol of DwPTS, i.e. *ssp10-CRS-LessDwPTS*, as specified in TS 36.211 [17]*.* | | - |
| ***csi-ReportingAdvanced, csi-ReportingAdvancedMaxPorts (in MIMO-CA-ParametersPerBoBCPerTM)***  If signalled, the field indicates that for a particular transmission mode, the maximum number of CSI-RS ports supported by the UE for advanced CSI reporting is different in the concerned band of band combination than the value indicated by the field *csi-ReportingAdvanced* or *csi-ReportingAdvancedMaxPorts* in *MIMO-UE-ParametersPerTM*. The UE shall not include both *csi-ReportingAdvanced* and *csi-ReportingAdvancedMaxPorts* for a particular transmission mode in the concerned band of band combination. | | - |
| ***csi-ReportingAdvanced (in MIMO-UE-ParametersPerTM)***  Indicates for a particular transmission mode the maximum number of CSI-RS ports supported by the UE for advanced CSI reporting. The field *csi-ReportingAdvanced* indicates 32 CSI-RS ports. The UE shall not include both *csi-ReportingAdvanced* and *csi-ReportingAdvancedMaxPorts* for a particular transmission mode. | | Yes |
| ***csi-ReportingAdvancedMaxPorts (in MIMO-UE-ParametersPerTM)***  Indicates for a particular transmission mode the maximum number of CSI-RS ports supported by the UE for advanced CSI reporting. The field *csi-ReportingAdvancedMaxPorts* indicates 8, 12, 16, 20, 24 or 28 CSI-RS ports. The UE shall not include both *csi-ReportingAdvanced* and *csi-ReportingAdvancedMaxPorts* for a particular transmission mode. | | - |
| ***csi-ReportingNP (in MIMO-CA-ParametersPerBoBCPerTM)***  If signalled, value *different* indicates that for a particular transmission mode, the CSI reporting on non-precoded CSI-RS with 20, 24, 28 or 32 antenna ports for the concerned band of band combination is different than the value indicated by field *csi-ReportingNP* in *MIMO-UE-ParametersPerTM*. | | - |
| ***csi-ReportingNP (in MIMO-UE-ParametersPerTM)***  Indicates for a particular transmission mode whether the UE supports CSI reporting on non-precoded CSI-RS with 20, 24, 28, or 32 antenna ports for band combinations for which the concerned capabilities are not signalled in *MIMO-CA-ParametersPerBoBCPerTM*, and the FD-MIMO processing capability condition as described in NOTE 8 is satisfied. | | Yes |
| ***csi-RS-DiscoverySignalsMeas***  Indicates whether the UE supports CSI-RS based discovery signals measurement. If this field is included, the UE shall also include *crs-DiscoverySignalsMeas*. | | Yes |
| ***csi-RS-DRS-RRM-MeasurementsLAA***  Indicates whether the UE supports performing RRM measurements on LAA cell(s) based on CSI-RS-based DRS. This field can be included only if *downlinkLAA* is included. | | - |
| ***csi-RS-EnhancementsTDD***  Indicates for a particular transmission mode whether the UE supports CSI-RS enhancements applicable for TDD. | | Yes |
| ***csi-SubframeSet***  Indicates whether the UE supports REL-12 DL CSI subframe set configuration, REL-12 DL CSI subframe set dependent CSI measurement/feedback, configuration of up to 2 CSI-IM resources for a CSI process with no more than 4 CSI-IM resources for all CSI processes of one frequency if the UE supports tm10, configuration of two ZP-CSI-RS for tm1 to tm9, PDSCH RE mapping with two ZP-CSI-RS configurations, and EPDCCH RE mapping with two ZP-CSI-RS configurations if the UE supports EPDCCH. This field is only applicable for UEs supporting TDD. | | Yes |
| ***csi-SubframeSet2ForDormantSCell***  Indicates whether the UE supports second CSI subframe set for periodic CSI reporting for dormant serving cells. A UE that indicates support of this field shall also indicate support for *dormantSCellState-r15*. This field is only applicable for UEs supporting TDD. | | - |
| ***dataInactMon***  Indicates whether the UE supports the data inactivity monitoring as specified in TS 36.321 [6]. | | - |
| ***dc-Support***  Including this field indicates that the UE supports synchronous DC and power control mode 1. Including this field for a band combination entry comprising of single band entry indicates that the UE supports intra-band contiguous DC. Including this field for a band combination entry comprising of two or more band entries, indicates that the UE supports DC for these bands and that the serving cells corresponding to a band entry shall belong to one cell group (i.e. MCG or SCG). Including field *asynchronous* indicates that the UE supports asynchronous DC and power control mode 2. Including this field for a TDD/FDD band combination indicates that the UE supports TDD/FDD DC for this band combination. | | - |
| ***delayBudgetReporting***  Indicates whether the UE supports delay budget reporting. | | No |
| ***demodulationEnhancements***  This field defines whether the UE supports advanced receiver in SFN scenario (350 km/h) as specified in TS 36.101 [42]. | | - |
| ***demodulationEnhancements2***  This field defines whether the UE supports further enhanced receiver in HST-SFN scenario (up to 500 km/h velocity) as specified in TS 36.101 [42]. | | - |
| ***densityReductionNP, densityReductionBF***  Indicates whether the UE supports CSI-RS density reduction with values 1, 1/2 and 1/3 for non-precoded CSI-RS and beamformed CSI-RS respectively. | | Yes |
| ***deviceType***  UE may set the value to "*noBenFromBatConsumpOpt*" when it does not foresee to particularly benefit from NW-based battery consumption optimisation. Absence of this value means that the device does benefit from NW-based battery consumption optimisation. | | - |
| ***diffFallbackCombReport***  Indicates that the UE supports reporting of UE radio access capabilities for the CA band combinations asked by the eNB as well as, if any, reporting of different UE radio access capabilities for their fallback band combination as specified in TS 36.306 [5]. The UE does not report fallback combinations if their UE radio access capabilities are the same as the ones for the CA band combination asked by the eNB. | | - |
| ***differentFallbackSupported***  Indicates that the UE supports different capabilities for at least one fallback case of this band combination. | | - |
| ***directMCG-SCellActivationResume***  Indicates whether the UE supports having an E-UTRA MCG SCell configured in activated SCell state. | | - |
| ***directSCellActivation***  Indicates whether the UE supports having an E-UTRA SCell configured in activated SCell state in the *RRCConnectionReconfiguration* message. This field is applicable to both LTE standalone and LTE-DC. | | - |
| ***directSCellHibernation***  Indicates whether the UE supports having an SCell configured in dormant SCell state. | | - |
| ***directSCG-SCellActivationNEDC***  Indicates whether the UE supports having an E-UTRA SCG SCell configured in activated SCell state in the *RRCConnectionReconfiguration* message contained in the NR *RRCReconfiguration* message, as defined in TS 36.321 [6] and TS 38.331 [82].  If the UE indicates support of *directSCG-SCellActivationNEDC-r16*, the UE shall also indicate support of *ne-dc* as specified in TS 38.331 [82]. | | - |
| ***directSCG-SCellActivationResume***  Indicates whether the UE supports having an E-UTRA SCG SCell configured in activated SCell state. | | - |
| ***discInterFreqTx***  Indicates whether the UE support sidelink discovery announcements either a) on the primary frequency only or b) on other frequencies also, regardless of the UE configuration (e.g. CA, DC). The UE may set discInterFreqTx to supported when having a separate transmitter or if it can request sidelink discovery transmission gaps. | | - |
| ***discoverySignalsInDeactSCell***  Indicates whether the UE supports the behaviour on DL signals and physical channels when SCell is deactivated and discovery signals measurement is configured as specified in TS 36.211 [21], clause 6.11A. This field is included only if UE supports carrier aggregation and includes *crs-DiscoverySignalsMeas*. | | Yes |
| ***discPeriodicSLSS***  Indicates whether the UE supports periodic (i.e. not just one time before sidelink discovery announcement) Sidelink Synchronization Signal (SLSS) transmission and reception for sidelink discovery. | | - |
| ***discScheduledResourceAlloc***  Indicates whether the UE supports transmission of discovery announcements based on network scheduled resource allocation. | | - |
| ***disc-UE-SelectedResourceAlloc***  Indicates whether the UE supports transmission of discovery announcements based on UE autonomous resource selection. | | - |
| ***disc***-***SLSS***  Indicates whether the UE supports Sidelink Synchronization Signal (SLSS) transmission and reception for sidelink discovery. | | - |
| ***discSupportedBands***  Indicates the bands on which the UE supports sidelink discovery. One entry corresponding to each supported E-UTRA band, listed in the same order as in *supportedBandListEUTRA*. | | - |
| ***discSupportedProc***  Indicates the number of processes supported by the UE for sidelink discovery. | | - |
| ***discSysInfoReporting***  Indicates whether the UE supports reporting of system information for inter-frequency/PLMN sidelink discovery. | | - |
| ***dl-256QAM***  Indicates whether the UE supports 256QAM in DL on the band. | | - |
| ***dl-1024QAM***  Indicates whether the UE supports 1024QAM in DL on the band or on the band within the band combination. When *dl-1024QAM-ScalingFactor* and *dl-1024QAM-TotalWeightedLayers* are included, the UE supports 1024QAM in a set of CCs in a band combination if the CCs belong to bands indicated to support 1024QAM in that band combination and the 1024QAM processing capability condition as specified in equation 4.3.5.31-1 in TS 36.306 [5] is satisfied. | | - |
| ***dl-1024QAM-ScalingFactor***  Indicates scaling factor for processing a CC configured with 1024QAM with respect to a CC not configured with 1024QAM as described in 4.3.5.31 in TS 36.306 [5]. Value *v1* indicates 1, value *v1dot2* indicates 1.2 and value *v1dot25* indicates 1.25. | | - |
| ***dl-1024QAM-TotalWeightedLayers***  Indicates total number of weighted layers the UE can process for 1024QAM as described in 4.3.5.31 in TS 36.306 [5]. Actual value = (10 + indicated value x 2), i.e., value 0 indicates 10 layers, value 1 indicates 12 layers and so on. | | - |
| ***dl-1024QAM-Slot***  Indicates whether the UE supports 1024QAM in DL on the band for slot TTI operation. | | - |
| ***dl-1024QAM-SubslotTA-1***  Indicates whether the UE supports 1024QAM in DL on the band for subslot TTI operation with TA set 1. | | - |
| ***dl-1024QAM-SubslotTA-2***  Indicates whether the UE supports 1024QAM in DL on the band for subslot TTI operation with TA set 2, dmrsBasedSPDCCH-nonMBSFN | | - |
| ***dl-DedicatedMessageSegmentation***  Indicates whether the UE supports reception of segmented DL RRC messages. | | - |
| ***dmrs-BasedSPDCCH-MBSFN***  Indicates whether the UE supports sDCI monitoring in DMRS based SPDCCH for MBSFN subframe. If UE supports this, it also provides the corresponding DMRS based SPDCCH capability in *min-Proc-TimelineSubslot.* | | Yes |
| ***dmrs-BasedSPDCCH-nonMBSFN***  Indicates whether the UE supports sDCI monitoring in DMRS based SPDCCH for non-MBSFN subframe. If UE supports this, it also provides the corresponding DMRS based SPDCCH capability in *min-Proc-TimelineSubslot.* | | Yes |
| ***dmrs-Enhancements (in MIMO-CA-ParametersPerBoBCPerTM)***  If signalled, the field indicates for a particular transmission mode, that for the concerned band combination the DMRS enhancements are different than the value indicated by field *dmrs-Enhancements* in *MIMO-UE-ParametersPerTM*. | | - |
| ***dmrs-Enhancements (in MIMO-UE-ParametersPerTM)***  Indicates for a particular transmission mode whether the UE supports DMRS enhancements for the indicated transmission mode. | | Yes |
| ***dmrs-LessUpPTS***  Indicates whether the UE supports not to transmit DMRS for PUSCH in UpPTS. | | No |
| ***dmrs-OverheadReduction***  Indicates whether the UE supports OCC4 for rank 3 and 4 transmission as specified in clause 5.3.3.1.5C of TS 36.212 [22]. | | Yes |
| ***dmrs-PositionPattern***  Indicates whether the UE supports uplink DMRS position pattern 'D D D' in subslot #5 with application of the 1/6 as the TBS scaling factor. | | Yes |
| ***dmrs-RepetitionSubslotPDSCH***  Indicates whether the UE supports back-to-back 3/4-layer DMRS reception in two consecutive subslots across subframe boundary for subslot-PDSCH. | | Yes |
| ***dmrs-SharingSubslotPDSCH***  Indicates whether the UE supports DMRS sharing in two consecutive subslots across subframe boundary for subslot-PDSCH. | | Yes |
| ***dormantSCellState***  Indicates whether UE supports Dormant SCell state (i.e. SCell state with CQI and RRM measurement reporting but no PDCCH monitoring). | | - |
| ***downlinkLAA***  Presence of the field indicates that the UE supports downlink LAA operation including identification of downlink transmissions on LAA cell(s) for full downlink subframes, decoding of common downlink control signalling on LAA cell(s), CSI feedback for LAA cell(s), RRM measurements on LAA cell(s) based on CRS-based DRS. | | - |
| ***drb-TypeSCG***  Indicates whether the UE supports SCG bearer. | | - |
| ***drb-TypeSplit***  Indicates whether the UE supports split bearer except for PDCP data transfer in UL. | | - |
| ***dtm***  Indicates whether the UE supports DTM in GERAN. | | - |
| ***dummy***  This field is not used in the specification. It shall not be sent by the UE. | | - |
| ***earlyData-UP***  Indicates whether the UE supports UP-EDT when connected to EPC. | | - |
| ***earlyData-UP-5GC***  Indicates whether the UE supports UP-EDT when connected to 5GC. | | - |
| ***earlySecurityReactivation***  Indicates whether the UE supports early security reactivation when resuming a suspended RRC connection. | | - |
| ***e-CSFB-1XRTT***  Indicates whether the UE supports enhanced CS fallback to CDMA2000 1xRTT or not. | | Yes |
| ***e-CSFB-ConcPS-Mob1XRTT***  Indicates whether the UE supports concurrent enhanced CS fallback to CDMA2000 1xRTT and PS handover/ redirection to CDMA2000 HRPD. | | Yes |
| ***e-CSFB-dual-1XRTT***  Indicates whether the UE supports enhanced CS fallback to CDMA2000 1xRTT for dual Rx/Tx configuration. This bit can only be set to supported if *tx-Config1XRTT* and *rx-Config1XRTT* are both set to dual. | | Yes |
| ***e-HARQ-Pattern-FDD***  Indicates whether the UE supports enhanced HARQ pattern for TTI bundling operation for FDD. | | Yes |
| ***ehc***  Indicates that the UE supports Ethernet header compression and decompression using EHC protocol, as specified in TS 36.323 [8] and in Annex A of TS 38.323 [83]. The UE indicating this capability and indicating support for at least one ROHC profile, shall support simultaneous configuration of EHC and ROHC on different DRBs. | | No |
| ***eLCID-Support***  Indicates whether the UE supports LCID "10000" and MAC PDU subheader containing the eLCID field as described in TS 36.321 [6]. | | - |
| ***emptyUnicastRegion***  Indicates whether the UE supports unicast reception in subframes with empty unicast control region as described in TS 36.213 [23] clause 12. This field can be included only if *unicast-fembmsMixedSCell* and *crossCarrierScheduling* are included. | | No |
| ***en-DC***  Indicates whether the UE supports EN-DC. | | - |
| ***endingDwPTS***  Indicates whether the UE supports reception ending with a subframe occupied for a DwPTS-duration as described in TS 36.211 [21] and TS 36.213 [23]. This field can be included only if *downlinkLAA* is included. | | - |
| ***Enhanced-4TxCodebook***  Indicates whether the UE supports enhanced 4Tx codebook*.* | | No |
| ***enhancedDualLayerTDD***  Indicates whether the UE supports enhanced dual layer (PDSCH transmission mode 8) for TDD or not. | | - |
| ***ePDCCH***  Indicates whether the UE can receive DCI on UE specific search space on Enhanced PDCCH. | | Yes |
| ***epdcch-SPT-differentCells***  Indicates whether the UE supports EPDCCH and short processing time on different serving cells. | | Yes |
| ***epdcch-STTI-differentCells***  Indicates whether the UE supports EPDCCH and sTTI on different serving cells. | | Yes |
| ***e-RedirectionUTRA*** | | Yes |
| ***e-RedirectionUTRA-TDD***  Indicates whether the UE supports enhanced redirection to UTRA TDD to multiple carrier frequencies both with and without using related SIB provided by *RRCConnectionRelease* or not. | | Yes |
| ***etws-CMAS-RxInConnCE-ModeA, etws-CMAS-RxInConn***  Indicates whether the UE operating in CE mode A/B supports reception of ETWS/CMAS indication in RRC\_CONNECTED mode as specified in TS 36.212 [22]. | | - |
| ***eutra-5GC***  Indicates whether the UE supports E-UTRA/5GC. | | Yes |
| ***eutra-5GC-HO-ToNR-FDD-FR1***  Indicates whether the UE supports handover from E-UTRA/5GC to NR FDD FR1. | | Yes |
| ***eutra-5GC-HO-ToNR-TDD-FR1***  Indicates whether the UE supports handover from E-UTRA/5GC to NR TDD FR1. | | Yes |
| ***eutra-5GC-HO-ToNR-FDD-FR2***  Indicates whether the UE supports handover from E-UTRA/5GC to NR FDD FR2. | | Yes |
| ***eutra-5GC-HO-ToNR-TDD-FR2***  Indicates whether the UE supports handover from E-UTRA/5GC to NR TDD FR2-1. | | Yes |
| ***eutra-5GC-HO-ToNR-TDD-FR2-2***  Indicates whether the UE supports handover from E-UTRA/5GC to NR TDD FR2-2. | | - |
| ***eutra-CGI-Reporting-ENDC***  Indicates whether the UE supports Intra-RAT report CGI procedure when it is configured with (NG) EN-DC wherein either MN and SN have different DRX cycles, or on-duration configured by MN does not contain on-duration configured by SN if their DRX cycles are same. | | Yes |
| ***eutra-CGI-Reporting-NEDC***  Indicates whether the UE supports acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network when the NE-DC is configured. | | Yes |
| ***eutra-EPC-HO-ToNR-FDD-FR1***  Indicates whether the UE supports handover from E-UTRA/EPC to NR FDD FR1. | | Yes |
| ***eutra-EPC-HO-ToNR-TDD-FR1***  Indicates whether the UE supports handover from E-UTRA/EPC to NR TDD FR1. | | Yes |
| ***eutra-EPC-HO-ToNR-FDD-FR2***  Indicates whether the UE supports handover from E-UTRA/EPC to NR FDD FR2. | | Yes |
| ***eutra-EPC-HO-ToNR-TDD-FR2***  Indicates whether the UE supports handover from E-UTRA/EPC to NR TDD FR2-1. | | Yes |
| ***eutra-EPC-HO-ToNR-TDD-FR2-2***  Indicates whether the UE supports handover from E-UTRA/EPC to NR TDD FR2-2. | | - |
| ***eutra-EPC-HO-EUTRA-5GC***  Indicates whether the UE supports handover between E-UTRA/EPC and E-UTRA/5GC. | | Yes |
| ***eutra-IdleInactiveMeasurements***  Indicates whether UE supports reporting measurements performed during RRC\_IDLE or RRC\_INACTIVE. | | No |
| ***eutra-SI-AcquisitionForHO-ENDC***  Indicates whether the UE supports, upon configuration of *si-RequestForHO* by the network, acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell using autonomous gaps and reporting the acquired information to the network. | | Yes |
| ***eventB2***  Indicates whether the UE supports event B2. A UE supporting NR SA operation shall set this bit to *supported*. | | - |
| ***eventD1-MeasReportTrigger***  This field indicates whether the UE supports location-based measurement report triggering in RRC\_CONNECTED in earth fixed cell (i.e. event D1). | | - |
| ***eventD2-MeasReportTrigger***  This field indicates whether the UE supports location-based measurement report triggering in RRC\_CONNECTED in earth moving cell (i.e. event D2). | | - |
| ***extendedBand-n77***  This field is only applicable for UEs that indicate support for band n77. If present, the UE supports the restriction to 3450 - 3550 MHz and 3700 - 3980 MHz ranges of band n77 in the USA as specified in Note 12 of Table 5.2-1 in TS 38.101-1 [85]. If absent, the UE supports only restriction to the 3700 - 3980 MHz range of band n77 in the USA. A UE that indicates this field shall support NS value 55 as specified in TS 38.101-1 [85]. | | - |
| ***extendedBand-n77-2***  This field is only applicable for UEs that indicate support for band n77. If present, the UE supports the restriction to 3450 - 3650 MHz and 3650 - 3980 ranges of band n77 in Canada as specified in Note 12 of Table 5.2-1 in TS 38.101-1 [85]. If absent, the UE supports only restriction to the 3450 - 3650 MHz range of band n77 in Canada. A UE that indicates this field shall also support NS value 57 as specified in TS 38.101-1 [85]. | | - |
| ***extendedFreqPriorities***  Indicates whether the UE supports extended E-UTRA frequency priorities indicated by *cellReselectionSubPriority* field. A UE supporting NR SA operation shall set this bit to *supported*. | | - |
| ***extendedLCID-Duplication***  Indicates whether the UE supports use of extended LCIDs 32-38 for PDCP duplication. | | - |
| ***extendedLongDRX***  Indicates whether the UE supports extended long DRX cycle values of 5.12s and 10.24s in RRC\_CONNECTED. | | - |
| ***extendedMAC-LengthField***  Indicates whether the UE supports the MAC header with L field of size 16 bits as specified in TS 36.321 [6], clause 6.2.1. | | - |
| ***extendedMaxMeasId***  Indicates whether the UE supports extended number of measurement identies as defined by *maxMeasId-r12*. | | No |
| ***extendedMaxObjectId***  Indicates whether the UE supports extended number of measurement object identies as defined by *maxObjectId-r13*. | | No |
| ***extendedNumberOfDRBs***  Indicates whether the UE supports up to 15 DRBs. The UE shall support any combination of RLC AM and RLC UM entities for the configured DRBs. | | - |
| ***extendedPollByte***  Indicates whether the UE supports extended pollByte values as defined by *pollByte-r14*. | | - |
| ***extended-RLC-LI-Field***  Indicates whether the UE supports 15 bit RLC length indicator. | | - |
| ***extendedRLC-SN-SO-Field***  Indicates whether the UE supports 16 bits of RLC sequence number and segmentation offset. | | - |
| ***extendedRSRQ-LowerRange***  Indicates whether the UE supports the extended RSRQ lower value range from -34dB to -19.5dB in measurement configuration and reporting as specified in TS 36.133 [16]. | | No |
| ***fdd-HARQ-TimingTDD***  Indicates whether UE supports FDD HARQ timing for TDD SCell when configured with TDD PCell. | | Yes |
| ***featureGroupIndicators, featureGroupIndRel9Add, featureGroupIndRel10***  The definitions of the bits in the bit string are described in Annex B.1 (for *featureGroupIndicators* and *featureGroupIndRel9Add*) and in Annex C.1 (for *featureGroupIndRel10*). | | Yes |
| ***featureSetsDL-PerCC***  In MR-DC, indicates a set of features that the UE supports on one component carrier in a bandwidth class for a band in a given band combination. The UE shall hence include at least as many *FeatureSetDL-PerCC-Id* in this list as the number of carriers it supports according to the *ca-bandwidthClassDL*, except if indicating additional functionality by reducing the number of *FeatureSetDownlinkPerCC-Id* in the feature set. The order of the elements in this list is not relevant, i.e., the network may configure any of the carriers in accordance with any of the *FeatureSetDL-PerCC-Id* in this list. | | - |
| ***FeatureSetDL-PerCC-Id***  In MR-DC, indicates the index position of the *FeatureSetDL-PerCC-r15* in the *featureSetsDL-PerCC-r15* list. Value 0 corresponds to the first element in the list, value 1 corresponds to the second element in the list, and so on. Value 32 is not used. | | - |
| ***featureSetsUL-PerCC***  In MR-DC, indicates a set of features that the UE supports on one component carrier in a bandwidth class for a band in a given band combination. The UE shall hence include at least as many *FeatureSetUL-PerCC-Id* in this list as the number of carriers it supports according to the *ca-bandwidthClassUL*, except if indicating additional functionality by reducing the number of *FeatureSetDownlinkPerCC-Id* in the feature set. The order of the elements in this list is not relevant, i.e., the network may configure any of the carriers in accordance with any of the *FeatureSetUL-PerCC-Id* in this list. | | - |
| ***FeatureSetUL-PerCC-Id***  In MR-DC, indicates the index position of the *FeatureSetUL-PerCC-r15* in the *featureSetsUL-PerCC-r15* list. Value 0 corresponds to the first element in the list, value 1 corresponds to the second element in the list, and so on. Value 32 is not used. | | - |
| ***fembmsMixedCell***  Indicates whether the UE in RRC\_CONNECTED supports MBMS reception with 15 kHz subcarrier spacings via MBSFN from FeMBMS/Unicast mixed cells on a frequency indicated in an *MBMSInterestIndication* message. | |  |
| ***fembmsDedicatedCell***  Indicates whether the UE in RRC\_CONNECTED supports MBMS reception with 15 kHz subcarrier spacings via MBSFN from MBMS-dedicated cells on a frequency indicated in an *MBMSInterestIndication* message. | |  |
| ***flexibleUM-AM-Combinations***  Indicates whether the UE supports any combination of RLC UM and RLC AM bearers as long as the total number of bearers is at most 8, regardless of what FGI20 indicates. | | - |
| ***flightPathPlan***  Indicates whether UE supports reporting of flight path plan information. | | - |
| ***fourLayerTM3-TM4***  Indicates whether the UE supports 4-layer spatial multiplexing for TM3 and TM4. | | - |
| ***fourLayerTM3-TM4 (in FeatureSetDL-PerCC)***  Indicates whether the UE supports 4-layer spatial multiplexing for TM3 and TM4 for MR-DC within the indicated feature set. If this field is absent, UE supports two layer MIMO for TM3/TM4. | | - |
| ***fourLayerTM3-TM4-perCC***  Indicates whether the UE supports 4-layer spatial multiplexing for TM3 and TM4 for the component carrier. | | - |
| ***frameStructureType-SPT***  This field indicates the supported FS-type(s) for short processing time. The UE capability is reported per band combination. The reported FS-type(s) apply to the reported *maxNumberCCs-SPT-r15* for the given band combination. | | - |
| ***freqBandPriorityAdjustment***  Indicates whether the UE supports the prioritization of frequency bands in *multiBandInfoList* over the band in *freqBandIndicator* as defined by *freqBandIndicatorPriority-r12*. | | - |
| ***freqBandRetrieval***  Indicates whether the UE supports reception of *requestedFrequencyBands.* | | - |
| ***gaplessMeas-FR2-maxCC***  Indicates whether the UE supports inter-RAT NR FR2 measurement without measurement gap as specified in clause 9.1.2 of TS 38.133 [84] while the number of configured serving cells is less than or equal to the indicated number. This field is applicable when only E-UTRA serving cells are configured. The UE reporting this field and supporting (NG)EN-DC shall not indicate support of *independentGapConfig* in *MeasAndMobParametersMRDC* (defined in TS 38.306 [87]). | | - |
| ***gNB-ID-Length-Reporting-NR-EN-DC***  Indicates whether the UE supports Inter-RAT gNB ID length reporting towards NR cell when it is configured with (NG)EN-DC. If the UE supports *reportCGI-NR-EN-DC-r15*, the UE shall support the *gNB-ID-Length-Reporting-NR-EN-DC-r17*. | | - |
| ***gNB-ID-Length-Reporting-NR-NoEN-DC***  Indicates whether the UE supports Inter-RAT gNB ID length reporting towards cell when it is not configured with (NG)EN-DC. If the UE supports *reportCGI-NR-NoEN-DC-r15*, the UE shall support *gNB-ID-Length-Reporting-NR-NoEN-DC-r17*. | | - |
| ***halfDuplex***  If *halfDuplex* is set to true, only half duplex operation is supported for the band, otherwise full duplex operation is supported. | | - |
| ***heightMeas***  Indicates whether UE supports the measurement events H1/H2. | | - |
| ***ho-EUTRA-5GC-FDD-TDD***  Indicates whether the UE supports handover between E-UTRA/5GC FDD and E-UTRA/5GC TDD. | | No |
| ***ho-InterfreqEUTRA-5GC***  Indicates whether the UE supports inter frequency handover within E-UTRA/5GC. | | Yes |
| ***hybridCSI***  Indicates whether the UE supports hybrid CSI transmission as described in TS 36.213 [23]. | | Yes |
| ***idleInactiveValidityAreaList***  Indicates whether the UE supports list of validity areas for measurements during RRC\_IDLE and RRC\_INACTIVE. | | No |
| ***immMeasBT***  Indicates whether the UE supports Bluetooth measurements in RRC connected mode. | | - |
| ***immMeasUnComBarPre***  Indicates whether the UE supports uncompensated barometric pressure measurements in RRC connected mode. | | - |
| ***immMeasWLAN***  Indicates whether the UE supports WLAN measurements in RRC connected mode. | | - |
| ***ims-VoiceOverMCG-BearerEUTRA-5GC***  Indicates whether the UE supports IMS voice over NR PDCP for MCG bearer for E-UTRA/5GC. | | No |
| ***ims-VoiceOverNR-FR1***  Indicates whether the UE supports IMS voice over NR FR1. | | No |
| ***ims-VoiceOverNR-FR2***  Indicates whether the UE supports IMS voice over NR FR2-1. | | No |
| ***ims-VoiceOverNR-FR2-2***  Indicates whether the UE supports IMS voice over NR FR2-2. | | - |
| ***ims-VoiceOverNR-PDCP-MCG-Bearer***  Indicates whether the UE supports IMS voice over NR PDCP with only MCG RLC bearer. | | Yes |
| ***ims-VoiceOverNR-PDCP-SCG-Bearer***  Indicates whether the UE supports IMS voice over NR PDCP with only SCG RLC bearer when configured with EN-DC. | | Yes |
| ***ims-VoNR-PDCP-SCG-NGENDC***  Indicates whether the UE supports IMS voice over NR PDCP with only SCG RLC bearer when configured with NGEN-DC. | | Yes |
| ***inactiveState***  Indicates whether the UE supports RRC\_INACTIVE. | | No |
| ***incMonEUTRA***  Indicates whether the UE supports increased number of E-UTRA carrier monitoring in RRC\_IDLE and RRC\_CONNECTED, as specified in TS 36.133 [16]. | | No |
| ***incMonUTRA***  Indicates whether the UE supports increased number of UTRA carrier monitoring in RRC\_IDLE and RRC\_CONNECTED, as specified in TS 36.133 [16]. | | No |
| ***inDeviceCoexInd***  Indicates whether the UE supports in-device coexistence indication as well as autonomous denial functionality. | | Yes |
| ***inDeviceCoexInd-ENDC***  Indicates whether the UE supports in-device coexistence indication for (NG)EN-DC operation. This field can be included only if *inDeviceCoexInd* is included. The UE supports *inDeviceCoexInd-ENDC* in the same duplexing modes as it supports *inDeviceCoexInd*. | | - |
| ***inDeviceCoexInd-HardwareSharingInd***  Indicates whether the UE supports indicating hardware sharing problems when sending the *InDeviceCoexIndication*, as well as omitting the TDM assistance information. A UE that supports hardware sharing indication shall also indicate support of LAA operation. | | - |
| ***inDeviceCoexInd-UL-CA***  Indicates whether the UE supports UL CA related in-device coexistence indication. This field can be included only if *inDeviceCoexInd* is included. The UE supports *inDeviceCoexInd-UL-CA* in the same duplexing modes as it supports *inDeviceCoexInd*. | | - |
| ***interBandTDD-CA-WithDifferentConfig***  Indicates whether the UE supports inter-band TDD carrier aggregation with different UL/DL configuration combinations. The first bit indicates UE supports the configuration combination of SCell DL subframes are a subset of PCell and PSCell by SIB1 configuration and the configuration combination of SCell DL subframes are a superset of PCell and PSCell by SIB1 configuration; the second bit indicates UE supports the configuration combination of SCell DL subframes are neither superset nor subset of PCell and PSCell by SIB1 configuration. This field is included only if UE supports inter-band TDD carrier aggregation. | | - |
| ***interBandPowerSharingAsyncDAPS***  Indicates whether the UE supports power sharing for asynchronous inter-band DAPS handovers. | | - |
| ***interBandPowerSharingSyncDAPS***  Indicates whether the UE supports power sharing for synchronous inter-band DAPS handovers. | | - |
| ***interferenceMeasRestriction***  Indicates whether the UE supports interference measurement restriction. | | Yes |
| ***interFreqAsyncDAPS***  Indicates whether the UE supports asynchronous DAPS handover in source PCell and inter-frequency target PCell. | | - |
| ***interFreqBandList***  One entry corresponding to each supported E‑UTRA band listed in the same order as in *supportedBandListEUTRA*. | | - |
| ***interFreqDAPS***  Indicates whether the UE supports DAPS handover in source PCell and inter-frequency target PCell, i.e. support of simultaneous DL reception of PDCCH and PDSCH from source and target cell. For a BC, the capability applies to every carrier pair for source and target. A UE indicating this capability shall also support synchronous DAPS handover, and single UL transmission for inter-frequency DAPS handover. | | - |
| ***interFreqMultiUL-TransmissionDAPS***  Indicates that the UE supports simultaneous UL transmission in source PCell and inter-frequency target PCell. | | - |
| ***interFreqNeedForGaps***  Indicates need for measurement gaps when operating on the E‑UTRA band given by the entry in *bandListEUTRA* or on the E-UTRA band combination given by the entry in *bandCombinationListEUTRA* and measuring on the E‑UTRA band given by the entry in *interFreqBandList*. | | - |
| ***interFreqProximityIndication***  Indicates whether the UE supports proximity indication for inter-frequency E-UTRAN CSG member cells*.* | | - |
| ***interFreqRSTD-Measurement***  Indicates whether the UE supports inter-frequency RSTD measurements for OTDOA positioning, as specified in TS 36.355 [54]. | | Yes |
| ***interFreqSI-AcquisitionForHO***  Indicates whether the UE supports, upon configuration of si-RequestForHO by the network, acquisition and reporting of relevant information using autonomous gaps by reading the SI from a neighbouring inter-frequency cell. | | Yes |
| ***interRAT-BandList***  One entry corresponding to each supported band of another RAT listed in the same order as in the *interRAT-Parameters*. The NR bands reported in *SupportedBandListNR* are excluded from this list. | | - |
| ***interRAT-BandListNR-EN-DC***  One entry corresponding to each supported NR band listed in the same order as in the *supportedBandListEN-DC-r15*. If both *interRAT-BandListNR-EN-DC* and *interRAT-BandListNR-SA* are included, the UE shall set the same *interRAT-NeedForGapsNR* value and same *interRAT-NeedForInterruptionNR* value (if any) for the same NR band. | | - |
| ***interRAT-BandListNR-SA***  One entry corresponding to each supported NR band listed in the same order as in the *supportedBandListNR-SA*. If both *interRAT-BandListNR-EN-DC* and *interRAT-BandListNR-SA* are included, the UE shall set the same *interRAT-NeedForGapsNR* value and same *interRAT-NeedForInterruptionNR* value (if any) for the same NR band. | | - |
| ***interRAT-enhancementNR***  Indicates whether the UE supports enhanced inter-RAT NR measurement requirements to support high speed up to 500 km/h as specified in TS 36.133 [16], when EN-DC is not configured and when EN-DC is configured. | | - |
| ***interRAT-NeedForGaps***  Indicates need for DL measurement gaps when operating on the E‑UTRA band given by the entry in *bandListEUTRA or on the E-UTRA band combination given by the entry in bandCombinationListEUTRA* and measuring on the inter-RAT band given by the entry in the *interRAT-BandList*. | | - |
| ***interRAT-NeedForGapsNR***  Indicates need for measurement gaps when operating on the E‑UTRA band given by the entry in *supportedBandListEUTRA or on the E-UTRA band combination given by the entry in supportedBandCombination-r10 or supportedBandCombinationAdd-r11* or *supportedBandCombinationReduced-r13* and measuring on the NR band given by the entry in the *InterRAT-BandListNR*. | | - |
| ***interRAT-NeedForInterruptionNR***  Indicates need for interruption when operating on the E‑UTRA band given by the entry in *supportedBandListEUTRA* or on the E-UTRA band combination given by the entry in *supportedBandCombination-r10* or *supportedBandCombinationAdd-r11* or *supportedBandCombinationReduced-r13* and measuring without measurement gaps on the NR band given by the entry in the *InterRAT-BandListNR*. | | - |
| ***interRAT-ParametersWLAN***  Indicates whether the UE supports WLAN measurements configured by *MeasObjectWLAN* with corresponding quantity and report configuration in the supported WLAN bands. | | - |
| ***interRAT-PS-HO-ToGERAN***  Indicates whether the UE supports inter-RAT PS handover to GERAN or not. | | Yes |
| ***intraBandContiguousCC-InfoList***  Indicates, per serving carrier of which the corresponding bandwidth class includes multiple serving carriers (i.e. bandwidth class B, C, D and so on), the maximum number of supported layers for spatial multiplexing in DL and the maximum number of CSI processes supported. The number of entries is equal to the number of component carriers in the corresponding bandwidth class. The UE shall support the setting indicated in each entry of the list regardless of the order of entries in the list.The UE shall include the field only if it supports 4-layer spatial multiplexing in transmission mode3/4 for a subset of component carriers in the corresponding bandwidth class, or if the maximum number of supported layers for at least one component carrier is higher than *supportedMIMO-CapabilityDL-r10* in the corresponding bandwidth class, or if the number of CSI processes for at least one component carrier is higher than *supportedCSI-Proc-r11* in the corresponding band.  This field may also be included for bandwidth class A but in such a case without including any sub-fields in *IntraBandContiguousCC-Info-r12* (see NOTE 6). | | - |
| ***intraFreqA3-CE-ModeA***  Indicates whether the UE when operating in CE Mode A supports *eventA3* for intra-frequency neighbouring cells. | | - |
| ***intraFreqA3-CE-ModeB***  Indicates whether the UE when operating in CE Mode B supports *eventA3* for intra-frequency neighbouring cells. | | - |
| ***intraFreq-CE-NeedForGaps***  Indicates need for measurement gaps when operating in CE on the E‑UTRA band given by the entry in *supportedBandListEUTRA.* | |  |
| ***intraFreqAsyncDAPS***  Indicates whether the UE supports asynchronous DAPS handover in source PCell and intra-frequency target PCell. | | - |
| ***intraFreqDAPS***  Indicates whether UE supports DAPS handover in source PCell and intra-frequency target PCell, i.e. support of simultaneous DL reception of PDCCH and PDSCH from source and target cell. A UE indicating this capability shall also support synchronous DAPS handover, and single UL transmission for intra-frequency DAPS handover. | | - |
| ***intraFreqHO-CE-ModeA***  Indicates whether the UE when operating in CE Mode A supports intra-frequency handover. | | - |
| ***intraFreqHO-CE-ModeB***  Indicates whether the UE when operating in CE Mode B supports intra-frequency handover. | | - |
| ***intraFreqProximityIndication***  Indicates whether the UE supports proximity indication for intra-frequency E-UTRAN CSG member cells. | | - |
| ***intraFreqSI-AcquisitionForHO***  Indicates whether the UE supports, upon configuration of si-RequestForHO by the network, acquisition and reporting of relevant information using autonomous gaps by reading the SI from a neighbouring intra-frequency cell. | | Yes |
| ***intraFreqTwoTAGs-DAPS***  Indicates whether the UE supports different timing advance groups in source PCell and intra-frequency target PCell. It is mandatory for *intraFreqDAPS* capable UE. | | - |
| ***jointEHC-ROHC-Config***  Indicates whether the UE supports simultaneous configuration of EHC and ROHC protocols for the same DRB. | | No |
| ***k-Max (in MIMO-CA-ParametersPerBoBCPerTM)***  If signalled, the field indicates for a particular transmission mode the maximum number of NZP CSI RS resource configurations supported within a CSI process applicable for the concerned band combination. | | No |
| ***k-Max (in MIMO-UE-ParametersPerTM)***  Indicates for a particular transmission mode the maximum number of NZP CSI RS resource configurations supported within a CSI process applicable for band combinations for which the concerned capabilities are not signalled. | | Yes |
| ***laa-PUSCH-Mode1***  Indicates whether the UE supports LAA PUSCH mode 1as defined in TS 36.213 [23]. | | - |
| ***laa-PUSCH-Mode2***  Indicates whether the UE supports LAA PUSCH mode 2as defined in TS 36.213 [23]*.* | | - |
| ***laa-PUSCH-Mode3***  Indicates whether the UE supports LAA PUSCH mode 3as defined in TS 36.213 [23]*.* | | - |
| ***locationReport***  Indicates whether the UE supports reporting of its geographical location information to eNB. | | - |
| ***loggedMBSFNMeasurements***  Indicates whether the UE supports logged measurements for MBSFN. A UE indicating support for logged measurements for MBSFN shall also indicate support for logged measurements in Idle mode. | | - |
| ***loggedMeasBT***  Indicates whether the UE supports Bluetooth measurements in RRC idle mode. | | - |
| ***loggedMeasIdleEventL1***  Indicates whether the UE supports event triggered logged measurements for *eventL1* in *camped normally* state. | | - |
| ***loggedMeasIdleEventOutOfCoverage***  Indicates whether the UE supports event triggered logged measurements for *outOfCoverage* in *any cell selection* state. | | - |
| ***loggedMeasUnComBarPre***  Indicates whether the UE supports uncompensated barometric pressure measurements in RRC\_IDLE mode. | | - |
| ***loggedMeasurementsIdle***  Indicates whether the UE supports logged measurements in Idle mode. | | - |
| ***loggedMeasWLAN***  Indicates whether the UE supports WLAN measurements in RRC idle mode. | | - |
| ***logicalChannelSR-ProhibitTimer***  Indicates whether the UE supports the *logicalChannelSR-ProhibitTimer* as defined in TS 36.321 [6]. | | - |
| ***longDRX-Command***  Indicates whether the UE supports Long DRX Command MAC Control Element. | | - |
| ***lowerMSD-MRDC***  Indicates whether the UE supports lower maximum sensitivity degradation when the band is the victim band with sensitivity degradation as specified in TS 38.101-3 [101]. | | - |
| ***lwa***  Indicates whether the UE supports LTE-WLAN Aggregation (LWA). The UE which supports LWA shall also indicate support of *interRAT-ParametersWLAN-r13*. | | - |
| ***lwa-BufferSize***  Indicates whether the UE supports the layer 2 buffer sizes for "with support for split bearers" as defined in Table 4.1-3 and 4.1A-3 of TS 36.306 [5] for LWA. | | - |
| ***lwa-HO-WithoutWT-Change***  Indicates whether the UE supports handover where LWA configuration is retained without WT change and using LWA end-marker for PDCP key change indication for LWA operation. | | - |
| ***lwa-RLC-UM***  Indicates whether the UE supports RLC UM for LWA bearer. | | - |
| ***lwa-SplitBearer***  Indicates whether the UE supports the split LWA bearer (as defined in TS 36.300 [9]). | | - |
| ***lwa-UL***  Indicates whether the UE supports UL transmission over WLAN for LWA bearer. | | - |
| ***lwip***  Indicates whether the UE supports LTE/WLAN Radio Level Integration with IPsec Tunnel (LWIP). The UE which supports LWIP shall also indicate support of *interRAT-ParametersWLAN-r13*. | | - |
| ***lwip-Aggregation-DL, lwip-Aggregation-UL***  Indicates whether the UE supports aggregation of LTE and WLAN over DL/UL LWIP. The UE that indicates support of LWIP aggregation over DL or UL shall also indicate support of *lwip*. | | - |
| ***makeBeforeBreak***  Indicates whether the UE supports intra-frequency Make-Before-Break handover, and whether the UE which indicates *dc-Parameters* supports intra-frequency Make-Before-Break SeNB change, as defined in TS 36.300 [9]. | | - |
| ***measGapPatterns-NRonly***  Indicates whether the UE supports gap patterns 2, 3 and 11 in LTE standalone when the frequencies to be measured within this measurement gap are all NR frequencies. | | No |
| ***measGapPatterns-NRonly-ENDC***  Indicates whether the UE supports gap patterns 2, 3 and 11 in (NG)EN-DC when the frequencies to be measured within this measurement gap are all NR frequencies. | | No |
| ***maximumCCsRetrieval***  Indicates whether UE supports reception of *requestedMaxCCsDL* and *requestedMaxCCsUL*. | | - |
| ***maxLayersMIMO-Indication***  Indicates whether the UE supports the network configuration of *maxLayersMIMO*. If the UE supports *fourLayerTM3-TM4* or *intraBandContiguousCC-InfoList* or *FeatureSetDL-PerCC* for MR-DC, UE supports the configuration of *maxLayersMIMO* for these cases regardless of indicating *maxLayersMIMO-Indication*. | | - |
| ***maxLayersSlotOrSubslotPUSCH***  Indicates the maxiumum number of layers for slot-PUSCH or subslot-PUSCH transmission. | | Yes |
| ***maxNumberCCs-SPT***  Indicates the maximum number of supported CCs for short processing time. The UE capability is reported per band combination. The reported number of carriers applies to all the FS-type(s) *frameStructureType-SPT-r15* supported in a given band combination. Absence of the field indicates that 0 number of CCs are supported for short processing time. | | - |
| ***maxNumberDL-CCs, maxNumberUL-CCs***  Indicates for each TTI combination "sTTI-SupportedCombinations", the maximum number of supported DL CCs/UL CCs for short TTI. Absence of the field indicates that 0 number of CCs are supported for short TTI. | | - |
| ***maxNumberDecoding***  Indicates the maximum number of blind decodes in UE-specific search space per UE in one subframe for CA with more than 5 CCs as defined in TS 36.213 [23] which is supported by the UE. The number of blind decodes supported by the UE is the field value \* 32. Only values 5 to 32 can be used in this version of the specification. | | No |
| ***maxNumberEHC-Contexts***  Defines the maximum number of Ethernet header compression contexts supported by the UE across all DRBs and across UE's EHC compressor and EHC decompressor. The indicated number defines the number of contexts in addition to CID = "all zeros" as specified in Annex A of TS 38.323 [83]. | | No |
| ***maxNumberROHC-ContextSessions***  Set to the maximum number of concurrently active ROHC contexts supported by the UE, excluding context sessions that leave all headers uncompressed. cs2 corresponds with 2 (context sessions), cs4 corresponds with 4 and so on. The network ignores this field if the UE supports none of the ROHC profiles in *supportedROHC-Profiles*. If the UE indicates both *maxNumberROHC-ContextSessions* and *maxNumberROHC-ContextSessions-r14*, same value shall be indicated. | | - |
| ***maxNumberUpdatedCSI-Proc, maxNumberUpdatedCSI-Proc-SPT***  Indicates the maximum number of CSI processes to be updated across CCs. | | No |
| ***maxNumberUpdatedCSI-Proc-STTI-Comb77, maxNumberUpdatedCSI-Proc-STTI-Comb27, maxNumberUpdatedCSI-Proc-STTI-Comb22-Set1, maxNumberUpdatedCSI-Proc-STTI-Comb22-Set2***  Indicates the maximum number of CSI processes to be updated across CCs. Comb77 is applicable for {slot, slot}, Comb27 for {subslot, slot}, Comb22-Set1 for  {subslot, subslot} processing timeline set 1 and the Comb22-Set2 for {subslot, subslot} processing timeline set 2. | |  |
| ***mbms-AsyncDC***  Indicates whether the UE in RRC\_CONNECTED supports MBMS reception via MRB on a frequency indicated in an *MBMSInterestIndication* message, where (according to *supportedBandCombination*) the carriers that are or can be configured as serving cells in the MCG and the SCG are not synchronized. If this field is included, the UE shall also include *mbms-SCell* and *mbms-NonServingCell*. The field indicates that the UE supports the feature for xDD if *mbms-SCell* and *mbms-NonServingCell* are supported for xDD. | | - |
| ***mbms-MaxBW***  Indicates maximum supported bandwidth (T) for MBMS reception, see TS 36.213 [23]. clause 11.1. If the value is set to *implicitValue*, the corresponding value of T is calculated as specified in TS 36.213 [23], clause 11.1. If the value is set to *explicitValue*, the actual value of T = *explicitValue* \* 40 MHz. | | - |
| ***mbms-NonServingCell***  Indicates whether the UE in RRC\_CONNECTED supports MBMS reception via MRB on a frequency indicated in an *MBMSInterestIndication* message, where (according to *supportedBandCombination* and to network synchronization properties) a serving cell may be additionally configured. If this field is included, the UE shall also include the *mbms-SCell* field. | | Yes |
| ***mbms-ScalingFactor1dot25, mbms-ScalingFactor7dot5***  Indicates parameter A(1.25 / A(7.5, i.e., scaling factor for processing one unit of bandwidth corresponding to subcarrier spacing of 1.25 kHz / 7.5 kHz, with respect to one unit of bandwidth corresponding to subcarrier spacing of 15 kHz. See TS 36.213 [23], clause 11.1. This field is included only if *subcarrierSpacingMBMS-khz1dot25 / subcarrierSpacingMBMS-khz7dot5* is included. This field shall be included if *mbms-MaxBW* and *subcarrierSpacingMBMS-khz1dot25 / subcarrierSpacingMBMS-khz7dot5* are included. | | - |
| ***mbms-ScalingFactor0dot37, mbms-ScalingFactor2dot5***  Indicates parameter A(0.37 / A(2..5, i.e., scaling factor for processing one unit of bandwidth corresponding to subcarrier spacing of 0.37 kHz / 2.5 kHz, with respect to one unit of bandwidth corresponding to subcarrier spacing of 15 kHz. See TS 36.213 [23], clause 11.1. This field is included only if *fembmsMixedCell* or *fembmsDedicatedCell* is included. This field shall be included if *subcarrierSpacingMBMS-khz0dot37 / subcarrierSpacingMBMS-khz2dot5* is included for at least one E-UTRA band in *mbms-SupportedBandInfoList*. | | - |
| ***mbms-SCell***  Indicates whether the UE in RRC\_CONNECTED supports MBMS reception via MRB on a frequency indicated in an *MBMSInterestIndication* message, when an SCell is configured on that frequency (regardless of whether the SCell is activated or deactivated). | | Yes |
| ***mbms-SupportedBandInfoList***  One entry corresponding to each supported E-UTRA band listed in the same order as in *supportedBandListEUTRA*. This list is included only if *fembmsMixedCell* or *fembmsDedicatedCell* is included. If *mbms-SupportedBandInfoList-v1700* is included, the UE shall include the same number of entries, and listed in the same order, as in *mbms-SupportedBandInfoList-r16*. | | - |
| ***mcgRLF-RecoveryViaSCG***  Indicates whether the UE supports recovery from MCG RLF via split SRB1 (if supported) and via SRB3 (if supported). | | - |
| ***measGapPatterns-NRonly***  Indicates whether the UE supports gap patterns 2, 3 and 11 in LTE standalone when the frequencies to be measured within this measurement gap are all NR frequencies. | | No |
| ***measGapPatterns-NRonly-ENDC***  Indicates whether the UE supports gap patterns 2, 3 and 11 in (NG)EN-DC when the frequencies to be measured within this measurement gap are all NR frequencies. | | No |
| ***measurementEnhancements***  This field defines whether UE supports measurement enhancements in high speed scenario (350 km/h) as specified in TS 36.133 [16]. | | - |
| ***measurementEnhancements2***  This field defines whether UE supports measurement enhancements in high speed scenario (up to 500 km/h velocity) as specified in TS 36.133 [16]. | | - |
| ***measurementEnhancementsSCell***  This field defines whether UE supports SCell measurement enhancements in high speed scenario (350 km/h) as specified in TS 36.133 [16]. | | - |
| ***measGapPatterns***  Indicates whether the UE that supports NR supports gap patterns 4 to 11 in LTE standalone as specified in TS 36.133 [16], and for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC as specified in TS 38.133 [84]. The first/ leftmost bit covers pattern 4, and so on. Value 1 indicates that the UE supports the concerned gap pattern. | | - |
| ***mfbi-UTRA***  It indicates if the UE supports the signalling requirements of multiple radio frequency bands in a UTRA FDD cell, as defined in TS 25.307 [65]. | | - |
| ***MIMO-BeamformedCapabilityList***  A list of pairs of {k-Max, n-MaxList} values with the nth entry indicating the values that the UE supports for each CSI process in case n CSI processes would be configured. | | No |
| ***MIMO-CapabilityDL***  The number of supported layers for spatial multiplexing in DL. The field may be absent for category 0 and category 1 UE in which case the number of supported layers is 1. | | - |
| ***MIMO-CapabilityUL***  The number of supported layers for spatial multiplexing in UL. Absence of the field means that the number of supported layers is 1. | | - |
| ***MIMO-CA-ParametersPerBoBC***  A set of MIMO parameters provided per band of a band combination. In case a subfield is absent, the concerned capabilities are the same as indicated at the per UE level (i.e. by MIMO-UE-ParametersPerTM). | | - |
| ***mimo-CBSR-AdvancedCSI***  Indicates whether UE supports CBSR for advanced CSI reporting with and without amplitude restriction as defined in TS 36.213 [23], clause 7.2. | | Yes |
| ***min-Proc-TimelineSubslot***  Minimum processing timeline for subslot operation. The minimum processing timeline can belong to one of two sets of associated processing and maximum TA operation. The sets supported can be different for 1os CRS-based SPDCCH, 2os CRS-based SPDCCH and DMRS-based SPDCCH. The sequence applies to:  1. 1os CRS based SPDCCH  2. 2os CRS based SPDCCH  3. DMRS based SPDCCH | | - |
| ***modifiedMPR-Behavior***  Field encoded as a bit map, where at least one bit N is set to "1" if UE supports modified MPR/A-MPR behaviour N, see TS 36.101 [42]. All remaining bits of the field are set to "0". The leading / leftmost bit (bit 0) corresponds to modified MPR/A-MPR behaviour 0, the next bit corresponds to modified MPR/A-MPR behaviour 1 and so on.  Absence of this field means that UE does not support any modified MPR/A-MPR behaviour. | | - |
| ***mpdcch-InLteControlRegionCE-ModeA,*** ***mpdcch-InLteControlRegionCE-ModeB***  Indicates whether UE operating in CE mode A/B supports MPDCCH reception in LTE control channel region as specified in TS 36.211 [21]. | | Yes |
| ***mpsPriorityIndication***  Indicates whether the UE supports *mpsPriorityIndication* on release with redirect. | | - |
| ***multiACK-CSI-reporting***  Indicates whether the UE supports multi-cell HARQ ACK and periodic CSI reporting and SR on PUCCH format 3. | | Yes |
| ***multiBandInfoReport***  Indicates whether the UE supports the acquisition and reporting of multi band information for *reportCGI*. | | - |
| ***multiClusterPUSCH-WithinCC*** | | Yes |
| ***multiNS-Pmax***  Indicates whether the UE supports the mechanisms defined for cells broadcasting *NS-PmaxList*. | | - |
| ***multiNS-PmaxAerial***  Indicates whether the UE supports the mechanisms defined for cells broadcasting *NS-PmaxListAerial* and *freqBandInfoAerial*. | | - |
| ***multipleCellsMeasExtension***  Indicates whether the UE supports *numberOfTriggeringCells* in the report configuration. | | - |
| ***multipleTimingAdvance***  Indicates whether the UE supports multiple timing advances for each band combination listed in *supportedBandCombination*. If the band combination comprised of more than one band entry (i.e., inter-band or intra-band non-contiguous band combination), the field indicates that the same or different timing advances on different band entries are supported. If the band combination comprised of one band entry (i.e., intra-band contiguous band combination), the field indicates that the same or different timing advances across component carriers of the band entry are supported. It is mandatory for UEs to support 2 TAGs for inter frequency DAPS handover. | | - |
| ***multipleUplinkSPS***  Indicates whether the UE supports multiple uplink SPS and reporting SPS assistance information. A UE indicating *multipleUplinkSPS* shall also support V2X communication via Uu, as defined in TS 36.300 [9]. | | - |
| ***must-CapabilityPerBand***  Indicates that UE supports MUST, as specified in 36.212 [22], clause 5.3.3.1, on the band in the band combination. | | - |
| ***must-TM234-UpTo2Tx-r14***  Indicates that the UE supports MUST operation for TM2/3/4 using up to 2Tx. | | - |
| ***must-TM89-UpToOneInterferingLayer-r14***  Indicates that the UE supports MUST operation for TM8/9 with assistance information for up to 1 interfering layer. | | - |
| ***must-TM89-UpToThreeInterferingLayers-r14***  Indicates that the UE supports MUST operation for TM8/9 with assistance information for up to 3 interfering layers. | | - |
| ***must-TM10-UpToOneInterferingLayer-r14***  Indicates that the UE supports MUST operation for TM10 with assistance information for up to 1 interfering layer. | | - |
| ***must-TM10-UpToThreeInterferingLayers-r14***  Indicates that the UE supports MUST operation for TM10 with assistance information for up to 3 interfering layers. | | - |
| ***naics-Capability-List***  Indicates that UE supports NAICS, i.e. receiving assistance information from serving cell and using it to cancel or suppress interference of neighbouring cell(s) for at least one band combination. If not present, UE does not support NAICS for any band combination. The field *numberOfNAICS-CapableCC* indicates the number of component carriers where the NAICS processing is supported and the field *numberOfAggregatedPRB* indicates the maximum aggregated bandwidth across these of component carriers (expressed as a number of PRBs) with the restriction that NAICS is only supported over the full carrier bandwidth. The UE shall indicate the combination of {*numberOfNAICS-CapableCC, numberOfNAICS-CapableCC*} for every supported *numberOfNAICS-CapableCC*, e.g. if a UE supports {x CC, y PRBs} and {x-n CC, y-m PRBs} where n>=1 and m>=0, the UE shall indicate both.  - For *numberOfNAICS-CapableCC* = 1, UE signals one value for *numberOfAggregatedPRB* from the range {50, 75, 100};  - For *numberOfNAICS-CapableCC* = 2, UE signals one value for *numberOfAggregatedPRB* from the range {50, 75, 100, 125, 150, 175, 200};  - For *numberOfNAICS-CapableCC* = 3, UE signals one value for *numberOfAggregatedPRB* from the range {50, 75, 100, 125, 150, 175, 200, 225, 250, 275, 300};  - For *numberOfNAICS-CapableCC* = 4, UE signals one value for *numberOfAggregatedPRB* from the range {50, 100, 150, 200, 250, 300, 350, 400};  - For *numberOfNAICS-CapableCC* = 5, UE signals one value for *numberOfAggregatedPRB* from the range {50, 100, 150, 200, 250, 300, 350, 400, 450, 500}. | | No |
| ***ncsg***  Indicates whether the UE supports measurement NCSG Pattern Id 0, 1, 2 and 3, as specified in TS 36.133 [16]. If this field is included and the UE supports asynchronous DC, the UE shall support NCSG Pattern Id 0, 1, 2 and 3. If this field is included but the UE does not support asynchronous DC, only NCSG Pattern Id 0 and 1 shall be supported | | No |
| ***ng-EN-DC***  Indicates whether the UE supports NGEN-DC. | | - |
| ***n-MaxList (in MIMO-UE-ParametersPerTM)***  Indicates for a particular transmission mode the maximum number of NZP CSI RS ports supported within a CSI process applicable for band combinations for which the concerned capabilities are not signalled. For *k-Max* values exceeding 1, the UE shall include the field and signal *k-Max* minus 1 bits. The first bit indicates *n-Max2*, with value 0 indicating 8 and value 1 indicating 16. The second bit indicates *n-Max3*, with value 0 indicating 8 and value 1 indicating 16. The third bit indicates *n-Max4*, with value 0 indicating 8 and value 1 indicating 32. The fourth bit indicates *n-Max5*, with value 0 indicating 16 and value 1 indicating 32. The fifth bit indicates *n-Max6*, with value 0 indicating 16 and value 1 indicating 32. The sixt bit indicates *n-Max7*, with value 0 indicating 16 and value 1 indicating 32. The seventh bit indicates *n-Max8*, with value 0 indicating 16 and value 1 indicating 64. | | Yes |
| ***n-MaxList (in MIMO-CA-ParametersPerBoBCPerTM)***  If signalled, the field indicates for a particular transmission mode the maximum number of NZP CSI RS ports supported within a CSI process applicable for band the concerned combination. Further details are as indicated for *n-MaxList* in *MIMO-UE-ParametersPerTM*. | | No |
| ***NonContiguousUL-RA-WithinCC-List***  One entry corresponding to each supported E-UTRA band listed in the same order as in *supportedBandListEUTRA*. | | No |
| ***nonPrecoded (in MIMO-UE-ParametersPerTM)***  Indicates for a particular transmission mode the UE capabilities concerning non-precoded EBF/ FD-MIMO operation (class A) for band combinations for which the concerned capabilities are not signalled in *MIMO-CA-ParametersPerBoBCPerTM*, and the FD-MIMO processing capability condition as described in NOTE 8 is satisfied. | | Yes |
| ***nonPrecoded (in MIMO-CA-ParametersPerBoBCPerTM)***  If signalled, the field indicates for a particular transmission mode, the UE capabilities concerning non-precoded EBF/ FD-MIMO operation (class A) applicable for the concerned band combination. | | - |
| ***nonUniformGap***  Indicates whether the UE supports measurement non uniform Pattern Id 1, 2, 3 and 4 in LTE standalone as specified in TS 36.133 [16]. | | No |
| ***noResourceRestrictionForTTIBundling***  Indicate whether the UE supports TTI bundling operation without resource allocation restriction. | | No |
| ***nonCSG-SI-Reporting***  Indicates whether UE will report PLMN list from non-CSG cells. | | - |
| ***nr-AutonomousGaps-ENDC-FR1***  Indicates whether the UE supports, upon configuration of *useAutonomousGapsNR* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell on FR1 using autonomous gaps and reporting the acquired information to the network when it is configured with (NG)EN-DC. | | Yes |
| ***nr-AutonomousGaps-ENDC-FR2***  Indicates whether the UE supports, upon configuration of *useAutonomousGapsNR* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell on FR2 using autonomous gaps and reporting the acquired information to the network when it is configured with (NG)EN-DC. | | Yes |
| ***nr-AutonomousGaps-FR1***  Indicates whether the UE supports, upon configuration of *useAutonomousGapsNR* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell on FR1 using autonomous gaps and reporting the acquired information to the network when it is not configured with (NG)EN-DC. | | Yes |
| ***nr-AutonomousGaps-FR2***  Indicates whether the UE supports, upon configuration of *useAutonomousGapsNR* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell on FR2 using autonomous gaps and reporting the acquired information to the network when it is not configured with (NG)EN-DC. | | Yes |
| ***nr-CellIndividualOffset***  Indicates whether the UE supports use of cell specific offset for NR inter-RAT measurements. | | No |
| ***nr-HO-ToEN-DC***  Indicates whether the UE supports inter-RAT handover from NR to EN-DC while NR-DC or NE-DC is not configured. This field is mandatory present if EN-DC is supported. | | - |
| ***nr-IdleInactiveBeamMeasFR1***  Indicates whether the UE supports performing eNB-configured SSB-based beam level RRM measurements for configured NR FR1 carrier(s) in RRC\_IDLE and in RRC\_INACTIVE as specified in TS 36.306 [5], clause 4.3.6.46. | | No |
| ***nr-IdleInactiveBeamMeasFR2***  Indicates whether the UE supports performing eNB-configured SSB-based beam level RRM measurements for configured NR FR2 carrier(s) in RRC\_IDLE and in RRC\_INACTIVE as specified in TS 36.306 [5], clause 4.3.6.47. | | No |
| ***nr-IdleInactiveMeasFR1***  Indicates whether UE supports reporting measurements performed on NR FR1 carrier(s) during RRC\_IDLE and RRC\_INACTIVE. | | No |
| ***nr-IdleInactiveMeasFR2***  Indicates whether UE supports reporting measurements performed on NR FR2 carrier(s) during RRC\_IDLE and RRC\_INACTIVE. | | No |
| ***nr-RSSI-ChannelOccupancyReporting***  Indicates whether the UE supports performing measurements and reporting of RSSI and channel occupancy on the corresponding NR band. | | - |
| ***ntn-Autonomous-GNSS-Fix***  This field indicates whether the UE supports autonomous GNSS position fix in RRC\_CONNECTED. | | - |
| ***ntn-Connectivity-EPC***  Indicates whether the UE supports NTN access when connected to EPC. If the UE indicates this capability, the UE shall support all NTN essential features as specified in TS 36.306 [5]. | | - |
| ***ntn-DCI-HarqDisableMultiTB-CE-ModeB***  This field indicates whether the UE supports DCI-based HARQ feedback disabling for downlink transmission when HARQ feedback disabling per HARQ process for downlink transmission is not configured by RRC and the UE is operating in CE mode B and when configured with *ce-PDSCH-MultiTB-Config*. | | - |
| ***ntn-DCI-HarqDisableSingleTB-CE-ModeB***  This field indicates whether the UE supports DCI-based HARQ feedback disabling for downlink transmission when HARQ feedback disabling per HARQ process for downlink transmission is not configured by RRC and when the UE is operating in CE mode B. | | - |
| ***ntn-EventA4BasedCHO***  This field indicates whether the UE supports Event A4-based conditional handover, i.e., *CondEvent A4*. | | - |
| ***ntn-GNSS-EnhScenarioSupport***  This field indicates whether the UE supports GNSS measurement enhancements in RRC\_CONNECTED for only GSO or NGSO scenario. If this field is not included, the GNSS measurement enhancements in RRC\_CONNECTED that are indicated as supported are applicable for both GSO and NGSO scenario. | | - |
| ***ntn-HarqEnhScenarioSupport***  This field indicates whether the UE supports UL and DL HARQ process enhancements for only GSO or NGSO scenario. If this field is not included, the UL and DL HARQ process enhancements that are indicated as supported are applicable for both GSO and NGSO scenario. | | - |
| ***ntn-LocationBasedCHO-EFC***  This field indicates whether the UE supports location-based conditional handover for earth fixed cell, i.e., *CondEvent D1*. | | - |
| ***ntn-LocationBasedCHO-EMC***  This field indicates whether the UE supports location-based conditional handover for earth moving cell, i.e., *CondEvent D2*. | | - |
| ***ntn-LocationBasedMeasTrigger-EFC***  This field indicates whether the UE supports location-based measurement trigger in RRC\_CONNECTED in earth fixed cell. | | - |
| ***ntn-LocationBasedMeasTrigger-EMC***  This field indicates whether the UE supports location-based measurement trigger in RRC\_CONNECTED in earth moving cell. | | - |
| ***ntn-OffsetTimingEnh***  Indicates whether the UE supports timing relationship enhancement using *Differential Koffset* as specified in TS 36.321 [6] and TS 36.213 [23]. | | - |
| ***ntn-OverriddenHarqDisableMultiTB-CE-ModeB***  This field indicates whether the UE supports DCI-based HARQ feedback disabling for downlink transmission by overriding the RRC configuration when the UE is operating in CE mode B and when configured with *ce-PDSCH-MultiTB-Config*. | | - |
| ***ntn-OverriddenHarqDisableSingleTB-CE-ModeB***  This field indicates whether the UE supports DCI-based HARQ feedback disabling for downlink transmission by overriding the RRC configuration when the UE is operating in CE mode B. | | - |
| ***ntn-PUR-TimerDelay***  Indicates whether the UE supports delaying the start of the *pur-ResponseWindowTimer* for NTN, see TS 36.321 [6]. | | - |
| ***ntn-RRC-HarqDisableMultiTB-CE-ModeA***  This field indicates whether the UE supports HARQ feedback disabling per HARQ process for downlink transmission by RRC configuration when the UE is operating in CE mode A and when configured with *ce-PDSCH-MultiTB-Config*. | | - |
| ***ntn-RRC-HarqDisableMultiTB-CE-ModeB***  This field indicates whether the UE supports HARQ feedback disabling per HARQ process for downlink transmission by RRC configuration when the UE is operating in CE mode B and when configured with *ce-PDSCH-MultiTB-Config*. | | - |
| ***ntn-RRC-HarqDisableSingleTB-CE-ModeA***  This field indicates whether the UE supports HARQ feedback disabling per HARQ process for downlink transmission by RRC configuration when the UE is operating in CE mode A. | | - |
| ***ntn-RRC-HarqDisableSingleTB-CE-ModeB***  This field indicates whether the UE supports HARQ feedback disabling per HARQ process for downlink transmission by RRC configuration when the UE is operating in CE mode B. | | - |
| ***ntn-SegmentedPrecompensationGaps***  Indicates the minumum supported gap length between segments for segmented uplink transmission. Value *sym1* corresponds to 1 symbol, value *sl1* corresponds to 1 slot, value *sf1* corresponds to 1 subframe. | | - |
| ***ntn-ScenarioSupport***  Indicates whether the UE supports NTN features only for GSO or NGSO scenario. If a UE does not include this field but includes *ntn-Connectivity-EPC-r17*, the UE supports the NTN features for both GSO and NGSO scenarios. | | - |
| ***ntn-SemiStaticHarqDisableSPS***  This field indicates whether the UE supports HARQ feedback transmission for the first SPS PDSCH transmission after activation when the UE is operating in CE mode A. | | - |
| ***ntn-TA-report***  Indicates whether the UE supports timing advance reporting in RRC\_CONNECTED, see TS 36.321 [6]. | | - |
| ***ntn-TimeBasedCHO***  This field indicates whether the UE supports time-based conditional handover, i.e., *CondEvent T1*. | | - |
| ***ntn-TimeBasedMeasTrigger***  This field indicates whether the UE supports time-based measurement trigger in RRC\_CONNECTED. | | - |
| ***ntn-Triggered-GNSS-Fix***  This field indicates whether the UE supports network triggered GNSS position fix in RRC\_CONNECTED. | | - |
| ***ntn-UplinkHarq-ModeB-MultiTB***  This field indicates whether the UE supports HARQ Mode B when scheduled with uplink transmission of multiple TBs. | | - |
| ***ntn-UplinkHarq-ModeB-SingleTB***  This field indicates whether the UE supports HARQ Mode B. For BL UE or UE in CE, this field also indicates whether the UE supports the corresponding LCP restrictions for uplink transmission. | | - |
| ***ntn-UplinkTxExtension***  This field indicates whether the UE supports to perform UL transmission in a duration after original GNSS validity duration expires without GNSS re-acquisition. | | - |
| ***numberOfBlindDecodesUSS***  Indicates the maximum number of blind decodes in UE specific search space in one subframe for CCs configured with sTTI operation supported by the UE. The number of blind decodes supported by the UE is the field value X\*68. Field value ranges from 4 to 32. | | Yes |
| ***nzp-CSI-RS-AperiodicInfo***  Indicates whether the UE supports aperiodic NZP CSI-RS transmission for the indicated transmission mode. | | Yes |
| ***nzp-CSI-RS-PeriodicInfo***  Indicates whether the UE supports periodic NZP CSI-RS transmission for the indicated transmission mode. | | Yes |
| ***otdoa-UE-Assisted***  Indicates whether the UE supports UE-assisted OTDOA positioning, as specified in TS 36.355 [54]. | | Yes |
| ***outOfOrderDelivery***  Same as "*outOfOrderDelivery*" defined in TS 38.306 [87]. | | No |
| ***outOfSequenceGrantHandling***  Indicates whether the UE supports PUSCH transmissions with out of sequence UL grants as defined in TS 36.213 [23]. This field can be included only if uplinkLAA is included. | | - |
| ***overheatingInd***  Indicates whether the UE supports overheating assistance information. | | No |
| ***overheatingIndForSCG***  Indicates whether the UE supports the inclusion of NR SCG reduced configuration in the overheating assistance information. The UE which indicates support of *overheatingIndForSCG* shall also indicate support of *overheatingInd*. | | - |
| ***pdcch-CandidateReductions***  Indicates whether the UE supports PDCCH candidate reduction on UE specific search space as specified in TS 36.213 [23], clause 9.1.1. | | No |
| ***pdcp-Duplication***  Indicates whether the UE supports PDCP duplication. | | - |
| ***pdcp-SN-Extension***  Indicates whether the UE supports 15 bit length of PDCP sequence number. | | - |
| ***pdcp-SN-Extension-18bits***  Indicates whether the UE supports 18 bit length of PDCP sequence number. | | - |
| ***pdcp-TransferSplitUL***  Indicates whether the UE supports PDCP data transfer split in UL for the *drb-TypeSplit* as specified in TS 36.323 [8]. | | - |
| ***pdcp-VersionChangeWithoutHO***  Indicates whether, the UE supports changing the PDCP version of DRBs, from LTE PDCP to NR PDCP and vice versa, with and without handover. A UE supporting PDCP version change shall signal field *pdcp-Parameters-v1610*. When the field *pdcp-VersionChangeWithoutHO* is not included and *pdcp-Parameters-v1610* is included, it implies the UE supports PDCP version change only with handover. | | - |
| ***pdsch-CollisionHandling***  Indicates whether the UE supports PDSCH collision handling as specified in TS 36.213 [23]. | | No |
| ***pdsch-InLteControlRegionCE-ModeA, pdsch-InLteControlRegionCE-ModeB***  Indicates whether UE operating in CE mode A/B supports PDSCH reception in LTE control channel region as specified in TS 36.211 [21]. | | Yes |
| ***pdsch-MultiTB-CE-ModeA, pdsch-MultiTB-CE-ModeB***  Indicates whether the UE supports multiple TB scheduling in connected mode for PDSCH when operating in CE mode A/B, as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***pdsch-RepSubframe***  Indicates whether the UE supports subframe PDSCH repetition. | | Yes |
| ***pdsch-RepSlot***  Indicates whether the UE supports slot PDSCH repetition. | | Yes |
| ***pdsch-RepSubslot***  Indicates whether the UE supports subslot PDSCH repetition. This field is only applicable for UEs supporting FDD. | | - |
| ***pdsch-SlotSubslotPDSCH-Decoding***  Indicates whether the UE supports decoding of PDSCH and slot-PDSCH/subslot-PDSCH assigned with C-RNTI/SPS C-RNTI in the same subframe for a given carrier. | | Yes |
| ***perServingCellMeasurementGap***  Indicates whether the UE supports per serving cell measurement gap indication, as specified in TS 36.133 [16]. | | - |
| ***phy-TDD-ReConfig-FDD-PCell***  Indicates whether the UE supports TDD UL/DL reconfiguration for TDD serving cell(s) via monitoring PDCCH with eIMTA-RNTI on a FDD PCell, and HARQ feedback according to UL and DL HARQ reference configurations. This bit can only be set to supported only if the UE supports FDD PCell and *phy-TDD-ReConfig-TDD-PCell* is set to supported. | | No |
| ***phy-TDD-ReConfig-TDD-PCell***  Indicates whether the UE supports TDD UL/DL reconfiguration for TDD serving cell(s) via monitoring PDCCH with eIMTA-RNTI on a TDD PCell, and HARQ feedback according to UL and DL HARQ reference configurations, and PUCCH format 3. | | Yes |
| ***pmch-Bandwidth-n40, pmch-Bandwidth-n35, pmch-Bandwidth-n30***  Indicates, for the E‑UTRA band corresponding to the entry in *mbms-SupportedBandInfoList-v1700*, whether the UE in RRC\_CONNECTED supports MBMS reception via MBSFN from MBMS-dedicated cells in an MBSFN area with PMCH bandwidth of 40/ 35/ 30 PRBs as described in TS 36.211 [21] and TS 36.213 [23]. | - | |
| ***pmi-Disabling*** | | Yes |
| ***powerClass-14dBm***  Indicates whether the UE supports power class 14 dBm when operating in CE mode A or B for all the bands that are supported by the UE, as specified in TS 36.101 [42]. | | - |
| ***powerPrefInd***  Indicates whether the UE supports power preference indication. | | No |
| ***powerUCI-SlotPUSCH, powerUCI-SubslotPUSCH***  Indicates whether the UE supports BPRE derivation based on the actual derived O\_CQI. The parameter *uplinkPower-CSIPayload* configures the UE to derive BPRE based on either the actual value of O\_CQI or the largest value of O\_CQI across all RI values. If the UE does not support the capability, the UE will derive BPRE based on the largest value of O\_CQI across all RI values. | | Yes |
| ***prach-Enhancements***  This field defines whether the UE supports random access preambles generated from restricted set type B in high speed scenoario as specified in TS 36.211 [21]. | | - |
| ***processingTimelineSet***  Indicates, for each SPDCCH configuration, support for a set of TA values. Each set consists of two different processing timelines and associated maximum TA. Set 1 indicates support for n+4 and n+6 and set 2 indicates support for n+6 and n+8, see TS 36.211 [21], clause 8.1, The minimum processing timeline to use, out of the two options for a given set is configured by parameter *proc-Timeline*. Support of Set 1 implicitly means support of Set 2. | | - |
| ***pucch-Format4***  Indicates whether the UE supports PUCCH format 4. | | Yes |
| ***pucch-Format5***  Indicates whether the UE supports PUCCH format 5. | | Yes |
| ***pucch-SCell***  Indicates whether the UE supports PUCCH on SCell. | | No |
| ***pur-CP-EPC-CE-ModeA, pur-CP-EPC-CE-ModeB, pur-CP-5GC-CE-ModeA, pur-CP-5GC-CE-ModeB***  Indicates whether UE operating in CE mode A/B supports CP transmission using PUR when connected to EPC/ 5GC. | | Yes |
| ***pur-CP-L1Ack***  Indicates whether UE supports L1 acknowledgement in response to CP transmission using PUR when connected to EPC/ 5GC. | | Yes |
| ***pur-FrequencyHopping***  Indicates whether UE supports frequency hopping for transmission using PUR. | | Yes |
| ***pur-PUSCH-NB-MaxTBS***  Indicates whether the UE supports 2984 bits max UL TBS in 1.4 MHz for transmission using PUR when operating in CE mode A, as specified in TS 36.212 [22] and TS 36.213 [23]. | | Yes |
| ***pur-RSRP-Validation***  Indicates whether UE supports serving cell RSRP for TA validation for transmission using PUR when connected to EPC/ 5GC. | | Yes |
| ***pur-SubPRB-CE-ModeA, pur-SubPRB-CE-ModeB***  Indicates whether UE supports subPRB resource allocation for PUSCH for transmission using PUR when operating in CE mode A/B. | | Yes |
| ***pur-UP-EPC-CE-ModeA, pur-UP-EPC-CE-ModeB, pur-UP-5GC-CE-ModeA, pur-UP-5GC-CE-ModeB***  Indicates whether UE operating in CE mode A/B supports UP transmission using PUR when connected to EPC/ 5GC. | | Yes |
| ***pusch-Enhancements***  Indicates whether the UE supports the PUSCH enhancement mode as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***pusch-FeedbackMode***  Indicates whether the UE supports PUSCH feedback mode 3-2. | | No |
| ***pusch-MultiTB-CE-ModeA, pusch-MultiTB-CE-ModeB***  Indicates whether the UE supports multiple TB scheduling in connected mode for PUSCH when operating in CE mode A/B, as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***pusch-SPS-MaxConfigSlot***  Indicates the max number of SPS configurations across all cells for slot PUSCH. | | Yes |
| ***pusch-SPS-MultiConfigSlot***  Indicates the number of multiple SPS configurations of slot PUSCH for each serving cell. | | Yes |
| ***pusch-SPS-MaxConfigSubframe***  Indicates the max number of SPS configurations across all cells for subframe PUSCH. | | Yes |
| ***pusch-SPS-MultiConfigSubframe***  Indicates the number of multiple SPS configurations of subframe PUSCH for each serving cell. | | Yes |
| ***pusch-SPS-MaxConfigSubslot***  Indicates the max number of SPS configurations across all cells for subslot PUSCH. | | - |
| ***pusch-SPS-MultiConfigSubslot***  Indicates the number of multiple SPS configurations of subslot PUSCH for each serving cell. This field is only applicable for UEs supporting FDD. | | - |
| ***pusch-SPS-SlotRepPCell***  Indicates whether the UE supports SPS repetition for slot PUSCH for PCell. | | Yes |
| ***pusch-SPS-SlotRepPSCell***  Indicates whether the UE supports SPS repetition for slot PUSCH for PSCell. | | Yes |
| ***pusch-SPS-SlotRepSCell***  Indicates whether the UE supports SPS repetition for slot PUSCH for serving cells other than SpCell. | | Yes |
| ***pusch-SPS-SubframeRepPCell***  Indicates whether the UE supports SPS repetition for subframe PUSCH for PCell. | | Yes |
| ***pusch-SPS-SubframeRepPSCell***  Indicates whether the UE supports SPS repetition for subframe PUSCH for PSCell. | | Yes |
| ***pusch-SPS-SubframeRepSCell***  Indicates whether the UE supports SPS repetition for subframe PUSCH for serving cells other than SpCell. | | Yes |
| ***pusch-SPS-SubslotRepPCell***  Indicates whether the UE supports SPS repetition for subslot PUSCH for PCell. This field is only applicable for UEs supporting FDD. | | - |
| ***pusch-SPS-SubslotRepPSCell***  Indicates whether the UE supports SPS repetition for subslot PUSCH for PSCell. This field is only applicable for UEs supporting FDD. | | - |
| ***pusch-SPS-SubslotRepSCell***  Indicates whether the UE supports SPS repetition for subslot PUSCH for serving cells other than SpCell. This field is only applicable for UEs supporting FDD. | | - |
| ***pusch-SRS-PowerControl-SubframeSet***  Indicates whether the UE supports subframe set dependent UL power control for PUSCH and SRS. This field is only applicable for UEs supporting TDD. | | Yes |
| ***qcl-CRI-BasedCSI-Reporting***  Indicates whether the UE supports CRI based CSI feedback for the FeCoMP feature as specified in TS 36.213 [23], clause 7.1.10. | | - |
| ***qcl-TypeC-Operation***  The UE uses this field to indicate the support of all of the following three features: QCL Type-C operation for FeCoMP, the capability to support separate PDSCH RE mapping for different PDSCH CWs in non-coherent joint transmission and the capability to support handling new DMRS port to MIMO layer mapping for the CWs, as specified in TS 36.213 [23], clause 7.1.10. | | - |
| ***qoe-MeasReport***  Indicates whether the UE supports QoE Measurement Collection for streaming services. | | - |
| ***qoe-MTSI-MeasReport***  Indicates whether the UE supports QoE Measurement Collection for MTSI services. | |  |
| ***rach-Less***  Indicates whether the UE supports RACH-less handover, and whether the UE which indicates *dc-Parameters* supports RACH-less SeNB change, as defined in TS 36.300 [9]. | | - |
| ***rach-Report***  Indicates whether the UE supports delivery of *rach-Report.* | | - |
| ***rach-ReportForNR***  Indicates whether the UE supports NR RACH report in LTE, upon request from the network*.* | | - |
| ***rai-Support***  Defines whether the UE supports release assistance indication (RAI) as specified in TS 36.321 [6] for BL UEs. | | No |
| ***rai-SupportEnh***  Indicates whether the UE supports 2-bit RAI when connected to EPC as specified in TS 36.321 [6]. | | - |
| ***rclwi***  Indicates whether the UE supports RCLWI, i.e. reception of *rclwi-Configuration*. The UE which supports RLCWI shall also indicate support of *interRAT-ParametersWLAN-r13*. The UE which supports RCLWI and *wlan-IW-RAN-Rules* shall also support applying WLAN identifiers received in *rclwi-Configuration* for the access network selection and traffic steering rules when in RRC\_IDLE. | | - |
| ***recommendedBitRate***  Indicates whether the UE supports the bit rate recommendation message from the eNB to the UE as specified in TS 36.321 [6], clause 6.1.3.13*.* | | No |
| ***recommendedBitRateMultiplier***  Indicates whether the UE supports the bit rate multiplier for recommended bit rate MAC CE as specified in TS 36.321 [6], clause 6.1.3.13. If this field is included, the UE shall also include the *recommendedBitRate* field. | | - |
| ***recommendedBitRateQuery***  Indicates whether the UE supports the bit rate recommendation query message from the UE to the eNB as specified in TS 36.321 [6], clause 6.1.3.13. If this field is included, the UE shall also include the *recommendedBitRate* field. | | No |
| ***reducedCP-Latency***  Indicates whether the UE supports reduced CP latency. | | Yes |
| ***reducedIntNonContComb***  Indicates whether the UE supports receiving *requestReducedIntNonContComb* that requests the UE to 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. | | - |
| ***reducedIntNonContCombRequested***  Indicates that the UE excluded 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. | | - |
| ***reflectiveQoS***  Indicates whether the UE supports AS reflective QoS. | | No |
| ***relWeightTwoLayers/ relWeightFourLayers/ relWeightEightLayers***  Indicates relative weight of processing FD-MIMO with 2/ 4/ 8 layers with respect to non-FD-MIMO with the same number of layers, see NOTE 8. Value v1 corresponds to relative weight of 1, value v1dot25 corresponds to relative weight of 1.25 and so on. This field can be included only if the UE supports the corresponding number of layers (i.e., 2/ 4/ 8 layers). | | - |
| ***reportCGI-NR-EN-DC***  Indicates whether the UE supports Inter-RAT report CGI procedure towards NR cell when it is configured with (NG)EN-DC. | | Yes |
| ***reportCGI-NR-NoEN-DC***  Indicates whether the UE supports Inter-RAT report CGI procedure towards NR cell when it is not configured with (NG)EN-DC. | | Yes |
| ***resumeWithMCG-SCellConfig***  Indicates whether the UE supports (re-)configuration of E-UTRA MCG SCells. | | - |
| ***resumeWithSCG-Config***  Indicates whether the UE supports (re-)configuration of an NR SCG. | | - |
| ***resumeWithStoredMCG-SCells***  Indicates whether the UE supports not deleting the stored E-UTRA MCG SCell configuration when initiating the resume procedure. | | - |
| ***resumeWithStoredSCG***  Indicates whether the UE supports not deleting the stored NR SCG configuration when initiating the resume procedure. | | - |
| ***srs-CapabilityPerBandPairList***  Indicates, for a particular pair of bands, the SRS carrier switching parameters when switching between the band pair to transmit SRS on a PUSCH-less SCell as specified in TS 36.212 [22] and TS 36.213 [23]. If included, the UE shall include a number of entries as indicated in the following, and listed in the same order, as in *bandParameterList* for the concerned band combination:  - For the first band, the UE shall include the same number of entries as in *bandParameterList* i.e. first entry corresponds to first band in *bandParameterList* and so on,  - For the second band, the UE shall include one entry less i.e. first entry corresponds to the second band in *bandParameterList* and so on  - And so on. | | - |
| ***requestedBands***  Indicates the frequency bands requested by E-UTRAN. | | - |
| ***requestedCCsDL, requestedCCsUL***  Indicates the maximum number of CCs requested by E-UTRAN. | | - |
| ***requestedDiffFallbackCombList***  Indicates the CA band combinations for which report of different UE capabilities is requested by E-UTRAN. | | - |
| ***rf-RetuningTimeDL***  Indicates the interruption time on DL reception within a band pair during the RF retuning for switching between the band pair to transmit SRS on a PUSCH-less SCell. n0 represents 0 OFDM symbols, n0dot5 represents 0.5 OFDM symbols, n1 represents 1 OFDM symbol and so on. This field is mandatory present if switching between the band pair is supported. | | - |
| ***rf-RetuningTimeUL***  Indicates the interruption time on UL transmission within a band pair during the RF retuning for switching between the band pair to transmit SRS on a PUSCH-less SCell. n0 represents 0 OFDM symbols, n0dot5 represents 0.5 OFDM symbols, n1 represents 1 OFDM symbol and so on. This field is mandatory present if switching between the band pair is supported. | | - |
| ***rlc-AM-Ooo-Delivery***  Indicates whether the UE supports out-of-order delivery from RLC to PDCP for RLC AM*.* | | - |
| ***rlc-UM-Ooo-Delivery***  Indicates whether the UE supports out-of-order delivery from RLC to PDCP for RLC UM*.* | | - |
| ***rlm-ReportSupport***  Indicates whether the UE supports RLM event and information reporting. | | - |
| ***rohc-ContextContinue***  Same as "*continueROHC-Context*" defined in TS 38.306 [87]. | | No |
| ***rohc-ContextMaxSessions***  Same as "*maxNumberROHC-ContextSessions*" defined in TS 38.306 [87]. | | No |
| ***rohc-Profiles***  Same as "*supportedROHC-Profiles*" defined in TS 38.306 [87]. | | No |
| ***rohc-ProfilesUL-Only***  Same as "*uplinkOnlyROHC-Profiles*" defined in TS 38.306 [87]. | | No |
| ***rsrqMeasWideband***  Indicates whether the UE can perform RSRQ measurements with wider bandwidth. | | Yes |
| ***rsrq-OnAllSymbols***  Indicates whether the UE can perform RSRQ measurement on all OFDM symbols and also support the extended RSRQ upper value range from -3dB to 2.5dB in measurement configuration and reporting as specified in TS 36.133 [16]. | | No |
| ***rs-SINR-Meas***  Indicates whether the UE can perform RS-SINR measurements in RRC\_CONNECTED as specified in TS 36.214 [48]. | | - |
| ***rssi-AndChannelOccupancyReporting***  Indicates whether the UE supports performing measurements and reporting of RSSI and channel occupancy. This field can be included only if *downlinkLAA* is included. | | - |
| ***sa-NR***  Indicates whether the UE supports standalone NR as specified in TS 38.331 [82]. | | No |
| ***scalingFactorTxSidelink, scalingFactorRxSidelink***  Indicates, for a particular band combination of EUTRA, the scaling facor, as defined in TS 38.306 [87], for the PC5 band combination(s) *v2x-SupportedBandCombinationListEUTRA-NR* on which the UE supports simultaneous transmission/reception of EUTRA and NR sidelink communication respectively, or simultaneous transmission or reception of EUTRA and joint V2X sidelink communication and NR sidelink communication respectively (as indicated by *v2x-SupportedTxBandCombListPerBC-v1630 /* *v2x-SupportedRxBandCombListPerBC-v1630*). The leading / leftmost value corresponds to the first band combination included in *v2x-SupportedBandCombinationListEUTRA-NR* which is indicated with value 1 by *v2x-SupportedTxBandCombListPerBC-v1630 /* *v2x-SupportedRxBandCombListPerBC-v1630*, the next value corresponds to the second band combination included in *v2x-SupportedBandCombinationListEUTRA-NR* which is indicated with value 1 by *v2x-SupportedTxBandCombListPerBC-v1630 /* *v2x-SupportedRxBandCombListPerBC-v1630* and so on. For each value of *ScalingFactorSidelink-r16*, value f0p4 indicates the scaling factor 0.4, f0p75 indicates 0.75, and so on. | | - |
| ***scptm-AsyncDC***  Indicates whether the UE in RRC\_CONNECTED supports MBMS reception via SC-MRB on a frequency indicated in an *MBMSInterestIndication* message, where (according to *supportedBandCombination*) the carriers that are or can be configured as serving cells in the MCG and the SCG are not synchronized. If this field is included, the UE shall also include *scptm-SCell* and *scptm-NonServingCell*. | | Yes |
| ***scptm-NonServingCell***  Indicates whether the UE in RRC\_CONNECTED supports MBMS reception via SC-MRB on a frequency indicated in an *MBMSInterestIndication* message, where (according to *supportedBandCombination* and to network synchronization properties) a serving cell may be additionally configured. If this field is included, the UE shall also include the *scptm-SCell* field. | | Yes |
| ***scptm-Parameters***  Presence of the field indicates that the UE supports SC-PTM reception as specified in TS 36.306 [5]. | | Yes |
| ***scptm-SCell***  Indicates whether the UE in RRC\_CONNECTED supports MBMS reception via SC-MRB on a frequency indicated in an *MBMSInterestIndication* message, when an SCell is configured on that frequency (regardless of whether the SCell is activated or deactivated). | | Yes |
| ***scptm-ParallelReception***  Indicates whether the UE in RRC\_CONNECTED supports parallel reception in the same subframe of DL-SCH transport blocks transmitted using C-RNTI/Semi-Persistent Scheduling C-RNTI and using SC-RNTI/G-RNTI as specified in TS 36.306 [5]. | | Yes |
| ***secondSlotStartingPosition***  Indicates whether the UE supports reception of subframes with second slot starting position as described in TS 36.211 [21] and TS 36.213 [23]. This field can be included only if *downlinkLAA* is included. | | - |
| ***semiOL***  Indicates whether the UE supports semi-open-loop transmission for the indicated transmission mode. | | Yes |
| ***semiStaticCFI***  Indicates whether the UE supports the semi-static configuration of CFI for subframe/slot/sub-slot operation. | | Yes |
| ***semiStaticCFI-Pattern***  Indicates whether the UE supports the semi-static configuration of CFI pattern for subframe/slot/sub-slot operation. This field is only applicable for UEs supporting TDD. | | - |
| ***sharedSpectrumMeasNR-EN-DC***  Indicates whether the UE supports performing measurements and reporting of RSSI and channel occupancy on each supported NR band in EN-DC. If included, the UE shall include the same number of entries, and listed in the same order as in *supportedBandListEN-DC-r15*. | | - |
| ***sharedSpectrumMeasNR-SA***  Indicates whether the UE supports performing measurements and reporting of RSSI and channel occupancy on each supported NR band in NR SA. If included, the UE shall include the same number of entries, and listed in the same order as in *supportedBandListNR-SA-r15*. | | - |
| ***shortCQI-ForSCellActivation***  Indicates whether the UE supports additional CQI reporting periodicity after SCell activation. | | Yes |
| ***shortMeasurementGap*** Indicates whether the UE supports shorter measurement gap length (i.e. *gp2* and *gp3*) in LTE standalone as specified in TS 36.133 [16], and for independent measurement gap configuration on FR1 and per-UE gap in (NG)EN-DC as specified in TS38.133 [84]. | | No |
| ***shortSPS-IntervalFDD***  Indicates whether the UE supports uplink SPS intervals shorter than 10 subframes in FDD mode. | | - |
| ***shortSPS-IntervalTDD***  Indicates whether the UE supports uplink SPS intervals shorter than 10 subframes in TDD mode. | | - |
| ***sigBasedEUTRA-LoggedMeasOverrideProtect***  Indicates whether the UE supports the override protection of the signalling based logged measurements configured in E-UTRA when entering RRC\_CONNECTED state in NR. | | - |
| ***simultaneousPUCCH-PUSCH***  Indicates whether the UE supports simultaneous transmission of PUSCH/PUCCH and SlotOrSubslotPUSCH/SPUCCH (if supported). | | Yes |
| ***simultaneousRx-Tx***  Indicates whether the UE supports simultaneous reception and transmission on different bands for each band combination listed in *supportedBandCombination*. This field is only applicable for inter-band TDD band combinations. A UE indicating support of *simultaneousRx-Tx* and *dc-Support-r12* shall support different UL/DL configurations between PCell and PSCell. | | - |
| ***simultaneousTx-DifferentTx-Duration***  Indicates whether the UE supports simultaneous transmission of different transmission durations over different carriers. The different transmission durations can be of subframe, slot or subslot duration. | | - |
| ***skipFallbackCombinations***  Indicates whether UE supports receiving *requestSkipFallbackComb* that requests UE to exclude fallback band combinations from capability signalling. | | - |
| ***skipFallbackCombRequested***  Indicates whether *requestSkipFallbackComb* is requested by E-UTRAN. | | - |
| ***skipMonitoringDCI-Format0-1A***  Indicates whether UE supports blind decoding reduction on UE specific search space by not monitoring DCI Format 0 and 1A as specified in TS 36.213 [23], clause 9.1.1. | | No |
| ***skipSubframeProcessing***  This fields defines whether the UE supports aborting reception of PDSCH if the UE receives slot-PDSCH/subslot-PDSCH during an ongoing PDSCH reception and instead starts receiving the slot-PDSCH/subslot-PDSCH, as well as whether the UE supports aborting a PUSCH transmission if the UE gets a grant for a slot-PUSCH/ subslot-PUSCH transmission that overlaps with a grant received for a PUSCH transmission. The capability indicates the number of subframes that the UE may drop prior to the subframe in which it prioritizes the processing of slot/subslot PDSCH/PUSCH as described in TS 36.213 [23], clauses 7.1 and 8.0. Separate capability for UL and DL and per sTTI length in each direction*: skipProcessingDL-Slot, skipProcessingDL-Subslot, skipProcessingUL-Slot* and *skipProcessingUL-Subslot.* | | - |
| ***skipUplinkDynamic***  Indicates whether the UE supports skipping of UL transmission for an uplink grant indicated on PDCCH if no data is available for transmission as described in TS 36.321 [6]. | | - |
| ***skipUplinkSPS***  Indicates whether the UE supports skipping of UL transmission for a configured uplink grant if no data is available for transmission as described in TS 36.321 [6]. | | - |
| ***sl-64QAM-Rx***  Indicates whether the UE supports 64QAM for the reception of V2X sidelink communication. | | - |
| ***sl-64QAM-Tx***  Indicates whether the UE supports 64QAM for the transmission of V2X sidelink communication. | | - |
| ***sl-A2X-Service***  Indicates whether the UE supports A2X service and dedicated resource pool for A2X service. Value 'brid' indicates BRID is supported, value 'daa' indicates DAA is supported, and value 'bridAndDAA' indicates both are supported. | | - |
| ***sl-CongestionControl***  Indicates whether the UE supports Channel Busy Ratio measurement and reporting of Channel Busy Ratio measurement results to eNB for V2X sidelink communication. | | - |
| ***sl-LowT2min***  Indicates whether the UE supports 10ms as minimum value of T2 for resource selection procedure of V2X sidelink communication. | | - |
| ***sl-ParameterNR***  Includes the *SidelinkParametersNR* IE as specified in TS 38.331 [82]. The field includes the sidelink capability for NR-PC5, where *multipleSR-ConfigurationsSidelink,* *logicalChannelSR-DelayTimerSidelink* and *relayParameters* are not applicable. | | - |
| ***sl-RateMatchingTBSScaling***  Indicates whether the UE supports rate matching and TBS scalling for V2X sidelink communication. | | - |
| ***slotPDSCH-TxDiv-TM8***  Indicates whether the UE supports TX diversity transmission using ports 7 and 8 for TM8 for slot PDSCH. | | - |
| ***slotPDSCH-TxDiv-TM9and10***  Indicates whether the UE supports TX diversity transmission using ports 7 and 8 for TM9/10 for slot PDSCH. | | Yes |
| ***slotSymbolResourceResvDL-CE-ModeA, slotSymbolResourceResvDL-CE-ModeB, slotSymbolResourceResvUL-CE-ModeA, slotSymbolResourceResvUL-CE-ModeB***  Indicates whether the UE supports slot/symbol-level time-domain resource reservation in downlink/uplink when operating in CE mode A/B, as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***slss-SupportedTxFreq***  Indicates whether the UE supports the SLSS transmission on single carrier or on multiple carriers in the case of sidelink carrier aggregation. | | - |
| ***slss-TxRx***  Indicates whether the UE supports SLSS/PSBCH transmission and reception in UE autonomous resource selection mode and eNB scheduled mode in a band for V2X sidelink communication. | | - |
| ***sl-TxDiversity***  Indicates whether the UE supports transmit diversity for V2X sidelink communication. See TS 36.101 [42]. | | - |
| ***sn-SizeLo***  Same as "*shortSN*" defined in TS 38.306 [87]. | | No |
| ***spatialBundling-HARQ-ACK***  Indicates whether UE supports HARQ-ACK spatial bundling on PUCCH or PUSCH as specified in TS 36.213 [23], clauses 7.3.1 and 7.3.2. | | No |
| ***spdcch-differentRS-types***  Indicates whether the UE supports monitoring of sPDCCH on RB sets with different RS types within a TTI. | | Yes |
| ***spdcch-Reuse***  Indicates whether the UE supports L1 based SPDCCH reuse. | | Yes |
| ***sps-CyclicShift***  Indicates whether the UE supports RRC configuration of cyclic shift for DMRS for UL SPS using 1ms TTI. | | Yes |
| ***sps-ServingCell***  Indicates whether the UE supports multiple UL/DL SPS configurations simultaneously active on different serving cells as specified in TS 36.321 [6]. | | - |
| ***sps-STTI***  Indicates whether the UE supports SPS in DL and/or UL for slot or subslot based PDSCH and PUSCH, respectively. | | Yes |
| ***srs-DCI7-TriggeringFS2***  Indicates whether the UE supports SRS triggerring via DCI format 7 for FS2. | | - |
| ***srs-Enhancements***  Indicates whether the UE supports SRS enhancements. | | Yes |
| ***srs-EnhancementsTDD***  Indicates whether the UE supports TDD specific SRS enhancements. | | Yes |
| ***srs-FlexibleTiming***  Indicates whether the UE supports configuration of *soundingRS-FlexibleTiming-r14* for the corresponding band pair. For a TDD-TDD band pair, UE shall include at least one of *srs-FlexibleTiming* and/or *srs-HARQ-ReferenceConfig* when *rf-RetuningTimeDL* or *rf-RetuningTimeUL* corresponding to the band pair is larger than 1 OFDM symbol. | | - |
| ***srs-HARQ-ReferenceConfig***  Indicates whether the UE supports configuration of *harq-ReferenceConfig-r14* for the corresponding band pair. For a TDD-TDD band pair, UE shall include at least one of *srs-FlexibleTiming* and/or *srs-HARQ-ReferenceConfig* when *rf-RetuningTimeDL* or *rf-RetuningTimeUL* corresponding to the band pair is larger than 1 OFDM symbol. | | - |
| ***srs-MaxSimultaneousCCs***  Indicates the maximum number of simultaneously configurable target CCs for SRS switching (i.e., CCs for which srs-SwitchFromServCellIndex is configured) supported by the UE. | | - |
| ***srs-UpPTS-6sym***  Indicates whether the UE supports up to 6-symbol SRS in UpPTS. | | - |
| ***srvcc-FromUTRA-FDD-ToGERAN***  Indicates whether UE supports SRVCC handover from UTRA FDD PS HS to GERAN CS. | | - |
| ***srvcc-FromUTRA-FDD-ToUTRA-FDD***  Indicates whether UE supports SRVCC handover from UTRA FDD PS HS to UTRA FDD CS. | | - |
| ***srvcc-FromUTRA-TDD128-ToGERAN***  Indicates whether UE supports SRVCC handover from UTRA TDD 1.28Mcps PS HS to GERAN CS. | | - |
| ***srvcc-FromUTRA-TDD128-ToUTRA-TDD128***  Indicates whether UE supports SRVCC handover from UTRA TDD 1.28Mcps PS HS to UTRA TDD 1.28Mcps CS. | | - |
| ***ss-CCH-InterfHandl***  Indicates whether the UE supports synchronisation signal and common channel interference handling. | | Yes |
| ***ss-SINR-Meas-NR-FR1, ss-SINR-Meas-NR-FR2***  Indicates whether the UE can perform NR SS-SINR measurement for a frequency range (i.e. FR1 or FR2) as specified in TS 38.215 [89]. | | - |
| ***ssp10-TDD-Only***  Indicates the UE supports special subframe configuration 10 when operating only in TDD carriers (i.e., not in TDD/FDD CA or TDD/FS3 CA). A UE including this field shall not include *tdd-SpecialSubframe-r14*. | | - |
| ***standaloneGNSS-Location***  Indicates whether the UE is equipped with a standalone GNSS receiver that may be used to provide detailed location information in RRC measurement report and logged measurements. | | - |
| ***sTTI-SPT-Supported***  Indicates whether the UE supports the features STTI and/or SPT. If the UE supports STTI and/or SPT features, the UE shall report the field *sTTI-SPT-Supported* set to *supported* in capability signalling, irrespective of whether *requestSTTI-SPT-Capability* field is present or not. | | - |
| ***sTTI-FD-MIMO-Coexistence***  Indicates whether the UE supports CSI feedback for more than 8 NZP CSI-RS ports on subframe based PUSCH in any serving cell and supporting STTI in any serving cell. | | - |
| ***sTTI-SupportedCombinations***  Indicates the different combinations of short TTI lengths, see field description for *dl-STTI-Length* and *ul-STTI-Length*, that the UE supports in a single PUCCH group or in two PUCCH groups. A short TTI length combination is reported for DL first followed by UL. In case of two PUCCH groups the support for the primary PUCCH group is indicated first. | | - |
| ***subcarrierPuncturingCE-ModeA, subcarrierPuncturingCE-ModeB***  Indicates whether the UE supports subcarrier puncturing in downlink when operating in CE mode A/B, as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***subcarrierSpacingMBMS-khz7dot5, subcarrierSpacingMBMS-khz1dot25***  Indicates the supported subcarrier spacings for MBSFN subframes in addition to 15 kHz subcarrier spacing. *subcarrierSpacingMBMS-khz1dot25* and *subcarrierSpacingMBMS-khz7dot5* indicates that the UE supports 1.25 and 7.5 kHz respectively for MBSFN subframes as described in TS 36.211 [21], clause 6.12. This field is included only if *fembmsMixedCell* or *fembmsDedicatedCell* is included. | | - |
| ***subcarrierSpacingMBMS-khz2dot5, subcarrierSpacingMBMS-khz0dot37***  Presence of this field indicates the supported subcarrier spacings of 2.5kHz / 0.37kHz for MBSFN subframes in addition to 15 kHz subcarrier spacing when operating on the E-UTRA band given by the entry in *mbms-SupportedBandInfoList* as described in TS 36.211 [21], clause 6.12. | | - |
| ***subframeResourceResvDL-CE-ModeA, subframeResourceResvDL-CE-ModeB, subframeResourceResvUL-CE-ModeA, subframeResourceResvUL-CE-ModeB***  Indicates whether the UE supports Subframe-level time-domain resource reservation in downlink/uplink when operating in CE mode A/B, as specified in TS 36.211 [21] and TS 36.213 [23]. | | Yes |
| ***subslotPDSCH-TxDiv-TM9and10***  Indicates whether the UE supports TX diversity transmission using ports 7 and 8 for TM9/10 for subslot PDSCH. | | Yes |
| ***supportedBandCombination***  Includes the supported CA band combinations, if any, and may include all the supported non-CA bands. | | - |
| ***supportedBandCombinationAdd-r11***  Includes additional supported CA band combinations in case maximum number of CA band combinations of *supportedBandCombination* is exceeded. | | - |
| ***SupportedBandCombinationAdd-v11d0,*** ***SupportedBandCombinationAdd-v1250,*** ***SupportedBandCombinationAdd-v1270, SupportedBandCombinationAdd-v1320, SupportedBandCombinationAdd-v1380, SupportedBandCombinationAdd-v1390, SupportedBandCombinationAdd-v1430, SupportedBandCombinationAdd-v1450, SupportedBandCombinationAdd-v1470, SupportedBandCombinationAdd-v14b0, SupportedBandCombinationAdd-v1530, SupportedBandCombinationAdd-v1630, SupportedBandCombinationAdd-v1800***  If included, the UE shall include the same number of entries, and listed in the same order, as in *SupportedBandCombinationAdd-r11*. | | - |
| ***SupportedBandCombinationAdd-v1610***  If included, the UE shall include the same number of entries, and listed in the same order, as in *SupportedBandCombinationAdd-r11*. If absent, network assumes gap is required when measurement is performed on any NR bands while UE is served by cell(s) belongs to an E-UTRA CA band combinations listed in *SupportedBandCombinationAdd-r11* except for the FR2 inter-RAT measurement which depends on the support of *independentGapConfig.* | | - |
| ***SupportedBandCombinationExt, SupportedBandCombination-v1090, SupportedBandCombination-v10i0, SupportedBandCombination-v1130, SupportedBandCombination-v1250, SupportedBandCombination-v1270, SupportedBandCombination-v1320, SupportedBandCombination-v1380, SupportedBandCombination-v1390, SupportedBandCombination-v1430, SupportedBandCombination-v1450, SupportedBandCombination-v1470, SupportedBandCombination-v14b0, SupportedBandCombination-v1530, SupportedBandCombination-v1630, SupportedBandCombination-v1800***  If included, the UE shall include the same number of entries, and listed in the same order, as in *supportedBandCombination-r10*. | | - |
| ***SupportedBandCombination-v1610***  If included, the UE shall include the same number of entries, and listed in the same order, as in *supportedBandCombination-r10*. If absent, network assumes gap is required when measurement is performed on any NR bands while UE is served by cell(s) belongs to an E-UTRA CA band combinations listed in *supportedBandCombination-r10* except for the FR2 inter-RAT measurement which depends on the support of *independentGapConfig.* | | - |
| ***supportedBandCombinationReduced***  Includes the supported CA band combinations, and may include the fallback CA combinations specified in TS 36.101 [42], clause 4.3A. This field also indicates whether the UE supports reception of *requestReducedFormat*. | | - |
| ***SupportedBandCombinationReduced-v1320, SupportedBandCombinationReduced-v1380, SupportedBandCombinationReduced-v1390, SupportedBandCombinationReduced-v1430, SupportedBandCombinationReduced-v1450, SupportedBandCombinationReduced-v1470, SupportedBandCombinationReduced-v14b0, SupportedBandCombinationReduced-v1530, SupportedBandCombinationReduced-v1630, SupportedBandCombinationReduced-v1800***  If included, the UE shall include the same number of entries, and listed in the same order, as in *supportedBandCombinationReduced-r13*. | | - |
| ***SupportedBandCombinationReduced-v1610***  If included, the UE shall include the same number of entries, and listed in the same order, as in *supportedBandCombinationReduced-r13*. If absent, network assumes gap is required when measurement is performed on any NR bands while UE is served by cell(s) belongs to an E-UTRA CA band combinations listed in *supportedBandCombinationReduced-r13* except for the FR2 inter-RAT measurement which depends on the support of *independentGapConfig.* | | - |
| ***SupportedBandGERAN***  GERAN band as defined in TS 45.005 [20]. | | No |
| ***SupportedBandList1XRTT***  One entry corresponding to each supported CDMA2000 1xRTT band class. | | - |
| ***SupportedBandListEUTRA***  Includes the supported E-UTRA bands. This field shall include all bands which are indicated in *BandCombinationParameters*. | | - |
| ***SupportedBandListEUTRA-v9e0, SupportedBandListEUTRA-v1250, SupportedBandListEUTRA-v1310, SupportedBandListEUTRA-v1320***  If included, the UE shall include the same number of entries, and listed in the same order, as in *supportedBandListEUTRA* (i.e. without suffix). | | - |
| ***SupportedBandListGERAN*** | | No |
| ***SupportedBandListHRPD***  One entry corresponding to each supported CDMA2000 HRPD band class. | | - |
| ***SupportedBandListNR-SA***  Includes the NR bands supported by the UE in NR-SA (for handover and redirection). The field is included in case the UE supports NR SA as specified in TS 38.331 [32] and not otherwise. The presence of this field also indicates that the UE can perform both NR SS-RSRP and SS-RSRQ measurement in the included NR band(s) as specified in TS 38.215 [89]. | | No |
| ***supportedBandListEN-DC***  Includes the NR bands supported by the UE in (NG)EN-DC. The field is included in case the parameter *en-DC* or *ng-EN-DC* is present and set to *supported* and not otherwise. The presence of this field also indicates that the UE can perform both NR SS-RSRP and SS-RSRQ measurement in the included NR band(s) as specified in TS 38.215 [89]. | | - |
| ***supportedBandListWLAN***  Indicates the supported WLAN bands by the UE. | | - |
| ***SupportedBandUTRA-FDD***  UTRA band as defined in TS 25.101 [17]. | | - |
| ***SupportedBandUTRA-TDD128***  UTRA band as defined in TS 25.102 [18]. | | - |
| ***SupportedBandUTRA-TDD384***  UTRA band as defined in TS 25.102 [18]. | | - |
| ***SupportedBandUTRA-TDD768***  UTRA band as defined in TS 25.102 [18]. | | - |
| ***supportedBandwidthCombinationSet***  The *supportedBandwidthCombinationSet* indicated for a band combination is applicable to all bandwidth classes indicated by the UE in this band combination.  Field encoded as a bit map, where bit N is set to "1" if UE support Bandwidth Combination Set N for this band combination, see 36.101 [42]. The leading / leftmost bit (bit 0) corresponds to the Bandwidth Combination Set 0, the next bit corresponds to the Bandwidth Combination Set 1 and so on. The UE shall neither include the field for a non-CA band combination, nor for a CA band combination for which the UE only supports Bandwidth Combination Set 0. | | - |
| ***supportedCellGrouping***  This field indicates for which mapping of serving cells to cell groups (i.e. MCG or SCG) the UE supports asynchronous DC. This field is only present for a band combination with more than two but less than six band entries where the UE supports asynchronous DC. If this field is not present but asynchronous operation is supported, the UE supports all possible mappings of serving cells to cell groups for the band combination. The bitmap size is selected based on the number of entries in the combinations, i.e., in case of three entries, the bitmap corresponding to *threeEntries* is selected and so on.  A bit in the bit string set to 1 indicates that the UE supports asynchronous DC for the cell grouping option represented by the concerned bit position. Each bit position represents a different cell grouping option, as illustrated by a table, see NOTE 5. A cell grouping option is represented by a number of bits, each representing a particular band entry in the band combination with the left-most bit referring to the band listed first in the band combination, etc. Value 0 indicates that the carriers of the corresponding band entry are mapped to a first cell group, while value 1 indicates that the carriers of the corresponding band entry are mapped to a second cell group.  It is noted that the mapping table does not include entries with all bits set to the same value (0 or 1) as this does not represent a DC scenario (i.e. indicating that the UE supports that all carriers of the corresponding band entry are in one cell group). | | - |
| ***supportedCSI-Proc, sTTI-SupportedCSI-Proc***  Indicates the maximum number of CSI processes supported on a component carrier within a band. Value n1 corresponds to 1 CSI process, value n3 corresponds to 3 CSI processes, and value n4 corresponds to 4 CSI processes. If this field is included, the UE shall include the same number of entries listed in the same order as in *BandParameters/STTI-SPT-BandParameters*. If the UE supports at least 1 CSI process on any component carrier, then the UE shall include this field in all bands in all band combinations. | | - |
| ***supportedCSI-Proc (in FeatureSetDL-PerCC)***  In MR-DC, indicates the number of CSI processes for the component carrier in the corresponding bandwidth class. If the UE supports at least 1 CSI process, then the UE shall include this field. | | - |
| ***supportedMIMO-CapabilityDL-MRDC (in FeatureSetDL-PerCC)***  In MR-DC, indicates the maximum number of supported layers in TM9/10 for the component carrier in the corresponding bandwidth class. | | - |
| ***supportedNAICS-2CRS-AP***  If included, the UE supports NAICS for the band combination. The UE shall include a bitmap of the same length, and in the same order, as in *naics-Capability-List,* to indicate 2 CRS AP NAICS capability of the band combination. The first/ leftmost bit points to the first entry of *naics-Capability-List*, the second bit points to the second entry of *naics-Capability-List*, and so on.  For band combinations with a single component carrier, UE is only allowed to indicate {*numberOfNAICS-CapableCC*, *numberOfAggregatedPRB*} = {1, 100} if NAICS is supported. | | - |
| ***supportedOperatorDic***  Indicates whether the UE supports operator defined dictionary. If UE supports operator defined dictionary, the UE shall report *versionOfDictionary* and *associatedPLMN-ID* of the stored operator defined dictionary. This parameter is not required to be present if the UE is in VPLMN. In this release of the specification, UE can only support one operator defined dictionary. The *associatedPLMN-ID* is only associated to the operator defined dictionary which has no relationship with UE's HPLMN ID. | | - |
| ***supportRohcContextContinue***  Indicates whether the UE supports ROHC context continuation operation where the UE does not reset the current ROHC context upon handover. | | - |
| ***supportedROHC-Profiles***  Indicates the ROHC profiles that UE supports in both uplink and downlink. | | - |
| ***supportedUplinkOnlyROHC-Profiles***  Indicates the ROHC profiles that UE supports in uplink and not in downlink, see TS 36.323 [8] | | - |
| ***supportedStandardDic***  Indicates whether the UE supports standard dictionary for SIP and SDP as specified in TS 36.323 [8]. | | - |
| ***supportedUDC***  Indicates whether the UE supports UL data compression, see TS 36.323 [8]. | | - |
| ***tdd-SpecialSubframe***  Indicates whether the UE supports TDD special subframe defined in TS 36.211 [21]. A UE shall indicate *tdd-SpecialSubframe-r11* if it supports the TDD special subframes ssp7 and ssp9. A UE shall indicate *tdd-SpecialSubframe-r14* if it supports the TDD special subframe ssp10, except when *ssp10-TDD-Only-r14* is included. | | Yes |
| ***tdd-FDD-CA-PCellDuplex***  The presence of this field indicates that the UE supports TDD/FDD CA in any supported band combination including at least one FDD band with *bandParametersUL* and at least one TDD band with *bandParametersUL*. The first bit is set to "1" if UE supports the TDD PCell. The second bit is set to "1" if UE supports FDD PCell. This field is included only if the UE supports band combination including at least one FDD band with *bandParametersUL* and at least one TDD band with *bandParametersUL*. If this field is included, the UE shall set at least one of the bits as "1". If this field is included with DC, then it is applicable within a CG, and the presence of this field indicates the capability of the UE to support TDD/FDD CA with at least one FDD band and at least one TDD band in the same CG, with the value indicating the support for TDD/FDD PCell (PSCell). | | No |
| ***tdd-TTI-Bundling***  The presence of this field indicates whether the UE supporting TDD special subframe configuration 10 also supports TTI bundling for TDD configuration 2 and 3 when PUSCH transimission in UpPTS is configured, see TS 36.213 [23], clause 8.0. If this field is present, the *tdd-SpecialSubframe-r14* or *ssp10-TDD-Only-r14* shall be present. | | Yes |
| ***timeReferenceProvision***  Indicates whether the UE supports provision of time reference in *DLInformationTransfer* message. | | - |
| ***timeSeparationSlot2, timeSeparationSlot4***  Indicates whether the UE supports time staggering length of 2 slots (MBSFN reference signal pattern type 2) / 4 slots (MBSFN reference signal pattern type 1) for MBSFN-RS associated with PMCH with subcarrier spacing of 0.37 kHz for MBSFN subframes when operating on the E‑UTRA band given by the entry in *mbms-SupportedBandInfoList* as described in TS 36.211 [21], clause 6.10.2.2.4. | | - |
| ***timerT312***  Indicates whether the UE supports T312. | | No |
| ***tm5-FDD***  Indicates whether the UE supports the PDSCH transmission mode 5 in FDD. | | - |
| ***tm5-TDD***  Indicates whether the UE supports the PDSCH transmission mode 5 in TDD. | | - |
| ***tm6-CE-ModeA***  Indicates whether the UE supports tm6 operation in CE mode A, see TS 36.213 [23], clause 7.2.3. This field can be included only if *ce-ModeA* is included. | | Yes |
| ***tm8-slotPDSCH***  Indicates whether the UE supports configuration and decoding of TM8 for slot PDSCH in TDD. | | - |
| ***tm9-CE-ModeA***  Indicates whether the UE supports tm9 operation in CE mode A, see TS 36.213 [23], clause 7.2.3. This field can be included only if *ce-ModeA* is included. | | Yes |
| ***tm9-CE-ModeB***  Indicates whether the UE supports tm9 operation in CE mode B, see TS 36.213 [23], clause 7.2.3. This field can be included only if *ce-ModeB* is included. | | Yes |
| ***tm9-LAA***  Indicates whether the UE supports tm9 operation on LAA cell(s). This field can be included only if *downlinkLAA* is included. | | - |
| ***tm9-slotSubslot***  Indicates whether the UE supports configuration and decoding of TM9 for slot and/or subslot PDSCH for non-MBSFN. | | Yes |
| ***tm9-slotSubslotMBSFN***  Indicates whether the UE supports configuration and decoding of TM9 for slot and/or subslot PDSCH for MBSFN. | | Yes |
| ***tm9-With-8Tx-FDD***  Indicates whether the UE supports PDSCH transmission mode 9 with 8 CSI reference signal ports for FDD when not operating in CE mode. | | Yes |
| ***tm10-LAA***  Indicates whether the UE supports tm10 operation on LAA cell(s). This field can be included only if *downlinkLAA* is included. | | - |
| ***tm10-slotSubslot***  Indicates whether the UE supports configuration and decoding of TM10 for slot and/or subslot PDSCH for non-MBSFN. | | Yes |
| ***tm10-slotSubslotMBSFN***  Indicates whether the UE supports configuration and decoding of TM10 for slot and/or subslot PDSCH for MBSFN. | | Yes |
| ***totalWeightedLayers***  Indicates total number of weighted layers the UE can process for FD-MIMO. See NOTE 8. | | - |
| ***twoAntennaPortsForPUCCH*** | | No |
| ***twoStepSchedulingTimingInfo***  Presence of this field indicates that the UE supports uplink scheduling using PUSCH trigger A and PUSCH trigger B (as defined in TS 36.213 [23]).  This field also indicates the timing between the PUSCH trigger B and the earliest time the UE supports performing the associated UL transmission. For reception of PUSCH trigger B in subframe N, value *nPlus1* indicates that the UE supports performing the UL transmission in subframe N+1, value *nPlus2* indicates that the UE supports performing the UL transmission in subframe N+2, and so on.  This field can be included only if *uplinkLAA* is included. | | - |
| ***txAntennaSwitchDL, txAntennaSwitchUL***  The presence of *txAntennaSwitchUL* indicates the UE supports transmit antenna selection for this UL band in the band combination as described in TS 36.213 [23], clauses 8.2 and 8.7.  The field *txAntennaSwitchDL* indicates the entry number of the first-listed band with UL in the band combination that affects this DL. The field *txAntennaSwitchUL* indicates the entry number of the first-listed band with UL in the band combination that switches together with this UL. Value 1 means first entry, value 2 means second entry and so on. All DL and UL that switch together indicate the same entry number.  For the case of carrier switching, the antenna switching capability for the target carrier configuration is indicated as follows:  For UE configured with a set of component carriers belonging to a band combination Cbaseline = {b1(1),…,bx(1),…,by(0),…}, where "1/0" denotes whether the corresponding band has an uplink, if a component carrier in bx is to be switched to a component carrier in by (according to *srs-SwitchFromServCellIndex*), the antenna switching capability is derived based on band combination Ctarget = {b1(1),…,bx(0),…,by(1),…}. | | - |
| ***txDiv-PUCCH1b-ChSelect***  Indicates whether the UE supports transmit diversity for PUCCH format 1b with channel selection. | | Yes |
| ***txDiv-SPUCCH***  Indicates whether the UE supports Tx diversity on SPUCCH format 1/1a/1b/3. | | Yes |
| ***tx-Sidelink, rx-Sidelink***  Indicates that the UE supports sidelink transmission/reception on the band in the band combination.  For NR sidelink transmission, *tx-Sidelink* is only applicable if the UE supports at least one of *sl-TransmissionMode1-r16* and *sl-TransmissionMode2-r16* on the band as specified in TS 38.331 [82].  For NR sidelink reception, *rx-Sidelink* is only applicable if the UE supports *sl-Reception-r16* on the band as specified in TS 38.331 [82]. | | - |
| ***uci-PUSCH-Ext***  Indicates whether the UE supports an extension of UCI delivering more than 22 HARQ-ACK bits on PUSCH as specified in TS 36.212 [22], clause 5.2.2.6 and TS 36.213 [23], clause 8.6.3. | | No |
| ***ue-AutonomousWithFullSensing***  Indicates whether the UE supports transmitting PSCCH/PSSCH using UE autonomous resource selection mode with full sensing (i.e., continuous channel monitoring) for V2X sidelink communication and the UE supports maximum transmit power associated with Power class 3 V2X UE, see TS 36.101 [42]. | | - |
| ***ue-AutonomousWithPartialSensing***  Indicates whether the UE supports transmitting PSCCH/PSSCH using UE autonomous resource selection mode with partial sensing (i.e., channel monitoring in a limited set of subframes) for V2X sidelink communication and the UE supports maximum transmit power associated with Power class 3 V2X UE, see TS 36.101 [42]. | | - |
| ***ue-Category***  UE category as defined in TS 36.306 [5]. Set to values 1 to 12 in this version of the specification. | | - |
| ***ue-CategoryDL***  UE DL category as defined in TS 36.306 [5]. Value *n17* corresponds to UE category 17, value *m1* corresponds to UE category M1, value *oneBis* corresponds to UE category 1bis, value m2 corresponds to UE category M2. For ASN.1 compatibility, a UE indicating DL category 0, m1 or m2 shall also indicate any of the categories (1..5) in *ue-Category* (without suffix), which is ignored by the eNB, a UE indicating UE category oneBis shall also indicate UE category 1 in *ue-Category* (without suffix), and a UE indicating UE category m2 shall also indicate UE category m1. The field *ue-CategoryDL* is set to values 0, m1, oneBis, m2, 4, 6, 7, 9 to 16, n17, 18, 19, 20, 21, 22, 23, 24, 25, 26 in this version of the specification. | | - |
| ***ue-CategorySL-C-TX***  UE SL category for V2X transmission as defined in TS 36.306 [5]. Set to values 1 to 5 in this version of the specification. | | - |
| ***ue-CategorySL-C-RX***  UE SL category for V2X reception as defined in TS 36.306 [5]. Set to values 1 to 4 in this version of the specification. | | - |
| ***ue-CategoryUL***  UE UL category as defined in TS 36.306 [5]. Value *n14* corresponds to UE category 14, value *n16* corresponds to UE category 16 and so on. Value *m1* corresponds to UE category M1, value *m2* corresponds to UE category M2, value *oneBis* corresponds to UE category 1bis. The field *ue-CategoryUL* is set to values m1, m2, 0, oneBis, 3, 5, 7, 8, 13, n14, 15, n16 to n21 or 22 to 26 in this version of the specification. | | - |
| ***ue-CA-PowerClass-N***  Indicates whether the UE supports UE power class N in the E-UTRA band combination, see TS 36.101 [42] and TS 36.307 [78]. If *ue-CA-PowerClass-N* is not included, UE supports the default UE power class in the E-UTRA band combination, see TS 36.101 [42]. | | - |
| ***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]. | | - |
| ***ue-PowerClass-N, ue-PowerClass-5***  Indicates whether the UE supports UE power class 1, 2, 4 or 5 in the E-UTRA band, see TS 36.101 [42] and TS 36.307 [79] and TS 36.102 [113] for NTN capable UE. UE includes either *ue-PowerClass-N* or *ue-PowerClass-5*. If neither *ue-PowerClass-N* nor *ue-PowerClass-5* is included, UE supports the default UE power class in the E-UTRA band, see TS 36.101 [42] and TS 36.102 [113] for NTN capable UE. | | - |
| ***ue-Rx-TxTimeDiffMeasurements***  Indicates whether the UE supports Rx - Tx time difference measurements. | | No |
| ***ue-SpecificRefSigsSupported*** | | No |
| ***ue-SSTD-Meas***  Indicates whether the UE supports SSTD measurements between the PCell and the PSCell as specified in TS 36.214 [48] and TS 36.133 [16]. | | - |
| ***ue-TxAntennaSelectionSupported***  Except for the supported band combinations for which *bandParameterList-v1380* is included, TRUE indicates that the UE is capable of supporting UE transmit antenna selection such that all the supported bands in the band combination are affected by transmit antenna switching, as described in TS 36.213 [23], clause 8.7. E-UTRAN ignores this field for band combinations for which *bandParameterList-v1380* is included. | | Yes |
| ***ue-TxAntennaSelection-SRS-1T4R***  Indicates whether the UE supports selecting one antenna among four antennas to transmit SRS for the corresponding band of the band combination as described in TS 36.213 [23]. | | - |
| ***ue-TxAntennaSelection-SRS-2T4R-2Pairs***  Indicates whether the UE supports selecting one antenna pair between two antenna pairs to transmit SRS simultaneously for the corresponding band of the band combination as described in TS 36.213 [23]. | | - |
| ***ue-TxAntennaSelection-SRS-2T4R-3Pairs***  Indicates whether the UE supports selecting one antenna pair among three antenna pairs to transmit SRS simultaneously for the corresponding band of the band combination as described in TS 36.213 [23]. | | - |
| ***ul-64QAM***  Indicates whether the UE supports 64QAM in UL on the band. This field is only present when the field ue*-CategoryUL* indicates UL UE category that supports UL 64QAM, see TS 36.306 [5], Table 4.1A-2. If the field is present for one band, the field shall be present for all bands including downlink only bands. | | - |
| ***ul-256QAM***  Indicates whether the UE supports 256QAM in UL on the band in the band combination. This field is only present when the field ue*-CategoryUL* indicates UL UE category that supports 256QAM in UL, see TS 36.306 [5], Table 4.1A-2. The UE includes this field only if the field *ul-256QAM-perCC-InfoLis*t is not included. | | - |
| ***ul-256QAM (in FeatureSetUL-PerCC)***  Indicates whether the UE supports 256QAM in UL for MR-DC within the indicated feature set. This field is only present when the field ue-CategoryUL indicates UL UE category that supports 256QAM in UL, see TS 36.306 [5], Table 4.1A-2. | | - |
| ***ul-256QAM-perCC-InfoList***  Indicates, per serving carrier of which the corresponding bandwidth class includes multiple serving carriers (i.e. bandwidth class B, C, D and so on), whether the UE supports 256QAM in the band combination. The number of entries is equal to the number of component carriers in the corresponding bandwidth class. The UE shall support the setting indicated in each entry of the list regardless of the order of entries in the list. This field is only present when the field *ue-CategoryUL* indicates UL UE category that supports 256QAM in UL, see TS 36.306 [5], Table 4.1A-2. The UE includes this field only if the field *ul-256QAM* is not included. | | - |
| ***ul-256QAM-Slot***  Indicates whether the UE supports 256QAM in UL for slot TTI operation on the band. | | - |
| ***ul-256QAM-Subslot***  Indicates whether the UE supports 256QAM in UL for subslot TTI operation on the band. | | - |
| ***ul-AsyncHarqSharingDiff-TTI-Lengths***  Indicates whether the UE supports UL asynchronous HARQ sharing between different TTI lengths for an UL serving cell. | | Yes |
| ***ul-CoMP***  Indicates whether the UE supports UL Coordinated Multi-Point operation. | | No |
| ***ul-dmrs-Enhancements***  Indicates whether the UE supports UL DMRS enhancements as defined in TS 36.211 [21], clause 6.10.3A. | | Yes |
| ***ul-PDCP-AvgDelay***  Indicates whether the UE supports UL PDCP Packet Average Delay measurement (as specified in TS 38.314 [103]) and reporting in RRC\_CONNECTED. | | - |
| ***ul-PDCP-Delay***  Indicates whether the UE supports UL PDCP Packet Delay per QCI measurement as specified in TS 36.314 [71]. | | - |
| ***ul-powerControlEnhancements***  Indicates whether UE supports UplinkPowerControlDedicated. | | Yes |
| ***ul-RRC-Segmentation***  Indicates the UE supports uplink RRC segmentation of *UECapabilityInformation*. | | - |
| ***uplinkLAA***  Presence of the field indicates that the UE supports uplink LAA operation. | | - |
| ***uss-BlindDecodingAdjustment***  Indicates whether the UEsupports blind decoding adjustment on UE specific search space as defined in TS 36.213 [22]. This field can be included only if uplinkLAA is included. | | - |
| ***uss-BlindDecodingReduction***  Indicates whether the UE supports blind decoding reduction on UE specific search space by not monitoring DCI format 0A/0B/4A/4B as defined in TS 36.213 [22]. This field can be included only if uplinkLAA is included. | | - |
| ***unicastFrequencyHopping***  Indicates whether the UE supports frequency hopping for unicast MPDCCH/PDSCH (configured by *mpdcch-pdsch-HoppingConfig*) and unicast PUSCH (configured by *pusch-HoppingConfig*). | | - |
| ***unicast-fembmsMixedSCell***  Indicates whether the UE supports unicast reception from FeMBMS/Unicast mixed cell. This field is included only if UE supports carrier aggregation. | | No |
| ***utra-GERAN-CGI-Reporting-ENDC***  Indicates whether the UE supports Inter-RAT report CGI procedure towards GERAN/UTRA cell when it is configured with (NG)EN-DC wherein either MN and SN have different DRX cycles, or on-duration configured by MN does not contain on-duration configured by SN if their DRX cycles are same. | | Yes |
| ***utran-ProximityIndication***  Indicates whether the UE supports proximity indication for UTRAN CSG member cells. | | - |
| ***utran-SI-AcquisitionForHO***  Indicates whether the UE supports, upon configuration of si-RequestForHO by the network, acquisition and reporting of relevant information using autonomous gaps by reading the SI from a neighbouring UMTS cell. | | Yes |
| ***v2x-BandParametersNR***  Includes the NR *BandParametersSidelink-r16* IE as specified in TS 38.331 [82]. The field includes the per-band per-band-combination sidelink capability for NR-PC5. | | - |
| ***v2x-BandParametersEUTRA-NR-v1710***  Includes the *BandParametersSidelinkEUTRA-NR-v1710* IE as specified in TS 38.331 [82]. The field includes the per-band per-band-combination sidelink capability for NR-PC5. | | - |
| ***v2x-BandwidthClassTxSL, v2x-BandwidthClassRxSL***  The bandwidth class for V2X sidelink transmission and reception supported by the UE as defined in TS 36.101 [42], Table 5.6G.1-3.  The UE explicitly includes all the supported bandwidth class combinations for V2X sidelink transmission or reception in the band combination signalling. Support for one bandwidth class does not implicitly indicate support for another bandwidth class. | | - |
| ***v2x-eNB-Scheduled***  Indicates whether the UE supports transmitting PSCCH/PSSCH using dynamic scheduling, SPS in eNB scheduled mode for V2X sidelink communication, reporting SPS assistance information and the UE supports maximum transmit power associated with Power class 3 V2X UE, see TS 36.101 [42] in a band. | | - |
| ***v2x-EnhancedHighReception***  Indicates whether the UE supports reception of 30 PSCCH in a subframe and decoding of 204 RBs per subframe counting both PSCCH and PSSCH in a band for V2X sidelink communication. | | - |
| ***v2x-HighPower***  Indicates whether the UE supports maximum transmit power associated with Power class 2 V2X UE for V2X sidelink transmission in a band, see TS 36.101 [42]. | | - |
| ***v2x-HighReception***  Indicates whether the UE supports reception of 20 PSCCH in a subframe and decoding of 136 RBs per subframe counting both PSCCH and PSSCH in a band for V2X sidelink communication. | | - |
| ***v2x-nonAdjacentPSCCH-PSSCH***  Indicates whether the UE supports transmission and reception in the configuration of non-adjacent PSCCH and PSSCH for V2X sidelink communication. | | - |
| ***v2x-numberTxRxTiming***  Indicates the number of multiple reference TX/RX timings counted over all the configured sidelink carriers for V2X sidelink communication. | | - |
| ***v2x-SensingReportingMode3***  Indicates whether the UE supports sensing measurements and reporting of measurement results in eNB scheduled mode for V2X sidelink communication. | | - |
| ***v2x-SupportedBandCombinationList***  Indicates the supported band combination list on which the UE supports simultaneous transmission and/or reception of V2X sidelink communication. | |  |
| ***v2x-SupportedBandCombinationListEUTRA-NR***  Indicates the supported band combination list on which the UE supports simultaneous transmission and/or reception of NR sidelink communication only, or joint V2X sidelink communication and NR sidelink communication. | | - |
| ***v2x-SupportedTxBandCombListPerBC, v2x-SupportedRxBandCombListPerBC***  Indicates, for a particular band combination of EUTRA, the supported band combination list among *v2x-SupportedBandCombinationList* on which the UE supports simultaneous transmission or reception of EUTRA and V2X sidelink communication respectively. The first bit refers to the first entry of *v2x-SupportedBandCombinationList*, with value 1 indicating V2X sidelink transmission/reception is supported. | | - |
| ***v2x-SupportedTxBandCombListPerBC-v1630, v2x-SupportedRxBandCombListPerBC-v1630***  Indicates, for a particular band combination of EUTRA, the supported band combination list among *v2x-SupportedBandCombinationListEUTRA-NR* on which the UE supports simultaneous transmission or reception of EUTRA and NR sidelink communication respectively, or simultaneous transmission or reception of EUTRA and joint V2X sidelink communication and NR sidelink communication respectively. The first bit refers to the first entry of *v2x-SupportedBandCombinationListEUTRA-NR*, with value 1 indicating V2X sidelink transmission/reception is supported. | | - |
| ***v2x-TxWithShortResvInterval***  Indicates whether the UE supports 20 ms and 50 ms resource reservation periods for UE autonomous resource selection and eNB scheduled resource allocation for V2X sidelink communication. | | - |
| ***virtualCellID-BasicSRS***  Indicates whether the UE supports virtual cell ID for basic SRS symbol(s). | | - |
| ***virtualCellID-AddSRS***  This field indicates whether the UE supports virtual cell ID for additional SRS symbol(s). | | - |
| ***voiceOverPS-HS-UTRA-FDD***  Indicates whether UE supports IMS voice according to GSMA IR.58 profile in UTRA FDD. | | - |
| ***voiceOverPS-HS-UTRA-TDD128***  Indicates whether UE supports IMS voice in UTRA TDD 1.28Mcps. | | - |
| ***widebandPRG-Slot, widebandPRG-Subslot, widebandPRG-Subframe***  Indicates whether the UE supports wideband precoding resource block group size for slot/subslot/subframe operation as specified in TS 36.213 [23]. | | - |
| ***wlan-IW-RAN-Rules***  Indicates whether the UE supports RAN-assisted WLAN interworking based on access network selection and traffic steering rules. | | - |
| ***wlan-IW-ANDSF-Policies***  Indicates whether the UE supports RAN-assisted WLAN interworking based on ANDSF policies. | | - |
| ***wlan-MAC-Address***  Indicates the WLAN MAC address of this UE. | | - |
| ***wlan-PeriodicMeas***  Indicates whether the UE supports periodic reporting of WLAN measurements. | | - |
| ***wlan-ReportAnyWLAN***  Indicates whether the UE supports reporting of WLANs not listed in the *measObjectWLAN*. | | - |
| ***wlan-SupportedDataRate***  Indicates the maximum WLAN data rate supported by the UE over all LWA bearers. Actual value of supported data rate is field value \* 10 Mbps (i.e., value 1 corresponds to 10 Mbps, value 2 corresponds to 20 Mbps and so on). | | - |
| ***zp-CSI-RS-AperiodicInfo***  Indicates whether the UE supports aperiodic ZP-CSI-RS transmission for the indicated transmission mode. | | Yes |

NOTE 1: The IE *UE-EUTRA-Capability* does not include AS security capability information, since these are the same as the security capabilities that are signalled by NAS. Consequently, AS need not provide "man-in-the-middle" protection for the security capabilities.

NOTE 2: The column FDD/ TDD diff indicates if the UE is allowed to signal, as part of the additional capabilities for an XDD mode i.e. within *UE-EUTRA-CapabilityAddXDD-Mode-xNM*, a different value compared to the value signalled elsewhere within *UE-EUTRA-Capability* (i.e. the common value, supported for both XDD modes). A '-' is used to indicate that it is not possible to signal different values (used for fields for which the field description is provided for other reasons). Annex E specifies for which TDD and FDD serving cells a UE supporting TDD/FDD CA shall support a capability for which it indicates support within the capability signalling.

NOTE 2a: From REL-15 onwards, the UE is not allowed to signal different values for FDD and TDD unless yes is indicated in column FDD/ TDD diff (i.e. no need to introduce field description solely for the purpose of indicate no).

NOTE 3: The *BandCombinationParameters* for the same band combination can be included more than once.

NOTE 4: UE CA and measurement capabilities indicate the combinations of frequencies that can be configured as serving frequencies.

NOTE 5: The grouping of the cells to the first and second cell group, as indicated by *supportedCellGrouping*, is shown in the table below. The leading / leftmost bit of *supportedCellGrouping* corresponds to the Bit String Position 1.

|  |  |  |  |
| --- | --- | --- | --- |
| Nr of Band Entries: | 5 | 4 | 3 |
| Length of Bit-String: | 15 | 7 | 3 |
| Bit String Position | Cell grouping option (0= first cell group, 1= second cell group) | | |
| 1 | 00001 | 0001 | 001 |
| 2 | 00010 | 0010 | 010 |
| 3 | 00011 | 0011 | 011 |
| 4 | 00100 | 0100 |  |
| 5 | 00101 | 0101 |  |
| 6 | 00110 | 0110 |  |
| 7 | 00111 | 0111 |  |
| 8 | 01000 |  |  |
| 9 | 01001 |  |  |
| 10 | 01010 |  |  |
| 11 | 01011 |  |  |
| 12 | 01100 |  |  |
| 13 | 01101 |  |  |
| 14 | 01110 |  |  |
| 15 | 01111 |  |  |

NOTE 6: UE includes the *intraBandContiguousCC-InfoList-r12* also for bandwidth class A because of the presence conditions in *BandCombinationParameters-v1270*. For example, if UE supports CA\_1A\_41D band combination, if UE includes the field *intraBandContiguousCC-InfoList-r12* for band 41, the UE includes *intraBandContiguousCC-InfoList-r12* also for band 1.

NOTE 6a: For multiple *BandParameters* entries with the same *bandEUTRA* and same *ca-BandwidthClassDL* in a supported band combination, the UE capabilities indicated by *BandParameters* are agnostic to the order in which they are indicated in the *bandParameterList*, under the condition that the set of the capabilities indicated for the concerned *bandEUTRA* (e.g. *bandParametersDL* and *bandParametersUL)* are used together, and the concerned *BandParameters* correspond to the *supportedBandwithCombinationSet* for which set of channel bandwidths for carrier(s) is the same among sub-blocks, as defined in TS 36.101 [42], Table 5.6A.1-3, Table 5.6A.1-4, Table 5.6A.1-5.

NOTE 7: For a UE that indicates release X in field *accessStratumRelease* but supports a feature specified in release X+ N (i.e. early UE implementation), the ASN.1 comprehension requirement are specified in Annex F.

NOTE 8: For a UE that does not include *mimo-WeightedLayersCapabilities-r13*, or for the case with no CC configured with FD-MIMO, the FD-MIMO processing capability condition is not applicable (i.e. considered as satisfied). For a UE that includes *mimo-WeightedLayersCapabilities-r13*, the FD-MIMO processing capability condition is satisfied if the equation 4.3.28.13-1 in TS 36.306 [5] is satisfied.