**3GPP TSG-RAN WG3#123 *R3-24XXXX***

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

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

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|  |
| ***Title:***  | Correction for early TA acquisition for LTM |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | R3 |
|  |  |
| ***Work item code:*** | NR\_Mob\_enh2-Core |  | ***Date:*** | 2024-03-01 |
|  |  |  |  |  |
| ***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 canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | For LTM scenarios where the target cell TA value is known to be TA=0, the Source gNB-DU should avoid unecessary triggering early TA aqcquisition procedure. However, there is no supporting signaling over F1 to indicate Source gNB-DU about this condition. |
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| ***Summary of change:*** | Add an indication in UE CONTEXT MODIFICATION REQUEST to signal to Source gNB-DU that a given LTM target cell has known value of TA=0.Impact Analysis:Impact assessment towards the previous version of the specification (same release): This CR has isolated impact with the previous version of the specification (same release).The impact can be considered isolated because the change is limited to TA scenarios with TA=0 and TA same as source.  |
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| ***Consequences if not approved:*** | Source gNB-DU unecessarily triggers early TA acquisition procedure regardless of target cell having known value TA=0.  |
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| ***Clauses affected:*** | 8.3.4, 9.2.2.7, 9.4 (ASN.1) |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Rev.1: Changes limited to signaling from gNB-CU to gNB-DU |

**<< START OF CHANGES >>**

**---------------------------------------------------------Next change -------------------------------------------------------------**

### 8.3.4 UE Context Modification (gNB-CU initiated)

#### 8.3.4.1 General

The purpose of the UE Context Modification procedure is to modify the established UE Context, e.g., establishing, modifying and releasing radio resources or sidelink resources. This procedure is also used to command the gNB-DU to stop data transmission for the UE for mobility (see TS 38.401 [4]). The procedure uses UE-associated signalling.

#### 8.3.4.2 Successful Operation



**Figure 8.3.4.2-1: UE Context Modification procedure. Successful operation**

The UE CONTEXT MODIFICATION REQUEST message is initiated by the gNB-CU.

Upon reception of the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall perform the modifications, and if successful reports the update in the UE CONTEXT MODIFICATION RESPONSE message.

If the *SpCell ID* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall replace any previously received value and regard it as a reconfiguration with sync as defined in TS 38.331 [8]. If the *ServCellIndex* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall take this into account for the indicated SpCell. If the *SpCell UL Configured* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall configure UL for the indicated SpCell accordingly. If the *servingCellMO* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall configure servingCellMO for the indicated SpCell accordingly. If the *servingCellMO List* IE is included in the UE CONTEXT SETUP MODIFICATION REQUEST message, the gNB-DU shall, if supported, configure servingCellMO after determining the list of BWPs for the UE and include the list of servingCellMOs that have been encoded in *CellGroupConfig* IE as *ServingCellMO-encoded-in-CGC List* IE in theUE CONTEXT MODIFICATION RESPONSE message.

If the *Configured BWP List* IE is included in the UE CONTEXT MODIFICATION RESPONSE message the gNB-CU shall, if supported, take it into account when requesting the gNB-DU for generating preconfigured measurement GAP for the indicated BWPs.

If the *Preconfigured Measurement GAP Request* IE is present in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATON REQUEST message, the gNB-DU shall, if supported, consider that the content of the previous *CellGroupConfig* IE was not sent to the UE and generate the pre-configured measurement GAP for the indicated BWPs in the *MeasConfig* IE. If the gNB-DU successfully generates pre-configured measurement GAP for the indicated BWPs, the gNB-DU shall update the *CellGroupConfig* IE with the content of the previous *CellGroupConfig* IE and the preconfigured measurement GAP configuration in the UE CONTEXT MODIFICATION RESPONSE message.

If the *SCell To Be Setup List* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall consider it as a list of candidate SCells to be set up. If the *SCell To Be Setup List* IE is included in the UE CONTEXT MODIFICATION REQUEST message and the indicated SCell(s) are already setup, the gNB-DU shall replace any previously received value. If the *SCell UL Configured* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall configure UL for the indicated SCell accordingly. If the *servingCellMO* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall configure servingCellMO for the indicated SCell accordingly.

If the *SCell To Be Removed List* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall consider it as a list of SCells to be removed.

If the *DRX Cycle* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall use the provided value from the gNB-CU. If the *DRX configuration indicator* IE is contained in the UE CONTEXT MODIFICATION REQUEST message and set to "release", the gNB-DU shall release DRX configuration.

If the *SL* *DRX Cycle list* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use the provided value from the gNB-CU for the indicated RX UE of this UE. If the *SL DRX configuration indicator* IE is contained in the UE CONTEXT MODIFICATION REQUEST message and set to "release", the gNB-DU shall, if supported, release SL DRX configuration for the indicated RX UE of this UE.

If the *SRB To Be Setup List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall act as specified in the TS 38.401 [4], and replace any previously received value. If *Duplication Indication* IE is contained in the *SRB To Be Setup List* IE, the gNB-DU shall, if supported, setup two RLC entities for the indicated SRB if the value is set to be "true", or delete the RLC entity of secondary path if the value is set to be "false". If the *Additional* *Duplication Indication* IE is contained in the *SRB To Be Setup List* IE, the gNB-DU shall, if supported, setup the indicated RLC entities for the indicated SRB. If the *SRB Mapping Info* IE is contained in the *SRB To Be Setup List* IE, the gNB-DU shall, if supported, store the mapping information indicated in the *SRB Mapping Info* IE for the SRB identified by the *SRB ID* IE and the Uu Relay RLC channel identified by the *SRB Mapping Info*. The gNB-DU shall use the mapping information stored for the mapping of SRB data to Uu Relay RLC channel. If the *Duplication Indication* IE and *SRB Mapping Info* IE are both contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, setup one RLC entity for the direct path if the value is set to be "true", and map the indicated SRB to the Uu Relay RLC channel based on the *SRB Mapping Info* IE. If the *Additional* *Duplication Indication* IE and *SRB Mapping Info* IE are both contained in the *SRB To Be Setup List* IE, the gNB-DU shall, if supported, setup the indicated RLC entities for the indicated SRB, and map the indicated SRB to the Uu Relay RLC channel or the logical channel based on the *SRB Mapping Info* IE. The number of RLC entities to be set up is the indicated value of *Additional* *Duplication Indication* IE minus 1.

If the *DRB To Be Setup List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall act as specified in the TS 38.401 [4]. If the *DRB Mapping Info* IE is contained in the *DRB To Be Setup List* IE, the gNB-DU shall, if supported, store the mapping information indicated in the *DRB Mapping Info* IE, if present, for the DRB identified by the *DRB ID* IE and the Uu Relay RLC channel identified by the *DRB Mapping Info*. The gNB-DU shall use the mapping information stored for the mapping of DRB data to Uu Relay RLC channel.

If the *BH Information* IE is included in the *UL UP TNL Information to be setup List* IE or the *Additional PDCP Duplication TNL List* IE for a DRB, the gNB-DU shall, if supported, use the indicated BAP Routing ID and BH RLC channel for transmission of the corresponding GTP-U packets to the IAB-donor, as specified in TS 38.340 [30].

If the *BH RLC Channel To Be Setup List* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall act as specified in TS 38.401 [4]. If the *Traffic Mapping Information* IE is included in the *BH RLC Channel To Be Setup Item IEs* IE for a BH RLC Channel, the gNB-DU shall, if supported, process the *Traffic Mapping* Information IE following the behaviour described for the UE Context Setup procedure.

If the *BH RLC Channel To Be Modified List* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall act as specified in TS 38.401 [4]. If the *Traffic Mapping Information* IE is included in the *BH RLC Channel To Be Modified Item IEs* IE for a BH RLC Channel, the gNB-DU shall, if supported, process the *Traffic Mapping Information* IE following the behaviour described for the UE Context Setup procedure.

If the *BH RLC Channel To Be Released List* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall release the BH RLC channels in the list.

If two *UL UP TNL Information* IEs are included and the *DRB Mapping Info* IE is not contained in UE CONTEXT MODIFICATION REQUEST message for a DRB, the gNB-DU shall include two *DL UP TNL Information* IEs in UE CONTEXT MODIFICATION RESPONSE message and setup two RLC entities for the indicated DRB. If the *UL UP TNL Information* IE with the *DRB Mapping Info* IE and the *UL UP TNL Information* IE without the *DRB Mapping Info* IE are both contained in the UE CONTEXT MODIFICATION REQUEST message for a DRB, the gNB-DU shall, if supported, include two *DL UP TNL Information* IEs in UE CONTEXT MODIFICATION RESPONSE message, setup one RLC entity for the *UL UP TNL Information* IE without the *DRB Mapping Info* IE, and map the indicated DRB to the Uu Relay RLC channel based on the *DRB Mapping Info* IE. gNB-CU and gNB-DU use the *UL UP TNL Information* IEs and *DL UP TNL Information* IEs to support packet duplication for intra-gNB-DU CA and multi-path relay as defined in TS 38.470 [2]. The first *UP TNL Information* IE of the two *UP TNL Information* IEs is for the primary path*.*

If one or two *Additional PDCP Duplication UP TNL Information* IEs are included in the UE CONTEXT MODIFICATION REQUEST message for a DRB, the gNB-DU shall, if supported, include one or two *Additional PDCP Duplication UP TNL Information* IEs in the UE CONTEXT MODIFICATION RESPONSE message and setup one or two additional RLC entities for the indicated DRB. The gNB-CU and the gNB-DU use the *Additional PDCP Duplication UP TNL Information* IEs to support packet duplication for intra-gNB-DU CA as defined in TS 38.470 [2]*.*

If *Duplication Activation* IE is included in the UE CONTEXT MODIFICATION REQUEST message for a DRB, the gNB-DU should take it into account when activating/deactivating CA based PDCP duplication or multi-path relay based PDCP duplication for the DRB. If the *RLC Duplication State List* IE is included in the *RLC Duplication Information* IE contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account for the DRB with more than two RLC entities.

If *DC Based Duplication Configured* IE is included in the UE CONTEXT MODIFICATION REQUEST message for a DRB, the gNB-DU shall regard that DC based PDCP duplication is configured for this DRB if the value is set to be "true" and it should take the responsibility of PDCP duplication activation/deactivation. Otherwise, the gNB-DU shall regard that DC based PDCP duplication is de-configured for this DRB id the value is set to be "false", and it should stop PDCP duplication activation/deactivation by MAC CE. If *DC Based Duplication Activation* IE is included in the UE CONTEXT MODIFICATION REQUEST message for a DRB, the gNB-DU should take it into account when activating/deactivating DC based PDCP duplication for this DRB. If the *RLC Duplication State List* IE is included in the *RLC Duplication Information* IE contained in the UE CONTEXT MODIFICATION REQUEST message for a DRB, the gNB-DU shall, if supported, take it into account when activating/deactivating DC based PDCP duplication for the DRB with more than two RLC entities. If the *Primary Path Indication* IE is included in the *RLC Duplication Information* IE, the gNB-DU shall, if supported, take it into account when performing DC based PDCP duplication for the DRB with more than two RLC entities.

For a certain DRB which was allocated with two GTP-U tunnels, if such DRB is modified and given one GTP-U tunnel via the UE Context Modification procedure, the gNB-DU shall consider that the CA based PDCP duplication or multi-path relay based PDCP duplication for the concerned DRB is de-configured. If such UE Context Modification procedure occurs, the *Duplication Activation* IE shall not be included for the concerned DRB.

If the *UL Configuration* IE in *DRB to Be Setup Item* IE or *DRB to Be Modified* *Item* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall take it into account for UL scheduling.

If the *RRC Reconfiguration Complete Indicator* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall consider the ongoing reconfiguration procedure involving changes of the L1/L2 configuration at the gNB-DU signalled to the gNB-CU via the *CellGroupConfig* IE for MR-DC operation or standalone operation has been successfully performed when such IE is set to ‘true’; otherwise (when such IE is set to ‘failure’), the gNB-DU shall consider the ongoing reconfiguration procedure has been failed and it shall continue to use the old L1/L2 configuration.

If *DL PDCP SN* *length* IE is included in the UE CONTEXT MODIFICATION REQUEST message for a DRB, gNB-DU shall, if supported, store this information and use it for lower layer configuration.

If *UL PDCP SN length* IE is included in the UE CONTEXT MODIFICATION REQUEST message for a DRB, gNB-DU shall, if supported, store this information and use it for lower layer configuration.

If the *RLC Failure Indication* IE is included in UE CONTEXT MODIFICATION REQUEST message, the gNB-DU should consider that the RLC entity indicated by such IE needs to be re-established when the CA-based packet duplication is active, and the gNB-DU may include the *Associated SCell List* IE in UE CONTEXT MODIFICATION RESPONSE by containing a list of SCell(s) associated with the RLC entity indicated by the *RLC Failure Indication* IE.

If the UE CONTEXT MODIFICATION REQUEST message contains the *RRC-Container* IE, the gNB-DU shall send the corresponding RRC message to the UE. If the UE CONTEXT MODIFICATION REQUEST message includes the *Execute Duplication* IE, the gNB-DU shall perform CA based duplication, if configured, for the SRB for the included *RRC-Container* IE.

If the UE CONTEXT MODIFICATION REQUEST message contains the *Transmission Action Indicator* IE, the gNB-DU shall stop or restart (if already stopped) data transmission for the UE, according to the value of this IE. It is up to gNB-DU implementation when to stop or restart the UE scheduling.

For EN-DC operation, if the *DRB to Be Setup List* IE is present in the UE CONTEXT MODIFICATION REQUEST message the gNB-CU shall include the *E-UTRAN QoS* IE. The allocation of resources according to the values of the *Allocation and Retention Priority* IE included in the *E-UTRAN QoS* IE shall follow the principles described for the E-RAB Setup procedure in TS 36.413 [15]. For NG-RAN operation, the gNB-CU shall include the *DRB Information* IE in the UE CONTEXT MODIFICATION REQUEST message.

If the gNB-CU includes the SMTC information of the measured frequency(ies) in the *MeasurementTimingConfiguration* IE of the *CU to DU RRC Information* IE that is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall generate the measurement gaps based on the received SMTC information. Then the gNB-DU shall send the measurement gaps information to the gNB-CU in the *MeasGapConfig* IE of the *DU to CU RRC Information* IE that is included in the UE CONTEXT MODIFICATION RESPONSE message.

If the *MeasConfig* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall deduce that changes to the measurements’ configuration need to be applied. The gNB-DU shall take the received info, e.g. the *measObjectToAddModList* IE, and/or the *measObjectToRemoveList* IE into account, when generating measurement gap and when deciding if a measurement gap is needed or not.

If the *NeedForGapsInfoNR* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it as described in TS 38.331 [8]. If the *NeedForGapNCSG-InfoNR* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it as described in TS 38.331 [8]. If the *NeedForGapNCSG-InfoEUTRA* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it as described in TS 38.331 [8]. If the *NeedForInterruptionInfoNR* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it as described in TS 38.331 [8].

For DC operation, if the gNB-CU includes the *CG-Config* IE in the *CU to DU RRC Information* IE that is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU may initiate low layer parameters coordination taking this information into account.

For sidelink operation, the *CG-ConfigInfo* IE shall be included in the *CU to DU RRC Information* IE if the gNB-CU receives sidelink related UE information from UE. If the *CG-ConfigInfo* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall regard it as an indication of V2X sidelink information as defined in TS 38.331 [8].

For EN-DC operation, if the gNB-CU includes the *Resource Coordination Transfer Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it for the purpose of resource coordination. If the gNB-CU received the MeNB Resource Coordination Information as defined in TS 36.423 [9], after completion of UE Context Setup procedures, the gNB-CU shall transparently transfer it to the gNB-DU via the *Resource Coordination Transfer Container* IE in the UE CONTEXT MODIFICATION REQUEST message. The gNB-DU shall use the information received in the *Resource Coordination Transfer Container* IE for reception of MeNB Resource Coordination Information at the gNB acting as secondary node as described in TS 36.423 [9]. If the *Resource Coordination E-UTRA Cell Information* IE is included in the *Resource Coordination Transfer Information* IE, the gNB-DU shall store the information replacing previously received information for the same E-UTRA cell, and use the stored information for the purpose of resource coordination. If the *Ignore PRACH Configuration* IE is present and set to "true" the *E-UTRA PRACH Configuration* IE in the UE CONTEXT MODIFICATION REQUEST message shall be ignored.

For NGEN-DC or NE-DC operation, if the gNB-CU includes the *Resource Coordination Transfer Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it for the purpose of resource coordination. If the gNB-CU received the MR-DC Resource Coordination Information as defined in TS 38.423 [28], after completion of UE Context Setup procedures, the gNB-CU shall transparently transfer it to the gNB-DU via the *Resource Coordination Transfer Container* IE in the UE CONTEXT MODIFICATION REQUEST message. The gNB-DU shall use the information received in the *Resource Coordination Transfer Container* IE for reception of MR-DC Resource Coordination Information at the gNB as described in TS 38.423 [28].

For EN-DC operation, and if the *Subscriber Profile ID* *for RAT/Frequency priority* IE is received from an MeNB, the UE CONTEXT MODIFICTION REQUEST message shall contain the *Subscriber Profile ID* *for RAT/Frequency priority* IE. If the *Additional RRM Policy Index* IE is received from an MeNB, the UE CONTEXT MODIFICATION REQUEST message shall , if supported, contain the *Additional RRM Policy Index* IE. The gNB-DU shall store the received Subscriber Profile ID for RAT/Frequency priority in the UE context and use it as defined in TS 36.300 [20]. The gNB-DU shall, if supported, store the received Additional RRM Policy Index in the UE context and use it as defined in TS 36.300 [20].

If the *Index to RAT/Frequency Selection Priority* IE is modified at the gNB-CU, the *Index to RAT/Frequency Selection Priority* IE shall be included in the UE CONTEXT MODIFICATION REQUEST. The gNB-DU may use it for RRM purposes.

Only one of the following IEs shall be contained in the UE CONTEXT MODIFICATION REQUEST message: the *Uplink TxDirectCurrentList Information* IE or the *Uplink TxDirectCurrentTwoCarrierList Information* IE or the *Uplink TxDirectCurrentMoreCarrierList Information* IE. If the UE CONTEXT MODIFICATION REQUEST message contains one of the *Uplink TxDirectCurrentList Information* IE or the *Uplink TxDirectCurrentTwoCarrierList Information* IE or the *Uplink TxDirectCurrentMoreCarrierList Information* IE, the gNB-DU may take that into account when selecting L1 configuration.

The *UEAssistanceInformation* IE shall be included in *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message if the gNB-CU received this IE from the UE; if the *UEAssistanceInformation* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account when configuring resources for the UE.

The *UEAssistanceInformationEUTRA* IE shall be included in *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message if the gNB-CU received this IE from the UE; if the *UEAssistanceInformationEUTRA* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account when configuring LTE sidelink resources for the UE.

The gNB-DU shall report to the gNB-CU, in the UE CONTEXT MODIFICATION RESPONSE message, the result for all the requested or modified DRBs, SRBs, BH RLC Channels, Uu Relay RLC channels, PC5 Relay RLC channels, and SL DRBs in the following way:

- A list of DRBs which are successfully established shall be included in the *DRB Setup List* IE;

- A list of DRBs which failed to be established shall be included in the *DRB Failed to be Setup List* IE;

- A list of DRBs which are successfully modified shall be included in the *DRB Modified List* IE;

- A list of DRBs which failed to be modified shall be included in the *DRB Failed to be Modified List* IE;

- A list of SRBs which failed to be established shall be included in the *SRB Failed to be Setup List* IE.

- A list of successfully established SRBs with logical channel identities for primary path shall be included in the *SRB Setup List* IE only if CA based PDCP duplication is initiated for the concerned SRBs.

- A list of successfully modified SRBs with logical channel identities for primary path shall be included in the *SRB Modified List* IE only if CA based PDCP duplication is initiated for the concerned SRBs.

- A list of BH RLC channels which are successfully established shall be included in the *BH RLC Channel Setup List* IE;

- A list of BH RLC channels which failed to be established shall be included in the *BH RLC Channel Failed to be Setup List* IE;

- A list of BH RLC channels which are successfully modified shall be included in the *BH RLC Channel Modified List* IE;

- A list of BH RLC channels which failed to be modified shall be included in the *BH RLC Channel Failed to be Modified List* IE;

- A list of Uu Relay RLC channels which are successfully established shall be included in the *Uu RLC Channel Setup List* IE;

- A list of Uu Relay RLC channels which failed to be established shall be included in the *Uu RLC Channel Failed to be Setup List* IE;

- A list of Uu Relay RLC channels which are successfully modified shall be included in the *Uu RLC Channel Modified List* IE;

- A list of Uu Relay RLC channels which are failed to be modified shall be included in the *Uu RLC Channel Failed to be Modified List* IE;

- A list of PC5 Relay RLC channels which are successfully established shall be included in the *PC5 RLC Channel Setup List* IE;

- A list of PC5 Relay RLC channels which failed to be established shall be included in the *PC5 RLC Channel Failed to be Setup List* IE;

- A list of PC5 Relay RLC channels which are successfully modified shall be included in the *PC5 RLC Channel Modified List* IE;

- A list of PC5 Relay RLC channels which failed to be modified shall be included in the *PC5 RLC Channel Failed to be Modified List* IE;

- A list of SL DRBs which are successfully established shall be included in the *SL DRB Setup List* IE;

- A list of SL DRBs which failed to be established shall be included in the *SL DRB Failed to be Setup List* IE;

- A list of SL DRBs which are successfully modified shall be included in the *SL DRB Modified List* IE;

- A list of SL DRBs which failed to be modified shall be included in the *SL DRB Failed to be Modified List* IE.

If *Duplication Indication* IE in *SL DRB To Be Setup List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, generate two PC5 RLC configurations for the indicated SL DRB.

If *Duplication Indication* IE is contained in the *SL DRB To Be Modified List* IE, the gNB-DU shall, if supported, generate two PC5 RLC configurations for the indicated SL DRB, if the value is set to be"true" and duplication is not already configured for the indicated SL DRB.

If *Duplication Indication* IE is contained in the *SL DRB To Be Modified List* IE, the gNB-DU shall, if supported, release the additional PC5 RLC configuration for the indicated SL DRB, if the value is set to be "false".

For each GBR DRB, if the *Alternative QoS Parameters Sets* IE is included in the *GBR QoS Flow Information* IE in the UE CONTEXT MODIFICATION REQUEST message, gNB-DU shall, if supported, behave the same as the NG-RAN node in the PDU Session Resource Setup procedure, specified in TS 38.413 [3].

If the *BAP Control PDU Channel* IE is included in the *BH RLC Channel to be Setup List* IE, the gNB-DU shall, if supported, consider that the configured BH RLC channel can be used to transmit BAP Control PDUs, and use this BH RLC channel as specified in TS 38.340 [30].

If the *BAP Control PDU Channel* IE is included in the *BH RLC Channel to be Modified List* IE, the gNB-DU shall, if supported, consider that the configured BH RLC channel can be used to transmit BAP Control PDUs, and use this BH RLC channel as specified in TS 38.340 [30]. Otherwise, if the *BAP Control PDU Channel* IE is not present for any BH RLC channel, any available BH RLC channel can be used to transmit BAP Control PDUs as specified in TS 38.340 [30].

If the *F1-C Transfer Path* IE is included in UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account.

When the gNB-DU reports the unsuccessful establishment of a DRB or SRB or SL DRB or a BH RLC channel or a Uu Relay RLC channel or a PC5 Relay RLC channel, the cause value should be precise enough to enable the gNB-CU to know the reason for the unsuccessful establishment.

If the *Resource Coordination Transfer Container* IE is included in the UE CONTEXT MODIFICATION RESPONSE, the gNB-CU shall transparently transfer this information for the purpose of resource coordination as described in TS 36.423 [9], TS 38.423 [28].

If the *DU to CU RRC Information* IE is included in the UE CONTEXT MODIFICATION RESPONSE message, except for the CG-SDT procedure and UE configured with BWP specific ServingCellMO, the gNB-CU shall perform RRC Reconfiguration as described in TS 38.331 [8]. The *CellGroupConfig* IE shall transparently be signaled to the UE as specified in TS 38.331 [8]. In the cases of CG-SDT, and UE configured with BWP specific ServingCellMO, the *CellGroupConfig* IE shall be ignored by the gNB-CU.

If the *ServCellInfoList* IE is included in the *DU to CU RRC Information* IE contained in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall take it into account to generate the content of inter-node message, i.e., *CG-Config* or *CG-ConfigInfo*, as described in TS 38.331 [8].

If the *UE-CapabilityRAT-ContainerList* IE is included in the UE CONTEXT SETUP MODIFICATION REQUEST, the gNB-DU shall take this information into account for UE specific configurations.

If the *SCell Failed To Setup List* IE is contained in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall regard the corresponding SCell(s) failed to be set up with an appropriate cause value for each SCell failed to setup.

If the *C-RNTI* IE is included in the UE CONTEXT MODIFICATION RESPONSE, the gNB-CU shall consider that the C-RNTI has been allocated by the gNB-DU for this UE context.

If the *Inactivity Monitoring Request* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, gNB-DU may consider that the gNB-CU has requested the gNB-DU to perform UE inactivity monitoring. If the *Inactivity Monitoring Response* IE is contained in the UE CONTEXT MODIFICATION RESPONSE message and set to "Not-supported", the gNB-CU shall consider that the gNB-DU does not support UE inactivity monitoring for the UE.

The UE Context Modify Procedure is not used to configure SRB0.

If in the UE CONTEXT MODIFICATION REQUEST, the *Notification Control* IE is included in the *DRB to Be Setup List* IE or the *DRB to Be Modified List* IE and it is set to active, the gNB-DU shall, if supported, monitor the QoS of the DRB and notify the gNB-CU if the QoS cannot be fulfilled any longer or if the QoS can be fulfilled again. The *Notification Control* IE can only be applied to GBR bearers.

If the *UL PDU Session Aggregate Maximum Bit Rate* IE is included in the *QoS Flow Level QoS Parameters* IE containded in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall replace the received UL PDU Session Aggregate Maximum Bit Rate and use it as specified in TS 23.501 [21].

If the *gNB-DU UE Aggregate Maximum Bit Rate Uplink* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall:

- replace the previously provided gNB-DU UE Aggregate Maximum Bit Rate Uplink with the new received gNB-DU UE Aggregate Maximum Bit Rate Uplink;

- use the received gNB-DU UE Aggregate Maximum Bit Rate Uplink for non-GBR Bearers for the concerned UE.

The *gNB-DU UE Aggregate Maximum Bit Rate Uplink* IE shall be sent in the UE CONTEXT MODIFICATION REQUEST if *DRB to Be Setup List* IE is included and the gNB-CU has not previously sent it. The gNB-DU shall store and use the received *gNB-DU UE Aggregate Maximum Bit Rate Uplink* IE.

If the *RLC Status IE* is included in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall assume that RLC has been reestablished at the gNB-DU and may trigger PDCP data recovery.

If the GNB-*DU Configuration Query* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, gNB-DU shall include the *DU To CU RRC Information* IE in the UE CONTEXT MODIFICATION RESPONSE message.

If the *Bearer Type Change* IE is included in *DRB to Be Modified List* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall either reset the lower layers or generate a new LCID for the affected bearer as specified in TS 37.340 [7].

For NE-DC operation, if *NeedforGap* IE is included in the UE CONTEXT MODIFICATION REQUEST message,the gNB-DU shall generate measurement gap for the SeNB.

If the *QoS Flow Mapping Indication* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, replace any previously received value and take it into account that only the uplink or downlink QoS flow is mapped to the DRB.

If the *Lower Layer presence status change* IE set to "suspend lower layers" is included in the UE CONTEXT MODIFICATION REQUEST, the gNB-DU shall keep all lower layer configuration for UEs, and not transmit or receive data from UE.

If the *Lower Layer presence status change* IE set to "resume lower layers" is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall use the previously stored lower layer configuration for the UE.

If the *Full Configuration* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall generate a *CellGroupConfig* IE using full configuration and include it in the UE CONTEXT MODIFICATION RESPONSE.

If the *Full Configuration* IE is contained in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall consider that the gNB-DU has generated the *CellGroupConfig* IE using full configuration.

For each QoS flow whose DRB has been successfully established or modified and the *QoS Monitoring Request* IE was included in the *QoS Flow Level QoS Parameters* IE contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall store this information, and, if supported, perform delay measurement and QoS monitoring, as specified in TS 23.501 [21].

If the *NR* *V2X Services Authorized* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, update its V2X services authorization information for the UE accordingly. If the *NR* *V2X Services Authorized* IE includes one or more IEs set to "not authorized", the gNB-DU shall, if supported, initiate actions to ensure that the UE is no longer accessing the relevant service(s).

If the *LTE* *V2X Services Authorized* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, update its V2X services authorization information for the UE accordingly. If the *LTE* *V2X Services Authorized* IE includes one or more IEs set to "not authorized", the gNB-DU shall, if supported, initiate actions to ensure that the UE is no longer accessing the relevant service(s).

If the *LTE UE Sidelink Aggregate Maximum Bit Rate* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported:

- replace the previously provided UE LTE Sidelink Aggregate Maximum Bit Rate, if available in the UE context, with the received value;

- use the received value for the concerned UE’s sidelink communication in network scheduled mode for LTE V2X services.

If the *NR UE Sidelink Aggregate Maximum Bit Rate* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported:

- replace the previously provided UE NR Sidelink Aggregate Maximum Bit Rate, if available in the UE context, with the received value;

- use the received value for the concerned UE’s sidelink communication in network scheduled mode for NR V2X services.

If the *NR* *A2X Services Authorized* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, update its A2X services authorization information for the UE accordingly. If the *NR* *A2X Services Authorized* IE includes one or more IEs set to "not authorized", the gNB-DU shall, if supported, initiate actions to ensure that the UE is no longer accessing the relevant service(s).

If the *LTE* *A2X Services Authorized* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, update its A2X services authorization information for the UE accordingly. If the *LTE* *A2X Services Authorized* IE includes one or more IEs set to "not authorized", the gNB-DU shall, if supported, initiate actions to ensure that the UE is no longer accessing the relevant service(s).

If the *LTE UE Sidelink Aggregate Maximum Bit Rate for A2X* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported:

- replace the previously provided UE LTE Sidelink Aggregate Maximum Bit Rate for A2X, if available in the UE context, with the received value;

- use the received value for the concerned UE’s sidelink communication in network scheduled mode for LTE A2X services.

If the *NR UE Sidelink Aggregate Maximum Bit Rate for A2X* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported:

- replace the previously provided UE NR Sidelink Aggregate Maximum Bit Rate for A2X, if available in the UE context, with the received value;

- use the received value for the concerned UE’s sidelink communication in network scheduled mode for NR A2X services.

If the *PC5 Link Aggregate Maximum Bit Rate* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported:

- replace the previously provided UE PC5 Link Aggregate Bit Rate, if available in the UE context, with the received value;

- use the received value for the concerned UE’s sidelink communication in network scheduled mode for NR V2X services as defined in TS 23.287 [40].

If the *TSC Traffic Characteristics* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take into account the corresponding information received in the *TSC Traffic Characteristics* IE. If the *RAN Feedback Type* IE is included in the *TSC Assistance Information Uplink* IE of the *TSC Traffic Characteristics* IE, the gNB-DU shall, if supported, take this information into account when determining the feedback to provide in the *TSC Traffic Characteristics Feedback* IE in the UE CONTEXT MODIFICATION RESPONSE message.

If the *CPAC MCG Information* IE is included in the UE CONTEXT MODIFICATION REQUEST message and the CPAC Trigger is set to "CPAC-preparation", the gNB-DU shall, if supported, consider that the request concerns a conditional PSCell addition or conditional PSCell change or subsequent CPAC. The gNB-DU takes the included *CG-Config* and/or *CG-ConfigInfo* IE into account, and may provide a corresponding *CellGroupConfig* IE for MCG configuration preparation in the UE CONTEXT MODIFICATION RESPONSE message. The UE CONTEXT MODIFICATION RESPONSE message also includes a *Requested Target Cell ID* IE corresponding to the *PSCell ID* IE in the UE CONTEXT MODIFICATION REQUEST message.

If the *CPAC MCG Information* IE is included in the UE CONTEXT MODIFICATION REQUEST message and the CPAC Trigger is set to "CPAC-executed", the gNB-DU shall, if supported, consider that, for the included *PSCell ID* IE corresponding to the selected PSCell, the UE has successfully executed the CPAC preparation. The gNB-DU shall apply the corresponding *CellGroupConfig* IE for MCG configuration.

If the *Conditional Intra-DU Mobility Information* IE is included in the UE CONTEXT MODIFICATION REQUEST message and the CHO Trigger is set to "CHO-initiation", the gNB-DU shall consider that the request concerns a conditional handover or conditional PSCell addition or conditional PSCell change or subsequent CPAC for the included *SpCell ID* IE and shall include it as the *Requested Target Cell ID* IE in the UE CONTEXT MODIFICATION RESPONSE message. The gNB-DU shall regard it as a reconfiguration with sync as defined in TS 38.331 [8].

If the *Conditional Intra-DU Mobility Information* IE is included in the UE CONTEXT MODIFICATION REQUEST message and the CHO Trigger is set to "CHO-replace", the gNB-DU shall replace the existing prepared conditional mobility identified by the *gNB-DU UE F1AP ID* IE and the *SpCell ID* IE.

If the *Conditional Intra-DU Mobility Information* IE is included in the UE CONTEXT MODIFICATION REQUEST message and the CHO Trigger is set to "CHO-cancel", the gNB-DU shall consider that the gNB-CU is about to remove any reference to, and release any resources previously reserved for the candidate cells associated to the UE-associated signalling identified by the *gNB-CU UE F1AP ID* IE and the *gNB-DU UE F1AP ID* IE. If the *Candidate Cells To Be Cancelled List* IE is also included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall consider that only the resources reserved for the cells identified by the included NR CGIs are about to be released by the gNB-CU.

If the *Transmission Stop Indicator* IE is included within the *DRB to Be Modified Item* IE in the UE CONTEXT MODIFICATION REQUEST message and set to “true”, the gNB-DU shall, if supported, stop the data transmission for the DRB. It is up to gNB-DU implementation when to stop the UE scheduling for that DRB.

If the *SCG Indicator* IE is contained in the UE CONTEXT MODIFICATION REQUEST message and it is set to “released”, the gNB-DU shall, if supported, deduce that an SCG is removed.

If the *Estimated Arrival Probability* IE is contained in the *Conditional Intra-DU Mobility Information* IE included in the UE CONTEXT MODIFICATION REQUEST message, then the gNB-DU may use the information to allocate necessary resources for the UE.

If the *Location Measurement Information* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account when configuring measurement gaps for the UE.

If the *F1-C Transfer Path NRDC* IE is included in UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account.

If for a given E-RAB for EN-DC operation the *ENB DL Transport Layer Address* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it as part of its ACL functionality configuration actions, if such ACL functionality is deployed.

If for a given Qos flow for NG-RAN operation the *PDCP Terminating Node DL Transport Layer Address* IE is included in the UE CONTEXT MODIFICATION REQUEST message, then the gNB-DU shall, if supported, use it as part of its ACL functionality configuration actions, if such ACL functionality is deployed.

If the gNB-DU is an IAB-DU, and if the *IAB Conditional* *RRC Message Delivery Indication* IE is included in the UE CONTEXT MODIFICATION REQUEST message together with the *RRC-Container* IE, and if its value is set to “true”, and if the *RRC-Container* IE is for a child IAB-MT of the gNB-DU, the gNB-DU shall, if supported, withhold the RRC message until one of the following conditions is met:

If the gNB-DU belongs to a migrating IAB-node, whose co-located IAB-MT has successfully performed the random-access procedure to the target parent node, and if the migrating IAB-node has one or more routing entries for the target path.

The gNB-DU receives a subsequent F1AP message including an *RRC-Container IE* for the same child node.

If the gNB-DU belongs to a descendant node of the migrating IAB-node, whose co-located IAB-MT has received an *RRCReconfiguration* message including the intra-donor migration configurations, e.g., new TNL address(es) and the new default UL BAP routing ID.

If the gNB-DU belongs to a migrating IAB-node, whose co-located IAB-MT has successfully performed RLF recovery after handover failure, and if the migrating IAB-node has one or more routing entries for the target path.

If the *MDT Polluted Measurement Indicator* IE is included in the UE CONTEXT MODIFICATION REQUEST, the gNB-DU shall take this information into account as specified in TS 38.401 [4].

If the *SCG Activation Request* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU may use it to configure SCG resources as specified in TS 37.340 [7] , and if supported, shall include the *SCG Activation Status* IE in the UE CONTEXT MODIFICATION RESPONSE message.

If the *CG-SDT Query Indication* IE is included in the UE CONTEXT MODIFICATION REQUEST message and set to ‘true’, the gNB-DU shall, if supported, provide the CG-SDT related resource configuration for the bearers indicated as SDT bearers in the *SDT-MAC-PHY-CG-Config* IE within the *DU to CU RRC Information* IE contained in the UE CONTEXT MODIFICATION RESPONSE message to the gNB-CU. If the *SDT-MAC-PHY-CG-Config* IE is also included in the UE CONTEXT MODIFICATION REQUEST message within the *CU to DU RRC Information* IE, the gNB-DU may provide the delta signalling version of the *SDT-MAC-PHY-CG-Config* IE within the *DU to CU RRC Information* IE contained in the UE CONTEXT MODIFICATION RESPONSE message to the gNB-CU.

If the *5G ProSe Authorized* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, update its 5G ProSe services authorization information for the UE accordingly. If the *5G ProSe Authorized* IE includes one or more IEs set to "not authorized", the gNB-DU shall, if supported, initiate actions to ensure that the UE is no longer accessing the relevant service(s).

If the *SDT Bearer Configuration Query Indication* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, provide the RLC bearer configuration in the *SDT Bearer Configuration Info* IE in the UE CONTEXT MODIFICATION RESPONSE message for each bearer indicated as SDT bearer.

If the *5G ProSe UE PC5 Aggregate Maximum Bit Rate* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported:

- replace the previously provided 5G ProSe UE PC5 Aggregate Maximum Bit Rate, if available in the UE context, with the received value;

- use the received value for the concerned UE’s sidelink communication in network scheduled mode for 5G ProSe services.

If the *5G ProSe PC5 Link Aggregate Bit Rate* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported:

- replace the previously provided 5G ProSe PC5 Link Aggregate Bit Rate, if available in the UE context, with the received value;

- use the received value for the concerned UE’s sidelink communication in network scheduled mode for 5G ProSe services as defined in TS 23.304 [44].

If the *Updated Remote UE Local ID* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, replace the previously provided Remote UE Local ID, if available in the UE context, with the received value.

If the *Uu RLC Channel To Be Setup List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, act as specified in TS 38.401 [4].

If the *Uu RLC Channel To Be Modified List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, act as specified in TS 38.401 [4].

If the *Uu RLC Channel To Be Release List* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, release the Uu Relay RLC channels in the list.

If the *PC5 RLC Channel To Be Setup List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, act as specified in TS 38.401 [4]. gNB-DU generates the PC5 Relay RLC channel configurations for a L2 U2N Remote UE or U2N Relay UE. If the F1AP-IDs are associated with a U2N Relay UE, the *PC5 RLC Channel to be Setup Item IEs* IE shall include the *Remote UE Local ID* and correspondingly, the *PC5 RLC Channel Setup Item IEs* IE and the *PC5 RLC Channel Failed to be Setup Item* IE in the UE CONTEXT MODIFICATION RESPONSE message shall include the *Remote UE Local ID* IE.

If the *PC5 RLC Channel To Be Modified List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, act as specified in TS 38.401 [4]. gNB-DU generates the PC5 Relay RLC channel configurations for a L2 U2N Remote UE or U2N Relay UE. If the F1AP-IDs are associated with a U2N Relay UE, the *PC5 RLC Channel to be Modified Item IEs* IE shall include the *Remote UE Local ID* IE and correspondingly, the *PC5 RLC Channel Modified Item* *IEs* IE and the *PC5 RLC Channel Failed to be Modified Item IEs* IE in the UE CONTEXT MODIFICATION RESPONSE message shall include the *Remote UE Local ID* IE.

If the *PC5 RLC Channel To Be Release List* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, release the PC5 Relay RLC channels in the list. If the F1AP-IDs are associated with a U2N Relay UE, the *PC5 RLC Channel to be Released Item IEs* IE shall include the *Remote UE Local ID* IE.

If the *Path Switch Configuration* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it to configure the path switch from direct path to indirect path as specified in TS 38.401 [4].

If the *MUSIM-GapConfig* IE is contained in the *CU to DU RRC Information* IE included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, decide to use this IE for MUSIM gap configuration or select another one based on the received *UEAssistanceInformation* IE. If gNB-DU selects a different MUSIM gap configuration from received *UEAssistanceInformation* IE, then it shall include the selected MUSIM gap information to the gNB-CU in the *MUSIM-GapConfig* IE of the *DU to CU RRC Information* IE that is included in the UE CONTEXT MODIFICATION RESPONSE message.

If *MUSIM-GapConfig* IE is not contained in the *CU to DU RRC Information* IE, then gNB-DU shall, if supported, send the selected MUSIM gap configuration based on the received *UEAssistanceInformation* IE, to the gNB-CU in the *MUSIM-GapConfig* IE of the *DU to CU RRC Information* IE that is included in the UE CONTEXT MODIFICATION RESPONSE message. When MUSIM-GapConfig IE is received, the gNB-CU should use this value.

If the *gNB-DU UE Slice Maximum Bit Rate List* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported,

- store and replace the previously provided gNB-DU UE Slice Maximum Bit Rate List, if any, with the new received *gNB-DU UE Slice Maximum Bit Rate List*;

- use the received *gNB-DU UE Slice Maximum Bit Rate List* for the uplink traffic policing for each concerned slice as specified in TS 23.501 [21].

If the *Multicast MBS Session Setup List* IE or the *Multicast MBS Session Remove List* IE or both IEs are contained in the UE CONTEXT MODIFICATION REQUEST message the gNB-DU shall, if supported, store and use the information for configuring MBS Session Resources, if applicable.

If the *UE* *Multicast MRB To Be Setup at Modify List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account for configuring MBS Session Resources, if applicable, and shall include the *Multicast F1-U Context Reference CU* IE, if available, in the UE CONTEXT MODIFICATION RESPONSE message. And if the *MBS PTP Retransmission Tunnel Required* IE is included in the *UE Multicast MRB to Be Setup at Modify Item IEs* IE, the gNB-DU shall, if supported trigger the establishment of the MBS PTP Retransmission F1-U tunnel.

If the *MBS PTP Forwarding Tunnel Required Information* IE is included in the *UE Multicast MRB to Be Setup at Modify Item IEs* IE, the gNB-DU shall, if supported trigger the establishment of the MBS PTP Forwarding F1-U tunnel.

If the *Management Based MDT PLMN Modification* *List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, overwrite any previously stored Management Based MDT PLMN List information in the UE context and use the received information to determine subsequent selection of the UE for management based MDT defined in TS 32.422 [29].

If the *Dedicated SI Delivery Indication* IE is included in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall, if supported, take it into account for the system information delivery to the UE as described in TS 38.331 [8].

If the *PDU Set QoS Parameters* IE is included in the *QoS Flow Level QoS Parameters* IE contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, store this information and use it as specified in TS 23.501 [21].

If the *InterFrequencyConfig-NoGap* IE is included in the *DU to CU RRC Information* IE contained in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall, if supported, use it as described in TS 38.331 [8].

If the *ul-GapFR2-Config* IE is contained in the *DU to CU RRC Information* IE that is included in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall, if supported, use it as described in TS 38.331 [8].

If the *TwoPHRModeMCG* IE or the *TwoPHRModeSCG* IE is contained in the *DU to CU RRC Information* IE that is included in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall, if supported, use this value as described in TS 38.331 [8].

If the *MBSInterestIndication* IE is included in the *CU to DU RRC Information* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account when configuring resources for the UE.

If the *ncd-SSB-RedCapInitialBWP-SDT* IE is contained in the *DU to CU RRC Information* IE that is included in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall, if supported, use it as described in TS 38.331 [8].

If the *Network Controlled Repeater Authorized* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, update its authorization information for the UE accordingly. If the *Network Controlled Repeater Authorized* IE is set to "not authorized", the gNB-DU shall, if supported, initiate actions to ensure that the UE is no longer accessing as a Network Controlled Repeater.

If the *LTM Indicator* IE set to "true" is contained in the *LTM Information Modfiy* IEincluded in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, consider that the request concerns LTM for the included *SpCell ID* IE and shall include it as the *Requested Target Cell ID* IE in the UE CONTEXT MODIFICATION RESPONSE message.

If the *Request for Lower Layer Configuration* IE set to "true" is contained within the *Reference Configuration* IE in the *LTM Information Modify* IEincluded in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, include the *CellGroupConfig* IE in the UE CONTEXT MODIFICATION RESPONSE message to provide lower layer configuration for the gNB-CU to generate the LTM reference configuration.

If the *LTM Reference Configuration* IE is contained within the *Reference Configuration* IE in the *LTM Information Modify* IE included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account for generating the LTM lower layer configuration.

If the *CSI Resource Configuration* IEis contained in the *LTM Information Modify* IE included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it to generate the LTM CSI reporting configuration(s) in the *CellGroupConfig* for the requested LTM candidate cell.

If the *LTM Configuration ID Mapping List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, consider this as the mapping information for the LTM candidate cell(s).

If the *Request for RACH Configuration* IE set to "true" is contained in the *Early Sync Information Request* IE included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, take it into account for early TA acquisition, and include the *RACH Configuration* IE in the UE CONTEXT MODIFICATION RESPONSE message.

If the *Early Sync Information List* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use it as specified in TS 38.401 [4].

If the *LTM Cells to be Released List* IE is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, release the configured candidate cells in the list.

If the *LTM Complete Configuration Indicator* IE set to "complete" is contained in the *LTM Configuration* IE included in the UE CONTEXT MODIFICATION RESPONSE message, the gNB-CU shall, if supported, consider that the LTM candidate configuration is a complete configuration.

If the *Direct Path Addition* IE is contained in the *Path Addition Information* IE which is included in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, consider that the request concerns the direct path addition for the included *SpCell ID* IE as specified in TS 38.401 [4] and regard it as a reconfiguration with sync as defined in TS 38.331 [8]. If the *Indirect Path Addition* IE is contained in the *Path Addition Information* IE, the gNB-DU shall, if supported, consider that the request concerns the indirect path addition for the MP Remote UE using PC5 link and use it as specified in TS 38.401 [4]. If the *N3C* *Indirect Path Addition* IE is contained in the *Path Addition Information* IE, the gNB-DU shall, if supported, consider that the request concerns the indirect path addition for the MP Remote UE using N3C and use it as specified in TS 38.401 [4].

If the *S-NSSAI* IE is included within the *DRB to Be Modified Item* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, store the corresponding information and replace any existing information.

If the *TA Value Zero* IE is included within the *Early Sync Information List* IE in the UE CONTEXT MODIFICATION REQUEST message, the gNB-CU shall, if supported, take it into account for early TA acquisition.

**Interaction with UE Inactivity Notification procedure**

If the *SDT Volume Threshold* IE is contained in the UE CONTEXT MODIFICATION REQUEST message, the gNB-DU shall, if supported, use the information during an SDT transaction to inform the gNB-CU via the UE INACTIVITY NOTIFICATION message as specified in TS 38.401 [4].

**---------------------------------------------------------Next change -------------------------------------------------------------**

#### 9.2.2.7 UE CONTEXT MODIFICATION REQUEST

This message is sent by the gNB-CU to provide UE Context information changes to the gNB-DU.

Direction: gNB-CU → gNB-DU

| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| --- | --- | --- | --- | --- | --- | --- |
| Message Type | M |  | 9.3.1.1 |  | YES | reject |
| gNB-CU UE F1AP ID | M |  | 9.3.1.4 |  | YES | reject |
| gNB-DU UE F1AP ID | M |  | 9.3.1.5 |  | YES | reject |
| SpCell ID | O |  | NR CGI 9.3.1.12 | Special Cell as defined in TS 38.321 [16]. For handover case, this IE is considered as target cell. | YES | ignore |
| ServCellIndex | O |  | INTEGER (0..31, ...) |  | YES | reject |
| SpCell UL Configured | O |  | Cell UL Configured9.3.1.33 |  | YES | ignore |
| DRX Cycle  | O |  | DRX Cycle9.3.1.24 |  | YES | ignore |
| CU to DU RRC Information | O |  | 9.3.1.25 |  | YES | reject |
| Transmission Action Indicator | O |  | 9.3.1.11 |  | YES | ignore |
| Resource Coordination Transfer Container | O |  | OCTET STRING | Includes the *MeNB Resource Coordination Information* IE as defined in subclause 9.2.116 of TS 36.423 [9] for EN-DC case or *MR-DC Resource Coordination Information* IE as defined in TS 38.423 [28] for NGEN-DC and NE-DC cases. | YES | ignore |
| RRC Reconfiguration Complete Indicator | O |  | 9.3.1.30 |  | YES | ignore |
| RRC-Container | O |  | 9.3.1.6 | Includes the *DL-DCCH-Message* message as defined in subclause 6.2 of TS 38.331 [8], encapsulated in a PDCP PDU. | YES | reject |
| **SCell To Be Setup List** |  | *0..1* |  |  | YES | ignore |
| **>SCell to Be Setup Item IEs** |  | *1.. <maxnoofSCells>* |  |  | EACH | ignore |
| >>SCell ID | M |  | NR CGI 9.3.1.12 | SCell Identifier in gNB | - |  |
| >>SCellIndex | M |  | INTEGER (1..31) |  | - |  |
| >>SCell UL Configured | O |  | Cell UL Configured9.3.1.33 |  | - |  |
| >>servingCellMO | O |  | INTEGER (1..64) |  | YES | ignore |
| **SCell To Be Removed List** |  | *0..1* |  |  | YES | ignore |
| **>SCell to Be Removed Item IEs** |  | *1 .. <maxnoofSCells>* |  |  | EACH | ignore |
| >>SCell ID | M |  | NR CGI 9.3.1.12 | SCell Identifier in gNB | - |  |
| **SRB to Be Setup List** |  | *0..1* |  |  | YES | reject |
| **>SRB to Be Setup Item IEs** |  | *1..<maxnoofSRBs>* |  |  | EACH | reject |
| >>SRB ID | M |  | 9.3.1.7 |  | - |  |
| >>Duplication Indication | O |  | ENUMERATED (true, ..., false) | This IE is ignored if the *Additional Duplication Indication* IE is present. | - |  |
| >>Additional Duplication Indication | O |  | ENUMERATED (three, four, …) |  | YES | ignore |
| >>SRB Mapping Info | O |  | Uu RLC Channel ID 9.3.1.266 | This IE contains the mapped Uu Relay RLC CH ID for the SRB | YES | ignore |
| >>SDT Indicator Setup | O |  | ENUMERATED (true, …) | Indicates SDT SRB. | YES | reject |
| **DRB to Be Setup List** |  | *0..1* |  |  | YES | reject |
| **>DRB to Be Setup Item IEs** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | reject |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| >>CHOICE QoS Information | M |  |  |  | - |  |
| *>>>E-UTRAN QoS* |  |  |  |  |  |  |
| >>>>E-UTRAN QoS | M |  | 9.3.1.19 | Shall be used for EN-DC case to convey E-RAB Level QoS Parameters |  |  |
| *>>>DRB Information* |  |  |  |  |  |  |
| **>>>>DRB Information** |  | *1* |  | Shall be used for NG-RAN cases | YES | ignore |
| >>>>>DRB QoS | M |  | 9.3.1.45 |  | - |  |
| >>>>>S-NSSAI | M |  | 9.3.1.38 |  | - |  |
| >>>>>Notification Control | O |  | 9.3.1.56 |  | - |  |
| **>>>>>Flows Mapped to DRB Item** |  | *1 .. <maxnoofQoSFlows>* |  |  | - |  |
| >>>>>>QoS Flow Identifier | M |  | 9.3.1.63 |  | - |  |
| >>>>>>QoS Flow Level QoS Parameters | M |  | 9.3.1.45 |  | - |  |
| >>>>>>QoS Flow Mapping Indication | O |  | 9.3.1.72 |  | YES | ignore |
| >>>>>>TSC Traffic Characteristics | O |  | 9.3.1.141 | Traffic pattern information associated with the QFI. Details in TS 23.501 [21]. | YES | ignore |
| >>>>ECN Marking or Congestion Information Reporting Request | O |  | 9.3.1.321 |  | YES | ignore |
| **>>UL UP TNL Information to be setup List**  |  | *1* |  |  | - |  |
| **>>>UL UP TNL Information to Be Setup Item IEs** |  | *1 .. <maxnoofULUPTNLInformation>* |  |  | - |  |
| >>>>UL UP TNL Information | M |  | UP Transport Layer Information9.3.2.1 | gNB-CU endpoint of the F1 transport bearer. For delivery of UL PDUs. | - |  |
| >>>>BH Information | O |  | 9.3.1.114 |  | YES | ignore |
| >>>>DRB Mapping Info | O |  | Uu RLC Channel ID 9.3.1.266 | This IE contains the mapped Uu Relay RLC CH ID of the DL tunnel corresponding to such UL tunnel | YES | ignore |
| >>RLC Mode | M |  | 9.3.1.27 |  | - |  |
| >>UL Configuration | O |  | UL Configuration 9.3.1.31 | Information about UL usage in gNB-DU.  | - |  |
| >>Duplication Activation | O |  | 9.3.1.36 | Information on the initial state of CA based UL PDCP duplication.This IE is ignored if the *RLC Duplication Information* IE is present. | - |  |
| >>DC Based Duplication Configured | O |  | ENUMERATED (true, ..., false) | Indication on whether DC based PDCP duplication is configured or not. If included, it should be set to true. | YES | reject |
| >>DC Based Duplication Activation | O |  | Duplication Activation9.3.1.36 | Information on the initial state of DC based UL PDCP duplication.This IE is ignored if the *RLC Duplication Information* IE is present.  | YES | reject |
| >>DL PDCP SN length | O |  | ENUMERATED (12bits, 18bits, ...) |  | YES | ignore |
| >>UL PDCP SN length | O |  | ENUMERATED (12bits, 18bits, ...) |  | YES | ignore |
| **>>Additional PDCP Duplication TNL List**  |  | *0..1* |  |  | YES | ignore |
| **>>>Additional PDCP Duplication TNL Items** |  | *1 .. < maxnoofAdditionalPDCPDuplicationTNL>* |  |  | EACH | ignore |
| >>>>Additional PDCP Duplication UP TNL Information | M |  | UP Transport Layer Information9.3.2.1 | gNB-CU endpoint of the F1 transport bearer. For delivery of UL PDUs. | - |  |
| >>>>BH Information | O |  | 9.3.1.114 |  | YES | ignore |
| >>RLC Duplication Information | O |  | 9.3.1.146 |  | YES | ignore |
| >>SDT Indicator Setup | O |  | ENUMERATED (true, …) | Indicates SDT DRB. | YES | reject |
| **DRB to Be Modified List** |  | *0..1* |  |  | YES | reject |
| **>DRB to Be Modified Item IEs** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | reject |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| >>CHOICE *QoS Information* | O |  |  |  | - |  |
| *>>>E-UTRAN QoS* |  |  |  |  |  |  |
| >>>>E-UTRAN QoS | M |  | 9.3.1.19 | Used for EN-DC case to convey E-RAB Level QoS Parameters | - |  |
| *>>>DRB Information* |  |  |  |  |  |  |
| **>>>>DRB Information** |  | *1* |  | Used for NG-RAN cases | YES | ignore |
| >>>>>DRB QoS | M |  | 9.3.1.45 |  | - |  |
| >>>>>S-NSSAI | M |  | 9.3.1.38 |  | - |  |
| >>>>>Notification Control | O |  | 9.3.1.56 |  | - |  |
| **>>>>>Flows Mapped to DRB Item** |  | *1 .. <maxnoofQoSFlows>* |  |  | - |  |
| >>>>>>QoS Flow Identifier | M |  | 9.3.1.63 |  | - |  |
| >>>>>>QoS Flow Level QoS Parameters | M |  | 9.3.1.45 |  | - |  |
| >>>>>>QoS Flow Mapping Indication | O |  | 9.3.1.72 |  | YES | ignore |
| >>>>>>TSC Traffic Characteristics | O |  | 9.3.1.141 | Traffic pattern information associated with the QFI. Details in TS 23.501 [21]. | YES | ignore |
| >>>>ECN Marking or Congestion Information Reporting Request | O |  | 9.3.1.321 |  | YES | ignore |
| **>>UL UP TNL Information to be setup List**  |  | *1* |  |  | - |  |
| **>>>UL UP TNL Information to Be Setup Item IEs** |  | *1 .. <maxnoofULUPTNLInformation>* |  |  | - |  |
| >>>>UL UP TNL Information | M |  | UP Transport Layer Information9.3.2.1 | gNB-CU endpoint of the F1 transport bearer. For delivery of UL PDUs. | - |  |
| >>>>BH Information | O |  | 9.3.1.114 |  | YES | ignore |
| >>>>DRB Mapping Info | O |  | Uu RLC Channel ID 9.3.1.266 |  | YES | ignore |
| >>UL Configuration | O |  | UL Configuration 9.3.1.31 | Information about UL usage in gNB-DU.  | - |  |
| >>DL PDCP SN length | O |  | ENUMERATED(12bits,18bits , ...) |  | YES | ignore |
| >>UL PDCP SN length | O |  | ENUMERATED (12bits, 18bits, ...) |  | YES | ignore |
| >>Bearer Type Change | O |  | ENUMERATED (true, …) |  | YES | ignore |
| >>RLC Mode | O |  | 9.3.1.27 |  | YES | ignore |
| >>Duplication Activation | O |  | 9.3.1.36 | Information on the initial state of CA based UL PDCP duplication.This IE is ignored if the *RLC Duplication Information* IE is present. | YES | reject |
| >>DC Based Duplication Configured | O |  | ENUMERATED (true, …, false) | Indication on whether DC based PDCP duplication is configured or not. | YES | reject |
| >>DC Based Duplication Activation | O |  | 9.3.1.36 | Information on the initial state of DC based UL PDCP duplication.This IE is ignored if the *RLC Duplication Information* IE is present.  | YES | reject |
| **>>Additional PDCP Duplication TNL List**  |  | *0..1* |  |  | YES | ignore |
| **>>>Additional PDCP Duplication TNL Items** |  | *1 .. <maxnoofAdditionalPDCPDuplicationTNL>* |  |  | EACH | ignore |
| >>>>Additional PDCP Duplication UP TNL Information | M |  | UP Transport Layer Information9.3.2.1 | gNB-CU endpoint of the F1 transport bearer. For delivery of UL PDUs. | - |  |
| >>>>BH Information | O |  | 9.3.1.114 |  | YES | ignore |
| >>RLC Duplication Information | O |  | 9.3.1.146 |  | YES | ignore |
| >>Transmission Stop Indicator | O |  | 9.3.1.209 |  | YES | ignore |
| >>SDT Indicator Modify | O |  | ENUMTERATED (true, false, …) | Indicates SDT DRB or not.  | YES | reject |
| **SRB To Be Released List** |  | *0..1* |  |  | YES | reject |
| **>SRB To Be Released Item IEs** |  | *1.. <maxnoofSRBs>* |  |  | EACH | reject |
| >>SRB ID | M |  | 9.3.1.7 |  |  |  |
| **DRB to Be Released List** |  | *0..1* |  |  | YES | reject |
| **>DRB to Be Released Item IEs** |  | *1 .. <maxnoofDRBs>* |  |  | EACH | reject |
| >>DRB ID | M |  | 9.3.1.8 |  | - |  |
| Inactivity Monitoring Request | O |  | ENUMERATED (true, ...) |  | YES | reject |
| RAT-Frequency Priority Information | O |  | 9.3.1.34 |  | YES | reject |
| DRX configuration indicator | O |  | ENUMERATED(release,...) |  | YES | ignore |
| RLC Failure Indication | O |  | 9.3.1.66 |  | YES | ignore |
| Uplink TxDirectCurrentList Information | O |  | 9.3.1.67 |  | YES | ignore |
| GNB-DU Configuration Query | O |  | ENUMERATED (true, ...) | Used to request the gNB-DU to provide its configuration. | YES | reject |
| gNB-DU UE Aggregate Maximum Bit Rate Uplink | O |  | Bit Rate 9.3.1.22 | The gNB-DU UE Aggregate Maximum Bit Rate Uplink is to be enforced by the gNB-DU. | YES | ignore |
| Execute Duplication | O |  | ENUMERATED (true, ...) | This IE may be sent only if duplication has been configured for the UE. | YES | ignore |
| RRC Delivery Status Request | O |  | ENUMERATED (true, …) | Indicates whether RRC DELIVERY REPORT procedure is requested for the RRC message. | YES | ignore |
| Resource Coordination Transfer Information | O |  | 9.3.1.73 |  | YES | ignore |
| servingCellMO | O |  | INTEGER (1..64, ...) |  | YES | ignore |
| Need for Gap | O |  | ENUMERATED (true, …) | Indicate gap for SeNB configured measurement is requested.It only applied to NE DC scenario. | Yes | ignore |
| Full Configuration | O |  | ENUMERATED (full, ...) |  | YES | reject |
| Additional RRM Policy Index | O |  | 9.3.1.90 |  | YES | ignore |
| Lower Layer Presence Status Change | O |  | 9.3.1.94 |  | Yes | ignore |
| **BH RLC Channel to be Setup List** |  | *0..1* |  |  | YES | reject |
| **>BH RLC Channel to be Setup Item IEs** |  | *1 .. <maxnoofBHRLCChannels>* |  |  | EACH | reject |
| >>BH RLC CH ID | M |  | 9.3.1.113 |  | - |  |
| >>CHOICE *BH QoS information* | M |  |  |  |  |  |
| *>>>BH RLC CH QoS* |  |  |  |  |  |  |
| >>>>BH RLC CH QoS | M |  | QoS Flow Level QoS Parameters9.3.1.45 | Shall be used for SA case. |  |  |
| *>>>E-UTRAN BH RLC CH QoS* |  |  |  |  |  |  |
| >>>>E-UTRAN BH RLC CH QoS | M |  | E-UTRAN QoS9.3.1.19 | Shall be used for EN-DC case. |  |  |
| *>>>Control Plane Traffic Type* |  |  |  |  |  |  |
| >>>>Control Plane Traffic Type | M |  | 9.3.1.115 |  |  |  |
| >>RLC Mode | M |  | 9.3.1.27 |  | - |  |
| >>BAP Control PDU Channel | O |  | ENUMERATED (true, …) |  | - |  |
| >>Traffic Mapping Information | O |  | 9.3.1.95 |  | - |  |
| **BH RLC Channel to be Modified List** |  | *0..1* |  |  | YES | reject |
| **>BH RLC Channel to be Modified Item IEs** |  | *1 .. <maxnoofBHRLCChannels>* |  |  | EACH | reject |
| >>BH RLC CH ID | M |  | 9.3.1.113 |  | - |  |
| >>CHOICE *BH QoS information* | O |  |  |  |  |  |
| *>>>BH RLC CH QoS* |  |  |  |  |  |  |
| >>>>BH RLC CH QoS | M |  | QoS Flow Level QoS Parameters9.3.1.45 | Shall be used for SA case. | - |  |
| *>>>E-UTRAN BH RLC CH QoS* |  |  |  |  |  |  |
| >>>>E-UTRAN BH RLC CH QoS | M |  | E-UTRAN QoS9.3.1.19 | Shall be used for EN-DC case. | - |  |
| *>>>Control Plane Traffic Type* |  |  |  |  |  |  |
| >>>>Control Plane Traffic Type | M |  | 9.3.1.115 |  | - |  |
| >>RLC Mode | O |  | 9.3.1.27 |  | - |  |
| >>BAP Control PDU Channel | O |  | ENUMERATED (true, …) |  | - |  |
| >>Traffic Mapping Information | O |  | 9.3.1.95 |  | - |  |
| **BH RLC Channel to be Released List** |  | *0..1* |  |  | YES | reject |
| **>BH RLC Channel to be Released Item IEs** |  | *1 .. <maxnoofBHRLCChannels >* |  |  | EACH | reject |
| >>BH RLC CH ID | M |  | 9.3.1.113 |  | - |  |
| NR V2X Services Authorized | O |  | 9.3.1.116 |  | YES | ignore |
| LTE V2X Services Authorized | O |  | 9.3.1.117 |  | YES | ignore |
| NR UE Sidelink Aggregate Maximum Bit Rate | O |  | 9.3.1.119 | This IE applies only if the UE is authorized for NR V2X services. | YES | ignore |
| LTE UE Sidelink Aggregate Maximum Bit Rate | O |  | 9.3.1.118 | This IE applies only if the UE is authorized for LTE V2X services. | YES | ignore |
| PC5 Link Aggregate Bit Rate | O |  | Bit Rate9.3.1.22 | Only applies for non-GBR and unicast QoS Flows. | YES | ignore |
| **SL DRB to Be Setup List** |  | *0..1* |  |  | YES | reject |
| **>SL DRB to Be Setup Item IEs** |  | *1 .. <maxnoofSLDRBs>* |  |  | EACH | reject |
| >>SL DRB ID | M |  | 9.3.1.120 |  | - |  |
| **>>SL DRB Information** |  | *1* |  |  | YES | ignore |
| >>>SL DRB QoS | M |  | PC5 QoS Parameters9.3.1.122 |  | - |  |
| **>>>Flows Mapped to SL DRB Item** |  | *1 .. <maxnoofPC5QoSFlows>* |  |  | - |  |
| >>>>PC5 QoS Flow Identifier | M |  | 9.3.1.121 |  | - |  |
| >>RLC mode | O |  | 9.3.1.27 |  | - |  |
| >>Duplication Indication | O |  | ENUMERATED (true, ..., false) | If included, it should be set to true.  | - |  |
| **SL DRB to Be Modified List** |  | *0..1* |  |  | YES | reject |
| **>SL DRB to Be Modified Item IEs** |  | *1 .. <maxnoofSLDRBs>* |  |  | EACH | reject |
| >>SL DRB ID | M |  | 9.3.1.120 |  | - |  |
| **>>SL DRB Information** |  | *1* |  |  | YES | ignore |
| >>>SL DRB QoS | M |  | PC5 QoS Parameters9.3.1.122 |  | - |  |
| **>>>Flows Mapped to SL DRB Item** |  | *1 .. <maxnoofPC5QoSFlows>* |  |  | - |  |
| >>>>PC5 QoS Flow Identifier | M |  | 9.3.1.121 |  | - |  |
| >>RLC mode | O  |  | 9.3.1.27 |  | - |  |
| >>Duplication Indication | O |  | ENUMERATED (true, ..., false) |  | - |  |
| **SL DRB to Be Released List** |  | *0..1* |  |  | YES | reject |
| **>SL DRB to Be Released Item IEs** |  | *1 .. <maxnoofSLDRBs>* |  |  | EACH | reject |
| >>SL DRB ID | M |  | 9.3.1.120 |  | - |  |
| **Conditional Intra-DU Mobility Information** | O |  |  |  | YES | reject |
| >CHO Trigger | M |  | ENUMERATED (CHO-initiation, CHO-replace, CHO-cancel, …) |  | - | - |
| **>****Candidate Cells To Be Cancelled List** | C-ifCHOcancel | *0 .. <maxnoofCellsinCHO>* |  |  | - | - |
| >>Target Cell ID | M |  | NR CGI 9.3.1.12 |  | - | - |
| >Estimated Arrival Probability | O |  | INTEGER (1..100) |  | YES | ignore |
| F1-C Transfer Path | O |  | 9.3.1.207 |  | YES | reject |
| SCG Indicator | O |  | ENUMERATED(released,...) | This IE is used at the MN in NR-DC and NE-DC and it indicates the release of an SCG | YES | ignore |
| Uplink TxDirectCurrentTwoCarrierList Information | O |  | 9.3.1.283 |  | YES | ignore |
| IAB Conditional RRC Message Delivery Indication | O |  | ENUMERATED (true, …) | Indicates whether the RRC message within should be withheld. This IE is only applicable if the UE is an IAB-MT, and the gNB-DU is an IAB-DU. | YES | reject |
| F1-C Transfer Path NRDC | O |  | 9.3.1.228 | This IE is only applicable if the UE is an IAB-MT. | YES | reject |
| MDT Polluted Measurement Indicator | O |  | ENUMERATED (IDC,no-IDC, …) | Indication on whether MDT Measurement affect (e.g. IDC) is undertaken or not. | YES | ignore |
| SCG Activation Request | O |  | 9.3.1.233 |  | YES | ignore |
| CG-SDT Query Indication | O |  | ENUMERATED (true, ...) |  | YES | ignore |
| 5G ProSe Authorized | O |  | 9.3.1.268 |  | YES | ignore |
| 5G ProSe UE PC5 Aggregate Maximum Bit Rate | O |  | NR UE Sidelink Aggregate Maximum Bit Rate9.3.1.119 | This IE applies only if the UE is authorized for 5G ProSe services. | YES | ignore |
| 5G ProSe PC5 Link Aggregate Bit Rate | O |  | Bit Rate9.3.1.22 | This IE applies only if the UE is authorized for 5G ProSe services, and only applies for non-GBR and unicast QoS Flows. | YES | ignore |
| Updated Remote UE Local ID | O |  | Remote UE Local ID 9.3.1.267 | This IE indicates the updated Remote UE Local ID for the U2N Remote UE associated with the F1AP-IDs | YES | ignore |
| **Uu RLC Channel to Be Setup List** |  | *0..1* |  |  | YES | reject |
| **>Uu RLC Channel to be Setup Item IEs** |  | *1 .. <maxnoofUuRLCChannels>* |  |  | - |  |
| >>Uu RLC Channel ID | M |  | 9.3.1.266 |  | - |  |
| >>CHOICE *Uu RLC Channel QoS Information* | M |  |  |  | - |  |
| *>>>Uu RLC Channel QoS* |  |  |  |  |  |  |
| >>>>Uu RLC Channel QoS | M |  | QoS Flow Level QoS Parameters9.3.1.45 |  | - |  |
| *>>>Uu Control Plane Traffic Type* |  |  |  |  |  |  |
| >>>>Uu Control Plane Traffic Type | M |  | ENUMERATED(SRB0, SRB1, SRB2, …) | This IE indicates the type of SRB conveyed via the Uu Relay RLC Channel. | - |  |
| >>RLC Mode | M |  | 9.3.1.27 |  | - |  |
| **Uu RLC Channel to Be Modified List** |  | *0..1* |  |  | YES | reject |
| **>Uu RLC Channel to be Modified Item IEs** |  | *1 .. <maxnoofUuRLCChannels>* |  |  | - |  |
| >>Uu RLC Channel ID | M |  | 9.3.1.266 |  | - |  |
| >>CHOICE *Uu RLC Channel QoS Information* | O |  |  |  | - |  |
| *>>>Uu RLC Channel QoS* |  |  |  |  |  |  |
| >>>>Uu RLC Channel QoS | M |  | QoS Flow Level QoS Parameters9.3.1.45 |  | - |  |
| *>>>Uu Control Plane Traffic Type* |  |  |  |  |  |  |
| >>>>Uu Control Plane Traffic Type | M |  | ENUMERATED(SRB0, SRB1, SRB2, …) | This IE indicates the type of SRB conveyed via the Uu Relay RLC Channel. | - |  |
| >>RLC Mode | O |  | 9.3.1.27 |  | - |  |
| **Uu RLC Channel to Be Released List** |  | *0..1* |  |  | YES | reject |
| **>Uu RLC Channel to Be Released Item IEs** |  | *1 .. <maxnoofUuRLCChannels>* |  |  | - |  |
| >>Uu RLC channel ID | M |  | 9.3.1.266 |  | - |  |
| **PC5 RLC Channel to Be Setup List** |  | *0..1* |  |  | YES | reject |
| **>PC5 RLC Channel to be Setup Item IEs** |  | *1 .. <maxnoofPC5RLCChannels>* |  |  | - |  |
| >>PC5 RLC Channel ID | M |  | 9.3.1.265 |  | - |  |
| >>Remote UE Local ID | O |  | 9.3.1.267 |  | - |  |
| >>CHOICE *PC5 RLC Channel QoS Information* | M |  |  |  | - |  |
| *>>>PC5 RLC Channel QoS* |  |  |  |  |  |  |
| >>>>PC5 RLC Channel QoS | M |  | QoS Flow Level QoS Parameters9.3.1.45  |  | - |  |
| *>>>PC5 Control Plane Traffic Type* |  |  |  |  |  |  |
| >>>>PC5 Control Plane Traffic Type | M |  | ENUMERATED(SRB1, SRB2, …) | This IE indicates the type of SRB conveyed via the PC5 Relay RLC Channel. | - |  |
| **>>RLC Mode** | M |  | 9.3.1.27 |  | - |  |
| **PC5 RLC Channel to Be Modified List** |  | *0..1* |  |  | YES | reject |
| **>PC5 RLC Channel to be Modified Item IEs** |  | *1 .. <maxnoofPC5RLCChannels>* |  |  | - |  |
| >>PC5 RLC Channel ID | M |  | 9.3.1.265 |  | - |  |
| >>Remote UE Local ID | O |  | 9.3.1.267 |  |  |  |
| >>CHOICE *PC5 RLC Channel QoS Information* | O |  |  |  | - |  |
| *>>>PC5 RLC Channel QoS* |  |  |  |  |  |  |
| >>>>PC5 RLC Channel QoS | M |  | QoS Flow Level QoS Parameters9.3.1.45  |  | - |  |
| *>>>PC5 Control Plane Traffic Type* |  |  |  |  |  |  |
| >>>>PC5 Control Plane Traffic Type | M |  | ENUMERATED(SRB1, SRB2, …) | This IE indicate the type of SRB conveyed via the PC5 Relay RLC Channel. | - |  |
| >>RLC Mode | O |  | 9.3.1.27 |  | - |  |
| **PC5 RLC Channel to Be Released List** |  | *0..1* |  |  | YES | reject |
| **>PC5 RLC Channel to be Released Item IEs** |  | *1 .. <maxnoofPC5RLCChannels>* |  |  | - |  |
| >>PC5 RLC Channel ID | M |  | 9.3.1.265 |  | - |  |
| >>Remote UE Local ID | O |  | 9.3.1.267 |  | - |  |
| Path Switch Configuration  | O |  | 9.3.1.263 |  | YES | ignore |
| gNB-DU UE Slice Maximum Bit Rate List | O |  | 9.3.1.271 | The Slice Maximum Bit Rate List is the maximum aggregate UL bit rate per slice, to be enforced by the gNB-DU, if feasible. | YES | ignore |
| Multicast MBS Session Setup List | O |  | Multicast MBS Session List 9.3.1.272 | The list of MBS Session ID that UE has joined. | YES | reject |
| Multicast MBS Session Remove List | O |  | Multicast MBS Session List 9.3.1.272 | The list of MBS Session ID that UE has left. | YES | reject |
| **UE Multicast MRB to Be Setup at Modify List** |  | *0..1* |  |  | YES | reject |
| **>UE Multicast MRB to Be Setup at Modify Item IEs** |  | *1 .. <maxnoofMRBsforUE>* |  |  | EACH | reject |
| >>MRB ID | M |  | 9.3.1.224 | MRB ID for the UE. | - |  |
| >>MBS PTP Retransmission Tunnel Required | O |  | 9.3.2.10 |  | - |  |
| >>MBS PTP Forwarding Tunnel Required Information | O |  | MRB Progress Information 9.3.2.12 |  | - |  |
| **UE Multicast MRB to Be Released List** |  | *0..1* |  |  | YES | reject |
| **>UE Multicast MRB to Be Released Item IEs** |  | *1 .. <maxnoofMRBsforUE>* |  |  | EACH | reject |
| >>MRB ID | M |  | 9.3.1.224 | MRB ID for the UE. | - |  |
| **SL DRX Cycle List** |  | *0..1* |  |  | YES | ignore |
| **>SL DRX Cycle Item IEs** |  | *1 ..**<maxnoofSLdestinations >* |  |  | EACH | ignore |
| >>RX UE ID | M |  | BIT STRING (SIZE(24)) | Indicates the destination L2 ID of RX UE associated to this UE. | - |  |
| >>CHOICE *SL DRX Information* | M |  |  |  | - |  |
| *>>>SL DRX Cycle* |  |  |  |  |  |  |
| >>>>SL DRX Cycle Length | M |  | ENUMERATED(ms10, ms20, ms32, ms40, ms60, ms64, ms70, ms80, ms128, ms160, ms256, ms320, ms512, ms640, ms1024, ms1280, ms2048, ms2560, ms5120, ms10240, ...) | Indicates the desired SL DRX cycle for RX UE associated to this UE. | - |  |
| *>>>No SL DRX* |  |  |  |  | - |  |
| >>>>SL DRX configuration indicator | M |  | ENUMERATED(release,...) |  | - |  |
| Management Based MDT PLMN Modification List | O |  | MDT PLMN Modification List9.3.1.274 |  | YES | ignore |
| SDT Bearer Configuration Query Indication | O |  | ENUMERATED (true, ...) |  | YES | ignore |
| DAPS HO status | O |  | ENUMERATED(initiation, …) | This IE is used if DAPS HO is initiated. | YES | ignore |
| **ServingCellMO List** |  | *0..1* |  | For NCD-SSBs | YES | ignore |
| **>ServingCellMO Item IEs** |  | *1 .. <maxnoofServingCellMOs>* |  |  | EACH | ignore |
| >>servingCellMO | M |  | INTEGER (1..64) |  | - |  |
| >>SSB frequency | M |  | INTEGER (0..3279165) | ARFCN | - |  |
| Uplink TxDirectCurrentMoreCarrierList Information  | O |  | 9.3.1.284 |  | YES | ignore |
| **CPAC MCG Information** |  | *0..1* |  | This IE is used at the MN for MCG configuration as specified in TS 37.340 [7] for CPAC.  | YES | ignore |
| >CPAC Trigger | M |  | ENUMERATED (CPAC-preparation, CPAC-executed, …) |  | - | - |
| >PSCell ID | M |  | NR CGI 9.3.1.12 | The PSCell corresponding to the included CG-Config IE at CPAC-preparation or the selected PSCell by the UE at CPAC-executed. | - | - |
| Network Controlled Repeater Authorized | O |  | 9.3.1.288 |  | YES | ignore |
| SDT Volume Threshold | O |  | INTEGER(1.. 192000,...) | Unit: byte. | YES | ignore |
| **LTM Information Modify** |  | *0..1* |  |  | YES | reject |
| >LTM Indicator | M |  | ENUMERATED (true, …) |  | - |  |
| >LTM Configuration ID | M |  | INTEGER (1..8) | Corresponds to the *LTM-CandidateId* IE, as defined in TS 38.331 [8]. | - |  |
| >Reference Configuration | O |  | 9.3.1.292 |  | - |  |
| >CSI Resource Configuration | O |  | OCTET STRING | Includes the *ltm-CSI-ResourceConfigToAddModList* IE as defined in TS 38.331 [8]. | - |  |
| LTM Configuration ID Mapping List | O |  | 9.3.1.294 |  | YES | reject |
| **Early Sync Information Request** |  | *0..1* |  |  | YES | ignore |
| >Request for RACH Configuration | O |  | ENUMERATED (true, …) |  | - |  |
| **Early Sync Information List** |  | *0..1* |  |  | YES | ignore |
| **>Early Sync Information Item IEs** |  | *1 .. <maxnoofLTMCells>* |  |  | EACH | ignore |
| >>Cell ID | M |  | NR CGI9.3.1.12 |  | - |  |
| >>RACH Configuration | O |  | OCTET STRING | Includes the *EarlyUL-SyncConfig*IE, as defined in TS 38.331 [8]. |  |  |
| >>TCI States Configurations List | O |  | 9.3.1.293 |  |  |  |
| >>TA Value Zero | O |  | ENUMERATED(true,…) |  | YES | ignore |
| **LTM Cells To Be Released List** | O |  | 9.3.1.291 |  | YES | ignore |
| Path Addition Information | O |  | 9.3.1.296 |  | YES | ignore |
| NR A2X Services Authorized | O |  | 9.3.1.323 |  | YES | ignore |
| LTE A2X Services Authorized | O |  | 9.3.1.324 |  | YES | ignore |
| NR UE Sidelink Aggregate Maximum Bit Rate for A2X | O |  | 9.3.1.119 | This IE applies only if the UE is authorized for NR A2X services. | YES | ignore |
| LTE UE Sidelink Aggregate Maximum Bit Rate for A2X | O |  | 9.3.1.118 | This IE applies only if the UE is authorized for LTE A2X services. | YES | ignore |

| Range bound | Explanation |
| --- | --- |
| maxnoofSCells | Maximum no. of SCells allowed towards one UE, the maximum value is 32. |
| maxnoofServingCellMOs | Maximum number of ServingCellMOs for NCD-SSB per cell. Maximum value is 16 |
| maxnoofSRBs | Maximum no. of SRB allowed towards one UE, the maximum value is 8.  |
| maxnoofDRBs | Maximum no. of DRB allowed towards one UE, the maximum value is 64.  |
| maxnoofULUPTNLInformation | Maximum no. of UL UP TNL Information allowed towards one DRB, the maximum value is 2. |
| maxnoofQoSFlows | Maximum no. of flows allowed to be mapped to one DRB, the maximum value is 64. |
| maxnoofBHRLCChannels | Maximum no. of BH RLC channels allowed towards one IAB-node, the maximum value is 65536. |
| maxnoofSLDRBs | Maximum no. of SL DRB allowed for NR sidelink communication per UE, the maximum value is 512. |
| maxnoofPC5QoSFlows | Maximum no. of PC5 QoS flow allowed towards one UE for NR sidelink communication, the maximum value is 2048. |
| maxnoofAdditionalPDCPDuplicationTNL | Maximum no. of additional UP TNL Information allowed towards one DRB, the maximum value is 2.  |
| maxnoofCellsinCHO | Maximum no. cells that can be prepared for a conditional mobility. Value is 8. |
| maxnoofUuRLCChannels | Maximum no. of Uu Relay RLC channels for L2 U2N relaying or L2 N3C relaying per Relay UE, the maximum value is 32. |
| maxnoofPC5RLCChannels | Maximum no. of PC5 Relay RLC channel allowed for L2 U2N relaying per Remote UE or Relay UE, the maximum value is 512. |
| maxnoofMRBsforUE | Maximum no. of multicast MRB allowed towards one UE, the maximum value is 64. |
| maxnoofSLdestinations | Maximum number of destination for NR sidelink communication, the maximum value is 32 |
| maxnoofLTMCells | Maximum no. of Cells configured for LTM allowed towards one UE, the maximum value is 8. |

|  |  |
| --- | --- |
| Condition | Explanation |
| ifCHOcancel | This IE may be present if the CHO Trigger IE is present and set to "CHO-cancel". |

**---------------------------------------------------------Next change -------------------------------------------------------------**

-- E

EarlySyncInformation-Request ::= SEQUENCE {

 requestforRACHConfiguration RequestforRACHConfiguration OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { EarlySyncInformation-Request-ExtIEs} } OPTIONAL,

 ...

}

EarlySyncInformation-Request-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EarlySyncInformation ::= SEQUENCE {

 tCIStatesConfigurationsList TCIStatesConfigurationsList,

 rACHConfiguration RACHConfiguration OPTIONAL, iE-Extensions ProtocolExtensionContainer { { EarlySyncInformation-ExtIEs} } OPTIONAL,

 ...

}

EarlySyncInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EarlySyncInformation-List ::= SEQUENCE (SIZE (1.. maxnoofLTMCells)) OF EarlySyncInformation-Item

EarlySyncInformation-Item ::= SEQUENCE {

 nRCGI NRCGI,

 rACHConfiguration RACHConfiguration OPTIONAL, tCIStatesConfigurationsList TCIStatesConfigurationsList OPTIONAL,

 tAValueZero TAValueZero OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { EarlySyncInformation-Item-ExtIEs } } OPTIONAL,

 ...

}

EarlySyncInformation-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

E-CID-MeasurementQuantities ::= SEQUENCE (SIZE (1.. maxnoofMeasE-CID)) OF ProtocolIE-SingleContainer { {E-CID-MeasurementQuantities-ItemIEs} }

E-CID-MeasurementQuantities-ItemIEs F1AP-PROTOCOL-IES ::= {

 { ID id-E-CID-MeasurementQuantities-Item CRITICALITY reject TYPE E-CID-MeasurementQuantities-Item PRESENCE mandatory}

}

E-CID-MeasurementQuantities-Item ::= SEQUENCE {

 e-CIDmeasurementQuantitiesValue E-CID-MeasurementQuantitiesValue,

 iE-Extensions ProtocolExtensionContainer { { E-CID-MeasurementQuantitiesValue-ExtIEs} } OPTIONAL

}

E-CID-MeasurementQuantitiesValue-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

E-CID-MeasurementQuantitiesValue ::= ENUMERATED {

 default,

 angleOfArrivalNR,

 ... ,

 timingAdvanceNR

}

E-CID-MeasurementResult ::= SEQUENCE {

 geographicalCoordinates GeographicalCoordinates OPTIONAL,

 measuredResults-List E-CID-MeasuredResults-List OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { E-CID-MeasurementResult-ExtIEs} } OPTIONAL

}

E-CID-MeasurementResult-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-MobileAccessPointLocation CRITICALITY ignore EXTENSION Mobile-TRP-LocationInformation PRESENCE optional },

 ...

}

E-CID-MeasuredResults-List ::= SEQUENCE (SIZE(1..maxnoofMeasE-CID)) OF E-CID-MeasuredResults-Item

E-CID-MeasuredResults-Item ::= SEQUENCE {

 e-CID-MeasuredResults-Value E-CID-MeasuredResults-Value,

 iE-Extensions ProtocolExtensionContainer {{ E-CID-MeasuredResults-Item-ExtIEs }} OPTIONAL

}

E-CID-MeasuredResults-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

E-CID-MeasuredResults-Value ::= CHOICE {

 valueAngleofArrivalNR UL-AoA,

 choice-extension ProtocolIE-SingleContainer { { E-CID-MeasuredResults-Value-ExtIEs} }

}

E-CID-MeasuredResults-Value-ExtIEs F1AP-PROTOCOL-IES ::= {

 { ID id-NR-TADV CRITICALITY ignore TYPE NR-TADV PRESENCE mandatory },

 ...

}

E-CID-ReportCharacteristics ::= ENUMERATED {

 onDemand,

 periodic,

 ...

}

EgressBHRLCCHList ::= SEQUENCE (SIZE(1..maxnoofEgressLinks)) OF EgressBHRLCCHItem

EgressBHRLCCHItem ::= SEQUENCE {

 nextHopBAPAddress BAPAddress,

 bHRLCChannelID BHRLCChannelID,

 iE-Extensions ProtocolExtensionContainer {{EgressBHRLCCHItemExtIEs }} OPTIONAL

}

EgressBHRLCCHItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EgressNonF1terminatingTopologyIndicator ::= ENUMERATED {true, ...}

Endpoint-IP-address-and-port ::=SEQUENCE {

 endpointIPAddress TransportLayerAddress,

 iE-Extensions ProtocolExtensionContainer { { Endpoint-IP-address-and-port-ExtIEs} } OPTIONAL

}

Endpoint-IP-address-and-port-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-portNumber CRITICALITY reject EXTENSION PortNumber PRESENCE optional},

 ...

}

EnergyDetectionThreshold ::= INTEGER (-100..-50, ...)

ExtendedAvailablePLMN-List ::= SEQUENCE (SIZE(1..maxnoofExtendedBPLMNs)) OF ExtendedAvailablePLMN-Item

ExtendedAvailablePLMN-Item ::= SEQUENCE {

 pLMNIdentity PLMN-Identity,

 iE-Extensions ProtocolExtensionContainer { { ExtendedAvailablePLMN-Item-ExtIEs} } OPTIONAL

}

ExplicitFormat ::= SEQUENCE {

 permutation Permutation,

 noofDownlinkSymbols NoofDownlinkSymbols OPTIONAL,

 noofUplinkSymbols NoofUplinkSymbols OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { ExplicitFormat-ExtIEs} } OPTIONAL

}

ExplicitFormat-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

ExtendedAvailablePLMN-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

ExtendedServedPLMNs-List ::= SEQUENCE (SIZE(1.. maxnoofExtendedBPLMNs)) OF ExtendedServedPLMNs-Item

ExtendedServedPLMNs-Item ::= SEQUENCE {

 pLMN-Identity PLMN-Identity,

 tAISliceSupportList SliceSupportList OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { ExtendedServedPLMNs-ItemExtIEs} } OPTIONAL,

 ...

}

ExtendedServedPLMNs-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-NPNSupportInfo CRITICALITY reject EXTENSION NPNSupportInfo PRESENCE optional }|

 { ID id-ExtendedTAISliceSupportList CRITICALITY reject EXTENSION ExtendedSliceSupportList PRESENCE optional }|

 { ID id-TAINSAGSupportList CRITICALITY ignore EXTENSION NSAGSupportList PRESENCE optional},

 ...

}

ExtendedSliceSupportList ::= SEQUENCE (SIZE(1.. maxnoofExtSliceItems)) OF SliceSupportItem

ExtendedUEIdentityIndexValue ::= BIT STRING (SIZE(16))

EUTRACells-List ::= SEQUENCE (SIZE (1.. maxCellineNB)) OF EUTRACells-List-item

EUTRACells-List-item ::= SEQUENCE {

 eUTRA-Cell-ID EUTRA-Cell-ID,

 served-EUTRA-Cells-Information Served-EUTRA-Cells-Information,

 iE-Extensions ProtocolExtensionContainer { { EUTRACells-List-itemExtIEs } } OPTIONAL

}

EUTRACells-List-itemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-Cell-ID ::= BIT STRING (SIZE(28))

EUTRA-Coex-FDD-Info ::= SEQUENCE {

 uL-EARFCN ExtendedEARFCN OPTIONAL,

 dL-EARFCN ExtendedEARFCN,

 uL-Transmission-Bandwidth EUTRA-Transmission-Bandwidth OPTIONAL,

 dL-Transmission-Bandwidth EUTRA-Transmission-Bandwidth,

 iE-Extensions ProtocolExtensionContainer { {EUTRA-Coex-FDD-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-Coex-FDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-Coex-Mode-Info ::= CHOICE {

 fDD EUTRA-Coex-FDD-Info,

 tDD EUTRA-Coex-TDD-Info,

 ...

}

EUTRA-Coex-TDD-Info ::= SEQUENCE {

 eARFCN ExtendedEARFCN,

 transmission-Bandwidth EUTRA-Transmission-Bandwidth,

 subframeAssignment EUTRA-SubframeAssignment,

 specialSubframe-Info EUTRA-SpecialSubframe-Info,

 iE-Extensions ProtocolExtensionContainer { {EUTRA-Coex-TDD-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-Coex-TDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-CyclicPrefixDL ::= ENUMERATED {

 normal,

 extended,

 ...

}

EUTRA-CyclicPrefixUL ::= ENUMERATED {

 normal,

 extended,

 ...

}

EUTRA-PRACH-Configuration ::= SEQUENCE {

 rootSequenceIndex INTEGER (0..837),

 zeroCorrelationIndex INTEGER (0..15),

 highSpeedFlag BOOLEAN,

 prach-FreqOffset INTEGER (0..94),

 prach-ConfigIndex INTEGER (0..63) OPTIONAL,

 -- C-ifTDD: This IE shall be present if the EUTRA-Mode-Info IE in the Resource Coordination E-UTRA Cell Information IE is set to the value "TDD"

 iE-Extensions ProtocolExtensionContainer { {EUTRA-PRACH-Configuration-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-PRACH-Configuration-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-SpecialSubframe-Info ::= SEQUENCE {

 specialSubframePatterns EUTRA-SpecialSubframePatterns,

 cyclicPrefixDL EUTRA-CyclicPrefixDL,

 cyclicPrefixUL EUTRA-CyclicPrefixUL,

 iE-Extensions ProtocolExtensionContainer { { EUTRA-SpecialSubframe-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-SpecialSubframe-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-SpecialSubframePatterns ::= ENUMERATED {

 ssp0,

 ssp1,

 ssp2,

 ssp3,

 ssp4,

 ssp5,

 ssp6,

 ssp7,

 ssp8,

 ssp9,

 ssp10,

 ...

}

EUTRA-SubframeAssignment ::= ENUMERATED {

 sa0,

 sa1,

 sa2,

 sa3,

 sa4,

 sa5,

 sa6,

 ...

}

EUTRA-Transmission-Bandwidth ::= ENUMERATED {

 bw6,

 bw15,

 bw25,

 bw50,

 bw75,

 bw100,

 ...

}

EUTRANQoS ::= SEQUENCE {

 qCI QCI,

 allocationAndRetentionPriority AllocationAndRetentionPriority,

 gbrQosInformation GBR-QosInformation OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { EUTRANQoS-ExtIEs} } OPTIONAL,

 ...

}

EUTRANQoS-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

{ ID id-ENBDLTNLAddress CRITICALITY ignore EXTENSION TransportLayerAddress PRESENCE optional },

 ...

}

ExecuteDuplication ::= ENUMERATED{true,...}

ExtendedEARFCN ::= INTEGER (0..262143)

EUTRA-Mode-Info ::= CHOICE {

 eUTRAFDD EUTRA-FDD-Info,

 eUTRATDD EUTRA-TDD-Info,

 choice-extension ProtocolIE-SingleContainer { { EUTRA-Mode-Info-ExtIEs} }

}

EUTRA-Mode-Info-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

EUTRA-NR-CellResourceCoordinationReq-Container ::= OCTET STRING

EUTRA-NR-CellResourceCoordinationReqAck-Container ::= OCTET STRING

EUTRA-FDD-Info ::= SEQUENCE {

 uL-offsetToPointA OffsetToPointA,

 dL-offsetToPointA OffsetToPointA,

 iE-Extensions ProtocolExtensionContainer { {EUTRA-FDD-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-FDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EUTRA-TDD-Info ::= SEQUENCE {

 offsetToPointA OffsetToPointA,

 iE-Extensions ProtocolExtensionContainer { {EUTRA-TDD-Info-ExtIEs} } OPTIONAL,

 ...

}

EUTRA-TDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

EventType ::= ENUMERATED {

 on-demand,

 periodic,

 stop,

 ...

}

ExtendedPacketDelayBudget ::= INTEGER (1..65535, ..., 65536..109999)

Expected-UL-AoA ::= SEQUENCE {

 expected-Azimuth-AoA Expected-Azimuth-AoA,

 expected-Zenith-AoA Expected-Zenith-AoA OPTIONAL,

 iE-extensions ProtocolExtensionContainer { { Expected-UL-AoA-ExtIEs } } OPTIONAL,

 ...

}

Expected-UL-AoA-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Expected-ZoA-only ::= SEQUENCE {

 expected-ZoA-only Expected-Zenith-AoA,

 iE-extensions ProtocolExtensionContainer { { Expected-ZoA-only-ExtIEs } } OPTIONAL,

 ...

}

Expected-ZoA-only-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Expected-Azimuth-AoA ::= SEQUENCE {

 expected-Azimuth-AoA-value Expected-Value-AoA,

 expected-Azimuth-AoA-uncertainty Uncertainty-range-AoA,

 iE-Extensions ProtocolExtensionContainer { { Expected-Azimuth-AoA-ExtIEs } } OPTIONAL,

 ...

}

Expected-Azimuth-AoA-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Expected-Zenith-AoA ::= SEQUENCE {

 expected-Zenith-AoA-value Expected-Value-ZoA,

 expected-Zenith-AoA-uncertainty Uncertainty-range-ZoA,

 iE-Extensions ProtocolExtensionContainer { { Expected-Zenith-AoA-ExtIEs } } OPTIONAL,

 ...

}

Expected-Zenith-AoA-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Expected-Value-AoA ::= INTEGER (0..3599)

Expected-Value-ZoA ::= INTEGER (0..1799)

ECNMarkingorCongestionInformationReportingRequest ::= CHOICE {

 ecnMarking ECNmarkingRequest,

 congestionInformation CongestionInformationRequest,

 choice-extension ProtocolIE-SingleContainer { { ECNMarkingorCongestionInformationReportingRequest-ExtIEs } }

}

ECNMarkingorCongestionInformationReportingRequest-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

ECNmarkingRequest ::= ENUMERATED { ul, dl, both, stop, ... }

CongestionInformationRequest ::= ENUMERATED { ul, dl, both, stop, ... }

ECNMarkingorCongestionInformationReportingStatus ::= ENUMERATED { active, not-active, ...}

**---------------------------------------------------------Next change -------------------------------------------------------------**

-- T

TAI ::= SEQUENCE {

 pLMN-Identity PLMN-Identity,

 fiveGS-TAC FiveGS-TAC,

 iE-Extensions ProtocolExtensionContainer { {TAI-ExtIEs} } OPTIONAL,

 ...

}

TAI-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

FiveGS-TAC ::= OCTET STRING (SIZE(3))

Configured-EPS-TAC ::= OCTET STRING (SIZE(2))

TargetCellList ::= SEQUENCE (SIZE(1..maxnoofCHOcells)) OF TargetCellList-Item

TargetCellList-Item ::= SEQUENCE {

 target-cell NRCGI,

 iE-Extensions ProtocolExtensionContainer { { TargetCellList-Item-ExtIEs} } OPTIONAL

}

TargetCellList-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NSAGSupportList ::= SEQUENCE (SIZE(1.. maxnoofNSAGs)) OF NSAGSupportItem

NSAGSupportItem ::= SEQUENCE {

 nSAG-ID NSAG-ID,

 nSAGSliceSupport ExtendedSliceSupportList,

 iE-Extensions ProtocolExtensionContainer { {NSAGSupportItem-ExtIEs} } OPTIONAL,

 ...

}

NSAGSupportItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

NSAG-ID ::= INTEGER (0..255, ...)

TCIStateID ::= INTEGER (0..127)

TCIStatesConfigurationsList ::= SEQUENCE {

 jointorDLTCIStatesConfigurationsList JointorDLTCIStatesConfigurationsList OPTIONAL,

 uLTCIStatesConfigurationsList ULTCIStatesConfigurationsList OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { TCIStatesConfigurationsList-ExtIEs} } OPTIONAL,

 ...

}

TCIStatesConfigurationsList-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TAInformation-List ::= SEQUENCE (SIZE(1.. maxnoofTAList)) OF TAInformationItem

TAInformationItem ::= SEQUENCE {

 nRCGI NRCGI,

 tAValue TAValue,

 preambleIndex PreambleIndex,

 rA-RNTI RA-RNTI,

 sourceGNB-DU-ID GNB-DU-ID,

 iE-Extensions ProtocolExtensionContainer { { TAInformationItem-ExtIEs} } OPTIONAL,

 ...

}

TAInformationItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TAValue ::= INTEGER (0..4095)

TAValueZero ::= ENUMERATED {true, ...}

TDD-Info ::= SEQUENCE {

 nRFreqInfo NRFreqInfo,

 transmission-Bandwidth Transmission-Bandwidth,

 iE-Extensions ProtocolExtensionContainer { {TDD-Info-ExtIEs} } OPTIONAL,

 ...

}

TDD-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-IntendedTDD-DL-ULConfig CRITICALITY ignore EXTENSION IntendedTDD-DL-ULConfig PRESENCE optional}|

 {ID id-TDD-UL-DLConfigCommonNR CRITICALITY ignore EXTENSION TDD-UL-DLConfigCommonNR PRESENCE optional }|

 {ID id-CarrierList CRITICALITY ignore EXTENSION NRCarrierList PRESENCE optional },

 ...

}

TDD-InfoRel16 ::= SEQUENCE {

 tDD-FreqInfo FreqInfoRel16 OPTIONAL,

 sUL-FreqInfo FreqInfoRel16 OPTIONAL,

 tDD-UL-DLConfigCommonNR TDD-UL-DLConfigCommonNR OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {TDD-InfoRel16-ExtIEs} } OPTIONAL,

 ...

}

TDD-InfoRel16-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TDD-UL-DLConfigCommonNR ::= OCTET STRING

TRPTEGInformation ::= CHOICE {

 rxTx-TEG RxTxTEG,

 rx-TEG RxTEG,

 choice-extension ProtocolIE-SingleContainer { { TRPTEGInformation-ExtIEs} }

}

TRPTEGInformation-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

RxTxTEG ::= SEQUENCE {

 tRP-RxTx-TEGInformation TRP-RxTx-TEGInformation,

 tRP-Tx-TEGInformation TRP-Tx-TEGInformation OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { RxTxTEG-ExtIEs } } OPTIONAL,

 ...

}

RxTxTEG-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

RxTEG ::= SEQUENCE {

 tRP-Rx-TEGInformation TRP-Rx-TEGInformation,

 tRP-Tx-TEGInformation TRP-Tx-TEGInformation,

 iE-Extensions ProtocolExtensionContainer { { RxTEG-ExtIEs } } OPTIONAL,

 ...

}

RxTEG-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TimeReferenceInformation ::= SEQUENCE {

 referenceTime ReferenceTime,

 referenceSFN ReferenceSFN,

 uncertainty Uncertainty,

 timeInformationType TimeInformationType,

 iE-Extensions ProtocolExtensionContainer { {TimeReferenceInformation-ExtIEs} } OPTIONAL

}

TimeReferenceInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TimeInformationType ::= ENUMERATED {localClock}

TimeStamp ::= SEQUENCE {

 systemFrameNumber SystemFrameNumber,

 slotIndex TimeStampSlotIndex,

 measurementTime RelativeTime1900 OPTIONAL,

 iE-Extension ProtocolExtensionContainer { { TimeStamp-ExtIEs} } OPTIONAL

}

TimeStamp-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TimeStampSlotIndex ::= CHOICE {

 sCS-15 INTEGER(0..9),

 sCS-30 INTEGER(0..19),

 sCS-60 INTEGER(0..39),

 sCS-120 INTEGER(0..79),

 choice-extension ProtocolIE-SingleContainer { { TimeStampSlotIndex-ExtIEs} }

}

TimeStampSlotIndex-ExtIEs F1AP-PROTOCOL-IES ::= {

 { ID id-SCS-480 CRITICALITY reject TYPE SCS-480 PRESENCE mandatory}|

 { ID id-SCS-960 CRITICALITY reject TYPE SCS-960 PRESENCE mandatory},

 ...

}

TimeToWait ::= ENUMERATED {v1s, v2s, v5s, v10s, v20s, v60s, ...}

TimingErrorMargin ::= ENUMERATED {m0Tc, m2Tc, m4Tc, m6Tc, m8Tc, m12Tc, m16Tc, m20Tc, m24Tc, m32Tc, m40Tc, m48Tc, m56Tc, m64Tc, m72Tc, m80Tc, ...}

TimingMeasurementQuality ::= SEQUENCE {

 measurementQuality INTEGER(0..31),

 resolution ENUMERATED{m0dot1, m1, m10, m30, ...},

 iE-Extensions ProtocolExtensionContainer { { TimingMeasurementQuality-ExtIEs} } OPTIONAL

}

TimingMeasurementQuality-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TMGI ::= OCTET STRING (SIZE(6))

TNLAssociationUsage ::= ENUMERATED {

 ue,

 non-ue,

 both,

 ...

}

TNLCapacityIndicator::= SEQUENCE {

 dLTNLOfferedCapacity INTEGER (1.. 16777216,...),

 dLTNLAvailableCapacity INTEGER (0.. 100,...),

 uLTNLOfferedCapacity INTEGER (1.. 16777216,...),

 uLTNLAvailableCapacity INTEGER (0.. 100,...),

 iE-Extensions ProtocolExtensionContainer { { TNLCapacityIndicator-ExtIEs} } OPTIONAL

}

TNLCapacityIndicator-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TraceActivation ::= SEQUENCE {

 traceID TraceID,

 interfacesToTrace InterfacesToTrace,

 traceDepth TraceDepth,

 traceCollectionEntityIPAddress TransportLayerAddress,

 iE-Extensions ProtocolExtensionContainer { {TraceActivation-ExtIEs} } OPTIONAL

}

TraceActivation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 {ID id-mdtConfiguration CRITICALITY ignore EXTENSION MDTConfiguration PRESENCE optional}|

 {ID id-TraceCollectionEntityURI CRITICALITY ignore EXTENSION URI-address PRESENCE optional },

 ...

}

TraceDepth ::= ENUMERATED {

 minimum,

 medium,

 maximum,

 minimumWithoutVendorSpecificExtension,

 mediumWithoutVendorSpecificExtension,

 maximumWithoutVendorSpecificExtension,

 ...

}

TraceID ::= OCTET STRING (SIZE(8))

TrafficMappingInfo ::= CHOICE {

 iPtolayer2TrafficMappingInfo IPtolayer2TrafficMappingInfo,

 bAPlayerBHRLCchannelMappingInfo BAPlayerBHRLCchannelMappingInfo,

 choice-extension ProtocolIE-SingleContainer { { TrafficMappingInfo-ExtIEs} }

}

TrafficMappingInfo-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

TransportLayerAddress ::= BIT STRING (SIZE(1..160, ...))

TransactionID ::= INTEGER (0..255, ...)

Transmission-Bandwidth ::= SEQUENCE {

 nRSCS NRSCS,

 nRNRB NRNRB,

 iE-Extensions ProtocolExtensionContainer { { Transmission-Bandwidth-ExtIEs} } OPTIONAL,

 ...

}

Transmission-Bandwidth-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TransmissionComb ::= CHOICE {

 n2 SEQUENCE {

 combOffset-n2 INTEGER (0..1),

 cyclicShift-n2 INTEGER (0..7)

 },

 n4 SEQUENCE {

 combOffset-n4 INTEGER (0..3),

 cyclicShift-n4 INTEGER (0..11)

 },

 choice-extension ProtocolIE-SingleContainer { { TransmissionComb-ExtIEs} }

}

TransmissionComb-ExtIEs F1AP-PROTOCOL-IES ::= {

 { ID id-transmissionCombn8 CRITICALITY reject TYPE TransmissionCombn8 PRESENCE mandatory},

 ...

}

TransmissionCombn8 ::= SEQUENCE {

 combOffset-n8 INTEGER (0..7),

 cyclicShift-n8 INTEGER (0..5),

 iE-Extensions ProtocolExtensionContainer { { TransmissionCombn8-ExtIEs} } OPTIONAL

}

TransmissionCombn8-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TransmissionCombPos ::= CHOICE {

 n2 SEQUENCE {

 combOffset-n2 INTEGER (0..1),

 cyclicShift-n2 INTEGER (0..7)

 },

 n4 SEQUENCE {

 combOffset-n4 INTEGER (0..3),

 cyclicShift-n4 INTEGER (0..11)

 },

 n8 SEQUENCE {

 combOffset-n8 INTEGER (0..7),

 cyclicShift-n8 INTEGER (0..5)

 },

 choice-extension ProtocolIE-SingleContainer { { TransmissionCombPos-ExtIEs} }

}

TransmissionCombPos-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

TransmissionStopIndicator ::= ENUMERATED {true, ... }

Transport-UP-Layer-Address-Info-To-Add-List ::= SEQUENCE (SIZE(1.. maxnoofTLAs)) OF Transport-UP-Layer-Address-Info-To-Add-Item

Transport-UP-Layer-Address-Info-To-Add-Item ::= SEQUENCE {

 iP-SecTransportLayerAddress TransportLayerAddress,

 gTPTransportLayerAddressToAdd GTPTLAs OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Transport-UP-Layer-Address-Info-To-Add-ItemExtIEs } } OPTIONAL

}

Transport-UP-Layer-Address-Info-To-Add-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Transport-UP-Layer-Address-Info-To-Remove-List ::= SEQUENCE (SIZE(1.. maxnoofTLAs)) OF Transport-UP-Layer-Address-Info-To-Remove-Item

Transport-UP-Layer-Address-Info-To-Remove-Item ::= SEQUENCE {

 iP-SecTransportLayerAddress TransportLayerAddress,

 gTPTransportLayerAddressToRemove GTPTLAs OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Transport-UP-Layer-Address-Info-To-Remove-ItemExtIEs } } OPTIONAL

}

Transport-UP-Layer-Address-Info-To-Remove-ItemExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TransmissionActionIndicator ::= ENUMERATED {stop, ..., restart }

TRPBeamAntennaInformation ::= SEQUENCE {

 choice-TRP-Beam-Antenna-Info-Item Choice-TRP-Beam-Antenna-Info-Item ,

 iE-Extensions ProtocolExtensionContainer {{ TRPBeamAntennaInformation-ExtIEs}} OPTIONAL,

 ...

}

TRPBeamAntennaInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

Choice-TRP-Beam-Antenna-Info-Item ::= CHOICE {

 reference TRPID,

 explicit TRP-BeamAntennaExplicitInformation,

 noChange NULL,

 choice-extension ProtocolIE-SingleContainer { { Choice-TRP-Beam-Info-Item-ExtIEs } }

}

Choice-TRP-Beam-Info-Item-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

TRP-BeamAntennaExplicitInformation ::= SEQUENCE {

 trp-BeamAntennaAngles TRP-BeamAntennaAngles,

 lcs-to-gcs-translation LCS-to-GCS-Translation OPTIONAL,

 iE-Extensions ProtocolExtensionContainer {{ TRP-BeamAntennaExplicitInformation-ExtIEs}} OPTIONAL,

 ...

}

TRP-BeamAntennaExplicitInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRP-BeamAntennaAngles ::= SEQUENCE (SIZE (1.. maxnoAzimuthAngles)) OF TRP-BeamAntennaAnglesList-Item

TRP-BeamAntennaAnglesList-Item ::= SEQUENCE {

 trp-azimuth-angle INTEGER (0..359),

 trp-azimuth-angle-fine INTEGER (0..9) OPTIONAL,

 trp-elevation-angle-list SEQUENCE (SIZE (1.. maxnoElevationAngles)) OF TRP-ElevationAngleList-Item,

 iE-Extensions ProtocolExtensionContainer {{ TRP-BeamAntennaAnglesList-Item-ExtIEs}} OPTIONAL,

 ...

}

TRP-BeamAntennaAnglesList-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRP-ElevationAngleList-Item ::= SEQUENCE {

 trp-elevation-angle INTEGER (0..180),

 trp-elevation-angle-fine INTEGER (0..9) OPTIONAL,

 trp-beam-power-list SEQUENCE (SIZE (2..maxNumResourcesPerAngle)) OF TRP-Beam-Power-Item,

 iE-Extensions ProtocolExtensionContainer {{ TRP-ElevationAngleList-Item-ExtIEs}} OPTIONAL,

...

}

TRP-ElevationAngleList-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRP-Beam-Power-Item ::= SEQUENCE {

 pRSResourceSetID PRS-Resource-Set-ID OPTIONAL,

 pRSResourceID PRS-Resource-ID,

 relativePower INTEGER (0..30), --negative value

 relativePowerFine INTEGER (0..9) OPTIONAL,

 iE-Extensions ProtocolExtensionContainer {{ TRP-Beam-Power-Item-ExtIEs}} OPTIONAL,

 ...

}

TRP-Beam-Power-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPID ::= INTEGER (0.. maxnoofTRPs, ...)

TRPInformation ::= SEQUENCE {

 tRPID TRPID,

 tRPInformationTypeResponseList TRPInformationTypeResponseList,

 iE-Extensions ProtocolExtensionContainer { { TRPInformation-ExtIEs } } OPTIONAL

}

TRPInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-Mobile-IAB-MT-UE-ID CRITICALITY reject EXTENSION Mobile-IAB-MT-UE-ID PRESENCE optional},

--This IE shall be present if the TRP type IE is set to the value "mobile-trp"

 ...

}

TRPInformationItem ::= SEQUENCE {

 tRPInformation TRPInformation,

 iE-Extensions ProtocolExtensionContainer { { TRPInformationItem-ExtIEs } } OPTIONAL

}

TRPInformationItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPInformationTypeItem ::= ENUMERATED {

 nrPCI,

 nG-RAN-CGI,

 arfcn,

 pRSConfig,

 sSBConfig,

 sFNInitTime,

 spatialDirectInfo,

 geoCoord,

 ...,

 trp-type,

 ondemandPRS,

 trpTxTeg,

 beam-antenna-info,

 mobile-trp-location-info

}

TRPInformationTypeResponseList ::= SEQUENCE (SIZE(1.. maxnoofTRPInfoTypes)) OF TRPInformationTypeResponseItem

TRPInformationTypeResponseItem ::= CHOICE {

 pCI-NR NRPCI,

 nG-RAN-CGI NRCGI,

 nRARFCN INTEGER (0..maxNRARFCN),

 pRSConfiguration PRSConfiguration,

 sSBinformation SSBInformation,

 sFNInitialisationTime RelativeTime1900,

 spatialDirectionInformation SpatialDirectionInformation,

 geographicalCoordinates GeographicalCoordinates,

 choice-extension ProtocolIE-SingleContainer { { TRPInformationTypeResponseItem-ExtIEs} }

}

TRPInformationTypeResponseItem-ExtIEs F1AP-PROTOCOL-IES ::= {

 { ID id-TRPType CRITICALITY reject TYPE TRPType PRESENCE mandatory }|

 { ID id-OnDemandPRS CRITICALITY reject TYPE OnDemandPRS-Info PRESENCE mandatory}|

 { ID id-TRPTxTEGAssociation CRITICALITY reject TYPE TRPTxTEGAssociation PRESENCE mandatory}|

 { ID id-TRPBeamAntennaInformation CRITICALITY reject TYPE TRPBeamAntennaInformation PRESENCE mandatory }|

 { ID id-Mobile-TRP-LocationInformation CRITICALITY reject TYPE Mobile-TRP-LocationInformation PRESENCE mandatory },

 ...

}

TRPList ::= SEQUENCE (SIZE(1.. maxnoofTRPs)) OF TRPListItem

TRPListItem ::= SEQUENCE {

 tRPID TRPID,

 iE-Extensions ProtocolExtensionContainer { { TRPListItem-ExtIEs } } OPTIONAL

}

TRPListItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPMeasurementQuality ::= SEQUENCE {

 tRPmeasurementQuality-Item TRPMeasurementQuality-Item,

 iE-Extensions ProtocolExtensionContainer { {TRPMeasurementQuality-ExtIEs} } OPTIONAL

}

TRPMeasurementQuality-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPMeasurementQuality-Item ::= CHOICE {

 timingMeasurementQuality TimingMeasurementQuality,

 angleMeasurementQuality AngleMeasurementQuality,

 choice-extension ProtocolIE-SingleContainer { { TRPMeasurementQuality-Item-ExtIEs } }

}

TRPMeasurementQuality-Item-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

TRP-MeasurementRequestList ::= SEQUENCE (SIZE (1..maxNoOfMeasTRPs)) OF TRP-MeasurementRequestItem

TRP-MeasurementRequestItem ::= SEQUENCE {

 tRPID TRPID,

 search-window-information Search-window-information OPTIONAL,

 iE-extensions ProtocolExtensionContainer { { TRP-MeasurementRequestItem-ExtIEs } } OPTIONAL

}

TRP-MeasurementRequestItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-NRCGI CRITICALITY ignore EXTENSION NRCGI PRESENCE optional }|

 { ID id-AoA-SearchWindow CRITICALITY ignore EXTENSION AoA-AssistanceInfo PRESENCE optional }|

 { ID id-NumberOfTRPRxTEG CRITICALITY ignore EXTENSION NumberOfTRPRxTEG PRESENCE optional }|

 { ID id-NumberOfTRPRxTxTEG CRITICALITY ignore EXTENSION NumberOfTRPRxTxTEG PRESENCE optional },

 ...

}

TRP-PRS-Info-List ::= SEQUENCE (SIZE(1.. maxnoofPRSTRPs)) OF TRP-PRS-Info-List-Item

TRP-PRS-Info-List-Item ::= SEQUENCE {

 tRP-ID TRPID,

 nR-PCI NRPCI,

 cGI-NR NRCGI OPTIONAL,

 pRSConfiguration PRSConfiguration,

 iE-Extensions ProtocolExtensionContainer { { TRP-PRS-Info-List-Item-ExtIEs} } OPTIONAL,

 ...

}

TRP-PRS-Info-List-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPPositionDefinitionType ::= CHOICE {

 direct TRPPositionDirect,

 referenced TRPPositionReferenced,

 choice-extension ProtocolIE-SingleContainer { { TRPPositionDefinitionType-ExtIEs } }

}

TRPPositionDefinitionType-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

TRPPositionDirect ::= SEQUENCE {

 accuracy TRPPositionDirectAccuracy,

 iE-extensions ProtocolExtensionContainer { { TRPPositionDirect-ExtIEs } } OPTIONAL

}

TRPPositionDirect-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPPositionDirectAccuracy ::= CHOICE {

 tRPPosition AccessPointPosition,

 tRPHAposition NGRANHighAccuracyAccessPointPosition,

 choice-extension ProtocolIE-SingleContainer { { TRPPositionDirectAccuracy-ExtIEs } }

}

TRPPositionDirectAccuracy-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

TRPPositionReferenced ::= SEQUENCE {

 referencePoint ReferencePoint,

 referencePointType TRPReferencePointType,

 iE-extensions ProtocolExtensionContainer { { TRPPositionReferenced-ExtIEs } } OPTIONAL

}

TRPPositionReferenced-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPReferencePointType ::= CHOICE {

 tRPPositionRelativeGeodetic RelativeGeodeticLocation,

 tRPPositionRelativeCartesian RelativeCartesianLocation,

 choice-extension ProtocolIE-SingleContainer { { TRPReferencePointType-ExtIEs } }

}

TRPReferencePointType-ExtIEs F1AP-PROTOCOL-IES ::= {

 ...

}

TRP-Rx-TEGInformation ::= SEQUENCE {

 tRP-Rx-TEGID INTEGER (0..31),

 tRP-Rx-TimingErrorMargin TimingErrorMargin,

 iE-Extensions ProtocolExtensionContainer { { TRP-Rx-TEGInformation-ExtIEs } } OPTIONAL,

 ...

}

TRP-Rx-TEGInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRP-RxTx-TEGInformation ::= SEQUENCE {

 tRP-RxTx-TEGID INTEGER (0..255),

 tRP-RxTx-TimingErrorMargin RxTxTimingErrorMargin,

 iE-Extensions ProtocolExtensionContainer { { TRP-RxTx-TEGInformation-ExtIEs } } OPTIONAL,

 ...

}

TRP-RxTx-TEGInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRP-Tx-TEGInformation ::= SEQUENCE {

 tRP-Tx-TEGID INTEGER (0..7),

 tRP-Tx-TimingErrorMargin TimingErrorMargin,

 iE-Extensions ProtocolExtensionContainer { { TRP-Tx-TEGInformation-ExtIEs } } OPTIONAL,

 ...

}

TRP-Tx-TEGInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPTxTEGAssociation ::= SEQUENCE (SIZE(1.. maxnoTRPTEGs)) OF TRPTEG-Item

TRPTEG-Item ::= SEQUENCE {

 tRP-Tx-TEGInformation TRP-Tx-TEGInformation,

 dl-PRSResourceSetID PRS-Resource-Set-ID,

 dl-PRSResourceID-List SEQUENCE (SIZE(1.. maxnoofPRS-ResourcesPerSet)) OF DLPRSResourceID-Item OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { TRPTEGItem-ExtIEs } } OPTIONAL,

 ...

}

TRPTEGItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

DLPRSResourceID-Item ::= SEQUENCE {

 dl-PRSResourceID PRS-Resource-ID,

 iE-Extensions ProtocolExtensionContainer { { DLPRSResource-Item-ExtIEs} } OPTIONAL,

 ...

}

DLPRSResource-Item-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TypeOfError ::= ENUMERATED {

 not-understood,

 missing,

 ...

}

Transport-Layer-Address-Info ::= SEQUENCE {

 transport-UP-Layer-Address-Info-To-Add-List Transport-UP-Layer-Address-Info-To-Add-List OPTIONAL,

 transport-UP-Layer-Address-Info-To-Remove-List Transport-UP-Layer-Address-Info-To-Remove-List OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { Transport-Layer-Address-Info-ExtIEs } } OPTIONAL

}

Transport-Layer-Address-Info-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRPType ::= ENUMERATED {

 prsOnlyTP,

 srsOnlyRP,

 tp,

 rp,

 trp,

 ...,

 mobile-trp

}

TSCAssistanceInformation ::= SEQUENCE {

 periodicity Periodicity,

 burstArrivalTime BurstArrivalTime OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {TSCAssistanceInformation-ExtIEs} } OPTIONAL,

 ...

}

TSCAssistanceInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-SurvivalTime CRITICALITY ignore EXTENSION SurvivalTime PRESENCE optional }|

 { ID id-RANfeedbacktype CRITICALITY ignore EXTENSION RANfeedbacktype PRESENCE optional}|

 { ID id-N6JitterInformation CRITICALITY ignore EXTENSION N6JitterInformation PRESENCE optional },

 ...

}

TSCTrafficCharacteristics ::= SEQUENCE {

 tSCAssistanceInformationDL TSCAssistanceInformation OPTIONAL,

 tSCAssistanceInformationUL TSCAssistanceInformation OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { {TSCTrafficCharacteristics-ExtIEs} } OPTIONAL,

 ...

}

TSCTrafficCharacteristics-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TSCTrafficCharacteristicsFeedback ::= SEQUENCE {

 tSCFeedbackInformationDL TSCFeedbackInformation OPTIONAL,

 tSCFeedbackInformationUL TSCFeedbackInformation OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { TSCTrafficCharacteristicsFeedback-ExtIEs} } OPTIONAL,

 ...

}

TSCTrafficCharacteristicsFeedback-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TSCFeedbackInformation ::= SEQUENCE {

 burstArrivalTimeOffset INTEGER (-640000..640000, ...),

 adjustedPeriodicity Periodicity OPTIONAL,

 iE-Extensions ProtocolExtensionContainer { { TSCFeedbackInformation-ExtIEs} } OPTIONAL,

 ...

}

TSCFeedbackInformation-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 ...

}

TRP-MeasurementUpdateList ::= SEQUENCE (SIZE (1..maxNoOfMeasTRPs)) OF TRP-MeasurementUpdateItem

TRP-MeasurementUpdateItem ::= SEQUENCE {

 tRP-ID TRPID,

 aoA-window-information AoA-AssistanceInfo OPTIONAL,

 iE-extensions ProtocolExtensionContainer { { TRP-MeasurementUpdateItem-ExtIEs } } OPTIONAL,

 ...

}

TRP-MeasurementUpdateItem-ExtIEs F1AP-PROTOCOL-EXTENSION ::= {

 { ID id-NumberOfTRPRxTEG CRITICALITY ignore EXTENSION NumberOfTRPRxTEG PRESENCE optional }|

 { ID id-NumberOfTRPRxTxTEG CRITICALITY ignore EXTENSION NumberOfTRPRxTxTEG PRESENCE optional },

 ...

}

TwoPHRModeMCG ::= ENUMERATED {enabled, ...}

TwoPHRModeSCG ::= ENUMERATED {enabled, ...}

**--------------------------------------------------------- End of changes -------------------------------------------------------------**