**&3GPP TSG-****RAN2 Meeting#110e R2-20XXXX**

**April, 2020**

**Agenda Item:** XXX

**Source:** Samsung

**Title:** LTE Rel-16 ASN.1 Review, Class 0 and Class 1 issues

**Document for:** Discussion and decision

# Guidelines

* This file is used to log LTE 36331 ASN:1 Review Class 0 and Class 1 issues.
1. **Trivial** e.g. editorials, commas, colon, misspelling, missing/ double spaces, italics etc.
2. **Minor** e.g. quite straightforward changes e.g. correction/ addition of specification references or sub-clauses
* Fill in the columns, see example.
	+ Make sure the inserted specification text is unique, such that the location of the issue is simple to find.
	+ Avoid indicating duplicated issues by checking if the concerned specification text is already reported in the table.
	+ Step the file name v(x) -> v(x+1) and upload to ftp server.
* The “status” column will be filled in by the ASN.1 review moderator.

# Class 0 and Class 1 issues

| **Issue number** | **Copied existing specification text.****Text should be unique, so that it can be easily found in the specification.****If needed, add also the new text.** | **Comment/description/****correction** | **Email address**  | **Status** | **CR** |
| --- | --- | --- | --- | --- | --- |
| Ex 1 | 2> derive the KUPint key associated with the *integrityProtAlgorithm* indicated in the SecurityModeCommand message, as specified in TS 33.501 [11]; | Missing italics. | hakan.l.palm@ericsson.com |  |  |
| Ex 2 | PUSCH scheduled by RAR UL grant (see 38.213 clause 8.3 and 38.214 clause 6.1.2.2) and uses interlaced PUCCH Format 0, 1, 2, and 3 for cell-specific PUCCH (see TS 38.213 [13], clause 9.2.1). | Incorrect reference, should be 9.2.101. | hakan.l.palm@ericsson.com |  |  |
| Insert issues from here |  |
| 1 | 2> if UE has sent *RRCConnectionResumeRequest* message and has not received *RRCConnectionResume* message:3>  reset MAC;3>  if UE is resuming an RRC connection after early security reactivation in accordance with conditions in 5.3.3.1: | Reference is incorrect i.e. should be 5.3.3.18 | uphuyal@qti.qualcomm.com | OK | eMTC (CR4239) |
| 2 | NOTE 2 In case of DRB reconfiguration at a DAPS HO, the reconfiguration is applied to the entities/resources for the target PCell | A colon is missing (after 2) | uphuyal@qti.qualcomm.com | OK | ASN.1 |
| 3 | Upon receiving *SystemInformationBlockType2*, the UE shall:…NOTE: *upperLayerIndication* is an indication to upper layers that the UE has entered a coverage area that offers 5G capabilities.1> to upper layers either forward *rlos-Enabled*, if present, or otherwise indicate absence of this field;1> if *up-PUR-5GC* is not included and the UE connected to 5GC in RRC\_IDLE with a suspended RRC connection is configured with *pur-Config*; or1> if *up-PUR-EPC* is not included and the UE connected to EPC in RRC\_IDLE with a suspended RRC connection is configured with *pur-Config*; or 1> if *cp-PUR-5GC* is not included and the UE connected to 5GC in RRC\_IDLE without a suspended RRC connection is configured with *pur-Config*; or1> if *cp-PUR-EPC* is not included and the UE connected to EPC in RRC\_IDLE without a suspended RRC connection is configured with *pur-Config*:2> release *pur-Config*;2> indicate to lower layers that *pur-Config* is released.Upon receiving *SystemInformationBlockType2-NB*, the UE shall:1> apply the configuration included in the *radioResourceConfigCommon*;1> apply the *defaultPagingCycle* included in the *radioResourceConfigCommon*;1> if *SystemInformationBlockType22-NB* is scheduled:2> read and act on information sent in *SystemInformationBlockType22-NB*;1> apply the specified PCCH configuration defined in 9.1.1.3.1> if in RRC\_CONNECTED and UE is configured with RLF timers and constants values received within *rlf-TimersAndConstants*:2> not update its values of the timers and constants in *ue-TimersAndConstants* except for the value of timer T300; | section 5.2.2.9The highlighted part should also have been captured under ‘Upon receiving *SystemInformationBlockType2-NB’* but was missed during the CR implementation.It is proposed to move it at the end of the section and make it common to both as shown below:Upon receiving *SystemInformationBlockType2*, the UE shall:…Upon receiving *SystemInformationBlockType2-NB*, the UE shall:…Upon receiving Upon receiving *SystemInformationBlockType2* (*SystemInformationBlockType2-NB* in NB-IoT), , the UE shall:1> if *up-PUR-5GC* is not included and the UE connected to 5GC in RRC\_IDLE with a suspended RRC connection is configured with *pur-Config*; or1> if *up-PUR-EPC* is not included and the UE connected to EPC in RRC\_IDLE with a suspended RRC connection is configured with *pur-Config*; or 1> if *cp-PUR-5GC* is not included and the UE connected to 5GC in RRC\_IDLE without a suspended RRC connection is configured with *pur-Config*; or1> if *cp-PUR-EPC* is not included and the UE connected to EPC in RRC\_IDLE without a suspended RRC connection is configured with *pur-Config*:2> release *pur-Config*;2> indicate to lower layers that *pur-Config* is released.[Qualcomm]: suggest is ok (minor typos):~~Upon receiving~~ Upon receiving *SystemInformationBlockType2 (SystemInformationBlockType2-NB* in NB-IoT), ~~,~~ the UE shall:[Rapporteur] It seems better to copy and paste the yellow highlight bullets in the NB-IoT case instead of making new common part.[Rapporteur] After further checking, suggested by Huawei and Qualcomm will also be better when in future we add more common parts, so it could be OK. | First comment by odile.rollinger at Huawei | OK | NB-IoT(CR4287) |
| 4 | 3> for NB-IoT:4> if the UE has radio link failure information available in *VarRLF-Report-NB* and if the RPLMN is included in *plmn-IdentityList* stored in *VarRLF-Report*:5> include *rlf-InfoAvailable*;4> if the UE has ANR measurements results available in *VarANR-MeasReport-NB* and if the RPLMN is included in *plmn-IdentityList* stored in *VarANR-MeasReport-NB*:5> include *anr-InfoAvailable*; | section 5.3.3.4, ‘-NB' is missing in the variable name |  | OK | NB-IoT(CR4287) |
| 5 | 3> if the UE is connected to EPC:4> if the UE has radio link failure information available in *VarRLF-Report-NB* and if the RPLMN is included in *plmn-IdentityList* stored in *VarRLF-Report-NB*:5> include the *rlf-InfoAvailable*;4> if the UE has ANR measurements information available in *VarANR-MeasurementReport-NB* and if the RPLMN is included in *plmn-IdentityList* stored in *VarANR-MeasurementReport-NB*:5> include *anr-InfoAvailable*; | section 5.3.7.5, add ‘the’ before *anr-InfoAvailable* for consistency |  | OK | NB-IoT(CR4287) |
| 6 | 2> if the UE is a NB-IoT UE connected to 5GC:2> if a DRB was configured with the same *pdu-Session* (fullConfig):3> associate the established DRB with corresponding included *pdu-Session*;2> else if the entry of *drb-ToAddModList* includes *pdcp-config* (establishment of bearer):3> indicate the establishment of the DRB(s) and the *pdu-Session* of the established DRB(s) to upper layers; | section 5.3.10.3, the bullet numbering is incorrect |  | OK | NB-IoT(CR4287) |
| 7 | When initiating the procedure according to 5.6.23.2, the UE shall set the contents of the *PURConfigurationRequest* message as follows:1> set *requestedNumOccasions* to the requested number of PUR occasions requested;1> set *requestedPeriodicity* to the requested periodicity between consecutive PUR occasions;1> set *requestedTBS* to the requested TBS for the PUR occasion(s);1> if UE preference is that no RRC response message is needed for acknowledging the reception of a transmission using PUR, set *l1-ACK* to TRUE;1> set *requestedTimeOffset* to the requested time gap with respect to current time until the first PUR occasion; | section 5.6.23.3, *l1-ACK* is defined as ENUMERATED {true}, should be changed to ‘include *l1-ACK’* |  | OK | NB-IoT(CR4287) |
| 8 | While the UE is in RRC\_IDLE, the UE shall:1> store the measurement results for the serving cell in *measResultServCell* in *VarANR-MeasReport-NB*;1> while the serving cell global cell identity is the same as stored in *servCellIdentity* in *VarANR-MeasReport-NB*:2> perform the measurements once in accordance with the following:3> for each carrier frequency indicated by an entry in *anr-CarrierList,* if present, within *VarANR-MeasConfig*; or…1> release the VarANR-MeasConfig.The UE may discard the ANR measurements information, i.e. release the UE variables *VarANR-MeasConfig* and *VarANR-MeasReport*, [96] hours after the configuration was received, upon power off or upon detach. | section 5.6.24.1:'NB' is missing in *VarANR-MeasConfig / VarANR-MeasReport*VarANR-MeasConfig should be italics in the last bullet |  | OK | NB-IoT(CR4287) |
| 9 | ***cp-CIoT-5GS-Optimisation***This field indicates if the UE is allowed to establish the connection with Control plane CIoT 5GS optimisation, see TS 24.501 [95].***up-CIoT-5GS-Optimisation***This field indicates if the UE is allowed to resume the connection with User plane CIoT 5GS Optimisation, see TS24.501 [95]. | section 6.2 SystemInformationBlockType1: remove ‘this field’ and change ‘if’ to ‘whether’ to align with other field description (e.g. *ims-EmergencySupport)* |  | OK | eMTC (CR4239) |
| 10 | – *SystemInformationBlockType27*The IE *SystemInformationBlockType27* contains assistance information relevant only for inter-RAT cell selection i.e. assistance information about NB-IoT frequencies for cell selection. | section 6.3.1 SystemInformationBlockType27, remove the first ‘assistance’ |  | OK | eMTC (CR4239) |
| 11 | – *SystemInformationBlockType27-NB*The IE *SystemInformationBlockType27-NB* contains assistance information relevant only for inter-RAT cell selection i.e. assistance information about E-UTRA frequencies and/ or GERAN frequencies for cell selection. | section 6.7.3.1 SystemInformationBlockType2-NB7, remove the first ‘assistance’ |  | OK | NB-IoT(CR4287) |
| 12 | ***anr-InfoAvailable***This field is used to indicate the availability of ANR measurement information.***rlf-InfoAvailable***This field is used to indicate the availability of radio link failure related information. | section 6.7.2 'RRCConnectionReestablishmentComplete-NB, remove 'the field is used to' , this does not align with other field description |  | OK | NB-IoT(CR4287) |
| 13 | RRCConnectionRelease-NB-v16xy-IEs ::= SEQUENCE { resumeIdentity-r16 I-RNTI-r15 OPTIONAL, -- Need OR anr-MeasConfig-r16 ANR-MeasConfig-NB-r16 OPTIONAL, -- Need ON pur-Config-r16 CHOICE { release NULL, setup PUR-Config-NB-r16 } OPTIONAL, -- Need ON nonCriticalExtension SEQUENCE {} OPTIONAL}***anr-MeasConfig***Configuration of the measurements to be performed by the UE in RRC\_IDLE for ANR. | section 6.7.2 'RRCConnectionRelease-NB,remove field description of *anr-MeasConfig* asa IE type is defined |  | OK | NB-IoT(CR4287) |
| 14 | ***releaseCause***The *releaseCause* is used to indicate the reason for releasing the RRC Connection.E-UTRAN should not set the *releaseCause* to *loadBalancingTAURequired* if the *extendedWaitTime* is present. The network should not set the *releaseCause* to *loadBalancingTAURequired* if the UE is connected to 5GC. | section 6.7.2 'RRCConnectionRelease-NBthe two sentences can be merged together[Rapporteur] Seems good and the revised text would be:The network should not set the *releaseCause* to *loadBalancingTAURequired* if the *extendedWaitTime* is present and/or if the UE is connected to 5GC. |  | OK | NB-IoT(CR4287) |
| 15 | ***anr-InfoAvailable***This field is used to indicate the availability of ANR measurement information.***rlf-InfoAvailable***This field is used to indicate the availability of radio link failure related information. | section 6.7.2 RRCConnectionResumeComplete-NBremove 'the field is used to' , this does not align with other field description |  | OK | NB-IoT(CR4287) |
| 16 | ***anr-InfoAvailable***This field is used to indicate the availability of ANR measurement information. | section 6.7.2 RRCConnectionResumeRequest-NBremove 'the field is used to' , this does not align with other field description |  | OK | NB-IoT(CR4287) |
| 17 | ***ng-U-DataTransfer***If present, the field indicates that the NG-U data transfer as specified in TS 24.501 [95] is supported.***up-CIoT-5GS-Optimisation***This field indicates if the UE is allowed to resume the connection with User plane CIoT 5GS Optimisation, see TS24.501 [95]. | section 6.7.2 SystemInformationBlockType1-NBAlign with other field description: Change both to ‘Indicates whether’ |  | OK | NB-IoT(CR4287) |
| 18 | ***anr-ReportReq***This field is used to indicate whether the UE shall report, if available, ANR measurement results.***rach-ReportReq***This field is used to indicate whether the UE shall report, if available, information about the random access procedure.***rlf-ReportReq***This field is used to indicate whether the UE shall report, if available, information about radio link failure. | section 6.7.2 UEInformationRequest-NB:remove 'the field is used to' , this does not align with other field description |  | OK | NB-IoT(CR4287) |
| 19 | ***anr-MeasReport***This field indicates the ANR measurement information.***failedPCellId***This field is used to indicate the PCell in which RLF is detected.***initialNRSRP-Level***Indicates the NRSRP level of the NPRACH resource selected for the first preamble transmission.***measResultLastServCell***This field refers to the last measurement results taken in the PCell, where radio link failure happened.***numberOfPreamblesSent***This field is used to indicate the number of RACH preambles that were transmitted. Corresponds to parameter PREAMBLE\_TRANSMISSION\_COUNTER in TS 36.321 [6].***reestablishmentCellId***This field is used to indicate the cell in which the re-establishment attempt was made after connection failure.***timeSinceFailure***This field is used to indicate the time that elapsed since the connection failure. Value in seconds. The maximum value 172800 means 172800s or longer. | section 6.7.2 UEInformationResponse-NB:remove ‘This field’, 'the field is used to' , this does not align with other field description |  | OK | NB-IoT(CR4287) |
| 20 | ***contentionDetected***This field is used to indicate that contention was detected for at least one of the transmitted preambles, see TS 36.321 [6].***edt-Fallback***Value TRUE indicates that EDT fallback indication was received from the lower layers, see TS 36.321 [6]. | section 6.7.2 UEInformationResponse-NB:*contentionDetected* is a Boolean. Change ‘This field is used to indicate’ to ‘Value TRUE indicates’ |  | OK | NB-IoT(CR4287) |
| 21 | ***cp-EDT***For FDD: This field indicates whether the UE is allowed to initiate CP-EDT when connected to EPC, see 5.3.3.1b.***cp-EDT-5GC***For FDD: This field indicates whether the UE is allowed to initiate CP-EDT when connected to 5GC, see 5.3.3.1b.***cp-PUR-EPC, cp-PUR-5GC***This field indicates whether transmission using PUR is enabled in the cell for the Control Plane CIoT EPS/5GS optimisations respectively. | section 6.7.3.1 *SystemInformationBlockType2-NB*'PUR same as EDT only applies to FDD. Add 'For FDD:' at the beginning of the field description[Rapporteur] It is not minor issue, it requires RIL# and can be discussed during ASN.1 review.[Rapporteur] It is covered by RIL issue H134. |  | NOK |  |
| 22 | ***gwus-ResourcePosition***Indicates the position of the WUS resource corresponding to the first entry in *gwus-NumGroupsList-r16*Value *primary* indicates that the end of the WUS resource is defined by the timeoffset value for the corresponding gap type, value *secondary* indicates that the end of the WUS resource is immediately before the WUS resource configured by *wus-Config-r15*. E-UTRAN may only configure *secondary* when there is only one entry exists in *gwus-NumGroupsList-r16* and *wus-Config-r15* is present in *SystemInformationBlockType2-NB*.If two entries exist in *gwus-NumGroupsList-r16*, the position for the second WUS resource corresponds to value *secondary*. | section 6.7.3.2 GWUS-Config-NBtypo, remove ‘exists’ |  | OK | NB-IoT(CR4287) |
| 23 |  gwus-TimeParameters-r16 WUS-Config-NB-r15 OPTIONAL, -- Cond No-WUS-Config-r15 *No-WUS-Config-r15:* The field is mandatory present if *wus-Config-r15* is not present in *SystemInformationBlockType2-NB*; otherwise the field is not present, and the UE shall delete any existing value for this field. | section 6.7.3.2 GWUS-Config-NBthere is no need for hyphen. Better to align with eMTC: noWUSr15 |  | OK | eMTC (CR4239) |
| 24 | pur-RNTI-r16 C-RNTI OPTIONAL, --Need ONp0-UE-NPUSCH-r16 UplinkPowerControlDedicated-NB-r13,***p0-UE-NPUSCH***Parameter: . See TS 36.213 [23], clause 16.2.1.1, unit dB.***pur-RNTI***PUR-RNTI. | section 6.7.3.2 PUR-Config-NBremove field descriptions asa IE types are defined[Rapporteur] p0-UE-NPUSCH refers the value range abd IE is removed in the latest version, so no need for this change. Just remove the field description for pur-RNTI. |  | OK | NB-IoT(CR4287) |
| 25 | ANR-CarrierList-NB-r16 ::= SEQUENCE (SIZE (1.. maxFreqANR-NB-r16)) OF ANR-Carrier-NB-r16ANR-Carrier-NB-r16::= SEQUENCE { carrierFreqIndex-r16 INTEGER (1.. maxFreqANR-NB-r16), blackCellList-r16 ANR-BlackCellList-NB-r16 OPTIONAL, -- Need OP ...}ANR-BlackCellList-NB-r16 ::= SEQUENCE (SIZE (1.. maxCellBlack)) OF PhysCellId | section 6.7.3.5 ANR-MeasConfig-NBno need for space after ‘..’ |  | OK | NB-IoT(CR4287) |
| 26 |  measResultList-r16 SEQUENCE (SIZE (1.. maxFreqANR-NB-r16)) OF ANR-MeasResult-NB-r16, | section 6.7.3.5 ANR-MeasReport-NBno need for space after ‘..’ | Last comment by odile.rollinger at Huawei | OK | NB-IoT(CR4287) |
| 27 | Section 5.3.12, there seems to be redundancy. Also, if the UE is “leaving RRC\_INACTIVE”, then “if configured” does not make sense for *rrc-InactiveConfig* inside the condition.1> else:2> upon leaving RRC\_INACTIVE:3> discard the UE Inactive AS context;3> release *rrc-InactiveConfig*, if configured;3> discard the KeNB, the KRRCenc key, the KRRCint and the KUPenc key;2> release *rrc-InactiveConfig*, if configured; | Remove the first occurrence (consistent with NR spec). 1> else:2> upon leaving RRC\_INACTIVE:3> discard the UE Inactive AS context;~~3> release~~ *~~rrc-InactiveConfig~~*~~, if configured;~~3> discard the KeNB, the KRRCenc key, the KRRCint and the KUPenc key;2> release *rrc-InactiveConfig*, if configured; | uphuyal@qti.qualcomm.com | OK | ASN.1 |
| 28 | In section 5.3.8.3, 2> should be 3> below.1> if the *RRCConnectionRelease* message includes the *pur-Config*:2> if *pur-Config* is set to *setup*:3> store or replace the PUR configuration provided by the *pur-Config*;3> configure MAC in accordance with the stored *pur-Config*;2> else:3> release *pur-Config*, if configured;3> discard previously stored *pur-Config*, if any;2> indicate to lower layers that *pur-Config* is released. | 1> if the *RRCConnectionRelease* message includes the *pur-Config*:2> if *pur-Config* is set to *setup*:3> store or replace the PUR configuration provided by the *pur-Config*;3> configure MAC in accordance with the stored *pur-Config*;2> else:3> release *pur-Config*, if configured;3> discard previously stored *pur-Config*, if any; ~~2~~3> indicate to lower layers that *pur-Config* is released. | uphuyal@qti.qualcomm.com | OK | NB-IoT(CR4287) |
| 29 |  [[ configurdGrantAssistanceInfoReport-r16 BOOLEAN OPTIONAL -- Need ON ]] | Section 6.3.6 OtherConfigtypo in the parameter name.Change to configuredGrantAssistanceInfoReport-r16 | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 30 | 2> if the *triggerType* is set to *event* and if the leaving condition applicable for this event is fulfilled for one or more applicable transmission resource pools included in the *poolsTriggeredList* defined within the *VarMeasReportList* for this *measId* for all measurements taken during *timeToTrigger* defined within the *VarMeasConfig* for this event:3> remove the concerned transmission resource pool(s) from the *poolsTriggeredList* or *poolsTriggeredListNR* defined within the *VarMeasReportList* for this *measId*; | Section 5.5.4.1*poolsTriggeredListNR* is missing in the if condition textadd ‘or *poolsTriggeredListNR*' between 'the *poolsTriggeredList*' and 'defined' | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 31 | SidelinkUEInformationNR-r16 ::= SEQUENCE { criticalExtensions CHOICE { sidelinkUEInformationNR-r16 SidelinkUEInformationNR-r16-IEs, criticalExtensionsFuture SEQUENCE {} }}SidelinkUEInformationNR-r16-IEs::= SEQUENCE { sidelinkUEInformationNR-r16 OCTET STRING, lateNonCriticalExtension OCTET STRING OPTIONAL, nonCriticalExtension SEQUENCE {} OPTIONAL}***sidelinkUEInformationNR***Container for the indication of NR sidelink information, this field includes the *SidelinkUEInformationNR* IE as specified in TS 38.331 [82]. | Section 6.2.2 SidelinkUEInformationNRsidelinkUEInformationNR-r16 is used twice as different fields, one of field name should be changed to differentiate the fields.- Change the first sidelinkUEInformationNR-r16 to sidelinkUEInfoNR-r16- Add OPTIONAL for the second sidelinkUEInformationNR-r16 in order to support future proof.SidelinkUEInformationNR-r16 ::= SEQUENCE { criticalExtensions CHOICE { sidelinkUEInfo~~mation~~NR-r16 SidelinkUEInfo~~mation~~NR-r16-IEs, criticalExtensionsFuture SEQUENCE {} }}SidelinkUEInfo~~mation~~NR-r16-IEs::= SEQUENCE { sidelinkUEInformationNR-r16 OCTET STRING OPTIONAL, lateNonCriticalExtension OCTET STRING OPTIONAL, nonCriticalExtension SEQUENCE {} OPTIONAL} | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 32 | MeasObjectNR-SL-r16 ::= SEQUENCE { carrierFreq-r15 ARFCN-ValueNR-r15, tx-ResourcePoolToRemoveList-r16 Tx-PoolMeasToRemoveListNR-r16 OPTIONAL, -- Need OR tx-ResourcePoolToAddList-r16 Tx-PoolMeasToAddModListNR-r16 OPTIONAL, -- Need OR ...}***carrierFreq***Indicates the carrier frequency of pools configured for CBR measurement and reporting for NR sidelink communication. | Section 6.3.5 MeasObjectNR-SLChange carrierFreq-r15 to carrierFreq-r16 | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 33 |  eventS1-r16 SEQUENCE { s1-Threshold-r16 OCTET STRING }, eventS2-r16 SEQUENCE { s2-Threshold-r16 OCTET STRING } | Section 6.3.5 ReportConfigEUTRAThe description for S1 and S2 is missing in the heading text of *ReportConfigEUTRA.*Add the description for Event S1 and S2 in the heading text of *ReportConfigEUTRA* IE as follows.The E-UTRA measurement reporting events concerning CBR for NR sidelink communication are labelled SN with N equal to 1 and 2.Event S1: The NR sidelink channel busy ratio is above a threshold.Event S2: The NR sidelink channel busy ratio is below a threshold. | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 34 | – *MeasObjectToAddModList*MeasObjectToAddModList ::= SEQUENCE (SIZE (1..maxObjectId)) OF MeasObjectToAddModMeasObjectToAddModListExt-r13 ::= SEQUENCE (SIZE (1..maxObjectId)) OF MeasObjectToAddModExt-r13MeasObjectToAddModList-v9e0 ::= SEQUENCE (SIZE (1..maxObjectId)) OF MeasObjectToAddMod-v9e0MeasObjectToAddMod ::= SEQUENCE { measObjectId MeasObjectId, measObject CHOICE { measObjectEUTRA MeasObjectEUTRA, measObjectUTRA MeasObjectUTRA, measObjectGERAN MeasObjectGERAN, measObjectCDMA2000 MeasObjectCDMA2000, ..., measObjectWLAN-r13 MeasObjectWLAN-r13, measObjectNR-r15 MeasObjectNR-r15, measObjectNR-SL-r16 MeasObjectNR-SL-r16 }}MeasObjectToAddModExt-r13 ::= SEQUENCE { measObjectId-r13 MeasObjectId-v1310, measObject-r13 CHOICE { measObjectEUTRA-r13 MeasObjectEUTRA, measObjectUTRA-r13 MeasObjectUTRA, measObjectGERAN-r13 MeasObjectGERAN, measObjectCDMA2000-r13 MeasObjectCDMA2000, ..., measObjectWLAN-v1320 MeasObjectWLAN-r13, measObjectNR-r15 MeasObjectNR-r15, measObjectNR-SL-r16 MeasObjectNR-SL-r16 }} | Section 6.3.5 MeasObjectToAddModListGeneral comment: do we need to extend the measObjectID range (greater than 64) to support newly introduced measObjectID?[Rapporteur] Need the WI decision.[Rapporteur] It is covered by RIL S004. | hyunjeong.kang@samsung.com | NOK |  |
| 35 | Figure 5.10.15-1: Sidelink UE information for NR sidelink communication | Section 5.10.15Change SIB XX2 to SIB 28 | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 36 | The initiation and the procedure for the transmission of *SidelinkUEInformationNR* follow the procedures specified for NR sidelink communication in subclause 5.X.3 of TS 38.331 [82]. | Section 5.10.15Change 5.X.3 to 5.8.3 | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 37 | NOTE: When applying the procedure in this subclause, *SystemInformationBlockType28* corresponds to *SIBX* specified in TS 38.331 [82]. | Section 5.10.15Change SIBX to SIB12 | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 38 | Figure 5.10.16-1: Synchronisation information transmission for NR sidelink communication, in (partial) coverage | Section 5.10.16Change SIBXX to SIB28 | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 39 | The initiation and the procedure for the transmission of sidelink SSB follow the procedure specified for NR sidelink communication in subclause 5.X.5 of TS 38.331 [82]. | Section 5.10.16Change 5.X.5 to 5.8.5 | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 40 | NOTE: When applying the procedure in this subclause, *SystemInformationBlockType28* correspond to *SIBX* specified in TS 38.331 [82]. | Section 5.10.15Change SIBX to SIB12 | hyunjeong.kang@samsung.com | OK | V2X(CR4270) |
| 41 | *MeasObjectNR-SL* information elementMeasObjectNR-SL-r16 ::= SEQUENCE { carrierFreq-r15 ARFCN-ValueNR-r15, tx-ResourcePoolToRemoveList-r16 Tx-PoolMeasToRemoveListNR-r16 OPTIONAL, -- Need OR tx-ResourcePoolToAddList-r16 Tx-PoolMeasToAddModListNR-r16 OPTIONAL, -- Need OR ...} | Section 6.3.5 MeasObjectNR-SLChange the need codes of both tx-ResourcePoolToRemoveList-r16/tx-ResourcePoolToAddList-r16, i.e. from Need OR to Need ON because No action is required when this field is absent.MeasObjectNR-SL-r16 ::= SEQUENCE { carrierFreq-r15 ARFCN-ValueNR-r15, tx-ResourcePoolToRemoveList-r16 Tx-PoolMeasToRemoveListNR-r16 OPTIONAL, -- Need ON tx-ResourcePoolToAddList-r16 Tx-PoolMeasToAddModListNR-r16 OPTIONAL, -- Need ON ...}[Rapporteur] Need RIL #.[Rapporteur] It is covered by RIL S045 | hyunjeong.kang@samsung.com | NOK |  |
| 42 | ReportConfigEUTRA ::= SEQUENCE { triggerType CHOICE { event SEQUENCE { eventId CHOICE { ... eventV1-r14 SEQUENCE { v1-Threshold-r14 SL-CBR-r14 }, eventV2-r14 SEQUENCE { v2-Threshold-r14 SL-CBR-r14 }, ... eventS1-r16 SEQUENCE { s1-Threshold-r16 OCTET STRING }, eventS2-r16 SEQUENCE { s2-Threshold-r16 OCTET STRING } },***ReportConfigEUTRA* field descriptions*****s1-Threshold, s2-Threshold***Threshold used for events s1 and s2 specified in subclauses 5.5.4.18 and 5.5.4.19, respectively. They are containers with contents being *c1-Threshold* IE and *c2-Threshold* IE respectively, as specified in TS 38.331 [82]. | Section 6.3.5 ReportConfigEUTRAThe events (S1 and S2) are encoded by EUTRA but the threshold is specified by an octet string. Since EUTRA can configure both event and threshold for S1 and S2, we suggest to encode threshold without using a container. eventS1-r16 SEQUENCE { s1-Threshold-r16 ~~OCTET STRING~~ SL-CBR-r16 }, eventS2-r16 SEQUENCE { s2-Threshold-r16 ~~OCTET STRING~~ SL-CBR-r16 } },ThresholdEUTRA-v1250 ::= CSI-RSRP-Range-r12MeasRSSI-ReportConfig-r13 ::= SEQUENCE { channelOccupancyThreshold-r13 RSSI-Range-r13 OPTIONAL -- Need OR}SL-CBR-r16 ::= INTEGER(0..100)***ReportConfigEUTRA* field descriptions*****s1-Threshold, s2-Threshold***Threshold used for events s1 and s2 specified in subclauses 5.5.4.18 and 5.5.4.19, respectively. ~~They are containers with contents being~~ *~~c1-Threshold~~* ~~IE and~~ *~~c2-Threshold~~* ~~IE respectively, as specified in TS 38.331 [82].~~ These fields indicate the SL-CBR-r16.***SL-CBR***Value 0 corresponds to 0, value 1 to 0.01, value 2 to 0.02, and so on.[Rapporteur] Need the WI decision.[Rapporteur] It is covered by RIL S046. | hyunjeong.kang@samsung.com | NOK |  |
| 43 | 1> if the *RRCConnectionRelease* message includes the *releaseMeasIdleConfig*:2> if timer T331 is running:3> stop timer T331;3> perform the actions as specified in 5.6.20.3; | Text can be simplified/ running check not needed for release1> if the *RRCConnectionRelease* message includes the *releaseMeasIdleConfig*:2> stop timer T331, if running;2> perform the actions as specified in 5.6.20.3; | himke.vandervelde at Samsung | OK | DCCA(CR4260) |
| 44 | 1> if the *RRCConnectionRelease* message includes the *releaseMeasIdleConfig*:2> if timer T331 is running:3> stop timer T331;3> perform the actions as specified in 5.6.20.3;AndRRCConnectionRelease-v16xy-IEs ::= SEQUENCE { releaseIdleMeasConfig ENUMERATED {true} OPTIONAL, -- Need ON nonCriticalExtension SEQUENCE {} OPTIONAL} | Modify name used in ASN.1 and add suffix. Same for field descriptionRRCConnectionRelease-v16xy-IEs ::= SEQUENCE { releaseMeasIdleConfig-r16 ENUMERATED {true} OPTIONAL, -- Need ON nonCriticalExtension SEQUENCE {} OPTIONAL} | himke.vandervelde at Samsung | OK | DCCA(CR4260) |
| 45 | 5.5.3.1:2> if the *UL-DelayValueConfig* is configured for the associated *reportConfig*:3> ignore the *measObject*;3> configure the PDCP layer to perform UL PDCP Packet Delay value per DRB measurement; | Should reference to field name, i.e. ul-DelayValueConfig. | hchoi5@lenovo.com | OK | ASN.1 |
| 46 | 5.6.1.3:Upon receiving *DLInformationTransfer* message, the the IAB-MT shall: | Redundant “the” can be removed. | hchoi5@lenovo.com | OK | IAB |
| 47 | 5.6.21.1: Figure 5.6.21.1-1: Failure information | Empty object to be removed. It overlaps with Figure 5.6.21.1-1.[Rapporteur] There is no empty object. | hchoi5@lenovo.com | NOK |  |
| 48 | FailureInformation-r16-IEs | Late NCE container can be added. | hchoi5@lenovo.com | OK | feMob |
| 49 | MCGFailureInformation-r16-IEs ::= SEQUENCE { failureReportMCG FailureReportMCG OPTIONAL, nonCriticalExtension SEQUENCE {} OPTIONAL}FailureReportMCG ::= SEQUENCE { failureType ENUMERATED {t310-Expiry, randomAccessProblem,rlc-MaxNumRetx, spare}, measResultFreqListEUTRA MeasResultList3EUTRA-r15 OPTIONAL, measResultFreqListNR MeasResultFreqListFailNR-r15 OPTIONAL, measResultSCG OCTET STRING OPTIONAL, ...} | Suffix "-r16" is missing for the new fields and Ies. Furthermore, late NCE container can be added in the IE. | hchoi5@lenovo.com | OK | DCCA(CR4260) |
| 50 | PURConfigurationRequest-r16-IEs | Late NCE container can be added.[Rapporteur] It is covered by RIL H099. | hchoi5@lenovo.com | NOK |  |
| 51 | RRCConnectionSetupComplete-v16xy-IEs ::= SEQUENCE { rlos-Request-r16 ENUMERATED {true} OPTIONAL, cp-CIoT-5GS-Optimisation-r16 ENUMERATED {true} OPTIONAL, up-CIoT-5GS-Optimisation-r16 ENUMERATED {true} OPTIONAL, lte-M-r16 ENUMERATED {true} OPTIONAL, iab-NodeIndication ENUMERATED {true} OPTIONAL, nonCriticalExtension SEQUENCE {} OPTIONAL} | Suffix “-r16” is missing for field iab-NodeIndication. | hchoi5@lenovo.com | OK | IAB |
| 52 | RRCEarlyDataRequest-5GC-r16-IEs  | Late NCE container can be added.[Rapporteur] NCE container seems more class 2 issue but if there are no RIL, it can be covered here. | hchoi5@lenovo.com | OK(check RIL) | eMTCCR4239) |
| 53 | PLMN-IdentityInfo-v16xy ::= SEQUENCE { cp-CIoT-5GS-Optimisation-r16 ENUMERATED {true} OPTIONAL, -- Need OR up-CIoT-5GS-Optimisation-r16 ENUMERATED {true} OPTIONAL, -- Need OR iab-support ENUMERATED {true} OPTIONAL -- Need OR} | Suffix “-r16” is missing for iab-support. | hchoi5@lenovo.com | OK | IAB |
| 54 | UEAssistanceInformationNR-r16-IEs  | Late NCE container can be added.[Rapporteur] Already have RIL: S042. | hchoi5@lenovo.com | NOK |  |
| 55 | UEInformationResponse-r9-IEs: 2x RACH-Report-r9 | Suffix should be “-r16” since the IE is introduced in Rel-16. | hchoi5@lenovo.com | OK | eMTC(CR4239) |
| 56 | SystemInformationBlockType13-r9:[[ mbsfn-AreaInfoList-r16 MBSFN-AreaInfoList-r16 OPTIONAL ]] | Need code “Need OR” is missing for field mbsfn-AreaInfoList-r16. | hchoi5@lenovo.com | OK | ASN.1 |
| 57 | SystemInformationBlockType24 field descriptions:smtc2-LP-r16 | Suffix “-r16” can be removed from field name. | hchoi5@lenovo.com | OK | ASN.1 |
| 58 | SystemInformationBlockType27 field descriptions:***carrierFreqNBIOT***NB-IoT carrier frequency. | Name should start with uppercase letter as it is an IE and not field.[Qualcomm]: Instead of correction, the description of CarrierFreqNBIOT can be deleted as both fields of this IE as well as the list which contains this IE are well described in the table already.***~~carrierFreqNBIOT~~***~~NB-IoT carrier frequency.~~[Rapporteur] Remove the field description as Qualcomm mentioned. | hchoi5@lenovo.com | OK | eMTC(CR4239) |
| 59 | LogicalChannelConfig field descriptions:***bitRateMultiplier***Bit rate multiplier for recommended bit rate MAC CE as specified in TS 36.321 [6]. Value *x40* indicates bit rate multiplier 40, value *x60* indicates bit rate multiplier 60 and so on. | Value x60 does not exist, but x70. | hchoi5@lenovo.com | OK | ASN.1 |
| 60 | PUR-Config field descriptions:***pur-RSRP-ChangeThreshold***Indicates the threshold of change in serving cell RSRP in dB for TA validation. Value dB4 corresponds to 4 dB, value dB6 corresponds to 6 dB and so on. When *rsrp-ChangeThresh* is included, if *rsrp-DecreaseThresh* is absent the value of *rsrp-IncreaseThresh* is also used for *rsrp-DecreaseThresh*. | *rsrp-ChangeThresh* does not exist, but assumption is that it shall refer to ***pur-RSRP-ChangeThreshold***. If this is the case then it needs to be corrected to ***pur-RSRP-ChangeThreshold***.[Qualcomm]: Agree to above comment. Further correction: given the setup/release is present, the text should be “When *pur-RSRP-ChangeTheshold* is set to *setup* *~~rsrp-ChangeThresh~~* ~~is included~~”[Rapporteur] Accept the both comments. | hchoi5@lenovo.com | OK | eMTC(CR4239) |
| 61 | CondReconfigurationToAddModList-r16 ::= SEQUENCE (SIZE (1.. maxCondConfig-r16)) OF CondReconfigurationAddMod-r16CondReconfigurationAddMod-r16 ::= SEQUENCE { | A "To" is missing in the IE name CondReconfigurationAddMod-r16, i.e. it should say CondReconfigurationToAddMod-r16. | hchoi5@lenovo.com | OK | feMob |
| 62 | ReportConfigEUTRA IE:[[  purpose-v16xy ENUMERATED {sidelinkNR} OPTIONAL -- Need ON ]] | Suffix “-v16xy” should be added to new value sidelinkNR.[Qualcomm]: I think we had similar discussion before. For ENUMERATED and CHOICE, for the first time the fields are introduced, the values do not need the vxxyy or rxy. Not sure if this *value* (not the field) would be considered “first time” or “extension”[Rapporteur] Purpose is an existing field, so –v16xy is appropriate (although also clear from the field name). Accept the Lenovo’s comment above. | hchoi5@lenovo.com | OK | V2X |
| 63 | ReportConfigEUTRA field descriptions:***s1-Threshold, s2-Threshold***Threshold used for events s1 and s2 specified in subclauses 5.5.4.18 and 5.5.4.19, respectively. They are containers with contents being *c1-Threshold* IE and *c2-Threshold* IE respectively, as specified in TS 38.331 [82]. | “IE” can be removed as c1-Threshold/c2-Threshold are field names.[Rapporteur] It seems the contents are IE (i.e. SL-CBR-r16 in NR RRC). If an information structure is used in multiple places, an IE should be defined. So this issue requires RIL either class 2 or class 3.[Rapporteur] It is covered by RIL B002. | hchoi5@lenovo.com | NOK |  |
| 64 | IE UL-DelayValueConfig: The IE *UL-DelayValueConfig* IE specifies the configuration of the UL PDCP Packet Delay value per DRB measurements specified in TS 38.314 [103]. | Redundant IE can be removed. | hchoi5@lenovo.com | OK | ASN.1 |
| 65 | RRCConnectionResumeComplete-v16xy-IEs ::= SEQUENCE { measResultListIdle-r15 MeasResultListIdle-r15 OPTIONAL, | Suffix should be “-r16” for measResultListIdle-r15. | hchoi5@lenovo.com | OK | DCCA |
| 66 | UE-EUTRA-Capability-v16xy-IEs:irat-ParametersNR-r16 IRAT-ParametersNR-r16  OPTIONAL,IRAT-ParametersNR-r16 ::= SEQUENCE { nr-HO-ToEN-DC-r16 ENUMERATED {supported} OPTIONAL} | Suffix for field and IE should be “-v16xy” and OPTIONAL on parent level can be removed as IE consists of a single entry. | hchoi5@lenovo.com | OK | ASN.1 |
| 67 | MBSFN-AreaInfo-r16:mcch-RepetitionPeriod-r16 ENUMERATED {rf1, rf2, rf4, rf8, rf16, rf32, rf64, rf128, rf256, spare7},mcch-ModificationPeriod-r16 ENUMERATED {rf1, rf2, rf4, rf8, rf16, rf32, rf64, rf128, rf256, rf512, rf1024, spare5},subcarrierSpacingMBMS-r16 ENUMERATED {kHz7dot5, kHz2dot5, kHz1dot25, kHz0dot37, spare4}, | Looks quite odd why a single spare has been added for mcch-RepetitionPeriod-r16, mcch-ModificationPeriod-r16, subcarrierSpacingMBMS-r16 although the respective value range allow more spares.So, either more spares should be added to fill the entire value range or the single spares should be removed.[Rapporteur] Same problem exist in mcch-ModificationPeriod-v1430.mcch-ModificationPeriod-v1430 ENUMERATED {rf1, rf2, rf4, rf8, rf16, rf32, rf64, rf128, rf256, spare7} OPTIONAL -- Need ORwe can modify the ModificationPeriod-v1430 as well because change will not create difference from ASN.1 encoding perspective.[Rapporteur] This seems more of a RIL issue, so should be handled in ASN.1 review i.e. class 2.[Qualcomm] It was done consistent with existing fields as follows. mcch-ModificationPeriod-v1430 ENUMERATED {rf1, rf2, rf4, rf8, rf16, rf32, rf64, rf128, rf256, spare7} OPTIONAL -- Need ORBut fine to have spare7, spare6, spare5 all the way to spare1 if rapp prefers. At the same time, we could update v1430 also for consistency. No change in encoding in any case.[Rapporteur] It is covered by RIL B003. | hchoi5@lenovo.com | NOK |  |
| 68 | PURConfigurationRequest-NB-r16-IEs  | Late NCE container can be added.[Rapporteur] It is covered by RIL H117. | hchoi5@lenovo.com | NOK |  |
| 69 | RRCEarlyDataRequest-5GC-NB-r16-IEs  | Late NCE container can be added.[Rapporteur] NCE container seems more class 2 issue but if there are no RIL, it can be covered here. | hchoi5@lenovo.com | OK(check RIL) | NB-IoT(CR4287) |
| 70 | UEInformationRequest -NB-r16-IEs | Late NCE container can be added.[Rapporteur] It is covered by RIL H129.  | hchoi5@lenovo.com | NOK |  |
| 71 | A.6 Protection of RRC messages (informative) | The following messages are missing in the table:-FailureInformation2 (with same setting as for FailureInformation)-SidelinkUEInformationNR (with same setting as for SidelinkUEInformation)-UEAssistanceInformationNR (with same setting as for UEAssistanceInformation) | hchoi5@lenovo.com | OK | ASN.1 |
| 72 | NOTE 2: If the *measIdleConfig* does not contain *measIdleCarrierListEUTRA* or *measIdleCarrierListNR*, UE may receive *measIdleCarrierListEUTRA* or *measIdleCarrierListNR* as specified in 5.2.2.12. | 5.2.2.12 only mentions measIdleCarrierListEUTRA, it is better to refer to 5.6.20 instead of 5.2.2.12.   | liu.jing30@zte.com.cn | OK | DCCA |
| 73 | This procedure specifies the measurements done by a UE in RRC\_IDLE or RRC\_INACTIVE when it has an idel/inactive measurement configuration and the storage of the available measurements by a UE in RRC\_IDLE and RRC\_INACTIVE. | “idle” | liu.jing30@zte.com.cn | OK | DCCA |
| 74 | NOTE 6: In case of conditional reconfiguration the text "if the received *RRCConnectionReconfiguration. . .*" corresponds to applying the stored *RRCConnectionReconfiguration* message (according to 5.3.5.9.4). | Should be “5.3.9.5” for conditional reconfiguration execution.[Rapporteur] it seems the change should be “5.3.5.9.5” and NOTE 2d in 5.3.5.4 can be also applied. | zhang.mengjie@zte.com.cn | OK | feMob(CR4290) |
| 75 | 2> perform conditional reconfiguration evaulation, as specified in 5.3.5.9.4; | Should be “evaluation”. | zhang.mengjie@zte.com.cn | OK | feMob(CR4290) |
| 76 | Editor's note: FFS whether there are issues with configuration of different events (e.g. A3+A5) and how to handle the "and" of two triggering events in RRC. | This Editor’s note can be deleted since the issues have been solved. | zhang.mengjie@zte.com.cn | OK | feMob |
| 77 | In the context above, "the configuration" includes state variables and parameters of each radio bearer. PDCP entities associtated with RLC UM and SRB bearers are reset after the successful RRC connection re-establishment procedure according to clause 5.2 in TS 36.323 [8]. | Should be “associated”. | zhang.mengjie@zte.com.cn | OK | feMob |
| 78 | ***daps-SourceRelease***Indicates that the UE shall release the resources associated with source PCell at a DAPS HO, including reconfiguration of the DAPS PDCP entity to normal PDCP. | Should be “the normal PDCP entity”.[Rapporteur] It is already treated in the WI CR. | zhang.mengjie@zte.com.cn | NOK |  |
| 79 | The IE *ConditionalReconfigurationId* is used to identify a conditional reconfiguration (e.g. CHO). | Prefer to change to “(i.e. conditional handover)” to align with the description in the text and other filed description. | zhang.mengjie@zte.com.cn | OK | feMob |
| 80 | 1 ScopeThe RRC protocol is also used to configure the radio interface between an IAB node and its parent nodes [9]. | The space between “IAB” and “node” be replaced with a hyphen.[Rapporteur] There is one more IAB node in the specification so can be changed for consistency. | ajmal.muhammad@ericsson.com | OK | IAB |
| 81 | In the References section  | Add the following reference for TS 38.472:[x] 3GPP TS 38.472: " NG-RAN; F1 signalling transport.". | ajmal.muhammad@ericsson.com | OK | IAB |
| 82 | 5.3.16 Unified Access Control5.3.16.1 GeneralThe purpose of this procedure is to perform access barring check for an access attempt associated with a given Access Category and one or more Access Identities upon request from upper layers according to TS 24.501 [95] or the RRC layer. | Add the following procedural text:“This procedure does not apply to IAB-nodes.” | ajmal.muhammad@ericsson.com | OK | IAB |
| 83 | *DedicatedInfoF1AP*The IE *DedicatedInfoF1AP* is used to transfer IAB-DU specific F1AP related information between the network and the IAB Node. The carried information consists of F1AP message encapsulated in SCTP/IP or F1-C related SCTP/IP packet [TS 38.472]. The RRC layer is transparent for this information. | Replace [TS 38.472] with the reference number for TS 38.472. See issue 81 above. | ajmal.muhammad@ericsson.com | OK | IAB |
| 84 |  |  |  |  |  |
| 85 |  |  |  |  |  |
| 86 |  |  |  |  |  |
| 87 |  |  |  |  |  |
| 87 |  |  |  |  |  |
| 88 |  |  |  |  |  |
| 89 |  |  |  |  |  |
| 90 |  |  |  |  |  |
| 91 |  |  |  |  |  |
| 92 |  |  |  |  |  |
| 93 |  |  |  |  |  |
| 94 |  |  |  |  |  |
| 95 |  |  |  |  |  |
| 96 |  |  |  |  |  |
| 97 |  |  |  |  |  |
| 98 |  |  |  |  |  |
| 99 |  |  |  |  |  |
| 100 |  |  |  |  |  |
| 101 |  |  |  |  |  |
| 102 |  |  |  |  |  |
| 103 |  |  |  |  |  |
| 104 |  |  |  |  |  |
| 105 |  |  |  |  |  |
| 106 |  |  |  |  |  |
| 107 |  |  |  |  |  |
| 108 |  |  |  |  |  |
| 109 |  |  |  |  |  |
| 110 |  |  |  |  |  |
| 111 |  |  |  |  |  |
| 112 |  |  |  |  |  |
| 113 |  |  |  |  |  |
| 114 |  |  |  |  |  |
| 115 |  |  |  |  |  |
| 116 |  |  |  |  |  |
| 117 |  |  |  |  |  |
| 118 |  |  |  |  |  |
| 119 |  |  |  |  |  |
| 120 |  |  |  |  |  |
| 121 |  |  |  |  |  |
| 122 |  |  |  |  |  |
| 123 |  |  |  |  |  |
| 124 |  |  |  |  |  |
| 125 |  |  |  |  |  |
| 126 |  |  |  |  |  |
| 127 |  |  |  |  |  |
| 128 |  |  |  |  |  |