LTE ASN.1 Comment File

Template:

# Xnnn

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Xnnn | IoTNTN |  |  |  |  |  | vnnn | ToDo |

**[Description]**:

**[Proposed Change]**:

**[Comments]**:

Instructions:

1. Copy the template RIL comments fields above (including the Heading Xnnn)
2. Paste the RIL comments fields at its position while **respecting the order of the RILs in the Review file (i.e. keep the order of the spec).**
3. Fill in the fields, see R19 ASN.1 Guideline.
4. Companies may comment whether they agree or disagree.
5. Can copy spec text and use Word “Track changes”, etc.
6. Do not delete text added by other companies.

# Gen

## Xnnn

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Xnnn | IoTNTN |  |  |  |  |  | vnnn | ToDo |

**[Description]**:

**[Proposed Change]**:

**[Comments]**:

# Multi

## Ynnn

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Xnnn | IoTNTN |  |  |  |  |  | vnnn | ToDo |

**[Description]**:

**[Proposed Change]**:

**[Comments]**:

# IoT NTN

## V210

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V210 | IoTNTN | 1 | Clarify that PWS is not applicable for NB-IoT TN | N | vivo (Stephen) |  | v003 | PropReject |

**[Description]**: With the removal of the phrase “not applicable for NB-IoT”, this may lead to the understanding that PWS reception is applicable to both NB-IoT NTN and NB-IoT TN. It is not aligned with the current SA1 progress.

**[Proposed Change]**: We suggest using “not applicable for NB-IoT in a TN cell” across sub-clauses 4.4, 5.2.1, and 5.3.2. E.g.,

4.4 Functions

- Including ETWS notification, CMAS notification (not applicable for NB-IoT in a TN cell);

5.2.1.3 System information validity and notification of changes

In RRC\_CONNECTED, BL UEs or UEs inCEor NB-IoT UEs are not required to acquire system information except when T311 is running, or upon handover where the UE is only required to acquire the *MasterInformationBlock* in the target PCell, or for UEs in CE to receive ETWS/CMAS information, or upon expiry of T317 where the UE is required to acquire the *SystemInformationBlockType31* (*SystemInformationBlockType31-NB* in NB-IoT) and may acquire the *SystemInformationBlockType33* (*SystemInformationBlockType33-NB* in NB-IoT). In RRC\_IDLE, E-UTRAN may notify BL UEs or UEs inCEorNB-IoT UEs about SI update, and except for NB-IoT UEs in a TN cell, ETWS and CMAS notification, and may notify BL UEs or UEs inCE about EAB modification and UAC modification, using Direct Indication information, as specified in 6.6 (or 6.7.5 in NB-IoT) and TS 36.212 [22].

5.3.2.1 General

- to inform UEs in RRC\_IDLE other than NB-IoT UEs in a TN cell, UEs in RRC\_INACTIVE and UEs in RRC\_CONNECTED other than NB-IoT UEs, BL UEs and UEs in CE, about an ETWS primary notification and/ or ETWS secondary notification and/ or;

- to inform UEs in RRC\_IDLE other than NB-IoT UEs in a TN cell, UEs in RRC\_INACTIVE and UEs in RRC\_CONNECTED other than NB-IoT UEs, BL UEs and UEs in CE, about a CMAS notification and/ or;

**[Comments]**:

**Rapporteur’s comments:** RAN2 and RANP agreed PWS can be applied to NB-IoT TN if no specific enhancement is needed. And in the last meeting, we have sent an LS to SA1 already indicating PWS can be supported in NB-IoT Terrestrial Network in R2-2506297.

Besides, in my understanding not every approved technique in RAN2 must have a corresponding requirement in SA1.

## V211

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V211 | IoTNTN | 1 | Indicate the regenerative operation mode to NAS | Yes, R2-250xxxx | vivo (Stephen) |  | v003 | ToDo |

[Description]: As per the current spec, when t-ModeSwitching is not configured for the transition from S&F to regenerative, upon the satellite transitions from S&F to regenerative, no mode indication of regenerative mode is indicated to NAS. The NAS may always consider the cell is in S&F mode. It is incorrect.

**[Proposed Change]**: We propose that the RRC of an S&F capable UE shall indicate the cell is operating in regenerative mode if *sf-OperationMode* is not present. Alternatively, *t-ModeSwitching* shall always be configured by the network when the cell is operating in S&F.

**[Comments]**:

**Rapporteur’s comments:** If there is no mode switching from SF mode to normal mode in this cell, this issue doesn’t exist. If there is mode switching from SF to normal in this cell, since both the sf indication and sf-ModeSwitching will be forwarded, NAS will know when the mode switches. We believe it is difficult to mandate broadcasting sf-ModeSwitching in the spec and it can be up NW implementation.

This issue is left open for now and proponent can submit contribution to discuss in the next meeting.

## G001

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| G001 | IoTNTN | 1 | Indicate the S&F mode or the normal mode to upper layers |  | Google (Ming-Hung) |  | v005 | Duplicated |

**[Description]**: Currently the RRC only indicates to NAS that the cell is operating in S&F mode when *sf-OperationMode* is present; the RRC does not indicate to NAS that the cell is operating in the normal mode when *sf-OperationMode* is absence. Without knowing the cell turning to the normal mode, the NAS layer with a running T3451 timer would refrain the UE from initiating any NAS procedure, which is incorrect and problematic. In addition, when the NAS layer receives an EMM cause#83 (Procedure cannot be completed due to unavailable feeder link while MME is operating in S&F mode), it also needs to check if the cell is operating in the S&F mode to determine whether to trigger an abnormal case.

The current RRC spec places this cross-layer indication under multiple conditions, which we think can be more concise. Besides, for the UE receiving SIB1 in a TN cell, indicating that the cell is operating in the normal mode to the upper layers is definitely not needed. Hence, we propose to place all these cross-layer S&F related indications under the same condition, which is “if the access is for NTN”.

**[Proposed Change]**:

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

[unrelated parts skipped]

1> if the access is for NTN:

2> indicate to upper layers that the cell is operating in Store and Forward mode, if *sf-OperationMode* is present;

2> indicate to upper layers that the cell is operating in normal mode, if *sf-OperationMode* is absent;

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

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

2> forward the *cellIdentity* to upper layers;

2> forward the *trackingAreaCode* to upper layers;

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

1> else:

[unrelated parts skipped]

**[Comments]**:

**Rapporteur’s comments:** For the issue of indicating normal mode to NAS layer, please see the comments to V211 and contribution can be submitted referring to V211. For where to place the “forwarding behaviour”, we think there is no issue with the current text since we have “if xxx is present” indicating this will never happen in TN. Besides the following added condition implies even a non-sf NTN UE need to indicate NAS, which should be avoided:

2> indicate to upper layers that the cell is operating in normal mode, if *sf-OperationMode* is absent;

## V212

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V212 | IoTNTN | 1 | Refine the wording of NOTE in sub-clause 5.3.3.3x | N | vivo (Stephen) |  | v003 | PropAgree |

**[Description]**: The sentence “*Which procedure (e.g. EDT, random access procedure, CB-Msg3-EDT) is initiated*.” is not complete. The intended UE behavior is unclear.

**[Proposed Change]**: Clarify that which procedure (e.g. EDT, random access procedure, CB-Msg3-EDT) is initiated is up to UE implementation.

5.3.3.3x UE actions upon receiving CB-Msg3-EDT indications from lower layers

For CP transmission using CB-Msg3-EDT, upon indication from lower layers that CB-Msg3-EDT is successfully completed, the UE shall perform the actions as specified in 5.3.3.4b as if an empty *RRCEarlyDataComplete* message was received.

Upon reception of CB-Msg3-EDT failure indication from lower layers, the procedure ends.

NOTE: When receiving the CB-Msg3-EDT failure indication from lower layers, the RRC procedure is re-initiated. Which procedure (e.g. EDT, random access procedure, CB-Msg3-EDT) is initiated is up to UE implementation.

**[Comments]**:

**Rapporteur’s comments:** Agree. This was removed by accident.

## C001

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| C001 | IoTNTN | 2 | sf-OperationModeNeigh |  | Da Wang |  | V002 | ToDo |

**[Description]**: As we comment during the email discussion, we think the intention of agreement is to add S&F mode and nomal mode indication in SIB33, which doesn’t have the intention to include “barred” and “notBarred” in SIB33. Because currently the barred/notBarred information is not provide from neighbour cell to serving cell.

**[Proposed Change]**:

NeighSatelliteInfo-v19xy ::= SEQUENCE {

sf-OperationModeNeigh-r19 ENUMERATED {s&f, normal} OPTIONAL, -- Need OP

t-ModeSwitchingNeigh-r19 TimeOffsetUTC-r17 OPTIONAL -- Need OR

}

**[Comments]**:

**Rapporteur’s comments:** This was discussed and companies have different understanding on the intention of the agreement. So we need to stick to the agreement itself for now:

* **The S&F mode indication (i.e., sf-OperationMode) and the S&F mode transition time (i.e., t-ModeSwitching) of the neighbor satellite are signaled in SIB33 per neighbor satellite.**

Besides, this is aligned with the NOTE added in 36.304, that a UE may deprioritize or choose not to access a SF cell based on this indication. Companies can submit contributions to this issue.

## V213

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V213 | IoTNTN | 1 | Need Code of *sf-OperationModeNeigh-r19* should be Need OR | N | vivo (Stephen) |  | v003 | PropAgree |

**[Description]**: The Need OP is not intended for *sf-OperationModeNeigh-r19*, since no specified behavior exists for the absence of the field.

**[Proposed Change]**: Need OR is used for *sf-OperationModeNeigh-r19*.

**[Comments]**:

**Rapporteur’s comments:** It was considered how to specify the behaviour upon absence. But there are two possibilities: 1) the neighbour cell is operating in normal mode. 2) it is unknown about which mode the neighbour cell is operating in. It seems 2) makes more sense since it cannot be guaranteed NW will always know about the status of neighbour cell. So the suggestion is reasonable and is agreed.

## Z001

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Z001 | IoTNTN | 2 | It’s suitable to define *windowPeriodicity* and *windowSize* with the unit of (N)PUSCH resources periodicity | Yes, R2-2507086 | ZTE (Ting) |  | v014 |  |

**[Description]**:

With current definition and value range of *windowPeriodicity* and *windowSize,* if *windowPeriodicity* is explicitly configured (e.g., different from *windowSize*), it at least needs to be two times the configured value of *windowSize*. This may cause the gap between two CB-Msg3 Tx window unnecessary large. Moreover, with current value range of *windowSize*, it can only ensure that the PUSCH resources available within the CB-Msg3 Tx window are integer multiples of 5 (e.g., 5 PUSCH resources, 10 PUSCH resources, and so on), or are not integer multiples at all. The granularity of multiples of 5 is too coarse, making the number of PUSCH resources within a Tx window difficult to adapt to the number of replicas, e.g., resulting in either insufficient or excessive PUSCH resources relative to the number of replicas.

**[Proposed Change]**: It’s suggested to define *windowSize* and *windowPeriodicity* with the unit of (N)PUSCH resources periodicity. Taking eMTC as example:

cb-Msg3-TxWindow-r19 SEQUENCE {

windowSize-r19 INTEGER (1..16),

windowPeriodicity-r19 INTEGER (1..16) OPTIONAL --Need OP

} OPTIONAL --Need OP

**[Comments]**:

## V215

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V215 | IoTNTN | 2 | Removal of p0-UE-PUSCH-r19 | Yes, R2-250xxxx | vivo (Stephen) |  | v008 | ToDo |

**[Description]**: The field *p0-UE-PUSCH-r19* is totally not used in CB-Msg3 PUSCH power control, as per the P0 formula from MAC

- the CB-MSG3\_RECEIVED\_TARGET\_POWER is set to *cb-Msg3-InitialReceivedTargetPower* + (CB\_MSG3\_TRANSMISSION\_COUNTER\_CE – 1) \* *powerRampingStep*;

Note that the *p0-UE-PUSCH* for PUR is used as a power offset to clacluate the initial received target power for PUR based on *preambleInitialReceivedTargetPower*. As we had introduce *cb-Msg3-InitialReceivedTargetPower-r19*, there is not need to use *p0-UE-PUSCH* and *preambleInitialReceivedTargetPower* for CB-Msg3 PUSCH.

**[Proposed Change]**: Removal of p0-UE-PUSCH-r19 from both *CB-Msg3-ConfigSIB* and *cb-Msg3-ConfigSIB-NB*

**[Comments]**:

**Rapporteur’s comments:** I have some sympathy with this proposal. Since the proponent is going to prepare a contribution, we can discuss during the next meeting.

## V216

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V216 | IoTNTN | 1 | *prbAllocationInfo* is missing in the *cb-Msg3-PUSCH-Config* | No | vivo (Stephen) |  | v010 | PropAgree |

**[Description]**: In the FD of *cb-Msg3-PUSCH-Config*, *prbAllocationInfo* is captured for CB-PUSCH PRB allocation. But in the *cb-Msg3-PUSCH-Config* signalling structure, *prbAllocationInfo* is missing (instead BIT STRING (SIZE(10)) is used).

**[Proposed Change]**:

CB-Msg3-PUSCH-Config-r19 ::= SEQUENCE {

numRUs-r19 BIT STRING (SIZE(2)),

cb-Msg3-prb-AllocationInfoSet-r19 SEQUENCE (SIZE(1..48)) OF cb-Msg3-prbAllocationInfo-r19,

mcs-r19 BIT STRING (SIZE(4)),

numRepetitions-r19 BIT STRING (SIZE(3)),

p0-UE-PUSCH-r19 INTEGER (-8..7),

alpha-r19 Alpha-r12

}

cb-Msg3-prbAllocationInfo-r19 ::= BIT STRING (SIZE(10))

***cb-Msg3-PUSCH-Config***

Indicates PUSCH resource for CB-Msg3-EDT. *numRUs* indicates DCI field for PUSCH number of resource units, see TS 36.213 [23] clause 8.1.6. *cb-Msg3-prbAllocationInfo* indicates DCI field for PUSCH resource block assignment, see TS 36.212 [22], clause 5.3.3.1.10. *mcs* indicates DCI field for PUSCH modulation and coding scheme, see TS 36.213 [23] clause 8.6. *numRepetitions* indicates DCI field for PUSCH repetition number, see TS 36.213 [23] clause 8.0.

*numRUs* set to '00' indicates use of full-PRB resource allocation, otherwise sub-PRB resource allocation as defined in TS 36.213 [23], clause 8.1.6.

**[Comments]**:

**Rapporteur’s comments:** Agree with the intention. For the correction, prefer a simpler correction on the FD part:

***cb-Msg3-PUSCH-Config***

Indicates PUSCH resource for CB-Msg3-EDT. *numRUs* indicates DCI field for PUSCH number of resource units, see TS 36.213 [23] clause 8.1.6. *prb-AllocationInfoSet* contains a list of information for PRB allocation which indicates DCI field for PUSCH resource block assignment, see TS 36.212 [22], clause 5.3.3.1.10. *mcs* indicates DCI field for PUSCH modulation and coding scheme, see TS 36.213 [23] clause 8.6. *numRepetitions* indicates DCI field for PUSCH repetition number, see TS 36.213 [23] clause 8.0.

*numRUs* set to '00' indicates use of full-PRB resource allocation, otherwise sub-PRB resource allocation as defined in TS 36.213 [23], clause 8.1.6.

## V214

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V214 | IoTNTN | 1 | Clarification on TA report | Yes, R2-250xxxx | vivo (Stephen) |  | v003 | Duplicated |

[Description]: Based on the MAC spec, the TA report can be multiplexed into the CB-Msg3 (i.e., there is no limit on the UL multiplexing). The FD of *ta-Report* should be updated to align with the MAC spec.

**[Proposed Change]**: Remove the phrase “Random Access due to” or add the CB-Msg3-EDT. E.g.,

***ta-Report***

When this field is included in *SystemInformationBlockType2*, it indicates reporting of timing advance is enabled during Random Access or CB-Msg3-EDT due to RRC connection establishment, RRC connection resume or RRC connection reestablishment. When this field is included in *MobilityControlInfo*, it indicates TA reporting is enabled during Random Access due to handover, see TS 36.321 [6], clause 5.4.9.

**[Comments]**:

**Huawei comment:** We have some sympathy with this proposal and think this is a simple way to go.

**Rapporteur’s comments:** This RIL is related to S901. Firstly, we need to discuss whether there is any issue supporting TA report during CB-Msg3-EDT. Following the principle of avoiding having duplicated RILs and for easy track, this RIL is considered duplicated with S901, and contribution can refer to S901 to discuss whether to supportTA report during CB-Msg3-EDT.

## N011

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| N011 | IoTNTN | 1 | CQI report in CB-Msg3 transmission on the anchor carrier | Yes, R2-250xxxx | Nokia (Ping Yuan) |  | V006 | PropAgree |

**[Description]**: Based on current text, for CQI report in CB-Msg3 on the anchor carrier, the latest result is from the carrier where RAR is received. This is not correct for CB-Msg3 where Msg1/Msg2 are skipped.

3> except for CB-Msg3 transmission on the non-anchor carrier, set the *cqi-NPDCCH* to include the latest results of the downlink channel quality measurements of the carrier where the random access response is received as specified in TS 36.133 [16]

**[Proposed Change]**: Add a new branch for CQI report in CB-Msg3 to indicate that the carrier is the one UE transmit CB-Msg3 (or monitor CB-Msg4?)

**[Comments]**:

**Rapporteur’s comments:** Agree. It is obvious this need correction. I will try to capture this in the Rapporteur CR and companies can comment during the review. An initial proposal of change is:

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

2> if the UE supports DL channel quality reporting in MSG3 and *cqi-Reporting* is present in *SystemInformationBlockType2-NB*:

3> set the *cqi-NPDCCH* to include the latest results of the downlink channel quality measurements of the carrier where the random access response is received or set the *cqi-NPDCCH* to include the latest results of the downlink channel quality measurements of the anchor carrier in case CB-Msg3 is transmitted on the anchor carrier, as specified in TS 36.133 [16]

## N012

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| N012 | IoTNTN | 1 | CQI measurement period for the report in CB-Msg3 |  | Nokia (Ping Yuan) |  | V006 | PropReject |

**[Description]**: Based on current text, the CQI measurement use measurement period T1 or T2. However, for CQI report in CB-Msg3, both T1 (before NPRACH transmission) and T2 (from beginning of RAR) are not applicable.

NOTE 0: The downlink channel quality measurements use measurement period T1 or T2, as defined in TS 36.133 [16]

|  |
| --- |
| 36.133 6.6A.2.6  For channel quality reporting in the anchor carrier, the reported NPDCCH repetition level shall be derived from the channel quality measured in the period T1 or T2 in the carrier where the random access response is transmitted, where  - T1 is the period before NPRACH transmission used for NRSRP measurement for enhanced coverage level estimation  - T2 is the period from the beginning of the random access response to the beginning of PUSCH format 1 for DL channel quality reporting.  For channel quality reporting in the non-anchor carrier, the reported NPDCCH repetition level shall be derived from the channel quality measured in the period T2 in the carrier where UE monitors Random Access Response where T2 is defined above. |

**[Proposed Change]**: Clarify the measurement period for CQI report in CB-Msg3 anchor carrier is FFS (up to RAN4 LS response)

**[Comments]**:

**Rapporteur’s comments:** Agree with the intention. But no change is needed for now for RRC, which depends on RAN4 response. There is a possibility RAN4 may redefine the T1 to include the CB-MSG3 case. In that case, we don’t need to change RRC spec. Since anyway further discussion will be triggered by RAN4 LS and we are not sure whether RRC needs to be changed, we may not need an extra RIL here to avoid potential duplicated discussion on the same issue.

## N013

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| N013 | IoTNTN | 1 | Procedure description after CB-Msg3 failure |  | Nokia (Ping Yuan) |  | V006 | PropAgree |

**[Description]**: The text below for the procedure after CB-Msg3-EDT failure is not clear. We understand it can be 4-step RACH, 4-step RACH using EDT, and CB-Msg3 EDT. EDT here is confusing since it also uses random access procedure.

NOTE: When receiving the CB-Msg3-EDT failure indication from lower layers, the RRC procedure is re-initiated. Which procedure (e.g. EDT, random access procedure, CB-Msg3-EDT) is initiated

**[Proposed Change]**: change the *EDT* to *EDT using the random access procedure* (as specified in 5.3.3.1b).

**[Comments]**:

**Rapporteur’s comments:** Agree.

## S900

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| S900 | IoTNTN | X | Accumulate SI decoding across SI windows for PWS SIB | Yes, R2-250xxxx | Samsung (Jonas) |  | vXXX | ToDo |

[Description]: Currently, for NB-IoT, the UE can accumulate SI decodings across SI windows in case the UE fails to decode during an SI window:

*1> if the SI message was not possible to decode from the accumulated SI message transmissions by the end of the SI-window, continue reception and accumulation of SI message transmissions on DL-SCH in the next SI-window occasion for the concerned SI message;*

When this feature was introduced in Release 13, it was never considered that an IoT device shall acquire PWS, and since most SIBs use SI notification procedure if the content changes, this is not an issue for non-PWS SIBs. But for PWS, different SIB content i.e via the segments will not trigger the SI notification procedures.

The issue however, is that accumulating across SI windows is a useful feature, in particular for PWS, to increase coverage of PWS notifications for PWS message that are not segmented. So we equally think that there is a risk in completely turning it off in case no segmentation is being performed.

**[Proposed Change]**: Allow the network to configure that the UE shall not accumulate SI decodings across SI windows for PWS SIBs.

**[Comments]**:

**Rapporteur’s comments:** Discuss based on proponent’s contribution.

## S901

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| S901 | IoTNTN | 2 | Clarification on TA report | Yes, R2-250xxxx | Samsung (Jonas) |  | vXXX | ToDo |

[Description]: TA report is according to the RRC procedures applicable for CB-Msg3-EDT (although the field description seems to indicate that it is not applicable to CB-MSg3-EDT).

The CB-Msg3-EDT being applicable to CP solution is likely not an issue as the MAC procedures will not include the TA report if the CB-Msg3 TBS allocation is too small. However, for UP solution, the TA report has higher priority compared to DCCH, meaning that the MAC CE may use unnecessarily occupy data. This is because the *ta-Report* applies to all types of access procedures.

Also, the arguing against this because this was not addressed for PUR is not valid, as the usefulness of PUR in NTN is questionable. CB-Msg3-EDT is introduced specifically for NTN, so it is in our interest to introduce protocols and procedures that make these procedures as efficient as possible.

**[Proposed Change]**: TA report is not triggered for the CB-Msg3-EDT procedures or a *ta-Report* configuration specifically for CB-Msg3-EDT is introduced.

For not triggering the TA report we propose the following:

1> if UE supports timing advance reporting and *ta-Report* is included in *SystemInformationBlockType2* and the UE is not performing CB-Msg3-EDT in accordance with 5.3.3.3b:

2> instruct the associated MAC entity to trigger Timing Advance reporting;

**[Comments]**:

**Rapporteur’s comments:** Discuss based on companies’ contributions on whether there is an issue to support TA report during CB-Msg3-EDT.

## Z002

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Z002 | IoTNTN | 2 | Correct the definition way of *npusch-SubCarrierSetList* | Yes, R2-2507086 | ZTE (Ting) |  | v014 |  |

**[Description]**:

For current *npusch-SubCarrierSetList,* it firstly define a number of set and for each set, it can make choice between configuration for subcarrier spacing of 3.75kHz and subcarrier spacing of 15kHz. However, we understand the subcarrier spacing should be consistent among all the frequency resource set. So the correct way should be to define two separate lists for subcarrier spacing of 3.75kHz and subcarrier spacing of 15kHz respectively. And in each list, there are several sets.

**[Proposed Change]**:

It’s suggested to use the following way to define *npusch-SubCarrierSetList-r19*:

npusch-SubCarrierSetList-r19 ::= CHOICE {

npusch-SubCarrierSetList-khz15 SEQUENCE (SIZE(1..12)) OF INTEGER (0..18),

npusch-SubCarrierSetList-khz3dot75 SEQUENCE (SIZE(1..48)) OF INTEGER (0..47)

}

**[Comments]**:

## W801

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| W801 | IoTNTN | 2 | IE WindowPeriodicity-NB-r19 should be optional |  | NEC (Yuhua chen) |  | V011 | PropAgree |

**[Description]**: as same as for eMTC, this IE should be optional. as the IE description says, when windowPeriodicity-NB is absent, the window periodicity uses the same value as windowSize-NB.

**[Proposed Change]**: align with eMTC, make this IE optional

**[Comments]**:

**Rapporteur’s comments:** Agree.

## S902

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| S901 | IoTNTN | 2 | Cell control of CP/UP CB-Msg3-EDT | Yes, R2-250xxxx | Samsung (Jonas) |  | V013 | ToDo |

**[Description]:** Currently, the decision whether a UE can perform CP or UP CB-Msg3-EDT seems to be mostly based on the UE decision, and there does not seem to be any manner for the cell to control whether a UE can perform CP or UP CB-Msg3-EDT:

1> if the UE supports CB-Msg3-EDT and *SystemInformationBlockType2* includes *cb-Msg3-ConfigSIB (SystemInformationBlockType2-NB* and/or *SystemInformationBlockType22-NB* includes *cb-Msg3-ConfigSIB-NB* in NB-IoT):

2> for CP-EDT, the upper layers request establishment of an RRC connection; or

2> for UP-EDT, the upper layers request resumption of an RRC connection and the UE has a stored value of the *nextHopChainingCount* provided in the *RRCConnectionRelease* message with suspend indication during the preceding suspend procedure;

For legacy EDT, there is *up-EDT* and *cp-EDT* in SIB2(-NB), which can be used by the cell to indicate whether a UE can perform the corresponding type of EDT to the cell. Based on this, we think that there needs to be ability for the network to control this for the specific cell. We also cannot rely on already existing up-EDT and cp-EDT, as these are highly linked with legacy EDT.

**[Proposed Change]**: Introduce indications up-CB-Msg3-EDT and cp-CB-Msg3-EDT in SIB2 and SIB2-NB, which are used to control whether UE can perform UP or CP CB-Msg3-EDT to the cell.

**[Comments]**:

**Rapporteur’s comments:**

# IoT TDD

## V220

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V220 | IoTTDD | 1 | Refine the sentence for the postponement of SI transmission | N | vivo (Stephen) |  | v004 | ProAgree |

**[Description]**: In sub-clause 5.2.1.2a, the wording of the sentence describing the postponement of SI transmission is somewhat unclear. Currently, the phrase “one or more repetitions” is used to encompass both the first transmission of SI and its subsequent repetitions. In our understanding, “one repetition” does not represent the “first transmissions”. It is therefore suggested that the wording be refined to enhance clarity.

**[Proposed Change]**: We suggest using “first transmission and repetition” as the way for MIB and SIB1. For example,

The SI messages are transmitted within periodically occurring time domain windows (referred to as SI-windows) using scheduling information provided in *SystemInformationBlockType1-NB*. Each SI message is associated with a SI-window and the SI-windows of different SI messages do not overlap. That is, within one SI-window only the corresponding SI is transmitted. The length of the SI-window is common for all SI messages, and is configurable. For IoT NTN TDD mode, the first transmission of SI message and the repetitions that fall on the non-D subframes are postponed to the next valid D subframe within the SI-Window.

**[Comments]**:

**Rapporteur’s comment:** This was discussed during the last review, and the understanding was that “one repetition” means the first transmission. But since there is still concern, it is OK to revise based on this proposal with a little update:

For IoT NTN TDD mode, either the first SI message transmission or the repetitionsof SI message transmission, that fall on the non-D subframes are postponed to the next valid D subframe within the SI-Window.

## X501

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| X501 | IoTTDD | 2 | radioFrameOffset | R2-xxxxxxx | Xiaomi (Xiaolong Li) |  | V002 | ToDo |

**[Description]**: According to the field description of *radioFrameOffset*, it should be the frame offset between the serving cell and the neighbour cell. However, *radioFrameOffset* is currently defined per satellite. This means that if a satellite has multiple cells, the *radioFrameOffset* for these cells must be configured to be the same, which is not reasonable.

**[Proposed Change]**: The *radioFrameOffset* is configured per cell in SIB4-NB and SIB5-NB.

**[Comments]**:

**Rapporteur’s comment:** I have some sympathy with this proposal. But since the agreement from last meeting was specific about indicating this in SIB33. If we change it, we need further discussion. So I suggest Xiaomi to bring a contritbuion on this issue to the next meeting.

## V221

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V221 | IoTTDD | 1 | Change Need code of *radioFrameOffset-r19* | N | vivo (Stephen) |  | v004 | PropAgree |

**[Description]**: The Need OP is not intended for *radioFrameOffset-r19*, since no specified behavior exists for the absence of the field.

**[Proposed Change]**: Need OR is used.

**[Comments]**:

**Rapporteur’s comment:** Agree.

## Z051

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Z051 | IoTTDD | 2 | Change the value of *radioFrameOffset-r19* |  | ZTE (Zhihong) |  | v005 | PropAgree |

**[Description]**: Because the IoT TDD frame is repeated every 9 RFs, and the offset is counted as the nearest difference from the start of serving cell IoT TDD pattern and the neighbor cell IoT TDD pattern, the maximum value range applicable would be between [-4, 4].

**[Proposed Change]**: Change the value range of radioFrameOffset-r19 to integer (-4,4)

**[Comments]**:

**Rapporteur’s comment:** Agree. No need of contribution unless there is a different view.

Qualcomm: We suggest to change it to “ToDo”. It should be possible to signale only positive offset of same SFN0 of serving and SFN0 of the target.

**Rapporteur’s comment:** To qualcommon: it doesn’t really matter right? Both ways work. Suggest to focus on more important issues.

[Qualcomm] Exactly if it is working, we suggest Rapp to focus on more important issue and just leave what we have in CR. Value 8 may be needed.

## Z052

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Z052 | IoTTDD | 1 | Update the field description of *radioFrameOffset-r19* |  | ZTE (Zhihong) |  | v005 | PropAgree |

**[Description]**: Current field description define the offset as *number of frames,* ***between*** *the start of between the start of IoT NTN TDD pattern of serving cell and the start of the nearest IoT NTN TDD pattern of the neighbor cell,* which could lead to misunderstanding between UE and NW on the signalled offset one assumes the offset is counted from the start of serving cell IoT TDD pattern to start of neighbor cell IoT TDD pattern, while the other assumes offset is counted from the start of neighbor cell IoT TDD pattern to start of serving cell IoT TDD pattern

**[Proposed Change]**: Change the field description of radioFrameOffset-r19 to “Offset, in number of frames, from the start of IoT NTN TDD pattern of serving cell to the start of the nearest IoT NTN TDD pattern of the neighbor cell, at the uplink time synchronization reference point defined in clause 16.1.2 of TS 36.213 [6]. ”

**[Comments]**:

**Rapporteur’s comment:** Agree. No need of contribution unless there is a different view.

Qualcomm: Additionally we should clarify it is “in number of radio frames”, it is not subframe. Perhaps naming can also be reconsidered to avoid confusion with existing si-RadioFrameOffset.

**Rapporteur’s comment:** OK with QC’s suggestion.

## Z053

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Z053 | IoTTDD | 1 | Update the field description of *downlinkBitmapNonAnchor* in *CarrierConfigDedicated-NB* | None | ZTE (Zhihong) |  | v005 | PropAgree |

**[Description]**: *downlinkBitmapNonAnchor* is an optional IE in *CarrierConfigDedicated-NB*, since it is not used in IoT TDD, we can simply make it absence for IoT TDD.

**[Proposed Change]**: Change the field description of *downlinkBitmapNonAnchor* to “For IoT NTN TDD mode, this field is not signalled. ”

**[Comments]**:

**Rapporteur’s comment:** Agree.

## Z054

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Z054 | IoTTDD | 1 | Update the field description of *downlinkBitmapNonAnchor* in *DL-CarrierConfigCommon-NB* | None | ZTE (Zhihong) |  | v005 | PropAgree |

**[Description]**: *downlinkBitmapNonAnchor* is a mandatory IE in *DL-CarrierConfigCommon-NB*, the description ‘if this field is signalled’ is not needed in the field description. Plus, the useNoBitmap IE version is v14 instead of v16.

**[Proposed Change]**: Change the field description of *downlinkBitmapNonAnchor* to ‘For IoT NTN TDD mode, *useNoBitmap-r14* is used.’

**[Comments]**:

**Rapporteur’s comment:** Agree. But the wording will be updated to follow legacy:

For IoT NTN TDD mode, this field is set to *useNoBitmap*.

## N021

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| N021 | IoTTDD |  | Update the field description for npdcch-StartSF-xx |  | Nokia (Ping Yuan) |  | V008 | PropAgree |

**[Description]**: It is a bit confusing to use “value of 4” and “v4” in the field description – we can delete the “value of 4 and value 8 are not supported” and only keep the text after the “:” for simplicity. If it can be agreed, other occasions should be updated as well (e.g., *npdcch-StartSF-CSS/USS etc.)*

***npdcch-StartSF-SC-MCCH***

Starting subframes configuration of the NPDCCH multicast search space for SC-MCCH, see TS 36.213 [23].

For IoT NTN TDD mode, value of 4 and value of 8 are not supported: if value *v4* is signalled, it is interpreted as 4\*11.25 and if value *v8* is signalled, it is interpreted as 8\*11.25.

**[Proposed Change]**: For IoT NTN TDD mode, ~~value of 4 and value of 8 are not supported:~~ if value *v4* is signalled, it is interpreted as 4\*11.25 and if value *v8* is signalled, it is interpreted as 8\*11.25.

**[Comments]**:

**Rapporteur’s comment:** Agree. Will update all related places.

Qualcomm: I guess intention is value 4 is possible for normal mode but it should never be configured for TDD mode. Perhaps we need to be more clear, instead of saying interpreted, should use better wording like it corresponds to “4\*11.25” subframes. Suggest to change,

value v1dot5 corresponds to 1.5, value v2 corresponds to 2, value v4 corresponds to 4 and so on. For IoT NTN TDD mode, value v4 corresponds to 4\*11.2” and value v8 corresponds to 8\*11.25.

**Rapporteur’s comment:** OK with QC’s suggestion.

## N022

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| N022 | IoTTDD |  | Update the field description for ***npusch-TxDuration*** to reflect RAN1 agreement |  | Nokia (Ping Yuan) |  | V008 | PropReject |

**[Description]**: For duration of NPUSCH segement transmission, RAN1 agreed the 2 and 4 ms segments are NOT applicable to IoT TDD NTN other than at the beginning of the trnamsission. We think it is better to capture that in the field description for *npusch-TxDuration*.

***npusch-TxDuration***

Duration of NPUSCH segment transmission in NTN transmission, see TS 36.213 [23]. Unit in ms. Value *ms2* corresponds to 2 ms, value *ms4* corresponds to 4 ms and so on

|  |
| --- |
| **RAN1 agrement:**  For precompensation, from RAN1 perspective:   * The UE may adjust its time/frequency pre-compensation before the beginning of each set of consecutive 8 uplink subframes. No pre-compensation gap is needed before the beginning of each set of consecutive 8 uplink subframes. * The UE may adjust its time/frequency pre-compensation at the beginning of an NPUSCH/NPRACH transmission (same behavior as Rel-18)   + Segmented precompensation is not supported.   + It is not supported to perform precompensation within the set of 8 consecutive uplink subframes other than at the beginning of an NPUSCH/NPRACH transmission |

**[Proposed Change]**: Update the Field description by adding the red part:

*Duration of NPUSCH segment transmission in NTN transmission, see TS 36.213 [23]. Unit in ms. Value ms2 corresponds to 2 ms, value ms4 corresponds to 4 ms and so on. The 2 ms and 4 ms segments are not applicable to IoT TDD NTN other than at the beginning of an NPUSCH transmission.*

**[Comments]**:

**Rapporteur’s comment:** Based on the lasest RAN4 LS to RAN1 in R4-2512550, RAN1 may need to re-discuss whether to support segmented precompensation in IoT NTN TDD. So we don’t need to make a change now in RAN2. Besides it may be enough if RAN1 has captured the agreement in RAN1 spec since we refer to RAN1 spec already.

Qualcomm: Suggest to change to “ToDo”. It is perhaps better to clarify this filed is not applicable in IoT NTN TDD mode as UE restarts every 8ms.

**Rapporteur’s comment:** Let’s wait for RAN1 conclusion for now.

# LTE to NR NTN mobility

## V230

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V230 | LTE to NR NTN mobility | 1 | Clarification for SMTC offset adjustment for LTE TN to NR NTN mobility | N | vivo (Stephen) |  | v002 | PropAgree |

**[Description]**: When smtc-19 is configured, the offset adjustment behavior should be added in the FD of *smtc* included in RRC Release.

**[Proposed Change]**: The offset adjustment based on the actual propagation delay difference should be added in the FD of *smtc* included in RRC Release. E.g.,

***smtc***

The SSB periodicity/offset/duration configuration of the redirected target NR frequency. It is based on the timing reference of EUTRAN PCell. If the field is absent, the UE uses the SMTC configured in the *measObjectNR* having the same SSB frequency and subcarrier spacing. If E-UTRAN includes *smtc-r19*, the *offset* (derived from parameter *periodicityAndOffset*) is based on the assumption that the difference between the eNB-UE propagation delay for serving cell and gNB-UE propagation delay for neighbour cells is equal to 0 ms, and UE can adjust the actual offset based on the actual propagation delay difference.

**[Comments]**:

**Rapporteur’s comments:** Thanks for raising this RIL. Agree, the modification will be captured in the CR for companies to further comment on. The suggested wording is slightly different from [V230]’s version, the purpose is to align with the field description of measTimingConfig in SIB24.

|  |
| --- |
| ***smtc***  The SSB periodicity/offset/duration configuration of the redirected target NR frequency. It is based on the timing reference of EUTRAN PCell. If the field is absent, the UE uses the SMTC configured in the *measObjectNR* having the same SSB frequency and subcarrier spacing. If *smtc-r19* is configured, the *offset* (derived from parameter *periodicityAndOffset*) is based on the assumption that the UE's propagation delay difference between serving cell and neighbour cells equals to 0 ms, and UE can adjust the offset based on the actual propagation delay. |

## S905

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| V230 | LTE to NR NTN mobility/TEI19 | 1 | Clarify which neighSatelliteInfoList to use for redirection | R2-250xxxx | Samsung (Jonas) |  | v003 | ToDo |

**[Description]**: The field description of satAssistanceInfoList is currently:



The field is common for both redirection to NR NTN and eMTC NTN. We think that it should be clarified that *neighSatelliteInfoListNR* is used when redirected to NR and *neighSatelliteInfoList* used when redirected to E-UTRAN. Otherwise, it may seem as if neighSatelliteInfoList can be used when redirected to NR NTN, which is not the intention.

**[Proposed Change]**: Clarify in the field description that neighSatelliteInfoListNR is used when redirected to NR and neighSatelliteInfoList when redirected to E-UTRAN. Alternatively, it can state that when the field (satAssistanceInfoList) is configured in *nr-r19*, use *neighSatelliteInfoListNR*, and when the field is configured in *eutra-NTN*, use *neighSatelliteInfoList*.

**[Comments]**:

**Rapporteur’s comments:** Thanks for raising this RIL. This RIL is related with TEI19 for TN to NTN redirection. We can further discuss how to solve it based on companies’ contribution.

## X500

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| X500 | LTE to NR NTN mobility | 1 | Clarify the smtc in the CarrierInforNR-r19 | R2-250xxxx | Xiaomi  (Xiaolong Li) |  | v005 | ToDo |

**[Description]**: The field description of smtc is currently:

***smtc***

The SSB periodicity/offset/duration configuration of the redirected target NR frequency. It is based on the timing reference of EUTRAN PCell. If the field is absent, the UE uses the SMTC configured in the *measObjectNR* having the same SSB frequency and subcarrier spacing.

There are two issues need to be addressed.

The SMTC configuration is mandatory present in the measObjectNR and the smtc configuration is essential for the for the RRC redirection from LTE to NR. However, the measurement on the NR NTN frequency by a RRC Connected UE in an LTE TN cell is currently not supported. So, when the smtc-r19 is absent in CarrierInfoNR-r19, the UE cannot fall back to the SMTC from measObjectNR, due to the lack of a matching NR NTN frequency configuration.

The other issue is that the UE should adjust the offset according to the actual propagation delay for the smtc-r19 in the CarrierInfoNR-r19, which is the same as the cell reselection from LTE to NR NTN.

**[Proposed Change]**:

***smtc***

The SSB periodicity/offset/duration configuration of the redirected target NR frequency. It is based on the timing reference of EUTRAN PCell. If the field is absent, the UE uses the SMTC configured in the *measObjectNR* having the same SSB frequency and subcarrier spacing.

In this release, this field is mandatory present in *CarrierInfoNR-r19*. If the *smtc-19* is present, the *offset* (derived from parameter *periodicityAndOffset*) is based on the assumption that the UE's propagation delay difference between serving cell and neighbour cells equals to 0 ms, and the UE can adjust the offset based on the actual propagation delay.

**[Comments]**:

**Rapporteur’s comments:** Thanks for raising this RIL. This RIL is one of open issues based on last meeting progress. We can further discuss based on companies’ contribution.

## O711

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| O711 | LTE to NR NTN mobility | 1 | Include the satellite information for dedicated priority | R2-250xxxx | OPPO  (Haocheng Wang) |  | v005 | ToDo |

**[Description]**: If NW provides a UE with NR NTN frequencies not in SIB24 without satellite ID information in RRCConnectedRelease message, the UE would not be aware whether this frequency is for TN or NTN and UE cannot associate the related satellite information on this NR NTN frequency. So similar to redirection case, it is also needed to include the satellite ID information in the FreqPriorityNR IE in RRCConnectedRelease message to enable the E-UTRA to provide the dedicated priority for the NR NTN frequencies not provided in SIB24.

**[Proposed Change]**: Include the satellite ID information in the FreqPriorityNR IE in RRCConnectedRelease message.

**[Comments]**:

**Rapporteur’s comments:** Thanks for raising this RIL. This RIL is one of open issues based on last meeting progress. We can further discuss based on companies’ contribution.

## E801

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| E801 | LTE to NR NTN mobility | 1 | Unnecessary complexity by including multiple satellite IDs for a single carrier frequency |  | Ericsson  (Ignacio) |  | V007 | ToDo |

**[Description]**: Provided the large size of NTN cells compared to TN cells. We think there is a low probability that a TN cell will see many satellites in the same carrier frequency operating within its cell coverage. Therefore, we wonder why we introduce the flexibility in signalling to configure multiple Satellite IDs per carrier frequency in SIB24 and RRCConnectionRelease. We understand it should be enough with one, especially in the dedicated message. Otherwise, we fear that the UE may need to try multiple combinations of ephemeris (propagation delay and doppler compensation) to scan a single neighbour carrier frequency which could have an impact on performance.

**[Proposed Change]**:

Use a single satellite ID per carrier frequency instead of a sequence.

CarrierFreqNR-v19xy ::= SEQUENCE {

satAssistanceInfoList-r19 SatelliteId-r18 OPTIONAL -- Need OR

}

**[Comments]**:

**Rapporteur’s comments:** Thanks for raising this RIL. This RIL was raised during post email discussion phase after RAN2#131. We can further discuss based on companies’ contributions

# SONMDT for LTE

## C064

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| C064 | SONMDT | 1 | reconfiguration with sync failure |  | Tangxun |  | V002 | PropAgree |

**[Description]**: “reconfiguration with sync failure” should be used instead of “handover failure” to cover LTM case, and this is also to align with the corresponding description in NR RRC spec.

**[Proposed Change]**: update the procedural text as below:

4> if the selected PCell is a suitable cell as defined in TS 36.304 [4]:

5> if the UE supports RLF-Report for MCG LTM and if *ltm-RecoveryCellId* in *VarRLF-Report* of TS 38.331 [82] is set:

6> set *timeUntilReconnection* in *VarRLF-Report* of TS 38.331 [82] to the time that elapsed since the radio link failure or reconfiguration with sync failure experienced in the *failedPCellID* stored in *VarRLF-Report* of TS 38.331 [82];

5> else:

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

**[Comments]**:

[Huawei] ok for this change.

[Rapporteur] The change is agreeable.

## N001

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| N001 | SONMDT | 1 | What is capability SCG failure information for EN-DC MRO? |  | Jarkko Koskela |  | V003 | PropAgree |

**[Description]**: in 5.6.13a.2 on uses “if the UE supports SCG failure information for EN-DC MRO”. As I’m not expert on this feature I was not able to map this to any capability. Which one this refers to?

**[Proposed Change]**: Remove ambiquity regarding to which capability this refers to.;

**[Comments]**:

[Huawei] This UE capability is from the agreed 36.306 CR. I suggest to add "as specified in TS 36.306 [5]." after the above-mentioned text for clarification.

[R2-2505209](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_131/Docs/R2-2505209.zip) Introduction of SONMDT UE Capabilities CATT CR Rel-19 36.306 18.5.0 1915 - B NR\_ENDC\_SON\_MDT\_Ph4-Core

* Agreed

[Rapporteur] Suggest to use Huawei's suggestion to fix this RIL issue.

## H345

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| H345 | SONMDT | 0 | Missing TS reference number for TS 38.331 |  | Jun Chen |  | V004 | Duplicate |

**[Description]**: in 5.6.13a.3, TS reference number for TS 38.331 is missing.

3> set *perRA-InfoListNR* to indicate the performed random access procedure related information as specified in 5.7.10.5 of TS 38.331

**[Proposed Change]**: Suggest to add TS reference number for TS 38.331:

3> set *perRA-InfoListNR* to indicate the performed random access procedure related information as specified in 5.7.10.5 of TS 38.331 [82]

**[Comments]**:

[Rapporteur] This editorial change is agreeable.

Lenovo commented that CR: H345 (adding missing spec reference [82]) is editorial and can be already fixed during CR implementation review. So the status is changed to Duplicate, and this RIL will not be captured in the rapporteur CR.

## H346

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| N001 | SONMDT | 1 | perRA-InfoListNR |  | Jun Chen |  | V004 | PropAgree |

**[Description]**: in section 6.2.2, the following wording "RA information for NR RACH" is not accurate, and instead the it should be about NR RACH report information (which has been used in TS 38.331).

***perRA-InfoListNR***

This field is used to indicate per RA information for NR RACH.

**[Proposed Change]**: Suggest to change the wording into the following:

***perRA-InfoListNR***

This field is used to indicate ~~per RA information for NR RACH~~ per NR RACH report information.

**[Comments]**:

[Rapporteur] See no comments from other companies, so consider it to be agreeable.

## B001

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| B001 | SONMDT | 1 | Missing “OPTIONAL” for field perRA-InfoListNR-r19 |  | Lenovo (Hyung-Nam) |  | V007 | ToDo |

**[Description]**: Any extension that is introduced in FailureReportSCG-NR-r15 after the extension marker should be optionally present. Therefore, "OPTIONAL" is missing for field perRA-InfoListNR-r19.

**[Proposed Change]**: Add missing “OPTIONAL” for field perRA-InfoListNR-r19 as shown below.

[[

previousPSCellId-r19 SEQUENCE {

physCellId-r19 PhysCellIdNR-r15,

carrierFreq-r19 ARFCN-ValueNR-r15

} OPTIONAL,

failedPSCellId-r19 SEQUENCE {

physCellId-r19 PhysCellIdNR-r15,

carrierFreq-r19 ARFCN-ValueNR-r15

} OPTIONAL,

timeSCG-Failure-r19 INTEGER (0..1023) OPTIONAL,

perRA-InfoListNR-r19 SEQUENCE {

perRA-InfoList-r16 OCTET STRING OPTIONAL,

perRA-InfoList-v1660 OCTET STRING OPTIONAL,

perRA-InfoList-v1800 OCTET STRING OPTIONAL

} OPTIONAL

]]

**[Comments]**:

[Rapporteur] This change makes sense, so it is agreeable.

# LTE Based 5G Broadcast

## S903

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| S903 | TerrBcast | 2 | Configuration of Last MTCH of time-interleaved MCH | R2-250xxxx | Vinay (Samsung) |  | V002 | ToDo |

**[Description]**: M and/or N value for last MTCH service (residual space) may be less than other preceeding MTCH services of the time-interleaved MCH. Further, RAN1 parameter list also allows to have the time-interleaving disabled for the last MTCH service.

RAN 1 parameter list:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| pmch-TimeInterleaving-N-lastMTCH | New |  | This field indicated an additional optional TFI configuration for the last MTCH service (residual space) | {2,4,8,16} | The absent of this field indicates time-interleaving for these MTCHs is disabled, i.e., N=1 |

However, RRC spec is ambiguous as does not address/support the case 3

Case 1: Last MTCH service applies same M and N as other scheduled MTCH services of the MCH (i.e., pmch-TimeInterleaving-N-lastMTCH is absent)

Case 2: Last MTCH service applies M and/or N lesser than other scheduled MTCH services of the MCH (i.e., pmch-TimeInterleaving-N-lastMTCH is present)

Case 3: Last MTCH has not applied time-interleaving but other scheduled MTCH services have time-interleaving enabled (i.e., pmch-TimeInterleaving-N-lastMTCH = 1 indicated)

**[Proposed Change]**:

pmch-TimeInterleavingConfig-r19 SEQUENCE {

pmch-TimeInterleavingM-r19 ENUMERATED {sf4, sf8, sf16, sf32},

pmch-TimeInterleavingN-r19 ENUMERATED {n2, n4, n8, n16},

pmch-TimeInterleavingM-LastMTCH-r19 ENUMERATED {sf4, sf8, sf16, sf32} OPTIONAL, -- Need OR

pmch-TimeInterleavingN-LastMTCH-r19 ENUMERATED {n1, n2, n4, n8, n16} OPTIONAL, -- Need OR

pmch-SoftBufferSizeParameters-r19 PMCH-SoftBufferSizeParameters-r19,

pmch-CyclicShiftAlpha-r19 ENUMERATED {alpha1, alpha2, alpha3} OPTIONAL -- Need OR

} OPTIONAL, -- Need OR

|  |
| --- |
| ***pmch-TimeInterleavingConfig***  Presence of the field indicates time interleaving is enabled as specified in TS 36.212 [22] and TS 36.213 [23]. |
| ***pmch-TimeInterleavingM***  Indicates the separation, in number of MBSFN subframes not containing MCCH and MSI, between two successive transmissions of the same TB (except for the last MTCH service if *pmch-TimeInterleavingM-LastMTCH* is present) as specified in in TS 36.212 [22] and TS 36.213 [23] when time interleaving is enabled. Value *sf4* indicates 4 subframes, value *sf8* indicates 8 subframes and so on. |
| ***pmch-TimeInterleavingM-LastMTCH***  Indicates the separation, in number of MBSFN subframes not containing MCCH and MSI, between two successive transmissions of the same TB for the last MTCH service (residual space) as specified in TS 36.212 [22] and TS 36.213 [23] when time interleaving is enabled. Value *sf4* indicates 4 subframes, value *sf8* indicates 8 subframes and so on. If this field is absent and *pmch-TimeInterleavingN-LastMTCH is absent*, *pmch-TimeInterleavingM* applies also for the last MTCH service. |
| ***pmch-TimeInterleavingN***  Indicates the TBS scaling factor (except for the last MTCH service if *pmch-TimeInterleavingN-LastMTCH* is present) as specified in in TS 36.212 [22] and TS 36.213 [23] when time interleaving is enabled. Value *n2* indicates scaling factor 2, value *n4* indicates scaling factor 4 and so on. |
| ***pmch-TimeInterleavingN-LastMTCH***  Indicates the TBS scaling factor for the last MTCH service (residual space) as specified in in TS 36.212 [22] and TS 36.213 [23] when time interleaving is enabled. Value *n2* indicates scaling factor 2, value *n4* indicates scaling factor 4 and so on. Value *n1* indicates time interleaving is not applied for last MTCH service. If this field is absent, *pmch-TimeInterleavingN* applies also for the last MTCH service. |

**[Comments]**:

# CASMuting (TEI)

## S904

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| S904 | TEI | 1 | Reference to CAS muting for SSS |  | Vinay (Samsung) |  | V002 | ToDo |

**[Description]**: CAS muting is also applied for SSS, as reflected in RAN1 (See R1-2506644). Reference to relevant clause in 36.211 is missing from RAN2 spec.

**[Proposed Change]**: Add a reference to clause 6.11.2.2 from 36.211 where CAS muting is applied for SSS

|  |
| --- |
| ***cas-MutingConfig***  The field indicates values of parameters KCAS and NCAS, in case that the MBMS-dedicated cell is configured with CAS muting, see TS 36.211 [21], clauses 6.6.4, 6.11.1.2 and 6.11.2.2. |

**[Comments]**:

# LTE TN to NB-IoT NTN cell selection (TEI)

## S906

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| S906 | TEI / EUTRAN-to-NBIoTNTN | 2 | NB-IoT-specific satellite info list in SIB33 | FFS | Jonas (Samsung) |  | V002 | ToDo |

**[Description]**: An NB-IoT specific neighbouring satellite list *neighSatelliteInfoListNB-r19* was introduced in SIB33 for EUTRAN TN to NB-IoT NTN assistance information. This was discussed briefly but decided to come back during CR review.

It is not motivated why there needs to be an NB-IoT specific list, when the content of the information elements are exactly the same. It would be cleaner to reuse the release 18 field. Also, by introducing a separate NB-IoT field it makes the future extensions to the neighbouring satellite info difficult, as in this case both the –r18 and NB version would need to be extended. This may already be manifested in current specifications where extensions *neighSatelliteInfoList-v1900* are likely not applicable to *neighSatelliteInfoListNB-r19*. Also note that for the NR list, the case is different as the content of the information element is different.

**[Proposed Change]**: Remove *neighSatelliteInfoListNB-r19* and rely on already existing *neighSatelliteInfoList* for NB-IoT NTN satellite information.

**[Comments]**: