IoT TDD Comments file

Template:

# Xnnn

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| RIL Id | WI | Class | Title | Tdoc | Delegate | Misc | File version | Status |
| Xnnn | IoTTDD |  |  |  |  |  | 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.

# V220

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| 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

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| 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

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| 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

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| 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.

# Z052

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| 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

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| 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

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| 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

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| 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

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| 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

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| **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.