3GPP TSG-RAN WG2 Meeting #131bis R2-250xxx

Prague, Czechia, 13th – 17th October, 2025

**Agenda item: 8.17**

**Source: Samsung**

**Title: Report of [Post131][314][IoT NTN TDD] Open issues on capability CR (Samsung)**

**WID/SID: IoT\_NTN\_TDD**

**Document for: Discussion and Decision**

# Introduction

The following document concerns the following email discussion:

* [Post131][314][IoT NTN TDD] capability CR (Samsung)

Scope: finalize the running capability CR

Intended outcome: Endorse CRs

Deadline: Sept. 4th

The CR from the first round of the above discussion was agreed in R2-2506554 [1]. In this second round, open issues with the agreed CR are discussed and resolved.

# Open issues

Rapporteur has not been able to identify any open issues related to IoT NTN TDD capabilities, or any open issues in the agreed IoT NTN TDD capability CR.

Companies are invited to describe any identified open issues that have not been identified yet.

|  |  |  |
| --- | --- | --- |
| **Issue number (Company+#X)** | **Issue description (and potential resolution)** | **Rapporteur comment** |
|  |  |  |
|  |  |  |

Summary:

# Conclusion

In this contribution, we have the following proposals/open issue list:

**Proposal 1: ...**

# Reference

1. R2-2506554, Introduction of capabilities for IoT NTN TDD, Samsung, RAN2#131, Bangalore, India, August 2025.

# Annex A – RAN1 feature list

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Features** | **Index** | **Feature group** | **Components** | **Prerequisite feature groups** | **Need for the eNB to know if the feature is supported** | **Need for the UE to know if the feature is supported (only for V2X WI, where the PC5-RRC capability signalling is delivered between the UEs)** | **Consequence if the feature is not supported by the UE** | **Type**  **(the ‘type’ definition from UE features should be based on the granularity of 1) Per UE or 2) Per Band or 3) Per BC or 4) Per FS or 5) Per FSPC)** | **Need of FDD/TDD differentiation** | **Capability interpretation for mixture of FDD/TDD** | **Note** | **Mandatory/Optional** |
| 2. IoT\_NTN\_TDD | 2-1 | Support of IoT-NTN TDD mode | 1. Support a TDD pattern with periodicity of N=9 radio frames, which consists of D=8 contiguous DL subframes and U=8 contiguous UL subframes. The guard period between the end of the DL subframes and the beginning of the UL subframes is fixed to be 50 ms at the ULSRP  2. The DL subframes of pattern are fixed to subframes [3 4 5 6 7 8 9 0] across two consecutive radio frames.  3. The non-U NB-IoT subframes are not considered by the UE as “NB-IoT UL subframes”  4. The non-D NB-IoT subframes are not considered by the UE as “NB-IoT DL subframes”  5. Support NPSS/NSSS/NPBCH/SIB1-NB transmissions dropped in non-D NB-IoT subframes  6. Postponement of NPRACH transmissions in non-U NB-IoT subframes until the next U NB-IoT subframe(s), where the unit of postponement is one PRU.  7. Support of NPRACH periodicities of 90ms and 180ms, instead of 40ms and 80ms | Rel-17 2-1b | Yes | N/A | IoT-NTN TDD mode is not supported | n/a | [TDD only] | [N/A] | Applicable only for 1616-1626.5 MHz MSS allocated band  Note: UE supporting band 249 must support this FG  Note: Rel-17 2-1b as prerequisite FG doesn’t imply the UE supporting this FG must support IoT NTN FDD band | Optional without capability signalling |