3GPP TSG-RAN WG2 Meeting #131 *draft* R2-2506288

Bengaluru, India, 25th – 29th August, 2025

**Agenda item: 8.9.2**

**Source: Sateliot**

**Title: Report of [AT131][305][R19 IoT NTN] S&F Open Issue (Sateliot)**

**WID/SID: IoT\_NTN\_Ph3-Core**

**Document for: Discussion and Decision**

# Introduction

This document pertains to the following offline:

** [AT131][305][R19 IoT NTN] S&F Open Issue (Sateliot)**

      Scope: continue the discussion on remaining proposals from R2-2506152 and p1 and R2-2505437. Also draft the LS to CT1, SA2.

Intended outcome: summary of the offline discussion (in R2-2506288). Draft LS in R2-2507285

Offline time: FFS

Deadline for offline discussion summary: Friday 2025-08-29 18:00

In this offline we attempt to converge on the following remaining S&F-related open issues:

1. Scope and uniqueness of satelliteId
2. Paging in S&F satellite operation

# Discussion

## Uniqueness of satellite IDs:

It has been escalated that the space (e.g., 8-bit) allocated for satellite ID is not enough in case PLMNs have more than 256 satellites in their constalltions.

Q1: Is there any need to increase the ID space and define, example, satelliteID-r19?

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| --- | --- |
| Company | Views for Q1 |
| Ericsson | We do not see a current need, given the scope of satellite ID and that the S&F monitoring list is only valid within a Registration Area. |
| Huawei | Similar view with Ericsson. |
| Google | We also do not see an immediate need of increasing the size of satellite ID. |

## Paging Optimization in S&F:

It has been escalated that some paging optimization is possible during S&F mode operation, and in this respect, [4] has the following proposal.

**Proposal 1 of [4]:An indication is introduced in the System information to indicate that the UE could skip monitoring paging and initiating RRC connection for MT data reception.**

Q2: Is there any need to indicate using a SIB that a UE can skip monitoring paging as outlined by proposal 1 of [4].

|  |  |
| --- | --- |
| Company | Views for Q2 |
| Ericsson | Yes. We consider that it is useful to save power when operating in S&F and there is no more downlink data in the satellite’s buffer. |
| Huawei | Yes. It would be very beneficial to UE power saving. The indication is very simple and it is up to NW implementation whether paging needs to be triggered considering all conditions (e.g., MT data, SI change). |
| Google | Although we have some sympathy with the intent behind the proposal, we believe the current S&F indication in the system information is sufficient to help the UE decide whether to continue or stop monitoring paging. |

Apple: we can handle this by knowing S&F mode transition time and use DCI or short message like mecahnims to notify UEs.

VIVO: don’t’ see the need for it – benefit is not obvious

Xiaomi: no need to have this kind of optimization. This could be a corner case. Don’t prefer a SIB-based solution.

Qc: this not a RAN2 business. This has to be in SA2 scope. We don’t see any benefit. We have different tools like PSM, eDRX,,,, to handle this.

Nokia: we can see some benefits.

Hw: we can see benefits.

MediaTek: share the same view as VIVO

ZTE: this cannot be left for implementation – but can’t think of any solution at this point in time.

Google: what happens if a satellite changes its mode?

Samsung: not sure how it works?

OPPO: Network can also relax paging cycle as such that UE can reduce efforts significantly i.e. implementation seems ok.

# Conclusion

In this offline discussion, we have the following proposals:

**Proposal 1: Given that there is no immediate need for having to increase the size of a satellite ID and define any new satellite ID, RAN2 is respectfully requested not to pursue this.**

**Proposal 2: Given that it is not clear how P1 of [4] can optimize paging, RAN2 is respectfully requested not to pursue this.**

# Reference

1. R2-2506151.
2. R2-2506152.
3. R2-2505928
4. R2-2505437