**3GPP TSG RAN WG2#121-bis-e *R2-230xxxx***

**Online, 17th – 26th April, 2023**

Title: DRAFT LS to RAN1 on unchanged PCI

Response to: -

Release: Release 18

**Work Item: NR\_NTN\_enh-Core**

Source: CATT (to be RAN2)

To: RAN1

Cc:

**Contact Person:**

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Attachments: None

**1. Overall Description:**

For mobility enhancement in Rel-18 NR NTN, RAN2 has discussed unchanged PCI scenario, including hard satellite switch and soft satellite switch.

RAN2 thinks that, from RAN2 perspective, in quasi-earth fixed cell case, for hard satellite switch in the same SSB frequency and same gNB (no key change), satellite switching without PCI change (not requiring L3 mobility) can be supported in Rel-18. RAN2 understands the UE will have to re-acquire DL/UL synchronization after the switch. RAN2 invites RAN1 to provide feedback about the feasibility of supporting hard satellite switch without PCI change (not requiring L3 mobility) in Release 18 timeframe.

RAN2 would also like to ask RAN1 about the feasibility of soft satellite switch without PCI change (not requiring L3 mobility).

**2. Actions:**

**To** **RAN1**

**ACTION:** RAN2 kindly requests RAN1 to provide feedback to the above question.

**3. Date of Next RAN2 Meetings:**

TSG-RAN WG2#122 2023-05-22 to 2023-05-26 Incheon, KR

TSG-RAN WG2#123 2023-08-21 to 2023-08-25 Toulouse, FR