Top 3 things that happened on NTN and satellite direct-to-device at RAN1 #126-bis, RAN2 #135-bis and RAN4 #120-bis

THE VERDICT

1. In the 6GR NTN study, UEs in different GNSS operation modes can operate in the same cell, under network access control by mode. Allowed mode combinations and details remain FFS. (R1-2607315)
2. For GNSS-resilient dual PRACH, two transmissions in a random-access occasion (RO) pair count as one attempt. Separate configurations support coexistence with legacy NTN UEs. (R1-2607310, R2-2607783)
3. RAN2 notes the specifications allow legacy NTN UEs and UEs without uplink pre-compensation in separate cells of one satellite and carrier. It leaves efficiency to RAN1 and assumes no change to its specifications is needed, including the existing barring procedure. (R2-2607784)

WHO PUSHED WHAT

OPEN QUESTION	COMPANY	WHAT THEY PUSH	TDOC
What replaces location-based mobility when GNSS is unavailable?	**Nokia**	Nokia proposes an RRM baseline and configured fallback when location conditions fail.	R2-2607138 available
	Qualcomm	Qualcomm proposes using a cell reference location, otherwise suspending location-based triggers.	R2-2607552 available
	Apple	Apple proposes excluding PDD reporting and RACH-less mobility in GNSS-free operation.	R2-2607412 available
Can UEs with different uplink compensation share satellite capacity?	**Apple**	Apple proposes conditional barring changes and potentially separate uplink resources.	R2-2607405 available
	Thales	Thales observes that current specifications prevent UEs without uplink pre-compensation from accessing an NTN cell.	R2-2607501 available
	vivo	vivo describes separate co-channel cells, with duplicated broadcast and common-channel resources.	R2-2606661 available
What TN device antenna gain should coexistence evaluations assume?	**ZTE (with Sanechips)**	ZTE with Sanechips proposes a 0 dBi omnidirectional TN UE pattern.	R4-2621026 noted
	Ericsson	Ericsson proposes a 0 dBi isotropic TN UE pattern without beamforming.	R4-2621164 noted
	OPPO	OPPO proposes -5 dB TN UE antenna gain.	R4-2620404 noted

KEY OUTCOMES

- **6GR GNSS modes and pre-compensation.** RAN1 agreed that UEs in different GNSS operation modes can operate in the same cell, with network control of access by mode. It took the TR 38.742 UE pre-compensation solutions as a study starting point. (R1-2607315)
- **Dual-PRACH access.** Two transmissions in an RO pair form one random-access attempt, with no power ramping between them. RAR timing and RA-RNTI follow the last RO, and separate PRACH configurations support coexistence with legacy NTN UEs. (R1-2607310, R2-2607783)
- **Initial-access timing and frequency commands.** RAN1 agreed a signed timing-advance command (TAC) in the MAC random-access response (RAR) plus a SIBx-configured offset applied to uplink transmissions. RAN2 will design a RAR carrying extended-range TAC and a frequency-adjustment command (FAC), pending RAN1 bit widths. (R1-2607310, R2-2607783)
- **Connected-mode frequency control.** RAN1 agreed an explicit connected-mode FAC MAC control element. Accumulative relative adjustment is the baseline. (R1-2607310)

Full brief with every quote, source and caveat: HTML · PDF

Coverage: RAN1 #126-bis, RAN2 #135-bis, RAN4 #120-bis (South Korea, 2026-10-12 to 2026-10-16), topic agenda items only. Scout read 47 recorded decisions and 691 company positions or passages; the full brief cites 16 TDocs and shows each verbatim quote, matched against the TDoc text. Summaries are Scout's reading. Register status not treated means the meeting recorded no decision on the document, not that it was rejected. Not covered: plenary decisions after the meeting, email discussions.

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