3GPP TSG-RAN WG4 Meeting #116bis R4-2513626

**Prague, Czech Republic, Oct. 13-17, 2025**

**Title: [draft] Reply LS on Beam Correspondence Initial Access**

**Response to: R5-253653**

**Release: R18**

**Work Item: NR\_RF\_FR2\_req\_Ph3-UEConTest**

**Source: RAN4**

**To: RAN5**

**Cc:**

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**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**Attachments:**

# 1 Overall description

RAN4 would like to thank RAN5 for the LS. Regarding the questions in the LS, please see below RAN4’s responses.

**Q1**: RAN5 is looking to develop test procedure with and without UE Beamlock test function, can either procedure be used to verify RAN4 core requirements?

**Answer**: RAN4 core requirements were derived under the assumption that UE beamlock function is used. During the RAN4 discussion of deriving the core requirements, the working assumptions were shared with RAN5 in LS R4-2317764.

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| **Answer**: RAN4 has agreed on the PRACH EIRP spherical coverage requirement based on working assumptions of test condition as below. RAN4 respectfully asks RAN5 to evaluate following working assumptions and provide feedback if RAN5 identifies any issue related to the working assumptions.* RAN4 has agreed to inform RAN5 to develop the beamlock function in initial access.
* UE locks the beam direction after requested by test equipment
* UE is kept in RRC\_IDLE state to ensure at least 1ms EIRP measurement period for PRACH.
* Enable multiple PRACH transmissions in testing mode, including holding RAR.
* UE transmits with the optimal Tx beam that is autonomously selected by UE.
* UE achieves Pcmax before PRACH EIRP measurement.
* UE transmits PRACH with gap <=20ms.

To accelerate the testing, it’s recommended to use the longest applicable PRACH preamble format and minimum gap between PRACH transmission. |

RAN4 requests RAN5 to consider the above-mentioned assumption in developing their test procedures.

**Q2**: Regarding the verification of spherical coverage requirement for initial access and RRC\_INACTIVE using UE Beamlock test function in the IDLE mode, will it prevent UE to not autonomously choose Uplink beams?

Will using beam lock prevent UE from autonomously choosing other beams even if UE’s behaviour is such?

**Answer**: RAN4 is of the following view:

* Using beamlock function in testing does not prevent UE from choosing UL beams in the real field.
* In the beamlock function based test, UE should still be able to autonomously choose the UL beams based on DL measurement before the beamlock function is activated.
	+ RAN4’s understanding is that beamlock function should be activated after the UL beam is autonomously chosen.
* Once the beam is locked, UE cannot autonomously change the UL beams.
* The exact test setup should be decided by RAN5.

**Q3**: Regarding the verification of spherical coverage requirement for initial access and RRC\_INACTIVE without using UE Beamlock test function in the IDLE mode, would this be aligned to verifying RAN4 core requirements when the requirements were defined?

**Answer**: Please refer to the answer to Q1 above.

# 2 Actions

**To RAN5**

**ACTION:** RAN4 respectfully asks RAN5 to consider the above responses in its work.

# 3 Dates of next TSG RAN WG4 meetings

RAN4#117 Nov. 17 – 21, 2025 Dallas, US

RAN4#118 Feb 9 – 13, 2026 Gothenburg, SE