**3GPP TSG-RAN WG1 Meeting #118 R1-24xxxxx**

**Maastricht, The Netherlands, 19th – 23rd August, 2024**

**Title: Draft Reply LS on DL coverage enhancements**

**Response to: R2-2405767**

**Release: Release 19**

**Work Item: NR\_NTN\_Ph3-Core**

**Source: RAN1**

**To: RAN2**

**Cc:**

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**Attachments:** -

**1. Overall Description:**

RAN1 thanks RAN2 for their questions on the DL coverage enhancements and would like to provide the responses to the following questions. The other questions would be replied when RAN1 has more progresses.

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| **Question1 :** Can RAN1 provide the information on their progress on whether the existing SSB pattern for an NR cell (e.g. SSB position in burst, SSB index number, etc.) is changed in Rel-19 NR NTN, and whether the SSB periodicity is extended compared with existing TN values? |

**Answer to Q1:**

According to the updated WID (RP-241667), SSB enhancement other than SSB periodicity extension is not considered. Thereby, RAN1 understanding is that enhancements to the existing SSB patterns, e.g. SSB position in burst, SSB index number, are not within the scope.

The extension of the SSB periodicity is still under RAN1’s discussion.

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| **Question4 :** RAN2 would like to remind RAN1 that satellite beams are currently not visible to UEs and any decision about different beam status (i.e. "off", "common messages only" and "active traffic") will likely have to relate to beams visible to the UE (e.g. SSB beams). RAN2 would also like to know whether RAN1 intends to define beam status for beams not visible to the UE or to define new beam status for beams visible to the UE. |

**Answer to Q4:**

Beam footprint status in terms of "off", "common messages only" and "active traffic” in one of the RAN1 agreements is only defined for the sake of system-level evaluation methodology.

**2. Actions:**

**To RAN2:**

RAN1 respectfully asks RAN2 to take the above information into account.

**3. Date of Next RAN1 Meetings:**

TSG-RAN WG1 Meeting #118-bis 14th – 18th Oct. 2024 Hefei, China.

TSG-RAN WG1 Meeting #119 18th – 22nd Nov. 2024 Orlando , US.