**3GPP TSG RAN WG2#116-e R2-21xxxxx**

**Online meeting, November 1-12, 2021**

Title: [draft] LS reply on UE location aspects in NTN

Response to: R2-2109373/ S2-2106651

Release: Release 17

Source: Qualcomm Inc. [to be RAN2]

To: SA2

Cc: RAN3, CT1

**Contact Person:**

Name: Bharat Shrestha

E-mail Address: bshresth@qti.qualcomm.com

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

Attachments: None

**1. Overall Description:**

RAN2 would like to thank SA2 for the response. For now, RAN2 cannot provide their view on the different options for TAC reporting in the ULI identified by SA2.

However, as part of the discussion on TAC handling, RAN2 has considered the signalling of multiple tracking area codes (TACs) per PLMN in the system information. As described in TR 38.821, typical beam diameter of a LEO satellite can be 100km. The satellite beam could cover simultaneously a few tracking areas at a given time considering e.g. a region with several countries, for example, TA1: Germany, TA2: Austria, TA3: Switzerland and TA4 Liechtenstein. It is also possible to define multiple TAs per country and TACs are not shared by different PLMNs. Currently RAN2 assumes maximum 12 TACs per NR NTN cell, including same or different PLMNs, can be broadcast.

In order to size this signalling, RAN2 would like to ask for feedback on the expected size of the earth-fixed tracking area and the maximum number of TACs from the same or different PLMN that needs to be broadcast in a radio cell.

**2. Actions:**

**To** **SA2.**

**ACTION:** RAN2 kindly asks SA2 to take into account the above information and provide feedback on maximum number of TACs and expected size of the earth fixed tracking area.

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

TSG-RAN WG2#116-bis-e January 17th – January 25th, 2022 Online meeting