**3GPP TSG-RAN WG3 #109-e R3-205681**

**17 – 28 August 2020**

Title: [DRAFT] Reply LS on SA WG2 assumptions from conclusion of study on architecture aspects for using satellite access in 5G

Response to: LS on SA WG2 assumptions from conclusion of study on architecture aspects for using satellite access in 5G (SP-2004688/R3-204616)

Release: Release 17

Source: Qualcomm Incorporated [to be RAN3]

To: SA2, RAN2, CT1

Cc:

**Contact Person:**

Name: Luis Lopes

Tel. Number:

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

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

Attachments: None

**1. Overall Description:**

RAN3 would like to thank SA2 for the LS on assumptions after conclusion of the study on architecture aspects for using satellite access in 5G.

Regarding the question posed by SA2, RAN3 has initiated its work on the related release 17 work item, which targets both GEO and LEO systems (the latter comprising both earth-fixed and moving cell scenarios). RAN3 expects to further study this topic in conjunction with RAN2 during release 17, but can offer the following initial considerations.

The cell ID provided by the RAN is included in the User Location Information (ULI), which is present in many uplink NGAP messages. The following scenarios are possible:

* In earth-fixed cell scenarios, the cell ID corresponds to an earth-fixed area
* In LEO scenarios, the cell coverage for a specific cell identity may change as the satellite moves. How the cell ID provided by the RAN to the CN is mapped to a geographical area needs further discussions. Meanwhile RAN3 has agreed that a Tracking Area is coupled with a geographical area.

To make further progress, RAN3 would like to ask SA2 to clarify whether there is a requirement and scenario for higher granularity (than e.g. the coverage of a non-terrestrial cell, that is typically greater than a terrestrial cell). In addition, RAN3 would like to clarify whether it is required that the cell identity received by the CN always corresponds to a fixed geographical area, and the related scenario..

RAN3 expects to continue to analyse this issue based on SA2’s feedback and RAN2’s further progress.

**2. Actions:**

**To** **SA WG2, RAN WG2, and CT WG1 groups.**

**ACTION:** RAN3 kindly asks SA WG2, RAN WG2, and CT WG1 to take the above information into account, and inform RAN3 of further progress on this topic.

**To SA WG2.**

**ACTION:** RAN3 kindly asks SA WG2 to provide the requested clarifications.

**3. Date of Next RAN3 Meetings:**

RAN3#110-e November 2020 Electronic meeting