**3GPP TSG RAN WG2 Meeting #114-e R2-21xxxxx**

**Electronic meeting, 19th May - 27th May 2021**

Title: LS to RTCM on GNSS integrity assistance data

Release: Release 17

Work Item: NR\_pos\_enh

Source: RAN2

To: RTCM SC134

Cc: RTCM, RTCM SC104

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Attachments: TR 38.857

**1. Overall Description:**

In the past, 3GPP has relied on RTCM specifications to carry out its work on RTK and SSR during Release 15. In Release 16, the SSR feature was further extended to support PPP-RTK based on the Compact SSR messages defined in the QZSS CLAS specification (see A-GNSS positioning in 3GPP TS 37.355). Most recently, as part of the NR Positioning Enhancements study item, RAN2, which is responsible for the specification of the radio interface, architecture and protocols in 3GPP, carried out an initial feasibility study on GNSS integrity in the context of mobile networks positioning architecture and protocols. The summary of this work is included 3GPP TR 38.857 Sections 9, in particular sub-section 9.3.1.1 which lists A-GNSS feared events, and 10.11 which lists the GNSS integrity objectives for the normative work.

The work on GNSS integrity has now moved to the normative phase which is due for completion in Q1 2022 as part of 3GPP Release 17. This work item takes place at the same time RTCM, through its SC-134 working group, works on a standard for GNSS integrity messages and the first specifications are expected in the 2021-2022 timeframe.

Through LS RP-200557 RTCM expressed interest in setting up a collaboration with 3GPP on the following topics: Communication protocols and Compression, IoT protocols and data formats, Security and Antispoofing, and Integrity and Safety for emerging applications.

Out of the four topics, RAN2 puts priority on the Integrity and Safety for emerging applications as there are synergies with the scope of GNSS integrity as part of NR Positioning Enhancements work item whereas the other items put forward by RTCM fall outside the scope of Release 17. The objective of the collaboration on this topic would be to have a significant commonality in the integrity information content defined and encoded in both, the RTCM SC-134 integrity messages and the 3GPP GNSS assistance data (integrity is part of the assistance data in 3GPP terminology), thus enabling the interoperability between both systems.

3GPP documents are publicly available whereas RTCM meetings and documents in between public releases of standards are less open and usually restricted to members only.

RAN2 would like to learn from RTCM (Radio Technical Commission for Maritime Services):

* **Question 1: RAN2 would like to ask RTCM SC134 whether the interest to collaborate on definition of GNSS integrity messages is still of interest.**
* **Question 2: RAN2 would like to ask RTCM SC134 to disclose the timeline and the scope of its work on a standard for GNSS integrity.**
* **Question 3: Should a collaboration between 3GPP and RTCM be established, RAN2 would like to ask RTCM SC134 to share with RAN2 as much of their present work as is acceptable to their members considering that 3GPP documents, progress, and timeline represent public information.**
* **Question 4: RAN2 would like to ask RTCM SC134 to provide feedback on the work carried out by RAN2 on GNSS integrity summarized in section 9.3.1.1 of TR 38.857. Specifically, what is RTCM’s view on the commonalities and differences between the scope of work being considered in SC134 and the scope of work being considered in 3GPP?**

We would like to thank you for your consideration, and we look forward to getting feedback on the RTCM SC 134 progress.

**Actions:**

**To RTCM SC134.**

**ACTION:** RAN2 respectfully asks RTCM SC134 to provide feedback on the above questions.

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

RAN2#115-e 16th – 27th August 2021 Electronic meeting

RAN2#116-e 1-12 November 2021 Electronic meeting