**3GPP TSG-SA3 Meeting #115 *draft S3-240950-r2***

Athens, Greece, 26th February - 1st March 2024

**Title: LS to 3GPP SA WG2 on security of IP transport over satellite transport links**

**Release: Rel-19**

**Source: Ericsson (To be SA3)**

**To: 3GPP SA WG2**

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**Attachments:**

# 1 Overall description

SA3 is studying security and privacy aspects of 5G Satellite Access Phase 3 in Rel-19.

5G NTN regenerative payload on-board orbiting satellite communication is IP based. Feeder link and Inter-Satellite Link (ISL) are satellite transport links. The satellite transport links are not in scope of 3GPP. However, the IP transport allowing on-board 5G NTN payload to communicate with ground-based 3GPP network passes through these satellite transport links.

The regenerative NTN payload on-board orbiting satellite in a constellation operates in a dynamic environment due to satellite movement. SA3 objective is to reuse network domain security as defined in TS 33.210 as a baseline to protect 3GPP system interfaces. However, the effectiveness and fit for purpose of a security protection at the transport layer (e.g., DTLS) and at the network layer (e.g., IPsec) rely on underlying IP connectivity to be persistent and available since dynamicity may potentially have an adverse impact sustaining IPsec SA and DTLS that in turn then may potentially reduce the security protection level, thus making 5G NTN potentially vulnerable to e.g. Man-in-the-Middle exploits.

SA3 would like to seek feedback from SA2 on the following questions:

1. Do we consider satellite transport links to be persistent, available, and reliable in generic regenerative and UE-satellite-UE use cases so that IPsec and DTLS can depend on them?
2. If deemed appropriate, could the answer to the question above be captured in SA2 architectural assumption?

# 2 Actions

**To 3GPP SA WG2**

**ACTION:** 3GPP TSG SA WG3 kindly asks 3GPP SA WG2 to provide feedback.

# 3 Dates of next TSG SA WG 3 meetings

SA3#115AdHoc-e 15 - 19 April 2024 Electronic meeting

SA3#116 20 - 24 May 2024 Jeju (South Korea)

SA3#117 19 - 23 August 2024 Maastricht (Netherlands)