**3GPP TSG-WG SA2 Meeting #163 *S2-2406903***

**Jeju, KR, May 27th – 31st, 2024 (revision of S2-2406556)**

**Source: Huawei, HiSilicon**

**Title: KI#3 Conclusion: For UE-SAT-UE communication**

**Document for: Approval**

**Agenda Item: 19.1**

**Work Item / Release: FS\_5GSAT\_Ph3\_ARCH / Rel-19**

*Abstract: To reuse existing LI architecture, AGW should be onboard. In this release, only when two UEs are under the same satellite, the UE-SAT-UE communication will be enabled.*

# 1. Introduction/Discussion

Based on SA3-LI LS on LI considerations for UE-Satellite-UE communications, it is clear the requirement that LI functions need to be present along with their associated network functions on board a satellite.

Based on clause of 7.4.1 IMS High Level LI Architecture in TS 33.127, if only UL CL/L-PSA UPF deployed on satellite, some SA3-LI work needed to support the IMS LI as media traffic will not go through to AGW on ground. SA2 can start normative work with both UL CL/L-PSA UPF and AGW deployed on satellite. Whether SA2 can start normative work with only UL CL/L-PSA UPF on board depends on SA3-LI feedback.



Figure 7.4-1: EPS/5GS-Anchored IMS High Level LI Architecture

# 2. Text Proposal

It is proposed to capture the following changes vs. TR 23.700-29.

\* \* \* \* First change (all new) \* \* \* \*

# 8 Conclusions

## 8.3 Conclusion for KI#3 UE-Satellite-UE Communication

SA2 starts normative work with both UL CL/L-PSA UPF and AGW deployed on satellite first. Whether SA2 can start normative work with only UL CL/L-PSA UPF on board depends on SA3-LI feedback.

Editors’ Note: The following 8.3.x clause should follow the text in 2406904.

### 8.3.x Ground fallback option

In case onboard UL CL/BP/L-PAS change is not properly performed, the following "Ground fallback" option can also be considered in the normative phase:

* When HANDOVER happens, the UE-SAT-UE communication is disabled and ground-based PSA UPF and AGW are used.
* When handover happens, the SMF notifies the P-CSCF (via PCF) to reselect the on ground AGW. The P-CSCF also notifies the SMF to remove the UL CL/BP/local PSA UPF onboard for the IMS PDU Session. How to coordinate the handover and AGW relocation (e.g., how to trigger a re-invite message between UE and P-CSCF) is decided in normative phase.

\* \* \* \* End of changes \* \* \* \*