**3GPP TSG-SA3 Meeting #100bis-e *S3-202389r2***

**e-meeting, 12 - 23 October 2020** Revision of S3-20xxxx

**Source: Huawei, HiSilicon**

**Title: pCR – A solution to protect RID information**

**Document for: Approval**

**Agenda Item: 2.7**

# 1 Decision/action requested

***Approve this contribution to add a solution in TR33.854***

# 2 References

[1]

# 3 Rationale

The contribution proposes a solution to address Key issue #6: Security protection of information in remote identification and between UAV/UAVC and UTM/USS

# 4 Detailed proposal

pCR

\*\*\* BEGINNING OF CHANGES (all text are new) \*\*\*

## 6.X Solution #X: Security protection of RID information related to TPAE

### 6.X.1 Solution overview

This solution addresses the Key issue #6: Security protection of information in remote identification and between UAV/UAVC and UTM/USS.

This solution is to protect the remote identification (RID) information related to a mobile TPAE. A mobile TPAE is able to receive RID information broadcast from UAV and it forwards the RID information to USS/UTM through the connected 3GPP network, for verification or/and authorization.

Note: This solution does not address privacy/security issues related to UAV broadcast.

Note: This solution is related to the interfaces UAV2 and UAV4 as defined in TR23.754.

### 6.X.2 Solution details

It is assumed that TPAE is able to receive broadcast signals from the UAV that TPAE intends to identify. In order to identify and validate the UAV, it needs to forward the received RID information to the network and USS/UTM for verification or authorization. The RID information should be integrity protected to prevent modification. The overall procedure to secure the transmission between the TPAE and the USS/UTM is shown as follows:

1. TPAE has registered to 3GPP network successfully and authenticated/authorized by USS/UTM to operate as a TPAE.
2. TPAE receives broadcasting signals including RID info from a UAV that the TPAE wants to identify
3. TPAE sends a message to USS/UTM through AMF. This message includes the received RID info that received from UAV, together with TPAE’s IDs (GPSI).
4. USS/UTM validates UAV’s RID information and verifies TPAE’s ID.
5. After successful verification, USS/UTM sends the outcome back to TPAE.



Figure 6.X.2-1: Call flow for secure transmission of UAV’s RID information

### 6.X.3 Solution evaluation

TBC

\*\*\* END OF CHANGES \*\*\*