**3GPP TSG-SA3 Meeting #102 *S3-210213r1***

**e-meeting, 18-29 January 2021**

**Source: Apple**

**Title: BUSY indication protection using existing NAS security**

**Document for: Approval**

**Agenda Item: 5.22**

1 Decision/action requested

***It is proposed to approve this solution in MUSIM TR 33XXX.***

2 References

[1] 3GPP TR 23.761: " Study on system enablers for devices having multiple Universal Subscriber Identity Modules (USIM)"

3 Rationale

This pCR proposes modification on the requirement of BUSY indication security in key issue#1.

4 Detailed proposal

**\*\*\*\*START OF CHANGES \*\*\***

5.1 Key issue #1: Security Aspects of Busy Indication

5.1.1 Key issue details

In TR 23.761 [2], a Multi-USIM device with concurrent registrations over 3GPP RAT associated with multiple USIMs procedures is discussed. A multi-USIM device can efficiently perform some activity (e.g., listen to paging) in a system while communicating in another system. The network sends a paging request to notify the UE of a pending MT service. UE may monitor periodically for paging from another system. UE responds to the page (either by accepting the page request or by sending a busy indication), which allows the network to save paging resources due to not escalating the page across a larger area.

Editor’s Note: The need for a busy indication is dependent on SA2’s decision to progress multiple paging causes.

5.1.2 Threats

If the Busy indication is modified or replayed by attackers, the network may be spoofed to believe the UE appears busy and not respond to paging, causing Dos attack on UE.

5.1.3 Potential security requirements

3GPP system shall support a mechanism to protect BUSY indication against modification, replay, and fabrication attacks.

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