**3GPP TSG-WG SA2 Meeting #164 S2-240xxxx**

**Maastricht, Netherlands, August 19 - 23, 2024**

**Source: T-Mobile USA**

**Title: Merge of AIoT General Principles Papers**

**Document for: Approval**

**Agenda Item: 19.14**

**Work Item / Release: FS\_AmbientIoT / Rel-19**

*Abstract: This pCR proposes some preliminary interim conclusions.*

# 1 Discussion

This paper provide a merge of a number of inputs paper where similar and overlapping concepts were found. The goal is to agree to interim conclusions based on these overlapping concepts.

Input papers were: 2408553, 2407678, 2407679, 2407762, and 2408143.

# 2 Proposal

It is proposed to include the below changes into TR 23.700-13.

*First Changes*

# 8 Conclusions

All new text. Source input documents shown and revision marks are relative to original input documents. To be removed before final version.

## 8.A General Principles

The following interim conclusions are agreed for normative work regarding Ambient IoT:

From 2408553:

- Ambient IoT Device Identifier is either assigned by an operator or by a third-party (e.g., based on EPC) and is stored in the Ambient IoT Device’s non-volatile memory.

The length of Ambient IoT Device Identifier is variable according to the service requirements.

Editor’s Note: How to distinguish between the two assignment options of the Ambient IoT Device Identifier is FFS.

From 2407678:

* A single network deployment shall be able to support both topology 1 and topology 2 at the same time.
* The AIoT feature may be deployed as a standalone AIoT network or being integrated into an existing network. The defined AIoT feature should not exclude any deployment ways.
* *Combined into bullet from 2408553.*
* The Ambient IoT Device ID format covers both operator and third-party assigned IDs.
* Editor’s Note: The AIoT device ID format details are FFS.
* The AAA is used to store AIoT devices with 3rd party credentials.
* The UDM is used to store AIoT devices with operator credentials.

From 2407679:

There are two kinds of BS readers:

* Case1: a BS reader (e.g. in topology 1)
* Case 2: a BS reader controlling a list of UE reader (in topology2).
* The interface between CN and two kinds of BS reader is still NG interface, but there may be new NGAP procedure to support AIoT features.



Figure X.X.1-1: Interface between BS reader and CN

From 2407762:

* Support bulk out of band provisioning and MNO network on-boarding of type A and type B AIoT devices.
* Support type A and type B AIoT devices to be pre-provisioned with Device IDs and security credentials that allow secure identification of AIoT devices and communications between AIoT device and network.
* Depending on operator policies, allow the possibility of avoiding an over the air network registration procedure for type A and type B AIoT devices.

From 2408143:

- The AIoT Device does not distinguish whether the topology of accessed network is Topology 1 or Topology 2.

- The AIoT Device does not distinguish whether the Inventory or Command is performed based on the user plane or control plane based transmission if both are deemed be supported for Topology 2.

*End of Changes*