3GPP TSG-SA WG2#165 S2-2410746

Hyderabad, India, 14-18 October 2024 (was S2-24010523)

**Source: Qualcomm Incorporated, MediaTek Inc.**

**Title: Way forward for Ambient IoT architecture**

**Document for: Discussion/Approval**

**Agenda Item: 19.14.1**

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

*Abstract of the contribution: This paper proposes a way forward for the Ambient IoT architecture.*

# 1. Text proposal

It is proposed to agree the following changes to TR 23.700-13.

>>>>BEGINNING OF CHANGES<<<<

## 8.1 Interim Conclusion on Key Issue #1

### 8.1.3 Additional architecture principles for Topology 2

#### 8.1.3.1 General

Two options will be specified for Topology 2:

- User-plane option as defined in clause 8.1.3.2

- RRC-based option as defined in clause 8.1.3.3

Editor’s note: Whether a NAS-based option is needed in addition is FFS.

#### 8.1.3.2 User-plane option

The following principles apply:

- As depicted in Figure 8.1.3.2-X, the UE Reader connects to the AIoTF based on the AIoT Application Protocol (AIoT-AP) using an IP PDU Session between the UE and the UPF as transport. The related protocol stack is shown in Figure 8.1.3.2-Y. The AIoT AP protocol will support procedures and information to be exchanged as specified by RAN2, RAN3 and SA2.



Figure 8.1.3.2-X: User-plane architecture for Topology 2



Figure 8.1.3.2-Y: Protocol stack for the user-plane architecture for Topology 2

NOTE 2: Which transport protocol to use for AIoT-AP can be decided by CT1 in coordination with RAN3.

NOTE 3: Security for AIoT-AP is assumed to be defined by SA3.

Editor’s note: Further details are FFS.

#### 8.1.3.3 RRC option

The following principles apply:

- As depicted in Figure 8.1.3.3-X, messages between the UE Reader and the AIoTF are delivered using RRC and a protocol between gNB/AIoT RAN and AIoTF.

Editor’s note: Whether gNB/AIoT RAN connect to AIoTF directly or via AMF is FFS.

Editor's note: Further details are FFS.

 Figure 8.1.3.3-X: Protocol Stack for the RRC option

>>>>END OF CHANGES<<<<