**3GPP TSG-SA5 Meeting #148-e *S5-233241rev1***

e-meeting, 17-25 April 2023

**Source: Huawei, Deutsche Telekom**

**Title: Conclusion for KI#4 EE KPI for V2X network slice**

**Document for: Approval**

**Agenda Item: 6.9.1.1**

# 1 Decision/action requested

**Include the proposed changes in TR 28.913**

# 2 References

[1] 3GPP TR 28.913: "Study on new aspects of EE for 5G networks phase 2"

# 3 Rationale

This pCR proposes to introduce a conclusion to Key Issue #4 into TR 28.913 [1].

# 4 Detailed proposal

|  |
| --- |
| **First change** |

## 4.4 Key Issue #4: EE KPI for V2X network slice

### 4.4.1 Description

TS 28.554 [2] – clause 6.7.2 provides definitions of EE KPIs for networks slices of the following types: eMBB, URLLC and MIoT. There is no EE KPI definition for V2X network slices.

This key issue aims at investigating on potential definition(s) of the EE of V2X network slices.

As stated in TS 28.554 [2] clause 6.7.2.1, the generic network slice EE KPI is defined by the ‘Performance of the network slice’ (Pns) divided by the ‘Energy Consumption of the network slice’ (ECns). Potential solutions in the following sub-clause(s) have to concentrate on definition(s) of Pns for V2X network slices.

### 4.4.2 Potential solutions

#### 4.4.2.1 Potential solution #1: Consider V2X as a sub-case of URLLC

##### 4.4.2.1.1 Introduction

TS 22.186 [17] clause 4.1 states that different V2X scenarios require the transport of V2X messages with different performance requirements for the 3GPP system.

TS 22.186 [17] clause 5 specifies service requirements for V2X scenarios in the six following areas:

# General Aspects: interworking, communication-related requirements valid for all V2X scenarios

# Vehicles Platooning

# Advanced Driving

# Extended Sensors

# Remote Driving

# Vehicle quality of service Support.

Though not all V2X scenarios have exactly the same performance requirements, they all have stringent requirements with regard to latency and reliability, similarly to URLLC scenarios. For this reason, in this potential solution #1, it is proposed to consider V2X as a sub-case of URLLC.

##### 4.4.2.1.2 Description

In this potential solution #1, given that:

- V2X scenarios have performance requirements with regard to latency and reliability in the same range as URLLC,

- EE KPIs for URLLC network slices are already defined in TS 28.554 [2] clause 6.7.2.3,

It is proposed to consider that already defined EE KPIs for URLLC network slices (cf. TS 28.554 [2] clause 6.7.2.3) may also apply to V2X network slices.

Therefore, there is no need to define additional EE KPI(s) for V2X network slices.

### 4.4.3 Conclusion

There is one potential solution in this version of the document, proposing to consider that already defined EE KPIs for URLLC network slices (cf. TS 28.554 [2] clause 6.7.2.3) may also apply to V2X network slices.

### 4.4.4 Recommendation

Therefore, it is proposed to update TS 28.554 accordingly.

It is also proposed to continue this work in the context of the normative phase.

|  |
| --- |
| **End of changes** |