**SA WG2 Meeting #149e** **S2-220xxxx**

**February 14th – 25th, 2022; Elbonia (revision of S2-220)**

**Source: Nokia, Nokia Shanghai Bell**

**Title:**  **Enhancements to power savings for XR services**

**Document for: Approval**

**Agenda Item: 9.19**

**Work Item / Release: FS\_XRM / Rel-18**

*Abstract of the contribution: This paper proposes a KI to address Work Task #4.2*

# Discussion

The FS\_XRM SID contains the following Work Task:

WT#4: Study potential enhancements of power management considering traffic pattern of media services:

* WT 4.1: Void.
* WT 4.2: Power saving enhancement e.g. support trade-off of throughput/latency/reliability considering device battery life, whether and how to enhance CDRX, considering XR/media traffic pattern.

WT#4.2 addresses the scenario where information on the XR media traffic like pattern, periodicity and other key statistics as well as device battery status are exposed to the network to enhance power saving schemes operating in the RAN like CDRX and PDCCH monitoring mechanisms.

# 2 Proposal

**It is proposed to update TR 23.700-60** **as follows**

\* \* \* \* First change (all new text)\* \* \* \*

## x.1 Key Issue #X: Enhancements to power savings for XR services

x.1.1 Description

The objective of this Key Issue is to study whether and how to enhance power management schemes in 5GS by exploiting information regarding the traffic generated by XR media services and device status. In particular, this Key Issue evaluates the possibility of using device status information like battery lifetime, battery status, and information regarding the traffic generated by XR media services to improve power management schemes like CDRX to achieve the best trade-off among key performance indicators like throughput, latency, reliability and power saving.

Solutions for this Key Issue rely on the enhancements to power saving schemes to support XR services studied during RAN1 SI on XR evaluation in Release 17 and under investigation in Release 18 and builds on top of those features.

For this Key Issue the following areas should be studied:

* Whether and how information related to the device battery capacity and status is collected, represented and used in the 5GS?
* Whether and how information related to the traffic generated by XR media services is collected, represented and used in the 5GS?
	+ Where and how to obtain and represent XR/media traffic characteristics and related information within the 5GS?
	+ Which type of XR/media traffic characteristics and information like traffic pattern and statistics is needed for power management schemes of the 5GS.