**3GPP TSG SA WG 1 Meeting #104 S1-23xxxx**

**Chicago, USA, 13 - 17 November 2023** *(revision of S1-23xxxx)*

**Source: ZTE, Deutsche Telekom AG**

**pCR Title: Pseudo-CR on update of 4.1 General**

**Draft Spec: 3GPP TS 22.137**

**Agenda item: x.x**

**Document for: Approval**

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*Abstract: This document is to update the section 4.1 general description of TS 22.137.*

**1. Introduction**

This pCR is to improve the description in the section 4.1 General, TS22.137.

**2. Reason for Change**

It is to improve the texts to align with related terms.

**3. Proposal**

It is proposed to agree the following changes to 3GPP TS 22.137.

\* \* \* First Change \* \* \* \*

## 4.1 General

5G wireless sensing is a technology enabler to acquire information about characteristics of the environment and/or objects within the environment, that uses radio frequency to determine the distance (range), angle, or instantaneous linear velocity of objects, etc.

Radio frequency sensing functionality provides services for device-free object localization as there is lack of need for the object to be connected via a device in the network. The estimation of parameters such as signal strength, delay, doppler and angle spectrum information is obtained from scattered and/or reflected radio frequency signals transmitted and received by RAN nodes or UEs by using NR radio frequency signals, which, in some cases, can be extended by information created via EPC and/or E-UTRA, without leading to impacts on EPC and E-UTRA. By processing these radio frequency signals, features such as the location, velocity, geometric information of the objects can be extracted and further exposed together with contextual information towards different applications.

The capabilities to obtain range, velocity, and angle information from the radio frequency signals can provide a broad range of new functionality, such as various objects detection, object recognition (e.g., vehicle, human, animal, UAV) and high accuracy localization, tracking and activity recognition.

This technical specification describes the sensing technology as part of the 5G system for enabling new services and use cases. 5G wireless sensing service provides new possibilities for enhanced usage of the telecommunication infrastructure. It provides input to different verticals (e.g., UAVs, smart home, V2X, factories, railways, public safety, etc.) enabling applications offering e.g., intruder detection, assisted automotive maneuvering and navigation, trajectory tracing, collision avoidance, traffic management, health and activity monitoring.

In some cases, 5G wireless sensing can also use non-3GPP type sensors (e.g., Radar, camera) to further support the 3GPP-based sensing.

5G wireless sensing service also brings challenges related to confidentiality and privacy. There is a need to protect the sensing data from unauthorized access, interception and eavesdropping, but also to make sure there is compliance with regulation and user awareness.

\* \* \* End of Change \* \* \* \*