

Source: NEC, Ericsson, Huawei, SEI, ALU
Title: Agreements on OTA sensitivity
Agenda item: 3.1 Technically endorsed documents from RAN4#75-BS-AAS-AH
Document for: Approval

Introduction

A contribution which summarized the agreements during RAN4#75-AAS-AH and way forwards was technically endorsed in [1].

This is the submission for formal approval.

Agreement

For minimum declarations:

- 1. The manufacturer shall declare an EIS value and a contiguous area (i.e. range of directions) that is intended as the “cell wide coverage” for which the OTA sensitivity requirement (The throughput shall be $\geq 95\%$ of the maximum throughput of the reference measurement channel as specified in x.104) is met.**
- 2. Optionally, the manufacturer can also declare additional areas where EIS is equal to or better than the declared value in (1) above. Only one of these areas, or the area in bullet 1 can be “active” wholly at any time. OTA sensitivity requirement shall be met anywhere within the “active” area, but does not need to be able to meet for signals arriving from an “inactive” area. Such additional areas are allowed to overlap.**
- 3. It is not excluded that the manufacturer declares additional OTA sensitivity values and corresponding areas.**

The concepts described in bullets 1 and 2 above correspond to one “cell wide” OSDR, as defined in detail below, that is mandatory to declare. Bullet 2 corresponds to the declaration of additional sensitivity RoAoAs for the same OSDR of bullet 1, as defined below. Bullet 3 corresponds to additional OSDRs that are optional to declare.

For the purpose of minimum and optional declaration, the following concept is agreed.

- **“OTA Sensitivity Direction Ranges” (OSDR) can be used for the purpose of OTA sensitivity declaration where an OSDR consists of:**
 - o **A declared EIS value, above which the OTA sensitivity throughput or BER requirement is met in the sensitivity RoAoA**
 - o **Redirection Range [shown as blue area in [3], [5], [6] and [7]]**
 - o **Sensitivity RoAoA(s) [orange area in [3], [5], [6] and [7]]**

Names may change, and if for some reasons that these do not work then we will have to re-consider again.

- **The size and shape of a redirection range (on a directions diagram) is optional for the manufacturer to declare. Each range may be a continuous area or non-continuous areas**

Way forward

The following Way Forward is agreed:

- **Further check AAS systems implementations and applications and see if there are any that are not covered and considered by these concepts.**
- **FFS how to declare the sensitivity RoAoA**
 - **Declare the largest sensitivity RoAoA that may be positioned anywhere within the receiver redirection range**
 - **Declare the size and shape of the sensitivity RoAoA at several significant positions within the receiver redirection range**
 - **Others are not excluded.**

References

- [1] R4-75AH-AAS-0091, Agreements on OTA sensitivity, NEC, Ericsson, Huawei, SEI, ALU.
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