3GPP TSG-RAN WG4 Meeting # 96-e DRAFT R4-2012641

Electronic Meeting, 17 – 28 August, 2020

**Source:** Huawei

**Title:** IAB EMC specification: Emission (7.1)

**Agenda Item:** 7.4.4.2

**Document for:** Approval

# Introduction

In this contribution we provide discussion on the EMC emission requirements applicability of the NR IAB node. The proposed TP to the IAB EMC specification is attached.

# Discussion

The existing NR IAB specification relies on the NR BS specification in many aspects, e.g. both FR1 and FR2 bands are considered for NR IAB operation.

The following principles were assumed during formulation of the EMC emission requirements applicability of the NR IAB node:

* Consideration of MT and DU: in legacy BS specifications (e.g. TS 38.113 for NR BS) the following text was captured in order to address the enclosure of the product:

“*Performance assessment of a BS with multiple enclosures may be done separately for the BS part with the Radio digital unit and the Radio unit respectively, according to the manufacturer's choice.*”

When it comes to the IAB, there were some views shared that we shall consider single enclosure case, as well as multiple enclosures case. Such kind of breakdown was not really envisioned in the WID. Therefore we were looking towards a solution, there implementation independent specification can be drafted, with no specific requirements which would depend on the products (enclosures) implementation.

Based on this motivation, the proposed TP was drafted based on the TS 38.113 text, with some clarifications added to reflect the text in *italics* above.

In general, the goal is to follow the following principle:

Whenever the IAB requirement is referred, its applicability shall be considered as applicable to the IAB node as a whole (MT and DU), irrespective of its implementation. Performance assessment of an IAB node with multiple enclosures may be done separately for each of them, according to the manufacturer's choice.

When it comes to the case of EMC requirements being defined in different way (different level) for the BS-type and UE-type products (as raised by some companies in the previous meetings), our view is as follows: the IAB is considered as a network node, even if logically it may be seen as a UE. Such clarification may be required to be included in the IAB EMC specification, if seen needed.

# 3 Conclusions

Based on the above discussion it is proposed to agree on the following:

**Proposal**: agree on the attached TP to the IAB EMC specification, for the Emission requirements applicability.

As we are experiencing very rushed process of the specification drafting, comments from other companies are welcome to improve the proposed text.

# 4 Annex B: TP to IAB EMC TS: Emission requirements applicability

Based on the discussion initiated in section 2, below we provide a TP to the IAB EMC specification, for the Emission requirements applicability.

*------------------------------ Modified section ------------------------------*

# 7 Applicability overview

## 7.1 Emission

Throughout this specification, whenever the IAB requirement is referred, its applicability shall be considered as applicable to the IAB node as a whole (MT and DU), irrespective of its implementation. Performance assessment of an IAB node with multiple enclosures may be done separately for each of them, according to the manufacturer's choice.

Table 7.1-1: Emission requirements applicability

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Phenomenon | Application | Equipment test requirement | | Reference  clause in the present document | Reference  standard |
| IAB equipment | Ancillary equipment |
| Radiated emission | IAB enclosure  (Note 1) | applicable for *IAB type 1-H*  (Note 2) | not applicable | 8.2.1 | ITU-R SM.329 [19] |
| Radiated emission | Enclosure of *ancillary equipment* | not applicable | applicable | 8.2.2 | CISPR 32 [6] |
| Conducted emission | DC power input/output port | applicable | applicable | 8.3 | CISPR 32 [6] |
| Conducted emission | AC mains input/output port | applicable | applicable | 8.4 | CISPR 32 [6] |
| Conducted emission | *Telecommunication port* | applicable | applicable | 8.5 | CISPR 32 [6] |
| Harmonic current emissions | AC mains input port | applicable | applicable | 8.6 | IEC 61000-3-2 [8] or  IEC 61000-3-12 [9] |
| Voltage fluctuations and flicker | AC mains input port | applicable | applicable | 8.7 | IEC 61000-3-3 [10] or  IEC 61000-3-11 [11] |
| NOTE 1: Radiated emission measurementof an IAB node with multiple enclosures may be done separately for each of them, according to the manufacturer's choice.  NOTE 2: Radiated emission requirements for *IAB type 1-O* and *IAB type 2-O* are described in clause 8.2.1. | | | | | |

*----------------------------- End of modified section ------------------------------*