3GPP TSG-RAN WG4 Meeting # 95-e draft R4-2008782

**Electronic Meeting, 25 May – 5 June, 2020**

**Source:** ZTE

**Title:** TP to TR 38.809 on IAB TX IMD

**Agenda Item:** 6.5.2.1.3

**Document for:** Approval

# Introduction

The IAB TX IMD requirement has been discussed in [1]. There is one TP to TR is endorsed in RAN4#94-e meeting[2],It is proposed to approve the TP to TR as following.

This is the revision of R4-2007544.

# References

1. R4-2007543 on IAB TX IMD, ZTE
2. R4-2002497 TP to TR 38.xxx: OTA transmitter intermodulation, Ericsson

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## 7.7 Transmitter intermodulation

For conducted transmitter intermodulation, it is agreed to reuse the base station framework for both IAB-DU and IAB-MT.

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## 9.8 OTA transmitter intermodulation

### 9.8.1 IAB DU intermodulation

For FR1 the IAB node could be co-located if the IAB TDD pattern for transmission and receiving is the same for both IAB-DU and IAB-MT of both co-located nodes, i.e. just coordinating the UL/DL timeslots is not sufficient but the actual Tx and Rx time instants of both IAB-DU and IAB-MT need to be aligned. IAB DU intermodulation requirement shall be reused from BS spec.

Therefore *IAB-DU type* *1-O* will reuse the framework of OTA TX intermodulation requirement defined in TS 38.104 section 9.8 for NR *BS type 1-O*.

There is no OTA TX intermodulation requirement for *IAB-DU type* 2*-O* as there is no TX IMD requirement for BS type 2-O.

### 9.8.2 IAB MT intermodulation

 The co-location scenario of IAB is listed below as:

-co-located with another IAB-Node in same band

This scenario shall be further considered as if the IAB-DU and IAB-MT of one IAB-Node don’t transmit simultaneously, there will exist the scenario that during UL timeslot one is transmitting in the backhaul link and the other is receiving in the access link, and correspondingly during DL timeslot one can be transmitting in the access link and another is receiving in the backhaul link. In this case, the excessive interference will prevent the two IAB nodes to be co-located. Hence co-location scenario can only be considered for the following case:

-co-located as IAB-DU and IAB-MT of one IAB-Node transmit simultaneously in the same band with same TDD pattern as the other co-located BS and/or IAB-Node.

 - In case of two co-located IAB-Nodes, all IAB-MTs and IAB-Dus need to follow same TDD pattern.

In this case, the co-location scenario is similar to a base station co-located with another base station in same band, hence the intermodulation requirement shall be reused from BS spec.

-co-located with another IAB-DU/BS in another band

With the above co-location scenarios, it is proposed to use the framework of base stationTX intermodulation requirement for IAB MT with certain co-location scenarios. Considering the large coupling loss, there is no TX IMD requirement for *IAB-MT type 2-O*.

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