**3GPP TSG-RAN WG4 Meeting #95-e DRAFT R4-200xxxx**

Online, 25 May - 5 Jun 2020

**Source:** Huawei

**Title:** WF on IAB-MT reference sensitivity

**Agenda Item:** 6.5

**Document for:** Approval

# Background

The subject of reference sensitivity contains 3 sub topics which were discussed in the 1st round:

**Sub-topic#1-1:** FR2 EISREFSENS\_50M declaration range for Local Area IAB-MT

**Sub topic 1-2:** FR1 PREFSENS requirement for Local Area IAB-MT type 1-H

**Sub topic 1-3:** FR1 OTA sensitivity and OTA reference sensitivity level applicability for IAB-MT

**Sub topic 1-4:** FRC to be used by IAB-MT

This WF will capture the agreements and open options for each of these.

Yellow text is for discussion during review process – to be cleaned up once we have some agreement.

# Way Forward

##### **Sub-topic#1-1:** FR2 EISREFSENS\_50M declaration range for Local Area IAB-MT

{Companies seem to be ok with option 2 or 3, it may be possible to close this issue this meeting and capture agreement in this WF.}

* + Option 2: -86 to -114dBm {ZTE, Nokia, Samsung ..}
  + Option 3: {Huawei, ..}

| **Class** | **EISREFSENS\_50M range**  **(dBm)** |
| --- | --- |
| Wide Area | ≤ -96 |
| Local Area | ≤ -86 |

{As there seems to be no strong feeling either way, this issue could be settled by a majority – could companies indicate which they favour, I have put in companies who views are clear from eth email discussion}

##### **Sub topic 1-2:** FR1 PREFSENS requirement for Local Area IAB-MT type 1-H

Most companies choose either option 1 or 2:

o Option 1: NF=13dB, IM=2dB as reused from Local Area BS

o Option 2: NF=10dB, IM=2dB, SNR=-1dB

Points of discussion are:

* IBB levels must be linked to this decision
  + LA refsens = -93.7dBm, IBB level = -41dBm
  + MR refsens = -96.7dBm , IBB level = -44dBm

If the medium area sensitivity is used then the medium area blocking should also be used, which implies the local area scenarios for blocking are not valid

* The local area IAB-MT is also used for medium range scenarios so the sensitivity should be comparable to the medium range sensitivity

{It seems unlikely there is a compromise, we select one or the other, the majority seems to be for option 1 – can we agree that this meeting?}

##### **Sub topic 1-3:** FR1 OTA sensitivity and OTA reference sensitivity level applicability for IAB-MT

Based on the summary for round 1 we can get the following:

All company agree that there seems no need to define both OTA reference sensitivity level and OTA sensitivity for IAB-MT type 1-O. And for IAB-MT type 1-O OTA reference sensitivity level is preferred. But for IAB-MT type 1-H it seems OTA reference should be the only choice

From this there are the following agreements:

Agreement: only 1 OTA sensitivity requirement (i.e. OTA sensitivity or OTA Reference sensitivity) is needed for IAB-MT type 1-O

Agreement: OTA sensitivity requirement is specified for IAB-MT type 1-H

Agreement: modified OTA reference sensitivity requirement is specified for IAB-MT type 1-O

It remains an open issue on how the type 1-O OTA reference sensitivity should be modified, we have the following options:

* Option 1: Use current level is calculated from the 3dB contour of the declared OTA REFSENS RoAoA
  + It has been highlighted that this may not be appropriate for the IAB-MT application as the 3dB point for the RoAoA is not an important parameter (as it is for BS)
  + The IBA-MT does not have to maintain any sort of equivalence between the RoAoA (coverage area) and the OAT sensitivity.
* Option 2: Use the FR2 method for OTA REFSENS and declare within a range of values
* Option 3: Use a different RoAoA to calculate the OTA refsens value

##### **Sub topic 1-4:** FRC to be used by IAB-MT

All companies agree option 2 is ok so:

Agreement: Selected UE FRC can be for IAB-MT based the same criteria as BS