

**[102-e][328] NR\_eIAB\_Demod\_NWM - Version 0.0.5**  
**RAN4**

**3GPP TSG-RAN WG4 Meeting #102-e R4-2207448**

**Electronic Meeting, 21st Feb 2022 – 3rd Mar 2022**

**Agenda item:** 10.17.5

**Source:** Moderator (Nokia, Nokia Shanghai Bell)

**Title:** Email discussion summary for [102-e][328] NR\_eIAB\_Demod\_NWM

**Document for:** Information

**Introduction**

This thread will be used to guide and summarize the email discussion for the topic of Rel-17 NR eIAB demodulation requirements (AI 10.17.5), with the email thread identifier "[102-e][328] NR\_eIAB\_Demod\_NWM".

The scope of this discussion are the Rel-17 NR eIAB Demod requirements, and in particular the agenda items:

10.17 Enhancements to Integrated Access and Backhaul (IAB) for NR

10.17.5 Demodulation requirements

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**1 Topic #1: Specification of eIAB demodulation requirements**

**1.1 Companies' contributions summary**

**Table 1: Company contributions to AI 10.17.5**

<b>T-doc number</b>	<b>Company</b>	<b>Proposals / Observations</b>
<u>R4-2205771</u>	Huawei, HiSilicon	<b>Proposal 1: Do not consider any performance requirements for both IAB-DU and IAB-MT.</b>

<u>R4-2205966</u>	Nokia, Nokia Shanghai Bell	<p><b>Observation 1:</b> Since IAB-nodes are stationary, like in Rel-16, there is no need to introduce any new propagation conditions, neither for access nor for the backhaul links.</p> <p><b>Observation 2:</b> IAB nodes are part of the infrastructure. BS style testing was used for IAB-MTs in Rel-17. Deployment of IAB nodes assumes certain level of planning. No new interference handling techniques were introduced in Rel-17. Hence, IAB duplexing enhancements should not introduce new demodulation performance requirements.</p> <p><b>Proposal 1: RAN4 to not to introduce any new demodulation performance requirements for Rel-17 IAB enhancements.</b></p>
<u>R4-2204582</u>	Samsung	<p>Conclusion: According to preliminary review, there is no new demodulation test case requested for IAB enhancement according to PHY layer design in Rel-17.</p>
<u>R4-2205032</u>	Ericsson	<p><b>Proposal 1: No new demodulation requirement is needed for simultaneous IAB-DU / IAB-MT reception.</b></p> <p><b>Proposal 2: No new demodulation requirement is needed when one of IAB-DU or IAB-MT transmits, and the other part receives.</b></p>

## 1.2 Open issues summary

*Before e-Meeting, moderators shall summarize list of open issues, candidate options and possible WF (if applicable) based on companies' contributions.*

### 1.2.1 Sub-topic 1-1: Specification of eIAB demodulation requirements

*Sub-topic description:*

This is the first meeting treating potential demodulation requirement impact of NR\_IAB\_enh. As such the first question is whether eIAB demodulation requirements are needed, and if yes, which candidates are then to be considered.

*Open issues and candidate options before e-meeting:*

**Issue 1-1: Is there a need for new demodulation requirements to cover Rel-17 NR\_IAB\_enh?**

- Proposals

- Option 1 Issue 1-1: Is there a need for new demodulation requirements to cover Rel-17 NR\_IAB\_enh?: No new demodulation requirements are needed to cover Rel-17 NR\_IAB\_enh.
- Other option not precluded

- Recommended WF

- Option 1. No other proposals submitted to AI.
- Unless other comments are received, the moderator will ask the chair for allocation of a WF to capture the agreement of option 1; this will close the demod part of the discussion on RAN4 eIAB.

**Feedback Form 1: Issue 1-1: Is there a need for new demodulation requirements to cover Rel-17 NR\_IAB\_enh?**

**1 – HiSilicon Technologies Co. Ltd**

Support the recommended WF.

**2 – Intel Corporation (UK) Ltd**

Definitely, we support Option 1 that there are no impact on performance requirements with Rel-17 specified IAB enhancements. However, there are RAN2/3 enhancements defined for DC scenario. Currently, IAB specifications does not have any applicability rules for interworking operation like DC. Can we define such applicability rule similar to UE spec? Another way is to discuss this in Rel-16 maintenance AI. Both approaches are fine for us.

**3 – Nokia Germany**

We support the WF proposed by the Moderator.

Regarding the DC scenario mentioned by Intel, our understanding is that BS-style testing is applied to the IAB-MT. Therefore, the following definition applies (e.g. TS 38.176-1, Clause 8.2.1.1):

*Unless stated otherwise, performance requirements apply for a single carrier only. Performance requirements for an IAB-MT supporting CA are defined in terms of single carrier requirements.*

#### **4 – Ericsson France S.A.S**

We support the WF.

To Intel: Are you referring to functionality in Rel-16 ? Then it should be discussed in Rel-16 maintenance. Just to check though.. we agreed the following for CA:

*Unless stated otherwise, performance requirements apply for a single carrier only. Performance requirements for an IAB-MT supporting CA are defined in terms of single carrier requirements.*

Not sure why this is only captured in 38.176-1, not the core spec or the other conformance spec; probably CRs are needed. Anyhow, presumably it can be extended to DC, but then do you see the need for applicability rules ?

#### **5 – Samsung R&D Institute UK**

We also support the recommended WF from moderator.

Regarding DC scenario, we agree that there is nothing new for Rel-17 since this has been supported since Rel-16. In Rel-16 maintenance, both multi-carrier and multi-band operation are included in specification for IAB-MT following the gNB/IAB-DU approach to enable CA/DC as in general clause 4.8 and 4.9 at least from RF perspective. It's supposed similar maintenance has been applied for IAB-MT demo. But it seems further update needed for TS38.174 and TS38.176-2 for release 16 maintenance as pointed by Ericsson and Nokia. Anyway, we do not believe this will impact on demo scope for Rel-17 eIAB.

#### **6 – Nokia Germany**

We have rechecked and there are the following rules in 38.174:

- Clause 11.2.1

*Unless stated otherwise, radiated performance requirements apply for a single carrier only.*

- However, this part is missing in Clause 8.2.1, i.e. for Conducted IAB-MT performance requirements.

In 38.176-2, this rule is, indeed, missing completely for IAB-MT radiated performance requirements.

Thus, we support preparation of Rel-16 maintenance CRs for 38.174 and 38.176-2, and can prepare/cosign those.

#### **7 – Intel Corporation (UK) Ltd**

Thanks companies for comments on DC scenario. We referred to Rel-16 functionality and fine with Nokia suggestion to prepare CRs under maintenance agenda. Mentioned applicability rule for CA scenario can be extended to DC also in our understating. We agree that these details is a subject to Rel-16 maintenance part discussion and support the recommended WF to close Rel-17 demod part.

#### **8 – HiSilicon Technologies Co. Ltd**

We are fine to update the applicability rule to including DC.

## 1.3 Summary for 1st round

### 1.3.1 Open issues

*Moderator tries to summarize discussion status for 1<sup>st</sup> round, list all the identified open issues and tentative agreements or candidate options and makes suggestions for 2<sup>nd</sup> round, e.g., WF assignments.*

**Table 2: Summary for first round**

	<b>Status summary</b>
<b>Sub-topic 1-1</b>	<p><b>Sub-topic 1-1: Specification of eIAB demodulation requirements</b></p> <p><u>Issue 1-1: Is there a need for new demodulation requirements to cover Rel-17 NR_IAB_enh?</u></p> <p><i>Tentative agreements:</i></p> <ul style="list-style-type: none"> <li>- No new demodulation requirements are needed to cover Rel-17 NR_IAB_enh.</li> </ul> <p><i>Candidate options:</i></p> <ul style="list-style-type: none"> <li>- None remaining.</li> </ul> <p><i>Recommendations for 2<sup>nd</sup> round:</i></p> <ul style="list-style-type: none"> <li>- Tentative agreement is agreeable.</li> <li>- The moderator will ask for WF allocation (for Nokia) to capture the agreement.</li> <li>- As per discussion, please consider the creation of co-signed CRs for Rel-16 IAB maintenance in the next meeting to cover applicability rule for CA scenario in 38.174 and 38.176-2, along with potential DC extension.</li> </ul>

*Recommendations on WF/LS assignment*

**Table 3: WF/LS assignment**

	<b>WF/LS t-doc Title</b>	<b>Assigned Company, WF or LS lead</b>

#1	WF on specification of Rel-17 NR_IAB_enh demodulation requirements	Nokia, Nokia Shanghai Bell
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## 2 Recommendation for Tdocs

### 2.1 1st Round

#### New tdocs

**Table 4: 1st round: New tdocs**

Title	Source	Comments
WF on specification of Rel-17 NR_IAB_enh demodulation requirements	Nokia, Nokia Shanghai Bell	

#### Existing tdocs

None.

### 2.2 2nd round

**Table 5: 2nd round: Recommendation for Tdocs**

Tdoc number	Title	Source	Recommendation	Comments
R4-2207199	WF on specification of Rel-17 NR_IAB_enh demodulation requirements	Nokia, Nokia Shanghai Bell	Agreeable	

**Feedback Form 2: Comments on 2nd round tdoc recommendations and WF, if any.**

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