3GPP TSG-RAN WG2 Meeting #111 Electronic R2-20xxxxx

Elbonia, 17 – 28 August 2020

**Agenda item: 6.2.5**

**Source: Nokia (Summary Rapporteur)**

**Title: Summary of [AT111-e][030][IAB] UE capabilities (Nokia)**

**WID/SID: NR\_IAB - Release 16**

**Document for: Discussion and Decision**

# 1 Introduction

This is to provide a summary of TDocs submitted for IAB UE capabilities under AI 6.2.1 and 6.2.5 which include [1-6].

* [AT111-e][030][IAB] UE capabilities (Nokia)

 Scope:

 Deadline: Short UE cap

# 2 Summary

The discussion paper in [1] proposes to introduce the following IAB specific capabilities:

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| ***Proposal 1: Add the following parameter for Feature 4-1 in 38.306:***

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| ***Definitions for parameters*** | Per | M | FDD-TDD DIFF | FR1-FR2 DIFF |
| ***intraAndInterF-MeasAndReport-IAB-r16***Indicates whether the IAB-MT supports NR intra-frequency and inter-frequency measurements and at least periodical reporting. Note: It is up to the IAB node to set the capability bit | UE | Yes | Yes | No |

***Proposal 2: Add the following parameter for Feature 7-1, component 2) in 38.306:***

| Definitions for parameters | Per | M | FDD-TDDDIFF | FR1-FR2DIFF |
| --- | --- | --- | --- | --- |
| ***handoverInterF-IAB-r16***Indicates whether the IAB-MT supports inter-frequency HO. It indicates the support for inter-frequency HO from the corresponding duplex mode if this capability is included in *fdd-Add-UE-NR-Capabilities* or *tdd-Add-UE-NR-Capabilities*. It indicates the support for inter-frequency HO in the corresponding frequency range if this capability is included in *fr1-Add-UE-NR-Capabilities* or *fr2-Add-UE-NR-Capabilities*.  | IAB-MT | No | Yes | Yes |

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Companies are invited to provide their views whether they agree with the proposals.

**Q1: Do you agree with the proposals in [1]? If not, please provide comments.**

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| **Company** | **Preference (Y/N)** | **Detailed Comments** |
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The CR in [2] proposes changes to TS 38.306 based on the conclusions agreed by RAN Plenary and captured in [RP-201292](http://3gpp.org/ftp/tsg_ran/TSG_RAN/TSGR_88e/Docs/RP-201292.zip). The changes intend to clarify accordingly *eventA-MeasAndReport* and *intraAndInterF-MeasAndReport* features support.

Companies are invited to provide their views whether they agree with the changes.

**Q2: Do you agree with the changes proposed in [2]? If not, please provide comments.**

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| **Company** | **Preference (Y/N)** | **Detailed Comments** |
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The CR in [3] proposes additions into TS 38.300 to implement the following agreement:

* ***R2 to specify that IAB-MTs can make use of the UE capability signaling framework (including specification of minimum set). Whether it is actually used for e.g. Wide Area IAB-MTs may be up to implementation.***

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| 7.5 UE Capability Retrieval frameworkThe UE reports its UE radio access capabilities which are static at least when the network requests. The gNB can request what capabilities for the UE to report based on band information. The UE capability can be represented by a capability ID, which may be exchanged in NAS signalling over the air and in network signalling instead of the UE capability structure.In IAB, it is optional for an IAB-MT to support UE capability Retrieval framework and the related signalling. In case IAB-MT does not support UE capability Retrieval framework, IAB-MT capabilities are assumed to be known to the network by other means, e.g. OAM  |

Alternatively, the CR in [4] proposes the following change with a new section added into TS 38.300:

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| 4.7.4.5 IAB-node Capability SignalingIAB-MTs can make use of the UE capability signaling framework (including specification of minimum set). Whether it is actually used for e.g. Wide Area IAB-MTs may be up to implementation. |

The companies are invited to provide their views for the above proposals and, especially, which CR should become a baseline for Stage-2 CR reflecting the RAN2#110 agreement.

**Q3: Which CR do you agree to become a baseline to implement the above agreement? If not agreeable, please provide comments.**

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| **Company** | **Preference ([3]/[4])** | **Detailed Comments** |
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The CR in [5] proposes to add MAC capability *lcid-ExtensionIAB* of IAB-MT defined in TS 38.306 into TS 38.331. Rapporteur notes that this parameter seems to have been mistakenly left out from TS 38.331.

Companies are invited to provide their views whether they agree with the change.

**Q4: Do you agree with the change proposed in [5]? If not, please provide comments.**

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| **Company** | **Preference (Y/N)** | **Detailed Comments** |
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The CR in [6] proposes changes to TS 38.306. The changes intend to clarify:

* Optional features for IAB-MT are: *multipleTCI, pdsch-MappingTypeA, pucch-F2-WithFH, pucch-F3-WithFH*;
* Mandatory features for IAB-MT with capability signalling are: *eventA-MeasAndReport, intraAndInterF-MeasAndReport*
* Support at least one of the two features for IAB-MT is: *drb-IAB-r16* or *non-DRB-IAB-r16*.

Companies are invited to provide their views whether they agree with the changes.

**Q5: Do you agree with the changes proposed in [6]? If not, please provide comments.**

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| **Company** | **Preference (Y/N)** | **Detailed Comments** |
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# 3 Conclusion

TBD

# References

[1] [R2-2006959](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_111-e/Docs/R2-2006959.zip), *Remaining details of UE capabilities for IAB*, AT&T

[2] [R2-2007508](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_111-e/Docs/R2-2007508.zip), *Update to IAB-MT capabilities*, Nokia, Nokia Shanghai Bell

[3] [R2-2007509](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_111-e/Docs/R2-2007509.zip), *IAB-MT capability signalling clarification*, Nokia, Nokia Shanghai Bell

[4] [R2-2007539](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_111-e/Docs/R2-2007539.zip), *Corrections to capability signaling for IAB-MT*, Samsung Electronics Romania

[5] [R2-2007980](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_111-e/Docs/R2-2007980.zip), *Correction on IAB-MT capability for TS 38.331*, Huawei, HiSilicon

[6] [R2-2007981](https://www.3gpp.org/ftp/tsg_ran/WG2_RL2/TSGR2_111-e/Docs/R2-2007981.zip), *Correction on IAB-MT capability for TS 38.306*, Huawei, HiSilicon