**3GPP TSG-RAN WG4 Meeting # 112 R4-241xxxx**

**Maastricht, Netherlands, August 19th – 23th, 2024**

**Agenda item:** 5.32.4

**Source:** Moderator (Ericsson)

**Title:** Topic summary for [112][325] NR\_mobile\_IAB\_demod

**Document for:** Information

# Introduction

In previous meeting, the discussion for mobile IAB demodulation requirements was ongoing. Following WF were achieved:

* RAN4#109: R4-2321144
* RAN4#110: R4-24032871
* RAN4#110bis: R4-2406058

# Topic #1: Requirement for IAB-MT

*The requirement for mobile IAB MT part.*

## Companies’ contributions summary

|  |  |  |
| --- | --- | --- |
| **T-doc number** | **Company** | **Proposals / Observations** |
| [**R4-2412146**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_112/Docs/R4-2412146.zip) | Ericsson | ***Proposal 1: Add a new clause to include the correct reference channel for Sub-band CQI reporting requirement for mobile IAB*** |
| [**R4-2412152**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_112/Docs/R4-2412152.zip) | Ericsson | CR for 38.174 |
| [**R4-2412153**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_112/Docs/R4-2412153.zip) | Ericsson | CR for 38.176-1 |
| [**R4-2412154**](https://www.3gpp.org/ftp/TSG_RAN/WG4_Radio/TSGR4_112/Docs/R4-2412154.zip) | Ericsson | CR for 38.176-2 |

## Open issues summary

### Sub-topic 1-1 FRC channel for sub-band CQI reporting

*Background: There is no available FRC channel in 38.101-4 which can be reused for new defined mobile IAB-MT sub-band CQI reporting. Companies agreed to use TBD in the specification and bring proposals in this meeting.*

**Issue 1-1-1: FRC channel for sub-band CQI reporting requirement**

* Proposals
	+ Option 1 (Ericsson): Introduce following FRC channel for mIAB-MT sub-band CQI reporting.
* Table A.3B.3-1: Fixed Reference Channels for FR1 CSI reporting with CQI table 2 and MCS table 2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Reference channel | M-FR1-A.3B.3-1 |  |  |  |
| Number of allocated PDSCH resource blocks | 16 |  |  |  |
| Number of consecutive PDSCH symbols | 12 |  |  |  |
| Number of PDSCH MIMO layers | 1 |  |  |  |
| Number of DMRS REs (Note 1) | 24 |  |  |  |
| Overhead for TBS determination | 0 |  |  |  |
| Available RE-s for PDSCH | 1920 |  |  |  |
| CQI index | Spectral efficiency | MCS index | Modulation | Information Bit Payload per Slot |
| 0 | OOR | OOR | OOR | N/A |  |  |  |
| 1 | 0.1523  | 0 | QPSK | 456 |  |  |  |
| 2 | 0.3770  | 1 | 736 |  |  |  |
| 3 | 0.8770  | 3 | 1736 |  |  |  |
| 4 | 1.4766  | 5 | 16QAM | 2856 |  |  |  |
| 5 | 1.9141  | 7 | 3752 |  |  |  |
| 6 | 2.4063  | 9 | 4608 |  |  |  |
| 7 | 2.7305  | 11 | 64QAM | 5248 |  |  |  |
| 8 | 3.3223  | 13 | 6400 |  |  |  |
| 9 | 3.9023  | 15 | 7424 |  |  |  |
| 10 | 4.5234  | 17 | 8712 |  |  |  |
| 11 | 5.1152  | 19 | 9736 |  |  |  |
| 12 | 5.5547  | 21 | 256QAM | 10760 |  |  |  |
| 13 | 6.2266 | 23 | 12040 |  |  |  |
| 14 | 6.9141 | 25 | 13320 |  |  |  |
| 15 | 7.4063  | 27 | 14088 |  |  |  |
| NOTE 1: Number of DMRS REs includes the overhead of the DM-RS CDM groups without dataNOTE 2: PDSCH is only scheduled on slots which are full DL |

* Recommended WF
	+ Agree with Option 1.

# Tdoc recommandation

|  |  |  |  |
| --- | --- | --- | --- |
| Tdoc number | Source | Suggested status | Comments |
| R4-2412146 | Ericsson | Noted |  |
| R4-2412152 | Ericsson | Approve |  |
| R4-2412153 | Ericsson | Approve |  |
| R4-2412154 | Ericsson | Approve |  |