**3GPP TSG-RAN WG4 Meeting # 98-bis-e *R4-2106077***

**Electronic meeting, 12 – 20 April 2021**

**Source:** Nokia, Nokia Shanghai Bell

**Title: TP to TS 38.176-2 Annex A for IAB OTA test specification**

**Agenda item:** 5.3.2.4.2 Receiver characteristics

**Document for:** Approval

# Introduction

RAN4#98-e meeting continued works on performance part of Integrated Access and Backhaul. Outcome of the discussions for different issues are agreed in the respective way forwards. One of them [1] captured some details related to receiver Fixed Reference Channel (FRC).

In this contribution, we provide text proposal to Annex A for IAB radiated test specification, according work split and drafting guidance agreed in WF [2]

Updates done in revision:

* Missing Note 3 added in table A1-1
* Corrections of values in table A1-2

# References

1. R4-2103854, WF on test configurations, models and Rx FRC, Nokia, Nokia Shanghai Bell
2. R4-2103856, WF on IAB conformance specification work split and drafting guidelines, Nokia

<Start of TP>

Annex A (normative):
IAB-MT Reference measurement channels

# A.1 Fixed Reference Channels for reference sensitivity level, ACS, in-band blocking, out-of-band blocking and receiver intermodulation (QPSK, R=1/3)

The parameters for the reference measurement channels are specified in tables A.1-1 for FR1 reference sensitivity level, ACS, in-band blocking, out-of-band blocking, receiver intermodulation, OTA sensitivity, OTA reference sensitivity level, OTA ACS, OTA in-band blocking, OTA out-of-band blocking, and OTA receiver intermodulation.

The parameters for the reference measurement channels are specified in tables A.1-2 for FR2 OTA reference sensitivity level, OTA ACS, OTA in-band blocking, and OTA out-of-band blocking.

Table A1-1: FRC parameters for FR1 reference sensitivity level for IAB-MT.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Reference channel | G-FR1-A1-22 | G-FR1-A1-23 | G-FR1-A1-25 | G-FR1-A1-26 |
| Subcarrier spacing (kHz) | 30 | 60 | 30 | 60 |
| Allocated resource blocks | 11 | 11 | 51 | 24 |
| CP-OFDM Symbols per slot (Note 1) | 9 | 9 | 9 | 9 |
| Modulation | QPSK | QPSK | QPSK | QPSK |
| Code rate (Note 2) | 1/3 | 1/3 | 1/3 | 1/3 |
| Payload size (bits) | 736 | 736 | 3368 | 1608 |
| Transport block CRC (bits) | 16 | 16 | 16 | 16 |
| Code block CRC size (bits) | - | - | - | - |
| Number of code blocks - C | 1 | 1 | 1 | 1 |
| Code block size including CRC (bits) (Note 3) | 752 | 752 | 3384 | 1624 |
| Total number of bits per slot | 2376 | 2376 | 11016 | 5184 |
| Total symbols per slot | 1188 | 1188 | 5508 | 2592 |
| NOTE 1:   *DL-DMRS-config-type* = 1 with *DL-DMRS-max-len* = 1, *DL-DMRS-add-pos* = pos2 with = 2, = 6 and 9 as per Table 7.4.1.1.2-3 of TS 38.211 [3].NOTE 2:   MCS index 4 and target coding rate = 308/1024 are adopted to calculate payload size for receiver sensitivity NOTE 3: Code block size including CRC (bits) equals to in sub-clause 5.2.2 of TS 38.212 [4]. |

Table A1-2: FRC parameters for FR2 reference sensitivity level for IAB-MT.

|  |  |  |  |
| --- | --- | --- | --- |
| Reference channel | G-FR2-A1-21 | G-FR2-A1-22 | G-FR2-A1-23 |
| Subcarrier spacing (kHz) | 60 | 120 | 120 |
| Allocated resource blocks | 66 | 32 | 66 |
| CP-OFDM Symbols per slot (Note 1) | 9 | 9 | 9 |
| Modulation | QPSK | QPSK | QPSK |
| Code rate (Note 2) | 1/3 | 1/3 | 1/3 |
| Payload size (bits) | 5632 | 2792 | 5632 |
| Transport block CRC (bits) | 24 | 16 | 24 |
| Code block CRC size (bits) | - | - | - |
| Number of code blocks - C | 1 | 1 | 1 |
| Code block size including CRC (bits)(Note 3) | 4248 | 2104 | 4248 |
| Total number of bits per slot | 14256 | 6912 | 14256 |
| Total symbols per slot | 7128 | 3456 | 7128 |
| NOTE 1:   DM-RS configuration type = 1 with DM-RS duration = single-symbol DM-RS, additional DM-RS position = pos2 with *l0* = 2, *l* = 6 and 9 as per Table 7.4.1.1.2-3 of TS 38.211 [3].NOTE 2:   MCS index 4 and target coding rate = 308/1024 are adopted to calculate payload size. |  |

<End of TP>