**3GPP TSG-RAN WG4 Meeting #94-e [DRAFT] R4-2002486**

Online, 24 Feb - 06 Mar 2020

**Source:** Huawei

**Title:** [IAB] TP to TS 38.174, clause 4

**Agenda Item:** 8.5.3

**Document for:** Approval

# Introduction

This TP offers some updates to clause 4 (General) of the IAB technical specification..

# Updates after 1st round

The definitions are still being discuss in a WF so these have been removed.

Subclause 4.1 – no comments received I have left as is

Subclause 4.2 – removed explicit references to test specifications and left in square brackets.

Subclause 4.3 – Updated the 8 TRX limit to only apply to the DU, the limits for IAB-MT is FFS

Subclause 4.4 – removed as classes will be discussed in different topic area.

# TP to TS 38.174 v0.0.1

**------ Start of changes --------**

# 4 General

## 4.1 Relationship with other core specifications

The present document is a single-RAT specification for an IAB\_DU and IAB-MT, covering RF characteristics and minimum performance requirements [and RRM requirements for the IAB\_MT]. Conducted and radiated core requirements are defined for the IAB node architectures and IAB node types defined in subclause 4.3.

The applicability of each requirement is described in clause 4.6.

## 4.2 Relationship between minimum requirements and test requirements

Conformance to the present specification is demonstrated by fulfilling the test requirements specified in the conformance specification [Test specification references].

The minimum requirements given in this specification make no allowance for measurement uncertainty. The test specifications [Test specification references] define test tolerances. These test tolerances are individually calculated for each test. The test tolerances are used to relax the minimum requirements in this specification to create test requirements. For some requirements, including regulatory requirements, the test tolerance is set to zero.

The measurement results returned by the test system are compared - without any modification - against the test requirements as defined by the shared risk principle.

The shared risk principle is defined in recommendation ITU‑R M.1545 [8].

## 4.3 Conducted and radiated requirement reference points

.

### 4.3.2 *IAB type 1-H*

For *IAB type 1-H*, the requirements are defined for two points of reference, signified by radiated requirements and conducted requirements.



Figure 4.3.2-1: Radiated and conducted reference points for *IAB type 1-H*

Radiated characteristics are defined over the air (OTA), where the *operating band* specific radiated interface is referred to as the *Radiated Interface Boundary* (RIB). Radiated requirements are also referred to as OTA requirements. The (spatial) characteristics in which the OTA requirements apply are detailed for each requirement.

Conducted characteristics are defined at individual or groups of *TAB connectors* at the *transceiver array boundary*, which is the conducted interface between the transceiver unit array and the composite antenna.

The transceiver unit array is part of the composite transceiver functionality generating modulated transmit signal structures and performing receiver combining and demodulation.

The transceiver unit array contains an implementation specific number of transmitter units and an implementation specific number of receiver units. Transmitter units and receiver units may be combined into transceiver units. The transmitter/receiver units have the ability to transmit/receive parallel independent modulated symbol streams.

The composite antenna contains a radio distribution network (RDN) and an antenna array. The RDN is a linear passive network which distributes the RF power generated by the transceiver unit array to the antenna array, and/or distributes the radio signals collected by the antenna array to the transceiver unit array, in an implementation specific way.

How a conducted requirement is applied to the *transceiver array boundary* is detailed in the respective requirement subclause.

### 4.3.3 *IAB type 1-O* and *IAB type 2-O*

For *IAB type 1-O* and *IAB type 2-O*, the radiated characteristics are defined over the air (OTA), where the *operating band* specific radiated interface is referred to as the *Radiated Interface Boundary* (RIB). Radiated requirements are also referred to as OTA requirements. The (spatial) characteristics in which the OTA requirements apply are detailed for each requirement.



Figure 4.3.3-1: Radiated reference points for *IAB type 1-O* and *IAB type 2-O*

For an *IAB-DU type 1-O* the transceiver unit array must contain at least 8 transmitter units and at least 8 receiver units. Transmitter units and receiver units may be combined into transceiver units. For IAB-MT the transceiver unit array must contain at least FFS transmitter units and FFS receiver units. The transmitter/receiver units have the ability to transmit/receive parallel independent modulated symbol streams.

## 4.4 IAB classes

## 4.5 Regional requirements

Detailed structure of the subclause is TBD.

## 4.6 Applicability of requirements

## 4.7 Applicability of RRM requirements in this specification

### 4.7.1 Applicability of signalling characteristics related RRM requirements

Detailed structure of the subclause is TBD.

## 4.8 Requirements for contiguous and non-contiguous spectrum

Detailed structure of the subclause is TBD.