

TAC 012  
ISSUE 1  
MARCH 2023

**TYPE ACCEPTANCE CRITERIA FOR  
5G NEW RADIO REPEATER EQUIPMENT  
OPERATING BELOW 6 GHz**



**AMENDMENT TABLE**

Item	Issue No.	Paragraph	Descriptions
1	Issue 1 March 2023	All	First release

## 1. SCOPE

This document sets out the criteria for type acceptance of 5G New Radio (NR) repeater equipment of repeater type 1-C<sup>1</sup> operating in frequency bands below 6 GHz (hereafter referred to as “the equipment”).

## 2. OPERATING FREQUENCIES

The equipment shall operate in the following frequency bands:

Band Arrangement	Downlink	Uplink
Paired Band	758 – 793 MHz	703 – 738 MHz
	870 – 882.5 MHz	825 – 837.5 MHz
	925 – 960 MHz	880 – 915 MHz
	1805 – 1880 MHz	1710 – 1785 MHz
	2110 – 2170 MHz	1920 – 1980 MHz
	2620 – 2690 MHz	2500 – 2570 MHz
Unpaired Band	2300 – 2390 MHz	
	3300 – 3400 MHz	
	3400 – 3600 MHz	
	4800 – 4960 MHz	

## 3. TECHNICAL REQUIREMENTS

3.1 The equipment shall meet the technical requirements as stipulated in the specification TS 38.115-1 titled “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; NR; Repeater conformance testing - Part 1: Conducted conformance testing” published by the Third Generation Partnership Project (3GPP) in respect of the following:

Item	Repeater Characteristics	Relevant Clause in 3GPP TS 38.115-1
(i)	Repeater output power	Clause 6.2
(ii)	Out of band gain	Clause 6.4
(iii)	Operating band unwanted emissions	Clause 6.5.3
(iv)	Transmitter spurious emissions	Clause 6.5.4 excluding sub-clause 6.5.4.5.3 on co-location with base stations and repeater type 1-C nodes
(v)	Receiver spurious emissions	Clause 6.5.5 (for TDD operation only)

<sup>1</sup> Repeater type 1-C is defined in 3GPP specification TS 38.115-1.

(vi)	Input intermodulation	Clause 6.7 excluding sub-clause 6.7.1.5.2 on co-location with BS/repeater in other systems
(vii)	Output intermodulation	Clause 6.8
(viii)	Adjacent Channel Rejection Ratio	Clause 6.9
(ix)	Transmit ON/OFF power	Clause 6.10 (for TDD operation only)

### 3.2 Additional Spurious Emissions Requirements

The spurious emissions of the equipment falling onto the 3.7 – 4.2 GHz band shall not exceed – 52 dBm/MHz.

## 4. **EVALUATION METHOD**

Compliance of the equipment with the technical requirements shall be evaluated in accordance with the procedures specified in the corresponding 3GPP specification as given in clause 3.1 above.

## 5. **REFERENCE**

3GPP TS 38.106 titled “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; NR; NR Repeater Radio Transmission and Reception”

3GPP TS 38.115-1 titled “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; NR; Repeater conformance testing - Part 1: Conducted conformance testing”

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