

TAC 010  
ISSUE 2  
DECEMBER 2021

**TYPE ACCEPTANCE CRITERIA FOR  
5G NR, E-UTRA, UTRA AND GSM/EDGE  
MULTI-STANDARD RADIO (MSR)  
BASE STATION EQUIPMENT  
OPERATING BELOW 6 GHz**



## AMENDMENT TABLE

Item	Issue No.	Paragraph	Descriptions
1	Issue 1 September 2020	All	First release
2	Issue 2 December 2021	2	Addition of the paired band 703 – 738 MHz / 758 – 793 MHz and extension of the paired 850 MHz band to 825 – 837.5 MHz / 870 – 882.5 MHz for multi-standard radio base station equipment operating below 6 GHz band
		3.1	Exclusion of sub-clauses 6.6.2.5.4 and 6.7.5.4 from test items 3.1(a)(iii) and 3.1(a)(v) respectively

## 1. SCOPE

This document sets out the criteria for type acceptance of 5G NR, E-UTRA, UTRA, GSM/EDGE and NB-IoT Multi-Standard Radio (MSR) base station equipment operating in frequency bands below 6 GHz (hereafter referred to as “the equipment”).<sup>1</sup>

## 2. OPERATING FREQUENCIES

The equipment shall operate in the following frequency bands:

<b>Band Arrangement</b>	<b>Downlink (Base Station Transmit)</b>	<b>Uplink (Base Station Receive)</b>
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	

## 3. TECHNICAL REQUIREMENTS

3.1 The equipment shall meet the technical requirements stipulated in the specification TS 37.141 titled “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; NR, E-UTRA, UTRA and GSM/EDGE; Multi-Standard Radio (MSR) Base Station (BS) conformance testing” published by the Third Generation Partnership Project (3GPP) in respect of the following:

### (a) Transmitter

<i>Item</i>	<i>Transmitter Characteristics</i>	<i>Relevant Clause in 3GPP TS 37.141</i>
(i)	Base Station maximum output power	Clause 6.2.1
(ii)	Transmitter spurious emissions	Clause 6.6.1 excluding sub-clause 6.6.1.5.6 on co-location with other base stations
(iii)	Operating band unwanted emissions	Clause 6.6.2 excluding sub-clause 6.6.2.5.4 on test requirements for additional requirements

#### <sup>1</sup> Abbreviations:

EDGE	Enhanced Data rates for GSM Evolution
E-UTRA	Evolved UTRA
GSM	Global System for Mobile communications
NB-IoT	Narrowband - Internet of Things
NR	New Radio
UTRA	Universal Terrestrial Radio Access

(iv)	Adjacent Channel Leakage Power Ratio	Clause 6.6.4
(v)	Transmitter intermodulation	Clause 6.7 excluding sub-clause 6.7.5.4 on additional test requirements for Band 41

(b) Receiver

<i>Item</i>	<i>Receiver Characteristics</i>	<i>Relevant Clause in 3GPP TS 37.141</i>
(i)	Reference sensitivity level	Clause 7.2
(ii)	In-band selectivity and blocking	Clause 7.4
(iii)	Out-of-band blocking	Clause 7.5 excluding sub-clause 7.5.5.2 on co-location test requirements
(iv)	Receiver spurious emissions	Clause 7.6
(v)	Receiver intermodulation	Clause 7.7

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.

3.3 In case that the equipment is capable of being configured for operation at a single standard (i.e. NR, E-UTRA, UTRA or GSM/EDGE), it shall comply with the HKCA specification or type acceptance criteria relevant to the concerned standard or the respective single standard requirements stipulated in 3GPP TS 37.141.

**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**

TS 37.104 titled “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; NR, E-UTRA, UTRA and GSM/EDGE; Multi-Standard Radio (MSR) Base Station (BS) radio transmission and reception” published by 3GPP

TS 37.141 titled “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; NR, E-UTRA, UTRA and GSM/EDGE; Multi-Standard Radio (MSR) Base Station (BS) conformance testing” published by 3GPP

- END -