Annex to SSAC Paper 2/2024

HKCA 1065
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PERFORMANCE SPECIFICATION

FOR MULTI-STANDARD RADIO (MSR)

BASE STATION

通訊事務管理局
COMMUNICATIONS AUTHORITY

FOREWORD

1. This specification is prescribed under section 32D of the Telecommunications Ordinance (Cap 106) ("the Ordinance") to set out the technical and evaluation requirements for New Radio (NR), Evolved Universal Terrestrial Radio Access (E-UTRA), Universal Terrestrial Radio Access (UTRA), ~~and~~ Global System for Mobile communications (GSM) and NarrowBand - Internet of Things (NB-IoT) Multi-Standard Radio (MSR) Base Station (BS). ~~It is a condition of the licence for public mobile radiocommunications services that radio apparatus~~Equipment falling into the scope of this specification shall meet the stipulated requirements.

2. Under the Ordinance, the possession or use of any radiocommunications apparatus or any apparatus emitting radio frequency energy must be covered by an appropriate licence issued by the Communications Authority (CA) with the exception of those specifically exempted from licensing under the Ordinance, such as those covered by the Telecommunications (Telecommunications Apparatus) (Exemption from Licensing) Order (Cap 106Z).

3. At present, the Office of the Communications Authority (OFCA) operates a **H**ong **K**ong **T**elecommunications Equipment **E**valuation and **C**ertification (HKTEC) Scheme. Details of the HKTEC Scheme can be found in the information note OFCA I 421. Under the HKTEC Scheme, suppliers or manufacturers ~~of the radiocommunications apparatus~~ shall apply for certification of their apparatus against this specification. The application procedures for certification of radiocommunications apparatus can be found in the information note OFCA I 401.

4. The CA may amend any part of this specification as and when it deems necessary.

5. In case of doubt about the interpretation of this specification, the methods of carrying out the test and the validity of statements made by the equipment manufacturers or suppliers about the equipment, the decision of the CA shall be final.

6. The HKCA specifications and information notes issued by the CA can be downloaded from OFCA's website at http://www.ofca.gov.hk. Enquiries about this specification may be directed to -

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AMENDMENT TABLE

Item	Issue No.	~~Paragraph~~Clause	Description
1.	Issue 1 June 2013	All	First Release
2.	Issue 2 November 2015	~~Paragraph~~ 2	Addition of the unpaired band in 2300 – 2390 MHz for MSR base station.
3.	Issue 3 September 2017	~~Paragraph~~ 3	Modified clause 3.2 on the requirement for MSR base station capable of being configured for operation at a single standard (i.e. E-UTRA, UTRA or GSM).
4.	Issue 4 January 2024	Foreword and 1	Extended the scope to cover MSR base station supporting NR in addition to the E-UTRA, UTRA and GSM standards. MSR base station supporting NB-IoT is included in the scope for clarity.
		2	Added the paired bands 703 – 738 MHz/758 – 793 MHz and 825 – 837.5 MHz/870 – 882.5 MHz, and the unpaired bands 3300 – 3400 MHz and 3400 – 3600 MHz.
		3.1 and 5	Added the relevant 3GPP TS standards, and updated the titles of ETSI EN standards under reference.
		3.2	Modified with the requirement on unwanted emissions in the 3700 – 4200 MHz band.

CONTENT

1. SCOPE

2. OPERATING FREQUENCIES

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4. EVALUATION REQUIREMENTS

5. REFERENCE

1. SCOPE

This specification sets out the minimum performance requirements for New Radio (NR), Evolved Universal Terrestrial Radio Access (E-UTRA), Universal Terrestrial Radio Access (UTRA), and Global System for Mobile communications (GSM) and NarrowBand - Internet of Things (NB-IoT) Multi-Standard Radio (MSR) Base Station (BS) Equipment (hereafter referred to as "the equipment").

2. OPERATING FREQUENCIES

The frequency bands for the equipment are as follows –

	BS Receive	BS Transmit
Paired Bands	703 – 738 MHz	758 – 793 MHz
	825 – 837.5 MHz	870 – 882.5 MHz
	880 – 915 MHz	925 – 960 MHz
	1710 – 1785 MHz	1805 – 1880 MHz
	1920 – 1980 MHz	2110 – 2170 MHz
	2500 – 2570 MHz	2620 – 2690 MHz
Unpaired Band	2300 – 2390 MHz	
	3300 – 3400 MHz	
	3400 – 3600 MHz	

3. TECHNICAL REQUIREMENTS

3.1 The equipment shall meet the technical requirements specified in all relevant standards published by the European Telecommunications Standards Institute (ETSI) as given in subparagraphssubclause (a) toor (b) below –

(a) Standards published by the European Telecommunications Standards Institute (ETSI):EN 301 908-1 "IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 1: Introduction and common requirements"

(i) ETSI EN 301 908-1 "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 1: Introduction and common requirements"

(ii) ETSI EN 301 908-18 "IMT cellular networks; Harmonised Standard for access to radio spectrum; Part 18: E-UTRA, UTRA and GSM/EDGE Multi-Standard Radio (MSR) Base Station (BS)"

(b) ~~EN 301 908-18 "IMT cellular networks; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 18: E-UTRA, UTRA and GSM/EDGE Multi-Standard Radio (MSR) Base Station (BS)".~~Standard published by the 3rd Generation Partnership Project (3GPP) (excluding test items that are not covered in the ETSI standards in subclause (a) above):

3GPP TS 37.141 "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"

3.2 ~~In case that the MSR base station is capable of being configured for operation at a single standard (i.e. E-UTRA, UTRA or GSM), it shall comply with the HKCA performance specification relevant to the concerned standard or the respective single standard requirements stipulated in EN 301 908-18.~~For equipment operating in the 3400 – 3600 MHz band, any unwanted emissions in the 3700 – 4200 MHz band shall not exceed -52 dBm/MHz.

4. EVALUATION REQUIREMENTS

The equipment shall comply with the operating frequencies and technical requirements as specified in clauses 2 and 3 respectively. Compliance with the technical requirements shall be evaluated in accordance with the procedures specified in the respective ~~ETSI~~ standards as given in clause 3.

5. REFERENCE

(a) ETSI EN 301 908-1 "IMT cellular networks; Harmonised Standard ~~covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 1: Introduction and common requirements~~for access to radio spectrum; Part 1: Introduction and common requirements" ~~or later versions published by the ETSI~~

(b) ETSI EN 301 908-18 "IMT cellular networks; Harmonised Standard ~~covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 18: E-UTRA, UTRA and GSM/EDGE Multi-Standard Radio (MSR) Base Station (BS)~~for access to radio spectrum; Part 18: E-UTRA, UTRA and GSM/EDGE Multi-Standard Radio (MSR) Base Station (BS)" ~~or later versions published by the ETSI~~

(c) 3GPP TS 37.104 "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"

(d) 3GPP TS 37.141 "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"

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