

Annex 1 to SSAC Paper 3/2026

~~HKTA~~HKCA 1049
ISSUE ~~4~~2
~~April 2005~~JANUARY
2026

PERFORMANCE SPECIFICATION FOR RADIO FREQUENCY IDENTIFICATION (RFID) EQUIPMENT OPERATING IN THE 865 – 868 MHz AND/OR 920 – 925 MHz BANDS

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 Radio Frequency Identification (RFID) equipment operating in the 865 – 868 MHz and/or 920 – 925 MHz bands in Hong Kong. Radiocommunications apparatus falling into the scope of this specification, ~~unless covered by other application-specific 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 Telecommunications Communications Authority (TACA) 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 Telecommunications Communications Authority (OFTAOFCA) operates a Hong Kong Telecommunications Equipment Evaluation and Certification (HKTEC) Scheme. Details of the HKTEC Scheme can be found in the information note OFTAOFCA I 421. Under the HKTEC Scheme, suppliers or manufacturers ~~of the radiocommunications apparatus~~ may apply ~~to OFTA~~ for certification of their apparatus against this specification. The application procedures for certification of radiocommunications apparatus can be found in the information note OFTAOFCA I 401. ~~A prescribed label may be affixed to the equipment which has been certified by the TA. Details of the labelling arrangement can be found in the Standardisation Guide HKTA 3211.~~
- ~~4. RFID equipment is required to operate on a “no-interference no-protection” basis, i.e. they may not cause radio interference and cannot claim protection from interference. Manufacturers or suppliers of RFID equipment are advised to consider the potentiality of interference due to the shared use of the frequencies.~~
- ~~5. The TA reserves the right to give separate certification to models he considers to be technical variants and the performance of which may differ between models.~~
- ~~64. The TACA~~ may amend any part of this specification as and when heit deems necessary.
- ~~75. 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 equipmentapparatus, the decision of the TACA shall be final.
- ~~86. The HKTAHKCA~~ specifications and information notes ~~are~~ issued by the TA. ~~The documents can be obtained through one of the following methods :- CA can be downloaded from OFCA’s website at https://www.ofca.gov.hk. Enquiries about this specification may be directed to -~~
 - ~~• downloading direct through the OFTA’s Internet Home Page. The Home Page address is http://www.ofca.gov.hk;~~
 - ~~• making a request for hard copies to:-~~

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6. ~~Enquiries about this specification may be directed to~~

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AMENDMENT TABLE

<u>Item</u>	<u>Issue No.</u>	<u>Clause</u>	<u>Description</u>
<u>1.</u>	<u>Issue 1</u> <u>April 2005</u>	<u>All</u>	<u>First Release</u>
<u>2.</u>	<u>Issue 2</u> <u>January 2026</u>	<u>=</u>	<u>Removed the clause on electrical safety requirements</u>
		<u>=</u>	<u>Removed the clause on radiation protection</u>
		<u>2</u>	<u>Updated the titles of standards under reference and supplemented the technical requirements</u>
		<u>3</u>	<u>Added the clause on evaluation requirements</u>
		<u>4</u>	<u>Added the clause on reference</u>

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1. ~~SCOPE OF SPECIFICATION~~

This specification ~~defines the minimum performance~~ sets out the technical and ~~evaluation~~ requirements for Radio Frequency Identification (RFID) equipment operating in the 865 – 868 MHz and/or 920 – 925 MHz bands ~~(hereafter referred to as “the equipment”)~~.

2. ~~ELECTRICAL SAFETY~~

~~The equipment shall comply with the electrical safety requirements set out in HKTA 2001 "Compliance Test Specification Safety and Electrical Protection Requirements for Subscriber Equipment Connected to the Public Telecommunications Networks in Hong Kong" issued by the Telecommunications Authority (TA).~~

3. ~~RADIATION PROTECTION~~

3.1 ~~The RFID equipment shall comply with the exposure limits specified in:-~~

~~EN 50364 “Limitation of human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz to 10 GHz, used in Electronic Article Surveillance (EAS), Radio Frequency Identification (RFID) and similar applications” issued by European Committee for Electrotechnical Standardization (CENELEC)~~

~~or~~

~~ANSI/IEEE C95.1 “IEEE Standard for Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz” issued by American National Standards Institute (ANSI) / Institute of Electrical and Electronics Engineers (IEEE)~~

~~or~~

~~“Guidelines for Limiting Exposure to Time Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz)” issued by International Commission on Non-Ionizing Radiation Protection (ICNIRP)~~

3.2 ~~Reference Test Method~~

~~To demonstrate the compliance with the exposure limits, assessment method should be made reference to:-~~

~~EN 50357 “Evaluation of human exposure to electromagnetic fields from devices used in Electronic Article Surveillance (EAS), Radio Frequency Identification (RFID) and similar applications” issued by European Committee for Electrotechnical Standardization (CENELEC)~~

~~or~~

~~ANSI/IEEE C95.3 “IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave” issued by American National Standards Institute (ANSI) / Institute of Electrical and Electronics Engineers (IEEE)~~

~~or~~

~~other measurement methods issued by relevant organisations which are acceptable to the TA.~~

~~4. OPERATING FREQUENCIES~~

~~The equipment shall operate in the frequency bands 865 – 868 MHz and/or 920 – 925 MHz.~~

5.2. TECHNICAL REQUIREMENTS

5.2.1 OPERATION IN THE 865 – 868 MHz BAND

a) ~~The equipment shall comply with the technical requirements specified in the standard ETSI EN 302 208 “Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W and in the band 915 MHz to 921 MHz with power levels up to 4 W; Harmonised Standard for access to radio spectrum” published by the European Telecommunications Standards Institute (ETSI). In the 865 – 868 MHz band, the equipment shall operate on channels of 200 kHz spacing. The channel centre frequencies are 864.9 MHz + (0.2 MHz * channel number) and the available channel numbers for each sub-band (a1, a2 and a3) are:~~

~~a1: channel numbers 1 to 15~~

~~a2: channel numbers 4 to 15~~

~~a3: channel numbers 4 to 13~~

b) ~~The peak output power of the equipment shall not exceed the levels indicated below:~~ 2 W effective radiated power (e.r.p.).

<u>Operating Band</u>	<u>Power Level</u>
a1 – 865 – 868 MHz	0.1 W (e.r.p.)
a2 – 865.6 – 868 MHz	0.5 W (e.r.p.)
a3 – 865.6 – 867.6 MHz	2 W (e.r.p.)

~~c) The equipment shall operate in the frequency band 865 – 868 MHz and meet the technical requirement according to European Telecommunications Standards Institute (ETSI) Standard EN 302 208-2 “Electromagnetic compatibility and Radio Spectrum Matters (ERM); Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power level up to 2 W; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive”;~~

dc) The power of any spurious emission shall not exceed the corresponding frequency band indicated below:

Operating Band	Spurious Emission Level
47 – 74 MHz 87.5 – 118 MHz 174 – 230 MHz 470 – 862 MHz	e.r.p. not to exceed 4 nW
Other frequencies below 1000 MHz	e.r.p. not to exceed 250 nW
Frequency above 1000 MHz	e.r.p. not to exceed 1 µW

52.2 OPERATION IN THE 920 – 925 MHz BAND

- a) The equipment shall ~~operate in the frequency band 920 – 925 MHz and meet~~comply with the technical requirements according to specified in Title 47 of the Code of Federal Regulations (USA); Title 47 Telecommunication; Chapter 1 Federal Communications Commission, Part 15-Radio Frequency Devices; Section 15.247; (47 CFR 15.247) of the United States, except those set out in this specification.
- b) The equipment shall use frequency hopping spread spectrum modulation.
- c) The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz; The equipment shall use at least 10 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 4 second period.
- d) The peak transmitter power shall not exceed 1 W and the equivalent isotropically radiated power ~~(EIRP)~~(e.i.r.p.) from the equipment shall not exceed 4 W.
- ~~e) If transmitting antenna of directional gain greater than 6 dBi are used, the peak transmit power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi;~~
- ~~f)~~ The spurious emission level of the equipment shall not exceed 10 µW e.r.p. outside the frequency band in which the fundamental frequencies are located.

3. EVALUATION REQUIREMENTS

Compliance of the equipment with the technical requirements shall be evaluated in accordance with the procedures specified in the respective standards given in clauses 2.1(a) and 2.2(a) above.

4. REFERENCE

- (a) ETSI EN 302 208 “Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W and in the band

915 MHz to 921 MHz with power levels up to 4 W; Harmonised Standard for access to radio spectrum”

(b) Title 47 of the Code of Federal Regulations, Part 15, Section 247 (47 CFR 15.247) of the United States

- END -