HKTA 1051
ISSUE 2
May 2010

PERFORMANCE SPECIFICATION FOR

RADIO FREQUENCY IDENTIFICATION (RFID)

TAG OPERATING IN THE

433 MHz BAND

TELECOMMUNICATIONS AUTHORITY
HONG KONG

FOREWORD

1. This specification is prescribed under section 32D of the Telecommunications Ordinance (Cap 106) ("the Ordinance") to set out the technical requirements for Radio Frequency Identification (RFID) tag operating in the 433 MHz band 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 Authority (TA) 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.

3. At present, the Office of the Telecommunications Authority (OFTA) 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 OFTA I 421. Under the Scheme, suppliers or manufacturers of the radiocommunications apparatus may apply for certification of their apparatus against this specification. The application procedures for certification of radiocommunications apparatus can be found in the information note OFTA I 401. A prescribed label may be affixed to the certified equipment. Details of the labelling arrangement can be found in the Standardisation Guide HKTA 3211.

4. The TA may amend any part of this specification as and when he 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 TA shall be final.

6. The HKTA specifications and information notes issued by the TA can be downloaded from OFTA's website at http://www.ofta.gov.hk. Enquiries about this specification may be directed to:

Senior Telecommunications Engineer,
Standards Section,
Office of the Telecommunications Authority,
29/F Wu Chung House,
213 Queen's Road East, Wanchai, Hong Kong.

Fax : +852 2838 5004
Email : standards@ofta.gov.hk

AMENDMENT TABLE

Item	Issue No.	Paragraph	Descriptions
1.	Issue 2 May 2010	Body	The specification is split into two specifications. After splitting, HKTA 1051 will be for RFID tag, and HKTA 1055 will be for RFID interrogator.

CONTENTS

1. SCOPE OF SPECIFICATION

This specification defines the minimum performance requirements for Radio Frequency Identification (RFID) tag operating in the 433 MHz band.

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 Telecommunications Equipment" issued by the Telecommunications Authority (TA).

3. RADIATION PROTECTION

3.1 The 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 at 433.92 MHz centered frequency.

5. TECHNICAL REQUIREMENTS

(a) Peak output level: 2.2 mW erp

(b) Spurious limits: 2.5 μW erp

(c) The equipment shall meet the technical requirements of the standard below:

ISO/IEC 18000-7 “Information Technology – Radio frequency identification for item management - Part 7: Parameters for active air interface communications at 433 MHz”

(d) The test method for the equipment shall meet the requirements of (i), (ii) or (iii) below:

(i) ISO/IEC TR 18047-7 “Information Technology – Radio frequency identification device conformance test methods – Part 7: Test methods for active air interface communications at 433 MHz”

(ii) ETSI EN 300 220-1 “Electromagnetic compatibility and Radio spectrum Matters (ERM);Short Range Devices (SRD);Radio equipment to be used in the 25 MHz to 1 000 MHz frequency range with power levels ranging up to 500 mW;Part 1: Technical characteristics and test methods”

(iii) Code of Federal Regulations (USA); Title 47 Telecommunciation; Chapter 1 Federal Communications Commission, Part 15 Radio Frequency Devices; Section 15.231

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