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**PERFORMANCE SPECIFICATION**  
**FOR RADIO EQUIPMENT OPERATING IN**  
**THE 5 GHz BAND FOR WIRELESS ACCESS**



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 and evaluation requirements for radio equipment operating in the 5GHz frequency band for wireless access to public telecommunications services. Radiocommunications apparatus 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 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 Hong Kong Telecommunications Equipment Evaluation and Certification (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 shall 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 OFTA I 401.
4. 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.
5. The TA may amend any part of this specification as and when he deems necessary.
6. 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.
7. The HKTA specifications and information notes are issued by the TA. The documents can be obtained through one of the following methods —
  - downloading direct through the OFTA's Internet Home Page. The Home Page address is <http://www.ofta.gov.hk>;
  - making a request for hard copies to :-

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

Fax: +852 2343 5824  
Email: radiolab@ofta.gov.hk

8. Enquiries about this specification may be directed to —

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

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## AMENDMENT TABLE

Item	Issue No.	Paragraph	Descriptions
1.	Issue 2 February 2003	Foreword	Editorial changes.

## **CONTENTS**

### 1. GENERAL

- 1.1 Scope of Specification
- 1.2 Antenna Requirements
- 1.3 Electrical Safety Requirements

### 2. TECHNICAL AND EVALUATION REQUIREMENTS

## **1. GENERAL**

### **1.1 SCOPE OF SPECIFICATION**

This specification sets out the minimum performance requirements for radio equipment operating in the 5 GHz band for wireless access to public telecommunications services.

### **1.2 ANTENNA REQUIREMENTS**

The manufacturer shall declare whether an integral antenna or an external antenna will be used for operation of the equipment. In the case where an external antenna is used, the maximum antenna gain relative to an isotropic antenna shall be stated. The equipment shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the equipment.

### **1.3 ELECTRICAL SAFETY REQUIREMENTS**

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).

## **2. TECHNICAL AND EVALUATION REQUIREMENTS**

2.1 The equipment shall meet the following requirements:

(a) The equipment shall operate in one or both of the following frequency ranges:

- (i) 5.725 – 5.825 GHz ;
- (ii) 5.850 – 5.950 GHz

(b) The equipment shall meet the following power limits:

- (i) The peak transmit power shall not exceed 1 W or  $17\text{dBm} + 10\log_{10}B$ , whichever power is less, where B is the 26 dB emission bandwidth in MHz;
- (ii) The power spectral density shall not exceed 17 dBm in any 1 MHz band;
- (iii) If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi;
- (iv) All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an equivalent isotropically radiated power (EIRP) of  $-17\text{ dBm/MHz}$ . For frequencies 10 MHz or

greater above or below the band edge, emissions shall not exceed an EIRP of  $-27$  dBm/MHz; and

(c) The equipment shall use digital modulation.

2.2 Compliance of equipment with the requirements in 2.1 above shall be based on -

Code of Federal Regulations (USA); Title 47 Telecommunication; Chapter 1 Federal Communications Commission, Part 15 Radio Frequency Devices; Subpart E – Unlicensed National Information Infrastructure Devices, as of September 2000.

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