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**PERFORMANCE SPECIFICATION  
FOR GLOBAL SYSTEM FOR MOBILE  
COMMUNICATIONS – RAILWAY (GSM-R)  
RADIOCOMMUNICATIONS EQUIPMENT**



## FOREWORD

1. This specification is prescribed under section 32D of the Telecommunications Ordinance (Cap 106) (“the Ordinance”) to set out the minimum performance requirements for Global System for Mobile communications – Railway (GSM-R) radiocommunications equipment. It is a condition of the licence for the relevant services that radio 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 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.
3. At present, the Office of the Communications Authority (OFCA) operates a Hong Kong Telecommunications Equipment Evaluation and Certification (HKTEC) Scheme. Details of the HKTEC Scheme can be found in the information note OFCA I 421. Under the 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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Standards Section  
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## AMENDMENT TABLE

Item	Issue No.	Paragraph	Description
1.	Issue 1 February 2013	All	First Release

## **CONTENT**

1. SCOPE
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## 1. SCOPE

This specification sets out the minimum performance requirements for GSM-R radiocommunications equipment operating in the frequency bands 885 - 889 MHz and 930 - 934 MHz.

## 2. OPERATING FREQUENCIES

The frequency bands for the equipment are as follows -

Downlink	Uplink
930 - 934 MHz	885 - 889 MHz

## 3. TECHNICAL REQUIREMENTS

### 3.1 Base Station Equipment

3.1.1 The equipment shall meet the technical requirements as specified in any of the following standards published by the European Telecommunications Standards Institute (ETSI) –

- (a) EN 301 502 V8.1.2 “Harmonized EN for Global System for Mobile communications (GSM); Base Station and Repeater equipment covering essential requirements under article 3.2 of the R&TTE directive”; or
- (b) EN 301 502 V9.2.1 “Global System for Mobile communications (GSM); Harmonized EN for Base Station Equipment covering the essential requirements of article 3.2 of the R&TTE Directive”, or later versions.

### 3.2 Repeater Equipment

3.2.1 The equipment shall meet the technical requirements as specified in any of the following standards published by the ETSI –

- (a) EN 301 502 V8.1.2 “Harmonized EN for Global System for Mobile communications (GSM); Base Station and Repeater equipment covering essential requirements under article 3.2 of the R&TTE directive”; or
- (b) EN 300 609-4 V9.2.1 “Global System for Mobile communications (GSM); Part 4: Harmonized EN for GSM Repeaters covering the essential requirements of article 3.2 of the R&TTE Directive”, or later versions.

### 3.3 Mobile Station or Portable Equipment

- 3.3.1 (a) The equipment shall meet the safety requirements as specified in HKCA 2001 “Compliance Test Specification – Safety and Electrical Protection Requirements for Subscriber Telecommunications Equipment” issued by the CA; and
- (b) the equipment shall meet the technical requirements as specified in the standard EN 301 511 V9.0.2 “Global System for Mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC)”, or later versions, published by the ETSI; or
- (c) (i) the equipment shall meet the enclosure port emission requirements as specified in the standard EN 50121-3-2:2000 “Railway applications – Electromagnetic compatibility – Part 3-2 Rolling stock – Apparatus”, or later versions, published by the European Committee for Electrotechnical Standardization (CENELEC); and
- (ii) the GSM module of the equipment shall meet the technical requirements as specified in the standard EN 301 511 V9.0.2 “Global System for Mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC)”, or later versions, published by the ETSI.

## 4. **EVALUATION REQUIREMENTS**

The equipment shall comply with the operating frequencies and technical requirements prescribed in paragraphs 2 and 3 respectively. Compliance of the equipment with the technical requirements shall be evaluated in accordance with the procedures specified in the respective ETSI or CENELEC standards or HKCA specification specified in paragraph 3.

## 5. **REFERENCE**

- (a) EN 301 502 V8.1.2 “Harmonized EN for Global System for Mobile communications (GSM); Base Station and Repeater equipment covering essential requirements under article 3.2 of the R&TTE directive” published by the ETSI
- (b) EN 301 502 V9.2.1 “Global System for Mobile communications (GSM); Harmonized EN for Base Station Equipment covering the essential requirements of article 3.2 of the R&TTE Directive”, or later versions, published by the ETSI

- (c) EN 300 609-4 V9.2.1 “Global System for Mobile communications (GSM); Part 4: Harmonized EN for GSM Repeaters covering the essential requirements of article 3.2 of the R&TTE Directive”, or later versions, published by the ETSI
- (d) EN 301 511 V9.0.2 “Global System for Mobile communications (GSM); Harmonized EN for mobile stations in the GSM 900 and GSM 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC) , or later versions, published by the ETSI
- (e) EN 50121-3-2:2000 Railway applications – Electromagnetic compatibility – Part 3-2: Rolling stock – Apparatus, or later versions, published by the CENELEC
- (f) HKCA 2001 “Compliance Test Specification – Safety and Electrical Protection Requirements for Subscriber Telecommunications Equipment” issued by the CA

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