

UK Interface Requirement 2064

Business Radio – GSM-R

Publication date: Oct 2006
Version: 1.1
98/34/EC Notification number: 2006/317/UK

Contents

Section		Page
1	References	3
2	Foreword	4
3	Minimum requirements for operation within the UK	5
4	Additional performance parameters	8
5	Contact details	9
6	Document history	10

Section 1

References

- 1.1 EN 301 502 – Harmonized EN for Global Systems for Mobile communications (GSM); Base Station and repeater equipment covering essential requirements under article 3.2 of the R&TTE directive.
- 1.2 EN301 419-7 for GSM-R Global system for Mobile communications; Harmonized standard for mobile stations in the GSM-R 900 MHz band. Covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC).
- 1.3 En 300 086 for Direct Mode Operation (DMO)
- 1.4 ERC/DEC(02)10 on exemption from individual licensing of GSM-R mobile terminals operating within frequency bands 876-880 MHz and 921-925 MHz for railway purposes.
- 1.5 Note 1 – These references are included for information purposes only. Compliance with these referenced standards is not mandatory.
- 1.6 Note 2 – Documents listed above are not produced by Ofcom, therefore interested parties should source the documentation by their own means. For information;
 - The ETSI website for technical standard documentation is located at <http://www.etsi.org>
 - The ERO website for technical regulatory documentation including ERC Reports is located at <http://www.ero.dk>
- 1.7 Note 3 – Ofcom is not responsible for the content of external internet sites.

Section 2

Foreword

- 2.1 The Radio Equipment and Telecommunications Terminal Equipment Directive 99/5/EC (R&TTE Directive) was implemented in the United Kingdom (UK) on the 8 April 2000 by The Radio Equipment and Telecommunications Terminal Equipment Regulations 2000, Statutory Instrument 2000 No. 730. In accordance with Articles 4.1 and 7.2 of Directive 1999/5/EC, this UK Interface Requirement contains the requirements for the licensing and use of GSM-R for Railways in the specified frequency bands.
- 2.2 Nothing in this UK Radio Interface Requirement shall preclude the need for equipment to comply with Directive 1999/5/EC.
- 2.3 It is required by the Wireless Telegraphy Act 2006 that no radio equipment is installed or used in the UK except under the authority of a licence granted by or otherwise exempted by regulations made by Ofcom. It is a condition of such a licence or exemption regulations as appropriate that, in order to be installed or used in the UK, the equipment must meet the minimum requirements specified in this UK Interface Requirement for the stated equipment types and for the stated frequency bands. Nothing in this UK Interface Requirement shall preclude equipment from being placed on the market in the UK that complies with the 'essential requirements' specified in Directive 1999/5/EC.
- 2.4 The requirements given in the main body of this UK Radio Interface Requirement will apply to the licensing of GSM-R for Railways.
- 2.5 This UK Radio Interface Requirement will be revised as necessary, for example to follow:
 - i) current technology developments for reasons related to the effective and appropriate use of the spectrum in particular maximising spectrum utilisation;
 - ii) changes to the available spectrum allocated for GSM-R for Railways.
- 2.6 All UK Radio Interface Requirements notified under Directive 1998/34/EC will be published and will be made available free of charge from the Ofcom web-site at http://www.ofcom.org.uk/radiocomms/ifi/tech/interface_req/.
- 2.7 Further information on this UK Radio Interface Requirement can be obtained from the technical enquiry contact given at the back of this document.

Section 3

Minimum requirements for operation within the UK

- 3.1 The minimum requirements in this document are made for reasons related to the effective and appropriate use of the radio spectrum, in particular maximising spectrum utilisation.
- 3.2 This UK Radio Interface Requirement gives a high level description of how the spectrum in the UK is used for GSM-R for Railways. It does not prescribe technical interpretation of the 'essential requirements' of Directive 1999/5/EC.
- 3.3 This UK Radio Interface Requirement therefore stipulates the necessary equipment parameters for the licensing of GSM-R for Railways in the UK. Tables 3.1 and 3.2 contain the relevant equipment parameters. These taken together with the 'essential requirements' detailed in Article 3.2 of Directive 1999/5/EC constitute the minimum equipment requirements for GSM-R for Railways within the UK. Nothing in this UK Interface Requirement shall preclude equipment from being placed on the market in the UK that complies with the 'essential requirements' specified in Directive 1999/5/EC.
- 3.4 The technical parameters specified in the UK Radio Interface Requirement are applied to achieve the desired level of compatibility within the GSM-R for Railways and with other radiocommunications services, whilst promoting enterprise, innovation and competition.
- 3.5 This UK Radio Interface requirement provides the necessary technical information which facilitates access to the GSM-R spectrum by making clear the assumptions that are made in planning the use of the GSM-R spectrum in the UK. It is not the intention of this UK Radio Interface Requirement to duplicate or impose any additional 'essential requirements' of the Directive 1999/5/EC on products. Any specified parameters within this document are for the purpose of identifying product options and not as a national de facto product requirement.

Table 3.1: Minimum equipment requirements for mobile stations and repeaters operating in the 876-880MHz band

Mandatory (1-9)		
1	Frequency band (or bands)	876 to 880 MHz
2	Radio service	Mobile Service
3	Application	Railways
4	Channelling modulation	GMSK or 8-PSK 200kHz channel raster
5	Maximum transmit power limit	39 dBm Power class 2 37 dBm Power class 3 33 dBm Power class 4
6	Channel occupation rules	Time division multiple access (TDMA)
7	Duplex type/separation	Mobile station transmit Repeater transmit/receive Paired carriers 45 MHz above (Table 3.2)
8	Licensing Regime	Network user equipment meeting the Minimum requirements outlined in this Interface Requirement is exempt from Licensing provided that it meets the Requirements of the relevant exemption Regulations. WT Act Mobile Operator licence required for repeaters.
9	Additional essential requirements	-
Informative (10-13)		
10	Frequency planning assumptions	GSM-R
11	Reference	EN 301 502 and EN 301 419-7 for GSM-R, EN 300 086 for Direct Mode Operation (DMO)
12	Remarks	-
13	Notification Number	2006/317/UK

Table 3.2: Minimum requirements for base stations and repeaters operating in the 921-925 MHz band

Mandatory (1-9)		
1	Frequency band (or bands)	921-925 MHz
2	Radio service	Mobile Service
3	Application	Railways
4	Channelling modulation	GMSK or 8-PSK 200 kHz channel raster
5	Maximum transmit power limit	62 dBm
6	Channel occupation rules	Time division multiple access (TDMA)
7	Duplex type/separation	Base station transmit Repeater transmit/receive Paired carriers 45 MHz below (Table 3.1)
8	Licensing Regime	WT Act GSM-R Operator licence
9	Additional essential requirements	-
Informative (10-13)		
10	Frequency planning assumptions	GSM-R
11	Reference	EN 301 502 and EN 301 419-7 for GSM-R, EN 300 086
12	Remarks	Not all frequencies within this range are available for licensing Ofcom may impose additional restrictions on the maximum power used for specific frequencies and locations
13	Notification Number	2006/317/UK

Section 4

Additional performance parameters

(informative)

None specified

Section 5

Contact details

Ofcom, Riverside House, 2a Southwark Bridge Road, London, SE1 9HA

- Technical enquiries to Trevor Allison
- Tel: 020 7981 3084
- Fax: 020 7783 4303
- Email: business.radio@ofcom.org.uk
- Website: <http://www.ofcom.org.uk/radiocomms/>

Section 6

Document history

Version	Date	Changes
1.0	20 June 2006	First Published
1.1	02 October 2006	Final Text