

# UK Interface Requirement 2011

Analogue and digital cordless telephony service.

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## References

- I-ETS 300 131    European Technical Specification – Digital cordless telephone operating in the 864.1 – 868.1 MHz frequency band – published in July 1992.
- TBR 006         ETSI Technical Basis for Regulation – Digital European Cordless Telecommunication operating in the 1880 –1900 MHz band – published in December 1993.

## 1. Foreword

- 1.1 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 private business mobile radio systems in the PMR 446 frequency band.
- 1.2 Nothing in this UK Interface Requirement shall preclude the need for equipment to comply with Directive 1999/5/EC.
- 1.3 It is required by the Wireless Telegraphy Act 1949 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 the equipment must meet the minimum requirements specified in this UK Interface Requirement for the stated equipment types and for the stated frequency bands.
- 1.4 The requirements given in the main body of this UK Interface Requirement will apply to the use of licence exempt base and handheld cordless telephone equipment in the specified frequency ranges.
- 1.5 This UK 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; and
  - ii) changes to the available spectrum allocated for PMR 446 radio systems.
- 1.6 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 website at [www.ofcom.org.uk](http://www.ofcom.org.uk) .
- 1.7 Further information on this UK Interface Requirement can be obtained from the technical enquiry contact given on the back of this document.

## **2. Minimum equipment requirements for operation within the UK**

- 2.1 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.
- 2.2 This UK Interface Requirement gives a high level description of how the spectrum in the UK is used for cordless telephone equipment. It does not prescribe technical interpretation of the 'essential requirements' of Directive 1999/5/EC.
- 2.3 This UK Radio Interface Specification therefore stipulates the necessary equipment parameters for the licensing or license exemption of cordless telephone equipment in the UK. Tables 2.1 to 2.5 contain the relevant equipment parameters. These together with the 'essential requirement' detailed in Article 3.2 of Directive 1999/5/EC constitute the minimum equipment requirements for analogue cordless telephone equipment within the UK.
- 2.4 Cordless telephone 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. Details of the relevant exemption regulations are available from Ofcom on request.
- 2.5 Cordless telephone equipment, meeting the minimum requirements outlined in this interface requirement, is exempt from licensing provided that it is used for private self-provided communications. Details of the relevant SI which exempts this type of use from licensing is available from Ofcom on request. Certain types of cordless telephone equipment may be used to provide third party services providing a licence has been issued to cover that use. Details of the how to obtain a licence for this type of use, along with the restrictions that constrain it can be obtained from Ofcom, Riverside House, 2a Southwark Bridge Road, London SE1 9HA.
- 2.6 It is Ofcom's intention to withdraw certain frequencies available for analogue cordless telephony. As from January 1<sup>st</sup> 2005 it will not be permitted to establish cordless telephony of the type referred to as Type 1 (Table 2.1) Type 2 (Table 2.2) and Type 4 (Table 2.4) in this Interface Requirement. Equipment in service before that date may continue to operate.
- 2.7 Interface Requirements are applied to achieve the desired level of compatibility within the Cordless Telephony Service and with other radiocommunications services whilst promoting enterprise, innovation and competition.
- 2.8 This UK Interface Requirement provides the necessary technical information which facilitates access to the Cordless Telephony Service spectrum by making clear the assumptions that are made in planning the use of Cordless Telephony Service spectrum in the UK. It is not the intention of this UK 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 product requirement.

**Table 2.1: Minimum equipment requirements for CTO analogue cordless telephones**

Parameters	Base Unit	Portable Unit	Additional Technical Requirements
Licensing Requirement	Licence Exempt for private self provided communication.		<ol style="list-style-type: none"> <li>As from January 1st 2005 it will not be permitted to establish or install cordless telephony equipment operating on the frequencies identified in this table.</li> <li>The equipment shall provide for transmission and reception of frequency modulated emissions on not more than two pairs of radio frequencies( 2 channels) by manual means, or on one pair of frequencies (1 channel) by dynamic means.</li> <li>If the equipment is capable of operation on more than one pair of frequencies, the operating frequencies shall be selected by means of manual switches at the base and handset units. The transmit and receive frequencies shall not be separately selected.</li> <li>Alternatively, one channel pair from the eight available channel pairs may be selected by dynamic means.</li> </ol>
Available Frequencies. (Channel Number.)			
(1)	1642.00 kHz	47.45625 MHz	
(2)	1662.00 kHz	47.46875 MHz	
(3)	1682.00 kHz	47.48125 MHz	
(4)	1702.00 kHz	47.49375 MHz	
(5)	1722.00 kHz	47.50625 MHz	
(6)	1742.00 kHz	47.51875 MHz	
(7)	1762.00 kHz	47.53125 MHz or 47.44375 MHz <sup>1</sup>	
(8)	1782.00 kHz	47.54375 MHz	
Channel Spacing	20 kHz	12.5 kHz	
Modulation	Frequency	Frequency	
Maximum Permitted ERP	10 mW	10 mW	

<sup>1</sup> The frequency 47.44375 MHz may be used as an alternative to 47.53125 MHz where problems are experienced due to the 27th harmonic relationship between 1762 kHz and 47.53125 MHz.

**Table 2.2: Minimum equipment requirements for CTO (extended) analogue cordless telephone**

Parameters	Base Unit	Portable Unit	Additional Technical Requirements
Licensing Requirement	Licence Exempt for private self provided communication.		<ol style="list-style-type: none"> <li>As from January 1<sup>st</sup> 2005 it will not be permitted to establish or install cordless telephony equipment operating on the frequencies identified in this table.</li> <li>The equipment shall provide for transmission and reception of frequency modulated emission on only one of the listed pairs of radio frequencies.</li> </ol>
Available Frequencies. (Channel Number.)			
(1)	47.43125 MHz	77.5125 MHz	
(2)	47.41875 MHz	77.5500 MHz	
Channel Spacing	12.5 kHz	12.5 kHz	
Modulation	Frequency	Frequency	
Maximum Permitted ERP	100 mW	100 mW	

**Table 2.3: minimum equipment requirements for CT0 (current) analogue cordless telephone**

Parameters	Base Unit	Portable Unit	Additional Technical Requirements
Licensing Requirement	Licence Exempt for private self provided communication.		<ol style="list-style-type: none"> <li>1. The equipment shall not be capable of operating on more than one channel pair at any one time..</li> <li>2. The equipment shall provide for transmission and reception of frequency modulated emissions on all the channel pairs listed.</li> <li>3. The equipment shall be able to dynamically select a free channel pair at the start of a call. The equipment should be able to maintain the selected channel for the duration of the call or should be able to dynamically reselect a channel during a call, either automatically or by manual means. Manual reselection of specific channels is not permitted..</li> <li>4. Alternatively, one channel pair from the eight available channel pairs may be selected by dynamic means.</li> </ol>
Available Frequencies. (Channel Number.)			
(1)	31.0375 MHz	39.9375 MHz	
(2)	31.0625 MHz	39.9625 MHz	
(3)	31.0875 MHz	39.9875 MHz	
(4)	31.1125 MHz	40.0125 MHz	
(5)	31.1375 MHz	40.0375 MHz	
(6)	31.1625 MHz	40.0625 MHz	
(7)	31.1875 MHz	40.0875 MHz	
(8)	31.2125 MHz	40.1125 MHz	
Channel Spacing	25 kHz	25 kHz	
Modulation	Frequency	Frequency	
Maximum Permitted ERP	10 mW	10 mW	



**Table 2.4: Minimum Equipment Requirements for Cordless Telephony Equipment Operating in the Frequency Range 864.1-868.1 MHz (CT2).**

Parameters	Base Unit	Portable Unit	Additional Technical Requirements
Licensing Requirement	Licence Exempt for private self provided communication. Licence available for certain public access applications.		<ol style="list-style-type: none"> <li>As from January 1st 2005 it will not be permitted to establish or install cordless telephony equipment operating on the frequencies identified in this table.</li> <li>The equipment shall provide for transmission and reception of frequency modulated emissions on not more than two pairs of radio frequencies( 2 channels) by manual means, or on one pair of frequencies (1 channel) by dynamic means.</li> <li>The equipment shall provide for transmission and reception of frequency modulated emissions on the same frequency.</li> <li>The equipment shall provide 40 channels. The centre frequency of each will be 864.050 MHz + (0.100*n)MHz where n is the channel number between 1 and 40. The first channel shall lie at 864.150 MHz and the last channel (channel 40) shall lie at 868.050 MHz.</li> </ol>
Available Frequencies.	864.1 – 868.1 MHz	864.1 – 868.1 MHz	
Modulation	2 level frequency shift keying	2 level frequency shift keying	
Channel Spacing	100 kHz	100 kHz	
Channel Protocol	The equipment shall provide dynamic channel allocation of one of forty channels.		
Maximum Permitted ERP	10 mW	10 mW	

**Table 2.5: Minimum equipment requirements for cordless telephony equipment operating in the frequency range 1880-1900 MHz (DECT).**

Parameters	Base Unit	Portable Unit	Additional Technical Requirements
Licensing Requirement	Licence Exempt for private self provided communication. Licence available for certain public access applications		<ol style="list-style-type: none"> <li>All Digitally Enhanced Cordless Telephones (DECT) shall be able to operate on all 10 DECT RF channels.</li> <li>Carrier ( channel) frequency <math>F_c = F_o - c * 1728 \text{ kHz}</math> Where <math>F_o = 1897.344 \text{ MHz}</math> And <math>c = 0, 1, \dots, 9</math></li> <li>The equipment shall provide for transmission and reception of frequency modulated emissions on the same frequency.</li> </ol>
Available Frequencies.	1880 - 1900 MHz	1880 – 1900 MHz	
Modulation	Gaussian Minimum Shift Keying (GMSK)	Gaussian Minimum Shift Keying (GFSK)	
Access Technique	Time Division Multiple Access (TDMA)	Time Division Multiple Access (TDMA)	
Maximum Permitted ERP	<250mW	<250mW	

## **Annex A: additional performance parameters (informative)**

The following are included for information only and have no regulatory status:

- A.1** Table A.1 details the Reference specifications which contain additional performance parameters and limits that the Radiocommunications Agency assume are fulfilled by cordless telephones when planning and managing the radio spectrum in the UK.

**Table A.1: Reference Specifications for Cordless Telephony.**

<b>Equipment Type</b>	<b>Frequency Ranges</b>	<b>Reference Specification</b>
CT2	864.1 – 868.1 MHz	I-ETS 300 131
DECT	1880 – 1900 MHz	ETS 300 175 TBR 006

## Document History

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2.0	October 2004	Amended to Ofcom format



Technical enquiries to Mobile and Broadband team

Tel: 020 7981 3000

Fax: 020 7981 3333

Email: [Steve.Calf@ofcom.org.uk](mailto:Steve.Calf@ofcom.org.uk)

Website: <http://www.ofcom.org.uk>