

# UK Interface Requirement 2007

**Fixed Broadband Services operating in the 5725-5850 MHz band**

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## Section 1

# References

- 1.1 EN 301 489 Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 17; Specific conditions for Wideband data and HIPERLAN equipment
- 1.2 EN 302 502 Broadband Radio Access Networks (BRAN) 5,8 GHz fixed broadband data transmitting systems; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive
- 1.3 ECC Report 68 ECC Report of June 2005 on “Compatibility Studies in the Bands 5725 – 5875 MHz Between Fixed Wireless Access (FWA) Systems and Other Systems”
- 1.4 Draft ECC/REC/(06)04 Use of the Band 5725 – 5875 MHz for Broadband Fixed Wireless Access (BFWA)

## 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 use of Fixed Broadband Radio Systems operating in the 5725 - 5850 MHz band.
- 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 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, 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 use of Fixed Broadband Radio Systems operating in the 5725 - 5850 MHz band.
- 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; and
  - ii) changes to the available spectrum allocated for use of Fixed Broadband Radio Systems operating in the 5725 - 5850 MHz band.
- 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/](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 Fixed Broadband Radio Systems operating in the 5725 - 5850 MHz band. 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 use of Fixed Broadband Radio Systems operating in the 5725 - 5850 MHz band. Table 3.1 contains the relevant equipment parameters. These taken together with the 'essential requirements' detailed in Article 3.2 of Directive 1999/5/EC constitute the minimum requirements for use of Fixed Broadband Radio Systems operating in the 5725 - 5850 MHz band 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 Fixed Broadband Radio Systems operating in the 5725 - 5850 MHz band 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 spectrum allocated to Fixed Broadband Radio Systems operating in the 5725 - 5850 MHz band 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 requirements for the use of: - Fixed Broadband Radio Systems operating in the 5725 - 5850 MHz band (Band C)**

<b>Mandatory (1-9)</b>		
1	Frequency band	5725 MHz to 5850 MHz <sup>123</sup>
2	Radio service	Fixed
3	Application	Fixed Wireless Access
4	Channelling modulation	N/A
5	Maximum transmit power limit	Maximum mean e.i.r.p. of 4W Maximum mean e.i.r.p. density of 23dBm/MHz <sup>4</sup>
6	Channel occupation rules	N/A
7	Duplex type/separation	TDD
8	Licensing Regime	A licence is required
9	Additional essential requirements	N/A
<b>Informative (10-13)</b>		
10	Frequency planning assumptions	DFS and TPC is assumed to be implemented as specified in ETSI harmonised European standard EN 302 502
11	Reference	EN 302 502
12	Remarks	N/A
13	EU Notification Number	2006/422/UK

<sup>1</sup> Licences shall be issued on a non-protection and non-interference basis

<sup>2</sup> Co-ordination and site-clearance considerations may impose additional restrictions on the maximum radiated power allowed on specific frequencies, directions and locations.

<sup>3</sup> The frequency range 5795-5815 MHz shall not be used and should be notched out to protect RTTT devices

<sup>4</sup> The EIRP spectral density of the transmitter emissions should not exceed the following values for the elevation angle  $\theta$  (degrees) above the local horizontal plane (of the Earth):

- For sectorised (e.g. P-MP Central or Base Station) and Omni-directional deployments:
  - 7 dB(W/MHz) for  $0^\circ \leq \theta < 4^\circ$
  - 2.2 - (1.2\* $\theta$ ) dB(W/MHz) for  $4^\circ \leq \theta \leq 15^\circ$
  - 18.4 - (0.15\* $\theta$ ) dB(W/MHz) for  $\theta > 15^\circ$
- For P-MP Customer Terminal Station and P-P deployments:
  - 7 dB(W/MHz) for  $0^\circ \leq \theta < 8^\circ$
  - 2.68 -(0.54\* $\theta$ ) dB(W/MHz) for  $8^\circ \leq \theta < 32^\circ$
  - 20 dB(W/MHz) for  $32^\circ \leq \theta \leq 50^\circ$
  - 10 - (0.2\* $\theta$ ) dB(W/MHz) for  $\theta > 50^\circ$

Examples are provided in ECC Report 68 to demonstrate that these limits can comfortably be achieved using typical antenna radiation pattern envelopes.

## Section 4

# Contact details

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- Technical enquiries to Exempt Technology Team
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- Website: <http://www.ofcom.org.uk/radiocomms/>

## Section 5

# Document history

Version	Date	Changes
1.0	15 12 2000	First Publication
2.0	04 08 2006	Updated to be in-line with Draft ECC/REC/(06)04 and ETSI draft Harmonised Standard EN 302 502
3.0	30 May 2007	Updated to reflect publication of EN 302 502 in the OJEC