Decision to make the Wireless Telegraphy (Ultra-Wideband Equipment) (Exemption) Regulations 2009

Statement

Publication date: 21 September 2009

Contents

Section 1

Summary

1.1 This statement confirms that, following a formal consultation, the Wireless Telegraphy (Ultra-Wideband Equipment) (Exemption) Regulations 2009 (the "Regulations") were made by us on 16 September 2009, and are coming into force on 15 October 2009**.** The Regulations can be obtained through the Office of Public Sector Information (OPSI).[1]

1.2 The Regulations replace the existing technical parameters for the establishment, installation or use of Ultra-Wideband (UWB) equipment and enables new equipment to use UWB technology. For the purpose of this statement the word "use" in the context of UWB equipment also includes establishing or installing such equipment.

1.3 Specifically, the Regulations:

- revoke two previous sets of UWB regulations;[2]
- prescribe transmission limits for the use of UWB equipment in certain frequency bands where mitigation techniques are not being applied and the equipment is used either indoors, or other than indoors provided that it is not attached to a fixed installation, fixed infrastructure, fixed outdoor antenna, or an automotive vehicle or railway vehicle (the "general transmission limits");
- enable UWB equipment to be used at higher transmission limits than the general transmission limits prescribed, where appropriate mitigation techniques are applied;
- allow the use of UWB equipment in automotive and railway vehicles; and
- introduce limits to allow the use of Building Material Analysis (BMA) equipment.

1.4 The Regulations implement the European Commission Decision of 21 April 2009 (2009/343/EC)[3] (the "UWB Amendment Decision"). This Decision amends European Commission Decision 2007/131/EC (the "UWB Decision")[4] on allowing the use of radio spectrum for equipment using ultra-wideband technology in a harmonised manner in the Community. All Member States are required to implement the UWB Amendment Decision.

1.5 Before deciding to make the Regulations, in accordance with the requirements of section 122(4) of the Wireless Telegraphy Act 2006 (the "WT Act"), we published a Statutory Notice[5] (the "Notice") on 1 July 2009 containing a draft of the Regulations (the "Proposed Regulations") and invited comments from stakeholders.

[1] A link to the online version can be found at http://www.opsi.gov.uk/
[2] These are The Wireless Telegraphy (Ultra-Wideband Equipment)(Exemption) Regulations 2007/2084 and The Wireless Telegraphy (Ultra-Wideband Equipment)(Exemption)(Amendment) Regulations 2007/2440.
[3] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:105:0009:0013:EN:PDF
[4] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:055:0033:0036:EN:PDF
[5] http://www.ofcom.org.uk/consult/condocs/regs2009/regs2009condoc.pdf

1.6 We received four responses to our consultation. Having carefully considered the responses to the Notice we decided to proceed with making the Regulations. This statement confirms that we have made the Regulations which will come into force on 15 October 2009.

Section 2

Introduction

2.1 In February 2007 the European Commission adopted the UWB Decision. This harmonised across the European Union (EU) the technical conditions for UWB equipment in order to eliminate barriers to the uptake of UWB equipment. It created a single market that would allow manufacturers to benefit from economies of scale and allow consumers and citizens to benefit from new technologies and cheaper prices.

2.2 In the UK we implemented the UWB Decision by making the Wireless Telegraphy (Ultra-Wideband Equipment) (Exemption) Regulations 2007 (the "Previous Regulations")[6] and the Wireless Telegraphy (Ultra-Wideband Equipment) (Exemption) (Amendment) Regulations 2007 [7] which amended the Previous Regulations.

2.3 Since 2007 work has been carried out in the European Conference of Postal and Telecommunications Administrations (CEPT) and European Telecommunications standards Institute (ETSI) on the technical parameters associated with UWB. This led to the European Commission adopting the UWB Amendment Decision published on 21 April 2009.

Licence exemption requirements for UWB equipment

2.4 The Regulations implement the following changes to allow:

- transmission limits for the use of UWB equipment in certain frequency bands where mitigation techniques are not being applied and the equipment is used either indoors, or other than indoors provided that it is not attached to a fixed installation, fixed infrastructure, fixed outdoor antenna, or an automotive vehicle or railway vehicle (the "general transmission limits");

- increased the general transmission limits from those currently allowed in the 2.7 – 3.4 GHz and 3.4 – 3.8 GHz frequency bands for the use of UWB equipment;

- UWB equipment to be used at higher transmission limits than the general limits prescribed, provided that appropriate mitigation techniques are applied to achieve the same level of protection from interference. Low Duty Cycle (LDC) and Detect and Avoid (DAA) mitigation techniques are examples of such techniques which provide sufficient mitigation from interference when applied in certain frequency bands;

- the use of UWB equipment in automotive and railway vehicles; and

- the use of BMA equipment.

General limits

2.5 The "general" transmission limits are those which apply when UWB equipment is used without applying mitigation techniques, either indoors, or other than indoors provided that the equipment is not attached to a fixed installation, fixed infrastructure,

[6] http://www.opsi.gov.uk/si/si2007/pdf/uksi_20072084_en.pdf
[7] http://www.opsi.gov.uk/si/si2007/plain/uksi_20072440_en

fixed outdoor antenna, or an automotive vehicle or railway vehicle. Table 1 sets out the general transmission limits in relation to the use of UWB equipment.

Table 1: General UWB transmission limits

Frequency Range (GHz)	Maximum mean e.i.r.p. density (dBm/MHz)	Maximum peak e.i.r.p. density (dBm/50MHz)
Below 1.6	-90	-50
1.6 – 2.7	-85	-45
2.7 – 3.4	-70	-36
3.4 – 3.8	-80	-40
3.8 – 4.2	-70	-30
4.2 – 4.8	-41.3 (until 31st December 2010) -70.0 (beyond 31st December 2010)	0 (until 31st December 2010) -30.0 (beyond 31st December 2010)
4.8 – 6.0	-70	-30
6.0 – 8.5	-41.3	0
8.5 – 10.6	-65	-25
Above 10.6	-85	-45

2.6 In the 4.2 – 4.8 GHz band, until 31 December 2010 the permitted transmission limits are 41.3dBm/MHz (maximum mean e.i.r.p. density) and 0 dBm/ 50MHz (maximum peak e.i.r.p. density). After 31 December 2010, the exemption will be more restrictive and a lower emission level of -70.0dBm/MHz (maximum mean e.i.r.p. density) and -30.0 dBm/50 MHz (maximum peak e.i.r.p. density) will be permitted. We will amend the Regulations in 2010 to recognise the more restrictive emission levels that will apply from the end of 2010.

Mitigation techniques for general use

2.7 The UWB Decision enabled higher e.i.r.p. limits to be used in the 3.4 – 4.8 GHz frequency band providing that LDC mitigation was used. It also provided discretion for Member States to allow UWB equipment to be used with different transmission limits from those prescribed in the general limits, provided that appropriate mitigation techniques were applied to achieve an equivalent level of protection against interference. We chose not to include other appropriate mitigation techniques within the scope of the Previous Regulations on the basis that those techniques were still subject to further study.

2.8 The Regulations allow UWB equipment to be used at higher transmission limits than those prescribed in the general limits, where appropriate mitigation techniques are applied. Such techniques include those described in relevant harmonised standards adopted under Directive 1999/5/EC,[8] or other mitigation techniques, provided that they achieve at least an equivalent level of protection against interference as provided by the general limits. The harmonised standards specifically referred to in Recital 10 of the UWB Amendment Decision are those developed by the ETSI and

[8] Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity, Official Journal of the European Union, OJ L 91, 7.4.1999,p10..

include EN 302 065 (on general UWB equipment)[9]; EN 302 500 (on Location Tracking equipment)[10]; and EN 302 435 (on BMA equipment)[11].

2.9 The Regulations set out two mitigation techniques which are presumed to provide the required level of protection against interference in certain frequency bands.

2.10 In the 3.1 – 4.8 GHz frequency band a LDC mitigation technique is presumed to provide a level of protection that is at least equivalent to the general limits where transmissions have a maximum e.i.r.p. density of -41.3 dBm/MHz and a maximum peak e.i.r.p. of 0 dBm measured within a 50 MHz bandwidth; the sum of all transmitted signals is less than 5% of the time each second and less than 0.5% of the time each hour; and each transmitted signal does not exceed 5ms.

2.11 In the 3.1 – 4.8 GHz and 8.5 – 9.0 GHz frequency bands a DAA mitigation technique as described in the relevant harmonised standards,[12] adopted under Directive 1999/5/EC, is presumed to provide a level of protection that is at least equivalent to the general limits, where transmissions have a maximum mean e.i.r.p. density of -41.3 dBm/MHz and a maximum peak e.i.r.p. of 0 dBm measured within a 50 MHz bandwidth.

UWB equipment in Automotive and Railway vehicles and mitigation

2.12 In the UWB Decision the use of UWB equipment was not allowed if it was used in or attached to an automotive or railway vehicle. This was reflected in the Previous Regulations.

2.13 As discussed in paragraph 2.5 the Regulations do not generally allow UWB equipment to be used inside an automotive or railway vehicle. However they allow it under certain conditions. This reflects the fact that the UWB Amendment Decision now allows for the use of UWB equipment inside an automotive or railway vehicle, providing that:

- if operating at frequencies up to 4.2 GHz, or in the frequency band 4.8 GHz - 6.0 GHz, or at frequencies above 8.5 GHz, the transmission limits are the same as the general transmission limits; or

- if operating in the frequency bands 4.2 GHz - 4.8 GHz or 6.0 GHz - 8.5 GHz the equipment is used with a maximum mean e.i.r.p density no greater than -41.3 dBm/MHz, a maximum peak e.i.r.p. of 0 dBm measured within a 50 MHz bandwidth, and a Transmitter Power Control (TPC) range of at least 12 dB is applied. If TPC is not applied then the maximum mean e.i.r.p. density allowed will be -53.3 dBm/MHz.

2.14 In the 4.2 GHz – 4.8 GHz frequency band after 31 December 2010 the exemption will be more restrictive and only a lower emission level of -70.0dBm/MHz (maximum mean e.i.r.p. density) will be permitted. We will amend the Regulations in 2010 to recognise the more restrictive emission levels that will apply.

[9] Version 1.1.1 was published by ETSI in February 2008.
[10] This Standard is in two parts; EN 302 500-1 and EN 302 500-2. Version 1.2.1 of each document was published by ETSI in June 2008.
[11] This standard is in two parts; EN 302 435–1 and EN 302 435–2. Version 1.3.1 of each document was published by ETSI in August 2009
[12] The standard EN 302 065 that includes DAA is still a draft format has yet to be finalised. It is scheduled for public consultation in December 2009, further information on the process can be found here: http://webapp.etsi.org/workProgram/Report_Schedule.asp?WKI_ID=30877

2.15 TPC is an interference mitigation technique that is used to control network equipment in order to prevent interference. UWB equipment that is using TPC will automatically reduce its transmission power when other UWB equipment is within range. By reducing the power to the level necessary to transmit information between pieces of UWB equipment this should reduce the risk of interference to other networks and equipment.

2.16 The Regulations allows UWB equipment to be used in automotive or railway vehicles at transmission limits that are higher than, or equivalent to, those set out at paragraph 2.13 above, where appropriate mitigation techniques are applied. Again, such techniques include those described in the relevant harmonised standards, adopted under Directive 1999/5/EC,[13] or other mitigation techniques, provided that they achieve at least an equivalent level of protection against interference as provided by the general limits.

2.17 The Regulations set out two mitigation techniques which are presumed to provide the required level of protection against interference in certain frequency bands when equipment is used in automotive or railway vehicles.

2.18 In the 3.1 – 4.8 GHz frequency band a LDC mitigation technique is presumed to provide a level of protection that is at least equivalent to the transmission limits set out at paragraph 2.13 above, where it is applied in the same way as set out at paragraph 2.10 above.

2.19 In the 3.1 – 4.8 GHz and 8.5 – 9.0 GHz frequency bands a DAA mitigation technique is presumed to provide a level of protection that is at least equivalent to the transmission limits set out at paragraph 2.13 above, where transmissions have a maximum mean e.i.r.p. density of -41.3 dBm/MHz and a maximum peak e.i.r.p. of 0 dBm measured within a 50 MHz bandwidth, and a TPC range of at least 12dB is applied. In the absence of a TPC range being applied, the maximum e.i.r.p. density of transmissions must be no greater than -53.3 dBm/MHz.

BMA equipment and mitigation

2.20 BMA is a specific application using UWB technology to provide accurate imaging measurements. BMA imaging systems can detect or take images of pipes, wires and other structures embedded in a wall. The narrow pulses used by BMA imaging systems enable them to make measurements, allowing the identification of different materials and analysis in three-dimensions to an accuracy of one millimetre. BMA equipment is expected to be used in a number of markets including the workplace, security, and manufacturing.

2.21 The Regulations allow for BMA equipment to be used in certain frequencies at the transmission limits set out in Table 2.

[13] See footnote 8. The relevant Harmonised Standards are also the same as those referred to in paragraph 2.21 above.

Table 2: Transmission limits for the use of BMA equipment

Frequency Range (GHz)	Maximum mean e.i.r.p. density (dBm/MHz)	Maximum peak e.i.r.p. density (dBm/50MHz)	Maximum total radiated power density (dBm/MHz)
Below 1.730	-85	-45	
1.730 – 2.200	-65	-25	
2.200 – 2.500	-50	-10	
2.500 – 2.690	-65	-25	
2.690 – 2.700	-55	-15	Below -65
2.700 – 3.400	-82	-42	
3.400 – 4.800	-50	-10	
4.800 – 5.000	-55	-15	Below - 65
5.000 – 8.000	-50	-10	
8.000 – 8.500	-70	-30	
Above 8.500	-85	-45	

2.22 In order to protect Radio Astronomy Services the maximum total radiated power density must be below -65 dBm/MHz in the 2.690 – 2.700 GHz and 4.800 – 5.000 GHz frequency bands.

2.23 The Regulations also enables BMA equipment to be used in certain frequency bands at higher transmissions limits where mitigation techniques are applied that provide an equivalent level of protection against interference to that provided by the limits in Table 2. In particular, the mitigation techniques applied must provide at least an equivalent level of performance to the techniques described in the harmonised standards adopted under Directive 1999/5/EC[14]. BMA equipment may then be used in the 1.215 – 1.730 GHz frequency band with a maximum mean e.i.r.p. density of -70 dBm/MHz, and in the frequency bands 2.500 – 2.690 GHz and 2.700 – 3.400 GHz with a maximum e.i.r.p. density of -50 dBm/MHz.

[14] See footnotes 7 above.

Section 3

Scope of Regulations

Responses to the Notice

3.24 We received four responses to the Notice, one of which was confidential.

3.25 The German Regulator, the Federal Network Agency (BNetzA), queried whether we have made it sufficiently clear in the Regulations that LDC is generally considered to be an equivalent mitigation technique to TPC mitigation for UWB equipment that is used in automotive or railway vehicles. The concern was that we may have inadvertently excluded a possible mitigation technique.

3.26 The Regulations concerning the use of UWB equipment in railway and automotive vehicles are set out in Part 3 of the Regulations. Regulation 10 sets out the general limits which apply in the respective frequency bands and Regulation 11 sets out the limits that may apply when appropriate mitigation is applied. In the frequency bands 4.2 – 4.8 GHz and 6.0 – 8.5 GHz, Regulation 10(b)(i)(aa) implements the UWB Amendment Decision by imposing a requirement that TPC of at least 12 dB be used.

3.27 Regulations 11(1) then allows for other mitigation techniques to be used across all frequency bands, where these are set out in harmonised standards or offer at least equivalent protection to that provided by the limits in Regulation 10. Regulation 11(2) deals specifically with LDC, where it is presumed that this technique will provide an equivalent level of protection in the 3.1 – 4.8 GHz frequency band. This means that, in the frequency band 4.2 – 4.8 GHz it will be possible to use UWB equipment inside a railway or automotive vehicle where either the TPC *or* the LDC mitigation technique is applied. In the 3.1 – 4.2 GHz frequency band it will be presumed that LDC will provide an equivalent level of protection to that provided by the general limits in Regulation 10.

3.28 UK Tram Ltd queried whether or not tramcars, which have the defining characteristics of being rail vehicles which can operate in the street, will fall within the definitions of “automotive” or “railway” vehicle.

3.29 The definitions of “automotive” and “railway” vehicle in the Regulations cross-reference two other pieces of European legislation. These are, in relation to automotive vehicles, Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to type-approval of motor-vehicles and their trailers[15] and, in relation to railway vehicles, Council Regulation (EEC) No 91/2003 of the European Parliament and of the Council of 16 December 2002 on rail transport statistics[16]. A “railway vehicle” is, in particular, currently defined as “mobile equipment running exclusively on rails, moving either under its own power (tractive vehicles) or hauled by another vehicle (coaches, railcar, trailers, vans and wagons)”. On this basis we think it likely that tramcars will be covered by the Regulations.

3.30 The Bailiwick of Jersey raised an issue concerning the exemption of UWB equipment in railway vehicles. This matter was also raised in their response to our previous consultation on the original regulations in 2007. In response we would refer to

[15] Official Journal of the European Union, OJ No L 42, 23.2.70, p1
[16] Official Journal of the European Union, OJ No L 14, 21.1.03, p1

paragraph 2.18 of our statement "Decision to make the Wireless Telegraphy (Ultra-Wideband equipment) (Exemption) Regulations 2007" published on 9 August 2007.[17]

3.31 The Bailiwick of Jersey also raised the issue that, in the preamble to the Regulations, reference should be made to the Order which extends the relevant provisions of the Wireless Telegraphy Act 2006 to the Island. We have taken the view that, in light of standard practice for drafting statutory instruments, the best approach is to include a footnote reference to this Order, and to the relevant Orders in relation to the Bailiwick of Guernsey and the Isle of Man.

Final scope of the Regulations

The Legislative Framework

3.32 We can exempt the establishment, installation and use of wireless telegraphy equipment by making Regulations under section 8(3) of the WT Act. Under section 8(1) of the WT Act, it is an offence to establish, install or use equipment to transmit without holding a licence granted by us unless the use of such equipment is exempted. Under section 8(4) of the WT Act, we must make regulations to exempt equipment if its installation or use is unlikely to cause undue interference.

Extent of application

3.33 The Regulations will apply in the United Kingdom, the Channel Islands and the Isle of Man.

The Regulations

3.34 The Regulations are structured in four parts:

- Part 1 – Introductory;
- Part 2 – General use of ultra-wideband equipment;
- Part 3 – Use of ultra-wideband equipment in automotive vehicles and railway vehicles;
- Part 4 – Use of ultra-wideband equipment for building material analysis.

3.35 The Regulations revoke and replace the Previous Regulations and the Wireless Telegraphy (Ultra-Wideband Equipment)(Exemption)(Amendment) Regulations 2007.[18]

3.36 The Regulations exempt the use of UWB equipment pursuant to section 8(3) of the WT Act. The Regulations set out the terms, provisions and limitations to be complied with for establishment, installation and use of UWB equipment (referred to simply as "use" for the purpose of this statement).

3.37 Regulation 3 sets out the definitions which apply in this particular statutory instrument. This regulation implements Article 2 of the UWB Decision and Article 2 of the UWB Amendment Decision.

[17] http://www.ofcom.org.uk/consult/condocs/uwb_exemption/statement/statement.pdf
[18] See footnotes 6 and 7

3.38 Regulation 4 exempts the establishment, installation or use of equipment complying with the specifications in regulations 5 from the need to be licensed under the WT Act. This regulation implements Article 3 of the UWB Decision and Article 1 of the UWB Amendment Decision.

3.39 Regulation 5 prescribes the terms, provisions and limitations that apply in relation to UWB equipment which does not cause or contribute to undue interference and it is used either indoors, or other than indoors provided that it is not attached to a fixed installation, fixed infrastructure or a fixed outdoor antenna. The exemption also applies to UWB equipment which is not attached to, or being used in, an automotive vehicle or a railway vehicle. This regulation implements Article 1 and paragraph 1.1 and 1.2 of the Annex of the UWB Amendment Decision.

3.40 Regulation 6 prescribes the general transmission limits which, in accordance with Regulation 5(4)(a), apply to the use of ultra-wideband equipment. This regulation implements Article 1 and paragraph 1 .1 of the Annex of the UWB Amendment Decision.

3.41 Regulation 7 describes the techniques which, in accordance with Regulation 5(4)(b), may be applied to mitigate interference to other users of the electromagnetic spectrum. Where such techniques are applied, ultra-wideband equipment may operate at higher transmission limits than those prescribed in Regulation 6. Regulation 7 implements Article 1 and paragraph 1.2 of the Annex of the UWB Amendment Decision.

3.42 The mitigation techniques set out in Regulation 7 are, in particular, those described in the harmonised standards whose reference numbers have been published in the Official Journal of the European Union under Article 5 of Council Directive 1999/5/EC[19] (regulation 7(1)(a)), or other techniques which achieve an equivalent level of protection to that provided by the limits set out in Regulation 6 (regulation 7(1)(b)). It shall be presumed that, in relation to the frequencies 3.1 GHz to 4.8 GHz, the use of an LDC mitigation technique as set out in regulation 7(2) shall satisfy the requirements of regulation 7(1)(b). It shall also be presumed that, in relation to the frequencies 3.1 GHz to 4.2 GHz, and at frequencies 8.5 GHz to 9.0 GHz, the use of a DAA mitigation technique as set out in regulation 7(3) shall satisfy the requirements of regulation 7(1)(b).

3.43 Regulation 8 replicates the exemption provided for in regulation 4 for the purposes of regulation 9. It implements Article 1 and paragraph 1.3 of the Annex of the UWB Amendment Decision. This regulation implements Annex 1 and paragraph 1.3 of the Annex of the UWB Amendment Decision.

3.44 Regulation 9 prescribes the terms, provisions and limitations which apply to UWB equipment which does not cause or contribute to undue interference and is used inside an automotive vehicle or a railway vehicle. The exemption does not, however, apply to UWB equipment which is attached to the outside of such a vehicle. This regulation implements Article 1 and paragraph 1.3 of the Annex of the UWB Amendment Decision.

3.45 Regulation 10 prescribes the transmission limits which, in accordance with Regulation 9(4)(a), apply to the use of ultra-wideband equipment when used in an automotive vehicle or railway vehicle. This regulation implements Article 1 and paragraph 1.3 of the Annex of the UWB Amendment Decision.

[19] See footnote 8.

3.46 Regulation 11 describes the techniques which, in accordance with Regulation 9(4)(b), may be applied to mitigate interference to other users of the electromagnetic spectrum. Where such techniques are applied, ultra-wideband equipment may operate at higher transmission limits than those prescribed in Regulation 10. This regulation implements Article 1 and paragraph 1.3 of the Annex of the UWB Amendment Decision.

3.47 The mitigation techniques set out in Regulation 11 are, in particular, those described in harmonised standards whose reference numbers have been published in the Official Journal of the European Union under Article 5 of Council Directive 1999/5/EC[20] (regulation 11(1)(a)), or other techniques which achieve an equivalent level of protection to that provided by the limits set out in Regulation 10 (regulation 11(1)(b)). It shall be presumed that, in relation to the frequencies 3.1 GHz to 4.8 GHz, the use of an LDC mitigation technique as set out in regulation 11(2) shall satisfy the requirements of regulation 11(1)(b). It shall also be presumed that, in relation to the frequencies 3.1 GHz to 4.2 GHz, and at frequencies 8.5 GHz to 9.0 GHz, the use of a DAA mitigation technique as set out in regulation 11(3) shall satisfy the requirements of regulation 11(1)(b). Regulation 11 implements Article 1 and paragraph 1.3 of the Annex of the UWB Amendment Decision.

3.48 Regulation 12 replicates the exemption provided for in regulation 4 for the purposes of regulation 13. It implements Article 1 and paragraph 2 of the Annex of the UWB Amendment Decision.

3.49 Regulation 13 sets out the transmission limits that shall apply in relation to the use of BMA equipment which does not cause or contribute to undue interference. Regulation 13 implements Article 1 and paragraph 2 of the Annex of the UWB Amendment Decision.

3.50 The harmonised standards referred to in regulations 7, 11and 13 include, in particular, the ETSI harmonised standard EN 302 065([21]) on generic UWB equipment, the ETSI harmonised standards EN 302 500-1([22]) and EN 302 500-2([23]) for UWB location tracking equipment, and the ETSI harmonised standards EN 302 435-1([24]) and EN 302 435-2([25]). Directive 1999/5/EC may be accessed at http://www.etsi.org/WebSite/Technologies/UltraWideBand.aspx. The harmonised standards made under that Directive may be accessed at http://ec.europa.eu/enterprise/newapproach/standardization/harmstds/reflist/radiotte.html.

[20] See footnote 13.
([21]) Version 1.1.1 was published by ETSI in February 2008
([22]) Version 1.2.1 was published by ETSI in June 2008.
([23]) Version 1.2.1 was published by ETSI in June 2008.
([24]) Version 1.3.1 was published by ETSI in August 2009.
([25]) Version 1.3.1 was published by ETSI in August 2009

Annex 1

Impact Assessment

Introduction

A1.1 The analysis presented in this annex represents an impact assessment, as defined in section 7 of the Communications Act 2003,[26] for the Wireless Telegraphy (Ultra-Wideband Equipment) (Exemption) Regulations 2009 (the "Regulations").

A1.2 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best-practice policy-making. This is reflected in section 7 of the Communications Act, which means that generally we have to carry out impact assessments where our proposals would be likely to have a significant effect on businesses or the general public or when there is a major change in our activities. However, as a matter of policy, we are committed to carrying out and publishing impact assessments in relation to the great majority of our policy decisions. For further information about our approach to impact assessments, see the guidelines "Better policy-making: Ofcom's approach to impact assessment," which are on our website at www.ofcom.org.uk/consult/policy_making/guidelines.pdf.

Implementing Commission Decision 2009/343/EC of 21 April 2009 amending Decision 2007/131/EC on allowing the use of the radio spectrum for equipment using ultra-wideband technology in a harmonised manner in the Community

A1.3 In the UK, we are responsible for authorising civil use of the radio spectrum and achieve this by granting wireless telegraphy licences under the Wireless Telegraphy Act 2006 (the "WT Act") and by making Regulations exempting users of particular equipment from the requirement to hold such a licence. Under section 8(1) of the WT Act, it is an offence to establish, install or use equipment to transmit without holding a licence granted by us, unless the use of such equipment is exempted. Section 8(3) enables us to make regulations exempting equipment from the requirement to hold a licence subject to specified terms, provisions and limitations and under Section 8(4) of the WT Act we must make regulations to exempt equipment if it is unlikely to cause undue interference.

Proposal

A1.4 This impact assessment relates to the making of the Regulations. These have implemented the Commission Decision 2009/343/EC of 21 April 2009 amending Decision 2007/131/EC on allowing the use of the radio spectrum for equipment using ultra-wideband technology in a harmonised manner in the Community (the "UWB Amendment Decision").

The citizen and/or consumer interest

A1.5 We take account of the impact our decisions have upon both citizen and consumer interests in the markets we regulate. In proposing new regulations we have considered the wider impact beyond immediate stakeholders in the

[26] www.opsi.gov.uk/acts/acts2003/pdf/ukpga_20030021_en.pdf.

radiocommunications community. We believed that the Regulations would be of benefit to consumers for the following reasons:

i) The measures all concern the use of radio equipment on a licence-exempt basis which reduces the regulatory and administrative burden on our stakeholders and users of the equipment;

ii) Licence exemption is only in areas where use of equipment is unlikely to cause undue interference to other spectrum use; and

iii) The measures support the introduction of new and innovative technologies which will be of benefit to consumers in general.

A1.6 In particular:

- the Building Material Analysis (BMA) may help the safety of workers by enabling the detection of and imaging of objects embedded in walls;
- the use of UWB in automotive and railway vehicles could be used to transmit safety information to drivers, potentially protecting workers and the general public; and
- the UWB transmission systems are expected to be attractive to mass market applications such as the wireless storage devices that will allow users to send information without having to connect any cable at higher data rates than at present.

A1.7 We are required by statute to have due regard to any potential impacts our proposal may have on race, disability and gender equality – an Equality Impact Assessment (EIA) is our way of fulfilling this obligation. We carried out an initial EIA screening and consider that the Regulations will not unfavourably impact any race, disability or gender groups; nor could they be used to promote equality among these groups.

Our policy objective

A1.8 In accordance with the WT Act, we must exempt from licensing the use of specified equipment where it is not likely that such use will cause undue interference to other legitimate users of the radio spectrum or is contrary to an international obligation.

A1.9 As a Member State, the UK is bound by the terms of the UWB Amendment Decision and the requirement to implement them.

Options considered

A1.10 The options open to us in relation to the implementation of the UWB Amendment Decision were as follows:

- to make regulations that are compliant with the UWB Amendment Decision; or
- to have done nothing.

Analysis of options

Make new regulations

A1.11 The most efficient route to mandatory compliance was to make regulations that are consistent with the UWB Amendment Decision as closely as possible.

Do nothing

A1.12 By doing nothing, we would have been in breach of the UWB Amendment Decision and could be open to infraction proceedings initiated by the Commission.

The preferred option

A1.13 The preferred option was to make the Regulations as indicated in order to comply with the UWB Amendment Decision. The benefit of this option was that the UK remains compliant with EU law and that equipment potentially of benefit to consumers and citizens may be established, installed or used without a licence.

Evaluation

A1.14 Article 4 of the UWB Decision requires that the continued availability of this spectrum for the listed devices be kept under active scrutiny to ensure that the main premise of opening this band to such systems remains valid.

A1.15 We will assist the Commission in carrying out these reviews as required.

Annex 2

List of respondents

UK Tram LTD

BNetzA

Bailiwick of Jersey