



The Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009

Consultation

Publication date: 29 May 2009

Closing Date for Responses: 30 June 2009

Contents

Section		Page
1	Executive summary	1
2	Background	2
3	General effect of the Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009	6
Annex		Page
1	Responding to this consultation	8
2	Our consultation principles	10
3	Consultation response cover sheet	11
4	Impact Assessment	13
5	Proposed Regulations	16
6	SRD Amendment Decision	21
7	Glossary of abbreviations	29

Section 1

Executive summary

- 1.1 This document consults on draft regulations to exempt the use of a number of short range devices (SRDs) from the requirement to be licensed. This notice outlines our intention to make the Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009 (the “Proposed Regulations”).
- 1.2 The Proposed Regulations will implement the requirements of European Commission Decision 2009/381/EC of 13 May 2009 amending Decision 2006/771/EC of 9 November 2006 on harmonisation of the radio spectrum for use by short-range devices (the “SRD Amendment Decision”). All Member States are required to implement the SRD Amendment Decision by 1 November 2009. A copy of the SRD Amendment Decision can be found in Annex 6.
- 1.3 Under section 8(1) of the Wireless Telegraphy Act 2006, 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. This notice outlines our intention to make the following devices licence exempt:
 - Tank Level Probing Radar (TLPR) at 4.5-7, 8.5-10.6, 24.05-27, 57-64 and 75-85 GHz;
 - Radio determination applications at 2400-2483.5 MHz and 17.1-17.3 GHz (including Ground Based Synthetic Aperture Radar – GB-SAR); and
 - Wideband data transmission systems (WBDTS) at 57-66 GHz (including wireless distribution of High Definition – HD – video).
- 1.4 We are also proposing to licence-exempt airborne use of the following equipment:
 - WBDTS at 2400-2483.5 MHz and 57-66 GHz;
 - Radio determination applications at 2400-2483.5 MHz;
 - TLPR at 4.5-7, 8.5-10.6, 24.05-27, 57-64 and 75-85 GHz;
 - Model Control at 26990-27000, 27040-27050, 27090-271000, 27140-27150 and 27190-27200 kHz; and
 - Radio Frequency Identification at 2446-2454 MHz.
- 1.5 An impact assessment for the Proposed Regulations is available at Annex 4 to this document. The Proposed Regulations are included in this document at Annex 5. Further copies may be obtained from www.ofcom.org.uk or from Ofcom at Riverside House, 2a Southwark Bridge Road, London SE1 9HA. Comments on the Proposed Regulations are invited by **5pm** on **30 June 2009**. Subject to consideration of responses we intend to bring the new Regulations into force by August 2009.

Section 2

Background

Authorising spectrum use

- 2.1 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. 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.
- 2.2 In accordance with the requirements of section 122(4) and (5) of the WT Act this document gives notice of our intention to make the Proposed Regulations.

Commission Decision on Short Range Devices

- 2.3 In November 2006 the Commission adopted the SRD Decision.¹ This harmonises across the European Union (EU) the technical conditions for a wide range of SRDs. These devices are usually mass-market, low power, portable products that can easily be taken across countries’ borders. Differences in the technical conditions in individual countries would prevent the free movement of goods, increase the costs for producers and potentially cause harmful interference. The SRD Decision is revised yearly due to changes in technologies.
- 2.4 Due to the low power and short range of SRDs they can share frequencies with a number of other devices. It is for this reason that the SRD Decision instructs Member States these devices should not require a licence. However, this means in practice individual devices operating at a particular location cannot be guaranteed the same protection from interference enjoyed by licensed users and manufacturers must ensure the devices operate in a way that avoids harmful interference to other SRDs.
- 2.5 In November 2008 the European Conference of Postal and Telecommunications Administrations advised the Commission to amend a number of technical aspects in the Annex to the SRD Decision in Report 26, RSCOM 08-88.²
- 2.6 On 25 March 2009 the Radio Spectrum Committee approved the amendments to the Annex. This led to the adoption of the SRD Amendment Decision.³

The equipment

- 2.7 Previous amendments to the SRD Decision have already led to exemptions under the Wireless Telegraphy (Licence Exemption) Regulations 2003⁴ and subsequent amendments. The SRD Decision and SRD Amendment Decision set the minimum

¹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:312:0066:0070:EN:PDF>

² <http://www.itst.dk/frekvenser/internationalt-frekvenssamarbejde/eu-samarbejdet-pa-radiofrekvensomradet/rsc-radio-spectrum-committee/rsc-filmappe/26/RSCOM08-89%202nd%20update%20of%20the%20SRD%20Decision.pdf>

³ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:119:0032:0039:EN:PDF>

⁴ <http://www.opsi.gov.uk/si/si2003/20030074.htm>

technical requirements equipment must meet but allow Member States to be more permissive. As a result, in the UK we allow more power than set out in the Decisions for some devices. For more information on UK limits we advise stakeholders to consult Interface Requirement (IR) 2030: Licence Exempt Short Range Devices.⁵

2.8 Some of the technologies covered by the SRD Amendment Decision are already wholly or partly exempted in the UK under the Wireless Telegraphy (Licence Exemption) Regulations 2003. These include active medical implants in the frequency band 402-405 MHz and the terrestrial use of certain technologies.

2.9 New equipment included in the SRD Amendment Decision are:

- TLPR at 4.5-7, 8.5-10.6, 24.05-27, 57-64 and 75-85 GHz;
- Radio determination applications at 2400-2483.5 MHz and 17.1-17.3 GHz (including GB-SAR); and
- WBDTS at 57-66 GHz (including wireless distribution of HD video).

Tank Level Probing Radar

2.10 TLPR are ultra wide-band type devices used to provide greater accuracy in measuring the level of substances in enclosed tanks. They are installed in metallic tanks, reinforced concrete tanks, or tanks with equivalent shielding to radio signals and are usually used within industrial and manufacturing processes.

2.11 The transmitter contained and shielded within the tank is permitted to radiate at relatively high power emissions as compared to many SRDs. However, the detected emissions outside the tank must be very low. Manufacturers of TLPR must ensure that when tested, the power detectable outside a 500 litre test tank does not exceed a spectral density of -41.3 dBm/MHz e.i.r.p. The test tank of 500 litres was chosen by the European Technical Standards Institute (ETSI) as this gave a likely worst-case emission. In practice, given the larger tanks typically used in industrial processes, the detectable radiated emissions are likely to be lower.

Radiodetermination applications at 2400-2483.5 MHz and 17.1-17.3 GHz

2.12 Radiodetermination equipment is used for detecting movement and providing alerts. It does this by determining the position, velocity and/or other characteristics of an object. This proposal applies to radiodetermination equipment that is ground based only. One particular example of this technology is GB-SAR, which can be used to monitor movement in structures, potentially protecting workers and the general public. A few examples of its applications are:

- Static and dynamic load analyses of constructions like bridges and buildings;
- Landslide monitoring;
- Volcano and earthquake movement detection; and
- Urban area subsidence detection.

⁵ http://www.ofcom.org.uk/radiocomms/ifi/tech/interface_req/IR2030final.pdf

- 2.13 A GB-SAR points its beam at an object and observes any movement changes. The object under observation acts as a shield against the onward propagation of radio emissions. The ETSI equipment standard for GB-SAR (EN 300 440) also includes a mechanism to detect and avoid interference into other radiocommunications devices.

Wideband data transmission systems at 57-66 GHz

- 2.14 WBDTS are typically used in Wi-Fi applications but are not explicitly limited to this use. They also include technologies such as wireless distribution of HD video (e.g. Wireless HD) and automation systems.
- 2.15 The physical range of equipment at 57-66 GHz is limited by propagation characteristics. While this is problem for users wishing to communicate over large distances, it does mean that the same radio spectrum can be used over again in close proximity. In the domestic situation, this will allow systems to be used in houses with little likelihood of interference to a next door neighbour. The Proposed Regulations allow indoor use of the devices at 40 dBm e.i.r.p. and 13 dBm/MHz e.i.r.p. density. Outdoor non-fixed use is allowed at a lower power of 25 dBm e.i.r.p. and - 2 dBm/MHz e.i.r.p. density. Fixed outdoor use of WBDTS is not permitted.
- 2.16 We expect 57-66 GHz WBDTS may be attractive to mass market applications, where the very high data rates available will be able to facilitate many new innovative in-home wireless network opportunities. We understand there are innovators keen to use the band and products already developed such as the wireless distribution of HD video. This technology allows users to send video signals from any video source to a television screen or other monitor without having to connect any video signal cables.

Airborne use

- 2.17 The SRD Amendment Decision also allows airborne use of the equipment in one or more of the bands listed in Table 1. Terrestrial use of this equipment is already permitted by the Wireless Telegraphy (Licence Exemption) Regulations 2003.

Table 1: Airborne equipment

<i>Column 1</i> <i>Frequency band</i>	<i>Column 2</i> <i>Terms provisions and limitations</i>
26990- 27000 kHz 27040-27050 kHz 27090-27100 kHz 27140-27150 kHz 27190-27200 kHz	The equipment must be of the type specified in and comply with the terms, provisions and limitations in Table 3.20 of IR 2030. ⁵
2400-2483.5 MHz	The equipment must be of the type specified in and comply with the terms, provisions and limitations in Table 3.5 of IR 2030. ⁵
2446-2454 MHz	The equipment must be designed or adapted for use in radio frequency identification and only emit emissions which when measured in any direction have a maximum e.i.r.p. density of 100 mW.

- 2.18 Many potential uses of SRDs would be enabled as a result of this measure. This would enable for example, using WBDTS systems to transmit video from model aircraft at higher power than is currently permitted. However, the control and use of UK authorised SRDs in airborne environments will remain subject to the requirements of the Civil Aviation Authority.

Next steps

- 2.19 We welcome stakeholder feedback to this consultation document. The deadline to submit responses to us is 5pm on 30 June 2009. We expect to release a Statement on this consultation in July 2009, having taken into account the stakeholder responses to our proposals and to make, and bring into force, the regulations by August 2009.

Section 3

General effect of the Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009

The legislative framework

- 3.1 We can exempt the establishment, installation and use of wireless telegraphy equipment by making Regulations under section 8(3) of the WT Act. We propose to implement the changes proposed in this document by making the Proposed Regulations. The Proposed Regulations are included in Annex 5 of this document.

Extent of application

- 3.2 The Proposed Regulations will apply in the United Kingdom, the Channel Islands and the Isle of Man, subject to formal agreement of the Island Authorities.

Regulations to exempt short range devices

- 3.3 The Proposed Regulations we are now consulting on will exempt the use of SRDs pursuant to section 8(4) of the WT Act. The Proposed Regulations mirror the technical parameters and standards set out in the SRD Amendment Decision. They set the terms, provisions and limitations to be complied with for the devices.
- 3.4 A number of new exemptions are to be implemented by the Proposed Regulations:
- Regulations 3 and 4 exempt the use of WBDTS equipment operating within the frequency band 57-66 GHz, provided that it does not cause or contribute to undue interference with wireless telegraphy, and either has a maximum e.i.r.p. of 40 dBm and a maximum density e.i.r.p. of 13 dBm/MHz for indoor use only; or has a maximum e.i.r.p. of 25 dBm and a maximum density e.i.r.p. of -2 dBm/MHz for non-fixed use outdoors;
 - Regulations 5 and 6 exempt the use of radio determination applications equipment operating within one or more of the frequency bands 2400-2483.5 MHz (maximum e.i.r.p. of 25 mW) and 17.1-17.3 GHz (maximum e.i.r.p. density of 26 dBm). Equipment operating within the 17.1-17.3 GHz frequency band must only be for terrestrial use and must use techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in ETSI standard EN 300 440;
 - Regulations 7, 8 and 9 exempt the use of TLPR equipment operating within the frequency bands set out in the table in Schedule 1 to the Proposed Regulations, providing that, when tested in a tank of the specifications set out in Annex E of ETSI standard EN 302 37, it only emits a maximum e.i.r.p. density of -41.3 dBm per MHz outside the tank and that it has a maximum e.i.r.p. density within the tank as set out in Column 2 of the table in Schedule 1; and
 - Regulation 10 exempts the airborne use of devices in the 26990-27000, 27040-27050, 29090-271000, 27140-27150 and 27190-272000 kHz bands providing

they comply with the technical parameters as set out in Table 3.20 of IR 2030.⁵ In the 2400-2483.5 MHz frequency band equipment must comply with Table 3.5 of IR 2030. For radio frequency identification equipment in the 2446-2454 MHz band, airborne use is permitted at a maximum e.i.r.p. of 100 mW.

Do you have any comments on the Proposed Regulations that we have drafted in order to implement the SRD Amendment Decision?

Annex 1

Responding to this consultation

How to respond

- A1.1 We invite written views and comments on the issues raised in this document, to be made **by 5pm on 30 June 2009**.
- A1.2 We strongly prefer to receive responses using the online web form at <http://www.ofcom.org.uk/consult/condocs/shorrange09/howtorespond/form>, as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex 3), to indicate whether or not there are confidentiality issues. This response coversheet is incorporated into the online web form questionnaire.
- A1.3 For larger consultation responses - particularly those with supporting charts, tables or other data - please email paul.chapman@ofcom.org.uk attaching your response in Microsoft Word format, together with a consultation response coversheet.
- A1.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.
- Paul Chapman
Floor 3
Spectrum Policy Group
Riverside House
2A Southwark Bridge Road
London SE1 9HA
- Fax: 020 7981 3921
- A1.5 Note that we do not need a hard copy in addition to an electronic version. We will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.
- A1.6 It would be helpful if your response could include direct answers to the questions asked in this document, which are listed together in annex 3. It would also help if you can explain why you hold your views and how our proposals would impact on you.

Further information

- A1.7 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact Paul Chapman on 020 7981 3069.

Confidentiality

- A1.8 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, www.ofcom.org.uk, ideally on receipt. If you think your response should be kept confidential, can you please specify what part or whether

all of your response should be kept confidential, and specify why. Please also place such parts in a separate annex.

- A1.9 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and will try to respect this. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A1.10 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Our approach on intellectual property rights is explained further on its website at <http://www.ofcom.org.uk/about/accoun/disclaimer/>

Next steps

- A1.11 Following the end of the consultation period, we intend to publish a statement in July 2009.
- A1.12 Please note that you can register to receive free mail Updates alerting you to the publications of relevant Ofcom documents. For more details please see: http://www.ofcom.org.uk/static/subscribe/select_list.htm

Ofcom's consultation processes

- A1.13 We seek to ensure that responding to a consultation is easy as possible. For more information please see our consultation principles in Annex 2.
- A1.14 If you have any comments or suggestions on how we conduct our consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at consult@ofcom.org.uk. We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, who are less likely to give their opinions through a formal consultation.
- A1.15 If you would like to discuss these issues or our consultation processes more generally you can alternatively contact Vicki Nash, Director Scotland, who is Ofcom's consultation champion:

Vicki Nash
Ofcom
Sutherland House
149 St. Vincent Street
Glasgow G2 5NW

Tel: 0141 229 7401
Fax: 0141 229 7433

Email vicki.nash@ofcom.org.uk

Annex 2

Our consultation principles

A2.1 We have published the following seven principles that we will follow for each public written consultation.

Before the consultation

A2.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

During the consultation

A2.3 We will be clear about whom we are consulting, why, on what questions and for how long.

A2.4 We will make the consultation document as short and simple as possible. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened Plain English Guide for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A2.5 We will consult for up to 10 weeks depending on the potential impact of our proposals.

A2.6 A person within Ofcom will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. Our consultation champion will also be the main person to contact with views on the way we run our consultations.

A2.7 If we are not able to follow one of these principles, we will explain why.

After the consultation

A2.8 We think it is important for everyone interested in an issue to see the views of others during a consultation. We will usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and will give an account of how the views of those concerned helped shape them.

Annex 3

Consultation response cover sheet

- A3.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website, www.ofcom.org.uk.
- A3.2 We have produced a coversheet for responses (see below) and would be very grateful if you could send one with your response (this is incorporated into the online web form if you respond in this way). This will speed up our processing of responses, and help to maintain confidentiality where appropriate.
- A3.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore we would encourage respondents to complete their coversheet in a way that allows us to publish their responses upon receipt, rather than waiting until the consultation period has ended.
- A3.4 We strongly prefer to receive responses via the online web form which incorporates the coversheet. If you are responding via email, post or fax you can download an electronic copy of this coversheet in Word or RTF format from the 'Consultations' section of our website at www.ofcom.org.uk/consult/.
- A3.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only, so that we don't have to edit your response.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing	<input type="checkbox"/>	Name/contact details/job title	<input type="checkbox"/>
Whole response	<input type="checkbox"/>	Organisation	<input type="checkbox"/>
Part of the response	<input type="checkbox"/>	If there is no separate annex, which parts?	

If you want part of your response, your name or your organisation not to be published, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks to publish responses on receipt. If your response is non-confidential (in whole or in part), and you would prefer us to publish your response only once the consultation has ended, please tick here.

Name

Signed (if hard copy)

Annex 4

Impact Assessment

Introduction

- A4.1 The analysis presented in this annex represents an impact assessment, as defined in section 7 of the Communications Act 2003,⁶ for the Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009 (the “Proposed Regulations”).
- A4.2 You should send us any comments on this impact assessment by the closing date for this consultation. We will consider all comments before deciding whether to implement our proposals.
- A4.3 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 2009/381/EC of 13 May 2009 amending Decision 2006/771/EC of 9 November 2006 on harmonisation of the radio spectrum for use by short-range devices

- A4.4 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.
- A4.5 Commission Decision 2006/771/EC of 9 November 2006 on harmonisation of the radio spectrum for use by short-range devices (the “SRD Decision”)⁷ harmonises across the European Union (EU) the technical conditions for a wide range of short range devices (“SRDs”). These devices are usually mass-market, low power, portable products that can easily be taken across countries’ borders. Differences in the technical conditions in individual countries would prevent the free movement of goods, increase the costs for producers and potentially cause harmful interference. The SRD Decision is revised yearly due to changes in technologies.

⁶ www.opsi.gov.uk/acts/acts2003/pdf/ukpga_20030021_en.pdf.

⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:312:0066:0070:EN:PDF>

A4.6 On 25 March 2009 the Radio Spectrum Committee approved amendments to the Annex of the SRD Decision. This led to the publication of Commission Decision 2009/381/EC of 13 May 2009 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices (the “SRD Amendment Decision”).

Proposal

A4.7 This impact assessment relates to the proposal to make the Proposed Regulations. These will implement the SRD Amendment Decision.

The citizen and/or consumer interest

A4.8 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 radiocommunications community. We believe that the proposals will be of benefit to consumers for the following reasons:

- i) The measures proposed 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 proposed only in areas where use of equipment is unlikely to cause harmful interference to other spectrum use; and
- iii) The measures proposed support the introduction of new and innovative technologies which will be of benefit to consumers in general.

Our policy objective

A4.9 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 interference to other legitimate users of the radio spectrum or is contrary to an international obligation.

A4.10 As a Member State, the UK is bound by the terms of the SRD Amendment Decision and the requirement to implement them by 1 November 2009.

Options considered

A4.11 The options open to us in relation to the implementation of the SRD Amendment Decision are as follows:

- to make the Proposed Regulations that are compliant with the SRD Amendment Decision; or
- to do nothing.

Analysis of options

Make new regulations

A4.12 The most efficient route to mandatory compliance is to make the Proposed Regulations that are consistent with the SRD Amendment Decision as closely as possible.

Do nothing

A4.13 By doing nothing, we would be in breach of the SRD Amendment Decision and could be open to infraction proceedings initiated by the Commission.

The preferred option

A4.14 The preferred option therefore is to make the Proposed Regulations as indicated in order to comply with the SRD Amendment Decision. The benefits of this option are that the UK remains compliant with EU law.

Evaluation

A4.15 Article 4 of the SRD 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.

A4.16 We will assist the Commission in carrying out these reviews as required.

Annex 5

Proposed Regulations

STATUTORY INSTRUMENTS

2009 No. []

ELECTRONIC COMMUNICATIONS

The Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009

Made - - - - *[]*

Coming into force - - *29th July 2009*

The Office of Communications (“OFCOM”) make the following Regulations in exercise of the power conferred by section 8(3) of the Wireless Telegraphy Act 2006⁽⁸⁾ (“the Act”).

Before making these Regulations OFCOM have given notice of their proposal to do so in accordance with section 122(4)(a) of the Act, published notice of their proposal in accordance with section 122(4)(b) of the Act and have considered the representations made to them before the time specified in that notice in accordance with section 122(4)(c) of the Act.

Citation, commencement and extent

1. These Regulations may be cited as the Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009 and shall come into force on 29th July 2009.

Interpretation

2. In these Regulations—

“Act” means the Wireless Telegraphy Act 2006;

“dBm” means decibels of power referenced to one milliWatt;

“e.i.r.p.” means equivalent isotropic radiated power;

“ETSI” means the European Telecommunications Standards Institute;

“equipment” means wireless telegraphy equipment or equipment designed or adapted for use in connection with wireless telegraphy equipment;

“GHz” means gigahertz;

“IR 2030” means IR 2030 – UK Radio Interface Requirement for Short Range Devices, published by OFCOM in September 2008;

“kHz” means kilohertz;

“MHz” means megahertz;

⁽⁸⁾ 2006 c.36

“mW” means milliWatt;

“radio determination applications equipment” means wireless telegraphy equipment designed or adapted for use for determining the position, velocity or other characteristics of an object, or for obtaining information relating to these characteristics; and

“tank level probing radar equipment” means wireless telegraphy equipment designed or adapted for measuring levels of the contents of a tank.

Exemption for wide band data transmission systems equipment

3. The establishment, installation or use of equipment within the frequency band 57.0-66.0 GHz complying with the terms, provisions and limitations in regulation [4] is hereby exempt from the provisions of section 8(1) of the Act.

4. The equipment must—

- (a) not cause or contribute to undue interference with wireless telegraphy; and
- (b) either—
 - (i) only be for use indoors and only emit emissions which when measured in any direction have a maximum e.i.r.p. of 40 dBm and a maximum e.i.r.p. density of 13 dBm per MHz; or
 - (ii) only be for use otherwise than as a fixed outdoors installation and only emit emissions which when measured in any direction have a maximum e.i.r.p. of 25 dBm and a maximum e.i.r.p. density of -2 dBm per MHz.

Exemption for radio determination applications equipment

5. The establishment, installation or use of radio determination applications equipment within either of the frequency bands 2400-2483.5 MHz and 17.1-17.3 GHz complying with the terms, provisions and limitations in regulation [6] is hereby exempt from the provisions of section 8(1) of the Act.

6. The equipment must—

- (a) not cause or contribute to undue interference with wireless telegraphy;
- (b) when operating within the frequency band 2400-2483.5 MHz, only emit emissions which when measured in any direction have a maximum e.i.r.p. of 25 mW; and
- (c) when operating within the frequency band 17.1-17.3 GHz—
 - (i) only emit emissions which when measured in any direction have a maximum e.i.r.p. density of 26 dBm;
 - (ii) only be for terrestrial use; and
 - (iii) use techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in ETSI standard EN 300 440⁽⁹⁾.

Exemption for tank level probing radar equipment

7. The establishment, installation or use within a specified closed tank of tank level probing radar equipment within one or more of the frequency bands specified in Column 1 of the Table in Schedule 1 complying with the terms, provisions and limitations in regulation [9] is hereby exempt from the provisions of section 8(1) of the Act.

8. A tank is specified for the purpose of regulation [7] if its purpose is to contain a substance and it is made of metal or reinforced concrete or any material with attenuation characteristics that are at least as strong as those of either metal or reinforced concrete.

9. The equipment must—

- (a) not cause or contribute to undue interference with wireless telegraphy;

⁽⁹⁾ [OJ reference if available; otherwise Version 1.3.1 published by ETSI on 23 March 2009]

- (b) only emit emissions which when measured in any direction have a maximum e.i.r.p. density corresponding to that set out for the relevant frequency band in the Table in Schedule 1; and
- (c) only emit emissions which would when measured in any direction have a maximum e.i.r.p. density of -41.3 dBm per MHz outside a closed tank of the specifications set out in Annex E of ETSI standard EN 302 372-1⁽¹⁰⁾.

Exemption for airborne use

10. The establishment and installation for airborne use and the airborne use of equipment within one or more of the frequency bands specified in Column 1 of the Table in Schedule 2 complying with the terms, provisions and limitations set out for the relevant frequency band in that Table is hereby exempt from the provisions of section 8(1) of the Act.

□

□ 2009

Chief Executive of the Office of Communications
For and by authority of the Office of Communications

⁽¹⁰⁾ Published by ETSI on 3 April 2006.

SCHEDULE 1

Regulation 7 and Regulation 9

Table

Tank level probing radar equipment

<i>Column 1</i> <i>Frequency band (GHz)</i>	<i>Column 2</i> <i>e.i.r.p. (dBm)</i>
4.5-7.0	24
8.5-10.6	30
24.05-27.0	43
57.0-64.0	43
75.0-85.0	43

SCHEDULE 2

Regulation 10

Table**Airborne equipment**

<i>Column 1</i>	<i>Column 2</i>
<i>Frequency band</i>	<i>Terms provisions and limitations</i>
26990-27000 kHz	The equipment must be of the type specified in and comply with the terms, provisions and limitations in Table 3.20 of IR 2030.
27040-27050 kHz	
27090-27100 kHz	
27140-27150 kHz	
27190-27200 kHz	
2400-2483.5 MHz	The equipment must be of the type specified in and comply with the terms, provisions and limitations in Table 3.5 of IR 2030.
2446-2454 MHz	The equipment must be designed or adapted for use in radio frequency identification and only emit emissions which when measured in any direction have a maximum e.i.r.p. density of 100 mW.

Annex 6

SRD Amendment Decision

L 119/32

EN

Official Journal of the European Union

14.5.2009

COMMISSION DECISION

of 13 May 2009

amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices

(notified under document number C(2009) 3710)

(Text with EEA relevance)

(2009/381/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Decision No 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision) (1), and in particular Article 4(3) thereof,

Whereas:

- (1) Commission Decision 2006/771/EC (2) harmonises the technical conditions for use of spectrum for a wide variety of short-range devices, including applications such as alarms, local communications equipment, door openers and medical implants. Short-range devices are typically mass-market and/or portable products which can easily be taken and used across borders; differences in spectrum access conditions therefore prevent their free movement, increase their production costs and create risks of harmful interference with other radio applications and services.
- (2) Commission Decision 2008/432/EC (3) amended the harmonised technical conditions for short-range devices contained in Decision 2006/771/EC by replacing its Annex.
- (3) However, due to rapid changes in technology and societal demands, new applications for short-range devices can emerge which require regular updates of spectrum harmonisation conditions.
- (4) On 5 July 2006, the Commission issued a permanent mandate (4) to the European Conference of Postal and Telecommunications Administrations (CEPT), pursuant to Article 4(2) of Decision No 676/2002/EC, to update the Annex to Decision 2006/771/EC in response to the technological and market developments in the area of short-range devices.

- (5) In its November 2008 report (5) submitted in response to that mandate, the CEPT advised the Commission to amend a number of technical aspects in the Annex to Decision 2006/771/EC.
- (6) Decision 2006/771/EC should therefore be amended accordingly.
- (7) Equipment operating within the conditions set in this Decision must also comply with 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 (6) in order to use the spectrum effectively so as to avoid harmful interference, demonstrated either by meeting harmonised standards or by fulfilling alternative conformity assessment procedures.
- (8) The measures provided for in this Decision are in accordance with the opinion of the Radio Spectrum Committee.

HAS ADOPTED THIS DECISION:

Article 1

The Annex to Decision 2006/771/EC is replaced by the Annex to this Decision.

Article 2

This Decision is addressed to the Member States.

Done at Brussels, 13 May 2009.

For the Commission

Viviane REDING

Member of the Commission

(1) OJ L 108, 24.4.2002, p. 1.

(2) OJ L 312, 11.11.2006, p. 66.

(3) OJ L 151, 11.6.2008, p. 49.

(4) Permanent Mandate to CEPT regarding the annual update of the technical Annex to the Commission Decision on the technical harmonization of radio spectrum for use by Short Range Devices (5 July 2006).

(5) CEPT Report 26, RSCOM 08-88.

(6) OJ L 91, 7.4.1999, p. 10.

ANNEX

ANNEX

Harmonised frequency bands and technical parameters for short-range devices

Type of short-range device	Frequency band	Power limit/field strength limit/power density limit (*)	Additional parameter/spectrum access and mitigation requirements (*)	Other usage restrictions (*)	Implementation deadline	
Non-specific short-range devices (*)	6 765–6 795 kHz	42 dB μ A/m at 10 metres			1 October 2008	
	13,553–13,567 MHz	42 dB μ A/m at 10 metres			1 October 2008	
	26,957–27,283 MHz	10 mW effective radiated power (e.r.p.), which corresponds to 42 dB μ A/m at 10 metres		Video applications are excluded	1 June 2007	
	40,660–40,700 MHz	10 mW e.r.p.		Video applications are excluded	1 June 2007	
	433,050–434,040 (*) MHz	1 mW e.r.p. and – 13dBm/10 kHz power density for bandwidth modulation larger than 250 kHz			Audio and voice signals, and video applications, are excluded	1 October 2008
		10 mW e.r.p.	Duty cycle (*): 10 %		Audio and voice signals, and video applications, are excluded	1 June 2007
	434,040–434,790 (*) MHz	1 mW e.r.p. and – 13dBm/10 kHz power density for bandwidth modulation larger than 250 kHz			Audio and voice signals, and video applications, are excluded	1 October 2008
		10 mW e.r.p.	Duty cycle (*): 10 %		Audio and voice signals, and video applications, are excluded	1 June 2007
			Duty cycle (*): 100 % subject to channel spacing up to 25 kHz		Audio and voice signals, and video applications, are excluded	1 October 2008
	863,000–868,000 MHz	25 mW e.r.p.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used. Alternatively a duty cycle (*) of 0,1 % may also be used	Audio and voice signals, and video applications, are excluded	1 October 2008	

Type of short-range device	Frequency band	Power limit/field strength limit/power density limit (*)	Additional parameters/spectrum access and mitigation requirements (*)	Other usage restrictions (*)	Implementation deadline
Non-specific short-range devices (*) (continued)	868,000–868,600 (*) MHz	25 mW e.r.p.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used. Alternatively a duty cycle (*) of 1 % may also be used	Video applications are excluded	1 October 2008
		25 mW e.r.p.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used. Alternatively a duty cycle (*) of 0,1 % may also be used	Audio and voice signals, and video applications, are excluded	1 October 2008
	868,700–869,200 (*) MHz	25 mW e.r.p.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used. Alternatively a duty cycle (*) of 0,1 % may also be used	Video applications are excluded	1 October 2008
		25 mW e.r.p.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used. Alternatively a duty cycle (*) of 0,1 % may also be used	Audio and voice signals, and video applications, are excluded	1 October 2008

Type of short-range device	Frequency band	Power limit/field strength limit/power density limit (*)	Additional parameters/spectrum access and mitigation requirements (*)	Other usage restrictions (*)	Implementation deadline
Non-specific short-range devices (*) (continued)	869,400–869,650 (*) MHz	500 mW e.r.p.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used. Alternatively a duty cycle (*) of 10 % may also be used Channel spacing must be 25 kHz, except that the whole band may also be used as a single channel for high-speed data transmission	Video applications are excluded	1 October 2008
		25 mW e.r.p.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used. Alternatively a duty cycle (*) of 0,1 % may also be used	Audio and voice signals, and video applications, are excluded	1 October 2008
	869,700–870,000 (*) MHz	5 mW e.r.p.	Voice applications allowed with advanced mitigation techniques	Audio and video applications are excluded	1 June 2007
		25 mW e.r.p.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used. Alternatively a duty cycle (*) of 0,1 % may also be used	Audio and voice signals, and video applications, are excluded	1 October 2008
	1 400–2 483,5 MHz	10 mW equivalent isotropic radiated power (e.i.r.p.)			1 June 2007
	5 725–5 875 MHz	25 mW e.i.r.p.			1 June 2007
	24,150–24,250 GHz	100 mW e.i.r.p.			1 October 2008
	61,0–61,5 GHz	100 mW e.i.r.p.			1 October 2008

Type of short-range device	Frequency band	Power limit/field strength limit/power density limit (*)	Additional parameters/spectrum access and mitigation requirements (*)	Other usage restrictions (*)	Implementation deadline
Wideband data transmission systems	2 400–2 483,5 MHz	100 mW e.i.r.p. and 100 mW/100 kHz e.i.r.p. density applies when frequency hopping modulation is used, 10 mW/MHz e.i.r.p. density applies when other types of modulation are used	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used		1 November 2009
	57,0–66,0 (*) GHz	40 dBm e.i.r.p. and 13 dBm/MHz e.i.r.p. density		Outdoor applications are excluded	1 November 2009
		25 dBm e.i.r.p. and – 2 dBm/MHz e.i.r.p. density		Fixed outdoor installations are excluded	1 November 2009
Alarm systems	868,600–868,700 MHz	10 mW e.r.p.	Channel spacing: 25 kHz The whole frequency band may also be used as a single channel for high-speed data transmission Duty cycle (*): 1,0 %		1 October 2008
	869,250–869,300 MHz	10 mW e.r.p.	Channel spacing: 25 kHz Duty cycle (*): 0,1 %		1 June 2007
	869,300–869,400 MHz	10 mW e.r.p.	Channel spacing: 25 kHz Duty cycle (*): 1,0 %		1 October 2008
	869,650–869,700 MHz	25 mW e.r.p.	Channel spacing: 25 kHz Duty cycle (*): 10 %		1 June 2007
Social alarms (*)	869,200–869,250 MHz	10 mW e.r.p.	Channel spacing: 25 kHz Duty cycle (*): 0,1 %		1 June 2007
Inductive applications (*)	20,050–59,750 kHz	72 dBµA/m at 10 metres			1 June 2007
	59,750–60,250 kHz	42 dBµA/m at 10 metres			1 June 2007
	60,250–70,000 kHz	69 dBµA/m at 10 metres			1 June 2007
	70–119 kHz	42 dBµA/m at 10 metres			1 June 2007
	119–127 kHz	66 dBµA/m at 10 metres			1 June 2007

Type of short-range device	Frequency band	Power limit/field strength limit/power density limit ⁽¹⁾	Additional parameters/spectrum access and mitigation requirements ⁽²⁾	Other usage restrictions ⁽³⁾	Implementation deadline
Inductive applications ⁽⁴⁾ (continued)	127–140 kHz	42 dB μ A/m at 10 metres			1 October 2008
	140–148,5 kHz	37,7 dB μ A/m at 10 metres			1 October 2008
	148,5–5 000 kHz In the specific bands mentioned below, higher field strengths and additional usage restrictions apply:	– 15 dB μ A/m at 10 metres in any bandwidth of 10 kHz. Furthermore the total field strength is – 5 dB μ A/m at 10 m for systems operating at bandwidths larger than 10 kHz.			1 October 2008
	400–600 kHz	– 8 dB μ A/m at 10 metres		This set of usage conditions applies to RFID ⁽⁵⁾ only	1 October 2008
	3 155–3 400 kHz	13,5 dB μ A/m at 10 metres			1 October 2008
	5 000–30 000 kHz In the specific bands mentioned below, higher field strengths and additional usage restrictions apply:	– 20 dB μ A/m at 10 metres in any bandwidth of 10 kHz. Furthermore the total field strength is – 5 dB μ A/m at 10 m for systems operating at bandwidths larger than 10 kHz.			1 October 2008
	6 765–6 795 kHz	42 dB μ A/m at 10 metres			1 June 2007
	7 400–8 800 kHz	9 dB μ A/m at 10 metres			1 October 2008
	10 200–11 000 kHz	9 dB μ A/m at 10 metres			1 October 2008
	13 553–13 567 kHz	42 dB μ A/m at 10 metres			1 June 2007
		60 dB μ A/m at 10 metres		This set of usage conditions applies to RFID ⁽⁵⁾ and EAS ⁽¹⁰⁾ only	1 October 2008
26 957–27 283 kHz	42 dB μ A/m at 10 metres			1 October 2008	

Type of short-range device	Frequency band	Power limit/field strength limit/power density limit (*)	Additional parameters/spectrum access and mitigation requirements (*)	Other usage restrictions (*)	Implementation deadline
Active medical implants (11)	9–315 kHz	30 dBµA/m at 10 m	Duty cycle (*): 10 %		1 October 2008
	402–405 MHz	25 µW e.r.p.	Channel spacing: 25 kHz Individual transmitters may combine adjacent channels for increased bandwidth up to 300 kHz. Other techniques to access spectrum or mitigate interference, including bandwidths greater than 300 kHz, can be used provided they result at least in an equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC to ensure compatible operation with the other users and in particular with meteorological radiosondes.		1 November 2009
Wireless audio applications (12)	87,5–108,0 MHz	50 mW e.r.p.	Channel spacing up to 200 kHz		1 October 2008
	863–865 MHz	10 mW e.r.p.			1 June 2007
Radio determination applications (13)	2 400–2 483,5 MHz	25 mW e.i.r.p.			1 November 2009
	17,1–17,3 GHz	26 dBm e.i.r.p.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 1999/5/EC must be used.	This set of usage conditions applies to ground based systems only	1 November 2009
Tank Level Probing Radar (14)	4,5–7,0 GHz	24 dBm e.i.r.p. (14)			1 November 2009
	8,5–10,6 GHz	30 dBm e.i.r.p. (14)			1 November 2009
	24,05–27,0 GHz	43 dBm e.i.r.p. (14)			1 November 2009
	57,0–64,0 GHz	43 dBm e.i.r.p. (14)			1 November 2009
	75,0–85,0 GHz	43 dBm e.i.r.p. (14)			1 November 2009

Type of short-range device	Frequency band	Power limit/field strength limit/power density limit ⁽¹⁾	Additional parameters/spectrum access and mitigation requirements ⁽²⁾	Other usage restrictions ⁽³⁾	Implementation deadline
Model Control ⁽⁴⁾	26 990–27 000 kHz	100 mW e.r.p.			1 November 2009
	27 040–27 050 kHz	100 mW e.r.p.			1 November 2009
	27 090–27 100 kHz	100 mW e.r.p.			1 November 2009
	27 140–27 150 kHz	100 mW e.r.p.			1 November 2009
	27 190–27 200 kHz	100 mW e.r.p.			1 November 2009
Radio Frequency Identification (RFID)	2 446–2 454 MHz	100 mW e.i.r.p.			1 November 2009

⁽¹⁾ Member States must allow the usage of spectrum up to the power, field strength or power density given in this table. In conformity with Article 3(3) of Decision 2006/771/EC, they may impose less restrictive conditions, i.e. allow the use of spectrum with higher power, field strength or power density.

⁽²⁾ Member States may only impose these "additional parameters/spectrum access and mitigation requirements", and may not add other parameters or spectrum access and mitigation requirements. Less restrictive conditions within the meaning of Article 3(3) of Decision 2006/771/EC mean that Member States may completely omit the parameters/spectrum access and mitigation requirements in a given call or allow higher values.

⁽³⁾ Member States may only impose these "other usage restrictions", and may not add additional usage restrictions. At least restrictive conditions may be introduced within the meaning of Article 3(3) of Decision 2006/771/EC, Member States may omit one or all of these restrictions.

⁽⁴⁾ This category is available for any type of application which fulfils the technical conditions (typical uses are telemetry, telecommand, alarms, data in general and other similar applications).

⁽⁵⁾ For this frequency band Member States must make all the alternative sets of usage conditions possible.

⁽⁶⁾ "Duty cycle" means the ratio of time during any one-hour period when equipment is actively transmitting. Less restrictive conditions within the meaning of Article 3(3) of Decision 2006/771/EC mean that Member States may allow a higher value for "Duty cycle".

⁽⁷⁾ Social alarm devices are used to assist elderly or disabled people when they are in distress.

⁽⁸⁾ This category covers, for example, devices for car immobilisation, animal identification, alarm systems, cable detection, waste management, personal identification, wireless voice links, access control, proximity sensors, anti-theft systems, including RF anti-theft induction systems, data transfer to handheld devices, automatic article identification, wireless control systems and automatic road tolling.

⁽⁹⁾ This category covers inductive applications used for Radio Frequency Identification (RFID).

⁽¹⁰⁾ This category covers inductive applications used for Electronic Article Surveillance (EAS).

⁽¹¹⁾ This category covers the radio part of active implantable medical devices, as defined in Council Directive 90/385/EEC of 20 June 1990 on the approximation of the laws of the Member States relating to active implantable medical devices (OJ L 189, 20.7.1990, p. 17).

⁽¹²⁾ Applications for wireless audio systems, including: cordless loudspeakers; cordless headphones; cordless headphones for portable use, e.g. portable CD, cassette or radio devices carried on a person; cordless headphones for use in a vehicle, for example for use with a radio or mobile telephone, etc.; in-ear monitoring, for use at concerts or other stage productions.

⁽¹³⁾ This category covers applications used for determining the position, velocity and/or other characteristics of an object, or for obtaining information relating to these parameters.

⁽¹⁴⁾ Tank Level Probing Radar (TLPR) are a specific type of radiodetermination application, which are used for tank level measurements and are installed in metallic or reinforced concrete tanks, or similar structures made of material with comparable attenuation characteristics. The purpose of the tank is to contain a substance.

⁽¹⁵⁾ The power limit applies inside a closed tank and corresponds with a spectral density of $-41,3$ dBm/MHz e.i.r.p. outside a 500 litre test tank.

⁽¹⁶⁾ This category covers applications used to control the movement of models (principally miniature representations of vehicles) in the air, on land or over or under the water surface.

Annex 7

Glossary of abbreviations

dBm	Decibels relative to milliwatts
e.i.r.p.	Effective isotropic radiated power
ETSI	European Technical Standards Institute
EU	European Union
GB-SAR	Ground Based Synthetic Aperture Radar
GHz	Gigahertz
HD	High Definition
IR	Interface Requirement
kHz	Kilohertz
MHz	Megahertz
mW	Milliwatt
SRD	Short range device
TLPR	Tank Level Probing Radar
WBDS	Wideband data transmission system
WT	Wireless telegraphy