Decision to make the Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009

Statement

Publication date: 13 July 2009

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Section 1

Summary

1.1 This statement confirms that, following a formal consultation, the Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009 (the "Regulations") were made by us on 7 July 2009, and are coming into force on 17 July 2009**.** The Regulations can be obtained through the Office of Public Sector Information (OPSI).[1]

1.2 The Regulations exempt the use of:

- 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).

1.3 It will also 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, 27090-27100, 27140-27150 and 27190-27200 kHz; and
- Radio frequency identification at 2446-2454 MHz.

1.4 We were required to comply with the 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"). The implementation of the SRD Amendment Decision is mandatory on all European Union (EU) Member States by 1 November 2009. The Regulations implement the Decision before this date.

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"), on 29 May 2009 we published a Statutory Notice[2] (the "Notice") containing a draft of the proposed regulations (the "Proposed Regulations") and invited comments from stakeholders.

1.6 We received three responses to our consultation. Having carefully considered the responses to the Notice we decided to proceed with making the Regulations and expedite their coming into force. This statement confirms that we have made the Regulations which will come into force on 17 July 2009.

[1] A link to the online version can be found at http://www.opsi.gov.uk/
[2] http://www.ofcom.org.uk/consult/condocs/shortrange09/shortrange09.pdf

Section 2

Introduction

2.1 In November 2006 the Commission adopted the SRD Decision.[3] This harmonised 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 technical annex to the SRD Decision is revised yearly after consideration of relevant changes in technologies.

2.2 Due to their low power and short range, SRDs can share frequencies with a number of other devices. It is for this reason that the SRD Decision instructs Member States that 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.

2.3 In November 2008 the European Conference of Postal and Telecommunications Administrations (CEPT) advised the Commission to amend a number of technical aspects in the Annex to the SRD Decision in Report 26, RSCOM 08-88.[4] On 25 March 2009 the Radio Spectrum Committee approved the amendments to the Annex. This led to the adoption of the SRD Amendment Decision on 13 May 2009.[5]

2.4 In order to implement the SRD Amendment Decision, and in accordance with our statutory obligations, the Proposed Regulations were published and subject to a one-month and a day consultation period. The consultation ran between 29 May 2009 and 30 June 2009 in the document "The Wireless Telegraphy (Short Range Devices) (Exemption) Regulations 2009".[6]

Changes to licence exemption requirements

2.5 We have made Regulations that implement the following changes to allow:

- licence exempt use of TLPR at 4.5-7, 8.5-10.6, 24.05-27, 57-64 and 75-85 GHz;
- licence exempt use of Radio determination applications at 2400-2483.5 MHz and 17.1-17.3 GHz (including GB-SAR);
- licence exempt use of WBDTS at 57-66 GHz (including wireless distribution of HD video); and
- airborne use for some currently exempt short range devices.

[3] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:312:0066:0070:EN:PDF
[4] 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
[5] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:119:0032:0039:EN:PDF
[6] http://www.ofcom.org.uk/consult/condocs/shortrange09/shortrange09.pdf

Tank Level Probing Radar

2.6 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. 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.

2.7 TLPR devices will be licence exempt providing that they meet the requirements set out in the Regulations that include:

- the device must be installed in a tank, , made of metal or reinforced concrete or any material with attenuation characteristics that are at least as strong the purpose of which is to contain a substance;
- 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.; and
- emissions from the device must have a maximum e.i.r.p. corresponding to that set out for the relevant frequency band in Table 1.

Table 1: Tank Level Probing Radar

Frequency band (GHz)	*Maximum e.i.r.p. (dBm)*
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

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

2.8 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. The exemption for the frequency band 17.1-17.3 GHz only applies to radiodetermination equipment that forms part of a ground based radiodetermination system. 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.

2.9 Radiodetermination devices will be licence exempt provided that they meet the requirements set out in the Regulations. They must:

- when operating within the frequency band 2400-2483.5 MHz, have a maximum e.i.r.p. of 25 mW; and

- when operating within the frequency band 17.1-17.3 GHz:
    - have a maximum e.i.r.p. density of 26 dBm;
    - form part of a ground based radiodetermination system; and
    - use techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in ETSI standard EN 300 440.

Wideband data transmission systems at 57-66 GHz

2.10 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 high definition video (e.g. Wireless HD) and automation systems. We expect they 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 products already developed that use this technology 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.

2.11 WBDTS devices will be licence exempt providing that they meet the requirements set out in the Regulations. They may not be used as fixed outdoor installations. They may be used indoors. They may be used outdoors otherwise than as a fixed outdoor installation. They must:

- when the equipment is located indoors, 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; and
- when the equipment is located outdoors, 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.

Airborne

2.12 We have changed the licence exemption arrangements for some devices that are already exempt. We have allowed airborne use of equipment that is used to control models, WBDTS at 2400 – 2483.5 MHz and radio frequency identification at 2446 – 2454 MHz. on the condition that the technical parameters are the same as that already permitted for ground use.

Section 3

Scope of Regulations

Responses to the Notice

3.1 We received three responses to the Notice.

3.2 Huber+Suhner raised a number of issues in their response concerning the Proposed Regulations in relation to the licence exemption of WBDTS at 57-66 GHz. Many of the issues raised concerned the SRD Amendment Decision. In particular the stipulation that devices must have differing operating powers depending on whether they are indoors or outdoors. They stated that was unenforceable and places unreasonable restrictions on potential vendors as they cannot ensure that equipment made for indoor use is not used outdoors. Due to the inability to restrict devices to lower power level outdoors they argued that this should mean that we postpone adoption of the SRD Amendment Decision until the matter is resolved. An alternative solution they provided was to set a limit of 25 dBm e.i.r.p. for all devices whether operating indoors or outdoors.

3.3 As a Member State the UK must implement the SRD Amendment Decision with the technical parameters it describes. Not implementing the SRD Amendment Decision or imposing technical parameters that are more restrictive, such as an e.i.r.p. limit across the band of 25 dBm, would risk exposing the UK to infraction procedures by the EU.

3.4 We acknowledge the concerns raised by Huber+Suhner and raised a similar issue about differing power levels and enforcement in the CEPT. Intel also has concerns over the differing power levels for equipment but supports a single 40 dBm e.i.r.p. and 13 dBm/MHz density for both uses. We understand that the Short Range Device Maintenance Group (SRD/MG) has been tasked by CEPT to review this issue in the revision of ERC Recommendation 70-03 annex 3. We fully support the work due to be carried by CEPT in resolving this issue.

3.5 Huber+Suhner also raised a conflict between the wording in paragraph 2.14 of the Notice and clause 4(b) of the Proposed Regulations. They noted that the Proposed Regulations appear to authorise equipment either exclusively for indoor use at a higher power level or indoor and outdoor use at a lower power level, whilst the text appeared to authorise equipment operating both indoors at the higher level and outdoors at the lower level. On reviewing the Proposed Regulations we have decided to change the Regulations in order to make it clear that equipment is exempt if it complies with the indoor emissions limits when indoors and the outdoor emissions levels when outdoors.

Minor modifications

3.6 We made several minor drafting modifications to the Proposed Regulations when finalising the Regulations.

3.7 In particular, we added the defined term ‘Wideband Data Transmission Systems’ into regulation 3 in order to remove any ambiguity as to the equipment covered in the exemption.

3.8 The second change is in response to Huber+Suchner comment that the Proposed Regulations would have only authorised equipment that operates solely indoors or outdoors and not equipment that can operate in both. We agree that we should not exclude any potential equipment deployments and have amended regulation 4 (now regulation 3(2)) in order to reflect this.

3.9 We have amended regulation 6(c)(ii) (now regulation 4(2)) that relates to radio determination applications equipment. In the Proposed Regulations we used the term 'terrestrial use' which has now been replaced by 'form part of a ground-based radio determination system' in order to reflect precisely the wording of the SRD Amendment Decision.

3.10 We made a number of changes to make the regulations clearer.

3.11 Finally, we are bringing the Regulations into force slightly earlier than the date on which we consulted, as a number of organisations contacted us to advise that they have equipment ready for the market and would appreciate regulations being brought into force as soon as possible. Therefore we decided that it would be beneficial to citizens and consumers to bring forward the date in which the Regulations come into force.

Final scope of the Regulations

The Legislative Framework

3.12 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

3.13 The Regulations will apply in the United Kingdom, Jersey, Guernsey and Isle of Man.

The Regulations

3.14 The Regulations will make the following changes:

- Regulation 3 exempts 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, is used otherwise than as a fixed outdoor installation and has a maximum e.i.r.p. of 40 dBm and a maximum density e.i.r.p. of 13 dBm/MHz when indoors; or has a maximum e.i.r.p. of 25 dBm and a maximum density e.i.r.p. of -2 dBm/MHz when outdoors;

- Regulation 4 exempts 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. of 26 dBm). Equipment operating within the 17.1-17.3 GHz frequency band must form part of a ground-based radio determination system 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;

- Regulation 5 exempts the use of TLPR equipment operating within the frequency bands set out in the table in the Schedule to the Regulations, providing that, when tested in a tank of the specifications set out in Annex E of ETSI standard EN 302 372, 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 inside the tank as set out in Column 2 of the table in the Schedule; and

- Regulation 6 exempts the airborne use of devices in the 26990-27000, 27040-27050, 29090-27100, 27140-27150 and 27190-27200 kHz bands providing they are for controlling the movement of a model, only emit emissions which, when measured in any direction, have a maximum effective radiated power level of 100 mW; and do not cause or contribute to undue interference with wireless telegraphy. In the 2400-2483.5 MHz frequency band equipment used airborne must be wide band data transmission systems equipment, only emit emissions which, when measured in any direction, have a maximum e.i.r.p. density of 100 mW, only emit emissions which, when measured in any direction, have a maximum e.i.r.p. density of 100 mW per 100 kHz when frequency hopping modulation is used and of 10 mW per MHz when other types of modulation are used, use techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in ETSI standard EN 300 328 and not cause or contribute to undue interference with wireless telegraphy . 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.

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,[7] for the Wireless Telegraphy (Short Range Devices) (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 2009/381/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

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.

A1.4 Commission Decision 2006/771/EC of 9 November 2006 on harmonisation of the radio spectrum for use by short-range devices (the "SRD Decision")[8] 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.

A1.5 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

[7] www.opsi.gov.uk/acts/acts2003/pdf/ukpga_20030021_en.pdf.
[8] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:312:0066:0070:EN:PDF

the radio spectrum for use by short-range devices (the "SRD Amendment Decision").

Proposal

A1.6 This impact assessment relates to the making of the Regulations. These have implemented the SRD Amendment Decision.

The citizen and/or consumer interest

A1.7 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 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.

A1.8 In particular:

- the Tank Level Probing Radar may help safety of workers by enabling remote monitoring and greater accuracy in measuring the level of substances in enclosed tanks;
- the Ground Based Synthetic Aperture Radar can be used to monitor movement in structures, potentially protecting workers and the general public; and
- the Wideband data transmission systems are expected to be attractive to mass market applications such as the wireless distribution of HD video that will allow users to send video signals from any video source to a television screen or other monitor without having to connect any video signal cables.

A1.9 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 these proposed 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

A1.10 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.

A1.11 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

A1.12 The options open to us in relation to the implementation of the SRD Amendment Decision were as follows:

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

Analysis of options

Make new regulations

A1.13 The most efficient route to mandatory compliance was to make Regulations that are consistent with the SRD Amendment Decision as closely as possible.

Do nothing

A1.14 By doing nothing, we would have been in breach of the SRD Amendment Decision and could be open to infraction proceedings initiated by the Commission.

The preferred option

A1.15 The preferred option was to make the Regulations as indicated in order to comply with the SRD 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

A1.16 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.

A1.17 We will assist the Commission in carrying out these reviews as required.

Annex 2

List of respondents

Name Withheld

Intel

Huber + Suhner