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for everyone

Business Radio Licensing Policy Manual

Publication date: July 2018

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Section 1

Introduction

The Business Radio Licensing Policy manual gives general guidance on the Ofcom policy for the licensing of Business Radio. This manual gives an outline of this policy and contains such headings as Business Radio, Equipment Compliance, Types of licences, Frequency Planning, Interface Requirements, Technical Frequency Assignment Criteria and International Coordination.

Business Radio

- 1.1 Business Radio is a broad term, as it relates to not just one type of service but several different services. These services can range from taxi companies, couriers to rail companies and the Emergency Services.
- 1.2 These services use radio communications known as Private Mobile Radio or better known as PMR. PMR is a radio communications system which uses mobile, base stations, dispatchers and hand portables. An example of a PMR system can be a single base station with a few mobiles or it can be a network with several base stations with mobiles. PMR is used in the spectrum bands shown in Annex 2.
- 1.3 These Business Radio users can include local and central government, spectrum management organisations, radio suppliers and dealers, emergency services, fleet operators, public transport operators, construction, utility companies and medical.
- 1.4 Ofcom manages the radio spectrum used by these Business Radio users and develops the policy for the use of the spectrum on a technology neutral basis and has introduced Trading and Liberalisation to allow change of use and to make more optimal use of the spectrum.

Wireless Telegraphy Act Licensing Policy

- 1.5 The Wireless Telegraphy Act Licensing Policy is a separate Licensing Policy Manual which contains general policy guidance with an overview of the Wireless Telegraphy Act Licensing policy procedures, whereas the Business Radio Licensing Policy Manual is specific to Business Radio and the policy guidance for the licensing of its services.
https://www.ofcom.org.uk/_data/assets/pdf_file/0025/77209/licensing.pdf

Equipment Compliance

- 1.6 It is required by the Wireless Telegraphy Act 2006 that no radio equipment is installed or used in the UK except under the authority of a licence granted by or otherwise exempted by regulations made by Ofcom. It is a condition of such a licence or exemption regulations as appropriate that the equipment meets the minimum requirements in [Interface Requirement 2044](#).
- 1.7 Ofcom strongly advises prospective licensees to ensure that conformance to licence requirements and access to radio spectrum is established before the purchase or installation of Business Radio services. Enforcement action may be taken against those found operating without a licence or in contravention of their licence conditions.
<https://licensing.ofcom.org.uk/binaries/spectrum/regulations-technical-reference/rules/licensing-procedures2010.pdf>

Section 2

Types of licences

2.1 There are five different licence types:

- Business Radio Area Defined;
- Business Radio Technically Assigned;
- Business Radio Simple Site;
- Business Radio Simple UK;
- Business Radio Suppliers Light

Business Radio Area Defined

2.2 The Business Radio Area Defined licence class is used for licensees who require large geographical areas on a national or regional basis who operate networks and who require exclusive access to spectrum. Such networks are often of strategic and national importance, e.g. rail networks, utilities, distribution networks and transport networks. Depending on spectrum availability, these licences may be issued for either the whole of the UK, national areas (e.g. Scotland) or 50 km² x 50 km² national grid squares. The licensee is free to deploy radio equipment anywhere within the licensed geographical boundary as long as licence conditions are met.

Business Radio Technically Assigned

2.3 This licence is a flexible licence that authorises the use of a wide variety of business radio equipment. Licensees can choose from a wide range of frequencies across all Business Radio bands and a wide range of coverage areas, from very small (e.g. in-building coverage) to very large (e.g. a county) and require a degree of protection from other users.

Licence fees are calculated based on several factors including the size of the coverage area and the popularity of the frequency band and typically range from £75 to £1480 for a single channel assignment. Ofcom employs a scientific assignment process using advanced spectrum management software to carefully plan and manage frequency assignments in the business radio frequency bands.

Business Radio Simple UK

2.4 For Business Radio Light licence classes, Ofcom does not undertake any frequency assignment. Instead, each licence sets out a list of available frequencies which may be used and some basic technical restrictions that must be adhered to.

2.5 Business Radio Simple UK licensees have access to nineteen frequencies spread across five Business Radio frequency bands and must share and self-coordinate with other Simple UK licensees. This licence authorises the use of hand-portable or mobile radio equipment anywhere within the UK. Base station use is not permitted. The licence fee is £75 for five years.

Business Radio Simple Site

- 2.6 This licence authorises the use of a radio system operating a base station and mobile stations within a small geographical area (typically 1 kilometre or less). Frequencies available under this licence class are typically used for radio paging or voice systems. Ofcom does not assign specific frequencies to licensees. Instead, licensees have access to a range of frequencies and must share and self-coordinate with other Simple Site licensees (for example by selecting unused channels). The licence fee is £75 for five years.

Business Radio Suppliers Light

- 2.7 This licence is a specialist licence for Radio Suppliers and permits them to:
- Service and repair business radio and marine equipment;
 - Hire out business radio (including trunked business radio) and/or radio paging equipment to customers for up to one year;
 - Allocate business radio (including trunked business radio) equipment to customers awaiting Business Radio licences, for up to three months (parking);
 - Demonstrate business radio (including trunked business radio) equipment to customers for up to 28 days.

Licensees have access to a wide range of frequencies and must share and self-coordinate with other Suppliers Light licensees. The licence fee is £75 for five years.

Section 3

Licensing Process

Applying for a licence

- 3.1 You can apply for an Area Defined or Technically Assigned licence using our online forms <https://secure.ofcom.org.uk/busrad/> or you can download a licence application form <http://licensing.ofcom.org.uk/radiocommunication-licences/business-radio/forms/> and send the completed form to Spectrum Licensing. Submit the application and Ofcom will send you a request for payment. When Ofcom receives payment the licence will be issued to you.
- 3.2 If you require a Light Licence then you can use the portal to purchase a licence <https://ofcom.force.com/licensingcomlogin>
- 3.3 If you have a query regarding your licence please contact Spectrum Licensing, this is also the address to send the application to: PO Box 1285, Warrington, WA1 9GL.
Tel: 0300 123 3333 or 020 7981 3131
Email: spectrum.licensing@ofcom.org.uk

Licence Variation

- 3.4 To surrender or vary your licence you need to download the appropriate form from <http://licensing.ofcom.org.uk/radiocommunication-licences/business-radio/amend/>. Email your changes to spectrum.licensing@ofcom.org.uk. You can apply online <https://secure.ofcom.org.uk/busrad/vary>
- 3.5 Quote the licence number(s) that you wish to change and submit all changes no later than two weeks before the month in which your licence/s are due to be renewed. Ofcom is unable to change licence and contact details during the month your licence/s are in renewal.
- 3.6 Ofcom may vary licences from time to time. This may be at the request of the licensee or where Ofcom wishes to make a change. Most customer requests fall into two categories:
 - Customer Details e.g. a request to change the administrative details of the company;
 - Technical Details e.g. a request for an additional station or service.
- 3.7 Licensees must not make changes of any kind that would take them outside the boundary conditions of their licence unless authorised by a licence variation or new licence. Applications for variations should be made using the appropriate licensing forms or through correspondence.
- 3.8 In accordance with a new provision of the Wireless Telegraphy Act, where Ofcom proposes to vary (or revoke) a licence, Ofcom will send a notice to the licensee.

This notice gives a month in which the licensee can state any objection or concerns about the proposed change. Ofcom must consider those representations before confirming whether the variation will be made.

3.9 Examples of customer detail amendments

- Legal/Licensee name and address;
- Trading name;
- Contact names and addresses;
- Bank details;
- Account and transactions

Examples of technical detail amendments

A technical amendment is a change to anything that relates to the use of the radio

- Change of equipment;
- Moving a base station;
- Requesting a new channel or frequency assignment;
- More or fewer mobiles;
- spectrum, e.g. additional base stations;
- Change in power or another operating parameter.

3.10 Requests for amendments to a licence's technical details can be made in writing, using the appropriate application form or you can apply for a variation online for Area Defined and Technically Assigned licences using the link below. For light licences such as Simple UK or Simple Site please use the online portal.

<https://secure.ofcom.org.uk/busrad/vary>

3.11 Currently, most technical amendments do not result in an increase in the licence fee. There are however exceptions such as the addition of a new chargeable service being added. A revised fee is issued on renewal. If an amendment changes any of the details that appear on a licence schedule, a revised licence schedule will be sent to the licensee. The equipment varied cannot be used until the change to the licence is confirmed by Ofcom.

3.12 Charging for amendments to licences is based on the provisions in the Licence Fees Regulations. Normally these sums are collected at the time the licence is renewed.

Licence renewals

3.13 The renewal notice should be treated as though it was an invoice. The licensee has until the renewal date to pay for the licence. The licence/s will be in breach if payment is not received before the renewal date.

3.14 Send payment for the exact amount on the request for payment with the remittance advice received to: Cash Management, Finance, Ofcom, Riverside House, 2a Southwark Bridge House, London, SE1 9HA.

3.15 If you are paying by cheque, please return the cheque to the above address with the remittance advice and write the Request for Payment reference no. on the back of the cheque. (It will start with 77XXXXXX).

3.16 Any changes that the licensee requested during the validation period will be reflected on the renewal notice.

3.17 The Request for Payment reference number should be quoted if paying by BACs or International Bankers draft.

- 3.18 The reference number helps identify payment. If the payment cannot be matched with the request for payment number, it will be returned by the Ofcom Finance Team to the licensee's bank.
- 3.19 The payment should be made to the exact amount on the request for payment.
- 3.20 Ofcom are unable to accept over or underpayment against a request for payment. The payment will be returned if it does not match the amount specified on the renewal notice.
- 3.21 Once Ofcom has received and processed payment, the licensee will be sent a receipt confirmation. This is sent to the Licence contact specified on the licence.

Surrender of licence

- 3.22 For Technically Assigned licences a licensee can cancel their licence or surrender their licence by completing the form that can be found at: <https://secure.ofcom.org.uk/busrad/surrender> or email your changes/cancellations to spectrum.licensing@ofcom.org.uk. If you wish to cancel a light licence then you should use the online portal.
- 3.23 These changes should be submitted two weeks before the month in which the licence/s are renewed. The licence and contact details cannot be changed once the renewal notice has been received.

Revocation of licences

- 3.24 Revocation of a licence can occur for several reasons. These reasons may include where:
 - A breach of the licence has occurred, which means non-adherence to the terms and conditions of the licence. The severity of the breach will be a determining factor in the extent of the action, ultimately revocation and legal action maybe required (e.g. non-payment of renewal fees);
 - The licensee is not using the spectrum in a responsible manner (e.g. if the licensee has previously breached another licence's conditions);
 - Ofcom may refuse to grant a licence to a person where evidence provided to Ofcom by the police indicates that the applicant is involved (or has been involved) in organised crime or other criminal activity;
 - Ofcom may revoke this licence where evidence provided to Ofcom by the police indicates that the applicant is involved (or has been involved) in organised crime or other criminal activity;
 - Compliance with a Direction from the Secretary of State;
 - Compliance with an international obligation of the United Kingdom;
 - In the interest of national security;

- The use of the radio equipment is causing or contributing to undue interference to the use of other authorised radio equipment;
- For non-payment of licence fees at the renewal interval for licences which run on from year to year;
- This is the most common reason for revocation. Consequently, the reminder process for payment of renewal fees starts six weeks before a licence is due to be renewed, when Ofcom sends the licensee a renewal letter stating the date the licence needs to be renewed by, the cost of the licence and assignment that the licence covers. The day after the licence should have been renewed, an intention to revoke letter is sent to the licensee, stating that they have one month to make representations or pay the licence fee.

3.25 For all revocations and variations, Ofcom (except where the licensee consents) must give the licensee a notice stating the reasons for the revocation and specifying a period (generally a month) during which the licensee can make representations.

3.26 Appeals against a revocation can be brought under the terms of the WT Act.

How the appeals process works

3.27 A person aggrieved by any of the above decisions, can appeal on either or both of the following grounds:

- That an error of fact has been made;
- That an error of law has been made.

3.28 The Communications Act has provided arrangements for appeals to be heard by the Competition Appeal Tribunal (CAT). These include:

- Appeals decided by the CAT on the merits and by reference to the grounds of the appeal set out in the notice of appeal;
- The CAT must include in its decision, a decision as to what (if any) is the appropriate action for Ofcom (or other decision taker);
- to take in relation to the subject matter of the decision under appeal.

3.29 The CAT may then remit the decision under appeal to the decision maker with such directions (if any) as the CAT considers appropriate to effect its decision.

3.30 A decision of the CAT may be appealed to the Court of Appeal or Court of Session (in Scotland) on a point of law.

Section 4

Trading licences

Can licences be traded?

- 4.1 Spectrum trading allows the holders of certain wireless telegraphy licences, granted by Ofcom under section 8 of the Wireless Telegraphy Act 2006 to transfer all or part of their rights and obligations under their licences to another party.
- 4.2 There are no restrictions on who may apply to participate in a trade for any of the currently tradable licences. However, we are unlikely to permit a trade to any company/ person to whom we would not normally issue a licence for that licence class.
- 4.3 The majority of licences issued by Ofcom are tradable.
- 4.4 The Business Radio licence types that are tradable:
 - Business Radio Area Defined;
 - Business Radio Technically Assigned;
 - Business Radio Simple UK;
 - Business Radio Simple Site; and
 - Business Radio Suppliers Light.

In what ways can licences be traded?

- 4.5 Ofcom introduced different ways to trade licences under the Trading Regulations, which offer flexibility to licensees interested in trading rights arising under WT Act licences. The different ways that licensees can trade licences:
 - **outright total transfer** – where all the rights and obligations of a licence transfer from one party to another;
 - **concurrent transfers** – the transfer of the rights and obligations under the licence such that the transferred rights and obligations become rights and obligations of the transferee while continuing to be rights and obligations of the person making the transfer; and
 - **partial transfers** – the transfer of only some rights and obligations under the licence. This will result in a licence being partitioned (divided) into two distinct licences. Partial transfers may be outright or concurrent.

- 4.6 The different trading options available will be determined by the type of licence class.
- 4.7 Further information on the different ways of trading a licence can be found in the Trading Guidance Notes (July 2015) at the following link:
https://www.ofcom.org.uk/data/assets/pdf_file/0029/88337/Trading-guidance-doc-jul15v0-1-2.pdf

What do you have to do to trade a licence?

Licence holder submits the appropriate trading application form signed by the transferee and transferor and sends the completed form to the Spectrum Trading Desk PO Box 1285, Warrington, WA1 9GL.

Email: spectrum.licensing@ofcom.org.uk.

- We assess the information provided on the form and consider whether we require further information in order to be able to consent to the transfer;
- We publish a notice setting out basic details of the proposed transfer on the trade notification register;
- We check that none of the circumstances in which transfers are not authorised apply;
- We consider and determine whether or not to consent to the trade;
- We inform the parties to the transfer of its decision about consent, if a trade is refused we will make clear the grounds on which we have withheld consent;
- If agreed the parties and Ofcom put the transfer into effect by the licence holder surrendering the original copy of his licence to us and we issue new licences that confer exactly the same rights and obligations to either the transferee or, in the case of a partial trade, to both parties; and
- The status of the trade is updated in the trade notification register.

What is involved in a trade?

- 4.8 Regulation 8(1) of the Spectrum Trading Regulations sets out the information that must be provided by the companies that wish to trade.
- 4.9 Once the commercial details of a transaction have been agreed between the parties, the licence holder must submit the appropriate completed application form to the Spectrum Trading Desk. The forms requests basic information however parties to a transfer need to provide us with all the information we require to decide whether to consent to a trade.
- 4.10 We request additional information on a voluntary basis, which may be useful to us in order to monitor the success of spectrum trading. Such voluntary information

- might include details of the underlying commercial transaction, including information on the price attributable to the transfer of rights and obligations under the licence.
- 4.11 After checking the documentation, we will publish a notice on the Trade Notification Register (TNR), stating the names of the transferor and the transferee and setting out basic information about the licence to be transferred. The status of the transfer on the TNR will initially show ‘being processed’ until we have consented to the trade when the status will be updated to show “Consent granted” followed by “Completed” once the trade has been effected. Where we do not consent to a trade or where either party to the transfer decide not to continue the trade, the status will show “Transfer not completed”.
- 4.12 Regulation 8(2) of the Spectrum Trading Regulations lists the information we will publish in its notice – after determining the information requirements are met.
- 4.13 A licence transfer should neither trigger the payment of additional licence fees nor the repayment to a transferor of any fees already paid. The rights transferred under a licence will include the transferor’s rights which arise from having paid a licence fee. The renewal time when further licence payments may be due (under the licence charges regulations) will remain the same, notwithstanding the transfer, and will be set out on the licence as issued to the transferee. We will ensure that all licence fees which are owed have been paid in full before a transfer can take place.
- 4.14 We have not set rigid guidelines in trading regulations regarding the time it takes to complete the transfer process as we do not believe these are appropriate since we consider the priority is to make objectively justifiable decisions. However, we hope to complete all trades (measured from the day the proposed transfer is received by the Trading Desk, to the day the transfer is effected or rejected) within 42 calendar days.

What happens after a trade?

- 4.15 After checking the documentation, we will publish a notice on the Trade Notification Register (TNR), stating the names of the transferor and the transferee and setting out basic information about the licence to be transferred. The status of the transfer on the TNR will initially show ‘being processed’ until we have consented to the trade when the status will be updated to show “Consent granted” followed by “Completed” once the trade has been effected.
- 4.16 For more information on spectrum trading, please see the Trading Guidance Notes available at the following link:
https://www.ofcom.org.uk/data/assets/pdf_file/0029/88337/Trading-guidance-doc-jul15v0-1-2.pdf

Spectrum Leasing

Can licences be leased?

- 4.17 Before leasing spectrum rights, you should check whether your licence allows you to do so and obtain the necessary licence variation if it does not. As indicated in table 4 below, we are currently limiting the availability of licence

variations to allow leasing to Area Defined Business Radio licences and most auctioned licences. Suppliers Light Business Radio licences already contain the necessary terms and no variation is needed to allow holders to hire out equipment.

How may I check whether my licence contains the necessary provisions to allow leasing?

4.18 Table below indicates the licence classes in which we are currently prepared to allow leasing. If in doubt, or you wish to apply for a licence variation for leasing, please check with the Trading Desk at the address at the end of this guidance.

Business Radio	Area Defined	Variations to allow leasing available on application
	Suppliers Light	Leasing already permitted under terms of existing licences without need to obtain a variation

How do I apply for a variation if I need one?

4.19 You may apply to the Trading Desk. For operational and enforcement-related reasons, we are currently restricting the availability of these variations as indicated in the table above.

Is there any limit on the length of lease that a licensee may grant?

4.20 Leases may be of any length up to the lifetime of your licence.

What happens at the end of the lease period?

4.21 The leaseholder is no longer authorised to use the spectrum. Continued use may be in breach of contract and constitute a criminal offence under the WT Act. Ofcom may take enforcement action against persons using the spectrum without authorisation or causing interference to authorised users.

What regulatory requirements apply to the leasing process?

4.22 The licensee and prospective leaseholder are free to negotiate the terms for the lease, including price and duration and there is no need to notify us of leases. However, they must comply with the conditions in the licence variation. Please see the following question for details.

Further Information

4.23 Please note a link to the trading and leasing guidance notes https://www.ofcom.org.uk/data/assets/pdf_file/0029/88337/Trading-guidance-doc-jul15v0-1-2.pdf

Section 5

Applying the licence fee

- 5.1 Ofcom's current use of spectrum pricing gets its legal powers from the Wireless Telegraphy Act 2006 and the Communications Act 2003.
- 5.2 Administered Incentive Pricing has been applied to the Business Radio sector since 1998. The approach is designed to encourage the most efficient use of the available spectrum.
- 5.3 To encourage licensees to use spectrum more efficiently, the Wireless Telegraphy Act 2006 enables prices for annual licences fees to be set above administrative cost to reflect a range of spectrum management objectives and efficient use economic, innovation, and competition, having regard to the expected future demand for spectrum. This system has been termed Administered Incentive Pricing (AIP).
- 5.4 Ofcom consulted on Spectrum Pricing and in its Statement on Spectrum Pricing of 13 February 2005, Ofcom stated that the valuation by reference to which most Business Radio services annual fees are calculated £9,900 per a 2 x 12.5 kHz channel will not change.
- 5.5 When setting fees for licences in the Business Radio sector (excluding the Light licence category) Ofcom takes the following into account:
 - whether a location is highly populated;
 - the extent of coverage of a radio system;
 - whether the frequency band is a popular band;
 - the amount of spectrum bandwidth used;
 - whether spectrum is shared with other users.
- 5.6 Further information on Spectrum Pricing can be found on a consultation on proposals for setting Wireless Telegraphy Act licence fees, Modifications to Spectrum Pricing at the following link:
<http://www.legislation.gov.uk/uksi/2011/1128/made>

Section 6

Frequency Planning

Frequency allocation

Assignment of channels

- 6.1 The assignment process is integral with spectrum planning. Spectrum Licensing endeavour to find available spectrum within Business Radio frequency bands to accommodate new assignments without causing detrimental effects to existing users. Business Radio facilitates this work by managing the spectrum, predicting demand and making spectrum available to Ofcom's customers.
- 6.2 The primary role of Ofcom is to ensure that spectrum is available for the benefit of citizens, consumers and UK industry and ensuring that the spectrum meets social and market requirements but due to its limited nature is used in as efficient manner as is possible.
- 6.3 The current Business Radio policy is to make as much spectrum as is possible available except where there is a regulatory reason that prevents this.
- 6.4 There are two methods by which channels might be assigned to licensees; one is to provide as much 'clear' space surrounding the assignment in order to insure against co-channel interference; the other to load the channels to the maximum of channel capacity. All assignments should be carried out in the knowledge that they are on or using channels designed for shared or exclusive use.
- 6.5 When making assignments, an assignment should not be made on a 'best channel first' basis, but on the basis that the channel meets Ofcom's minimum requirements in terms of quality of service both to the user and to any neighbouring co-channel users. It should meet as far as is possible, the needs of the customer, without having an injudicious effect on co and adjacent channel users.

Assignment Types

- 6.6 There are two types of assignments; **shared** and **exclusive**.
- 6.7 A shared assignment refers to an assignment for which we expect that transmissions will be made for no more than 33% of the time in the busiest hour of operation. An exclusive assignment refers to (a): an assignment for which we expect that transmissions will be made for either up to 100% of the time or more than 33% of the time in the busiest hour of operation or (b): an assignment that requires extra protection because of either business or safety critical reasons.

Section 7

Technical Specifications

Interface Requirements

- 7.1 The Radio Equipment Directive (Directive 2014/53/EU) was implemented in the United Kingdom (UK) by the Radio Equipment Regulations 2017, statutory instrument No. 1206. Radio equipment means an electrical or electronic product, which intentionally emits and/or receives radio waves for the purpose of radio communication and/or radiodetermination, or an electrical or electronic product which must be completed with an accessory, such as an antenna, so as to intentionally emit/or receive radio waves for the purpose of radio communication and /or radiodetermination
- 7.2 It is required by the Wireless Telegraphy Act 2006 that no radio equipment is installed or used in the UK except under the authority of a licence granted by or otherwise exempted by regulations made by Ofcom.
- 7.3 UK Radio Interface Requirements provide the link between the Radio Equipment Directive and licensing/exemption of radio equipment under the WT Act. They are limited to a high-level description of spectrum use (frequency range, channel spacing, output power, where appropriate a technology to be used, licensing regime).
- 7.4 Interface Requirement documents detail the minimum technical specifications that a radio system is required to meet in order for it to be used in the UK.
- 7.5 Interface Requirement 2044 details the minimum technical specifications for those Land Mobile Services covering Business Radio (Area Defined), Business Radio (Technically Assigned) and Business Radio (Light Licence) Authorisations. Interface Requirement 2044 can be found at the following link on the Ofcom website: https://www.ofcom.org.uk/data/assets/pdf_file/0021/84630/ir2044.pdf
- 7.6 Interface Requirement 2064 details the minimum technical specifications for Business Radio GSM-R. Interface Requirement 2064 can be found at the following link on the Ofcom website: https://www.ofcom.org.uk/data/assets/pdf_file/0026/84635/ir2064.pdf

Technical Frequency Assignment Criteria (TFAC)

- 7.7 Technical Frequency Assignment Criteria gives the principles that Ofcom will employ in frequency bands for use by business radio.
- 7.8 It details the frequency assignment process for Business Radio, the licence types, international coordination process, the Business Radio frequency bands with its channel bandwidths and duplex splits, antenna characteristics, a list of the CTCSS and DCS codes and information on some of the services used by Business Radio users. The Technical Frequency Assignment Criteria (TFAC) can be found on the Ofcom website at the following link: https://www.ofcom.org.uk/data/assets/pdf_file/0023/59432/ofw164.pdf.

Section 8

International Coordination

Why is International Coordination required

- 8.1 International coordination is required for two main reasons. These are:
- to protect our neighbours' systems from harmful interference from proposed UK base station and mobile assignments; and
 - to protect the receivers of proposed UK assignments (base stations and mobiles) from harmful interference from our neighbours' systems.
- 8.2 The protection of our neighbours' systems can be assumed when the predicted impact of the proposed system meets the requirements of a relevant Memorandum of Understanding (MoU) and/ or Agreement. In such cases, successful international coordination may be assumed.
- 8.3 A summary of the applicable MoUs and Agreements to Business Radio spectrum can be found in Annex 4 of the Technical Frequency Assignment Criteria document (OfW164). Please note that the Harmonised Coordination Methodology (HCM) Agreement (formerly the Berlin and Vienna Agreements) is generally used in the absence of a formal international agreement. See: http://hcm.bundesnetzagentur.de/vertrag/englisch/e_pdf05.zip.
- 8.4 Please note that international coordination coverage predictions generally use a 50% location and typically 10% time propagation model. This means that a predicted international coordination interference boundary will usually extend further than a national coordination prediction boundary that uses a 50% location and 50% time model.
- 8.5 International coordination may need to be sought if the predicted interference level breaches the requirements of the relevant MoU(s) and / or Agreement(s).
- 8.6 In addition to making outgoing interference predictions, our spectrum management software also identifies areas within and around the UK where international coordination is sought automatically, e.g. the Channel Islands, Northern Ireland, and the North Sea. This is to minimise the possibility of harmful interference occurring to UK low power systems from our neighbours' high-power systems.
- 8.7 It should therefore not be assumed that the protection of our neighbours' systems will automatically result in our own systems being protected. This is because our neighbours' systems may:
- have a significantly higher ERP than the proposed UK system (resulting in a proportionately higher level of incoming interference); and/or
 - use a channel with different frequency pairing arrangements.

International Coordination Process

- 8.8 The international coordination process consists of:
- an exchange of data between the impacted Administrations;
 - an impact analysis of the proposed system; and
 - a formal response, e.g. coordinated without conditions, coordinated with conditions, or coordination failed.
- 8.9 Please note that the international coordination process takes typically 45 days. This duration may need to be extended if, for example:
- the channel(s) that we seek to be coordinated are already being used by our neighbours;
 - the requested technical characteristics are considered excessive or incorrect.
- 8.10 For example, the ERP is too high for the requested coverage radius, a non-directional antenna may be being used unnecessarily and a down-fire antenna is being used for a coverage radius greater than 3 kms, or has a tilt angle other than - 90 degrees.
- 8.11 Please see Section 6 of the National and International Coordination Information Sheet for ways in which you could reduce the potential level of interference to an adjacent user and therefore increase the probability of an international coordination request being successful.
https://www.ofcom.org.uk/data/assets/pdf_file/0032/58577/international.pdf
- 8.12 Please note that all international coordination requests must be conducted through Ofcom and the relevant neighbouring Administration(s).
- 8.13 In the future, we may negotiate Operator Agreements. This will enable a specific UK operator to negotiate directly with an operator within a neighbouring country.

Licence types that require International Coordination

Business Radio Area Defined licence

- 8.14 This licence type must meet terms and conditions set out in International Coordination Agreements and MoUs. The International Coordination Agreements and MoUs for each spectrum band used by Business Radio can be found in the Ofcom Technical Frequency Assignment Criteria at the following link:
https://www.ofcom.org.uk/data/assets/pdf_file/0023/59432/ofw164.pdf

Post Issue Support

- 8.15 The Post Issue Support process enables licensees to confirm that their planned deployments comply with relevant international coordination requirements. Any deployments in Band III (177.20625 MHz- 193.49375 MHz) or the UHF1 (425.00625 MHz- 449.49375 MHz) frequency bands always need coordination

and subsequent authority from Ofcom. For all bands the deployments must comply with the International Coordination MoUs that have been agreed between Ofcom (UK) and neighbouring administrations.

Business Radio Technically Assigned

- 8.16 For the frequency assignment process for the Technically Assigned licence class, an applicant's technical details are checked to ensure it complies with all the relevant international MoUs. If any of the MoUs are breached, the international coordination process will be carried out and if international coordination is required, the applicant's technical details will be sent for coordination and an assignment will be made provisionally until the outcome of the International Coordination process is known.

Section 9

Contacts

- 9.1 Spectrum Licensing
Telephone: 0300 123 1000
Email: spectrum.licensing@ofcom.org.uk
Address: PO Box 1285, Warrington, WA1 9GL.

Annex 1

General Licence Conditions Booklet

Introduction

- A1.1 Each Wireless Telegraphy licence issued by the Office of Communications ("Ofcom"¹) under section 8 of the Wireless Telegraphy Act 2006 ("the Act") authorises the licensee to establish and use stations or install or use apparatus for wireless telegraphy, subject to the terms, provisions and limitations of that licence.
- A1.2 The terms contained in this General Licence Conditions Booklet (the "Booklet") are incorporated into and form part of the terms, provisions and limitations of each wireless telegraphy licence to which this Booklet applies (Each such wireless telegraphy licence is referred to as "the Licence").

General Licence Conditions

Condition 1 - Licence Term, Variation and Revocation

- A1.3 The Licence shall continue in force until revoked by Ofcom or surrendered by the Licensee.
- A1.4 Pursuant to schedule 1 paragraph 8 of the Act Ofcom may not revoke this Licence under schedule paragraph 6 except 1:
- (a) at the request of, or with the consent of, the Licensee;
 - (b) if there has been a breach of any of the conditions of the Licence;
 - (c) if, in connection with the transfer or proposed transfer of rights and obligations arising by virtue of the Licence, there has been a breach of any provision of regulations made by Ofcom under the powers conferred by section 30 (1) and (3) of the Act²;
 - (d) in accordance with schedule 1 paragraph 8(5) of the Act;

¹ "Ofcom" is the abbreviated name for the Office of Communications established by the Office of Communications Act 2002 to whom powers under the Act and previous Acts to issue and regulate licences have been transferred by the Communications Act 2003. The powers were conferred on 28th December 2003.

² These are regulations on spectrum trading.

- (e) if it appears to Ofcom to be necessary or expedient to revoke the Licence for the purposes of complying with a direction by the Secretary of State given to Ofcom under section 5 of the Act ; or
- (f) for reasons related to the management of the radio spectrum, provided that in such case the power to revoke may only be exercised after five(5) year's notice is given in writing to the Licensee.

A1.5 Where Ofcom exercise their power to revoke or vary the Licence in accordance with schedule 1 paragraph 6 of the Act, the Licensee shall be notified in writing or by a general notice. Any general notices will be posted on the Ofcom website³.

Condition 2 - Changes

A1.6 The Licence may not be transferred.⁴

A1.7 The Licensee must give immediate notice to Ofcom in writing of any change to the Licensee's name and address from that recorded on the Licence.

Condition 3 - Licence Fee

A1.8 The Licensee shall pay to Ofcom the relevant sums as provided in section 12 of the Act and the regulations made there under:

- i) on or before the date of issue of the Licence; and
- ii) on or before the payment date shown on the Licence for subsequent payments or such other date or dates as shall be notified in writing to the Licensee, in accordance with those regulations and any relevant terms, provisions and limitations of the Licence.

Condition 4 - Radio Equipment Use

A1.9 The Licensee must ensure that the Radio Equipment relevant to each Licence is constructed, established, installed and used only in accordance with the provisions specified in the individual Licence schedules. Any proposal to amend any detail specified in those schedules must be agreed with Ofcom in advance and implemented only after that Licence has been varied or reissued accordingly.

A1.10 The Licensee must ensure that the Radio Equipment is used only by persons who have been authorised by the Licensee to do so, and that such persons are made aware of, and of the requirement to comply with the terms of the Licence.

³

www.ofcom.org.uk

⁴

However rights and obligations arising by virtue of certain wireless telegraphy licences may be transferred in accordance with regulations made by Ofcom under powers conferred by section 30 of the Act. See Ofcom's website for the latest position on which licences are subject to spectrum trading.

Condition 5 - Access and Inspection

A1.11 The Licensee shall permit any person authorised by Ofcom:

- i) to have access to the Radio Equipment; and
- ii) to inspect the Licence and Radio Equipment,

at any and all reasonable times or, when in the opinion of that person an urgent situation exists, at any time to ensure that the Radio Equipment is being used in accordance with the terms of the Licence.

Condition 6 - Modification, Restriction and Closedown

A1.12 A person authorised by Ofcom may require the Radio Equipment, or any part thereof, to be modified or restricted in use, or temporarily or permanently closed down immediately if in the opinion of the person authorised by Ofcom:

- i) a breach of the Licence has occurred; and/or
- ii) the use of the Radio Equipment is causing or contributing to Undue Interference to the authorised use of other radio equipment.

A1.13 Ofcom may require the Radio Equipment to be modified or restricted in use, or temporarily closed down either immediately or on the expiry of such period as may be specified in the event of a national or local state of emergency being declared. Ofcom may only exercise this power after a written notice is served on the Licensee or a general notice applicable to holders of a named class of Licence is published.

Condition 7 – Interpretation

A1.14 In this Booklet and in the Licence:

- i) the establishment, installation and use of the Radio Equipment shall be interpreted as establishment and use of stations and installation;
- ii) the expression "Undue Interference" shall have the meaning given by Section 115 of the Act; and
- iii) "inspect" includes examine and test.

A1.15 In this Booklet "Radio Equipment" means the radio equipment specified in the Licence.

A1.16 Any schedule to the Licence shall form part of the Licence together with any subsequent schedule which Ofcom may issue as a variation to the Licence.

A1.17 The Interpretation Act 1978 shall apply to the Licence as it applies to an Act of Parliament.

Issued by Ofcom

Annex 2

Spectrum Bands used for Private Mobile Radio (Business Radio)

Name	Start Frequency (MHz)	End Frequency (MHz)
Paging	26.225	49.49375
Band One	55.75	68.0
Low Band	68.08125	87.49375
Mid Band	137.9625	165.04375
High Band	165.04375	173.09375
Band III	177.20625	191.49375
UHF1	425.00625	449.49375
UHF2	450.0	470.0