



# Notice of proposed variation of 900 MHz and 1800 MHz Wireless Telegraphy Act licences

## Consultation

Publication date: 28 October 2010

Closing Date for responses: 29 November 2010

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## Section 1

# Executive summary

- 1.1 This document sets out changes Ofcom proposes to make to existing licences for the use of 900 and 1800 MHz spectrum ('2G licences').
- 1.2 The proposed changes are intended to implement certain provisions of a draft Government Direction currently laid before Parliament<sup>1</sup>. Subject to responses to this notice and the draft Direction being made, we intend to vary the licences in line with these proposed changes as soon as possible.
- 1.3 The main change is to permit licensees to use the licensed frequencies for both GSM and UMTS systems.

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<sup>1</sup> The Wireless Telegraphy Act 2006 (Directions to OFCOM) Order 2010 (the draft Direction) which was laid before Parliament on 27 July and published on the same date.

## Section 2

# Introduction

- 2.1 The Government is proposing to direct Ofcom in relation to a number of matters relating to mobile spectrum. A draft direction entitled the Wireless Telegraphy Act 2006 (Directions to OFCOM) Order 2010 was laid before Parliament on 27 July 2010 (the draft Direction).
- 2.2 The draft Direction includes provisions requiring Ofcom to vary the existing licences for 900 MHz and 1800 MHz spectrum (sometimes known as the 2G licences). These licence variations relate to the management of the radio spectrum and compliance with international obligations of the United Kingdom. Both Houses of Parliament must by resolution approve the draft Direction before it can be made by the Secretary of State. In addition, before Ofcom can vary the licences, it is required to give interested parties an opportunity to express their views on the proposed variations.
- 2.3 We understand that the draft Direction is shortly to be considered by both Houses of Parliament.
- 2.4 The Government has written to Ofcom stating that it would like Ofcom to consult on the changes we propose to make to the relevant licences to implement the draft Direction, in parallel with Parliament's consideration thereof.
- 2.5 This document therefore sets out for comment Ofcom's proposed changes to the licences necessary to implement the draft Direction. Subject to responses to this notice and the draft Direction being made, Ofcom intends to vary the licences in line with these proposed changes as soon as possible.
- 2.6 The proposed changes address a number of provisions of the draft Direction that concern the 900 MHz and 1800 MHz spectrum. These are the provisions that require Ofcom to:
- vary the licences for 900 MHz and 1800 MHz spectrum to permit use of the licensed frequencies for both GSM and UMTS;
  - ensure compliance with technical parameters in the Annex to the RSC Decision 2009/766/EC;
  - vary the licences for 900 MHz and 1800 MHz spectrum to extend the period of notice for revocation for spectrum management reasons from 1 year to 5 years; and
  - make the relevant licences tradable. In this regard Ofcom proposes to include a provision in the licences to note that subject to appropriate provision being made in the relevant trading regulations<sup>2</sup> (the Trading Regulations), the licences will be tradable. We will separately consult on the necessary changes to the Trading Regulations.
- 2.7 The following section describes the proposed changes and actions. The proposed draft textual variations to the licences are set out in Annex 5.

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<sup>2</sup> See the Wireless Telegraphy Act (Spectrum Trading) Regulations 2004, as amended.

## Section 3

# Proposed licence variations

3.1 This section explains the proposed changes to the licence(s) and our basis for making them.

## Proposed Changes

3.2 We have sought to make the minimum number of changes to the licences necessary to implement the relevant provisions of the draft Direction.

3.3 In addition, we also intend to take this opportunity to make a number of minor editorial changes to update the licences to take account of updates in the relevant underlying primary legislation since the licences were last varied e.g. replacing references to the 1949 and 1998 Wireless Telegraphy Acts with the 2006 Wireless Telegraphy Act (and the relevant sections therein).

3.4 We propose to make the following changes:

- In both the licence and schedule header text, editorial changes will be necessary to reflect the change of issue date that will be required upon re-issue of the licence. The title of the licence in the header text will also be amended to reflect the new liberalised status of the licences and the licence class (as referenced in The Wireless Telegraphy (Licence Charges) Regulations 2005 (SI 2005 No. 1378));
- In the licence preamble editorial amendments have been made to the reference to “The Secretary Of State”. This has been replaced by “The Office of Communications (Ofcom)” to reflect that Ofcom is now the relevant licensing authority;
- In Section 3(c): *Licence Variation and Revocation* - the minimum period of notice for revocation of the licence on the grounds of spectrum management will be changed from one to five years in accordance with Article 5(2) of the draft Direction;
- In Section 3 of the licence: *Licence Variation and Revocation* - an additional new sub section (d) has been inserted to reflect that the licences will be tradable (following amendment of the Trading Regulations) as required by Article 7 of the draft Direction;
- In Section 4 of the licence: *Changes* - additional text has been inserted to reflect that the licences will be tradable (following amendment of the Trading Regulations) as required by Article 7 of the draft Direction. Amending Sections 3 and 4 in this way does not make the licences tradable. The licences will only become tradable once the Trading Regulations are amended which will be subject to a separate consultation;
- In Section 6 of the licence: *Fees* – the reference to the Wireless Telegraphy Act 1949 has been updated to refer to the Wireless Telegraphy Act 2006;

- In Section 13(b) of the licence: *Interpretation* - the reference to “undue interference” has been amended to reflect the definition of “interference” in the Wireless Telegraphy Act 2006;
- At the end of the licence, the reference to “Mobile and Broadband Team” has been deleted;
- In Section 3 of the licence schedule: *Approved Standards for the Radio Equipment* – “and/or IR 2019 – Third Generation Mobile” has been added to the list of Interface Requirements (IR). IR 2019 has been updated to incorporate the essential requirements to allow UMTS use in the GSM bands<sup>3</sup>;
- In Section 4 of the licence schedule: *Special Conditions relating to the Operation of the Radio Equipment* – a new sub section 4(b) has been added to cover the use of femtocells and ‘smart/intelligent low power repeaters’;
- Section 5 of the licence schedule: *Site Clearance* - has been deleted. This requirement became redundant in August 2007. Details can be found on Ofcom’s website at: <http://stakeholders.ofcom.org.uk/spectrum/spectrum-management/radio-site-clearance/>
- Section 7 (previously 8) of the licence schedule: *RF Carrier Spacing* – new text has been added to this paragraph to cover the specific carrier separation requirements for GSM and UMTS as specified in RSC Decision 2009/766/EC;
- Section 8 (previously 9) of the licence schedule: *ITU Class of Emission* - new text has been added to this paragraph to cover the specific emission class characteristics for UMTS;
- Section 9 (previously 10) of the licence schedule: *Maximum Permissible e.i.r.p* - new text has been added to this paragraph to cover the UMTS power level. Here we propose that the in-band power limit for UMTS operation in the 900 and 1800 MHz bands is set at the same limit that previously applied to UMTS in the 2.1 GHz band (i.e. 32 dBW e.i.r.p. per carrier). The existing abbreviation of “EIRP” is also incorrect and has been amended to the correct abbreviation of “e.i.r.p.” (as defined in the ITU Radio Regulations – Chapter 1 (1.161)) and for consistency with the new UMTS text containing the correct reference; and
- In Section 10 (previously 11) of the licence schedule: *Interpretation* – new definitions for femtocells, smart/intelligent low power repeater equipment, GSM, GSM-R and UMTS have been added along with correction of the e.i.r.p abbreviation referred to above and deletion of the definition of the abbreviation ERP which is not used in the licence.

3.5 No other amendments have been made to the licence or schedule text, other than the renumbering and referencing of paragraphs as necessary. The remaining text remains in its original form as on issue to the MNOs.

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<sup>3</sup> IR2019 was notified to the Commission on 18 March 2010. The notification procedure period closed on 21 June 2010. No comments were raised against the IR. The IR was placed on the TRIS website on 19 March 2010 and can be found at: [http://ec.europa.eu/enterprise/tris/pisa/app/search/index.cfm?fuseaction=pisa\\_notif\\_overview&iYear=2010&inum=165&lang=EN&sNLang=EN](http://ec.europa.eu/enterprise/tris/pisa/app/search/index.cfm?fuseaction=pisa_notif_overview&iYear=2010&inum=165&lang=EN&sNLang=EN)

- 3.6 A revised version of the licence including the proposed changes can be found in Annex 5.

## Additional issues related to varying the licences

### Wireless Telegraphy Act Exemption Regulations

- 3.7 In parallel with the licence variation proposals referenced above the current Wireless Telegraphy (Exemption) Regulations 2003 (the Regulations) have been updated to cover the use of UMTS 900 and 1800 MHz user equipment (handsets / mobile devices etc). These Regulations provide for the exemption of wireless devices that connect to the mobile networks and are referred to in paragraph 2 of the licence schedule.
- 3.8 The Wireless Telegraphy (Exemption and Amendment) Regulations 2010<sup>4</sup> will come into force on 1 November 2010 and no changes will be necessary to paragraph 2 of the licence schedule.

### Compatibility between UMTS900/1800 and GSM-R

- 3.9 Compatibility between UMTS900/1800 and GSM-R has been studied by CEPT and the results are reported in ECC Report 96 (Compatibility between UMTS 900/1800 and systems operating in adjacent bands – March 2007). This report concludes (section 3.2.5) that, “*UMTS900 can be deployed in the same geographical area in co-existence with GSM-R...*”. However, “*...in some critical cases (e.g. with high located antenna, open and sparsely populated areas served by high power UMTS BS close to the railway tracks, blocking etc, which would lead to assumption of possible direct line of sight coupling) coordination may be needed for a certain range of distances (up to 4 km or more from railway track)*”. The report also concludes that, “*...in order to protect GSM-R operations, UMTS operators should take care when deploying UMTS in the 900 MHz band, where site engineering measures and/or better filtering capabilities (providing additional coupling loss in order to match the requirements defined for the critical/specific cases) may be needed in order to install UMTS sites close to the railway track when the UMTS network is using the 5 MHz channel adjacent to the GSM-R band*”.
- 3.10 Ofcom is currently considering whether a formal co-ordination procedure between UMTS900 and GSM-R operators is necessary and is currently consulting with the relevant parties. If such a coordination procedure is deemed necessary Ofcom would intend to notify the procedure to UMTS900 operators, ideally before the end of 2010 (see clause 5 of Schedule 1 of the draft licence template).

### In-band power limit for UMTS in the 2.1 GHz band

- 3.11 As set out in (Annex 5), we propose that the in-band power limit for UMTS operation in the 900 and 1800 MHz bands is set at the same limit that previously applied to UMTS in the 2.1 GHz band (i.e. 32 dBW eirp per carrier). It should be noted that Ofcom has consulted on and approved a request to increase to the in-band power limit for UMTS in the 2.1 GHz band<sup>5</sup>. This increase in the in-band power limit applies only to UMTS in the 2.1 GHz band. However, operators are free to request an

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<sup>4</sup> [http://www.legislation.gov.uk/ukxi/2010/2512/pdfs/ukxi\\_20102512\\_en.pdf](http://www.legislation.gov.uk/ukxi/2010/2512/pdfs/ukxi_20102512_en.pdf)

<sup>5</sup> <http://stakeholders.ofcom.org.uk/binaries/consultations/3Glicences/statement/statement.pdf>

increase of the in-band power limit for UMTS in other bands if they wish. Any such request will be considered on its merits at the time.

## UK Frequency Allocation Table

- 3.12 The United Kingdom Frequency Allocation Table is issued by the National Frequency Planning Group on behalf of the Cabinet Office Committee on UK Spectrum Strategy and includes the International Telecommunication Union Table of Frequency allocations contained in the current Radio Regulations. The United Kingdom Frequency Allocation Table covers the radio spectrum from 9 kHz to 275 GHz.
- 3.13 The current (2008) version of the United Kingdom Frequency Allocation Table<sup>6</sup> (Issue 15) shows the frequency bands 880-915 MHz and 926-960 MHz as being allocated to 'MOBILE' services. Similarly, the frequency bands 1710-1785 MHz and 1805-1880 MHz are shown as allocated to 'MOBILE' services. Ofcom is satisfied that the above allocations require no amendment to comply with paragraph 4(a) of the Order in respect of designating the 900 MHz and 1800 MHz bands for use for both GSM and UMTS systems.

## UK Plan for Frequency Authorisation

- 3.14 The UK Plan for Frequency Authorisation (UKPFA)<sup>7</sup> provides contextual information on different types of spectrum authorisations and licences, with links to further information. Ofcom will arrange as necessary for the relevant network descriptions in respect of the 900 MHz and 1800 MHz bands to be amended to indicate the use of both GSM and UMTS systems.

*Do you have any comments on the proposed changes to the licences for 900 MHz and 1800 MHz spectrum?*

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<sup>6</sup> <http://stakeholders.ofcom.org.uk/binaries/spectrum/spectrum-policy-area/spectrum-management/UK-FAT-Table-2008/ukfat08.pdf>

<sup>7</sup> <http://spectruminfo.ofcom.org.uk/spectrumInfo/ukpfa>



## Section 4

# Next steps

- 4.1 Following the publication of this Notice, any interested parties may make representations to us in relation to our proposals relating to the variation of the 2G licences. As set out in Annex 1, any such representations should be made by **5pm on 29 November 2010**.
- 4.2 This period for making representations is in accordance with the requirements of Schedule 1 of the Wireless Telegraphy Act 2006 and Article 14 of the Authorisation Directive (Directive 2002/20/EC).
- 4.3 Subject to those responses and the making of the draft Direction we intend to vary the licences as soon as possible.

## Annex 1

# Responding to this consultation

## How to respond

- A1.1 Ofcom invites written views and comments on the issues raised in this document, to be made **by 5pm on 29 November 2010** .
- A1.2 Ofcom strongly prefers to receive responses using the online web form at <http://stakeholders.ofcom.org.uk/consultations/900-1800mhz-wireless-telegraphy/> , 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 [licence.variation@ofcom.org.uk](mailto:licence.variation@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.
- Ofcom  
Mobile & Auctions Team  
3<sup>rd</sup> Floor  
Riverside House  
2A Southwark Bridge Road  
London SE1 9HA
- Fax: 020 7981 3990
- A1.5 Note that we do not need a hard copy in addition to an electronic version. Ofcom 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 at Annex 4. It would also help if you can explain why you hold your views and how Ofcom's 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 Robert Emson on 020 7783 4375.

## 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](http://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. Ofcom's 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, Ofcom intends to publish a statement as soon as possible.
- 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](http://www.ofcom.org.uk/static/subscribe/select_list.htm)

## Ofcom's consultation processes

- A1.13 Ofcom seeks 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 Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at [consult@ofcom.org.uk](mailto: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 Ofcom's 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](mailto:vicki.nash@ofcom.org.uk)

## Annex 2

# Ofcom's consultation principles

A2.1 Ofcom has published the following seven principles that it 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 who 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 with a summary of no more than two pages. 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. Ofcom's '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 would 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 those decisions.

## 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](http://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 Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom 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/](http://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

# Consultation question

*Do you have any comments on the proposed changes to the licences for 900 MHz and 1800 MHz spectrum?*

**Annex 5**

# Licence template



[Insert Company Name] - [2G Licence Public Wireless Network Licence](#)  
Company Registration no.  
First Issued: [Insert Issue Date] - Licence Number: [Insert Licence Number] - Rev: X - xx/xx/xx

**Wireless Telegraphy Acts 1949 and 1998 2006**  
**Office of Communications (Ofcom)**

**PUBLIC WIRELESS NETWORK LICENCE**

This Licence replaces the Licence issued by [the Office of Communications \(Ofcom\)](#) on [date] to [Company Name]

Licence no. **XXXXX**  
Date of issue: **[DATE]**  
Fee payment date: **[DATE]** (annually)

1. Ofcom grants this licence to

**[Company Name]**  
("the Licensee")  
**XXXXXXXXXXXXX**  
**XXXXXXXXXXXXX**  
**XXXXXXXXXXXXX**  
**XXXXXXX**

to establish, install and use radio transmitting and receiving stations and/or radio apparatus as described in the schedule(s) (herein after together called "the Radio Equipment") subject to the terms, set out below.

**Licence Term**

2. This Licence shall continue in force until revoked by Ofcom or surrendered by the Licensee.

**Licence Variation and Revocation**

3. Pursuant to ~~Section 4 of the Wireless Telegraphy Act 1998 ("the 1998 Act")~~ [Schedule 1\(8\) of the Wireless Telegraphy Act 2006 \("the 2006 Act"\)](#), Ofcom may not revoke or vary this Licence under ~~section 1(4) of the Wireless Telegraphy Act 1949 (the "1949 Act")~~ [Schedule 1\(6\) of the 2006 Act](#) save at the request or with the consent of the Licensee except:

- (a) in accordance with clause 6 of this Licence;
- (b) in accordance with ~~section 4 (5) of the 1998 Act~~ [Schedule 1 paragraph 8\(5\) of the 2006 Act](#);
- (c) for reasons related to the management of the radio spectrum, provided that in such case the power to revoke may only be exercised after ~~one~~ five year's notice is given in writing and after Ofcom has considered any pertinent factors;
- (d) [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 Act<sup>1</sup>](#)
- (e) if there has been a breach of any of the terms of this Licence or the schedule(s) hereto.

## Changes

- 4. This Licence may not be transferred. [The transfer of rights and obligations arising by virtue of this Licence may however be authorised in accordance with regulations made by Ofcom under powers conferred by section 30 of the Act.<sup>2</sup>](#)
- 5. The Licensee must give prior or immediate notice to Ofcom in writing of any change in the details of the name and/or address recorded in paragraph 1 of this licence.

## Fees

- 6. The Licensee shall pay Ofcom the relevant fee as provided in ~~section 1 (2) of the Wireless Telegraphy Act 1998~~ [section 12 of the 2006 Act](#) and the Regulations made thereunder on or before the fee payment date shown above each year, or on or before such dates as shall be notified in writing to the Licensee, failing which Ofcom may revoke this Licence.

## Radio Equipment Use

- 7. The Licensee must ensure that the Radio Equipment is constructed and used only in accordance with the provisions specified in Schedule 1 of this Licence. Any proposal

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<sup>1</sup> [These are regulations on spectrum trading.](#)

<sup>2</sup> [See Ofcom's website for the latest position on spectrum trading and the types of trade which are permitted.](#)

to amend any detail specified in Schedule 1 of this Licence must be agreed with Ofcom in advance and implemented only after this Licence has been varied or reissued accordingly.

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

### **Access and Inspection**

9. The Licensee shall permit a person authorised by Ofcom:

- (a) to have access to the Radio Equipment; and
- (b) to inspect this Licence and the 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 the Radio Equipment is being used in accordance with the terms of this Licence.

### **Modification, Restriction and Closedown**

10. 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:

- (a) a breach of this Licence has occurred; and/or
- (b) the use of the Radio Equipment is causing or contributing to undue interference to the use of other authorised radio equipment.

11. Ofcom may in the event of a national or local state of emergency being declared require the Radio Equipment to be modified or restricted in use, or temporarily or permanently closed down either immediately or on the expiry of such period as Ofcom may specify. Ofcom shall exercise this power by a written notice served on the Licensee or by a general notice applicable to holders of this class of Licence.

### **Geographical Boundaries**

12. This Licence does not authorise the establishment and use of the Radio Equipment on the Isle of Man or any of the Channel Islands.

## Interpretation

### 13. In this Licence:

- (a) the establishment, installation and use of the Radio Equipment shall be interpreted as establishment and use of stations and installation and use of apparatus for wireless telegraphy as specified in ~~section 1 of the 1949 Act~~ section 8(1) of the 2006 Act;
- (b) the expression "~~undue~~ interference" shall have the same meaning that it has under the ~~1949 Act as modified by the Communications Act 2003~~ 2006 Act (Section 115);
- (c) the expression "inspect" includes examine and test;
- (d) the schedule forms part of this Licence together with any subsequent schedule(s) which Ofcom may issue as a variation to this Licence at a later date; and
- (e) the Interpretation Act 1978 shall apply to the Licence as it applies to an Act of Parliament.

## Issued by Ofcom

~~Mobile and Broadband Team~~  
**Office of Communications**

## SCHEDULE 1 TO LICENCE NUMBER: [XXXXXX]

Licence Category: **Public Wireless Network** (~~2G Cellular Operator~~)

This schedule forms part of licence no [XXXXXX], issued to [Company name], the Licensee on [Date], and describes the Radio Equipment covered by the Licence and the purpose for which the Radio Equipment may be used.

### Description of Radio Equipment Licensed

1. In this Licence, the Radio Equipment means the base transceiver stations or repeater stations forming part of the Network (as defined in paragraph 2 below).

### Purpose of the Radio Equipment

2. The Radio Equipment shall form part of a radio telecommunications network ("the Network"), in which User Stations which meet the appropriate technical performance requirements as set out in the relevant Wireless Telegraphy (Exemption) Regulations made by Ofcom communicate by radio with the Radio Equipment to provide a telecommunications service.

### Approved Standards for the Radio Equipment

3. The Radio Equipment covered by this Licence shall comply with the appropriate Interface Requirement (IR 2014 – Public Wireless Networks [and/or IR 2019 – Third Generation Mobile](#)) or for equipment placed on the market before 8 April 2000, is required to be type approved in accordance with a recognised technical performance standard relating to the service licensed.

### Special Conditions relating to the Operation of the Radio Equipment

4.
  - (a) During the period that this Licence remains in force and for 6 months thereafter, the Licensee shall compile and maintain accurate written records of:
    - (i) The following details relating to the Radio Equipment:
      - a) postal address;
      - b) National Grid Reference, (to 100 Metres resolution);

- c) antenna height (AGL) and type;
- d) radio frequencies in operation;
- (ii) a statement of the number of subscribing customers using the Network;

and the Licensee must produce the above records when a person authorised by Ofcom requires him to do so.

- (b) [In respect of femtocell equipment and smart/intelligent low power repeater equipment, the conditions relating to the keeping of records contained in subparagraphs 4\(a\)\(i\)\(a\), 4\(a\)\(i\)\(b\) and 4\(a\)\(i\)\(c\), shall not apply.](#)
- (c) The Licensee shall inform Ofcom of the address of the premises at which this Licence and the information detailed at sub-paragraph (a) above shall be kept.
- (d) The Licensee must submit to Ofcom copies of the records detailed in sub-paragraph (a) above at such intervals as Ofcom shall notify to the Licensee.
- (e) The Licensee shall, upon request, supply Ofcom or any person authorised on their behalf with the name and address of any subscribing customers to the Network, or require its agents to provide such information on its behalf.

### **Site Clearance Requirements**

~~5. A valid site clearance certificate, issued by Ofcom (formerly the Radiocommunications Agency) is required for all the Radio Equipment except base transceiver stations incorporating transmitters radiating not more than 17dBW ERP and/or aerial systems, the highest point of which is less than 30 metres above ground level and which does not increase the height of an existing (site cleared) structure by more than 5 metres.~~

### **TECHNICAL PERFORMANCE REQUIREMENTS**

~~6.5.~~ The Radio Equipment shall be operated in compliance with such co-ordination and sharing procedures as may be considered necessary and notified to the Licensee by Ofcom (formerly the Radiocommunications Agency).

The Licensee must ensure that the Radio Equipment performs in accordance with the following technical performance requirements.

### **Frequencies of Operation**

**7.6.** The Radio Equipment may operate on any of the following frequency bands:

Base Transmit /  
Mobile Receive

Base Receive /  
Mobile Transmit

**[Insert frequency bands]** MHz –

**[Insert frequency bands]** MHz

**[Insert frequency bands]** MHz –

**[Insert frequency bands]** MHz

### RF Carrier Spacing

**8.7.** ~~The RF carrier spacing in the frequency band of operation is 200 kHz. In the absence of bilateral or multilateral agreements which have been notified to Ofcom specifying alternative arrangements between the licensee and the licensee(s) of neighbouring networks the licensee must ensure that in respect of the frequencies set out at paragraph 6 of this schedule:~~

- ~~the centre frequency of any of their GSM carriers is 100 kHz or more inside any edge of their permitted frequency bands; and~~
- ~~the centre frequency of any of their UMTS carriers is 2.5 MHz or more inside any edge of their permitted frequency bands where a neighbouring licensee has deployed a UMTS carrier or carriers in the immediately adjacent spectrum; and~~
- ~~the centre frequency of any of their UMTS carriers is 2.7 MHz or more inside any edge of their permitted frequency bands where a neighbouring licensee has deployed a GSM carrier or carriers (including GSM-R) in the immediately adjacent spectrum.~~

### ITU Class of Emission

**9.8.** ~~For GSM: 271KG7W~~  
~~For UMTS: 5M00D7W~~

### Maximum Permissible EIRP e.i.r.p.

**10.9.** ~~The maximum EIRP e.i.r.p. per carrier per channel for GSM is 32 dBW.~~  
~~The maximum e.i.r.p. per carrier for UMTS is 32 dBW~~

### Interpretation

**11.10.** In this Schedule:

- (a) ~~"EIRP" – "e.i.r.p."~~ means the effective isotropically radiated power. This is the product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna (absolute or isotropic gain);

~~(b)~~ ~~"ERP" means the effective radiated power. This is the power fed to the antenna multiplied by the maximum gain of the antenna with respect to a half-wave dipole.~~

~~(e)~~(b) "IR" means a United Kingdom Radio Interface Requirement published by Ofcom in accordance with Article 4.1 of Directive 1995/5/EC of the European Parliament and of the Council on radio equipment and telecommunications terminal equipment (RTTE) and the mutual recognition of their conformity.

~~(d)~~(c) "ITU" means the International Telecommunications Union, and "Class of Emission" shall have the meaning as defined in the ITU Radio Regulations Appendix 1.

~~(e)~~(d) "RF" means Radio Frequency;

~~(f)~~(e) "User Station" means any vehicle mounted or hands portable mobile station designed for mobile use and/ or any static fixed station designed or adapted to be established and used from static locations which meet the appropriate technical performance requirements as set out in the Wireless Telegraphy (Exemption) Regulations and either complies with the appropriate Interface Regulation listed in paragraph 3, or for equipment placed on the market before 8 April 2000, is type approved in accordance with a recognised technical standard relating to the service licensed.

(f) "A femtocell" is a base station of the Network which operates at a power not exceeding 20dBm e.i.r.p. per carrier which may be established by customers of the Network but which is or will be used only by and under the control of the Network, following the establishment of a telecommunications link between the femtocell and the Network;

(g) A "smart/intelligent low power repeater" is a repeater of the Network which operates with power not exceeding 24dBm e.i.r.p. per carrier, which may be established by customers of the Network who have written agreements with the Licensee and:

- The Licensee has ultimate control of the repeater, i.e. each individual repeater can be disabled remotely by the Licensee;
- The repeater operates only on the Licensee's frequencies and with their valid Public Land Mobile Network Identifier;
- Must not cause undue interference to other spectrum users; and
- The repeater only transmits on the Licensee's Base Receive frequencies when actively carrying a call (voice, video or data) or signalling from serviced handsets.

(h) "GSM" means an electronic communications network that complies with GSM standards, as published by ETSI, in particular EN 301 502 and EN 301 511;



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(i) [“GSM-R” means the variant of GSM for railways as specified in IR2064; and](#)

~~(f)~~(i) [“UMTS” means an electronic communications network that complies with the UMTS standards as published by ETSI, in particular EN 301 908-2, EN 301 908-3 and EN 301 908-11.](#)

~~Mobile and Broadband Team~~  
**Ofcom**