

# WIRELESS TELEGRAPHY ACT 2006

## Aeronautical Station (xxxxxx) Radio Licence

### LICENSEE DETAILS AND VALIDITY

Product Number	[Product May]
Service Type	(Service Type)
Licence number	[system generated licence number]
Callsign / Identifier	[taken from system field]
Licensee	[licensee name taken from system field]
Licensee address	[licensee address taken from system field]
Date of issue	[date system issued licence]
Licence start date	[date licence first issued]
Fee payment date	[month end renewal date]

This licence is issued by the Office of Communications (“Ofcom”) on and replaces any previous authority granted by Ofcom or the Secretary of State in respect of the service subject to this licence.

This licence authorises (“the Licensee”) to establish, install and/or use radio transmitting and/or receiving stations and/or radio apparatus (“the Radio Equipment”) as described in this Licence subject to the terms set out below. Where the station is providing a service approved under the Air Navigation Order (“ANO”), the use of the station shall be in accordance with a valid ANO Approval granted in respect of the station. The use of the station for test and commissioning transmissions is permitted with the prior agreement of the CAA Safety and Airspace Regulation Group.

**Issued by Ofcom.**

### SCHEDULE 1

#### 1. Licence Term

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

#### 2. Licence Variation and Revocation

Ofcom may exercise their power to vary or revoke this licence by a written notice served on the Licensee or by a general notice applicable to holders of this class of Licence.

#### 3. Changes

This Licence may not be transferred.

The Licensee must give to Ofcom prior or immediate notice in writing of any change in the details of the name and/or address recorded above.

#### 4. Fees

The Licensee shall pay to Ofcom the relevant fee as provided in section 12 of the Wireless Telegraphy Act 2006 and the Regulations made thereunder:

- (a) on or before the date of issue of this Licence, and/or
- (b) on or before the fee payment date shown above each year; or
- (c) on or before such dates as shall be notified in writing to the Licensee, failing which Ofcom may revoke this Licence.

#### 5. Notes

The Licensee must ensure that the Radio Equipment is constructed and used only in accordance with the conditions set out below. Any proposal to amend any detail specified in this licence must be

agreed with Ofcom in advance and implemented only after this licence has been varied and/or reissued accordingly.

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 requirements to comply with, the terms of this Licence.

Power is expressed in:

- (i) Peak Envelope Power (PX or pX) of a radio transmitter: the average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle at the crest of the modulation envelope taken under normal operating conditions.
- (ii) Mean Power (PY or pY) of a radio transmitter: the average power supplied to the transmission line by a transmitter during an interval of time sufficiently long compared with the lowest frequency encountered in the modulation taken under normal operating conditions.
- (iii) Carrier Power (PZ or pZ) of a radio transmitter: the average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle taken under the condition of no modulation.
- (iv) Effective Radiated Power (in a given direction) by the addition of the letter "e": The product of the power supplied to the antenna and its gain relative to a half wave dipole antenna in a given direction.

For use in formulae, the symbol p denotes power expressed in Watts and symbol P denotes power expressed in decibels relative to a reference level. The symbol e denotes effective radiated power (erp) (in a given direction). The product of the power supplied to the antenna and its gain relative to a half-wave dipole in a given direction

The symbols used to designate the classes of emission have the meanings assigned to them by the Radio Regulations. The Radio Regulations means the 2008 edition of the Radio Regulations and its subsequent amendments.

## **6. Access and Inspection**

The Licensee shall permit representatives of Ofcom or the CAA 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 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 this Licence

## **7. Modification, Restriction and Closedown**

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.

Ofcom may 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 may be specified:

- (a) in the interests of long term spectrum planning; or
- (b) in the event of a national or local state of emergency being declared.

Ofcom shall exercise their power by a written notice served on the Licensee and/or by a general notice applicable to this class of Licence published on Ofcom's website ( [www.ofcom.org.uk](http://www.ofcom.org.uk)).

## **8. Radio Equipment**

The Radio Equipment is subject to the Radio Equipment Directive (Directive 2014/53/EU of the European Parliament and of the Council on the harmonisation of the laws of the Member States relating to the making available of radio equipment on the market (known as the Radio Equipment Directive). Where this licence authorises the use of equipment operating on the emergency frequency (121.5 MHz), the auxiliary frequency for search and rescue operations (123.1 MHz) or the airport fire service frequency (121.6 MHz), the equipment may operate 25 kHz channel spacing on these frequencies.

## 9. Interpretation

In this licence:

“inspect” includes examine and test.

“**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 8 of the Wireless Telegraphy Act;

“**Wireless Telegraphy Act**” means the Wireless Telegraphy Act 2006;

“undue interference” shall have the same meaning as it has under the Wireless Telegraphy Act 2006.

The schedule(s) form(s) part of this Licence with any subsequent schedule(s) which Ofcom may issue as a variation to this Licence at a later date.

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

## SCHEDULE 2

### DETAILS OF AUTHORISED TRANSMITTER(S):

<b>Frequency/ies (MHz)</b>	(Frequency taken from frequency field) or (As assigned by the Civil Aviation Authority for use in the UK Areas under concession and detailed in the United Kingdom Aeronautical Information Publication (CAP 32))
<b>Channel spacing (kHz)</b>	(Channelisation)
<b>Class of emission</b>	(taken from emission code/class field)
<b>Antenna characteristics</b>	(taken from Aerial Characteristics Field)
<b>Maximum power (Watts erp)</b>	(taken from maximum power field)

## Schedule 3

### **Conditions relating to Electromagnetic Fields (EMF) Compliance**

#### **Sites which are not shared with another licensee**

1) The Licensee shall only establish, install, modify or use Relevant Radio Equipment if the total electromagnetic field exposure levels produced by the Licensee's On-Site Radio Equipment do not exceed the basic restrictions<sup>1</sup> in the relevant tables for general public exposure identified in the ICNIRP Guidelines<sup>2</sup> in any area where a member of the general public is or can be expected to be present when transmissions are taking place.

#### **Sites which are shared with another licensee**

2) In the case of a shared site where the Shared Site Exemption applies to the Licensee, the Licensee shall comply with paragraph 1 above.

3) In the case of a shared site where the Shared Site Exemption does not apply to the Licensee, the Licensee shall only establish, install, modify or use the Relevant Radio Equipment if:

a) the total electromagnetic field exposure levels produced by the Licensee's On-Site Radio Equipment, together with

b) the total electromagnetic field exposure levels produced by all other wireless telegraphy stations and wireless telegraphy apparatus operated by another licensee on the same site for which the Licensee can reasonably assume that a Shared Site Exemption does not apply,

do not exceed the basic restrictions<sup>3</sup> in the relevant tables for general public exposure identified in the ICNIRP Guidelines<sup>4</sup> in any area where a member of the general public is or can be expected to be present when transmissions are taking place.

#### **Emergency Situations**

4) The obligations in paragraphs 1, 2 and 3 above will not apply if the Relevant Radio Equipment is being used for the purpose of seeking emergency assistance or reporting and responding to an emergency situation (in the vicinity of that situation) including for search and rescue activities and maritime emergency communications.<sup>5</sup>

#### **Relationship with authorised transmission levels**

5) The Licensee shall comply with paragraphs 1, 2 and 3 above notwithstanding the maximum transmission levels authorised in the Licence.

#### **Records**

6) The Licensee shall keep, or shall procure that a third party shall keep, and shall make available to Ofcom on request, records (including the type of records identified in Ofcom's "Guidance on EMF Compliance and Enforcement") that demonstrate how it has complied with the basic restrictions in the relevant tables for general public exposure identified in the ICNIRP Guidelines when Relevant Radio Equipment is established, installed, modified or used.

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<sup>1</sup> Compliance with the reference levels for general public exposure identified in the ICNIRP Guidelines will ensure compliance with the basic restrictions.

<sup>2</sup> The relevant tables for general public exposure are identified in Ofcom's "Guidance on EMF Compliance and Enforcement".

<sup>3</sup> Compliance with the reference levels for general public exposure identified in the ICNIRP Guidelines will ensure compliance with the basic restrictions.

<sup>4</sup> The relevant tables for general public exposure are identified in Ofcom's "Guidance on EMF Compliance and Enforcement".

<sup>5</sup> Further information on emergency situations is set out in Ofcom's "Guidance on EMF Compliance and Enforcement".

**Ofcom's "Guidance on EMF Compliance and Enforcement"**

7) When evaluating its compliance with paragraphs 1, 2 and 3 above, the Licensee shall take into account Ofcom's "Guidance on EMF Compliance and Enforcement" that is in force at the relevant time.

In this schedule:

**"dBi"** means the ratio in dB (decibel) when comparing the gain of the antenna to the gain of an isotropic antenna. An isotropic antenna is a theoretical antenna which radiates power uniformly in all directions.

**"EIRP"** means equivalent isotropically radiated power which is the product of the power supplied to an antenna and the absolute or isotropic antenna gain in a given direction relative to an isotropic antenna.

**"ERP"** means effective radiated power which is the product of the power supplied to an antenna and its gain in a given direction relative to a half-wave dipole.

**"general public"** means any person who is not: (a) the Licensee, owner, operator or installer of the Relevant Radio Equipment; or (b) acting under a contract of employment or otherwise acting for purposes connected with their trade, business or profession or the performance by them of a public function.<sup>6</sup>

**"ICNIRP Guidelines"** means the version of the Guidelines published by the International Commission on Non-Ionizing Radiation Protection for limiting exposure to electromagnetic fields which are identified in Ofcom's "Guidance on EMF Compliance and Enforcement" that is in force at the relevant time.<sup>7</sup>

**"Licensee's On-Site Radio Equipment"** means the Relevant Radio Equipment and any other wireless telegraphy station(s) and wireless telegraphy apparatus on the same site which is authorised by another licence held by the Licensee to transmit at powers higher than 10 Watts EIRP or 6.1 Watts ERP.<sup>8</sup>

**"Relevant Radio Equipment"** means all the Radio Equipment that is authorised by this Licence to transmit at powers higher than 10 Watts EIRP or 6.1 Watts ERP.<sup>9</sup>

**"Shared Site Exemption"** means any of the following three situations apply on a shared site in relation to the Licensee's or another licensee's wireless telegraphy station(s) or wireless telegraphy apparatus that is authorised to transmit at powers higher than 10 Watts EIRP or 6.1 Watts ERP:

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<sup>6</sup> There is pre-existing health and safety legislation which already requires employers to protect workers from exposure to electromagnetic fields ("EMF") including the following legislation specifically relating to EMF: [The Control of Electromagnetic Fields at Work Regulations 2016](#), [The Control of Electromagnetic Fields at Work Regulations \(Northern Ireland\) 2016](#) and [The Merchant Shipping and Fishing Vessels \(Health and Safety at Work\) \(Electromagnetic Fields\) Regulations 2016](#).

<sup>7</sup> Ofcom's "Guidance on EMF Compliance and Enforcement" will initially require the Licensee to comply with the ICNIRP Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz), published in: Health Physics 74(4):494-522, dated April 1998 and available at: <https://www.icnirp.org/cms/upload/publications/ICNIRPemfgdl.pdf> ("1998 Guidelines") or the ICNIRP Guidelines for limiting exposure to electromagnetic fields (100 KHz to 300 GHz), published in: Health Physics 118(5): 483–524; 2020 and available at: <https://www.icnirp.org/cms/upload/publications/ICNIRPrfgdl2020.pdf> ("2020 Guidelines"). However, once work on the relevant standards explaining the methodology for assessing compliance with the 2020 Guidelines has progressed sufficiently, Ofcom will consult on updating its "Guidance on EMF Compliance and Enforcement" to explain that going forward Ofcom will be requiring the Licensee to comply with the 2020 Guidelines only. Following consultation, Ofcom will publish an updated version of Ofcom's "Guidance on EMF Compliance and Enforcement" on its website. Ofcom will follow the same process for any subsequent versions of the ICNIRP Guidelines.

<sup>8</sup> 10 Watts EIRP is equivalent to 6.1 Watts ERP. In linear units  $EIRP (W) = 1.64 \times ERP (W)$ ; in decibels  $EIRP (dB) = ERP (dB) + 2.15$ .

<sup>9</sup> 10 Watts EIRP is equivalent to 6.1 Watts ERP.

The first situation is that all of the licensee's wireless telegraphy station(s) or wireless telegraphy apparatus on a shared site do not transmit at a combined total radiated power in any particular direction<sup>10</sup> that is higher than 100 Watts EIRP or 61 Watts ERP.<sup>11</sup>

The second situation is that the total electromagnetic field exposure levels produced by the licensee's wireless telegraphy station(s) or wireless telegraphy apparatus in any area where a member of the general public is or can be expected to be present when transmissions are taking place is no more than 5% of the basic restrictions or 5% of the reference levels in the relevant tables for general public exposure identified in the ICNIRP Guidelines.<sup>12</sup>

The third situation is where the licensee's wireless telegraphy station or wireless telegraphy apparatus has an antenna gain that is equal to or higher than 29 dBi and has a fixed beam.

**"shared site"** means a site that is shared by the Licensee and at least one other licensee for the purposes of establishing, installing, modifying or using wireless telegraphy stations or wireless telegraphy apparatus.

**"site"** means a physical structure, building, vehicle or moving platform.

**"wireless telegraphy apparatus"** has the meaning given to it in section 117 of the Wireless Telegraphy Act 2006.

**"wireless telegraphy station"** has the meaning given to it in section 117 of the Wireless Telegraphy Act 2006.

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<sup>10</sup> For the purpose of this situation, the combined total radiated power is a simple sum of the radiated powers (in EIRP or ERP) of all of the licensee's wireless telegraphy station(s) or wireless telegraphy apparatus on the shared site that transmits signals covering the same or overlapping areas.

<sup>11</sup> 100 Watts EIRP is equivalent to 61 Watts ERP.

<sup>12</sup> The relevant tables for general public exposure are identified in Ofcom's "Guidance on EMF Compliance and Enforcement".