WIRELESS TELEGRAPHY ACT 2006

# Aircraft Radio Licence

**Licensee Details and Validity**

| | |
|---|---|
| Product name | Aircraft |
| Licence number | *[Licence number]* |
| Aircraft Reg | *[Aircraft Reg]* |
| Aircraft Make | *[Aircraft Make]* |
| Aircraft Model | *[Aircraft Model]* |
| MMSI | *[MMSI Number]* |
| Date of Issue | *[Date of issue]* |
| Licence start date | *[Licence start date]* |
| Payment Interval | *[Payment Interval (does not apply for short term use)]* |
| Expiry Date | *[Expiry date (applies for short term use only)]* |
| Licensee Name | *[Licensee name]* |
| Licensee address | *[Address field 1]*<br>*[Address field 2]*<br>*[Postcode field]*<br>*[Region]* |

1. This Licence is issued by the Office of Communications ("Ofcom") and replaces any previous authority granted in respect of the service subject to this Licence by Ofcom or by the Secretary of State.

2. This Licence authorises *[Licensee name]* ("the Licensee") to establish, install and/or use radio transmitting and/or receiving stations and/or radio apparatus as described in the schedule(s) (together called "the Radio Equipment") subject to the terms set out below and subject to the terms of the Wireless Telegraphy Licence Conditions Booklet OfW 597.

3. The schedules (and any subsequent schedule(s) Ofcom may issue as a variation to this Licence at a later date) as well as the Wireless Telegraphy Licence Conditions Booklet OfW 597 are incorporated into and form part of this Licence.

Issued by the Office of Communications (Ofcom)

## Schedule 1

**Radio Equipment**

1. In this Licence, the Radio Equipment means the following equipment:

**Generic description of equipment:**

| | |
|---|---|
| 1 | 2 GHz CGC operating between 1980 to 2185 MHz |
| 2 | Air traffic control (ATC) transponder operating on 1030 and 1090 MHz |
| 3 | Airborne radar operating between 13250 to 13400 MHz |
| 4 | Area navigation (NAV)/distance measuring equipment (DME) operating between 960 to 1215 MHz |
| 5 | Automatic direction finding (ADF) operating between 0.255 to 0.526 MHz |
| 6 | Distance measuring equipment (DME) operating between 960 to 1215 MHz |
| 7 | Emergency locator transmitter operating on 121.5 and 406 MHz |
| 8 | Emergency radio equipment operating on 123.1 and 121.6 MHz |
| 9 | Emergency services network equipment operating between 800 to 2100 MHz |
| 10 | ESOMP operating between 17300 to 30000 MHz |
| 11 | Global positioning systems (GPS) operating between 1227.6 to 1575.42 MHz |
| 12 | High frequency communications operating between 2.85 to 22 MHz |
| 13 | Maritime radio equipment/SAR aircraft MMSI operating between 0.415 to 9500 MHz |
| 14 | Marker beacons operating between 74.8 to 75.2 MHz |
| 15 | Mobile communications on aircraft operating between 925 to 2170 MHz |
| 16 | Radio altimeter operating between 4200 to 4400 MHz and 15400 to 15700 MHz |
| 17 | Satellite communication operating between 1525 to 1660.5 MHz |
| 18 | TCAS/ACAS operating on 1030 and 1090 MHz |
| 19 | UHF radio equipment operating between 453.0125 to 462.4875 MHz |
| 20 | VHF communication operating between 117.975 to 137 MHz |
| 21 | VHF navigation / Marker operating between 108 to 117.575 MHz |
| 22 | VHF portable operating between 117.975 to 137 MHz |
| 23 | WAS/WiFi operating between 2412 to 14500 MHz |
| 24 | Weather radar operating between 5350 to 5460 MHz and 9300 to 9500 MHz |

**Use of Radio Equipment**

2. The Radio Equipment may only be used in accordance with Condition 4 of the Wireless Telegraphy Conditions Booklet OfW 597 and the terms and conditions set out below and in any subsequent schedules.

3. The Radio Equipment may only be used as follows:

   (a) by a person who holds (or is under the direct supervision of a person who holds) a valid Flight Radio Telephony Operator Licence issued by the Civil Aviation Authority ('CAA') or equivalent licence issued by a national aviation authority, unless such a requirement has been exempted under the Air Navigation Order 2016, as amended, or equivalent legislation that applies in the Isle of Man, Guernsey or Jersey; or

   (b) in the event of an emergency where there is a risk to life, by any person to summon assistance.

## Schedule 2

**Additional Terms and Conditions for Specific Equipment (blank if not applicable)**

## ATC transponder

G1. For the ATC Transponder the provisions in the Licence requiring a person who uses the Radio Equipment to hold (or be under the direct supervision of a person who holds) a Flight Radio Telephony Operator Licence do not apply, insofar as they relate to the use of the Transponder, as long as the person has no control over the operation of the Transponder, other than to switch it on and off.

G2. An ATC Transponder must:

(a) conform to the Radio Equipment Regulations 2017; or

(b) have the appropriate approval, granted by (or on behalf of) the CAA or the European Aviation Safety Agency.

## 2 GHz CGC - Satellite-facing terminals and complementary ground componant-facing terminals forming part of a 2 GHz mobile satellite service

A1. For the Satellite-facing terminals and Complementary Ground Component (CGC)-facing terminals (“the 2 GHz CGC Equipment”), the following terms and conditions shall also apply:

(a) The 2 GHz CGC Equipment shall be operated on a 'non-interference non-protected' basis: that is, the use of the 2 GHz CGC Equipment shall not cause harmful interference to and shall not claim protection against harmful interference from any other radio communication service operating in accordance with Article 5 of the Radio Regulations, wherever that other service may be operating;

(b) When the aircraft is on the ground and stationary the 2 GHz CGC Equipment may transmit at the limits set out in Clauses A2(a)(ii) and A2(b)(ii), below, provided the duration is restricted to the time necessary to test the 2 GHz CGC Equipment on board the aircraft;

(c) The Licensee must operate the 2 GHz CGC Equipment only within the frequency bands identified below:

| Satellite segment | | CGC segment | |
|---|---|---|---|
| Aircraft-to-satellite | Satellite-to-aircraft | Aircraft-to-CGC | CGC-to-aircraft |
| 1980-1995 MHz | 2170-2185 MHz | 1980-1995 MHz | 2170-2185 MHz |

(d) The Licensee is authorised to install and use the 2 GHz CGC Equipment in or over:

i. The UK, the UK's territorial seas, the Bailiwick of Jersey, the Bailiwick of Guernsey or the Isle of Man; and

ii. Any Member State of the European Union as defined in the Interpretation Act 1978.

(e) When the aircraft is in or over an administration other than the UK, the Channel Islands or the Isle of Man, the 2 GHz CGC Equipment shall be used in accordance with the relevant regulations and authorisations of that administration;

(f) Identification signals or other means shall be used to allow transmissions of the 2 GHz CGC Equipment to be identified;

(g) The Licensee is only authorised to operate the 2 GHz CGC Equipment to connect with a satellite or CGCs operated by Inmarsat Ventures Limited forming part of a 2GHz Mobile Satellite System.

A2. The 2 GHz CGC Equipment shall comply with the essential requirements of the Radio Equipment Regulations 2017 and with the following maximum transmit power / power density conditions, when transmitting within the 1980 to 1995 MHz band:

(a) when transmitting to a satellite:

i. 45 dBm / 200 kHz e.i.r.p. is permitted when the aircraft is operating at altitudes of 1000 metres and above;

ii. 24 dBm / 200 kHz e.i.r.p. is permitted when the aircraft is operating at an altitude below 1000 metres;

(b) when transmitting to one or more CGCs:

i. 40 dBm e.i.r.p is permitted when the aircraft is operating at altitudes of 1000 metres and above; or

ii. 24 dBm e.i.r.p. is permitted when the aircraft is operating at altitudes below 1000 metres.

**Interpretation**

(a) All technical terms, unless the contrary intention appears, shall have the meaning assigned to them in the Radio Regulations;

(b) "associated facilities" and "electronic communications network" have the meaning given to them by section 32 of the Communications Act 2003(b);

(c) "CGCs" of mobile satellite systems (MSS) shall mean ground-based stations used at fixed locations, in order to improve the availability of MSS in geographical areas within the footprint of the system's satellite(s), where communications with one or more space stations cannot be ensured with the required quality. This is the definition used in Article 2 of Decision No 626/2008/EC of the European Parliament and of the Council of 30 June 2008 on the selection and authorisation of systems providing mobile satellite services (MSS);

(d) "CGC-facing terminal" means a mobile earth station installed on an aircraft which communicates with one or more CGCs forming part of a Mobile Satellite System;

(e) "dBm" means decibels of power referenced to one milliwatt;

(f) "e.i.r.p." means equivalent isotropic radiated power;

(g) "Inmarsat Ventures limited" means Inmarsat Ventures Limited, a company incorporated in England and Wales with number 03674573, whose registered office is situated at 99 City Road, London, EC1Y 1AX;

(h) "kHz" means kilohertz;

(i) "Mobile Satellite Systems" shall mean electronic communications networks and associated facilities capable of providing radio-communications services between a mobile earth station and one or more space stations, or between mobile earth stations by means of one or more space stations, or between a mobile earth station and one or more complementary ground components used at fixed locations. Such a system shall include at least one space station. This is the definition used in Article 2 of Decision No 626/2008/EC of the European Parliament and of the Council of 30 June 2008 on the selection and authorisation of systems providing mobile satellite services (MSS);

(j) "MHz" means megahertz;

(k) "Radio Regulations" means the Radio Regulations made from time to time under Article 13 of the Constitution of the International Telecommunication Union;

(l) "Satellite-facing terminal" means a mobile earth station installed on an aircraft which communicates with one or more satellites forming part of a Mobile Satellite System.

## Emergency locator transmitter

H1. When operating on the emergency frequency (121.5 MHz) the equipment may operate 25 kHz channel spacing on these frequencies.

## Emergency radio equipment

I1. When operating on 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.

## Emergency services network equipment

E1. For the Emergency Services Network Equipment, the following terms and conditions shall also apply:

(a) The Licensee may install and use Emergency Services Network ('ESN') radio equipment and Mobile SIM card aggregator equipment in the aircraft.

(b) The following definitions will apply:

i. "Mobile SIM card aggregator equipment" means a radio device that combines data streams by more than one mobile network to provide connection and increased data capacity; and

ii. "Emergency Services Network radio equipment" and "ESN radio equipment" mean the dedicated radio device used by public safety bodies for voice and data communications over the Emergency Services Network (ESN).

(c) The Mobile SIM card aggregator equipment and the ESN radio equipment may only be used:

i. when installed in an aircraft engaged in activities related to public safety;

ii. on the following frequencies:

| | |
|---|---|
| 837-842 MHz | 1934.9-1944.9 MHz |
| 842-852 MHz | 1944.9-1959.7 MHz |
| 852-862 MHz | 1959.7-1979.7 MHz |
| 1710.1-1715.9 MHz | 880.1-885.1 MHz |
| 1715.9-1721.7 MHz | 890.1-902.5 MHz |
| 1736.7-1781.7 MHz | 885.1-890.1 MHz |
| | 902.5-914.9 MHz |

## ESOMP - Installation and use of Satellite Earth Station(s) on mobile platforms ("ESOMPS") on board an aircraft

B1. For the Earth Station(s) on Mobile Platforms ("ESOMPs") on board an aircraft for the purpose of providing wireless telegraphy links between the ESOMP and Satellite(s) (together the "ESOMP Equipment"), the following terms and conditions shall also apply:

(a) The ESOMP Equipment shall be operated on a 'non-interference non-protected' basis: that is, the use of the ESOMP Equipment shall not cause harmful interference to and shall not claim protection against harmful interference from any other radio communication service operating in accordance with Article 5 of the Radio Regulations, wherever that other service may be operating;

(b) Within the airspace of the UK, the Bailiwick of Jersey, the Bailiwick of Guernsey or the Isle of Man, the Licensee may operate the ESOMP Equipment only in the frequency bands identified below:

i. 27.5 - 27.8185 GHz, 28.4545 - 28.8265 GHz and 29.4625 - 30 GHz for transmission (Earth-to-space)

ii. 17.3 - 20.2 GHz for reception (space-to-Earth)

(c) Beyond the airspace of the UK, the Channel Islands and the Isle of Man, the Licensee may operate the ESOMP Equipment in any part of the frequency band 27.5 - 30 GHz;

(d) Within the airspace of an administration other than the UK, the Channel Islands or the Isle of Man, the ESOMP Equipment shall be used in accordance with the relevant regulations and authorisations of that administration;

(e) Means shall be used to allow transmissions of the ESOMP Equipment to be identified;

(f) The operation of the ESOMP Equipment shall comply with the essential requirements of the Radio Equipment Regulations 2017 and with the technical and operational criteria contained within the UK Interface Requirement 2093;

(g) The ESOMP Equipment must comply with (and be maintained in accordance with) the relevant performance specification(s) published by the operator(s) of the Satellite(s).

**Interpretation**

(a) “Earth Station” means a station for transmitting and receiving wireless telegraphy intended for communication with one or more satellites;

(b) “Radio Regulations” means the Radio Regulations made from time to time under Article 13 of the Constitution of the International Telecommunication Union;

(c) “UK Interface Requirement IR 2093” means the UK Interface Requirement 2093 - Earth Stations on Mobile Platforms (ESOMPs) published by Ofcom;

(d) all technical terms, unless the contrary intention appears, shall have the meaning assigned to them in the Radio Regulations;

(e) any reference in the Licence to “Earth Station On Mobile Platforms” or “ESOMP” shall be interpreted to include “Earth Station In Motion” or “ESIM”, respectively, as appropriate.

**Note** This authorisation does not affect the requirement, where necessary, to obtain licences or authorisations under other legislation or from other countries prior to the installation or operation of an ESOMP, notably outside the territory of the UK, the Channel Islands and the Isle of Man. The Licensee is encouraged to seek its own independent professional advice in this respect.

## Mobile communications on aircraft

D1. For the Mobile Communications on Aircraft (aircraft base transceiver station (aircraft BTS) and network control unit (NCU) (together, “the MCA Equipment”)), as described in the Table 1, the terms and conditions below shall also apply:

Table 1

| Type | Frequency | System |
|---|---|---|
| GSM 1800 | 1710-1785 MHz (uplink) 1805-1880 MHz (Downlink) | GSM complying with the GSM Standards as published by ETSI, in particular EN 301 502, EN 301 511 and EN 302 480, or equivalent specifications. |
| UMTS 2100 (FDD) | 1920-1980 MHz (uplink) 2110-2170 MHz (Downlink) | UMTS complying with the UMTS Standards as published by ETSI, in particular EN 301 908-1, EN 301 908-2, EN 301 908-3 and EN 301 908-11 or equivalent specifications. |
| LTE 1800 (FDD) | 1710-1785 MHz (uplink) 1805-1880 MHz (Downlink) | LTE complying with LTE Standards, as published by ETSI, in particular EN 301 908-1, EN 301 908-13, EN 301 908-14, and EN 301 908-15, or equivalent specifications. |

(a) The relevant network must only be used for mobile communication services on aircraft;

(b) The relevant network shall be operated on a ‘non-interference, non-protected’ basis;

(c) The relevant network shall only be switched on when the aircraft is 3000 metres or more above the ground;

(d) The aircraft BTS shall only operate in the frequency bands listed in Table 1 of this condition;

(e) The aircraft BTS shall ensure that all apparatus connecting to the aircraft BTS complies with the operational requirements as specified in Regulation 5 of The Wireless Telegraphy (Mobile Communication Services on Aircraft) (Exemption) Regulations 2017. The operational requirements are:

i. the aircraft BTS, while in operation, shall limit the transmission power of all GSM apparatus to a nominal value of 0 dBm/200 kHz at all stages of communication, including initial access;

ii. the aircraft BTS, while in operation, shall limit the transmission power of all LTE apparatus in the 1800 MHz band to a nominal value of 5 dBm/5 MHz at all stages of communication; or

iii. the aircraft BTS, while in operation, shall limit the transmission power of all UMTS apparatus in the 2100 MHz band to a nominal value of -6 dBm/3.84 MHz at all stages of communication and the maximum number of users does not exceed 20; or

iv. where the e.i.r.p outside the aircraft emanating from the apparatus transmitting in the frequency bands specified in Table 2 below does not, at each of the heights above ground specified in Column 1 of that Table, exceed the value specified in each of Columns 2, 3 or 4 of that Table.

(f) Apparatus receiving within the frequency bands 925 - 960 MHz and 2110 - 2170 MHz shall be prevented from attempting to register to networks on the ground either:

i. by the deployment of an NCU, which raises the noise floor inside the cabin; or

ii. by sufficient fuselage shielding to further attenuate the signal entering and leaving the fuselage.

(g) The relevant network shall operate such that the total e.i.r.p of the network control unit outside the aircraft for the frequency band 925-960 MHz does not, at each height above ground specified in Column 1 of Table 3 below, exceed the value specified in Column 2 of

that Table;

(h) The relevant network shall operate such that the total e.i.r.p of the aircraft BTS outside the aircraft for the frequency band 1805-1880 MHz does not, at each height above ground specified in Column 1 of Table 3 below, exceed the value specified in Column 3 of that Table;

(i) The relevant network shall operate such that the total e.i.r.p of the network control unit and the aircraft BTS outside the aircraft for the frequency band 2110-2170 MHz does not, at each height above ground specified in Column 1 of Table 3 below, exceed the value specified in Column 4 of that Table;

(j) Where the NCU operates in a frequency band listed in the heading of Columns 2 to 5 of Table 4, below, the relevant network shall operate such that the total e.i.r.p outside the aircraft does not, at each height above the ground specified in Column 1 of that Table and at each of those frequency bands, exceed the value specified in Columns 2 to 5 of that Table;

(k) The relevant network shall comply with the ETSI Standards listed in Table 1 above. Ofcom may also permit the use of equivalent standards. If such standards become available, Ofcom will amend this provision to make reference to them;

(l) Operation of the relevant network within the territory of administrations other than the UK, Isle of Man, Guernsey or Jersey, or their respective territorial sea, or radio equipment on board an aircraft registered within the territory of administrations other than the UK, Isle of Man, Guernsey or Jersey, is subject to the regulations and authorisations of those administrations.

Table 2

| Height above ground (in metres) | Maximum e.i.r.p, defined outside the aircraft, resulting from the GSM apparatus in dBM/channel | Maximum e.i.r.p, defined outside the aircraft, resulting from the LTE apparatus in dBM/channel | Maximum e.i.r.p, defined outside the aircraft, resulting from the UMTS apparatus in dBM/channel |
|---|---|---|---|
| | 1800 MHz | 1800 MHz | 2100 MHz |
| 3000 | -3.3 | 1.7 | 3.1 |
| 4000 | -1.1 | 3.9 | 5.6 |
| 5000 | 0.5 | 5 | 7 |
| 6000 | 1.8 | 5 | 7 |
| 7000 | 2.9 | 5 | 7 |
| 8000 | 3.8 | 5 | 7 |

Table 3

| Height above ground (in metres) | Maximum e.i.r.p, of the network control unit outside the aircraft for the frequency band 925-960 MHz, (in dBm per 3.84 MHz | Maximum e.i.r.p, of the aircraft BTS outside the aircraft for the frequency band 1805-1880 MHz (in dBM per 200 KHz) | Maximum e.i.r.p, of the network control unit and the aircraft BTS outside the aircraft for the frequency band 2110-2170 MHz, (in dBM per 3.84 MHz) |
|---|---|---|---|
| 3000 | -6.2 | -13 | 1.0 |
| 4000 | -3.7 | -10.5 | 3.5 |
| 5000 | -1.7 | -8.5 | 5.4 |
| 6000 | -0.1 | -6.9 | 7.0 |
| 7000 | 1.2 | -5.6 | 8.3 |
| 8000 | 2.3 | -4.4 | 9.5 |

Table 4

| Height above ground (in metres) | Maximum e.i.r.p, of the network control unit outside the aircraft BTS outside the aircraft for the frequency band 460-470 MHz, (in dBm per 1.25 MHz | Maximum e.i.r.p, of the network control unit and the aircraft BTS outside the aircraft for the frequency band 791-821 MHz, (in dBm per 10 MHz) | Maximum e.i.r.p, of the network control unit and the aircraft BTS outside the aircraft for the frequency band 1805-1880 MHz, (in dBm per 200 KHz) | Maximum e.i.r.p, of the network control unit and the aircraft BTS outside the aircraft for the frequency band 2570-2690 MHz, (in dBM per 4.75 MHz) |
|---|---|---|---|---|
| 3000 | -17 | -0.87 | -13 | 1.9 |
| 4000 | -14.5 | 1.63 | -10.5 | 4.4 |
| 5000 | -12.6 | 3.57 | -8.5 | 6.3 |
| 6000 | -11 | 5.15 | -6.9 | 7.9 |
| 7000 | -9.6 | 6.49 | -5.6 | 9.3 |
| 8000 | -8.5 | 7.65 | -4.4 | 10.4 |

**Interpretation**

(a) “aircraft BTS” means a base transceiver station located in an aircraft;

(b) “apparatus” means wireless telegraphy apparatus;

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

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

(e) “ETSI” means the European Telecommunications Standards Institute;

(f) “GSM apparatus” means apparatus used for an electronic communications network that complies with standards developed for the Global System for Mobile Communications (also known as GSM) referred to in regulation 5(2)(a) of the The Wireless Telegraphy (Mobile Communication Services on Aircraft) (Exemption) Regulations 2017;

(g) “kHz” means kilohertz;

(h) “LTE apparatus” means apparatus used for an electronic communications network that complies with standards developed for Long Term Evolution (also known as LTE) referred to in regulation 5(2)(c) of the The Wireless Telegraphy (Mobile Communication Services on Aircraft) (Exemption) Regulations 2017;

(i) “MHz” means megahertz;

(j) “mobile communication services on aircraft” means electronic communications services provided by an undertaking to enable airline passengers to use public electronic communications networks during flight without establishing direct connections with electronic communications networks based on land;

(k) “network control unit” or “NCU” mean equipment located in an aircraft that ensures that signals transmitted by ground based mobile electronic communication systems are not detectable within the cabin by raising the noise floor inside the cabin in mobile communication receive bands;

(l) “public electronic communications network” has the meaning given to it by section 151(1) of the Communications Act 2003;

(m) “relevant network” means an electronic communications network that includes an aircraft

BTS and a network control unit;

(n) “signal” has the meaning given to it by section 32(10) of the Communications Act 2003;

(o) “the 1800 MHz band” means the 1710-1785 MHz frequency band (for the uplink from the apparatus to the aircraft BTS) and the 1805-1880 MHz frequency band (for the downlink from the aircraft BTS to the apparatus);

(p) “the 2100 MHz band” means the 1920-1980 MHz frequency band (for the uplink from the apparatus to the aircraft BTS) and the 2110-2170 MHz frequency band (for the downlink from the aircraft BTS to the apparatus); and

(q) “UMTS apparatus” means apparatus used for an electronic communications network that complies with standards developed for Universal Mobile Telecommunications System (also known as UMTS) referred to in regulation 5(2)(b) of the The Wireless Telegraphy (Mobile Communication Services on Aircraft) (Exemption) Regulations 2017.

## Maritime radio equipment and SAR aircraft MMSI

F1. For the Maritime radio equipment/SAR aircraft MMSI, the following terms and conditions shall also apply:

(a) Subject to the terms and conditions below, the Licensee may:

i. install and use maritime radio apparatus operating in the frequency bands in Table 1 below;

ii. identify the aircraft with the MMSI at the top of the Licence.

(b) The MMSI must not be used to identify any other station.

(c) Any use of the MMSI to identify the aircraft must be in accordance with applicable provisions of the GMDSS or the AIS.

(d) If the MMSI is used to identify the aircraft for the purposes of an automatic identification system as provided for by ITU Recommendation ITU-R M.1371 (as amended from time to time), it must be used in accordance with applicable provisions of that Recommendation.

(e) Anyone who operates the radio equipment on a maritime frequency must hold or be under the supervision of a person who holds, a recognised maritime radio operator certificate for the GMDSS.

Table 1

| Frequencies or bands | Terms and conditions of use |
|---|---|
| 415 KHz to 535 KHz | Use of these maritime frequencies must be in accordance of applicable provisions of the GMDSS |
| 1,605 KHz to 4,000 KHz | |
| 4,000 KHz to 27,500 KHz | |
| 156 MHz to 174 MHz | International maritime channels only. Use must be in accordance with applicable provisions of the GMDSS |
| 156.000 MHz to 160.600 MHz | Use must be as directed by the Maritime Coastguard Agency. |
| 1,654.5 MHz to 1,646.5 MHz | Satellite EPIRB operation |
| 9,200 MHz to 9,500 MHz | Use is for SARTs |
| 1,626.5 MHz to 1,660.5 MHz | Use is for mobile satellite |
| 1,525 MHz to 1,559 MHz | Use is for mobile satellite receive frequencies |
| 9,300 MHz to 9,500 MHz | Use is for radar or radar target enhancer |
| 2,900 MHz to 3,100 MHz | |
| 138.700 MHz | For use when 123.1 MHz is unavailable |
| 282.800 MHz | For use as combined scene of search and rescue |
| 243.000 MHz | |
| 418.6125 MHz to 419.6125 MHz | Use must be as directed by the Maritime Coastguard Agency. |
| 408.6125 MHz to 409.6125 MHz | |

**Interpretation**

(a) “maritime radio apparatus” means either

i. radio apparatus approved for use by way of the Merchant Shipping (Marine Equipment) Regulations 2016 (as amended); or

ii. radio apparatus that operates in conformity with an Interface Requirement applicable to maritime radio equipment and published by Ofcom.

(b) "MMSI" means a Maritime Mobile Service Identity (MMSI) and is a unique nine-digit number for identifying aircraft;

(c) "GMDSS" means The Global Maritime Distress and Safety System ( GMDSS ). It is a maritime communications system used for passing both routine and safety, urgency and distress messages to and from vessels;

(d) "AIS" means Automatic identification systems (AIS). AIS is a communications system using four worldwide channels in the VHF maritime mobile band, for the exchange of navigation data.

## WAS/WiFi - Installation and use of a satellite earth station and wireless access points on board the aircraft

C1. For the Wireless Access Point equipment and Satellite Earth Station on Aircraft, as described in Table 1 below (together, “the WAS/WiFi Equipment”), the terms and conditions below shall also apply:

Table 1

| | Equipment description | Frequency Range | |
|---|---|---|---|
| | | From | To |
| 1 | Wireless Access Point | 2412 MHz | 2472 MHz |
| 2 | Wireless Access Point | 2457 MHz | 2472 MHz |
| 3 | Wireless Access Point | 5150 MHz | 5350 MHz |
| 4 | Wireless Access Point | 5470 MHz | 5730 MHz |
| 5 | Wireless Access Point | 5725 MHz | 5850 MHz |
| 6 | Wireless Access Point | 5925 MHz | 6425 MHz |
| 7 | Satellite Earth Station on Aircraft | 14 GHz | 14.5 GHz |

C2. In relation to the use of the Wireless Access Point apparatus, described in rows 1 to 6 of Table 1 ("the Wireless Access Point apparatus") above:

(a) The Licence does not authorise the use of the Wireless Access Point apparatus described in rows 1 and 6 of Table 1 above when the Aircraft is in or over (or for the time being in or over) the United Kingdom or any of the Crown Dependencies (including, in each case, their territorial seas). Such use must be in accordance with applicable exemption regulations;

(b) The use of the Wireless Access Point apparatus, described in rows 1 to 6 of Table 1 above must be in conformity with applicable provisions of Interface Requirement IR 2030, published by Ofcom;

C3. In relation to the use of the Satellite Earth Station, described in row 7 of the table above ("the Satellite Earth Station"), the following shall apply:

(a) When the Aircraft is in or over (or for the time being in or over) the United Kingdom or any of the Crown Dependencies (including, in each case their territorial seas) the Satellite Earth Station may be used only if authorised to do so under a "Satellite (Earth Station Network) Licence" issued to the operator of the earth station network;

(b) The Satellite Earth Station may transmit with an e.i.r.p. no greater than 55 dBW;

(c) If operating to a geostationary satellite, the Satellite Earth Station must employ a stabilised platform and must maintain a pointing accuracy +/− 0.2 degrees towards the relevant geostationary satellite throughout transmissions;

(d) At angles greater than or equal to 2.5 degrees from the antenna main beam axis, the e.i.r.p. of the Satellite Earth Station, if operating to a geostationary satellite, shall not exceed 20 dBW/40 kHz;

(e) All transmissions from the Satellite Earth Station must be clearly identifiable;

(f) The Satellite Earth Station must at all times operate such that it conforms to Interface Requirement IR 2077, published by Ofcom;

(g) The Satellite Earth Station shall meet the conditions given in footnotes 5.504B, 5.504C, 5.508A and 5.509A of the Radio Regulations so as not to cause harmful interference to terrestrial fixed and radio astronomy stations.

C4. The following conditions apply to all of the WAS/WiFi Equipment:

(a) When in or over (or for the time being in or over) a country other than the United Kingdom or any of the Crown Dependencies, the WAS/WiFi Equipment may be used only as permitted or directed by the authorities in that country;

(b) The Licensee may not claim protection from interference caused to any of the WAS/WiFi Equipment by any authorised use of radio;

(c) The WAS/WiFi Equipment must at all times be operated such that it does not cause harmful interference to other authorised uses of radio anywhere in the world. For the avoidance of doubt, this includes other authorised uses of radio on the surface of the Earth, in the air or in space;

(d) If the Licensee or the captain of the Aircraft (or the person for the time being in charge of the Aircraft) becomes aware that the operation of the WAS/WiFi Equipment is causing harmful interference to any other authorised use of radio, he must switch the WAS/WiFi Equipment off or take such other measures as may be necessary to cause the harmful interference to cease;

(e) The Licensee or the captain of the Aircraft (or the person for the time being in charge of the aircraft) must cause the operation of the WAS/WiFi Equipment to be modified or restricted or closed down permanently or temporarily if, in the reasonable opinion of a person authorised by Ofcom it is causing or contributing to harmful interference to any other authorised use of radio.

**Interpretation**

(a) "the WAS/WiFi Equipment" means all of the equipment listed in Table 1 above;

(b) "the Aircraft" means the aircraft bearing the Aircraft Registration at the top of the Licence;

(c) "the Licence" means this Aircraft Radio Licence; and

(d) "the Station" means the aircraft station of the Aircraft and any apparatus for wireless telegraphy associated with it.

**Note** ***(these notes do not form part of the authorisation)***

(a) In or over the UK or Crown Dependencies the WAS/WiFi Equipment must be used under and in accordance with the terms and conditions of applicable exemption regulations or a "Satellite (Earth Station Network) Licence" (issued by Ofcom to the operator of the earth station network), as may apply. It is the responsibility of the operator or the captain of the aircraft to ensure that the WAS/WiFi Equipment is properly authorised.