

2017 No. 669

ELECTRONIC COMMUNICATIONS

The Wireless Telegraphy (Mobile Communication Services on Aircraft) (Exemption) Regulations 2017

Made - - - - 25th May 2017

Coming into force - - 15th June 2017

The Office of Communications (“OFCOM”), in exercise of the powers conferred by section 8(3) and section 122(7) of the Wireless Telegraphy Act 2006(a) and in exercise of those sections of the Act(b) as extended to the Bailiwick of Guernsey, to the Bailiwick of Jersey and to the Isle of Man, make the following Regulations.

Before making these Regulations, OFCOM have given notice of their proposal to do so in accordance with section 122(4)(a) of the Act, published notice of their proposal in accordance with section 122(4)(b) of the Act, and have considered the representations made to them before the time specified in the notice in accordance with section 122(4)(c) of the Act.

Citation and commencement

1. These Regulations may be cited as the Wireless Telegraphy (Mobile Communication Services on Aircraft) (Exemption) Regulations 2017 and come into force on 15th June 2017.

Revocation

2. The Wireless Telegraphy (Mobile Communication Services on Aircraft) (Exemption) Regulations 2014(c) are hereby revoked.

Interpretation

3. In these Regulations—

- “aircraft BTS” means a base transceiver station located in an aircraft;
- “apparatus” means wireless telegraphy apparatus;
- “dBm” means decibels of power referenced to one milliWatt;
- “e.i.r.p” means equivalent isotropic radiated power;
- “ETSI” means the European Telecommunications Standards Institute;

(a) 2006 c.36.
(b) Section 8(3) and section 122(7) were extended to the Bailiwick of Guernsey by article 2 of the Wireless Telegraphy (Guernsey) Order 2006 (S.I. 2006/3325); to the Bailiwick of Jersey by article 2 of the Wireless Telegraphy (Jersey) Order 2006 (S.I. 2006/3324); and to the Isle of Man by article 2 of the Wireless Telegraphy (Isle of Man) Order 2007 (S.I. 2007/278).
(c) S.I. 2014/953.

“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);

“kHz” means kilohertz;

“LTE apparatus” means apparatus used for an electronic communications network that complies with standards developed for the Long Term Evolution (also known as LTE);

“MHz” means megahertz;

“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 the ground;

“network control unit” means equipment located in an aircraft that ensures that signals transmitted by electronic communications networks based on the ground are not detectable within the cabin by raising the noise floor inside the cabin in mobile communication receive bands;

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

“relevant network” means an electronic communications network that includes an aircraft BTS and a network control unit;

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

“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);

“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);

“UMTS apparatus” means apparatus used for an electronic communications network that complies with standards developed for the Universal Mobile Telecommunications System (also known as UMTS); and

“UMTS networks” means electronic communications networks based on the ground that are available for use with UMTS apparatus.

Exemption

4. The use of any apparatus on board an aircraft which is—

- (a) registered in the British Islands; and
- (b) flying over the British Islands and the territorial waters adjacent thereto, or, for the time being, beyond the British Islands and the territorial waters adjacent thereto,

is hereby exempt from the provisions of section 8(1) of the Wireless Telegraphy Act 2006 where the terms, provisions and limitations in regulation 5 are met.

Terms, provisions and limitations

5.—(1) The apparatus must comply with the standards published by ETSI(b) which are referred to in paragraph (2).

(2) The standards referred to in paragraph (1) are—

(a) 2003 c.21.

(b) Commission Decision 2016/2317/EU, OJEU No L 345, 20.12.2016, p 67, provides that “equivalent specifications” to ETSI’s standards may also be used. As such equivalent standards become available, Ofcom will amend these Regulations to make reference to them.

- (a) for GSM apparatus, the GSM standard EN 301 511(a);
 - (b) for UMTS apparatus, the UMTS standards—
 - (i) EN 301 908–1(b); and
 - (ii) EN 301 908–2(c);
 - (c) for LTE apparatus, the LTE standards—
 - (i) EN 301 908–1; and
 - (ii) EN 301 908–13(d).
- (3) The apparatus must only operate in the 1800 MHz band or the 2100 MHz band.
- (4) The apparatus must only be used—
- (a) for mobile communication services on aircraft;
 - (b) when the aircraft is three thousand metres or more above the ground;
 - (c) where the following operational requirements are met—
 - (i) the aircraft BTS, while in operation, limits 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, limits 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, limits 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 limits the number of users to no more than twenty; or
 - (d) where the e.i.r.p outside the aircraft emanating from the apparatus transmitting in the frequency bands specified in the headings of Columns 2 to 4 of Table 1 of the Schedule does not, at each of the heights above ground specified in Column 1 of that Table, exceed the relevant value specified in Columns 2, 3 or 4 of that Table.
- (5) The apparatus must not cause or contribute to any undue interference to any wireless telegraphy.
- (6) The apparatus must connect directly to a relevant network that complies with the requirements set out in paragraph (7).
- (7) The requirements referred to in paragraph (6) are—
- (a) the apparatus used in the relevant network must be prevented from operating on the frequency bands 925–960 MHz and 2110–2170 MHz to register with UMTS networks by the installation of—
 - (i) shielding in the aircraft’s fuselage that prevents signals from entering and leaving the fuselage; or
 - (ii) a network control unit;
 - (b) the relevant network must 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 2 of the Schedule, exceed the relevant value specified in Column 2 of that Table;
 - (c) the relevant network must 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 2 of the Schedule, exceed the relevant value specified in Column 3 of that Table;

(a) EN 301 511 (version 9.0.2) published in OJEU No C 149, 12.5.2017, p 14.
 (b) EN 301 908–1 (version 11.1.1) published in OJEU No C 149, 12.5.2017, p 15.
 (c) EN 301 908–2 (version 11.1.1) published in OJEU No C 149, 12.5.2017, p 15.
 (d) EN 301 908–13 (version 11.1.1) published in OJEU No C 149, 12.5.2017, p 16.

- (d) the relevant network must 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 2 of the Schedule, exceed the relevant value specified in Column 4 of that Table;
- (e) if the network control unit also operates on one of the frequency bands specified in the heading of Columns 2 to 5 of Table 3 of the Schedule, the network control unit and the aircraft BTS must operate such that the total e.i.r.p outside the aircraft does not, at each height above ground specified in Column 1 of that Table, and at each of those frequency bands, exceed the relevant value specified in Columns 2, 3, 4 or 5 of that Table;
- (f) the aircraft BTS must comply with the following standards published by ETSI—
 - (i) the GSM standards—
 - (aa) EN 301 502(a); and
 - (bb) EN 302 480(b);
 - (ii) the UMTS standards—
 - (aa) EN 301 908–1; and
 - (bb) EN 301 908–3(c) or EN 301 908–11(d); or
 - (iii) the LTE standards—
 - (aa) EN 301 908–1; and
 - (bb) EN 301 908–14(e) or EN 301 908–15(f); and
- (g) the network control unit must comply with the standard EN 302 480 published by ETSI.

25th May 2017

Philip Marnick
Group Director, Spectrum Group
For and by the authority of the Office of Communications

(a) EN 301 502 (version 12.5.2) published in OJEU No C 149, 12.5.2017, p 13.
 (b) EN 302 480 (version 2.1.2) published in OJEU No C 149, 12.5.2017, p 22.
 (c) EN 301 908–3 (version 11.1.3) published in OJEU No C 149, 12.5.2017, p 16.
 (d) EN 301 908–11 (version 11.1.2) published in OJEU No C 149, 12.5.2017, p 16.
 (e) EN 301 908–14 (version 11.1.2) published in OJEU No C 149, 12.5.2017, p 16.
 (f) EN 301 908–15 (version 11.1.2) published in OJEU No C 149, 12.5.2017, p 17.

SCHEDULE

Regulation 5

Table 1

<i>Column 1</i> <i>Height above ground</i> <i>(in metres)</i>	<i>Column 2</i> <i>Maximum e.i.r.p,</i> <i>outside the aircraft,</i> <i>from the GSM</i> <i>apparatus for the</i> <i>1800 MHz band</i> <i>(in dBm per 200 kHz)</i>	<i>Column 3</i> <i>Maximum e.i.r.p,</i> <i>outside the aircraft,</i> <i>from the LTE</i> <i>apparatus for the</i> <i>1800 MHz band</i> <i>(in dBm per 5 MHz)</i>	<i>Column 4</i> <i>Maximum e.i.r.p,</i> <i>outside the aircraft,</i> <i>from the UMTS</i> <i>apparatus for the</i> <i>2100 MHz band</i> <i>(in dBm per 3.84</i> <i>MHz)</i>
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 2

<i>Column 1</i> <i>Height above ground</i> <i>(in metres)</i>	<i>Column 2</i> <i>Maximum e.i.r.p of the</i> <i>network control unit</i> <i>outside the aircraft for</i> <i>the frequency band</i> <i>925–960 MHz</i> <i>(in dBm per 3.84</i> <i>MHz)</i>	<i>Column 3</i> <i>Maximum e.i.r.p of the</i> <i>aircraft BTS outside</i> <i>the aircraft for the</i> <i>frequency band 1805–</i> <i>1880 MHz</i> <i>(in dBm per 200 kHz)</i>	<i>Column 4</i> <i>Maximum e.i.r.p of the</i> <i>network control unit</i> <i>and the aircraft BTS</i> <i>outside the aircraft for</i> <i>the frequency band</i> <i>2110–2170 MHz</i> <i>(in dBm per 3.84</i> <i>MHz)</i>
3000	-6.2	-13.0	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 3

<i>Column 1</i> <i>Height above ground</i> <i>(in metres)</i>	<i>Column 2</i> <i>Maximum e.i.r.p of the network control unit and the aircraft BTS outside the aircraft for the frequency band 460–470 MHz</i> <i>(in dBm per 1.25 MHz)</i>	<i>Column 3</i> <i>Maximum e.i.r.p of the network control unit and the aircraft BTS outside the aircraft for the frequency band 791–821 MHz</i> <i>(in dBm per 10 MHz)</i>	<i>Column 4</i> <i>Maximum e.i.r.p of the network control unit and the aircraft BTS outside the aircraft for the frequency band 1805–1880 MHz</i> <i>(in dBm per 200 kHz)</i>	<i>Column 5</i> <i>Maximum e.i.r.p of the network control unit and the aircraft BTS outside the aircraft for the frequency band 2570–2690 MHz</i> <i>(in dBm per 4.75 MHz)</i>
3000	-17.0	-0.87	-13.0	1.9
4000	-14.5	1.63	-10.5	4.4
5000	-12.6	3.57	-8.5	6.3
6000	-11.0	5.15	-6.9	7.9
7000	-9.6	6.49	-5.6	9.3
8000	-8.5	7.65	-4.4	10.4

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations give effect to EU obligations of the United Kingdom contained in the Commission Implementing Decision 2016/2317/EU of 16th December 2016 amending Decision 2008/294/EC and Implementing Decision 2013/654/EU to simplify the operation of mobile communications on board aircraft (MCA services) in the Union (OJEU No L 345, 20.12.2016, p 67). These Regulations revoke the Wireless Telegraphy (Mobile Communications Services on Aircraft) (Exemption) Regulations 2014 (S.I. 2014/953).

These Regulations exempt the use of any wireless telegraphy apparatus which complies with certain terms, provisions and limitations, from the requirement to be licensed under section 8(1) of the Wireless Telegraphy Act 2006 (c.36). The apparatus must be on board an aircraft which is registered in the British Islands and the exemption applies when the aircraft is flying over the British Islands and the territorial waters adjacent thereto, or, for the time being, beyond the British Islands and the territorial waters adjacent thereto (regulation 4).

The terms, provisions and limitations for the exemption to apply are set out in regulation 5. These include the requirement that apparatus complies with specified standards published by the European Telecommunications Standards Institute (“ETSI”) (regulation 5(1)). The apparatus must only operate in the 1800 MHz band or the 2100 MHz band (regulation 5(3)). The apparatus must only be used for mobile communication services on aircraft, when the aircraft is three thousand metres or more above the ground, where specified operational requirements are met and when it does not emanate outside the aircraft specified values for the equivalent isotropic radiated power (e.i.r.p)(regulation 5(4)). The apparatus must not cause or contribute to any undue interference to any wireless telegraphy (regulation 5(5)). Finally, the apparatus must connect to a relevant network that complies with further technical requirements set out in regulation 5(7). Some of these requirements relate to the base transceiver station to which the apparatus is connected (in the case of UMTS and LTE systems, the base transceiver station is commonly known as “Node B”).

The ETSI standards referred to in the Regulations are published in the Official Journal of the European Union (OJEU) and available to the public from the official website of the European Union at <http://eur-lex.europa.eu/oj/direct-access.html> or from the EU Bookshop (as managed by the Publications Office of the European Union) by emailing: bookshop@publications.europa.eu.

A full regulatory impact assessment of the effect that these Regulations will have on the costs to business is available to the public from OFCOM’s website at <http://www.ofcom.org.uk> or from the OFCOM Library at Riverside House, 2a Southwark Bridge Road, London SE1 9HA. Copies of this assessment have also been placed in the library of the House of Commons.

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£6.00

UK201705251000 06/2017 19585

<http://www.legislation.gov.uk/id/uksi/2017/669>

ISBN 978-0-11-115841-8



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