

**2017 No. 743**

**ELECTRONIC COMMUNICATIONS**

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

*Made* - - - - *12th July 2017*

*Coming into force* - - *2nd August 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<sup>(a)</sup> and in exercise of those sections of the Act<sup>(b)</sup> 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 Ships) (Exemption) Regulations 2017 and come into force on 2nd August 2017.

**Revocation**

2. The Wireless Telegraphy (Mobile Communication Services on Board Ships) (Exemption) Regulations 2011<sup>(c)</sup> are hereby revoked.

**Interpretation**

3. In these Regulations—

“apparatus” means wireless telegraphy apparatus;

“baseline” means the baseline for measuring the breadth of the territorial waters under the United Nations Convention on the Law of the Sea<sup>(d)</sup>;

“dBi” means decibels of power referenced to the gain of an isotrope antenna;

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

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(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. 2011/316.

(d) Cmnd. 8941.

“ETSI” means the European Telecommunications Standards Institute;

“GSM system” means an electronic communications network that complies with the GSM standards EN 301 502(a) and EN 301 511(b) published by ETSI;

“kHz” means kilohertz;

“LTE system” means an electronic communications network that complies with the LTE standards EN 301 908–1(c), EN 301 908–13(d) and EN 301 908–14(e) published by ETSI;

“MHz” means megahertz;

“mobile communication services on board ships” mean electronic communications services provided by an undertaking to enable persons on board a ship to communicate via public electronic communications networks using a GSM system, LTE system or UMTS system without establishing direct connections with electronic communications networks based on land;

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

“quality criteria” mean the values broadcast by a ship base transceiver station specifying the minimum required received signal level in the cell (as expressed in dBm) required for access by the apparatus to that cell;

“selection timer” means the values set by a ship base transceiver station relating to the frequency of which the apparatus seeks to establish direct connections with a public electronic communications network based on land (also known as the Public Land Mobile Network selection timer);

“ship base transceiver station” means a mobile picocell located on a ship supporting mobile communication services on board ships;

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

“the 900 MHz band” means the 880–915 MHz frequency band (for the uplink from the apparatus to the ship base transceiver station) and the 925–960 MHz frequency band (for the downlink from the ship base transceiver station to the apparatus);

“the 1800 MHz band” means the 1710–1785 MHz frequency band (for the uplink from the apparatus to the ship base transceiver station) and the 1805–1880 MHz frequency band (for the downlink from the ship base transceiver station to the apparatus);

“the 1900/2100 MHz band” means the 1920–1980 MHz frequency band (for the uplink from the apparatus to the ship base transceiver station) and the 2110–2170 MHz frequency band (for the downlink from the ship base transceiver station to the apparatus);

“the 2600 MHz band” means the 2500–2570 MHz frequency band (for the uplink from the apparatus to the ship base transceiver station) and the 2620–2690 MHz frequency band (for the downlink from the ship base transceiver station to the apparatus);

“timing advance parameter” means the values set by a ship base transceiver station relating to the parameter needed to calculate the delay in the conveyance of signals transmitted from the ship base transceiver station to the apparatus;

“UMTS system” means an electronic communications network that complies with the UMTS standards EN 301 908–1, EN 301 908–2(g) and EN 301 908–3(h) published by ETSI; and

“user inactivity release timer” means the values set by a ship base transceiver station relating to the duration in which it will determine the apparatus as being inactive when no signals are

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(a) EN 301 502 (version 12.5.2) published in OJEU No C180, 8.6.2017, p 14.  
 (b) EN 301 511 (version 9.0.2) published in OJEU No C180, 8.6.2017, p 14.  
 (c) EN 301 908–1 (version 11.1.1) published in OJEU No C180, 8.6.2017, p 17.  
 (d) EN 301 908–13 (version 11.1.1) published in OJEU No C180, 8.6.2017, p 18.  
 (e) EN 301 908–14 (version 11.1.2) published in OJEU No C180, 8.6.2017, p 18.  
 (f) 2003 c.21.  
 (g) EN 301 908–2 (version 11.1.1) published in OJEU No C180, 8.6.2017, p 17.  
 (h) EN 301 908–3 (version 11.1.3) published in OJEU No C180, 8.6.2017, p 17.

transmitted between the ship base transceiver station and the apparatus (also known as the Radio Resource Control user inactivity release timer).

### **Exemption**

4. The use of any apparatus on board a ship which is—

- (a) registered in the British Islands; and
- (b) within the limits of 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 only operate—

- (a) where it forms part of a GSM system, in the 900 MHz band or the 1800 MHz band;
- (b) where it forms part of a LTE system, in the 1800 MHz band or the 2600 MHz band; and
- (c) where it forms part of an UMTS system, in the 1900/2100 MHz band.

(2) The apparatus must only be used—

- (a) for mobile communication services on board ships;
- (b) where it forms part of a GSM system or an UMTS system, when the ship is two nautical miles or more from the baseline; and
- (c) where it forms part of a LTE system, when the ship is four nautical miles or more from the baseline.

(3) When controlled by a ship base transceiver station, the apparatus must operate with a maximum radiated output power which is no greater than—

- (a) where it forms part of a GSM system—
  - (i) 5 dBm in the 900 MHz band; and
  - (ii) 0 dBm in the 1800 MHz band;
- (b) where it forms part of a LTE system, 0 dBm in the 1800 MHz band and in the 2600 MHz band; and
- (c) where it forms part of an UMTS system, 0 dBm for each 5 MHz in the 1900/2100 MHz band.

(4) The apparatus must connect directly to a ship base transceiver station that complies with the requirements set out in paragraphs (5) to (7).

(5) Where the apparatus forms part of a GSM system, the requirements referred to in paragraph (4) are—

- (a) the ship base transceiver station must only use indoor antennas when the ship is between two and twelve nautical miles from the baseline;
- (b) the ship base transceiver station must operate such that there is a maximum power density in external areas of the ship of  $-80$  dBm for each 200 kHz with reference to a 0 dBi measurement antenna gain;

- (c) the ship base transceiver station must mitigate interference using the following techniques or other techniques which provide at least an equivalent mitigation of interference—
    - (i) the receiver sensitivity and disconnection threshold (as described in the GSM standards TS 144 018(a) and TS 148 008(b) published by ETSI) of the apparatus is—
      - (aa) when the ship is between two and three nautical miles from the baseline, equal to or higher than  $-70$  dBm for each 200 kHz; and
      - (bb) when the ship is between three and twelve nautical miles from the baseline, equal to or higher than  $-75$  dBm for each 200 kHz;
    - (ii) discontinuous transmission (as described in the GSM standard TS 148 008 published by ETSI) is activated in the uplink from the apparatus to the ship base transceiver station; and
    - (iii) the timing advance (as described in the GSM standard TS 144 018 published by ETSI) is set to the minimum.
- (6) Where the apparatus forms part of a LTE system, the requirements referred to in paragraph (4) are—
- (a) the ship base transceiver station must only use indoor antennas when the ship is between four and twelve nautical miles from the baseline;
  - (b) the ship base transceiver station must only use bandwidth which is no greater than 5 MHz (duplex) for each of the 1800 MHz band or the 2600 MHz band;
  - (c) the ship base transceiver station must operate such that—
    - (i) its emissions on board the ship's deck must be equal to or less than  $-98$  dBm for each 5 MHz;
    - (ii) when the ship is between four and twelve nautical miles from the baseline, the quality criteria are equal to or higher than  $-83$  dBm for each 5 MHz;
    - (iii) the selection timer is set to 10 minutes;
    - (iv) the timing advance parameter is set according to a cell range for the distributed antenna system that is equal to 400 metres;
    - (v) the user inactivity release timer is set to 2 seconds; and
    - (vi) its carrier centre frequency must not be aligned with electronic communications networks based on land.
- (7) Where the apparatus forms part of a UMTS system, the requirements referred to in paragraph (4) are—
- (a) the ship base transceiver station must only use indoor antennas when the ship is between two and twelve nautical miles from the baseline;
  - (b) the ship base transceiver station must only use bandwidth which is no greater than 5 MHz (duplex);
  - (c) the ship base transceiver station must operate such that—
    - (i) its emissions on board the ship's deck must be equal to or less than  $-102$  dBm for each 5 MHz;
    - (ii) when the ship is between two and twelve nautical miles from the baseline, the quality criteria are equal to or higher than  $-87$  dBm for each 5 MHz;
    - (iii) the selection timer is set to 10 minutes;
    - (iv) the timing advance parameter is set according to a cell range for the distributed antenna system that is equal to 600 metres;

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(a) ETSI TS 144 018 (version 14.1.0) published on 11 April 2017.

(b) ETSI TS 148 008 (version 14.0.0) published on 6 April 2017.

- (v) the user inactivity release timer is set to 2 seconds; and
  - (vi) its carrier centre frequency must not be aligned with electronic communications networks based on land.
- (8) The apparatus must not cause or contribute to undue interference to any wireless telegraphy.

12th July 2017

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

## 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 2017/191/EU of 1 February 2017 amending Decision 2010/166/EU in order to introduce new technologies and frequency bands for mobile communication services on board vessels (MCV services) in the European Union (OJEU No L 29, 3.2.2017, p 63). These Regulations revoke the Wireless Telegraphy (Mobile Communication Services on Board Ships) (Exemption) Regulations 2011 (S.I. 2011/316).

These Regulations exempt the use of 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 a ship which is registered in the British Islands and the exemption applies when the ship is within the limits of 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 the apparatus must only operate in the 900 MHz band or the 1800 MHz band where it forms part of a GSM system; in the 1800 MHz band or the 2600 MHz band where it forms part of a LTE system; and in the 1900/2100 MHz band where it forms part of an UMTS system (regulation 5(1)). The apparatus must only be used for mobile communication services on boards ships and when the ship is within certain specified distance (which depends on whether the apparatus forms part of a GSM, LTE or UMTS system) from the baseline (regulation 5(2)). The apparatus must also operate with a maximum radiated output power (depending on the type of system of which the apparatus forms part) falling within the limits specified by regulation 5(3). The apparatus must connect directly to a ship base transceiver station (regulation 5(4)) that complies with further technical requirements set out in regulation 5(5) to (7), depending on the type of system of which the apparatus forms part. Finally, the apparatus must not cause or contribute to any undue interference to any wireless telegraphy (regulation 5(8)).

Except for the ETSI standards TS 144 018 and TS 148 008, 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](mailto:bookshop@publications.europa.eu). The ETSI standards TS 144 018 and TS 148 008 are available to the public from ETSI on their website at <http://www.etsi.org> or from the ETSI Secretariat at 650 Route des Lucioles, 06921 Sophia-Antipolis CEDEX, France (Tel: +33 4 92 94 42 00).

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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