

**Order on the use of radio frequencies without a permit
and on amateur radio tests and call signs, etc.¹**

In pursuance of section 6(2), section 27-31 and section 54(2) and (3) of the act on radio frequencies (*lov om radiofrekvenser*), cf. consolidated act no. 1100 of 10 August, the following provisions are laid down:

Scope

Section 1. The order lays down regulations on the use of radio frequencies without a permit in

- 1) ships;
- 2) aircraft;
- 3) ground-based aeronautical radio services;
- 4) the amateur radio and amateur radio satellite service;
- 5) other services, cf. annex 5; and
- 6) radio installations solely arranged for reception.

Subsection 2. The order also lays down regulations on

- 1) radio tests and certificates for the amateur radio and amateur radio satellite service;
- 2) the assignment and use of call signs and identification numbers for the amateur radio and amateur radio satellite service;
- 3) the use of call signs and identification numbers for aeronautical radio services in Danish registered aircraft and on ground stations;
- 4) the assignment and use of identification numbers for aeronautical radio services in ultralight aircraft, hanggliders, including motorized hanggliders and paragliders;
- 5) the assignment and use of call signs and identification numbers for ground stations and for navigation beacons in maritime radio services; and
- 6) the assignment of identification numbers for accounting companies (AAIC numbers).

Frequency use without a permit

Section 2. Radio frequencies allocated for maritime radio services, as mentioned in annex 1, may be used without a permit in ships. In this connection, ships shall also mean offshore platforms/installations,

¹ This order contains provisions implementing parts of directive 2002/20/EC of the European Parliament and of the council of 7 March 2002 on the authorisation of electronic communications network and services (Authorisation directive), Official Journal 2002, no. L 108, page 21, directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework directive), Official Journal 2002, no. L 108, page 33, directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services, Official Journal 2009, no. L 337, page 37, Commission implementing decision (EU) 2016/2317 of 16 December 2016 amending decision 2008/294/EC and implementing decision 2013/654/EU, in order to simplify the operation of mobile communications on board aircraft (MCA services) in the Union, Official Journal 2016, no. L 345, page 67, and Commission implementing decision (EU) 2017/191 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, Official Journal 2017, no. L 29, page 63.

radio schools, laboratories, demonstration and displays as well as rescue stations, rescue vehicles, rescue aircraft and shooting areas with aids to navigation.

Subsection 2. Radio frequencies, cf. subsection 1, shall be used in compliance with the requirements and limitations mentioned in annex 1, including requirements for certificates and the use of call signs and identification numbers.

Subsection 3. The assignment of call signs and identification numbers as mentioned in subsection 2 may, according to a more detailed assessment made by the Danish Energy Agency, be issued in series that are allocated a public authority according to agreement.

Section 3. Radio frequencies allocated for aeronautical radio services, as mentioned in annex 2, may be used without a permit in aircraft.

Subsection 2. Radio frequencies, cf. subsection 1, shall be used in compliance with the requirements and limitations mentioned in annex 2, including requirements for certificates and the use of call signs and identification numbers.

Subsection 3. Radio frequencies allocated for aeronautical radio services, as mentioned in annex 3, may be used without a permit in ground-based radio installations.

Subsection 4. Radio frequencies, cf. subsection 3, shall be used in compliance with the requirements and limitations mentioned in annex 3, including the availability of a technical approval issued by the Danish Transport, Construction and Housing Authority for the ground-based radio installation concerned.

Section 4. Radio frequencies allocated for the amateur radio and amateur radio satellite service, as mentioned in annex 4, may be used without a permit.

Subsection 2. Radio frequencies, cf. subsection 1, shall be used in compliance with the requirements and limitations mentioned in annex 4, including requirements for certificates and the use of call signs.

Section 5. Radio frequencies allocated for use within services other than those mentioned in sections 2-4, as mentioned in annex 5, may be used without a permit.

Subsection 2. Radio frequencies, cf. subsection 1, shall be used in compliance with the requirements and limitations mentioned in annex 5.

*Call signs and identification numbers for ground stations
and beacons in maritime radio services*

Section 6. The Danish Energy Agency shall assign call signs and identification numbers upon application for use by radio frequencies in maritime radio services on Danish ground stations.

Subsection 2. The Danish Energy Agency shall assign call signs and identification numbers upon application for use by radio frequencies in maritime radio services on physical and virtual beacons.

Subsection 3. Identification numbers, as mentioned in subsection 2, may, following a more detailed assessment by the Danish Energy Agency, be assigned in series to a public authority.

Section 7. For frequency use in radio installations, as mentioned in section 6(1) and (2), only the following shall be used:

- 1) the call sign or identification number assigned to the ground station or the beacon; or
- 2) the geographical name of the ground station followed by the word “radio”.

Section 8. The Danish Energy Agency may withdraw a call sign or an identification number assigned, cf. section 6, if the holder of the call sign or the identification number does not pay the fees due requested

pursuant to regulations laid down pursuant to section 51(1) of the act on radio frequencies (*lov om radiofrekvenser*).

Identification numbers for accounting companies (AAIC numbers)

Section 9. The Danish Energy Agency shall assign AAIC numbers (Accounting Authority Identification Code) as applications for this are received.

Subsection 2. AAIC numbers are composed by a two-letter country code, DK, followed by a two-digit figure. A maximum of 25 AAIC numbers may be assigned in Denmark.

*Call signs and identification numbers for aeronautical radio services
on Danish registered aircraft or on ground stations*

Section 10. For frequency use in radio installations in Danish registered aircraft or on ground stations only the following shall be used:

- 1) the call sign or identification number assigned to the aircraft or the ground station by the Danish Transport, Construction and Housing Authority;
- 2) the registration name issued by the Danish Transport, Construction and Housing Authority to the aircraft;
- 3) an identification name composed of the airline company's registration letters followed by the aircraft's route number; or
- 4) the geographical name of the ground station or the name of the airfield.

*Identification numbers for aeronautical radio services in ultralight aircraft,
hanggliders, including motorized hanggliders and paragliders*

Section 11. The Danish Ultralight Flying Association shall assign identification numbers upon application for use by radio frequencies in aeronautical radio services in ultralight aircraft.

Subsection 2. The Danish Hanggliding and Paragliding Union shall assign identification numbers upon application for use by radio frequencies in aeronautical radio services in hanggliders, including motorised hanggliders, and paragliders.

Subsection 3. The Danish Ultralight Flying Association and the Danish Hanggliding and Paragliding Union may withdraw an identification number assigned pursuant to subsection 1 or 2 if the holder of the identification number does not pay the fees due requested pursuant to regulations laid down pursuant to section 51(1) of the act on radio frequencies (*lov om radiofrekvenser*).

Section 12. For frequency use in ultralight aircraft, hanggliders, including motorized hanggliders, and paragliders, only the identification number assigned by the Danish Ultralight Flying Association or the Danish Hanggliding and Paragliding Union pursuant to section 11 may be used or an identification number assigned by the Danish Transport, Construction and Housing Authority.

Tests and certificates for the amateur radio and amateur radio satellite service

Section 13. The Danish Energy Agency shall hold tests for acquiring a category A, B or D certificate.

Subsection 2. The Danish Energy Agency shall hold the tests mentioned in annex 6 as written tests.

Subsection 3. The contents of the tests and the test requirements are evident from annex 6.

Subsection 4. In special cases, the Danish Energy Agency may, where it would either be impossible or very difficult for the person concerned to sit for an ordinary test, cf. subsection 2, assist in reading the questions and filling in the answering form to the extent reasonable in the view of the Danish Energy Agency considering the purpose of the test.

Subsection 5. Following an approval beforehand by the Danish Energy Agency, the Danish division of the International Amateur Radio Union or its local branches may in special cases, cf. subsection 4, assist in reading the questions and filling in the answering form to the extent reasonable in the view of the Danish Energy Agency considering the purpose of the test.

Section 14. The Danish Energy Agency may recognise written tests for acquiring a category A, B or D certificate that have been held by the Danish division of the International Amateur Radio Union or its local branches.

Subsection 2. The Danish division of the International Amateur Radio Union or its local branches shall hold the tests mentioned in annex 6 as written tests.

Subsection 3. The contents of the tests and the test requirements are evident from annex 6.

Subsection 4. The Danish division of the International Amateur Radio Union or its local branches shall inform the Danish Energy Agency of the date and place of written tests for publication on the Agency's website. Registration for tests shall be made to the Danish Energy Agency. Subsequently, the Danish Energy Agency shall forward the sets of tests to be used for the test.

Subsection 5. The test as such shall be carried out in the presence of at least two supervisors who, in addition to controlling the holding of the test as such, shall also check the identity of the test participants.

Subsection 6. When the written test has been held, the test sets answered shall be forwarded by the Danish division of the International Amateur Radio Union or its branches to the Danish Energy Agency, which shall assess the replies and inform the examinees about the result.

Subsection 7. Everyone shall, irrespective of their radio association affiliation, be permitted to sit for a test with the Danish division of the International Amateur Radio Union or its local branches.

Section 15. Foreign certificates issued in accordance with the CEPT recommendation T/R 61-02 on Harmonised Amateur Radio Examination Certificate (HAREC) shall be considered equal to passed Danish tests, cf. sections 13 and 14. Similarly, passed foreign tests shall be considered equal to passed Danish tests, cf. sections 13 and 14, if it is proven to the Danish Energy Agency that the test requirements have been met by passing similar tests in other countries.

Subsection 2. Permits issued by foreign authorities shall be valid for stays in Denmark of short duration if such validity is contained in international agreements acceded to by Denmark.

Section 16. The Danish Energy Agency shall issue, cf. sections 13-15, category A, B or D certificates for use by radio frequencies in the amateur radio and amateur radio satellite service to persons who have passed a test.

Subsection 2. The Danish Energy Agency may issue a Harmonised Amateur Radio Examination Certificate (HAREC) in accordance with the CEPT recommendation T/R 61-02 to holders of a category A certificate.

Section 17. Holders of certificates, cf. section 16, who, in the assessment of the Danish Energy Agency, no longer possess the competences presupposed to be possessed by certificate holders shall sit for a new test.

Subsection 2. If holders of certificates do not pass the new test, cf. subsection 1, the Danish Energy Agency shall withdraw the certificate.

Call signs for the amateur radio and amateur radio satellite service

Section 18. The Danish Energy Agency shall assign to holders of a valid certificate, upon application, a personal call sign, including call sign for unmanned radio installations, for use by radio frequencies in the amateur radio and amateur radio satellite service. Call signs may also be assigned to legal persons if a holder of a valid certificate, cf. section 16, is responsible for the use of the radio frequencies.

Subsection 2. The assignment of a call sign shall be conditional upon the use of the radio frequencies being affiliated to a Danish address from where the frequency is normally used.

Subsection 3. The Danish Energy Agency shall assign call signs for use in connection with amateur radio purposes in the following series of call signs: OU, OV, OZ, 5P, 5Q.

Subsection 4. A call sign previously assigned as a personal call sign shall be released after not having been used for 25 years.

Section 19. Only the call sign assigned by the Danish Energy Agency to the radio amateur, the unmanned radio installation or the legal person, cf. section 18, shall be used for frequencies in the amateur radio and amateur radio satellite service.

Subsection 2. Holders of foreign call signs who are permitted to use radio frequencies in the amateur radio and amateur radio satellite service under the provisions of this order may use the foreign call sign initiated by “OZ/” during stays of short duration in Denmark.

Section 20. The Danish Energy Agency may withdraw a call sign assigned, cf. section 18, if the holder of the call sign does not pay fees requested pursuant to regulations laid down pursuant to section 51(2) of the act on radio frequencies (*lov om radiofrekvenser*) or if a certificate is withdrawn by the Danish Energy Agency pursuant to section 17(2).

Duty of non-disclosure

Section 21. The contents and existence of radio signals received by others than those for whom they are intended shall not be used, published or passed on to unauthorised persons.

Subsection 2. The duty of non-disclosure of subsection 1 shall not apply to radio communication intended for general public use, such as distress signals, navigation signals, amateur radio, radio and television broadcasting.

Penalty provisions

Section 22. Anyone contravening the following provisions shall be liable to punishment by fine:

- 1) Requirements and limitations laid down in annexes 1-5.
- 2) Regulations on the use of call signs and identification numbers, cf. sections 7, 10, 12 and 19.
- 3) The regulation on duty of non-disclosure, cf. section 21(1).

Subsection 2. Companies, etc. (legal persons) may be liable to punishment pursuant to the provisions of chapter 5 of the penal code.

Entry into force, etc.

Section 23. This order shall enter into force on 1 July 2017.

Subsection 2. Order no. 1365 of 25 November 2016 on the use of radio frequencies without a permit and on amateur radio tests and call signs, etc. shall be repealed.

Subsection 3. Order no. 495 of 20 May 2014 on the Danish air interface no. 00 060 for mobile communication on board aircraft (MCA) in the frequency bands 1710-1785 MHz/1805-1880 MHz and 1920-1980 MHz/2110-2170 MHz shall be repealed.

Subsection 4. This order shall apply to certificates, call signs and identification numbers for the amateur radio and amateur radio satellite service, aeronautical radio services and ground stations and beacons in maritime radio services acquired and tests passed according to regulations previously in force.

Subsection 5. Call signs and identification numbers for the amateur radio and amateur radio satellite service, aeronautical radio services and ground stations and beacons in maritime radio services acquired before the entry into force of this order shall remain in force.

Subsection 6. Certificates for aeronautical radio services and the amateur radio and amateur radio satellite service acquired and tests passed according to regulations previously in force shall remain valid. Category C certificates for the amateur radio and amateur radio satellite service issued according to regulations previously in force shall be considered category A certificates.

Danish Energy Agency, 24 May 2017
Morten Bæk / Maria Schmidt Jensen

Radio frequencies for maritime radio services to be used without a permit in ships, cf. section 2

1 Radio frequencies in maritime radio services

1.1 MF

1.1.1 Radio frequencies:

415-526.5 kHz	1810.0-1830.0 kHz	2502.0-2850.0 kHz
1606.5-1625.0 kHz	2000.0-2160.0 kHz	3155.0-3400.0 kHz
1635.0-1800.0 kHz	2170.0-2498.0 kHz	3500.0-3800.0 kHz

1.1.2 Radio interface for the radio frequencies 1605.5-3800.0 kHz:

No. 00 037.

1.2 HF

1.2.1 Radio frequencies

4000-4650 kHz	13.410-13.570 MHz	20.010-21.000 MHz
5060-5450 kHz	13.870-14.000 MHz	22.000-22.855 MHz
6200-6525 kHz	14.350-14.990 MHz	23.000-23.200 MHz
8100-8815 kHz	16.360-17.410 MHz	23.350-24.000 MHz
10.150-11.175 MHz	18.168-18.900 MHz	25.010-25.210 MHz
12.230-13.200 MHz	19.680-19.800 MHz	26.100-26.175 MHz

1.2.2 Radio interface:

No. 00 037.

1.3 VHF

1.3.1 Radio frequencies:

121.500 MHz	155.625 MHz	156.0125-157.4375 MHz
123.100 MHz	155.775 MHz	160.6125-160.9625 MHz
155.500 MHz	155.825 MHz	161.4875-162.0375 MHz
155.525 MHz		

1.3.2 Radio interface for the radio frequencies 155.500-162.025 MHz:

No. 00 039.

1.4 UHF

1.4.1 Radio frequencies:

457.5250 MHz	457.5750 MHz	467.5625 MHz
457.5375 MHz	467.5250 MHz	467.5750 MHz
457.5500 MHz	467.5375 MHz	
457.5625 MHz	467.5500 MHz	

1.4.2 Radio interface:

No. 00 038.

1.5 Satellite

1.5.1 Radio frequencies:

1626.5-1660.5 MHz (sender)	1525.0-1559.0 MHz (receiver)
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1.6 EPIRB

1.6.1 Radio frequencies:

121.5 MHz	243.0 MHz	406.0-406.1 MHz (COSPAS-SARSAT)
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1.6.2 Radio interface:

No. 00 041.

1.6.3 Limitations on use:

Emergency radio installations on 406.0-406.1 MHz shall not be used ashore.

1.7 Radio installations for position-fixing (radar/SART)

1.7.1 Radio frequencies:

2900-3100 MHz	9200-9500 MHz
5470-5660 MHz	9500-9800 MHz

1.7.2 Radio interfaces:

No. 00 040 for radio frequencies for SART and no. 00 046.

2 Requirements and limitations

The following requirements and limitations shall apply to the use of the radio frequencies and frequency bands mentioned in item 1:

- 1) The limitations mentioned under item 1 shall be met.
- 2) The Danish Maritime Authority shall have assigned the ship a valid call sign and identification number from a number series allocated to the Danish Maritime Authority in accordance with agreement with the Danish Energy Agency, cf. section 2(3). Call signs and identification numbers assigned before 1 January 2005 may be used continuously if they are valid according to regulations issued by the Danish Maritime Authority.
- 3) Radio frequencies mentioned in items 1.1, 1.2, 1.3, 1.5 and 1.6 shall be used only by persons holding a certificate valid for operating the radio installation or under the physical presence of a person who is a holder of such a certificate, cf. the table below.
- 4) Radio installations shall be used only with the minimum transmitter power necessary to ensure a reliable connection.
- 5) False or misleading transmission as well as unnecessary and superfluous transmissions shall not be made. Neither shall transmissions be made the identity of which is not given or is given falsely.

- 6) When a ship is in a Danish port, radio installations on board shall be used only for emergency correspondence. Excepted are:
- Satellite earth station equipment.
 - VHF radio installations.
 - Radio installations intended for internal communication on board.
- 7) The radio frequencies 1F (155.625 MHz), 2F (155.775 MHz) and 3F (155.825) for ship-to-ship communication in fishing vessels (registered with port registration number) shall be used only in Scandinavian waters.
- 8) The radio frequencies 1L (155.500 MHz) and 2L (155.525 MHz) for ship-to-ship communication in recreational craft shall be used only in Scandinavian waters.

Certificates give access to the operation of radio installations as marked with an "X" in the table below:

Radio installation	Type of certificate						
	GOC	ROC	GEN	LRC	BEG	SRC	TLG
VHF telephony	X	X	X	X	X	X	X
MF telephony	X		X	X	(X)		X
HF telephony	X		X	X	(X)		X
VHF telephony with DSC	X	X		X		X	
MF telephony with DSC	X			X			
HF telephony with DSC	X			X			
HF telex	X		X				X
EPIRB (emergency radio beacon)	X	X	X	X		X	X
SART (radar transponder)	X	X	X	X		X	X
Satellite ground station equipment	X			(X)			
Telegraphy							X

(X) = additional choice

The following abbreviations have been used for the certificates in the maritime radio services:

- General operator's certificate in GMDSS (GOC).
- Restricted operator's certificate in GMDSS (ROC).
- General certificate as a radiotelephone officer (GEN).
- Long range certificate for maritime MF, HF and VHF radio installations (LRC).
- Restricted certificate as radio telephone officer (BEG).
- Short range certificate for maritime VHF radio installations (SRC).
- Radio telegraph certificate (TLG).

[Annexes 2-7 have not been included here.]

COMMISSION IMPLEMENTING DECISION (EU) 2017/191

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

(notified under document C(2017) 450)

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Decision No 676/2002/EC of the European Parliament and of the Council of 7 March 2002 on a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision),² and in particular Article 4(3) thereof,

Whereas:

- (1) Commission Decision 2010/166/EU³ sets technical and operational conditions necessary to allow the use of GSM on board vessels (MCV services) in the Union.
- (2) The development of enhanced means of communications supported by technical progress can improve the capacity for all citizens to be connected everywhere and at all times in line with the Radio Spectrum Policy Programme established by Decision No 243/2012/EU of the European Parliament and of the Council⁴ and contribute to the implementation of the Digital Single Market. Moreover, spectrum should be used in accordance with the principles of technology and service neutrality set out in Directive 2002/21/EC of the European Parliament and of the Council.⁵
- (3) Decision 2010/166/EU calls on the Member States to keep under review the use of the 900 MHz and 1 800 MHz bands by systems providing MCV services in their territorial seas, in particular with regard to the continued relevance of all the conditions in that Decision and to instances of harmful interference. Member States are also required to submit to the Commission a report on their findings and the Commission should, where appropriate, review Decision 2010/166/EU.
- (4) The reports provided by Member States to the Commission have strongly confirmed the need to allow new communication technologies for MCV use.
- (5) In order to facilitate further deployment of MCV applications in the Union, the Commission gave a mandate on 16 November 2015 to the European Conference of Postal and Telecommunications Administrations ('the CEPT') in accordance with Article 4(2) of Decision No 676/2002/EC to examine the possibility for coexistence of seaborne devices using LTE technology with terrestrial electronic communications networks operating in the 1710-1785/1805-1880 MHz and 2500-2570/2620-2690

² Official Journal L 108, 24.4.2002, p. 1.

³ Commission Decision 2010/166/EU of 19 March 2010 on harmonised conditions of use of radio spectrum for mobile communication services on board vessels (MCV services) in the European Union (Official Journal L 72, 20.3.2010, p. 38).

⁴ Decision No 243/2012/EU of the European Parliament and of the Council of 14 March 2012 establishing a multiannual radio spectrum policy programme (Official Journal L 81, 21.3.2012, p. 7).

⁵ Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive) (Official Journal L 108, 24.4.2002, p. 33).

MHz bands and the coexistence of seaborne devices using UMTS technology with terrestrial electronic communications networks operating in the 1920-1980/2110-2170 MHz bands.

- (6) Following that mandate, the CEPT adopted on 17 June 2016 its report 62 which concluded that it would be possible to operate MCV, provided that the relevant technical conditions are met, using LTE technology in the 1710-1785/1805-1880 MHz and 2500-2570/2620-2690 MHz bands and UMTS technology in the 1920-1980/2110-2170 MHz band. Therefore, Decision 2010/166/EU should be amended based on the results of CEPT report 62 to include those technologies and frequencies and allow the use of systems based on these technologies on board vessels.
- (7) Without prejudice to the requirements set out in the Annex, and in order to protect other authorised uses of spectrum, Member States may place additional geographic restrictions on the operation of the MCV system in their territorial sea.
- (8) Considering the importance of the UMTS and LTE technologies for wireless communications in the Union, the possibility to use MCV LTE systems and MCV UMTS systems as described in this Decision should apply as early as possible and not later than 6 months after the date of notification of this Decision.
- (9) MCV technical specifications should remain under review in order to ensure that they match technological progress.
- (10) The measures provided for in this Decision are in accordance with the opinion of the Radio Spectrum Committee,

HAS ADOPTED THIS DECISION:

Article 1

Decision 2010/166/EU is amended as follows:

- 1) Article 1 is replaced by the following:

'Article 1

The purpose of this Decision is to harmonise the technical conditions for the availability and efficient use of the 900 MHz, 1800 MHz, 1900/2100 MHz, 2600 MHz frequency bands for systems providing mobile communications on board vessels services within territorial seas in the Union.'

- 2) Article 2 is amended as follows:

- a) point 1 is replaced by the following:

"1) mobile communication services on board vessels (MCV services)" means electronic communication services, as defined in Article 2(c) of Directive 2002/21/EC of the European Parliament and of the Council(*), provided by an undertaking to enable persons on board a vessel to communicate via public communication networks using a system subject to Article 3 without establishing direct connections with land-based mobile networks;

(* Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive) (Official Journal L 108, 24.4.2002, p. 33).';"

- b) point 7 is replaced by the following:

"7) vessel base transceiver station (vessel BS)" means a mobile pico-cell located on a vessel and supporting GSM, LTE or UMTS services in compliance with the Annex to this Decision;";

- c) the following points are added:

“8) the 1900/2100 MHz bands” means the 1920-1980 MHz band for uplink (terminal transmit, base station receive) and 2110-2170 MHz band for downlink (base station transmit, terminal receive);

“9) the 2600 MHz band” means the 2500-2570 MHz band for uplink (terminal transmit, base station receive) and 2620-2690 MHz band for downlink (base station transmit, terminal receive);

“10) LTE system” means an electronic communications network as defined in the Annex to Commission Implementing Decision 2011/251/EU(*);

“11) UMTS system” means an electronic communications network as defined in the Annex to Implementing Decision 2011/251/EU.

(*) Commission Implementing Decision 2011/251/EU of 18 April 2011 amending Decision 2009/766/EC on the harmonisation of the 900 MHz and 1800 MHz frequency bands for terrestrial systems capable of providing pan-European electronic communications services in the Community (Official Journal L 106, 27.4.2011, p. 9)."

3) Article 3 is replaced by the following:

‘Article 3

1. Member States shall make available at least 2 MHz of spectrum in the uplink direction and 2 MHz of corresponding paired spectrum in the downlink direction within the 900 and/or 1800 MHz bands for GSM systems providing MCV services on a non-interference and non-protected basis in their territorial seas.
2. As early as possible, and 6 months after the date of notification of this Decision at the latest, Member States shall make available 5 MHz of spectrum in the uplink direction and 5 MHz of corresponding paired spectrum in the downlink direction within the 1900/2100 MHz bands for UMTS systems and within the 1800 and 2600 MHz bands for LTE systems providing MCV services on a non-interference and non-protected basis in their territorial seas.

4) Article 4 is replaced by the following:

‘Article 4

Member States shall keep under review the use of the frequency bands by the systems providing MCV services in their territorial seas, which are referred to in Article 3(1) and (2), in particular with regard to the continued relevance of all the conditions set out in Article 3 and to instances of harmful interference.’

5) The Annex is replaced by the text in the Annex to this Decision.

Article 2

This Decision is addressed to the Member States.

Done at Brussels, 1 February 2017.

For the Commission
Andrus ANSIP
Vice-President

ANNEX

‘ANNEX

Conditions to be met by a system providing MCV services in the territorial seas of the Member States of the European Union, in order to avoid harmful interference to land-based mobile networks

- (1) Conditions to be met by GSM systems operating in the 900 MHz band and 1800 MHz band providing MCV services in the territorial seas of the Member States, in order to avoid harmful interference to land-based mobile networks

The following conditions shall apply:

- (a) the system providing MCV services shall not be used closer than 2 nautical miles⁶ from the baseline, as defined in the United Nations Convention on the Law of the Sea;
- (b) only indoor vessel-BS antenna(s) shall be used between 2 and 12 nautical miles from the baseline;
- (c) limits to be set for mobile terminals when used on board vessel and for vessel-BS:

Parameter	Description
Transmit power/power density	For mobile terminals used on board vessels and controlled by the vessel-BS in the 900 MHz band, maximum radiated output power: 5 dBm
	For mobile terminals used on board vessels and controlled by the vessel-BS in the 1800 MHz band, maximum radiated output power: 0 dBm
	For base stations on board vessels, the maximum power density measured in external areas of the vessel, with reference to a 0 dBi measurement antenna gain: - 80 dBm/200 kHz
Channel access and occupation rules	Techniques to mitigate interference that provide at least equivalent performance to the following mitigation factors based on GSM standards shall be used: - between 2 and 3 nautical miles from the baseline, the receiver sensitivity and the disconnection threshold (ACCMIN (2) and min. RXLEV (3) level) of the mobile terminal used on board vessel shall be equal to or higher than -70 dBm/200 kHz and between 3 and 12 nautical miles from the baseline equal to or higher than - 75 dBm/200 kHz - discontinuous transmission (4) shall be activated in the MCV system uplink direction - the timing advance (5) value of the vessel-BS shall be set to the minimum.

- (1) One nautical mile = 1852 metres.
- (2) ACCMIN (RX_LEV_ACCESS_MIN); as described in GSM standard ETSI TS 144 018.
- (3) RXLEV (RXLEV-FULL-SERVING-CELL); as described in GSM standard ETSI TS 148 008.
- (4) Discontinuous transmission, or DTX; as described in GSM standard ETSI TS 148 008.

- (2) Conditions to be met by UMTS systems in the 1900/2100 MHz bands providing MCV services in the territorial seas of the Member States, in order to avoid harmful interference to land-based mobile networks

The following conditions shall apply:

- (a) the system providing MCV services shall not be used closer than 2 nautical miles from the baseline, as defined in the United Nations Convention on the Law of the Sea;
- (b) only indoor vessel-BS antenna(s) shall be used between 2 and 12 nautical miles from the baseline;
- (c) only bandwidth up to 5 MHz (duplex) can be used;

⁶ Timing advance as described in GSM standard ETSI TS 144 018.

(d) limits to be set for mobile terminals when used on board vessel and for vessel-BS:

Parameter	Description
Transmit power/power density	For mobile terminals used on board vessels and controlled by the vessel-BS in the 1800 MHz band and 2600 MHz band, maximum radiated output power: 0 dBm
Emissions on deck	The vessel-BS emission on deck shall be equal or below – 98 dBm/5 MHz (equivalent to – 120 dBm/15kHz)
Channel access and occupation rules	Between 4 and 12 nautical miles from the baseline, the quality criteria (minimum required received signal level in the cell) shall be equal to or higher than – 83 dBm/5 MHz (equivalent to – 105 dBm/15 kHz)
	The Public Land Mobile Network selection timer shall be set to 10 minutes.
	The timing advance parameter shall be set according to a cell range for the MCV distributed antenna system equal to 400 m
	The Radio Resource Control user inactivity release timer shall be set to 2 seconds
Non alignment with land networks	MCV carrier centre frequency shall not be aligned with land network carriers