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ANNEX

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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 1 800 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 miles⁽¹⁾ 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 1 800 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
a	ACCMIN (RX_LEV_ACCESS_MIN); as described in GSM standard ETSI TS 144 018.
b	RXLEV (RXLEV-FULL-SERVING-CELL); as described in GSM standard ETSI TS 148 008.
c	Discontinuous transmission, or DTX; as described in GSM standard ETSI TS 148 008.
d	Timing advance; as described in GSM standard ETSI TS 144 018.

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	<p>the disconnection threshold (ACCMIN^a and min RXLEV^b 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,</p> <p>— discontinuous transmission^c shall be activated in the MCV system uplink direction,</p> <p>— the timing advance^d value of the vessel-BS shall be set to the minimum.</p>
a	ACCMIN (RX_LEV_ACCESS_MIN); as described in GSM standard ETSI TS 144 018.
b	RXLEV (RXLEV-FULL-SERVING-CELL); as described in GSM standard ETSI TS 148 008.
c	Discontinuous transmission, or DTX; as described in GSM standard ETSI TS 148 008.
d	Timing advance; as described in GSM standard ETSI TS 144 018.

- (2) Conditions to be met by UMTS systems in the 1 900/2 100 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;
- (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 transmitting in the 1 900 MHz band used on board vessels and controlled by the vessel-BS transmitting in the 2 100 MHz band, maximum radiated output power: 0 dBm/5 MHz
Emissions on deck	The vessel-BS emission on deck shall be equal or below – 102 dBm/5 MHz (Common Pilot Channel)
Channel access and occupation rules	Between 2 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:

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	– 87 dBm/5 MHz
	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 600 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

- (3) Conditions to be met by LTE systems in the 1 800 MHz band and 2 600 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 4 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 4 and 12 nautical miles from the baseline;
- (c) only a bandwidth of up to 5 MHz (duplex) can be used per frequency band (1 800 MHz and 2 600 MHz);
- (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 1 800 MHz band and 2 600 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/15 kHz)
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

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	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

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(1) One nautical mile = 1 852 metres

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