



Regulations

Cellular Systems On Board Vessels (OBV)

Version 1.0

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Article (1) Definitions

- 1.1 In applying these Regulations, the following terms shall have the following meanings unless the context requires otherwise, whereas any term undefined in the following shall be defined in line with the Federal Law by Decree No. 3 of 2003 as amended its Executive Order and Radiocommunications Policy:
- 1.1.1 “**Applicant**” means any Person who has applied for a License or an Authorization in accordance with the Telecom Law or other Policy Instruments issued by the Authority.
- 1.1.2 “**Application**” means the request for issuance of a License or an Authorization, received at the Authority on prescribed forms as per the procedure in vogue.
- 1.1.3 “**Baseline**” means “normal baseline”, as defined in the UN Convention on the Law of the Sea (UNCLOS, 1982), including fringe islands.
- 1.1.4 “**Radio Frequency Authorization**” means an authorization, which permits the use of Radio Frequency subject to terms and conditions as stipulated by the Authority.
- 1.1.5 “**Ship Radio License**” means Radio Frequency Authorization. The word ‘License’ when used for Ship Radio License means Radio Frequency Authorization.
- 1.1.6 “**The System**” means the Cellular System On Board Vessels (OBV) using GSM-900 system (880-915 / 925-960 MHz) and/or GSM-1800 system (1710-1785 / 1805-1880 MHz) for the purpose of these regulations. The System does not include the GSM backhaul connection.
- 1.1.7 “**Territorial waters**” means “territorial sea”, as defined in the UN Convention on the Law of the Sea (UNCLOS, 1982), excluding internal waters, harbours, and ports.

Article (2) Permitted Usage

- 2.1 Usage of Cellular Systems On Board is becoming popular whereby users can use cell phones just as they use on land. The following are the permitted usage conditions:
- 2.1.1 The System can be used within the corridor starting from 2 NM from the Baseline up to the edges of the UAE Territorial Waters.

- 2.1.2 The System shall be turned OFF when the ship enters the area within 2 NM from the baseline.
- 2.1.3 The System shall not cause harmful interference nor claim protection from the UAE land based cellular systems.
- 2.1.4 The UAE registered ships may be able to use the System in the UAE Territorial waters and International waters if their Ship Radio License includes the System and adherence to the conditions as set in these regulations.
- 2.1.5 The UAE registered ships may be able to use the System in the Territorial waters of other States if the National regulations of that State allow such use. The responsibility to adhere to the National regulations within the Territorial waters of each State lies with the ship owner and or ship operator.
- 2.1.6 The foreign flag ships may be able to use the System in the UAE Territorial waters if their Ship Radio License includes the System and adherence to the conditions as set in these regulations.
- 2.2 The System shall be turned OFF in the UAE Territorial Waters if the System does not meet the conditions as set in these Regulations.
- 2.3 The System shall be turned OFF in the Territorial Waters of other States if the System used by UAE Flag ships does not meet the conditions as set in the National Regulations of that State.
- 2.4 The System is only allowed to be used in frequency bands i.e. GSM-900 and/or GSM-1800.
- 2.5 The Authority Regulation for Earth Station on Board vessels (ESV) shall be referred for the use of backhaul of the GSM Base Station Transceiver (BTS) if through ESV. In case Mobile Satellite Service (MSS) is used (e.g. Inmarsat terminal, Thuraya terminals, etc) for backhaul, then the MSS terminal should be part of Ship Radio License.
- 2.6 The use of the System is authorized on secondary, non-exclusive and sharing basis within the Ship Radio License.
- 2.7 In all conditions whatsoever, the System shall be switched OFF immediately if directed by the Authority.

Article (3)

Technical Conditions

- 3.1. The technical conditions as given in these regulations shall apply on the System.
- 3.2. Only indoor v-BS antenna(s) shall be used between 2 and 12 NM from the baseline.
- 3.3. The System shall control all MS (Cell phones) to use 0 dBm.
- 3.4. The MS receiver sensitivity and the disconnection threshold (ACCMIN & min RXLEV level) shall be less than -75 dBm/200 kHz. ACCMIN (RX_LEV_ACCESS_MIN, as described in GSM standard 3GPP TS 144.018 and RXLEV (RXLEV-FULL-SERVING-CELL, as described in GSM standard 3GPP TS 148.008).
- 3.5. DTX (discontinuous transmission, as described in GSM standard 3GPP TS 148.008) shall be activated on the System uplink (MS to BS).
- 3.6. Timing advance (as described in GSM standard 3GPP TS 144.018) shall be set to minimum for the BTS.
- 3.7. The System emissions measured anywhere external to the vessel (i.e. at ship perimeter or on its open deck areas) shall not exceed -80 dBm/200 kHz (assuming a 0 dBi measurement antenna gain). This requires careful planning for the installation of the equipment and antenna systems.
- 3.8. Only pico or femto cell based BTS shall be used.
- 3.9. The System may use Detect and Avoid mechanism. The scan rate should be in the order of 200 channels/second.
- 3.10. The System may have at least two transceivers (GSM radio channels) employed, one used for static BCCH channel and one for the synthesized FH operation carrying TCH channel used for traffic. The transmissions from MS would be allowed on static BCCH channel only to effectuate the random access procedure (i.e. requesting the call activation or responding to paging calls). Once the communications with BTS has been established, the MS call should be placed on the FH channel. In other words, the static channel carrying BCCH should be used only for that sole purpose and no traffic should be allowed within its remaining time slots. FH should be used in synthesized mode, i.e. one v-BS transmitter constantly changing its operating frequency; FH hopping rate should be 217 hops per second (i.e. frequency changed with every transmitted TDMA frame) and Change of operating frequencies (channels) should follow the pseudo-random pattern.
- 3.11. The System shall include a control mechanism based on GPS for sensing and controlling the On/Off, radiated power levels of BTS and external antenna disabling upon crossing of boundaries as mentioned in this Regulation.