



Maritime Radio Systems

Version 2.0

Document Date: 17 March 2016

Article (1)

Scope of Document

- 1.1 These regulations are issued in accordance with the provisions of the UAE Federal Law by Decree No 3 of 2003 (Telecom Law) as amended and its Executive Order.
- 1.2 This document comprises technical regulations for the authorization and operation of Maritime Radio Systems. It shall be read in conjunction with the following documents available from the TRA website at www.tra.gov.ae:
 - 1.2.1 Spectrum Allocation and Assignment Regulations
 - 1.2.2 Spectrum Fees Regulations
 - 1.2.3 Interference Management Regulations
 - 1.2.4 National Frequency Plan

Article (2)

Definitions

- 2.1 The terms, words and phrases used in these Regulations shall have the same meaning as ascribed to them in the Telecom Law (Federal Law by Decree No. 3 of 2003 as amended) and its Executive Order. In addition, these Regulations expressly provide for the meaning and context in which those terms shall be interpreted, as follows:
 - 2.1.1 “**Applicant**” means any Person who has applied for a License or an Authorization in accordance with the Telecom Law or other Regulatory Instruments issued by the Authority.
 - 2.1.2 “**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.
 - 2.1.3 “**ASM**” means Application Specific Message as described in Recommendation ITU-R M.2092.
 - 2.1.4 “**Authorization** ” means a valid frequency spectrum authorization issued by the TRA and permits the use of radio frequency subject to terms and conditions as stipulated by the TRA
 - 2.1.5 “**Authority (TRA)**” means the General Authority for Regulating the Telecommunication Sector known as Telecommunications Regulatory Au-

thority (TRA) established pursuant to the provisions of Article 6 of Federal Law by Decree No. 3 of 2003.

- 2.1.6 “**Authorized User**” means a Person that has been granted an Authorization by the Authority.
- 2.1.7 “**Automatic Identification System (AIS)**” means the automatic tracking system based on recommendation ITU-R M.1371 used on ships and by vessel traffic services (VTS) for identifying and locating vessels by electronically exchanging data with other nearby ships, AIS base stations, and satellites.
- 2.1.8 “**Base Station**” means a land mobile radio which is fixed.
- 2.1.9 “**Baseline**” means “normal baseline”, as defined in the United Nations (UN) Convention on the Law of the Sea (UNCLOS, 1982), including fringe islands.
- 2.1.10 “**Coast Station**” A land station in the maritime mobile service.
- 2.1.11 “**Digital Selective Call (DSC)**” is primarily intended to identify ship-to-ship, ship-to-shore and shore-to-ship radiotelephone and radio telex calls. DSC calls can also be made to individual stations, groups of stations, or “all stations” in ones reach. Each DSC-equipped ship, shore station and group is assigned a unique 9- digits Maritime Mobile Service Identity.
- 2.1.12 “**Earth Station**” means a station located either on the Earth's surface or within the major portion of the Earth's atmosphere and is intended for communication with one or more space stations, or with one or more stations of the same kind by means of one or more reflecting satellites or other objects in space.
- 2.1.13 “**Emergency Position- Indicating Radio Beacon (EPIRB)**” means the Station in the maritime mobile service, the emission of which is intended to facilitate search and rescue operations.
- 2.1.14 “**GMDSS**” means the Global Maritime Distress and Safety System.
- 2.1.15 “**ITU**” means the International Telecommunication Union, a leading United Nations agency for information and communication technologies.
- 2.1.16 “**Long Range Identification and Tracking (LRIT)**” means the system in accordance with regulation V/19-1 of the 1974 SOLAS Convention.
- 2.1.17 “**Maritime Mobile Service**” A mobile Radiocommunication Service between coast stations and ship stations, or between ship stations, or between associated on-board communication stations: survival craft sta-

tions and emergency position-indicating radio beacon stations may also participating in this service.

2.1.18 “**MARS Database**” means the database of the Maritime mobile Access and Retrieval System operated by the ITU.

2.1.19 “**MMSI**” Maritime Mobile Service Identity is a series of nine digits which are transmitted over the radio path in order to uniquely identified ship.

2.1.20 “**Mobile/Maritime Identification Digits (MID)**” is used by radio communication facilities to identify their home country or base area in Digital Selective Calling (DSC), Automatic Transmitter Identification System (ATIS), and Automatic Identification System (AIS) messages as part of their Maritime Mobile Service Identities.

2.1.21 “**Narrow Band Direct Printing (NDPD)**” means maritime teletype service as defined in Recommendation ITU-R M.688.

2.1.22 “**Person**” will include ‘juridical entities’ as well as ‘natural persons’.

2.1.23 “**Personal Locator Beacons (PLBs)**” are distress radio beacons, which are tracking transmitters to aid in the detection and location of boats, aircraft, and people in distress.

2.1.24 “**Port Operation Service**” A maritime mobile service in or near a port, between coast station and ship station , or between ship stations , in which messages are restricted to those relating to the operational handling the movement and safety of ships and, in emergency , to the safety of persons.

2.1.25 “**Radar**” means Radio Detection and Ranging.

2.1.26 “**Radio Regulations (RR)**” means a publication issued by the ITU, adopted by the World Radiocommunication Conference and ratified by the UAE.

2.1.27 “**Radiocommunication Service**” means the transmitting or receiving of Radio Frequencies which may be used for the conveyance of data, or messages or voice or visual images, or for the operation or control of machinery or apparatus.

2.1.28 “**Search and Rescue (SAR)**” means the activities of the search for and provision of aid to people who are in distress or imminent danger.

2.1.29 “**Trunking systems**” means land mobile radio systems with one or more radio base station(s)/cells where each cell offers one or several transmission channels which will be dynamically assigned to users as soon as a connection is required.

- 2.1.30 **“Ship Movement Service”** A safety service in the maritime mobile service other than a port operating service, between coast stations and ship stations, or between ship stations in which messages are restricted to those relating to the movement of ships.
- 2.1.31 **“Ship Station”** A mobile Station in the Maritime Mobile Service located on board a vessel which is not permanently moored, other than a survival station.
- 2.1.32 **“Ship Station License”** means an Authorization issued by the TRA.
- 2.1.33 **“SOLAS”** means the International Convention for the Safety of Life at Sea, 1974 as amended.
- 2.1.34 **“Station”** means an installation operated by an Authorized User, for carrying on a Radiocommunication Service.
- 2.1.35 **“UAE”** means the United Arab Emirates including its territorial waters and the airspace above.
- 2.1.36 **“VDES”** means VHF Data Exchange System according to ITU-R M.2092.
- 2.1.37 **“Wireless Equipment”** means a category of Telecommunication Apparatus used for Radiocommunication Service.
- 2.1.38 **“WRC”** means World Radiocommunication Conference of the ITU.

Article (3)

Uses related to Maritime Radio Systems

- 3.1 Usage of Maritime Radio Systems is allowed but not limited to the following:
- 3.1.1 Shore-to-ship / Ship-to-Shore (port operations, coast station public correspondence, private agencies)
- 3.1.2 Inter ship communications / On board communications
- 3.1.3 Distress, safety and calling channels
- 3.1.4 Search and rescue
- 3.1.5 Automatic Identification System (AIS)
- 3.1.6 Buoys
- 3.1.7 Maritime Radar

- 3.2 Vessels covered by this regulation have been divided into the three following categories:
- 3.2.1 **Fishing boats:** These are vessels having a fishing boat navigation license by the Ministry of Environment and Water.
- 3.2.2 **Pleasure Boats:** These are vessels that use only maritime VHF radio channels 16, 63 and 88, have no MMSI and do not travel outside UAE coastal waters.
- 3.2.3 **Ships:** These are vessels that do not fall in the categories above, with or without MMSI, call sign, operating within territorial or international waters and include Rigs, barges, etc.
- 3.3 In case earth station(s) on board ship is installed, the TRA regulations for earth stations shall apply.
- 3.4 In case base station(s) for cellular service is installed, the TRA shall decide on a case to case basis.
- 3.5 For Land Mobile (Ground-to-Ground) Applications at ports the TRA regulations for Private Mobile Radio shall apply. Digital Trunking systems shall be preferred for port use.
- 3.6 For Maritime Mobile (Shore-to-Ship) stations, the TRA application for Private Mobile Radio shall apply.
- 3.7 For Maritime Mobile on-board communication as per RR 5.287, using radiated power of more than 1 Watt, the TRA application for Private Mobile Radio shall apply.
- 3.8 For buoys or AIS stations the “aids to navigation authorization” shall be issued.
- 3.9 No broadcasting station shall be allowed on board vessels (RR 51.5 A).

Article (4)

Technical Conditions

- 4.1 The following table gives guidance on authorized frequency ranges for vessels, their uses and applicable usage conditions:

Frequency Range	Use	Usage Conditions
415-526.5 kHz	MF telegraphy (main use), Narrow Band Direct Printing (NDPD)	Use shall be in accordance with the ITU Geneva-85 Plan GE85-MM-R1, of the year 1985
1606.5-3800 kHz	MF telephony (main use) Narrow Band Direct Printing (NDPD) Digital Selective Calling (DSC)	Channel plan based on RR Appendix 17 and Appendix 25.
1.6-30 MHz	MF/HF Radio	Channel plan based on RR

Frequency Range	Use	Usage Conditions
		Appendix 17 and Appendix 25
121.5/123.1 MHz	Aeronautical Search and Rescue equipment	
121.5 MHz	Emergency Position Indicating Radio Beacons (EPIRBs) and Personal Locator Beacons (PLBs),	Max Power: 200 mW
156.000 - 162.025 MHz	VHF Radio	Channel Plan in accordance with RR Appendix 18 and the national channel plan as given in Section 2.2 Max Power: Handheld 5 W Installed: 25 W
406-406.1 MHz	Emergency Position-Indicating Radio Beacons (EPIRBs) and Personal Locator Beacon (PLB)	Max Power: 5 Watt
2900-3100 MHz	Radar	ITU-R M.1313 Max. Power: 100 kW
2930-2950 MHz	Radar Transponder	ITU-R M.824 Max. Power: 50 W
457.5125 - 457.5875 MHz 478.5125 – 467.5875 MHz	UHF Radio for on-board communications	Limited to vessels within 3 nautical miles of the UAE Baseline RR 5.287 / ITU-R M1174 Max Power: 1 Watt
5460-5650 MHz	Radar	ITU-R M.1313 Max. Power: 100 kW
9200-9500 MHz	Radar Transponder	ITU-R M.824 Max. Power: 50 W
13.4-14 GHz	Radar	Only on a case by case evaluation

4.2 The following VHF channel plan based on RR Appendix 18 (Annex-1) shall be used for making Assignments:

Application	Channels
Automatic Ship Identification and Surveillance	AIS-1, AIS-2
Coastal Stations (Public correspondence)	1 - 5, 07, 20, 60 – 66 21 - 23, 80 – 83 (until 1.1.2017) 28 (Data and direct telegraphy) 24 – 26, 84-86 (until 1.1.2019)
Distress Safety and calling	16 (Emergency and distress calling only) 70 (Digital Selective Calling (DSC) only)
Inter-ship	6, 8 – 10, 13, 67, 69, 72-73
Navigation related communication	75, 76 (Radiated power less than 1 Watt)
Port Operations	11 – 14 (simplex operation) 5, 18-21 (duplex operation) 87-88 ,1027,1028 (simplex, after 1.1.2019)
Safety of Navigation (Inter ship)	13
Reserved for Special events and testing	83 – 86 (until 1.1.2017) 27,28,1027,1028,2027,2028 (after 1.1.2017)
Search and Rescue (Air-ship)	6 ,70,16, AIS 1, AIS 2
Ship (on-board)	15, 17 (Transmit power limited to 1 Watt)
Ship Movement	11 - 13, 68, 69, 71 (simplex operation) 61, 62, 64, 65, 79 (duplex operation) 80 (duplex until 1.1.2017)
Shore –to-ship (shipping agencies)	22
Small boat communication	63, 88
Exchange of Data and electronic mail (ITU-R. M.1842)	21-23, 80-83 (after 1.1.2017)
VHF Data Exchange (VDES / ITU-R M.2092)	24,25,84,85 (after 1.1.2017) 26, 86, ASM-1, ASM-2 (after 1.1.2019)

- 4.3 Frequencies for distress and safety communications
- 4.3.1 The frequencies to be used for the Global Maritime Distress and Safety System (GMDSS) shall be in accordance with RR Appendix 15.
- 4.3.2 The frequencies to be used for non-GMDSS distress and safety communications are 4125 kHz and 6215 kHz. Details of their use are specified in RR Appendix 17.
- 4.4 All Ship Stations are encouraged to install GMDSS. It shall be mandatory for Ship Stations with a gross tonnage of 300 GT or more to carry operational GMDSS equipment as set forth in the International Convention for the Safety of Life at Sea (SOLAS) 1974 as amended. The carriage requirements include the long range identification and tracking (LRIT) and EPIRB.
- 4.5 The usage of any Maritime Radio Service in the UAE shall require a valid Authorization issued by the TRA. The Application shall be submitted to offices of the TRA through the TRA online system or other paper or electronic means as accepted by the TRA. The Application processing fees and annual spectrum fees as given in the Spectrum Fees Policy or Regulations shall apply.
- 4.6 The TRA categorizes the vessels into three types; small boat, coastal ship and international ship. This categorization is based on the navigation license, area of operation, call sign and MMSI requirement, gross tonnage, etc.

Article (5)

Spectrum Coordination and Notification

- 5.1 Coordination of Radio Frequencies for the radio stations at the national, regional and international levels shall be made through the Authority, as it is the sole body responsible for Radio Frequency coordination.
- 5.2 Notifying and Registering of Radio Frequencies of these Stations in the ITU shall be made through the Authority according to the procedures outlined in the Radio Regulations.
- 5.3 The applicant shall support the coordination procedures.

Article (6)

Article (6) Wireless Equipment on board vessels

6.1 Small Boats:

6.1.1 Small boats for the purpose of small boat Authorization are classified into:

- a. Fishing Boats
- b. Pleasure Boats

6.1.2 It is mandatory for pleasure and fishing vessels having length greater than 35 feet to carry at least one VHF radio. It is optional to carry VHF radios on board the pleasure and fishing vessels having a length less than 35 feet.

6.1.3 All fishing vessels shall register with the Ministry of Environment and Water shall be treated by the TRA as small boat. New registration of speed and dhow fishing boats is stopped but the transfer of ownership and vessel replacement is allowed. All small boats carrying a VHF radio shall obtain the small boat Authorization. While applying for the Authorization, a valid registration, coordination paper and a programming certificate from the dealer; which implies that equipment is configured according the required specifications from the TRA; shall be submitted with the Application.

6.1.4 The small boat Authorization may include one or two, fixed or portable VHF Stations.

6.2 Ships

6.2.1 Ships for the purpose of ship Authorization are classified into:

- a. Coastal Ships
- b. International Ships

6.2.2 All UAE flag ships and foreign flag ships, operating in the UAE territorial waters other than fishing vessels shall obtain the Navigation License from the National Transport Authority. National Transport Authority clas-

sifies the vessels into three categories: pleasure boats, commercial vessels “merchants” and wooden ships. All vessels issued with a navigation license by the National Transport Authority and carrying Wireless Equipment shall obtain TRA Authorization. While applying for the Authorization, a valid Navigation License and coordination paper shall be submitted with the Application.

- 6.2.3 Any vessel registered with the National Transport Authority and operating within 15 nautical miles of the UAE Baseline with gross tonnage less than 300 GT, and not requiring call sign or MMSI shall apply for small boat Authorization. All vessels (big or small) are encouraged to carry GMDSS compliant equipment.
- 6.2.4 Any vessel registered with the National Transport Authority and operating beyond 15 nautical miles but within 100 nautical miles of the UAE Baseline, or with gross tonnage of 300 GT or more, or requiring call sign or MMSI shall apply for coastal ship Authorization. All barges, rigs, platforms, buoys requiring MMSI shall also apply for a coastal ship Authorization.
- 6.2.5 Any UAE flag ship operating beyond 100 nautical miles of the UAE Baseline, shall obtain from the TRA, Ship Station License (Authorization).
- 6.2.6 Use of private mobile radio on board the vessel can be applied within the small boat, coastal ship or Ship Station Application given that it only uses the designated channels with radiated power as given in these regulations. Any requirement to use higher radiated power or Assignment of frequencies other than designated in these regulations shall require a separate Private Mobile Radio Authorization in addition to the Maritime Radio Service Authorization.
- 6.2.7 Use of Wireless Equipment on land for communicating with vessels or using frequencies designated for maritime mobile Radiocommunication Service shall require a Private Mobile Radio Authorization, e.g. shore to ship, port operations, coastal stations, etc.
- 6.2.8 The coastal ship and international Ship Station Authorization may include VHF, MF, HF, EPIRB, SART, radar and mobile satellite service terminals (Thuraya or Inmarsat) and GPS (including GLONASS) receivers.
- 6.2.9 In case, an earth station on board vessel is installed, the TRA regulations for earth station shall apply.

6.2.10 In case, base station(s) for cellular service is installed, the TRA regulations for cellular systems on board vessels shall apply.

6.2.11 No broadcasting station shall be allowed on board vessels (RR 51.5 A)

Article (7) Call Sign and MMSI

- 7.1 The Call Sign for Ship Stations shall be assigned by the TRA. All transmissions from the Ship Stations shall be identified by the Call Sign. The call sign series for UAE start with A6 (assigned by ITU) and Mobile Identification Digits (MID) for UAE is 470.
- 7.2 The Call Sign for ship shall be A6E followed by four digits for Ship Stations having telephony service.
- 7.3 The Call Sign for ship shall be A6 followed by two alphabets for Ship Stations having only telegraphy service.
- 7.4 The Call Sign for ship's survival craft shall be the Call Sign of the parent Ship Station followed by two digits (other than 0 or 1 immediately after letter).
- 7.5 The Call Sign for EPIRB shall be the Morse letter B and /or the Call Sign of the parent Ship Station.
- 7.6 The Maritime Mobile Service Identity (MMSI) for Ship Station shall be 470XXXXXX (470 followed by 6 digits). Ship Station equipped with mobile-satellite systems participating in the global maritime distress and safety system (GMDSS) shall be assigned MMSI ending with three zeroes.
- 7.7 The Maritime Mobile Service Identity (MMSI) for Coast stations and other stations on land participating in the maritime search and rescue and using DSC shall be 00470XXXX (00 470 followed by 4 digits).
- 7.8 The Maritime Mobile Service Identity (MMSI) for aircraft participating in the maritime search and rescue and using DSC shall be 1114701XXX (for fixed wing) and 1114705XXX (for helicopters).
- 7.9 The Maritime Mobile Service Identity (MMSI) for Aids to Navigation (A to N) shall be 99470XXXX.

Article (8)

Accounting Authority

- 8.1 At present TRA has authorized Etisalat as the accounting authority and assigned the Accounting Authority Identification Code 'AAIC' of EM01. Etisalat as accounting authority further assigns the accounts to the ship stations to connect to its Public Telecommunications Network through its coastal stations. The TRA may authorize additional entities to be accounting authorities in the UAE.
- 8.2 The Accounting Authority shall maintain and operate coastal stations to cover to the maximum extent possible the UAE coastline. In addition to the traffic channels, each coastal station shall operate Channel 28 (Ship station transmit at 162.00 MHz, Coastal station transmit at 157.40 MHz) as calling channel, Channel 16 (156.80 MHz simplex) for DSC and Channel 70 (156.525 MHz simplex) for DSC. Channel 16 and 70 shall be for routing to the UAE Search and Rescue center.

Article (9)

Documents to be carried

- 9.1 All authorized vessels shall carry the TRA Authorization.
- 9.2 All Ship Stations shall carry the certificates of the equipment operators; log with summary of safety and distress communications; the List of Ship Stations and Maritime Mobile Service Identity Assignments (printed or electronic format); the List of Coast Stations and Special Service Stations (printed or electronic format) and the Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services (printed or electronic format).

Article (10)

List of Ship and Coastal Stations

- 10.1 The ITU maritime database currently contains information concerning:
- Ship stations (including those that participate in the Global Maritime Distress and Safety System (GMDSS));
 - Coast stations
 - Addresses of Accounting Authorities;
 - Addresses of Administrations which notify information;
 - MMSI assigned to Search and Rescue (SAR) aircraft; and
 - MMSI assigned to AIS Aids to Navigation (A to N).
- 10.2 The TRA shall provide ITU with the electronic notification for all ship station and coastal station data to keep the MARS database and the List of Coast station (List IV) and the List of Ship station (List V) updated.
- 10.3 The TRA shall provide ITU with the electronic notification for all MMSI assigned to Search and Rescue (SAR) aircraft and AIS Aids to Navigation data.

Annex 1

APPENDIX 18 (Rev.WRC-15)

**Table of transmitting frequencies in the
VHF maritime mobile band
(See Article 52)**

NOTE A – For assistance in understanding the Table, see Notes a) to zz) below. (WRC-15)

NOTE B – The Table below defines the channel numbering for maritime VHF communications based on 25 kHz channel spacing and use of several duplex channels. The channel numbering and the conversion of two-frequency channels for single-frequency operation shall be in accordance with Recommendation ITU-R M.1084-5 Annex 4, Tables 1 and 3. The Table below also describes the harmonized channels where the digital technologies defined in the most recent version of Recommendation ITU-R M.1842 could be deployed. (WRC-15)

Channel designator	Notes	Transmitting frequencies (MHz)		Inter-ship	Port operations and ship movement		Public correspondence
		From ship stations	From coast stations		Single frequency	Two frequency	
60	<i>m)</i>	156.025	160.625		x	x	x
01	<i>m)</i>	156.050	160.650		x	x	x
61	<i>m)</i>	156.075	160.675		x	x	x
02	<i>m)</i>	156.100	160.700		x	x	x
62	<i>m)</i>	156.125	160.725		x	x	x
03	<i>m)</i>	156.150	160.750		x	x	x
63	<i>m)</i>	156.175	160.775		x	x	x
04	<i>m)</i>	156.200	160.800		x	x	x
64	<i>m)</i>	156.225	160.825		x	x	x
05	<i>m)</i>	156.250	160.850		x	x	x
65	<i>m)</i>	156.275	160.875		x	x	x
06	<i>f)</i>	156.300		x			
2006	<i>r)</i>	160.900	160.900				
66	<i>m)</i>	156.325	160.925		x	x	x
07	<i>m)</i>	156.350	160.950		x	x	x
67	<i>h)</i>	156.375	156.375	x	x		
08		156.400		x			
68		156.425	156.425		x		
09	<i>i)</i>	156.450	156.450	x	x		
69		156.475	156.475	x	x		
10	<i>h), q)</i>	156.500	156.500	x	x		

70	f), j)	156.525	156.525	Digital selective calling for distress, safety and calling			
11	q)	156.550	156.550		x		
71		156.575	156.575		x		
12		156.600	156.600		x		
72	i)	156.625		x			
13	k)	156.650	156.650	x	x		
73	h), i)	156.675	156.675	x	x		
14		156.700	156.700		x		
74		156.725	156.725		x		
15	g)	156.750	156.750	x	x		
75	n), s)	156.775	156.775		x		
16	f)	156.800	156.800	DISTRESS, SAFETY AND CALLING			
76	n), s)	156.825	156.825		x		
17	g)	156.850	156.850	x	x		
77		156.875		x			
18	m)	156.900	161.500		x	x	x
78	m)	156.925	161.525		x	x	x
1078		156.925	156.925		x		
2078	mm)		161.525		x		
19	m)	156.950	161.550		x	x	x
1019		156.950	156.950		x		
2019	mm)		161.550		x		
79	m)	156.975	161.575		x	x	x
1079		156.975	156.975		x		
2079	mm)		161.575		x		
20	m)	157.000	161.600		x	x	x
1020		157.000	157.000		x		
200	mm)		161.600		x		
80	y), wI)	157.025	161.625		x	x	x
21	y), wI)	157.050	161.650		x	x	x
81	y), wI)	157.075	161.675		x	x	x
22	y), wI)	157.100	161.700		x	x	x
82	x), y), wI)	157.125	161.725		x	x	x
23	x), y), wI)	157.150	161.750		x	x	x
83	x), y), wI)	157.175	161.775		x	x	x
24	w), ww) x), AAA)	157.200	161.800		x	x	x
1024	w), ww) x), AAA)	157.200					
2024	w), ww)	161.800	161.800	x			

	x), AAA)			(digital only)			
84	w), ww) x), AAA)	157.225	161.825		x	x	x
1084	w), ww) x), AAA)	157.225					
2084	w), ww) x), AAA)	161.825	161.825	x (digital only)			
25	w), ww) x), AAA)	157.250	161.850		x	x	x
1025	w), ww) x), AAA)	157.250					
2025	w), ww) x), AAA)	161.850	161.850	x (digital only)			
85	w), ww) x), AAA)	157.275	161.875		x	x	x
1085	w), ww) x), AAA)	157.275					
2085	w), ww) x), AAA)	161.875	161.875	X (digital only)			
26	w), ww), x)	157.300	161.900		x	x	x
1026	w), ww), x)	157.300					
2026	w), ww), x)		161.900				
86	w), ww), x)	157.325	161.925		x	x	x
1086	w), ww), x)	157.325					
2086	w), ww), x)		161.925				
27	z), zx)	157.350	161.950			x	x
1027	z), zz)	157.350	157.350		x		
2027*	z)	161.950	161.950				
87	z), zz)	157.375	157.375		x		
28	z), zx)	157.400	162.000			x	x
1028	z), zz)	157.400	157.400		x		
2028*	z)	162.000	162.000				
88	z), zz)	157.425	157.425		x		
AIS 1	f), l), p)	161.975	161.975				
AIS 2	f), l), p)	162.025	162.025				

* From 1 January 2019, channel 2027 will be designated ASM 1 and channel 2028 will be designated ASM 2.

Editorial note: The note numbering below is provisional and will be aligned during final preparations of the new edition of the Radio Regulations.

Notes referring to the Table

General notes

- a) Administrations may designate frequencies in the inter-ship, port operations and ship movement services for use by light aircraft and helicopters to communicate with ships or participating coast stations in predominantly maritime support operations under the conditions specified in Nos. **51.69, 51.73, 51.74, 51.75, 51.76, 51.77** and **51.78**. However, the use of the channels which are shared with public correspondence shall be subject to prior agreement between interested and affected administrations.
- b) The channels of the present Appendix, with the exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may also be used for high-speed data and facsimile transmissions, subject to special arrangement between interested and affected administrations.
- c) The channels of the present Appendix, with the exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may be used for direct-printing telegraphy and data transmission, subject to special arrangement between interested and affected administrations. (WRC-12)
- d) The frequencies in this table may also be used for radio communications on inland waterways in accordance with the conditions specified in No. **5.226**.
- e) Administrations may apply 12.5 kHz channel interleaving on a non-interference basis to 25 kHz channels, in accordance with the most recent version of Recommendation ITU-R M.1084, provided:
 - it shall not affect the 25 kHz channels of the present Appendix maritime mobile distress and safety, automatic identification system (AIS), and data exchange frequencies, especially the channels 06, 13, 15, 16, 17, 70, AIS 1 and AIS 2, nor the technical characteristics set forth in Recommendation ITU-R M.489-2 for those channels;
 - implementation of 12.5 kHz channel interleaving and consequential national requirements shall be subject to coordination with affected administrations. (WRC-12)

Specific notes

- f) The frequencies 156.300 MHz (channel 06), 156.525 MHz (channel 70), 156.800 MHz (channel 16), 161.975 MHz (AIS 1) and 162.025 MHz (AIS 2) may also be used by aircraft stations for the purpose of search and rescue operations and other safety-related communication. (WRC-07)
- g) Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 W, and subject to the national regulations of the administration concerned when these channels are used in its territorial waters.
- h) Within the European Maritime Area and in Canada, these frequencies (channels 10, 67, 73) may also be used, if so required, by the individual administrations concerned, for communication between ship stations, aircraft stations and participating land stations engaged in coordinated search and rescue and anti-pollution operations in local areas, under the conditions specified in Nos. **51.69, 51.73, 51.74, 51.75, 51.76, 51.77** and **51.78**.
- i) The preferred first three frequencies for the purpose indicated in Note a) are 156.450 MHz (channel 09), 156.625 MHz (channel 72) and 156.675 MHz (channel 73).
- j) Channel 70 is to be used exclusively for digital selective calling for distress, safety and calling.
- k) Channel 13 is designated for use on a worldwide basis as a navigation safety communication channel, primarily for intership navigation safety communications. It may also be used for the ship movement and port operations service subject to the national regulations of the administrations concerned.
- l) These channels (AIS 1 and AIS 2) are used for an automatic identification system (AIS) capable of providing worldwide operation, unless other frequencies are designated on a regional basis for this purpose. Such use should be in accordance with the most recent version of Recommendation ITU-R M.1371. (WRC-07)
- m) These channels may be operated as single frequency channels, subject to coordination with affected administrations. The following conditions apply for single frequency usage:
 - The lower frequency portion of these channels may be operated as single frequency channels by ship and coast stations.
 - Transmission using the upper frequency portion of these channels is limited to coast stations.

- If permitted by administrations and specified by national regulations, the upper frequency portion of these channels may be used by ship stations for transmission. All precautions should be taken to avoid harmful interference to channels AIS 1, AIS 2, 2027* and 2028*. (WRC-15)
- * From 1 January 2019, channel 2027 will be designated ASM 1 and channel 2028 will be designated ASM 2.
- n) With the exception of AIS, the use of these channels (75 and 76) should be restricted to navigation-related communications only and all precautions should be taken to avoid harmful interference to channel 16, by limiting the output power to 1 W. (WRC-12)
 - o) (SUP -WRC-12)
 - p) Additionally, AIS 1 and AIS 2 may be used by the mobile-satellite service (Earth-to-space) for the reception of AIS transmissions from ships. (WRC-07)
 - q) When using these channels (10 and 11), all precautions should be taken to avoid harmful interference to channel 70. (WRC-07)
 - r) In the maritime mobile service, this frequency is reserved for experimental use for future applications or systems (e.g. new AIS applications, man over board systems, etc.). If authorized by administrations for experimental use, the operation shall not cause harmful interference to, or claim protection from, stations operating in the fixed and mobile services. (WRC-12)
 - s) Channels 75 and 76 are also allocated to the mobile-satellite service (Earth-to-space) for the reception of long-range AIS broadcast messages from ships (Message 27; see the most recent version of Recommendation ITU- R M.1371). (WRC-12)
 - w) In Regions 1 and 3:
Until 1 January 2017, the frequency bands 157.200-157.325 MHz and 161.800-161.925 MHz (corresponding to channels: 24, 84, 25, 85, 26 and 86) may be used for digitally modulated emissions, subject to coordination with affected administrations. Stations using these channels or frequency bands for digitally modulated emissions shall not cause harmful interference to, or claim protection from, other stations operating in accordance with Article 5.
- From 1 January 2017, the frequency bands 157.200-157.325 MHz and 161.800-161.925 MHz (corresponding to channels: 24, 84, 25, 85, 26 and 86) are identified for the utilization of the VHF Data Exchange System (VDES) described in the most recent version of Recommendation ITU-R M.2092. These frequency bands may also be used for analogue modulation described in the most recent version of Recommendation ITU-R M.1084 by an administration that wishes to do so, subject to not causing harmful interference to, or claiming protection from other stations in the maritime mobile service using digitally modulated emissions and subject to coordination with affected administrations. (WRC-15)
- ww) In Region 2, the frequency bands 157.200-157.325 and 161.800-161.925 MHz (corresponding to channels: 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions in accordance with the most recent version of Recommendation ITU-R M.1842.
In Canada and Barbados, from 1 January 2019 the frequency bands 157.200-157.275 and 161.800-161.875 MHz (corresponding to channels: 24, 84, 25 and 85) may be used for digitally modulated emissions, such as those described in the most recent version of Recommendation ITU-R M.2092, subject to coordination with affected administrations. (WRC-15)
 - x) From 1 January 2017, in Angola, Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Democratic Republic of the Congo, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe, the frequency bands 157.125-157.325 and 161.725-161.925 MHz (corresponding to channels: 82, 23, 83, 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions.
From 1 January 2017, in China, the frequency bands 157.150-157.325 and 161.750-161.925 MHz (corresponding to channels: 23, 83, 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions. (WRC-12)
 - y) These channels may be operated as single or duplex frequency channels, subject to coordination with affected administrations. (WRC-12)
 - z) Until 1 January 2019, these channels may be used for possible testing of future AIS applications without causing harmful interference to, or claiming protection from, existing applications and stations operating in the fixed and mobile services.
From 1 January 2019, these channels are each split into two simplex channels. The channels 2027 and 2028 designated as ASM 1 and ASM 2 are used for application specific messages (ASM) as described in the most recent version of Recommendation ITU-R M.2092. (WRC-15)

- AAA) From 1 January 2019, the channels 24, 84, 25 and 85 may be merged in order to form a unique duplex channel with a bandwidth of 100 kHz in order to operate the VDES terrestrial component described in the most recent version of Recommendation ITU-R M.2092. (WRC-15)
- mm) Transmission on these channels is limited to coast stations. If permitted by administrations and specified by national regulations, these channels may be used by ship stations for transmission. All precautions should be taken to avoid harmful interference to channels AIS 1, AIS 2, 2027* and 2028*. (WRC-15)
* From 1 January 2019, channel 2027 will be designated ASM 1 and channel 2028 will be designated ASM 2.
- w1) In Regions 1 and 3:
Until 1 January 2017, the frequency bands 157.025-157.175 MHz and 161.625-161.775 MHz (corresponding to channels: 80, 21, 81, 22, 82, 23 and 83) may be used for digitally modulated emissions, subject to coordination with affected administrations. Stations using these channels or frequency bands for digitally modulated emissions shall not cause harmful interference to, or claim protection from, other stations operating in accordance with Article 5.
From 1 January 2017, the frequency bands 157.025-157.100 MHz and 161.625-161.700 MHz (corresponding to channels: 80, 21, 81 and 22) are identified for utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842 using multiple 25 kHz contiguous channels.
From 1 January 2017, the frequency bands 157.150-157.175 MHz and 161.750-161.775 MHz (corresponding to channels: 23 and 83) are identified for utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842 using two 25 kHz contiguous channels. From 1 January 2017, the frequencies 157.125 MHz and 161.725 MHz (corresponding to channel: 82) are identified for the utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842.
The frequency bands 157.025-157.175 MHz and 161.625-161.775 MHz (corresponding to channels: 80, 21, 81, 22, 82, 23 and 83) can also be used for analogue modulation described in the most recent version of Recommendation ITU-R M.1084 by an administration that wishes to do so, subject to not claiming protection from other stations in the maritime mobile service using digitally modulated emissions and subject to coordination with affected administrations. (WRC-15)
- zx) In the United States, these channels are used for communication between ship stations and coast stations for the purpose of public correspondence. (WRC-15)
- zz) From 1 January 2019, channels 1027, 1028, 87 and 88 are used as single-frequency analogue channels for port operation and ship movement. (WRC-15)