

APPENDIX 18 (REV.WRC-19)

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	<i>f), i)</i>	156.525	156.525	Digital selective calling for distress, safety and calling			
11	<i>q)</i>	156.550	156.550		x		
71		156.575	156.575		x		
12		156.600	156.600		x		
72	<i>i)</i>	156.625		x			
13	<i>k)</i>	156.650	156.650	x	x		
73	<i>h), i)</i>	156.675	156.675	x	x		
14		156.700	156.700		x		
74		156.725	156.725		x		

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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	
15	<i>g)</i>	156.750	156.750	x	x		
75	<i>n), s)</i>	156.775	156.775		x		
16	<i>f)</i>	156.800	156.800	DISTRESS, SAFETY AND CALLING			
76	<i>n), s)</i>	156.825	156.825		x		
17	<i>g)</i>	156.850	156.850	x	x		
77		156.875		x			
18	<i>m)</i>	156.900	161.500		x	x	x
78	<i>m)</i>	156.925	161.525		x	x	x
1078		156.925	156.925		x		
2078	<i>mm)</i>		161.525		x		
19	<i>m)</i>	156.950	161.550		x	x	x
1019		156.950	156.950		x		
2019	<i>mm)</i>		161.550		x		
79	<i>m)</i>	156.975	161.575		x	x	x
1079		156.975	156.975		x		
2079	<i>mm)</i>		161.575		x		
20	<i>m)</i>	157.000	161.600		x	x	x
1020		157.000	157.000		x		
2020	<i>mm)</i>		161.600		x		
80	<i>y), wa)</i>	157.025	161.625		x	x	x
21	<i>y), wa)</i>	157.050	161.650		x	x	x
81	<i>y), wa)</i>	157.075	161.675		x	x	x
22	<i>y), wa)</i>	157.100	161.700		x	x	x
82	<i>x), y), wa)</i>	157.125	161.725		x	x	x
23	<i>x), y), wa)</i>	157.150	161.750		x	x	x
83	<i>x), y), wa)</i>	157.175	161.775		x	x	x
24	<i>w), x)</i>	157.200	161.800		x	x	x
1024	<i>w)</i>	157.200	157.200	x (digital only)	x (digital only)		
2024	<i>w)</i>	161.800	161.800	x (digital only)	x (digital only)		
84	<i>w), x)</i>	157.225	161.825		x	x	x
1084	<i>w)</i>	157.225	157.225	x (digital only)	x (digital only)		
2084	<i>w)</i>	161.825	161.825	x (digital only)	x (digital only)		
25	<i>w), x)</i>	157.250	161.850		x	x	x
1025	<i>w)</i>	157.250	157.250	x (digital only)	x (digital only)		
2025	<i>w)</i>	161.850	161.850	x (digital only)	x (digital only)		
85	<i>w), x)</i>	157.275	161.875		x	x	x

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	
1085	w)	157.275	157.275	x (digital only)	x (digital only)		
2085	w)	161.875	161.875	x (digital only)	x (digital only)		
26	w), x)	157.300	161.900		x	x	x
1026	w)	157.300					
2026	w)		161.900				
86	w), x)	157.325	161.925		x	x	x
1086	w)	157.325					
2086	w)		161.925				
1027	zz)	157.350	157.350		x		
ASM 1	z)	161.950	161.950				
87	zz)	157.375	157.375		x		
1028	zz)	157.400	157.400		x		
ASM 2	z)	162.000	162.000				
88	zz)	157.425	157.425		x		
AIS 1	f), l), p)	161.975	161.975				
AIS 2	f), l), p)	162.025	162.025				

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 radiocommunications 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)

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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. The frequencies 156.525 MHz (channel 70), 161.975 MHz (AIS 1) and 162.025 MHz (AIS 2) may also be used by autonomous maritime radio devices Group A that enhance the safety of navigation, using digital selective calling and/or AIS technology. Such use should be in accordance with the most recent version of Recommendation ITU-R M.2135. (WRC-19)
- 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, ASM 1 and ASM 2. (WRC-19)
- 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, ASM 1 and ASM 2. (WRC-19)
- 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, the frequency 160.9 MHz (channel 2006) is designated for autonomous maritime radio devices Group B that do not enhance the safety of navigation, using AIS technology, in accordance with the most recent version of Recommendation ITU-R M.2135. Autonomous maritime radio devices Group B are limited to a transmitter e.i.r.p. of 100 mW and an antenna height not exceeding 1 m above the surface of the sea.

In the maritime mobile service, this frequency may also be used 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, including the use of autonomous maritime radio devices Group B. (WRC-19)

- 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)

t) (SUP - WRC-15)

u) (SUP - WRC-15)

v) (SUP - WRC-15)

- w) The frequency bands 157.1875-157.3375 MHz and 161.7875-161.9375 MHz (corresponding to channels: 24, 84, 25, 85, 26, 86, 1024, 1084, 1025, 1085, 1026, 1086, 2024, 2084, 2025, 2085, 2026 and 2086) are identified for the utilization of the VHF Data Exchange System (VDES). The VDES terrestrial and satellite components are described in the most recent version of Recommendation ITU-R M.2092. These channels shall not be used for feeder links. The channels may be merged using multiple 25 kHz contiguous channels to form channel bandwidths of 50, 100 or 150 kHz. The channel usage is shown below:

- The channels 1024, 1084, 1025 and 1085 are identified for ship-to-shore, shore-to-ship and ship-to-ship communications, but ship-to-satellite and satellite-to-ship communications may be possible without imposing constraints on ship-to-shore, shore-to-ship and ship-to-ship communications.
- The channels 2024, 2084, 2025 and 2085 are identified for shore-to-ship and ship-to-ship communications, but ship-to-satellite and satellite-to-ship communications may be possible without imposing constraints on shore-to-ship and ship-to-ship communications.
- The channels 1026, 1086, 2026 and 2086 are identified for ship-to-satellite and satellite-to-ship communications and are not used by the terrestrial component of VDES.
- The channels 24, 84, 25 and 85 are identified for ship-to-shore and shore-to-ship communications.

The Earth-to-space component of the VDES shall not cause harmful interference to, nor claim protection from, nor restrict future development of, terrestrial systems operating in the same frequency bands.

Until 1 January 2030, the channels 24, 84, 25, 85, 26 and 86 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-19)

- wa) In Regions 1 and 3:

The frequency bands 157.0125-157.1125 MHz and 161.6125-161.7125 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.

The frequency bands 157.1375-157.1875 MHz and 161.7375-161.7875 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. 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.

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The frequency bands 157.0125-157.1875 MHz and 161.6125-161.7875 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-19)

- x) In Angola, Botswana, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Democratic Republic of the Congo, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe, the frequency bands 157.1125-157.3375 and 161.7125-161.9375 MHz (corresponding to channels: 82, 23, 83, 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions.

In China, the frequency bands 157.1375-157.3375 and 161.7375-161.9375 MHz (corresponding to channels: 23, 83, 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions. (WRC-19)

- y) These channels may be operated as single or duplex frequency channels, subject to coordination with affected administrations. (WRC-12)
- z) Channels 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-19)
- zz) Channels 1027, 1028, 87 and 88 are used as single-frequency analogue channels for port operation and ship movement. (WRC-19)