

Regulatory examination

During the regulatory examination the Bureau verifies the conformity of the notice to the Table of frequency allocations (Radio Regulations (RR) Article 5, including the relevant footnotes thereto) and, where appropriate, to the other provisions of the RR.

1 Examination of conformity with the Table of Frequency Allocations and associated provisions in Article 5 of the RR

The examination of conformity with the Table of Frequency Allocations consists in determining whether the assigned frequency and/or the necessary bandwidth of the emission is within the frequency band allocated to the service in which the notified station operates.

In accordance with No.11.31.1 conformity with the Table of Frequency Allocations also implies the successful application of No.9.21, when necessary. This applies if the obligation to effect coordination is indicated in a footnote making reference to the provision No 9.21. Examples of such coordination requirements are footnotes RR5.197, RR5.293 and RR5.323, which allocate specific frequency bands to the terrestrial services subject to agreement obtained under No 9.21.

Other elements are to identify the category of service according to the Table of Frequency Allocations and to check conformity to the relevant footnotes. Some examples of regulatory examination checks are as follows:

- *Out-of band emission:* the assigned frequency is in a band, which is not allocated to the service;
- *Overlapping emissions:* the assigned frequency is in a band, which is allocated to the service, but the necessary bandwidth overlaps the immediately adjoining band, which is not allocated to the service;
- *Receiving point of a terrestrial service is in a region where the service is not allocated:* the case of a circuit whose transmitting point is in a country, Sub-Region or Region where the frequency is allocated to the service, but whose receiving point is not;
- *Categories of service:* the assigned bandwidth overlaps two frequency bands that are both allocated to the service in question, but with different categories of services;
- *Tropical broadcasting bands:* The frequency bands 2 300-2 498 kHz (Region 1), 2 300-2 495 kHz (Regions 2 and 3), 3 200-3 400 kHz (all Regions), 4 750-4 995 kHz (all Regions) and 5 005-5 060 kHz (all Regions) are allocated on a shared basis to the broadcasting service and other services, but the allocation to the broadcasting service is limited to the Tropical Zone only.

2 Examination of conformity with the other provisions of the RR

This examination stage consists of verification of technical and operational conditions, laid down in other Articles or Appendices to the RR (power limits, authorized classes of emission, minimum elevation angle). In accordance with No.11.31.2 the “other provisions” are included in the Rules of Procedure and listed below.

1) *Fixed service*

In bands allocated below 30 MHz, F3E and G3E classes of emissions are prohibited for fixed service stations (No. **24.2**).

2) *Aeronautical mobile service*

Two types of aeronautical mobile service are defined in the RR:

Aeronautical mobile (R) service: An aeronautical mobile service reserved for communications relating to safety and regularity of flight primarily along national or international civil air routes (No. **1.33**);

Aeronautical mobile (OR) service: An aeronautical mobile service intended for communications, including those relating to flight coordination, primarily outside national or international civil air routes (No. **1.34**).

These two types of the aeronautical mobile service are governed by differentiated procedures, some of them are described in the RR; others, especially for the aeronautical mobile (R) service, are described in Annex 10 to the Convention of the International Civil Aviation Organization.

For regulatory examination there are mandatory provisions only for the frequency band between 2 850 and 22 000 kHz, that are allocated exclusively to the aeronautical mobile service. These provisions (obligatory channeling arrangement, permitted classes of emission, power limits) are contained in Appendices **26** and **27** to the RR. The provisions of No. **43.4** also fall into this category of mandatory regulatory provisions, i.e. the prohibition of using the exclusive frequency allocations to the aeronautical mobile service for any kind of public correspondence.

3) *Maritime mobile service*

The maritime mobile service is subject to very detailed international regulations basically because by its nature it is very often an international service. A large part of RR is currently devoted to the maritime mobile service. Several bands below 28 MHz are allocated to the maritime mobile service on an exclusive basis.

Maritime mobile service stations operating in the exclusive bands are subject to detailed regulation under Article **51** (Conditions to be observed in the maritime services), Article **52** (Special rules relating to the use of frequencies) and Appendix **17** (Frequencies and channeling arrangements in the high-frequency bands for the maritime mobile service). These provisions specify the frequency bands to be used for maritime radiocommunications, the frequencies to be used for distress and safety communications, and the basic characteristics of transmitting and receiving equipment. They also prescribe the operational procedures to be followed for calling, replying, and handling traffic, and deal with other issues like the licenses to stations, the master's authority in radio matters, the international inspection of ship stations, operators' certificates, the working hours of ship stations, etc.

The technical specifications of some of the equipment and systems are also specified by Recommendations ITU-R M.1173, M.476-5, M.625-3, which have been incorporated in RR by reference with the intent to make the utilization of the sub-bands concerned uniform throughout the world.

A summary of the relevant provisions applicable to the maritime mobile service in the bands below 28 MHz is given in Tables 1, 2, 3 and 4. Tables 1, 2 and 3 list the bands below 28 MHz which are intended for use by the maritime mobile service with a summary of the relevant conditions concerning the use of the subject bands by the Maritime mobile services. Table 4 shows the

subdivisions of the exclusive frequency bands at 4, 6, 8, 12, 16, 18/19, 22 and 25/26 MHz. It may be noted from this Table that each sub-band is elaborately planned in order to make maximum use of the available spectrum.

4) *Terrestrial stations operating in the bands shared with equal rights with space services*

Examination procedures for terrestrial stations in the bands shared between terrestrial and space services with equal rights depend on the space service direction of transmission (Earth-to-space or space-to- Earth).

In the bands allocated to space services in Earth-to-space direction fixed and mobile transmitting stations shall apply the power limits specified in Article **21** of the RR. Verification of notified power values against these limits is performed during Regulatory examination.

These power limits are given in Nos. **21.3**, **21.4**, **21.5** and **21.5A** and apply, where applicable, to the services and frequency bands indicated in the Table **21-2** for reception by space stations where the frequency bands are shared with equal rights with the fixed or mobile service (No. **21.6**).

Provision No. 21.3: the maximum equivalent isotropically radiated power (e.i.r.p.) of a station in the fixed or mobile service shall not exceed +55 dBW.

Provision No. 21.4: where compliance with No. **21.2** for frequency bands between 1 GHz and 10 GHz is impracticable, the maximum equivalent isotropically radiated power (e.i.r.p.) of a station in the fixed or mobile service shall not exceed:

- +47 dBW in any direction within 0.5° of the geostationary-satellite orbit; or
- +47 dBW to +55 dBW, on a linear decibel scale (8 dB per degree), in any direction between 0.5° and 1.5° of the geostationary-satellite orbit, taking into account the effect of atmospheric refraction (Recommendation ITU-R SF.765).

Provision No. 21.5: The power delivered by a transmitter to the antenna of a station in the fixed or mobile service shall not exceed +13 dBW in frequency bands between 1 GHz and 10 GHz, or +10 dBW in frequency bands above 10 GHz, except for the cases cited in No. **21.5A**.

Provision No. 21.5A: As an exception to power levels given in No. **21.5**, the sharing environment within which the Earth exploration-satellite (passive) and space research (passive) services shall operate in the band 18.6-18.8 GHz is defined by the following limitations on the operation of the fixed service: the power of each RF carrier frequency delivered to the input of each antenna of a station in the fixed service in the band 18.6-18.8 GHz shall not exceed –3 dBW.

Provision No. 21.6: The limits given in Nos. **21.2**, **21.3**, **21.4**, **21.5** and **21.5A** apply, where applicable, to the services and frequency bands indicated in the table below for reception by space stations where the frequency bands are shared with equal rights with the fixed or mobile service.

Provision No. 21.7: Transhorizon systems in the 1 700-1 710 MHz, 1 980-2 010 MHz, 2 025-2 110 MHz and 2 200-2 290 MHz bands may exceed the limits given in Nos. **21.3** and **21.5**, but the provisions of Nos. **21.2** and **21.4** should be observed. Considering the difficult sharing conditions with other services, administrations are urged to keep the number of transhorizon systems in these bands to a minimum.

Table 21-2 (WRC-07)

Frequency band	Geographical area in which terrestrial stations can operate	Service	Applied limits (specified in Nos.)
1 427 – 1 429 MHz 1 610-1 645.5 MHz 1 646.5-1 660 MHz 1 980-2010 MHz 2 010-2 025 MHz 2 025-2 110 MHz 2 200-2 290 MHz 2 655-2 670 MHz 2 670-2 690 MHz 5 670-5 725 MHz 5 725-5 755 MHz 5 755-5 850 MHz 5 850-7 075 MHz 7 145-7 235 MHz* 7 900-8 400 MHz	Worldwide No. 5.359 No. 5.359 Worldwide Region 2 Worldwide Worldwide Region 2 and Region 3 Region 2, 3 Nos. 5.453, 5.455 Region 1 and Nos. 5.451, 5.453, 5.455 Region 1 and No. 5.451, 5.453, 5.455, 5.456 Worldwide Worldwide Worldwide	Fixed-satellite Metereological-satellite Space research Space operation Earth exploration-satellite Mobile-satellite	21.2, 21.3, 21.4 and 21.5
10.7-11.7 GHz 12.5-12.75 GHz 12.7-12.75 GHz 12.75-13.25 GHz 13.75-14 GHz 14.0-14.25 GHz 14.25-14.3 GHz 14.3-14.4 GHz 14.4-14.5 GHz 14.5-14.8 GHz	Region 1 Nos. 5.494, 5.496 Region 2 Worldwide Nos. 5.499, 5.500 No. 5.505 Nos. 5.505, 5.508 Regions 1 and Region 3 Worldwide Worldwide	Fixed-satellite	21.2, 21.3 and 21.5
17.7-18.4 GHz 18.6-18.8 GHz 19.3-19.7 GHz 22.55-23.55 GHz 24.45-24.75 GHz 24.75-25.25 GHz 25.25-29.5	Worldwide Worldwide Worldwide Worldwide Region 1 and Region 3 Region 3 Worldwide	Fixed-satellite Earth exploration-satellite Space research Inter-satellite	21.2, 21.3, 21.5 and 21.5A

* For this frequency band only the limits of Nos. **21.3** and **21.5** apply.

In addition to those frequency bands listed in the table above, there is a number of other shared frequency allocations where the specific power limits are not applicable, mainly in the frequency bands below 1 GHz and above 30 GHz. The question is continuing to be studied in ITU-R, and may lead in the future to a revision of the limits. At the present time, no definitive changes are proposed to the limits as laid down in the RR.

3 Regulatory examination results

If the results of the regulatory examination are favourable, and the notified assigned frequency falls in the bands which are not covered by world-wide or regional plans or are not subject to a coordination procedure, the assignment is recorded in the Master Register after publication of the results in the Part 2 of BR IFIC.

With respect to the examination of successful application of No. 9.21 the recording of the assignment with respect to those objecting administration(s) whose agreement(s) have not been obtained will be with a favourable regulatory finding, subject to the condition that the assignment in question shall not cause harmful interference to nor claim protection from the service(s) of the objecting administration(s) from which the agreement was sought. With respect to the administration(s) which have not objected under No. 9.21, the recording of the assignment shall also be made with a favourable regulatory finding.

If results of this examination are unfavourable and the administration concerned has not explicitly undertaken the commitment not to cause interference to assignments operating in conformity with RR by making reference to No. **4.4**, the notice is returned to the notifying administration after publication of the findings in the Part 3 of BR IFIC (No. **11.36**).

TABLE 1

Frequency bands between 14 and 535 kHz

Frequency bands (kHz)	Mode of communication	Permitted classes of emission	Power limitations		Remarks - Provisions of RR
			Coast station	Ship station	
14-19.95 20.05-70 70-90	RTG	A1A (A1B, J2A) F1B (J2B, J2D) (J7B)	-	-	5.57, 52.2, 52.3
110-160 (110-148.5 in R1)	RTG	A1A (A1B, J2A) F1B (J2B, J2D) A2C, A3C, F1C, F3C, (J7B)	-	-	5.64
415-490 490-495 495-505 505-510 510-535	RTG	A1A (A1B, J2A) F1B (J2B, J2D)	-	(DSC: 400 W)	5.79, 5.82, 5.84, 51.27, 51.44, 52.97, 52.115, 52.117 R1: GE85

TABLE 2

Frequency bands between 1 605.5 and 4 000 kHz

Frequency bands (kHz)	Mode of communication	Permitted classes of emission	Power limitations		Remarks - Provisions of RR
			Coast station	Ship station	
1 606.5-2 170 2 194-2 498 2 502-2 850	RTG	ALL (RTG)	-	R1: (DSC: 400 W)	52.127, R1: GE85
	RTF	J3E	5 kW (>32°N) 10 kW (<32°N)	R1: 400 W	52.177, 52.183, 52.198, 5.105, 52.9, 52.10, 52.184-52.186, 52.202 R1: GE85
2 170-2 194	RTF (D+S), DSC	J3E, (H3E, A3E) F1B, (J2B), (H2B)	-	-	52.101, 52.188, 52.199
3 155-3 400	RTG	ALL (RTG)	-	R1: (DSC: 400 W)	52.127
3 500-4 000	RTF	J3E	5 kW (>32°N) 10 kW (<32°N)	-	52.177, 52.183, 52.198, 52.184-52.186, 52.9

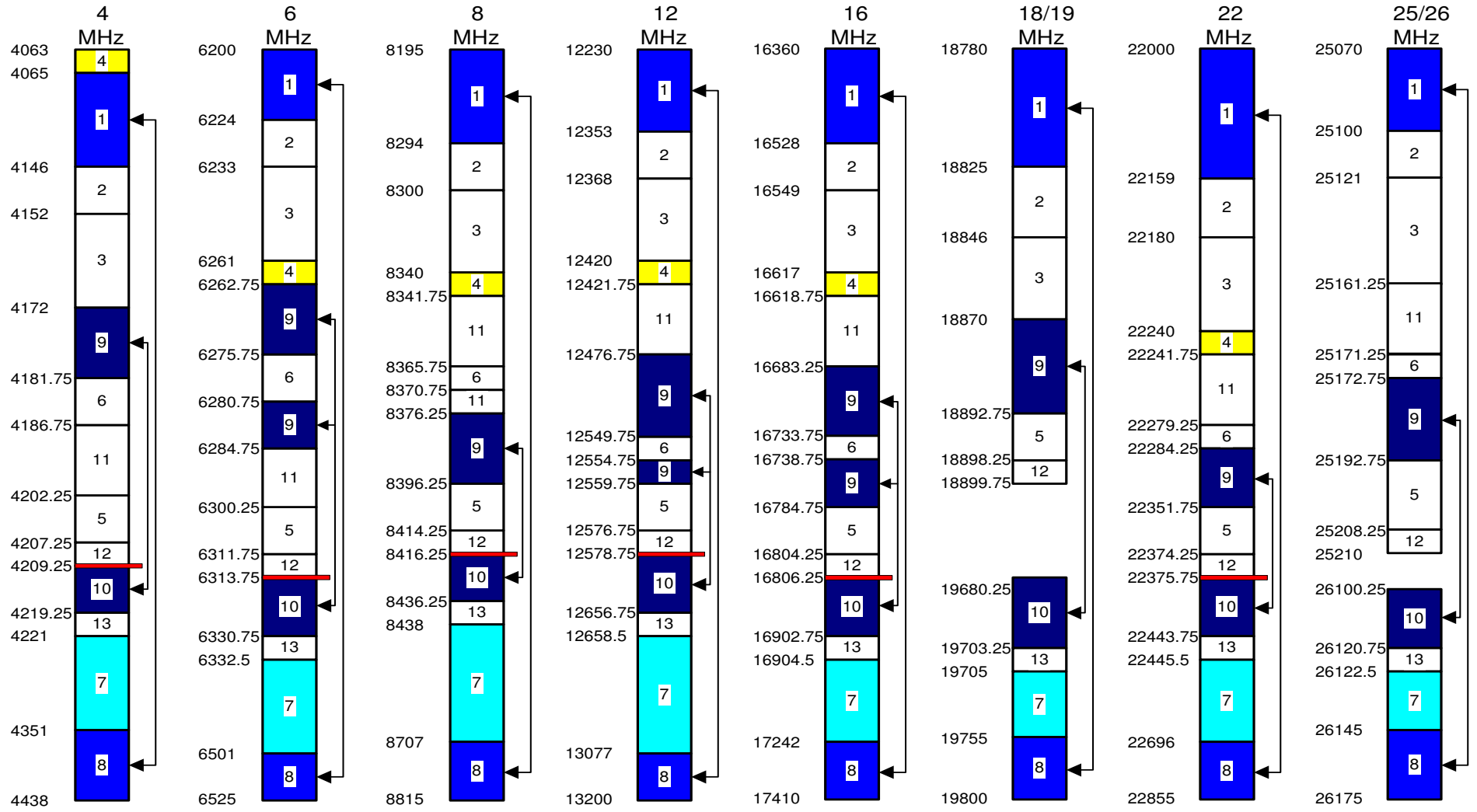
TABLE 3

Frequency bands between 4 000 and 27 500 kHz

Frequency bands (kHz)	Mode of communication	Permitted classes of emission	Power limitations		Remarks - Provisions of RR
			Coast station	Ship station	
EXCLUSIVE 4 063-4 438 6 200-6 525 8 195-8 815 12 230-13 200 16 360-17 410 18 780-18 899.75 19 680.25-19 800 22 000-22 855 25 070-25 210 26 100.25-26 175	RTF, duplex	J3E, J2D	10 kW	1.5 kW	52.217, 52.219, 52.220
	RTF, simplex	J3E, J2D	1 kW	1.5 kW	52.217, 52.227, 52.220
	RTG wide-band, FC	All RTG except A2A, A2B	5/10/15 kW (2.5 kW per 500 Hz)		52.55, 52.56, 52.172
	RTG, NBDP, paired, FC + MS	F1B (J2B, J2D)	5/10/15 kW		52.104
	RTG, NBDP, non-paired	F1B (J2B, J2D) (A1A*)	5/10/15 kW		52.104
	RTG Morse, calling, MS	A1A (A1B, J2A, J2B, J2D)			
	RTG Morse, working, MS	A1A (A1B, J2A, J2B, J2D)			
	DSC (FC, MS)	F1B, J2B, J2D	5/10/15 kW	1.5 kW	52.143, 52.144
	Oceanographic data transmission	A1A, F1B, J2B, J2D, etc.			
NON EXCLUSIVE	RTG	-	DSC: 5/10/15 kW	DSC: 1.5 kW	52.143, 52.144
	RTF	J3E, J2D	10 kW	1.5 kW	52.177, 52.217, 52.219, 52.220

TABLE 4

« SUB-DIVISION OF THE EXCLUSIVE MARITIME MOBILE BANDS BETWEEN 4 000 kHz AND 27 500 kHz »



- 1 *Ship stations*, telephony, duplex operation (two-frequency channels), (frequencies paired with those in No. 8), (Appendices 17, Part B, Section I and 25, Section II)
- 2 *Ship stations and coast stations*, telephony, simplex operation (single-frequency channels) and intership cross-band operation (two frequencies), (Appendix 17, Part A)
- 3 *Ship stations*, wide-band telegraphy, facsimile and special transmission systems, (Appendix 17, Part A)
- 4 *Oceanographic data transmission stations*, (Appendix 17, Part A, Note c)
- 5 *Ship stations*, narrow-band direct-printing telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK (non-paired frequencies), and A1A Morse telegraphy (working), (Appendix 17, Part A)
- 6 *Ship stations*, A1A Morse telegraphy, calling, (Appendix 17, Part A)
- 7 *Coast stations*, wide-band and A1A Morse telegraphy, facsimile and special and data transmission systems and direct printing telegraphic systems, (Appendix 17, Part A)
- 8 *Coast stations*, telephony, duplex operation (two-frequency channels), (frequencies paired with those in No. 1), (Appendices 17, Part B, Section I and 25, Section II)
- 9 *Ship stations*, narrow-band direct-printing telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK (frequencies paired with those in No. 10), (Appendix 17, Part B, Section II)
- 10 *Coast stations*, narrow-band direct-printing telegraphy and data transmission systems at speeds not exceeding 100 bauds for FSK and 200 bauds for PSK (frequencies paired with those in No. 9), (Appendix 17, Part B, Section II)
- 11 *Ship stations*, A1A Morse telegraphy, working, (Appendix 17, Part A)
- 12 *Ship stations*, digital selective calling, (Appendix 17, Part A)
- 13 *Coast stations*, digital selective calling, (Appendix 17, Part A)