UPDATES to the

Rules of Procedure

(Edition of 2021)

Approved by the Radio Regulations Board*

Revision (Circular No.)	Date	Part	AR/AP	RR No. or other reference	Pages to be removed	Pages to be inserted
1 See CR/479	15 October 2021	A1	AR05	5.418C	13	13 (rev.1)
		A1	AR05	5.485	20	20 (rev.1)
		A1	Receivability		6-7	6(rev.1)-7(rev.1)
		A1	AR09	9.11A	11	11(rev.1)
		A1	AR11	11.31	8	8(rev.1)
		A1	AP04		1-2	1(rev.1)-2(rev.1)
		A1	RES32[1]		–	1(rev.1)
		A1	RES49		1	–
		A11			–	1(rev.1)-2(rev.1)
		C1			2	2(rev.1)
		Table of content			1-2	1(rev.1)-2(rev.1)
2 See CR/484	18 March 2022	A1	Extension of the reg. time-limit		–	1(rev.2)-2(rev.2)
		A1	Simultaneous BIU		–	1(rev.2)
		A1	AR11	11.43A	24	24(rev.2)
		A1	AR11	11.43B	25	25(rev.2)
		A11			1-2	–
		Table of content			1-2	1(rev.2)-2(rev.2)

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3 See CR/498	4 July 2023	A1	AR11	11.48	27-30	28(rev.3)-29(rev.3)
			AP30	5.3.1	–	14*bis*(rev.3)
			AP30A	5.3.1	11	11(rev.3)-12
			AP30B	8.16	7-8	7(rev.3)-7*bis*(rev.3), 8
4 See CR/500	8 March 2024	A1	AR9	9.21	21	21, 21*bis*(rev.4)-22
				9.27	22	25(rev.4)-25*bis*(rev.4), 26
				9.36	25	
5 See CR/510	19 November 2024	A1	AR05	5.254 and 5.255	5	5(rev.5) 5*bis*(rev.5)
				5.312A[2]	6	6(rev.5)
				5.312B and 5.314A[2]	–	6*bis*(rev.5)
				5.316B[2]	7	7(rev.5)
				5.341A[2]	9	9(rev.5)
				5.388A and 5.409A[2]	11	11(rev.5) 11*bis*(rev.5)
				5.441B[2]	17	17(rev.5)
				5.446A[2]	18	18(rev.5)
				5.457D, 5.457E and 5.457F[2]	19	19(rev.5) 19*bis*(rev.5)
				5.461[2]	–	19*bis*(rev.5) 19*ter*(rev.5)
				5.461AC[2]	–	19*quater*(rev.5)
				5.474A, 5.475A and 5.478A[2]	–	19*quater*(rev.5) 19*quinquies*(rev.5) 19*sexies*(rev.5)
				5.480A[2]	–	19*sexies*(rev.5) 19*septies*(rev.5)
				5.506A[2]	25	25(rev.5)
				5.523A[2]	26	26(rev.5)
				5.529A[2]	–	28*bis*(rev.5)
			Receivability[2]		1	1(rev.5)
					6	6(rev.5)

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			AR9	Table 9.11A-1[3]	7, 9, 11 13	7(rev.5), 9(rev.5), 11(rev.5), 13(rev.5)
				Table 9.11A-2[2]	14, 18	14(rev.5), 18(rev.5)
				9.27[2]	22-23	22-23(rev.5)
			AR11	11.13[4]	3	3(rev.5)
				11.31[2]	–	12*bis*(rev.5)
				11.32[2]	13-14	13(rev.5)-14(rev.5)
				11.43A[2]	24	24(rev.5)
			AR21	Table 21-2[2]	1	1(rev.5)
			AR22	22.5K[2]	1	1(rev.5)
			AP04	A.4.b.7.d.1[2]	2	2(rev.5)
				A.17.d[2]	2	–
				A.27.b[2]	–	2*bis*(rev.5)
				A.33.a, A.36.c[2]	–	2*bis*(rev.5)- 3(rev.5)
				C.8.a.2, C.8.b.2, C.8.c.1, C.8.c.3	4	4(rev.5)
				C.8.b.3.c [2]		4(rev.5)
			AP27	27/58[2]	2	–
			AP30A	4.1.31 [2] 4.1.32 [2] 4.1.33 [2]	5	5(rev.5) 5*bis*(rev.5) 5*bis*-5*ter*(rev.5)
			AP30B	6.38 [2]	5	5(rev.5)
				6.39 [2]		5*bis*(rev.5),
				6.40 [2]		5*ter*(rev.5)
				Art. 7 [2]	6-7	6(rev.5)-7(rev.5)
				App 1 to Annex 4 [2]	13	13(rev.5)
				Annex 7 [2]	13	13(rev.5) 14(rev.5)

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			RES8 [2]			1(rev.5)-2(rev.5)
			RES35			1(rev.5)
			RES121 [2]			1(rev.5)-2(rev.5)
			RES123 [2]			1(rev.5)-2(rev.5)
			RES678 [2]			1(rev.5)-2(rev.5)
		A10	GE06 Regional Agreement	Annex 4 [2]	13	13(rev.5)
		B	B6 [2]		1-5	1(rev.5)-5(rev.5)
			B8 [2]			1(rev.5)-2(rev.5)

[*] The new Rules or modifications to the existing Rules of Procedure take effect immediately or as otherwise indicated.

[1] Effective date of application of the Rule: 23 November 2019.

[2] Effective date of application of the Rule:1 January 2025.

[3] Effective date of application of the Rule: See Document RRB24-3/23, Annexes 1, 11 and 12.

[4] Effective date of application of the Rule: See Document RRB24-3/23, Annex 15.

5.233

1 The band mentioned in this provision is allocated in the body of the Table for Region 3 to three services, i.e. fixed, mobile and broadcasting. The Board interpreted this situation as follows:

a) The successful application of the No. **9.21** procedure to the space services will give them the same status as the fixed and mobile services, i.e. primary.

b) In respect of the broadcasting service, irrespective of the result of the application of the procedure of the No. **9.21** procedure, the space services can be operated only under No. **5.43**.

2 In accordance with the comments made under No. **5.164**, when an assignment is primary with respect to one service (or country) and secondary with respect to another service (or country), it will be recorded with Symbol R in Column 13B2 indicating this situation and a reference to the appropriate footnote in Column 13B1.

5.254 and 5.255 (ADD RRB24/510)

No. **5.254** stipulates that: "*The bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile-satellite service, subject to agreement obtained under No. **9.21**, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table of Frequency Allocations except for the additional allocation made in footnote No. **5.256A***.", whereas No. **5.255** stipulates that: "*The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. **9.11A***."

Recognizing the difficulty in determining the type of coordination applicable to notified frequency assignments in the mobile-satellite service in the above frequency bands, the Board concluded as follows:

1) When the Bureau examines frequency assignments of non-GSO MSS systems notified in the frequency bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) only, the Board, noting the MSS allocations on a secondary basis and the fixed and mobile services allocations on a primary basis in these two frequency bands, instructed the Bureau to only apply the provisions of No. **5.255**. As a consequence, only the coordination procedure under No. **9.11A** applies.

2) In cases where frequency assignments submitted in the frequency bands 312-315 MHz (Earth-to-space) or 387-390 MHz (space-to-Earth) overlap with other portions of the frequency bands mentioned in No. **5.254** (235-322 MHz and 335.4-399.9 MHz), both coordination under No. **9.11A** and agreement-seeking under No. **9.21** apply and the frequency assignments' status will be recorded in the MIFR with a reference to No. **5.254** in column 13B1 and "R" in column 13B2, in accordance with § 5.5 of the Rules of Procedures on No. **11.31**, footnote 1 of Appendix **5** and § 2.3 of the rules of procedures on No. **9.11A**.

In such cases, the notifying administration may also consider suitably modifying the assigned frequency band or to split it before its submission so that a non-GSO MSS frequency assignment in the frequency bands 312-315 MHz (Earth-to-space) or 387-390 MHz (space-to-Earth) is subject to No. **5.255** only.

5.257

1 Space telemetry is limited to measurements made in the spacecraft which may be:

– either made by a sensor to detect phenomena outside the spacecraft; or

– related to the functioning of the spacecraft.

The first type normally pertains to services such as the earth exploration-satellite service or the space research service, while the second type pertains to the space operation service. This provision does not indicate the service to which the additional allocation is made. The Board understands it as being limited to space telemetry in the space operation service. Consequently, frequency assignments for telemetry (space-to-Earth) in the space operation service in the band 267-272 MHz may be used on a secondary basis without any condition. They may obtain a primary status within the territory of the notifying administration following the successful application of the procedure of No. **9.21**.

2 The qualification *"in their countries"* can be easily checked when an earth station is concerned, but it is unclear for a space station. The Board considers that this provision will apply to those space stations having a service area mainly limited to the territory of the notifying administration.

5.281

With respect to the French overseas departments and communities in Region 2, see comments under the Rules of Procedure concerning No. **5.172**.

5.291

This footnote is similar to No. **5.233**; the same Rule applies.

5.312A

1 This provision stipulates through Resolution **760 (Rev.WRC-23)** that in Region 1, the use of frequency band 694-790 MHz by the mobile, except aeronautical mobile, service is subject to agreement obtained under No. **9.21** with respect to the aeronautical radionavigation service in countries mentioned in No. **5.312**. (MOD RRB24/510)

2 The criteria for identifying potentially affected administrations under No. **9.21** in this band are given in the Annex to Resolution **760 (Rev.WRC-23)** in the form of coordination distances with the most stringent value of a 450 km distance between a base station in the mobile service and a potentially affected station in the aeronautical radionavigation service. (MOD RRB24/510)

3 Taking into account that No. **5.312** contains only a few countries while a large number of other countries of Region 1 are located at distances that are sufficiently large to exclude a potential for interference to the aeronautical radionavigation service, the Board decided that those administrations whose territories are beyond the distance of 450 km from the countries mentioned in No. **5.312** do not need to apply the No. **9.21** procedure to their mobile service assignments operating under No. **5.312A**.

4 Administrations having territories within a distance of 450 km from the countries listed in No. **5.312** are the following: Albania, Armenia, Austria, Azerbaijan, Bosnia and Herzegovina, Belarus, Bulgaria, Czech Rep., Germany, Denmark, Estonia, Finland, Georgia, Greece, Hungary, Croatia, Italy, Iraq, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Moldova, the Former Yugoslav Rep. of Macedonia, Montenegro, Mongolia, Norway, Poland, Romania, the Russian Federation, Sweden, Serbia, Slovakia, Slovenia, the Syrian Arab Republic, Tajikistan, Turkmenistan, Türkiye, Ukraine and Uzbekistan. (MOD RRB24/510)

5.312B and 5.314A (ADD RRB24/510)

1 These provisions stipulate that the use of the frequency bands 694-960 MHz (No. **5.312B**) and 698-960 MHz (No. **5.314A**) by high-altitude platform stations for International Mobile Telecommunication (IMT) base stations (HIBS) shall be in accordance with Resolution **213 (WRC-23)**, including the power flux-density (pfd) limits listed in *resolves* 2, 3, 4.1, 4.2 and 4.3 of that Resolution.

2 Considering that neither these RR provisions nor Resolution **213 (WRC-23)** specify the propagation prediction model to be used for the calculation of pfd levels produced by HIBS, the Board decided that Recommendation ITU-R P.528-5 is to be used for the calculation of those pfd levels at 1% of time over a smooth-Earth path, produced at a height of:

– 10 m in application of *resolves* 2 and 3; and

– 1.5 m in application of *resolves* 4.1, 4.2 and 4.3.

5.316B

1 This provision stipulates, *inter alia*, that in Region 1, the allocation to the mobile, except aeronautical mobile, service in the frequency band 790-862 MHz is subject to agreement obtained under No. **9.21** with respect to the aeronautical radionavigation service in countries mentioned in No. **5.312**.

2 The criteria for identifying potentially affected administrations under No. **9.21** in this band are given in the Annex to Resolution **749 (Rev.WRC-23)** in the form of coordination distances with the most stringent value of a 450 km distance between a base station in the mobile service and a potentially affected station in the aeronautical radionavigation service. (MOD RRB24/510)

3 Taking into account that No. **5.312** contains only a few countries while a large number of other countries of Region 1 are located at distances that are sufficiently large to exclude a potential for interference to the aeronautical radionavigation service, the Board decided that those administrations whose territories are beyond the distance of 450 km from the countries mentioned in No. **5.312** do not need to apply the No. **9.21** procedure to their mobile service assignments operating under No. **5.316B**.

4 Administrations having territories within a distance of 450 km from the countries mentioned in No. **5.312** are the following: Albania, Armenia, Austria, Azerbaijan, Bosnia and Herzegovina, Belarus, Bulgaria, Czech Rep., Germany, Denmark, Estonia, Finland, Georgia, Greece, Hungary, Croatia, Italy, Iraq, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Moldova, the Former Yugoslav Rep. of Macedonia, Montenegro, Mongolia, Norway, Poland, Romania, the Russian Federation, Sweden, Serbia, Slovakia, Slovenia, the Syrian Arab Republic, Tajikistan, Turkmenistan, Türkiye, Ukraine and Uzbekistan. (MOD RRB24/510)

5.327A

1 Appendix **4** does not contain data elements which would enable examination as to whether the notified frequency assignment is associated to a system that operates in accordance with recognized international aeronautical standards or to a system that operates under other standards. As the Bureau has no means to make such differentiation, the Board decided that the Bureau shall make no examination of the notified frequency assignment to a station in the aeronautical mobile (R) service (AM(R)S) from the view point of its conformity with this provision.

2 With respect to the requirements contained in *resolves* 2 and 3 of Resolution **417 (Rev.WRC-15)**, the Board decided that the Bureau shall make no examination of the notified frequency assignment to a station in the AM(R)S from the view point of its conformity with these provisions since Appendix **4** does not contain data elements which would enable to determine whether the notification is related to a Universal Access Transceiver system or to another system in the AM(R)S.

3 With respect to the power limits contained in *resolves* 6 of Resolution **417 (Rev.WRC-15)**, the Board decided that the Bureau shall check the e.i.r.p. limits for the ground based and airborne stations only for the band 960-1 164 MHz since frequency assignments to stations in the AM(R)S notified in the band 960-1 164 MHz do not contain any information concerning out-of-band emissions in the frequency band 1 164-1 215 MHz.

5.328AA

1 Appendix **4** does not contain data elements which would enable examination as to whether a notified frequency assignment in the aeronautical mobile-satellite (R) service (AMS(R)S) is associated to the space station reception of Automatic Dependent Surveillance-Broadcast (ADS-B) emissions from aircraft transmitters that operate in accordance with recognized international aeronautical standards or reception of emissions from aircraft transmitters that operates under other standards. As the Bureau has no means to make such differentiation, the Board decided that the Bureau shall make no examination of the notified frequency assignment in the AMS(R)S from the viewpoint of its conformity with this provision.

2 With respect to the requirements contained in *resolves* 1, 2 and 3 of Resolution **425 (Rev.WRC-19)** and in the absence of relevant data elements in Appendix **4**, the Board also decided that the Bureau shall make no examination on the conformity with the above *resolves* of Resolution **425 (Rev.WRC-19)**.

5.329

Assignments to stations of the radionavigation-satellite service if recorded need to indicate that they shall not cause harmful interference to assignments to stations of the radionavigation service of the countries listed in No. **5.331** and to stations of the radiolocation service (Symbol R in Column 13B2 and reference to No. **5.329** in Column 13B1).

5.340

The comments made under the Rules of Procedure concerning No. **4.4** apply.

5.341A

1 This provision stipulates, *inter alia*, that in Region 1 the use of IMT stations in the frequency bands 1 427-1 452 MHz and 1 492-1 518 MHz is subject to agreement obtained under No. **9.21** with respect to the aeronautical mobile service used for aeronautical telemetry in accordance with No. **5.342**. Since No. **5.342** applies in the band 1 429-1 535 MHz, the use of IMT stations which operate in the frequency band 1 427-1 429 MHz and do not overlap into the band 1 429-1 535 MHz, used by aeronautical telemetry in the aeronautical mobile service, is not subject to the agreement obtained under No. **9.21**.

2 Taking into account that No. **5.342** contains only a few countries while a large number of other countries of Region 1 are located at distances that are sufficiently large to exclude a potential for interference to the aeronautical mobile service, the Board decided that those administrations whose territories are beyond the distance of 670 km from the countries mentioned in No. **5.342** do not need to apply the No. **9.21** procedure to their IMT stations operating under No. **5.341A**. For those administrations whose territories are closer than the distance of 670 km Section B6 applies.

3 Administrations having territories within a distance of 670 km from the countries mentioned in No. **5.342** are the following: Albania, Armenia, Austria, Azerbaijan, Bosnia and Herzegovina, Belarus, Bulgaria, Czech Rep., Germany, Denmark, Estonia, Finland, Georgia, Greece, Hungary, Croatia, Iraq, Italy, Kazakhstan, Kyrgyzstan, Lithuania, Latvia, Moldova, the former Yugoslav Republic of Macedonia, Montenegro, Mongolia, Norway, Poland, Romania, the Russian Federation, Sweden, Serbia, Slovakia, Slovenia, the Syrian Arab Republic, Tajikistan, Turkmenistan, Türkiye, Ukraine and Uzbekistan. (MOD RRB24/510)

5.346

1 This provision stipulates, *inter alia*, that the implementation of IMT in the frequency band 1 452-1 492 MHz in a number of Region 1 countries, which are listed in this footnote, is subject to agreement obtained under No. **9.21** with respect to the aeronautical mobile service used for aeronautical telemetry in accordance with No. **5.342**.

2 Taking into account that No. **5.342** contains only a few countries while a large number of the countries listed in No. **5.346** are located at the distances that are sufficiently large to exclude a potential for interference to the aeronautical mobile service, the Board decided that those administrations whose territories are beyond the distance of 670 km from the countries mentioned in No. **5.342** do not need to apply the No. **9.21** procedure to their IMT stations operating under No. **5.346**. For those administrations whose territories are closer than the distance of 670 km Section B6 applies.

3 The administration listed in No. **5.346** having territories within a distance of 670 km from the countries mentioned in No. **5.342** is Iraq.

5.351

1 This provision permits, in derogation of the definitions contained in Nos. **1.70**, **1.72**, **1.76** and **1.82**, the use of the bands allocated to a mobile-satellite service by a station at a specified fixed point (without being a coast, land, base or an aeronautical earth station).

2 The exceptional circumstances referred to in this provision cannot be evaluated by the Bureau.

3 The Board therefore concluded that assignments notified under this provision shall receive a favourable regulatory finding.

5.357

The terrestrial uses authorized by this provision appear to be closely related to the operational conditions within a combined aeronautical system using space and terrestrial radiocommunications. The Bureau has no means to verify such uses and considers this provision an additional allocation to the aeronautical mobile (R) service.

5.364

This provision contains two different types of equivalent isotropically radiated power (e.i.r.p.) density limits for transmitting mobile earth stations in the frequency band 1 610-1 626.5 MHz, namely:

a) peak e.i.r.p. density limit, and

b) mean e.i.r.p. density limit.

The peak e.i.r.p. density limit is derived from the maximum power density of the assignment as submitted by the responsible administration.

For the second type, it is not clear whether it is spectral mean, or temporal mean, or spatial mean. The Board decided that, on a provisional basis, and until the relevant ITU-R Recommendation is available, the Bureau use a spectral mean e.i.r.p. density when applying this provision. This spectral mean e.i.r.p. will be derived from the mean power density of an assignment, which is obtained from its total power divided by its necessary bandwidth and multiplied by 4 kHz.

5.366

This provision is considered an additional allocation to the aeronautical radionavigation-satellite service. The comments made under No. **5.49** apply. However, when the Special Section is to be published it shall contain an indication that the assignment is for use on a worldwide basis for *"airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities"*.

5.376

The comments made under the Rules of Procedure concerning No. **5.357** apply.

5.388A and 5.409A

(ADD RRB24/510)

1 No. **5.388A** stipulates that the use of the frequency bands 1 710-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz in Regions 1 and 3 and the frequency bands 1 710-1 980 MHz and 2 110-2 160 MHz in Region 2 by high-altitude platform stations for International Mobile Telecommunication (IMT) base stations (HIBS) shall be in accordance with Resolution **221 (Rev.WRC-23)**, including the power flux-density (pfd) limits listed in *resolves* 1.1, 1.2, 1.3 and 1.4 of that Resolution.

2 No. **5.409A** stipulates that the use of the frequency band 2 500-2 690 MHz in Regions 1 and 2 and the frequency band 2 500-2 655 MHz in Region 3 by HIBS shall be in accordance with Resolution **218 (WRC-23)**, including the power flux-density (pfd) limits listed in *resolves* 1.1, 1.2, 1.3 and 1.4 of that Resolution.

3 Considering that neither these RR provisions nor those Resolutions specify the propagation prediction model to be used for the calculation of pfd levels produced by HIBS, the Board decided that Recommendation ITU-R P.528-5 is to be used for the calculation of those pfd levels at 1% of time at a height of 1.5 m over a smooth-Earth path in application of the *resolves* parts of Resolutions **218 (WRC-23)** and **221 (Rev.WRC-23)**.

5.399

The Board instructed the Bureau when recording assignments to stations of the radiodetermination-satellite service operating in the frequency band 2 483.5-2 500 MHz to which this footnote applies to place Symbol R in Column 13B2 and a reference to No. **5.399** in Column 13B1.

b) For the compatibility assessment between earth stations (transmitting ES of the FSS up-links and the receiving ES within the Plan allotment) the method defined in Appendix **7** will be used. The service areas defined in Appendix **30B** will be extended by the coordination distance to form an *"*agreement area*"* within which a transmitting earth station of the FSS up-link has to be coordinated. For the calculation of the coordination distance the most up-to-date ITU-R Recommendation will be used.

2.2 Down-link FSS applications in the bands 10.7-10.95 GHz and 11.2-11.45 GHz (Appendix **30B**, planned usage):

a) As for the interference which is likely to be caused to FSS up-link from Appendix **30B** down-link the same condition referred to in 2.1 *a)* above applies, i.e., in the examination of Appendix **30B** Plan and List entries no account shall be taken of the FSS up-link assignments included in the MIFR with the above-mentioned symbol.

b) As for the interference which is likely to be caused to Appendix **30B** down-link receiving earth stations from FSS up-link transmitting earth stations the same condition referred to in 2.1 *b)* above applies.

5.441B

This provision stipulates, *inter alia*, that before an administration brings into use an IMT station in the mobile service in the frequency band 4 800-4 990 MHz, it shall ensure that the power flux-density (pfd) produced by this station does not exceed −155 dB(W/(m^2 · 1 MHz)) produced up to 19 km above sea level at 20 km from the coast, defined as the low-water mark, as officially recognized by the coastal State. Resolution **223 (Rev.WRC-23)** applies. (MOD RRB24/510)

Considering that this provision and Resolution **223 (Rev.WRC-23)** do not specify the propagation model to be used for the calculation of the pfd produced by IMT stations in the band 4 800 -4 990 MHz, the Board decided that Recommendation ITU-R P.528-5, for 1% of time, is to be used for this calculation. (MOD RRB24/510)

5.444B

1 This provision limits the use of the band 5 091-5 150 MHz by the aeronautical mobile service to two different applications. However, Appendix **4** does not contain data elements which would enable examination as to whether the notified frequency assignment is associated with any of these specific applications or with other applications in the aeronautical mobile service. As the Bureau has no means to make such differentiation, the Board decided that the Bureau shall make no examination of the notified frequency assignment to a station in the aeronautical mobile service from the view point of its conformity with this provision.

2 With respect to the submissions in the aeronautical mobile (R) service, including the ones referred to in the first indent of this provision, and given the indications in *resolves* 1 of Resolution **748 (Rev.WRC-19)**, the recording of any such assignment in the MIFR will be associated with the symbol "R" in column 13B2 ("Finding observation") and with symbol "RS748" in column 13B1 ("Finding reference"). The Board also considered that the indications in *resolves* 3 of Resolution **748 (Rev.WRC-19)**, including the reference to No. **4.10**, are intended for administrations and the Bureau shall make no examination of frequency assignments from the view point of their conformity with the conditions set forth in *resolves* 3 of Resolution **748 (Rev.WRC-19)**.

3 With respect to the submissions related to aeronautical telemetry transmissions referred to in the second indent of this provision, and in addition to the considerations in § 1 of this Rule of Procedure which are also applicable for aeronautical telemetry applications, the Board considered that the indications in *resolves* 1 and in *resolves* 2 of Resolution **418 (Rev.WRC-19)** are intended for administrations and the Bureau shall make no examination of the notified frequency assignment to a station in the aeronautical mobile service from the view point of its conformity with the conditions set forth in Annex 1 to Resolution **418 (Rev.WRC-19)**.

5.446A (MOD RRB24/510)

1 This provision stipulates that the use of the bands 5 150-5 350 MHz and 5 470-5 725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution **229 (Rev.WRC-23)**. Accordingly, Resolution **229 (Rev.WRC-23)** specifies that the use of these bands, by the mobile service, will be for the implementation of wireless access systems (WAS) including radio local area networks (RLAN) (see *resolves* 1) and, in addition to this, it specifies the maximum e.i.r.p. levels for stations in the mobile service (see *resolves* 2, 3, 5 and 7).

As far as the band 5 150-5 350 MHz is concerned, the situation is rather simple, given the fact that the provisions of Resolution **229 (Rev.WRC-23)** are applicable to all stations in the mobile, except aeronautical mobile, service, with the exception of cases referred to in No. **5.447**, which apply to the band 5 150-5 250 MHz and where other (e.g. less stringent) conditions may be established in the context of the application of the procedure of No. **9.21**.

On the other hand, the situation in the band 5 470-5 725 MHz is more complex, bearing in mind that other provisions are applicable to stations in the mobile, except aeronautical mobile, service (e.g. those indicated in Nos. **5.451**, **5.453** and in Table **21-2** of Article **21**), which are stipulating different conditions (e.g. power limits) than the ones indicated in Resolution **229 (Rev.WRC-23)**. Consequently, administrations referred to in No. **5.453** (for the band 5 650-5 725 MHz) and in No. **5.451** (for the band 5 470-5 725 MHz) may implement other applications in the mobile, except aeronautical mobile, service, which are not necessarily WAS, subject to compliance with the conditions set forth in No. **5.451** and the power limits set forth in Table **21-2** of Article **21**.

2 Given the fact that, for the implementation of WAS, high deployment densities are expected, such implementation options could be adequately covered through notifications in the form of typical stations. The notification of terrestrial stations in the mobile, except aeronautical mobile, service in the form of typical stations is normally possible with no restrictions in the bands 5 150-5 350 MHz and 5 470-5 670 MHz in all countries, and in the band 5 670-5 725 MHz in the countries not mentioned in No. **5.453**. However, provision No. **11.21A**, in conjunction with Table **21-2**, does not provide for the possibility of notifying terrestrial stations in the mobile, except aeronautical mobile, service, in the form of typical stations, for the band 5 670-5 725 MHz, for the countries listed in No. **5.453**. The strict application of these provisions would mean that the countries listed in No. **5.453** cannot notify their WAS applications in the form of typical stations, even though they conform with the limits of Resolution **229 (Rev.WRC-23)**. The Board concluded that such a restricted interpretation of all the relevant provisions for the band 5 670-5 725 MHz, for the countries listed in No. **5.453**, would result in unnecessary burden for both the administrations listed in No. **5.453** and the Bureau. Consequently, the Board instructed the Bureau to accept notifications for mobile, except aeronautical mobile, stations, in the form of typical stations, from the administrations listed in No. **5.453**, provided that the maximum e.i.r.p. does not exceed 1 W, which implies that each typical station notice receivable in the band 5 670-5 725 MHz (with an e.i.r.p. of less than or equal to 1 W) is deemed to be part of a WAS.

5.457D, 5.457E and 5.457F (ADD RRB24/510)

1 These provisions stipulate that the use of the frequency bands 6 425-7 125 MHz (in Region 1 and some countries in Regions 2 and 3) and 7 025-7 125 MHz (in Region 3) by the terrestrial component of International Mobile Telecommunications (IMT) shall be in accordance with Resolution **220 (WRC-23)**.

Resolution **220 (WRC-23)** specifies the technical conditions for the terrestrial component of IMT within the band 6 425-7 125 MHz. Accordingly, *resolves* 2 of Resolution **220 (WRC-23)** specifies that in order to ensure protection for the FSS (Earth-to-space), the level of expected equivalent isotropically radiated power (e.i.r.p.) spectral density emitted by an IMT base station as a function of the vertical angle above the horizon shall not exceed the values given in *resolves* 2 of that Resolution. No. **21.5** does not apply.

2 Considering that Appendix **4** does not contain the required data items to notify information on the expected e.i.r.p. spectral density mask specified in *resolves* 2 of Resolution **220 (WRC-23)**, the Board decided that when notifying frequency assignments for use by IMT base stations subject to *resolves* 2 of Resolution **220 (WRC-23)**, administrations notifying such frequency assignments (i.e. with the nature of service "IM") in the band 6 425-7 075 MHz shall provide in the "Remarks" field of each notice a commitment that the relevant IMT base station meets the expected e.i.r.p. spectral density mask specified in *resolves* 2 of Resolution **220 (WRC-23)**, for example, by the statement "complies with *resolves* 2 of Res. **220**". When examining compliance with *resolves* 2 of Resolution **220 (WRC-23)**, the Bureau shall accept a notice with the commitment statement that it is in compliance with this Resolution. In the absence of such a commitment, the notified frequency assignment will receive an unfavourable regulatory finding under No. **11.31**.

5.458

There is no allocation to the Earth exploration-satellite (passive) and space research (passive) services in the frequency bands 6 425-7 075 MHz and 7 075-7 250 MHz. Notification of frequency assignments to Earth exploration-satellite (passive) and space research (passive) services in the band 6 425-7 075 MHz and 7 075-7 250 MHz will be considered by the Bureau not to be in conformity with the Table of Frequency Allocations.

5.461 (ADD RRB24/510)

The Board noted that the World Radiocommunication Conference (Dubai, 2023) (WRC-23) had decided on specific conditions for the application of No. **9.21** for geostationary-satellite orbit (GSO) mobile-satellite service (MSS) networks and non-geostationary-satellite orbit (non-GSO) MSS systems in the frequency bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space), i.e. that coordination under No. **9.21** shall not apply to GSO MSS networks for which complete coordination information is received by the Bureau as of 1 January 2025 with respect to non-GSO systems for which complete coordination or notification information, as appropriate, is received by the Bureau as of 1 January 2025.

Also, this provision stipulates that non-GSO systems for which complete coordination or notification information, as appropriate, is received by the Bureau as of 1 January 2025 shall not cause unacceptable interference to, or claim protection from, GSO MSS networks operating in accordance with the Radio Regulations.

The Board concluded that the application of No. **9.21** for satellite networks and systems in the MSS in the frequency bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) is as described in the Table below.

	Incoming		Existing		No. **9.21** applicability (see Preface to the BR IFIC (space services), Table 11A.1)
	Network/system	Date of receipt of coordination information (No. **9.6**)	Network/system	Date of receipt of coordination (No. **9.6**) or first notification information (No. **11.2**)	
7 250-7 375 MHz					
GSO vs non-GSO	GSO MSS	< 01.01.2025	Non-GSO FSS or MSS	< 01.01.2025	YES (9.21/B)
	GSO MSS	>= 01.01.2025	Non-GSO FSS or MSS	< 01.01.2025	YES (9.21/B)
	GSO MSS	>= 01.01.2025	Non-GSO FSS or MSS	>= 01.01.2025	NO
	Non-GSO MSS	Any	GSO MSS or FSS	Any	YES (9.21/A)
GSO vs GSO	GSO MSS	Any	GSO MSS or FSS	Any	YES (9.21/A)
GSO, non-GSO vs terrestrial	GSO MSS Non GSO MSS	Any	Terrestrial	Any	NO[1]
7 900-8 025 MHz					
GSO vs non-GSO	GSO MSS	< 01.01.2025	Non-GSO FSS or MSS	< 01.01.2025	YES (9.21/B)
	GSO MSS	>= 01.01.2025	Non-GSO FSS or MSS	< 01.01.2025	YES (9.21/B)
	GSO MSS	>= 01.01.2025	Non-GSO FSS or MSS	>= 01.01.2025	NO
	Non-GSO MSS	Any	GSO MSS or FSS	Any	YES (9.21/A)
GSO vs GSO	GSO MSS	Any	GSO MSS or FSS	Any	YES (9.21/A)
GSO, non-GSO vs terrestrial	GSO MSS Non-GSO MSS	Any	Terrestrial	Any	YES (9.21/C)

[1] See also the Annex to the rules of procedure on No. **9.36**.

5.461AC (ADD RRB24/510)

This provision stipulates that, in the frequency band 7 375-7 750 MHz, non-geostationary-satellite orbit (non-GSO) systems operating in the fixed-satellite service (FSS) for which complete coordination or notification information, as appropriate, is received by the Bureau as of 1 January 2025 shall not cause unacceptable interference to, or claim protection from, geostationary-satellite orbit networks in the maritime mobile-satellite service operating in accordance with the Radio Regulations.

Since non-GSO systems in the FSS in the frequency band 7 375-7 750 MHz (space-to-Earth) are not subject to the coordination procedure under Section II of Article **9**, the Board concluded that No. **5.461AC** applies to non-GSO systems operating in the FSS for which complete notification information is received by the Bureau as of 1 January 2025.

5.474A, 5.475A, 5.478A (ADD RRB24/510)

1 Pursuant to Nos. **5.474A**, **5.475A** and **5.478A** of the Radio Regulations, the Board noted that the use of active sensors in the space research service (SRS) (active) in the frequency band 9 300-9 900 MHz and in the Earth exploration-satellite service (EESS) (active) in the frequency band 9 200-10 400 MHz requires demonstration of compliance of such use with those footnotes, which means that the different sub-bands may only be used in a specific order based on the increasing requirement of the necessary bandwidth of the frequency assignment under consideration:

1.1 For active sensors in both the SRS (active) and the EESS (active):

– For any frequency assignment with necessary bandwidth of 300 MHz or less, only the frequency band 9 500-9 800 MHz shall be used.

– For any frequency assignment with necessary bandwidth greater than 300 MHz but less than or equal to 500 MHz, part or the whole of the frequency band 9 300-9 500 MHz, in addition to the frequency band 9 500-9 800 MHz, shall be used.

– For any frequency assignment with necessary bandwidth greater than 500 MHz but less than or equal to 600 MHz, part or the whole of the frequency band 9 800-9 900 MHz, in addition to the frequency band 9 300-9 800 MHz, shall be used.

1.2 For the EESS (active) only, in addition to the conditions listed in § 1.1:

– For any frequency assignment with necessary bandwidth greater than 600 MHz but less than or equal to 1 200 MHz, part or the whole of the frequency bands 9 200-9 300 MHz and/or 9 900-10 400 MHz, in addition to the frequency band 9 200-9 900 MHz, may be used.

2 The Board further noted that frequency assignments to non-geostationary-satellite orbit (non-GSO) systems in the SRS (active) and the EESS (active) in the frequency band 9 300-9 900 MHz are not subject to a coordination procedure and shall therefore be submitted in an advance publication of information in accordance with Section I of Article **9**.

3 Since the use of the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz by active sensors in the EESS (active) is subject to an agreement to be obtained under No. **9.21**, a request for coordination shall be submitted under No. **9.30**. Furthermore, the Board concluded that the use of the frequency band 9 300-9 900 MHz shall also be submitted, either at the same time or in an earlier submission, under the same satellite name (in the case of a non-GSO system, this should be done through the submission of a notice for advance publication information)[1]; otherwise, the frequency assignments for the use of the EESS (active) in the frequency bands 9 200-9 300 MHz and/or 9 900-10 400 MHz submitted as part of the request for coordination shall not be considered compliant with the Table of Frequency Allocations.

4 When an administration submits a notification under No. **11.2** containing frequency assignments to a station in the EESS (active) in the frequency band 9 200-10 400 MHz and/or in the SRS (active) in the frequency band 9 300-9 900 MHz, the Board decided that the following rules shall apply:

- When an administration submits a notification for any use in the frequency band 9 300-9 500 MHz, the use of the frequency band 9 500-9 800 MHz shall also be notified in the same service and under the same satellite name, either at the same time or in an earlier submission, and the necessary bandwidth shall be greater than 300 MHz (see No. **5.475A**).

- When an administration submits a notification for any use in the frequency band 9 800-9 900 MHz, the use of the frequency band 9 300-9 800 MHz shall also be notified in the same service and under the same satellite name, either at the same time or in an earlier submission, and the necessary bandwidth shall be greater than 500 MHz (see No. **5.478A**).

[1] In this context, it is understood that the use of the frequency band 9 300-9 900 MHz by a GSO space station in the EESS (active) has to also be submitted in a coordination request in accordance with No. **9.7**.

- When an administration submits a notification for any use in the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz, the use of the frequency band 9 300-9 900 MHz shall be notified in the EESS (active) and under the same satellite name, either at the same time or in an earlier submission, and the necessary bandwidth shall be greater than 600 MHz (see No. **5.474A**).

When the above conditions are not met, the relevant frequency assignment shall not be considered compliant with the Table of Frequency Allocations under No. **11.31** of the Radio Regulations and shall be given an unfavourable finding and returned to the notifying administration.

5 Notification submissions with separate assigned frequencies and bandwidths within the frequency bands 9 200-9 300 MHz, 9 300-9 800 MHz, 9 800-9 900 MHz and 9 900-10 400 MHz will receive separate findings based on the relevant allocation status for each of the frequency bands.

6 The Board recalled that notification submissions of a frequency assignment with an assigned frequency bandwidth overlapping the frequency band 9 800-9 900 MHz will receive a single finding based on a secondary allocation status in accordance with § 5.5 of the rules of procedure on No. **11.31**.

7 Finally, the Board decided that, in order for the Bureau to be able to examine the above-mentioned submissions under No. **11.31**, the information on the necessary bandwidth (item C.8.b.3.c of Annex 2 to Appendix **4**) shall be provided for all such submissions, except in the case where only the frequency band 9 500-9 800 MHz is used.

5.480A (ADD RRB24/510)

1 This provision stipulates that the use of the frequency band 10-10.5 GHz (in some Region 2 countries) by the terrestrial component of International Mobile Telecommunications (IMT) shall be in accordance with Resolution **219 (WRC-23)**.

2 Appendix **4** does not contain data items providing information that would enable examination of the compliance with the requirements of *resolves* 3, 4 and 5 of Resolution **219 (WRC-23)**.

Consequently, the Board decided that when administrations notify frequency assignments for use by IMT base stations subject to *resolves* 3, 4 and 5 of Resolution **219 (WRC-23)** (i.e. with the nature of service "IM") in the frequency band 10-10.5 GHz, they shall provide in the "Remarks" field of each notice a commitment that the IMT base station meets the levels specified in *resolves* 3, 4 and 5 of Resolution **219 (WRC-23)**, for example, by the statement "complies with *resolves* 3, 4 and 5 of **Res. 219**". When examining compliance with *resolves* 3, 4 and 5 of Resolution **219 (WRC-23)**, the Bureau shall accept such a notice with the commitment statement that it is in compliance with the Resolution. In the absence of such a commitment, the notified frequency assignment will receive an unfavourable regulatory finding under No. **11.31**.

5.484

See comments under the Rules of Procedure concerning No. **5.441**.

5.485

1 The wording of this provision raised the following basic question: "Is the band 11.7-12.2 GHz in Region 2 allocated to the broadcasting-satellite service?" The Board considered the following:

a) that the provision is not titled an *"additional allocation"*. Some provisions do not have such a title and the Board considered them additional allocations. However, in this case, it is not clear that the intent was to permit an additional allocation;

b) the provision states that *"transponders on space stations in the fixed-satellite service may be used additionally ... in the broadcasting-satellite service"*: the use of the word *"additionally"*, together with the last sentence saying that *"this band shall be used principally for the fixed-satellite service"*, leads to the understanding that the use by the broadcasting-satellite service is not of the same nature as would be the use of a given band by a service to which the band is allocated;

c) the provision refers to transponders, which are to be considered transmitting stations. As the procedures of Article **9** apply to each assignment, each transponder shall be considered independently from the others. Consequently the provision may be interpreted in either of the following two ways: (MOD RRB21/479)

– a first interpretation consists in considering that some transponders will be used for the FSS and others for the BSS, and this is equivalent to a sharing of the band between two services which raises a question about the word *"principally"*: how many transponders would be allowed for each of the two services?

– a second interpretation consists in considering that a given transponder of the FSS may be used in a given period of time for broadcasting (this is not to be confused with the use of the FSS for the transport of a video signal between two fixed points). If in such a case the provision was to be considered an additional allocation, a question arises in relation to the procedure to be applied: Should it be the relevant provisions in Article **9** for the FSS or for the BSS? (MOD RRB21/479)

2 Keeping in mind the above comments, the Board concluded that the band 11.7-12.2 GHz is not allocated in Region 2 to the broadcasting-satellite service. Those transponders of the fixed-satellite service which are used for broadcasting-satellite purposes will be treated in accordance with the relevant provisions in Article **9** for the FSS (and Appendix **30** if required to define inter-regional sharing). When such a use is indicated in the notice, the Bureau will assume that the coordination of the network was made on the basis that for the period during which a transponder is used for broadcasting, the e.i.r.p. will not exceed the e.i.r.p. notified for the fixed-satellite service. Considering that the fixed-satellite service uses relatively low e.i.r.p., the Bureau will consider the value of 53 dBW to be a limit not to be exceeded. (MOD RRB21/479)

5.506A

As from 5 July 2003, No. **5.506A** requires ship earth stations in the frequency band 14-14.5 GHz with an e.i.r.p. greater than 21 dBW to operate under the same conditions as earth stations located on board vessels, as provided in Resolution **902 (Rev.WRC-23)**. While Annex 2 of that Resolution specifies a minimum antenna diameter of 1.2 m, Appendix **4** does not include antenna diameter of these ship earth stations as a required data element. The Bureau is instructed to use antenna gain value of 42.5 dBi when checking the compliance with the minimum ship earth station antenna diameter requirement (the relation between gain and diameter is derived for the lowest frequency of the band, i.e. $f = 14$ GHz, and antenna efficiency of 57.2%). (MOD RRB24/510)

5.508A

See Rules of Procedure relating to No. **5.504B**.

5.509A

See Rules of Procedure relating to No. **5.504B**.

5.509D and 5.509E

When an administration submits a notification or a request for coordination for a frequency assignment to a space station of a satellite network subject to Resolutions **163 (WRC-15)** or **164 (WRC-15)**, the notice should include a commitment by the administration, as required under § A.16 *c)* of Annex 2 to Appendix **4,** indicating that any earth station associated with the filed satellite network will meet the separation distance as specified in No. **5.509E** and the power flux-density limits as specified in No. **5.509D**.

The Board decided to instruct the Bureau to use the commitment under § A.16 *c)* in its examination under No.**9.35/11.31** of a frequency assignment of a satellite network with respect to its conformity with No. **5.509D** and No. **5.509E**.

However, the Bureau's regulatory examination under No. **11.31** of a frequency assignment to an earth station notified under Article **11** will include checking for conformity with the limits of power-flux density produced by this earth station under No. **5.509D** and the distance indicated in No. **5.509E**.

For the examination under No.**5.509D**, the Bureau shall calculate the power flux-density under free-space propagation condition for all altitudes within line-of-sight up to 19 000 m above sea level at 22 km seaward from all coasts based on the IDWM (ITU's Digitized World Map).

5.523B, 5.523C, 5.523D, 5.523E

Provisions Nos. **5.523B**, **5.523C**, **5.523D** and **5.523E** provide information on the different constraints and procedures applying to the FSS in the frequency range 19.3-19.7 GHz. The Board studied the interrelationship between the different FSS usages and also vis-à-vis the terrestrial stations. The Tables relative to 19.3-19.6 GHz and 19.6-19.7 GHz bands below contain the Board's conclusions on this matter.

5.529A (ADD RRB24/510)

This provision stipulates that, in the frequency bands 20.2-21.2 GHz and 30-31 GHz, non-geostationary-satellite orbit (non-GSO) systems for which complete coordination or notification information, as appropriate, is received by the Bureau as of 1 January 2025 shall not cause unacceptable interference to, or claim protection from, geostationary-satellite orbit networks in the mobile-satellite service (MSS) operating in accordance with the Radio Regulations.

Since non-GSO systems in the fixed-satellite service (FSS) or MSS in the frequency bands 20.2-21.2 GHz and 30-31 GHz are not subject to the coordination procedure under Section II of Article **9**, the Board concluded that No. **5.529A** applies to non-GSO systems operating in the FSS or MSS for which complete notification information is received by the Bureau from 1 January 2025.

Rules concerning the Receivability of forms of notice generally applicable to all notified assignments submitted to the Radiocommunication Bureau in application of the Radio Regulatory Procedures*

1 Submission of information in electronic format

1.1 Space services

The Board noted the requirement for mandatory electronic filing and submission of comments/objections and requests for inclusion or exclusion specified in the *resolves* of Resolution **55 (Rev.WRC-23)**. It also noted that capture and validation software had been made available to administrations by the Bureau, including software to submit information required in Annex 2 of Resolution **552 (Rev.WRC-23)** and in the Attachment to Resolution **553 (Rev.WRC-23)**. Accordingly, all information indicated in the *resolves* of Resolution **55 (Rev.WRC-23)**, in Annex 2 of Resolution **552 (Rev.WRC-23)** and in the Attachment to Resolution **553 (Rev.WRC-23)** under § 8 and § 9, shall be submitted to the Bureau in electronic format which is compatible with the BR electronic notice form capture software (SpaceCap and GIMS) and comments/objections software (SpaceCom)[1], using the ITU web interface "e-Submission of satellite network filings" available at https://www.itu.int/itu-r/go/space-submission. (MOD RRB24/510)

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* **Note**: WRC-15 took the decision related to the rule of procedure on the Receivability of forms of notice during the 8th Plenary, Par. 1.39 to 1.42 of Doc. CMR15/505, with the approval of Doc. CMR15/416 in relation to Section 3.2.2.4.1 of Doc. 4 (Add2) (Rev1), as follows:

"For the submission of a request for coordination under No. ***9.30*** *related to a non-GSO satellite network or system, the notice will be receivable only in the cases described below:*

i) satellite systems with one (or more than one) set(s) of orbital characteristics and inclination value(s) with all frequency assignments to be operated simultaneously; and,

ii) satellite systems with more than one set of orbital characteristics and inclination values with, however, a clear indication that the different sub-sets of orbital characteristics would be mutually exclusive; in other terms, frequency assignments to the satellite system would be operated on one of the sub-sets of orbital parameters to be determined at the notification and recording stage of the satellite system at the latest."

1 Except comments submitted in accordance with §§4.1.7, 4.1.9, 4.1.10 of Article 4 of Appendix **30** and **30A** with respect to additional uses under Article 4 and use of the guardbands under Article 2A of those Appendices in Region 1 and Region 3.

1.2 Terrestrial services

Submission of frequency assignment/allotment notices for terrestrial services in the context of Articles **9**, **11**, **12** and Appendix **25** of the Radio Regulations and various regional agreements shall be made exclusively via the ITU web interface *WISFAT* (**W**eb **I**nterface for **S**ubmission of **F**requency **A**ssignments/allotments) available at https://www.itu.int/ITU-R/go/wisfat/en. It should also be noted that the Bureau has made available to administrations through the BR IFIC a software tool TerRaNotices for creating and validating notices by the Bureau. Additionally, an online validation tool is accessible via the ITU website at: https://www.itu.int/ITU-R/terrestrial/OnlineValidation/Login.aspx.

2 Receipt of notices

It is incumbent on all administrations to meet deadlines established in the Radio Regulations and, accordingly, to take account of possible mail delays, holidays or periods during which ITU may be closed[2].

Having regard to the electronic submissions of notices and various means available for transmission of related correspondence, the Board has decided the following:

2.1 Electronic submissions of notices

a) Notices submitted using "e-Submission of satellite network filings" for space services or via WISFAT for terrestrial services shall be recorded as received on the actual date of receipt, irrespective of whether or not that is a working day at the ITU/BR's offices in Geneva.

b) Notices submitted using "e-Submission of satellite network filings" for space services or via WISFAT for terrestrial services do not require any separate confirmation by telefax or mail.

c) Receipt of notices related to space services shall be acknowledged immediately by ITU/BR e-mail. Receipt of notices related to terrestrial services is acknowledged immediately by a message sent by WISFAT automatically.

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[2] The Radiocommunication Bureau shall inform administrations by circular letter at the beginning of each year, and as appropriate, about holidays or periods in which ITU may be closed in order to assist them in meeting their obligations.

3.4 The latest version of the validation software available to administrations, as advised by Circular Letter, is used by the Bureau when assessing the completeness of Appendix **4** Forms of Notice. Administrations are encouraged to run the validation software themselves in order to overcome any difficulties in the notices before they are submitted to the Bureau.

3.5 After processing the Appendix **4** Form of Notice as set out in § 3.3, if the Bureau finds that further clarification is required concerning the correctness of the mandatory data submitted, it shall request the administration responsible for the station or network to provide the clarification within 30 days, otherwise it shall establish the formal date of receipt as that recorded in accordance with § 2 and § 3.2 above.

3.6 If the information or clarification is provided within that period of 30 days (counted from the date of the dispatch of Bureau's message), the date of receipt established by the Bureau in accordance with § 2 and § 3.2 above will be considered as the formal date of receipt for the purpose of any subsequent processing of the notice.

3.7 Nevertheless, for replies received within the above period of 30 days, a new formal date of receipt is established in those cases (or for the concerned part of the station or network) where the information submitted subsequently is outside the scope and beyond the objective of the Bureau's enquiry pursuant to § 3.5 above, if the new or modified data has impact on the regulatory and technical examination, irrespective of whether the newly provided information adds new affected administrations or not. See also the Rules of Procedure relating to provision No. **9.27**.

3.8 If the information or clarification is not provided within the above period of 30 days, the submission shall be considered incomplete and the Bureau will establish no formal date of receipt. A new formal date of receipt will be established when the complete information is received.

3.9 One year after the Bureau sought information under § 3.3 or 3.5, as appropriate, unless otherwise specified in the relevant procedure, any pending submissions containing incomplete information shall be returned to the notifying administration.

3.10 In case of the request for deletion of an assignment, a group of assignments, an emission, beams or other characteristics of a satellite network or satellite system, two situations may arise:

a) The satellite network or satellite system in question has not yet been examined and published by the Bureau. In that case, the initial formal date of receipt will be maintained for the remaining part of the satellite network or system, if any.

b) The satellite network or satellite system in question has already been examined and published by the Bureau. In that case, the request for deletion shall be published in a modification to the previously published relevant Special Section and the technical bearing of the deletion will be examined by the Bureau in the date order of receipt of the request.

4 Other non-receivable submissions

There are, in addition to the above case of incomplete notice, other circumstances when a notice is not receivable. These cases are described in the following non-exhaustive paragraphs.

4.1 A notification received by the Bureau earlier than the date limits prescribed in provisions No. **11.25** (date limits relate to the date of bringing into use of a station in a space service) is not receivable and shall be returned to the administration responsible for the network.

4.2 (Not used) (MOD RRB24/510)

4.3 The Radio Regulations prescribe, in some cases, the application of multiple procedures, which have to be applied, for the same stations or satellite network, one after another. In such cases, a notice for a particular procedure is receivable only if the previously applicable procedure has been effected.

4.3.1 A notification under Article **11** is not receivable if the coordination request, where applicable, was not received for the satellite network (No. **9.6** refers) and shall be returned to the notifying administration.

4.3.2 A notification under Article **11** is not receivable if the advance publication information under Sub-Section IA of Article **9**, where applicable, was not received for the satellite network and shall be returned to the notifying administration.

4.3.3 A notification of frequency assignments of an earth station under Article **11** is not receivable if the advance publication information or coordination request, as appropriate, was not received for the associated space station. If the frequency assignments notified under Article **11** for the associated space station are not received nor recorded in the MIFR within the regulatory time-limit, the frequency assignments notified for the earth station shall be suppressed from the MIFR.

4.4 A notification, received under Article 8 of Appendix **30B** and Article **11** relating to a satellite network/system for which the regulatory time limit (8 or 7 years, as appropriate) has expired, is not receivable and shall be returned to the notifying administration.

4.5 Whenever the Bureau returns a form of notice, the necessary justification for such an action shall be provided to the notifying administration. (MOD RRB21/479)

TABLE 9.11A-1 (MOD RRB24/510)

Applicability of the provisions of Nos. 9.11A-9.14 to stations of space services

1	2	3		4		5	6	7
Frequency band (MHz)	Footnote No. in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
117.975-137	**5.198A**	AERONAUTICAL MOBILE-SATELLITE (R) (non-GSO)	↓	---		**9.12, 9.14**	AERONAUTICAL MOBILE (R) AERONAUTICAL MOBILE (OR) (**5.201**, **5.202**)	
		AERONAUTICAL MOBILE-SATELLITE (R) (non-GSO)	↑	---		**9.12**		
137-137.025	**5.208**	MOBILE-SATELLITE (non-GSO)	↓	SPACE OPERATION METEOROLOGICAL-SATELLITE SPACE RESEARCH	↓	**9.12, 9.12A, 9.13, 9.14**	FIXED (**5.204**, **5.205**) LAND MOBILE (**5.204**, **5.205**) MARITIME MOBILE (**5.204**, **5.205**) AERONAUTICAL MOBILE (OR) (**5.204**, **5.206**) BROADCASTING (**5.207**)	1
137.175-137.825	**5.208**	MOBILE-SATELLITE (non-GSO)	↓	SPACE OPERATION (with the exception of short-duration mission (non-GSO) in accordance with Resolution **660** (**WRC-19**) (See No.**5.209A**)) METEOROLOGICAL-SATELLITE SPACE RESEARCH	↓	**9.12, 9.12A, 9.13, 9.14**	FIXED (**5.204, 5.205**) LAND MOBILE (**5.204, 5.205**) MARITIME MOBILE (**5.204, 5.205**) AERONAUTICAL MOBILE (OR) (**5.204, 5.206**) BROADCASTING (**5.207**)	1
137.025-137.175 137.825-138	**5.208**	Mobile-satellite (non-GSO)	↓	---	↓	**9.12, 9.14**	Fixed (in countries other than those listed in Nos. **5.204** and **5.205**) Land mobile (in countries other than those listed in Nos. **5.204** and **5.205**) Maritime mobile (in countries other than those listed in Nos. **5.204** and **5.205**) Aeronautical mobile (OR) (in countries other than those listed in Nos. **5.204** and **5.206**)	
148-149.9	**5.219**	MOBILE-SATELLITE (non-GSO)	↑	--- (See No. **5.219**)		**9.12**	--- (See No. **5.219**)	
149.9-150.05	**5.220**	MOBILE-SATELLITE (non-GSO)	↑	---		**9.12**	---	1
312-315	**5.255**	Mobile-satellite (non-GSO)	↑	Mobile-satellite (GSO)	↑	**9.12, 9.12A, 9.13**	---	
387-390	**5.255**	Mobile-satellite (non-GSO)	↓	Mobile-satellite (GSO)	↓	**9.12, 9.12A, 9.13**	---	
399.9-400.05	**5.220**	MOBILE-SATELLITE (non-GSO)	↑	---		**9.12**	---	
400.15-401	**5.264**	MOBILE-SATELLITE (non-GSO)	↓	METEOROLOGICAL-SATELLITE SPACE RESEARCH	↓	**9.12, 9.12A, 9.13, 9.14**	FIXED (**5.262**) MOBILE (**5.262**) METEOROLOGICAL AIDS	1
454-455	**5.286A**	MOBILE-SATELLITE (non-GSO) (5.286D, 5.286E)	↑	---		**9.12**	--- (See Nos. **5.286B** and **5.286C**)	
455-456 459-460	**5.286A**	MOBILE-SATELLITE (non-GSO) (Region 2 (5.286E))	↑	---		**9.12**	--- (See Nos. **5.286B** and **5.286C**)	

TABLE 9.11A-1 (*continued*)

1	2	3		4		5	6	7
Frequency band (MHz)	Footnote No. in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
1 164-1 215	**5.328B**	RADIONAVIGATION-SATELLITE	↓ ↔	---		**9.12, 9.12A, 9.13**	---	7
1 215-1 260	**5.328B**	RADIONAVIGATION-SATELLITE	↓	--- (See No. **5.332**)		**9.12, 9.12A, 9.13**	--- (See No. **5.329**)	
1 215-1 300	**5.328B**	RADIONAVIGATION-SATELLITE	↔	--- (See No. **5.332** and **5.329A**)		**9.12, 9.12A, 9.13**	--- (See No. **5.329**)	7
1 260-1 300	**5.328B**	RADIONAVIGATION-SATELLITE	↓	EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active)		**9.12, 9.12A, 9.13**	--- (See No. **5.329**)	
1 518-1 525	**5.348**	MOBILE-SATELLITE (except USA (**5.344**))	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED MOBILE (except on the territory of USA in Region 2, see No. **21.16**)	
1 525-1 530	**5.354**	MOBILE-SATELLITE	↓	SPACE OPERATION (No. **9.14**, Region 2 only, see No. **21.16**)	↓	**9.12, 9.12A, 9.13, 9.14**	FIXED (Region 1, Region 3, see also No. **5.352A**) LAND MOBILE (**5.349**) MARITIME MOBILE (**5.349**) AERONAUTICAL MOBILE (**5.342**, **5.350**)	
1 530-1 535	**5.354**	MOBILE-SATELLITE	↓	SPACE OPERATION	↓	**9.12, 9.12A, 9.13, 9.14**	AERONAUTICAL MOBILE (**5.342**)	
1 535-1 545	**5.354**	MOBILE-SATELLITE	↓	---		**9.12, 9.12A, 9.13**	---	
1 545-1 550	**5.354**	MOBILE-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	AERONAUTICAL MOBILE (R) (**5.357**)	3
1 550-1 555	**5.354**	MOBILE-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED (**5.359**) AERONAUTICAL MOBILE (R) (**5.357**)	3
1 555-1 559	**5.354**	MOBILE-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED (**5.359**)	
1 559-1 610	**5.328B**	RADIONAVIGATION-SATELLITE	↓	---		**9.12, 9.12A, 9.13**	---	
1 559-1 610	**5.328B**	RADIONAVIGATION-SATELLITE	↔	--- (See No. **5.329A**)		**9.12, 9.12A, 9.13**	---	7
1 610-1 621.35	**5.364**	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE (Region 2 (except country in No. **5.370**), countries in No. **5.369**)	↑	AERONAUTICAL MOBILE-SATELLITE (R) (**5.367**)	↓↑ ↔	**9.12, 9.12A, 9.13**	---	
1 621.35–1 626.5	**5.364**	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE (Region 2 (except country in No. **5.370**), countries in No. **5.369**)	↑	MARITIME MOBILE SATELLITE AERONAUTICAL MOBILE-SATELLITE (R) (**5.367**)	↓ ↓↑ ↔	**9.12, 9.12A, 9.13**	---	

TABLE 9.11A-1 (*continued*) (MOD RRB24/510)

1	2	3		4		5	6	7
Frequency band (MHz)	Footnote No. in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
1 621.35–1 626.5	**5.365**	MARITIME MOBILE SATELLITE	↓	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE (Region 2 (except country in No. **5.370**), countries in No. **5.369**) AERONAUTICAL MOBILE-SATELLITE (R) (**5.367**)	↑ ↓↑ ↔	**9.12, 9.12A, 9.13, 9.14**	FIXED (**5.359**)	
1 610-1 613.8	**5.364**	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	---		**9.12, 9.12A, 9.13**	---	
1 613.8-1 621.35	**5.364**	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	Mobile-satellite	↓	**9.12, 9.12A, 9.13**	---	
1 621.35-1 626.5	**5.364**	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	Mobile-satellite except maritime mobile satellite	↓	**9.12, 9.12A, 9.13**	---	
1 613.8-1 621.35	**5.365**	Mobile-satellite	↓	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	**9.12, 9.12A, 9.13, 9.14**	Fixed (**5.355**)	
1 621.35-1 626.5	**5.365**	Mobile-satellite except maritime mobile satellite	↓	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**))	↑	**9.12, 9.12A, 9.13, 9.14**	Fixed (**5.355**)	
1 626.5-1 660.5	**5.354**	MOBILE-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
1 668-1 668.4	**5.379B**	MOBILE-SATELLITE	↑	SPACE RESEARCH		**9.12, 9.12A, 9.13**		
1 668.4-1 670	**5.379B**	MOBILE-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
1 670-1 675	**5.379B**	MOBILE-SATELLITE	↑	METEOROLOGICAL-SATELLITE	↓	**9.12, 9.12A, 9.13**	---	6
1 980-2 010	**5.389A**	MOBILE-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
2 010-2 025	**5.389C**	MOBILE-SATELLITE (Region 2)	↑	---		**9.12, 9.12A, 9.13**	---	
2 160-2 170	**5.389C**	MOBILE-SATELLITE (Region 2)	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED (Region 2) MOBILE (Region 2) (see also No. **5.389E**)	
2 170-2 200	**5.389A**	MOBILE-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED MOBILE (see also No. **5.389F**)	
2 483.5-2 500	**5.402**	MOBILE-SATELLITE RADIODETERMINATION-SATELLITE	↓	---		**9.12, 9.12A, 9.13, 9.14**	FIXED MOBILE RADIOLOCATION (Region 2, Region 3) (see also No. **5.398A** & **5.399**)	
2 500-2 520	**5.414**	MOBILE-SATELLITE (Region 3)	↓	FIXED SATELLITE (Region 2 and Region 3), RADIODETERMINATION-SATELLITE (**5.404**)	↓	**9.12, 9.12A, 9.13, 9.14*** * Only applicable to MSS in J and IND (see No. **5.414A**)	FIXED LAND MOBILE MARITIME MOBILE	

TABLE 9.11A-1 (*continued*)

1	2	3		4		5	6	7
Frequency band (MHz)	Footnote No. in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
2 520-2 535	**5.403**	MOBILE-SATELLITE (except AERONAUTICAL MOBILE-SATELLITE) (Region 3)	↓	BROADCASTING-SATELLITE, FIXED SATELLITE (Region 2 and Region 3) AERONAUTICAL MOBILE-SATELLITE (countries in No. **5.415A**)	↓	**9.12, 9.12A, 9.13, 9.14*** * Only applicable to MSS, including AMSS in J and IND (see Nos. **5.414A** and **5.415A**)	FIXED LAND MOBILE MARITIME MOBILE	
2 630-2 655	**5.418A** **5.418B** **5.418C**	BROADCASTING-SATELLITE (sound) (**5.418**)	↓	BROADCASTING-SATELLITE (**5.416**) FIXED-SATELLITE (Region 2)	↓	**9.12, 9.12A, 9.13**	---	4, 5
2 655-2 670	**5.420**	MOBILE-SATELLITE (except AERONAUTICAL MOBILE-SATELLITE) (Region 3)	↑	BROADCASTING-SATELLITE FIXED SATELLITE (Region 2 and Region 3)	↓ ↑ ↓	**9.12, 9.12A, 9.13**	---	
2 670-2 690	**5.419**	MOBILE-SATELLITE (Region 3)	↑	FIXED SATELLITE (Region 2 and Region 3)	↑ ↓	**9.12, 9.12A, 9.13**	---	
5 010-5 030	**5.328B**	RADIONAVIGATION-SATELLITE	↓ ↔	AERONAUTICAL MOBILE-SATELLITE (R)	↓ ↑ ↔	**9.12, 9.12A, 9.13**	---	
5 030-5 091	**5.443D**	AERONAUTICAL MOBILE-SATELLITE (R)	↓ ↑ ↔	---		**9.12, 9.12A, 9.13, 9.14**	AERONAUTICAL MOBILE (R)	
5 091-5 150	**5.444A**	FIXED-SATELLITE (limited to non-GSO MOBILE-SATELLITE SERVICE feeder links)	↑	AERONAUTICAL MOBILE-SATELLITE (R)	↓ ↑ ↔	**9.12, 9.12A, 9.13**	---	
5 150-5 216	**5.447A** **5.447B**	FIXED-SATELLITE (limited to non-GSO MOBILE-SATELLITE SERVICE feeder links)	↓ ↑	RADIODETERMINATION-SATELLITE (non-GSO) (**5.446**), with date of bringing into use prior to 17.11.1995 (see No. **5.447C**)	↓	**9.12, 9.12A, 9.13**	---	
5 216-5 250	**5.447A**	FIXED-SATELLITE (limited to non-GSO MOBILE-SATELLITE SERVICE feeder links)	↑	---		**9.12, 9.12A, 9.13**	---	
6 700-7 075	**5.458B**	FIXED-SATELLITE (limited to non-GSO MOBILE-SATELLITE SERVICE feeder links)	↓	FIXED-SATELLITE (non GSO) in bands 6 700-6 725 MHz and 7 025-7 075 MHz	↑	**9.12**		

TABLE 9.11A-1 (*continued*) (MOD RRB24/510)

1	2	3		4		5	6	7
Frequency band (GHz)	Footnote No. in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
10.7-11.7	**5.441** **5.484A**	FIXED-SATELLITE (non-GSO)	↓	FIXED-SATELLITE (non-GSO) (Region 1)	↑	**9.12**	---	
11.7-12.2	**5.488**	FIXED-SATELLITE (GSO) (Region 2)	↓	---		**9.14**	FIXED (except in United States of America and Mexico (see No. **5.486**), in the band 11.7-12.1 GHz FIXED (Regions 1 and 3) and in Peru, (see No. **5.489**), in the band 12.1-12.2 GHz MOBILE except aeronautical mobile (Regions 1 and 3)	
11.7-12.5	**5.484A** **5.487A**	FIXED-SATELLITE (non-GSO)	↓	---		**9.12**	---	
12.5-12.7	**5.484A** **5.487A**	FIXED-SATELLITE (non-GSO)	↓	FIXED-SATELLITE (non-GSO) (Region 1) BROADCASTING-SATELLITE (non-GSO) (Region 3)	↑ ↓	**9.12**	---	
12.7-12.75	**5.484A**	FIXED-SATELLITE (non-GSO) (Region 1 and Region 3)	↓	FIXED-SATELLITE (non-GSO) (Region 1 and Region 2) BROADCASTING-SATELLITE (non-GSO) (Region 3)	↑ ↓	**9.12**		
12.75-13.25	**5.441**	FIXED-SATELLITE (non-GSO)	↑	---		**9.12**	---	
13.75-14.5	**5.484A**	FIXED-SATELLITE (non-GSO)	↑	---		**9.12**	---	
15.43-15.63	**5.511A**	FIXED-SATELLITE (limited to non-GSO MOBILE-SATELLITE SERVICE feeder links)	↑	---		**9.12**	---	
17.3-17.7	**5.516**	FIXED-SATELLITE (non-GSO) (Region 1 and Region 3)	↑	FIXED-SATELLITE (non-GSO) (Region 1 and Region 2) BROADCASTING-SATELLITE (non-GSO) (Region 2)	↓	**9.12**	---	
	5.484A	FIXED-SATELLITE (non-GSO) (Region 2)	↓	FIXED-SATELLITE (non-GSO) (Region 1) FIXED-SATELLITE (non-GSO) (Region 1 and Region 3)	↓ ↑	**9.12**	---	
17.7-17.8	**5.516**	FIXED-SATELLITE (non-GSO) (Region 1 and Region 3)	↑	FIXED-SATELLITE (non-GSO) (Region 1 and Region 3) BROADCASTING-SATELLITE (Non-GSO) (Region 2)	↓	**9.12**	---	
17.8-18.1	**5.516** **5.484A**	FIXED-SATELLITE (non-GSO)	↑ ↓	---		**9.12**	---	
18.1-18.6	**5.484A**	FIXED-SATELLITE (non-GSO)	↓	---		**9.12**	---	
18.8-19.3	**5.523A**	FIXED-SATELLITE	↓	---		**9.12, 9.12A, 9.13**	---	

TABLE 9.11A-1 (*end*)

1	2	3		4		5	6	7
Frequency band (GHz)	Footnote No. in Article **5**	Space services mentioned in a footnote referring to Nos. **9.11A**, **9.12**, **9.12A**, **9.13** or **9.14**, as appropriate		Other space services or systems to which Nos. **9.12** to **9.14** provisions(s) apply equally, as appropriate		Applicable Nos. **9.12** to **9.14** provision(s), as appropriate	Terrestrial services in respect of which No. **9.14** apply equally	Notes
19.3-19.6	**5.523B**	FIXED-SATELLITE (limited to non-GSO MOBILE-SATELLITE SERVICE feeder links)	↑	---		**9.12, 9.12A, 9.13**	---	
	5.523D	FIXED-SATELLITE (GSO with coordination information received as of 18.11.1995 and non-GSO MOBILE-SATELLITE SERVICE feeder links) (see also No. **5.523C**)	↓					
19.6-19.7	**5.523D**	FIXED-SATELLITE (GSO with coordination information received as of 22.11.1997 and non-GSO MOBILE-SATELLITE SERVICE feeder links) (see also No. **5.523E**)	↓	FIXED-SATELLITE (GSO with coordination information received as of 22.11.1997 and non-GSO) (see also No. **5.523E**)	↑	**9.12, 9.12A, 9.13**	---	
19.7-20.1	**5.484A**	FIXED-SATELLITE (non-GSO)	↓	MOBILE-SATELLITE (Non-GSO) (Region 2)	↓	**9.12**	---	
20.1-20.2	**5.484A**	FIXED-SATELLITE (non-GSO)	↓	MOBILE-SATELLITE (Non-GSO)	↓	**9.12**	---	
27.5-28.6	**5.484A**	FIXED-SATELLITE (non-GSO)	↑	FIXED-SATELLITE (Non-GSO) in the band 27.5-27.501 GHz (**5.538**)	↓	**9.12**	---	
28.6-29.1	**5.523A**	FIXED-SATELLITE	↑	---		**9.12, 9.12A, 9.13**	---	
29.1-29.5	**5.535A**	FIXED-SATELLITE (GSO) (see also Nos. **5.523C** and **5.523E**) and non-GSO MOBILE-SATELLITE SERVICE feeder links)	↑	---		**9.12, 9.12A, 9.13**	---	
29.5-29.9	**5.484A**	FIXED-SATELLITE (non-GSO)	↑	MOBILE-SATELLITE (Non-GSO) (Region 2)	↑	**9.12**	---	
29.9-30	**5.484A**	FIXED-SATELLITE (non-GSO)	↑	MOBILE-SATELLITE (Non-GSO) FIXED-SATELLITE (Non-GSO) in the band 29.999-30 GHz (**5.538**)	↑ ↓	**9.12**		
37.5-39.5	**5.550C**	FIXED-SATELLITE (non-GSO)	↓	--- (See No. **5.550C**)		**9.12**	---	
39.5-40.5	**5.550E (5.550C)**	MOBILE-SATELLITE (non-GSO) FIXED-SATELLITE (non-GSO)	↓	--- (See No. **5.550C** and **5.550E**)		**9.12**	---	
40.5-42.5	**5.550C**	FIXED-SATELLITE (non-GSO)	↓	--- (See No. **5.550C**)		**9.12**	---	
47.2-50.2	**5.550C**	FIXED-SATELLITE (non-GSO)	↑	---		**9.12**	---	
50.4-51.4	**5.550C**	FIXED-SATELLITE (non-GSO)	↑	---		**9.12**	---	

Notes to Table 9.11A-1:

[1] Coordination thresholds indicated in Annex 1 to Appendix **5** apply only to the MOBILE-SATELLITE service.

[2] (Not used)

[3] See Rule of Procedure on No. **5.357**.

[4] The coordination of the non-GSO BROADCASTING-SATELLITE service (sound) in respect of terrestrial services is subject to the provisions of Resolution **539 (Rev.WRC-19)**.

[5] For the applicability of the forms of coordination (Nos. **9.12**, **9.12A** or **9.13**) to be applied between services mentioned in columns 3 and 4, please refer to the Rules of Procedure on frequency band 2 605-2 655 MHz and the Rules of Procedure relating to No. **5.418C**, as appropriate.

[6] For the relation between the MOBILE-SATELLITE service and earth stations in the METEOROLOGICAL-SATELLITE service, see also No. **5.380A**.

[7] **Note**: WRC-19 took the decision related to the coordination requirement under RR No. **9.7** for an inter-satellite link of a geostationary space station communicating with non-geostationary space station, as referred to in RR No. **5.328B**, during the 8th Plenary, see items 3.11 to 3.15 of Doc. CMR19/569, approval of Doc. CMR19/451 in relation to section 3.1.2.1 of Doc. CMR19/4 (Add.2), as follows:

*"In considering section 3.1.2.1 on 'Coordination requirement under RR No. **9.7** for an inter-satellite link of a geostationary space station communicating with non-geostationary space station, as referred to in RR No. **5.328B**', in order to fulfil the requirements of RR No. **5.328B** and of § 6.4 of the Rule of Procedure relating to RR No. **11.32**, WRC-19 instructs the Bureau to establish coordination requirements for such link of a GSO station based on frequency overlap similar to that of a non-GSO station until such time as some other criteria or method is established."*

TABLE 9.11A-2 (MOD RRB24/510)

Applicability of the provisions of No. 9.15 to earth stations of a non-geostationary satellite network and No. 9.16 to stations of terrestrial services

1	2	3	4	5	6	7
Frequency band (MHz)	Footnote No. in Article **5**	Terrestrial services to which No. **9.16** applies and in respect of which No. **9.15** applies	Space services mentioned in a footnote referring to No. **9.11A** to which No. **9.15** applies and in respect of which No. **9.16** applies		Applicable Nos. **9.15**, **9.16** provision(s)	Notes
117.975−137	**5.198A**	AERONAUTICAL MOBILE (R) AERONAITICAL MOBILE (OR) (**5.201**, **5.202**)	AERONAUTICAL MOBILE-SATELLITE (R) (non-GSO)	↑ ↓	**9.15**	6
137-137.025 137.175-137.825	**5.208**	FIXED (**5.204**, **5.205**) LAND MOBILE (**5.204**, **5.205**) MARITIME MOBILE (**5.204, 5.205**) AERONAUTICAL MOBILE (OR) (**5.204**, **5.206)** BROADCASTING (**5.207**)	MOBILE-SATELLITE (non-GSO (**5.209**))	↓	**9.15, 9.16**	1
137.025-137.175 137.825-138	**5.208**	Fixed (in countries other than those listed in Nos. **5.204**, **5.205**) Land mobile (in countries other than those listed in Nos. **5.204**, **5.205)** Maritime mobile (in countries other than those listed in Nos. **5.204**, **5.205**) Aeronautical mobile (OR) (in countries other than those listed in Nos. **5.204**, **5.206**)	Mobile-satellite (non-GSO (**5.209**))	↓	**9.15, 9.16**	1

TABLE 9.11A-2 (*continued*)

1	2	3	4	5	6	7
Frequency band (MHz)	Footnote No. in Article **5**	Terrestrial services to which No. **9.16** applies and in respect of which No. **9.15** applies	Space services mentioned in a footnote referring to No. **9.11A** to which No. **9.15** applies and in respect of which No. **9.16** applies		Applicable Nos. **9.15**, **9.16** provision(s)	Notes
400.15-401	**5.264**	FIXED (**5.262**) MOBILE (**5.262**) METEOROLOGICAL AIDS	MOBILE-SATELLITE (non-GSO (**5.209**))	↓	**9.15, 9.16**	1
1 518-1 525	**5.348** **5.348A** **5.348B**	LAND MOBILE (except J (No. **5.348A**)) MARITIME MOBILE (except J (No. **5.348A**)) AERONAUTICAL MOBILE (In Regions 2 and 3, except J (No. **5.348A**) and with the exception of aeronautical mobile telemetry in USA (**5.348B**))	MOBILE-SATELLITE (except USA (**5.344**))	↓	**9.15, 9.16**	1
1 525-1 530	**5.354**	FIXED (Region 1, Region 3, see also No. **5.352A**) LAND MOBILE (**5.349**) MARITIME MOBILE (**5.349**) AERONAUTICAL MOBILE (**5.342**, **5.350**)	MOBILE-SATELLITE	↓	**9.15, 9.16**	1
1 530-1 535	**5.354**	AERONAUTICAL MOBILE (**5.342**)	MOBILE-SATELLITE	↓	**9.15, 9.16**	1
1 545-1 550	**5.354**	AERONAUTICAL MOBILE (R) (**5.357**)	MOBILE-SATELLITE	↓	**9.15, 9.16**	1, 2
1 550-1 555	**5.354**	FIXED **(5.359**) AERONAUTICAL MOBILE (R) (**5.357**)	MOBILE-SATELLITE	↓	**9.15, 9.16**	1, 2
1 555-1 559	**5.354**	FIXED (**5.359**)	MOBILE-SATELLITE	↓	**9.15, 9.16**	1
1 610-1 626.5	**5.364**	Fixed (**5.355**)	Radiodetermination-satellite (Region 1 (**5.371**), Region 3, country in No. **5.370**)	↑	**9.15**	1
1 613.8-1 621.35	**5.365**	Fixed (**5.355**)	Mobile-satellite	↓	**9.15, 9.16**	1
1 621.35-1 626.5	**5.365**	Fixed (**5.355**)	Mobile-satellite except maritime mobile-satellite	↓	**9.15, 9.16**	1
1 621.35-1 626.5	**5.365**	FIXED (**5.359**)	MARITIME MOBILE-SATELLITE	↓	**9.15, 9.16**	1
1 626.5-1 631.5 1 634.5-1 645.5	**5.354**	FIXED (**5.359**)	MOBILE-SATELLITE	↑	**9.15**	1
1 646.5-1 656.5	**5.354**	FIXED (**5.359**) AERONAUTICAL MOBILE (R) (**5.376**)	MOBILE-SATELLITE	↑	**9.15**	1
1 668.4-1 670	**5.379B**	FIXED MOBILE (except aeronautical mobile) METEOROLOGICAL AIDS	MOBILE-SATELLITE	↑	**9.15**	1, 3

TABLE 9.11A-2 (*end*)

1	2	3	4	5	6	7
Frequency band (GHz)	Footnote No. in Article **5**	Terrestrial services to which No. **9.16** applies and in respect of which No. **9.15** applies	Space services mentioned in a footnote referring to No. **9.11A** to which No. **9.15** applies and in respect of which No. **9.16** applies		Applicable Nos. **9.15**, **9.16** provision(s)	Notes
19.6-19.7	**5.523D**	FIXED MOBILE	FIXED-SATELLITE (non-GSO MOBILE-SATELLITE SERVICE feeder links) (see also No. **5.523E**)	↓	**9.15, 9.16**	1
28.6-29.1	**5.523A**	FIXED MOBILE	FIXED-SATELLITE (non-GSO)	↑	**9.15**	1
29.1-29.5	**5.535A**	FIXED MOBILE	FIXED-SATELLITE (non-GSO MOBILE-SATELLITE SERVICE feeder links)	↑	**9.15**	1

[1] See § 2.4.b), 2.4.c) and 2.5 of the Rules of Procedure relating to No. **9.11A** for the application of Nos. **9.15**, **9.16**, **9.17** and **9.18**.

[2] See Rule of Procedure relating to No. **5.357.**

[3] Not subject to the provisions of No. **9.15** in respect of the METEOROLOGICAL AIDS service in countries listed in No. **5.379E**.

[4] Not subject to the provisions of No. **9.15** in respect of the FIXED and MOBILE service in CAN and USA (No. **5.379D**).

[5] Stations in the aeronautical radionavigation service in this band are subject to power limits indicated in Recommendation ITU-R S.1340-0 (in consequence of the modification of No. **5.511C** by WRC-15).

[6] The provisions of No. **9.16** do not apply to the aeronautical mobile (R) and aeronautical mobile (OR) services (see No. **5.198A**). (ADD RRB24/510)

9.15 to 9.19

1 The expression in Nos. **9.15**, **9.17** and **9.17A** of *"band allocated with equal rights"* is understood to mean equality of rights between services to which the band is allocated. According to footnote 1 to § 1 of Appendix **5** the *"equality of right"* condition is extended to all coordination forms under Nos. **9.15** to **9.19**.

2 See also the Rules of Procedure concerning Appendix **7**.

9.18

The coordination procedure of No. **9.18** is to be applied only in frequency bands allocated to a space service in the direction space-to-Earth, i.e. when transmitting terrestrial stations are inside the coordination area of a receiving earth station for which coordination under No. **9.17** has already been initiated and in the case where both services have the same category of allocation.

2.2 Coordination of assignments in allocation situations on a secondary basis

There are several provisions where the allocation is made on a secondary basis subject to the application of the procedure defined in No. **9.21** (e.g. Nos. **5.181**, **5.197**, **5.259**, **5.371**). For the application of the **9.21** procedure in these cases, some specific elements would need to be taken into account.

It is to be noted that in accordance with No. **9.52**, any administration may object to the planned use on the basis of its existing or planned stations and that No. **9.52C** stipulates that *"an administration not responding ... shall be regarded as unaffected"*. An administration may consider that the application of the No. **9.21** procedure will result in a secondary status, and assume that there is no need for it to comment, since the secondary service is required to not cause harmful interference to a primary service. Consequently an assignment for which the No. **9.21** procedure was applied shall be considered secondary with respect to administrations which have given their agreement as well as to administrations which have not commented upon it within the time-limits specified in No. **9.52**. Any other arrangement between administrations when reaching agreement in application of the No. **9.21** agreement procedure is considered only in the relations between those administrations.

3 Coordination of a satellite network

When an administration communicates Appendix **4** data (AP**4**/II Notice Forms) for a satellite network to initiate the coordination procedure of No. **9.21**, the Bureau will act under Nos. **9.36** to **9.38** for that satellite network with respect to other satellite networks and for the space station of that satellite network with respect to terrestrial services, as appropriate.

If the administration requests that No. **9.21** be also initiated for earth stations of the satellite network, the request shall be accompanied with the AP**4**/III Notice Forms. The Bureau will then establish coordination and/or "agreement" areas, as appropriate, for specific and/or typical earth stations located on the territory of the requesting administration, and publish the information under No. **9.38**. In case horizon elevation data were not provided, as well as in the case of typical earth stations, a value of 0° will be assumed by the Bureau.

4 Frequency assignments upon which disagreement is based (MOD RRB24/500)

The frequency assignments that could serve as a basis for objection in the application of No. **9.52** are listed in § 2 of Appendix **5**. In particular, the associated earth stations of frequency assignments to satellite networks or systems cannot serve as a basis of disagreement under No. **9.52**, except for those stations which were separately notified in accordance with Nos. **11.2** or **11.9**. Those frequency assignments can be submitted to the Bureau in the form of specific or typical stations (see also No. **11.17**). See also the Rules of Procedure under No. **9.36**.

9.23

1 When the information under Nos. **9.30** and **9.32**, as the case may be, relating to only one form of coordination (e.g. No. **9.7**) has been received by the Bureau, in the case where there is a need to effect more than one form of coordination in accordance with Nos. **9.30** and **9.32**, as the case may be, it is in the interest of administrations that the Bureau establishes those other forms of coordination requirement immediately, rather than to proceed with them after receiving the request at a later date. Moreover, it will be more efficient, expeditious and easy to proceed with the publication required under Nos. **9.34/9.38** at one time (same date of receipt) on the same information.

In view of the above the Board decided to take the following practical approach. The Bureau, as far as possible, identifies any administrations with which coordination may need to be effected under Nos. **9.7** to **9.14** and **9.21** where applicable and includes their names in the publication even if the requests for a specific coordination form is not received by the Bureau at that time. If no comment is received from the administration responsible within the four months from the date of publication, it shall be considered that this publication is implemented according to the request of the administration and the corresponding coordination requirement has been established.

9.27

1 Frequency assignments to be taken into account in the coordination procedure

Frequency assignments to be taken into account in the coordination procedure are mentioned in § 1 to 5 of Appendix **5** (see also Rules of Procedure concerning No. **9.36** and Appendix **5**).

1.1 The period between the date of receipt by the Bureau of relevant information under No. **9.1A** for a satellite network and the date of bringing into use of the assignments of the satellite network in question shall in no circumstance exceed seven years as referred to in No. **11.44**. Consequently, frequency assignments not complying with these time-limits will no longer be taken into account under the provisions of No. **9.27** and Appendix **5**. (See also Nos. **11.43A**, **11.48**, Resolution **49 (Rev.WRC-23)** and Resolution **552 (Rev.WRC-23)**.) (MOD RRB24/510)

2 Modification of characteristics of a satellite network during coordination

2.1 After an administration informs the Bureau of a modification of characteristics of its network, it is essential to establish its proper coordination requirements with respect to other administrations, i.e. with which administration(s), and for which of their network(s), the modified part of the network needs to effect coordination before it can be notified for recording.

2.2 The guiding principles for dealing with modifications are:

– general obligation to effect coordination before notification (No. **9.6**), and

– the fact that coordination is not required when the nature of the change is such as not to increase the interference to or from, as the case may be, the assignments of another administration, as specified in Appendix **5**.

2.3 Based on these principles, and provided that the appropriate coordination trigger limit is exceeded, the modified part of the network will need to effect coordination with respect to space networks that are to be taken into account for coordination:

a) networks with "2D-Date"[2] before D1[3];

b) networks with "2D-Date" between D1 and D2[4], where the nature of the change is such as to increase the interference to or from, as the case may be, the assignments of these networks. In case of GSO networks referred to in No. **9.7**, including those to which the coordination arc approach has been applied (see No. **9.7** of Table 5-1 of Appendix **5)**, the increase of interference will be measured in terms of $\Delta T/T$, or pfd values when Resolution **553 (Rev.WRC-23)** or Resolution **554 (WRC-12)** apply. In case of non-GSO networks referred to in No. **9.7B**, the increase of interference will be measured in terms of a cumulative distribution function (CDF) of equivalent power-flux density (epfd) produced to these earth stations. (MOD RRB24/510)

In cases involving non-GSO networks or systems referred to in Nos. **9.12**, **9.12A**, **9.13** or **9.21**, the increase in interference will be measured in terms of a CDF of the interference levels into the subsequently submitted non-GSO systems or GSO networks, expressed as an interference-to-noise (I/N) ratio for various locations and percentages of time. In conducting such analyses, the Bureau will consider only levels of I/N ratio equal to or greater than -30 dB. (ADD RRB24/510)

2.3.1 Where the coordination requirements of the modification involve any network under *b)* above, the modified assignments will have D2 as their "2D-Date". Otherwise, they will retain D1 as their "2D-Date".

2.3.2 In case of successive modifications of the same part of the network, if the next modification (compared with the previous modification) does not increase the interference to or from a particular network not included in the coordination requirements under *b)* above, that particular network will not be included in the coordination requirements of that next modification.

2.3.3 If it is not possible to verify that there is no increase of interference (e.g. in the absence of appropriate criteria or calculation methods), the "2D-Date" of the modified assignments will be D2.

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[2] The "2D-Date" is the date from which an assignment is taken into account as defined in § 1 *e)* of Appendix **5**.

[3] D1 is the original "2D-Date" of the network undergoing modification.

[4] D2 is the date of receipt of request for modification. Concerning the date of receipt, see the Rule of Procedure on Receivability.

2.4 When the frequency assignments of non-GSO networks or systems are subject to epfd limits contained in Nos. **22.5C**, **22.5D** and **22.5F**, and/or to coordination under No. **9.7B**, administrations may wish to modify previously submitted data required for Article **22** examination[5]. As the modified parameters are not used for coordination between non-GSO networks or systems, the modified frequency assignments will retain D1 as their "2D-Date" provided that:

a) the previous assignments received favourable findings under No. **11.31** with respect to Article **22**;

b) the modified assignments received a favourable finding under No. **11.31** with respect to Article **22** using the latest version of the epfd validation software;

c) the modified assignments, in case that they are subject to No. **9.7B**, retain D1 as their "2D-Date" in accordance with §§ 2.3 to 2.3.2 above.

2.5 After having examined the modified network as described in § 2.3 and § 2.4 above, the Bureau shall publish the modification, including its coordination requirements, in the appropriate Special Section for comments by administrations within the usual 4-month period, as appropriate. Initial characteristics are thus replaced by the published modified characteristics, and only the latter will be taken into account in subsequent applications of No. **9.36**.

3 Modification to characteristics of an earth station

3.1 The use of another associated space station may be one of the modifications of characteristics to an earth station. In the case of examination under Nos. **9.15**, **9.17** and **9.17A**, a new coordination contour is drawn and compared with the previous one. Coordination is then required with any administration on the territory of which a coordination distance is increased. In the case of examination under No. **9.19**, the pfd of the transmitting earth station with modified characteristics is calculated at the edge of the BSS service area. Coordination is then required with any administration on the territory of which the pfd at the edge of the BSS service area is increased as the result of modification of characteristics of the transmitting earth station in the FSS and is above the permissible level. However, if the initial associated space station has been cancelled or if the coordinated frequency assignments of the earth station do not cover the newly notified assignments, this notification of the assignments of the earth station will be considered as a new notice (first notification).

3.2 Generally, the Bureau uses the same approach, i.e. an increase of the coordination distance or an increase of the pfd at the edge of the BSS service area, according to the case, in order to decide if there is an increase of interference.

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5 Limited to the elements listed under A.14, A.4.b.6.a and A.4.b.7 of RR Appendix **4**.

11.13 (MOD RRB24/510)

1 This provision stipulates that no notification shall be made of the frequencies that are prescribed for common use by stations of a given service. According to this provision the Bureau established a list of the frequencies that enter into this category. This list is regularly updated and published in the Preface to the International Frequency Information Circular (BR IFIC), in frequency order (Chapter VI of the Preface). The common frequencies appear in the Master International Frequency Register (Master Register) and in the BR IFIC.

2 A summary of the frequencies/frequency bands that are prescribed for common use, is given below:

– GMDSS frequencies for distress and safety calling using DSC techniques (2 187.5 kHz, 4 207.5 kHz, 6 312 kHz, 8 414.5 kHz, 12 577 kHz, 16 804.5 kHz and 156.525 MHz);

– GMDSS frequencies for distress and safety traffic by radiotelephony (2 182 kHz, 4 125 kHz, 6 215 kHz, 8 291 kHz, 12 290 kHz, 16 420 kHz and 156.8 MHz);

– International frequencies for search and rescue operations (2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz, 10 003 kHz, 14 993 kHz, 19 993 kHz, 121.5 MHz, 123.1 MHz, 156.3 MHz, 156.8 MHz, 161.975 MHz, 162.025 MHz and 243 MHz);

– International frequencies for digital selective calling, for purposes other than distress and safety (455.5, 458.5, 2 177, 2 189.5, 4 208, 4 208.5, 4 209, 4 219.5, 4 220, 4 220.5, 6 312.5, 6 313, 6 313.5, 6 331, 6 331.5, 6 332, 8 415, 8 415.5, 8 416, 8 436.5, 8 437, 8 437.5, 12 577.5, 12 578, 12 578.5, 12 657, 12 657.5, 12 658, 16 805, 16 805.5, 16 806, 16 903, 16 903.5, 16 904, 18 898.5, 18 899, 18 899.5, 19 703.5, 19 704, 19 704.5, 22 374.5, 22 375, 22 375.5, 22 444, 22 444.5, 22 445, 25 208.5, 25 209, 25 209.5, 26 121, 26 121.5 and 26 122 kHz);

– International frequencies for automatic connection system (ACS) using digital selective calling for ship and coast stations (2 174.5, 4 177.5, 6 268, 8 376.5, 12 520 and 16 695 kHz);

– International frequencies for radiotelephone calling (4 125, 4 417, 6 215, 6 516, 8 255, 8 779, 12 290, 12 359, 13 137, 16 420, 16 537, 17 302, 18 795, 19 770, 22 060, 22 756, 25 097 and 26 172 kHz);

– International ship-to-shore working or intership frequencies (2 045, 2 048, 2 635 and 2 638 kHz);

– 410 kHz, worldwide frequency for radio direction-finding in the maritime radio-navigation services;

– 75 MHz, worldwide frequency assigned to aeronautical marker beacons.

3 If these frequencies are used by other services and/or for purposes other than those specified in the Radio Regulations, they should be notified under the relevant provisions of Article **11** and, in some cases, under the provisions of No. **4.4**.

11.14

1 This provision stipulates, *inter alia*, that frequency assignments to ship stations and to mobile stations of other services shall not be notified under Article **11**. On the other hand, the provisions of No. **11.2** stipulate the conditions under which receiving stations are to be notified to the Bureau. Similarly, the provisions of No. **11.9** stipulate the conditions under which a land station for reception from mobile stations is to be notified to the Bureau. In combining the conditions of all these provisions, the Board concluded that the following categories are not to be notified to the Bureau:

– Worldwide frequencies for use by ship and coast SSB radiotelephone stations by simplex (single-frequency) operation and for intership cross-band (two-frequency) operation (frequencies indicated in Part B, Section I, Sub-Section B of Appendix **17**);

– Worldwide working frequencies for ship stations equipped for NBDP telegraphy and data transmission systems on a non-paired basis (frequencies indicated in Part B, Section III of Appendix **17**).

2 If the frequencies referred to in § 1 above are used by other services and/or for purposes other than those specified in the Radio Regulations, they should be notified under the relevant provisions of Article **11** and in some cases under the provisions of No. **4.4**.

8 For the examination of conformity with power limits, including power flux-density limits and e.i.r.p. limits, the Board noted that the transmission characteristics defined at the emission level of a frequency assignment are used together with the associated antenna gain characteristics. The transmitted power levels are derived from Appendix **4** data items C.8.a.1/C.8.b.1 – maximum/total peak envelope power and items C.8.a.2/C.8.b.2 – the maximum power density. The Board decided that other Appendix **4** elements providing either maximum or average beam peak e.i.r.p. as a single value or as a function of the elevation angle (Appendix **4** data items B.4.b.4.a, B.4.b.4.a*bis*, B.4.b.4.a*ter*, B.4.b.4.b, B.4.b.4.c, B.4.b.4.c*bis*, B.4.b.4.c*ter*, B.4.b.4.d) could not be used to calculate the transmitted power for the purpose of examination under No. **11.31**. However, those elements may be used during bilateral coordination between administrations. (ADD RRB24/510)

9 In cases where the satellite network or system containing frequency assignments to the service link (see information submitted under data item A.1.c of Annex 2 to Appendix **4**) does not belong to the same notifying administration as the frequency assignments to the feeder link and the notifying administration of the satellite network or system containing the service link does not agree to such use, the Board decided that the latter administration shall inform the notifying administration of the feeder link and the Bureau. Following the receipt of such information and in the absence of any contrary information, the Bureau will review the finding of the frequency assignments to the feeder link under No. **11.31**. (ADD RRB24/510)

11.32

1 Examination of a frequency assignment to a space station

1.1 The literal application of this provision would lead to the examination of the notified assignment with any station identified in application of No. **9.27** while this examination or a major part of it was already done during the application of the coordination procedure. The Board adopted a practical approach which consists of the following: (MOD RRB24/510)

a) Calculations with respect to networks of an administration indicated in the notice as having given its agreement to the coordination Nos. **9.7** or **9.7B** are not carried out, assuming that any difference that may exist between the notified characteristics and those published in the relevant Special Section under Nos. **9.7** or **9.7B** is coordinated with and accepted by this administration.

b) If all administrations identified in the relevant Special Sections mentioned above are not included in Boxes A5/A6 without any reference to § 6 of Appendix **5** or No. **11.32A**, the notice shall be sent back to the administration with an unfavourable finding with respect to No. **11.32**. For practical reasons, when an unfavourable finding with respect to No. **11.32** is given at this stage, the examination under No. **11.31** shall not be performed.

(See Circular Letter No. 104 of 10 August 1998 and Rules of Procedure under No. **9.52C**.)

c) In order to identify other administrations that may be affected, the notified characteristics are compared with those published in the Special Section mentioned above and, if they are identical or covered by those published in these Special Sections, the result of calculations/examination already made for these Special Sections is used.

d) If the notified characteristics are different from those published, calculations are made on the basis of Appendix **5** and, if additional administrations (other than those listed in corresponding Special Sections in Boxes A5/A6) which either receive more interference or cause more interference due to the modified characteristics than that previously received or caused are identified, an unfavourable finding shall be given and the notice form shall be returned to the notifying administration. The notifying administration would be requested to publish a modification to the Special Section in question and initiate coordination with administrations identified in that modified Special Section. If there is no additional administration which would receive more interference or cause more interference due to the modified characteristics than that previously received or caused is identified, a favourable finding shall be given. See also the Rules of Procedure relating to No. **9.27**.

1.2 The Board noted that the World Radiocommunication Conference (Dubai, 2023) (WRC-23) suppressed the following data items in Annex 2 to Appendix **4**: item A.4.b.4.g – the right ascension of the ascending node (RAAN); and items A.4.b.4.k/ A.4.b.4.l (RR 2020 edition) – the date and time at which the satellite is at the location defined by the longitude of the ascending node. The Board decided that information submitted prior to 1 January 2025 on

the right ascension of the ascending node of orbital planes for non-geostationary satellite (non-GSO) systems subject to Section II of Article **9** should continue to be used during coordination (including during examination of a modification to frequency assignments of non-GSO systems in application of the rule of procedure on No. **9.27**) when no information is available on the longitude of the ascending node (see data item A.4.b.4.j of Annex 2 to Appendix **4**) for the same orbital plane or when it is different from the existing longitude of the ascending node. (ADD RRB24/510)

2 Examination of a frequency assignment to an earth station with respect to the application of Nos. 9.7, 9.12, 9.12A and 9.13

a) This examination would normally involve the application of Table 5-1 of Appendix **5** with respect to the space network to the space network coordination to each frequency assignment of each earth station, the comparison of the results so obtained with the values corresponding to the already published or notified earth stations, and the identification of the administrations affected.

b) It was noted that in practice, when coordinating their satellite networks, administrations usually take account of the earth stations whether their characteristics were published or not. WARC Orb-88 considered the complexity of the procedures of former Articles 11 (now **9**) and 13 (now **11**), mainly with respect to their application to earth stations and decided to adopt a network coordination approach. In view of the above, the Board decided that the following simplified procedure should be applied.

2.1 Examination of an assignment to an earth station received for the first time

The examination of frequency assignments to earth stations with respect to the application of Nos. **9.7**, **9.12**, **9.12A** and **9.13** shall be carried out by verifying the status of the corresponding assignments to the associated space station (i.e. the satellite network).

2.1.1 Case where the space station's assignments are recorded in the Master Register

a) In the case of a space station recorded with a favourable No. **11.32** finding (successfully coordinated or not requiring coordination), the assignment to the associated earth station shall be assumed to have been coordinated and shall be given a favourable No. **11.32** finding with the following indication in Boxes A5/A6 of Part II-S of the BR IFIC:

- Z/**9.7**, **9.12**, **9.12A** and **9.13** as the case may be/--- (see Preface) followed by the names of administrations appearing in Boxes A5/A6 under the symbol **9.7**, **9.12**, **9.12A** and **9.13** as the case may be/--- of the associated space station (if no administration is listed because of application of § 6 of Appendix **5**, only Z/**9.7**, **9.12**, **9.12A** and **9.13** as the case may be will be indicated); and

- numbers **9.7**, **9.12**, **9.12A** and **9.13** as the case may be/--- followed by the names of administrations indicated in the Form of Notice of the earth station, if appropriate.

2.2.2 For the Agreements that contain no indication as to bringing into use assignments that are not in accordance with the relevant Plan (i.e. in the bands governed by the Regional Agreements ST61, GE84 and GE89) the notice shall be returned to the administration with a suggestion to apply the necessary procedure or make the necessary modifications to the notice, in order to be in conformity with the Plan. However, if the administration insists on reconsideration of the notice, the assignment shall be recorded with a favourable finding under No. **11.31** together with the name(s) of the administration(s) whose Plan assignments are likely to be affected, indicating that with respect to this (these) administration(s) the recorded assignment will be operated under the conditions of not causing harmful interference to, and not claiming protection from harmful interference caused by, a station operating in conformity with the Plan.

2.2.3 The submissions governed by the GE06 Agreement, which are not in accordance with the broadcasting Plans or the List of assignments to other primary terrestrial services, shall be treated in accordance with the applicable procedures, as stipulated in Article 5 of the GE06 Agreement.

11.36

See comments under the Rules of Procedure relating to No. **4.4** concerning frequency bands which are prohibited from any other use than that indicated in the Radio Regulations.

11.37

An assignment can be recorded in the Master Register with reference to No. **4.4** only in the case of an unfavourable finding with respect to No. **11.31** e.g. non-conformity with the Table of Frequency Allocations (see No. **11.36**). This implies that No. **4.4** is also applicable to non-conformity with the coordination requirement under No. **9.21** when this provision is referred to in a footnote of the Table (see No. **11.31.1**). A consequence of the above is that an assignment which is in conformity with the Table of Frequency Allocations but for which the relevant coordination procedure (e.g. Nos. **9.7** to **9.19**) has not been completed cannot be recorded under No. **4.4**. There are other provisions (e.g. Nos. **11.32A**, **11.33** and **11.41**) which may lead, in given circumstances, to recording when the coordination has not been successfully effected.

11.41 and 11.41.2

The provisions of No. **11.41.2** require the notifying administration, when submitting notices in application of No. **11.41,** to indicate to the Bureau that efforts have been made to effect coordination with those administrations whose assignments were the basis of the unfavourable findings under No. **11.38**, without success. In the absence of such an indication, a resubmission under No. **11.41** after a notice is returned under No. **11.38** shall be considered as not receivable and returned to the administration.

11.43A

1 Modification of a space network may take place during the coordination process; this case is covered in the comments under the Rules of Procedure concerning Nos. **9.27** (§ 2), **9.58**, **11.28** and **11.32**. (MOD RRB22/484)

2 If the modification concerns the notification of assignment(s) in frequency band(s) not covered by other assignment(s) already recorded in the Master Register, No. **11.43A** does not apply and it will be processed under No. **11.2** or **11.9**, as appropriate.

The purpose of the examination under No. **11.43A** is to determine whether the coordination requirements remained unchanged or, where appropriate, whether the probability of harmful interference has not increased (see also the Rules of Procedure concerning Nos. **11.28** and **11.32**). In these cases, the provisions of No. **11.43B** apply with the effect of maintaining unchanged the status (Findings) and the date of protection of the assignment. If, due to the modifications, new coordination requirements are identified by comparing the level of interference (such as $\Delta T/T$) (see also §§ 2.3 and 2.4 of the rules of procedure on No. **9.27**) resulting from consideration of the initial characteristics and that of modified characteristics, then an unfavourable finding shall be given and the Form of Notice shall be returned to the notifying administration. The notifying administration should be requested to apply Section II of Article **9**. The findings with respect to No. **11.32** are determined on the basis of the coordination agreements effected to meet the new coordination requirements. In the case, where the provisions of Nos. **11.32A** and **11.33** are applicable and the examinations show an increase in the probability of harmful interference compared with that which resulted from the initial examination, then the finding is unfavourable and the notice shall be returned in accordance with provision No. **11.38**. See also the Rules of Procedure under No. **11.43B**. (MOD RRB24/510)

Rules concerning

ARTICLE 21 of the RR

Table 21-2

Table **21-2** specifies the frequency bands that are shared with equal rights between space services, on the one hand, and the fixed and mobile service, on the other hand. In these frequency bands the protection of satellite receivers is ensured by the power limits which are specified in provisions Nos. **21.2** to **21.5A** and imposed on terrestrial stations. Given that notifications of stations of any radiocommunication service are recorded in the Master Register in the form of frequency assignments (see Articles **8** and **11**), the Board concluded that these power limits apply to frequency assignments to stations in the fixed and mobile services and are verified during processing of such frequency assignments by the Bureau under "other provisions" mentioned in No. **11.31** that are mandatory for verification during the regulatory examination (see also section 1 of the Rules of Procedure concerning No. **11.31**). (MOD RRB24/510)

21.11

1 When the agreement of an administration concerned is not obtained, the assignment is not in conformity with the Radio Regulations. In order to identify the administrations concerned, the Bureau shall calculate a nominal contour based in all azimuths on the limits specified under No. **21.8** and compare it with the appropriate contour resulting from the notified e.i.r.p. and the antenna diagram. In any azimuth where the second contour exceeds the first one, an agreement under this provision is required with any administration having a territory which lies within the contour. The communication to the Bureau of the agreement of this administration is required for the formulation of a favourable finding under No. **11.31**.

2 In accordance with this provision, any frequency assignment having an e.i.r.p. that exceeds the limits by more than 10 dB will receive an unfavourable finding under No. **11.31**.

21.14

Elevation angles lower than 3° would create a high value of the e.i.r.p. towards the horizon. The Board concluded that this provision is to be used together with Section III of Article **21**. This means the following:

Irrespective of the e.i.r.p. of the earth station, an elevation angle lower than 3° is subject to the agreement of the administrations concerned. In the case of receiving earth stations, to identify the administrations concerned, a nominal coordination contour is drawn at a 3° elevation angle and compared with the contour for the notified elevation angle. In any azimuth where the second contour exceeds the first one, an agreement under this provision is required with any administration having a territory which lies within the coordination area. The Bureau shall formulate a favourable finding under No. **11.31** only when it is informed of the formal agreement of these administrations.

Note: WRC-15 took the decision related to the RoP on No. **21.14** during the 8th Plenary, Par. 1.39 to 1.42 of Doc. CMR15/505, approval of Doc. CMR15/416 in relation to Section 3.2.5.2.6 of Doc. 4 (Add2) (Rev1), as follows:

"WRC-15 considered whether existing practice of limiting grid-points to 3° elevation should be maintained when identifying affected administrations and networks under Nos. ***9.36*** *and* ***9.36.2*** *and, possibly, extended to No.* ***9.41*** *requests from administration, or to remove this limitation from GIBC/AP8/PXT software.*

The conference decided to request BR to remove the 3 degree limitation."

21.16

Application of power flux-density (pfd) limits to steerable beams

1 Use of steerable beams is becoming widespread. pfd values produced by assignments in steerable beams often exceed the applicable hard pfd limits for some or all positions of those beams. In these cases, administrations tend to state that pfd limits will be met and sometimes provide appropriate technical description as to how it would be done.

2 For the purpose of transparency and to set an upper limit on the acceptable extent of the pfd control and avoid subjectivity in the evaluation of the pfd control method, the Board concluded that until the time that a relevant ITU-R Recommendation is available, the following Rule will apply on a provisional basis.

Rules concerning

ARTICLE 22 of the RR

22.5K (ADD RRB24/510)

Noting that references to Resolution **76 (Rev.WRC-23)** were not updated by the World Radiocommunication Conference (Dubai, 2023) (WRC-23) in No. **22.5K**, the Board decided that the provision applies to non-geostationary satellite (non-GSO) systems operating in the fixed-satellite service in the frequency bands and regions listed in Tables 1A, 1B, 1C and 1D of Resolution **76 (Rev.WRC-23)**. In addition, the Board concluded that it does not apply to non-GSO systems operating in the fixed-satellite service in the frequency band 17.3-17.7 GHz in Region 2.

22.10

The Board considers that this provision means that it is for the administration concerned to decide if it can or cannot comply with the limit specified in No. **22.8**. So far as the conformity examination of the Bureau with respect to No. **22.10** is concerned, the Bureau shall formulate a favourable finding under No. **11.31** when examining the validity of the longitudinal tolerance only in the following cases:

a) if the tolerance is within $\pm 0.1°$, or

b) if the administration indicates that its space station has the capability to be maintained within $\pm 0.1°$, if necessary.

22.14

The comments under the Rules of Procedure concerning No. **22.10** apply, replacing $\pm 0.1°$ by $\pm 0.5°$.

22.19

In the case of pointing accuracy there is no mandatory value to be respected. The administration has to indicate that its space station has the capability of being maintained within the limits indicated in this provision. In the absence of a statement to this effect, the Bureau shall formulate an unfavourable finding under No. **11.31**.

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Rules concerning

APPENDIX 4 to the RR

An. 1

ITEM 3A1

When submitting a notice within the procedure of Article **11**, the administrations are required to provide information on the call sign or other identification used, as requested by Nos. **19.7** to **19.9** and **19.29**. Bearing in mind the variety of special arrangements concluded between administrations concerning notification of frequency assignments, the Board instructed the Bureau not to perform systematic control of the call signs referred to in No. **19.29** during the validation and examination of the notice. Nevertheless, if non-conformity of the call sign with the international call series is identified, the notifying administration is to be informed thereof.

An. 2

A.4.b.7.d.1 (ADD RRB24/510)

The Board noted that the World Radiocommunication Conference (Dubai, 2023) had modified data item A.14.c.4, i.e. the type of mask, among one of the following types: (Earth-based exclusion zone angle, difference in longitude, latitude) or (satellite azimuth, satellite elevation, latitude mean power), to remove the reference to satellite-based exclusion zone angle and difference in longitude, latitude – the so-called X-DeltaLongitude mask. The change was made following the publication of Recommendation ITU-R S.1503-4, which had removed that type of mask.

The Board further noted that Recommendation ITU-R S.1503-4 also limited type of exclusion zone to only Earth-based exclusion zone by removing the satellite-based exclusion zone method; however, no change had been made to the description of item A.4.b.7.d.1 – *the type of zone (based on topocentric angle or satellite-based angle for establishing the exclusion zone).*

Since only one type of exclusion zone, which shall be Earth-based (i.e. based on topocentric angle), can be used, the Board decided that notifying Administrations are not required to submit data item A.4.b.7.d.1 and that the Bureau shall apply the Earth-based exclusion zone method for all notices received as of 1 January 2025.

A.18 *a)*

The Board noted that the description of Annex 2 of Appendix **4**, § A.18 *a)* corresponds to the commitment required from an administration in the case of the possible communication of aircraft earth stations in the secondary aeronautical mobile-satellite service with space stations in the fixed-satellite service, in accordance with No. **5.504A**. The Board further noted that this data element is mandatory in the case of submission of notification or coordination of a geostationary or a non-geostationary satellite network.

However, this data element is also required to check under No. **11.31** the compliance with respect to No. **5.504A** of the notification of an aircraft earth station in the secondary aeronautical mobile-satellite service communicating with a space station in the fixed-satellite service. This requirement was probably omitted by inadvertence at WRC-03.

To correct this inconsistency, the Board decided that the Administrations will be requested to provide, in addition to the relevant characteristics listed in Appendix **4**, the data element described in § A.18 *a)* of Annex 2 of Appendix **4**, when submitting the notification information of an aircraft earth station in the secondary aeronautical mobile-satellite service communicating with a space station in the fixed-satellite service in accordance with No. **5.504A**. The Bureau will then subsequently take account of this data element § A.18 *a)* in its completeness check of the submitted data.

A.27.b (ADD RRB24/510)

The Board noted that item A.27.b under Annex 2 to Appendix **4** is required only for non-geostationary-satellite orbit (non-GSO) space stations submitted in accordance with Resolution **679** (**WRC-23**).

The description of the item shares similarities with the text of *further resolves 2* of Resolution **679** (**WRC-23**); however:

– *further resolves* 2 refers to a firm, objective, actionable, measurable and enforceable commitment; and

– the commitment under *further resolves* 2 shall be provided not only by the notifying administration of a non-GSO system but also by the notifying administration of a geostationary-satellite orbit (GSO) network receiving in the frequency band 27.5-30 GHz.

Consequently, the Board concluded that the commitment referred to in item A.27.b shall be provided by the notifying administration of a GSO network or of a non-GSO system receiving in the frequency band 27.5-30 GHz. The Board recalled that notifying administrations providing a commitment under item A.27.b shall ensure that such commitments be firm, objective, actionable, measurable and enforceable.

A.33.a, A.36.c (ADD RRB24/510)

The Board noted that a "point of contact" is mentioned in Resolutions **121 (WRC-23)**, **123 (WRC-23)**, **156 (Rev.WRC-23)**, **169 (Rev.WRC-23)**, **679 (WRC-23)** and **902 (Rev.WRC-23)** for various purposes.

However, only in two instances, i.e. with respect to *resolves* 10.5 of Resolution **121 (WRC-23)** and *resolves* 7.5 of Resolution **123 (WRC-23)**, information on the point of contact is included as a requirement in Annex 2 to Appendix **4** (see mandatory items A.33.a and A.36.c). For both cases, it is indicated that the point of contact is for the purpose of tracing any suspected cases of unacceptable interference and that the point of contact is required to immediately respond to such requests.

Similar descriptions are given in Resolutions **169 (Rev.WRC-23)** and **679 (WRC-23)**: a point of contact is required for the purpose of tracing any suspected cases of unacceptable interference and responding immediately to such cases; however, no requirement to provide information on the point of contact is included in Annex 2 to Appendix **4**. Noting the similarity of the requirements for the point of contact described in all those resolutions, the Board decided that item A.36.c of Annex 2 to Appendix **4** is also required for submissions under Resolutions **169 (Rev.WRC-23)** and **679 (WRC-23)**.

The information to be provided on the point of contact shall include the name of the person or entity and the e-mail address, contact telephone number and address. The information shall be captured along with other Appendix **4** data items using the Bureau's capture software. The Board noted that Resolution **121 (WRC-23)** mentions that the information should be published in a special section, whereas Resolution **123 (WRC-23)** contains no such mention.

However, the Board understands that all information required under Appendix **4** must be published, although not necessarily in a special section. The Board therefore concluded that the Bureau shall include the information in a reference database and make it available on its website and publish it along with other Appendix **4** data in a relevant special section or part of its International Frequency Information Circular (BR IFIC).

B.4 *a)*

When submitting a notice within the applicable procedures of Articles **9** or **11**, in order to better describe the power flux-density pattern on the surface of the Earth resulting from the emission of a space station aboard a non-GSO satellite in circular orbit, the following optional information can be provided together with the other data contained in Appendix **4**:

Appendix 4, Annex 2A, § B.4 *a)* (non-GSO space station antenna characteristics)

1 In addition to the information currently contained in Appendix **4** to be provided under this item, if appropriate, indicate:

1.1 in the case of a transmitting space station aboard a non-GSO satellite in a circular orbit that is intended to communicate with earth stations via a transmitting antenna pointing in a direction that is fixed with respect to the satellite, the maximum isotropic gain (dBi) and the gain contours plotted in a radial projection from the satellite onto a plane perpendicular to the axis from the centre of the Earth to the satellite. The space station antenna gain contours shall be drawn as isolines of the isotropic gain at least for –2, –4, –6, –10, and –20 dB and at 10 dB intervals thereafter, as necessary, relative to the maximum antenna gain, when any of these contours is located either totally or partially within the limit of visibility of the Earth from the given non-GSO satellite;

1.2 in the case of a space station aboard a non-GSO satellite in a circular orbit where a steerable beam is used, data on the antenna radiation characteristics as follows:

– if the effective boresight area (see No. **1.175**) is identical with the global or nearly global service area, provide only the maximum isotropic antenna gain (dBi) that is then applicable to all points on the surface of the Earth;

– if the effective boresight area (see No. **1.175**) is less than the global or nearly global service area, provide the maximum isotropic gain and the effective gain contours (see No. **1.176**) as defined above.

2 The additional information detailed in § 1.1 and 1.2 above is considered as optional. When examining such a case, the Bureau shall use the more detailed information to calculate power flux-density values if it is provided; if it is not the calculation shall be made as at present and be based on the maximum e.i.r.p. transmitted.

C.8.a.2, C.8.b.2, C.8.c.1, C.8.c.3 (ADD RRB24/510)

The Radiocommunication Bureau previously addressed the issue of excessive or unrealistic characteristics in satellite filings in the Reports of the Director to WRC-15 (see § 3.2.3.9 of revision 1 to Addendum 2 to Document CMR15/4) and WRC-19 (see § 3.4.3 of Addendum 2 to Document CMR19/4). Both Conferences expressed general support for raising those issues (see Documents CMR15/505 and CMR19/451) and invited ITU-R to review the parameters discussed in those sections of the Reports.

Although, at that time, the issue had been raised in general, bearing in mind certain specific submissions of geostationary satellite networks, the Bureau observed a sharp increase in the number of submissions of non-GSO satellite systems containing very low maximum power spectral density of emissions (below −100 dBW/Hz).

In view of the above, the Board decided that frequency assignments to GSO satellite networks with power spectral density levels below −100 dBW/Hz were not receivable, and frequency assignments to non-GSO satellite systems or networks with power spectral density levels below −100 dBW/Hz were only receivable if clarifications were provided to the Bureau on the use of very low power spectral density values (e.g. the mode of operation, the use of spread spectrum) as well as example link budget calculations demonstrating that the submitted required *C*/*N* ratio objective was met with sufficient interference margin (see Attachment 2 to Section B3 of Part B of the Rules of Procedure).

C.8.b.3.c (ADD RRB24/510)

The Board noted that the World Radiocommunication Conference (Dubai, 2023) (WRC-23) added item C.8.b.3.c in order for notifying administrations to submit the necessary bandwidth for active sensors. WRC-23 made the submission of that item mandatory only for active sensors operating in the Earth exploration-satellite service (EESS) (active) in the frequency bands 9 200-9 300 MHz and 9 900-10 400 MHz.

However, in order for the Bureau to be able to examine conformity with respect to Nos. **5.475A** and **5.478A**, the necessary bandwidth information is also required for active sensors operating in the EESS (active) and the space research service (SRS) (active) when the frequency bands 9 300-9 500 MHz and 9 800-9 900 MHz are used.

Therefore, the Board decided that the necessary bandwidth information under item C.8.b.3.c is also required for active sensors operating in the EESS (active) and the SRS (active) using the frequency bands 9 300-9 500 MHz and 9 800-9 900 MHz at the stage of advance publication of information under Section I of Article **9** (for non-geostationary-satellite orbit systems), at the stage of request for coordination (for geostationary-satellite orbit networks) and at the stage of notification under Article **11**.

See also the rules of procedure on Nos. **5.474A**, **5.475A** and **5.478A**.

Rules concerning

APPENDIX 27 to the RR

27/15

This provision specifies that the use of channels derived from the frequencies indicated in No. **27**/18 for the various classes of emission other than J3E and H2B will be subject to special arrangements by the administrations concerned and affected. In this connection, and having in mind the spirit of Resolution **713 (WRC-95)***, the Board considers as a valid "special arrangement by the administrations concerned" any formal action by the International Civil Aviation Organization (ICAO) which results in Standards and Recommended Practices (SARPs), which are approved by the ICAO in accordance with its procedures and which are communicated to the ITU accordingly.

27/18

1 The list of carrier (reference) frequencies, referred to in this provision contains five frequencies (21 925 kHz, 21 928 kHz, 21 931 kHz, 21 934 kHz and 21 937 kHz), which are not allotted to any of the allotment areas defined in Appendix **27**. The Board considers that these frequencies are available to any administration, for such use as it may consider appropriate, provided that it is in accordance with the definition of the aeronautical mobile (R) service, as given in No. **1.33**.

2 In the examinations referred to in No. **11.34**, the Bureau will examine the relevant notices, related to any of these frequencies, only with respect to their conformity with the technical principles of Appendix **27** (channelling arrangement, bandwidth, class of emission, power). When these examinations lead to a favourable finding, the assignment shall be recorded in the Master Register. When the finding is unfavourable, the notice shall be returned to the notifying administration, with an indication of the appropriate action.

27/19

This provision specifies the role of the ICAO in performing voluntary coordination ("should") in the operational use of the frequencies. The Board considers such a coordination as an internal ICAO activity, intended to conclude operational agreements between the international operators (e.g. time sharing arrangement). Therefore, the Bureau will not take into account such agreements between operators, unless they are communicated to the Bureau by their national telecommunication administrations.

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* *Note by the Secretariat*: This Resolution was suppressed by WRC-97.

The Bureau shall update the reference situation of the Regions 1 and 3 feeder-link Plan(s) and List(s) or of the Region 2 Plan entries and of those networks which are the subject of requests for new or modified assignment to the Regions 1 and 3 feeder-link List(s) or for Region 2 Plan modifications which are still at the stage of application of Article 4. Nevertheless, the Bureau does not need to recalculate the affected administration(s) as a result of the above-mentioned update.

4.1.23

If the assignments in question were deleted from the Regions 1 and 3 feeder-link List(s) or the Region 2 Plan, the Bureau shall update the reference situation of the assignments in the Regions 1 and 3 feeder-link Plan(s) and List(s) or in the Region 2 Plan and of the assignments under Article 4 procedure and inform all administrations of the action taken together with Special Sections published as a result of cancellation of frequency assignments from the Regions 1 and 3 feeder-link List(s) or the Region 2 Plan. The Bureau does not need to recalculate the affected administration(s) as a result of the above-mentioned cancellation.

4.1.31 (ADD RRB24/510)

The Board understands that this provision applies only to a satellite network identified under § 4.1.1 *b)* of Article 4 of Appendix **30A**. Such a satellite network shall have been entered in the List, notified, and brought into use by the time the Bureau receives a request for assistance under § 4.1.31.

Upon receipt of a request for assistance from either the notifying administration applying § 4.1.30 or an administration identified under § 4.1.1 *b)* of Appendix **30A**, the Board decided that the Bureau shall request the notifying administration of the satellite networks which are identified as affected to provide their actual operational parameters within 30 days. If there is no reply within the 30 days, the Bureau shall send a reminder giving an additional 15-day period to reply.

Upon receipt of the requested operational parameters, the Bureau shall perform the compatibility analysis using those parameters instead of the corresponding parameters of the affected satellite network in the List. The compatibility analysis shall be performed on the same principles as those used in the examination under § 4.1.1 *b)* or in application of footnote 9*bis* to § 4.1.12, as applicable, and the latest available Appendix **30**/**30A** master database.[1bis] The Bureau shall inform both the notifying administration having requested the application of § 4.1.30 and the notifying administration of the affected satellite network of the results of its compatibility analysis.

1bis The administrations concerned may request the Bureau to use a different master database.

The notifying administration of the affected satellite network should also be invited to make modifications to the characteristics of the frequency assignments recorded in the Master Register in order to align them with their actual operational parameters.

If there is still no reply within 15 days following the reminder, the Board concluded that the Bureau shall inform the administrations concerned that it is not in a position to perform the compatibility analysis under § 4.1.31.

4.1.32 (ADD RRB24/510)

1 This provision indicates to the Bureau how to generate the satellite antenna gain diagram for an affected frequency assignment in the Regions 1 and 3 feeder-link List when examining a submission under § 4.1.30. The first step to generate the diagram is to create the −10 dB contour of minimum ellipses for all territories inside each service area of the satellite network(s) identified under § 4.1.1b) of Appendix **30A**. A question arises as to which space station antenna pattern shall be used in application of § 4.1.32. The Board instructed the Bureau to use the Appendix **30A** reference receiving space station antenna pattern for Regions 1 and 3 without fast roll-off for creating the minimum ellipse covering a territory and the −10 dB contour of each individual minimum ellipse. The pattern corresponds to the pattern code APSRR_403V01 in the Antenna Pattern Library maintained by the Bureau.

2 To ensure that there are enough test points to generate each minimum ellipse, the individual set of test points per national territory should be those contained in the corresponding feeder-link Plan assignment plus the originally submitted test points associated with the service area and located inside that territory. If the total number of test points for any territory in a service area is less than 20, the Bureau shall consult the notifying administration of the identified satellite network to find out whether it wishes to add more test points in that territory.

3 In creating the minimum ellipses, the Board decided that a rotation accuracy of 1.0° and a pointing error of 0.1° should be taken into account.

4 The test points taken from national assignments in the feeder-link Plan or added during the application of § 4.1.32 are only for the purpose of generating the minimum ellipses and the combined ellipses and will not be used in technical examinations.

4.1.33 (ADD RRB24/510)

The Board understands that the “latter assignment” mentioned in this provision refers to a frequency assignment identified as potentially affected when examining the submission subject to § 4.1.30.

With respect to the condition for not updating the reference situation of a frequency assignment which is still identified as affected, it is not clear if "based on its submitted feeder-link coverage area" refers to the originally submitted coverage area (i.e. the one in the List) or to the coverage area that was submitted as an "actual operational parameter" in application of § 4.1.31. In addition, the provision does not give clear instruction on whether the reference situation of the "still affected" satellite network should be updated when the administrations concerned reach agreement under § 4.1.30*bis.*

The Board thus instructed the Bureau, when a frequency assignment subject to § 4.1.30 is entered in the List, to consult both the notifying administration having requested the application of § 4.1.30 and the notifying administration of the affected satellite network and not to update the reference situation of the frequency assignments which are still identified as affected, based on the originally submitted coverage area, unless both parties agree to update the reference situation.

4.2.1 *a)*

This paragraph refers to the modification in the sense of a change to *"the characteristics of any of its frequency assignments in the FSS which are shown in the Region 2 feeder-link Plan"*. The Plan as it appears in Article 9 contains only eight characteristics, while Annex 2 contains a greater number of characteristics which were used by the RARC-SAT-R2 (Geneva, 1983) Conference to establish the Plan. The Board considers that modifications of characteristics other than those listed in Article 9 may be considered as modifications to the Plan. These other characteristics are listed in the Rules of Procedure relating to § 5.2.1 *b)* of Article 5.

See also Rules of Procedure relating to § 4.2.6.

4.2.1 *b)*

See Rules of Procedure relating to § 4.2.1 *a)* above.

See also Rules of Procedure relating to § 4.2.6.

4.2.1 *c)*

When an administration cancels an assignment from the Region 2 Plan under this paragraph, or when the Bureau, in applying § 4.2.6 deletes an assignment from the Plan, the reference situation of the Plan assignments and those in the process of modification would be updated. The Bureau does not need to recalculate the affected administration(s) as a result of the above-mentioned cancellation.

4.2.2 *a)*
and 4.2.2 *b)*

In determining the administrations of Regions 1 and 3 that might be affected, the proposed modification of the Region 2 Plan is examined with respect to the 17 GHz Regions 1 and 3 Plan and List as it exists at the date of receipt of the proposed modification including all proposed new or modified assignments to the 17 GHz Regions 1 and 3 List received before that date (whether the procedure of Article 4 is complete or not). The examination will identify only those administrations having assignments whose necessary[2] bandwidth overlaps the necessary[2] bandwidth of the proposed modification of the Region 2 Plan. An administration is identified as having services which may be affected when the limits specified in § 5 of Annex 1 to Appendix **30A** are exceeded.

4.2.2 *c)*

1 In determining those administrations of Region 2 that may be affected, the proposed modification is examined with respect to the Region 2 Plan as it exists at the date of receipt of the request for modification including the proposed modifications received before that date (whether the procedure of Article 4 is complete or not). The examination consists of ensuring that the limits of § 3 of Annex 1 of Appendix **30A** are not exceeded. Account is also taken of any time-limited modifications to the Plans in accordance with § 4.2.17.

2 According to Resolution **42 (Rev.WRC-19)**, the Board decided that, when applying this paragraph, the Bureau shall not take account of the interim systems.

3 For considerations related to application of the Group concept see Rules of Procedure related to § 4.1.1 *a)* and 4.1.1 *b)*.

4.2.6

See Rules of Procedure relating to § 4.1.3.

4.2.10

See Rules of Procedure relating to § 4.1.7.

[2] In the absence of a clear indication of the precise frequency of each carrier within the assigned frequency band, the Bureau uses in its analysis the assigned frequency band (i.e. data item C.3 *a)* of Annex 2A of Appendix **4**) instead of the necessary bandwidth (i.e. data item C.7 *a)* of Annex 2A of Appendix **4**).

6.25 to 6.29

Note: WRC-15 took the decision related to the provisional entry of converted assignment in RR Appendix **30B** List during the 8th Plenary, Par. 1.39 to 1.42 of Doc. CMR15/505, approval of Doc. CMR15/416 in relation to Section 3.2.7.1 of Doc. 4 (Add2) (Rev1), as follows:

"In Section 3.2.7.1 of Doc. 4 (Add2) (Rev1), the Director sought confirmation by the conference of the following course of action:

*When an assignment converted from an allotment of Appendix **30B** Plan enters in the List provisionally, the initial allotment will not be suppressed from the Plan until the entry in the List of the assignment becomes definitive. When the converted assignment is reinstated, the notifying administration should choose either to keep its initial allotment in the Plan or reinstate with characteristics in the List to replace the initial allotment. In the latter case, the conditions described in § 6.26 to § 6.29 of Article 6 of Appendix **30B** shall continue to be applied to the reinstated allotment (i.e. has the same status of the cancelled assignment).*

WRC-15 considered and confirmed the course of action presented in this section."

6.38 (ADD RRB24/510)

The Board understands that the Bureau conducts an examination under §§ 6.5, 6.21 and 6.22 of Article 6 of Appendix **30B** to identify potentially affected allotments in the Plan and frequency assignments in the List based on their characteristics in the Plan and in the List. However, in application of § 6.38, the Bureau shall take into account, to the extent possible, the actual operational parameters, as provided by the administration of frequency assignments that have already been brought into use and recorded in the Master Register in its compatibility analysis. Such parameters may be different from the parameters of the corresponding frequency assignments in the List.

Upon receipt of a request for assistance from either the notifying administration applying § 6.37 or an administration identified under § 6.5 of Appendix **30B**, the Board decided that the Bureau shall request the notifying administrations of satellite networks which are identified as affected to provide their actual operational parameters within 30 days. If there is no reply within the 30 days, the Bureau shall send a reminder giving an additional 15-day period to reply.

Upon receipt of the requested operational parameters, the Bureau shall perform the compatibility analysis using those parameters instead of the corresponding parameters of the affected satellite network in the List. The compatibility analysis under § 6.38 shall be performed based on the same principles as those established in application of § 6.21, including footnote 7*bis* to § 6.21 *c)*, and the latest available Appendix **30B** master database.[2bis] The Bureau shall inform both the notifying administration having requested the application of § 6.37 and the notifying administration of the affected satellite network of the results of its compatibility analysis.

[2bis] The administrations concerned may request the Bureau to use a different master database.

The notifying administration of the affected satellite network should also be invited to make modifications to the characteristics of the frequency assignments recorded in the Master Register in order to align them with their actual operational parameters.

If the Bureau does not receive a reply within 15 days following the reminder, the Board concluded that the Bureau shall inform the administrations concerned that it is not in a position to perform the compatibility analysis under § 6.38.

6.39 (ADD RRB24/510)

1 This provision indicates to the Bureau how to generate the uplink satellite antenna gain diagram for a frequency assignment to an additional system not subject to Resolution **170 (Rev.WRC-23)** or to a conversion of an allotment into a frequency assignment with modification outside the envelope of the allotment and not subject to Resolution **170 (Rev.WRC-23)** during the examination of a submission under § 6.37. The first step to generate the diagram is to create the −10 dB contour of minimum ellipses for all territories inside each service area of the satellite network identified under § 6.5. A question arises as to which space station antenna pattern shall be used in application of § 6.39. The Board instructed the Bureau to use the Appendix **30B** space station antenna co-polar pattern for receiving and transmitting antennas for all Regions without fast roll-off for creating the minimum ellipse covering a territory and the −10 dB contour of each individual minimum ellipse, as it is also used for the determination of coordination requirements and interference assessment in the FSS Plan. The co-polar pattern corresponds to the pattern code APSRR_401V01 in the Antenna Pattern Library maintained by the Bureau.

2 To ensure that there are enough test points to generate each minimum ellipse, the individual set of test points per national territory should be those contained in the national allotment plus the originally submitted test points associated with the service area and located inside that territory. If the total number of the test points for any territory in a service area is less than 20, the Bureau shall consult the notifying administration of the identified satellite network to find out whether it wishes to add more test points in that territory.

3 In creating the minimum ellipses, the Board decided that a rotation accuracy of 1.0° and a pointing error of 0.1° should be taken into account.

4 The test points taken from the national allotment or added during the application of § 6.39 are only for the purpose of generating the minimum ellipses and the combined ellipses and will not be used in technical examinations.

6.40 (ADD RRB24/510)

The Board understands that the "latter assignment" mentioned in the provision refers to a frequency assignment identified as potentially affected when examining the submission subject to § 6.37.

With respect to the condition for not updating the reference situation of a frequency assignment which is still identified as affected, it is not clear if "based on its submitted uplink coverage area" refers to the originally submitted coverage area (i.e. the one in the List) or to the coverage area that was submitted as an "actual operational parameter" in application of § 6.38. In addition, this provision does not give clear instruction on whether the reference situation of the "still affected" satellite network should be updated when the administrations concerned reach agreement under § 6.37*bis*. The Board thus instructed the Bureau, when a frequency assignment subject to § 6.37 is entered in the List, to consult both the notifying administration having requested the application of § 6.37 and the notifying administration of the affected satellite network and not to update the reference situation of the frequency assignments which are still identified as affected, based on the originally submitted coverage area, unless both parties agree to update the reference situation.

Art. 7

Procedure for the addition of a new allotment to the Plan for a new Member State of the Union

7.3

New allotment to the Plan for a new Member State of the Union

1 Provision § 7.3 of Appendix **30B** requests the Bureau to identify appropriate technical characteristics and associated orbital locations for a prospective national allotment upon receipt of a request from a new Member State.

The Bureau shall apply the procedures described below to find an appropriate orbital position for an allotment in the Appendix **30B** Plan for a new Member State.

2 The Bureau shall ensure that all submitted test-points are located within the national territory of the new Member State. Test-point locations shall be verified using the ITU Digitized World Map. In addition, in the absence of a height above sea level, a value of zero metres shall be assumed by the Bureau.

3 In order to facilitate the implementation of the orbital position selection approach described in § 8 below, the new Member State may provide under § 7.2 *c)* of Article 7 of Appendix **30B** its preferred orbital position(s) and/or its preferred orbital arc(s), bearing in mind that the implementation of these preferences might not be possible due to excesses of interference to or from other allotments or assignments of Appendix **30B**.

4 The Bureau shall establish the required minimum elevation angles associated to each test-point in accordance with § 1.3 of Annex 1 to Appendix **30B**. The service arc shall then be calculated in order to meet the required minimum elevation angles of all test-points.

5 With regard to the generation of the minimum ellipse to cover the national territory of the new Member State, the Bureau shall use a space station antenna beam pointing error of 0.1° for the generation of elliptical beams under Article 7 of Appendix **30B**.

6 With regard to the transmitting and receiving space station antenna maximum gain values, as a function of the major and minor axes of the ellipse, instead of using the definition contained in § 1.7.2 of Annex 1 to Appendix **30B** the Bureau shall use the more precise formula defined in § 3.13.1 of Annex 5 and § 3.7.1 of Annex 3 of Appendices **30** and **30A**, respectively.

7 With regard to the calculation of the maximum power density values, the Bureau shall assume the worst-case conditions in terms of space station antenna pointing error and rotational accuracy for the calculation of the antenna gain in the direction of each test-point, in order to ensure that the objective *C*/*N* ratios defined in § 1.2 of Annex 1 to Appendix **30B** are met for all test points, i.e., assume the minimum gain value of the antenna, taking into account a pointing error of 0.1° and a rotational accuracy of ±1.0°.

8 With regard to the selection of orbital position, the Bureau shall use an automated approach based on an iterative process as follows:

8.1 Once the service arc is calculated, as mentioned in § 4 above, an iterative process is implemented to identify suitable orbital position(s) within that arc for the allotment to the new Member State in question.

8.2 The Bureau shall assume a minimum orbital position step of 0.1° in this process.

8.3 Each new possible orbital position shall be examined by the Bureau as follows:

– regenerate the elliptical beam parameters;

– recalculate the required power density values to meet the *C*/*N* criteria of § 1.2 of Annex 1 to Appendix **30B**;

– using the methods and criteria contained in Appendices 1 and 2 to Attachment 1 to Resolution **170 (Rev.WRC-23)**, determine whether the new allotment at that orbital position is compatible with the allotments and the assignments as mentioned in § 7.5 of Article 7. (MOD RRB24/510)

Note: The World Radiocommunication Conference (Dubai, 2023) (WRC-23) took a decision on the procedure under Article 7 of Appendix **30B** at its 13th plenary meeting, see § 13.10 of Document CMR23/528, which reads as follows:

> 13.10 On issues related to the Article **7** procedure of Appendix **30B**, it was proposed that the following text be approved and included in the minutes of the Plenary:
>
> "WRC-23 urges administrations with Appendix **30B** Part A submissions received before 12 March 2020 to make all efforts to accommodate Article **7** submissions of other administrations and to take into account the results of the analyses of the Bureau and the measures to avoid further degradation of the *C*/*I* level when preparing their Part B submissions.
>
> WRC-23 instructed the Bureau to contact the additional seven countries (Eritrea, Estonia, Latvia, Saint Lucia, Tajikistan, Timor-Leste and Turkmenistan) and the State of Palestine, which still have no allotment in the Appendix **30B** Plan, and to identify orbital resources should they wish to initiate the process under Article **7**." (ADD RRB24/510)

9 The Bureau shall identify the most appropriate orbital position(s) with the aim to minimize the *C*/*I* excesses caused or received from other allotment(s), or assignment(s) of Appendix **30B** and send this information to the requesting administration in accordance with § 7.3 of Article 7.

7.5 *a)*

See Rules of Procedure relating to § 6.3 *a)*.

Art. 8

Procedure for notification and recording in the Master Register of assignments in the planned bands for the fixed-satellite service

8.8

See Rules of Procedure relating to § 6.3 *a)*.

8.16 (ADD RRB23/498)

§ 6.31*bis* of Appendix **30B** specifies the course of action that shall be taken regarding the submission or updating of the Resolution **49** information when the regulatory time-limit for bringing into use frequency assignments is extended due to launch failure.

However, when the Board decides to grant an extension of the regulatory time-limit for bringing into use frequency assignments in cases of *force majeure* or co-passenger delay, this also raises the question of whether the deadline for the submission of Resolution **49 (Rev.WRC-19)** and notification information should be extended.

Noting that a similar question related to non-planned services is addressed in the rule of procedure concerning Nos. **11.48** and **11.48.1**, the Board decided that the rule of procedure concerning Nos. **11.48** and **11.48.1** of the Radio Regulations shall also apply to the extension of bringing into use of frequency assignments subject to Appendix **30B** with the understanding that the regulatory period for bringing into use frequency assignments to a satellite network subject to this Appendix is eight years.

An. 3 and An. 4

1 WRC-07 revised Appendix **30B** and introduced power flux-density limits in Annex 3 of Appendix **30B** in order to protect FSS allotments and assignments from interference which may be caused by FSS assignments located outside the orbital arcs defined in Annex 4. Although the reference bandwidth of these limits in Annex 3 is 1 MHz, the maximum power densities which are used for the calculation of power flux-densities are submitted in dB(W/Hz) averaged over the necessary bandwidth (C.8.h) and 4 kHz (C.8.b.2) in accordance with Appendix **4**. The discrepancy between the reference bandwidth for the limits and the averaging bandwidth for submission might lead to the overestimation of interference when a few narrow-band carriers are used, e.g. carriers for tracking, telemetry and telecommand. On the other hand, a narrow-band carrier might cause significant interference to other narrow-band carriers if these carriers are accidentally overlapping with each other.

2.2

Note: WRC-19 took the decision related to grid points and test points at sea, during the 8th Plenary, see items 3.11 to 3.15 of Doc. CMR19/569, approval of Doc. CMR19/451, in relation to section 3.2.5.6 of Doc. CMR19/4 (Add.2), as follows:

*"In considering section 3.2.5.6 on 'Grid points at sea in the examination using the methods of Annex 4 of RR Appendix **30B**', WRC-19 decided that only grid points that are located on land and inside the service area should be considered in addition to test-points in application of paragraph 2.2 of Annex 4 to Appendix **30B**. In taking this decision WRC-19 acknowledged that, should the use of Appendix **30B** expand beyond its current use, it may be necessary to reconsider this decision in the future. WRC-19 also decided that test-points at sea shall not be taken into account by the Radiocommunication Bureau in its technical and regulatory examination of the relevant submissions received by the Bureau."*

Annex 7 (ADD RRB24/510)

Measurements in order to facilitate the addition of a new allotment to the Plan for a new Member State of the Union

§ 5 *a)*

§ 5 states that "*should the power density of the proposed new allotment be limited to a single minimum value… meeting the carrier-to-noise (C/N) objectives and an overall aggregate carrier-to-interference value of 21 dB, as indicated in Annex 1 to Appendix 30B,…*" additional measures including § 5 *a)* shall be applied.

The Board noted that, when applying § 7.3 of Article 7 of Appendix **30B** for identifying technical characteristics of possible new allotments, the power density values are calculated based on the *C*/*N* criteria of § 1.2 of Annex 1 of Appendix **30B** without consideration of aggregate *C*/*I* values.

However, when the requesting administration selects the characteristics of the new allotment from those proposed by the Bureau, it may request the Bureau to increase the power density values of the selected new allotment if any of its aggregate *C*/*I* values are less than 21 dB. The Board instructed the Bureau to then recalculate the power density values for the new allotment in order to meet the 21-dB aggregate *C*/*I* target, taking into account any appropriate limitation contained in Articles **21** and **22** and Annex 3 to Appendix **30B**.

§ 5 *b)*

This provision indicates that, in examining a proposed new allotment, §§ 5 *a)* and 5 *d)* of Annex 7 shall not be applied to frequency assignments already entered in the List; however, it does not mention which criteria should be used in that case instead of those under §5 *a)*.

The Board instructed the Bureau that, with respect to frequency assignments entered in the List on or before the date of receipt of the proposed new allotment under examination:

– a frequency assignment shall be considered as being affected if either one of the single-entry carrier-to-interference ratios ((*C*/*I*)*d* and (*C*/*I*)*u*) or the overall aggregate carrier-to-interference ratio ((*C*/*I*)*agg*), is not equal to or greater than its associated value specified in§ 2.1 of Annex 4 to Appendix **30B**; and

– if the frequency assignment in the List is identified as affected, the proposed new allotment should not be taken into account when updating the reference situation of that frequency assignment, when the proposed new allotment is entered in the List and/or the Plan.

(ADD RRB24/510)

Rules concerning

RESOLUTION 8 (WRC-23)

Tolerances for certain orbital characteristics of space stations deployed as part of non-geostationary-satellite orbit systems in the fixed-satellite, broadcasting-satellite or mobile-satellite service

1 When the modification of a frequency assignment subject to Section II of Article **9** is submitted in application of *resolves* 9 of Resolution **8 (WRC-23)**, it shall be examined under No. **11.43A** to determine whether the coordination requirements remained unchanged following the procedure indicated in § 2 of the rules of procedure on No. **11.43A**. If, due to the modifications, new coordination requirements are identified for the frequency assignments that are subject to Resolution **35 (Rev.WRC-23)** and Resolution **8 (WRC-23)**[1] and have space stations whose deviations in altitude or inclination were the basis for the modifications, the Board concluded that such frequency assignments shall receive an unfavourable finding and be returned to the notifying administration.

2 When applying *resolves* 9 and in order to demonstrate a non-increase in interference and subsequent non-increase in coordination requirements following the method contained in § 2 of the rule of procedure on No. **11.43A** and in the absence of appropriate criteria or calculation methods, the Board decided that the notifying administration may provide technical justifications based on dynamic interference assessments in the form of a cumulative distribution function of the interference level, expressed as an interference-to-noise (*I/N*) ratio, for various locations and percentages of time, created in the subsequently filed non-geostationary-satellite orbit (non-GSO) systems or geostationary-satellite orbit (GSO) networks by the existing non-GSO system based on its initial characteristics and modified characteristics, respectively. The Bureau shall thoroughly study the technical justifications provided by the notifying administration in order to make its findings under No. **11.43B**.

3 The Board noted that *resolves* 16 of Resolution **8 (WRC-23)** limits the modifications to be submitted under that *resolves* to any sub-items of Appendix **4** data item A.4.b.4, except data item A.4.b.4.b (i.e. the number of satellites in the orbital plane), and any sub-items of data items A.14, A.4.b.6.a and A.4.b.7. Modifications involving the change of Appendix **4** data item A.4.b.4.b (i.e. a decrease in the number of satellites in the orbital plane) shall be submitted under *resolves* 11 *c)* of Resolution **35 (Rev.WRC-23)**.

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[1] The frequency assignments subject to Resolution **35 (Rev.WRC-23)** are those frequency assignments of non-GSO systems in the frequency bands and in the services listed in the table under *resolves* 1 of Resolution **35 (Rev.WRC-23)**.

However, noting the condition for a favourable finding under No. **11.43B** described in *resolves* 14 *c)* ii) of Resolution **35 (Rev.WRC-23)**[2], the Board decided that a modification submitted under *resolves* 10 of Resolution **8 (WRC-23)** involving the change of data item A.4.b.4.b will be treated as complying with the condition in *resolves* 16 *c)* ii), provided that the notifying administration indicates that the modification is submitted in simultaneous application of *resolves* 11 of Resolution **35 (Rev.WRC-23**) and *resolves* 10 of Resolution **8 (WRC-23)**. Similarly, such a modification may be treated as complying with the condition in *resolves* 14 *c)* ii) of Resolution **35 (Rev.WRC-23)** if it involves changes to any sub-item of data item A.4.b that is not listed in *resolves* 14 *c)* ii) of Resolution **35 (Rev.WRC-23)** when such modification is associated with the application of *resolves* 10 of Resolution **8 (WRC-23)**.

If, due to modifications, any of the conditions contained in *resolves* 16 *c)* i), 16 *c)* ii) or 16 *c)* iii) are not met, except when only the condition under *resolves* 16 *c)* ii) is not met because the number of satellites in data item A.4.b.4.b is reduced as a result of a simultaneous application of *resolves* 11 of Resolution **35 (Rev.WRC-23)** and *resolves* 10 of Resolution **8 (WRC-23)**, the Board further decided that all modified frequency assignments subject to Resolution **35 (Rev.WRC-23)** shall receive an unfavourable finding and shall be returned to the notifying administration.

4 The notifying administration will be invited to apply Section II of Article **9** for all frequency assignments receiving unfavourable findings under §§ 1 and 3 above.

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[2] The modifications are limited to the reduction of the number of orbital planes (Appendix 4 data item A.4.b.2) and modifications to the longitude of the ascending node (Appendix 4 data item A.4.b.4.j) associated with the remaining orbital planes, or reduction of the number of space stations per plane (Appendix 4 data item A.4.b.4.b) and modifications of the initial phase angle of the space stations (Appendix 4 data item A.4.b.4.h) within planes.

(ADD RRB24/510)

Rules concerning

RESOLUTION 35 (Rev.WRC-23)

A milestone-based approach for the implementation of frequency assignments to space stations in a non-geostationary-satellite system in specific frequency bands and services

For the application of *resolves* 17 *b)* i) of Resolution **35 (Rev.WRC-23)**, the Board understands that all satellites in any orbital plane not listed in the final complete deployment information, and all orbital planes where no satellite is listed in the final complete deployment information, submitted under *resolves* 2, 3, 7 or 8, as appropriate, of Resolution **35 (Rev.WRC-23)** will have to be suppressed from the notice. Consequently, any beams and groups of frequency assignments solely associated with such orbital planes or satellites will also have to be suppressed.

Regarding frequency assignments that were associated with the remaining orbital planes and satellites, if the modifications to the notified characteristics of the satellite system provided for under *resolves* 11 of Resolution **35 (Rev.WRC-23)** were not submitted following failure to reach the established milestones, the Board concluded that, in the application of *resolves* 17 *b)* ii), a symbol will be inserted into the "Remarks" field indicating that those frequency assignments are not in compliance with Resolution **35 (Rev.WRC-23)** and will no longer be taken into account under subsequent examinations under Nos. **9.36**, **11.32** or **11.32A**. The information recorded under the date of protection or "2D-date" (i.e. the date from which a frequency assignment is taken into account as defined in § 1 *e)* of Appendix **5**) and the information concerning the status of coordination agreements will also be removed for those frequency assignments.

Following those actions, the Board noted that such frequency assignments will be recorded in the Master Register for information purposes only and shall not cause harmful interference to, or claim protection from, a station operating in accordance with the Radio Regulations, in a manner similar to a recording with a request for the application of No. **4.4**. The Board instructed the Bureau to publish the updated status of such frequency assignments in a BR IFIC.

Noting that *resolves* 17 applies only in cases where a notifying administration fails to provide the required information and in order to avoid retaining unused frequency assignments in the Master Register, the Board also instructed the Bureau to apply No. **13.6** before recording and publishing the updated status of such frequency assignments.

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(ADD RRB24/510)

Rules concerning

RESOLUTION 121 (WRC-23)

Use of the frequency band 12.75-13.25 GHz by earth stations in motion on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service

ANNEX 1 TO RESOLUTION 121 (WRC-23)

PART I

Procedure to be followed by the administrations and the Bureau for submission of the earth stations in motion on aircraft and vessels operating in the frequency band 12.75-13.25 GHz (Earth-to-space) and for the protection of allotments in the Plan, assignments in the Appendix 30B List and those submitted under Articles 6 and 7 of Appendix 30B as well as under Resolution 170 (Rev.WRC-23)

Section A – Procedure for entering assignments to earth stations in motion on aircraft and vessels in the Appendix 30B ESIM List

§ 3 *a)*

The Board noted that the footnotes attached to provisions § 3 *a)* and § 14 *a)* of Section A and § 6.1 of Section B require that the "*other provisions*" mentioned in those provisions shall be identified and included in the Rules of Procedure. As the earth stations in motion on aircraft and vessels in the frequency band 12.75-13.25 GHz should operate within the envelope of the supporting frequency assignments in the List of Appendix **30B**, the "*other provisions*" should be the same as those applied in the examination of an Appendix **30B** notice.

In this regard, the rules of procedure on § 6.3 *a)* of Appendix **30B** list the "*other provisions*" that are contained in Articles **21** and **22** of the Radio Regulations with respect to which Appendix **30B** notices are examined under § 6.3 *a)*, § 6.19 *b)*, § 7.5 *a)* or § 8.8 of Appendix **30B,** including "*conformity with the power limits for earth stations as stipulated in provisions Nos. **21.8** … and **21.12**, … account being taken of provisions Nos. **21.9** and **21.11***" and "*conformity with the minimum angle of elevation of earth stations as stipulated in provisions Nos. **21.14**…*".

However, the Board noted that Nos. **21.8** and **21.12** of the Radio Regulations and Annex 2 to Resolution **121 (WRC-23)** are intended to protect terrestrial services. Since the limitations contained in No. **21.8** are less stringent than those contained in Annex 2 to Resolution **121 (WRC-23)**, the Board concluded that examination under **No. 21.8** is not necessary. In addition, noting the nature of earth stations in motion on aircraft and vessels, as typical stations, and considering the WRC-15 decision related to No. **21.14** that removed the limitation on the setting of grid points with an elevation angle of at least 3°, the Board further concluded that the examination under No. **21.14** is not required either.

The Board also decided that the "other provisions" that are contained in Article **22** and that shall be applied in examinations under § 3 *a)* and § 14 *a)* of Section A and § 6.1 of Section B are the following:

– conformity with the power limits for earth stations in motion on aircraft and vessels as stipulated in No. **22.26** under the conditions specified in No. **22.37** where the earth stations in motion on aircraft and vessels are subject to those power limitations; and

– conformity with the limit specified in No. **22.8**.

Other provisions of Articles **21** and **22** will not be taken into account in the regulatory examination under § 3 *a)* and § 14 *a)* of Section A and § 6.1 of Section B since the Board understands that those provisions are to be applied between administrations as appropriate.

§ 14 *a)*

See the rules of procedure on § 3 *a)* above.

Section B – Procedure for notification and recording in the Master International Frequency Register of assignments to earth stations in motion on aircraft and vessels dealt with under this Resolution

§ 6.1

See the rules of procedure on § 3 *a)* of Section A above.

(ADD RRB24/510)

Rules concerning

RESOLUTION 123 (WRC-23)

Use of the frequency bands 17.7-18.6 GHz, 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) by aeronautical and maritime earth stations in motion communicating with non-geostationary space stations in the fixed-satellite service

1 The Board noted that r*esolves* 2 of Resolution **123 (WRC-23)** requires that the characteristics of earth stations in motion (ESIMs) shall remain within the envelope characteristics, including any applicable coordination agreement, of typical earth stations associated with the non-geostationary satellite orbit (non-GSO) system in the fixed-satellite service (FSS) with which ESIMs communicate.

1.1 For applying *resolves* 2, the Board decided that the Bureau shall identify whether the ESIM characteristics are within the envelope characteristics of typical earth stations associated with the satellite system with which those aeronautical and/or maritime ESIMs communicate by using the method contained in § 2.3 of the rule of procedure on No. **9.27**. In cases where such examination indicates that coordination requirements of the frequency assignments of aeronautical and/or maritime ESIMs involve any additional satellite network or system, the frequency assignments to the aeronautical and/or maritime ESIMs will be returned to the notifying administration together with an unfavourable finding under No. **11.32**. The results of the Bureau's examination shall be published in its International Frequency Information Circular (BR IFIC).

1.2 In addition to the procedure indicated in § 1.1 above, in cases where ESIMs operate in the frequency bands 27.5-28.6 GHz and 29.5-30 GHz (Earth-to-space), the Board concluded that the minimum elevation angle submitted for ESIMs (see Appendix **4** data item A.36.a) shall be greater than or equal to the minimum elevation angle submitted for the associated group of frequency assignments to the non-GSO FSS system (see Appendix **4** data item A.4.b.7.c*bis*) in order to ensure that ESIMs comply with epfd limits set out in No. **22.5D**.

The Board noted that, for aeronautical ESIMs, the reference minimum elevation angle value of typical earth stations of the associated non-GSO FSS system, when adjusted to an altitude of 15 km, will be greater than the one corresponding to an altitude of 0 km, provided that the same viewing angle is maintained from the non-GSO space station.

2 The Board noted that *resolves* 3.5 of Resolution **123 (WRC-23)** requires that, with respect to the protection of the Earth exploration-satellite (passive) service operating in the frequency band 18.6-18.8 GHz, any non-GSO FSS system with an orbital apogee of less than 20 000 km operating in the frequency bands 18.3-18.6 GHz and 18.8-19.1 GHz with which aeronautical and/or maritime ESIMs communicate and for which the complete notification information has been received by the Bureau after 1 January 2025 shall comply with the provisions indicated in Annex 3 to the Resolution. Given the fact that Resolution **123 (WRC-23)** entered into force on 1 January 2025, the Board concluded that the provision applies to any non-GSO FSS system with an orbital apogee of less than 20 000 km operating in the frequency bands 18.3-18.6 GHz and 18.8-19.1 GHz with which aeronautical and/or maritime ESIMs communicate and for which the notification information has been received by the Bureau as of, rather than only after, 1 January 2025.

3 In addition, the Board concluded that the Bureau shall examine the characteristics of aeronautical ESIMs with respect to conformity with the pfd limits at the Earth's surface specified in Part II of Annex 1 to Resolution **123 (WRC-23)** by using the methodology contained in the rule of procedure on calculation of power-flux density levels produced by aeronautical ESIMs and their validation with the limits in Annex 3 to Resolution **169 (Rev.WRC-23)**, Annex 2 to Resolution **121 (WRC-23)** and Annex 2 to Resolution **123 (WRC-23)**. The findings shall be in accordance with No. **11.31**.

4 With respect to provisions contained in Part 1 of Annex 1 and in Annex 3 to Resolution **123 (WRC-23)**, the Board further concluded that no examination shall be carried out by the Bureau. The notifying administration of the non-GSO FSS system with which the ESIMs communicate shall ensure compliance with those provisions when providing the commitment required under item A.34.a of Annex 2 to Appendix **4** to operate ESIMS in conformity with the Radio Regulations and Resolution **123 (WRC-23)**.

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(ADD RRB24/510)

Rules concerning

RESOLUTION 678 (WRC-23)

Use of the frequency band 14.8-15.35 GHz by the space research service (space-to-space) (Earth-to-space) (space-to-Earth) and associated transitional measures

1 For the Bureau to be able to examine compliance with the power flux-density (pfd) level contained in *resolves* 1.1 of Resolution **678 (WRC-23)**, the Board decided that a commitment not to exceed the pfd level of −156 dB(W/m^2) for more than 2% of the time in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz, at any radio astronomy site observing in the frequency band 15.35-15.4 GHz, is required when notifying earth stations operating in the space research service in the frequency band 14.8-15.35 GHz.

2 In *resolves* 1.5, three pfd limits on the Earth's surface are listed as applicable to space stations in the space research service in the frequency band 14.8-15.35 GHz. The pfd limit of −145.6 dB(W/(m^2 · MHz)) produced at any point on the Earth's surface and not to be exceeded for more than 1% of time within a 24-hour period is applicable to space-to-space links. The Board decided that the Bureau should apply the following methodology in order to establish findings under No. **11.31** related to this pfd limit.

2.1 Direction of transmission

A finding shall be established only for frequency assignments in the satellite transmitting beams. In the case of a receiving beam when transmission is carried out by an associated space station, the finding shall be established for the frequency assignments of this associated space station.

2.2 Case where both space stations are using the geostationary-satellite orbit

The pfd level is calculated using static geometry. The pfd limit is considered as having been exceeded if the pfd level of −145.6 dB(W/(m^2 · MHz)) is exceeded at any point of the Earth's surface.

2.3 Case where any of the space stations is using a non-geostationary-satellite orbit

The pfd level is calculated at each grid point on the Earth's surface through a dynamic simulation over a sufficient simulation running time. For each time step, a space-to-space link is established using the two closest space stations.

To identify whether the pfd limit has been exceeded, the worst 24-hour period (i.e. having the maximum number of events exceeding the value of −145.6 dB(W/(m^2 · MHz)) at any grid point) is considered.

2.4 Space station radiation antenna patterns

Administrations submitting a notice for frequency assignments to a space station in the space research service in the frequency band 14.8-15.35 GHz shall either indicate a standard space station antenna radiation pattern or capture a non-standard antenna pattern in the Graphical Interference Management Software (GIMS).

2.5 Status of the notification of the associated space station

In cases where a notice for frequency assignments to a space station in the space research service in the frequency band 14.8-15.35 GHz is submitted for coordination, but the notice for frequency assignments to the associated space station in the non-geostationary satellite orbit has not yet been communicated to the Bureau, the Bureau shall establish a qualified favourable finding that shall be reviewed at the notification stage.

In cases where a notice for frequency assignments to a space station in the space research service in the frequency band 14.8-15.35 GHz is submitted for notification, but the notice for frequency assignments to the associated space station for advance publication, coordination as appropriate, has not yet been received, the notice for notification referred to above is considered non-receivable (see § 4.3.3 of the rules on receivability).

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3) if the field strength from the reference broadcasting station is less than the trigger field strength at all *"boundary points"*, then the reference broadcasting station is moved along the radial in 10 km steps towards the centre of gravity of the service area until the field strength, produced from this new location, exceeds or is equal to the trigger field strength at any of the *"boundary points"*. The location of the reference broadcasting station, from which the reference broadcasting station produces a field strength which exceeds or is equal to the trigger field strength at any of the *"boundary points"*, determines the coordination distance for this radial.

4) In the case of a receiving airborne station in the aeronautical mobile service or in aeronautical radionavigation service, the Bureau will use the same methodology as the one described in § 3 above, by replacing the 1 000 km geometrical contour with 420 km geometrical contour, in accordance with § 2 above.

Appendix 1 to Section I

A Coordination trigger field strengths for the protection of the broadcasting and other primary services from a modification to the Plan

A.2 Coordination trigger field strengths to protect the mobile service in the bands 174-230 MHz and 470-862 MHz

Table A.1.3 of this section contains the system type codes for mobile service systems and their corresponding coordination trigger field-strength values to protect from DVB-T. These coordination triggers cannot be applied to IMT-2000 and IMT-Advanced stations, since the specific systems listed in the Table do not belong to the IMT "family" of standards. As for a generic code 'NB' contained in the Table, it cannot be used for IMT systems, pursuant to Resolutions **749 (Rev.WRC-23)** and **760 (Rev.WRC-23)**. (MOD RRB24/510)

In view of the above, the Board decided that, when submitting frequency assignments to stations of IMT-2000 and IMT-Advanced systems, e.g. LTE and LTE-Advanced, in the band 470-862 MHz for application of the GE06 coordination procedure and notification for the Master Register, administrations shall use the system type code 'ND'.

The coordination trigger field strengths corresponding to this code are calculated by the Bureau using the notified technical characteristics and equation (2) from Recommendation ITU-R M. 1767-0, as follows:

$$F_{trigger} = -37 + F - G_i + L_F + 10\ \log(B_i) + P_o + 20\ \log f + I / N - K$$

where:

F: receiver noise figure of the mobile service base or mobile station receivers (dB)

B_i: the bandwidth of a terrestrial broadcasting station (MHz)

G_i: the receiver antenna gain of the station in the mobile service (dBi)

L_F: antenna cable feeder loss (dB)

f: centre frequency of the interfering station (MHz)

P_o: man-made noise (dB) (typical value is 0 dB for the UHF band)

I/*N*: interference to noise ratio

K: overlap correction factor, calculated as shown in the Attachment to Appendix 4.2 of the GE06 Agreement (Tables AT.4.2-4 and AT.4.2-5), where the overlapped bandwidth *Bo* is calculated as follows:

$$Bo = \text{Min}\,(Bi, Bv, (Bv + Bi)/2 - |\Delta f|)$$

where:

Bv: the bandwidth of the receiving station in the mobile service

Δf: the difference between the centre frequency of the mobile service system and the centre frequency of the interfering (DVB-T) signal.

The parameters to be applied in the equation are listed below. They are derived from Report ITU-R M.2039-3 for IMT-2000 systems and Report ITU-R M.2292-0 for IMT-Advanced systems.

Parameters	**Receiving base station (ML)**	**Receiving mobile station (FB)**
f (centre frequency, MHz)	470-862	
F (receiver noise figure, dB)	5	9
G_i (receiver antenna gain, dBi)	15	–3
L_F (antenna cable feeder loss, dB)	3	0
P_o (man-made noise, dB)	0	0
$F - G_i + L_F + P_o$	–7	12
I/*N* (interference to noise ratio, dB)	–6	
B_i (bandwidth of TV station, MHz)	8	

The above parameters apply to stations operating on frequency 790 MHz. For other frequencies in the UHF band, the interpolation should be made by adding a correction factor of 10 log (*f*/790).

PART B

SECTION B6

Rules concerning criteria for applying the provisions of No. 9.36 to a frequency assignment in the terrestrial services whose allocation or identification is governed by Nos. 5.292, 5.293, 5.295, 5.295A, 5.296A, 5.297, 5.307A, 5.308, 5.308A, 5.309, 5.323, 5.325, 5.326, 5.341A, 5.341C, 5.346, 5.346A, 5.429F, 5.430A, 5.431A, 5.431B, 5.432B, 5.434A, 5.457F, 5.480A and 5.553A[1] (MOD RRB24/510)

1 The identification of the administrations with which coordination may need to be effected is based on the characteristics of the assignment that is subject to the procedure of No. **9.21** and the worst-case assumptions relating to the propagation characteristics and other technical parameters. These worst-case assumptions were developed on the basis of the information contained in various sources (GE06 Regional Agreement, ITU-R Recommendations and Reports), since the Radiocommunication Bureau has no Technical Standards for application in several frequency bands above 28 MHz.

2 For identification of the administrations whose agreement may need to be obtained, in the context of the provisions of Nos. **5.292**, **5.293**, **5.295**, **5.295A**, **5.296A**, **5.297**, **5.307A**, **5.308**, **5.308A**, **5.309**, **5.323**, **5.325**, **5.326**, **5.341A**, **5.341C**, **5.346**, **5.346A**, **5.429F**, **5.430A**, **5.431A**, **5.431B**, **5.432B**, **5.434A**, **5.457F**, **5.480A** and **5.553A**, the following criteria are applied: (MOD RRB24/510)

2.1 the *coordination distance concept* is applied with respect to the services that are allocated according to Article **5** (these services are indicated in the Table below under the heading “Protected service”);

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[1] WRC-23 deleted the reference to No. **9.21** from the modified Nos. **5.429D** and **5.434** as explained in Circular Letter CCRR/73.

TABLE 1 (MOD RRB24/510)

Applicability of No. 9.21

Footnote	Frequency band (MHz)	Allocated service (No. 9.21)	Protected service
5.292 [1]	470-512	FS, MS	BS
5.293 [1]	470-512 and 614-806	FS, MS	BS
5.295	470-512	LMS (IMT)	BS, FS
	512-608	LMS (IMT)	BS
5.295A [3]	470-694	LMS, MMS	BS
	606-614	LMS, MMS	RAS
5.296A	470-698	LMS (IMT)	BS, FS
	585-610	LMS (IMT)	RNS
5.297	512-608	FS, MS	BS
5.307A	614-694	LMS (IMT), MMS	BS
5.308	614-698	MS	BS
5.308A	614-698	MS (IMT)	BS
5.309 [1]	614-806	FS	BS, MS
5.323	862-960	ARNS	FS, MS
5.325 [1]	890-942	RLS	FS, MS
5.326 [1]	903-905	LMS,MMS	FS
5.341A[2]	1 429-1 452 1 492-1 518	LMS (IMT)	AMS
5.341C	1 429-1 452 1 492-1 518	LMS (IMT)	AMS
5.346[2]	1 452-1 492	LMS (IMT)	AMS
5.346A	1 452-1 492	LMS (IMT)	AMS
5.429F	3 300-3 400	LMS (IMT)	RLS
5.430A	3 400-3 600	LMS, MMS	FS, FSS
5.431A and 5.432B[1]	3 400-3 500	LMS, MMS	FS, FSS
5.431B	3 400-3 600	LMS (IMT)	FS, FSS
5.434A	3 600-3 800	LMS (IMT)	FS, FSS
5.457F	6 425-7 125	LMS (IMT)	FS, MS
5.480A	10 000-10 500	LMS (IMT)	RLS, FS
5.553A	45 500-47 000	LMS (IMT)	AMS, RNS

[1] Different category of service.

[2] For frequency assignments subject to this provision the No. **9.21** procedure does not apply to those administrations whose territories are outside of the distances specified in the corresponding Rules of Procedure on No. **5.341A** and No. **5.346**.

[3] Secondary service.

2.2 The *case-by-case* verification is performed for the assignments submitted under the procedure of No. **9.21**. This verification consists in determining the distance from the location of a station subject to No. **9.21** to the border of a neighbouring country. In case this distance is shorter than the respective coordination distance, the administration of this neighbouring country is identified as affected.

3 In the calculation of the coordination distances the following approach is used:

3.1 For the protection of the broadcasting (television) service in the frequency band 470-806 MHz, from the radio services indicated in Column 3 of Table 1, in the context of the provisions of Nos. **5.292**, **5.293**, **5.295**, **5.296A**, **5.297**, **5.308**, **5.308A** and **5.309**, the coordination distances are calculated using propagation curves of Recommendation ITU-R P.1546-5 for 1% of time and 50% of locations with the coordination trigger field strengths produced at a height of 10 m above ground level as provided in the GE06 Agreement and given in Table 2.

TABLE 2

Coordination trigger field strengths for protection of BS

Service to be protected	Trigger field strength (dB(µV/m))		
	470-582 MHz	582-718 MHz	718-806 MHz
BS	18	20	22

3.1*bis* For the protection of the broadcasting (television) service in the frequency band 470-694 MHz in the context of the provisions of Nos. **5.295A** and **5.307A**, the coordination distances are calculated at a height of 10 m above ground level at the border of the territory of any other administration, using the propagation curves provided in the GE06 Agreement at 1% of time and 50% of locations with the coordination trigger field strengths as provided in § 4.1.3.2 of Annex 2 to the GE06 Agreement and given in Table 2*bis*. (ADD RRB24/510)

TABLE 2*bis* (ADD RRB24/510)

Coordination trigger field strengths for protection of BS, in the context of Nos. 5.295A and 5.307A

Service to be protected	Trigger field strength (dB(µV/m))	
	470-582 MHz	582-694 MHz
BS	13.229	15.229

3.2 For the protection of the fixed service in the frequency band 470-698 MHz from IMT, in the context of the provision of Nos. **5.295** and **5.296A**, the coordination trigger field strength of 13 dB(µV/m) produced at a height of 10 m above ground level is used.

3.3 For the protection of the radionavigation services in the frequency band 585-610 MHz from IMT, in the context of the provision of No. **5.296A,** the coordination distances are calculated using propagation curves of the Recommendation ITU-R P.1546-5 for 10% of time and 50% of locations with the trigger field strength 13 dB(µV/m), as given in the GE06 Agreement, produced at height of 10 m above ground level.

3.4 For the protection of the fixed and mobile services, from the radionavigation and radiolocation services, in the context of the provisions of Nos. **5.323** and **5.325**, propagation curves from Recommendation ITU-R P.528-3 are used in connection with the following data:

Minimum field strength to be protected (FX): 30 dB(μV/m), PR = 8 dB.

3.5 For the protection of the fixed service in the frequency band 903-905 MHz, from the land mobile and maritime mobile services, in the context of the provisions of No. **5.326**, the coordination distances are calculated using propagation curves of the Recommendation ITU-R P.1546-5 for 10% of time and 50% of locations with the coordination trigger of 17 dB (μV/m) produced at the height of 10 m above ground level.

3.6 For protection of ground-based stations in the aeronautical mobile service in the frequency band 1 429-1 518 MHz from IMT, in the context of the provisions of Nos. **5.341A**, **5.341C**, **5.346** and **5.346A**, the coordination distances are calculated using the propagation curves given in Recommendation ITU-R P.1546-5 for 10% of time and 50% of locations with the coordination trigger power flux density of -181 dB(W/m^2) within 4 kHz of reference bandwidth produced at the height of 10 m above ground level as given in Recommendation ITU-R M.1459-0.

For protection of stations on-board aircraft in the aeronautical mobile service, the coordination distance of 450 km is used.

3.7 For protection of the radiolocation service in the frequency band 3 300-3 400 MHz from IMT in the context of the provisions of No. **5.429F**, the coordination distance is contained in Table 3. (MOD RRB24/510)

TABLE 3 (MOD RRB24/510)

Coordination distance for protection of the RLS (from the IMT system, effective antenna height 30 m) in the frequency band between 3 300-3 400 MHz

Footnote	Frequency range (MHz)	Allocated service (application) (No. 9.21)	Protected service	Coordination distance (km)
5.429F	3 300-3 400	LMS (IMT)	RLS	616

NOTE − The coordination distance was calculated using the propagation curves of Recommendation ITU-R P.528-3 for 1% of time and 50% of locations with the interference level of –107 dBm for protection of the airborne radar at the height of 10 000 m derived from Recommendation ITU-R M.1465-3. A reference IMT Advanced station was assumed as having radiated power of 31 dBW (e.i.r.p.) and a bandwidth of 10 MHz as used in Report ITU-R M.2292-0.

3.8 For the protection of the fixed and fixed-satellite services in the frequency bands between 3 400 MHz and 3 800 MHz from the mobile, except aeronautical mobile, service in the context of the provisions of Nos. **5.430A**, **5.431A** and **5.432B**, and from IMT in the context of the provisions of Nos. **5.431B** and **5.434A**[1], the power flux density of –154.5 dB(W/m^2·4 kHz)[2] produced at the height of 3 m above ground level is used.

Based on the above pfd value the coordination distances are calculated using Recommendation ITU-R P.452-18 at 20% of time with a smooth Earth terrain profile. (MOD RRB24/510)

3.9 For the protection of stations of the aeronautical mobile and radionavigation services in the frequency band 45.5-47 GHz from IMT systems in the context of the provision of No. **5.553A**, the coordination distance is contained in Table 4.

TABLE 4

Coordination distance for protection of the AMS and RNS from the IMT systems in the frequency band between 45.5-47 GHz

Footnote	Frequency range (GHz)	Allocated service (application) (No. 9.21)	Protected service	Coordination distance (km)
5.553A	45.5-47	LMS (IMT)	AMS, RNS	65

Note: The coordination distance was calculated using a method based on Recommendation ITU-R P.676-12 for atmospheric attenuation in addition to Recommendation ITU-R P.525-4 for free space loss. The protection criteria (I/N) – 6 dB, receiver antenna gain 27 dBi and noise figure 4 dB were taken from Recommendation ITU-R M.2115-0 for the aeronautical mobile service airborne station in the frequency band 45.5-47 GHz. The maximum e.i.r.p. density value of 25.2 dB(W/200 MHz) was used for the IMT base station. This value was taken from ITU-R studies conducted during preparations for WRC-19 agenda item 1.13.

3.10 For the protection of stations in the radioastronomy service in the frequency band 606-614 MHz from the radio services indicated in Column 3 of Table 1, in the context of the provisions of No. **5.295A**, coordination trigger distances of 1 053 km for a base station in the mobile service and 445 km for a land mobile station in the mobile service are used with respect to the border of a neighbouring country. (ADD RRB24/510)

3.11 For the protection of the fixed and mobile services in the frequency band 6 425-7 125 MHz from IMT, in the context of the provisions of No. **5.457F**, a coordination trigger distance of 200 km with respect to the border of a neighbouring country is used. (ADD RRB24/510)

3.12 For the protectionof stations in the fixed and radiolocation services in the frequency band 10-10.5 GHz from IMT as indicated in Column 3 of Table 1, in the context of the provisions of No. **5.480A**, a coordination trigger distance of 500 km for IMT stations of Mexico with respect to the border of the United States is used. (ADD RRB24/510)

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[2] This value was decided by WRC-07 based on the protection of a typical earth station in the fixed-satellite service.

PART B

(ADD RRB24/510)

SECTION B8

Calculation of power-flux density levels produced by aeronautical earth stations in motion (A-ESIM) and their validation with the limits contained in Annex 3 to Resolution 169 (Rev.WRC-23), Annex 2 to Resolution 121 (WRC-23) and Annex 2 to Resolution 123 (WRC-23)

Annex 2 to Resolution **121 (WRC-23)** and Annex 2 to Resolution **123 (WRC-23)** contain methodologies and procedures to examine power flux-density levels at the Earth's surface produced by A-ESIM. The corresponding methodology for Resolution **169 (Rev.WRC-23)** is included in Recommendation ITU-R S.2158-0.

Reference bandwidth of the pfd limit

The three methodologies contain the same formula to calculate the transmission power from the maximum or minimum power spectral densities of A-ESIM.

Depending on the set of pfd limits that is considered (i.e. for A-ESIM altitudes up to 3 km or for those above 3 km), two different reference bandwidths need to be considered: 1 MHz and 14 MHz, respectively.

The Board noted that Note 2 of Recommendation ITU-R S.2158-0 indicates: "For the operation of emission bandwidth smaller than the reference bandwidth, this methodology is applicable provided that the notifying administration confirms that A-ESIM operates only one emission within the reference bandwidth. If there is no such confirmation, this methodology is not applicable." Moreover, the remark in Resolution **121 (WRC-23)** states that "the methodology assumes that only one emission within the reference bandwidth of 14 MHz is transmitted by A-ESIM".

As a consequence, the Board understood that the intentions of the World Radiocommunication Conference (Sharm el-Sheikh, 2019) (WRC-19) and the World Radiocommunication Conference (Dubai, 2023) (WRC-23) were to allow only one carrier emission to be in operation within the reference bandwidth of 14 MHz for all three cases addressed in Resolutions **121 (WRC-23)**, **123 (WRC-23)** and **169 (Rev.WRC-23)**.

The Board therefore concluded that when an Administration submits a frequency assignment to an A-ESIM with an emission bandwidth smaller than a 14 MHz reference bandwidth, it also commits to operate only one single emission with that given emission bandwidth in any 14 MHz bandwidth.

When an Administration wishes to simultaneously operate several transmissions with emission bandwidths smaller than a 14 MHz reference bandwidth, the emission characteristics of the carrier should be suitably modified to indicate that multiple channels per carrier will be operated within a single emission (see Appendix **1** to the Radio Regulations).

Conditions for compliance with the pfd limits

The methodology contained in Annex 2 to Resolution **121 (WRC-23)**, in Annex 2 to Resolution **123 (WRC-23)** or in Recommendation ITU-R S.2158-0 determines the maximum allowable power P_j for an A-ESIM transmitter.

The methodology then compares the computed P_j with the range of notified power levels of the A-ESIM emission. The minimum and maximum power values for emissions from the A-ESIM, $P_{\min\_emission,j}$ and $P_{\max\_emission,j}$, are calculated from the minimum and maximum power spectral densities of the A-ESIM emission.

An A-ESIM transmission is permitted at a certain altitude *j*, if the following condition is met:

$$P_{max\_emission,j} > P_j > P_{min\_emission,j}$$

Considering that the condition will prevent the use of altitude *j* in cases where the allowable power is high enough to permit the operation of the A-ESIM with its maximum notified power spectral density, the Board concluded that the Bureau should also check the following condition:

$$P_j \geq P_{max\_emission,j}$$

Whenever that condition is met, it is understood that the entire range of power levels of an A-ESIM can be used.

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