

Memorandum

To: Magalie Roman Salas, Secretary
From: Jennifer M. Gilsonan, International Bureau *JMG*
Date: 06/28/00
Re: *Ex Parte* Submission ET Docket No. 98-206

Please include a copy of the following "Provisional Final Acts of the World Radio Communication Conference (Istanbul, 2000) – (WRC-2000)," into the record of ET Docket No. 98-206.

No. of Copies rec'd 0
List A B C D E

**PROVISIONAL FINAL ACTS
of the
World Radiocommunication Conference
(Istanbul, 2000) – (WRC-2000)**

Summary

Preamble

Explanatory Note

Articles to the Radio Regulations

Appendices to the Radio Regulations

Resolutions

Recommendations

Preamble

The World Radiocommunication Conference (Geneva, 1997) resolved, by Resolution 721 (WRC-97), to recommend to the ITU Council that a world radiocommunication conference be held in late 1999 (subject to Resolution 50 (WRC-97)) for a period of four weeks.

At its 1998 session, the Council resolved, by its Resolution 1130, that the conference be convened in Istanbul from 8 May to 2 June 2000, and established its agenda. The agenda, dates and place were approved by the required majority of the Member States of the Union.

The World Radiocommunication Conference (WRC-2000) met in Istanbul for the stipulated period and worked on the basis of the agenda approved by the Council. It adopted a revision of the Radio Regulations and Appendices thereto, as contained in these Final Acts.

In accordance with its agenda, the conference also took other decisions that it considered necessary or appropriate, including the review and revision of existing resolutions and recommendations and the adoption of various new resolutions and recommendations as contained in these Final Acts.

The majority of the provisions revised by the World Radiocommunication Conference (Istanbul, 2000), as contained in the revision of the Radio Regulations referred to in this Preamble, shall enter into force as from 1 January 2002; the remaining provisions shall apply as from the special dates of application indicated in Article S59 of the revised Radio Regulations.

The delegates signing the revision of the Radio Regulations contained in these Final Acts, which is subject to approval by their competent authorities, declare that, should a Member State of the Union make reservations concerning the application of one or more of the provisions of the revised Radio Regulations, no other Member State shall be obliged to observe that provision or those provisions in its relations with that particular Member State.

IN WITNESS WHEREOF, the delegates of the Member States of the International Telecommunication Union named below have, on behalf of their respective competent authorities, signed one copy of these Final Acts. In case of dispute, the French text shall prevail. This copy shall remain deposited in the archives of the Union. The Secretary-General shall forward one certified true copy to each Member State of the International Telecommunication Union.

Done at Istanbul, 2 June 2000

Explanatory Note

The Final Acts are based on the Radio Regulations (Edition of 1998).

Considering the stringent time constraints, this conference accepted that well-established abbreviations widely used and accepted in ITU may be used in the version of the Final Acts submitted for signing. The Secretary-General shall ensure, when preparing the published version of the Final Acts, that the abbreviations in question are written out in full or suitably referenced, as appropriate, in line with the prevailing editorial rules applied in the instruments of the Union.

In accordance with No. 123 of the Rules of Procedure of Conferences and Other Meetings of ITU, the conference entrusted the final numbering of chapters, articles, paragraphs, resolutions and recommendations to the Secretary-General.

Should any editorial problems arise in the preparation of the definitive Final Acts of this conference, the conference authorized the Secretary-General to resolve them, with the assistance of the Chairperson and Vice-Chairperson of the Editorial Committee, and the relevant committee Chairpersons.

Pending preparation of the definitive version, texts in the Final Acts will retain their original numbering, together with the customary symbols in the left-hand margin identifying their source and the action which the conference has taken on them.

These customary symbols are reproduced below:

- MOD Change to the substance of the text
- SUP Deletion of a provision
- (SUP) Transfer elsewhere of a provision (appears at the point from which the provision has been transferred)
- ADD Addition of a new provision. The passages bear the number of the preceding provision in the original text, with the addition of "A", "B", etc.
- (ADD) Transfer of a provision from elsewhere (appears at the point to which the provision has been transferred)
- (MOD) An editorial change in the text. The text was modified by the Editorial Committee to align the language or terminology used with another new or modified text.

Texts not modified and texts deleted by the conference are not reproduced in the present Final Acts.

The following references to texts of the Radio Regulations appear in bold type:

- Articles, e.g. Article **S52**;
- Provision numbers, e.g. No. **S5.344**
- Article table numbers, e.g. Table **S22-2**;
- Appendices, e.g. Appendix **S30A**;
- Resolutions, e.g. Resolution **46 (Rev.WRC-97)**
- Recommendations, e.g. Recommendation **515 (Rev.WRC-97)**.

Note by the Secretariat (taken from de Radio Regulations)

This revision of the Radio Regulations, complementing the Constitution and the Convention of the International Telecommunication Union, incorporates the decisions of the World Radiocommunication Conferences of 1995 (WRC-95) and of 1997 (WRC-97). The provisions of these Regulations apply provisionally as from 1 January 1999, unless otherwise specified (see also Article S59 of this edition).

In preparing the Radio Regulations, edition of 1998, the Secretariat made editorial changes, where appropriate, to reflect:

- the ITU structural changes (world administrative radio conference to world radiocommunication conference, CCIR to ITU-R, IFRB to the Radiocommunication Bureau, Administrative Council to Council, etc.);
- the replacement of ex-CCIR Reports by ITU-R Recommendations;
- the renumbering of Radio Regulation provisions resulting from the simplification of the Radio Regulations.

The term "Member(s)" has been replaced by the term "Member State(s)[±]" to correspond with the terminology employed currently within the ITU. The symbol "±" indicates that this replacement was made by the Secretariat.

In addition, the term "the Bureau" has been used to refer to the Radiocommunication Bureau.

The following references to texts of these Radio Regulations appear in bold type:

- Articles, e.g. Article **S52**;
- Provision numbers, e.g. No. **S5.344**;
- Article table numbers, e.g. Table **S22-2**;
- Appendices, e.g. Appendix **S30A**;
- Resolutions, e.g. Resolution **46 (Rev.WRC-97)**;
- Recommendations, e.g. Recommendation **515 (Rev.WRC-97)**.

References to provision numbers which are not preceded by the letter "S" (usually after an oblique stroke in the case of double references) refer to provisions of the Radio Regulations, edition of 1990, revised in 1994.

As Articles **S5**, **S21** and **S22** applied provisionally as from 1 January 1997, they were published previously in Volume 4 of the Radio Regulations, Geneva, 1996. Where provisions in these Articles were modified by the World Radiocommunication Conference (Geneva, 1997), this has been indicated by the addition of "(WRC-97)" at the end of the text of the provision. Similarly, those provisions in these Articles which were abrogated by WRC-97 are shown by the addition of "(SUP - WRC-97)" following the provision number.

Abbreviations have generally been used for the names of world administrative radio conferences and world radiocommunication conferences. These abbreviations are shown on the next page.

References to provision numbers which are not preceded by the letter 'r' (usually after an oblique stroke in the case of double references) refer to provisions of the Radio Regulations, Edition of 1990, revised in 1994.

Abbreviations have generally been used for the names of world administrative radio conferences and world radiocommunication conferences. These abbreviations are shown below.

Abbreviation	Conference
WARC Mar	World Administrative Radio Conference to Deal with Matters Relating to the Maritime Mobile Service (Geneva, 1967)
WARC-71	World Administrative Radio Conference for Space Telecommunications (Geneva, 1971)
WMARC-74	World Maritime Administrative Radio Conference (Geneva, 1974)
WARC SAT-77	World Broadcasting-Satellite Administrative Radio Conference (Geneva, 1977)
WARC-Aer2	World Administrative Radio Conference on the Aeronautical Mobile (R) Service (Geneva, 1978)
WARC-79	World Administrative Radio Conference (Geneva, 1979)
WARC Mob-83	World Administrative Radio Conference for the Mobile Services (Geneva, 1983)
WARC HFBC-84	World Administrative Radio Conference for the Planning of the HF Bands Allocated to the Broadcasting Service (Geneva, 1984)
WARC Orb-85	World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilising It (First Session – Geneva, 1985)
WARC HFBC-87	World Administrative Radio Conference for the Planning of the HF Bands Allocated to the Broadcasting Service (Geneva, 1987)
WARC Mob-87	World Administrative Radio Conference for the Mobile Services (Geneva, 1987)
WARC Orb-88	World Administrative Radio Conference on the Use of the Geostationary-Satellite Orbit and the Planning of Space Services Utilising It (Second Session – Geneva, 1988)
WARC-92	World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum (Malaga-Torremolinos, 1992)
WRC-95	World Radiocommunication Conference (Geneva, 1995)
WRC-97	World Radiocommunication Conference (Geneva, 1997)
WRC-2000	World Radiocommunication Conference, 2000 (Istanbul, 2000)
WRC-03	World Radiocommunication Conference, 2003 ¹
WRC-05/06	World Radiocommunication Conference, 2005/2006 ¹

¹ The date of this conference has not been finalized.

ARTS1-1

ARTICLE S1

Terms and definitions

MOD

S1.171 *coordination area*: When determining the need for coordination, the area surrounding an *earth station* sharing the same frequency band with *terrestrial stations*, or surrounding a transmitting *earth station* sharing the same bidirectionally allocated frequency band with receiving *earth stations*, beyond which the level of *permissible interference* will not be exceeded and coordination is therefore not required.

MOD

S1.173 *coordination distance*: When determining the need for coordination, the distance on a given azimuth from an *earth station* sharing the same frequency band with *terrestrial stations*, or from a transmitting *earth station* sharing the same bidirectionally allocated frequency band with receiving *earth stations* beyond which the level of *permissible interference* will not be exceeded and coordination is therefore not required.

MOD

S1.185 *inclination of an orbit (of an earth satellite)*: The angle determined by the plane containing the *orbit* and the plane of the Earth's equator measured in degrees between 0 and 180 and in counter-clockwise direction from the Earth's equatorial plane at the ascending node of the *orbit*.

ARTS5-1

ARTICLE S5

Frequency allocations

MOD

S5.43 1) Where it is indicated in these Regulations that a service or stations in a service may operate in a specific frequency band subject to not causing harmful interference to another service or to another station in the same service, this means also that the service which is subject to not causing harmful interference cannot claim protection from harmful interference caused by the other service or other station in the same service.

ADD

S5.43A *1bis*) Where it is indicated in these Regulations that a service or stations in a service may operate in a specific frequency band subject to not claiming protection from another service or from another station in the same service, this means also that the service which is subject to not claiming protection shall not cause harmful interference to the other service or other station in the same service.

MOD

S5.50 5) The footnote references which appear in the Table below the allocated service or services apply to more than one of the allocated services, or to the whole of the allocation concerned.

MOD

S5.55 *Additional allocation:* in Armenia, Azerbaijan, Bulgaria, the Russian Federation, Georgia, Kyrgyzstan, Tajikistan and Turkmenistan, the band 14-17 kHz is also allocated to the radionavigation service on a primary basis.

MOD

S5.58 *Additional allocation:* in Armenia, Azerbaijan, Georgia, Kazakstan, Kyrgyzstan, the Russian Federation, Tajikistan and Turkmenistan, the band 67-70 kHz is also allocated to the radionavigation service on a primary basis.

MOD

S5.59 *Different category of service:* in Bangladesh and Pakistan, the allocation of the bands 70-72 kHz and 84-86 kHz to the fixed and maritime mobile service is on a primary basis (see No. **S5.33**).

MOD

S5.65 *Different category of service:* in Bangladesh, the allocation of the bands 112-117.6 kHz and 126-129 kHz to the fixed and maritime mobile services is on a primary basis (see No. **S5.33**).

MOD

S5.67 *Additional allocation:* in Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 130-148.5 kHz is also allocated to the radionavigation service on a secondary basis. Within and between these countries this service shall have an equal right to operate.

ARTS5-2

MOD

200-495 kHz

Allocation to services		
Region 1	Region 2	Region 3
415-435 MARITIME MOBILE S5.79 AERONAUTICAL RADIONAVIGATION S5.72	415-495 MARITIME MOBILE S5.79 S5.79A Aeronautical radionavigation S5.80	
435-495 MARITIME MOBILE S5.79 S5.79A Aeronautical radionavigation S5.72 S5.82	S5.77 S5.78 S5.82	

MOD

S5.75 *Different category of service:* in Armenia, Azerbaijan, Belarus, Georgia, Moldova, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and the Black Sea areas of Bulgaria and Romania, the allocation of the band 315-325 kHz to the maritime radionavigation service is on a primary basis under the condition that in the Baltic Sea area, the assignment of frequencies in this band to new stations in the maritime or aeronautical radionavigation services shall be subject to prior consultation between the administrations concerned.

MOD

S5.77 *Different category of service:* in Australia, China, the French Overseas Territories of Region 3, India, Indonesia (until 1 January 2005), Iran (Islamic Republic of), Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the band 415-495 kHz to the aeronautical radionavigation service is on a primary basis. Administrations in these countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the band 435-495 kHz do not cause interference to reception by coast stations of ship stations transmitting on frequencies designated for ship stations on a worldwide basis (see No. **S52.39**).

SUP

S5.81

MOD

495-1 800 kHz

Allocation to services		
Region 1	Region 2	Region 3
505-526.5 MARITIME MOBILE S5.79 S5.79A S5.84 AERONAUTICAL RADIONAVIGATION S5.72	505-510 MARITIME MOBILE S5.79	505-526.5 MARITIME MOBILE S5.79 S5.79A S5.84 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Land mobile
	510-525 MOBILE S5.79A S5.84 AERONAUTICAL RADIONAVIGATION	

ARTS5-3

MOD

S5.93 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, Georgia, Hungary, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, the Russian Federation, Tajikistan, Chad, Turkmenistan and Ukraine, the bands 1 625-1 635 kHz, 1 800-1 810 kHz and 2 160-2 170 kHz and, in Bulgaria, the bands 1 625-1 635 kHz and 1 800-1 810 kHz, are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. S9.21.

MOD

S5.96 In Germany, Armenia, Austria, Azerbaijan, Belarus, Denmark, Estonia, Finland, Georgia, Hungary, Ireland, Israel, Jordan, Kazakstan, Latvia, Liechtenstein, Lithuania, Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, the United Kingdom, the Russian Federation, Sweden, Switzerland, Tajikistan, Turkmenistan and Ukraine, administrations may allocate up to 200 kHz to their amateur service in the bands 1 715-1 800 kHz and 1 850-2 000 kHz. However, when allocating the bands within this range to their amateur service, administrations shall, after prior consultation with administrations of neighbouring countries, take such steps as may be necessary to prevent harmful interference from their amateur service to the fixed and mobile services of other countries. The mean power of any amateur station shall not exceed 10 W.

MOD

S5.98 *Alternative allocation:* in Angola, Armenia, Azerbaijan, Belarus, Belgium, Bulgaria, Cameroon, the Congo, Denmark, Egypt, Eritrea, Spain, Ethiopia, Georgia, Greece, Italy, Kazakstan, Lebanon, Lithuania, Moldova, the Netherlands, Syria, Kyrgyzstan, the Russian Federation, Somalia, Tajikistan, Tunisia, Turkmenistan, Turkey and Ukraine, the band 1 810-1 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

MOD

S5.99 *Additional allocation:* in Saudi Arabia, Austria, Bosnia and Herzegovina, Iraq, Libya, Uzbekistan, Slovakia, the Czech Republic, Romania, Slovenia, Chad, Togo and Yugoslavia, the band 1 810-1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

MOD

S5.107 *Additional allocation:* in Saudi Arabia, Botswana, Eritrea, Ethiopia, Iraq, Lesotho, Libya, Somalia and Swaziland, the band 2 160-2 170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W.

MOD

S5.112 *Alternative allocation:* in Bosnia and Herzegovina, Cyprus, Denmark, Greece, Iceland, Malta, Sri Lanka and Yugoslavia, the band 2 194-2 300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

MOD

S5.114 *Alternative allocation:* in Bosnia and Herzegovina, Cyprus, Denmark, Greece, Iraq, Malta, and Yugoslavia, the band 2 502-2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

MOD

S5.117 *Alternative allocation:* in Bosnia and Herzegovina, Cyprus, Côte d'Ivoire, Denmark, Egypt, Greece, Iceland, Liberia, Malta, Sri Lanka, Togo and Yugoslavia, the band 3 155-3 200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

ARTS5-4

MOD

3 230-5 003 kHz

Allocation to services		
Region 1	Region 2	Region 3
3 500-3 800 AMATEUR FIXED MOBILE except aeronautical mobile S5.92	3 500-3 750 AMATEUR S5.119	3 500-3 900 AMATEUR FIXED MOBILE
3 800-3 900 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	3 750-4 000 AMATEUR FIXED MOBILE except aeronautical mobile (R)	
3 900-3 950 AERONAUTICAL MOBILE (OR) S5.123		3 900-3 950 AERONAUTICAL MOBILE BROADCASTING
3 950-4 000 FIXED BROADCASTING	S5.122 S5.125	3 950-4 000 FIXED BROADCASTING S5.126

SUP

S5.120

SUP

S5.124

MOD

5 003-7 350 kHz

Allocation to services		
Region 1	Region 2	Region 3
7 000-7 100	AMATEUR AMATEUR-SATELLITE S5.140 S5.141	
7 100-7 300 BROADCASTING	7 100-7 300 AMATEUR S5.142	7 100-7 300 BROADCASTING

MOD

7 350-13 360 kHz

Allocation to services		
Region 1	Region 2	Region 3
10 100-10 150	FIXED Amateur	

ARTS5-5

MOD

13 360-18 030 kHz

Allocation to services		
Region 1	Region 2	Region 3
14 000-14 250	AMATEUR AMATEUR-SATELLITE	
14 250-14 350	AMATEUR S5.152	

MOD

S5.149 In making assignments to stations of other services to which the bands:

13 360-13 410 kHz.	4 990-5 000 MHz,	92-94 GHz.
25 550-25 670 kHz.	6 650-6 675.2 MHz,	94.1-100 GHz.
37.5-38.25 MHz,	10.6-10.68 GHz,	102-109.5 GHz.
73-74.6 MHz in Regions 1 and 3.	14.47-14.5 GHz,	111.8-114.25 GHz.
150.05-153 MHz in Region 1.	22.01-22.21 GHz,	128.33-128.59 GHz.
322-328.6 MHz.	22.21-22.5 GHz,	129.23-129.49 GHz.
406.1-410 MHz.	22.81-22.86 GHz.	130-134 GHz.
608-614 MHz in Regions 1 and 3.	23.07-23.12 GHz.	136-148.5 GHz.
1 330-1 400 MHz.	31.2-31.3 GHz,	151.5-158.5 GHz.
1 610.6-1 613.8 MHz.	31.5-31.8 GHz in Regions 1 and 3,	168.59-168.93 GHz.
1 660-1 670 MHz.	36.43-36.5 GHz,	171.11-171.45 GHz.
1 718.8-1 722.2 MHz.	42.5-43.5 GHz.	172.31-172.65 GHz.
2 655-2 690 MHz.	42.77-42.87 GHz.	173.52-173.85 GHz.
3 260-3 267 MHz.	43.07-43.17 GHz.	195.75-196.15 GHz.
3 332-3 339 MHz.	43.37-43.47 GHz.	209-226 GHz.
3 345.8-3 352.5 MHz.	48.94-49.04 GHz.	241-250 GHz.
4 825-4 835 MHz.	76-86 GHz.	252-275 GHz.
4 950-4 990 MHz.		

are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from spaceborne or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. **S4.5** and **S4.6** and Article **S29**).

ARTS5-6

MOD

S5.152 *Additional allocation:* in Armenia, Azerbaijan, China, Côte d'Ivoire, Georgia, Iran (Islamic Republic of), Kazakstan, Moldova, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 14 250-14 350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW.

MOD

18 030-23 350 kHz

Allocation to services		
Region 1	Region 2	Region 3
18 068-18 168	AMATEUR AMATEUR-SATELLITE S5.154	
21 000-21 450	AMATEUR AMATEUR-SATELLITE	

MOD

S5.154 *Additional allocation:* in Armenia, Azerbaijan, Georgia, Kazakstan, Moldova, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 18 068-18 168 kHz is also allocated to the fixed service on a primary basis for use within their boundaries, with a peak envelope power not exceeding 1 kW.

MOD

S5.155A In Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Republic, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the use of the band 21 850-21 870 kHz by the fixed service is limited to provision of services related to aircraft flight safety.

MOD

23 350-27 500 kHz

Allocation to services		
Region 1	Region 2	Region 3
24 890-24 990	AMATEUR AMATEUR-SATELLITE	

MOD

S5.160 *Additional allocation:* in Botswana, Burundi, Lesotho, Malawi, Dem. Rep. of the Congo, Rwanda and Swaziland, the band 41-44 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

MOD

S5.162A *Additional allocation:* in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, Finland, France, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Moldova, Monaco, Norway, the Netherlands, Poland, Portugal, Slovakia, the Czech Republic, the United Kingdom, the Russian Federation, Sweden and Switzerland the band 46-68 MHz is also allocated to the radiolocation service on a secondary basis. This use is limited to the operation of wind profiler radars in accordance with Resolution 217 (WRC-97).

ARTS5-7

MOD

47-75.2 MHz

Allocation to services		
Region 1	Region 2	Region 3
47-68 BROADCASTING S5.162A S5.163 S5.164 S5.165 S5.169 S5.171	47-50 FIXED MOBILE	47-50 FIXED MOBILE BROADCASTING S5.162A
	50-54 AMATEUR S5.166 S5.167 S5.168 S5.170 S5.162A	
	54-68 BROADCASTING Fixed Mobile S5.172	54-68 FIXED MOBILE BROADCASTING S5.162A

MOD

S5.175 *Alternative allocation:* in Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting service on a primary basis. The services to which these bands are allocated in other countries and the broadcasting service in the countries listed above are subject to agreements with the neighbouring countries concerned.

MOD

S5.176 *Additional allocation:* in Australia, China, Korea (Rep. of), the Philippines, the Dem. People's Rep. of Korea, Estonia (subject to agreement obtained under No. **S9.21**) and Western Samoa, the band 68-74 MHz is also allocated to the broadcasting service on a primary basis.

MOD

S5.177 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Kazakstan, Latvia, Moldova, Uzbekistan, Poland, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 73-74 MHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. **S9.21**.

MOD

S5.181 *Additional allocation:* in Egypt, Israel, Japan, and Syria, the band 74.8-75.2 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **S9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. **S9.21**.

ARTS5-8

MOD

75.2-137.175 MHz

Allocation to services		
Region 1	Region 2	Region 3
75.2-87.5 FIXED MOBILE except aeronautical mobile S5.175 S5.179 S5.184 S5.187	75.2-75.4 FIXED MOBILE S5.179	
	75.4-76 FIXED MOBILE	75.4-87 FIXED MOBILE S5.182 S5.183 S5.188
	76-88 BROADCASTING Fixed Mobile	
	87.5-100 BROADCASTING S5.190	S5.185
	88-100 BROADCASTING	

MOD

S5.197 *Additional allocation:* in Japan, Pakistan and Syria, the band 108-111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **S9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedures invoked under No. **S9.21**.

MOD

S5.202 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Jordan, Latvia, Moldova, Oman, Uzbekistan, Poland, Syria, Kyrgyzstan, Slovakia, the Czech Republic, Romania, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 136-137 MHz is also allocated to the aeronautical mobile (OR) service on a primary basis. In assigning frequencies to stations of the aeronautical mobile (OR) service, the administration shall take account of the frequencies assigned to stations in the aeronautical mobile (R) service.

MOD

S5.206 *Different category of service:* in Armenia, Azerbaijan, Belarus, Bulgaria, Egypt, Finland, France, Georgia, Greece, Kazakstan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Syria, Slovakia, the Czech Republic, Romania, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 137-138 MHz to the aeronautical mobile (OR) service is on a primary basis (see No. **S5.33**).

MOD

137.175-148 MHz

Allocation to services		
Region 1	Region 2	Region 3
144-146	AMATEUR AMATEUR-SATELLITE S5.216	

ARTS5-9

MOD

S5.210 *Additional allocation:* in France, Italy, Liechtenstein, Slovakia, the Czech Republic, the United Kingdom and Switzerland, the bands 138-143.6 MHz and 143.65-144 MHz are also allocated to the space research service (space-to-Earth) on a secondary basis.

MOD

S5.211 *Additional allocation:* in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Bosnia and Herzegovina, Denmark, the United Arab Emirates, Spain, Finland, Greece, Ireland, Israel, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Liechtenstein, Luxembourg, Mali, Malta, Norway, the Netherlands, Qatar, the United Kingdom, Somalia, Sweden, Switzerland, Tanzania, Tunisia, Turkey and Yugoslavia, the band 138-144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis.

MOD

S5.214 *Additional allocation:* in Bosnia and Herzegovina, Croatia, Eritrea, Ethiopia, Kenya, The Former Yugoslav Republic of Macedonia, Malta, Somalia, Sudan, Tanzania and Yugoslavia, the band 138-144 MHz is also allocated to the fixed service on a primary basis.

MOD

S5.221 Stations of the mobile-satellite service in the band 148-149.9 MHz shall not cause harmful interference to, or claim protection from, stations of the fixed or mobile services operating in accordance with the Table of Frequency Allocations in the following countries: Albania, Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo, Korea (Rep. of), Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, Jamaica, Japan, Jordan, Kazakstan, Kenya, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, the Philippines, Poland, Portugal, Qatar, Syria, Kyrgyzstan, Slovakia, Romania, the United Kingdom, the Russian Federation, Senegal, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Yugoslavia, Zambia, and Zimbabwe.

MOD

S5.259 *Additional allocation:* in Egypt, Israel, Japan, and Syria, the band 328.6-335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. **S9.21**. In order to ensure that harmful interference is not caused to stations of the aeronautical radionavigation service, stations of the mobile service shall not be introduced in the band until it is no longer required for the aeronautical radionavigation service by any administration which may be identified in the application of the procedure invoked under No. **S9.21**.

MOD

S5.262 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Bulgaria, Colombia, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakstan, Kuwait, Liberia, Malaysia, Moldova, Nigeria, Uzbekistan, Pakistan, the Philippines, Qatar, Syria, Kyrgyzstan, Slovakia, Romania, the Russian Federation, Singapore, Somalia, Tajikistan, Turkmenistan, Ukraine and Yugoslavia, the band 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis.

ARTS5-10

MOD

410-470 MHz

Allocation to services		
Region 1	Region 2	Region 3
455-456 FIXED MOBILE S5.209 S5.271 S5.286A S5.286B S5.286C S5.286E	455-456 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.286A S5.286B S5.286C S5.209	455-456 FIXED MOBILE S5.209 S5.271 S5.286A S5.286B S5.286C S5.286E
459-460 FIXED MOBILE S5.209 S5.271 S5.286A S5.286B S5.286C S5.286E	459-460 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.286A S5.286B S5.286C S5.209	459-460 FIXED MOBILE S5.209 S5.271 S5.286A S5.286B S5.286C S5.286E

MOD

S5.271 *Additional allocation:* in Azerbaijan, Belarus, China, Estonia, India, Latvia, Lithuania, Kyrgyzstan and Turkmenistan, the band 420-460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis.

MOD

S5.277 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo, Djibouti, Georgia, Hungary, Israel, Kazakstan, Latvia, Mali, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, the Russian Federation, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430-440 MHz is also allocated to the fixed service on a primary basis.

MOD

S5.290 *Different category of service:* in Afghanistan, Azerbaijan, Belarus, China, Japan, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 460-470 MHz to the meteorological-satellite service (space-to-Earth) is on a primary basis (see No. **S5.33**), subject to agreement obtained under No. **S9.21**.

ARTS5-11

MOD

470-890 MHz

Allocation to services			
Region 1	Region 2	Region 3	
470-790 BROADCASTING S5.149 S5.291A S5.294 S5.296 S5.300 S5.302 S5.304 S5.306 S5.311 S5.312	470-512 BROADCASTING Fixed Mobile S5.292 S5.293	470-585 FIXED MOBILE BROADCASTING S5.291 S5.298	
	512-608 BROADCASTING S5.297		585-610 FIXED MOBILE BROADCASTING RADIONAVIGATION S5.149 S5.305 S5.306 S5.307
	608-614 RADIO ASTRONOMY Mobile-satellite except aeronautical mobile-satellite (Earth-to-space)	614-806 BROADCASTING Fixed Mobile S5.293 S5.309 S5.311	610-890 FIXED MOBILE S5.XXX BROADCASTING S5.149 S5.305 S5.306 S5.307 S5.311 S5.320
	790-862 FIXED BROADCASTING S5.312 S5.314 S5.315 S5.316 S5.319 S5.321		
862-890 FIXED MOBILE except aeronautical mobile S5.XXX BROADCASTING S5.322 S5.319 S5.323	806-890 FIXED MOBILE S5.XXX BROADCASTING S5.317 S5.318		

MOD

S5.293 *Different category of service:* in Canada, Chile, Colombia, Cuba, the United States, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 470-512 MHz and 614-806 MHz to the fixed and mobile services is on a primary basis (see No. **S5.33**), subject to agreement obtained under No. **S9.21**. In Argentina and Ecuador, the allocation of the band 470-512 MHz to the fixed and mobile services is on a primary basis (see No. **S5.33**), subject to agreement obtained under No. **S9.21**.

MOD

S5.296 *Additional allocation:* in Germany, Austria, Belgium, Cyprus, Denmark, Spain, Finland, France, Ireland, Israel, Italy, Libya, Lithuania, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, Syria, the United Kingdom, Sweden, Switzerland, Swaziland and Tunisia, the band 470-790 MHz is also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting. Stations of the land mobile service in the countries listed in this footnote shall not cause harmful interference to existing or planned stations operating in accordance with the Table of Frequency Allocations in countries other than those listed in this footnote.

ARTS5-12

MOD

S5.297 *Additional allocation:* in Costa Rica, Cuba, El Salvador, the United States, Guatemala, Guyana, Honduras, Jamaica and Mexico, the band 512-608 MHz is also allocated to the fixed and mobile services on a primary basis, subject to agreement obtained under No. **S9.21**.

MOD

S5.314 *Additional allocation:* in Austria, Italy, Moldova, Uzbekistan, the United Kingdom and Swaziland, the band 790-862 MHz is also allocated to the land mobile service on a secondary basis.

MOD

S5.315 *Alternative allocation:* in Greece, Italy and Tunisia, the band 790-838 MHz is allocated to the broadcasting service on a primary basis.

MOD

S5.316 *Additional allocation:* in Germany, Saudi Arabia, Bosnia and Herzegovina, Burkina Faso, Cameroon, Côte d'Ivoire, Croatia, Denmark, Egypt, Finland, Israel, Kenya, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Monaco, Norway, the Netherlands, Portugal, Syria, Sweden, Switzerland and Yugoslavia, the band 790-830 MHz, and in these same countries and in Spain, France, Gabon and Malta, the band 830-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis. However, stations of the mobile service in the countries mentioned in connection with each band referred to in this footnote shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in countries other than those mentioned in connection with the band.

ADD

S5.XXX Administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) may use those parts of the band 806-960 MHz which are allocated to the mobile service on a primary basis and are used or planned to be used for mobile systems (see Resolution [COM5/25] (WRC-2000)). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.

MOD

S5.322 In Region 1, in the band 862-960 MHz, stations of the broadcasting service shall be operated only in the African Broadcasting Area (see Nos. **S5.10** to **S5.13**) excluding Algeria, Egypt, Spain, Libya, Morocco, Namibia, Nigeria, South Africa, Tanzania, Zimbabwe and Zambia, subject to agreement obtained under No. **S9.21**.

ARTS5-13

MOD

890-1 350 MHz

Allocation to services		
Region 1	Region 2	Region 3
890-942 FIXED MOBILE except aeronautical mobile S5.XXX BROADCASTING S5.322 Radiolocation S5.323	890-902 FIXED MOBILE except aeronautical mobile S5.XXX Radiolocation S5.318 S5.325	890-942 FIXED MOBILE S5.XXX BROADCASTING Radiolocation S5.327
	902-928 FIXED Amateur Mobile except aeronautical mobile S5.CCC Radiolocation S5.150 S5.325 S5.326	
	928-942 FIXED MOBILE except aeronautical mobile S5.XXX Radiolocation S5.325	
942-960 FIXED MOBILE except aeronautical mobile S5.XXX BROADCASTING S5.322 S5.323	942-960 FIXED MOBILE S5.XXX	942-960 FIXED MOBILE S5.XXX BROADCASTING S5.320
960-1 215	AERONAUTICAL RADIONAVIGATION S5.328 S5.328A	
1 215-1 240	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) S5.329 S5.329A SPACE RESEARCH (active) S5.330 S5.331 S5.332	
1 240-1 260	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) S5.329 S5.329A SPACE RESEARCH (active) Amateur S5.330 S5.331 S5.332 S5.334 S5.335	

ARTS5-14

MOD

890-1 350 MHz

Allocation to services		
Region 1	Region 2	Region 3
1 260-1 300	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) S5.329 S5.329A SPACE RESEARCH (active) Amateur S5.282 S5.330 S5.331 S5.333 S5.334 S5.335	
1 300-1 350	AERONAUTICAL RADIONAVIGATION S5.337 RADIOLOCATION RADIONAVIGATION SATELLITE (Earth-to-space) S5.149 S5.337A	

ADD

S5.CCC *Different category of service:* in Cuba, the allocation of the band 902-915 MHz to the land mobile service is on a primary basis.

MOD

S5.328 The use of the band 960-1 215 MHz by the aeronautical radionavigation service is reserved on a worldwide basis for the operation and development of airborne electronic aids to air navigation and any directly associated ground-based facilities.

ADD

S5.328A *Additional allocation:* the band 1 164-1 215 MHz is also allocated to the radionavigation-satellite service (space-to-Earth) (space-to-space) on a primary basis. The aggregate power flux-density produced by all the space stations of all radionavigation-satellite systems at the

Earth's surface shall not exceed the provisional value of $-115 \text{ dB(W/m}^2\text{)}$ in any 1 MHz band for all angles of arrival. Stations in the radionavigation-satellite service shall not cause harmful interference to, nor claim protection from, stations of the aeronautical-radionavigation service. The provisions of Resolution [COM5/19] (WRC-2000) apply.

MOD

S5.329 Use of the radionavigation-satellite service in the band 1 215-1 300 MHz shall be subject to the condition that no harmful interference is caused to, and no protection is claimed from, the radionavigation service authorized under No. S5.331. See also Resolution [COM5/20] (WRC-2000).

ADD

S5.329A Use of systems in the radionavigation-satellite service (space-to-space) operating in the bands 1 215-1 300 MHz and 1 559-1 610 MHz is not intended to provide safety service applications, and shall not impose any additional constraints on other systems or services operating in accordance with the Table of Frequency Allocations.

MOD

S5.331 *Additional allocation:* in Algeria, Germany, Austria, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Burundi, Cameroon, China, Croatia, Denmark, the United Arab Emirates, France, Greece, India, Iran (Islamic Republic of), Iraq, Kenya, The Former Yugoslav Republic of Macedonia, Liechtenstein, Luxembourg, Mali, Mauritania, Norway, Oman, the Netherlands, Portugal, Qatar, Senegal, Slovenia, Somalia, Sudan, Sri Lanka, Sweden, Switzerland, Turkey and Yugoslavia, the band 1 215-1 300 MHz is also allocated to the radionavigation service on a primary basis.

ARTS5-15

MOD

S5.332 In the band 1 215-1 260 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services allocated on a primary basis.

MOD

S5.333 In the band 1 260-1 300 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis.

ADD

S5.337A The use of the band 1 300-1 350 MHz by earth stations in the radionavigation-satellite service and by stations in the radiolocation service shall not cause harmful interference to, nor constrain the operation and development of, the aeronautical-radionavigation service.

MOD

S5.338 In Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Slovakia, the Czech Republic, Romania and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1 350-1 400 MHz.

MOD

S5.340 All emissions are prohibited in the following bands:

1 400-1 427 MHz,	
2 690-2 700 MHz,	except those provided for by Nos. S5.421 and S5.422 .
10.68-10.7 GHz,	except those provided for by No. S5.483 ,
15.35-15.4 GHz,	except those provided for by No. S5.511 .
23.6-24 GHz,	
31.3-31.5 GHz,	
31.5-31.8 GHz,	in Region 2,
48.94-49.04 GHz,	from airborne stations.
50.2-50.4 GHz ² ,	except those provided for by No. S5.555A ,
52.6-54.25 GHz,	
86-92 GHz,	
100-102 GHz,	
109.5-111.8 GHz,	
114.25-116 GHz,	
148.5-151.5 GHz,	
164-167 GHz,	
182-185 GHz,	except those provided for by No. S5.563 ,
190-191.8 GHz,	
200-209 GHz,	
226-231.5 GHz,	
250-252 GHz,	

ARTS5-16

MOD

S5.342 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Uzbekistan, Kyrgystan, the Russian Federation and Ukraine, the band 1 429-1 535 MHz is also allocated to the aeronautical mobile service on a primary basis exclusively for the purposes of aeronautical telemetry within the national territory. As of 1 April 2007, the use of the band 1 452-1 492 MHz is subject to agreement between the administrations concerned.

MOD

S5.347 *Different category of service:* in Bangladesh, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Cuba, Denmark, Egypt, Greece, Ireland, Italy, Kenya, Mozambique, Portugal, Sri Lanka, Swaziland, Yemen, Yugoslavia and Zimbabwe, the allocation of the band 1 452-1 492 MHz to the broadcasting-satellite service and the broadcasting service is on a secondary basis until 1 April 2007.

MOD

1 525-1 610 MHz

Allocation to services		
Region 1	Region 2	Region 3
1 525-1 530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) S5.SSS Earth exploration-satellite Mobile except aeronautical mobile S5.349 S5.341 S5.342 S5.350 S5.351 S5.352A S5.354	1 525-1 530 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.SSS Earth exploration-satellite Fixed Mobile S5.343 S5.341 S5.351 S5.354	1 525-1 530 SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) S5.SSS Earth exploration-satellite Mobile S5.349 S5.341 S5.351 S5.352A S5.354
1 530-1 535 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.353A S5.SSS Earth exploration-satellite Fixed Mobile except aeronautical mobile S5.341 S5.342 S5.351 S5.354	1 530-1 535 SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) S5.353A S5.SSS Earth exploration-satellite Fixed Mobile S5.343 S5.341 S5.351 S5.354	
1 535-1 559 MOBILE-SATELLITE (space-to-Earth) S5.SSS S5.341 S5.351 S5.353A S5.354 S5.355 S5.356 S5.357 S5.357A S5.359 S5.362A		
1 559-1 610 AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) S5.329A S5.341 S5.363 S5.355A S5.359A		

ARTS5-17

MOD

S5.349 *Different category of service:* in Saudi Arabia, Azerbaijan, Bahrain, Bosnia and Herzegovina, Cameroon, Egypt, France, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, Syria, Kyrgyzstan, Romania, Turkmenistan, Yemen and Yugoslavia, the allocation of the band 1 525-1 530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. S5.33).

MOD

S5.350 *Additional allocation:* in Azerbaijan, Kyrgyzstan and Turkmenistan, the band 1 525-1 530 MHz is also allocated to the aeronautical mobile service on a primary basis.

ADD

S5.355 For the use of the bands 1 525-1 544 MHz, 1 545-1 559 MHz, 1 610-1 626.5 MHz, 1 626.5-1 645.5 MHz, 1 646.5-1 660.5 MHz, 1 980-2 010 MHz, 2 170-2 200 MHz, 2 483.5-2 500 MHz, 2 500-2 520 MHz and 2 670-2 690 MHz by the mobile-satellite service, see Resolutions **212 (Rev.WRC-97)** and **[COM5/26] (WRC-2000)**.

MOD

S5.353A In applying the procedures of Section II of Article **S9** to the mobile-satellite service in the bands 1 530-1 544 MHz and 1 626.5-1 645.5 MHz, priority shall be given to accommodating the spectrum requirements for distress, urgency and safety communications of the Global Maritime Distress and Safety System (GMDSS). Maritime mobile-satellite distress, urgency and safety communications shall have priority access and immediate availability over all other mobile satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, distress, urgency and safety communications of the GMDSS. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution **[COM5/22] (WRC-2000)** shall apply.)

MOD

S5.355 *Additional allocation:* in Bahrain, Bangladesh, Congo, Egypt, Eritrea, Iraq, Israel, Jordan, Kuwait, Lebanon, Malta, Morocco, Qatar, Syria, Somalia, Sudan, Chad, Togo and Yemen, the bands 1 540-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a secondary basis.

ADD

S5.355A *Additional allocation:* in Bahrain, Bangladesh, Congo, Egypt, Eritrea, Iraq, Israel, Jordan, Kuwait, Lebanon, Malta, Morocco, Qatar, Syria, Somalia, Sudan, Chad, Togo and Yemen, the band 1 559-1 610 MHz is also allocated to the fixed service on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and not authorize new frequency assignments to fixed-service systems in this band.

MOD

S5.357A In applying the procedures of Section II of Article **S9** to the mobile-satellite service in the bands 1 545-1 555 MHz and 1 646.5-1 656.5 MHz, priority shall be given to accommodating the spectrum requirements of the aeronautical mobile-satellite (R) service providing transmission of messages with priority 1 to 6 in Article **S44**. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article **S44** shall have priority access and immediate availability, by pre-emption if necessary, over all other mobile-satellite communications operating within a network. Mobile-satellite systems shall not cause unacceptable interference to, or claim protection from, aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article **S44**. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution **[COM5/22] (WRC-2000)** shall apply.)

ARTS5-18

MOD

S5.359 *Additional allocation:* in Germany, Saudi Arabia, Armenia, Austria, Azerbaijan, Belarus, Benin, Bosnia and Herzegovina, Bulgaria, Cameroon, Spain, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, Jordan, Kazakhstan, Kuwait, Latvia, Lebanon, Libya, Lithuania, Mali, Morocco, Mauritania, Moldova, Mongolia, Nigeria, Uganda, Uzbekistan, Pakistan, Poland, Syria, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, the Russian Federation, Senegal, Swaziland, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine, the bands 1 550-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a primary basis. Administrations are urged to make all practicable efforts to avoid the implementation of new fixed-service stations in these bands.

ADD

S5.359A *Additional allocation:* The band 1 559-1 610 MHz is also allocated to the fixed service on a primary basis until 1 January 2005 in Germany, Armenia, Azerbaijan, Belarus, Benin, Bosnia and Herzegovina, Bulgaria, Spain, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria, Uganda, Uzbekistan, Pakistan, Poland, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, the Russian Federation, Senegal, Swaziland, Tajikistan, Tanzania, Turkmenistan and Ukraine, and until 1 January 2010 in Saudi Arabia, Cameroon, Jordan, Kuwait, Lebanon, Libya, Mali, Morocco, Mauritania, Syria and Tunisia. After these dates, the fixed service may continue to operate on a secondary basis until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and the aeronautical radionavigation service and not authorize new frequency assignments to fixed-service systems in this band.

ARTS5-19

MOD

1 610-1 660 MHz

Allocation to services		
Region 1	Region 2	Region 3
1 610-1 610.6 MOBILE-SATELLITE (Earth-to-space) S5.SSS AERONAUTICAL RADIONAVIGATION S5.341 S5.355 S5.359 S5.363 S5.364 S5.366 S5.367 S5.368 S5.369 S5.371 S5.372	1 610-1 610.6 MOBILE-SATELLITE (Earth-to-space) S5.SSS AERONAUTICAL RADIONAVIGATION RADIODETERMINATION- SATELLITE (Earth-to-space) S5.341 S5.364 S5.366 S5.367 S5.368 S5.370 S5.372	1 610-1 610.6 MOBILE-SATELLITE (Earth-to-space) S5.SSS AERONAUTICAL RADIONAVIGATION Radiodetermination-satellite (Earth-to-space) S5.341 S5.355 S5.359 S5.364 S5.366 S5.367 S5.368 S5.369 S5.372
1 610.6-1 613.8 MOBILE-SATELLITE (Earth-to-space) S5.SSS RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION S5.149 S5.341 S5.355 S5.359 S5.363 S5.364 S5.366 S5.367 S5.368 S5.369 S5.371 S5.372	1 610.6-1 613.8 MOBILE-SATELLITE (Earth-to-space) S5.SSS RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION RADIODETERMINATION- SATELLITE (Earth-to-space) S5.149 S5.341 S5.364 S5.366 S5.367 S5.368 S5.370 S5.372	1 610.6-1 613.8 MOBILE-SATELLITE (Earth-to-space) S5.SSS RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION Radiodetermination-satellite (Earth-to-space) S5.149 S5.341 S5.355 S5.359 S5.364 S5.366 S5.367 S5.368 S5.369 S5.372
1 613.8-1 626.5 MOBILE-SATELLITE (Earth-to-space) S5.SSS AERONAUTICAL RADIONAVIGATION Mobile-satellite (space-to-Earth) S5.341 S5.355 S5.359 S5.363 S5.364 S5.365 S5.366 S5.367 S5.368 S5.369 S5.371 S5.372	1 613.8-1 626.5 MOBILE-SATELLITE (Earth-to-space) S5.SSS AERONAUTICAL RADIONAVIGATION RADIODETERMINATION- SATELLITE (Earth-to-space) Mobile-satellite (space-to-Earth) S5.341 S5.364 S5.365 S5.366 S5.367 S5.368 S5.370 S5.372	1 613.8-1 626.5 MOBILE-SATELLITE (Earth-to-space) S5.SSS AERONAUTICAL RADIONAVIGATION Mobile-satellite (space-to-Earth) Radiodetermination-satellite (Earth-to-space) S5.341 S5.355 S5.359 S5.364 S5.365 S5.366 S5.367 S5.368 S5.369 S5.372
1 626.5-1 660 MOBILE-SATELLITE (Earth-to-space) S5.SSS S5.341 S5.351 S5.353A S5.354 S5.355 S5.357A S5.359 S5.362A S5.374 S5.375 S5.376		

MOD

1 660-1 710 MHz

Allocation to services		
Region 1	Region 2	Region 3
1 660-1 660.5 MOBILE-SATELLITE (Earth-to-space) S5.SSS RADIO ASTRONOMY S5.149 S5.341 S5.351 S5.354 S5.362A S5.376A		

ARTS5-20

MOD

1 710-2 170 MHz

Allocation to services		
Region 1	Region 2	Region 3
1 710-1 930	FIXED MOBILE S5.380 S5.AAA S5.BBB S5.149 S5.341 S5.385 S5.386 S5.387 S5.388	
1 930-1 970 FIXED MOBILE S5.BBB S5.388	1 930-1 970 FIXED MOBILE S5.BBB Mobile-satellite (Earth-to-space) S5.388	1 930-1 970 FIXED MOBILE S5.BBB S5.388
1 970-1 980	FIXED MOBILE S5.BBB S5.388	
1 980-2 010	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.388 S5.389A S5.389B S5.389F	
2 010-2 025 FIXED MOBILE S5.BBB S5.388	2 010-2 025 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) S5.388 S5.389C S5.389D S5.389E S5.390	2 010-2 025 FIXED MOBILE S5.BBB S5.388
2 025-2 110	SPACE OPERATION (Earth-to-space) (space-to-space) EARTH EXPLORATION-SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE S5.391 SPACE RESEARCH (Earth-to-space) (space-to-space) S5.392	
2 110-2 120	FIXED MOBILE S5.BBB SPACE RESEARCH (deep space) (Earth-to-space) S5.388	
2 120-2 160 FIXED MOBILE S5.BBB S5.388	2 120-2 160 FIXED MOBILE S5.BBB Mobile-satellite (space-to-Earth) S5.388	2 120-2 160 FIXED MOBILE S5.BBB S5.388
2 160-2 170 FIXED MOBILE S5.BBB S5.388 S5.392A	2 160-2 170 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) S5.388 S5.389C S5.389D S5.389E S5.390	2 160-2 170 FIXED MOBILE S5.BBB S5.388

ARTS5-21

ADD

S5.AAA The bands, or portions of the bands, 1 710-1 885 MHz and 2 500-2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000) in accordance with Resolution [COM5/24] (WRC-2000). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.

MOD

S5.385 *Additional allocation:* the band 1 718.8-1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations.

MOD

S5.387 *Additional allocation:* in Azerbaijan, Belarus, Georgia, Kazakstan, Mali, Mongolia, Kyrgyzstan, Slovakia, Romania, Tajikistan and Turkmenistan, the band 1 770-1 790 MHz is also allocated to the meteorological-satellite service on a primary basis, subject to agreement obtained under No. S9.21.

MOD

S5.388 The bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-2000 in accordance with Resolution 212 (Rev.WRC-97). (See also Resolution [COM5/24] (WRC-2000).)

ADD

S5.BBB In Regions 1 and 3, the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz and, in Region 2, the bands 1 885-1 980 and 2 110-2 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications-2000 (IMT-2000), in accordance with Resolution [COM5/13] (WRC-2000). The use by IMT-2000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations.

MOD

S5.389F In Algeria, Benin, Cape Verde, Egypt, Iran (Islamic Republic of), Mali, Syria and Tunisia, the use of the bands 1 980-2 010 MHz and 2 170-2 200 MHz by the mobile-satellite service shall neither cause harmful interference to the fixed and mobile services, nor hamper the development of those services prior to 1 January 2005, nor shall the former service request protection from the latter services.

MOD

S5.390 In Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Suriname and Uruguay, the use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz by the mobile-satellite services shall not cause harmful interference to stations in the fixed and mobile services before 1 January 2005. After this date, the use of these bands is subject to coordination under No. S9.11A and to the provisions of Resolution 716 (WRC-95).

ARTS5-22

MOD

2 170-2 520 MHz

Allocation to services		
Region 1	Region 2	Region 3
2 170-2 200	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) S5.388 S5.389A S5.389F S5.392A	
2 200-2 290	SPACE OPERATION (space-to-Earth) (space-to-space) EARTH EXPLORATION-SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE S5.391 SPACE RESEARCH (space-to-Earth) (space-to-space) S5.392	
2 290-2 300	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	
2 300-2 450 FIXED MOBILE Amateur Radiolocation S5.150 S5.282 S5.395	2 300-2 450 FIXED MOBILE RADIOLOCATION Amateur S5.150 S5.282 S5.393 S5.394 S5.396	
2 450-2 483.5 FIXED MOBILE Radiolocation S5.150 S5.397	2 450-2 483.5 FIXED MOBILE RADIOLOCATION S5.150 S5.394	
2 483.5-2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) S5.SSS Radiolocation S5.150 S5.371 S5.397 S5.398 S5.399 S5.400 S5.402	2 483.5-2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) S5.SSS RADIOLOCATION RADIODETERMINATION-SATELLITE (space-to-Earth) S5.398 S5.150 S5.402	2 483.5-2 500 FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) S5.SSS RADIOLOCATION Radiodetermination-satellite (space-to-Earth) S5.398 S5.150 S5.400 S5.402
2 500-2 520 FIXED S5.409 S5.410 S5.411 MOBILE except aeronautical mobile S5.AAA MOBILE-SATELLITE (space-to-Earth) S5.403 S5.SSS S5.405 S5.407 S5.408 S5.412 S5.414	2 500-2 520 FIXED S5.409 S5.411 FIXED-SATELLITE (space-to-Earth) S5.415 MOBILE except aeronautical mobile S5.AAA MOBILE-SATELLITE (space-to-Earth) S5.403 S5.SSS S5.404 S5.407 S5.414 S5.415A	

ARTS5-23

MOD

S5.393 *Additional allocation:* in the United States, India and Mexico, the band 2 310-2 360 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial sound broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (WARC-92)**, with the exception of *resolves* 3 in regard to the limitation on broadcasting-satellite systems in the upper 25 MHz.

SUP

S5.408

MOD

S5.412 *Alternative allocation:* in Azerbaijan, Bulgaria, Kyrgyzstan and Turkmenistan, the band 2 500-2 690 MHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

MOD

S5.415A *Additional allocation:* in India and Japan, subject to agreement obtained under No. **S9.21**, the band 2 515-2 535 MHz may also be used for the aeronautical mobile-satellite service (space-to-Earth) for operation limited to within their national boundaries.

ARTS5-24

MOD

2 520-2 700 MHz

Allocation to services		
Region 1	Region 2	Region 3
<p>2 520-2 655 FIXED S5.409 S5.410 S5.411 MOBILE except aeronautical mobile S5.AAA BROADCASTING-SATELLITE S5.413 S5.416</p> <p>S5.339 S5.403 S5.405 S5.408 S5.412 S5.417 S5.418 S5.[XXX2] S5.[XXX3]</p>	<p>2 520-2 655 FIXED S5.409 S5.411 FIXED-SATELLITE (space-to-Earth) S5.415 MOBILE except aeronautical mobile S5.AAA BROADCASTING-SATELLITE S5.413 S5.416</p> <p>S5.339 S5.403 S5.[XXX2] S5.[XXX3]</p>	<p>2 520-2 535 FIXED S5.409 S5.411 FIXED-SATELLITE (space-to-Earth) S5.415 MOBILE except aeronautical mobile S5.AAA BROADCASTING-SATELLITE S5.413 S5.416 S5.403 S5.415A</p> <p>2 535-2 655 FIXED S5.409 S5.411 MOBILE except aeronautical mobile S5.AAA BROADCASTING-SATELLITE S5.413 S5.416</p> <p>S5.339 S5.418 S5.[XXX1] S5.[XXX2] S5.[XXX3]</p>
<p>2 655-2 670 FIXED S5.409 S5.410 S5.411 MOBILE except aeronautical mobile S5.AAA BROADCASTING-SATELLITE S5.413 S5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>S5.149 S5.412 S5.417 S5.420</p>	<p>2 655-2 670 FIXED S5.409 S5.411 FIXED-SATELLITE (Earth-to-space) (space-to-Earth) S5.415 MOBILE except aeronautical mobile S5.AAA BROADCASTING-SATELLITE S5.413 S5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>S5.149 S5.420</p>	<p>2 655-2 670 FIXED S5.409 S5.411 FIXED-SATELLITE (Earth-to-space) S5.415 MOBILE except aeronautical mobile S5.AAA BROADCASTING-SATELLITE S5.413 S5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>S5.149 S5.420</p>
<p>2 670-2 690 FIXED S5.409 S5.410 S5.411 MOBILE except aeronautical mobile S5.AAA MOBILE-SATELLITE (Earth-to-space) S5.SSS Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>S5.149 S5.419 S5.420</p>	<p>2 670-2 690 FIXED S5.409 S5.411 FIXED-SATELLITE (Earth-to-space) (space-to-Earth) S5.415 MOBILE except aeronautical mobile S5.AAA MOBILE-SATELLITE (Earth-to-space) S5.SSS Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>S5.149 S5.419 S5.420</p>	<p>2 670-2 690 FIXED S5.409 S5.411 FIXED-SATELLITE (Earth-to-space) S5.415 MOBILE except aeronautical mobile S5.AAA MOBILE-SATELLITE (Earth-to-space) S5.SSS Earth exploration-satellite (passive) Radio astronomy Space research (passive)</p> <p>S5.149 S5.419 S5.420 S5.420A</p>

ARTS5-25

(SUP)

S5.417

MOD

S5.418 *Additional allocation:* in Bangladesh, Belarus, Korea (Rep. of), India, Japan, Pakistan, Singapore, Sri Lanka and Thailand, the band 2 535-2 655 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (WARC-92). The provisions of No. S5.416 and Article S21, Table S21-4, do not apply to this additional allocation. Use of non-geostationary-satellite systems in the broadcasting-satellite service (sound) is subject to Resolution [COM4/6] (WRC-2000).

ADD

S5.[XXX1] In certain Region 3 countries listed in No. S5.418, use of the band 2 630-2 655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound) for which complete Appendix S4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. S9.12A, in respect of geostationary-satellite networks for which complete Appendix S4 coordination information, or notification information, is considered to have been received after 2 June 2000, and No. S22.2 does not apply. No. S22.2 shall continue to apply with respect to geostationary-satellite networks for which complete Appendix S4 coordination information, or notification information, is considered to have been received before 3 June 2000. Use of the band by non-geostationary-satellite systems in the broadcasting-satellite service (sound) is subject to the provisions of Resolution [COM4/6] (WRC-2000), and such systems shall be in accordance with Resolution 528 (WARC-92).

ADD

S5.[XXX2] Use of the band 2 630-2 655 MHz by non-geostationary-satellite systems for which complete Appendix S4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. S9.12. Resolution [COM4/6] (WRC-2000) applies.

ADD

S5.[XXX3] Use of the band 2 630-2 655 MHz by geostationary-satellite networks for which complete Appendix S4 coordination information, or notification information, has been received after 2 June 2000 is subject to the application of the provisions of No. S9.13 with respect to non-geostationary-satellite systems in the broadcasting-satellite service (sound), and No. S22.2 does not apply. Resolution [COM4/6] (WRC-2000) applies.

MOD

S5.420A *Additional allocation:* in India and Japan, subject to agreement obtained under No. S9.21, the band 2 670-2 690 MHz may also be used for the aeronautical mobile-satellite service (Earth-to-space) for operation limited to within their national boundaries.

MOD

S5.422 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Brunei Darussalam, Congo, Côte d'Ivoire, Cuba, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Lebanon, Malaysia, Mali, Mauritania, Moldova, Mongolia, Nigeria, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, Syria, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, the Russian Federation, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine, Yemen and Yugoslavia, the band 2 690-2 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985.

MOD

S5.428 *Additional allocation:* in Azerbaijan, Bulgaria, Cuba, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3 100-3 300 MHz is also allocated to the radionavigation service on a primary basis.

ARTS5-26

MOD

S5.430 *Additional allocation:* in Azerbaijan, Bulgaria, Cuba, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3 300-3 400 MHz is also allocated to the radionavigation service on a primary basis.

MOD

S5.432 *Different category of service:* in Korea (Rep. of), Japan and Pakistan, the allocation of the band 3 400-3 500 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **S5.33**).

SUP

S5.437

MOD

S5.439 *Additional allocation:* in Iran (Islamic Republic of) and Libya, the band 4 200-4 400 MHz is also allocated to the fixed service on a secondary basis.

MOD

S5.441 The use of the bands 4 500-4 800 MHz (space-to-Earth), 6 725-7 025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix **S30B**. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix **S30B**. The use of the bands 10.7-10.95 GHz (space-to Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. **S9.12** for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite system in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-GSO FSS systems and of the complete coordination or notification information, as appropriate, for the GSO networks, and No. **S5.43A** does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated.

MOD

4 800-5 830 MHz

Allocation to services		
Region 1	Region 2	Region 3
5 000-5 150	AERONAUTICAL RADIONAVIGATION S5.367 S5.444 S5.444A S5.444B S5.444C	
5 150-5 250	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) S5.447A S5.446 S5.447 S5.447B S5.447C	

MOD

S5.444 The band 5 030-5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. The requirements of this system shall take precedence over other uses of this band. For the use of this band, No. **S5.444A** and Resolution **114 (WRC-95)** apply.

ADD

S5.444B *Additional allocation:* The band 5 000-5 010 MHz is also allocated to the radionavigation-satellite service (Earth-to-space) on a primary basis. See Resolution [COM5/15] (**WRC-2000**).

ARTS5-27

ADD

S5.444C *Additional allocation:* The band 5 010-5 030 MHz is also allocated to the radionavigation-satellite service (space-to-Earth) (space-to-space) on a primary basis. In order not to cause harmful interference to the microwave landing system operating above 5 030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5 030-5 150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5 010-5 030 MHz shall not exceed $-124.5 \text{ dB(W/m}^2\text{)}$ in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4 990-5 000 MHz, the aggregate power flux-density produced in the 4 990-5 000 MHz band by all the space stations within any RNSS (space-to-Earth) system operating in the 5 010-5 030 MHz band shall not exceed the provisional value of $-171 \text{ dB(W/m}^2\text{)}$ in a 10 MHz band at any radio astronomy observatory site for more than 2% of the time. For the use of this band, Resolution [COM5/16] (WRC-2000) applies.

MOD

S5.447 *Additional allocation:* in Germany, Austria, Belgium, Denmark, Spain, Estonia, Finland, France, Greece, Israel, Italy, Japan, Jordan, Lebanon, Liechtenstein, Lithuania, Luxembourg, Malta, Norway, Pakistan, the Netherlands, Portugal, Syria, the United Kingdom, Sweden, Switzerland and Tunisia, the band 5 150-5 250 MHz is also allocated to the mobile service, on a primary basis, subject to agreement obtained under No. **S9.21**.

MOD

S5.448 *Additional allocation:* in Austria, Azerbaijan, Bulgaria, Libya, Mongolia, Kyrgyzstan, Slovakia, the Czech Republic, Romania and Turkmenistan, the band 5 250-5 350 MHz is also allocated to the radionavigation service on a primary basis.

MOD

S5.453 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo, Korea (Rep. of), Egypt, the United Arab Emirates, Gabon, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Libya, Madagascar, Malaysia, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, the Dem. People's Rep. of Korea, Singapore, Swaziland, Tanzania, Chad and Yemen, the band 5 650-5 850 MHz is also allocated to the fixed and mobile services on a primary basis.

MOD

S5.454 *Different category of service:* in Azerbaijan, Belarus, Georgia, Mongolia, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 670-5 725 MHz to the space research service is on a primary basis (see No. **S5.33**).

MOD

S5.469 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, Georgia, Hungary, Lithuania, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the band 8 500-8 750 MHz is also allocated to the land mobile and radionavigation services on a primary basis.

MOD

S5.473 *Additional allocation:* in Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Cuba, Georgia, Hungary, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the bands 8 850-9 000 MHz and 9 200-9 300 MHz are also allocated to the radionavigation service on a primary basis.

MOD

S5.477 *Different category of service:* in Algeria, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Japan, Jordan, Kuwait, Lebanon, Liberia, Malaysia, Nigeria, Oman, Pakistan, Qatar, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Sweden, Trinidad and Tobago, and Yemen, the allocation of the band 9 800-10 000 MHz to the fixed service is on a primary basis (see No. **S5.33**).

ARTS5-28

MOD

S5.478 *Additional allocation:* in Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Turkmenistan and Ukraine, the band 9 800-10 000 MHz is also allocated to the radionavigation service on a primary basis.

MOD

S5.480 *Additional allocation:* in Argentina, Brazil, Chile, Costa Rica, Cuba, El Salvador, Ecuador, Guatemala, Honduras, Mexico, Paraguay, Peru, Uruguay and Venezuela, the band 10-10.45 GHz is also allocated to the fixed and mobile services on a primary basis.

MOD

S5.481 *Additional allocation:* in Germany, Angola, Brazil, China, Costa Rica, El Salvador, Ecuador, Spain, Guatemala, Japan, Morocco, Nigeria, Oman, Uzbekistan, Paraguay, Peru, the Dem. People's Rep. of Korea, Sweden, Tanzania, Thailand and Uruguay, the band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis.

MOD

S5.483 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, China, Colombia, Korea (Rep. of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kazakstan, Kuwait, Latvia, Lebanon, Moldova, Mongolia, Uzbekistan, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, the Russian Federation, Tajikistan, Turkmenistan, Ukraine, Yemen and Yugoslavia, the band 10.68-10.7 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. Such use is limited to equipment in operation by 1 January 1985.

MOD

S5.484A The use of the bands 10.95-11.2 GHz (space-to-Earth), 11.45-11.7 GHz (space-to-Earth), 11.7-12.2 GHz (space-to-Earth) in Region 2, 12.2-12.75 GHz (space-to-Earth) in Region 3, 12.5-12.75 GHz (space-to-Earth) in Region 1, 13.75-14.5 GHz (Earth-to-space), 17.8-18.6 GHz (space-to-Earth), 19.7-20.2 GHz (space-to-Earth), 27.5-28.6 GHz (Earth-to-space), 29.5-30 GHz (Earth-to-space) by a non-geostationary-satellite system in the fixed-satellite service is subject to application of the provisions of No. **S9.12** for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-GSO FSS systems and of the complete coordination or notification information, as appropriate, for the GSO networks, and No. **S5.43A** does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated.

MOD

S5.487 In the band 11.7-12.5 GHz in Regions 1 and 3, the fixed, fixed-satellite, mobile, except aeronautical mobile, and broadcasting services, in accordance with their respective allocations, shall not cause harmful interference to, or claim protection from, broadcasting-satellite stations operating in accordance with the provisions of the Regions 1 and 3 Plan in Appendix **S30**.

MOD

S5.487A *Additional allocation:* in Region 1, the band 11.7-12.5 GHz, in Region 2, the band 12.2-12.7 GHz and, in Region 3, the band 11.7-12.2 GHz, are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis, limited to non-geostationary systems and subject to application of the provisions of No. **S9.12** for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the broadcasting-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-GSO FSS systems and of the complete coordination or notification information, as appropriate, for the GSO networks, and No. **S5.43A** does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated.

ARTS5-29

MOD

S5.488 The use of the band 11.7-12.2 GHz by geostationary-satellite networks in the fixed-satellite service in Region 2 is subject to the provisions of Resolution [COM5/18] (WRC-2000). For the use of the band 12.2-12.7 GHz by the broadcasting-satellite service in Region 2, see Appendix S30.

MOD

S5.491 *Additional allocation:* in Region 3, the band 12.2-12.5 GHz is also allocated to the fixed-satellite (space-to-Earth) service on a primary basis. The power flux-density limits in Article S21, Table S21-4 shall apply to this frequency band. The introduction of the service in relation to the broadcasting-satellite service in Region 1 shall follow the procedures specified in Article 7 of Appendix S30, with the applicable frequency band extended to cover 12.2-12.5 GHz.

MOD

S5.492 Assignments to stations of the broadcasting-satellite service which are in conformity with the appropriate regional Plan or included in the Regions 1 and 3 List in Appendix S30 may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference, or require more protection from interference, than the broadcasting-satellite service transmissions operating in conformity with the Plan or the List, as appropriate.

MOD

S5.495 *Additional allocation:* in Bosnia and Herzegovina, Croatia, Denmark, France, Greece, Liechtenstein, Monaco, Uganda, Portugal, Romania, Slovenia, Switzerland, Tanzania, Tunisia and Yugoslavia, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

MOD

S5.496 *Additional allocation:* in Austria, Azerbaijan, Kyrgyzstan and Turkmenistan, the band 12.5-12.75 GHz is also allocated to the fixed service and the mobile, except aeronautical mobile, service on a primary basis. However, stations in these services shall not cause harmful interference to fixed-satellite service earth stations of countries in Region 1 other than those listed in this footnote. Coordination of these earth stations is not required with stations of the fixed and mobile services of the countries listed in this footnote. The power flux-density limit at the Earth's surface given in Article S21, Table S21-4, for the fixed-satellite service shall apply on the territory of the countries listed in this footnote.

MOD

S5.500 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Malta, Morocco, Mauritania, Nigeria, Pakistan, Qatar, Syria, Senegal, Singapore, Sudan, Chad and Tunisia, the band 13.4-14 GHz is also allocated to the fixed and mobile services on a primary basis.

MOD

S5.501 *Additional allocation:* in Austria, Azerbaijan, Hungary, Japan, Mongolia, Kyrgyzstan, Romania, the United Kingdom and Turkmenistan, the band 13.4-14 GHz is also allocated to the radionavigation service on a primary basis.

MOD

S5.502 In the band 13.75-14 GHz, an earth station in the fixed-satellite service shall have a minimum antenna diameter of 4.5 m and the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW. In addition the e.i.r.p., averaged over one second, radiated by a station in the radiolocation or radionavigation services shall not exceed 59 dBW. The protection of assignments to receiving space stations in the fixed-satellite service operating with earth stations that, individually, have an e.i.r.p. of less than 68 dBW shall not impose constraints on the operation of the radiolocation and radionavigation stations operating in accordance with the Radio Regulations. No. S5.43A does not apply. See Resolution [COM5/10] (WRC-2000).

ARTS5-30

MOD

S5.503 In the band 13.75-14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. Until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band:

a) the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in geostationary-satellite orbit shall not exceed 71 dBW in the 6 MHz band from 13.772 to 13.778 GHz;

b) the e.i.r.p. density of emissions from any earth station in the fixed-satellite service operating with a space station in non-geostationary-satellite orbit shall not exceed 51 dBW in the 6 MHz band from 13.772 to 13.778 GHz.

Automatic power control may be used to increase the e.i.r.p. density in the 6 MHz band in this frequency range to compensate for rain attenuation, to the extent that the power-flux density at the fixed-satellite service space station does not exceed the value resulting from use by an earth station of an e.i.r.p. of 71 dBW or 51 dBW, as appropriate, in the 6 MHz band in clear-sky conditions.

MOD

S5.505 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Botswana, Brunei Darussalam, Cameroon, China, Congo, Korea (Rep. of), Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lesotho, Lebanon, Malaysia, Mali, Morocco, Mauritania, Oman, Pakistan, the Philippines, Qatar, Syria, the Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Sudan, Swaziland, Tanzania, Chad and Yemen, the band 14-14.3 GHz is also allocated to the fixed service on a primary basis.

MOD

14.25-15.63 GHz

Allocation to services		
Region 1	Region 2	Region 3
15.43-15.63	FIXED-SATELLITE (Earth-to-space) S5.511A AERONAUTICAL RADIONAVIGATION S5.511C	

MOD

S5.508 *Additional allocation:* in Germany, Bosnia and Herzegovina, France, Greece, Ireland, Iceland, Italy, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Portugal, the United Kingdom, Slovenia, Switzerland and Yugoslavia, the band 14.25-14.3 GHz is also allocated to the fixed service on a primary basis.

MOD

S5.509 *Additional allocation:* in Japan the band 14.25-14.3 GHz is also allocated to the mobile, except aeronautical mobile, service on a primary basis.

ARTS5-31

MOD

S5.511A The band 15.43-15.63 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a primary basis. Use of the band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth and Earth-to-space) is limited to feeder links of non-geostationary systems in the mobile-satellite service, subject to coordination under No. **S9.11A**. The use of the frequency band 15.43-15.63 GHz by the fixed-satellite service (space-to-Earth) is limited to feeder links of non-geostationary systems in the mobile-satellite service for which advance publication information has been received by the Bureau prior to 2 June 2000. In the space-to-Earth direction, the minimum earth station elevation angle above and gain towards the local horizontal plane and the minimum coordination distances to protect an earth station from harmful interference shall be in accordance with Recommendation ITU-R S.1341. In order to protect the radio astronomy service in the band 15.35-15.4 GHz, the aggregate power flux-density radiated in the 15.35-15.4 GHz band by all the space stations within any non-GSO MSS feeder-link (space-to-Earth) system operating in the 15.43-15.63 GHz band shall not exceed the level of $-156 \text{ dB(W/m}^2\text{)}$ in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time.

MOD

S5.514 *Additional allocation:* in Algeria, Germany, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Finland, Guatemala, Honduras, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Libya, Nepal, Nicaragua, Oman, Pakistan, Qatar, Slovenia, Sudan and Yugoslavia, the band 17.3-17.7 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits given in Nos. **S21.3** and **S21.5** shall apply.

MOD

S5.516 The use of the band 17.3-18.1 GHz by geostationary-satellite systems in the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. The use of the band 17.3-17.8 GHz in Region 2 by systems in the fixed-satellite service (Earth-to-space) is limited to geostationary satellites. For the use of the band 17.3-17.8 GHz in Region 2 by feeder links for the broadcasting-satellite service in the band 12.2-12.7 GHz, see Article **S11**. The use of the bands 17.3-18.1 GHz (Earth-to-space) in Regions 1 and 3 and 17.8-18.1 GHz (Earth-to-space) in Region 2 by non-geostationary-satellite systems in the fixed-satellite service is subject to application of the provisions of No. **S9.12** for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite systems in the fixed-satellite service shall not claim protection from geostationary-satellite networks in the fixed-satellite service operating in accordance with the Radio Regulations, irrespective of the dates of receipt by the Bureau of the complete coordination or notification information, as appropriate, for the non-GSO FSS systems and of the complete coordination or notification information, as appropriate, for the GSO networks, and No. **S5.43A** does not apply. Non-geostationary-satellite systems in the fixed-satellite service in the above bands shall be operated in such a way that any unacceptable interference that may occur during their operation shall be rapidly eliminated.

MOD

S5.520 The use of the band 18.1-18.4 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links of geostationary-satellite systems in the broadcasting-satellite service.

MOD

S5.521 *Alternative allocation:* in Germany, Denmark, the United Arab Emirates, Greece and Slovakia, the band 18.1-18.4 GHz is allocated to the fixed, fixed-satellite (space-to-Earth) and mobile services on a primary basis (see No. **S5.33**). The provisions of No. **S5.519** also apply.

ARTS5-32

MOD

18.6-22.21 GHz

Allocation to services		
Region 1	Region 2	Region 3
18.6-18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) S5.522B MOBILE except aeronautical mobile Space research (passive) S5.522A S5.522C	18.6-18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) S5.522B MOBILE except aeronautical mobile SPACE RESEARCH (passive) S5.522A	18.6-18.8 EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) S5.522B MOBILE except aeronautical mobile Space research (passive) S5.522A

SUP

S5.522

ADD

S5.522A The emissions of the fixed service and the fixed-satellite service in the band 18.6-18.8 GHz are limited to the values given in Nos. **S21.5A** and **S21.16.2**, respectively.

ADD

S5.522B The use of the band 18.6-18.8 GHz by the fixed-satellite service is limited to geostationary systems and systems with an orbit of apogee greater than 20 000 km.

ADD

S5.522C In the band 18.6-18.8 GHz, in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, Jordan, Lebanon, Libya, Morocco, Oman, Qatar, Syria, Tunisia and Yemen, fixed-service systems in operation at the date of entry into force of the Final Acts of WRC-2000 are not subject to the limits of No. **S21.5A**.

SUP

S5.523

MOD

S5.524 *Additional allocation:* in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, the Congo, Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Dem. Rep. of the Congo, Syria, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, Tanzania, Chad, Togo and Tunisia, the band 19.7-21.2 GHz is also allocated to the fixed and mobile services on a primary basis. This additional use shall not impose any limitation on the power flux-density of space stations in the fixed-satellite service in the band 19.7-21.2 GHz and of space stations in the mobile-satellite service in the band 19.7-20.2 GHz where the allocation to the mobile-satellite service is on a primary basis in the latter band.

MOD

S5.536A Administrations installing earth exploration-satellite earth stations cannot claim protection from stations in the fixed and mobile services operated by neighbouring administrations. In addition, earth stations operating in the earth exploration-satellite service should take into account Recommendation ITU-R SA.1278.

ARTS5-33

MOD

24.75-29.9 GHz

Allocation to services		
Region 1	Region 2	Region 3
27.5-28.5	FIXED S5.5SSS FIXED-SATELLITE (Earth-to-space) S5.484A S5.539 MOBILE S5.538 S5.540	

ADD

S5.5SSS In Bhutan, Indonesia, Iran (Islamic Republic of), Japan, Maldives, Mongolia, Myanmar, Pakistan, the Dem. People's Rep. of Korea, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 27.5-28.35 GHz may also be used by high altitude platform stations (HAPS). The use of the band 27.5-28.35 GHz by HAPS is limited to operation in the HAPS-to-ground direction and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems or other co-primary services.

MOD

29.9-34.2 GHz

Allocation to services		
Region 1	Region 2	Region 3
31-31.3	FIXED S5.5RRR MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space research S5.544 S5.545 S5.149	

MOD

S5.541A Feeder links of non-geostationary networks in the mobile-satellite service and geostationary networks in the fixed-satellite service operating in the band 29.1-29.5 GHz (Earth-to-space) shall employ uplink adaptive power control or other methods of fade compensation, such that the earth station transmissions shall be conducted at the power level required to meet the desired link performance while reducing the level of mutual interference between both networks. These methods shall apply to networks for which Appendix S4 coordination information is considered as having been received by the Bureau after 17 May 1996 and until they are changed by a future competent world radiocommunication conference. Administrations submitting Appendix S4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable.

MOD

S5.542 *Additional allocation:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Pakistan, the Philippines, Qatar, Syria, the Dem. People's Rep. of Korea, Somalia, Sudan, Sri Lanka and Chad, the band 29.5-31 GHz is also allocated to the fixed and mobile services on a secondary basis. The power limits specified in Nos. S21.3 and S21.5 shall apply.

MOD

S5.545 *Different category of service:* in Armenia, Azerbaijan, Belarus, Georgia, Mongolia, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 31-31.3 GHz to the space research service is on a primary basis (see No. S5.33).

ARTS5-34

ADD

S5.5RRR In Bhutan, Indonesia, Iran (Islamic Republic of), Japan, Maldives, Mongolia, Myanmar, Pakistan, the Dem. People's Rep. of Korea, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 31.0-31.3 GHz may also be used by high altitude platform stations (HAPS) in the ground-to-HAPS direction. The use of the band 31.0-31.3 GHz by systems using HAPS shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems or other co-primary services, taking into account No. **S5.545**. The use of HAPS in the band 31.0-31.3 GHz shall not cause harmful interference to the passive services having a primary allocation in the band 31.3-31.8 GHz, taking into account the interference criteria given in Recommendations ITU-R SA.1029 and ITU-R RA.769. The administrations of the countries listed above are urged to limit the deployment of HAPS in the band 31.0-31.3 GHz to the lower half of this band (31.0-31.15 GHz) until WRC-03.

MOD

S5.546 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, Finland, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Latvia, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Syria, Kyrgyzstan, Romania, the United Kingdom, the Russian Federation, Tajikistan, Turkmenistan, Turkey and Ukraine, the allocation of the band 31.5-31.8 GHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. **S5.33**).

MOD

S5.547A Administrations should take practical measures to minimize the potential interference between stations in the fixed service and airborne stations in the radionavigation service in the 31.8-33.4 GHz band, taking into account the operational needs of the airborne radar systems.

MOD

S5.547 The bands 31.8-33.4 GHz, 37-40 GHz, 40.5-43.5 GHz, 51.4-52.6 GHz, 55.78-59 GHz and 64-66 GHz are available for high-density applications in the fixed service (see Resolutions **[COM5/11] (WRC-2000)** and **[COM5/27] (WRC-2000)**). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz, administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate (see Resolution **[COM5/28] (WRC-2000)**).

ARTS5-35

MOD

34.2-40.5 GHz

Allocation to services		
Region 1	Region 2	Region 3
37-37.5	FIXED MOBILE SPACE RESEARCH (space-to-Earth) S5.547	
37.5-38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) S5.547 S5.NGSO	
38-39.5	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to-Earth) S5.547 S5.NGSO	
39.5-40	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) S5.547 S5.NGSO	
40-40.5	EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)	

MOD

S5.550 *Different category of service:* in Armenia, Azerbaijan, Belarus, Georgia, Mongolia, Uzbekistan, Kyrgyzstan, the Russian Federation, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 34.7-35.2 GHz to the space research service is on a primary basis (see No. **S5.33**).

ADD

S5.NGSO In the bands 37.5-40 GHz and 42-42.5 GHz, non-GSO fixed-satellite service systems should employ power control or other methods of downlink fade compensation of the order of 10 dB, such that the satellite transmissions are at power levels required to meet the desired link performance while reducing the level of interference to the fixed service. The use of downlink fade compensation methods are under study by ITU-R (see Resolution [COM5/28] (WRC-2000)).

ARTS5-36

MOD

40.5-55.78 GHz

Allocation to services		
Region 1	Region 2	Region 3
40.5-41 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile S5.547	40.5-41 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile Mobile-satellite (space-to-Earth) S5.547	40.5-41 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile S5.547
41-42 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile S5.547 S5.RAS	41-42 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile S5.547 S5.RAS	41-42 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile S5.551F S5.547 S5.RAS
42-42.5 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile S5.RAS S5.547 S5.NGSO	42-42.5 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile S5.547 S5.NGSO S5.RAS	42-42.5 FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile S5.551F S5.547 S5.NGSO S5.RAS
42.5-43.5 FIXED FIXED-SATELLITE (Earth-to-space) S5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY S5.149 S5.547		

- SUP**
- S5.551B**
- SUP**
- S5.551C**
- SUP**
- S5.551D**

ARTS5-37

SUP

S5.551E

ADD

S5.RAS In order to protect the radio astronomy service in the band 42.5-43.5 GHz, the aggregate power flux-density in the 42.5-43.5 GHz band produced by all the space stations in any non-GSO FSS (space-to-Earth) or BSS (space-to-Earth) system operating in the 41.5-42.5 GHz band shall not exceed -167 dB(W/m²) in any 1 MHz band at the site of a radio astronomy station for more than 2% of the time. The power flux-density in the band 42.5-43.5 GHz produced by any GSO FSS (space-to-Earth) or BSS (space-to-Earth) station operating in the band 42.0-42.5 GHz shall not exceed -167 dB(W/m²) in any 1 MHz band at the site of a radio astronomy station. These limits are provisional and will be reviewed in accordance with Resolution **128 (Rev. WRC-2000)**.

MOD

S5.553 In the bands 43.5-47 GHz and 66-71 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. **S5.43**).

MOD

S5.554 In the bands 43.5-47 GHz, 66-71 GHz, 95-100 GHz, 123-130 GHz, 191.8-200 GHz and 252-265 GHz, satellite links connecting land stations at specified fixed points are also authorized when used in conjunction with the mobile-satellite service or the radionavigation-satellite service.

MOD

S5.555 *Additional allocation:* the band 48.94-49.04 GHz is also allocated to the radio astronomy service on a primary basis.

MOD

S5.556 In the bands 51.4-54.25 GHz, 58.2-59 GHz and 64-65 GHz, radio astronomy observations may be carried out under national arrangements.

MOD

55.78-66 GHz

Allocation to services		
Region 1	Region 2	Region 3
55.78-56.9	EARTH EXPLORATION-SATELLITE (passive) FIXED S5.XXZ INTER-SATELLITE S5.556A MOBILE S5.558 SPACE RESEARCH (passive) S5.547 S5.557	

ADD

S5.XXZ In the band 55.78-56.26 GHz, in order to protect stations in the Earth exploration-satellite service (passive), the maximum power density delivered by a transmitter to the antenna of a fixed service station is limited to -26 dB(W/MHz).

MOD

S5.558 In the bands 55.78-58.2 GHz, 59-64 GHz, 66-71 GHz, 122.25-123 GHz, 130-134 GHz, 167-174.8 GHz and 191.8-200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. **S5.43**).

ARTS5-38

MOD

S5.559 In the band 59-64 GHz, airborne radars in the radiolocation service may be operated subject to not causing harmful interference to the inter-satellite service (see No. **S5.43**).

MOD

66-86 GHz

Allocation to services		
Region 1	Region 2	Region 3
71-74	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	
74-75.5	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space research (space-to-Earth) S5.561	
75.5-76	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space research (space-to-Earth) S5.561 S5.EEE	
76-77.5	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) S5.149	
77.5-78	AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) S5.149	
78-79	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) S5.149 S5.560	
79-81	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) S5.149	

ARTS5-39

MOD

66-86 GHz

Allocation to services		
Region 1	Region 2	Region 3
81-84	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) S5.149 S5.DDD	
84-86	FIXED FIXED-SATELLITE (Earth-to-space) S5.PPP MOBILE RADIO ASTRONOMY S5.149	

MOD

S5.561 In the band 74-76 GHz, stations in the fixed, mobile and broadcasting services shall not cause harmful interference to stations of the fixed-satellite service or stations of the broadcasting-satellite service operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service.

ADD

S5.EEE The band 75.5-76 GHz is also allocated to the amateur and amateur-satellite services on a primary basis until the year 2006.

ADD

S5.DDD The 81-81.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis.

ADD

S5.PPP In Japan, use of the band 84-86 GHz, by the fixed-satellite service (Earth-to-space) is limited to feeder links in the broadcasting-satellite service using the geostationary-satellite orbit.

ARTS5-40

MOD

86-119.98 GHz

Allocation to services		
Region 1	Region 2	Region 3
92-94	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION S5.149	
94-94.1	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy S5.562 S5.FFF	
94.1-95	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION S5.149	
95-100	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE S5.149 S5.554	
100-102	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341	
102-105	FIXED MOBILE RADIO ASTRONOMY S5.149 S5.341	
105-109.5	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) S5.CCA S5.149 S5.341	
109.5-111.8	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341	

ARTS5-41

MOD

86-119.98 GHz

Allocation to services		
Region 1	Region 2	Region 3
111.8-114.25	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) S5.CCA S5.149 S5.341	
114.25-116	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) S5.340 S5.341	
116-119.98	EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE S5.XXY SPACE RESEARCH (passive) S5.341	

ADD

S5.FFF Transmissions from space stations of the Earth exploration-satellite service (active) that are directed into the main beam of a radio astronomy antenna have the potential to damage some radio astronomy receivers. Space agencies operating the transmitters and the radio astronomy stations concerned should mutually plan their operations so as to avoid such occurrences to the maximum extent possible.

ADD

S5.CCA Use of this allocation is limited to space-based radio astronomy only.

ADD

S5.XXY Use of the band 116-122.25 GHz by the inter-satellite service is limited to satellites in the geostationary-satellite orbit. The single-entry power flux-density produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, at all altitudes from 0 km to 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed $-148 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ for all angles of arrival.