



GOVERNMENT GAZETTE

OF THE

REPUBLIC OF NAMIBIA

N\$57.60

WINDHOEK - 14 October 2011

No. 4807

CONTENTS

Page

GENERAL NOTICE

No. 322	Communications Regulatory Authority of Namibia: Notice of intention to make regulations regarding the Frequency Band Plan	1
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General Notice

COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

No. 322 2011

NOTICE OF INTENTION TO MAKE REGULATIONS REGARDING THE FREQUENCY BAND PLAN

The Board of the Communications Regulatory Authority of Namibia (CRAN), in terms of the Regulations Regarding Rule-Making Procedures: Communications Act, 2009 published as General Notice 334, in Government Gazette 4630 dated 17 December 2010, hereby gives notice, in terms of section 100(5) of the Communications Act, 2009, of its intention to prepare a Frequency Band Plan.

This notice contains the following:

1. A concise Statement of Purpose of the Proposed Regulations;
2. A draft of the proposed Regulations Regarding the Frequency Band Plan.

Written comments may be submitted in accordance with the Regulations Regarding Rule-Making Procedures, within sixty (60) days from the date of publication of this Notice.

Written reply comments may be submitted in accordance with the Regulations Regarding Rule-Making Procedures, within thirty (30) days from the date that written comments are due.

In terms of section 100(5) of the Communications Act and the Regulations Regarding Rule-Making Procedures, the Authority will hold a hearing at a time to be announced after the receipt of reply comments. Persons that have submitted written comments and reply comments will be invited to make oral submissions at the hearing.

Statement of Purpose of the Proposed Regulations regarding the Frequency Band Plan

Section 99 of the Communications Act, 2009 provides that CRAN is vested with the control, planning, administration, management, and licensing of the radio spectrum. Section 99 also requires CRAN to comply with applicable standards and requirements of the International Telecommunication Union and its Radio Regulations.

Section 100 of the Communications Act, 2009, deals specifically with the prescription of a frequency band plan. It provides that CRAN must prescribe the frequency band plan from time to time. The frequency band plan sets out how radio spectrum may be used, to ensure utilisation in an orderly, efficient and effective manner, to reduce congestion and interference, to allow for the introduction of new technologies and services, and to permit as many users and services as is practically feasible.

In preparing the frequency band plan, CRAN must follow the procedures set out in section 100. These procedures have been supplemented by the Regulations regarding Rule-Making Procedures. In addition, CRAN must have due regard to experts' reports and internationally accepted methods for preparing frequency band plans. CRAN must also take into account existing uses and frequency band plans of other countries.

At the international level, the planning of spectrum is the responsibility of the ITU, in particular the ITU's Radiocommunication Bureau (ITU-R). The mission of the ITU-R is to ensure rational, equitable, efficient and economical use of the radio frequency spectrum and to adopt recommendations for member states. The recommendations for the allocations of radio frequency bands for Namibia are those for ITU Region 1, which covers Africa and Europe.

At the regional level, in May 2010, the Southern African Development Community developed a Frequency Allocation Plan for the region, taking account the recommendations of the ITU set out in the Radio Regulations (edition 2008).

Although Namibia does not currently have a national frequency band plan, it has been following a combination of the ITU-R recommendations for Region 1 as well as best practices in the Republic of South Africa. In 2007, the then Namibian Communications Commission (NCC) commissioned the development of a spectrum management strategy. As a result, in 2009, a report was submitted to the NCC setting out a draft band plan. The consultants responsible for the report also reported that they held workshops and provided the opportunity for the submission of comments from the industry, both before the workshop and after. A final report, setting out a draft band plan, was submitted to the NCC in September 2009. This final report serves as the basis of the Proposed Regulations regarding the Frequency Band Plan.

L.N. JACOBS

CHAIRPERSON OF THE BOARD

COMMUNICATIONS REGULATORY AUTHORITY OF NAMIBIA

PROPOSED REGULATIONS REGARDING THE FREQUENCY BAND PLAN**Definitions**

1. In these regulations, any word or expression to which a meaning is assigned in the Act, shall have the same meaning and –

“Act” means the Communications Act, 2009 (Act No. 8 of 2009).

Purpose

2. These regulations set out the frequency band plan in terms of section 100 of the Act.

Table of Frequency Allocations

3. The table of frequency allocations sets out planned allocations for the radio frequency spectrum in Namibia in bands ranging from 9 kHz and 105 GHz. The table is similar to the table set out the ITU in its Radio Regulations and the SADC Frequency Allocation Plan dated May 2010.

Frequency band (kHz)	ITU Region 1 Allocations and Footnotes	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibian Allocations and Footnotes	Current utilisation in Namibia
Below 9	Not allocated 5.53 5.54				Not allocated 5.53 5.54	
9 – 14	RADIONAVIGATION	9-14 kHz RADIONAVIGATION	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Navigational Aids	SRDs - see ITU-R Rec.SM.[SRD]5	RADIONAVIGATION	RADIONAVIGATION
14 – 19.95	FIXED MARITIME MOBILE 5.57 5.55 5.56	14-19.95 kHz FIXED MARITIME MOBILE 5.57 5.56	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Maritime mobile communications	SRDs - see ITU-R Rec.SM.[SRD]	FIXED MARITIME MOBILE 5.57 5.55 5.56	FIXED MARITIME MOBILE
19.95 – 20.05	STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	19.95-20.05 kHz STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	SRDs – inductive short-range radio-communications (9 kHz-135 kHz)	SRDs - see ITU-R Rec.SM.[SRD]	STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	STANDARD FREQUENCY AND TIME SIGNAL
20.05 – 70	FIXED MARITIME MOBILE 5.57 5.56 5.58	20.05-70 kHz FIXED MARITIME MOBILE 5.57 5.56	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Maritime mobile communications	SRDs - see ITU-R Rec.SM.[SRD]	FIXED MARITIME MOBILE 5.57 5.56 5.58	FIXED MARITIME MOBILE
70 – 72	RADIONAVIGATION 5.60	70-72 kHz RADIONAVIGATION 5.60	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Navigational Aids	SRDs - see ITU-R Rec.SM.[SRD]	RADIONAVIGATION 5.60	RADIONAVIGATION BEACON

Frequency band (kHz)	ITU Region 1 Allocations and Footnotes	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibian Allocations and Footnotes	Current utilisation in Namibia
72 – 84	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	72-84 kHz FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Maritime mobile communications Navigational Aids	SRDs - see ITU-R Rec.SM.[SRD]	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	FIXED MARITIME MOBILE RADIONAVIGATION
84 – 86	RADIONAVIGATION 5.60	84-86 kHz RADIONAVIGATION 5.60	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Navigational Aids	SRDs - see ITU-R Rec.SM.[SRD]	RADIONAVIGATION 5.60	RADIONAVIGATION BEACON
86 – 90	FIXED MARITIME MOBILE 5.57 5.56 RADIONAVIGATION	86-90 kHz FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Maritime mobile communications Navigational Aids	SRDs - see ITU-R Rec.SM.[SRD]	FIXED MARITIME MOBILE 5.57 5.56 RADIONAVIGATION	FIXED MARITIME MOBILE RADIONAVIGATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
90 – 110	RADIONAVIGATION 5.62 Fixed 5.63 5.64	90-110 kHz RADIONAVIGATION 5.62 Fixed 5.64	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Navigational Aids	SRDs - see ITU-R Rec. SM.[SRD]	RADIONAVIGATION 5.62 Fixed 5.63 5.64	RADIONAVIGATION Fixed
110 – 112	FIXED MARITIME MOBILE RADIONAVIGATION 5.64	110-112 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.64	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Maritime mobile communications Navigational Aids	SRDs - see ITU-R Rec. SM.[SRD]	FIXED MARITIME MOBILE RADIONAVIGATION 5.64	FIXED MARITIME MOBILE RADIONAVIGATION
112 – 115	RADIONAVIGATION 5.60	112-115 kHz RADIONAVIGATION 5.60	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Navigational Aids	SRDs - see ITU-R Rec. SM.[SRD]	RADIONAVIGATION 5.60	RADIONAVIGATION BEACON
115 – 117.6	RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64 5.66	115-117.6 kHz RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Navigational Aids Maritime mobile communications	SRDs - see ITU-R Rec. SM.[SRD]	RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64 5.66	RADIONAVIGATION BEACON Fixed Maritime mobile
117.6 – 126	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	117.6-126 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Navigational Aids Maritime mobile communications	SRDs - see ITU-R Rec. SM.[SRD]	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION
126 – 129	RADIONAVIGATION 5.60	126-129 kHz RADIONAVIGATION 5.60	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Navigational Aids	SRDs - see ITU-R Rec. SM.[SRD]	RADIONAVIGATION 5.60	RADIONAVIGATION BEACON
129 – 130	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	129-130 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Navigational Aids Maritime mobile communications	SRDs - see ITU-R Rec. SM.[SRD]	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	FIXED MARITIME MOBILE RADIONAVIGATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
130 – 148.5	FIXED MARITIME MOBILE 5.64 5.67				FIXED MARITIME MOBILE 5.64 5.67	FIXED / MOBILE MARITIME MOBILE
130-135.7 kHz FIXED MARITIME MOBILE 5.64 5.67	130-135.7 kHz FIXED MARITIME MOBILE 5.64	SRDs – inductive short-range radio-communications (9 kHz-135 kHz) Maritime mobile communications	SRDs - see ITU-R Rec. SM.[SRD]			
135.7-137.8 kHz FIXED MARITIME MOBILE Amateur 5.67A 5.64 5.67 5.67B	135.7-137.8 kHz FIXED MARITIME MOBILE Amateur 5.67A 5.64	Maritime mobile communications Amateur	Amateur (135.7-137.8 kHz) services are limited to maximum radiated power of 1W (e.i.r.p).			
137.8-148.5 kHz FIXED MARITIME MOBILE 5.64 5.67	137.8-148.5 kHz FIXED MARITIME MOBILE 5.64	Maritime mobile communications				
148.5 – 255	BROADCASTING 5.68 5.69 5.70	148.5-200 kHz BROADCASTING 5.68 200-255 kHz AERONAUTICAL RADIONAVIGATION SERVICE 5.70	Broadcasting	Frequency assignment Plan (GE/5) applies	BROADCASTING 5.68 5.69 5.70	BROADCASTING AERONAUTICAL RADIO NAVIGATION
255 – 283.5	BROADCASTING AERONAUTICAL RADIONAVIGATION 5.70 5.71	255-283.5 kHz AERONAUTICAL RADIONAVIGATION 5.70			BROADCASTING AERONAUTICAL RADIONAVIGATION 5.70 5.71	BROADCASTING AERONAUTICAL RADIONAVIGATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
283,5 – 315	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (RADIOBEACON) 5.73 5.72 5.74	283.5-315 kHz AERONAUTICAL RADIONAVIGATION			AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (RADIOBEACON) 5.73 5.72 5.74	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (RADIOBEACON)
315 – 325	AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (RADIOBEACON) 5.73 5.72 5.75	315-325 kHz AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radiobeacons) 5.73 5.72			AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (RADIOBEACON) 5.73 5.72 5.75	AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (RADIOBEACON)
325 – 405	AERONAUTICAL RADIONAVIGATION 5.72	325-405 kHz AERONAUTICAL RADIONAVIGATION 5.72			AERONAUTICAL RADIONAVIGATION 5.72	AERONAUTICAL RADIONAVIGATION
405 – 415	RADIONAVIGATION 5.76 5.72	405-415 kHz RADIONAVIGATION 5.76 5.72	Navigational Aids		RADIONAVIGATION 5.76 5.72	RADIONAVIGATION
415 – 435	MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION 5.72	415-435 kHz MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION 5.72	Maritime mobile communications Under the MMS the use of the band 415-495 kHz is limited to radiotelegraphy.		MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION 5.72	MARITIME MOBILE AERONAUTICAL RADIONAVIGATION
435 – 495	MARITIME MOBILE 5.79 Aeronautical Radionavigation 5.72 5.82	435-495 kHz MARITIME MOBILE 5.79 5.79A Aeronautical radionavigation 5.72 5.82	Maritime mobile communications Coast Stations in the NAVTEX service on 490 kHz; Res.339 applies. Transmission of navigational and meteorological warnings and urgent info for ships (NBDDP telegraphy). Articles 31 and 52 apply.		MARITIME MOBILE 5.79 Aeronautical Radionavigation 5.72 5.82	MARITIME MOBILE Aeronautical Radionavigation

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
495- 505	MOBILE (distress and calling) 5.83	495-505 kHz MOBILE 5.82A 5.82B	Limited to radiotelegraphy; Articles 31 and 52 apply.		MOBILE (distress and calling) 5.83	MOBILE (distress and calling)
505 – 526.5	MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION 5.72	505-526.5 kHz MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION 5.72	Maritime mobile communications Coast Stations in the NAVTEX service on 518 kHz; Res.339 applies. Articles 31 and 52 apply. Under the MMS the use of the band 505-526.5 kHz is limited to radiotelegraphy.		MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION 5.72	MARITIME MOBILE AERONAUTICAL RADIONAVIGATION
526.5 – 1606.6	BROADCASTING 5.87 5.87A	526.5-535 kHz BROADCASTING Mobile 5.87 535-1 606.5 kHz BROADCASTING 5.87	Land and/or maritime mobile communications MW Sound broadcasting (535.5-1606.5 kHz); GE75 applies		BROADCASTING 5.87	BROADCASTING
1606.5 – 1625	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	1 606.5-1 625 kHz FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	Maritime mobile communications Land mobile communications		FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	FIXED MARITIME MOBILE LAND MOBILE
1625 – 1635	RADIOLOCATION 5.93	1 625-1 635 kHz RADIOLOCATION 5.93	Navigational Aids		RADIOLOCATION 5.93	RADIOLOCATION BEACON
1635 – 1800	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92 5.96	1 635-1 800 kHz FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92 5.96	Maritime mobile communications Land mobile communications		FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92 5.96	FIXED MARITIME MOBILE LAND MOBILE
1800 - 1810	RADIOLOCATION 5.93	1 800-1 810 kHz RADIOLOCATION 5.93	Navigational Aids		RADIOLOCATION 5.93	RADIOLOCATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
1810 – 1850	AMATEUR 5.98 5.99 5.100 5.101	1 810-1 850 kHz AMATEUR 5.98 5.100 5.101	Amateur communications		AMATEUR 5.98 5.99 5.100 5.101	AMATEUR
1850 – 2000	FIXED MOBILE except aeronautical mobile 5.92 5.96 5.103	1 850-2 000 kHz FIXED MOBILE except aeronautical mobile 5.92 5.103	Maritime and/or land mobile communications		FIXED MOBILE except aeronautical mobile 5.92 5.96 5.103	FIXED MOBILE except aeronautical mobile
2000 – 2025	FIXED MOBILE except aeronautical mobile(R) 5.92 5.103	2 000-2 025 kHz FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	Maritime and/or land mobile communications		FIXED MOBILE except aeronautical mobile(R) 5.92 5.103	FIXED MOBILE [MARITIME MOBILE]
2025 – 2045	FIXED MOBILE except aeronautical mobile(R) Meteorological Aids 5.104 5.92 5.103	2 025-2 045 kHz FIXED MOBILE except aeronautical mobile (R) Meteorological aids 5.104 5.92 5.103	Maritime and/or land mobile communications		FIXED MOBILE except aeronautical mobile(R) Meteorological Aids 5.104 5.92 5.103	FIXED MOBILE Meteorological Aids
2045 – 2160	FIXED MARITIME MOBILE LAND MOBILE 5.92	2 045-2 160 kHz FIXED MARITIME MOBILE LAND MOBILE 5.92	Maritime and/or land mobile communications		FIXED MARITIME MOBILE LAND MOBILE 5.92	FIXED MARITIME MOBILE LAND MOBILE
2160 – 2170	RADIOLOCATION 5.93 5.107	2 160-2 170 kHz RADIOLOCATION 5.93 5.107	Navigational aids		RADIOLOCATION 5.93 5.107	RADIOLOCATION
2170 – 2173.5	MARITIME MOBILE	2 170-2 173.5 kHz MARITIME MOBILE	Maritime mobile communications		MARITIME MOBILE	MARITIME MOBILE
2173.5 – 2190.5	MOBILE (distress and calling) 5.108 5.109 5.110 5.111	2 173.5-2 190.5 kHz MOBILE (distress and calling) 5.108 5.109 5.110 5.111	2 182 kHz is an international distress and calling frequency for radiotelephony. 2 187.5 kHz – DSC for distress and calling; Article 31 applies. 2 174.5 kHz – international distress frequency for NBDP telegraphy; Article 31 applies.	Articles 31 and 52 applies	MOBILE (distress and calling) 5.108 5.109 5.110 5.111	MOBILE (distress and calling)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
2194.5 – 2194	MARITIME MOBILE	2 190.5-2 194 kHz MARITIME MOBILE	Maritime mobile communications		MARITIME MOBILE	MARITIME MOBILE
2194 – 2300	FIXED MOBILE except aeronautical mobile(R) 5.92 5.103 5.112	2 194-2 300 kHz FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	Maritime and/or land mobile communications		FIXED MOBILE except aeronautical mobile(R) 5.92 5.103 5.112	FIXED MOBILE MARITIME MOBILE
2300 – 2498	FIXED MOBILE except aeronautical mobile(R) BROADCASTING 5.113 5.103	2 300-2 498 kHz FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.103	Maritime and/or land mobile communications		FIXED MOBILE except aeronautical mobile(R) BROADCASTING 5.113 5.103	FIXED MOBILE MARITIME MOBILE BROADCASTING
2498 – 2501	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	2 498-2 501 kHz STANDARD FREQUENCY AND TIME SIGNAL (2 500 kHz)			STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)
2501 – 2502	STANDARD FREQUENCY AND TIME SIGNAL Space Research	2 501-2 502 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research			STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research
2502 – 2625	FIXED MOBILE except aeronautical mobile(R) 5.92 5.103 5.114	2 502-2 625 kHz FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	Maritime and/or land mobile communications		FIXED MOBILE except aeronautical mobile(R) 5.92 5.103 5.114	FIXED MOBILE
2625 – 2650	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	2 625-2 650 kHz MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	Maritime mobile communications		MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	MARITIME MOBILE MARITIME RADIONAVIGATION
2650 – 2850	FIXED MOBILE except aeronautical mobile(R) 5.92 5.103	2 650-2 850 kHz FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	Maritime and/or land mobile communications		FIXED MOBILE except aeronautical mobile(R) 5.92 5.103	FIXED MOBILE LAND MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
2850 – 3025	AERONAUTICAL MOBILE(R) 5.111 5.115	2 850-3 025 kHz AERONAUTICAL MOBILE (R) 5.111 5.115	Aeronautical mobile (R) 3 023 kHz may be used under the MMS for search and	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R) 5.111 5.115	AERONAUTICAL MOBILE(R)
3 to 30 MHz (HF)						
3025 – 3155	AERONAUTICAL MOBILE(OR)	3 025-3 155 kHz AERONAUTICAL MOBILE (OR)	Aeronautical mobile (OR)	Appendix 26 Allotment Plan applies	AERONAUTICAL MOBILE(OR)	AERONAUTICAL MOBILE(OR)
3155 – 3200	FIXED MOBILE except aeronautical (R) 5.116 5.117	3 155-3 200 kHz FIXED MOBILE except aeronautical mobile (R) 5.116	Maritime and/or land mobile communications SRDs: Wireless hearing Aides	Worldwide channel for low power hearing aids (3155-3195 kHz). Additional channels may be assigned in the band 3155-3400 kHz; see also ITU-R Rec.[SRD]	FIXED MOBILE except aeronautical (R) 5.116	FIXED MOBILE
3200 – 3230	FIXED MOBILE except aeronautical (R) Broadcasting 5.113 5.116	3 200-3 230 kHz FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	Maritime and/or land mobile communications	Worldwide channel for low power hearing aids (3155-3195 kHz). Additional channels may be assigned in the band 3155-3400 kHz.	FIXED MOBILE except aeronautical (R) Broadcasting 5.113 5.116	FIXED MOBILE Broadcasting
3230 – 3400	FIXED MOBILE except aeronautical BROADCASTING 5.113 5.116 5.118	3 230-3 400 kHz FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116	Maritime and/or land mobile communications	Worldwide channel for low power hearing aids (3155-3195 kHz). Additional channels may be assigned in the band 3155-3400 kHz.	FIXED MOBILE except aeronautical BROADCASTING 5.113 5.116	FIXED MOBILE BROADCASTING
3400 – 3500	AERONAUTICAL MOBILE(R)	3 400-3 500 kHz AERONAUTICAL MOBILE (R)	Aeronautical mobile (R)	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R)	AERONAUTICAL MOBILE(R)
3500 – 3800	AMATEUR FIXED MOBILE except aeronautical mobile 5.92	3 500-3 800 kHz AMATEUR FIXED MOBILE except aeronautical mobile 5.92	Amateur communications Maritime and/or land mobile communications		AMATEUR FIXED MOBILE except aeronautical mobile 5.92	AMATEUR FIXED MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
3800 – 3900	FIXED AERONAUTICAL MOBILE(OR) LAND MOBILE	3 800-3 900 kHz FIXED AERONAUTICAL MOBILE (OR) /LAND MOBILE	Aeronautical mobile (OR)	Appendix 26 Allotment Plan applies	FIXED AERONAUTICAL MOBILE(OR) LAND MOBILE	FIXED AERONAUTICAL MOBILE(OR) LAND MOBILE
3900 – 3950	AERONAUTICAL MOBILE(OR) 5.123	3 900-3 950 kHz AERONAUTICAL MOBILE (OR) BROADCASTING 5.123	Aeronautical mobile (OR)	Appendix 26 Allotment Plan applies	AERONAUTICAL MOBILE(OR) 5.123	AERONAUTICAL MOBILE(OR)
3950 – 4000	FIXED BROADCASTING	3 950-4 000 kHz FIXED BROADCASTING			FIXED BROADCASTING	FIXED BROADCASTING
4000 – 4063	FIXED MARITIME MOBILE 5.127 5.126	4 000-4 063 kHz FIXED MARITIME MOBILE 5.127	Maritime mobile communications Use of the band 4000-4063 kHz by the MMS is limited to ship stations using radiotelephony		FIXED MARITIME MOBILE 5.127	FIXED MARITIME MOBILE
4063 – 4438	MARITIME MOBILE 5.79A 5.109 S5110 5.130 5.131 5.132 5.128 5.129	4 063-4 438 kHz MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 5.128	Maritime mobile communications 4209.5 kHz - Coast Stations in the NAVTEX service; Res.339 applies. Articles 31 and 52 apply. 4207.5 kHz – DSC for distress and calling; Article 31 applies. 4177.5 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. 4125 kHz – use of this frequency prescribed in Article 31. 4209.5 kHz – exclusive for transmission by coast stations of meteorological and navigational warnings and urgent information to ships (NBDP). 4210 kHz – maritime safety information (MSI); App.17 applies.	ITU RR Appendix 17 Channelling Plan applies ITU RR Appendix 25 Allotment Plan applies	MARITIME MOBILE 5.109 S5110 5.130 5.131 5.132 5.128 5.129	MARITIME MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
4438 – 4650	FIXED MOBILE except aeronautical mobile(R)	4 438-4 650 kHz FIXED MOBILE except aeronautical mobile (R)	Maritime and/or land mobile communications		FIXED MOBILE except aeronautical mobile(R)	FIXED MOBILE
4650 – 4700	AERONAUTICAL MOBILE(R)	4 650-4 700 kHz AERONAUTICAL MOBILE (R)	Aeronautical mobile	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R)	AERONAUTICAL MOBILE(R)
4700 – 4750	AERONAUTICAL MOBILE(OR)	4 700-4 750 kHz AERONAUTICAL MOBILE (OR)	Aeronautical mobile	Appendix 26 Allotment Plan applies	AERONAUTICAL MOBILE(OR)	AERONAUTICAL MOBILE(OR)
4750 – 4850	FIXED AERONAUTICAL MOBILE(OR) LANDMOBILE BROADCASTING 5.113	4 750-4 850 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	Aeronautical and/or land mobile Sound broadcasting		FIXED AERONAUTICAL MOBILE(OR) LANDMOBILE BROADCASTING 5.113	FIXED AERONAUTICAL MOBILE(OR) LANDMOBILE BROADCASTING
4850 – 4995	FIXED LAND MOBILE BROADCASTING 5.113	4 850-4 995 kHz FIXEDLAND MOBILE BROADCASTING 5.113	Land mobile Sound broadcasting		FIXED LAND MOBILE BROADCASTING 5.113	FIXED LAND MOBILE BROADCASTING
4995 – 5003	STANDARD FREQUENCY AND TIME (5000 kHz)	4 995-5 003 kHz STANDARD FREQUENCY AND TIME SIGNAL (5 000 kHz)			STANDARD FREQUENCY AND TIME (5000 kHz)	STANDARD FREQUENCY AND TIME (5000 kHz)
5003 – 5005	STANDARD FREQUENCY AND TIME Space Research	5 003-5 005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research			STANDARD FREQUENCY AND TIME Space Research	STANDARD FREQUENCY AND TIME Space Research
5005 – 5060	FIXED BROADCASTING 5.113	5 005-5 060 kHz FIXED BROADCASTING 5.113	Sound broadcasting		FIXED BROADCASTING 5.113	FIXED BROADCASTING
5060 – 5250	FIXED Mobile except aeronautical mobile 5.133	5 060-5 250 kHz FIXED Mobile except aeronautical mobile	SADC harmonised HF frequencies for cross- border mobile communications; see Annex G.		FIXED Mobile except aeronautical mobile	FIXED MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
5250 – 5450	FIXED Mobile except aeronautical mobile	5 250-5 450 kHz FIXED MOBILE except aeronautical mobile	SADC harmonised HF frequencies for cross- border mobile communications; see Annex G.		FIXED Mobile except aeronautical mobile	FIXED MOBILE
5450 – 5480	FIXED AERONAUTICAL MOBILE(OR) LAND MOBILE	5 450-5 480 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	Aeronautical mobile		FIXED AERONAUTICAL MOBILE(OR) LAND MOBILE	FIXED AERONAUTICAL MOBILE(OR) LAND MOBILE
5480 – 5680	AERONAUTICAL MOBILE(R) 5.111 5.115	5 480-5 680 kHz AERONAUTICAL MOBILE (R) 5.111 5.115	Aeronautical mobile	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R) 5.111 5.115	AERONAUTICAL MOBILE(R)
5680 – 5730	AERONAUTICAL MOBILE(OR) 5.111 5.115	5 680-5 730 kHz AERONAUTICAL MOBILE (OR) 5.111 5.115	5 680 kHz may be used under the MMS for search and rescue operations (see Article 31). 6215 kHz – use of this frequency prescribed in Article 31. SRD applications (6 765-6 795 kHz)	Appendix 26 Allotment Plan applies Common international SRD band; see ITU-R Rec.SM.[jSRD]	AERONAUTICAL MOBILE(OR) 5.111 5.115	AERONAUTICAL MOBILE(OR)
5730 – 5900	FIXED LAND MOBILE	5 730-5 900 kHz FIXED LAND MOBILE	Land mobile		FIXED LAND MOBILE	FIXED LAND MOBILE
5900 – 5950	BROADCASTING 5.134 5.136	5 900-5 950 kHz BROADCASTING 5.134 5.136	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 5.136	BROADCASTING Fixed Land Mobile
5950 – 6200	BROADCASTING	5 950-6 200 kHz BROADCASTING	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies	BROADCASTING	BROADCASTING

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
6200 – 6525	MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	6 200-6 525 kHz MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	Maritime mobile communications 6312 kHz and 6215 kHz – DSC for distress and calling; Article 31 applies 6268 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. 6314 kHz – maritime safety information (MSI); App.17 applies	ITU RR Appendix 17 Channelling Plan applies ITU RR Appendix 25 Allotment Plan applies	MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	MARITIME MOBILE
6525 – 6685	AERONAUTICAL MOBILE(R)	6 525-6 685 kHz AERONAUTICAL MOBILE (R)	Aeronautical mobile communications	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R)	AERONAUTICAL MOBILE(R)
6685 – 6765	AERONAUTICAL MOBILE(OR)	6 685-6 765 kHz AERONAUTICAL MOBILE (OR)	Aeronautical mobile communications		AERONAUTICAL MOBILE(OR)	AERONAUTICAL MOBILE(OR)
6765 – 7000	FIXED MOBILE except aeronautical mobile (R) 5.138 5.138A 5.139	6 765-7 000 kHz FIXED MOBILE except aeronautical mobile (R) 5.138 5.138A	Maritime and/or land mobile communications The band 6765-6795 kHz is designated for ISM applications (5.138).		FIXED MOBILE except aeronautical mobile (R) 5.138 5.138A	FIXED MOBILE LAND MOBILE
7000 – 7100	AMATEUR AMATEUR-SATELLITE 5.140 5.141 5.141A	7 000-7 100 kHz AMATEUR AMATEUR-SATELLITE 5.140 5.141	Amateur communications Amateur-satellite communications		AMATEUR AMATEUR- SATELLITE	AMATEUR AMATEUR- SATELLITE
7100 – 7200	AMATEUR 5.141A 5.141B 5.141C 5.142	7 100-7 200 kHz AMATEUR 5.141B 5.141C 5.142	Amateur communications		AMATEUR BROADCASTING 5.141B 5.141C 5.142	BROADCASTING AMATEUR
7200 – 7300	BROADCASTING	7 200-7 300 kHz BROADCASTING	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies	BROADCASTING	
7300 – 7400	BROADCASTING 5.134 5.143 5.143A 5.143B 5.143C 5.143D	7 300-7 400 kHz BROADCASTING 5.134 5.143 5.143B 5.143C	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 FIXED Land Mobile 5.143 5.143B	BROADCASTING FIXED Land Mobile

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
7400 – 7450	BROADCASTING 5.143B 5.143C	7 400-7 450 kHz BROADCASTING 5.143B	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies	BROADCASTING FIXED Land Mobile 5.143B	BROADCASTING FIXED Land Mobile
7450 – 8100	FIXED MOBILE except aeronautical mobile (R) 5.143E 5.144	7 450-8 100 kHz FIXED MOBILE except aeronautical mobile (R) 5.143E	SADC harmonised HF frequencies for cross- border mobile communications; see Annex G.		FIXED MOBILE except aeronautical mobile (R) 5.143E	FIXED MOBILE Land Mobile
8100 – 8195	FIXED MARITIME MOBILE	8 100-8 195 kHz FIXED MARITIME MOBILE	Maritime mobile communications		FIXED MARITIME MOBILE	FIXED MARITIME MOBILE
8195 – 8815	MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	8 195-8 815 kHz MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	Maritime mobile communications 8414.5 kHz – DSC for distress and calling; Article 31 applies 8 376.5 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. 8416.5 kHz – maritime safety information (MSI); App.17 applies.	ITU RR Appendix 17 Channelling Plan applies ITU RR Appendix 25 Allotment Plan applies	MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	MARITIME MOBILE
8815 – 8965	AERONAUTICAL MOBILE(R)	8 815-8 965 kHz AERONAUTICAL MOBILE (R)	Aeronautical mobile communications	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R)	AERONAUTICAL MOBILE(R)
8965 – 9040	AERONAUTICAL MOBILE(OR)	8 965-9 040 kHz AERONAUTICAL MOBILE (OR)	Aeronautical mobile communications	Appendix 26 Allotment Plan applies	AERONAUTICAL MOBILE(OR)	AERONAUTICAL MOBILE(OR)
9040 – 9400	FIXED	9 040-9 400 kHz FIXED	Fixed		FIXED	FIXED
9400 – 9500	BROADCASTING 5.134 5.146	9 400-9 500 kHz BROADCASTING 5.134 5.146	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 5.146	BROADCASTING
9500 – 9900	BROADCASTING 5.147 5.148	9 500-9 900 kHz BROADCASTING 5.147	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies	BROADCASTING 5.147 5.148	BROADCASTING
9900 – 9995	FIXED	9 900-9 995 kHz FIXED	Fixed		FIXED	FIXED

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
9995 – 10 003	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) S5.111	9 995-10 003 kHz STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) 5.111			STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz) S5.111	STANDARD FREQUENCY AND TIME SIGNAL (10 000 kHz)
10 003 – 10 005	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	10 003-10 005 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111			STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space Research
10 005 – 10 100	AERONAUTICAL MOBILE(R) 5.111	10 005-10 100 kHz AERONAUTICAL MOBILE (R) 5.111	Aeronautical mobile communications	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R) 5.111	AERONAUTICAL MOBILE(R)
10 100 – 10 150	FIXED Amateur	10 100-10 150 kHz FIXED Amateur	Fixed Amateur communications		FIXED Amateur	FIXED Amateur
10 150 – 11 175	FIXED Mobile except aeronautical mobile(R)	10 150-11 175 kHz FIXED Mobile except aeronautical mobile (R)	SADC harmonised HF frequencies for cross-border mobile communications; see Annex G.		FIXED Mobile except aeronautical mobile(R)	FIXED Mobile
11 175 – 11 275	AERONAUTICAL MOBILE(OR)	11 175-11 275 kHz AERONAUTICAL MOBILE (OR)	Aeronautical mobile communications	Appendix 26 Allotment Plan applies	AERONAUTICAL MOBILE(OR)	AERONAUTICAL MOBILE(OR)
11 275 – 11 400	AERONAUTICAL MOBILE(R)	11 275-11 400 kHz AERONAUTICAL MOBILE (R)	Aeronautical mobile communications	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R)	AERONAUTICAL MOBILE(R)
11 400 – 11 600	FIXED	11 400-11 600 kHz FIXED	Fixed		FIXED	FIXED
11 600 – 11 650	BROADCASTING 5.134 5.146	11 600-11 650 kHz BROADCASTING 5.134 5.146	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 5.146	BROADCASTING
11 650 - 12 050	BROADCASTING 5.147	11 650-12 050 kHz BROADCASTING 5.147	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies	BROADCASTING 5.147	BROADCASTING

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
12 050 – 12 100	BROADCASTING 5.134 5.146	12 050-12 100 kHz BROADCASTING 5.134 5.146	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 5.146	BROADCASTING
12 100 – 12 230	FIXED	12 100-12 230 kHz FIXED	Fixed		FIXED	FIXED
12 230 – 13 200	MARITIME MOBILE 5.109 5.110 5.132 5.145	12 230-13 200 kHz MARITIME MOBILE 5.109 5.110 5.132 5.145	Maritime mobile communications 12 577 kHz – DSC for distress and calling; Article 31 applies 12 520 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. 12 579 kHz – maritime safety information (MSI); App.17 applies.	ITU RR Appendix 17	MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE
13 200 – 13 260	AERONAUTICAL MOBILE(OR)	13 200-13 260 kHz AERONAUTICAL MOBILE (OR)	Aeronautical mobile communications	Appendix 26 Allotment Plan applies	AERONAUTICAL MOBILE(OR)	AERONAUTICAL MOBILE(OR)
13 260 – 13 360	AERONAUTICAL MOBILE(R)	13 260-13 360 kHz AERONAUTICAL MOBILE (R)	Aeronautical mobile communications	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R)	AERONAUTICAL MOBILE(R)
13 360 – 13 410	FIXED RADIO ASTRONOMY 5.149	13 360-13 410 kHz FIXED RADIO ASTRONOMY 5.149	Radio astronomy		FIXED RADIO ASTRONOMY 5.149	FIXED RADIO ASTRONOMY
13 410 – 13 570	FIXED Mobile except aeronautical mobile(R) 5.150	13 410-13 570 kHz FIXED Mobile except aeronautical mobile (R) 5.150	Maritime and/or land mobile communications The band 13 553-13 567 kHz is designated for ISM applications (5.150). SRD applications (13 553-13 567kHz)	Common international SRD band; see ITU-R Rec.SM.1[SRD]	FIXED Mobile except aeronautical mobile(R) 5.150	FIXED Mobile
13 570 – 13 600	BROADCASTING 5.134 5.151	13 570-13 600 kHz BROADCASTING 5.134 5.151	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 5.151	BROADCASTING

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
13 600 – 13 800	BROADCASTING	13 600-13 800 kHz BROADCASTING	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies	BROADCASTING	BROADCASTING
13 800 – 13 870	BROADCASTING 5.134 5.151	13 800-13 870 kHz BROADCASTING 5.134 5.151	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 5.151	BROADCASTING
13 870 – 14 000	FIXED Mobile except aeronautical mobile(R)	13 870-14 000 kHz FIXED Mobile except aeronautical mobile (R)	Maritime and/or land mobile communications	13 870-14 000 kHz FIXED Mobile except aeronautical mobile (R)	FIXED Mobile except aeronautical mobile(R)	FIXED Mobile except aeronautical mobile(R)
14 000 – 14 250	AMATEUR AMATEUR-SATELLITE	14 000-14 250 kHz AMATEUR AMATEUR-SATELLITE	Amateur communications Amateur-satellite communications		AMATEUR AMATEUR- SATELLITE	AMATEUR AMATEUR- SATELLITE
14 250 – 14 350	AMATEUR 5.152	14 250-14 350 kHz AMATEUR	Amateur communications		AMATEUR 5.152	AMATEUR
14 350 – 14 990	FIXED Mobile except aeronautical mobile(R)	14 350-14 990 kHz FIXED Mobile except aeronautical mobile (R)	SADC harmonised HF frequencies for cross- border mobile communications; see Annex G.		FIXED Mobile except aeronautical mobile(R)	FIXED Mobile
14 990 – 15 005	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 5.111	14 990-15 005 kHz STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 5.111			STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (15 000 kHz)
15 005 - 15 100	STANDARD FREQUENCY AND TIME SIGNAL Space Research	15 005-15 010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research			STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research
15 010 – 15 100	AERONAUTICAL MOBILE(R)	15 010-15 100 kHz AERONAUTICAL MOBILE (OR)	Aeronautical mobile communications	Appendix 26 Allotment Plan applies	AERONAUTICAL MOBILE(R)	AERONAUTICAL MOBILE(R)
15 100 – 15 600	BROADCASTING	15 100-15 600 kHz BROADCASTING	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies	BROADCASTING	BROADCASTING

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
15 600 – 15 800	BROADCASTING 5.134 5.146	15 600-15 800 kHz BROADCASTING 5.134 5.146	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 5.146	BROADCASTING
15 800 – 16 360	FIXED 5.153	15 800-16 360 kHz FIXED	Fixed		FIXED	FIXED
16 360 – 17 410	MARITIME MOBILE 5.109 5.110 5.132 5.145	16 360-17 410 kHz MARITIME MOBILE 5.109 5.110 5.132 5.145	Maritime mobile communications 16 804.5kHz – DSC for distress and calling; Article 31 applies. 16 695 kHz – international distress frequency for NBDP telegraphy; Article 31 applies. 16 806.5 kHz – maritime safety information (MSD); App.17 applies	ITU RR Appendix 17 Channelling Plan applies ITU RR Appendix 25 Allotment Plan applies	MARITIME MOBILE 5.109 5.110 5.132 5.145	MARITIME MOBILE
17 410 – 17 480	FIXED	17 410-17 480 kHz FIXED	Fixed		FIXED	FIXED
17 480 – 17 550	BROADCASTING 5.134 5.146	17 480-17 550 kHz BROADCASTING 5.134 5.146	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 5.146	BROADCASTING
17 550 – 17 900	BROADCASTING	17 550-17 900 kHz BROADCASTING	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies	BROADCASTING	BROADCASTING
17 900 – 17 970	AERONAUTICAL MOBILE(R)	17 900-17 970 kHz AERONAUTICAL MOBILE (R)	Aeronautical mobile communications	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R)	AERONAUTICAL MOBILE(R)
17 970 – 18 030	AERONAUTICAL MOBILE(OR)	17 970-18 030 kHz AERONAUTICAL MOBILE (OR)	Aeronautical mobile communications	Appendix 26 Allotment Plan applies	AERONAUTICAL MOBILE(OR)	AERONAUTICAL MOBILE(OR)
18 030 – 18 052	FIXED	18 030-18 052 kHz FIXED	Fixed		FIXED	FIXED
18 052 – 18 068	FIXED Space Research	18 052-18 068 kHz FIXED Space research	Fixed	18 052-18 068 kHz FIXED Space research	FIXED Space Research	FIXED Space Research

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
18 068 – 18 168	AMATEUR AMATEUR-SATELLITE 5.154	18 068-18 168 kHz AMATEUR AMATEUR-SATELLITE	Amateur communications Amateur-satellite communications		AMATEUR AMATEUR- SATELLITE 5.154	AMATEUR AMATEUR- SATELLITE
18 168 – 18 780	FIXED Mobile except aeronautical mobile	18 168-18 780 kHz FIXED Mobile except aeronautical mobile	Maritime and/or land mobile communications		FIXED Mobile except aeronautical mobile	FIXED Mobile
18 780 – 18 900	MARITIME MOBILE	18 780-18 900 kHz MARITIME MOBILE	Maritime mobile communications	ITU RR Appendix 17 Channelling Plan applies	MARITIME MOBILE	MARITIME MOBILE
18 900 – 19 020	BROADCASTING 5.134 5.146	18 900-19 020 kHz BROADCASTING 5.134 5.146	HF Sound Broadcasting	Article 12 Planning Procedures and Res.517 apply.	BROADCASTING 5.134 5.135 5.146	BROADCASTING
19 020 – 19 680	FIXED	19 020-19 680 kHz FIXED	Fixed		FIXED	FIXED
19 680 – 19 800	MARITIME MOBILE 5.132	19 680-19 800 kHz MARITIME MOBILE 5.132	19 680,5 kHz – maritime safety information (MSI); App.17 applies	The frequency 19 680,5 kHz is the international frequency for transmission of MSI.	MARITIME MOBILE 5.132	MARITIME MOBILE
19 800 – 19 990	FIXED	19 800-19 990 kHz FIXED	Fixed		FIXED	FIXED
19 990 – 19 995	STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	19 990-19 995 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111			STANDARD FREQUENCY AND TIME SIGNAL Space Research 5.111	STANDARD FREQUENCY AND TIME SIGNAL Space Research
19 995 – 20 010	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 5.111	19 995-20 010 kHz STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 5.111			STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz) 5.111	STANDARD FREQUENCY AND TIME SIGNAL (20 000 kHz)
20 010 – 21 000	FIXED Mobile	20 010-21 000 kHz FIXED Mobile			FIXED Mobile	FIXED Mobile

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
21 000 – 21 450	AMATEUR AMATEUR-SATELLITE	21 000-21 450 kHz AMATEUR AMATEUR-SATELLITE	Amateur communications Amateur-satellite communications		AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE
21 450 – 21 850	BROADCASTING	21 450-21 850 kHz BROADCASTING	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies	BROADCASTING	BROADCASTING
21 850 – 21 870	FIXED 5.155A 5.155	21 850-21 870 kHz FIXED	Fixed		FIXED	FIXED
21 870 – 21 924 FIXED	5.155B	21 870-21 924 kHz FIXED 5.155B	Fixed	This band is used by the FS for services related to aircraft flight safety (5.155B)	FIXED	FIXED
21 924 - 22 000	AERONAUTICAL MOBILE(R)	21 924-22 000 kHz AERONAUTICAL MOBILE (R)	Aeronautical mobile communications	Appendix 27 Allotment Plan applies	AERONAUTICAL MOBILE(R)	AERONAUTICAL MOBILE(R)
22 000 – 22 855	MARITIME MOBILE 5.132 5.156	22 000-22 855 kHz MARITIME MOBILE 5.132	22 376 kHz – maritime safety information (MSI); App.17 applies	ITU RR Appendix 17 Channelling Plan applies. ITU RR Appendix 25 Allotment Plan applies. The frequency 22 376 kHz is the international frequency for transmission of MSI.	MARITIME MOBILE 5.132	MARITIME MOBILE
22 855 – 23 000	FIXED 5.156	22 855-23 000 kHz FIXED	Fixed		FIXED	FIXED
23 000 – 23 200	FIXED Mobile except aeronautical mobile(R) 5.156	23 000-23 200 kHz FIXED Mobile except aeronautical mobile (R)			FIXED Mobile except aeronautical mobile(R)	FIXED Mobile
23 200 – 23 350	FIXED 5.156A AERONAUTICAL MOBILE (OR)	23 200-23 350 kHz FIXED 5.156A AERONAUTICAL MOBILE (OR)	Aeronautical mobile communications	The use of this band by the FS is limited to the provision of services related to aircraft flight safety (5.156A)	FIXED 5.156A AERONAUTICAL MOBILE (OR)	FIXED AERONAUTICAL MOBILE (OR)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
23 350 – 24 000	FIXED Mobile except aeronautical mobile 5.157	23 350-24 000 kHz FIXED MOBILE except aeronautical mobile 5.157		The use of this band by the MMS is limited to inter-ship radiotelegraphy (5.157).		
24 000 – 24 890	FIXED LAND MOBILE	24 000-24 890 kHz FIXED LAND MOBILE			FIXED LAND MOBILE	FIXED LAND MOBILE
24 890 – 24 990	AMATEUR AMATEUR-SATELLITE	24 890-24 990 kHz AMATEUR AMATEUR-SATELLITE			AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE
24 990 – 25 005	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)	24 990-25 005 kHz STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)			STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)	STANDARD FREQUENCY AND TIME SIGNAL (25 000 kHz)
25 005 – 25 010	STANDARD FREQUENCY AND TIME SIGNAL Space Research	25 005-25 010 kHz STANDARD FREQUENCY AND TIME SIGNAL Space research			STANDARD FREQUENCY AND TIME SIGNAL Space Research	STANDARD FREQUENCY AND TIME SIGNAL Space Research
25 010 – 25 070	FIXED MOBILE except aeronautical mobile	25 010-25 070 kHz FIXED MOBILE except aeronautical mobile			FIXED MOBILE except aeronautical mobile	FIXED MOBILE
25 070 – 25 210	MARITIME MOBILE	25 070-25 210 kHz MARITIME MOBILE	Maritime mobile communications	ITU RR Appendix 17 Channelling Plan applies	MARITIME MOBILE	MARITIME MOBILE
25 210 –25 550	FIXED MOBILE except aeronautical	25 210-25 550 kHz FIXED MOBILE except aeronautical mobile			FIXED MOBILE except aeronautical	FIXED MOBILE
25 550 – 25 670	RADIO ASTRONOMY 5.149	25 550-25 670 kHz RADIO ASTRONOMY 5.149	Radio astronomy		RADIO ASTRONOMY 5.149	RADIO ASTRONOMY
25 670 – 26 100	BROADCASTING	25 670-26 100 kHz BROADCASTING	HF Sound Broadcasting	ITU RR Article 12 Planning Procedures applies.	BROADCASTING	BROADCASTING

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
26 100 – 26 175	MARITIME MOBILE 5.132	26 100-26 175 kHz MARITIME MOBILE 5.132	26 100.5 kHz – maritime safety information (MSI); App.17 applies	ITU RR Appendix 17 Channelling Plan applies. ITU RR Appendix 25 Allotment Plan applies. The frequency 26 100.5 kHz is the international frequency for transmission of MSI.	MARITIME MOBILE 5.132	MARITIME MOBILE
26 175 – 27 500	FIXED MOBILE except aeronautical 5.150	26 175-27 500 kHz MOBILE except aeronautical mobile 5.150 SADC1	Mobile systems (single frequency) CB Radio (26.96-27.410 MHz) ISM applications (26.975- 27.283 MHz) SRD applications (26 957- 27 283 kHz)	Common international SRD band; see ITU-R Rec.SM.1(SRD)	FIXED MOBILE except aeronautical 5.150	LANDMOBILE
27 500 – 28 000	METEOROLOGICAL AIDS FIXED MOBILE				METEOROLOGICAL AIDS FIXED MOBILE	METEOROLOGICAL AIDS FIXED MOBILE
28 000 – 29 700	AMATEUR AMATEUR SATELLITE				AMATEUR AMATEUR SATELLITE	AMATEUR AMATEUR SATELLITE
29 700 – 30 005	FIXED MOBILE				FIXED MOBILE	FIXED LAND MOBILE
27.5-28 MHz METEOROLOGICAL AIDS FIXED MOBILE	27.5-28 MHz METEOROLOGICAL AIDS FIXED MOBILE					
28-29.7 MHz AMATEUR AMATEUR- SATELLITE	28-29.7 MHz AMATEUR AMATEUR-SATELLITE	Amateur communications Amateur-satellite communications				
29.7-30.005 MHz FIXED MOBILE	29.7-30.005 MHz FIXED MOBILE SADC2	Government use				

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
30.005 - 30.010	SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	30.005-30.01 MHz SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	Government use		SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	SPACE OPERATION (satellite identification) FIXED LANDMOBILE SPACE RESEARCH
30.01 - 37.50	FIXED MOBILE	30.01-37.5 MHz MOBILE	Government use PMR		FIXED MOBILE	FIXED LANDMOBILE Telemetry Remote Control
37.50 - 38.25	FIXED MOBILE Radio Astronomy 5.149	37.5-38.25 MHz MOBILE Radio astronomy 5.149	PMR Radio astronomy		FIXED MOBILE Radio Astronomy 5.149	FIXED LANDMOBILE
38.250 - 39.986	FIXED MOBILE	38.25-39.986 MHz MOBILE	PMR		FIXED MOBILE	FIXED LANDMOBILE
39.986 - 40.020	FIXED MOBILE Space Research	39.986-40.02 MHz MOBILE	PMR		FIXED MOBILE Space Research	FIXED LANDMOBILE
40.02 - 40.98	FIXED MOBILE 5.150	40.02-40.98 MHz MOBILE 5.150 SADC3	PMR ISM (40.66-40.70 MHz) SRD applications (40.66-40.77 MHz)	Common international SRD band; see ITU-R Rec.SM.[SRD]	FIXED MOBILE 5.150	FIXED LANDMOBILE Telemetry Remote Control
40.980 - 41.015	FIXED MOBILE Space Research 5.160	40.98-41.015 MHz MOBILE Space research 5.160	PMR		FIXED MOBILE Space Research 5.160	FIXED LANDMOBILE
41.015 - 44.000	FIXED MOBILE 5.160 5.161	41.015-44 MHz MOBILE 5.160	PMR		FIXED MOBILE 5.160	FIXED LANDMOBILE
44.0 - 47.0	FIXED MOBILE 5.162 5.162A	44-47 MHz FIXED MOBILE	PMR Meteor Burst (45.3-46.9 MHz) CT0 Cordless Telephony BTx (46.61-46.97 MHz)	Paired with 47.5-49.1 MHz)	FIXED MOBILE 5.162 5.162A	AERONAUTICAL RADIONAVIGATION FIXED LANDMOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
47 – 68 MHz	BROADCASTING 5.162A 5.163 5.164 5.165 5.169 5.171	47-50 MHz LAND MOBILE 5.164 5.165	PMR Meteor Burst (47.5-49.1 MHz) CT0 Cordless Telephony MTx (49.67-49.97 MHz)	Paired with 45.3-46.9 MHz Paired with (46.61-46.97 MHz)	BROADCASTING 5.165 5.169 5.171	BROADCASTING AMATEUR 5.169 FIXED LANDMOBILE 5.171
		50-54 MHz AMATEUR 5.164 5.165 5.169				
		54-68 MHz MOBILE except aeronautical mobile 5.164 5.165 5.171	PMR			
68.00 – 74.80	FIXED MOBILE except Aeronautical 5.149 5.174 5.175 5.177 5.179	68-74.8 MHz MOBILE except aeronautical mobile 5.149 SADC4	PMR and/or PAMR		FIXED MOBILE except Aeronautical 5.149	FIXED LANDMOBILE
74.8 - 75.2	AERONAUTICAL RADIONAVIGATION 5.180 5.181	74.8-75.2 MHz AERONAUTICAL RADIONAVIGATION 5.180	Instrument Landing System (ILS) Marker beacons (75 MHz)		AERONAUTICAL RADIONAVIGATION 5.180	AERONAUTICAL RADIONAVIGATION
75.2 – 87.5 MHz	FIXED MOBILE except aeronautical mobile 5.175 5.179 5.184 5.187	75.2-87.5 MHz MOBILE except aeronautical mobile	PMR and/or PAMR		FIXED MOBILE except aeronautical mobile	FIXED LANDMOBILE
87.5 - 100.0	BROADCASTING 5.190	87.5-100 MHz BROADCASTING	FM Sound broadcasting (87.5-108 MHz)	Geneva agreement GE84	BROADCASTING	BROADCASTING
100 - 108	BROADCASTING 5.192 5.194	100-108 MHz BROADCASTING			BROADCASTING	BROADCASTING

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
108,000 - 117,975	AERONAUTICAL RADIONAVIGATION 5.197 5.197A	108-117,975 MHz AERONAUTICAL RADIONAVIGATION 5.197A	Instrument Landing System (ILS) / Localiser (108-112 MHz) VHF Omni-directional Range (VOR) (112-117,975 MHz) Aeronautical mobile communications (108-117,975 MHz)	AM(R/S) shall operate in accordance with Res.413(Rev.WRC-07). Safety and regularity of flights; in the band 108-112 MHz AM(R/S) limited to ground based transmitters.	AERONAUTICAL RADIONAVIGATION 5.197A	AERONAUTICAL RADIONAVIGATION
117,975 – 137,000	AERONAUTICAL MOBILE (R) 5.111 5.198 5.199 5.200 5.201 5.202 5.203 5.203A 5.203B	117,975-137 MHz AERONAUTICAL MOBILE (R) 5.111 5.200 5.201 121,450-121,550 MHz International Distress Frequency (121.5 MHz) 121,550-137,000 MHz Aeronautical mobile communications	117,975-121,450 MHz Aeronautical mobile communications EPIRBs at 121.5 MHz ITU RR Article 31 applies 123.1 MHz - auxiliary emergency frequency	Safety and regularity of flights 121,450-121,550 MHz International Distress Frequency (121.5 MHz) 121,550-137,000 MHz Aeronautical mobile communications	AERONAUTICAL MOBILE (R) 5.111 5.198 5.199 5.200 5.203A	AERONAUTICAL MOBILE (R) Fixed
137,000 - 137,025	SPACE OPERATION (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to- Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except Aeronautical mobile (R) S 5.204 5.205 5.206 5.207 5.208	137-137,025 MHz SPACE OPERATION (space- to-Earth) METEOROLOGICAL- SATELLITE (space-to- Earth) MOBILE-SATELLITE (space- to-Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space- to- Earth) Mobile except aeronautical mobile (R) 5.208			SPACE OPERATION (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to- Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except Aeronautical mobile (R) S 5.208	SPACE OPERATION (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to- Earth) MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile except Aeronautical mobile (R) S

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
137.025 - 137.175	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-Satellite (space-to-Earth) 5.208A 5.209 Fixed Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	137.025-137.175 MHz SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209 Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208			SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-Satellite (space-to-Earth) 5.208A 5.209 Fixed Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-Satellite (space-to-Earth) Fixed Mobile except aeronautical mobile (R)
137.175 - 137.825	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	137.175-137.825 MHz SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space-to-Earth) Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	NOAA meteorology satellite (137.500-137.620 MHz)		SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.209 SPACE RESEARCH (space-to-Earth) Fixed obile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) FixedMobile except aeronautical mobile (R)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
137,825 - 138,000	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-Satellite (space-to-Earth) 5.208A 5.209 Mobile except aeronautical mobile (R) 5.204 5.205 5.206 5.207 5.208	137.825-138 MHz SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209 Mobile except aeronautical mobile (R) 5.208			SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-Satellite (space-to-Earth) 5.208A 5.209 Mobile except aeronautical mobile (R) 5.208	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-Satellite (space-to-Earth) Mobile except aeronautical mobile (R)
138.0 - 143.6	AERONAUTICAL MOBILE (OR) 5.210 5.211 5.212 5.214	138-143.6 MHz MOBILE 5.211 5.212 5.214 SADC5	PMR and / or PAMR		AERONAUTICAL MOBILE (OR) 5.212	FIXED MOBILE
143.60 - 143.65	AERONAUTICAL MOBILE (OR) 5.210 5.211 5.212 5.214 SPACE RESEARCH (space-Earth) 5.211 5.212 5.214	143.6-143.65 MHz MOBILE 5.211 5.212 5.214	PMR and/or PAMR		AERONAUTICAL MOBILE (OR) 5.212 SPACE RESEARCH (space-Earth) 5.212	AERONAUTICAL MOBILE (OR) Fixed MOBILE
143.65 - 144.00	AERONAUTICAL MOBILE (OR) 5.210 5.211 5.212 5.214	143.65-144 MHz MOBILE 5.211 5.212 5.214	PMR and/or PAMR		AERONAUTICAL MOBILE (OR) 5.212	FIXED MOBILE
144 - 146	AMATEUR AMATEUR-SATELLITE 5.216	144-146 MHz AMATEUR AMATEUR-SATELLITE			AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE
146.0 - 148.0	FIXED MOBILE except aeronautical mobile (R)	146-148 MHz MOBILE except aeronautical mobile (R)	PMR and/or PAMR		FIXED MOBILE except aeronautical mobile (R)	LAND MOBILE Fixed

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
148.0 – 149.9	FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	148-149.9 MHz MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221 SADC6	Mobile satellite communications (Little LEO)	For some Little LEO systems this band is supplemented by the band 149.9-150.05 MHz.	FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 5.221	FIXED LAND MOBILE Mobile – Satellite (Earth-to-space)
149.90 - 150.05	MOBILE-SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION- SATELLITE 5.224B 5.220 5.222 5.223	149.9-150.05 MHz MOBILE-SATELLITE (Earth- to-space) 5.209 5.224A RADIONAVIGATION- SATELLITE 5.224B 5.220 5.222 5.223	Mobile satellite communications (Little LEO)		MOBILE-SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION- SATELLITE 5.224B 5.220 5.222 5.223	MOBILE-SATELLITE (Earth-to-space) RADIONAVIGATION - SATELLITE
150.05 - 153.00	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	150.05-153 MHz MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	PMR and/or PAMR Paging		FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	LAND MOBILE MOBILE RADIO ASTRONOMY
153 - 154	FIXED MOBILE except aeronautical mobile (R) Meteorological Aids	153-154 MHz MOBILE except aeronautical mobile (R)	PMR and/or PAMR		FIXED MOBILE except aeronautical mobile (R) Meteorological Aids	LAND MOBILE MOBILE Meteorological aids
154-156.4875 MHz	154-156.4875 MHz FIXED MOBILE except aeronautical mobile (R) 5.226	154-156.4875 MHz FIXED MOBILE except aeronautical mobile (R) 5.226	154-156 MHz PMR and/or PAMR 156.00-156.4875 MHz Maritime mobile communications (Ship stations) Land mobile in areas remote from coast	Paired with 160.625- 160.950 MHz, single frequency 156.3 MHz and in the band 156.375- 156.475 MHz. ITU RR Articles 31 and 52 and Appendix 18 apply.		

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
156.4875-156.5625 MHz MARITIME MOBILE (distress and calling via DSC) 5.111 5.226 5.227	156.4875-156.5625 MHz MARITIME MOBILE (distress and calling via DSC) 5.111 5.226 5.227				Maritime mobile distress, safety and calling frequency 156.525 MHz for maritime mobile VHF radiotelephone service using DSC. The bands 156.4875-156.5125 MHz and 156.5375-156.5625 MHz may also be used for land mobile services while protecting the maritime mobile service.	ITU RR Articles 31 and 52 and Appendix 18 apply.
154.0 – 156.7625	FIXED MOBILE except aeronautical mobile (R) 5.226 5.227	156.5625-156.7625 MHz MOBILE except aeronautical mobile (R) 5.226	156.5625-156.7625 MHz Maritime mobile communications. Land mobile in areas remote from coast.	Single frequency applications, ITU RR Articles 31 and 52 and Appendix 18 apply.	FIXED MOBILE except aeronautical mobile (R) 5.226 5.227	LAND MOBILE MOBILE
156.7625 - 156.8375	MARITIME MOBILE (distress and calling) 5.211 5.226	156.7625-156.8375 MHz MARITIME MOBILE (distress and calling) 5.111 5.226	International distress, safety and calling frequency at 156.8 MHz for the maritime mobile VHF radiotelephone service.	ITU RR Article 31 and Appendix 18 apply to the use of the frequency 156.8 MHz and this band.	MARITIME MOBILE (distress and calling) 5.211 5.226	MARITIME MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
156.8375 - 174.0000	FIXED MOBILE except Aeronautical mobile 5.226 5.229	156.8375-174 MHz MOBILE except aeronautical mobile 5.226 5.227A SADC7	156.8375-157.45 MHz Maritime mobile communications (ship stations). Land mobile in areas remote from coast. 157.450-160.6 MHz PMR and/or PAMR 160.600-160.975 MHz Maritime mobile communications (Coast stations). Land mobile in areas remote from coast. 160.975-161.475 MHz PMR and/or PAMR 161.475-162.050 MHz Maritime mobile communications (Coast stations) Land mobile in areas remote from coast Automatic Identification System (AIS) at 161.975 MHz and 162.025 MHz 162.050-174 MHz PMR and/or PAMR	Paired with 161.5-162.0 MHz and single frequency applications; ITU RR Articles 31 and 52 and Appendix 18 apply. Paired with 156.025- 156.350 MHz; ITU RR Articles 31 and 52 and Appendix 18 apply. Single frequency applications. Paired with 156.9-157.4 MHz; ITU RR Articles 31 and 52 and Appendix 18 apply.	FIXED MOBILE except Aeronautical mobile 5.226	LAND MOBILE MARITIME MOBILE MOBILE FIXED
174 – 223	BROADCASTING 5.235 5.237 5.243	174-223 MHz BROADCASTING 5.237	TV Broadcasting (174-214 MHz) T-DAB (214-230 MHz)	TV Band III Migration from analogue to digital in accordance with SADC time lines.	BROADCASTING	TELEVISION BROADCASTING DIGITAL SOUND (T- DAB) BROADCASTING
223 – 230	BROADCASTING Fixed Mobile 5.243 5.246 5.247	223-230 MHz BROADCASTING	TV Broadcasting (174-214 MHz) T-DAB (214-230 MHz)	TV Band III Migration from analogue to digital in accordance with SADC time lines.	BROADCASTING Fixed Mobile	TELEVISION BROADCASTING DIGITAL SOUND BROADCASTING

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
230 – 235	FIXED MOBILE 5.247 5.251 5.252	230-235 MHz BROADCASTING 5.252 SADC8	TV Broadcasting	TV Band III (Analogue television to migrate according to SADC time lines)	BROADCASTING 5.252 FIXED MOBILE	TELEVISION BROADCASTING
235 – 267	FIXED MOBILE 5.111 5.199 5.252 5.254 5.256 5.256A	235-238 MHz BROADCASTING 5.252 5.254 SADC9	TV Broadcasting	TV Band III (Analogue television to migrate according to SADC time lines)	BROADCASTING 5.252 FIXED MOBILE 5.111 5.199 5.254 5.256	TELEVISION BROADCASTING 230 - 238. 246 - 254 FIXED MOBILE
		238-246 MHz MOBILE 5.111 5.254 5.256 SADC9				
			238-242.95 MHz PMR and/or PAMR			
			242.95-243.05 MHz International Distress Frequency (243 MHz)	Band available for distress and safety purposes.		
			243.05-246.00 MHz Low-power devices	Low-power devices ancillary to the broadcasting service.		
		246-254 MHz BROADCASTING 5.252 5.254 SADC9	TV Broadcasting (channel 13) (246.18-254.18 MHz)	TV Band III (Analogue television to migrate according to SADC time lines)		
		254-267 MHz MOBILE 5.254 SADC9	PMR and/or PAMR			
267 - 272	FIXED MOBILE Space Operation (space-to-Earth) 5.254 5.257	267-272 MHz FIXED MOBILE 5.254 5.257	Government use		FIXED MOBILE Space Operation (space-to-Earth) 5.254 5.257	FIXED MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
272 – 273	SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	272-273 MHz SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	Government use		SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	FIXED MOBILE
273 – 312	FIXED MOBILE 5.254	273-312 MHz FIXED MOBILE 5.254	Government use		FIXED MOBILE 5.254	FIXED MOBILE
300 MHz – 3 000 MHz						
312 - 315	FIXED MOBILE Mobile-Satellite (Earth-to- space) 5.254 5.255	312-315 MHz FIXED MOBILE 5.254 5.255	Government use		FIXED MOBILE Mobile-Satellite (Earth-to- space) 5.254 5.255	FIXED MOBILE Mobile-Satellite (Earth-to- space)
315 – 322	FIXED MOBILE 5.254	315-322 MHz FIXED MOBILE 5.254	Government use		FIXED MOBILE 5.254	FIXED MOBILE
322.0 – 328.6	FIXED MOBILE RADIO ASTRONOMY 5.149	322-328.6 MHz FIXED MOBILE RADIO ASTRONOMY 5.149	Government use		FIXED MOBILE RADIO ASTRONOMY 5.149	FIXED MOBILE RADIO ASTRONOMY
328.6 - 335.4	AERONAUTICAL RADIONAVIGATION 5.258 5.259	328.6-335.4 MHz AERONAUTICAL RADIONAVIGATION 5.258	Instrument Landing Systems (ILS) (glide path)		AERONAUTICAL RADIONAVIGATION 5.258	AERONAUTICAL RADIONAVIGATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
335.4 - 387.0	FIXED MOBILE 5.254	335.4-387 MHz FIXED MOBILE 5.254	335.4-336 MHz PMR and/or PAMR	PTP/PTMP rural system; Paired with 356-366 MHz.	FIXED MOBILE 5.254	FIXED MOBILE RADIO TRUNKING
			336-346 MHz Fixed Wireless Access			
			346.0-356.0 MHz PMR and/or PAMR			
			356.0-366.0 MHz Fixed Wireless Access	PTP/PTMP rural system; Paired with 336-346 MHz		
			366.0-380.0 MHz PMR and/or PAMR			
			380.0-387.0 MHz PPDR	Paired with 390.0-397.0 MHz. To be used mainly for digital systems.		
387 – 390	FIXED MOBILE Mobile-Satellite (space-to-Earth) 5.208A 5.254 5.255	387-390 MHz MOBILE Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.254 5.255 SADC10	387.0-390.0 MHz PMR and/or PAMR	Paired with 397.0-399.9 MHz. To be used mainly for digital systems.	FIXED MOBILE Mobile-Satellite (space-to-Earth) 5.208A 5.254 5.255	FIXED MOBILE Mobile-Satellite (space-to-Earth)
390.0 – 399.5	FIXED MOBILE 5.254	390-399.9 MHz MOBILE 5.254	390.0-397.0 MHz PPDR	Paired with 380.0-387.0 MHz. To be used mainly for digital systems.	FIXED MOBILE 5.254	FIXED MOBILE RADIO TRUNKING
			397.0-399.9 MHz PMR and/or PAMR	Paired with 387.0-390.0 MHz. To be used mainly for digital systems.		
399.90 - 400.05	MOBILE- SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION- SATELLITE 5.222 5.224B 5.260 5.220	399.9-400.05 MHz MOBILE-SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION- SATELLITE 5.222 5.224B 5.260 5.220			MOBILE- SATELLITE (Earth-to-space) 5.209 5.224A RADIONAVIGATION- SATELLITE 5.222 5.224B 5.260 5.220	LANDMOBILE – SATELLITE RADIONAVIGATION – SATELLITE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
400.0500 - 400.1500	STANDARD FREQUENCY AND TIME SIGNAL SATELLITE (400.1 MHz) 5.261 5.262	400.05-400.15 MHz STANDARD FREQUENCY AND TIME SIGNAL- SATELLITE (400.1 MHz) 5.261 5.262			STANDARD FREQUENCY AND TIME SIGNAL SATELLITE (400.1 MHz) 5.261	STANDARD FREQUENCY AND TIME SIGNAL SATELLITE (400.1 MHz)
400.15 - 401.00	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.209 SPACE RESEARCH (space-to-Earth) 5.263 Space Operation (space-to-Earth) 5.262 5.264	400.15-401 MHz METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A 5.208B 5.209 SPACE RESEARCH (space-to-Earth) 5.263 5.262 5.264			METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.209 SPACE RESEARCH (space-to-Earth) 5.263 Space Operation (space-to-Earth) 5.262 5.264	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Space Operation (space-to-Earth)
401 - 402	METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION- SAT (Earth-to-space) METEOROLOGICAL SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	401-402 MHz METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION- SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space)			METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION- SAT (Earth-to-space) METEOROLOGICAL SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION- SAT (Earth-to-space) METEOROLOGICAL SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
402 - 403	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	402-403 MHz METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL SATELLITE (Earth-to-space)	SRDs – ultra low power active medical implants	SRDs – see ITU-R Rec. SM.[SRD] and Rec. RS.1346	METEOROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS EARTH EXPLORATION – SATELLITE (Earth-to-space) METEOROLOGICAL – SATELLITE (Earth-to-space) Fixed Land Mobile
403 - 406	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	403-406 MHz METEOROLOGICAL AIDS			METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	METEOROLOGICAL AIDS Fixed Land Mobile
406.0 - 406.1	MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	406-406.1 MHz MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	Low power satellite EPIRBs (distress and safety purposes)	ITU RR Articles 32 and 34 and Appendix 15 applies	MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	MOBILE-SATELLITE (Earth-to-space)
406.1 - 410.0	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	406.1-410 MHz MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	PMR and/or PAMR PPDR	The use of this band for PPDR to be studied.	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	FIXED LAND MOBILE RADIO ASTRONOMY
410 – 420	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 5.268	410-420 MHz MOBILE except aeronautical mobile SADC11	PMR and/or PAMR PPDR	The use of this band for PPDR to be studied.	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 5.268	FIXED LAND MOBILE
420 - 430	FIXED MOBILE except aeronautical mobile Radiolocation 5.269 5.270 5.271	420-430 MHz MOBILE except aeronautical mobile SADC11	PMR and/or PAMR PPDR	The use of this band for PPDR to be studied.	FIXED MOBILE except aeronautical mobile Radiolocation	FIXED MOBILE LAND MOBILE Radiolocation
430 – 432	AMATEUR RADIOLOCATION 5.271 5.272 5.273 5.274 5.275 5.276 5.277	430-432 MHz AMATEUR RADIOLOCATION 5.276 5.277 SADC11	Amateur		AMATEUR RADIOLOCATION	AMATEUR RADIOLOCATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
432 – 438	AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A 5.138 5.271 5.272 5.276 5.277 5.280 5.281 5.282	432-438 MHz AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A 5.138 5.276 5.277 5.282 SADC11	Amateur (432-438 MHz) Amateur-satellite (435-438 MHz) ISM (433.0-434.79 MHz)	Conditions for amateur satellite service is given in 5.282	AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A 5.138	
438 – 440	AMATEUR RADIOLOCATION 5.271 5.273 5.274 5.275 5.276 5.277 5.283	438-440 MHz AMATEUR RADIOLOCATION 5.276 5.277	Amateur			
440 - 450	FIXED MOBILE except aeronautical mobile Radiolocation 5.269 5.270 5.271 5.284 5.285 5.286	440-450 MHz FIXED MOBILE except aeronautical mobile 5.286	PMR and/or PAMR PPDR PMR446 (446-446.1 MHz) FIXED (telemetry, dual frequency alarm systems)	The use of this band for PPDR to be studied. PMR446-ERC/DEC/ (98)25	FIXED MOBILE except aeronautical mobile Radiolocation 5.286	FIXED LAND MOBILE MOBILE Radiolocation
450 - 455	FIXED MOBILE 5.209 5.271 5.286 5.286A 5.286B 5.286C 5.286D 5.286E	450-455 MHz FIXED MOBILE 5.286AA 5.286 5.286A	Fixed links (PTP) IMT (450-470 MHz) PMR and/or PAMR	This band is currently used for a variety of fixed and mobile systems in the various SADC countries. This band is also identified for IMT (Res.224 applies).	FIXED MOBILE 5.209 5.286 5.286A	FIXED LAND MOBILE WIRELESS LOCAL LOOP
455 - 456	FIXED MOBILE 5.209 5.271 5.286A 5.286B 5.286C 5.286E	455-456 MHz FIXED MOBILE 5.286AA 5.209 5.286A			FIXED MOBILE 5.209 5.286A	FIXED LAND MOBILE WIRELESS LOCAL LOOP
456 – 459	FIXED MOBILE 5.271 5.287 5.288	456-459 MHz FIXED MOBILE 5.286AA 5.287			FIXED MOBILE	FIXED LAND MOBILE WIRELESS LOCAL LOOP
459 – 460	FIXED MOBILE 5.209 5.271 5.286A 5.286B 5.286C 5.286E	459-460 MHz FIXED MOBILE 5.286AA 5.209 5.286A			FIXED MOBILE 5.209 5.286A	FIXED MOBILE LAND MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
460 – 470	FIXED MOBILE Meteorological-Satellite (space-to-Earth) 5.287 5.288 5.289 5.290	460-470 MHz FIXED MOBILE 5.286AA Meteorological-satellite (space-to-Earth) 5.287 5.289			FIXED MOBILE Meteorological-Satellite (space-to-Earth) 5.289	FIXED MOBILE WIRELESS LOCAL LOOP LAND MOBILE Meteorological-Satellite (space-to-Earth)
470 – 790	BROADCASTING 5.149 5.291A 5.294 5.296 5.300 5.302 5.304 5.306 5.311 5.312	470-790 MHz BROADCASTING RADIO ASTRONOMY 5.149 5.294 5.296 5.304 5.311A SADC12	TV broadcasting (470-790 MHz) Radio astronomy (606-614 MHz)	Band IV/V Analogue television to migrate to digital television in line with SADC time lines	BROADCASTING 5.149 5.304 5.306 5.311	BROADCASTING
790 – 862	FIXED BROADCASTING 5.312 5.314 5.315 5.316 5.319 5.321	790-862 MHz BROADCASTING MOBILE except aeronautical mobile 5.316B 5.317A 5.314 5.315 5.316 5.316A SADC13	TV broadcasting (790-854 MHz) IMT	Band IV/V analogue television to migrate to digital television according to SADC time lines. WRC-07 allocated this band for mobile services and identified it for IMT. This band should be made available for IMT as soon as possible after the migration of analogue television to digital. This band needs to be harmonised in SADC for IMT; channelling plan to be developed for SADC region. Fixed links operating in this band will have to be migrated in order to accommodate IMT.	FIXED BROADCASTING	FIXED MOBILE WIRELESS LOCAL LOOP BROADCASTING

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
862 – 890	FIXED MOBILE except Aeronautical Mobile 5.317A BROADCASTING 5.322 5.319 5.323	862-890 MHz MOBILE except aeronautical mobile 5.317A 5.322 SADC14	862-876 MHz IMT	The use of this band for IMT in the future to be investigated as part of the development of harmonised IMT channelling arrangements. This band is paired with 921-925 MHz. The use of this band for IMT in the future to be investigated as part of the development of harmonised IMT channelling arrangement.	FIXED MOBILE except Aeronautical Mobile 5.317A BROADCASTING 5.322	FIXED LAND MOBILE MOBILE SYSTEMS
890 – 942	FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation 5.323	890-942 MHz MOBILE except aeronautical mobile 5.317A	880-915 MHz IMT	Paired with 925-960 MHz.	FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation	FIXED LAND MOBILE MOBILE SYSTEMS
942 – 960	FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation 5.323	942-960 MHz MOBILE except aeronautical mobile 5.317A 5.322	915-921 MHz PMR and/or PMR 921-925 MHz IMT PMR and/or PAMR 925-960 MHz IMT	Paired with 876-880 MHz. Paired with 880-915 MHz	FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 Radiolocation	FIXED LAND MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
960 – 1164	AERONAUTICAL RADIONAVIGATION 5.328	960-1 164 MHz AERONAUTICAL RADIONAVIGATION 5.328 AERONAUTICAL MOBILE (R) 5.327A	Distance measuring equipment Secondary surveillance radar		AERONAUTICAL RADIONAVIGATION 5.328	AERONAUTICAL RADIONAVIGATION
1164 – 1215	AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION- SATELLITE (space-to- Earth)(space-to-space) 5.328B 5.328A	1 164-1 215 MHz AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION- SATELLITE (space-to- Earth) (space-to-space) 5.328B 5.328A	Galileo (1164-1214 MHz) GLONASS (1190.3- 1213.8 MHz)		AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION- SATELLITE (space-to- Earth)(space-to-space) 5.328B 5.328A	
1215 - 1240	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to- Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) 5.330 5.331 5.332	1 215-1 240 MHz EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION RADIONAVIGATION- SATELLITE (space-to- Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) 5.330 5.331 5.332	GLONASS (1237.8- 1253.8 MHz) GPS (1215.6-1239.6 MHz)		EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to- Earth) (space-to-space) 5.329 SPACE RESEARCH (active) 5.332	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to- Earth) (space-to-space)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
1240 – 1300	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) Amateur 5.282 5.330 5.331 5.332 5.335 5.335A	1 240-1 300 MHz EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A SPACE RESEARCH (active) Amateur 5.330 5.331 5.282 5.332 5.335A	GLONASS (1237.8-1253.8 MHz) Galileo (1260-1300 MHz)		EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to-Earth) (space-to-space) 5.329 5.329A SPACE RESEARCH (active) Amateur 5.332 5.335A	EARTH EXPLORATION – SATELLITE (active) RADIOLOCATION RADIONAVIGATION - SATELLITE (space-to-Earth) (space-to-space) SPACE RESEARCH (active) Amateur
1300 - 1350	AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION RADIONAVIGATION SATELLITE (Earth-to-space) 5.149 5.337A	1 300-1 350 MHz AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149 5.337A			AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION RADIONAVIGATION SATELLITE (Earth-to-space) 5.149 5.337A	AERONAUTICAL RADIONAVIGATION RADIOLOCATION RADIONAVIGATION SATELLITE (Earth-to-space)
1350 - 1400	FIXED MOBILE RADIOLOCATION 5.149 5.338 5.339 5.339A	1 350-1 400 MHz FIXED RADIOLOCATION 5.149 5.338A 5.339	1 350-1 375 MHz Fixed links (duplex)	Paired with 1492-1517 MHz; CEPT/T/R 13-01 refers.	FIXED MOBILE RADIOLOCATION 5.149 5.339 5.339A	FIXED MOBILE POINT – TO-MULTI-POINT (P-MP) SYSTEMS RADIOLOCATION Radio Astronomy
1400 - 1427	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	1 400-1 427 MHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	1 375-1 400 MHz Fixed links (duplex)	Paired with 1427-1452 MHz; CEPT/T/R 13-01 refers.	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	EARTH EXPLORATION -SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
1427 - 1429	SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.341	1 427-1 429 MHz SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.338A 5.341	1 427-1 452 MHz Fixed links (duplex)	Paired with 1375-1400 MHz; CEPT/T/R 13-01 refers.	SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.341	FIXED MOBILE POINT – TO-MULTI-POINT (P-MP) SYSTEMS
1429 - 1452	FIXED MOBILE except aeronautical mobile 5.339A 5.341 5.342	1 429-1 452 MHz FIXED MOBILE except aeronautical mobile 5.338A 5.341	1 427-1 452 MHz Fixed links (duplex)	Paired with 1375-1400 MHz; CEPT/T/R 13-01 refers.	FIXED MOBILE except aeronautical mobile 5.339A 5.341	FIXED MOBILE POINT – TO-MULTI-POINT (P-MP) SYSTEMS
1452 - 1492	FIXED MOBILE except aeronautical mobile BROADCASTING 5.345 5.347 BROADCASTING - SATELLITE 5.345 5.347 5.347A 5.341 5.342	1 452-1 492 MHz MOBILE except aeronautical mobile BROADCASTING 5.345 BROADCASTING-SATELLITE 5.208B 5.345 5.341	1 452-1 467 MHz Terrestrial Digital Audio Broadcasting (T-DAB)	The future use of this band for T-DAB to be re-evaluated.	FIXED MOBILE except aeronautical mobile BROADCASTING 5.345 5.347 BROADCASTING - SATELLITE 5.345 5.347 5.347A 5.341	FIXED MOBILE DIGITAL SOUND BROADCASTING - SATELLITE
1492 - 1518	FIXED MOBILE except aeronautical mobile 5.341 5.342	1 492-1 518 MHz FIXED 5.341 SADC15	1 467-1 492 MHz Satellite Digital Audio Broadcasting (S-DAB) 1 492-1 517 MHz Fixed links (dual frequency)	Paired with 1350-1375 MHz; CEPT/T/R 13-01 refers.	FIXED MOBILE except aeronautical mobile 5.341	FIXED MOBILE POINT – TO-MULTI-POINT (P-MP) SYSTEMS
1518 - 1525	FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.341	1 518-1 525 MHz FIXED MOBILE-SATELLITE (space- to-Earth) 5.348 5.348A 5.348B 5.351A 5.341	1 517-1 518 MHz Fixed links (single frequency) 1518-1525 MHz Fixed links (single frequency)	The band 1518-1559 MHz is identified for satellite component of IMT; Res.225 applies.	FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348C 5.341	FIXED MOBILE POINT – TO-MULTI-POINT (P-MP) SYSTEMS

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
1525 - 1530	SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A Earth exploration-satellite Mobile except aeronautical mobile 5.349 5.341 5.342 5.350 5.351 5.352A 5.354	1 525-1 530 MHz SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.354 5.352A		The band 1518-1559 MHz is identified for satellite component of IMT; Res.225 applies.	SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A Earth Exploration Satellite Mobile except aeronautical mobile 5.341 5.351 5.354	SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) Land Mobile
1530 - 1535	SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.353A Earth exploration-satellite Fixed Mobile except aeronautical mobile 5.341 5.342 5.351 5.354	1 530-1 535 MHz SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.353A 5.341 5.351 5.354		The band 1518-1559 MHz is identified for satellite component of IMT; Res.225 applies. In the band 1530-1544 MHz priority for maritime mobile distress, urgency and safety communications (GMDSS); Res.222 applies.	SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.353A Earth exploration-satellite Fixed Mobile except aeronautical mobile 5.341 5.351 5.354	SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Fixed Land Mobile
1535 - 1559	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A 5.359 5.362A	1 535-1 559 MHz MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.356 5.357 5.357A 5.359		The band 1518-1559 MHz is identified for satellite component of IMT; Res.225 applies. In the band 1530-1544 MHz priority for maritime mobile distress, urgency and safety communications (GMDSS); Res.222 applies.	MOBILE-SATELLITE (space-to-Earth) 5.347A 5.351A 5.341 5.351 5.353A 5.354 5.356 5.357 5.357A	MOBILE-SATELLITE (space-to-Earth)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
1559 - 1610	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION- SATELLITE (space-to- Earth)(space-to-space) 5.328B 5.329A 5.341 5.362B 5.362C 5.363	1 559-1 610 MHz AERONAUTICAL RADIONAVIGATION RADIONAVIGATION- SATELLITE (space-to- Earth)(space-to-space) 5.208B 5.328B 5.329A 5.341 5.362B	Galileo (1559.42-1591.42 MHz) GLONASS (1592.9-1610.5 MHz) GPS (1563.42-1587.42 MHz)		AERONAUTICAL RADIONAVIGATION RADIONAVIGATION- SATELLITE (space-to- Earth)(space-to-space) 5.328B 5.329A 5.341	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION- SATELLITE (space-to- Earth)(space-to-space)
1610.0 - 1610.6	MOBILE SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341 5.355 5.359 5.363 5.364 5.366 5.367 5.368 5.369 5.371 5.372	1 610-1 610.6 MHz MOBILE-SATELLITE (Earth- to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341 5.359 5.364 5.366 5.367 5.368 5.369 5.371 5.372	GLONASS (1592.9-1610.5 MHz)	The band 1610-1645.5 MHz is identified for satellite component of IMT; Res.225 applies. This band is designated world- wide for the MSS. Paired with 2483.5-2484.1 MHz for some systems.	MOBILE SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341 5.364 5.366 5.367 5.368 5.371 5.372	MOBILE SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION
1610.6 - 1613.8	MOBILE SATELLITE (Earth-to-space) RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 5.149 5.341 5.355 5.359 5.363 5.364 5.366 5.367 5.368 5.369 5.371 5.372	1 610.6-1 613.8 MHz MOBILE-SATELLITE (Earth- to-space) 5.351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 5.149 5.341 5.359 5.364 5.366 5.367 5.368 5.369 5.371 5.372		The band 1610-1645.5 MHz is identified for satellite component of IMT; Res.225 applies. This band is designated world- wide for the MSS. Paired with 2484.1-2487.3 MHz for some systems.	MOBILE SATELLITE (Earth-to-space) RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 5.149 5.341 5.364 5.366 5.367 5.368 5.371 5.372	MOBILE SATELLITE (Earth-to-space) RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION
1613.8 - 1626.5	MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile-Satellite (space- to- Earth) 5.347A 5.341 5.355 5.359 5.363 5.364 5.365 5.366 5.367 5.368 5.369 5.371 5.372	1 613.8-1 626.5 MHz MOBILE-SATELLITE (Earth- to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile-satellite (space-to- Earth) 5.208B 5.341 5.355 5.359 5.364 5.365 5.366 5.367 5.368 5.369 5.371 5.372		The band 1610-1645.5 MHz is identified for satellite component of IMT; Res.225 applies. Paired with 1593-1594 MHz for aeronautical public correspondence	MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION Mobile-Satellite (space- to- Earth) 5.347A 5.341 5.364 5.365 5.366 5.367 5.368 5.371 5.372	MOBILE - SATELLITE (Earth-to-space) AERONAUTICAL RADIONAVIGATION Mobile-Satellite (space- to- Earth)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
1626.5 – 1660.0	MOBILE-SATELLITE (Earth-to-space) 5.341 5.351 5.353A 5.354 5.355 5.357A 5.359 5.362A 5.374 5.375 5.376	1 626.5-1 660 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.357A 5.359 5.374 5.375 5.376		The bands 1610-1645.5 MHz and 1646.5-1660.5 MHz are identified for satellite component of IMT; Res.225 applies. In the band 1626.5-1645.5 MHz priority is given to maritime mobile distress, urgency and safety communications (GMDSS); Res.222 applies.	MOBILE-SATELLITE (Earth-to-space) 5.341 5.351 5.353A 5.354 5.357A 5.374 5.375 5.376	MOBILE-SATELLITE (Earth-to-space)
1660.0 - 1660.5	MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.362A 5.376A	1 660-1 660.5 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 5.149 5.341 5.351 5.354 5.376A		The band 1610-1645.5 MHz and 1646.5-1660.5 MHz are identified for satellite component of IMT; Res.225 applies.	MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.376A	MOBILE-SATELLITE (Earth-to-space)
1660.5 - 1668	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.341 5.379 5.379A	1 660.5-1 668 MHz RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.341 5.379A			RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.341 5.379A	RADIO ASTRONOMY Fixed Land Mobile
1668 – 1668.4	MOBILE-SATELLITE (Earth-to-space) 5.348C 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.341 5.379 5.379A 5.379D	1 668-1 668.4 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.341 5.379 5.379A		The band 1668-1675 MHz is identified for satellite component of IMT; Res.225 applies.	MOBILE-SATELLITE (Earth-to-space) 5.348C 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.341 5.379A 5.379D	MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.341 5.379A 5.379D

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
1668.4 - 1670	METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.348C 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.379D 5.379E	1 668.4-1 670 MHz METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.379D 5.379E		The band 1668-1675 MHz is identified for satellite component of IMT; Res.225 applies.	METEOROLOGICAL AIDS FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (Earth-to-space) 5.348C 5.379B 5.379C RADIO ASTRONOMY 5.149 5.341 5.379D 5.379E	METEOROLOGICAL AIDS FIXED LAND MOBILE RADIO ASTRONOMY
1670 - 1675	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE 5.380 MOBILE-SATELLITE (Earth-to-space) 5.348C 5.379B 5.341 5.379D 5.379E 5.380A	1 670-1 675 MHz METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.341 5.379D 5.379E 5.380A		The band 1668-1675 MHz is identified for satellite component of IMT; Res.225 applies.	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE 5.380 MOBILE-SATELLITE (Earth-to-space) 5.348C 5.379B 5.341 5.379D 5.379E 5.380A	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) LAND MOBILE AERONAUTICAL MOBILE MOBILE-SATELLITE
1675 - 1690	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.341	1 675-1 690 MHz METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.341			METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.341	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) LAND MOBILE AERONAUTICAL MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
1690 – 1700	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 5.289 5.341 5.382	1 690-1 700 MHz METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 5.289 5.341 5.382			METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 5.289 5.341	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) LAND MOBILE AERONAUTICAL MOBILE
1700 - 1710	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.289 5.341	1 700-1 710 MHz FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.289 5.341	Fixed links (single frequency)		FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.289 5.341	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) LAND MOBILE
1710 - 1930	FIXED MOBILE 5.380 5.384A 5.388A 5.149 5.341 5.385 5.386 5.387 5.388	1 710-1 930 MHz FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.388	1 710-1 785 MHz IMT 1785-1805 MHz BFWA 1 805-1 880 MHz IMT 1 880-1 900 MHz FWA Cordless telephone 1 900-1 920 MHz FWA IMT (terrestrial) 1 920-1 980 MHz	Paired with 1805-1880 MHz. Paired with 1710-1785 MHz. Paired with 2110-2170 MHz	FIXED MOBILE 5.380 5.384A 5.388A 5.149 5.341 5.385 5.388	FIXED MOBILE SYSTEMS BROADBAND WIRELESS ACCESS SYSTEMS

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
1930 - 1970	FIXED MOBILE 5.388A 5.388	1 930-1 970 MHz MOBILE 5.388A 5.388B 5.388	IMT (terrestrial)		FIXED MOBILE 5.388A 5.388	FIXED MOBILE SYSTEMS
1970 - 1980	FIXED MOBILE 5.388A 5.388	1 970-1 980 MHz MOBILE 5.388A 5.388B 5.388			FIXED MOBILE 5.388A 5.388	FIXED MOBILE SYSTEMS
1980 - 2010	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388 5.389A 5.389B 5.389F	1 980-2 010 MHz MOBILE MOBILE-SATELLITE (Earth- to-space) 5.351A 5.388 5.389A 5.389B	IMT (satellite) (1980-2010 MHz)	Paired with 2170 - 2200 MHz. The development of satellites for IMT services to be monitored.	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388 5.389A	FIXED MOBILE MOBILE - SATELLITE (Earth-to-space)
2010 - 2025	FIXED MOBILE 5.388A 5.388	2 010-2 025 MHz MOBILE 5.388A 5.388B 5.388	IMT (terrestrial) (2010-2025 MHz)	TDD	FIXED MOBILE 5.388A 5.388	FIXED MOBILE SYSTEMS
2025 - 2110	SPACE OPERATION (Earth-to-space) (space- to-Earth) EARTH EXPLORATION- SATELLITE (Earth-to- space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space- to-space) 5.392	2 025-2 110 MHz SPACE OPERATION (Earth- to-space) (space-to- space) EARTH EXPLORATION- SATELLITE (Earth-to- space) (space-to-space) FIXED SPACE RESEARCH (Earth-to- space) (space-to- space) 5.392	Fixed links (2025-2110 MHz paired with 2200-2285 MHz)	Radio Frequency channel arrangement according to ITU- R F.1098.	SPACE OPERATION (Earth-to-space) (space- to-Earth) EARTH EXPLORATION- SATELLITE (Earth-to- space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space- to-space) 5.392	FIXED MOBILE SYSTEMS
2110 - 2120	FIXED MOBILE 5.388A SPACE RESEARCH (deep space)(Earth-to- space) 5.388	2 110-2 120 MHz MOBILE 5.388A 5.388B SPACE RESEARCH (deep space) (Earth-to-space) 5.388	IMT (terrestrial) (2110- 2170 MHz)	Paired with 1920-1980 MHz	FIXED MOBILE 5.388A SPACE RESEARCH (deep space)(Earth-to- space) 5.388	FIXED MOBILE SYSTEMS
2120 - 2160	FIXED MOBILE 5.388A 5.388	2 120-2 170 MHz MOBILE 5.388A 5.388B 5.388			FIXED MOBILE 5.388A 5.388	FIXED MOBILE SYSTEMS

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
2160 - 2170	FIXED MOBILE 5.388A 5.388 5.392A	2 160-2 170 MHz MOBILE 5.388A 5.388B 5.388			FIXED MOBILE 5.388A 5.388	FIXED MOBILE
2170 - 2200	FIXED MOBILE 5.388 MOBILE-SATELLITE (space-to-Earth) 5.351A 5.389A 5.389F 5.392A	2 170-2 200 MHz MOBILE MOBILE-SATELLITE (space- to-Earth) 5.351A 5.388 5.389A 5.389F	IMT (satellite) (2170- 2200 MHz)	Paired with 1980-2010 MHz. The development of satellites for IMT services to be monitored.	FIXED MOBILE 5.388 MOBILE-SATELLITE (space-to-Earth) 5.351A 5.389A	FIXED MOBILE MOBILE-SATELLITE (space-Earth)
2200 - 2290	SPACE OPERATION (space-to-Earth) (space- to-space) EARTH EXPLORATION- SATELLITE (space-to- Earth) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space- to-space) 5.392	2 200-2 290 MHz SPACE OPERATION (space- to-Earth) (space-to-space) EARTH EXPLORATION- SATELLITE (space-to- Earth) (space-to-space) FIXED SPACE RESEARCH (space-to- Earth) (space-to- space) 5.392	Fixed links (2025-2110 MHz paired with 2200-2285 MHz) BFWA (2 285-2 300 MHz)	Radio Frequency channel arrangement according to ITU- R F.1098.	SPACE OPERATION (space-to-Earth) (space- to-space) EARTH EXPLORATION- SATELLITE (space-to- Earth) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space- to-space) 5.392	SPACE OPERATION (space-to-Earth) (space- to-space) EARTH EXPLORATION- SATELLITE (space-to- Earth) (space-to-space) FIXED MOBILE SPACE RESEARCH (space-to-Earth) (space- to-space)
2290 - 2300	FIXED MOBILE except Aeronautical Mobile SPACE RESEARCH (deep space)(space-to- Earth)	2 290-2 300 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	BFWA (2 285-2 300 MHz)		FIXED MOBILE except Aeronautical Mobile SPACE RESEARCH (deep space)(space-to- Earth)	FIXED LAND MOBILE SPACE RESEARCH (deep space)(space- Earth)
2300 - 2450	FIXED MOBILE Amateur Radiolocation 5.150 5.282 5.395	2 300-2 450 MHz FIXED MOBILE 5.384A Amateur Radiolocation 5.150 5.282	2300-2400 MHz Fixed links PTP/PTMP IMT (TDD) BFWA	Fixed paired with 2400- 2500 MHz. This band has been identified for IMT.	FIXED MOBILE Amateur Radiolocation 5.150 5.282	FIXED MOBILE Amateur Radiolocation

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
2450 - 2483.5			2400-2500 MHz Fixed links PTP/PTMP The band 2 400-2 500 MHz is designated for ISM applications (5.150). SRD applications (2 400-2 483.5 MHz)	FS paired with 2300-2400 MHz. The band 2483.5-2500 MHz is identified for satellite component of IMT; Res.225 applies. Common international SRD band; see ITU-R Rec. SM.[SRD]		
2483.5 - 2500	FIXED MOBILE Radiolocation 5.150 5.397	2 483.5-2 500 MHz FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Radiolocation 5.150 5.371 5.398 5.399 5.400 5.402			FIXED MOBILE Radiolocation 5.150	FIXED MOBILE Radiolocation
2483.5 - 2500	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Radiolocation 5.150 5.371 5.397 5.398 5.399 5.400 5.402	2 483.5-2 500 MHz FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Radiolocation 5.150 5.371 5.398 5.399 5.400 5.402			FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A Radiolocation 5.150 5.371 5.398 5.399 5.402	FIXED MOBILE MOBILE-SATELLITE (space-Earth) Radiolocation
2500 - 2520	FIXED 5.409 5.410 5.411 MOBILE except Aeronautical Mobile 5.384A MOBILE-SATELLITE (space-to-Earth) 5.403 5.351A 5.405 5.407 5.412 5.414	2 500-2 520 MHz FIXED MOBILE except aeronautical mobile 5.384A	BFWA (2500-2690 MHz) IMT (2500-2690 MHz)	The band 2 500-2 690 MHz is currently used mainly for BFWA. This band is also allocated to the mobile service and identified for IMT. This band needs to be harmonised in SADC for IMT; channelling plan to be developed.	FIXED 5.409 5.410 5.411 MOBILE except Aeronautical Mobile 5.384A MOBILE-SATELLITE (space-to-Earth) 5.403 5.351A 5.407 5.414	FIXED MOBILE FIXED/ BROADBAND WIRELESS SYSTEMS MOBILE - SATELLITE (space-Earth)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
2520 - 2655	FIXED 5.409 5.410 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.339 5.403 5.405 5.412 5.417C 5.417D 5.418B 5.418C	2 520-2 655 MHz FIXED MOBILE except aeronautical mobile 5.384A 5.339			FIXED 5.409 5.410 5.411 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.339 5.403 5.417C 5.417D 5.418B 5.418C	FIXED MOBILE FIXED/ BROADBAND WIRELESS SYSTEMS
2655 - 2670	FIXED 5.409 5.410 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.347A 5.413 5.416 Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 5.420	2 655-2 670 MHz FIXED MOBILE except aeronautical mobile 5.384A 5.149 5.412			FIXED 5.409 5.410 5.411 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.347A 5.413 5.416 Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 5.420	FIXED MOBILE FIXED/ BROADBAND WIRELESS SYSTEMS
2670 - 2690	FIXED 5.409 5.410 5.411 MOBILE except Aeronautical Mobile 5.384A MOBILE-SATELLITE (Earth-to-space) 5.351A Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 5.412 5.419 5.420	2 670-2 690 MHz FIXED MOBILE except aeronautical mobile 5.384A 5.149 5.412			FIXED 5.409 5.410 5.411 MOBILE except Aeronautical Mobile 5.384A MOBILE-SATELLITE (Earth-to-space) 5.351A Earth Exploration-Satellite (passive) Radio Astronomy Space Research (passive) 5.149 5.419 5.420	FIXED MOBILE FIXED/BROADBAND WIRELESS SYSTEMS MOBILE - SATELLITE (Earth-space) Earth Exploration - Satellite (passive) Radio Astronomy Space Research (passive)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
2690 - 2700	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.422	2 690-2 700 MHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.422			EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive)
2700 - 2900	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	2 700-2 900 MHz AERONAUTICAL RADIONAVIGATION 5.337 5.423			AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	AERONAUTICAL RADIONAVIGATION
2900 - 3100	RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427	2 900-3 100 MHz RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427			RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425 5.427	RADIONAVIGATION
3000 MHz – 10000 MHz						
3100 – 3300	RADIOLOCATION Earth Exploration-Satellite (active) Space Research (active) 5.149 5.428	3 100-3 300 MHz RADIOLOCATION 5.149	Government use		RADIOLOCATION Earth Exploration-Satellite (active) Space Research (active) 5.149	RADIOLOCATION
3300 –3400	RADIOLOCATION 5.149 5.429 5.430	3 300-3 400 MHz RADIOLOCATION 5.149	Radars		RADIOLOCATION 5.149	RADIOLOCATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
3400 – 3600	FIXED FIXED-SATELLITE (space-to-Earth) Mobile Radiolocation 5.431	3 400-3 600 MHz FIXED MOBILE except aeronautical mobile 5.430A SADC16	BFWA IMT (3400-3600 MHz)	The band 3 400-3 600 MHz is currently used mainly for BFWA. From 17 Nov 2010 this band is also allocated to the mobile service on a primary basis and should be used for IMT in line with WRC-07 decisions. Because of the expected high usage of BFWA and/or IMT applications in this band, satellite services should be accommodated above 3 600 MHz. This band needs to be harmonised in SADC for IMT; channelling plan to be developed.	FIXED FIXED-SATELLITE (space-to-Earth) Mobile Radiolocation	FIXED MOBILE FIXED/BROADBAND WIRELESS SYSTEMS FIXED-SATELLITE (space-to-Earth)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
3600 – 4200	FIXED FIXED-SATELLITE (space-to-Earth) Mobile	3 600-4 200 MHz FIXED FIXED-SATELLITE (space-to-Earth) SADC17	Fixed services (PTP) (3600-4200 MHz) Fixed-satellite (space-to-Earth) (PTP/VSAT/SNG) (3600-4200 MHz) Broadband Fixed Wireless Access (BFWA) (3600-3800 MHz)	The sub-band 3 600-3 800 MHz could be used for BFWA where frequency sharing with FS PTP and/or FSS is feasible. The channelling arrangement for PTP links in this band is based on ITU-R Recommendation F.635 Annex 1. The sub-band 3 600-4 200 MHz is used for medium and high capacity PTP links and FSS. In the band 3 600-3 800 MHz, BFWA, FS PTP and FSS applications will have to operate on coordinated basis. However, considering the difficulty in coordinating ubiquitous user terminals used for BFWA and VSAT, it is proposed that VSAT systems be migrated to the Ku-band.	FIXED FIXED-SATELLITE (space-to-Earth) Mobile	FIXED MOBILE FIXED/BROADBAND WIRELESS SYSTEMS FIXED-SATELLITE (space-to-Earth)
4200 – 4400	AERONAUTICAL RADIONAVIGATION 5.438 5.437 5.439 5.440	4 200-4 400 MHz AERONAUTICAL RADIONAVIGATION 5.438 5.440	Radio altimeters onboard aircraft		AERONAUTICAL RADIONAVIGATION 5.438 5.440	AERONAUTICAL RADIONAVIGATION
4400 – 4500	FIXED MOBILE	4 400-4 500 MHz FIXED MOBILE	Government use		FIXED MOBILE	FIXED MOBILE
4500 – 4800	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE	4 500-4 800 MHz FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE	Government use	The band 4 500-4 800 MHz is part of the APP30B Plan (FSS space-to-Earth). Refer to Annex B.	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE	FIXED FIXED-SATELLITE MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
4800 – 4990	FIXED MOBILE 5.442 Radio Astronomy 5.149 5.339 5.443	4 800-4 990 MHz FIXED MOBILE 5.442 Radio Astronomy 5.149 5.339	Government use		FIXED MOBILE 5.442 Radio Astronomy 5.149 5.339	FIXED MOBILE Radio Astronomy
4990 – 5000	FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY Space Research (passive) 5.149	4 990-5 000 MHz FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY Space Research (passive) 5.149	Government use		FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY Space Research (passive) 5.149	FIXED MOBILE RADIO ASTRONOMY
5000 – 5010	AERONAUTICAL RADIO NAVIGATION RADIO NAVIGATION – SATELLITE (Earth-to- space) 5.367	5 000-5 010 MHz AERONAUTICAL RADIO NAVIGATION RADIO NAVIGATION- SATELLITE (Earth-to- space) 5.367			AERONAUTICAL RADIO NAVIGATION RADIO NAVIGATION – SATELLITE (Earth- to- space) 5.367	AERONAUTICAL RADIO NAVIGATION
5010 – 5030	AERONAUTICAL RADIO NAVIGATION RADIO NAVIGATION – SATELLITE (space-to- Earth) (space-to-space) 5.328B 5.443B 5.367	5 010-5 030 MHz AERONAUTICAL RADIO NAVIGATION RADIO NAVIGATION- SATELLITE (space-to- Earth) (space-to-space) 5.328B 5.443B 5.367			AERONAUTICAL RADIO NAVIGATION RADIO NAVIGATION – SATELLITE (space- to- Earth) (space-to- space) 5.328B 5.443B 5.367	AERONAUTICAL RADIO NAVIGATION
5030 – 5150	AERONAUTICAL RADIO NAVIGATION 5.367 5.444 5.444A	5 030-5 091 MHz AERONAUTICAL RADIO NAVIGATION 5.367 5.444	Microwave Landing systems.		AERONAUTICAL RADIO NAVIGATION 5.367 5.444 5.444A	AERONAUTICAL RADIO NAVIGATION
5150 – 5250	AERONAUTICAL RADIO NAVIGATION FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except Aeronautical Mobile 5.446A 5.446B 5.446 5.447 5.447B 5.447C				AERONAUTICAL RADIO NAVIGATION FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except Aeronautical Mobile 5.446A 5.446B 5.446 5.447B 5.447C	AERONAUTICAL RADIO NAVIGATION MOBILE RLAN

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
5250 – 5255	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except Aeronautical Mobile 5.446A 5.447F 5.447E 5.448 5.448A	5 091-5 150 MHz AERONAUTICAL RADIONAVIGATION AERONAUTICAL MOBILE 5.444B 5.367 5.444 5.444A			EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except Aeronautical Mobile 5.446A 5.447F 5.447D 5.448A	MOBILE RADIOLOCATION RLAN
5255 – 5350	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except Aeronautical Mobile 5.446A 5.447F 5.447E 5.448 5.448A	5 255-5 350 MHz EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 5.446A 5.447F 5.448A	Wireless Access Systems (WAS)/RLAN		EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except Aeronautical Mobile 5.446A 5.447F 5.448A	MOBILE RADIOLOCATION RLAN
5350 – 5460	EARTH EXPLORATION- SATELLITE (active) 5.448B SPACE RESEARCH (active) 5.448C AERONAUTICAL RADIONAVIGATION 5.449 RADIOLOCATION 5.448D	5 350-5 460 MHz EARTH EXPLORATION- SATELLITE (active) 5.448B SPACE RESEARCH (active) 5.448C AERONAUTICAL RADIONAVIGATION 5.449 RADIOLOCATION 5.448D	Ground based and airborne weather Radar		EARTH EXPLORATION- SATELLITE (active) 5.448B SPACE RESEARCH (active) 5.448C AERONAUTICAL RADIONAVIGATION 5.449 RADIOLOCATION 5.448D	

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
5460 – 5470	RADIONAVIGATION 5.449 EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.448D 5.448B	5 460-5 470 MHz RADIONAVIGATION 5.449 EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.448D 5.448B			RADIONAVIGATION 5.449 EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.448D 5.448B	
5470 – 5570	MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.450B 5.448B 5.450 5.451	5 470-5 570 MHz MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A 5.450A EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.450B 5.448B	Wireless Access Systems (WAS)/RLAN		MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.450B 5.448B	MARITIME RADIONAVIGATION MOBILE RLAN RADIOLOCATION
5570 – 5650	MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A RADIOLOCATION 5.450B 5.450 5.451 5.452	5 570-5 650 MHz MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A 5.450A RADIOLOCATION 5.450B 5.452	Wireless Access Systems (WAS)/RLAN Ground-based meteorological radiars (5600-5650 MHz)		MARITIME RADIONAVIGATION MOBILE except Aeronautical Mobile 5.446A 5.450A RADIOLOCATION 5.450B 5.452	MARITIME RADIONAVIGATION MOBILE RLAN RADIOLOCATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
5650 – 5725	RADIOLOCATION MOBILE except Aeronautical Mobile 5.446A 5.450A Amateur Space Research (deep space) 5.282 5.451 5.453 5.454 5.455	5 650-5 725 MHz RADIOLOCATION MOBILE except aeronautical mobile 5.446A 5.450A Amateur Space Research (deep space) 5.282 5.453 SADC18	Wireless Access Systems (WAS)/RLAN		RADIOLOCATION MOBILE except Aeronautical Mobile 5.446A 5.450A Amateur Space Research (deep space) 5.282	MOBILE/RLAN RADIOLOCATION
5725 – 5830	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur 5.150 5.451 5.453 5.455 5.456	5 725-5 830 MHz RADIOLOCATION Amateur 5.150 5.453 SADC18	BFWA (5725-5850 MHz) ISM (5725-5875 MHz) RTTT (Road Transport and Traffic Telematics) (5795-5815 MHz) SRD applications (5 725-5 875 MHz) SRD - Transport and information control systems (5 805-5 815 MHz)	BFWA limited to below 5850 MHz in order to protect FSS in the band 5850-6425 MHz. Common international SRD band; see ITU-R Rec.SM.(SRD) Transport information and control systems Recommendation ITU-R M.1453	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur 5.150	FIXED-SATELLITE RADIOLOCATION RLAN / FIXED WIRELESS ACCESS Amateur
5830 – 5850	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-Satellite (space-to-Earth) 5.150 5.451 5.453 5.455 5.456	5 830-5 850 MHz FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-Satellite (space-Earth) 5.150 5.453 SADC18	BFWA (5725-5850 MHz) ISM (5725-5875 MHz)	BFWA limited to below 5850 MHz in order to protect FSS in the band 5850-6425 MHz.	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-Satellite (space-Earth) 5.150	FIXED-SATELLITE RADIOLOCATION RLAN/FIXED WIRELESS ACCESS Amateur
5850 – 5925	FIXED-SATELLITE (Earth-to-space) MOBILE 5.150	5 850-5 925 MHz FIXED-SATELLITE (Earth-to-space) 5.150	Fixed-satellite uplinks (PTP/VSAT/SNG) (5850-6425 MHz) FIXED links (5850-5925 MHz) ISM (5725-5875 MHz)	FS could be used for temporary OB links.	FIXED-SATELLITE (Earth-to-space) MOBILE 5.150	FIXED MOBILE RLAN/FIXED WIRELESS ACCESS FIXED-SATELLITE (Earth-to-space)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
5925 – 6700	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.149 5.440 5.458	5 925-6 700 MHz FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.149 5.440 5.458	Fixed links - Lower 6 GHz (5925-6425 MHz) and Upper 6 GHz (6425-7110 MHz) Fixed-satellite uplinks (PTP/VSAT/SNG) (5850-6425 MHz)	Channelling plan for L6 GHz band in accordance with ITU-R Rec. F.383. Channelling plan for U6 GHz band in accordance with ITU-R Rec. F.384. Earth Station onboard vessels (ESV) also allowed under FSS.	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A MOBILE 5.149 5.440 5.458	FIXED (Point-to-Point Links) FIXED-SATELLITE (Earth-to-space) (Earth-to-space)
6700 – 7075	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE 5.458 5.458A 5.458B 5.458C	6 700-7 075 MHz FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 5.458 5.458A 5.458B 5.458C	Fixed links - Upper 6 GHz (6425-7110 MHz)	Channelling plan for U6 GHz band in accordance with ITU-R Rec. F.384. The band 6 725-7 025 MHz is part of the APP30B Plan (FSS Earth-to-space); refer to Annex B.	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE 5.458 5.458A 5.458B 5.458C	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth)
7075 – 7145	FIXED MOBILE 5.458 5.459	7 075-7 145 MHz FIXED 5.458 5.460	Fixed links - Upper 6 GHz (6425-7110 MHz) and Lower 7 GHz (7110-7425 MHz)	Channelling plan for U6 band in accordance with ITU-R Rec. F.384. Channelling plan for L7 band is in accordance with ITU-R Rec. F.385 Annex 3.	FIXED MOBILE 5.458	FIXED (Point-to-Point Links)
7145 – 7235	FIXED MOBILE SPACE RESEARCH (Earth-to-space) 5.460 5.458 5.459	7 145-7 235 MHz FIXED SPACE RESEARCH (Earth-to-space) 5.460 5.458	Fixed links - Lower 7 GHz (7110-7425 MHz)	Channelling plan for L7 band in accordance with ITU-R Rec. F.385 Annex 3.	FIXED MOBILE SPACE RESEARCH (Earth-to-space) 5.460 5.458	FIXED (Point-to-Point Links)
7235 – 7250	FIXED MOBILE 5.458	7 235-7 250 MHz FIXED 5.458	Fixed links - Lower 7 GHz (7110-7425 MHz)	Channelling plan for L7 band in accordance with ITU-R Rec. F.385 Annex 3.	FIXED MOBILE 5.458	FIXED (Point-to-Point Links)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
7250 – 7300	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.461	7 250-7 300 MHz FIXED 5.461	Fixed links - Lower 7 GHz (7110-7425 MHz)	Channelling plan for L7 band in accordance with ITU-R Rec. F.385 Annex 3.	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.461	FIXED (Point-to-Point Links)
7300 – 7450	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.461	7 300-7 450 MHz FIXED 5.461	Fixed links - Lower 7 GHz (7110-7425 MHz) and Upper 7 GHz (7425-7750 MHz)	Channelling plan for L7 band in accordance with ITU-R Rec. F.385 Annex 3. Channelling plan for U7 band in accordance with ITU-R Rec. F.385 Annex 3.	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.461	FIXED (Point-to-Point Links)
7450 – 7550	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.461 A	7 450-7 550 MHz FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461 A	Fixed links - Upper 7 GHz (7425-7750 MHz)	Channelling plan for U7 band in accordance with ITU-R Rec. F.385 Annex 3.	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile 5.461 A	FIXED (Point-to-Point Links)
7550 – 7750	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile	7 550-7 750 MHz FIXED	Fixed links - Upper 7 GHz (7425-7750 MHz)	Channelling plan for U7 band in accordance with ITU-R Rec. F.385 Annex 3.	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except Aeronautical Mobile	FIXED (Point-to-Point Links)
7750 – 7850	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461 B MOBILE except Aeronautical Mobile	7 750-7 850 MHz FIXED Meteorological-SATELLITE (space-to-Earth) 5.461 B	Fixed links - Lower 8 GHz (7725-8275 MHz)	Channelling plan for L8 band in accordance with ITU-R Rec. F.386 Annex 1.	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461 B MOBILE except Aeronautical Mobile	FIXED (Point-to-Point Links)
7850 – 7900	FIXED MOBILE except Aeronautical Mobile	7 850-7 900 MHz FIXED	Fixed links - Lower 8 GHz (7725-8275 MHz)	Channelling plan for L8 band in accordance with ITU-R Rec. F.386 Annex 1.	FIXED MOBILE except Aeronautical Mobile	FIXED (Point-to-Point Links)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
7900 – 8025	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.461	7 900-8 025 MHz FIXED 5.461	Fixed links - Lower 8 GHz (7725-8275 MHz)	Channelling plan for L8 band in accordance with ITU-R Rec. F.386 Annex 1.	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE	FIXED (Point-to-Point Links)
8025 – 8175	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	8 025-8 175 MHz EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED 5.462A	Fixed links - Lower 8 GHz (7725-8275 MHz)	Channelling plan for L8 band in accordance with ITU-R Rec. F.386 Annex 1.	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	FIXED (Point-to-Point Links)
8175 – 8215	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	8 175-8 215 MHz EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED 5.462A	Fixed links - Lower 8 GHz (7725-8275 MHz)	Channelling plan for L8 band in accordance with ITU-R Rec. F.386 Annex 1.	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	FIXED (Point-to-Point Links)
8215 – 8400	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	8 215-8 400 MHz EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED 5.462A	Fixed links - Lower 8 GHz (7725-8275 MHz) and Upper 8 GHz (8275-8500 MHz)	Channelling plan for L8 band in accordance with ITU-R Rec. F.386 Annex 1. Channelling plan for U8 band in accordance with ITU-R Rec. F.386 Annex 1.	EARTH EXPLORATION-SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	FIXED (Point-to-Point Links)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
8400 – 8500	FIXED MOBILE except Aeronautical Mobile SPACE RESEARCH (space-to-Earth) 5.465 5.466	8 400-8 500 MHz FIXED	Fixed links - Upper 8 GHz (8275-8500 MHz)	Channelling plan for U8 band in accordance with ITU-R Rec. F.386 Annex 1.	FIXED MOBILE except Aeronautical Mobile SPACE RESEARCH (space-to-Earth) 5.465	FIXED (Point-to-Point Links)
8500 – 8550	RADIOLOCATION 5.468 5.469	8 500-8 550 MHz RADIOLOCATION 5.468	RADARS. Civil and military aeronautical radionavigation e.g. precision airfield approach radars.		RADIOLOCATION	RADIOLOCATION
8550 – 8650	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.468 5.469 5.469A	8 550-8 650 MHz EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.468 5.469A	RADARS. Civil and military aeronautical radionavigation e.g. precision airfield approach radars		EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.469A	RADIOLOCATION
8650 – 8750	RADIOLOCATION 5.468 5.469	8 650-8 750 MHz RADIOLOCATION 5.468	RADARS. Civil and military aeronautical radionavigation e.g. precision airfield approach radars	8 650-8 750 MHz RADIOLOCATION 5.468	RADIOLOCATION	RADIOLOCATION
8750 – 8850	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470 5.471	8 750-8 850 MHz RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470	RADARS. Civil and military aeronautical radionavigation e.g. precision airfield approach radars		RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470	RADIOLOCATION AERONAUTICAL RADIONAVIGATION
8850 – 9000	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473	8 850-9 000 MHz RADIOLOCATION MARITIME RADIONAVIGATION 5.472	RADARS. Civil and military aeronautical radionavigation e.g. precision airfield approach radars		RADIOLOCATION MARITIME RADIONAVIGATION 5.472	RADIOLOCATION MARITIME RADIONAVIGATION
9000 – 9200	AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.471	9 000-9 200 MHz AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION 5.473A	RADARS. Civil and military aeronautical radionavigation e.g. precision airfield approach radars		AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation	AERONAUTICAL RADIONAVIGATION Radiolocation

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
9200 – 9300	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473 5.474	9 200-9 300 MHz RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.474	RADARS, Civil and military aeronautical radionavigation e.g. precision airfield approach radars		RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.474	RADIOLOCATION MARITIME RADIONAVIGATION
9300 – 9500	RADIONAVIGATION 5.476 Radiolocation 5.427 5.474 5.475	9 300-9 500 MHz RADIONAVIGATION EARTH EXPLORATION-SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.427 5.474 5.475 5.475A 5.475B 5.476A	RADARS, Civil and military aeronautical radionavigation e.g. precision airfield approach radars		RADIONAVIGATION 5.476 Radiolocation 5.427 5.474 5.475	RADIONAVIGATION Radiolocation
9500 – 9800	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	9 500-9 800 MHz EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	RADARS, Civil and military aeronautical radionavigation e.g. precision airfield approach radars		EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	RADIONAVIGATION RADIOLOCATION
9800 – 10000	RADIOLOCATION Fixed 5.477 5.478 5.479	9 800-9 900 MHz RADIOLOCATION Earth exploration-satellite (active) Space research (active) 5.478A 5.478B			RADIOLOCATION Fixed 5.479	RADIOLOCATION Fixed
9 900-10 000 MHz RADIOLOCATION Fixed 5.477 5.478 5.479	9 900-10 000 MHz RADIOLOCATION 5.479	RADARS, Civil and military aeronautical radionavigation e.g. precision airfield approach radars	9 900-10 000 MHz RADIOLOCATION Fixed 5.477 5.478 5.479			
10 GHz – 30 GHz						
10 - 10.45	FIXED MOBILE RADIOLOCATION Amateur 5.479	10-10.45 GHz FIXED RADIOLOCATION 5.479	BFWA – 10.5 GHz (10.15-10.30 GHz)	Paired with 10.50-10.65 GHz Channelling plan for 10.5 GHz band in accordance with ITU-R Rec. F.1568 Annex 1.	FIXED MOBILE RADIOLOCATION Amateur 5.479	FIXED MOBILE FIXED WIRELESS ACCESS RADIOLOCATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
10.45 - 10.50	RADIOLOCATION Amateur Amateur-Satellite 5.481	10.45-10.5 GHz RADIOLOCATION Amateur Amateur-Satellite 5.481	RADIOLOCATION		RADIOLOCATION Amateur Amateur-Satellite	FIXED MOBILE FIXED WIRELESS ACCESS RADIOLOCATION
10.50 - 10.55	FIXED MOBILE Radiolocation	10.5-10.55 GHz FIXED	BFWA (10.50-10.65 GHz)	Paired with 10.15-10.30 GHz Channelling plan for 10.5 GHz band in accordance with ITU-R Rec. F.1568 Annex 1.	FIXED MOBILE Radiolocation	FIXED MOBILE FIXED WIRELESS ACCESS Radiolocation
10.55 - 10.60	FIXED MOBILE except Aeronautical Mobile Radiolocation	10.55-10.6 GHz FIXED	BFWA (10.50-10.65 GHz)	Paired with 10.15-10.30 GHz Channelling plan for 10.5 GHz band in accordance with ITU-R Rec. F.1568 Annex 1.	FIXED MOBILE except Aeronautical Mobile Radiolocation	FIXED MOBILE FIXED WIRELESS ACCESS Radiolocation
10.60 - 10.68	EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482	10.6-10.68 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.482 5.482A	BFWA (10.50-10.65 GHz)	Paired with 10.15-10.30 GHz Channelling plan for 10.5 GHz band in accordance with ITU-R Rec. F.1568 Annex 1. For sharing between EESS (passive) and the fixed and mobile service Res.751 applies.	EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482	FIXED MOBILE FIXED WIRELESS ACCESS Radiolocation
10.68 - 10.70	EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.483	10.68-10.7 GHz EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340			EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.483	RADIO ASTRONOMY

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
10.70 - 11.70	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 5.484A (Earth-to-space) 5.484 MOBILE except Aeronautical Mobile	10.7-11.7 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.441 5.484A (Earth-to-space) 5.484	Fixed links - 11 GHz (10.7-11.7 GHz) Fixed-satellite downlinks (PTP/VSAT/SNG)	Channelling plan for 11 GHz band in accordance with ITU-R Rec. F.387. The bands 10.7-10.95 GHz and 11.2-11.45 GHz are part of the APP30B Plan (FSS space-to-Earth); refer to Annex B.	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 5.484A (Earth-to-space) 5.484	FIXED FIXED-SATELLITE (space-to-earth)
11.70 - 12.50	FIXED BROADCASTING BROADCASTING-SATELLITE Mobile except Aeronautical Mobile 5.487 5.487A 5.492	11.7-12.5 GHz BROADCASTING-SATELLITE 5.492 5.487 5.487A		This band is available for BSS in accordance with Appendix 30 of ITU RR. Refer to Annex B.	FIXED BROADCASTING BROADCASTING-SATELLITE Mobile except Aeronautical Mobile 5.487 5.487A 5.492	FIXED BROADCASTING BROADCASTING-SATELLITE
12.50 - 12.75	FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.494 5.495 5.496	12.5-12.75 GHz FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.494 5.495	FSS uplinks (VSAT/SNG) (12.5-12.75 GHz)		FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space)	FIXED-SATELLITE (space-to-Earth)
12.75 - 13.25	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 MOBILE Space Research (deep space)(space-to-Earth)	12.75-13.25 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.441	Fixed links - 13 GHz (12.75-13.25 GHz)	Channelling plan for 13 GHz band in accordance with ITU-R Rec. F.497. The band 12.75-13.25 GHz is part of the APP30B Plan (FSS Earth-to-space); refer to Annex B.	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 MOBILE Space Research (deep space)(space-to-Earth)	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 MOBILE
13.25 - 13.40	Earth Exploration-Satellite (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A 5.499	13.25-13.4 GHz EARTH EXPLORATION-SATELLITE (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A	Airborne Doppler Radar		Earth Exploration-Satellite (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A 5.499	AERONAUTICAL RADIONAVIGATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
13.40 - 13.75	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A 5.501B Standard Frequency and Time Signal-Satellite (Earth-to-space) 5.499 5.500 5.501 5.501B	13.4-13.75 GHz EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A 5.500 5.501B	RADIOLOCATION		EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard Frequency and Time Signal-Satellite (Earth-space) 5.501B	RADIOLOCATION
13.75 - 14	FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Earth exploration-satellite Standard Frequency and Time Signal-Satellite (Earth-to-space) Space Research 5.499 5.500 5.501 5.502 5.503	13.75-14 GHz FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION 5.500 5.502 5.503	FSS uplinks (PTP/VSAT/SNG) (13.75-14,5 GHz) RADIOLOCATION		FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Earth exploration-satellite Standard Frequency and Time Signal-Satellite (Earth-to-space) Space Research 5.502 5.503	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION
14 - 14.25	FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506B RADIO NAVIGATION 5.504 Mobile-Satellite (Earth-to-space) 5.504C 5.506A Space Research 5.504A 5.505	14-14.25 GHz FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506B Mobile-Satellite (Earth-to-space) 5.504B 5.504C 5.506A 5.504A 5.505	FSS uplinks (PTP/VSAT/SNG) (13.75-14,5 GHz)	Earth Station onboard vessels (ESV) also allowed under FSS; Res. 902 applies. The band 14.0-14.5 GHz may also be used for AES (aircraft- to-space station).	FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A 5.506B RADIO NAVIGATION 5.504 Mobile-Satellite (Earth-to-space) Space Research 5.504A 5.505	FIXED-SATELLITE (Earth-to-space) RADIO NAVIGATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
14.25 - 14.30	FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-Satellite (Earth-to-space) 5.506A 5.508A Space Research 5.504A 5.505 5.508 5.509	14.25-14.3 GHz FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.508A 5.504A 5.505	FSS uplinks (PTP/VSAT/SNG) (13.75-14.5 GHz)	Earth Station onboard vessels (ESV) also allowed under FSS; Res. 902 applies. The band 14.0-14.5 GHz may also be used for AES (aircraft- to-space station).	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A 5.506 RADIONAVIGATION 5.504 Mobile-Satellite (Earth-to-space) 5.508A Space Research 5.504A 5.505	FIXED FIXED-SATELLITE (Earth-to-space) RADIONAVIGATION
14.30 - 14.40	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B MOBILE except Aeronautical Mobile Mobile-Satellite (Earth-to-space) 5.506A 5.509A 5.504A Radionavigation-Satellite 5.504A	14.3-14.4 GHz FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.509A 5.504A	FSS uplinks (PTP/VSAT/SNG) (13.75-14.5 GHz)	Earth Station onboard vessels (ESV) also allowed under FSS; Res. 902 applies. The band 14.0-14.5 GHz may also be used for AES (aircraft- to-space station).	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A 5.506 MOBILE except Aeronautical Mobile Mobile-Satellite (Earth-to-space) 5.506A 5.509A Radionavigation-Satellite 5.504A	FIXED MOBILE FIXED-SATELLITE (Earth-to-space)
14.40 - 14.47	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B MOBILE except Aeronautical Mobile Mobile-Satellite (Earth-to-space) 5.506A 5.509A 5.504A Radionavigation-Satellite 5.504A	14.4-14.47 GHz FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.509A 5.504A	FSS uplinks (PTP/VSAT/SNG) (13.75-14.5 GHz)	Earth Station onboard vessels (ESV) also allowed under FSS; Res. 902 applies. The band 14.0-14.5 GHz may also be used for AES (aircraft- to-space station).	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A 5.506 MOBILE except Aeronautical Mobile Mobile-Satellite (Earth-to-space) 5.506A 5.509A Radionavigation-Satellite 5.504A	FIXED FIXED-SATELLITE (Earth-to-space)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
14.47 - 14.50	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B MOBILE except Aeronautical Mobile Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.509A Radio Astronomy 5.149 5.504A	14.47-14.5 GHz FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B 5.484A 5.506 5.506B Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.509A 5.149 5.504A	FSS uplinks (PTP/VSAT/SNG) (13.75-14.5 GHz)	Earth Station onboard vessels (ESV) also allowed under FSS; Res. 902 applies. The band 14.0-14.5 GHz may also be used for AES (aircraft- to-space station).	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A 5.506 MOBILE except Aeronautical Mobile Mobile-Satellite (Earth-to-space) 5.504B 5.506A 5.509A Radio Astronomy 5.149 5.504A	FIXED FIXED-SATELLITE (Earth-to-space) FIXED-SATELLITE (Earth-to-space)
14.50 - 14.80	FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space Research	14.5-14.8 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.510	Fixed links - 15 GHz (14.5-15.35 GHz)	Channelling plan for 15 GHz band in accordance with ITU- R Rec. F.636. The band 14.5-14.8 GHz is part of the APP30A Plan (Feeder Links for BSS) for some SADC countries. Refer to Annex B.	FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space Research	FIXED FIXED-SATELLITE (Earth-to-space)
14.80 - 15.35	FIXED MOBILE Space Research 5.339	14.8-15.35 GHz FIXED 5.339	Fixed links - 15 GHz (14.5-15.35 GHz)	Channelling plan for 15 GHz band in accordance with ITU- R Rec. F.636. The band 14.5-14.8 GHz is part of the APP30A Plan (Feeder Links for BSS) for some SADC	FIXED MOBILE Space Research 5.339	FIXED
15.35 - 15.40	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.511	15.35-15.4 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340			EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
15.40 - 15.43	AERONAUTICAL RADIONAVIGATION 5.511D	15.4-15.43 GHz AERONAUTICAL RADIONAVIGATION 5.511D	Radio altimeters / Radars		AERONAUTICAL RADIONAVIGATION 5.511D	AERONAUTICAL RADIONAVIGATION
15.43 - 15.63	FIXED-SATELLITE (space-to-Earth)(Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	15.43-15.63 GHz FIXED-SATELLITE (Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	Radars		FIXED-SATELLITE (space-to-Earth)(Earth-to-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C	AERONAUTICAL RADIONAVIGATION
15.63 - 15.7	AERONAUTICAL RADIONAVIGATION 5.511D	15.63-15.7 GHz AERONAUTICAL RADIONAVIGATION 5.511D	Radars		AERONAUTICAL RADIONAVIGATION 5.511D	AERONAUTICAL RADIONAVIGATION
15.70 - 16.60	RADIOLOCATION 5.512 5.513	15.7-16.6 GHz RADIOLOCATION 5.512	Government use		RADIOLOCATION	RADIOLOCATION
16.60 - 17.10	RADIOLOCATION Space Research (deep space)(Earth-to-space) 5.512 5.513	16.6-17.1 GHz RADIOLOCATION Space Research (deep space)(Earth-to-space) 5.512			RADIOLOCATION Space Research (deep space)(Earth-to-space)	RADIOLOCATION
17.10 - 17.20	RADIOLOCATION 5.512 5.513	17.1-17.2 GHz RADIOLOCATION 5.512	WAS/RLAN (17.1-17.3 GHz)		RADIOLOCATION	RADIOLOCATION
17.20 - 17.30	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513 5.513A	17.2-17.3 GHz EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513A	WAS/RLAN (17.1-17.3 GHz)		EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.513A	RADIOLOCATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
17.30 - 17.70	FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514	17.3-17.7 GHz FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514		The band 17.3-17.7 GHz is part of the APP30A Plan (Feeder Links for BSS) for many SADC countries; refer to Annex B. The band 17.3-17.7 GHz is identified for HDFS; Res.143 applies.	FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation	FIXED-SATELLITE (Earth-to-space)
17.70 - 18.10	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	17.7-18.1 GHz FIXED	Fixed links - 18 GHz (17.7-19.7 GHz)	Channelling plan for 18 GHz band in accordance with ITU-R Rec. F.595 Annex 1.	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	FIXED FIXED-SATELLITE MOBILE
18.10 - 18.40	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth-to-space) 5.520 MOBILE 5.519 5.521	18.1-18.4 GHz FIXED 5.519	Fixed links - 18 GHz (17.7-19.7 GHz)	Channelling plan for 18 GHz band in accordance with ITU-R Rec. F.595 Annex 1.	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth-to-space) 5.520 MOBILE 5.519	FIXED FIXED-SATELLITE MOBILE METEOROLOGICAL-SATELLITE SERVICE (space-to-Earth)
18.40 - 18.60	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE	18.4-18.6 GHz FIXED	Fixed links - 18 GHz (17.7-19.7 GHz)	Channelling plan for 18 GHz band in accordance with ITU-R Rec. F.595 Annex 1.	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE
18.60 - 18.80	EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except Aeronautical Mobile Space Research (passive) 5.522A 5.522C	18.6-18.8 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED 5.522A	Fixed links - 18 GHz (17.7-19.7 GHz)	Channelling plan for 18 GHz band in accordance with ITU-R Rec. F.595 Annex 1.	EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except Aeronautical Mobile Space Research (passive) 5.522A	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
18.80 - 19.30	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.523A MOBILE	18.8-19.3 GHz FIXED	Fixed links - 18 GHz (17.7-19.7 GHz)	Channelling plan for 18 GHz band in accordance with ITU-R Rec. F.595 Annex 1.	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.523A MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE
19.30 - 19.70	FIXED FIXED-SATELLITE (space-to-Earth)(Earth-to-space) 5.523B 5.523C 5.523D 5.523E MOBILE	19.3-19.7 GHz FIXED	Fixed links - 18 GHz (17.7-19.7 GHz)	Channelling plan for 18 GHz band in accordance with ITU-R Rec. F.595 Annex 1.	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B 5.523C 5.523D 5.523E MOBILE	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space)
19.70 - 20.10	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-Satellite (space-to-Earth) 5.524	19.7-20.1 GHz FIXED-SATELLITE (space-to-Earth) 5.484A Mobile-Satellite (space-to-Earth) 5.524		The band 19.7-20.2 GHz is identified for HDFS; Res.143 applies.	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-Satellite (space-to-Earth)	FIXED-SATELLITE (space-to-Earth)
20.10 - 20.20	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528	20.1-20.2 GHz FIXED-SATELLITE (space-to-Earth) 5.484A MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528		The band 19.7-20.2 GHz is identified for HDFS; Res.143 applies.	FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE-SATELLITE (space-to-Earth) 5.525 5.526 5.527 5.528	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)
20.20 - 21.20	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard Frequency and Time Signal-Satellite (space-to-Earth) 5.524	20.2-21.2 GHz FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard Frequency and Time Signal-Satellite (space-to-Earth) 5.524	Government use		FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard Frequency and Time Signal-Satellite (space-to-Earth)	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
21.20 - 21.40	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	21.2-21.4 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED SPACE RESEARCH (passive)	Fixed links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	Channelling plan for 23 GHz band in accordance with ITU-R Rec. F.637 Annex 1 or Annex 3.	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	FIXED MOBILE
21.40 - 22	FIXED MOBILE BROADCASTING-SATELLITE 5.347A 5.530	21.4-22 GHz FIXED BROADCASTING-SATELLITE 5.208B 5.530	Fixed links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	Channelling plan for 23 GHz band in accordance with ITU-R Rec. F.637 Annex 1 or Annex 3. The use of BSS in this band is subject to the provisions of Res.525. BSS systems operating in this band over SADC countries are not expected within the foreseeable future.	FIXED MOBILE BROADCASTING-SATELLITE 5.347A 5.530	BROADCASTING-SATELLITE Fixed Mobile
22 - 22.21	FIXED MOBILE except Aeronautical Mobile 5.149	22-22.21 GHz FIXED 5.149	Fixed links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	Channelling plan for 23 GHz band in accordance with ITU-R Rec. F.637 Annex 1 or Annex 3.	FIXED MOBILE except Aeronautical Mobile 5.149	FIXED
22.21 - 22.50	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532	22.21-22.5 GHz FIXED 5.149 5.532	Fixed links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	Channelling plan for 23 GHz band in accordance with ITU-R Rec. F.637 Annex 1 or Annex 3.	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE except Aeronautical Mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532	FIXED
22.50 - 22.55	FIXED MOBILE	22.5-22.55 GHz FIXED	Fixed links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	Channelling plan for 23 GHz band in accordance with ITU-R Rec. F.637 Annex 1 or Annex 3.	FIXED MOBILE	FIXED

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
22.55 – 23.55	FIXED INTER-SATELLITE MOBILE 5.149	22.55-23.55 GHz FIXED INTER-SATELLITE 5.338A 5.149	Fixed links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	Channelling plan for 23 GHz band in accordance with ITU-R Rec. F.637 Annex 1 or Annex 3.	FIXED INTER-SATELLITE MOBILE 5.149	FIXED
23.55 – 23.60	FIXED MOBILE	23.55-23.6 GHz FIXED	Fixed links - 23 GHz (21.2-23.6 GHz or 22.0-23.6 GHz)	Channelling plan for 23 GHz band in accordance with ITU-R Rec. F.637 Annex 1 or Annex 3.	FIXED MOBILE	FIXED
23.60 – 24	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	23.6-24 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340			EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	RADIO ASTRONOMY
24 – 24.05	AMATEUR AMATEUR-SATELLITE 5.150	24-24.05 GHz AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE ISM (24.0-24.25 GHz) SRD applications (24-24.25 GHz)	Common international SRD band; see ITU-R Rec.SM.1SRD]	AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE
24.05 – 24.25	RADIOLOCATION Amateur Earth Exploration-Satellite (active) 5.150	24.05-24.25 GHz RADIOLOCATION Amateur Earth Exploration-Satellite (active) 5.150		The band 24.0-24.25 GHz is designated for ISM applications (5.150).	RADIOLOCATION Amateur Earth Exploration Satellite (active) 5.150	RADIOLOCATION Amateur
24.25 – 24.45	FIXED	24.25-24.45 GHz FIXED		Temporary fixed links for ENG/OB	FIXED	FIXED
24.45 – 24.65	FIXED INTER-SATELLITE	24.45-24.65 GHz FIXED	Fixed links - 26 GHz (24.5-26.5 GHz) BFWA (24.5-26.5 GHz)	Channelling plan for 26 GHz band in accordance with ITU-R Rec. F.748 Annex 1.	FIXED INTER-SATELLITE	FIXED POINT-TO-MULTI POINT SYSTEMS (P-MP)
24.65 – 24.75	FIXED INTER-SATELLITE	24.65-24.75 GHz FIXED	Fixed links - 26 GHz (24.5-26.5 GHz) BFWA (24.5-26.5 GHz)	Channelling plan for 26 GHz band in accordance with ITU-R Rec. F.748 Annex 1.	FIXED INTER-SATELLITE	FIXED POINT-TO-MULTI POINT SYSTEMS (P-MP)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
24.75 - 25.25	FIXED 24.75-25.25 GHz	FIXED 24.75-25.25 GHz	Fixed links - 26 GHz (24.5-26.5 GHz) BFWA (24.5-26.5 GHz)	Channelling plan for 26 GHz band in accordance with ITU- R Rec. F.748 Annex 1.	FIXED	FIXED POINT-TO-MULTI POINT SYSTEMS (P-MP)
25.25 - 25.50	FIXED INTER-SATELLITE 5.536 MOBILE Standard Frequency and Time Signal- Satellite(Earth-to-space)	FIXED 25.25-25.5 GHz	Fixed links - 26 GHz (24.5-26.5 GHz) BFWA (24.5-26.5 GHz)	Channelling plan for 26 GHz band in accordance with ITU- R Rec. F.748 Annex 1.	FIXED INTER-SATELLITE 5.536 MOBILE Standard Frequency and Time Signal- Satellite(Earth-to-space)	FIXED POINT-TO-MULTI POINT SYSTEMS (P-MP)
25.50 - 27	EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-Earth) 5.536A Standard Frequency and Time Signal-Satellite (Earth-to-space)	25.5-27 GHz EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536B FIXED SPACE RESEARCH (space-to-Earth) 5.536C 5.536A	Fixed links - 26 GHz (24.5-26.5 GHz) BFWA (24.5-26.5 GHz)	Channelling plan for 26 GHz band in accordance with ITU- R Rec. F.748 Annex 1.	EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536A FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-Earth) 5.536A 5.536C Standard Frequency and Time Signal-Satellite (Earth-to-space)	FIXED POINT-TO-MULTI POINT SYSTEMS (P-MP)
27 - 27.50	FIXED INTER-SATELLITE 5.536 MOBILE	27-27.5 GHz FIXED INTER-SATELLITE 5.536 MOBILE	Government use		FIXED INTER-SATELLITE 5.536 MOBILE	FIXED MOBILE
27.50 - 28.50	FIXED 5.537A FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE 5.538 5.540	27.5-28.5 GHz FIXED 5.537A FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 5.538 5.540	Fixed links - 28 GHz (27.5-29.5 GHz) BFWA (27.5-29.5 GHz)	Channelling plan for 28 GHz band in accordance with ITU- R Rec. F.748 Annex 2. The band 27.5-27.82 GHz is identified for HDFS; Res.143 applies. The band 27.5-30 GHz may be used by the FSS for BSS feeder links.	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE 5.538 5.540	FIXED FIXED-SATELLITE (Earth-to-space)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
28.50 - 29.10	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.16B 5.523A 5.539 MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	28.5-29.1 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.16B 5.523A 5.539 5.540	Fixed links – 28 GHz (27.5-29.5 GHz) BFWA (27.5-29.5 GHz)	Channeling plan for 28 GHz band in accordance with ITU-R Rec. F.748 Annex 2. The band 28.45-28.94 GHz is identified for HDFFS; Res.143 applies. The band 27.5-30 GHz may be used by the FSS for BSS feeder links.	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.16B 5.523A 5.539 MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (Earth-to-space)
29.1 - 29.50	FIXED FIXED-SATELLITE (Earth-to-space) 5.16B 5.523C 5.523E 5.535A 5.539 5.541A MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	29.1-29.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.16B 5.523C 5.523E 5.535A 5.539 5.541A 5.540			FIXED FIXED-SATELLITE (Earth-to-space) 5.16B 5.523C 5.523E 5.535A 5.539 5.541A MOBILE Earth Exploration-Satellite (Earth-to-space) 5.541 5.540	FIXED FIXED-SATELLITE (Earth-to-space)
29.50 - 29.90	FIXED-SATELLITE (Earth-to-space) 5.484A 5.16B 5.539 Earth Exploration-Satellite (Earth-to-space) 5.541 Mobile-Satellite (Earth-to-space) 5.540 5.542	29.5-29.9 GHz FIXED-SATELLITE (Earth-to-space) 5.484A 5.16B 5.539 Earth Exploration-Satellite (Earth-to-space) 5.541 Mobile-Satellite (Earth-to-space) 5.540		The band 29.46-30.0 GHz is identified for HDFFS; Res.143 applies.	FIXED-SATELLITE (Earth-to-space) 5.484A 5.16B 5.539 Earth Exploration-Satellite (Earth-to-space) 5.541 Mobile-Satellite (Earth-to-space) 5.540	FIXED-SATELLITE (Earth-to-space)

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
29.90 – 30.00	FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) 5.541 5.543 5.525 5.526 5.527 5.538 5.540 5.542	29.9-30 GHz FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) 5.541 5.543 5.525 5.526 5.527 5.538 5.540		The band 29.46-30.0 GHz is identified for HDFS; Res.143 applies.	FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE-SATELLITE (Earth-to-space) Earth Exploration-Satellite (Earth-to-space) 5.541 5.543 5.525 5.526 5.527 5.538 5.540	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space)
30 GHz – 105 GHz						
30 - 31	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard Frequency and Time Signal-Satellite (space-to-Earth) 5.542	30-31 GHz FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE-SATELLITE (Earth-to-space) Standard Frequency and Time Signal-Satellite (space-to-Earth)			FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space) Standard Frequency and Time Signal-Satellite (space-to-Earth)	FIXED-SATELLITE (Earth-to-space) MOBILE-SATELLITE (Earth-to-space)
31 - 31.30	FIXED 5.543A MOBILE Standard Frequency and Time Signal-Satellite (space-to-Earth) Space Research 5.544 5.545 5.149	31-31.3 GHz FIXED 5.338A 5.543A MOBILE Standard Frequency and Time Signal-Satellite (space-to-Earth) Space Research 5.1495.544			FIXED MOBILE Standard Frequency and Time Signal-Satellite (space-to-Earth) Space Research 5.544 5.149	FIXED MOBILE
31.30 - 31.50	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	31.3-31.5 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340			EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
31.50 - 31.80	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.546	31.5-31.8 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149 5.546			EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except Aeronautical Mobile 5.149	RADIO ASTRONOMY Fixed Mobile
31.80 - 32	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space)(space-to-Earth) 5.547 5.547B 5.548	31.8-32 GHz FIXED 5.547A 5.547 5.548	Fixed links (PTP/PTMP) (31.8-33.4 GHz)	Channelling plan for 32 GHz band in accordance with ITU- R Rec. F.1520 Annex 1. The band 31.8-33.4 GHz is identified for HDFS; Res.75 applies.	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space)(space-to-Earth) 5.547 5.548	FIXED RADIONAVIGATION
32 - 32.30	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space)(space-to-Earth) 5.547 5.547C 5.548	32-32.3 GHz FIXED 5.547A 5.547 5.548	Fixed links (PTP/PTMP) (31.8-33.4 GHz)	Channelling plan for 32 GHz band in accordance with ITU- R Rec. F.1520 Annex 1. The band 31.8-33.4 GHz is identified for HDFS; Res.75 applies.	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space)(space-to-Earth) 5.547 5.548	FIXED RADIONAVIGATION
32.30 - 33	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.547D 5.548	32.3-33 GHz FIXED 5.547A 5.547 5.548	Fixed links (PTP/PTMP) (31.8-33.4 GHz)	Channelling plan for 32 GHz band in accordance with ITU- R Rec. F.1520 Annex 1. The band 31.8-33.4 GHz is identified for HDFS; Res.75 applies.	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	FIXED RADIONAVIGATION
33 - 33.40	FIXED 5.547A RADIONAVIGATION 5.547 5.547E	33-33.4 GHz FIXED 5.547A 5.547	Fixed links (PTP/PTMP) (31.8-33.4 GHz)	Channelling plan for 32 GHz band in accordance with ITU- R Rec. F.1520 Annex 1. The band 31.8-33.4 GHz is identified for HDFS; Res.75 applies.	FIXED 5.547A RADIONAVIGATION 5.547	FIXED RADIONAVIGATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
33.40 - 34.20	RADIOLOCATION 5.549	33.4-34.2 GHz RADIOLOCATION 5.549	Government use		RADIOLOCATION	RADIOLOCATION
34.20 - 34.70	RADIOLOCATION SPACE RESEARCH (deep space)(Earth-to-space) 5.549	34.2-34.7 GHz RADIOLOCATION SPACE RESEARCH (deep space)(Earth-to-space) 5.549	Government use		RADIOLOCATION SPACE RESEARCH (deep space)(Earth-to-space)	RADIOLOCATION
34.70 - 35.20	RADIOLOCATION Space Research 5.550 5.549	34.7-35.2 GHz RADIOLOCATION Space Research 5.549	Government use		RADIOLOCATION Space Research	RADIOLOCATION
35.20 - 35.5	METEOROLOGICAL AIDS RADIOLOCATION 5.549	35.2-35.5 GHz METEOROLOGICAL AIDS RADIOLOCATION 5.549	Government use		METEOROLOGICAL AIDS RADIOLOCATION	METEOROLOGICAL AIDS RADIOLOCATION
35.5 - 36	METEOROLOGICAL AIDS EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.549 5.549A	35.5-36 GHz METEOROLOGICAL AIDS EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.551A 5.549 5.549A	Government use		METEOROLOGICAL AIDS EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.549A	METEOROLOGICAL AIDS RADIOLOCATION
36 - 37	EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149	36-37 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149 5.550A	Government use		EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149	FIXED MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
37 - 37.50	FIXED MOBILE SPACE RESEARCH (space-to-Earth) 5.547	37-37.5 GHz FIXED 5.547	Fixed links - 38 GHz (37.0-39.5 GHz)	The band 37-40 GHz is identified for HDFS; Res.75 applies. Channelling plan for 38 GHz band in accordance with ITU Rec. F.749 Annex 1.	FIXED MOBILE SPACE RESEARCH (space-to-Earth) 5.547	FIXED MOBILE
37.50 - 38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	37.5-38 GHz FIXED 5.547	Fixed links - 38 GHz (37.0-39.5 GHz)	The band 37-40 GHz is identified for HDFS; Res.75 applies. Channelling plan for 38 GHz band in accordance with ITU Rec. F.749 Annex 1.	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	FIXED MOBILE
38 - 39.50	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to-Earth) 5.547	38-39.5 GHz FIXED 5.547	Fixed links - 38 GHz (37.0-39.5 GHz)	Channelling plan for 38 GHz band in accordance with ITU Rec. F.749 Annex 1. The band 37-40 GHz is identified for HDFS; Res.75 applies.	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to-Earth) 5.547	FIXED MOBILE
39.50 - 40	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	39.5-40 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547		The band 37-40 GHz is identified for HDFS; Res.75 applies. The band 39.5-40 GHz is identified for HDFS; Res.143 applies.	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to-Earth) 5.547	FIXED MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
40 - 40.50	EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)	40-40.5 GHz EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)	Government use	The band 40-40.5 GHz is identified for HDFFS; Res.143 applies.	EARTH EXPLORATION-SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration-satellite (space-to-Earth)	FIXED MOBILE
40.5 - 41	FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547	40.5-41 GHz FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE 5.547		BFWA or MWS (40.5-43.5 GHz). The band 40.5-43.5 GHz is identified for HDFFS; Res.75 applies.	FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547	FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE
41 - 42.50	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B BROADCASTING BROADCASTING-SATELLITE Mobile 5.547 5.551F 5.551H 5.551I	41-42.5 GHz FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE 5.547 5.551H 5.551I		BFWA or MWS (40.5-43.5 GHz). The band 40.5-43.5 GHz is identified for HDFFS; Res.75 applies.	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B BROADCASTING BROADCASTING-SATELLITE Mobile 5.547 5.551H 5.551I	FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
42.50 - 43.50	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149 5.547	42.5-43.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149 5.547		BFWA or MWS (40.5-43.5 GHz). The band 40.5-43.5 GHz is identified for HDFFS; Res.75 applies.	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except Aeronautical Mobile RADIO ASTRONOMY 5.149 5.547	FIXED FIXED-SATELLITE (Earth-to-space)
43.50 - 47.00	MOBILE 5.553 MOBILE-SATELLITE RADIO NAVIGATION RADIO NAVIGATION-SATELLITE 5.554	43.5-47 GHz MOBILE 5.553 MOBILE-SATELLITE RADIO NAVIGATION RADIO NAVIGATION-SATELLITE 5.554	Government use (43.5-45.5 GHz)		MOBILE 5.553 MOBILE-SATELLITE RADIO NAVIGATION RADIO NAVIGATION-SATELLITE 5.554	MOBILE RADIO NAVIGATION
47 - 47.20	AMATEUR AMATEUR-SATELLITE	47-47.2 GHz AMATEUR AMATEUR-SATELLITE	Amateur Amateur satellite		AMATEUR AMATEUR-SATELLITE	AMATEUR AMATEUR-SATELLITE
47.20 - 47.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	47.2-47.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A			FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE
47.5 - 47.9	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A MOBILE	47.5-47.9 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A MOBILE		The band 47.5-47.9 GHz is identified for HDFFS; Res.143 applies.	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A MOBILE	FIXED MOBILE
47.9 - 48.2	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	47.9-48.2 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A			FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	FIXED MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
48.2 – 48.54	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	48.2-48.54 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE		The band 48.2-48.54 GHz is identified for HDFS; Res.143 applies.	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	FIXED MOBILE
48.54 – 49.44	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.149 5.340 5.555	48.54-49.44 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.340 5.555			FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.149 5.340 5.555	FIXED MOBILE
49.44 – 50.2	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	49.44-50.2 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.338A 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE		The band 49.44-50.2 GHz is identified for HDFS; Res.143 applies.	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	MOBILE MOBILE
50.20 - 50.40	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	50.2-50.4 GHz EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340			EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive)
50.40 - 51.40	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Mobile-Satellite (Earth-to-space)	50.4-51.4 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE Mobile-Satellite (Earth-to-space)			FIXED FIXED-SATELLITE (Earth-to-space) MOBILE Mobile-Satellite (Earth-to-space)	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE
51.40 - 52.6	FIXED MOBILE 5.547 5.556	51.4-52.6 GHz FIXED MOBILE 5.547 5.556		The band 51.4-52.6 GHz is identified for HDFS; Res.75 applies.	FIXED MOBILE 5.547 5.556	FIXED MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
52.6 – 54.25	EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	52.6-54.25 GHz EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556			EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH
54.25 - 55.78	EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive) 5.556B	54.25-55.78 GHz EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive)			EARTH EXPLORATION- SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive)	EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH
55.78 - 56.9	EARTH EXPLORATION- SATELLITE (passive) FIXED 5.557A INTER- SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	55.78-56.9 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547		The band 55.78-59 GHz is identified for HDFS; Res.75 applies.	EARTH EXPLORATION- SATELLITE (passive) FIXED 5.557A INTER- SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	FIXED MOBILE
56.9 - 57.0	EARTH EXPLORATION- SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	56.9-57 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547		The band 55.78-59 GHz is identified for HDFS; Res.75 applies.	EARTH EXPLORATION- SATELLITE (passive) FIXED INTER- SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	FIXED MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
57 – 58.2	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	57-58.2 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547		The band 55.78-59 GHz is identified for HDFS; Res.75 applies.	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	FIXED MOBILE
58.20 - 59	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	58.2-59 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556		The band 55.78-59 GHz is identified for HDFS; Res.75 applies.	EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	FIXED MOBILE
59 – 59.3	EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	59-59.3 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	Government use		EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	FIXED MOBILE RADIOLOCATION
59.3 - 64	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	59.3-64 GHz FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	SRD applications (61-61.5 GHz)	The band 61-61.5 GHz is designated for ISM applications (5.138). The band 59 - 61 GHz reserved for government use. Common international SRD band; see ITU-R Rec.SM-jSRD]	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	MOBILE FIXED

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
64 - 65	FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547 5.556	64-65 GHz FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547 5.556		The band 64-66 GHz is identified for HDFS; Res.75 applies.	FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547 5.556	FIXED MOBILE
65 - 66	EARTH EXPLORATION- SATELLITE FIXED INTER- SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547	65-66 GHz EARTH EXPLORATION- SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547		The band 64-66 GHz is identified for HDFS; Res.75 applies.	EARTH EXPLORATION- SATELLITE FIXED INTER- SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547	FIXED MOBILE
66 - 71	INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION- RADIONAVIGATION- SATELLITE 5.554	66-71 GHz INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION- RADIONAVIGATION- SATELLITE 5.554			INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION- RADIONAVIGATION- SATELLITE 5.554	MOBILE RADIONAVIGATION- RADIONAVIGATION- SATELLITE
71 - 74	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	71-74 GHz FIXED FIXED-SATELLITE (space- to- Earth) MOBILE MOBILE-SATELLITE (space- to-Earth)	Government use Fixed links (71-76 GHz)		FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	FIXED MOBILE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
74 - 75.50	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE BROADCASTING BROADCASTING-SATELLITE Space Research (space-to-Earth) 5.561				FIXED FIXED-SATELLITE (Earth-to-space) MOBILE BROADCASTING BROADCASTING-SATELLITE Space Research (space-to-Earth) 5.561	FIXED MOBILE BROADCASTING BROADCASTING-SATELLITE
74-76 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space research (space-to-Earth) 5.561	74-76 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space Research (space-to-Earth) 5.561	Fixed links (71-76 GHz)				
75.50 - 76	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space Research (space-to-Earth) 5.559A				FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING BROADCASTING-SATELLITE Space Research (space-to-Earth) 5.561 5.559A	FIXED MOBILE BROADCASTING BROADCASTING-SATELLITE

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
76 – 77.5	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space Research (space-to-Earth) 5.149	76-77.5 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space Research (space-to-Earth) 5.149	SRD - Road Transport and Traffic Telematics Radar (76–77 GHz)	Common international SRD band; see ITU-R Rec.SM-[SRD] and Rec.M.1452	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space Research (space-to-Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION
77.5 - 78	AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149	77.5-78 GHz AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149			AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149	AMATEUR AMATEUR-SATELLITE
78 - 79	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.149 5.560	78-79 GHz RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.149 5.560			RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.149 5.560	RADIOLOCATION
79 - 81	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	79-81 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149			RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	RADIO ASTRONOMY RADIOLOCATION

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
81 - 84	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space Research (space-to-Earth) 5.149 5.560A	81-84 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space Research (space-to-Earth) 5.149 5.561A	Fixed links (81-86 GHz)		FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space Research (space-to-Earth) 5.149 5.560A	FIXED MOBILE RADIO ASTRONOMY
84 - 86	FIXED FIXED-SATELLITE (Earth-to-space) 5.561A MOBILE RADIO ASTRONOMY 5.149	84-86 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149	Fixed links (81-86 GHz)		FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149	FIXED MOBILE RADIO ASTRONOMY
86 - 92	EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	86-92 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340			EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	RADIO ASTRONOMY
92 - 94	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	92-94 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149			FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION
94.0 - 94.1	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562 5.562A	94-94.1 GHz EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562 5.562A			EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562 5.562A	RADIOLOCATION Radio astronomy

Frequency bands (kHz)	ITU Region 1 Radio Regulations	SADC common allocation/s and relevant ITU footnotes	SADC proposed common sub-allocations / utilisation	Additional information	Namibia National Allocations	Current and Main Utilisations in Namibia
94.1 – 95.0	EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.149	94.1-95 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149			EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.149	RADIOLOCATION Radio astronomy
95 - 100	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIO NAVIGATION RADIO NAVIGATION- SATELLITE 5.149 5.554	95-100 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIO NAVIGATION RADIO NAVIGATION- SATELLITE 5.149 5.554			FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIO NAVIGATION RADIO NAVIGATION- SATELLITE 5.149 5.554	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIO NAVIGATION
100 - 102	EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341				EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	RADIO ASTRONOMY
102 - 105	FIXED MOBILE RADIO ASTRONOMY 5.149 5.341				FIXED MOBILE RADIO ASTRONOMY 5.149	FIXED MOBILE RADIO ASTRONOMY

ITU DEFINITIONS

“Administration” means a government or public authority of a country that is responsible for giving effect to the obligations of the country as a member of International Telecommunications Union (ITU).

“Additional Allocation” means an allocation, in the form of Footnote, which is added in this area or in this country to the services or services which are indicated in Table of Frequency allocation.

“Aeronautical Mobile Service” a mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radiobeacon stations may also participate in this service on designated distress and emergency frequencies.

“Aeronautical mobile (OR) service” means an aeronautical mobile service for communications, including those relating to flight coordination, primarily outside national or international civil air routes. (OR) means off-route.

“Aeronautical mobile (R) service” means an aeronautical mobile service that is reserved for communications relating to the safety and regularity of flight, primarily along national or international civil air routes. (R) means route.

“Aeronautical Fixed Service” means a radiocommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular efficient and economical operation of air transport.

“Aeronautical Mobile – Satellite Service” means a mobile satellite service in which mobile earth stations are located on board aircraft; survival craft stations and emergency position indicating radiobeacon stations may also participate in this service.

“Allocation” (of a frequency band) means entry In the Table of Frequency Allocation of a given frequency band for the purpose of its use by one or more terrestrial or space radiocommunication services or the radio astronomy service under specified conditions.

“Alternative allocation” means an allocation in the form of footnote which replaces, in this area or in this area country, the allocation indicated in the Table of Frequency Allocation.

“Amateur Service” means a radiocommunication service for the purpose of self- training, intercommunication and technical investigations carried out by amateurs, that is, by duly radiobeacon persons interested in radio technique solely with a personal aim and without pecuniary interest.

“Amateur – Satellite Service” means a radiocommunication service using space stations on earth satellites for the same purposes as those of the amateur service.

“Assignment” (of a radio frequency or radio frequency channel) means authorisation given by the Authority for a radio device to use a radio frequency or radio frequency channel under specified conditions.

“Broadcasting Service” means a radiocommunication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmissions or other types of transmission.

“Broadcasting – Satellite Service” means a radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public. In the broadcasting satellite service the term “direct reception” shall encompass both individual reception and community reception.

“Deep Space” means a space at a distance from the Earth approximately equal to, or greater than, the distance between the earth and the moon.

“Earth Exploration – Satellite Service” means a radiocommunication service between earth stations and one or more space stations, which may include links between space stations, in which:

- information relating to the characteristics of the earth and its natural phenomena is obtained from active sensors or passive sensors on earth satellites;
- similar information is collected from airborne or earth based platforms;
- such information may be distributed to earth stations within the system concerned;
- platform interrogation may be included.

This service may also include feeder links necessary for its operation.

“Emergency Position – Indicating Radiobeacon Station” means a station in the mobile service the emissions of which are intended to facilitate search and rescue operations.

“Fixed Service” means a radiocommunication service between specified fixed points.

“Fixed – Satellite Service” means a radiocommunication service between earth stations at specified fixed points when one or more satellites are used; in some cases this service includes satellite-to-satellite links, which may also be effected in the inter-satellite service; the fixed-satellite service may also include feeder links for other space radiocommunication services.

“Inductive Loop Systems” means systems, which operate by producing a controlled magnetic field within which a predetermined recognisable signal is formed.

“Industrial, Scientific and Medical (ISM) applications (of radio frequency energy)” means operation of equipment or appliances designed to generate and use locally, radio frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of telecommunications.

“Instrument Landing System (ILS)” means a radionavigation system, which provides aircraft with horizontal and vertical guidance just before and during landing and, at certain fixed points, indicates the distance to the reference point of landing.

“Inter – Satellite Service” means a radiocommunication service providing links between artificial earth satellites.

“Land Mobile Service” means a mobile radiocommunication service between base stations and land mobile stations or between land mobile stations.

***“Maritime Mobile Service”** means a mobile service between coast stations and ship stations, or between ship stations, or between associated on board communication stations; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

“Maritime Mobile – Satellite Service” means a mobile satellite service in which mobile earth stations are located on board ships; survival craft stations and emergency position-indicating radiobeacon stations may also participate in this service.

“Meteorological Aids Service” means a radiocommunication service used for meteorological, including hydrological, observations and exploration.

“Meteorological – Satellite Service” means an earth exploration satellite service for meteorological purposes.

“Mobile – Satellite Service” means a radiocommunication service between mobile earth stations and one or more space stations, or between space stations used by this service or between mobile earth stations by means of one or more space stations. This service may also include feeder links necessary for its operation.

“Primary Services” means where a band is indicated as allocated to more than one service and the name of the service printed in Capital characters (e.g. MOBILE) is the primary services.

“Radar” means a radiodetermination system based on the comparison of reference signals with radio signals reflected, or retransmitted, from the position to be determined.

“Radar Beacon (Racon)” means a transmitter-receiver associated with a fixed navigational mark which, when triggered by a radar, automatically returns a distinctive signal which can appear on the display of the triggering radar, providing range, bearing and identification information.

“Radio Astronomy” means astronomy based on the reception of radio waves of cosmic origin.

“Radio Astronomy Service” means a service involving the use of radio astronomy.

“Radiocommunications Service” means a service involving the transmission, emission and/or reception of radio waves for specific telecommunications purposes.

“Radiodetermination” means the determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of radio waves.

***“Radionavigation”** means radiodetermination used for the purposes of radionavigation, including obstruction warning.

“Radiolocation” means radiodetermination used for purposes other than radionavigation.

“Radiosonde” means an automatic radio transmitter in the meteorological aids service usually carried on an aircraft, free balloon, kite or parachute, and which transmits meteorological data.

“Safety Service” means any radiocommunication service used permanently or temporarily for the safeguarding of human life and property.

“Secondary Service” means where a band is indicated as allocated to more than one service and the name of the service printed in normal characters (e.g. Mobile). These are called secondary services. Stations of a secondary service shall:

- not cause harmful interference to stations of primary services to which the frequencies are already assigned or to which stations may be assigned at a later date,
- not claim protection from harmful interference from stations of a primary service, to which frequencies are already assigned or may be assigned at a later date,
- claim protection, however, from harmful interference from stations of the same or other secondary service(s) to which frequencies may be assigned at a later date.

“Space Research Service” means a radiocommunication service in which spacecraft or other objects in space are used for scientific or technological research purposes.

“Standard frequency and Time Signal Service” means a radiocommunication service for scientific, technical and other purposes, providing the transmission of specified frequencies, time signals or both, of stated high precision, intended for general reception.

“Standard Frequency and Time Signal – Satellite Service” means a radiocommunication service using space stations on earth satellites for the same purpose as those of the standard frequency and time signal service.

ITU Footnotes

5.53 Administrations using the frequencies below 9 kHz shall ensure that no harmful interference is caused thereby to the services to which the bands above 9 kHz are allocated.

5.54 Administrations conducting scientific research using frequencies below 9 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practical protection from harmful interference.

5.55 *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. (WRC-2000)

5.56 The stations of services to which the bands 14-19.95 kHz and 20.05-70 kHz and in Region 1 also the bands 72-84 kHz and 86-90 kHz are allocated may transmit standard frequency and time signals. Such stations shall be afforded protection from harmful interference. In Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Mongolia, Kyrgyzstan, Slovakia, the Czech Republic, Tajikistan and Turkmenistan the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-03)

5.57 The use of the bands 14-19.95 kHz, 20.05-70 kHz and 70-90 kHz (72-84 kHz and 86-90 kHz in Region 1) by the maritime mobile service is limited to coast radiotelegraph stations (A1A and F1B only). Exceptionally, the use of class J2B or J7B emissions is authorised subject to the necessary bandwidth not exceeding that normally used for class A1A or F1B emissions in the band concerned.

5.58 *Additional allocation:* in Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the band 67-70 kHz is also allocated to the radionavigation service on a primary basis. (WRC-2000)

5.60 In the bands 70-90 kHz (70-86 kHz in Region 1) and 110-130 kHz (112-130 kHz in Region 1), pulsed radionavigation systems may be used on condition that they do not cause harmful interference to other services to which these bands are allocated.

5.62 Administrations which operate stations in the radionavigation service in the band 90-110 kHz are urged to coordinate technical and operating characteristics in such a way as to avoid harmful interference to the services provided by these stations.

5.63 (SUP - WRC-97)

5.64 Only classes A1A or F1B, A2C, A3C, F1C or F3C emissions are authorized for stations of the fixed service in the bands allocated to this service between 90 kHz and 160 kHz (148.5 kHz in Region 1) and for stations of the maritime mobile service in the bands allocated to this service between 110 kHz and 160 kHz (148.5 kHz in Region 1). Exceptionally, class J2B, or J7B emissions are also authorized in the bands between 110 kHz and 160 kHz (148.5 kHz in Region 1) for stations of the maritime service.

5.66 *Different category of service:* in Germany, the allocation of the band 115-117.6 kHz to the fixed and maritime mobile services is on a primary basis (see No. 5.33) and to the radionavigation service on a secondary basis (see No. 5.32).

5.67 *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. (WRC-2000)

5.68 *Alternative allocation:* in Angola, Burundi, Congo (Republic of the), Malawi, the Democratic Republic of the Congo, Rwanda and South Africa, the band 160-200 kHz is allocated to the fixed service on a primary basis. (WRC-03)

5.69 *Additional allocation:* in Somalia, the band 200-255 kHz is also allocated to the aeronautical radionavigation service on a primary basis.

5.70 *Alternative allocation:* in Angola, Botswana, Burundi, Cameroon, the Central African Republic, Congo (Republic of the), Ethiopia, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Democratic Republic of the Congo, Rwanda, South Africa, Swaziland, Tanzania, Chad, Zambia and Zimbabwe, the band 200 – 283.5 kHz is allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

5.71 *Alternative allocation:* in Tunisia, the band 255-283.5 kHz is allocated to the broadcasting service on a primary basis.

5.72 Norwegian stations of the fixed service situated in northern areas (north of 60° N) subject to auroral disturbances are allowed to continue operation on four frequencies in the bands 283.5-490 kHz and 510-526.5 kHz.

5.73 The band 285-325 kHz (283.5-325 kHz in Region 1) in the maritime radionavigation service may be used to transmit supplementary navigational information using narrow-band techniques, on condition that no harmful interference is caused to radiobeacon stations operating in the radionavigation service. (WRC-97)

5.74 *Additional allocation:* in Region 1, the frequency band 285.3-285.7 kHz is also allocated to the maritime radionavigation service (other than radiobeacons) on a primary basis.

5.75 *Different category of service:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Moldova, Kyrgyzstan, 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. (WRC-2000)

5.76 The frequency 410 kHz is designated for radio direction-finding in the maritime radionavigation service. The other radionavigation services to which the band 405-415 kHz is allocated shall not cause harmful interference to radio direction-finding in the band 406.5-413.5 kHz.

5.79 The use of the bands 415-495 kHz and 505-526.5 kHz (505-510 kHz in Region 2) by the maritime mobile service is limited to radiotelegraphy.

5.79A When establishing coast stations in the NAVTEX service on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz, administrations are strongly recommended to coordinate the operating characteristics in accordance with the procedures of the International Maritime Organisation (IMO) (see Resolution 339 (Rev.WRC-97)). (WRC-97)

5.81 (SUP – WRC-2000)

5.82 In the maritime mobile service, the frequency 490 kHz is, from the date of full implementation of the GMDSS (see Resolution 331 (Rev.WRC-97)), to be used exclusively for the transmission by coast stations of navigational and meteorological warnings and urgent information to ships, by means of narrow-band direct-printing telegraphy. The conditions for use of the frequency 490 kHz are prescribed in Articles S31 and S52. In using the band 415-495 kHz for the aeronautical radionavigation service, administrations are requested to ensure that no harmful interference is caused to the frequency 490 kHz. (WRC-97)

5.83 The frequency 500 kHz is an international distress and calling frequency for Morse radiotelegraphy. The conditions for its use are prescribed in Articles 31 and 52, and in Appendix 13.

5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles 31 and 52 and in Appendix 13. (WRC-97)

5.87 *Additional allocation:* in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 526.5-535 kHz is also allocated to the mobile service on a secondary basis.

5.87A *Additional allocation:* in Uzbekistan, the band 526.5-1 606.5 kHz is also allocated to the radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-97)

5.90 In the band 1 605-1 705 kHz, in cases where a broadcasting station of Region 2 is concerned, the service area of the maritime mobile stations in Region 1 shall be limited to that provided by ground-wave propagation.

5.92 Some countries of Region 1 use radiodetermination systems in the bands 1 606.5-1 625 kHz, 1 635-1 800 kHz, 1 850-2 160 kHz, 2 194-2 300 kHz, 2 502-2 850 kHz and 3 500-3 800 kHz, subject to agreement obtained under No. 9.21. The radiated mean power of these stations shall not exceed 50 W.

5.93 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Tajikistan, Chad, Turkmenistan and Ukraine, the bands 1 625-1 635 kHz, 1 800-1 810 kHz and 2 160-2 170 kHz are also allocated to the fixed and land mobile services on a primary basis, subject to agreement obtained under No. 9.21. (WRC-2000)

5.96 In Germany, Armenia, Austria, Azerbaijan, Belarus, Denmark, Estonia, the Russian Federation, Finland, Georgia, Hungary, Ireland, Iceland Israel, Kazakhstan, Latvia, , Liechtenstein, Lithuania Malta, Moldova, Norway, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, the United Kingdom, 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. (WRC-03)

5.98 *Alternative allocation:* in Angola, Armenia, Azerbaijan, Belarus, Belgium, Bulgaria, Cameroon, Congo (Republic of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakstan, Lebanon, Lithuania, Moldova, the Syrian Arab Republic, Kyrgyzstan, 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. (WRC-03)

5.99 *Additional allocation:* in Saudi Arabia, Bosnia and Herzegovina, Iraq, the Libyan Arab Jamahiriya, Uzbekistan, Slovakia, Romania, Serbia and Montenegro, Slovenia, Chad, and Togo, the band 1 810-1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.100 In Region 1, the authorisation to use the band 1 810-1 830 kHz by the amateur service in countries situated totally or partially north of 40° N shall be given only after consultation with the countries mentioned in Nos. 5.98 and 5.99 to define the necessary steps to be taken to prevent harmful interference between amateur stations and stations of other services operating in accordance with Nos. 5.98 and 5.99.

5.101 *Alternative allocation:* in Burundi and Lesotho, the band 1 810-1 850 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.103 In Region 1, in making assignments to stations in the fixed and mobile services in the bands 1 850-2 045 kHz, 2 194-2 498 kHz, 2 502-2 625 kHz and 2 650-2 850 kHz, administrations should bear in mind the special requirements of the maritime mobile service.

5.104 In Region 1, the use of the band 2 025-2 045 kHz by the meteorological aids service is limited to oceanographic buoy stations.

5.107 *Additional allocation:* in Saudi Arabia, Eritrea, Ethiopia, Iraq, Lesotho, the Libyan Arab Jamahiriya, Lesotho, 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 the stations in these services shall not exceed 50 W. (WRC-03)

5.108 The carrier frequency 2 182 kHz is an international distress and calling frequency for radiotelephony. The conditions for the use of the band 2 173.5-2 190.5 kHz are prescribed in Articles 31 and 52 and in Appendix 13.

5.109 The frequencies 2 187.5 kHz, 4 207.5 kHz, 6 312 kHz, 8 414.5 kHz, 12 577 kHz and 16 804.5 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article 31.

5.110 The frequencies 2 187.5 kHz, 4 207.5 kHz, 6 312 kHz, 8 414.5 kHz, 12 577 kHz and 16 804.5 kHz are international distress frequencies for digital selective calling. The conditions for the use of these frequencies are prescribed in Article 31.

5.111 The carrier frequencies 2 182 kHz, 3 023 kHz, 5 680 kHz, 8 364 kHz and the frequencies 121.5 MHz, 156.8 MHz and 243 MHz may also be used, in accordance with the procedures in force for terrestrial radiocommunication services, for search and rescue operations concerning manned space vehicles. The conditions for the use of the frequencies are prescribed in Article 31 and in Appendix 13. The same applies to the frequencies 100003 kHz, 14993 kHz and 19993 kHz, but in each of these cases emissions must be confined in a band of ± 3 kHz about the frequency.

5.112 *Alternative allocation:* in Bosnia and Herzegovina, Denmark, Malta, Serbia and Montenegro and Sri Lanka, the band 2 194-2 300 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.113 For the conditions for the use of the bands 2 300-2 495 kHz (2 498 kHz in Region 1), 3 200-3 400 kHz, 4 750-4 995 kHz and 5 005-5 060 kHz by the broadcasting service, see Nos. 5.16 to 5.20, 5.21 and 23.3 to 23.10.

5.114 *Alternative allocation:* in Bosnia and Herzegovina, Denmark, Iraq, Malta, and Serbia and Montenegro, the band 2 502-2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.115 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article 31 and Appendix 13 by stations of the maritime mobile service engaged in coordinated search and rescue operations.

5.116 Administrations are urged to authorize the use of the band 3 155-3 195 kHz to provide a common worldwide channel for low power wireless hearing aids. Additional channels for these devices may be assigned by administrations in the bands between 3 155 kHz and 3 400 kHz to suit local needs. It should be noted that frequencies in the range 3 000 to 4 000 kHz are suitable for hearing aid devices which are designed to operate over short distances within the induction field.

5.117 *Alternative allocation:* in Bosnia and Herzegovina, Côte d'Ivoire, Denmark, Egypt, Liberia, Malta, Serbia and Montenegro, Sri Lanka and Togo, the band 3 155-3 200 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.118 *Additional allocation:* in the United States, Japan, Mexico, Peru and Uruguay, the band 3 230-3 400 kHz is also allocated to the radiolocation service on a secondary basis.

5.120 (SUP – WRC-2000)

5.123 *Additional allocation:* in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the band 3 900-3 950 kHz is also allocated to the broadcasting service on a primary basis, subject to agreement obtained under No. 9.21.

5.124 (SUP – WRC-2000)

5.127 The use of the band 4 000-4 063 kHz by the maritime mobile service is limited to ship stations using radiotelephony (see No. 52.220 and Appendix 17).

5.128 In Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, Central African Republic, China, Georgia, India, Kazakstan, Mali, Niger, Kyrgyzstan, Russian Federation, Tajikistan, Chad, Turkmenistan and Ukraine, in the bands 4 063-4 123 kHz, 4 130-4 133 kHz and 4 408-4 438 kHz, stations of limited power in the fixed service which are situated at least 600 km from the coast may operate on condition that harmful interference is not caused to the maritime mobile service. (WRC-97)

5.129 On condition that harmful interference is not caused to the maritime mobile service, the frequencies in the bands 4 063-4 123 kHz and 4 130-4 438 kHz may be used exceptionally by stations in the fixed service communicating only within the boundary of the country in which they are located with a mean power not exceeding 50 W.

5.130 The conditions for the use of the carrier frequencies 4 125 kHz and 6 215 kHz are prescribed in Articles 31 and 52 and in Appendix 13.

5.131 The frequency 4 209.5 kHz is used exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques. (WRC-97)

5.132 The frequencies 4 210 kHz, 6 314 kHz, 8 416.5 kHz, 12 579 kHz, 16 806.5 kHz, 19 680.5 kHz, 22 376 kHz and 26 100.5 kHz are the international frequencies for the transmission of maritime safety information (MSI) (see Appendix 17).

5.133 *Different category of service:* in Armenia, Azerbaijan, Belarus, Georgia, Kazakstan, Latvia, Lithuania, Moldova, Uzbekistan, Kyrgyzstan, Russian Federation, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 5 130-5 250 kHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33).

5.134 The use of the bands 5 900-5 950 kHz, 7 300-7 350 kHz, 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 13 570-13 600 kHz, 13 800-13 870 kHz, 15 600-15 800 kHz, 17 480- 17 550 kHz and 18 900-19 020 kHz by the broadcasting service as from 1 April 2007 is subject to the application of the procedure of Article 12. Administrations are encouraged to use these bands to facilitate the introduction of digitally modulated emissions in accordance with the provisions of Resolution 517 (Rev.WRC-03). (WRC-03)

5.135 (SUP - WRC-97)

5.136 The band 5 900-5 950 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis, as well as to the following services: in Region 1 to the land mobile service on a primary basis, in Region 2 to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007 frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused by the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

5.137 On condition that harmful interference is not caused to the maritime mobile service, the bands 6 200-6 213.5 kHz and 6 220.5-6 525 kHz may be used exceptionally by stations in the fixed service, communicating only within the boundary of the country in which they are located, with a mean power not exceeding 50 W. At the time of notification of these frequencies, the attention of the Bureau will be drawn to the above-mentioned conditions.

5.138 The following bands:

6765-6795 kHz	(center frequency 6 780 kHz),
433.05-434.79 MHz	(center frequency 433.92 MHz) in Region 1 except in the countries mentioned in No. 5.280,
61-61.5 GHz	(center frequency 61.25 GHz),
122-123 GHz	(center frequency 122.5 GHz), and
244-246 GHz	(center frequency 245 GHz)

are designated for industrial, scientific and medical (ISM) applications. The use of these frequency bands for ISM applications shall be subject to special authorization by the administration concerned, in agreement with other administrations whose radiocommunication services might be affected. In applying this provision, administrations shall have due regard to the latest relevant ITU-R Recommendations.

5.138A Until 29 March 2009, the band 6 765-7 000 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis. After this date, this band is also allocated to the fixed and the mobile except aeronautical mobile (R) services on a primary basis. (WRC-03)

5.139 *Different category of service:* until 29 March 2009, in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the allocation of the band 6 765-7 000 kHz to the land mobile service is on a primary basis (see No. 5.33). (WRC-03)

5.140 *Additional allocation:* in Angola, Iraq, Kenya, Rwanda, Somalia and Togo, the band 7 000-7 050 kHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.141 *Alternative allocation:* in Egypt, Eritrea, Ethiopia, Guinea, Libya and Madagascar, the band 7 000-7 050 kHz is allocated to the fixed service on a primary basis. (WRC-97)

5.141A *Additional allocation:* in Uzbekistan and Kyrgyzstan, the bands 7 000-7 100 kHz and 7 100-7 200 kHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-03)

5.141B *Additional allocation:* after 29 March 2009, in Algeria, Saudi Arabia, Australia, Bahrain, Botswana, Brunei, Darussalam, China, Comoros, Korea (Republic of), Diego Garcia, Djibouti, Egypt, United Arab Emirates, Eritrea, Indonesia, Iran (Islamic Republic of), Japan, Jordan, Kuwait, the Libyan Arab Jamahiriya, Morocco, Mauritania, New Zealand, Oman, Papua New Guinea, Qatar, the Syrian Arab Republic, Singapore, Sudan, Tunisia, Vietnam and Yemen, the band 7 100-7 200 kHz is also allocated to the fixed and the mobile, except aeronautical mobile (R), services on a primary basis. (WRC-03)

5.141C In regions 1 and 3, the band 7 100-7 200 kHz is also allocated to the broadcasting service until 29 March 2009 on a primary basis. (WRC-03)

5.142 Until 29 March 2009, the band 7350 – 7450 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. After 29 March 2009 the use of the band 7200 – 7300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. (WRC-03)

5.143 The band 7 300-7 350 kHz is allocated, until 1 April 2007, to the fixed service on a primary basis and to the land mobile service on a secondary basis, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused by the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

5.143B In Region 1, the band 7 350-7 450 kHz is allocated, until 29 March 2009, to the fixed service on a primary basis and to the land mobile service on a secondary basis. After 29 March 2009, on condition that harmful interference is not caused to the broadcasting service, frequencies in the band 7 350- 7 450 kHz may be used by stations in the fixed and land mobile services communicating only within the boundary of the country in which they are located, each station using a total radiated power that shall not exceed 24 dBW. (WRC-03)

5.143C *Additional allocation:* after 29 March 2009, in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Jordan, Kuwait, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and Yemen, the bands 7 350-7 400 kHz and 7 400-7 450 kHz are also allocated to the fixed service on a primary basis. (WRC-03)

5.143E Until 29 March 2009, the band 7 450-8 100 kHz is allocated to the fixed service on a primary basis and to the land mobile service on a secondary basis. (WRC-03)

5.145 The conditions for the use of the carrier frequencies 8 291 kHz, 12 290 kHz and 16 420 kHz are prescribed in Articles 31 and 52 and in Appendix 13.

5.146 The bands 9 400-9 500 kHz, 11 600-11 650 kHz, 12 050-12 100 kHz, 15 600-15 800 kHz, 17 480-17 550 kHz and 18 900-19 020 kHz are allocated to the fixed service on a primary basis until 1 April 2007, subject to application of the procedure referred to in Resolution 21 (Rev.WRC-95). After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused by the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of

the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

5.147 On condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9 775-9 900 kHz, 11 650-11 700 kHz and 11 975-12 050 kHz may be used by stations in the fixed service communicating only within the boundary of the country in which they are located, each stations using a total radiated power not exceeding 24 dBW.

5.148 (SUP - WRC-97)

5.149 In making assignments to stations of other services to which the bands:

13 360 - 13 410 kHz,	4 990 - 5 000 MHz,	94,1 - 100 GHz,
25 550 - 25 670 kHz,	6650 - 6 675.2 MHz,	102 - 109.5 GHz,
37.5 - 38.25 MHz,	10.6 - 10.68 GHz,	111.8- - 114.25 GHz,
73 - 74.6 MHz in Regions 1	14.47 - 14.5 GHz,	128.33 - 128.59 GHz, and 3,
150.05 - 153 MHz in Region 1	22.01 - 22.21 GHz,	129.23 - 129.49 GHz,
322 - 328.6 MHz,	22.21 - 22.5 GHz,	130 - 134 GHz,
406.1 - 410 MHz,	22.81 - 22.86 GHz,	136 - 148.5 GHz,
608 - 614 MHz in Regions 1	23.07 - 23.12 GHz	151.5 - 158.5 GHz, and 3,
1 330 - 1 400 MHz,	31.2 - 31.3 GHz,	168.59 - 168.93 GHz,
1 610.6 - 1 613.8 MHz,	31.5 - 31.8 GHz in Regions 1 and 3,	171.11 - 171.45 GHz,
1 660 - 1 670 MHz,	36.43 - 36.5 GHz,	172.31 - 172.65 GHz,
1 718.8 - 1 722.2 MHz,	42.5 - 43.5 GHz,	173.52 - 173.85 GHz,
2 655 - 2 690 MHz,	42.77 - 42.87 GHz,	195.75 - 196.15 GHz,
3 260 - 3 267 MHz,	43.07 - 43.17 GHz,	209 - 226 GHz,
3 332 - 3 339 MHz,	43.37 - 43.47 GHz,	241 - 250 GHz,
3 345.8 - 3 352.5 MHz,	48.94 - 49.04 GHz,	252 - 275 GHz
4 825 - 4 835 MHz,	76 - 86 GHz,	
4 950 - 4 990 MHz,	92 - 94 GHz,	

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.4.5 and 4.6 and Article 29). (WRC-2000)

5.150 The following bands:

13 553-13 567 kHz	(centre frequency 13 560 kHz),
26 957-27 283 kHz	(centre frequency 27 120 kHz),
40.66-40.70 MHz	(centre frequency 40.68 MHz),
902-928 MHz in Region 2	(centre frequency 915 MHz),
2 400-2 500 MHz	(centre frequency 2 450 MHz),
5 725-5 875 MHz	(centre frequency 5 800 MHz), and
24-24.25 GHz	(centre frequency 24.125 GHz)

are also designated for industrial, scientific and medical (ISM) applications. Radiocommunication services operating within these bands must accept harmful interference, which may be caused by these applications. ISM equipment operating in these bands is subject to the provisions of No. 15.13.

5.151 The bands 13 570-13 600 kHz and 13 800-13 870 kHz are allocated, until 1 April 2007, to the fixed service on a primary basis and to the mobile except aeronautical mobile (R) service on a secondary basis, subject to application of the procedure referred to IN resolution 21 (Rev.WRC-95) After 1 April 2007, frequencies in this band may be used by stations in the above-mentioned services, communicating only within the boundary of the country in which they are located, on the condition

that harmful interference is not caused by the broadcasting service. When using frequencies for these services, administrations are urged to use the minimum power required and to take account of the seasonal use of frequencies by the broadcasting service published in accordance with the Radio Regulations.

5.152 Additional allocation: in Armenia, Azerbaijan, China, Côte d'Ivoire, the Russian Federation, Georgia, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, 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 23 dBW. (WRC-03)

5.154 Additional allocation: in Armenia, Azerbaijan, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, 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. (WRC-03)

5.155 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Republic, Tajikistan, Turkmenistan and Ukraine, the band 21 850-21 870 kHz is also allocated to the aeronautical mobile (R) service on a primary basis. (WRC-03)

5.155A In Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Republic, 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. (WRC-2000)

5.155B The band 21 870-21 924 kHz is used by the fixed service for provision of services related to aircraft flight safety.

5.156 Additional allocation: in Nigeria, the band 22 720-23 200 kHz is also allocated to the meteorological aids services (radiosondes) on a primary basis.

5.156A The use of the band 23 200-23 350 kHz by the fixed service is limited to provision of services related to aircraft flight safety.

5.157 The use of the band 23 350-24 000 kHz by the maritime mobile service is limited to inter-ship radiotelegraphy.

5.160 Additional allocation: in Botswana, Burundi, Lesotho, Malawi, Namibia, Democratic Republic Of the Congo, Rwanda and Swaziland, the band 41 - 44 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-2000)

5.162A Additional allocation: in Germany, Austria, Belgium, Bosnia and Herzegovina, China, Vatican, Denmark, Spain, Estonia, the Russian Federation, 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, 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). (WRC-2000)

5.163 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, the Czech Republic, Tajikistan, Turkmenistan and Ukraine, the bands 47-48.5 MHz and 56.5-58 MHz are also allocated to the fixed and land mobile services on a secondary basis. (WRC-03).

5.164 Additional allocation: in Albania, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d'Ivoire, Denmark, Spain, Estonia, Finland, France, Gabon, Greece,

Ireland, Israel, Italy, the Libyan Arab Jamahiriya, Jordan, Lebanon, Liechtenstein, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Nigeria, Norway, the Netherlands, Poland, Syrian Arab Republic, the United Kingdom, Serbia and Montenegro, Slovenia, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 47-68 MHz, in Romania the band 47-58 MHz, in South Africa the band 47-50 MHz and in the Czech Republic the band 66-68 MHz, are also allocated to the land mobile service on a primary basis. However, stations of the land 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, existing or planned broadcasting stations of countries other than those mentioned in connection with the band. (WRC-03).

5.165 Additional allocation: in Angola, Cameroon, the Congo, Madagascar, Mozambique, Somalia, Sudan, Tanzania and Chad, the band 47-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.169 Alternative allocation: in Botswana, Burundi, Lesotho, Malawi, Namibia, Democratic Republic of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 50-54 MHz is allocated to the amateur service on a primary basis.

5.171 Additional allocation: in Botswana, Burundi, Lesotho, Malawi, Mali, Namibia, Democratic Republic of the Congo, Rwanda, South Africa, Swaziland and Zimbabwe, the band 54-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.174 Alternative allocation: in Bulgaria, Hungary and Romania, the band 68-73 MHz is allocated to the broadcasting service on a primary basis and used in accordance with the decisions in the Final Acts of the Special Regional Conference (Geneva, 1960). (WRC-03).

5.175 Alternative allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, 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. (WRC-2000)

5.177 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, 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. 9.21. (WRC-03).

5.179 Additional allocation: in Armenia, Azerbaijan, Belarus, Bulgaria, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Moldova, Mongolia, Kyrgyzstan, Slovakia, Tajikistan, Turkmenistan and Ukraine, the bands 74.6-74.8 MHz and 75.2-75.4 MHz are also allocated to the aeronautical radionavigation service, on a primary basis, for ground-based transmitters only. (WRC-03).

5.180 The frequency 75 MHz is assigned to marker beacons. Administrations shall refrain from assigning frequencies close to the limits of the guardband to stations of other services which, because of their power or geographical position, might cause harmful interference or otherwise place a constraint on marker beacons.

Every effort should be made to improve further the characteristics of airborne receivers and to limit the power of transmitting stations close to the limits 74.7 MHz and 75.2 MHz.

5.181 Additional allocation: in Egypt, Israel and the Syrian Arab Republic, the band 74.8-75.2 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. In order to ensure that harmful interference is not caused to stations of the aero-nautical 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. 9.21. (WRC-03).

5.184 Additional allocation: in Bulgaria and Romania, the band 76-87.5 MHz is also allocated to the broadcasting service on a primary basis and used in accordance with the decisions contained in the Final Acts of the Special Regional Conference (Geneva, 1960). (WRC-97)

5.186 (SUP-WRC-97)

5.187 Alternative allocation: in Albania, the band 81-87.5 MHz is allocated to the broadcasting service on a primary basis and used in accordance with the decisions contained in the Final Acts of the Special Regional Conference (Geneva, 1960).

5.197 Additional allocation: Japan, Pakistan and the Syrian Arab Republic, the band 108- 111.975 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. 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. 9.21. (WRC-2000)

5.197A The band 108 – 117.975 MHz may also be used by the aeronautical mobile (R) service on a primary basis, limited to systems that transmit navigational information in support of air navigation and surveillance functions in accordance with recognized international aviation standards. Such use shall be in accordance with Resolution 413 (WRC-03) and shall not cause harmful interference to nor claim protection from stations operating in the aeronautical radionavigation service which operate in accordance with international aeronautical standards (WRC-03).

5.198 Additional allocation: the band 117.975-136 MHz is also allocated to the aeronautical mobile-satellite (R) service on a secondary basis, subject to agreement obtained under No. 9.21. (WRC-97)

5.199 The bands 121.45-121.55 MHz and 242.95-243.05 MHz are also allocated to the mobile-satellite service for the reception on board satellites of emissions from emergency position-indicating radiobeacons transmitting at 121.5 MHz and 243 MHz (see Appendix 13)

5.200 In the band 117.975-136 MHz, the frequency 121.5 MHz is the aeronautical emergency frequency and, where required, the frequency 123.1 MHz is the aeronautical frequency auxiliary to 121.5 MHz. Mobile stations of the maritime mobile service may communicate on these frequencies under the conditions laid down in Article 31 and Appendix 13 for distress and safety purposes with stations of the aeronautical mobile service.

5.201 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Latvia, Moldova, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Tajikistan, Turkmenistan and Ukraine, the band 132-136 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. (WRC-97)

5.202 Additional allocation: in Saudi Arabia, Armenia, Azerbaijan, Belarus, Bulgaria, the United Arab Emirates, the Russian Federation, Georgia, Iran (Islamic Republic of), Jordan, Latvia, Moldova, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Slovakia, the Czech Republic, Romania, 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. (WRC-2000)

5.203 In the band 136-137 MHz, existing operational meteorological satellites may continue to operate, under the conditions defined in No. S4.4 with respect to the aeronautical mobile service, until 1 January 2002. Administrations shall not authorize new frequency assignments in this band to stations in the meteorological-satellite service. (WRC-97)

5.203A *Additional allocation:* in Israel, Mauritania, Qatar and Zimbabwe, the band 136-137 MHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a secondary basis until 1 January 2005. (WRC-97)

5.203B *Additional allocation:* in Saudi Arabia, United Arab Emirates, Jordan, Oman and the Syrian Arab Republic, the band 136-137 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis until 1 January 2005. (WRC-03)

5.204 *Different category of service:* in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Bosnia and Herzegovina, Brunei Darussalam, China, Cuba, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Malaysia, Oman, Pakistan, Philippines, Qatar, Serbia and Montenegro, Singapore, Thailand and Yemen, the band 137-138 MHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis (see No. 5.33). (WRC-03)

5.205 *Different category of service:* in Israel and Jordan, the allocation of the band 137-138 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33).

5.206 *Different category of service:* in Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Egypt, the Russian Federation, Finland, France, Georgia, Greece, Hungary, Kazakhstan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Syrian Arab Republic, Slovakia, the Czech Republic, Romania, 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. 5.33). (WRC-2000)

5.208 The use of the band 137-138 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-97)

5.208A In making assignments to space stations in the mobile-satellite service in the bands 137-138 MHz, 387-390 MHz and 400.15-401 MHz, administrations shall take all practicable steps to protect the radio astronomy service in the bands 150.05-153 MHz, 322-328.6 MHz, 406.1-410 MHz and 608-614 MHz from harmful interference from unwanted emissions. The threshold levels of interference detrimental to the radio astronomy service are shown in Table 1 of Recommendation ITU-R RA.769-1. (WRC-97)

5.209 The use of the bands 137-138 MHz, 148-150.05 MHz, 399.9-400.05 MHz, 400.15-401 MHz, 454-456 MHz and 459-460 MHz by the mobile-satellite service is limited to non-geostationary-satellite systems. (WRC-97)

5.210 *Additional allocation:* in France, Italy, the Czech Republic and the United Kingdom, 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. (WRC-03)

5.211 *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, Slovenia, 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.

5.212 *Alternative allocation:* in Angola, Botswana, Burundi, Cameroon, the Central African Republic, Congo (Republic of the), Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Lesotho, Liberia,

Libyan Arab Jamahiriya, Malawi, Mozambique, Namibia, Oman, Uganda, Democratic Republic of the Congo, Rwanda, Sierra Leone, South Africa, Swaziland, Chad, Togo, Zambia and Zimbabwe, the band 138 – 144 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.214 *Additional allocation:* in Bosnia and Herzegovina, Croatia, Eritrea, Ethiopia, Kenya, The Former Yugoslav Republic of Macedonia, Malta, Serbia and Montenegro, Somalia, Sudan and Tanzania, the band 138-144 MHz is also allocated to the fixed service on a primary basis. (WRC-2000)

5.218 *Additional allocation:* the band 148-149.9 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. The bandwidth of any individual transmission shall not exceed ± 25 kHz.

5.219 The use of the band 148-149.9 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the fixed, mobile and space operation services in the band 148-149.9 MHz.

5.220 The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. The mobile-satellite service shall not constrain the development and use of the radionavigation-satellite service in the bands 149.9 – 150.5 MHz and 399.9 – 400.05 MHz. (WRC-97)

5.221 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, Botswana, Brunei Darussalam, Bulgaria, Cameroon, China, Cyprus, Congo (Republic of the), Korea (Republic of), Côte d'Ivoire, Croatia, Cuba, Denmark, Egypt, the United Arab Emirates, Eritrea, Spain, Estonia, Ethiopia, the Russian Federation, Finland, France, Gabon, Ghana, Greece, Guinea, Guinea Bissau, Hungary, India, Iran (Islamic Republic of), Ireland, Iceland, Israel, Italy, the Libyan Arab Jamahiriya, Jamaica, Japan, Jordan, Kazakstan, Kenya, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, 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, Philippines, Poland, Portugal, Qatar, the Syrian Arab Republic, Kyrgyzstan, Slovakia, Romania, the United Kingdom, Senegal, Serbia and Montenegro, Sierra Leone, Singapore, Slovenia, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Vietnam, Yemen, Zambia and Zimbabwe. (WRC-03)

5.222 Emissions of the radionavigation-satellite service in the bands 149.9-150.05 MHz and 399.9-400.05 MHz may also be used by receiving earth stations of the space research service.

5.223 Recognising that the use of the band 149.9-150.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation-satellite service, administrations are urged not to authorize such use in application of No. 4.4.

5.224 (SUP-WRC-97)

5.224A The use of the bands 149.9-150.05 MHz and 399.9-400.05 MHz by the mobile-satellite service (Earth-to-space) is limited to the land mobile-satellite service (Earth-to-space) until 1 January 2015. (WRC-97)

5.224B The allocation of the bands 149.9-150.05 MHz and 399.9-400.05 MHz to the radionavigation-satellite service shall be effective until 1 January 2015. (WRC-97)

5.226 The frequency 156.8 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service. The conditions for the use of this frequency are contained in Article 31 and Appendix 13.

In the bands 156-156.7625 MHz, 156.8375-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, each administration shall give priority to the maritime mobile service on only such frequencies as are assigned to stations of the maritime mobile service by the administration (see Articles 31 and 52, and Appendix 13).

Any use of frequencies in these bands by stations of other services to which they are allocated should be avoided in areas where such use might cause harmful interference to the maritime mobile VHF radiocommunication service.

However, the frequency 156.8 MHz and the frequency bands in which priority is given to the maritime mobile service may be used for radiocommunications on inland waterways subject to agreement between interested and affected administrations and taking into account current frequency usage and existing agreements.

5.227 In the maritime mobile VHF service the frequency 156.525 MHz is to be used exclusively for digital selective calling for distress, safety and calling. The conditions for the use of this frequency are prescribed in Articles 31 and 52, and Appendices 13 and 18.

5.229 *Alternative allocation:* in Morocco, the band 162-174 MHz is allocated to the broadcasting service on a primary basis. The use of this band shall be subject to agreement with administrations having services, operating or planned, in accordance with the Table which are likely to be affected. Stations in existence on 1 January 1981, with their technical characteristics as of that date, are not affected by such agreement.

5.235 *Additional allocation:* in Germany, Austria, Belgium, Denmark, Spain, Finland, France, Israel, Italy, Liechtenstein, Malta, Monaco, Norway, the Netherlands, the United Kingdom, Sweden and Switzerland, the band 174-223 MHz is also allocated to the land mobile service on a primary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, broadcasting stations, existing or planned, in countries other than those listed in this footnote.

5.237 *Additional allocation:* in the Congo (Republic of the), Eritrea, Ethiopia, Gambia, Guinea, the Libyan Arab Jamahiriya, Malawi, Mali, Sierra Leone, Somalia, Chad and Zimbabwe, the band 174-223 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-03)

5.243 *Additional allocation:* in Somalia, the band 216-225 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to not causing harmful interference to existing or planned broadcasting services in other countries.

5.246 *Alternative allocation:* in Spain, France, Israel and Monaco, the band 223-230 MHz is allocated to the broadcasting and land mobile services on a primary basis (see No. 5.33) on the basis that, in the preparation of frequency plans, the broadcasting service shall have prior choice of frequencies; and allocated to the fixed and mobile, except land mobile, services on a secondary basis. However, the stations of the land mobile service shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations in Morocco and Algeria.

5.247 *Additional allocation:* in Saudi Arabia, Bahrain, the United Arab Emirates, Jordan, Oman, Qatar and Syria, the band 223-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

5.251 *Additional allocation:* in Nigeria, the band 230-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis, subject to agreement obtained under No. 9.21.

5.252 *Alternative allocation:* in Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe, the bands 230-238 MHz and 246-254 MHz are allocated to the broadcasting service on a primary basis, subject to agreement obtained under No.9.21

5.254 The bands 235-322 MHz and 335.4-399.9 MHz may be used by the mobile- satellite service, subject to agreement obtained under No. 9.21, on condition that stations in this service do not cause harmful interference to those of other services operating or planned to be operated in accordance with the Table of Frequency Allocations except for the additional allocation made in the footnote No. 5.256A. (WRC-03)

5.255 The bands 312-315 MHz (Earth-to-space) and 387-390 MHz (space-to-Earth) in the mobile-satellite service may also be used by non-geostationary-satellite systems. Such use is subject to coordination under No. 9.11A.

5.256 The frequency 243 MHz is the frequency in this band for use by survival craft stations and equipment used for survival purposes (see Appendix 13).

5.257 The band 267-272 MHz may be used by administrations for space telemetry in their countries on a primary basis, subject to agreement obtained under No. 9.21.

5.258 The use of the band 328.6-335.4 MHz by the aeronautical radionavigation service is limited to Instrument Landing Systems (glide path).

5.259 *Additional allocation:* in Egypt, Israel, Japan, and the Syrian Arab Republic, the band 328.6-335.4 MHz is also allocated to the mobile service on a secondary basis, subject to agreement obtained under No. 9.21. 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. 9.21. (WRC-2000)

5.260 Recognizing that the use of the band 399.9-400.05 MHz by the fixed and mobile services may cause harmful interference to the radionavigation satellite service, administrations are urged not to authorize such use in application of No. 4.4.

5.261 Emissions shall be confined in a band of ± 25 kHz about the standard frequency 400.1 MHz.

5.262 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Botswana, Bulgaria, Colombia, Costa Rica, Cuba, Egypt, the United Arab Emirates, Ecuador, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Romania, Serbia and Montenegro, Singapore, Somalia, Tajikistan, Turkmenistan and Ukraine the band, 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.263 The band 400.15-401 MHz is also allocated to the space research service in the space-to-space direction for communications with manned space vehicles. In this application, the space research service will not be regarded as a safety service.

5.264 The band 400.15-401 MHz is also allocated to the space research service in the space-to-space direction for communications with manned space vehicles. In this application, the space research service will not be regarded as a safety service. in Annex 1 of Appendix 5 shall apply until such time as a competent world radiocommunication conference revises it.

5.266 The use of the band 406 – 406.1 MHz by the mobile-satellite service is limited to low power satellite emergency position-indicating radio beacons (see also Article 31 and Appendix 13).

5.267 Any emission capable of causing harmful interference to the authorized uses of the band 406-406.1 MHz is prohibited.

5.268 Use of the band 410-420 MHz by the space research service is limited to communications within 5 km of an orbiting, manned space vehicle. The power flux-density at the surface of the Earth produced by emissions from extra-vehicular activities shall not exceed $-153 \text{ dB(W/m}^2\text{)}$ for $0^\circ \leq \theta < 5^\circ$, $-153 + 0.077(\theta - 5) \text{ dB(W/m}^2\text{)}$ for $5^\circ \leq \theta < 70^\circ$ and $-148 \text{ dB(W/m}^2\text{)}$ for $70^\circ \leq \theta < 90^\circ$, where θ is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. No. S4.10 does not apply to extra-vehicular activities. In this frequency band the space research (space-to-space) service shall not claim protection from, nor constrain the use and development of, stations of the fixed and mobile services. (WRC-97)

5.271 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. (WRC-03)

5.272 Different category of service: in France, the allocation of the band 430-434 MHz to the amateur service is on a secondary basis (see No. 5.32).

5.273 Different category of service: in the Libyan Arab Jamahiriya, the allocation of the bands 430-432 MHz and 438-440 MHz to the radiolocation service is on a secondary basis (see No. 5.32). (WRC-03)

5.274 Alternative allocation: in Denmark, Norway and Sweden, the bands 430-432 MHz and 438-440 MHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.275 Additional allocation: in Bosnia and Herzegovina, Croatia, Estonia, Finland, Latvia, The Former Yugoslav Republic of Macedonia, Libya, Slovenia and Yugoslavia, the bands 430-432 MHz and 438-440 MHz are also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-97)

5.276 Additional allocation: in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei, Darussalam, Burkina Faso, Burundi, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, the Islamic Republic of Iran, Iraq, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Liechtenstein, Malaysia, Malta, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syria, Democratic People's Republic of Korea, Singapore, Somalia, Switzerland, Tanzania, Thailand, Togo, Turkey and Yemen, the band 430-440 MHz is also allocated to the fixed service on a primary basis and the bands 430-435 MHz and 438-440 MHz are also allocated to the mobile, except aeronautical mobile, service on a primary basis. (WRC-97)

5.277 Additional allocation: in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo (Republic of the), Djibouti, the Russian Federation, Georgia, Hungary, Israel, Kazakhstan, Mali, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430-440 MHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.279A The use of this band by sensors in the Earth exploration-satellite service (active) shall be in accordance with Recommendation ITU-R SA.1260-1. Additionally, the Earth exploration-satellite service (active) in the band 432-438 MHz shall not cause harmful interference to the aeronautical radionavigation service in China. The provision of this footnote in no way diminish the obligation of the Earth exploration-satellite service (active) to operate as a secondary service in accordance with Nos. 5.29 and 5.30. (WRC-03)

5.280 In Germany, Austria, Bosnia and Herzegovina, Croatia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Portugal, Slovenia, Switzerland and Yugoslavia, the band 433.05-434.79

MHz (centre frequency 433.92 MHz) is designated for industrial, scientific and medical (ISM) applications. Radiocommunication services of these countries operating within this band must accept harmful interference which may be caused by these applications. ISM equipment operating in this band is subject to the provisions of No. 15.13.

5.281 *Additional allocation:* in the French Overseas Departments in Region 2 and India, the band 433.75-434.25 MHz is also allocated to the space operation service (Earth-to-space) on a primary basis. In France and in Brazil, the band is allocated to the same service on a secondary basis.

5.282 In the bands 435-438 MHz, 1 260-1 270 MHz, 2 400-2 450 MHz, 3 400-3 410 MHz (in Regions 2 and 3 only) and 5 650-5 670 MHz, the amateur-satellite service may operate subject to not causing harmful interference to other services operating in accordance with the Table (see No. 5.43). Administrations authorising such use shall ensure that any harmful interference caused by emissions from a station in the amateur-satellite service is immediately eliminated in accordance with the provisions of No. 25.11. The use of the bands 1 260-1 270 MHz and 5 650-5 670 MHz by the amateur-satellite service is limited to the Earth-to-space direction.

5.286 The band 449.75-450.25 MHz may be used for the space operation service (Earth-to-space) and the space research service (Earth-to-space), subject to agreement obtained under No. 9.21.

5.286A The use of the bands 454-456 MHz and 459-460 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-97)

5.286B The use of the band 454-455 MHz in the countries listed in No. 5.286D, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No.5.286E, by stations in the mobile-satellite service, 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. (WRC-97)

5.286C The use of the band 454-455 MHz in the countries listed in No. 5.286D, 455-456 MHz and 459-460 MHz in Region 2, and 454-456 MHz and 459-460 MHz in the countries listed in No.5.286E, by stations in the mobile-satellite service, shall not constrain the development and use of the fixed and mobile services operating in accordance with the Table of Frequency Allocations. (WRC-97)

5.286D *Additional allocation:* in Canada, the United States, Mexico and Panama, the band 454-455 MHz is also allocated to the mobile-satellite service (Earth-to-space) on a primary basis. (WRC-97)

5.286E *Additional allocation:* in Cape Verde, Indonesia, Nepal, Nigeria and Papua New Guinea, the bands 454-456 MHz and 459-460 MHz are also allocated to the mobile-satellite (Earth-to-space) service on a primary basis. (WRC-97)

5.287 In the maritime mobile service, the frequencies 457.525 MHz, 457.550 MHz, 457.575 MHz, 467.525 MHz, 467.550 MHz and 467.575 MHz may be used by on-board communication stations. Where needed, equipment designed for 12.5 kHz channel spacing using also the additional frequencies 457.5375 MHz, 457.5625 MHz, 467.5375 MHz and 467.5625 MHz may be introduced for on-board communications. The use of these frequencies in territorial waters may be subject to the national regulations of the administration concerned. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174 (see Resolution 341 (WRC-97)). (WRC-97)

5.288 In the territorial waters of the United States and the Philippines, the preferred frequencies for use by on-board communication stations shall be 457.525 MHz, 457.550 MHz, 457.575 MHz and 457.600 MHz paired, respectively, with 467.750 MHz, 467.775 MHz, 467.800 MHz and 467.825 MHz. The characteristics of the equipment used shall conform to those specified in Recommendation ITU-R M.1174. (WRC-03).

5.289 Earth exploration-satellite service applications, other than the meteorological- satellite service, may also be used in the bands 460-470 MHz and 1 690-1 710 MHz for space-to-Earth transmissions subject to not causing harmful interference to stations operating in accordance with the Table.

5.290 *Different category of service:* in Afghanistan, Armenia, Azerbaijan, Belarus, China, the Russian Federation, Japan, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, 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. 5.33), subject to agreement obtained under No. 9.21. (WRC-2000)

5.291A *Additional allocation:* in Germany, Austria, Denmark, Estonia, Finland, Liechtenstein, Norway, Netherlands, the Czech Republic and Switzerland, the band 470-494 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). (WRC-97)

5.294 *Additional allocation:* in Burundi, Cameroon, Congo (Republic of the), Côte d'Ivoire, Ethiopia, Israel, the Libyan Arab Jamahiriya, Kenya, Lebanon, Libya, Malawi, the Syrian Arab Republic, Sudan, Chad and Yemen, the band 470-582 MHz is also allocated to the fixed service on a secondary basis. (WRC-03)

5.296 *Additional allocation:* in Germany, Austria, Belgium, Côte d'Ivoire, Denmark, Spain, Finland, France, Ireland, Israel, Italy, the Libyan Arab Jamahiriya, Lithuania, Malta, Morocco, Monaco, Norway, the Netherlands, Portugal, the Syrian Arab Republic, 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. (WRC-03)

5.300 *Additional allocation:* in Israel, the Libyan Arab Jamahiriya, the Syrian Arab Republic and Sudan, the band 582-790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis.

5.302 *Additional allocation:* in the United Kingdom, the band 590-598 MHz is also allocated to the aeronautical radionavigation service on a primary basis. All new assignments to stations in the aeronautical radionavigation service, including those transferred from the adjacent bands, shall be subject to coordination with the Administrations of the following countries: Germany, Belgium, Denmark, Spain, France, Ireland, Luxembourg, Morocco, Norway and the Netherlands

5.304 *Additional allocation:* in the African Broadcasting Area (see Nos. 5.10 to 5.13), the band 606-614 MHz is also allocated to the radio astronomy service on a primary basis.

5.306 *Additional allocation:* in Region 1, except in the African Broadcasting Area (see Nos. 5.10 to 5.13), and in Region 3, the band 608-614 MHz is also allocated to the radio astronomy service on a secondary basis.

5.311 Within the frequency band 620-790 MHz, assignments may be made to television stations using frequency modulation in the broadcasting-satellite service subject to agreement between the administrations concerned and those having services, operating in accordance with the Table, which may be affected (see resolution 33 (Rev.WRC-03) and 507 (Rev.WRC-03)). Such stations shall not produce a power flux density in excess of the value $-129 \text{ dB(W/m}^2\text{)}$ for angles of arrival less than 20° (see Recommendation 705) within the territories of other countries without the consent of the administrations of those countries. Resolution 545 (WRC-03) applies. (WRC-03)

5.312 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Georgia, Hungary, Kazakhstan, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the

Czech Republic, Romania, Tajikistan, Turkmenistan and Ukraine, the band 645-862 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

5.314 *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. (WRC-2000)

5.315 *Alternative allocation:* in Greece, Italy and Tunisia, the band 790-838 MHz is allocated to the broadcasting service on a primary basis. (WRC-2000)

5.316 *Additional allocation:* in Germany, Saudi Arabia, Bosnia and Herzegovina, Burkina Faso, Cameroon, Côte d'Ivoire, Croatia, Denmark, Egypt, Finland, Greece, Israel, the Libyan Arab Jamahiriya, Kenya, the Former Yugoslav Republic of Macedonia, Liechtenstein, Mali, Monaco, Norway, the Netherlands, Portugal, the United Kingdom, the Syrian Arab Republic, Serbia and Montenegro, Sweden and Switzerland, 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. (WRC-03)

5.317A Administration 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 the mobile systems (see Resolution 224 (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. (WRC-2000)

5.319 *Additional allocation:* in Belarus, Russian Federation and Ukraine, the bands 806-840 MHz (Earth-to-space) and 856-890 MHz (space-to-Earth) are also allocated to the mobile-satellite, except aeronautical mobile-satellite (R), service. The use of these bands by this service shall not cause harmful interference to, or claim protection from, services in other countries operating in accordance with the Table of Frequency Allocations and is subject to special agreements between the administrations concerned.

5.321 *Alternative allocation:* in Italy, the band 838-854 MHz is allocated to the broadcasting service on a primary basis as from 1 January 1995.

5.322 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. 5.10 to 5.13) excluding Algeria, Egypt, Spain, the Libyan Arab Jamahiriya, Morocco, Namibia, Nigeria, South Africa, Tanzania, Zimbabwe and Zambia subject to agreement obtained under No. 9.21. (WRC-2000)

5.323 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Hungary, Kazakstan, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Slovakia, the Czech Republic, Romania, Tajikistan, Turkmenistan and Ukraine, the band 862-960 MHz is also allocated to the aeronautical radionavigation service on a primary basis. Such use is subject to agreement obtained under No. 9.21 with administrations concerned and limited to ground-based radio beacons in operation on 27 October 1997 until the end of their lifetime. (WRC-03)

5.328 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. (WRC-2000)

5.328A Stations in the radionavigation-satellite service in the band 1 164 – 1 215 MHz shall operate in accordance with the provisions of Resolution 609 (WRC-03) and shall not claim protection from

stations in the aeronautical radionavigation service in the band 960-1 215 MHz. No. 5.43A does not apply. The provisions of No. 21.18 shall apply. (WRC-03)

5.328B The use of the bands 1 164- 1 300 MHz, 1 559-1 610 MHz and 5 010-5 030 by systems and networks in the radionavigation-satellite service for which complete coordination or notification information, as appropriate, is received by the Radiocommunication Bureau after 1 January 2005 is subject to the application of the provisions of Nos. 9.12, 9.12A and 9.13. Resolution 610 (WRC-03) shall also apply. (WRC-03)

5.329 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 claimed from, the radionavigation service authorized under No. 5.331. Furthermore, the 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 the radiolocation service. No. 5.43 shall not apply in respect of the radiolocation service. Resolution 608 (WRC-03) shall apply. (WRC-03)

5.329A Use of the 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. (WRC-2000)

5.330 *Additional allocation:* in Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, China, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, the Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Mozambique, Nepal, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Somalia, Sudan, Chad, Togo and Yemen, the band 1 215-1 300 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.331 *Additional allocation:* in Algeria, Germany, Saudi Arabia, Australia, Austria, Bahrain, Belarus, Belgium, Benin, Bosnia and Herzegovina, Brazil, Burkina Faso, Burundi, Cameroon, China, Korea (Republic of), Croatia, Denmark, Egypt, the United Arab Emirates, Estonia, the Russian Federation, Finland, France, Ghana, Greece, Guinea, Equatorial Guinea, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Israel, Jordan, Kenya, Kuwait, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Nigeria, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, Syrian Arab Republic, Slovakia, United Kingdom, Serbia and Montenegro, Slovenia, Somalia, Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and Vietnam, the band 1 215-1 300 MHz is also allocated to the radionavigation service on a primary basis. In Canada and the United States, the band 1 240-1 300 MHz is also allocated to the radionavigation service, and use of the radionavigation service shall be limited to the aeronautical radionavigation service. (WRC-03)

5.332 In the band 1 215-1 300 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, the radionavigation-satellite service and other services allocated on a primary basis. (WRC-2000)

5.335A In the band 1 260-1 300 MHz, active spaceborne sensors in the earth exploration-satellite and space research services shall not cause interference to, claim protection from, or otherwise impose constraints on operation or development of the aeronautical radionavigation service and other services allocated by footnotes on a primary basis. (WRC-2000)

5.337 The use of the bands 1 300-1 350 MHz, 2 700-2 900 MHz and 9 000-9 200 MHz by the aeronautical radionavigation service is restricted to ground-based radars and to associated airborne transponders which transmit only on frequencies in these bands and only when actuated by radars operating in the same band.

5.337A 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 interference to, nor constrain the operation and development of, the aeronautical-radionavigation service. (WRC-2000)

5.338 In Azerbaijan, 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. (WRC-03)

5.339 The bands 1 370-1 400 MHz, 2 640-2 655 MHz, 4 950-4 990 MHz and 15.20-15.35 GHz are also allocated to the space research (passive) and earth exploration- satellite (passive) services on a secondary basis.

5.339A *Additional allocation:* the band 1 390- 1 392 MHz is also allocated to the fixed- satellite service (Earth-to-space) on a secondary basis and the band 1 430-1 432 MHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis. These allocations are limited to use for feeder links for non-geostationary-satellite networks in the mobile-satellite service with service links below 1 GHz, and Resolution 745 (RWC-03) applies. (WRC-03)

5.340 All emissions are prohibited in the following bands:

1 400-1 427 MHz,	
2 690-2 700 MHz	except those provided for by No. 5.422,
10.68-10.7 GHz	except those provided for by No. 5.483,
15.35-15.4 GHz	except those provided for by No. 5.511,
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 ,	
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	
190-191.8 GHz	
200-209 GHz,	
226-231.5 GHz,	
250-252 GHz.	(WRC-03)

5.341 In the bands 1 400-1 727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extraterrestrial origin.

5.342 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Bulgaria, the Russian Federation, Uzbekistan, Kyrgyztan 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. (WRC-2000)

²5.340.1 The allocation to the Earth exploration-satellite service (passive) and the space research service (passive) in the band 50.2-50.4 GHz should not impose undue constraints on the use of the adjacent bands by the primary allocated services in those bands. (WRC-97)

5.345 Use of the band 1 452-1 492 MHz by the broadcasting-satellite service, and by the broadcasting service, is limited to digital audio broadcasting and is subject to the provisions of Resolution 528 (WARC-92).

5.347 *Different category of service:* in Bangladesh, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Cuba, Denmark, Egypt, Greece, Ireland, Italy, Mozambique, Portugal, Serbia and Montenegro, Sri Lanka, Swaziland, Yemen 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. (WRC-03)

5.347A In the bands:

1 452-1 492 MHz,
1 525-1 559 MHz,
1 613.8-1 626.5 MHz,
2 655-2 670 MHz,
2 670-2 690 MHz,
21.4-22 GHz

Resolution 739 (WRC-03) applies. (WRC-03)

5.348 The use of the band 1 518-1 525 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. In the band 1 518-1 525 MHz stations in the mobile- satellite service shall not claim protection from the stations in the fixed service. No. 5.43A does not apply. (WRC-03)

5.348A In the band 1 518-1 525 MHz, the coordination threshold in terms of the power flux-density levels at the surface of the Earth in application of No. 9.11A for space stations in the mobile-satellite (space-to-Earth) service, with respect to the land mobile service use for specialized mobile radios or used in conjunction with public switched telecommunication networks (PSTN) operating within the territory of Japan, shall be – 150 dB(W/m²) in any 4 kHz band for all angles of arrival, instead of those given in Table 5-2 of Appendix 5. In the band 1 518-1 525 MHz stations in the mobile-satellite service shall not claim protection from stations in the mobile service in the territory of Japan. No. 5.43A does not apply. (WRC-03)

5.348B In the band 1 518-1 525 MHz, stations in the mobile-satellite service shall not claim protection from aeronautical mobile telemetry stations in the mobile service in the territory of the United States (see Nos. 5.343 and 5.344) and in the countries listed in No. 5.342. No. 5.43A does not apply. (WRC-03)

5.348C For the use of the bands 1 518-1 525 MHz and 1 668-1 675 MHz by the mobile- satellite service, see Resolution 225 (Rev.WRC-03). (WRC-03)

5.349 *Different category of service:* in Saudi Arabia, Azerbaijan, Bahrain, Bosnia and Herzegovina, Cameroon, Egypt, France, Iran (Islamic Republic of), Iraq, Israel, Kazakstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, Syrian Arab Republic, Kyrgyzstan, Romania, Serbia and Montenegro, Turkmenistan and Yemen, the allocation of the band 1 525-1 530 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. 5.33). (WRC-2000)

5.350 *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. (WRC-2000)

5.351 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, shall not be used for feeder links of any service. In exceptional circumstances, however, an earth station at a specified fixed point in any of the mobile-satellite services may be authorized by an administration to communicate via space stations using these bands.

5.351A For the use of the bands 1 525-1 544 MHz, 1 545-1 559 MHz, 1 626.5-1 645.5 MHz and 1 646.5-1 660.5 MHz, 1 980-2 010 MHz, 2 170-2 200 MHz, 2 483.5-2 500 MHz, 2 500-1 520 MHz and 2 670-2 690 MHz by the mobile-satellite service, see Resolutions 212 (Rev. WRC-97) and 225 (WRC-2000)*. (WRC-2000)

5.352A In the band 1 525-1 530 MHz, stations in the mobile-satellite service, except stations in the maritime mobile-satellite service, shall not cause harmful interference to, or claim protection from, stations of the fixed service in France and French overseas territories in Region 3, Algeria, Saudi Arabia, Egypt, Guinea, India, Israel, Italy, Jordan, Kuwait, Mali, Malta, Morocco, Mauritania, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Tanzania, Vietnam and Yemen notified prior to 1 April 1998. (WRC-97)

5.353A In applying the procedures of No. 9.11A 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 222 (WRC-2000) shall apply). (WRC-2000)

5.354 The use of the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz by the mobile- satellite services is subject to coordination under No. 9.11A.

5.355 *Additional allocation:* in Bahrain, Bangladesh, Congo (Republic of the), Egypt, Eritrea, Ethiopia, Iraq, Israel, Kuwait, Lebanon, Malta, Qatar, Syrian Arab Republic, Somalia, Sudan, Chad, Togo, and Yemen, the bands 1 540-1 559 MHz, 1 1610-1 645.5 and 1 646.5-1 660 MHz are also allocated to the fixed service on a secondary basis. (WRC-03)

5.356 The use of the band 1 544-1 545 MHz by the mobile-satellite service (space-to-Earth) is limited to distress and safety communications (see Article 31).

5.357 Transmissions in the band 1 545-1 555 MHz from terrestrial aeronautical stations directly to aircraft stations, or between aircraft stations, in the aeronautical mobile (R) service are also authorized when such transmissions are used to extend or supplement the satellite-to-aircraft links.

5.357A In applying the procedures of Section II of Article 9 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 44. Aeronautical mobile-satellite (R) service communications with priority 1 to 6 in Article 44 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 44. Account shall be taken of the priority of safety-related communications in the other mobile-satellite services. (The provisions of Resolution 222(WRC-2000) shall apply). (WRC-2000)

5.358 (SUP - WRC-97)

5.359 *Additional allocation:* in Germany, Saudi Arabia, Armenia, Austria, Azerbaijan, Belarus, Benin, Bosnia and Herzegovina, Bulgaria, Cameroon, Spain, the Russian Federation, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, the Libyan Arab Jamahiriya, Jordan,

* This Resolution was revised by WRC-03.

Kazakhstan, Kuwait, Lebanon, Lithuania, Mauritania, Moldova, Mongolia, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Democratic People's Republic of Korea, Romania, Swaziland, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine, the bands 1 550-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660.5 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. (WRC-03)

5.362 (SUP - WRC-97)

5.362B 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, the Russian Federation, France, Gabon, Georgia, Greece, Guinea, Guinea-Bissau, Hungary, Kazakhstan, Lithuania, Moldova, Mongolia, Nigeria, Uganda, Uzbekistan, Pakistan, Poland, Kyrgyzstan, the Democratic People's Republic of Korea, Romania, Senegal, Swaziland, Tajikistan, Tanzania, Turkmenistan and Ukraine, and until 1 January 2010 in Saudi Arabia, Cameroon, The Libyan Arab Jamahiriya, Jordan, Kuwait, Lebanon, Mali, Mauritania, the Syrian Arab Republic 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 not authorize new frequency assignments to fixed-service systems in this band. (WRC-03)

5.362C Additional allocation: in Bahrain, Bangladesh, Congo (Republic of the), Egypt, Eritrea, Iraq, Israel, Jordan, Kuwait, Lebanon, Malta, Morocco, Qatar, the Syrian Arab Republic, 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. (WRC-2000)

5.363 Alternative allocation: in Sweden, the band 1 590-1 626.5 MHz is allocated to the aeronautical radionavigation service on a primary basis.

5.364 The use of the band 1 610-1 626.5 MHz by the mobile-satellite service (Earth-to-space) and by the radiodetermination-satellite service (Earth-to-space) is subject to coordination under No. 9.11A. A mobile earth station operating in either of the services in this band shall not produce a peak e.i.r.p. density in excess of -15dB(W/4 kHz) in the part of the band used by the systems operating in accordance with the provisions of No. 5.366 (to which No. 4.10 applies), unless otherwise agreed by the affected administrations, In the part of the band where such systems are not operating, the mean e.i.r.p. density of a mobile earth station shall not exceed -3dB(W/4 kHz) . Stations of the mobile-satellite service shall not claim protection from stations in the aeronautical radionavigation service, stations operating in accordance with the provisions of No. 5.366 and stations in the fixed service operating in accordance with the provisions of No. 5.359. Administrations responsible for coordination of mobile-satellite networks shall make all practical efforts to ensure protection of stations operating in accordance with the provisions of No. 5.366.

5.365 The use of the band 1 613.8-1 626.5 MHz by the mobile-satellite service (space-to-Earth) is subject to coordination under No. 9.11A.

5.366 The band 1 610-1 626.5 MHz is reserved on a worldwide basis for the use and development of airborne electronic aids to air navigation and any directly associated ground-based or satellite-borne facilities. Such satellite use is subject to agreement obtained under No.9.21.

5.367 Additional allocation: The bands 1 610-1 626.5 MHz and 5 000-5 150 MHz are also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. 9.21.

5.368 With respect to the radiodetermination-satellite and mobile-satellite services the provisions of No. 4.10 do not apply in the band 1 610-1 626.5 MHz, with the exception of the aeronautical radionavigation-satellite service.

5.369 *Different category of service:* in Angola, Australia, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, the Libyan Arab Jamahiriya, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, the Democratic Republic of the Congo, Sudan, Swaziland, Togo and Zambia, the allocation of the band 1 610-1 626.5 MHz to the radiodetermination-satellite service (Earth-to-space) is on a primary basis (see No. 5.33), subject to agreement obtained under No. 9.21 from countries not listed in this provision. (WRC-03)

5.371 *Additional allocation:* in Region 1, the bands 1 610-1 626.5 MHz (Earth-to-space) and 2 483.5-2 500 MHz (space-to-Earth) are also allocated to the radiodetermination- satellite service on a secondary basis, subject to agreement obtained under No. 9.21.

5.372 Harmful interference shall not be caused to stations of the radio astronomy service using the band 1 610.6-1 613.8 MHz by stations of the radiodetermination- satellite and mobile-satellite services (No. 29.13 applies).

5.374 Mobile earth stations in the mobile-satellite service operating in the bands 1 631.5-1 634.5 MHz and 1 656.5-1 660 MHz shall not cause harmful interference to stations in the fixed service operating in the countries listed in No. 5.359. (WRC-97)

5.375 The use of the band 1 645.5-1 646.5 MHz by the mobile-satellite service (Earth- to-space) and for inter-satellite links is limited to distress and safety communications (see Article 31).

5.376 Transmissions in the band 1 646.5-1 656.5 MHz from aircraft stations in the aeronautical mobile (R) service directly to terrestrial aeronautical stations, or between aircraft stations, are also authorized when such transmissions are used to extend or supplement the aircraft-to-satellite links.

5.376A Mobile earth stations operating in the band 1 660-1 660.5 MHz shall not cause harmful interference to stations in the radio astronomy service. (WRC-97)

5.379 *Additional allocation:* in Bangladesh, India, Indonesia, Nigeria and Pakistan, the band 1 660.5 - 1 668.4 MHz is also allocated to the meteorological aids service on a secondary basis.

5.379A Administrations are urged to give all practicable protection in the band 1 660.5-1 668.4 MHz for future research in radio astronomy, particularly by eliminating air-to- ground transmissions in the meteorological aids service in the band 1 664.4- 1 668.4 MHz as soon as practicable.

5.379B The use of the band 1 668-1 675 MHz by the mobile-satellite service is subject to coordination under No. 9.11A. (WRC-03)

5.379C In order to protect the radio astronomy service in the band 1 668-1 670 MHz, the aggregate power flux-density values produced by mobile earth stations in a network of the mobile-satellite service operating in this band shall not exceed – 181 dB(W/m²) in 10 MHz and -194 dB(W/m²) in any 20 kHz at any radio astronomy station recorded in the Master International Frequency Register, for more than 2 % of integration periods of 2 000 s. (WRC-03)

5.379D For sharing of the band 1 668-1 670 MHz between the mobile-satellite service and the fixed, mobile and space research (passive) services, Resolution 744 (WRC-03) shall apply. (WRC-03)

5.379E In the band 1 668.4-1 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to stations in the meteorological aids service in China, Iran (Islamic Republic of), Japan and Uzbekistan. In the band 1 668.4- 1 675 MHz, administrations are urged not to implement new

systems in the meteorological aids service and are encouraged to migrate existing meteorological aids service operations to other bands as soon as practicable. (WRC-03)

5.380 The bands 1 670-1 675 MHz and 1 800-1 805 MHz are intended for use, on a worldwide basis, by administrations wishing to implement aeronautical public correspondence. The use of the band 1 670-1 675 MHz by stations in the systems for public correspondence with aircrafts is limited to transmission from aeronautical stations and the use of the band 1800 – 1805 MHz is limited to transmissions from aircraft stations.

5.380A In the band 1 670-1 675 MHz, stations in the mobile-satellite service shall not cause harmful interference to, nor constrain the development of, existing earth stations in the meteorological-satellite service notified in accordance with Resolution 670 (WRC-03). (WRC-03)

5.382 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Bulgaria, Congo (Republic of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Guinea, Hungary, Iraq, Israel, Jordan, Kazakhstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, Syrian Arab Republic., Kyrgyzstan, Romania, Serbia and Montenegro, Somalia, Tajikistan, Tanzania, Turkmenistan, Ukraine and Yemen, the allocation of the band 1 690-1 700 MHz to the fixed and mobile, except aeronautical mobile, services is on a primary basis (see No. 5.33), and in the Democratic People's Republic of Korea, the allocation of the band 1 690-1 700 MHz to the fixed service is on a primary basis (see No. 5.33) and to the mobile, except aeronautical mobile, service on secondary basis. (WRC-03)

5.384A 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 223 (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. (WRC-2000)

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

5.387 *Additional allocation:* in Azerbaijan, Belarus, Georgia, Kazakhstan, 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. 9.21. (WRC-03)

5.388 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 these bands are allocated. The bands should be made available for IMT-2000 in accordance with Resolution 212 (Rev. WRC-97). (See also Resolution 223 (WRC-2000).)

5.388A In regions 1 and 3, the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-1 170 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 221 (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. (WRC-03)

5.388B In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Côte d'Ivoire, China, Cuba, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Mali, Morocco,

Mauretania, Nigeria, Oman, Uganda, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, Tanzania, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT-2000 mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT-2000 base station in neighbouring countries, in the bands referred to in No. 5.388A, shall not exceed a co-channel power flux-density of $-127 \text{ dB(W(m}^2\text{·MHz))}$ at the Earth's surface outside a country's border unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-03)

5.389A The use of the bands 1 980-2 010 MHz and 2 170-2 200 MHz by the mobile-satellite service is subject to coordination under No. 9.11A and to the provisions of Resolution 716 (WRC-95). The use of these bands shall not commence before 1 January 2000; however the use of the band 1980 – 1990 MHz in Region 2 shall not commence before 1 January 2005.

5.389B The use of the band 1 980 - 1 990 MHz by the mobile-satellite service shall not cause harmful interference to or constrain the development of the fixed and mobile services in Argentina, Brazil, Canada, Chile, Ecuador, the United States, Honduras, Jamaica, Mexico, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

5.389F In Algeria, Benin, Cape Verde, Egypt, 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.

5.391 In making assignments to the mobile service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz, administrations shall not introduce high-density mobile systems, as described in Recommendation ITU-R SA.1154, and shall take that Recommendation into account for the introduction of any other type of mobile system. (WRC-97)

5.392 Administrations are urged to take all practicable measures to ensure that space-to-space transmissions between two or more non-geostationary satellites, in the space research, space operations and Earth exploration-satellite services in the bands 2 025-2 110 MHz and 2 200 – 2 290, shall not impose any constraints on Earth-to-space, space-to-Earth and other space-to-space transmissions of those services and in those bands between geostationary and non-geostationary satellites.

5.392A *Additional allocation:* in Russian Federation, the band 2 160-2 200 MHz is also allocated to the space research service (space-to-Earth) on a primary basis until 1 January 2005. Stations in the space research service shall not cause harmful interference to, or claim protection from, stations in the fixed and mobile services operating in this frequency band.

5.395 In France and Turkey, the use of the band 2 310-2 360 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service. (WRC-03)

5.397 *Different category of service:* in France, the band 2 450-2 500 MHz is allocated on a primary basis to the radiolocation service (see No. 5.33). Such use is subject to agreement with administrations having services operating or planned to operate in accordance

5.398 In respect of the radiodetermination-satellite service in the band 2 483.5-2 500 MHz, the provisions of No. 4.10 do not apply.

5.399 In Region 1, in countries other than those listed in No. 5.400, harmful interference shall not be caused to, or protection shall not be claimed from, stations of the radiolocation service by stations of the radiodetermination satellite service.

5.400 *Different category of service:* in Angola, Australia, Bangladesh, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic republic of), the Libyan Arab Jamahiriya, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Democratic Republic of the Congo, the Syrian Arab Republic, Sudan, Swaziland, Togo and Zambia, the allocation of the band 2 483.5-2 500 MHz to the radiodetermination-satellite service (space-to-Earth) is on a primary basis (see No. 5.33), subject to agreement obtained under No.9.21 from countries not listed in this provision. (WRC-03)

5.402 The use of the band 2 483.5-2 500 MHz by the mobile-satellite and the radiodetermination-satellite services is subject to the coordination under No. 9.11A. Administrations are urged to take all practicable steps to prevent harmful interference to the radio astronomy service from emissions in the 2483.5 – 2500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4990 – 5000 MHz band allocated to the radio astronomy service worldwide.

5.403 Subject to agreement obtained under No. 9.21, the band 2 520-2 535 MHz (until 1 January 2005 the band 2 500-2 535 MHz) may also be used for the mobile-satellite (space-to-Earth), except aeronautical mobile-satellite, service for operation limited to within national boundaries. The provisions of No. 9.11 apply.

5.405 *Additional allocation:* in France, the band 2 500-2 550 MHz is also allocated to the radiolocation service on a primary basis. Such use is subject to agreement with the administrations having services operating or planned to operate in accordance with the Table which may be affected.

5.407 In the band 2 500-2 520 MHz, the power flux-density at the surface of the Earth from space stations operating in the mobile-satellite (space-to-Earth) service shall not exceed -152 dB(W/m²/4 kHz) in Argentina, unless otherwise agreed by the administration concerned.

5.409 Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in the band 2 500-2 690 MHz.

5.410 The band 2 500-2 690 MHz may be used for tropospheric scatter systems in Region 1, subject to agreement obtained under No. 9.21.

5.411 When planning new tropospheric scatter radio-relay links in the band 2 500-2 690 MHz, all possible measures shall be taken to avoid directing the antennae of these links towards the geostationary-satellite orbit.

5.412 *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. (WRC-2000)

5.413 In the design of systems in the broadcasting-satellite service in the bands between 2 500 MHz and 2 690 MHz, administrations are urged to take all necessary steps to protect the radio astronomy service in the band 2 690-2 700 MHz.

5.414 The allocation of the frequency band 2 500-2 520 MHz to the mobile-satellite service (space-to-Earth) shall be effective on 1 January 2005 and is subject to coordination under No. 9.11A.

5.416 The use of the band 2 520-2 670 MHz by the broadcasting-satellite service is limited to national and regional systems for community reception, subject to agreement obtained under No. 9.21. (WRC-03)

5.417C Use of the band 2 605-2 630 by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No.5.417A, for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003, is subject to the application of the provisions of No.9.12. (WRC-03)

5.417D Use of the band 2 605-2 630 by geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, has been received after 4 July 2003, is subject to the application of the provisions of No.9.13 with respect to non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.417A, and No.22.2 does not apply. (WRC-03)

5.418B Use of the band 2 630-2 655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418, for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. 9.12. (WRC-03)

5.418C Use of the band 2 630-2 655 MHz by geostationary-satellite networks for which complete Appendix 4 coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. 9.13 with respect to non-geostationary-satellite systems in the broadcasting-satellite service (sound), pursuant to No. 5.418 and No. 22.2 does not apply. (WRC-03)

5.419 The allocation of the frequency band 2 670-2 690 MHz to the mobile-satellite service shall be effective from 1 January 2005. When introducing systems of the mobile-satellite service in this band, administrations shall take all necessary steps to protect the satellite systems operating in this band prior to 3 March 1992. The coordination of mobile-satellite systems in the band shall be in accordance with No. 9.11A.

5.420 The band 2 655-2 670 MHz (until 1 January 2005 the band 2 655-2 690 MHz) may also be used for the mobile-satellite (Earth-to-space), except aeronautical mobile-satellite, service for operation limited to within national boundaries, subject to agreement obtained under No. 9.21. The coordination under No. 9.11A.

5.422 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, Brunei Darussalam, Congo (Republic of the), Côte d'Ivoire, Cuba, Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Lebanon, Mauritania, Moldova, Mongolia, Nigeria, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, Syrian Arab Republic., Kyrgyzstan, the Democratic Republic of the Congo, Romania, Serbia and Montenegro, Somalia, Tajikistan, Tunisia, Turkmenistan, Ukraine and Yemen, 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. (WRC-03)

5.423 In the band 2 700-2 900 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the aeronautical radionavigation service.

5.424A In the band 2 900-3 100 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the radionavigation service. (WRC-03)

5.425 In the band 2 900-3 100 MHz, the use of the shipborne interrogator-transponder system (SIT) shall be confined to the sub-band 2 930-2 950 MHz.

5.426 The use of the band 2 900-3100 MHz by the aeronautical radionavigation service is limited to ground-based radars.

5.427 In the bands 2 900-3 100 MHz and 9 300-9 500 MHz, the response from radar transponders shall not be capable of being confused with the response from radar beacons (racons) and shall not cause interference to ship or aeronautical radars in the radionavigation service, having regard, however, to No. 4.9.

5.428 *Additional allocation:* in Azerbaijan, Cuba, Mongolia, Poland, Kyrgyzstan, Romania and Turkmenistan, the band 3 100-3 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.429 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Congo (Republic of the), Korea (Republic of), the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Japan, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Oman, Pakistan, Qatar, the Syrian Arab Republic, the Democratic People's Republic of Korea and Yemen, the band 3 300-3 400 MHz is also allocated to the fixed and mobile services on a primary basis. The countries bordering the Mediterranean shall not claim protection for their fixed and mobile services from the radiolocation service. (WRC-03)

5.430 *Additional allocation:* in Azerbaijan, Cuba, Mongolia, Kyrgyzstan, Romania and Turkmenistan, the band 3 300-3 400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.431 *Additional allocation:* in Germany, Israel and the United Kingdom, the band 3 400-3 475 MHz is also allocated to the amateur service on a secondary basis. (WRC-03)

5.437 *Additional allocation:* in Germany and Norway, the band 4 200-4 210 MHz is also allocated to the fixed service on a secondary basis. (WRC-97)

5.438 Use of the band 4 200-4 400 MHz by the aeronautical radionavigation service is reserved exclusively for radio altimeters installed on board aircraft and for the associated transponders on the ground. However, passive sensing in the earth exploration-satellite and space research services may be authorized in this band on a secondary basis (no protection is provided by the radio altimeters).

5.439 *Additional allocation:* in China, the Islamic Republic of Iran and Libya, the band 4 200-4 400 MHz is also allocated to the fixed service on a secondary basis. (WRC-97)

5.440 The standard frequency and time signal-satellite service may be authorized to use the frequency 4 202 MHz for space-to-Earth transmissions and the frequency 6 427 MHz for Earth-to-space transmissions. Such transmissions shall be confined within the limits of ± 2 MHz of these frequencies, subject to agreement obtained under No. 9.21.

5.441 The use of the bands 4500-4800 MHz (space-to-Earth), 6725-7025 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 system 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.9.12 for coordination with other non-geostationary-satellite systems in the fixed-satellite service. Non-geostationary-satellite networks 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-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No.5.43A 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.

5.442 In the bands 4 825-4 835 MHz and 4 950-4 990 MHz, the allocation to the mobile service is restricted to the mobile, except aeronautical mobile, service.

5.443 *Different category of service:* in Argentina, Australia and Canada, the allocation of the bands 4 825-4 835 MHz and 4 950-4 990 MHz to the radio astronomy service is on a primary basis (see No. 5.33).

5.443B In order not to cause harmful interference to the microwave landing system operating above 5030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5030-5150 MHz by all the space stations within any radionavigation- satellite service system (space-to-Earth) operating in the band 5010-5030 MHz shall not exceed -124.5 dB(W/m²) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4990-5 000 MHz, radionavigation-satellite service systems operating in the band 5 010-5 030 MHz shall comply with the limits in the band 4 990-5 000 MHz defined in Resolution 741 (WRC-03). (WRC-03)

5.444 The band 5030-5150 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.5.444A and Resolution 114 (Rev.WRC-03) apply. (WRC-03)

5.444A *Additional allocation:* the band 5 091-5 150 MHz is also allocated to the fixed- satellite service (Earth-to-space) on a primary basis. This allocation is limited to feeder links of non-geostationary mobile-satellite systems and is subject to co-ordination under No. 9.11A.

In the band 5 091-5 150 MHz, the following conditions also apply:

- prior to 1 January 2018, the use of the band 5 091-5 150 MHz by feeder links of non-geostationary-satellite systems in the mobile-satellite service shall be made in accordance with Resolution 114 (Rev.WRC-03);
- prior to 1 January 2018, the requirements of existing and planned international standard systems for the aeronautical radionavigation service which cannot be met in the 5 000-5 091 MHz band, shall take precedence over other uses of this band;
- after 1 January 2012, no new assignments shall be made to stations providing feeder links of non-geostationary mobile-satellite systems;
- after 1 January 2018, the fixed-satellite service will become secondary to the aeronautical radionavigation service. (WRC-03)

5.446 *Additional allocation:* in the countries listed in Nos. 5.369 and 5.400, the band 5 150-5 216 MHz is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis, subject to agreement obtained under No. 9.21. In Region 2, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a primary basis. In Regions 1 and 3, except those countries listed in Nos. 5.369 and 5.400, the band is also allocated to the radiodetermination-satellite service (space-to-Earth) on a secondary basis. The use by the radiodetermination-satellite service is limited to feeder links in conjunction with the radiodetermination-satellite service operating in the bands 1610 – 1626.5 MHz and/or 2483.5 – 2500 MHz. The total power flux density at the Earth's surface shall in no case exceed -159dBW/m² in any 4 kHz bands for the angles of arrival.

5.446A The use of the bands band 5 150-5 350 MHz and band 5 470-5 725 MHz by the stations in the mobile services shall be in accordance with Resolution 229 (WRC-03). (WRC-03)

5.446B In the band 5 150-5 250 MHz, stations in the mobile service shall not claim protection from earth stations in the fixed-satellite service. No. 5.43A does not apply to the mobile service with respect to fixed-satellite service earth stations. (WRC-03)

5.447 *Additional allocation:* in Israel, Lebanon, Pakistan, the Syrian Arab Republic, 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. 9.21. In this case, the provisions of Resolution 229 (WRC-03) do not apply. (WRC-03)

5.447A The allocation to the fixed-satellite service (Earth-to-space) is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to co-ordination under No. 9.11A.

5.447B *Additional allocation:* the band 5 150-5 216 MHz is also allocated to the fixed- satellite service (space-to-Earth) on a primary basis. This allocation is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to provisions of No. 9.11A. The power flux-density at the Earth's surface produced by space stations of the fixed-satellite service operating in the space-to-Earth direction in the band 5 150-5 216 MHz shall in no case exceed -164 dB(W/m²) in any 4 kHz band for all angles of arrival.

5.447C Administrations responsible for fixed-satellite service networks in the band 5 150-5 250 MHz operated under Nos. 5.447A and 5.447B shall co-ordinate on an equal basis in accordance with Resolution No. 9.11A with administrations responsible for non- geostationary-satellite networks operated under No. 5.446 and brought into use prior to 17 November 1995. Satellite networks operated under No. 5.446 brought into use after 17 November 1995 shall not claim protection from, and shall not cause harmful interference to, stations of the fixed-satellite service operated under Nos. 5.447A and 5.447B.

5.447D The allocation of the band 5 250-5 255 MHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

5.447E *Additional allocation:* The band 5 250-5 350 MHz is also allocated to the fixed service on a primary basis in the following countries in Region 3: Australia, Korea (Republic of), India, Indonesia, Iran (Islamic Republic of), Japan, Malaysia, Papua New Guinea, Philippines, Sri Lanka, Thailand and Vietnam. The use of this band by the fixed service is intended for the implementation of fixed wireless access systems and shall comply with Recommendation ITU-R F.1613. In addition, the fixed service shall not claim protection from the radiodetermination, Earth exploration-satellite (active) and space research (active) services, but the provisions of No. 5.43A do not apply to the fixed service with respect to the Earth exploration-satellite (active) and space research (active) services. After implementation of fixed wireless access systems in the fixed service with protection for the existing radiodetermination systems, no more stringent constraints should be imposed on the fixed wireless access systems by future radiodetermination implementations. (WRC-03)

5.447F In the band 5 250-5 350 MHz, stations in the mobile service shall not claim protection from the radiolocation service, the Earth exploration-satellite service (active) and the space research service (active). These services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638 and ITU-R SA.1632. (WRC-03)

5.448 *Additional allocation:* in Azerbaijan, Libyan Arab Jamahiriya, Mongolia, Kyrgyzstan, Slovakia, Romania and Turkmenistan, the band 5 250-5 350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.448A The Earth exploration-satellite (active) and space research (active) services in the frequency band 5 250-5 350 MHz shall not claim protection from the radiolocation service. No. 5.43A does not apply. (WRC-03)

5.448B The earth exploration-satellite service (active) operating in the 5 350-570 MHz and space research service (active) operating in the band 5 460-5 570 MHz shall not cause harmful interference to the aeronautical radionavigation service in the band 5 350-5 460 MHz, the radionavigation service in the band 5 460-5 470 MHz and the maritime radionavigation service in the band 5 470-5 570 MHz. (WRC-03)

5.448C The space research service (active) operating in the band 5 350-5 460 MHz shall not cause harmful interference to nor claim protection from other services to which this band is allocated. (WRC-03)

5.448D In the frequency band 5 350-5 470 MHz, stations in the radiolocation service shall not cause harmful interference to, nor claim protection from, radar systems in the aeronautical radionavigation service operating in accordance with No. 5.449. (WRC-03)

5.449 The use of the band 5 350-5 470 MHz by the aeronautical radionavigation service is limited to airborne radars and associated airborne beacons.

5.450 *Additional allocation:* in Austria, Azerbaijan, Iran (Islamic Republic of), Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 5 470-5 650 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

5.450A in the band 5 470-5 725 MHz, stations in the mobile service shall not claim protection from radiodetermination services. Radiodetermination services shall not impose on the mobile service more stringent protection criteria, based on system characteristics and interference criteria, than those stated in Recommendation ITU-R M.1638. (WRC-03)

5.450B In the frequency band 5 470-5 650 MHz, stations in the radiolocation service, except ground-based radars used for meteorological purposes in the band 5 600-5 650 MHz, shall not cause harmful interference to, nor claim protection from, radar systems in the maritime radionavigation service. (WRC-03)

5.451 *Additional allocation:* in the United Kingdom, the band 5 470-5 850 MHz is also allocated to the land mobile service on a secondary basis. The power limits specified in Nos. S21.2, S21.3, S21.4 and S21.5 shall apply in the band 5 725 - 5 850 MHz.

5.452 Between 5 600 MHz and 5 650 MHz, ground-based radars used for meteorological purposes are authorized to operate on a basis of equality with stations of the maritime radionavigation service.

5.453 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Republic of the), Korea (Republic of), Côte d'Ivoire, Egypt, the United Arab Emirates, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Japan, Jordan, Kenya, Kuwait, Lebanon, Madagascar, Malaysia, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Democratic People's Republic of Korea, Singapore, Sri Lanka, Swaziland, Tanzania, Chad, Thailand, Togo, Vietnam and Yemen, the band 5 650-5 850 MHz is also allocated to the fixed and mobile services on a primary basis. In this case, the provisions of Resolution 229 (WRC-03) do not apply. (WRC-03)

5.454 *Different category of service:* in Azerbaijan, the Russian Federation, Georgia, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 5 670-5 725 MHz to the space research service is on a primary basis (see No. 5.33). (WRC-03)

5.455 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 5 670-5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.456 *Additional allocation:* in Cameroon, the band 5 755-5 850 MHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.457A In the bands 5 925-6 425 MHz and 14-14.5 GHz, earth stations located on board vessels may communicate with space stations of the fixed-satellite service. Such use shall be in accordance with Resolution 902 (WRC-03). (WRC-03)

5.457B In the bands 5 925-6 425 MHz and 14-14.5 GHz, earth stations located on board vessels may operate with the characteristics and under the conditions contained in Resolution 902 (WRC-03) in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, the United Arab Emirates, the Libyan Arab Jamahiriya, Jordan, Kuwait, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, Tunisia and Yemen, in the maritime mobile-satellite service on a secondary basis. Such use shall be in accordance with Resolution 902 (WRC-03). (WRC-03)

5.458 In the band 6 425-7 075 MHz, passive microwave sensor measurements are carried out over the oceans. In the band 7 075-7 250 MHz, passive microwave sensor measurements are carried out. Administrations should bear in mind the needs of the Earth exploration-satellite (passive) and space research (passive) services in their future planning of the bands 6 425-7 025 MHz and 7 075-7 250 MHz.

5.458A In making assignments in the band 6 700-7 075 MHz to space stations of the fixed-satellite service, administrations are urged to take all practicable steps to protect spectral line observations of the radio astronomy service in the band 6 650-6 675.2 MHz from harmful interference from unwanted emissions.

5.458B The space-to-Earth allocation to the fixed-satellite service in the band 6 700-7 075 MHz is limited to feeder links for non-geostationary satellite systems of the mobile-satellite service and is subject to co-ordination under No. 9.11A. The use of the band 6 700 - 7 075 MHz (space-to-Earth) by feeder links for non-geostationary satellite systems in the mobile-satellite service is not subject to No. S22.2.

5.458C Administrations making submissions in the band 7 025-7 075 MHz (Earth-to-space) for geostationary-satellite systems in the fixed-satellite service after 17 November 1995 shall consult on the basis of relevant ITU-R Recommendations with the administrations that have notified and brought into use non-geostationary-satellite systems in this frequency band before 18 November 1995 upon request of the latter administrations. This consultation shall be with a view to facilitating shared operation of both geostationary-satellite systems in the fixed-satellite service and non-geostationary-satellite systems in this band.

5.459 *Additional allocation:* in Russian Federation, the frequency bands 7 100-7 155 MHz and 7 190-7 235 MHz are also allocated to the space operation service (Earth-to-space) on a primary basis, subject to agreement obtained under No. 9.21. (WRC-97)

5.460 The use of the band 7 145-7 190 MHz by the space research (Earth-to-space) is restricted to deep space; no emissions to deep space shall be effected in the band 7 190-7 235 MHz. Geostationary satellites in the space research service operating in the band 7 190-7 235 MHz shall not claim protection from existing and future stations of the fixed and mobile services and No. 5.43A does not apply. (WRC-03)

5.461 *Additional allocation:* the bands 7 250-7 375 MHz (space-to-Earth) and 7 900-8 025 MHz (Earth-to-space) are also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. 9.21.

5.461A The use of the frequency band 7 450-7 550 MHz by the meteorological-satellite service (space-to-Earth) is limited to geostationary satellite systems. Non-geostationary meteorological-satellite systems in this band notified before 30 November 1997 may continue to operate on primary basis until the end of their lifetime. (WRC-97)

5.461B The use of the band 7 750-7 850 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-97)

5.462A In Regions 1 and 3 (except for Japan), in the band 8 025-8 400 MHz, the earth exploration-satellite service using geostationary satellites shall not produce a power flux-density in excess

of the following provisional values for angles of arrival (8), without the consent of the affected administration:

-174dB(W/m ²) in a 4 kHz band	for 0° 8 5°
-174+0.5 (8 - 5) dB (W/m ²) in a 4 kHz band	for 5° 8 25°
-164 dB(W/m ²) in a 4 kHz band	for 25° 8 90°

These values are subject to study under Resolution 124 (WRC-97).

5.463 Aircraft stations are not permitted to transmit in the band 8 025-8 400 MHz. (WRC-97)

5.465 In the space research service, the use of the band 8 400-8 450 MHz is limited to deep space.

5.466 *Different category of service:* in Israel, Singapore and Sri Lanka, the allocation of the band 8 400-8 500 MHz to the space research service is on a secondary basis (see No. 5.32). (WRC-03)

5.468 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, Congo (Republic of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guyana, Indonesia, Iran (Islamic Republic of), Iraq, the Libyan Arab Jamahiriya, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, Qatar, Syrian Arab Republic, the Democratic People's Republic of Korea, Senegal, Singapore, Somalia, Swaziland, Tanzania, Chad, Togo, Tunisia and Yemen, the band 8 500-8 750 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.469 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Lithuania, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Czech Republic, Romania, 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. (WRC-03)

5.469A In the band 8 550-8 650 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radiolocation service. (WRC-97)

5.470 The use of the band 8 750-8 850 MHz by the aeronautical radionavigation service is limited to airborne Doppler navigation aids on a centre frequency of 8 800 MHz.

5.471 Additional allocation in Algeria, Germany, Bahrain, Belgium, China, the United Arab Emirates, France, Greece, Indonesia, the Islamic Republic of Iran, Libya, the Netherlands, Qatar and Sudan, the bands 8 825-8 850 MHz and 9 000-9 200 MHz are also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars only.

5.472 In the bands 8 850-9 000 MHz and 9 200-9 225 MHz, the maritime radionavigation service is limited to shore-based radars.

5.473 *Additional allocation:* in Armenia, Austria, Azerbaijan, Belarus, Bulgaria, Cuba, the Russian Federation, Georgia, Hungary, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, Romania, 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. (WRC-03)

5.474 In the band 9 200-9 500 MHz, search and rescue transponders (SART) may be used, having due regard to the appropriate ITU-R Recommendation (see also Article S31).

5.475 The use of the band 9 300-9 500 MHz by the aeronautical radionavigation service is limited to airborne weather radars and ground-based radars. In addition, ground-based radar beacons in the aeronautical radionavigation service are permitted in the band 9 300-9 320 MHz on condition that harmful interference is not caused to the maritime radionavigation service. In the band 9 300-9 500

MHz, ground-based radars used for meteorological purposes have priority over other radiolocation devices.

5.476 In the band 9 300-9 320 MHz in the radionavigation service, the use of shipborne radars, other than those existing on 1 January 1976, is not permitted until 1 January 2001.

5.476A In the band 9 500-9 800 MHz, stations in the earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, or constrain the use and development of, stations of the radionavigation and radiolocation.

5.477 *Different category of service:* in Algeria, Saudi Arabia, 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 Democratic People's Republic of Korea, Singapore, Somalia, Sudan, 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. 5.33). (WRC-03)

5.478 *Additional allocation:* in Azerbaijan, Bulgaria, Mongolia, Kyrgyzstan, Romania, Turkmenistan and Ukraine, the band 9 800-10 000 MHz is also allocated to the radionavigation service on a primary basis. (WRC-03)

5.479 The band 9 975-10 025 MHz is also allocated to the meteorological-satellite service on a secondary basis for use by weather radars.

5.481 *Additional allocation:* in Germany, Angola, Brazil, China, Costa Rica, Côte d'Ivoire, El Salvador, Ecuador, Spain, Guatemala, Hungary, Japan, Kenya, Morocco, Nigeria, Oman, Uzbekistan, Paraguay, Peru, the Democratic People's Republic of Korea, Tanzania, Thailand and Uruguay, the band 10.45-10.5 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.482 In the band 10.6-10.68 GHz, stations of the fixed and mobile, except aeronautical mobile, services shall be limited to a maximum equivalent isotropically radiated power of 40 dBW and the power delivered to the antenna shall not exceed -3 dBW. These limits may be exceeded subject to agreement obtained under No. 9.21. However, in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, China, the United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Kuwait, Latvia, Lebanon, Moldova, Nigeria, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Tajikistan and Turkmenistan, the restrictions on the fixed and mobile, except aeronautical mobile, services are not applicable. (WRC-03)

5.483 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia and Herzegovina, China, Colombia, Korea (Republic of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Uzbekistan, Qatar, Kyrgyzstan, the Democratic People's Republic of Korea, Romania, Serbia and Montenegro, Tajikistan, Turkmenistan and Yemen, 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. (WRC-03)

5.484 In Region 1, the use of the band 10.7-11.7 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service.

5.484A 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. 9.12 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-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary- satellite networks, and No. 5.43A 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.

5.487 In the band 11.7-12.5GHz in Region 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 Regions 1 and 3 Plan in Appendix 30. (WRC-03)

5.487A *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-Earth) on a primary basis, limited to non-geostationary systems and subject to application of the provisions of No. 9.12 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-geostationary-satellite systems in the fixed-satellite service and of the complete coordination or notification information, as appropriate, for the geostationary-satellite networks, and No.5.43A 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. (WRC-03)

5.492 Assignments to stations of the broadcasting-satellite service which are in conformity with the appropriate regional Plan in 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 List, as appropriate.

5.494 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Cameroon, the Central African Republic, Congo (Republic of the), Côte d'Ivoire, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, the Libyan Arab Jamahitiya, Jordan, Kuwait, Lebanon, Madagascar, Mali, Morocco, Mongolia, Nigeria, Qatar, the Syrian Arab Republic, the Democratic Republic of the Congo, Somalia, Sudan, Chad, Togo and Yemen, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-03)

5.495 *Additional allocation:* in Bosnia and Herzegovina, Croatia, France, Greece, Liechtenstein, Uganda, Portugal, Romania, Serbia and Montenegro, Slovenia, Switzerland, Tanzania and Tunisia, the band 12.5-12.75 GHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-03)

5.496 *Additional allocation:* in Austria, Azerbaijan, Kyrgyzstan, Turkmenistan and Ukraine, 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. (WRC-97)

5.497 The use of the band 13.25-13.4 GHz by the aeronautical radionavigation service is limited to Doppler navigation aids.

5.498A The earth exploration-satellite (active) and space research (active) services operating in the 13.25-13.4 GHz band shall not cause harmful interference to, nor constrain the use and development of, the aeronautical radionavigation service. (WRC-97)

5.499 *Additional allocation:* in Bangladesh, India and Pakistan, the band 13.25-14 GHz is also allocated to the fixed service on a primary basis.

5.500 *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, the Syrian Arab Republic, Singapore, Sudan, Chad and Tunisia, the band 13.4-14 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.501 *Additional allocation:* in 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. (WRC-03)

5.501A The allocation of the band 13.4-13.75 GHz to the space research service on a primary basis is limited to active spaceborne sensors. Other uses of the band by the space research service are on a secondary basis. (WRC-97)

5.501B In the band 13.4-13.75 GHz, the Earth exploration-satellite (active) and space research (active) services shall not cause harmful interference to, or constrain the use and development of, the radiolocation service. (WRC-97)

5.502 In the band 13.75-14GHz, an earth station of a geostationary fixed-satellite service network shall have a minimum antenna diameter of 1.2 m and an earth station of a non-geostationary fixed-satellite service system shall have a minimum antenna diameter of 4.5 m. 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 for elevation angles above 2° and 65 dBW at lower angles. Before an administration brings into use an earth station in a geostationary-satellite network in the fixed-satellite service in this band with an antenna size smaller than 4.5 m, it shall ensure that the power flux-density produced by this earth station does not exceed:

- - 115 dB(W/(m² · 10 MHz)) for more than 1 % of the time produced at 36 m above sea level at the low water mark, as officially recognized by the Coastal State;
- - 115 dB(W/(m² · 10 MHz)) for more than 1 % of the time produced at 3 m above ground at the border of the territory of an administration deploying or planning to deploy land mobile radars in this band, unless prior agreement has been obtained.

For earth stations within the fixed-satellite service having an antenna diameter greater than or equal to 4.5 m, the e.i.r.p. of any emission should be at least 68 dBW and should not exceed 85 dBW. (WRC-03)

5.503 In the band 13.75-14GHz, 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:

- in the band from 13.77 to 13.78GHz, 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:
 - i) $4.7 D + 28 \text{ dB(W/40 kHz)}$, where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 1.2 m and less than 4.5 ;
 - ii) $49.2 + 20 \log(D/4.5) \text{ dB(W/40 kHz)}$, where D is the fixed-satellite service earth station antenna diameter (m) for antenna diameters equal to or greater than 4.5 m and less than 31.9 m;
 - iii) 66.2 dB(W/40 kHz) for any fixed-satellite service earth station for antenna diameters (m) equal to or greater than 31.9 m;
 - iv) 56.2 dB(W/4 kHz) for narrow-band (less than 40 kHz of necessary bandwidth) fixed-satellite service earth station emissions from any fixed-satellite service earth station having an antenna diameter of 4.5 m or greater;

Automatic power control may be used to increase the e.i.r.p. density in these frequency ranges to compensate for rain attenuation, to the extent that the power-flux density at the fixed-satellite service space stations does not exceed the value resulting from use by an earth station of an e.i.r.p. meeting the above limits in clear-sky conditions. (WRC-03)

5.504 The use of the band 14-14.3 GHz by the radionavigation service shall be such as to provide sufficient protection to space stations of the fixed-satellite service.

5.504A In the band 14-14.5 GHz, aircraft earth stations in the secondary aeronautical mobile-satellite service may also communicate with space stations in the fixed-satellite service. The provisions of Nos. 5.29, 5.30 and 5.31 apply. (WRC-03)

5.504B Aircraft earth stations operating in the aeronautical mobile-satellite service in the band 14-14.5 GHz shall comply with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz located on the territory of Spain, France, India, Italy, the United Kingdom and South Africa. (WRC-03)

5.504C In the band 14-14.25 GHz, the power flux-density produced on the territory of the countries of Saudi Arabia, Botswana, Côte d'Ivoire, Egypt, Guinea, India, Iran (Islamic Republic of), Kuwait, Lesotho, Nigeria, Oman, the Syrian Arab Republic and Tunisia, any aircraft earth station operating aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration (s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-03)

5.505 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Botswana, Brunei Darussalam, Cameroon, China, Congo (Republic of the), Korea (Republic 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, the Syrian Arab Republic, the Democratic People's Republic of Korea, 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. (WRC-03)

5.506 The band 14-14.5 GHz may be used, within the fixed-satellite service (Earth-to- space), for feeder links for the broadcasting-satellite service, subject to co-ordination with other networks in the fixed-satellite service. Such use of feeder links is reserved for countries outside Europe.

5.506A In the band 14-14.5 GHz, ship earth stations with an e.i.r.p. greater than 21 dBW shall operate under the same conditions as earth stations located on board vessels, as provided in Resolution 902 (WRC-03). This footnote shall not apply to ship earth stations for which the complete Appendix 4 information has been received by the Bureau prior to 5 July 2003. (WRC-03)

5.506B Earth stations located on board vessels communicating with space stations in the fixed-satellite service may operate in the frequency band 14-14.5 GHz without the need for prior agreement from Cyprus, Greece and Malta, within the minimum distance given in resolution 902 (WRC-03) from these countries. (WRC-03)

5.508 *Additional allocation:* in Germany, Bosnia and Herzegovina, France, Italy, Libyan Arab Jamahiriya, The Former Yugoslav Republic of Macedonia, the United Kingdom, Slovenia, Serbia and Montenegro and Slovenia, the band 14.25-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-03)

5.508A In the band 14.25-14.3 GHz, the power flux-density density produced on the territory of the countries of Saudi Arabia, Botswana, China, Côte d'Ivoire, Egypt, France, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Lesotho, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom and Tunisia by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration (s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-03)

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

5.509A In the band 14.3-14.5 GHz, the power flux-density density produced on the territory of the countries of Saudi Arabia, Botswana, Cameroon, China, Côte d'Ivoire, Egypt, France, Gabon, Guinea, India, Iran (Islamic Republic of), Italy, Kuwait, Lesotho, Morocco, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom, Sri Lanka, Tunisia and Vietnam by any aircraft earth station in the aeronautical mobile-satellite service shall not exceed the limits given in Annex 1, Part B of Recommendation ITU-R M.1643, unless otherwise specifically agreed by the affected administration (s). The provisions of this footnote in no way derogate the obligations of the aeronautical mobile-satellite service to operate as a secondary service in accordance with No. 5.29. (WRC-03)

5.510 The use of the band 14.5-14.8 GHz by the fixed-satellite service (Earth-to-space) is limited to feeder links for the broadcasting-satellite service. This use is reserved for countries outside Europe.

5.511 *Additional allocation:* in Saudi Arabia, Bahrain, Bosnia and Herzegovina, Cameroon, Egypt, the United Arab Emirates, Guinea, the Islamic Republic of Iran, Iraq, Israel, Kuwait, Lebanon, Libya, Pakistan, Qatar, Syria, Slovenia, Somalia and Yugoslavia, the band 15.35-15.4 GHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-97)

5.511A 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. 9.11A. 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 feeder-link of a non-geostationary system in the mobile-satellite service (space-to-Earth) operating in the 15.43-15.63 GHz band shall not exceed the level of -156 dB(W /m²) in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time.

5.511C Stations operating in the aeronautical radionavigation service shall limit the effective e.i.r.p. in accordance with Recommendation ITU-R S.1340. The minimum co- ordination distance required

to protect the aeronautical radionavigation stations (No. S4.10 applies) from harmful interference from feeder link earth stations and the maximum e.i.r.p. transmitted towards the local horizontal plane by a feeder link earth station shall be in accordance with Recommendation ITU-R S.1340. (WRC-97)

5.511D Fixed-satellite service systems for which complete information for advance publication has been received by the Bureau by 21 November 1997 may operate in the bands 15.4-15.43 GHz and 15.63-15.7 GHz in the space-to-Earth direction and 15.63-15.65 GHz in the Earth-to-space direction. In the bands 15.4-15.43 GHz and 15.65-15.7 GHz, emissions from a non-geostationary space station shall not exceed the power flux-density limits at the Earth's surface of $-146 \text{ dB(W/m}^2 \text{ /MHz)}$ for any angle of arrival. In the band 15.63-15.65 GHz, where an administration plans emissions from a non-geostationary space station that exceed $-146 \text{ dB(W/m}^2 \text{ /MHz)}$ for any angle of arrival, it shall coordinate under No. 9.11A with the affected administrations. Stations in the fixed-satellite service operating in the band 15.63-15.65 GHz in the Earth-to-space direction shall not cause harmful interference to stations in the aeronautical radionavigation service (No. S4.10 applies). (WRC-97)

5.512 Additional allocation: in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Brunei Darussalam, Cameroon, Congo (Republic of the), Costa Rica, Egypt, El Salvador, the United Arab Emirates, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Malaysia, Mali, Morocco, Mauritania, Mozambique, Nepal, Nicaragua, Oman, Pakistan, Qatar, Serbia and Montenegro, Singapore, Slovenia, Somalia, Sudan, Swaziland, Tanzania, Chad, Togo and Yemen, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.513 Additional allocation: in Israel, the band 15.7-17.3 GHz is also allocated to the fixed and mobile services on a primary basis. These services shall not claim protection from or cause harmful interference to services operating in accordance with the Table in countries other than those included in No. 5.512.

5.513A Spaceborne active sensors operating in the band 17.2-17.3 GHz shall not cause harmful interference to, or constrain the development of, the radiolocation and other services allocated on a primary basis. (WRC-97)

5.514 Additional allocation: in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Bosnia and Herzegovina, Cameroon, Costa Rica, El Salvador, the United Arab Emirates, Finland, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, the Libyan Arab Jamahiriya, Japan, Jordan, Kuwait, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan, Serbia and Montenegro, Slovenia and Sudan, 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. 21.3 and 21.5 shall apply. (WRC-03)

5.516 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. 9.12 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 geostationary-satellite networks, and No.5.43A 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.

5.516A In the band 17.3-17.7 GHz, earth stations of the fixed-satellite service (space-to-Earth) in Region 1 shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix 30A, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link. (WRC-03)

5.516B The following bands are identified for use by high-density allocations in the fixed-satellite service:

17.3-17.7 GHz	(space-to-Earth) in Region 1,
18.3-19.3 GHz	(space-to-Earth) in Region 2,
19.7-20.2 GHz	(space-to-Earth) in all Regions,
39.5-40 GHz	(space-to-Earth) in Region 1,
40-40.5 GHz	(space-to-Earth) in all Regions,
40.5-42 GHz	(space-to-Earth) in Region 2,
47.5-47.9 GHz	(space-to-Earth) in Region 1,
48.2-48.54 GHz	(space-to-Earth) in Region 1,
49.44-50.2 GHz	(space-to-Earth) in Region 1, and
27.5-27.82 GHz	(Earth-to Space) in Region 1,
28.35-28.45 GHz	(Earth-to Space) in Region 2,
28.45-28.94 GHz	(Earth-to Space) in all Regions,
28.94-29.1 GHz	(Earth-to Space) in Region 2 and 3,
29.25-29.46 GHz	(Earth-to Space) in Region 2,
29.46-30 GHz	(Earth-to Space) in all Regions,
48.2-50.2 GHz	(Earth-to Space) in Region 2,

This identification does not preclude the use of these bands by other fixed-satellite service applications or by other services to which these bands are allocated on a co- primary basis and does not establish priority in these Radio Regulations among users of the bands. Administrations should take this into account when considering regulatory provisions in relation to these bands. See Resolution 143 (WRC-03). (WRC-03)

5.519 *Additional allocation:* the band 18.1-18.3 GHz is also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Its use is limited to geostationary satellites and shall be in accordance with the provisions of Article S21, Table S21-4.

5.520 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.

5.521 *Alternative allocation:* in Germany, Denmark, the United Arab Emirates and Greece, 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. 5.33). The provisions of No. 5.519 also apply. (WRC-03)

5.522A 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.

5.522B The use of the band 18.6-18.8 GHz by the fixed-satellite service is limited to the geostationary systems and systems with an orbit of apogee greater than 20 000 km.

5.522C In the band 18.6-18.8 GHz, in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, the Libyan Arab Jamahiriya, Jordan, Lebanon, Morocco, Oman, Qatar, the Syrian Arab Republic, 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. 21.5A. (WRC-2000)

5.523A The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1GHz (Earth- to-space) by geostationary and non-geostationary fixed-satellite service networks is subject to the application

of the provisions of No. 9.11A and No. S22.2 does not apply. Administrations having geostationary-satellite networks under coordination prior to 18 November 1995 shall cooperate to the maximum extent possible to coordinate pursuant to No. 9.11A with non-geostationary-satellite networks for which notification information has been received by the Bureau prior to that date, with a view to reaching results acceptable to all the parties concerned. Non-geostationary-satellite networks shall not cause unacceptable interference to geostationary fixed-satellite service networks for which complete Appendix S4 notification information is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

5.523B The use of the band 19.3-19.6 GHz (Earth-to-space) by the fixed-satellite service is limited to feeder links for non-geostationary-satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, and No. S22.2 does not apply.

5.523C No. S22.2 of the Radio Regulations shall continue to apply in the bands 19.3-19.6 GHz and 29.1-29.4 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix S4 co-ordination information, or notification information, is considered as having been received by the Bureau prior to 18 November 1995. (WRC-97)

5.523D The use of the band 19.3-19.7 GHz (space-to-Earth) by geostationary fixed-satellite service systems and by feeder links for non-geostationary-satellite systems in the mobile-satellite service is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. S22.2. The use of this band for other non-geostationary fixed-satellite service systems, or for the cases indicated in Nos. 5.523C and 5.523E, is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and S11 procedures, and to the provisions of No. S22.2. (WRC-97)

5.523E No. S22.2 of the Radio Regulations shall continue to apply in the bands 19.6-19.7 GHz and 29.4-29.5 GHz, between feeder links of non-geostationary mobile-satellite service networks and those fixed-satellite service networks for which complete Appendix S4 coordination information, or notification information, is considered as having been received by the Bureau prior to 21 November 1997. (WRC-97)

5.524 *Additional allocation:* in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, the Congo, the Republic of Korea, Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, Democratic Republic of the Congo, Syria, Democratic People's Republic 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. (WRC-97)

5.525 In order to facilitate interregional coordination between networks in the mobile satellite and fixed satellite services, carriers in the mobile-satellite service that are most susceptible to interference shall, to the extent practicable, be located in the higher parts of the bands 19.7-20.2 GHz and 29.5-30 GHz. (WRC-97)

5.526 In the bands 19.7-20.2 GHz and 29.5-30 GHz in Region 2, and in the bands 20.1-20.2 GHz and 29.9-30 GHz in Regions 1 and 3, networks which are both in the fixed-satellite service and in the mobile-satellite service may include links between earth stations at specified or unspecified points or while in motion, through one or more satellites for point-to-point and point-to-multipoint communications.

5.527 In the bands 19.7-20.2 GHz and 29.5-30 GHz, the provisions of No.S4.10 do not apply with respect to the mobile-satellite service.

5.528 The allocation to the mobile-satellite service is intended for use by networks which use narrow spot-beam antennas and other advanced technology at the space stations. Administrations operating systems in the mobile-satellite service in the band 19.7-20.1GHz in Region 2 and in the band 20.1-20.2 GHz shall take all practicable steps to ensure the continued availability of these bands for administrations operating fixed and mobile systems in accordance with the provisions of No. 5.524.

5.530 In Regions 1 and 3, the allocation to the broadcasting-satellite service in the band 21.4-22 GHz shall come into effect on 1 April 2007. The use of this band by the broadcasting-satellite service after that date and on an interim basis prior to that date is subject to the provisions of Resolution 525 (WRC-92).

5.531 *Additional allocation:* in Japan, the band 21.4-22 GHz is also allocated to the broadcasting service on a primary basis.

5.532 The use of the band 22.21-22.5 GHz by the Earth exploration-satellite (passive) and space research (passive) services shall not impose constraints upon the fixed and mobile, except aeronautical mobile, services.

5.533 The inter-satellite service shall not claim protection from harmful interference from airport surface detection equipment stations of the radionavigation service.

5.535 In the band 24.75-25.25 GHz, feeder links to stations of the broadcasting-satellite service shall have priority over other uses in the fixed-satellite service (Earth-to-space). Such other uses shall protect and shall not claim protection from existing and future operating feeder-link networks to such broadcasting satellite stations.

5.535A The use of the band 29.1-29.5 GHz (Earth-to-space) by the fixed-satellite service is limited to geostationary-satellite systems and feeder links to non-geostationary satellite systems in the mobile-satellite service. Such use is subject to the application of the provisions of No. 9.11A, but not subject to the provisions of No. S22.2, except as indicated in No. 5.523C and 5.523E where such use is not subject to the provisions of No. 9.11A and shall continue to be subject to Articles 9 (except No. 9.11A) and 11 procedures, and to the provisions of No. S22.2. (WRC-97)

5.536 Use of the 25.25-27.5 GHz band by the inter-satellite service is limited to space research and Earth exploration-satellite applications, and also transmissions of data originating from industrial and medical activities in space.

5.536A Administrations operating earth stations in the Earth exploration-satellite or the space research service shall not claim protection from stations in the fixed and mobile services operated by other administrations. In addition, earth stations operating in the Earth exploration-satellite service or in the space research service should be operated taking into account Recommendation ITU-R SA.1278 and ITU-R SA.1625, respectively, (WRC-03)

5.536B In Germany, Saudi Arabia, Austria, Belgium, Brazil, Bulgaria, China, Korea (Republic of), Denmark, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Lebanon, Liechtenstein, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Slovakia, the Czech Republic, Romania, the United Kingdom, Singapore, Sweden, Switzerland, Tanzania, Turkey, Vietnam and Zimbabwe, earth stations operating in the Earth exploration-satellite service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobile services. (WRC-97)

5.536C In Algeria, Saudi Arabia, Bahrain, Botswana, Brazil, Cameroon, Comoros, Cuba, Djibouti, Egypt, United Arab Emirates, Estonia, Finland, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Lithuania, Malaysia, Morocco, Nigeria, Oman, Qatar, Syrian Arab Republic, Somalia, Sudan, Tanzania, Tunisia, Uruguay, Zambia and Zimbabwe, earth stations operating in the space research service in the band 25.5-27 GHz shall not claim protection from, or constrain the use and deployment of, stations of the fixed and mobiles services. (WRC-03)

5.537A In Bhutan, Korea (Republic of), The Russian Federation, Indonesia, Iran (Islamic Republic of), Japan, Kazakhstan, Lesotho, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Democratic People's Republic of Korea, Sri Lanka, Thailand and Vietnam, 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 HAPS within the band 27.5-28.35 GHz is limited, within the territory of the countries listed above, to a single 300 MHz sub-band. Such use of 300 MHz of the fixed-service allocation by HAPS in the above countries is further 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 service. Furthermore, the development of these other services shall not be constrained by HAPS. See Resolution 145 (WRC-03). (WRC-03)

5.538 *Additional allocation:* the bands 27.500-27.501 GHz and 29.999-30.000 GHz are also allocated to the fixed-satellite service (space-to-Earth) on a primary basis for the beacon transmissions intended for up-link power control. Such space-to-Earth transmissions shall not exceed an equivalent isotropically radiated power (e.i.r.p.) of +10 dBW in the direction of adjacent satellites on the geostationary-satellite orbit. In the band 27.500-27.501 GHz, such space-to-Earth transmissions shall not produce a power flux-density in excess of the values specified in Article 21, Table 21-4 on the Earth's surface.

5.539 The band 27.5-30 GHz may be used by the fixed-satellite service (Earth-to-space) for the provision of feeder links for the broadcasting-satellite service.

5.540 *Additional allocation:* the band 27.501-29.999 GHz is also allocated to the fixed-satellite service (space-to-Earth) on a secondary basis for beacon transmissions intended for up-link power control.

5.541 In the band 28.5-30 GHz, the earth exploration-satellite service is limited to the transfer of data between stations and not to the primary collection of information by means of active or passive sensors.

5.541A 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 4 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 4 information for coordination before this date are encouraged to utilize these techniques to the extent practicable. (WRC-2000)

5.542 *Additional allocation:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Republic of the), 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, the Syrian Arab Republic, Democratic People's Republic 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. 21.3 and 21.5 shall apply. (WRC-2000)

5.543 The band 29.95-30 GHz may be used for space-to-space links in the earth exploration-satellite service for telemetry, tracking, and control purposes, on a secondary basis.

5.543A In Bhutan, Korea (Republic Of), the Russian Federation, Indonesia, Iran (Islamic Republic of), Japan, Kazakhstan, Lesotho, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Democratic People's Republic of Korea, Sri Lanka, Thailand and Vietnam, the allocation to the fixed service in the band 31-31.3 GHz may also be used by systems using high altitude platform stations (HAPS) in the ground-to-HAPS direction. The use of the band 31-31.3 GHz by systems using HAPS is limited to the territory of the countries listed above and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems, systems in the mobile service and systems operated under No. 5.545. Furthermore, the development of these services shall not be constrained by HAPS. Systems using HAPS in the band 31-31.3 GHz shall not cause harmful interference to the radio astronomy service having a primary allocation in the band 31-31.8 GHz, taking into account the protection criterion as given in Recommendation ITU-R RA.769. In order to ensure the protection of satellite passive services, the level of unwanted power density into a HAPS ground station antenna in the band 31.3-31.8 GHz shall be limited to -106 dB(W/MHz) under clear-sky conditions, and may be increased up to -100 dB(W/MHz) under rainy conditions to take account of rain attenuation, provided the effective impact on the passive satellite does not exceed the impact under clear-sky conditions as given above. See Resolution 145 (WRC-03). (WRC-03)

5.544 In the band 31-31.3 GHz the power flux-density limits specified in Article 21, Table 21-4 shall apply to the space research service.

5.545 *Different category of service:* in Armenia, Azerbaijan, Georgia, Mongolia, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 31-31.3 GHz to the space research service is on a primary basis (see No. 5.33). (WRC-03)

5.546 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, the Russian Federation, Finland, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Latvia, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Romania, the United Kingdom, South Africa, Tajikistan, Turkmenistan and Turkey, 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. 5.33). (WRC-03)

5.547 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 75 (WRC-2000) and 79 (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 40.5-42GHz (see No. 5.561B), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-03)

5.547A 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 31.8-33.4GHz band, taking into account the operational needs of the airborne radar systems. (WRC-2000)

5.547B *Alternative allocation:* in the United States, the band 31.8-32 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-97)

5.547C *Alternative allocation:* in the United States, the band 32-32.3 GHz is allocated to the radionavigation and space research (deep space) (space-to-Earth) services on a primary basis. (WRC-03)

5.547D *Alternative allocation:* in the United States, the band 32.3-33 GHz is allocated to the inter-satellite and radionavigation services on a primary basis. (WRC-97)

5.547E *Alternative allocation:* in the United States, the band 33-33.4 GHz is allocated to the radionavigation service on a primary basis. (WRC-97)

5.548 In designing systems for the inter-satellite and radionavigation services in the band 32.3-33 GHz, and for the space research service (deep space) in the band 31.8-32.3 GHz, administrations shall take all necessary measures to prevent harmful interference between these services, bearing in mind the safety aspects of the radionavigation service (see Recommendation 707). (WRC-03)

5.549 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Egypt, the United Arab Emirates, Gabon, Indonesia, Iran (Islamic Republic of), Iraq, Israel, the Libyan Arab Jamahiriya, Jordan, Kuwait, Lebanon, Malaysia, Mali, Malta, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic the Democratic Republic of the Congo, Singapore, Somalia, Sudan, Sri Lanka, Togo, Tunisia and Yemen, the band 33.4-36 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-03)

5.549A In the band 35.5-36.0 GHz, the mean power flux-density at the Earth's surface, generated by any spaceborne sensor in the Earth exploration-satellite service (active) or space research service (active), for any angle greater than 0.8° from the beam centre shall not exceed -73.3 dB(W/m²) in this band. (WRC-03)

5.550 *Different category of service:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Mongolia, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan, the allocation of the band 34.7-35.2 GHz to the space research service is on a primary basis (see No. 5.33). (WRC-03)

5.551F *Different category of service:* in Japan, the allocation of the band 41.5 - 42.5 GHz to the mobile service is on a primary basis (see No. 5.33).

5.551H The equivalent power flux-density (epfd) produced in the band 42.5-43.5 GHz by all space stations in any non-geostationary-satellite system in the fixed-satellite service (space-to-Earth), or in the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station for more than 2 % of the time:

- 230 dB(W/m²) in 1 GHz and - 246 dB(W/m²) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
- 209 dB(W/m²) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

These epfd values shall be evaluated using the methodology given in Recommendation ITU-R S.1586 and the reference antenna pattern and the maximum gain of the antenna in the radio astronomy service given in Recommendation ITU-R RA.1631 and shall apply over the whole sky and for evaluation angles higher than the minimum operating angle θ of the radiotelescope (for which a default value of 5° should be adopted in the absence of notified information).

These values shall apply at any radio astronomy station that either:

- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or
- was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-03)

5.551I The power flux-density in the band 42.5-43.5 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth), or the broadcasting-satellite service (space-to-Earth) operating in the 42-42.5 GHz band, shall not exceed the following values at the site of any radio astronomy station:

- 137 dB(W/m²) in 1 GHz and - 153 dB(W/m²) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a single-dish telescope; and
- 116 dB(W/m²) in any 500 kHz of the 42.5-43.5 GHz band at the site of any radio astronomy station registered as a very long baseline interferometry station.

These values shall apply at any radio astronomy station that either:

- was in operation prior to 5 July 2003 and has been notified to the Bureau before 4 January 2004; or
- was notified before the date of receipt of the complete Appendix 4 information for coordination or notification, as appropriate, for the space station to which the limits apply.

Other radio astronomy stations notified after these dates may seek an agreement with administrations that have authorized the space stations. In Region 2, Resolution 743 (WRC-03) shall apply. The limits in this footnote may be exceeded at the site of a radio astronomy station of any country whose administration so agreed. (WRC-03)

5.552 The allocation of the spectrum for the fixed-satellite service in the bands 42.5-43.5 GHz and 47.2-50.2 GHz for Earth-to-space transmission is greater than that in the band 37.5-39.5 GHz for space-to-Earth transmission in order to accommodate feeder links to broadcasting satellites. Administrations are urged to take all practicable steps to reserve the band 47.2-49.2 GHz for feeder links for the broadcasting-satellite service operating in the band 40.5-42.5 GHz.

5.552A The allocation to the fixed service in the bands 47.2-47.5 GHz and 47.9-48.2 GHz is designated for use by high altitude platform stations. The use of the bands 47.2-47.5 GHz and 47.9-48.2 GHz is subject to the provisions of Resolution 122 . (WRC-97)

5.553 In the bands 43.5-47 GHz and 66-71GHz, 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.5.43). (WRC-2000)

5.554 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. (WRC-2000)

5.554A The use of the bands 47.5-47.9 GHz, 48.2-48.54 GHz and 49.44-50.2 GHz by the fixed-satellite service (space-to-Earth) is limited to geostationary satellites. (WRC-03)

5.555 *Additional allocation:* the band 48.94-49.04 is also allocated to the radio astronomy service on a primary basis. (WRC-2000)

5.555B The power flux-density in the band 48.94-49.04 GHz produced by any geostationary space station in the fixed-satellite service (space-to-Earth) operating in the bands 48.2- 48.54 GHz and

49.44-50.2 GHz shall not exceed -151.8 dB(W/m²) in any 500 kHz band at the site of any radio astronomy station. (WRC-03)

5.556 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. (WRC-2000)

5.556A Use of the bands 54.25-56.9 GHz, 57.0-58.2 GHz and 59.0-59.3 GHz by the inter-satellite service is limited to satellites in the geostationary satellite orbit. The single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface produced by a station in the inter-satellite service, for all conditions and for all methods of modulation, shall not exceed -147 dB(W/(m² · 100 MHz)) for all angles of arrival. (WRC-97)

5.556B *Additional allocation:* in Japan, the band 54.25-55.78 GHz is also allocated to the mobile service on a primary basis for low-density use. (WRC-97)

5.557 *Additional allocation:* in Japan, the band 55.78-58.2 GHz is also allocated to the radiolocation service on a primary basis. (WRC-97)

5.557A 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 stations is limited to -26 dB(W/MHz). (WRC-2000)

5.558 In the bands 55.78-58.2 GHz, 59-64GHz, 66-71, GHz, 122.25-123 GHz, 130-134 GHz and 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.5.43) . (WRC-2000)

5.558A Use of the band 56.9-57 GHz by inter-satellite systems is limited to links between satellites in geostationary-satellite orbit and to transmissions from non- geostationary satellites in high-Earth orbit to those in low-Earth orbit. For links between satellites in the geostationary-satellite orbit, the single entry power flux-density at all altitudes from 0 km to 1 000 km above the Earth's surface, for all conditions and for all methods of modulation, shall not exceed -147 dB(W/(m² · 100 MHz)) for all angles of arrival. (WRC-97)

5.559 In the band 59-64GHz, airborne radars in the radiolocation service may be operated subject to not causing interference to the inter-satellite service (see No.5.43). (WRC-2000)

5.559A The band 75.5-76 GHz is also allocated to the amateur and amateur-satellite services on a primary basis until the year 2006. (WRC-2000)

5.560 In the band 78-79 GHz radars located on space stations may be operated on a primary basis in the Earth exploration-satellite service and in the space research service.

5.561 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 stations operating in accordance with the decisions of the appropriate frequency assignment planning conference for the broadcasting-satellite service. (WRC-2000)

5.561A The 81-81.5 GHz band is also allocated to the amateur and amateur-satellite services on a secondary basis. (WRC-2000)

5.562 The use of the band 94-94.1 GHz by the Earth exploration-satellite (active) and space research (active) services is limited to spaceborne cloud radars. (WRC-97)

5.562A In the bands 94-94.1 GHz and 130-134 GHz, 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. (WRC-2000).

5.562B In the bands 105-109.5 GHz, 111.8-114.25 GHz, 155.5-158.5 GHz and 217-226 GHz, the use of this allocation is limited to space-based radio astronomy only. (WRC-2000).

5.562C 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 1000 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. (WRC-2000).

5.562E The allocation to the Earth exploration-satellite service (active) is limited to the band 133.5-134 GHz. (WRC-2000).

5.562F In the band 155.5-158.5 GHz, the allocation to the Earth exploration-satellite (passive) services shall terminate on 1 January 2018. (WRC-2000).

5.562G The date of entry into force of the allocation to the fixed and mobile services in the band 155.5-158.5 GHz shall be 1 January 2018. (WRC-2000)

5.562H Use of the bands 174.8-182 GHz and 185-190 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 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 $-144 \text{ dB(W/(m}^2 \cdot \text{MHz))}$ for all angles of arrival. (WRC-2000).

5.563A In the bands 200-209 GHz, 235-238 GHz, 250-252 GHz and 265.275 GHz, ground-based passive atmospheric sensing is carried out to monitor atmospheric constituents.

5.563B The band 237.9-238 GHz is also located to the Earth exploration-satellite service (active) and the space research service (active) for spaceborne cloud radars only.

5.565 The frequency band 275-1000 GHz may be used by administrations for experimentation with, and development of, various active and passive services. In this band a need has been identified for the following spectral line measurements for passive services:

radio astronomy service: 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623- 711 GHz, 795-909 GHz and 926-945 GHz;

Earth exploration-satellite service (passive) and space research service (passive): 275-277 GHz, 294-306 GHz, 316-334 GHz, 342-349 GHz, 363..365 GHz, 371-389 GHz, 416-434 GHz, 442-444 GHz, 496-506 GHz, 546-568 GHz, 624-629 GHz, 634-654 GHz, 659-661 GHz, 684-692 GHz, 730-732 GHz, 851-853 GHz and 951-956 GHz.

Future research in this largely unexplored spectral region may yield additional spectral lines and continuum bands of interest to the passive services. Administrations are urged to take all practicable steps to protect these passive services from harmful interference until the date when the allocation Table is established in the above-mentioned frequency band.