MINISTRY OF COMMUNICATIONS & INFORMATICS

LIBYAN NATIONAL FREQUENCY PLAN (LNFP)

PUBLIC CONSULTATION

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1. GENERAL INTRODUCTION

The numerous technology innovations in the field of radiocommunications in the recent years are directly translated in the increased demand for the usage of radio frequency spectrum where many new radio services are claiming more space in the frequency spectrum (new mobile communications, wireless broadband access, digital broadcasting, etc.). At the same time, the portions of the frequency spectrum that are currently allocated to the traditional terrestrial and/or space services, such as broadcasting, fixed and mobile and others, used for public safety and/or defence purpose, are becoming congested. The national Frequency Spectrum Management (FSM) activities must therefore envisage new approaches in order to be meeting the challenges and satisfy all new national requirements for spectrum usage.

The radio frequency spectrum is a valuable, limited and scarce natural resource. It is essential to manage its usage in the most effective manner thus ensuring that all radiocommunication networks may be operated without causing harmful interference to their users. In view to satisfy this important objective, the Libyan Frequency Allocation Table (LFAT) is an essential tool that is assisting the Frequency Spectrum Managers to efficiently respond to the foreseeable spectrum requirements and to permit the development of new services and applications.

Taking into account the increasing complexity of international and national regulatory environment, it is of vital importance for any country, the Member State of the International Telecommunication Union, to possess the necessary facilities, mechanisms and expertise to reach the FSM universal objectives to satisfy the national needs and requirements on non-interference basis, all in general public interest.

In this context and with the objective to build up a modern and efficiently used telecommunication infrastructure, the Libyan National Frequency Plan (**LNFP**) is a key technical and legal instrument that will assist the country telecommunication administration in its work.

The national administration and its respective regulatory authority should perform all necessary activities that are converging to the optimal usage of frequency spectrum, in accordance with International and/or Regional Agreements – taking into account the ITU provisions as contained in Radio Regulations (RR), the reference international regulatory document.

According to the ITU Report ITU-R SM.2012-1 « the non-existence of National Frequency Plan (NFP) can result in a failure to implement valuable radiocommunication services, or it may delay their implementation. Indeed, the telecommunication Service Providers and competent Telecommunication Operators may choose to avoid the Country without NFP by seeking more hospitable frequency spectrum regulatory environment in other countries".

2. THE STATUS OF LIBYAN REGULATORY FRAMEWORK

2.1 The new Telecommunication Act

In view to create an efficient and competitive telecommunication environment and taking account the rapid development of Libyan telecommunications, related radio services and

applications, the Ministry of Communications and Informatics (MCIT) has appointed a High Level Committee of telecommunication experts and lawyers from the Ministry as well as from outside, to draft a new Telecommunication Act, that will replace the existing telecommunication regulatory legislation. The objectives of new Legal Instrument are, interalia, to:

- create an Independent Telecommunication Regulatory Authority (TRA) with clear and transparent Terms of Reference (ToR) that should set out the Authority's duties and responsibilities,
- promote and protect the just competition on the market of telecommunication services,
- ensure the respect of established regulatory Rules and Procedures and assure the delivery of the highest quality of services, at competitive price to the end users and across the country,
- encourage the Libyan private sector and potential investors in telecommunications, to participate in the building up of telecommunication networks and improving the quality of telecommunication services in the country;

2.2 Ongoing activities

With the objectives as defined in **2.1**, in accordance with the existing Telecommunication Act (Nr. 22/2010) and under the supervision of the MCIT, an International team of high-level experts developed a new Libyan National Frequency Plan (LNFP) in close cooperation with Libyan experts from MCIT.

The same team of experts developed further the present Public Consultation document that gives the necessary guidelines for the LNFP approval process.

3. THE LIBYAN NATIONAL FREQUENCY PLAN (LNFP)

The LNFP is a national long-term Plan, which provides the vision for future spectrum usage based on the long-term national radiocommunication needs and requirements related to the existing and future services. The national Table of Frequency Allocation (LFAT) is the key element of the Plan, thus determining the regulatory framework in which the radio frequency spectrum users may set up their goals. The Plan (LNFP) is a part of the legal framework that should allow national regulatory authority (TRA) to cope with the existing and future spectrum requirements.

The LNFP is a basic instrument, which is:

- necessary for an orderly performance of spectrum management in view to allocate the frequency bands, or part of them, to radio spectrum users and for ensuring harmonized development of Radiocommunication Services in Libya;
- mandatory legal framework for an efficient Frequency Spectrum Management (FSM)
- a modern and powerful mechanism to properly manage the usage of Radio Spectrum, strongly recommended by ITU and National Regulatory Authority;
- an efficient instrument to ensure that adequate portion of spectrum are provided for short, medium and long term usage by telecommunication operators and other users;

- important for supporting the introduction process of new technologies and services;
- a strategic tool to attract investors, operators and telecommunication service providers.
- necessary to meet the telecommunication requirements for business community in view to promote the trade and industry development in Libya.

The LNFP is based, interalia, on the:

- Current national regulatory framework and legal environment as defined by Communication Act;
- RR Frequency Allocation Table (Article 5), as modified by the recent World Radiocommunication Conference (WRC-12);
- Assessment of the national needs and future requirements of radiocommunication services;
- Public services requirements;

The LNFP is established by taking full account of:

- The convergence of telecommunication services (FS, MS, Broadcasting, etc.) as defined in RR Article 1;
- Advances in technology and future trends;
- Frequency sharing techniques;
- The best international experience and regulatory practice.

The LNFP is presented in two (2) Sections:

- Section 1: The Preface to the LNFP (published separately).
- Section 2: The Libyan National Frequency Allocation Table;

4. DESCRIPTION OF LIBYAN FREQUENCY ALLOCATION TABLE (LFAT)

The heading of the LFAT includes 5 columns as follows:

4.1 Column 1: Table of Frequency Allocations for Region 1 (RR Article 5)

- The frequency band referred to in each frequency allocation is indicated in the left-hand top corner of the Table.
- The radiocommunicaton services are listed in (French) alphabetical order. The order of listing does not indicate relative priority within each category.
- The footnote(s) which appear below the allocated service or services in the Table, apply to more than one of the allocated services or to the whole of the frequency band concerned.
- The footnote(s) which appear to the right of the name of a given service are applicable only to that particular service.

- The bold and underlined footnotes are the footnotes with reference to Libya, which are implemented in the Column 2. Consequently the reference to these footnotes doesn't appear in this column.

4.2 Column 2: National Frequency Allocations

- Frequency bands within the same limits as for the RR allocation;
- Frequency bands for national frequency allocation and spectrum user categories with different band limits when the provisions of RR footnote, referring to Libya, are applied and implemented in the Table;
- Radio services different from those indicated in the RR Table and when the provisions of RR footnote, referring to Libya, are applied and implemented in the Table like an additional, alternative allocation or different category of service.

4.3 Column 3: User Category

The frequency bands as indicated in Column 2 are allocated to the User Categories as defined below. The detailed list of respective users, belonging to each of indicated User Categories is given in **Annex 5** to this document.

(a) Military (**MIL**)
(b) Governmental (**GOV**)
(c) Civil (**CIV**)

Military

The military category of frequency spectrum users (**MIL**) includes only the Armed Forces and National Guard.

The frequency bands and sub-bands allocated to this user category are marked in the LNFP as "MIL". The associated frequency assignments are also marked as "MIL" and are used exclusively by MIL.

Governmental

The governmental category of spectrum users (**GOV**) includes national users involved for all internal security services (inside Libya) and national transmissions.

The frequency bands and sub-bands allocated to this user category are marked in the LNFP as "GOV" and the associated frequency assignments are also marked as "GOV". All kind of frequency coordination, when necessary and as appropriate in these bands and sub-bands, are under the responsibility of TRA.

Civil

The civil category of spectrum users (**CIV**) includes the users of non governmental entities and commercial users. This category includes only such spectrum users that are recognized as Information and Communication Technologies (ICT) enterprises (Governmental or Private) and which are licensed to provide public telecommunication services in the country.

The frequency bands and sub-bands allocated to this category of spectrum users are marked in the LNFP as "CIV" and associated frequency assignments are also marked as "CIV". All sort of necessary coordination, related to the use of CIV frequency assignments, are under the responsibility of TRA.

4.4 Column 4: Applications, comments and national footnotes

Specific applications or comments are indicated in this column as well as the Libyan footnotes provisionally numbered as LBY **01** to LYB **15**. These footnotes are integral part of the LFAT.

4.5 Column 5: Long term strategy & International Trend

The information contained in this column is based on the long term strategy that is applied in ITU Region 1 and also on the international trend.

5. THE FORM OF RESPONSE AND ASSOCIATED PROCEDURE

The MCIT invites parties to comment on the proposed functional repartition of frequency spectrum and its usage to the existing and future radiocommunication services. Further, the comments and suggestions are welcomed on proposed spectrum management including the choice of technologies which might co-exist without causing harmful interferences to each other.

The MCIT specifically encourages the interested parties and stakeholders to provide specific and possibly detailed answers to the questions raised in this document. The written comments should be supported with relevant data, analysis, statistics, reasons and benchmarks and complemented with the experience, wherever possible.

The parties are also requested to specify the contact details including the name of the respondent (or related parties if the respondent is part of a consortium) in addition to their address and their phone number(s).

The MCIT may consider publishing all or parts of the responses received to this Public Consultation process, unless the respondent will be asking for respect of confidentiality. In this context, please indicate whether you wish to keep your identity and/or your comments transparent on all questions, or only some of them!

The answers and/or comments will be carefully considered and taken care of in view of their possible integration in the final version of the LNFP.

Please note however, that this document and any responses to it are in no way binding to the MCIT. MCIT is under no obligation to adopt or implement any comment(s) or proposal(s) submitted. All responses are the property of the MCIT.

ANNEX 1

PUBLIC CONSULTATION QUESTIONNAIRE

The Questions in the Table below are presented in ten (10) groups where each question is preceded by the corresponding identification number.

The Parties, that are invited to comment, are requested to submit their responses on a separate sheet(s), following the instructions as in paragraph 5 above. The responses/answers, that Parties may wish to submit, should be identified by the respective number of the Question in the Table, to which the response is related.

The respondents are finally requested to indicate clearly whether their answer(s) **should remain confidential and not subject to any public distribution.**

TABLE BELOW TO BE COMPLETED

Responses to this Public Consultation should reach the MCIT before 2:30 p.m. local time, on 24/10/2013,

at the following address:

Sepectrum management department/Ministry of Communication and Informatics

Azawia Street/Tripoli Libya

or

E-mail to lnfp@cim.gov.ly

QUESTIONS

1. GENERAL QUESTIONS ON FREQUENCY SPECTRUM MANAGEMENT

1.1 Comments are invited on the best approach to deal with scarcity of the frequency spectrum with regard to the advent of new wireless technologies and the increasing demand on the newly emerging wireless radiocommunication services

1.2 Your views are invited whether the current assesment of national needs for spectrum and its future requirements for new radio communication services and new applications is appropriate/ satisfactory?

1.3 What is your opinion about the future of broadcasting service (BC) in MF and HF frequency bands in Libya?

1.4 What is your opinion on the proposed usage of « Digital Dividend « spectrum due to the reallocation of certain portion of TV spectrum to other radio services (particularly mobile services)?

1.5 What is your position on the "redefinition" of the spectrum regulatory framework, under the refarming procedure?

1.6 What is your view on early implementation of emerging "fourth generation" standards for cellular mobile service, and implementation of IMT Long Term Evolution (LTE) technologies?

1.7 What are your views regarding the additional/specific radiocomunication services that are requiring specific entries in the Libyan National Frequency Plan (LNFP)?

1.8 What are your views on the proposed policy that non-confidential spectrum assignments to the government category of users would be registered in the Master National Frequency Register (MNFR) together with technical limits on their use?

2. FREQUENCY SPECTRUM MANAGEMENT (FSM)

2.1 Do you have any general comments on the proposed structure of the LNFP?

2.2 What are your views on the Libyan Frequency Allocation Table (LFAT)?
2.3 Do you have any comments to the national footnotes in the adopted LFAT?
2.4 What is your position on the cross-border interference and coordination between neighboring countries? Which frequencies and services are concerned?
2.5 Are you favorable to frequency spectrum sharing arrangements between different user categories and different radiocommunication services such as in the band 410—450 MHz?
3. FREQUENCY LICENSING
3.1 What is your view on the possible benefits in determining longer period in License(s) validity prescription?
3.2 What is your opinion as to the choise for licencing procedure for the mobile service frequency bands (beauty contest, auction, etc.)?
3.3 What are your views for introducing the "License exempt" policy in certain telecommunication environment (such as Citizen Band (CB) etc…)? What are the reasons that should motivate such approach and to what frequency bands this approach would be applicable?
3.4 Do you consider that the Government users should pay fees for the use of spectrum? If yes, should it be on a comparable basis as to the commercial users?
3.5 What are your views on whether more frequency spectrum should be made available for operating the License exempt devices?
3.6 What is your opinion about the possibility of having License exempt for Ultra Wide Band (UWB) devices?
4. SPECTRUM REASSIGNMENT/REFARMING
4.1 What is your position on the release of spectrum and frequency refarming in general and for the mobile services in 900 MHz, 1 800 MHz and in 2 100 MHz band (see the case of Digial Dividend)?

4.2 What is your view on the usage of Digital Dividend (790 – 862 MHz and 694 – 790 MHz?
4.3 What time frame should be required to implement the frequency refarming process in order to properly support different business plans?
4.4 What time frame should be required to implement the frequency refarming process in order to properly support different business plans?
4.5 What is your view on spectrum necessary refarming related to the introduction of the Long Term Evolution (LTE) technologies in the future, which indeed needs to be done in such a way that existing deployment of 2G and 3G technologies is not unduly compromised while demand for these services continues?
5. MOBILE SERVICES AND APPLICATIONS
5.1 What are your views regarding the spectrum challenges and constraints experienced in all the mobile bands and the proposed recommendation to overcome them?
5.2 What are your views to what extent the currently allocated bands will satisfy the projected 3G / 4G coverage in Libya?
5.3 In what time frame your business plans would require new frequency bands for mobile services (particularly 800 MHz band), gained by the Digital Dividend?
5.4 Are you favorable to the future assignment of Digital Dividend spectrum (portion of 694-790 MHz) to the fixed and mobile services, providing that studies on the subject matter are successfuly concluded by the time of the ITU WRC-15?
5.6 The need to enhance mobile service ability to develop enhanced data services using LTE (with much higher bit rates) may require the use of wider channels (10 or 20 MHz compared with 5 MHz for today's 3G technology) . To deliver such services will require either refarming of existing mobile assignments or allocation of the additional spectrum. *Do you think there will be a need for additional spectrum allocation for beyond 3G systems? Please specify the suggested bands and their distribution?*
6. SPECIFIC RADIO APPLICATIONS

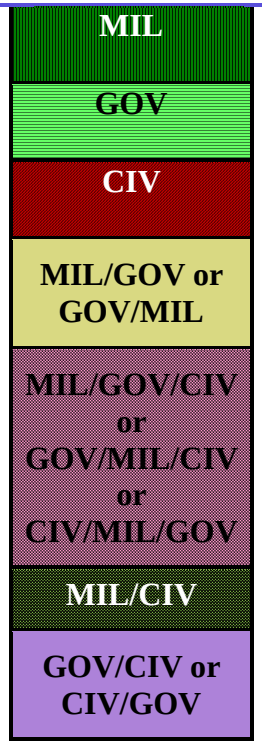
6.1 What are your views regarding the introduction of Radio Frequency Identification (RFID) service and the bands that should be identified for this technology?
6.2 What are your views concerning the potential spectrum requirements associated with Industrial, Scientific and Medical (ISM) applications in Libya?
6.3 What are your views regarding the introduction of the new Short Range Devices (SRD) by making the associated spectrum available whenever possible for such application? *In your view, what would be the appropriate designated frequency band?*
6.4 What is your position on the introduction of Software Defined Radio (SDR) technology and Cognitive Radio Systems (CRS)?
6.5 What are your views on the minimum band of radio frequency spectrum that should be made available for UWB applications?
6.7 Given the geography and demographics of Libya (vast area with dispersed population and remote location), what are your views regarding the suitability of using 400/450 MHz band for Fixed Wireless Access applications (WLL)?
6.8 What are your views regarding the current frequency allocation for Wi-Fi networks?
7. RADIO AMATEUR SERVICE AND CITIZEN BANDS
7.1 Do you consider the currently allocated spectrum sufficient to satisfy the future needs of the Amateur and Amateur Satellite service?
7.2 What are your views on whether it is necessary to allow additional bands for Amateur applications in Libya, particularly in the MF & HF frequency bands?
7.3 What are your views as to whether it is necessary to allow more spectrum space for Citizen Band (CB) in Libya?
8. DISTRESS AND SAFETY SERVICE

8.1 What is your view as to the frequency allocation for Distress and Safety Service as well as for Search, Rescue and Emergency services?
8.2 What is your view about the need for additional frequency band for the above mentioned Distress and Safety services?
9. OTHER APPLICATIONS
9.1 In your view, is there a need to identify the frequencies that may be required for temporary usage and for special events?
9.2 What are your views on the need for frequencies specifically assigned to power line carrier systems?
10. OTHER RELATED ISSUES
INTERESTED PARTIES ARE WELCOME TO EXPRESS THEIR VIEWS REGARDING ANY OTHER RELATED ISSUES.

ANNEX 2

LAYOUT/FORMAT of the Libyan Frequency Allocation Table (LFAT) and User Categories identification

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	COL 2	COL 3	COL 4	COL 5
RR Frequency Allocations	National Frequency Allocations	Users Categories	Applications Comments Libyan Footnotes	Long term strategy/International Trend



LFAT 8.3 kHz – 275 GHz

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
Below 8.3 kHz (Not allocated) 5.53 5.54				
8.3-9 kHz METEOROLOGICAL AIDS 5.54A 5.54B 5.54C	**8.3-9 kHz** METEOROLOGICAL AIDS 5.54A 5.54B 5.54C	**GOV**		Expected stable use in these frequency bands
9-11.3 kHz METEOROLOGICAL AIDS 5.54A RADIONAVIGATION	**9-11.3 kHz** METEOROLOGICAL AIDS 5.54A RADIONAVIGATION	**MIL/GOV**	**LBY 02**	
11.3-14 kHz RADIONAVIGATION	**11.3-14 kHz** RADIONAVIGATION	**MIL/GOV**	**LBY 02**	
14 – 19.95 kHz FIXED MARITIME MOBILE 5.57 5.55 5.56	**14 – 19.95 kHz** FIXED MARITIME MOBILE 5.57 5.55 5.56	**MIL/GOV/CIV**	**LBY 02**	
19.95 – 20.05 kHz STANDARD REQUENCY AND TIME SIGNAL (20 kHz)	**19.95 – 20.05 kHz** STANDARD REQUENCY AND TIME SIGNAL (20 kHz)	**GOV**	**LBY 02**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
20.05 – 70 kHz FIXED MARITIME MOBILE 5.57 5.56 5.58	**20.05 – 70 kHz** FIXED MARITIME MOBILE 5.57 5.56 5.58	**MIL/GOV/CIV**	**LBY 02**	Expected stable use in these frequency bands
70 – 72 kHz RADIONAVIGATION 5.60	**70 – 72 kHz** RADIONAVIGATION 5.60	**MIL/GOV**	**LBY 02**	
72 – 84 kHz FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	**72 – 84 kHz** FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	**MIL/GOV/CIV**	**LBY 02**	
84 – 86 kHz RADIONAVIGATION 5.60	**84 – 86 kHz** RADIONAVIGATION 5.60	**MIL/GOV**	**LBY 02**	
86 – 90 kHz FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	**86 – 90 kHz** FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	**MIL/GOV/CIV**	**LBY 02**	
90 – 110 kHz RADIONAVIGATION 5.62 Fixed 5.64	**90 – 110 kHz** RADIONAVIGATION 5.62 Fixed 5.64	**MIL/GOV/CIV**	**LBY 02**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
110 – 112 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.64	**110 – 112 kHz** FIXED MARITIME MOBILE RADIONAVIGATION 5.64	**MIL/GOV/CIV**	**LBY 02**	Expected stable use in these frequency bands
112 – 115 kHz RADIONAVIGATION 5.60	**112 – 115 kHz** RADIONAVIGATION 5.60	**MIL/GOV**	**LBY 02**	
115 – 117.6 kHz RADIONAVIGATION 5.60 Fixed Maritime Mobile 5.64 5.66	**115 – 117.6 kHz** RADIONAVIGATION 5.60 Fixed Maritime Mobile 5.64 5.66	**MIL/GOV/CIV**	**LBY 02**	
117.6 – 126 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	**117.6 – 126 kHz** FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	**MIL/GOV/CIV**	**LBY 02** RFID (125-134.2 kHz)	
126 – 129 kHz RADIONAVIGATION 5.60	**126 – 129 kHz** RADIONAVIGATION 5.60	**MIL/GOV**	**LBY 02** RFID (125-134.2 kHz)	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
129 – 130 kHz FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	**129 – 130 kHz** FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	**MIL/GOV/CIV**	**LBY 02** RFID (125-134.2 kHz)	Expected stable use in these frequency bands
130 – 135.7 kHz FIXED MARITIME MOBILE 5.64 5.67	**130 – 135.7 kHz** FIXED MARITIME MOBILE 5.64	**MIL/GOV/CIV**	**LBY 02** RFID (125-134.2 kHz)	
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 5.64	**MIL/GOV/CIV**	**LBY 02**	
137.8 – 148.5 kHz FIXED MARITIME MOBILE 5.64 5.67	**137.8 – 148.5 kHz** FIXED MARITIME MOBILE 5.64	**MIL/GOV/CIV**	**LBY 02**	
148.5 – 255 kHz BROADCASTING 5.68 5.69 5.70	**148.5 – 255 kHz** BROADCASTING 5.68 5.69 5.70	**GOV**	**GE 75**	No major change foreseen for the BC stations

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
255 – 283.5 kHz BROADCASTING AERONAUTICAL RADIONAVIGATION 5.70 5.71	**255 – 283.5 kHz** BROADCASTING AERONAUTICAL RADIONAVIGATION 5.70 5.71	**MIL/GOV**		Expected stable use in these frequency bands
283.5 – 315 kHz AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 5.73 5.74	**283.5 – 315 kHz** AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 5.73 5.74	**MIL/GOV**		
315 – 325 kHz AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 5.73 5.75	**315 – 325 kHz** AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (radiobeacons) 5.73 5.75	**MIL/GOV**		
325 – 405 kHz AERONAUTICAL RADIONAVIGATION	**325 – 405 kHz** AERONAUTICAL RADIONAVIGATION	**MIL/GOV**		
405 – 415 kHz RADIONAVIGATION 5.76	**405 – 415 kHz** RADIONAVIGATION 5.76	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
415 – 435 kHz MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION	**415 – 435 kHz** MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION	**MIL/GOV**	**GE 85**	
435-472 kHz MARITIME MOBILE 5.79 Aeronautical radionavigation 5.77 5.82	**435-472 kHz** MARITIME MOBILE 5.79 Aeronautical radionavigation 5.77 5.82	**MIL/GOV**	**GE 85**	Expected stable use in these frequency bands
472-479 kHz MARITIME MOBILE 5.79 Amateur **5.80A** Aeronautical radionavigation 5.77 5.80 **5.80B** 5.82	**472-479 kHz** MARITIME MOBILE 5.79 Aeronautical radionavigation 5.77 5.80 5.82	**MIL/GOV**	**GE 85**	
479 – 495 kHz MARITIME MOBILE 5.79 5.79A Aeronautical Radionavigation 5.77 5.82	**479 – 495 kHz** MARITIME MOBILE 5.79 5.79A Aeronautical Radionavigation 5.77 5.82	**MIL/GOV**	**GE 85** **LBY 01** (490 kHz)	
495 – 505 kHz MARITIME MOBILE	**495 – 505 kHz** MARITIME MOBILE	**MIL/GOV/CIV**	**LBY 01** (500 kHz)	
505 – 526.5 kHz MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	**505 – 526.5 kHz** MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	**MIL/GOV**	**GE 85** **LBY 01** (518 kHz)	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
526.5 – 1606.5 kHz BROADCASTING 5.87 5.87A	**526.5 – 1606.5 kHz** BROADCASTING 5.87 5.87A	**GOV**	**GE 75**	
1606.5 – 1625 kHz FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	**1606.5 – 1625 kHz** FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	**MIL/GOV/CIV**	**GE 85**	
1625 – 1635 kHz RADIOLOCATION 5.93	**1625 – 1635 kHz** RADIOLOCATION 5.93	**MIL/GOV**		
1635 – 1800 kHz FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92 5.96	**1635 – 1800 kHz** FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92 5.96	**MIL/GOV/CIV**	**GE 85** **LBY 02**	SRD
1800 – 1810 kHz RADIOLOCATION 5.93	**1800 – 1810 kHz** RADIOLOCATION 5.93	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
1810 – 1850 kHz AMATEUR 5.98 **5.99**. 5.100	**1810 – 1830 kHz** AMATEUR FIXED MOBILE except aeronautical mobile 5.98 5.100	**MIL/GOV/CIV**	**LBY 04**	
	1830 – 1850 kHz AMATEUR 5.98 5.100	**CIV**		
1850 – 2000 kHz FIXED MOBILE except aeronautical mobile 5.92 5.96 5.103	**1850 – 2000 kHz** FIXED MOBILE except aeronautical mobile 5.92 5.96 5.103	**MIL/GOV/CIV**		
2000 – 2025 kHz FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	**2000 – 2025 kHz** FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	**MIL/GOV/CIV**		SRD

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
2025 – 2045 kHz FIXED MOBILE except aeronautical mobile (R) Meteorological Aids 5.104 5.92 5.103	**2025 – 2045 kHz** FIXED MOBILE except aeronautical mobile (R) Meteorological Aids 5.104 5.92 5.103	**MIL/GOV/CIV**		
2045 – 2160 kHz FIXED MARITIME MOBILE LAND MOBILE 5.92	**2045 – 2160 kHz** FIXED MARITIME MOBILE LAND MOBILE 5.92	**MIL/GOV/CIV**	**GE 85**	
2160 – 2170 kHz RADIOLOCATION 5.93 **5.107**	**2160 – 2170 kHz** RADIOLOCATION FIXED MOBILE except aeronautical mobile (R) 5.93	**MIL/GOV/CIV**	In the fixed and mobile services the mean power of stations shall not exceed 50 W.	SRD
2170 – 2173.5 kHz MARITIME MOBILE	**2170 – 2173.5 kHz** MARITIME MOBILE	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
2173.5 – 2190.5 kHz MOBILE (distress & calling) 5.108 5.109 5.110 5.111	**2173.5 – 2190.5 kHz** MOBILE (distress & calling) 5.108 5.109 5.110 5.111	**GOV**	**LBY 01** (2174.5, 2182 & 2187.5 kHz)	
2190.5 – 2194 kHz MARITIME MOBILE	**2190.5 – 2194 kHz** MARITIME MOBILE	**GOV**		
2194 – 2300 kHz FIXED MOBILE except aeronautical mobile (R) 5.92 5.103 5.112	**2194 – 2300 kHz** FIXED MOBILE except aeronautical mobile (R) 5.92 5.103 5.112	**MIL/GOV/CIV**		
2300 – 2498 kHz FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.103	**2300 – 2498 kHz** FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.103	**MIL/GOV/CIV**		
2498 – 2501 kHz STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	**2498 – 2501 kHz** STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	**GOV**		SRD

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
2501 – 2502 kHz STANDARD FREQUENCY AND TIME SIGNAL Space Research	**2501 – 2502 kHz** STANDARD FREQUENCY AND TIME SIGNAL Space Research	**GOV**		
2502 – 2625 kHz FIXED MOBILE except aeronautical mobile (R) 5.92 5.103 5.114	**2502 – 2625 kHz** FIXED MOBILE except aeronautical mobile (R) 5.92 5.103 5.114	**MIL/GOV/CIV**		
2625 – 2650 kHz MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	**2625 – 2650 kHz** MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	**MIL/GOV**		
2650 – 2850 kHz FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	**2650 – 2850 kHz** FIXED MOBILE except aeronautical mobile (R) 5.92 5.103	**MIL/GOV/CIV**		SRD

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
2850 – 3025 kHz AERONAUTICAL MOBILE (R) 5.111 5.115	**2850 – 3025 kHz** AERONAUTICAL MOBILE (R) 5.111 5.115	**GOV**	**AP 27** **LBY 01** (3023 kHz)	
3025 – 3155 kHz AERONAUTICAL MOBILE (OR)	**3025 – 3155 kHz** AERONAUTICAL MOBILE (OR)	**MIL**	**AP 26**	
3155 – 3200 kHz FIXED MOBILE except aeronautical mobile (R) 5.116 5.117	**3155 – 3200 kHz** FIXED MOBILE except aeronautical mobile (R) 5.116 5.117	**MIL/GOV/CIV**	**LBY 02**	
3200 – 3230 kHz FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	**3200 – 3230 kHz** FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	**MIL/GOV/CIV**	**LBY 02**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
3230 – 3400 kHz FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116 5.118	**3230 – 3400 kHz** FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116	**MIL/GOV/CIV**	**LBY 02**	SRD
3400 – 3500 kHz AERONAUTICAL MOBILE (R)	**3400 – 3500 kHz** AERONAUTICAL MOBILE (R)	**GOV**	**AP 27**	
3500 – 3800 kHz AMATEUR FIXED MOBILE except aeronautical mobile 5.92	**3500 – 3800 kHz** AMATEUR FIXED MOBILE except aeronautical mobile 5.92	**MIL/GOV/CIV**		
3800 – 3900 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**3800 – 3900 kHz** FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**MIL/GOV/CIV**	**AP 26**	
3900 – 3950 kHz AERONAUTICAL MOBILE (OR) 5.123	**3900 – 3950 kHz** AERONAUTICAL MOBILE (OR) 5.123	**MIL**	**AP 27**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
3950 – 4000 kHz FIXED BROADCASTING	**3950 – 4000 kHz** FIXED BROADCASTING	**GOV/MIL/CIV**		
4000 – 4063 kHz FIXED MARITIME MOBILE 5.127 5.126	**4000 – 4063 kHz** FIXED MARITIME MOBILE 5.127 5.126	**GOV/MIL/CIV**		SRD
4063 – 4438 kHz MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 5.128	**4063 – 4438 kHz** MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132	**GOV**	**AP 25** **LBY 01** (4125, 4177.5, 4207.5, 4209.5 & 4210 kHz)	
4 438-4 488 kHz FIXED MOBILE except aeronautical mobile (R) Radiolocation 5.132A 5.132B	**4 438-4 488 kHz** FIXED MOBILE except aeronautical mobile (R) Radiolocation 5.132A 5.132B	**MIL/GOV/CIV**		
4488 – 4650 kHz FIXED MOBILE except aeronautical mobile (R)	**4488 – 4650 kHz** FIXED MOBILE except aeronautical mobile (R)	**MIL/GOV/CIV**		SRD

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
4650 – 4700 kHz AERONAUTICAL MOBILE (R)	**4650 – 4700 kHz** AERONAUTICAL MOBILE (R)	**GOV**	**AP 27**	
4700 – 4750 kHz AERONAUTICAL MOBILE (OR)	**4700 – 4750 kHz** AERONAUTICAL MOBILE (OR)	**MIL**	**AP 26**	
4750 – 4850 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	**4750 – 4850 kHz** FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	**MIL/GOV/CIV**		SRD
4850 – 4995 kHz FIXED LAND MOBILE BROADCASTING 5.113	**4850 – 4995 kHz** FIXED LAND MOBILE BROADCASTING 5.113	**MIL/GOV/CIV**		
4995 – 5003 kHz STANDARD FREQUENCY & TIME SIGNAL (5000 kHz)	**4995 – 5003 kHz** STANDARD FREQUENCY & TIME SIGNAL (5000 kHz)	**GOV**		
5003 – 5005 kHz STANDARD FREQUENCY & TIME SIGNAL Space research	**5003 – 5005 kHz** STANDARD FREQUENCY & TIME SIGNAL Space research	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5005 – 5060 kHz FIXED BROADCASTING 5.113	**5005 – 5060 kHz** FIXED BROADCASTING 5.113	**MIL/GOV/CIV**		SRD
5060 – 5250 kHz FIXED Mobile except aeronautical mobile 5.133	**5060 – 5250 kHz** FIXED Mobile except aeronautical mobile	**MIL/GOV/CIV**		
5 250-5 275 kHz FIXED MOBILE except aeronautical mobile Radiolocation 5.132A 5.133A	**5 250-5 275 kHz** FIXED MOBILE except aeronautical mobile Radiolocation 5.132A 5.133A	**MIL/GOV/CIV**		SRD
5 275 – 5 450 kHz FIXED MOBILE except aeronautical mobile	**5 250 – 5 450 kHz** FIXED MOBILE except aeronautical mobile	**MIL/GOV/CIV**		
5450 – 5480 kHz FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**5450 – 5480 kHz** FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**MIL/GOV/CIV**	**AP 26**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5480 – 5680 kHz AERONAUTICAL MOBILE (R) 5.111 5.115	**5480 – 5680 kHz** AERONAUTICAL MOBILE (R) 5.111 5.115	**GOV**	**AP 27**	
5680 – 5730 kHz AERONAUTICAL MOBILE (OR) 5.111 5.115	**5680 – 5730 kHz** AERONAUTICAL MOBILE (OR) 5.111 5.115	**MIL**	**AP 26** **LBY 01** (5680 kHz)	
5730 – 5900 kHz FIXED LAND MOBILE	**5730 – 5900 kHz** FIXED LAND MOBILE	**MIL/GOV/CIV**		SRD
5900 – 5950 kHz BROADCASTING 5.134 5.136	**5900 – 5950 kHz** BROADCASTING 5.134 5.136	**GOV**		
5950 – 6200 kHz BROADCASTING	**5950 – 6200 kHz** BROADCASTING	**GOV**		
6200 – 6525 kHz MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	**6200 – 6525 kHz** MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137	**GOV**	**AP 25** **LBY 01** (6268, 6312 & 6314 kHz)	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
6525 – 6685 kHz AERONAUTICAL MOBILE (R)	**6525 – 6685 kHz** AERONAUTICAL MOBILE (R)	**GOV**	**AP 27**	
6685 – 6765 kHz AERONAUTICAL MOBILE (OR)	**6685 – 6765 kHz** AERONAUTICAL MOBILE (OR)	**MIL**	**AP 26**	
6765 – 7000 kHz FIXED MOBILE except aeronautical mobile(R) 5.138	**6765 – 7000 kHz** FIXED MOBILE except aeronautical mobile(R) 5.138	**MIL/GOV/CIV**	**LBY 02** ISM (6765 - 6795 kHz)	SRD
7000 – 7100 kHz AMATEUR AMATEUR-SATELLITE 5.140 **5.141** 5.141A	**7000 – 7050 kHz** FIXED 5.140	**MIL/GOV/CIV**	**LBY 05**	
	7050 – 7100 kHz AMATEUR AMATEUR-SATELLITE 5.140	**CIV**		
7100 – 7200 kHz AMATEUR 5.141A **5.141B**	**7100 – 7200 kHz** AMATEUR FIXED MOBILE except aeronautical mobile (R)	**CIV**	**LBY 04**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
7200 – 7300 kHz BROADCASTING	**7200 – 7300 kHz** BROADCASTING	**GOV**		
7300 – 7400 kHz BROADCASTING 5.134 5.143 5.143A 5.143B **5.143C** 5.143D	**7300 – 7350 kHz** BROADCASTING 5.134 5.143 5.143B	**GOV**		
	7350 – 7400 kHz BROADCASTING 5.134 FIXED 5.143 5.143B	**MIL/GOV/CIV**		
7400 – 7450 kHz BROADCASTING 5.143B **5.143C**	**7400 – 7450 kHz** BROADCASTING FIXED 5.143B	**MIL/GOV/CIV**	**LBY 02**	SRD
7450 – 8100 kHz FIXED MOBILE except aeronautical (R) 5.144	**7450 – 8100 kHz** FIXED MOBILE except aeronautical (R)	**MIL/GOV/CIV**	**LBY 02**	
8100 – 8195 kHz FIXED MARITIME MOBILE	**8100 – 8195 kHz** FIXED MARITIME MOBILE	**MIL/GOV/CIV**	**LBY 02**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
8195 – 8815 kHz MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	**8195 – 8815 kHz** MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111	**GOV**	**AP 25** **LBY 01** (8291, 8364, 8376.5, 8414.5 & 8416.5 kHz) **LBY 02**	SRD
8815 – 8965 kHz AERONAUTICAL MOBILE (R)	**8815 – 8965 kHz** AERONAUTICAL MOBILE (R)	**GOV**	**AP 27**	
8965 – 9040 kHz AERONAUTICAL MOBILE (OR)	**8965 – 9040 kHz** AERONAUTICAL MOBILE (OR)	**MIL**	**AP 26**	
9 040 – 9 305 kHz FIXED	**9 040 – 9 305 kHz** FIXED	**MIL/GOV/CIV**		
9 305-9 355 kHz FIXED Radiolocation 5.145A 5.145B	**9 305-9 355 kHz** FIXED Radiolocation 5.145A 5.145B	**MIL/GOV/CIV**		SRD
9 355 – 9400 kHz FIXED	**9 355 – 9 400 kHz** FIXED	**MIL/GOV/CIV**		
9400 – 9500 kHz BROADCASTING 5.134 5.146	**9400 – 9500 kHz** BROADCASTING 5.134 5.146	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
9500 – 9900 kHz BROADCASTING 5.147	**9500 – 9900 kHz** BROADCASTING 5.147	**GOV**		SRD
9900 – 9995 kHz FIXED	**9900 – 9995 kHz** FIXED	**MIL/GOV/CIV**		
9995 – 10003 kHz STANDARD FREQUENCY & TIME SIGNAL (10000 kHz) 5.111	**9995 – 10003 kHz** STANDARD FREQUENCY & TIME SIGNAL (10000 kHz) 5.111	**GOV**		
10003 – 10005 kHz STANDARD FREQUENCY & TIME SIGNAL Space research 5.111	**10003 – 10005 kHz** STANDARD FREQUENCY & TIME SIGNAL Space research 5.111	**GOV**	**LBY 01** (10003 kHz)	
10005 – 10100 kHz AERONAUTICAL MOBILE (R) 5.111	**10005 – 10100 kHz** AERONAUTICAL MOBILE (R) 5.111	**GOV**	**AP 27**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
10100 – 10150 kHz FIXED Amateur	**10100 – 10150 kHz** FIXED Amateur	**MIL/GOV/CIV**		SRD
10150 – 11 175 kHz FIXED Mobile except aeronautical mobile (R)	**10150 – 11 175 kHz** FIXED Mobile except aeronautical mobile (R)	**MIL/GOV/CIV**		
11175 – 11275 kHz AERONAUTICAL MOBILE (OR)	**11175 – 11275 kHz** AERONAUTICAL MOBILE (OR)	**MIL**	**AP 26**	
11275 – 11400 kHz AERONAUTICAL MOBILE (R)	**11275 – 11400 kHz** AERONAUTICAL MOBILE (R)	**GOV**	**AP 27**	
11400 – 11600 kHz FIXED	**11400 – 11600 kHz** FIXED	**MIL/GOV/CIV**		SRD
11600 – 11650 kHz BROADCASTING 5.134 5.146	**11600 – 11650 kHz** BROADCASTING 5.134 5.146	**GOV**		
11650 – 12050 kHz BROADCASTING 5.147	**11650 – 12050 kHz** BROADCASTING 5.147	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
12050 – 12100 kHz BROADCASTING 5.134 5.146	**12050 – 12100 kHz** BROADCASTING 5.134 5.146	**GOV**		SRD
12100 – 12230 kHz FIXED	**12100 – 12230 kHz** FIXED	**MIL/GOV/CIV**		
12230 – 13200 kHz MARITIME MOBILE 5.109 5.110 5.132 5.145	**12230 – 13200 kHz** MARITIME MOBILE 5.109 5.110 5.132 5.145	**GOV**	**AP 25** **LBY 01** (12290, 12520, 12577 & 12579 kHz)	
13200 – 13260 kHz AERONAUTICAL MOBILE (OR)	**13200 – 13260 kHz** AERONAUTICAL MOBILE (OR)	**MIL**	**AP 26**	
13260 – 13360 kHz AERONAUTICAL MOBILE (R)	**13260 – 13360 kHz** AERONAUTICAL MOBILE (R)	**GOV**	**AP 27**	
13360 – 13410 kHz FIXED RADIO ASTRONOMY 5.149	**13360 – 13410 kHz** FIXED RADIO ASTRONOMY 5.149	**MIL/GOV/CIV**		SRD

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
13 410 – 13 450 kHz FIXED Mobile except aeronautical mobile (R)	**13 410 – 13 450 kHz** FIXED Mobile except aeronautical mobile (R)	**MIL/GOV/CIV**		
13 450-13 550 kHz FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A 5.149A	**13 450-13 550 kHz** FIXED Mobile except aeronautical mobile (R) Radiolocation 5.132A 5.149A	**MIL/GOV/CIV**		
13 550 – 13 570 kHz FIXED Mobile except aeronautical mobile (R) 5.150	**13 550 – 13 570 kHz** FIXED Mobile except aeronautical mobile (R) 5.150	**GOV/MIL/CIV**	Shared use without Coordinator **LBY 02** ISM (13553 - 13567 kHz)	SRD (13 560 kHz Near Field Communications/NFC)
13570 – 13600 kHz BROADCASTING 5.134 5.151	**13570 – 13600 kHz** BROADCASTING 5.134 5.151	**GOV**		
13600 – 13800 kHz BROADCASTING	**13600 – 13800 kHz** BROADCASTING	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
13800 – 13870 kHz BROADCASTING 5.134 5.151	**13800 – 13870 kHz** BROADCASTING5 134 5.151	**GOV**		
13870 – 14000 kHz FIXED Mobile except aeronautical mobile (R)	**13870 – 14000 kHz** FIXED Mobile except aeronautical mobile (R)	**MIL/GOV/CIV**		
14000 – 14250 kHz AMATEUR AMATEUR-SATELLITE	**14000 – 14250 kHz** AMATEUR AMATEUR-SATELLITE	**CIV**		
14250 – 14350 kHz AMATEUR 5.152	**14250 – 14350 kHz** AMATEUR	**CIV**		SRD
14350 – 14990 kHz FIXED Mobile except aeronautical mobile (R)	**14350 – 14990 kHz** FIXED Mobile except aeronautical mobile (R)	**MIL/GOV/CIV**		
14990 – 15005 kHz STANDARD FREQUENCY & TIME SIGNAL (15000 kHz) 5.111	**14990 – 15005 kHz** STANDARD FREQUENCY & TIME SIGNAL (15000 kHz) 5.111	**GOV**	**LBY 01** (14993 kHz)	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
15005 – 15010 kHz STANDARD FREQUENCY & TIME SIGNAL Space research	**15005 – 15010 kHz** STANDARD FREQUENCY & TIME SIGNAL Space research	**GOV**		
15010 – 15100 kHz AERONAUTICAL MOBILE (OR)	**15010 – 15100 kHz** AERONAUTICAL MOBILE (OR)	**MIL**	**AP 26**	
15100 – 15600 kHz BROADCASTING	**15100 – 15600 kHz** BROADCASTING	**GOV**		
15600 – 15800 kHz BROADCASTING 5.134 5.146	**15600 – 15800 kHz** BROADCASTING5 134 5.146	**GOV**		SRD
15 800 – 16 100 kHz FIXED 5.153	**15 800 – 16 100 kHz** FIXED 5.153	**MIL/GOV/CIV**		
16 100-16 200 kHz FIXED Radiolocation 5.145A 5.145B	**16 100-16 200 kHz** FIXED Radiolocation 5.145A 5.145B	**MIL/GOV/CIV**		
16 200 – 16 360 kHz FIXED	**16 200 – 16360 kHz** FIXED	**MIL/GOV/CIV**		SRD

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
16360 – 17410 kHz MARITIME MOBILE 5.109 5.110 5.132 5.145	**16360 – 17410 kHz** MARITIME MOBILE 5.109 5.110 5.132 5.145	**GOV**	**AP 25** **LBY 01** (16420, 16695, 16804.5 & 16806.5 kHz)	
17410 – 17480 kHz FIXED	**17410 – 17480 kHz** FIXED	**MIL/GOV/CIV**		
17480 – 17550 kHz BROADCASTING 5.134 5.146	**17480 – 17550 kHz** BROADCASTING 5.134 5.146	**GOV**		SRD
17550 – 17900 kHz BROADCASTING	**17550 – 17900 kHz** BROADCASTING	**GOV**		
17900 – 17970 kHz AERONAUTICAL MOBILE (R)	**17900 – 17970 kHz** AERONAUTICAL MOBILE (R)	**GOV**	**AP 27**	
17970 – 18030 kHz AERONAUTICAL MOBILE (OR)	**17970 – 18030 kHz** AERONAUTICAL MOBILE (OR)	**MIL**	**AP 26**	
18030 – 18052 kHz FIXED	**18030 – 18052 kHz** FIXED	**MIL/GOV/CIV**		
18052 – 18068 kHz FIXED Space research	**18052 – 18068 kHz** FIXED Space research	**MIL/GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
18068 – 18168 kHz AMATEUR AMATEUR-SATELLITE 5.154	**18068 – 18168 kHz** AMATEUR AMATEUR-SATELLITE	**CIV**		SRD
18168 – 18780 kHz FIXED Mobile except aeronautical mobile	**18168 – 18780 kHz** FIXED Mobile except aeronautical mobile	**MIL/GOV/CIV**		
18780 – 18900 kHz MARITIME MOBILE	**18780 – 18900 kHz** MARITIME MOBILE	**GOV**	**AP 25**	
18900 – 19020 kHz BROADCASTING 5.134 5.146	**18900 – 19020 kHz** BROADCASTING 5.134 5.146	**GOV**		
19020 – 19680 kHz FIXED	**19020 – 19680 kHz** FIXED	**MIL/GOV/CIV**		SRD
19680 – 19800 kHz MARITIME MOBILE 5.132	**19680 – 19800 kHz** MARITIME MOBILE 5.132	**GOV**	**AP 25** **LBY 01** (19680.5 kHz)	
19800 – 19990 kHz FIXED	**19800 – 19990 kHz** FIXED	**MIL/GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
19990 – 19995 kHz STANDARD FREQUENCY & TIME SIGNAL Space research 5.111	**19990 – 19995 kHz** STANDARD FREQUENCY & TIME SIGNAL Space research 5.111	**GOV**	**LBY 01** (19993 kHz)	
19995 – 20010 kHz STANDARD FREQUENCY & TIME SIGNAL (20000 kHz) 5.111	**19995 – 20010 kHz** STANDARD FREQUENCY & TIME SIGNAL (20000 kHz) 5.111	**GOV**		
20010 – 21000 kHz FIXED Mobile	**20010 – 21000 kHz** FIXED Mobile	**MIL/GOV/CIV**		SRD
21000 – 21450 kHz AMATEUR AMATEUR-SATELLITE	**21000 – 21450 kHz** AMATEUR AMATEUR-SATELLITE	**CIV**		
21450 – 21850 kHz BROADCASTING	**21450 – 21850 kHz** BROADCASTING	**GOV**		
21850 – 21870 kHz FIXED 5.155A 5.155	**21850 – 21870 kHz** FIXED	**MIL**		SRD
21870 – 21924 kHz FIXED 5.155B	**21870 – 21924 kHz** FIXED 5.155B	**MIL**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
21924 – 22000 kHz AERONAUTICAL MOBILE (R)	**21924 – 22000 kHz** AERONAUTICAL MOBILE (R)	**GOV**	**AP 27**	
22000 – 22855 kHz MARITIME MOBILE 5.132 5.156	**22000 – 22855 kHz** MARITIME MOBILE 5.132	**GOV**	**AP 25** **LBY 01** (22376 kHz)	
22855 – 23000 kHz FIXED 5.156	**22855 – 23000 kHz** FIXED	**GOV/CIV**		SRD
23000 – 23200 kHz FIXED Mobile except aeronautical mobile (R) 5.156	**23000 – 23200 kHz** **F**IXED Mobile except aeronautical mobile (R)	**MIL**		
23200 – 23350 kHz FIXED 5.156A AERONAUTICAL MOBILE (OR)	**23200 – 23350 kHz** FIXED 5.156A AERONAUTICAL MOBILE (OR)	**MIL**	**AP 26**	
23350 – 24000 kHz FIXED MOBILE except aeronautical mobile 5.157	**23350 – 24000 kHz** FIXED MOBILE except aeronautical mobile 5.157	**MIL**		SRD
24 000 – 24 450 kHz FIXED LAND MOBILE	**24 000 – 24 450 kHz** FIXED LAND MOBILE	**MIL/GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
24 450 – 24 600 kHz FIXED LAND MOBILE Radiolocation 5.132A 5.158	**24 450 – 24 600 kHz** FIXED LAND MOBILE Radiolocation 5.132A 5.158	**MIL/GOV/CIV**		SRD
24 600 – 24 890 kHz FIXED LAND MOBILE	**24 600 – 24 890 kHz** FIXED LAND MOBILE	**MIL/GOV/CIV**		
24890 – 24990 kHz AMATEUR AMATEUR-SATELLITE	**24890 – 24990 kHz** AMATEUR AMATEUR-SATELLITE	**CIV**		
24990 – 25005 kHz STANDARD FREQUENCY & TIME SIGNAL (25000 kHz)	**24990 – 25005 kHz** STANDARD FREQUENCY & TIME SIGNAL (25000 kHz)	**GOV**		
25005 – 25010 kHz STANDARD FREQUENCY & TIME SIGNAL Space research	**25005 – 25010 kHz** STANDARD FREQUENCY & TIME SIGNAL Space research	**GOV**		
25010 – 25070 kHz FIXED MOBILE except aeronautical mobile	**25010 – 25070 kHz** FIXED MOBILE except aeronautical mobile	**MIL/GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
25070 – 25210 kHz MARITIME MOBILE	**25070 – 25210 kHz** MARITIME MOBILE	**GOV**	**AP 25**	
25210 – 25550 kHz FIXED MOBILE except aeronautical mobile	**25210 – 25550 kHz** FIXED MOBILE except aeronautical mobile	**MIL/GOV/CIV**		SRD
25550 – 25670 kHz RADIO ASTRONOMY 5.149	**25550 – 25670 kHz** RADIO ASTRONOMY 5.149	**GOV**		
25670 – 26100 kHz BROADCASTING	**25670 – 26100 kHz** BROADCASTING	**GOV**		
26100 – 26175 kHz MARITIME MOBILE 5.132	**26100 – 26175 kHz** MARITIME MOBILE 5.132	**GOV**	**AP 25** **LBY 01** (26100.5 kHz)	
26 175 – 26 200 kHz FIXED MOBILE except aeronautical mobile	**26 175 – 26 200 kHz** FIXED MOBILE except aeronautical mobile	**MIL/GOV/CIV**		SRD
26 200 - 26 350 kHz FIXED MOBILE except aeronautical mobile Radiolocation 5.132A 5.133A	**26 200-26 350 kHz** FIXED MOBILE except aeronautical mobile Radiolocation 5.132A 5.133A	**MIL/GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
26 350 – 27 500 kHz FIXED MOBILE except aeronautical mobile 5.150	**26 350 – 27 500 kHz** FIXED MOBILE except aeronautical mobile 5.150	**MIL/GOV/CIV**	**LBY 02** CB (26960 – 27410 kHz) ISM (26957 - 27283 kHz)	SRD
27.5 – 28 MHz METEOROLOGICAL AIDS FIXED MOBILE	**27.5 – 28 MHz** METEOROLOGICAL AIDS FIXED MOBILE	**MIL/GOV/CIV**		
28 – 29.7 MHz AMATEUR AMATEUR-SATELLITE	**28 – 29.7 MHz** AMATEUR AMATEUR-SATELLITE	**CIV**		
29.7 – 30.005 MHz FIXED MOBILE	**29.7 – 30.005 MHz** FIXED MOBILE	**MIL/GOV/CIV**	**LBY 02**	
30.005 – 30.01 MHz SPACE OPERATION (satellite identification) FIXED MOBILE SPACE RESEARCH	**30.005 – 30.01 MHz** FIXED MOBILE SPACE OPERATION (satellite identification) SPACE RESEARCH	**GOV**	**LBY 02** **LBY 06:** New Fixed Links not allowed	SRD

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
30.01 – 37.5 MHz FIXED MOBILE	**30.01 – 32.45 MHz** FIXED MOBILE	**MIL**	**LBY 02** **LBY 06:** New Fixed Links not allowed	
	32.45 – 34.995 MHz FIXED MOBILE	**CIV**	**LBY 02** **LBY 06:** New Fixed Links not allowed PMR	
	34.995 – 35.225 MHz FIXED MOBILE	**GOV**	**LBY 02** **LBY 06** Model Aircraft control	
	35.225 – 37.5 MHz FIXED MOBILE	**CIV**	**LBY 02** **LBY 06** PMR	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
37.5 – 38.25 MHz FIXED MOBILE Radio astronomy 5.149	**37.5 – 38.25 MHz** FIXED MOBILE Radio astronomy 5.149	**MIL/GOV**	**LBY 02** **LBY 06** Radio Microphones	**SRD**
38.25 – 39 MHz FIXED MOBILE	**38.25 – 39 MHz** FIXED MOBILE	**MIL/GOV**		**SRD**
39-39.5 MHz FIXED MOBILE Radiolocation 5.132A 5.159	**39-39.5 MHz** FIXED MOBILE Radiolocation 5.132A 5.159	**MIL/GOV**		
39.5 – 39.986 MHz FIXED MOBILE	**39.5 – 39.986 MHz** FIXED MOBILE	**MIL/GOV**	**LBY 02**	
39.986 – 40.02 MHz FIXED MOBILE Space research	**39.986 – 40.02 MHz** FIXED MOBILE Space research	**MIL/GOV**	**LBY 02**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
40.02 – 40.98 MHz FIXED MOBILE 5.150	**40.02 – 40.98 MHz** FIXED MOBILE 5.150	**MIL/GOV**	**LBY 02** **LBY 06** Radio Microphones ISM (40.66 – 40.70 MHz)	**SRD**
40.98 – 41.015 MHz FIXED MOBILE Space research 5.160 5.161	**40.98 – 41.015 MHz** FIXED MOBILE Space research	**MIL/GOV/CIV**	**LBY 02** **LBY 06** Radio Microphones	**SRD**
41.015 – 42 MHz FIXED MOBILE 5.160 5.161 5.161A	**41.015 – 42 MHz** FIXED MOBILE 5.160 5.161	**MIL/GOV/CIV**		
42-42.5 MHz FIXED MOBILE Radiolocation 5.132A 5.160 5.161B	**42-42.5 MHz** FIXED MOBILE Radiolocation 5.132A 5.160 5.161B	**MIL/GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
42.5 – 44 MHz FIXED MOBILE 5.160 5.161 5.161A	**42.5 – 44 MHz** FIXED MOBILE 5.160 5.161 5.161A	**MIL/GOV/CIV**	**LBY 02** **LBY 06** Radio Microphones	
44 – 47 MHz FIXED MOBILE 5.162 5.162A	**44 – 47 MHz** FIXED MOBILE 5.162A	**MIL/GOV/CIV**	**LBY 02** **LBY 06** Radio Microphones	
47 – 68 MHz BROADCASTING 5.162A 5.163 **5.164** 5.165 5.169 5.171	**47 – 68 MHz** BROADCASTING LAND MOBILE 5.162A 5.165	**GOV/CIV**	**LBY 02** **LBY 07**	**SRD**

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
68 – 74.8 MHz FIXED MOBILE except aeronautical mobile 5.149 5.175 5.177 5.179	**68 – 74.8 MHz** FIXED MOBILE except aeronautical mobile 5.149	**MIL/GOV/CIV**	**LBY 02** **LBY 03** **LBY 06**	**SRD**
74.8 – 75.2 MHz AERONAUTICAL RADIONAVIGATION 5.180 5.181	**74.8 – 75.2 MHz** AERONAUTICAL RADIONAVIGATION 5.180	**MIL/GOV**	**LBY 01** (75 MHz) **LBY 02**	
75.2 – 87.5 MHz FIXED MOBILE except aeronautical mobile 5.175 5.179 5.187	**75.2 – 87.5 MHz** FIXED MOBILE except aeronautical mobile	**MIL/GOV/CIV**	**LBY 06**	**SRD**
87.5 – 100 MHz BROADCASTING 5.190	**87.5 – 100 MHz** BROADCASTING	**GOV/CIV**	**GE 84**	
100 – 108 MHz BROADCASTING 5.192 5.194	**100 – 108 MHz** BROADCASTING	**GOV/CIV**	**GE 84**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
108 – 117.975 MHz AERONAUTICAL RADIONAVIGATION 5.197 5.197A	**108 – 117.975 MHz** AERONAUTICAL RADIONAVIGATION 5.197A	**MIL/GOV**		Planned for additional use for the transmission of radionavigation satellite differential correction signals by ground-based systems.
117.975 – 137 MHz AERONAUTICAL MOBILE (R) 5.111 5.200 5.201 5.202	**117.975 – 137 MHz** AERONAUTICAL MOBILE (R) 5.111 5.200	**GOV**	**LBY 02** **LBY 01** (121.5 & 123.1 MHz)	Expected stable use in these frequency bands

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
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) Fixed Mobile except aeronautical mobile (R) 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) Fixed Mobile except aeronautical mobile (R) 5.206 5.208	**MIL/GOV/CIV**		UWB Applications
137.025 – 137.175 MHz SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed 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	**137.025 – 137.175 MHz** SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209 Mobile except aeronautical mobile (R) 5.206 5.208	**MIL/GOV/CIV**		Expected stable use in these frequency bands

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
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) 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) Fixed Mobile except aeronautical mobile (R) 5.206 5.208	**MIL/GOV/CIV**		UWB Applications
137.825 – 138 MHz SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed 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	**137.825 – 138 MHz** SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.209 Mobile except aeronautical mobile (R) 5.206 5.208	**MIL/GOV/CIV**		Expected stable use in these frequency bands

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
138 – 143.6 MHz AERONAUTICAL MOBILE (OR) 5.210 5.211 **5.212** 5.214	**138 – 143.6 MHz** AERONAUTICAL MOBILE (OR) FIXED MOBILE 5.210 5.211 5.214	**MIL**		UWB Applications
143.6 – 143.65 MHz AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth) 5.211 **5.212** 5.214	**143.6 – 143.65 MHz** AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth) FIXED MOBILE 5.211 5.214	**MIL/GOV**		
143.65 – 144 MHz AERONAUTICAL MOBILE (OR) 5.210 5.211 **5.212** 5.214	**143.65 – 144 MHz** AERONAUTICAL MOBILE (OR) FIXED MOBILE 5.210 5.211 5.214	**MIL**		Expected stable use in these frequency bands

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
144 – 146 MHz AMATEUR AMATEUR-SATELLITE 5.216	**144 – 146 MHz** AMATEUR AMATEUR-SATELLITE	**CIV**		
146 – 148 MHz FIXED MOBILE except aeronautical mobile (R)	**146 – 148 MHz** FIXED MOBILE except aeronautical mobile (R)	**GOV/CIV**	**LBY 06**	UWB Applications
148 – 149.9 MHz FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219 **5.221**	**148 – 149.9 MHz** FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 5.218 5.219	**GOV/CIV**	**LBY 06** **LBY 08**	
149.9 – 150.05 MHz 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	**GOV**		Expected stable use in these frequency bands UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
150.05 – 153 MHz FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	**150.05 – 153 MHz** FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	**GOV/CIV**	**LBY 03** **LBY 06**	Expected stable use in these frequency bands
153 – 154 MHz FIXED MOBILE except aeronautical mobile (R) Meteorological Aids	**153 – 154 MHz** FIXED MOBILE except aeronautical mobile (R) Meteorological Aids	**GOV/CIV**	**LBY 06**	
154 – 156.4875 MHz FIXED MOBILE except aeronautical mobile (R) 5.225A 5.226	**154 – 156.4875 MHz** FIXED MOBILE except aeronautical mobile (R) 5.225A 5.226	**MIL/GOV/CIV**	**LBY 06**	UWB Applications
156.4875 – 156.5625 MHz MARITIME MOBILE (distress & calling via DSC) 5.111 5.226 5.227	**156.4875 – 156.5625 MHz** MARITIME MOBILE (distress & calling via DSC) 5.111 5.226 5.227	**GOV**	LBY 01 (156.525 MHz)	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
156.5625 – 156.7625 MHz FIXED MOBILE except aeronautical mobile (R) 5.226	**156.5625 – 156.7625 MHz** FIXED MOBILE except aeronautical mobile (R) 5.226	**MIL**		UWB Applications
156.7625-156.7875 MHz MARITIME MOBILE Mobile-satellite (Earth-to-space) 5.111 5.226 5.228	**156.7625-156.7875 MHz** MARITIME MOBILE Mobile-satellite (Earth-to-space) 5.111 5.226 5.228	**GOV**		UWB Applications
156.7875 – 156.8125 MHz MARITIME MOBILE (distress and calling) 5.111 5.226	**156.7875 – 156.8125 MHz** MARITIME MOBILE (distress and calling) 5.111 5.226	**GOV**		
156.8125 – 156.8375 MHz MARITIME MOBILE Mobile-satellite (Earth-to-space) 5.111 5.226 5.228	**156.8125 – 156.8375 MHz** MARITIME MOBILE Mobile-satellite (Earth-to-space) 5.111 5.226 5.228	**GOV**	**LBY 01** (156.8 MHz)	Expected stable use in these frequency bands UWB Applications
156.8375 – 161.9625 MHz FIXED MOBILE except aeronautical mobile 5.226	**156.8375 – 161.9625 MHz** FIXED MOBILE except aeronautical mobile 5.226	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
161.9625-161.9875 MHz FIXED MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.228F 5.226 5.228A 5.228B	**161.9625-161.9875 MHz** FIXED MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.228F 5.226 5.228A 5.228B	**MIL/GOV**		Expected stable use in these frequency bands
161.9875-162.0125 MHz FIXED MOBILE except aeronautical Mobile 5.226 5.229	**161.9875-162.0125 MHz** FIXED MOBILE except aeronautical Mobile 5.226 5.229	**MIL/GOV**		
162.0125-162.0375 MHz FIXED MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.228F 5.226 5.228A 5.228B 5.229	**162.0125-162.0375 MHz** FIXED MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.228F 5.226 5.228A 5.228B 5.229	**MIL/GOV**		UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
162.0375 – 174 MHz FIXED MOBILE except aeronautical mobile 5.226 5.229	**162.0375 MHz – 174 MHz** FIXED MOBILE except aeronautical mobile 5.226 5.229	**MIL/GOV/CIV**	**LBY 02** **LBY 06:** New Fixed Links not allowed Radio Microphones (169.4 – 174 MHz)	UWB Applications Band 174 – 223 MHz In Europe twofold strategy: **1st priority:** introduction of digital terrestrial sound broadcasting and mobile multimedia services based on
174 – 223 MHz BROADCASTING 5.235 **5.237** 5.243	**174 – 223 MHz** BROADCASTING Fixed Mobile 5.235	**GOV/MIL/CIV**	**GE 06** **LBY 02** Radio Microphones	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
223 – 230 MHz BROADCASTING Fixed Mobile 5.243 5.246 5.247	**223 – 230 MHz** BROADCASTING Fixed Mobile	**GOV/MIL/CIV**	**GE 06** Radio Microphones (176.0 – 216.0 MHz)	systems like T-DAB, T-DAB+ or DMB. **2nd priority:** digital terrestrial television broadcasting based on the DVB-T standard. UWB Applications
230 – 235 MHz FIXED MOBILE 5.247 5.251 5.252	**230 – 235 MHz** FIXED MOBILE	**MIL**		Expected stable use in these frequency bands
235 – 267 MHz FIXED MOBILE 5.111 5.252 5.254 5.256 5.256A	**235 – 267 MHz** FIXED MOBILE 5.111 5.254 5.256	**MIL/GOV/CIV**	**LBY 01** (243 MHz) **LBY 06:** New Fixed Links not allowed	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
267 – 272 MHz FIXED MOBILE Space operation (space-to-Earth) 5.254 5.257	**267 – 272 MHz** FIXED MOBILE Space operation (space-to-Earth) 5.254 5.257	**MIL/GOV/CIV**	**LBY 06:** New Fixed Links not allowed	UWB Applications
272 – 273 MHz SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	**272 – 273 MHz** SPACE OPERATION (space-to-Earth) FIXED MOBILE 5.254	**GOV**	**LBY 06:** New Fixed Links not allowed	Expected stable use in these frequency bands
273 – 312 MHz FIXED MOBILE 5.254	**273 – 312 MHz** FIXED MOBILE 5.254	**MIL/GOV/CIV**	**LBY 06:** New Fixed Links not allowed	
312 – 315 MHz FIXED MOBILE Mobile-satellite (Earth-to-space) 5.254 5.255	**312 – 315 MHz** FIXED MOBILE Mobile-satellite (Earth-to-space) 5.254 5.255	**GOV/CIV**	**LBY 06:** New Fixed Links not allowed	UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
315 – 322 MHz FIXED MOBILE 5.254	**315 – 322 MHz** FIXED MOBILE 5.254	**MIL**		
322 – 328.6 MHz FIXED MOBILE RADIO ASTRONOMY 5.149	**322 – 328.6 MHz** FIXED MOBILE RADIO ASTRONOMY 5.149	**GOV/CIV**	**LBY 03** **LBY 06**	Expected stable use in these frequency bands
328.6 – 335.4 MHz AERONAUTICAL RADIONAVIGATION 5.258 5.259	**328.6 – 335.4 MHz** AERONAUTICAL RADIONAVIGATION 5.258 5.259	**MIL/GOV**		UWB Applications
335.4 – 387 MHz FIXED MOBILE	**335.4 – 380 MHz** FIXED MOBILE 5.254	**MIL/GOV/CIV**	**LBY 06:** New Fixed Links not allowed	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5.254	**380.0 – 387 MHz** FIXED MOBILE 5.254	**GOV**	**LBY 06** TETRA Security Services	
387 – 390 MHz FIXED MOBILE Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.254 5.255	**387 – 390 MHz** FIXED MOBILE Mobile-satellite (space-to-Earth) 5.208A 5.208B 5.254 5.255	**GOV**	**LBY 06** TETRA Security Services	
390 – 399.9 MHz FIXED MOBILE 5.254	**390 – 399.9 MHz** FIXED MOBILE 5.254	**GOV**	**LBY 06** TETRA Security Services	
399.9 – 400.05 MHz 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	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
400.05 – 400.15 MHz STANDARD FREQUENCY & TIME SIGNAL-SATELLITE (400.1 MHz) 5.261 5.262	**400.05 – 400.15 MHz** STANDARD FREQUENCY & TIME SIGNAL-SATELLITE (400.1 MHz) 5.261 5.262	**GOV**		
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 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 Space operation (space-to-Earth) 5.262 5.264	**GOV**		Expected stable use in these frequency bands

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
401 – 402 MHz METEOROLGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	**401 – 402 MHz** METEOROLGICAL AIDS SPACE OPERATION (space-to-Earth) EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	**GOV**		UWB Applications
402 – 403 MHz METEOROLGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	**402 – 403 MHz** METEOROLGICAL AIDS EARTH EXPLORATION-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	**GOV**		Expected stable use in these frequency bands
403 – 406 MHz METEOROLIGAL AIDS Fixed Mobile except aeronautical mobile	**403 – 406 MHz** METEOROLIGAL AIDS Fixed Mobile except aeronautical mobile	**GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
406 – 406.1 MHz MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	**406 – 406.1 MHz** MOBILE-SATELLITE (Earth-to-space) 5.266 5.267	**GOV**	**LBY 01** (406-406.1 MHz)	UWB Applications
406.1 – 410 MHz FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	**406.1 – 410 MHz** FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	**GOV/CIV**	PMR **LBY 03** **LBY 06:** New Fixed Links not allowed	
410 – 420 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 5.268	**410 – 420 MHz** FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 5.268	**GOV/CIV**	PMR **LBY 06**	Expected stable use in these frequency bands
420 – 430 MHz FIXED MOBILE except aeronautical mobile	**420 – 425 MHz** FIXED MOBILE except aeronautical mobile Radiolocation	**MIL/GOV/CIV**	PMR **LBY 06**	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
Radiolocation 5.269 5.270 5.271	**425 – 430 MHz** FIXED MOBILE except aeronautical mobile Radiolocation	**CIV**	PAMR **LBY 06**	
430 – 432 MHz AMATEUR RADIOLOCATION .5.271 5.274 **5.275** **5.276** 5.277	**430 – 432 MHz** AMATEUR RADIOLOCATION FIXED MOBILE except aeronautical mobile Radiolocation 5.277	**CIV**	**LBY 06**	UWB Applications
432 – 438 MHz 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 – 435 MHz** AMATEUR RADIOLOCATION FIXED MOBILE except aeronautical mobile Earth exploration-satellite (active) 5.279A 5.138 5.277	**CIV**	**LBY 02** **LBY 06** ISM (433,05 - 434,79 MHz)	Expected stable use in these frequency bands

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
	435 – 438 MHz AMATEUR RADIOLOCATION Earth exploration-satellite (active) 5.279A FIXED 5.138 5.277	**CIV**	PAMR **LBY 06:** New Fixed Links not allowed	UWB Applications
438 – 440 MHz AMATEUR RADIOLOCATION 5.271 5.273 5.274 **5.275** **5.276** 5.277 5.283	**438 – 440 MHz** AMATEUR RADIOLOCATION FIXED MOBILE except aeronautical mobile 5.277	**CIV**	**LBY 06** PAMR	
440 – 450 MHz 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 Radiolocation 5.286	**GOV/CIV**	**LBY 06** PCS (PMR 446) (446.0 - 446.1 MHz & 446.1 – 446.2 MHz)	Expected stable use in these frequency bands

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
450 – 455 MHz FIXED MOBILE 5.286AA 5.209 5.271 5.286 5.286A 5.286B 5.286C 5.286D 5.286E	**450 – 455 MHz** FIXED MOBILE 5.286AA 5.209 5.286 5.286A	**GOV/CIV**	**LBY 06** PMR IMT (450-470 MHz)	
455 – 456 MHz FIXED MOBILE 5.286AA 5.209 5.271 5.286A 5.286B 5.286C 5.286E	**455 – 456 MHz** FIXED MOBILE 5.286AA 5.209 5.286A	**CIV**	**LBY 06** PAMR IMT (450-470 MHz)	UWB Applications
456 – 459 MHz FIXED MOBILE 5.286AA 5.271 5.287 5.288	**456 – 459 MHz** FIXED MOBILE 5.286AA 5.287	**CIV**	**LBY 02** **LBY 06** IMT (450-470 MHz) PAMR	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
459 – 460 MHz FIXED MOBILE 5.286AA 5.209 5.271 5.286A 5.286B 5.286C 5.286E	**459 – 460 MHz** FIXED MOBILE 5.286AA 5.209 5.286A	**CIV**	**LBY 06** PAMR IMT (450-470 MHz)	Expected stable use in these frequency bands UWB Applications
460 – 470 MHz FIXED MOBILE 5.286AA Meteorological-Satellite (space-to-Earth)	**460 – 465 MHz** FIXED MOBILE 5.286AA Meteorological-Satellite (space-to-Earth) 5.287 5.289	**GOV/CIV**	**LBY 06:** New Fixed Links not allowed IMT (450-470 MHz) PMR	Expected stable use in these frequency bands UWB

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5.287 5.288 5.289 5.290	**465 – 470 MHz** FIXED MOBILE 5.286AA Meteorological-Satellite (space-to-Earth) 5.287 5.289	**CIV**	**LBY 06:** New Fixed Links not allowed IMT (450-470 MHz) PAMR	Applications 470- 608 MHz Terrestrial digital television broad-casting (DVB-T) or mobile multime-dia services (as DVB-H) according to Geneva Plan 06.
470 – 790 MHz BROADCASTING 5.149 5.291A **5.294** **5.296** **5.300** 5.304 5.306 5.311A 5.312 5.312A	**470 – 582 MHz** BROADCASTING Fixed Land mobile SUP 5.149 5.311A	**GOV/CIV**	**LBY 02** **LBY 10** **GE 06** Radio Microphones	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
	582 – 608 MHz BROADCASTING Fixed Mobile except aeronautical mobile Land mobile 5.149 5.311A	**GOV/CIV**	**GE 06** **LBY 09** Radio Microphones	
	608 – 614 MHz BROADCASTING RADIO ASTRONOMY Fixed Mobile except aeronautical mobile Land mobile 5.149 5.304 5.311A	**GOV/CIV**	**GE 06** **LBY 02** **LBY 03** **LBY 09** Radio Microphones	UWB Applications
	614 – 790 MHz BROADCASTING Fixed Mobile except aeronautical mobile Land mobile 5.149 5.311A	**GOV/CIV**	**GE 06** **LBY 02** **LBY 07** Radio Microphones	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users Categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
790 – 862 MHz FIXED MOBILE except aeronautical mobile 5.316B 5.317A BROADCASTING 5.312 5.314 5.315 **5.316** 5.316A 5.319	**790 – 862 MHz** FIXED MOBILE except aeronautical mobile 5.316B 5.317A BROADCASTING 5.312 5.314 5.315 5.316A 5.319	**GOV/CIV**	**GE 06** **LBY 02** **LBY 06** **LBY 09** Radio Microphones	In Europe, BC until end 2012 Future mobile applications, based on the relevant RR provisions

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
862 – 890 MHz FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING **5.322** 5.319 5.323	**862 – 870 MHz** FIXED MOBILE except aeronautical mobile 5.317A	**MIL/GOV/CIV**	**LBY 02** (863 - 870 MHz) **LBY 06:** New Fixed Links not allowed Radio Microphones (863 – 865 MHz) RFID (865 – 868 MHz) Cordless Phones (862 – 870 MHz)	
	870 – 876 MHz FIXED MOBILE except aeronautical mobile 5.317A	**CIV/GOV**	**LBY 02** (863 - 870 MHz) **LBY 06:** New Fixed Links not allowed Digital PMR-PAMR	Paired with 915-921 MHz

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
	876 – 880 MHz FIXED MOBILE except aeronautical mobile 5.317A	**CIV/GOV**	**LBY 06:** New Fixed Links not allowed	Stable use in next future Paired with 921-925 MHz
	880 – 890 MHz FIXED MOBILE except aeronautical mobile 5.317A	**CIV/GOV**	**LBY 06:** New Fixed Links not allowed	Stable use in next future Paired with 925-935 MHz
890 – 942 MHz FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING **5.322** Radiolocation 5.323	**890 – 915 MHz** FIXED MOBILE except aeronautical mobile 5.317A Radiolocation	**CIV/GOV**	**LBY 06:** New Fixed Links not allowed	Public Mobile Networks (GSM/IMT) Paired with 935-960 MHz
	915 – 921 MHz FIXED MOBILE except aeronautical mobile 5.317A Radiolocation	**MIL/CIV**	**LBY 06:** New Fixed Links not allowed Digital PMR-PAMR	SRD under the condition that the sharing is possible with Mobile Paired with 870-876 MHz

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
	921 – 925 MHz FIXED MOBILE except aeronautical mobile 5.317A Radiolocation	**GOV/CIV**	**LBY 06:** New Fixed Links not allowed GSM-R	Public Mobile Networks (GSM/IMT) Paired with 876-880 MHz
	925 – 935 MHz FIXED MOBILE except aeronautical mobile 5.317A Radiolocation	**GOV/CIV**	**LBY 06:** New Fixed Links not allowed GSM	Public Mobile Networks (GSM/IMT) Paired with 880-890 MHz
	935 – 942 MHz FIXED MOBILE except aeronautical mobile 5.317A Radiolocation	**GOV/CIV**	**LBY 06:** New Fixed Links not allowed GSM	Public Mobile Networks (GSM/IMT) Paired with 890-897 MHz

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
942 – 960 MHz FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING **5.322** 5.323	**942 – 960 MHz** FIXED MOBILE except aeronautical mobile 5.317A	**GOV/CIV**	**LBY 06:** New Fixed Links not allowed GSM	Public Mobile Networks (GSM/IMT) Paired with 897-915 MHz
960 – 1 164 MHz AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328	**960 – 1 164 MHz** AERONAUTICAL MOBILE (R) 5.327A AERONAUTICAL RADIONAVIGATION 5.328	**GOV/MIL**		
1 164 – 1 215 MHz 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	**GOV/MIL**		RNSS GALILEO

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
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	**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) 5.331 5.332	**MIL/GOV**		
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 5.282 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 5.282 5.331 5.332 5.335 5.335A	**MIL/GOV/CIV**		1 260-1 300 MHz RNSS GALILEO

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
1 300 – 1 350 MHz 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	**GOV**		
1 350 – 1 400 MHz FIXED MOBILE RADIOLOCATION 5.149 5.338 5.338A 5.339	**1 350 – 1 400 MHz** FIXED MOBILE RADIOLOCATION 5.149 5.338A 5.339	**MIL/GOV/CIV**		
1 400 – 1 427 MHz 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	**GOV**		No major changes expected in near future UWB applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
1 427 – 1 429 MHz SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.338A 5.341	**1 427 – 1 429 MHz** SPACE OPERATION (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.338A 5.341	**MIL/GOV**		No major changes expected in near future UWB applications
1 429 – 1 452 MHz FIXED MOBILE except aeronautical mobile 5.338A 5.341 5.342	**1 429 – 1 452 MHz** FIXED MOBILE except aeronautical mobile 5.338A 5.341	**MIL/GOV**		
1 452 – 1 492 MHz FIXED MOBILE except aeronautical mobile BROADCASTING 5.345 BROADCASTING-SATELLITE 5.208B 5.345 5.341 5.342	**1 452 – 1 492 MHz** FIXED MOBILE except aeronautical mobile BROADCASTING 5.345 BROADCASTING-SATELLITE 5.208B 5.345 5.341	**GOV/CIV**		TDAB
1 492 – 1 518 MHz FIXED MOBILE except aeronautical mobile 5.341 5.342	**1 492 – 1 518 MHz** FIXED MOBILE except aeronautical mobile 5.341	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
1 518 – 1 525 MHz FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.348B 5.351A 5.341 5.342	**1 518 – 1 525 MHz** FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348 5.348A 5.351A 5.341	**MIL/GOV/CIV**	IMT Satellite Component	
1 525 – 1 530 MHz SPACE OPERATION (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.208B 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 Earth exploration-satellite Mobile except aeronautical mobile 5.349 5.341 5.351 5.352A 5.354	**GOV/CIV**	IMT Satellite Component	MSS development expected

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
1 530 – 1 535 MHz SPACE OPERATION (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208B 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 Earth exploration-satellite Fixed Mobile except aeronautical mobile 5.341 5.351 5.354	**GOV/CIV**	**LBY 01** (1530-1544 MHz) IMT Satellite Component	Priority to GMDSS
1 535 – 1 559 MHz MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A **5.359** 5.362A	**1 535 – 1 550 MHz** MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A	**GOV/CIV**	**LBY 01** (1530-1544 MHz) IMT Satellite Component	Priority to GMDSS
	1 550 – 1 559 MHz MOBILE-SATELLITE (space-to-Earth) 5.208B 5.351A 5.341 5.351 5.353A 5.354 5.355 5.356 5.357 5.357A	**GOV/CIV**	New fixed-service stations to be avoided IMT Satellite Component	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
1 559 – 1 610 MHz AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.208B 5.328B 5.329A 5.341 **5.359** 5.362B 5.362C	**1 559 – 1 610 MHz** AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.208B 5.328B 5.329A 5.341 5.362C	**MIL/GOV/CIV**		Galileo (1559.42-1591.42 MHz) GLONASS (1592.9-1610.5 MHz) GPS (1563.42-1587.42 MHz)
1 610 – 1 610.6 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341 5.355 **5.359** 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 5.355 5.364 5.366 5.367 5.368 5.371 5.372	**GOV**	New fixed-service stations to be avoided	GLONASS (1592.9-1610.5 MHz)
1 610.6 – 1 613.8 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 5.149 5.341 5.355 **5.359** 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 5.355 5.364 5.366 5.367 5.368 5.371 5.372	**MIL/GOV/CIV**	IMT Satellite Component	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
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	**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 5.364 5.365 5.366 5.367 5.368 5.371 5.372	**GOV/CIV**	IMT Satellite Component	
1 626.5 – 1 660 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 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 – 1 645.5 MHz** MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.357A 5.374 5.375 5.376	**GOV/CIV**	**LBY 01** (1626.5-1645.5 MHz) IMT Satellite Component	Priority to GMDSS
	1 645.5 – 1 646.5 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.357A 5.374 5.375 5.376	**GOV**	**LBY 02** (1645.5-1646.5 MHz) GMDSS	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
	1 646.5 – 1 660 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341 5.351 5.353A 5.354 5.355 5.357A 5.374 5.375 5.376	**GOV/CIV**	IMT Satellite Component	
1 660 – 1 660.5 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 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 RADIO ASTRONOMY 5.149 5.341 5.351 5.354 5.376A	**GOV/CIV**	IMT Satellite Component	Radio Astronomy Service to be protected
1 660.5 – 1 668 MHz 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) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379A	**MIL/GOV**		Radio Astronomy Service to be protected

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
1 668 – 1 668.4 MHz MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379 5.379A	**1 668 – 1 668.4 MHz** MOBILE-SATELLITE (Earth-to-space) 5.351A 5.379B 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.341 5.379A	**GOV/CIV**	IMT Satellite Component	Radio Astronomy Service to be protected
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	**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	**MIL/GOV/CIV**	IMT Satellite Component	Radio Astronomy Service to be protected

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
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	**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	**MIL/GOV/CIV**	IMT Satellite Component	
1 675 – 1 690 MHz 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	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
1 690 – 1 700 MHz 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	**MIL/GOV**		
1 700 – 1 710 MHz 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	**MIL/GOV**		UWB applications
1 710 – 1 930 MHz FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.386 5.387 5.388	**1 710 – 1 785 MHz** FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.388	**GOV/CIV**		Public Mobile Networks IMT

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
	1 785 – 1 800 MHz FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.388	**GOV/CIV**	**LBY 02** (1785 – 1800 MHz) Radio Microphones (1785 – 1800 MHz)	UWB applications
	1 800 – 1 805 MHz FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.388	**GOV/CIV**		Extension for IMT
	1 805 – 1 880 MHz FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.388	**CIV/GOV**		
	1 880 – 1 900 MHz FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.388	**CIV/GOV**	**LBY 02 (**1880 – 1900 MHz) DECT	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
	1 900 – 1 920 MHz FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.388	**CIV/GOV**	**LBY 11** IMT	
	1 920 – 1 930 MHz FIXED MOBILE 5.384A 5.388A 5.388B 5.149 5.341 5.385 5.388	**CIV/GOV**	**LBY 11** IMT	Paired with 2110 – 2170 MHz
1 930 – 1 970 MHz FIXED MOBILE 5.388A 5.388B 5.388	**1 930 – 1 970 MHz** FIXED MOBILE 5.388A 5.388B 5.388	**CIV/GOV**	**LBY 11** IMT	Paired with 2110 – 2170 MHz
1 970 – 1 980 MHz FIXED MOBILE 5.388A 5.388B 5.388	**1 970 – 1 980 MHz** FIXED MOBILE 5.388A 5.388B 5.388	**GOV/CIV**	**LBY 11** IMT	Paired with 2110 – 2170 MHz

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
1 980 – 2 010 MHz FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388 5.389A 5.389B 5.389F	**1 980 – 2 010 MHz** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388 5.389A 5.389F	**GOV/CIV**	**LBY 11** IMT Satellite component	
2 010 – 2 025 MHz FIXED MOBILE 5.388A 5.388B 5.388	**2 010 – 2 025 MHz** FIXED MOBILE 5.388A 5.388B 5.388	**GOV/CIV**	**LBY 11** IMT TDD IMT	
2 025 – 2 110 MHz SPACE OPERATION (Earth-to-space) (space-to-space) 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 MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space) 5.392	**MIL/GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
2 110 – 2 120 MHz FIXED MOBILE 5.388A 5.388B SPACE RESEARCH (deep space) (Earth-to-space) 5.388	**2 110 – 2 120 MHz** FIXED MOBILE 5.388A 5.388B SPACE RESEARCH (deep space) (Earth-to-space) 5.388	**CIV/GOV**	**LBY 11** IMT	Paired with 1920-1980 MHz
2 120 – 2 160 MHz FIXED MOBILE 5.388A 5.388B 5.388	**2 120 – 2 160 MHz** FIXED MOBILE 5.388A 5.388B 5.388	**CIV/GOV**	**LBY 11** IMT	Paired with 1920-1980 MHz
2 160 – 2 170 MHz FIXED MOBILE 5.388A 5.388B 5.388	**2 160 – 2 170 MHz** FIXED MOBILE 5.388A 5.388B 5.388	**CIV/GOV**	**LBY 11** IMT	Paired with 1920-1980 MHz
2 170 – 2 200 MHz FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A 5.388 5.389A 5.389F	**2 170 – 2 200 MHz** FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A 5.388 5.389A 5.389F	**CIV/GOV**	**LBY 11** IMT Satellite component	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
2 200 – 2 290 MHz 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 MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space-to-space) 5.392	**MIL/GOV/CIV**		
2 290 – 2 300 MHz 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)	**GOV/CIV**		No new assignments to FIXED
2 300 – 2 450 MHz FIXED MOBILE 5.384A Amateur Radiolocation 5.150 5.282 5.395	**2 300 – 2 400 MHz** FIXED MOBILE 5.384A Amateur Radiolocation 5.150 5.282 5.395	**GOV/CIV**		No new assignments to FIXED

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
	2 400 – 2 450 MHz FIXED MOBILE 5.384A Amateur Radiolocation 5.150 5.282 5.395	**GOV/CIV**	**LBY 02** (2400 – 2483.5 MHz) RFID (2400 – 2483.5 MHz) ISM (2400 - 2500 MHz) WiFi (2400 – 2483.5 MHz)	No new assignments to FIXED
2 450 – 2 483.5 MHz FIXED MOBILE Radiolocation 5.150 5.397	**2 450 – 2 483.5 MHz** FIXED MOBILE Radiolocation 5.150	**GOV/CIV**	**LBY 02** (2400 – 2483.5 MHz) RFID ISM (2400 - 2500 MHz) WiFi	No new assignments to FIXED

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
2 483.5 – 2 500 MHz FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIODETERMINATION-SATELLITE (space-to-Earth) 5.398 Radiolocation 5.398A 5.150 5.399 5.401 5.402	**2 483.5 – 2 500 MHz** FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351A RADIODETERMINATION-SATELLITE (space-to-Earth) Radiolocation 5.150 5.399 5.401 5.402	**GOV/CIV**	ISM (2400 - 2500 MHz) IMT Satellite Component	No new assignments to FIXED
2 500 – 2 520 MHz FIXED 5.410 MOBILE except aeronautical mobile 5.384A 5.412	**2 500 – 2 520 MHz** FIXED 5.410 MOBILE except aeronautical mobile 5.384A	**GOV/CIV**	**LBY 11** IMT	No new assignments to FIXED

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
2 520 – 2 655 MHz FIXED 5.410 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.339 5.412 5.417C 5.417D 5.418B 5.418C	**2 520 – 2 655 MHz** FIXED 5.410 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.413 5.416 5.339 5.417C 5.417D 5.418B 5.418C	**GOV/CIV**	**LBY 11**	No new assignments to FIXED
2 655 – 2 670 MHz FIXED 5.410 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.208B 5.413 5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 5.149 5.412	**2 655 – 2 670 MHz** FIXED 5.410 MOBILE except aeronautical mobile 5.384A BROADCASTING-SATELLITE 5.208B 5.413 5.416 Earth exploration-satellite (passive) Radio astronomy Space research (passive) 5.149	**GOV/CIV**		No new assignments to FIXED

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
2 670 – 2 690 MHz FIXED 5.410 MOBILE except aeronautical mobile 5.384A Earth exploration-satellite (passive) Radio astronomy Space research (passive) 5.149 5.412	**2 670 – 2 690 MHz** FIXED 5.410 MOBILE except aeronautical mobile 5.384A Earth exploration-satellite (passive) Radio astronomy Space research (passive) 5.149	**GOV/CIV**	IMT	No new assignments to FIXED
2 690 – 2 700 MHz 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	**GOV**		Stable use in near future
2 700 – 2 900 MHz AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423 5.424	**2 700 – 2 900 MHz** AERONAUTICAL RADIONAVIGATION 5.337 Radiolocation 5.423	**MIL/GOV**		Stable use in near future

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International trend**
2 900-3 100 MHz 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	**MIL/GOV**		Stable use in near future
3 100 – 3 300 MHz RADIOLOCATION Earth exploration-satellite (active) Space research (active) 5.149 5.428	**3 100 – 3 300 MHz** RADIOLOCATION Earth exploration-satellite (active) Space research (active) 5.149	**MIL/GOV**		Stable use in near future
3 300 – 3 400 MHz RADIOLOCATION 5.149 **5.429** 5.430	**3 300 – 3 400 MHz** RADIOLOCATION FIXED MOBILE 5.149	**MIL/GOV**	**LBY 12**	Stable use in near future UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	COL 2	COL 3	COL 4	COL 5
RR Frequency Allocations	National Frequency Allocations	Users categories	Applications Comments Footnotes	Long term strategy International Trend
3 400 – 3 600 MHz FIXED FIXED SATELLITE (space-to-Earth) Mobile 5.430A Radiolocation 5.431	**3 400 – 3 600 MHz** FIXED FIXED SATELLITE (space-to-Earth) Mobile 5.430A Radiolocation	**GOV/CIV**	BWA (3 400-3 800 MHz) Programme Making Special Events/PMSE	UWB applications
3 600 – 4 200 MHz FIXED FIXED SATELLITE (space-to-Earth) Mobile	**3 600 – 3 800 MHz** FIXED FIXED SATELLITE (space-to-Earth) Mobile	**GOV/CIV**	BWA (3 400-3 800 MHz)	UWB applications FSS Earth Stations
	3 800 – 4 200 MHz FIXED FIXED SATELLITE (space-to-Earth) Mobile	**GOV/CIV**	ITU-R REC F-382 ITU-R REC F-635	No new assignments for FIXED UWB applications FSS Earth Stations

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
4 200 – 4 400 MHz AERONAUTICAL- RADIONAVIGATION 5.438 5.439 5.440	**4 200 – 4 400 MHz** AERONAUTICAL- RADIONAVIGATION 5.438 5.440	**MIL/GOV**		Altimeters UWB applications
4 400– 4 500 MHz FIXED MOBILE 5.440A	**4 400– 4 500 MHz** FIXED MOBILE	**MIL/GOV/CIV**	PMSE ITU-R REC F-1099	UWB applications
4 500 – 4 800 MHz FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE 5.440A	**4 500 – 4 800 MHz** FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE	**GOV/MIL**	PMSE ITU-R REC F-1099	UWB applications FSS Earth Stations
4 800 – 4 990 MHz FIXED MOBILE 5.440A 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	**MIL/GOV**	PMSE ITU-R REC F-1099	Possible use by Broad Band Disaster Relief BBDR (4 940-4 990 MHz)

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
4 990-5 000 MHz 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	**MIL/GOV**	PMSE ITU-R REC F-1099	
5 000-5 010 MHz AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (Earth_to-space) 5.367	**5 000-5 010 MHz** AERONAUTICAL MOBILE-SATELLITE (R) AERONAUTICAL RADIONAVIGATION RADIONAVIGATION SATELLITE (Earth_to-space) 5.367	**GOV**		Possible use by Galileo

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5 010-5 030 MHz AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.443B 5.367	**5 010-5 030 MHz** AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.443B 5.367	**GOV**		Possible use by Galileo C1
5 030-5 091 MHz AERONAUTICAL MOBILE (R) 5.443C AERONAUTICAL MOBILE-SATELLITE (R) 5.443D AERONAUTICAL RADIONAVIGATION 5.367 5.444	**5 030-5 091 MHz** AERONAUTICAL MOBILE (R) 5.443C AERONAUTICAL MOBILE-SATELLITE (R) 5.443D AERONAUTICAL RADIONAVIGATION 5.367 5.444	**GOV**		
5 091-5 150 MHz AERONAUTICAL MOBILE 5.444B AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION 5.367 5.444 5.444A	**5 091-5 150 MHz** AERONAUTICAL MOBILE 5.444B AERONAUTICAL MOBILE-SATELLITE (R) 5.443AA AERONAUTICAL RADIONAVIGATION 5.367 5.444 5.444A	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5 150-5 250 MHz AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except aeronautical mobile 5.446A 5.446B 5.446 5.446C 5.447 5.447B 5.447C	**5 150-5 250 MHz** AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (Earth-to-space) 5.447A MOBILE except aeronautical mobile 5.446A 5.446B 5.446 5.446C 5.447 5.447B 5.447C	**MIL/GOV/CIV**	**LBY 02** Wireless Access System/WAS/RLANs (5 150-5 350 MHz and 5 470-5 725 MHz)	Possible use by BBDR

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5 250 - 5 255 MHz EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except aeronautical mobile 5.446A 5.447F 5.447E **5.448** 5.448A	**5 250 - 5 255 MHz** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except aeronautical mobile 5.446A 5.447F 5.448A	**MIL**	**LBY 02** WAS/RLANs (5 150-5 350 MHz and 5 470-5 725 MHz) Maritime Radar Weather Radar	
5 255 – 5 350 MHz 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	**MIL/GOV**	**LBY 02** WAS/RLANs (5 150-5 350 MHz and 5 470-5 725 MHz) Maritime Radar Weather Radar	UWB applications
5 350 – 5 460 MHz 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	**MIL/GOV**	Maritime Radar Weather Radar	Intensive use by MIL

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5 460 – 5 470 MHz RADIONAVIGATION 5.449 EARTH EXPOLRATION-SATELLITE(active) SPACE RESEARCH (active) RADIOLOCATION 5.448D 5.448B	**5 460 – 5 470 MHz** RADIONAVIGATION 5.449 EARTH EXPOLRATION-SATELLITE(active) SPACE RESEARCH (active) RADIOLOCATION 5.448D 5.448B	**MIL/GOV**	Maritime Radar Weather Radar	Intensive use by MIL
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 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	**MIL/GOV**	**LBY 02** WAS/RLANs (5 150-5 350 MHz and 5 470-5 725 MHz) Maritime Radar Weather Radar	
5 570 – 5 650 MHz 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	**MIL/GOV**	**LBY 02** WAS/RLANs (5 150-5 350 MHz and 5 470-5 725 MHz) Maritime Radar Weather Radar	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5 650 – 5 725 MHz 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 FIXED MOBILE Amateur Space Research(deep space) 5.282	**MIL/GOV**	**LBY 02** WAS/RLANs (5 150-5 350 MHz and 5 470-5 725 MHz) Maritime Radar Weather Radar	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5 725 – 5 830 MHz FIXED - SATELLITE (Earth-to-space) RADIOLOCATION Amateur 5.150 5.451 **5.453** 5.455 5.456	**5 725 – 5 830 MHz** FIXED - SATELLITE (Earth-to-space) RADIOLOCATION FIXED MOBILE Amateur 5.150	**CIV/ MIL/GOV**	**LBY 02** ISM (5 725 – 5 875 MHz) BWA (5 725-5 875 MHz) Weather Radar	
5 830 - 5 850 MHz 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 FIXED MOBILE Amateur Amateur-satellite (space-to-Earth) 5.150	**CIV /MIL/GOV**	**LBY 02** ISM (5 725-5 875 MHz) BWA (5 725-5 875 MHz) Weather Radar	
5 850 – 5 925 MHz FIXED FIXED - SATELLITE (Earth-to-space) MOBILE 5.150	**5 850 – 5 925 MHz** FIXED FIXED - SATELLITE (Earth-to-space) MOBILE 5.150	**GOV**	**LBY 02** ISM (5 725-5 875 MHz) BWA (5 725-5 875 MHz) FSS Earth Station	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
5 925 – 6 700 MHz FIXED 5.457 FIXED - SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.457C 5.149 5.440 5.458	**5 925 – 6 425 MHz** FIXED 5.457 FIXED - SATELLITE (Earth-to-space) 5.457A MOBILE 5.149 5.440 5.458	**GOV**	**LBY 13** FSS Earth Station ITU-R REC F-383	UWB Applications
	6 425 – 6 700 MHz FIXED 5.457 FIXED - SATELLITE (Earth-to-space) 5.457A MOBILE 5.149 5.440 5.458	**GOV**	FSS Earth Station ITU-R REC F-384 (6 425-7 125 MHz)	UWB Applications
6 700 - 7 075 MHz 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 MOBILE 5.458 5.458A 5.458B 5.458C	**GOV**	FSS Earth Station ITU-R REC F-384 (6 425-7 125 MHz)	UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
7 075 - 7 145 MHz FIXED MOBILE 5.458 5.459	**7 075 - 7 145 MHz** FIXED MOBILE 5.458	**GOV/CIV**	ITU-R REC F-384 (6 425-7 125 MHz ITU-R REC F-385 (7 110-7 900 MHz)	UWB Applications
7 145 – 7 235 MHz FIXED MOBILE SPACE RESEARCH (Earth-to-space) 5.460 5.458 5.459	**7 145 – 7 235 MHz** FIXED MOBILE SPACE RESEARCH (Earth-to-space) 5.460 5.458	**GOV/CIV**	ITU-R REC F-385 (7 110-7 900 MHz)	UWB Applications
7 235 – 7 250 MHz FIXED MOBILE 5.458	**7 235 – 7 250 MHz** FIXED MOBILE 5.458	**GOV/CIV**	ITU-R REC F-385 (7 110-7 900 MHz)	UWB Applications
7 250 – 7 300 MHz FIXED FIXED - SATELLITE (space-to-Earth) MOBILE 5.461	**7 250 – 7 300 MHz** FIXED FIXED - SATELLITE (space-to-Earth) MOBILE 5.461	**MIL/CIV**	MSS Earth Stations ITU-R REC F-385 (7110-7900 MHz)	UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
7 300 – 7 450 MHz FIXED FIXED - SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461	**7 300 – 7 450 MHz** FIXED FIXED - SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461	**MIL/GOV/CIV**	MSS Earth Stations ITU-R REC F-385 (7 110-7 900 MHz)	UWB Applications
7 450 – 7 550 MHz FIXED FIXED - SATELLITE (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461A	**7 450 – 7 550 MHz** FIXED FIXED - SATELLITE (space-to-Earth) METEOROLOGICAL- SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461A	**MIL/GOV/CIV**	ITU-R REC F-385 (7 110-7 900 MHz)	UWB Applications
7 550 – 7 750 MHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	**7 550 – 7 750 MHz** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	**MIL/GOV/CIV**	ITU-R REC F-385 (7 110-7 900 MHz) ITU-R F- REC 386 (7 725-8 500 MHz)	UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
7 750 – 7 900 MHz FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461B MOBILE except aeronautical mobile	**7 750 – 7 900 MHz** FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461B MOBILE except aeronautical mobile	**MIL/GOV/CIV**	ITU-R REC F-385 (7 110-7 900 MHz) ITU-R F- REC 386 (7 725-8 500 MHz)	UWB Applications
7 900 – 8 025 MHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.461	**7 900 – 8 025 MHz** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.461	**MIL/GOV/CIV**	MSS Earth Stations ITU-R F- REC 386 (7 725-8 500 MHz)	UWB Applications
8 025- 8 175 MHz 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 FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	**MIL/GOV/CIV**	ITU-R F- REC 386 (7 725-8 500 MHz)	UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
8 175 – 8 215 MHz 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 FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL- SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	**MIL/GOV/CIV**	ITU-R F- REC 386 (7 725-8 500 MHz)	UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
8 215 – 8 400 MHz 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 FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	**MIL/GOV/CIV**	ITU-R F- REC 386 (7 725-8 500 MHz)	UWB Applications
8 400 – 8 500 MHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space- to-Earth) 5.465 5.466	**8 400 – 8 500 MHz** FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space- to-Earth) 5.465	**GOV/CIV**	ITU-R F- REC 386 (7 725-8 500 MHz)	UWB Applications
8 500 – 8 550 MHz RADIOLOCATION **5.468** 5.469	**8 500 – 8 550 MHz** RADIOLOCATION FIXED MOBILE	**MIL/GOV/CIV**		UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
8 550 – 8 650 MHz 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) FIXED MOBILE 5.469A	**GOV**		UWB Applications
8 650 - 8 750 MHz RADIOLOCATION **5.468** 5.469	**8 650 - 8 750 MHz** RADIOLOCATION FIXED MOBILE	**MIL/GOV/CIV**		UWB Applications
8 750 - 8 850 MHz RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470 **5.471**	**8 750 - 8 825 MHz** RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470	**MIL/GOV**		UWB Applications

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
	8 825 - 8 850 MHz RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470 MARITIME RADIONAVIGATION	**MIL/GOV**	Maritime radionavigation service, for use by shore-based radars only	UWB Applications
8 850 – 9 000 MHz RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473	**8 850 – 9 000 MHz** RADIOLOCATION MARITIME RADIONAVIGATION 5.472	**MIL/GOV**		UWB Applications
9 000 – 9 200 MHz AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION **5.471** 5.473A	**9 000 – 9 200 MHz** AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION MARITIME RADIONAVIGATION 5.473A	**MIL/GOV**	Maritime radionavigation service, for use by shore-based radars only	
9 200 – 9 300 MHz RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.473 5.474	**9 200 – 9 300 MHz** RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.474	**MIL/GOV**	**LBY 01** **LBY 02**	MIL use

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
9 300 – 9 500 MHz RADIONAVIGATION 5.476 EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.427 5.474 5.475 5.475A 5.475B 5.476A	**9 300 – 9 500 MHz** RADIONAVIGATION 5.476 EARTH EXPLORATION- SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.427 5.474 5.475 5.475A 5.475B 5.476A	**MIL/GOV**	**LBY 01** **LBY 02** Weather Radar	MIL use
9 500 – 9 800 MHz 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	**MIL/GOV**		
9 800-9 900 MHz RADIOLOCATION Earth exploration-satellite (active) Space research (active) Fixed 5.477 5.478 5.478A 5.478B	**9 800-9 900 MHz** RADIOLOCATION Earth exploration-satellite (active) Space research (active) Fixed 5.477 5.478A 5.478B	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
9 900 – 10 000 MHz RADIOLOCATION Fixed 5.477 5.478 5.479	**9 900 – 10 000 MHz** RADIOLOCATION Fixed 5.477 5.479	**MIL/GOV**		
10 – 10.45 GHz FIXED MOBILE RADIOLOCATION Amateur 5.479	**10.00 – 10.45 GHz** FIXED MOBILE RADIOLOCATION Amateur 5.479	**MIL/GOV/CIV**	PMSE BFWA (10.150-10.300 GHz)	10 - 10.15 GHz Cordless Cameras and SAP/SAB Service Ancillary to Programme making (SAP)/Service ancillary to Broadcasting (SAB) UWB applications
10.45 – 10.5 GHz RADIOLOCATION Amateur Amateur –Satellite 5.481	**10.45 – 10.50 GHz** RADIOLOCATION Amateur Amateur –Satellite	**MIL/GOV/CIV**	PMSE	
10.5 – 10.55 GHz FIXED MOBILE Radiolocation	**10.50 – 10.55 GHz** FIXED MOBILE Radiolocation	**GOV/CIV**	**LBY 02** BFWA PMSE	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
10.55 – 10.6 GHz FIXED MOBILE except aeronautical mobile Radiolocation	**10.55 – 10.60 GHz** FIXED MOBILE except aeronautical mobile Radiolocation	**GOV/CIV**	**LBY 02** BFWA PMSE	
10.6 – 10.68 GHz EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482 5.482A	**10.6 – 10.68 GHz** EARTH EXPLORATION- SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149 5.482 5.482A	**MIL/GOV/CIV**	**LBY 14** PMSE BFWA (10.6-10.65 GHz)	
10.68 – 10.7 GHz EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.483	**10.68 – 10.70 GHz** EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.483	**GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
10.7 – 11.7 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.441 5.484A (Earth-to-Space) 5.484 MOBILE except aeronautical mobile	**10.70 – 11.70 GHz** FIXED FIXED-SATELLITE (space-to-Earth) 5.441 5.484A (Earth-to-Space) 5.484 MOBILE except aeronautical mobile	**GOV/CIV**	FSS Earth Stations ITU-R REC F-387	
11.7 – 12.5 GHz FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING-SATELLITE 5.492 5.487 5.487A	**11.7 – 12.5 GHz** FIXED MOBILE except aeronautical mobile BROADCASTING BROADCASTING-SATELLITE 5.492 5.487 5.487A	**GOV**	AP30	
12.5 – 12.75 GHz FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) **5.494** 5.495 5.496	**12.50 – 12.75 GHz** FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) FIXED MOBILE Except aeronautical mobile 5.495	**GOV/CIV**	FSS Earth Stations	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
12.75 – 13.25 GHz 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 MOBILE Space Research (deep space) (space-to-Earth)	**GOV/CIV**	FSS Earth Stations ITU-R REC F-497	
13.25 – 13.4 GHz EARTH EXPLORATION - SATELLITE (active) AERONAUTICAL- RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A 5.499	**13.25 – 13.40 GHz** EARTH EXPLORATION - SATELLITE (active) AERONAUTICAL- RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A	**GOV**		
13.4 - 13.75 GHz EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard frequency and time signal satellite (Earth-to-space) 5.499 5.500 5.501 5.501B	**13.40 - 13.75 GHz** EARTH EXPLORATION - SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard frequency and time signal satellite (Earth-to-space) 5.500 5.501B	**GOV**	Fixed links not allowed	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
13.75 – 14 GHz 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 – 14.00 GHz** FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Earth exploration-satellite Standard frequency and time signal satellite (Earth-to-space) Space research 5.500 5.502 5.503	**GOV**	FSS Earth Stations Fixed links not allowed	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
14 – 14.25 GHz FIXED-SATELLITE (Earth-to-space) 5.457A **5.457B** 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.504B 5.504C 5.506A Space Research 5.504A 5.505	**14.00 – 14.25 GHz** FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.504B 5.504C 5.506A Space Research 5.504A 5.505	**GOV**	**LBY 13** MSS Earth Stations VSAT/ENG	
14.25 – 14.3 GHz FIXED-SATELLITE (Earth-to-space)) 5.457A **5.457B** 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.508A Space Research 5.504A 5.505 5.508	**14.25 – 14.30 GHz** FIXED-SATELLITE (Earth-to-space)) 5.457A 5.484A 5.506 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.508A Space Research 5.504A 5.505 5.508	**GOV**	**LBY 13** MSS Earth Stations VSAT/ENG	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
14.3 – 14.4 GHz 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 Radionavigation-satellite 5.504A	**14.30 – 14.40 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A 5.506 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.509A Radionavigation-satellite 5.504A	**GOV/CIV**	**LBY 13** FSS Earth Stations MSS Earth Stations VSAT/ENG	
14.4 – 14.47 GHz 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 Space Research (space-to-Earth) 5.504A	**14.40 – 14.47 GHz** FIXED FIXED-SATELLITE (Earth-to-space)) 5.457A 5.484A 5.506 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.504B 5.506A 5.509A Space Research (space-to-Earth) 5.504A	**MIL/GOV/CIV**	**LBY 13** FSS Earth Stations MSS Earth Stations VSAT/ENG ITU-R REC F-636 AP30A (14,5 – 14,8 GHz)	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
14.47 – 14.5 GHz 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) except aeronautical mobile-satellite 5.504B 5.506A 5.509A Radio Astronomy 5.149 5.504A	**14.47 – 14.50 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.457A 5.484A 5.506 5.506B MOBILE except aeronautical- mobile Mobile-satellite (Earth-to-space) except aeronautical mobile-satellite 5.504B 5.506A 5.509A Radio Astronomy 5.149 5.504A	**GOV/CIV**	**LBY 13** FSS Earth Stations MSS Earth Stations VSAT	
14.5 – 14.8 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space Research	**14.50 – 14.80 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space Research	**GOV/CIV**		
14.8 – 15.35 GHz FIXED MOBILE Space Research 5.339	**14.80 – 15.35 GHz** FIXED MOBILE Space Research 5.339	**GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
15.35 – 15.4 GHz EARTH EXPLORATION-SATELLITE(passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 **5.511**	**15.35 – 15.40 GHz** EARTH EXPLORATION-SATELLITE(passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**GOV**		
15.4 – 15.43 GHz RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511D	**15.40 – 15.43 GHz** RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511D	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
15.43 - 15.63 GHz FIXED-SATELLITE (Earth-to-space) 5.511A RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511C	**15.43 - 15.63 GHz** FIXED-SATELLITE (Earth-to-space) 5.511A RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511C	**GOV**	FSS Earth Stations	
15.63 - 15.7 GHz RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511D	**15.63 - 15.70 GHz** RADIOLOCATION 5.511E 5.511F AERONAUTICAL RADIONAVIGATION 5.511D	**GOV**		
15.7 – 16.6 GHz RADIOLOCATION **5.512** 5.513	**15.70 – 16.60 GHz** RADIOLOCATION FIXED MOBILE	**MIL/GOV**		
16.6 – 17.1 GHz RADIOLOCATION Space Research (deep space) (Earth-to-space) **5.512** 5.513	**16.60 – 17.10 GHz** RADIOLOCATION Space Research (deep space) (Earth-to-space) FIXED MOBILE	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
17.1 – 17.2 GHz RADIOLOCATION **5.512** 5.513	**17.10 – 17.20 GHz** RADIOLOCATION FIXED MOBILE	**MIL/GOV**		
17.2 – 17.3 GHz EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) **5.512** 5.513 5.513A	**17.20 – 17.30 GHz** EARTH EXPLORATION- SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) FIXED MOBILE 5.513A	**MIL/GOV**		
17.3 – 17.7 GHz FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation **5.514**	**17.30 – 17.70 GHz** FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation Fixed Mobile	**MIL/GOV**	**LBY 15** FSS Earth Stations AP30A	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
17.7 – 18.1 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	**17.70 – 18.10 GHz** FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	**GOV**	FSS Earth Stations ITU-R REC F-595 AP30A	Fixed Service Point to Point links (FS P-P links)
18.1 – 18.4 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth-to-space) 5.520 MOBILE 5.519 5.521	**18.10 – 18.40 GHz** FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B (Earth-to-space) 5.520 MOBILE 5.519 5.521	**MIL/GOV/CIV**	FSS Earth Stations ITU-R REC F-595	
18.4 – 18.6 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE	**18.40 – 18.60 GHz** FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE	**MIL/GOV/CIV**	FSS Earth Stations ITU-R REC F-595	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
18.6- 18.8 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A 5.522C	**18.60- 18.80 GHz** EARTH EXPLORATION-SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A 5.522C	**MIL/GOV/CIV**	FSS Earth Stations ITU-R REC F-595	
18.8 – 19.3 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.523A MOBILE	**18.80 – 19.30 GHz** FIXED FIXED-SATELLITE (space-to-Earth) 5.516B 5.523A MOBILE	**GOV/CIV**	FSS Earth Stations ITU-R REC F-595	Fixed Service Point to Point links (FS P-P links)

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
19.3 - 19.7 GHz FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B 5.523C 5.523D 5.523E MOBILE	**19.30 - 19.70 GHz** FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B 5.523C 5.523D 5.523E MOBILE	**GOV/CIV**	FSS Earth Stations ITU-R REC F-595	
19.7 – 20.1 GHz FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-Satellite (space-to-Earth) 5.524	**19.70 – 20.10 GHz** FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B Mobile-Satellite (space-to-Earth) 5.524	**GOV**	MSS Earth Stations	
20.1 – 20.2 GHz FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528	**20.10 – 20.20 GHz** FIXED-SATELLITE (space-to-Earth) 5.484A 5.516B MOBILE-SATELLITE (space-to-Earth) 5.524 5.525 5.526 5.527 5.528	**GOV**	MSS Earth Stations FSS Earth Stations	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
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	**20.20 – 21.20 GHz** FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard frequency and time signal- satellite (space-to-Earth) 5.524	**GOV**	MSS Earth Stations	
21.2 – 21.4 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	**21.20 – 21.40 GHz** EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)	**GOV/CIV**	PMSE ITU-R REC F-637	
21.4 – 22.0 GHz FIXED MOBILE BROADCASTING-SATELLITE 5.208B 5.530A 5.530B 5.530C 5.530D	**21.40 – 22.0 GHz** FIXED MOBILE BROADCASTING-SATELLITE 5.208B 5.530A 5.530B 5.530C 5.530D	**GOV/CIV**	Short Range Radar/SRR PMSE ITU-R REC F-637	SRR (21.65-26.65 GHz)

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
22 – 22.21 GHz FIXED MOBILE except aeronautical mobile 5.149	**22.00 – 22.21 GHz** FIXED MOBILE except aeronautical mobile 5.149	**GOV/CIV**	PMSE SRR ITU-R REC F-637	SRR (21.65-26.65 GHz)
22.21 – 22.5 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE Except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532	**22.21 – 22.50 GHz** EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE Except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149 5.532	**GOV/CIV**	PMSE SRR ITU-R REC F-637	SRR (21.65-26.65 GHz)
22.5 – 22.55 GHz FIXED MOBILE	**22.50 – 22.55 GHz** FIXED MOBILE	**GOV/CIV**	PMSE SRR ITU-R REC F-637	SRR (21.65-26.65 GHz)

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
22.55 – 23.15 GHz FIXED INTER-SATELLITE 5.338A MOBILE SPACE RESEARCH (Earth-to-space) 5.532A 5.149	**22.55 – 23.55 GHz** FIXED INTER-SATELLITE 5.338A MOBILE SPACE RESEARCH (Earth-to-space) 5.532A 5.149	**GOV/CIV**	PMSE SRR ITU-R REC F-637	SRR (21.65-26.65 GHz)
23.15-23.55 GHz FIXED INTER-SATELLITE 5.338A MOBILE	**23.15-23.55 GHz** FIXED INTER-SATELLITE 5.338A MOBILE	**GOV/CIV**	PMSE SRR ITU-R REC F-637	SRR (21.65-26.65 GHz)
23.55 – 23.6 GHz FIXED MOBILE	**23.55 – 23.60 GHz** FIXED MOBILE	**GOV/CIV**	PMSE SRR ITU-R REC F-637	SRR (21.65-26.65 GHz)

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
23.6 – 24 GHz EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**23.60 – 24.00 GHz** EARTH EXPLORATION- SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**GOV**	SRR	SRR (21.65-26.65 GHz)
24 – 24.05 GHz AMATEUR AMATEUR-SATELLITE 5.150	**24.00 – 24.05 GHz** AMATEUR AMATEUR-SATELLITE 5.150	**CIV**	**LBY 02** ISM (24.00 - 24,25 GHz) PMSE SRR	SRR (21.65-26.65 GHz)
24.05 – 24.25 GHz RADIOLOCATION Amateur Earth exploration-satellite (active) 5.150	**24.05 – 24.25 GHz** RADIOLOCATION Amateur Earth exploration-satellite (active) 5.150	**MIL/GOV/CIV**	**LBY 02** ISM (24.00 - 24,25 GHz) PMSE SRR Road Transport & Traffic Telematics RTTT	SRR (21.65-26.65 GHz) RTTT (Automotive radars)
24.25 – 24.45 GHz FIXED	**24.25 – 24.45 GHz** FIXED	**GOV**	PMSE SRR	SRR (21.65-26.65 GHz)

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
24.45 - 24.65 GHz FIXED INTER-SATELLITE	**24.45 - 24.65 GHz** FIXED INTER-SATELLITE	**GOV/CIV**	BFWA (24.5-24.65 GHz) SRR ITU-R REC F-748	SRR (21.65-26.65 GHz)
24.65 – 24.75 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.532B INTER-SATELLITE	**24.65 – 24.75 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.532B INTER-SATELLITE	**GOV/CIV**	BFWA SRR ITU-R REC F-748	SRR (21.65-26.65 GHz)
24.75 – 25.25 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.532B	**24.75 – 25.25 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.532B	**GOV/CIV**	BFWA SRR ITU-R REC F-748	SRR (21.65-26.65 GHz)

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
25.25 – 25.5 GHz FIXED INTER-SATELLITE 5.536 MOBILE Standard frequency and time signal- satellite (Earth-to-space)	**25.25 – 26.50 GHz** FIXED INTER-SATELLITE 5.536 MOBILE Standard frequency and time signal- satellite (Earth-to-space)	**GOV/CIV**	BFWA SRR ITU-R REC F-748	SRR (21.65-26.65 GHz)
25.5 – 27 GHz EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-Earth) 5.536C Standard frequency and time signal- satellite (Earth-to-space) 5.536A	**25.50 – 26.50 GHz** EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-Earth) 5.536C Standard frequency and time signal- satellite (Earth-to-space) 5.536A	**GOV/CIV**	BFWA SRR ITU-R REC F-748	SRR (21.65-26.65 GHz)

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
	26.50 – 27.00 GHz EARTH EXPLORATION-SATELLITE (space-to-Earth) 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-Earth) 5.536C Standard frequency and time signal- satellite (Earth-to-space) 5.536A	**MIL**	SRR ITU-R REC F-748	SRR (21.65-26.65 GHz)
27 – 27.5 GHz FIXED INTER-SATELLITE 5.536 MOBILE	**27.00 – 27.50 GHz** FIXED INTER-SATELLITE 5.536 MOBILE	**MIL/GOV**	ITU-R REC F-748	
27.5 – 28.5 GHz FIXED 5.537A FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE 5.538 5.540	**27.50 – 28.50 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 MOBILE 5.538 5.540	**GOV/CIV**	FSS Earth Stations BFWA ITU-R REC F-748	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
28.5 – 29.1 GHz FIXED FIXED-SATELLITE (Earth-to- space) 5.484A 5.516B 5.523A 5.539 MOBILE Earth exploration-satellite (Earth-to- space) 5.541 5.540	**28.50 – 29.10 GHz** FIXED FIXED-SATELLITE (Earth-to- space) 5.484A 5.516B 5.523A 5.539 MOBILE Earth exploration-satellite (Earth-to- space) 5.541 5.540	**GOV/CIV**	FSS Earth Stations BFWA ITU-R REC F-748	
29.1 – 29.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.516B 5.523C 5.523E 5.535A 5.539 5.541A MOBILE Earth exploration-satellite (Earth-to-space) 5.541 5.540	**29.10 – 29.50 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.516B 5.523C 5.523E 5.535A 5.539 5.541A MOBILE Earth exploration-satellite (Earth-to-space) 5.541 5.540	**GOV/CIV**	FSS Earth Stations BFWA ITU-R REC F-748	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
29.5 –29.9 GHz FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 Earth exploration-satellite (Earth-to- space) 5.541 Mobile-satellite (Earth-to-space) 5.540 5.542	**29.50 –29.90 GHz** FIXED-SATELLITE (Earth-to-space) 5.484A 5.516B 5.539 Earth exploration-satellite (Earth-to- space) 5.541 Mobile-satellite (Earth-to-space) 5.540 5.542	**GOV/CIV**	MSS Earth Stations	
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 5.542	**29.90 – 30.00 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 5.542	**GOV/CIV**	FSS Earth Stations MSS Earth Stations	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
30-31 GHz FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal - satellite (space-to-Earth) 5.542	**30.00-31.00 GHz** FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE-SATELLITE (Earth-to-space) Standard frequency and time signal - satellite (space-to-Earth) 5.542	**GOV/CIV**	FSS Earth Stations BFWA	
31 – 31.3 GHz FIXED 5.338A 5.543A MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space research 5.544 5.545 5.149	**31.00 – 31.30 GHz** FIXED 5.338A MOBILE Standard frequency and time signal-satellite (space-to-Earth) Space research 5.544 5.149	**GOV/CIV**		
31.3 – 31.5 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**31.30 – 31.50 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
31.5 –31.8 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.546	**31.50 –31.80 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149 5.546	**GOV/CIV**		
31.8 – 32.0 GHz FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.547B 5.548	**31.80 – 32.00 GHz** FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.548	**GOV/CIV**	ITU-R REC F-1520	
32.0 – 32.3 GHz FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.547C 5.548	**32.00 – 32.30 GHz** FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547 5.548	**GOV/CIV**	ITU-R REC F-1520	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
32.3 – 33.0 GHz FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.547D 5.548	**32.30 – 33.00 GHz** FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547 5.548	**GOV/CIV**	ITU-R REC F-1520	
33.0 – 33.4 GHz FIXED 5.547A RADIONAVIGATION 5.547 5.547E	**33.00 – 33.40 GHz** FIXED 5.547A RADIONAVIGATION 5.547	**GOV/CIV**	ITU-R REC F-1520	
33.4 – 34.2 GHz RADIOLOCATION **5.549**	**33.40 – 34.20 GHz** RADIOLOCATION FIXED MOBILE	**GOV/ MIL**		
34.2-34.7 GHz RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) **5.549**	**34.20-34.70 GHz** RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space) FIXED MOBILE	**GOV/ MIL**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
34.7 – 35.2 GHz RADIOLOCATION Space Research 5.550 **5.549**	**34.70 – 35.20 GHz** RADIOLOCATION Space Research FIXED MOBILE	**GOV/ MIL**		
35.2 - 35.5 GHz METEROLOGICAL AIDS RADIOLOCATION **5.549**	**35.20 - 35.50 GHz** METEROLOGICAL AIDS RADIOLOCATION FIXED MOBILE	**GOV/ MIL**		
35.5 - 36 GHz METEROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) **5.549** 5.549A	**35.50 - 36.00 GHz** METEROLOGICAL AIDS EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) FIXED MOBILE 5.549A	**GOV /MIL**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
36 – 37 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149 5.550A	**36.00 – 37.00 GHz** EARTH EXPLORATION - SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149 5.550A	**GOV/ MIL**	ITU-R REC F-749	
37 – 37.5 GHz FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.547	**37.00 – 37.50 GHz** FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.547	**MIL/GOV/CIV**	ITU-R REC F-749	
37.5 - 38 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to Earth) 5.547	**37.50 – 38.00 GHz** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) Earth exploration-satellite (space-to Earth) 5.547	**GOV/MIL**	FSS Earth Stations ITU-R REC F-749	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
38 - 39.5 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to Earth) 5.547	**38.00 - 39.50 GHz** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration-satellite (space-to Earth) 5.547	**GOV/MIL**	FSS Earth Stations ITU-R REC F-749	
39.5 – 40.0 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to Earth) 5.547	**39.50 – 40.00 GHz** FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration-satellite (space-to Earth) 5.547	**GOV/MIL**	FSS Earth Stations ITU-R REC F-749	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
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)	**40.00 - 40.50 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)	**GOV/MIL**	FSS Earth Stations ITU-R REC F-749	
40.5 – 41 GHz FIXED FIXED SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547	**40.50 – 41.00 GHz** FIXED FIXED SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547	**GOV**	FSS Earth Stations MWS	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
41 – 42.5 GHz FIXED FIXED SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547 5.551F 5.551H 5.551I	**41 00 – 42.50 GHz** FIXED FIXED SATELLITE (space-to-Earth) BROADCASTING BROADCASTING-SATELLITE Mobile 5.547 5.551F 5.551H 5.551I	**GOV**	FSS Earth Stations Multimedia Wireless System/MWS	
42.5 – 43.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 5.547	**42.50 – 43.50 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149 5.547	**GOV/MIL/CIV**	FSS Earth Stations MWS	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
43.5 – 47 GHz MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	**43.5 – 47.00 GHz** MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	**GOV/MIL**		
47 – 47.2 GHz AMATEUR AMATEUR – SATELLITE	**47.00 – 47.20 GHz** AMATEUR AMATEUR – SATELLITE	**CIV**		
47.2 - 47.5 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	**47.20 - 47.50 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	**GOV**	FSS Earth Stations PMSE	
47.5 - 47.9 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A MOBILE	**47.50 - 47.90 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A MOBILE	**GOV**	FSS Earth Stations PMSE	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
47.9 - 48.2 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A	**47.90 - 48.20 GHz** FIXED FIXED-SATELLITE.(Earth-to-space) 5.552 MOBILE 5.552A	**GOV**	FSS Earth Stations PMSE	
48.2 - 48.54 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	**48.20 - 48.54 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	**GOV**	FSS Earth Stations PMSE	
48.54 - 49.44 GHz 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 5.149 5.340 5.555	**GOV**	FSS Earth Stations PMSE	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
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	**49.44 - 50.20 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.338A 5.552 (space-to-Earth) 5.516B 5.554A 5.555B MOBILE	**GOV**	FSS Earth Stations PMSE	
50.2 - 50.4 GHz EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	**50.20 - 50.40 GHz** EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	**GOV**		
50.4 – 51.4 GHz FIXED FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE Mobile-Satellite (Earth-to-space)	**50.40 – 51.40 GHz** FIXED FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE Mobile-Satellite (Earth-to-space)	**GOV**		
51.4 - 52.6 GHz FIXED 5.338A MOBILE 5.547 5.556	**51.40 - 52.60 GHz** FIXED 5.338A MOBILE 5.547 5.556	**MIL/GOV**	ITU-R REC F-1496	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
52.6 – 54.25 GHz EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	**52.60 – 54.25 GHz** EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340 5.556	**GOV**		
54.25 – 55.78 GHz 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)	**GOV**		
55.78 - 56.9 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	**55.78 - 56.90 GHz** EARTH EXPLORATION-SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	**GOV/CIV**	ITU-R REC F-1497	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
56.9 - 57 GHz EARTH EXPLORATION - SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	**56.90 - 57.00 GHz** EARTH EXPLORATION - SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	**GOV/CIV**	ITU-R REC F-1497	
57 - 58.2 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547 5.557	**57.00 - 58.20 GHz** EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	**GOV/CIV**	ITU-R REC F-1497 Multiple Gigabit Wireless System (MGWS) ITU R M-2003	Wideband Data Transmission System

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
58.2 – 59 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	**58.20 – 59.00 GHz** EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547 5.556	**GOV/CIV**	ITU-R REC F-1497 MGWS ITU R M-2003	Wideband Data Transmission System
59 - 59.3 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	**59.00 - 59.30 GHz** EARTH EXPLORATION-SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	**MIL/GOV/CIV**	MGWS ITU R M-2003	Wideband Data Transmission System

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
59.3 – 64 GHz FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	**59.30 – 64.00 GHz** FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	**MIL/GOV**	**LBY 02** ISM (61.00 - 61,50 GHz) MGWS ITU R M-2003	Wideband Data Transmission System
64 - 65 GHz FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547 5.556	**64.00 – 65.00 GHz** FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547 5.556	**GOV/CIV**	MGWS ITU R M-2003	Wideband Data Transmission System
65 - 66 GHz EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547	**65.00 – 66.00 GHz** EARTH EXPLORATION-SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547	**MIL/GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
66 - 71 GHz INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	**66.00 – 71.00 GHz** INTER-SATELLITE MOBILE 5.553 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554	**MIL/GOV**		
71 - 74 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	**71.00 – 74.00 GHz** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	**GOV/CIV**	E-Band (71.00-76.00 GHz) Last mile point-to-point,…	Paired with 81.0-86.0 GHz

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
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	**GOV/CIV**	E-Band (71.00-76.00 GHz) Last mile point-to-point,…	Paired with 81.0-86.0 GHz
76 - 77.5 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	**76.00 - 77.50 GHz** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	**GOV/CIV**	**LBY 02** SRR	
77.5 - 78 GHz AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149	**77.50 – 78.00 GHz** AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149	**GOV/CIV**	SRR	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
78 - 79 GHz RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.149 5.560	**78.00 – 79.00 GHz** RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.149 5.560	**MIL/GOV/CIV**	SRR	
79 - 81 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	**79.00 – 81.00 GHz** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	**MIL/GOV/CIV**	SRR	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
81 - 84 GHz FIXED 5.338A FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 5.149 5.561A	**81.00 – 84.00 GHz** FIXED 5.338A FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 5.149 5.561A	**GOV/CIV**	E-Band (81.00-86.00 GHz) Last mile point-to-point,…	Paired with 71.0-76.0 GHz
84 - 86 GHz FIXED 5.338A FIXED-SATELLITE (Earth-to-space) 5.561B MOBILE RADIO ASTRONOMY 5.149	**84.00 – 86.00 GHz** FIXED 5.338A FIXED-SATELLITE (Earth-to-space) 5.561B MOBILE RADIO ASTRONOMY 5.149	**GOV/CIV**	E-Band (81.00-86.00 GHz) Last mile point-to-point,…	Paired with 71.0-76.0 GHz

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
86 - 92 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**86.00 – 92.00 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**GOV**		
92 - 94 GHz FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	**92.00 – 94.00 GHz** FIXED 5.338A MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	**MIL/GOV**		
94 - 94.1 GHz EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562 5.562A	**94.00 - 94.10 GHz** EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562 5.562A	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
94.1 - 95 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	**94.10 – 95.00 GHz** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	**MIL/GOV**		
95 - 100 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	**95.00 – 100 GHz** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	**GOV/MIL**		
100 - 102 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	**100 - 102 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
102 - 105 GHz FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	**102 - 105 GHz** FIXED MOBILE RADIO ASTRONOMY 5.149 5.341	**MIL/GOV**		
105 - 109.5 GHz FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	**105 - 109.5 GHz** FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	**MIL/GOV**		
109.5 - 111.8 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	**109.5 - 111.8 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
111.8 - 114.25 GHz FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	**111.8 - 114.25 GHz** FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	**MIL/GOV**		
114.25 - 116 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	**114.25 - 116 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341	**GOV**		
116 - 119.98 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	**116 - 119.98 GHz** EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
119.98 - 122.25 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138 5.341	**119.98 - 122.25 GHz** EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138 5.341	**GOV**	**LBY 02** ISM (122-123 GHz)	
122.25 - 123 GHz FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	**122.25 - 123 GHz** FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	**GOV/CIV**	**LBY 02** ISM (122-123 GHz)	
123 - 130 GHz FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.562D 5.149 5.554	**123 - 130 GHz** FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.149 5.554	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
130 - 134 GHz EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	**130 - 134 GHz** EARTH EXPLORATION-SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149 5.562A	**MIL/GOV**		
134 - 136 GHz AMATEUR AMATEUR-SATELLITE Radio astronomy	**134 - 136 GHz** AMATEUR AMATEUR-SATELLITE Radio astronomy	**GOV/CIV**		
136 - 141 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	**136 - 141 GHz** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	**GOV/CIV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
141 - 148.5 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	**141 - 148.5 GHz** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	**MIL/GOV**		
148.5 - 151.5 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**148.5 - 151.5 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**GOV**		
151.5 - 155.5 GHz FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	**151.5 - 155.5 GHz** FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
155.5 - 158.5 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562F 5.562G	**155.5 - 158.5 GHz** EARTH EXPLORATION-SATELLITE (passive) FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.562F 5.562G	**MIL/GOV**		
158.5 - 164 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	**158.5 - 164 GHz** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)	**MIL/GOV**		
164 - 167 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**164 - 167 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
167 - 174.5 GHz FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149 5.562D	**167 - 174.5 GHz** FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149	**MIL/GOV**		
174.5 - 174.8 GHz FIXED INTER-SATELLITE MOBILE 5.558	**174.5 - 174.8 GHz** FIXED INTER-SATELLITE MOBILE 5.558	**MIL/GOV**		
174.8 - 182 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	**174.8 - 182 GHz** EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	**GOV**		
182 - 185 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**182 - 185 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
185 - 190 GHz EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	**185 - 190 GHz** EARTH EXPLORATION-SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)	**GOV**		
190 - 191.8 GHz EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	**190 - 191.8 GHz** EARTH EXPLORATION-SATELLITE (passive) SPACE RESEARCH (passive) 5.340	**GOV**		
191.8 - 200 GHz FIXED INTER-SATELLITE MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.341 5.554	**191.8 - 200 GHz** FIXED INTER-SATELLITE MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.341 5.554	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
200 - 202 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341 5.563A	**200 - 202 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341 5.563A	**GOV**		
202 - 209 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341 5.563A	**202 - 209 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.341 5.563A	**GOV**		
209 - 217 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.341	**209 - 217 GHz** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.341	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
217 - 226 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	**217 - 226 GHz** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149 5.341	**MIL/GOV**		
226 - 231.5 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**226 - 231.5 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	**GOV**		
231.5 - 232 GHz FIXED MOBILE Radiolocation	**231.5 - 232 GHz** FIXED MOBILE Radiolocation	**MIL/GOV**		
232 - 235 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	**232 - 235 GHz** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
235 - 238 GHz EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 5.563A 5.563B	**235 - 238 GHz** EARTH EXPLORATION-SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 5.563A 5.563B	**GOV**		
238 - 240 GHz FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE	**238 - 240 GHz** FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE	**MIL/GOV**		
240 - 241 GHz FIXED MOBILE RADIOLOCATION	**240 - 241 GHz** FIXED MOBILE RADIOLOCATION	**MIL/GOV**		
241 - 248 GHz RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138 5.149	**241 - 248 GHz** RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138 5.149	**GOV/CIV**	**LBY 02** ISM (244-246 GHz)	

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
248 - 250 GHz AMATEUR AMATEUR-SATELLITE Radio astronomy 5.149	**248 - 250 GHz** AMATEUR AMATEUR-SATELLITE Radio astronomy 5.149	**CIV/GOV**		
250 - 252 GHz EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.563A	**250 - 252 GHz** EARTH EXPLORATION-SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340 5.563A	**GOV**		
252 - 265 GHz FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	**252 - 265 GHz** FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149 5.554	**MIL/GOV**		

ITU Region 1 RR Table of Frequency Allocations	Libyan Frequency Allocations Table			
COL 1	**COL 2**	**COL 3**	**COL 4**	**COL 5**
RR Frequency Allocations	**National Frequency Allocations**	**Users categories**	**Applications Comments Footnotes**	**Long term strategy International Trend**
265 - 275 GHz FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.563A	**265 - 275 GHz** FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149 5.563A	**MIL/GOV**		
275-1 000 (Not allocated) 5.565	**275-1 000** (Not allocated) 5.565			

ANNEX 3: LIBYAN FOOTNOTES

LBY 01: The following international distress frequencies, frequencies for meteorological and navigational warning, for search and rescue operations etc.:

490 kHz	500 kHz	518 kHz	2174.5 kHz	2182 kHz
2187.5 kHz	3023 kHz	4125 kHz	4177.5 kHz	4207.5 kHz
4209.5 kHz	4210 kHz	5680 kHz	6215 kHz	6268 kHz
6 312 kHz	6 314 kHz	8 291 kHz	8 364 kHz	8 376.5 kHz
8 414.5 kHz	8 416.5 kHz	10 003 kHz	12 290 kHz	12 520 kHz
12 577 kHz	12 579 kHz	14 993 kHz	16 420 kHz	16 695 kHz
16 804.5 kHz	16 806.5 kHz	19 680.5 kHz	19 993 kHz	22 376 kHz
26 100.5 kHz	75 MHz	121.5 MHz	123.1 MHz	156.525 MHz
156.8 MHz	243 MHz			

and the frequency bands:

406-406.1 MHz	1530-1544 MHz	1544-1545 MHz	1626.5-1645.5 MHz
1645.5-1646.5 MHz	9200-9500 MHz		

are opened to all categories of users but exclusively for these specific communications associated with the safety of life and property (See RR/AP 13, AP15, AP 18).

LBY 02: The following bands and carriers can also be used for Short Range Devices (SRD) subject to special MCIT standards:

8.3 - 148.5 kHz	1640 – 1780 kHz	3155 – 3400 kHz	6765 - 6795 kHz
7400 - 8800 kHz	13553 - 13567 kHz	26.957 - 27.283 MHz	29.7 - 47 MHz
48.76 - 49.990 MHz	57.41 – 76 MHz	72 – 73 MHz	125 – 134.2 MHz
173.965 - 216 MHz	433.05 - 434.79 MHz	456 - 459 MHz	470 - 872 MHz
863 - 870 MHz	1 785 – 1 800 MHz	1 880 – 1 900 MHz	2 400 – 2 483.5 MHz
5 150 – 5 350 MHz	5 470 – 5 875 MHz	9 200 – 9 500 MHz	10.5 - 10.6 GHz
24.0 – 24.25 GHz	63 – 64 GHz	76 – 77 GHz	122 – 123 GHz
244 – 246 GHz			

LBY 03: In making assignments to stations of other services to which the following bands are allocated, Libya must 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.

13 360-13 410 kHz,	4 950-4 990 MHz,	102-109.5 GHz,
25 550-25 670 kHz,	4 990-5 000 MHz,	111.8-114.25 GHz,
37.5-38.25 MHz,	6 650-6 675.2 MHz,	128.33-128.59 GHz,
73-74.6 MHz in Regions 1 et 3,	10.6-10.68 GHz,	129.23-129.49 GHz,
150.05-153 MHz in Region 1,	14.47-14.5 GHz,	130-134 GHz,
322-328.6 MHz,	22.01-22.21 GHz,	136-148.5 GHz,
406.1-410 MHz,	22.21-22.5 GHz,	151.5-158.5 GHz,

608-614 MHz in Regions 1 et 3,	22.81-22.86 GHz,	168.59-168.93 GHz,
1 330-1 400 MHz,	23.07-23.12 GHz,	171.11-171.45 GHz,
1 610.6-1 613.8 MHz,	31.2-31.3 GHz,	172.31-172.65 GHz,
1 660-1 670 MHz,	31.5-31.8 GHz in Regions 1 et 3,	173.52-173.85 GHz,
1 718.8-1 722.2 MHz,	36.43-36.5 GHz,	195.75-196.15 GHz,
2 655-2 690 MHz,	42.5-43.5 GHz,	209-226 GHz,
3 260-3 267 MHz,	48.94-49.04 GHz,	241-250 GHz,
3 332-3 339 MHz,	76-86 GHz,	252-275 GHz
3 345.8-3 352.5 MHz,	92-94 GHz,	
4 825-4 835 MHz,	94.1-100 GHz,	

LBY 04: Given the ever-increasing importance of the amateur service in emergency situations, a removal of the fixed and mobile service from the band 1810- 1850 kHz and 7100 – 7200 kHz may be considered, so as to allocate it for exclusive use by the amateur service.

LBY 05: Given the ever-increasing importance of the amateur service in emergency situations, a removal of the fixed service from the band 7000 – 7100 kHz may be considered, so as to allocate it for exclusive use by the amateur service.

LBY 06: Assignments for new fixed point-to-point radio links in the frequency range 30 MHz - 1 000 MHz are not allowed.

LBY 07: Libyan stations of the land mobile service in the band 47-68 MHz shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations.

LBY 08: Stations of 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 in the band 148-149.9 MHz.

LBY 9: Libyan stations of the land mobile service shall not cause harmful interference to existing or planned stations operating in accordance with the Table in the band 470-790 MHz.

LBY 10: Libyan stations of the mobile service shall not cause harmful interference to, or claim protection from, stations of services operating in accordance with the Table in the band 790-830 MHz. This allocation is effective until 16 June 2015.

LBY 11: For the purpose of protecting fixed and mobile services, including IMT-2000 mobile stations, from co-channel interference, a high altitude platform station (HAPS) operating as an IMT-2000 base station, shall not exceed a co-channel power flux-density of -127 dB(W/($m^2 \cdot$ MHz)) at the Earth's surface outside the country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS.

LBY 12: Libya shall not claim protection for the fixed and mobile services from the radiolocation service in the band 3 300-3 400 MHz.

LBY 13: Earth stations located on board vessels may operate with the characteristics and under the conditions contained in Resolution **902 (WRC-03)**, in the maritime mobile-satellite service on a secondary basis. Such use shall be in accordance with Resolution **902 (WRC-03)**.

LBY 14: The power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed −3 dBW. This limit may be exceeded, subject to agreement obtained under No. **9.21**. This restriction on the fixed and mobile, except aeronautical mobile, service is not applicable.

LBY 15: The power limits given in Nos. **21.3** and **21.5** shall apply. The maximum equivalent isotropically radiated power (e.i.r.p.) of a station in the fixed or mobile service shall not exceed +55 dBW. The power delivered by a transmitter to the antenna of a station in the fixed or mobile services shall not exceed +13 dBW in frequency bands between 1 GHz and 10 GHz, or +10 dBW in frequency bands above 10 GHz, except as cited in No. **21.5A**.

ANNEX 4
RADIO REGULATIONS ARTICLE 5 FOOTNOTES

5.53 Administrations authorizing the use of frequencies below 8.3 kHz shall ensure that no harmful interference is caused to services to which the bands above 8.3 kHz are allocated. (WRC-12)

5.54 Administrations conducting scientific research using frequencies below 8.3 kHz are urged to advise other administrations that may be concerned in order that such research may be afforded all practicable protection from harmful interference. (WRC-12)

5.54A Use of the 8.3-11.3 kHz frequency band by stations in the meteorological aids service is limited to passive use only. In the band 9-11.3 kHz, meteorological aids stations shall not claim protection from stations of the radionavigation service submitted for notification to the Bureau prior to 1 January 2013. For sharing between stations of the meteorological aids service and stations in the radionavigation service submitted for notification after this date, the most recent version of Recommendation ITU-R RS.1881 should be applied. (WRC-12)

5.54B *Additional allocation:* in Algeria, Saudi Arabia, Egypt, the United Arab Emirates, the Russian Federation, Iraq, Lebanon, Morocco, Qatar, the Syrian Arab Republic, Sudan and Tunisia, the frequency band 8.3-9 kHz is also allocated to the radionavigation, fixed and mobile services on a primary basis. (WRC-12)

5.54C *Additional allocation:* in China, the frequency band 8.3-9 kHz is also allocated to the maritime radionavigation and maritime mobile services on a primary basis. (WRC-12)

5.55 *Additional allocation:* in Armenia, Azerbaijan, 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-07)

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. InL Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan, the frequencies 25 kHz and 50 kHz will be used for this purpose under the same conditions. (WRC-12)

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 authorized 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)

5.59 *Different category of service:* in Bangladesh and Pakistan, the allocation of the bands 70-72 kHz and 84-86 kHz to the fixed and maritime mobile services is on a primary basis (see No. **5.33**). (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.

5.61 In Region 2, the establishment and operation of stations in the maritime radionavigation service in the bands 70-90 kHz and 110-130 kHz shall be subject to agreement

obtained under No. **9.21** with administrations whose services, operating in accordance with the Table, may be affected. However, stations of the fixed, maritime mobile and radiolocation services shall not cause harmful interference to stations in the maritime radionavigation service established under such agreements.

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 mobile service.

5.65 *Different category of service:* in Bangladesh, the allocation of the bands 112-117.6 kHz and 126-129 kHz to the fixed and maritime mobile services is on a primary basis (see No. **5.33**). (WRC-2000)

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 Mongolia, Kyrgyzstan 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-07)

5.67A Stations in the amateur service using frequencies in the band 135.7-137.8 kHz shall not exceed a maximum radiated power of 1 W (e.i.r.p.) and shall not cause harmful interference to stations of the radionavigation service operating in countries listed in No. **5.67**. (WRC-07)

5.67B The use of the band 135.7-137.8 kHz in Algeria, Egypt, Iran (Islamic Republic of), Iraq, Lebanon, Syrian Arab Republic, Sudan, South Sudan and Tunisia is limited to the fixed and maritime mobile services. The amateur service shall not be used in the above-mentioned countries in the band 135.7-137.8 kHz, and this should be taken into account by the countries authorizing such use. (WRC-12)

5.68 *Alternative allocation:* in Angola, Congo (Rep. of the), the Dem. Rep. of the Congo and South Africa, the band 160-200 kHz is allocated to the fixed service on a primary basis. (WRC-12)

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, the Central African Rep., Congo (Rep. of the), Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mozambique, Namibia, Nigeria, Oman, the Dem. Rep. of the Congo, 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-12)

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

5.72 (SUP - WRC-12)

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 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-07)

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.

5.77 *Different category of service:* in Australia, China, the French overseas communities of Region 3, Korea (Rep. of), India, Iran (Islamic Republic of), Japan, Pakistan, Papua New Guinea and Sri Lanka, the allocation of the frequency band 415-495 kHz to the aeronautical radionavigation service is on a primary basis. In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Latvia, Uzbekistan and Kyrgyzstan, the allocation of the frequency band 435-495 kHz to the aeronautical radionavigation service is on a primary basis. Administrations in all the aforementioned countries shall take all practical steps necessary to ensure that aeronautical radionavigation stations in the frequency band 435-495 kHz do not cause interference to reception by coast stations of transmissions from ship stations on frequencies designated for ship stations on a worldwide basis. (WRC-12)

5.78 *Different category of service:* in Cuba, the United States of America and Mexico, the allocation of the band 415-435 kHz to the aeronautical radionavigation service is on a primary basis.

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 Organization (IMO) (see Resolution **339 (Rev.WRC-07)**). (WRC-07)

5.80 In Region 2, the use of the band 435-495 kHz by the aeronautical radionavigation service is limited to non-directional beacons not employing voice transmission.

5.80A The maximum equivalent isotropically radiated power (e.i.r.p.) of stations in the amateur service using frequencies in the band 472-479 kHz shall not exceed 1 W. Administrations may increase this limit of e.i.r.p. to 5 W in portions of their territory which are at a distance of over 800 km from the borders of Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iran (Islamic Republic of), Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia, Ukraine and Yemen. In this frequency band, stations in the amateur service shall not cause harmful interference to, or claim protection from, stations of the aeronautical radionavigation service. (WRC-12)

5.80B The use of the frequency band 472-479 kHz in Algeria, Saudi Arabia, Azerbaijan, Bahrain, Belarus, China, Comoros, Djibouti, Egypt, United Arab Emirates, the Russian Federation, Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Mauritania, Oman, Uzbekistan, Qatar, Syrian Arab Republic, Kyrgyzstan, Somalia, Sudan, Tunisia and Yemen is limited to the maritime mobile and aeronautical radionavigation services. The amateur service shall not be used in the above-mentioned countries in this frequency band, and this should be taken into account by the countries authorizing such use. (WRC-12)

5.81 (SUP - WRC-2000)

5.82 In the maritime mobile service, the frequency 490 kHz is 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 **31** and **52**. In using the frequency 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. In using the frequency band 472-479 kHz for the amateur service, administrations shall ensure that no harmful interference is caused to the frequency 490 kHz. (WRC-12)

5.82A (SUP - WRC-12)

5.82B (SUP - WRC-12)

5.83 (SUP - WRC-07)

5.84 The conditions for the use of the frequency 518 kHz by the maritime mobile service are prescribed in Articles **31** and **52**. (WRC-07)

5.85 Not used.

5.86 In Region 2, in the band 525-535 kHz the carrier power of broadcasting stations shall not exceed 1 kW during the day and 250 W at night.

5.87 *Additional allocation:* in Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Niger and Swaziland, the band 526.5-535 kHz is also allocated to the mobile service on a secondary basis. (WRC-12)

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)

5.88 *Additional allocation:* in China, the band 526.5-535 kHz is also allocated to the aeronautical radionavigation service on a secondary basis.

5.89 In Region 2, the use of the band 1 605-1 705 kHz by stations of the broadcasting service is subject to the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988).

The examination of frequency assignments to stations of the fixed and mobile services in the band 1 625-1 705 kHz shall take account of the allotments appearing in the Plan established by the Regional Administrative Radio Conference (Rio de Janeiro, 1988).

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.

5.91 *Additional allocation:* in the Philippines and Sri Lanka, the band 1 606.5-1 705 kHz is also allocated to the broadcasting service on a secondary basis. (WRC-97)

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, Mongolia, Nigeria, Uzbekistan, Poland, Kyrgyzstan, Slovakia, 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-12)

5.94 and **5.95** Not used.

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 Rep., 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)

5.97 In Region 3, the Loran system operates either on 1 850 kHz or 1 950 kHz, the bands occupied being 1 825-1 875 kHz and 1 925-1 975 kHz respectively. Other services to which the band 1 800-2 000 kHz is allocated may use any frequency therein on condition that no harmful interference is caused to the Loran system operating on 1 850 kHz or 1 950 kHz.

5.98 *Alternative allocation*: in Angola, Armenia, Azerbaijan, Belarus, Belgium, Cameroon, Congo (Rep. of the), Denmark, Egypt, Eritrea, Spain, Ethiopia, the Russian Federation, Georgia, Greece, Italy, Kazakhstan, Lebanon, Lithuania, 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-12)

5.99 *Additional allocation:* in Saudi Arabia, Austria, Iraq, Libya, Uzbekistan, Slovakia, Romania, 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-12)

5.100 In Region 1, the authorization 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 (SUP - WRC-12)

5.102 *Alternative allocation:* in Bolivia, Chile, Mexico, Paraguay, Peru and Uruguay, the band 1 850-2 000 kHz is allocated to the fixed, mobile except aeronautical mobile, radiolocation and radionavigation services on a primary basis. (WRC-07)

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.

5.105 In Region 2, except in Greenland, coast stations and ship stations using radiotelephony in the band 2 065-2 107 kHz shall be limited to class J3E emissions and to a peak envelope power not exceeding 1 kW. Preferably, the following carrier frequencies should be used: 2 065.0 kHz, 2 079.0 kHz, 2 082.5 kHz, 2 086.0 kHz, 2 093.0 kHz, 2 096.5 kHz, 2 100.0 kHz and 2 103.5 kHz. In Argentina and Uruguay, the carrier frequencies 2 068.5 kHz and 2 075.5 kHz are also used for this purpose, while the frequencies within the band 2 072-2 075.5 kHz are used as provided in No. **52.165**.

5.106 In Regions 2 and 3, provided no harmful interference is caused to the maritime mobile service, the frequencies between 2 065 kHz and 2 107 kHz may be used by stations of the fixed service communicating only within national borders and whose mean power does not exceed 50 W. In notifying the frequencies, the attention of the Bureau should be drawn to these provisions.

5.107 *Additional allocation:* in Saudi Arabia, Eritrea, Ethiopia, Iraq, Libya, Somalia and Swaziland, the band 2 160-2 170 kHz is also allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. The mean power of stations in these services shall not exceed 50 W. (WRC-12)

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**. (WRC-07)

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 2 174.5 kHz, 4 177.5 kHz, 6 268 kHz, 8 376.5 kHz, 12 520 kHz and 16 695 kHz are international distress frequencies for narrow-band direct-printing telegraphy. 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, 156.525 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**.

The same applies to the frequencies 10 003 kHz, 14 993 kHz and 19 993 kHz, but in each of these cases emissions must be confined in a band of 3 kHz about the frequency. (WRC-07)

5.112 *Alternative allocation*: in Denmark 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-12)

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 Denmark and Iraq, the band 2 502-2 625 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.115 The carrier (reference) frequencies 3 023 kHz and 5 680 kHz may also be used, in accordance with Article **31**, by stations of the maritime mobile service engaged in coordinated search and rescue operations. (WRC-07)

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 kHz 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 Côte d'Ivoire, Denmark, Egypt, Liberia, 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-12)

5.118 *Additional allocation:* in the United States, Mexico, Peru and Uruguay, the band 3 230-3 400 kHz is also allocated to the radiolocation service on a secondary basis. (WRC-03)

5.119 *Additional allocation:* in Honduras, Mexico and Peru, the band 3 500-3 750 kHz is also allocated to the fixed and mobile services on a primary basis. (WRC-07)

5.120 (SUP - WRC-2000)

5.121 Not used.

5.122 *Alternative allocation:* in Bolivia, Chile, Ecuador, Paraguay, Peru and Uruguay, the band 3 750-4 000 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-07)

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)

5.125 *Additional allocation:* in Greenland, the band 3 950-4 000 kHz is also allocated to the broadcasting service on a primary basis. The power of the broadcasting stations operating in this band shall not exceed that necessary for a national service and shall in no case exceed 5 kW.

5.126 In Region 3, the stations of those services to which the band 3 995-4 005 kHz is allocated may transmit standard frequency and time signals.

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 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, on condition that harmful interference is not caused to the maritime mobile service. In addition, in Afghanistan, Argentina, Armenia, Azerbaijan, Belarus, Botswana, Burkina Faso, the Central African Rep., China, the Russian Federation, Georgia, India, Kazakhstan, Mali, Niger, Pakistan, Kyrgyzstan, 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 in the fixed service, with a mean power not exceeding 1 kW, can be operated on condition that they are situated at least 600 km from the coast and that harmful interference is not caused to the maritime mobile service. (WRC-12)

5.129 (SUP - WRC-07)

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**. (WRC-07)

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**).

5.132A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution **612 (Rev.WRC-12)**. (WRC-12)

5.132B *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 4 438-4 488 kHz is allocated to the fixed and mobile, except aeronautical mobile (R), services on a primary basis. (WRC-12)

Different category of service: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Latvia, Lithuania, Niger, Uzbekistan, Kyrgyzstan, 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**). (WRC-12)

5.133A *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency bands 5 250-5 275 kHz and 26 200-26 350 kHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

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 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-07)**. (WRC-07)

5.135 (SUP - WRC-97)

5.136 *Additional allocation:* frequencies in the band 5 900-5 950 kHz may be used by stations in the following services, communicating only within the boundary of the country in which they are located: fixed service (in all three Regions), land mobile service (in Region 1), mobile except aeronautical mobile (R) service (in Regions 2 and 3), on condition that harmful interference is not caused to 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. (WRC-07)

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 conditions.

5.138 The following bands:

6 765-6 795 kHz	(centre frequency 6 780 kHz),
433.05-434.79 MHz	(centre frequency 433.92 MHz) in Region 1 except in the countries mentioned in No. **5.280**,
61-61.5 GHz	(centre frequency 61.25 GHz),
122-123 GHz	(centre frequency 122.5 GHz), and
244-246 GHz	(centre 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 (SUP-WRC-12)

5.139 (SUP-WRC-12)

5.140 *Additional allocation:* in Angola, Iraq, Kenya, Somalia and Togo, the band 7 000-7 050 kHz is also allocated to the fixed service on a primary basis. (WRC-12)

5.141 *Alternative allocation:* in Egypt, Eritrea, Ethiopia, Guinea, Libya, Madagascar and Niger, the band 7 000-7 050 kHz is allocated to the fixed service on a primary basis. (WRC-12)

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:* in Algeria, Saudi Arabia, Australia, Bahrain, Botswana, Brunei Darussalam, China, Comoros, Korea (Rep. of), Diego Garcia, Djibouti, Egypt, United Arab Emirates, Eritrea, Indonesia, Iran (Islamic Republic of), Japan, Jordan, Kuwait, Libya, Morocco, Mauritania, Niger, New Zealand, Oman, Papua New Guinea, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Tunisia, Viet Nam 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-12)

5.141C (SUP - WRC-12)

5.142 The use of the band 7 200-7 300 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-12)

5.143 *Additional allocation:* frequencies in the band 7 300-7 350 kHz may be used by stations in the fixed service and in the land mobile service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to 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. (WRC-07)

5.143A In Region 3, frequencies in the band 7 350-7 450 kHz may be used by stations in the fixed service on a primary basis and land mobile service on a secondary basis, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to 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. (WRC-12)

5.143B In Region 1, 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 on condition that harmful interference is not caused to the broadcasting service. The total radiated power of each station shall not exceed 24 dBW. (WRC-12)

5.143C *Additional allocation:* in Algeria, Saudi Arabia, Bahrain, Comoros, Djibouti, Egypt, United Arab Emirates, Iran (Islamic Republic of), Jordan, Kuwait, Libya, Morocco, Mauritania, Niger, Oman, Qatar, the Syrian Arab Republic, Sudan, South 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-12)

5.143D In Region 2, frequencies in the band 7 350-7 400 kHz may be used by stations in the fixed service and in the land mobile service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to 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. (WRC-12)

5.143E (SUP - WRC-12)

5.144 In Region 3, the stations of those services to which the band 7 995-8 005 kHz is allocated may transmit standard frequency and time signals.

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**. (WRC-07)

5.145A Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed service. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution **612 (Rev.WRC-12)**. (WRC-12)

5.145B *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency bands 9 305-9 355 kHz and 16 100-16 200 kHz are allocated to the fixed service on a primary basis. (WRC-12)

5.146 *Additional allocation:* frequencies in 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 may be used by stations in the fixed service, communicating only within the boundary of the country in which they are located, on condition that harmful interference is not caused to the broadcasting service. When using frequencies in the fixed service, 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. (WRC-07)

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 station 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,	4 950-4 990 MHz,	102-109.5 GHz,
25 550-25 670 kHz,	4 990-5 000 MHz,	111.8-114.25 GHz,
37.5-38.25 MHz,	6 650-6 675.2 MHz,	128.33-128.59 GHz,
73-74.6 MHz in Regions 1 and 3,	10.6-10.68 GHz,	129.23-129.49 GHz,
	14.47-14.5 GHz,	130-134 GHz,
150.05-153 MHz in Region 1,	22.01-22.21 GHz,	136-148.5 GHz,
322-328.6 MHz,	22.21-22.5 GHz,	151.5-158.5 GHz,
406.1-410 MHz,	22.81-22.86 GHz,	168.59-168.93 GHz,
608-614 MHz in Regions 1 and 3,	23.07-23.12 GHz,	171.11-171.45 GHz,
	31.2-31.3 GHz,	172.31-172.65 GHz,
1 330-1 400 MHz,	31.5-31.8 GHz in Regions 1 and 3,	173.52-173.85 GHz,
1 610.6-1 613.8 MHz,		195.75-196.15 GHz,
1 660-1 670 MHz,	36.43-36.5 GHz,	209-226 GHz,
1 718.8-1 722.2 MHz,	42.5-43.5 GHz,	241-250 GHz,
2 655-2 690 MHz,	48.94-49.04 GHz,	252-275 GHz

3 260-3 267 MHz, 76-86 GHz,
3 332-3 339 MHz, 92-94 GHz,
3 345.8-3 352.5 MHz, 94.1-100 GHz,
4 825-4 835 MHz,

are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from spaceborne or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. **4.5** and **4.6** and Article **29**). (WRC-07)

5.149A *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 13 450-13 550 kHz is allocated to the fixed service on a primary basis and to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-12)

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 *Additional allocation:* frequencies in the bands 13 570-13 600 kHz and 13 800-13 870 kHz may be used by stations in the fixed service and in the mobile except aeronautical mobile (R) service, communicating only within the boundary of the country in which they are located, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies in 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. (WRC-07)

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 24 dBW. (WRC-03)

5.153 In Region 3, the stations of those services to which the band 15 995-16 005 kHz is allocated may transmit standard frequency and time signals.

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, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, 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-07)

5.155A In Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, Mongolia, Uzbekistan, Kyrgyzstan, Slovakia, 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-07)

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 service (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.

5.158 *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 24 450-24 600 kHz is allocated to the fixed and land mobile services on a primary basis. (WRC-12)

5.159 *Alternative allocation:* in Armenia, Austria, Belarus, Moldova, Uzbekistan and Kyrgyzstan, the frequency band 39-39.5 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)

5.160 *Additional allocation:* in Botswana, Burundi, Dem. Rep. of the Congo and Rwanda, the band 41-44 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)

5.161 *Additional allocation:* in Iran (Islamic Republic of) and Japan, the band 41-44 MHz is also allocated to the radiolocation service on a secondary basis.

5.161A *Additional allocation:* in Korea (Rep. of) and the United States, the frequency bands 41.015-41.665 MHz and 43.35-44 MHz are also allocated to the radiolocation service on a primary basis. Stations in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the fixed or mobile services. Applications of the radiolocation service are limited to oceanographic radars operating in accordance with Resolution **612 (Rev.WRC-12)**. (WRC-12)

5.161B *Alternative allocation:* in Albania, Germany, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Vatican, Croatia, Denmark, Spain, Estonia, Finland, France, Greece, Hungary, Ireland, Iceland, Italy, Latvia, The Former Yugoslav Rep. of Macedonia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Norway, Uzbekistan, Netherlands, Poland, Portugal, Kyrgyzstan, Slovakia, Czech Rep., Romania, United Kingdom, San Marino, Slovenia, Sweden, Switzerland, Turkey and Ukraine, the frequency band 42-42.5 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)

5.162 *Additional allocation:* in Australia, the band 44-47 MHz is also allocated to the broadcasting service on a primary basis. (WRC-12)

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, Monaco, Montenegro, Norway, the Netherlands, Poland, Portugal, the Czech Rep., the United Kingdom, Serbia, Slovenia, 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-12)

5.163 *Additional allocation:* in Armenia, Belarus, the Russian Federation, Georgia, Hungary, Kazakhstan, Latvia, Moldova, Uzbekistan, Kyrgyzstan, 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-12)

5.164 *Additional allocation:* in Albania, Algeria, Germany, Austria, Belgium, Bosnia and Herzegovina, Botswana, Bulgaria, Côte d'Ivoire, Denmark, Spain, Estonia, Finland, France, Gabon, Greece, Ireland, Israel, Italy, Jordan, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Malta, Morocco, Mauritania, Monaco, Montenegro, Nigeria, Norway, the Netherlands, Poland, Syrian Arab Republic, Slovakia, Czech Rep., Romania, the United Kingdom, Serbia, Slovenia, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 47-68 MHz, in South Africa the band 47-50 MHz, and in Latvia the band 48.5-56.5 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-12)

5.165 *Additional allocation:* in Angola, Cameroon, Congo (Rep. of the), Madagascar, Mozambique, Niger, Somalia, Sudan, South 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. (WRC-12)

5.166 *Alternative allocation:* in New Zealand, the band 50-51 MHz is allocated to the fixed and mobile services on a primary basis; the band 53-54 MHz is allocated to the fixed and mobile services on a primary basis. (WRC-12)

5.167 *Alternative allocation:* in Bangladesh, Brunei Darussalam, India, Iran (Islamic Republic of), Pakistan, Singapore and Thailand, the band 50-54 MHz is allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-07)

5.167A *Additional allocation:* in Indonesia, the band 50-54 MHz is also allocated to the fixed, mobile and broadcasting services on a primary basis. (WRC-07)

5.168 *Additional allocation:* in Australia, China and the Dem. People's Rep. of Korea, the band 50-54 MHz is also allocated to the broadcasting service on a primary basis.

5.169 *Alternative allocation:* in Botswana, Lesotho, Malawi, Namibia, the Dem. Rep. 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. In Senegal, the band 50-51 MHz is allocated to the amateur service on a primary basis. (WRC-12)

5.170 *Additional allocation:* in New Zealand, the band 51-53 MHz is also allocated to the fixed and mobile services on a primary basis.

5.171 *Additional allocation:* in Botswana, Lesotho, Malawi, Mali, Namibia, Dem. Rep. of the Congo, Rwanda, South Africa, Swaziland, Zambia and Zimbabwe, the band 54-68 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.172 *Different category of service:* in the French overseas departments and communities in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 54-68 MHz to the fixed and mobile services is on a primary basis (see No. **5.33**).

5.173 *Different category of service:* in the French overseas departments and communities in Region 2, Guyana, Jamaica and Mexico, the allocation of the band 68-72 MHz to the fixed and mobile services is on a primary basis (see No. **5.33**).

5.174 (SUP - WRC-07)

5.175 *Alternative allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Moldova, 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. In Latvia and Lithuania, the bands 68-73 MHz and 76-87.5 MHz are allocated to the broadcasting and mobile, except aeronautical mobile, services 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-07)

5.176 *Additional allocation:* in Australia, China, Korea (Rep. of), the Philippines, the Dem. People's Rep. of Korea and Samoa, the band 68-74 MHz is also allocated to the broadcasting service on a primary basis. (WRC-07)

5.177 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, 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-07)

5.178 *Additional allocation:* in Colombia, Cuba, El Salvador, Guatemala, Guyana, Honduras and Nicaragua, the band 73-74.6 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)

5.179 *Additional allocation:* in Armenia, Azerbaijan, Belarus, China, the Russian Federation, Georgia, Kazakhstan, Lithuania, Mongolia, Kyrgyzstan, 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-12)

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 74.8 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 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-03)

5.182 *Additional allocation:* in Western Samoa, the band 75.4-87 MHz is also allocated to the broadcasting service on a primary basis.

5.183 *Additional allocation:* in China, Korea (Rep. of), Japan, the Philippines and the Dem. People's Rep. of Korea, the band 76-87 MHz is also allocated to the broadcasting service on a primary basis.

5.184 (SUP - WRC-07)

5.185 *Different category of service:* in the United States, the French overseas departments and communities in Region 2, Guyana, Jamaica, Mexico and Paraguay, the allocation of the band 76-88 MHz to the fixed and mobile services is on a primary basis (see No. **5.33**).

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).

5.188 *Additional allocation:* in Australia, the band 85-87 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service in Australia is subject to special agreements between the administrations concerned.

5.189 Not used.

5.190 *Additional allocation:* in Monaco, the band 87.5-88 MHz is also allocated to the land mobile service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-97)

5.191 Not used.

5.192 *Additional allocation:* in China and Korea (Rep. of), the band 100-108 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-97)

5.193 Not used.

5.194 *Additional allocation:* in Azerbaijan, Kyrgyzstan, Somalia and Turkmenistan, the band 104-108 MHz is also allocated to the mobile, except aeronautical mobile (R), service on a secondary basis. (WRC-07)

5.195 and **5.196** Not used.

5.197 *Additional allocation:* in 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-12)

5.197A *Additional allocation:* the band 108-117.975 MHz is also allocated on a primary basis to the aeronautical mobile (R) service, limited to systems operating in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution **413 (Rev.WRC-07)**[*]. The use of the band 108-112 MHz by the aeronautical mobile (R) service shall be limited to systems composed of ground-based transmitters and associated receivers that provide navigational information in support of air navigation functions in accordance with recognized international aeronautical standards. (WRC-07)

5.198 (SUP - WRC-07)

5.199 (SUP - WRC-07)

5.200 In the band 117.975-137 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** for distress and safety purposes with stations of the aeronautical mobile service. (WRC-07)

5.201 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq (Republic of), Japan,

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[*] *Note by the Secretariat:* This Resolution was revised by WRC-12.

Kazakhstan, Latvia, Moldova, Mongolia, Mozambique, Uzbekistan, Papua New Guinea, Poland, Kyrgyzstan, 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-12)

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, Oman, Uzbekistan, Poland, the Syrian Arab Republic, Kyrgyzstan, 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-12)

5.203 (SUP - WRC-07)

5.203A (SUP - WRC-07)

5.203B (SUP - WRC-07)

5.204 *Different category of service:* in Afghanistan, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, China, Cuba, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Kuwait, Montenegro, Oman, Pakistan, the Philippines, Qatar, Serbia, 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-07)

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, Azerbaijan, Belarus, Bulgaria, Egypt, the Russian Federation, Finland, France, Georgia, Greece, Kazakhstan, Lebanon, Moldova, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Syrian Arab Republic, Slovakia, the Czech Rep., 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)

5.207 *Additional allocation:* in Australia, the band 137-144 MHz is also allocated to the broadcasting service on a primary basis until that service can be accommodated within regional broadcasting allocations.

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 the relevant ITU-R Recommendation. (WRC-07)

5.208B[*] In the bands:
137-138 MHz,
387-390 MHz,
400.15-401 MHz,

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[*] This provision was previously numbered as No. **5.347A**. It was renumbered to preserve the sequential order.

1 452-1 492 MHz,
1 525-1 610 MHz,
1 613.8-1 626.5 MHz,
2 655-2 690 MHz,
21.4-22 GHz,

Resolution **739 (Rev.WRC-07)** applies. (WRC-07)

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 Italy, the Czech Rep. 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-07)

5.211 *Additional allocation:* in Germany, Saudi Arabia, Austria, Bahrain, Belgium, Denmark, the United Arab Emirates, Spain, Finland, Greece, Ireland, Israel, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Liechtenstein, Luxembourg, Mali, Malta, Montenegro, Norway, the Netherlands, Qatar, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sweden, Switzerland, Tanzania, Tunisia and Turkey, the band 138-144 MHz is also allocated to the maritime mobile and land mobile services on a primary basis. (WRC-12)

5.212 *Alternative allocation:* in Angola, Botswana, Cameroon, the Central African Rep., Congo (Rep. of the), Gabon, Gambia, Ghana, Guinea, Iraq, Jordan, Lesotho, Liberia, Libya, Malawi, Mozambique, Namibia, Niger, Oman, Uganda, Syrian Arab Republic, the Dem. Rep. 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-12)

5.213 *Additional allocation:* in China, the band 138-144 MHz is also allocated to the radiolocation service on a primary basis.

5.214 *Additional allocation:* in Eritrea, Ethiopia, Kenya, The Former Yugoslav Republic of Macedonia, Montenegro, Serbia, Somalia, Sudan, South Sudan and Tanzania, the band 138-144 MHz is also allocated to the fixed service on a primary basis. (WRC-12)

5.215 Not used.

5.216 *Additional allocation:* in China, the band 144-146 MHz is also allocated to the aeronautical mobile (OR) service on a secondary basis.

5.217 *Alternative allocation:* in Afghanistan, Bangladesh, Cuba, Guyana and India, the band 146-148 MHz is allocated to the fixed and mobile services on a primary basis.

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 149.9-150.05 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 (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Croatia, Cuba, Denmark, Djibouti, 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, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Libya, Liechtenstein, Lithuania, Luxembourg, Malaysia, Mali, Malta, Mauritania, Moldova, Mongolia, Montenegro, Mozambique, Namibia, Norway, New Zealand, Oman, Uganda, Uzbekistan, Pakistan, Panama, Papua New Guinea, Paraguay, the Netherlands, the Philippines, Poland, Portugal, Qatar, the Syrian Arab Republic, Kyrgyzstan, Dem. People's Rep. of Korea, Slovakia, Romania, the United Kingdom, Senegal, Serbia, Sierra Leone, Singapore, Slovenia, Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Swaziland, Tanzania, Chad, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Ukraine, Viet Nam, Yemen, Zambia and Zimbabwe. (WRC-12)

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 Recognizing 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)

5.225 *Additional allocation:* in Australia and India, the band 150.05-153 MHz is also allocated to the radio astronomy service on a primary basis.

5.225A *Additional allocation:* in Algeria, Armenia, Azerbaijan, Belarus, China, the Russian Federation, France, Iran (Islamic Republic of), Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and Viet Nam, the frequency band 154-156 MHz is also allocated to the radiolocation service on a primary basis. The usage of the frequency band 154-156 MHz by the radiolocation service shall be limited to space-object detection systems operating from terrestrial locations. The operation of stations in the radiolocation service in the frequency band 154-156 MHz shall be subject to agreement obtained under No. **9.21**. For the identification of potentially affected administrations in Region 1, the instantaneous field-strength value of 12 dB(μV/m) for 10% of the time produced at 10 m above ground level in the 25 kHz reference frequency band at the border of the territory of any other administration shall be used. For the identification of potentially affected administrations in Region 3, the interference-to-noise ratio (I/N) value of −6 dB (N = −161 dBW/4 kHz), or −10 dB for applications with greater protection requirements, such as public protection and disaster relief (PPDR (N = −161 dBW/4 kHz)), for 1% of the time produced at 60 m above ground level at the border of the territory of any other administration shall be used. In the frequency bands 156.7625-156.8375 MHz, 156.5125-156.5375 MHz, 161.9625-161.9875 MHz, 162.0125-162.0375 MHz, out-of-band e.i.r.p. of space

surveillance radars shall not exceed −16 dBW. Frequency assignments to the radiolocation service under this allocation in Ukraine shall not be used without the agreement of Moldova. (WRC-12)

5.226 The frequency 156.525 MHz is the international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service using digital selective calling (DSC). The conditions for the use of this frequency and the band 156.4875-156.5625 MHz are contained in Articles **31** and **52**, and in Appendix **18**.

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 and the band 156.7625-156.8375 MHz are contained in Article **31** and Appendix **18**.

In the bands 156-156.4875 MHz, 156.5625-156.7625 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 **18**).

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 frequencies 156.8 MHz and 156.525 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. (WRC-07)

5.227 *Additional allocation:* the bands 156.4875-156.5125 MHz and 156.5375-156.5625 MHz are also allocated to the fixed and land mobile services on a primary basis. The use of these bands by the fixed and land mobile services shall not cause harmful interference to nor claim protection from the maritime mobile VHF radiocommunication service. (WRC-07)

5.227A (SUP - WRC-12)

5.228 The use of the frequency bands 156.7625-156.7875 MHz and 156.8125-156.8375 MHz by the mobile-satellite service (Earth-to-space) is limited to the reception of automatic identification system (AIS) emissions of long-range AIS broadcast messages (Message 27, see the most recent version of Recommendation ITU-R M.1371). With the exception of AIS emissions, emissions in these frequency bands by systems operating in the maritime mobile service for communications shall not exceed 1 W. (WRC-12)

5.228A The frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz may be used by aircraft stations for the purpose of search and rescue operations and other safety-related communications. (WRC-12)

5.228B The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the fixed and land mobile services shall not cause harmful interference to, or claim protection from, the maritime mobile service. (WRC-12)

5.228C The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the maritime mobile service and the mobile-satellite (Earth-to-space) service is limited to the automatic identification system (AIS). The use of these frequency bands by the aeronautical mobile (OR) service is limited to AIS emissions from search and rescue aircraft operations. The AIS operations in these frequency bands shall not constrain the development and use of the fixed and mobile services operating in the adjacent frequency bands. (WRC-12)

5.228D The frequency bands 161.9625-161.9875 MHz (AIS 1) and 162.0125-162.0375 MHz (AIS 2) may continue to be used by the fixed and mobile services on a primary basis until

1 January 2025, at which time this allocation shall no longer be valid. Administrations are encouraged to make all practicable efforts to discontinue the use of these bands by the fixed and mobile services prior to the transition date. During this transition period, the maritime mobile service in these frequency bands has priority over the fixed, land mobile and aeronautical mobile services. (WRC-12)

5.228E The use of the automatic identification system in the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the aeronautical mobile (OR) service is limited to aircraft stations for the purpose of search and rescue operations and other safety-related communications. (WRC-12)

5.228F The use of the frequency bands 161.9625-161.9875 MHz and 162.0125-162.0375 MHz by the mobile-satellite service (Earth-to-space) is limited to the reception of automatic identification system emissions from stations operating in the maritime mobile service. (WRC-12)

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.

5.230 *Additional allocation:* in China, the band 163-167 MHz is also allocated to the space operation service (space-to-Earth) on a primary basis, subject to agreement obtained under No. **9.21**.

5.231 *Additional allocation:* in Afghanistan and China, the band 167-174 MHz is also allocated to the broadcasting service on a primary basis. The introduction of the broadcasting service into this band shall be subject to agreement with the neighbouring countries in Region 3 whose services are likely to be affected. (WRC-12)

5.232 *Additional allocation:* in Japan, the band 170-174 MHz is also allocated to the broadcasting service on a primary basis.

5.233 *Additional allocation:* in China, the band 174-184 MHz is also allocated to the space research (space-to-Earth) and the space operation (space-to-Earth) services on a primary basis, subject to agreement obtained under No. **9.21**. These services shall not cause harmful interference to, or claim protection from, existing or planned broadcasting stations.

5.234 *Different category of service:* in Mexico, the allocation of the band 174-216 MHz to the fixed and mobile services is on a primary basis (see No. **5.33**).

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.

5.236 Not used.

5.237 *Additional allocation:* in Congo (Rep. of the), Egypt, Eritrea, Ethiopia, Gambia, Guinea, Libya, Mali, Sierra Leone, Somalia and Chad, the band 174-223 MHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)

5.238 *Additional allocation:* in Bangladesh, India, Pakistan and the Philippines, the band 200-216 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

5.239 Not used.

5.240 *Additional allocation:* in China and India, the band 216-223 MHz is also allocated to the aeronautical radionavigation service on a primary basis and to the radiolocation service on a secondary basis.

5.241 In Region 2, no new stations in the radiolocation service may be authorized in the band 216-225 MHz. Stations authorized prior to 1 January 1990 may continue to operate on a secondary basis.

5.242 *Additional allocation:* in Canada, the band 216-220 MHz is also allocated to the land mobile service on a primary basis.

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.

5.244 (SUP - WRC-97)

5.245 *Additional allocation:* in Japan, the band 222-223 MHz is also allocated to the aeronautical radionavigation service on a primary basis and to the radiolocation service on a secondary basis.

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 Syrian Arab Republic, the band 223-235 MHz is also allocated to the aeronautical radionavigation service on a primary basis.

5.248 and **5.249** Not used.

5.250 *Additional allocation*: in China, the band 225-235 MHz is also allocated to the radio astronomy service on a secondary 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**.

5.253 Not used.

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 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. (WRC-07)

5.256A *Additional allocation:* in China, the Russian Federation, Kazakhstan and Ukraine, the band 258-261 MHz is also allocated to the space research service (Earth-to-space) and space operation service (Earth-to-space) on a primary basis. Stations in the space research service (Earth-to-space) and space operation service (Earth-to-space) shall not cause harmful interference to, nor claim protection from, nor constrain the use and development of the mobile service systems and mobile-satellite service systems operating in the band. Stations in space research service (Earth-to-space) and space operation service (Earth-to-space) shall not constrain the future development of fixed service systems of other countries. (WRC-03)

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 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-12)

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, Botswana, Colombia, Cuba, Egypt, the United Arab Emirates, Ecuador, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Liberia, Malaysia, Moldova, Oman, Uzbekistan, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Kyrgyzstan, Singapore, Somalia, Tajikistan, Chad, Turkmenistan and Ukraine, the band 400.05-401 MHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

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 use of the band 400.15-401 MHz by the mobile-satellite service is subject to coordination under No. **9.11A**. The power flux-density limit indicated in Annex 1 of Appendix **5** shall apply until such time as a competent world radiocommunication conference revises it.

5.265 Not used.

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 radiobeacons (see also Article **31**). (WRC-07)

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 dB(W/m^2) for $0° \le \delta \le 5°$, -153 0.077 $(\delta - 5)$ dB(W/m^2) for $5° \le \delta \le 70°$ and –

148 dB(W/m^2) for 70□ ≤ δ ≤ ̃□□, where δ is the angle of arrival of the radio-frequency wave and the reference bandwidth is 4 kHz. No. **4.10** 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)

5.269 *Different category of service:* in Australia, the United States, India, Japan and the United Kingdom, the allocation of the bands 420-430 MHz and 440-450 MHz to the radiolocation service is on a primary basis (see No. **5.33**).

5.270 *Additional allocation:* in Australia, the United States, Jamaica and the Philippines, the bands 420-430 MHz and 440-450 MHz are also allocated to the amateur service on a secondary basis.

5.271 *Additional allocation:* in Belarus, China, India, Kyrgyzstan and Turkmenistan, the band 420-460 MHz is also allocated to the aeronautical radionavigation service (radio altimeters) on a secondary basis. (WRC-07)

5.272 (SUP - WRC-12)

5.273 (SUP - WRC-12)

5.274 *Alternative allocation:* in Denmark, Norway, Sweden and Chad, the bands 430-432 MHz and 438-440 MHz are allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.275 *Additional allocation:* in Croatia, Estonia, Finland, Libya, The Former Yugoslav Republic of Macedonia, Montenegro, Serbia and Slovenia, 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-07)

5.276 *Additional allocation:* in Afghanistan, Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burkina Faso, Djibouti, Egypt, the United Arab Emirates, Ecuador, Eritrea, Ethiopia, Greece, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Jordan, Kenya, Kuwait, Libya, Malaysia, Niger, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, 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-12)

5.277 *Additional allocation:* in Angola, Armenia, Azerbaijan, Belarus, Cameroon, Congo (Rep. of the), Djibouti, the Russian Federation, Georgia, Hungary, Israel, Kazakhstan, Mali, Mongolia, Uzbekistan, Poland, the Dem. Rep. of the Congo, Kyrgyzstan, Slovakia, Romania, Rwanda, Tajikistan, Chad, Turkmenistan and Ukraine, the band 430-440 MHz is also allocated to the fixed service on a primary basis. (WRC-12)

5.278 *Different category of service:* in Argentina, Colombia, Costa Rica, Cuba, Guyana, Honduras, Panama and Venezuela, the allocation of the band 430-440 MHz to the amateur service is on a primary basis (see No. **5.33**).

5.279 *Additional allocation:* in Mexico, the bands 430-435 MHz and 438-440 MHz are also allocated on a primary basis to the land mobile service, subject to agreement obtained under No. **9.21**.

5.279A The use of this band by sensors in the Earth exploration-satellite service (active) shall be in accordance with Recommendation ITU-R RS.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 provisions 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, Montenegro, Portugal, Serbia, Slovenia and Switzerland, 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**. (WRC-07)

5.281 *Additional allocation:* in the French overseas departments and communities 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 authorizing 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.

5.283 *Additional allocation:* in Austria, the band 438-440 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

5.284 *Additional allocation:* in Canada, the band 440-450 MHz is also allocated to the amateur service on a secondary basis.

5.285 *Different category of service:* in Canada, the allocation of the band 440-450 MHz to the radiolocation service is on a primary basis (see No. **5.33**).

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)

5.286AA The band 450-470 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT). See Resolution **224 (Rev.WRC-07)***. This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. (WRC-07)

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

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* *Note by the Secretariat:* This Resolution was revised by WRC-12.

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 and Panama, the band 454-455 MHz is also allocated to the mobile-satellite service (Earth-to-space) on a primary basis. (WRC-07)

5.286E *Additional allocation:* in Cape Verde, Nepal and Nigeria, 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-07)

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.1174-2. (WRC-07)

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.1174-2. (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, Azerbaijan, Belarus, China, the Russian Federation, Japan, Kyrgyzstan, Tajikistan and Turkmenistan, 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-12)

5.291 *Additional allocation:* in China, the band 470-485 MHz is also allocated to the space research (space-to-Earth) and the space operation (space-to-Earth) services on a primary basis subject to agreement obtained under No. **9.21** and subject to not causing harmful interference to existing and planned broadcasting stations.

5.291A *Additional allocation:* in Germany, Austria, Denmark, Estonia, Finland, Liechtenstein, Norway, Netherlands, the Czech Rep. 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)

5.292 *Different category of service:* in Mexico, the allocation of the band 470-512 MHz to the fixed and mobile services, and in Argentina, Uruguay and Venezuela to the mobile service, is on a primary basis (see No. **5.33**), subject to agreement obtained under No. **9.21**. (WRC-07)

5.293 *Different category of service:* in Canada, Chile, Cuba, the United States, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 470-512 MHz and 614-806 MHz to the fixed service is on a primary basis (see No. **5.33**), subject to agreement obtained under No. **9.21**. In Canada, Chile, Cuba, the United States, Guyana, Honduras, Jamaica, Mexico, Panama and Peru, the allocation of the bands 470-512 MHz and 614-698 MHz to the mobile service is on a primary basis (see No. **5.33**), subject to agreement obtained under

No. **9.21**. In Argentina and Ecuador, the allocation of the band 470-512 MHz to the fixed and mobile services is on a primary basis (see No. **5.33**), subject to agreement obtained under No. **9.21**. (WRC-12)

5.294 *Additional allocation:* in Saudi Arabia, Cameroon, Côte d'Ivoire, Egypt, Ethiopia, Israel, Kenya, Libya, the Syrian Arab Republic, South Sudan, Chad and Yemen, the band 470-582 MHz is also allocated to the fixed service on a secondary basis. (WRC-12)

5.295 Not used.

5.296 *Additional allocation:* in Albania, Germany, Saudi Arabia, Austria, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Burkina Faso, Cameroon, Congo (Rep. of the), Côte d'Ivoire, Croatia, Denmark, Djibouti, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Gabon, Ghana, Iraq, Ireland, Iceland, Israel, Italy, Jordan, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Lithuania, Luxembourg, Mali, Malta, Morocco, Moldova, Monaco, Niger, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, the Czech Republic, the United Kingdom, Sudan, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 470-790 MHz, and in Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Nigeria, South Africa, Tanzania, Zambia and Zimbabwe, the band 470-698 MHz are 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 in countries other than those listed in this footnote. (WRC-12)

5.297 *Additional allocation:* in Canada, Costa Rica, Cuba, El Salvador, the United States, Guatemala, Guyana, Honduras, Jamaica and Mexico, the band 512-608 MHz is also allocated to the fixed and mobile services on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-07)

5.298 *Additional allocation:* in India, the band 549.75-550.25 MHz is also allocated to the space operation service (space-to-Earth) on a secondary basis.

5.299 Not used.

5.300 *Additional allocation:* in Saudi Arabia, Cameroon, Egypt, United Arab Emirates, Israel, Jordan, Libya, Oman, Qatar, the Syrian Arab Republic, Sudan and South Sudan, the band 582-790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC-12)

5.301 Not used.

5.302 (SUP - WRC-12)

5.303 Not used.

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.

5.305 *Additional allocation:* in China, 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.

5.307 *Additional allocation:* in India, the band 608-614 MHz is also allocated to the radio astronomy service on a primary basis.

5.308 Not used.

5.309 *Different category of service*: in Costa Rica, El Salvador and Honduras, the allocation of the band 614-806 MHz to the fixed service is on a primary basis (see No. **5.33**), subject to agreement obtained under No. **9.21**.

5.310 (SUP - WRC-97)

5.311 (SUP - WRC-07)

5.311A For the frequency band 620-790 MHz, see also Resolution **549 (WRC-07)**. (WRC-07)

5.312 *Additional allocation*: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 645-862 MHz, in Bulgaria the bands 646-686 MHz, 726-758 MHz, 766-814 MHz and 822-862 MHz, in Romania the band 830-862 MHz, and in Poland, the band 830-860 MHz until 31 December 2012 and the band 860-862 MHz until 31 December 2017, are also allocated to the aeronautical radionavigation service on a primary basis. (WRC-12)

5.312A In Region 1, the use of the band 694-790 MHz by the mobile, except aeronautical mobile, service is subject to the provisions of Resolution **232 (WRC-12)**. See also Resolution **224 (Rev.WRC-12)**. (WRC-12)

5.313 (SUP - WRC-97)

5.313A The band, or portions of the band 698-790 MHz, in Bangladesh, China, Korea (Rep. of), India, Japan, New Zealand, Pakistan, Papua New Guinea, Philippines and Singapore are identified for use by these administrations wishing to implement International Mobile Telecommunications (IMT). 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. In China, the use of IMT in this band will not start until 2015. (WRC-12)

5.313B *Different category of service:* in Brazil, the allocation of the band 698-806 MHz to the mobile service is on a secondary basis (see No. **5.32**). (WRC-07)

5.314 *Additional allocation*: in Austria, Italy, Moldova, Uzbekistan, Kyrgyzstan and the United Kingdom, the band 790-862 MHz is also allocated to the land mobile service on a secondary basis. (WRC-12)

5.315 *Alternative allocation:* in Greece, the band 790-838 MHz is allocated to the broadcasting service on a primary basis. (WRC-12)

5.316 *Additional allocation:* in Germany, Saudi Arabia, Bosnia and Herzegovina, Burkina Faso, Cameroon, Côte d'Ivoire, Croatia, Denmark, Egypt, Finland, Greece, Israel, Jordan, Kenya, Libya, The Former Yugoslav Republic of Macedonia, Liechtenstein, Mali, Monaco, Montenegro, Norway, the Netherlands, Portugal, the United Kingdom, the Syrian Arab Republic, Serbia, 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. This allocation is effective until 16 June 2015. (WRC-07)

5.316A *Additional allocation:* in Spain, France, Gabon and Malta, the band 790-830 MHz, in Albania, Angola, Bahrain, Benin, Botswana, Burundi, Congo (Rep. of the), Egypt, United Arab Emirates, Estonia, Gambia, Ghana, Guinea, Guinea-Bissau, Hungary, Iraq, Kuwait, Lesotho, Latvia, Lebanon, Lithuania, Luxembourg, Malawi, Morocco, Mauritania, Mozambique, Namibia, Niger, Nigeria, Oman, Uganda, Poland, Qatar, Slovakia, Czech Rep., Romania,

Rwanda, Senegal, Sudan, South Sudan, South Africa, Swaziland, Tanzania, Chad, Togo, Yemen, Zambia, Zimbabwe and French overseas departments and communities of Region 1, the band 790-862 MHz and in Georgia, the band 806-862 MHz, are also allocated to the mobile, except aeronautical mobile, service on a primary basis subject to the agreement by the administrations concerned obtained under No. **9.21** and under the GE06 Agreement, as appropriate, including those administrations mentioned in No. **5.312**, where appropriate. See Resolutions **224 (Rev.WRC-12)** and **749 (Rev.WRC-12)**. This allocation is effective until 16 June 2015. (WRC-12)

5.316B In Region 1, the allocation to the mobile, except aeronautical mobile, service on a primary basis in the frequency band 790-862 MHz shall come into effect from 17 June 2015 and shall be subject to agreement obtained under No. **9.21** with respect to the aeronautical radionavigation service in countries mentioned in No. **5.312**. For countries party to the GE06 Agreement, the use of stations of the mobile service is also subject to the successful application of the procedures of that Agreement. Resolutions **224 (Rev.WRC-12)** and **749 (Rev.WRC-12)** shall apply, as appropriate. (WRC-12)

5.317 *Additional allocation*: in Region 2 (except Brazil and the United States), the band 806-890 MHz is also allocated to the mobile-satellite service on a primary basis, subject to agreement obtained under No. **9.21**. The use of this service is intended for operation within national boundaries.

5.317A Those parts of the band 698-960 MHz in Region 2 and the band 790-960 MHz in Regions 1 and 3 which are allocated to the mobile service on a primary basis are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) – see Resolutions **224 (Rev.WRC-12)** and **749 (Rev.WRC-12)**, as appropriate. 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-12)

5.318 *Additional allocation*: in Canada, the United States and Mexico, the bands 849-851 MHz and 894-896 MHz are also allocated to the aeronautical mobile service on a primary basis, for public correspondence with aircraft. The use of the band 849-851 MHz is limited to transmissions from aeronautical stations and the use of the band 894-896 MHz is limited to transmissions from aircraft stations.

5.319 *Additional allocation*: in Belarus, the 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.

5.320 *Additional allocation*: in Region 3, the bands 806-890 MHz and 942-960 MHz are also allocated to the mobile-satellite, except aeronautical mobile-satellite (R), service on a primary basis, subject to agreement obtained under No. **9.21**. The use of this service is limited to operation within national boundaries. In seeking such agreement, appropriate protection shall be afforded to services operating in accordance with the Table, to ensure that no harmful interference is caused to such services.

5.321 (SUP - WRC-07)

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,

Burundi, Egypt, Spain, Lesotho, Libya, Morocco, Malawi, Namibia, Nigeria, South Africa, Tanzania, Zimbabwe and Zambia, subject to agreement obtained under No. **9.21**. (WRC-12)

5.323 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 862-960 MHz, in Bulgaria the bands 862-890.2 MHz and 900-935.2 MHz, in Poland the band 862-876 MHz until 31 December 2017, and in Romania the bands 862-880 MHz and 915-925 MHz, are 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 radiobeacons in operation on 27 October 1997 until the end of their lifetime. (WRC-12)

5.324 Not used.

5.325 *Different category of service*: in the United States, the allocation of the band 890-942 MHz to the radiolocation service is on a primary basis (see No. **5.33**), subject to agreement obtained under No. **9.21**.

5.325A *Different category of service:* in Cuba, the allocation of the band 902-915 MHz to the land mobile service is on a primary basis. (WRC-2000)

5.326 *Different category of service*: in Chile, the band 903-905 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis, subject to agreement obtained under No. **9.21**.

5.327 *Different category of service*: in Australia, the allocation of the band 915-928 MHz to the radiolocation service is on a primary basis (see No. **5.33**).

5.327A The use of the frequency band 960-1 164 MHz by the aeronautical mobile (R) service is limited to systems that operate in accordance with recognized international aeronautical standards. Such use shall be in accordance with Resolution **417 (Rev.WRC-12)**. (WRC-12)

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 (Rev.WRC-07)** 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-07)

5.328B The use of the bands 1 164-1 300 MHz, 1 559-1 610 MHz and 5 010-5 030 MHz 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; however, in the case of radionavigation-satellite service (space-to-space) networks and systems, Resolution 610 (WRC-03) shall only apply to transmitting space stations. In accordance with No. **5.329A**, for systems and networks in the radionavigation-satellite service (space-to-space) in the bands 1 215-1 300 MHz and 1 559-1 610 MHz, the provisions of Nos. **9.7**, **9.12**, **9.12A** and **9.13** shall only apply with respect to other systems and networks in the radionavigation-satellite service (space-to-space). (WRC-07)

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 is 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 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 radionavigation-satellite service (space-to-Earth) systems or on other services operating in accordance with the Table of Frequency Allocations. (WRC-07)

5.330 *Additional allocation:* in Angola, Saudi Arabia, Bahrain, Bangladesh, Cameroon, China, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guyana, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Nepal, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, Somalia, Sudan, South 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-12)

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 (Rep. 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, The Former Yugoslav Republic of Macedonia, Lesotho, Latvia, Lebanon, Liechtenstein, Lithuania, Luxembourg, Madagascar, Mali, Mauritania, Montenegro, Nigeria, Norway, Oman, Pakistan, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the United Kingdom, Serbia, Slovenia, Somalia, Sudan, South Sudan, Sri Lanka, South Africa, Sweden, Switzerland, Thailand, Togo, Turkey, Venezuela and Viet Nam, 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-12)

5.332 In the band 1 215-1 260 MHz, active spaceborne sensors in the Earth exploration-satellite and space research services shall not cause harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service, the radionavigation-satellite service and other services allocated on a primary basis. (WRC-2000)

5.333 (SUP - WRC-97)

5.334 *Additional allocation:* in Canada and the United States, the band 1 350-1 370 MHz is also allocated to the aeronautical radionavigation service on a primary basis. (WRC-03)

5.335 In Canada and the United States in the band 1 240-1 300 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. (WRC-97)

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 harmful interference to, claim protection from, or otherwise impose constraints on operation or development of the radiolocation service and other services allocated by footnotes on a primary basis. (WRC-2000)

5.336 Not used.

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

5.338 In Kyrgyzstan, Slovakia and Turkmenistan, existing installations of the radionavigation service may continue to operate in the band 1 350-1 400 MHz. (WRC-12)

5.338A In the bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 30-31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz, 51.4-52.6 GHz, 81-86 GHz and 92-94 GHz, Resolution **750 (Rev.WRC-12)** applies. (WRC-12)

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 (SUP - WRC-07)

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[1],	
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, the Russian Federation, Uzbekistan, Kyrgyzstan and Ukraine, the band 1 429-1 535 MHz, and in Bulgaria the band

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[1] **5.340.1** 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)

1 525-1 535 MHz, are 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-12)

5.343 In Region 2, the use of the band 1 435-1 535 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile service.

5.344 *Alternative allocation:* in the United States, the band 1 452-1 525 MHz is allocated to the fixed and mobile services on a primary basis (see also No. **5.343**).

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)***.

5.346 Not used.

5.347 (SUP - WRC-07)

5.347A** (SUP - WRC-07)

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/m^2) 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 (SUP - WRC-07)

5.349 *Different category of service:* in Saudi Arabia, Azerbaijan, Bahrain, Cameroon, Egypt, France, Iran (Islamic Republic of), Iraq, Israel, Kazakhstan, Kuwait, The Former Yugoslav Republic of Macedonia, Lebanon, Morocco, Qatar, Syrian Arab Republic, Kyrgyzstan, 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-07)

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, 1 626.5-1 645.5 MHz and 1 646.5-1 660.5 MHz shall not be used for feeder links of any service. In exceptional circumstances,

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* *Note by the Secretariat:* This Resolution was revised by WRC-03.

** *Note by the Secretariat:* This provision has been modified by WRC-07, and subsequently renumbered No. **5.208B** in order to preserve the sequential order.

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 1 518-1 544 MHz, 1 545-1 559 MHz, 1 610-1 645.5 MHz, 1 646.5-1 660.5 MHz, 1 668-1 675 MHz, 1 980-2 010 MHz, 2 170-2 200 MHz, 2 483.5-2 520 MHz and 2 670-2 690 MHz by the mobile-satellite service, see Resolutions **212 (Rev.WRC-07)** and **225 (Rev.WRC-07)***. (WRC-07)

5.352 (SUP - WRC-97)

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 Algeria, Saudi Arabia, Egypt, France and French overseas communities of Region 3, Guinea, India, Israel, Italy, Jordan, Kuwait, Mali, Morocco, Mauritania, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Tanzania, Viet Nam and Yemen notified prior to 1 April 1998. (WRC-12)

5.353 (SUP - WRC-97)

5.353A In applying the procedures of Section II of Article **9** 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 (Rep. of the), Djibouti, Egypt, Eritrea, Iraq, Israel, Kuwait, Qatar, Syrian Arab Republic, Somalia, Sudan, South Sudan, Chad, Togo and Yemen, the bands 1 540-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a secondary basis. (WRC-12)

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 frequency 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

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* *Note by the Secretariat:* This Resolution was revised by WRC-12.

* *Note by the Secretariat:* This Resolution was revised by WRC-07 and WRC-12.

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 (Rev.WRC-12)** shall apply.) (WRC-12)

5.358 (SUP - WRC-97)

5.359 *Additional allocation:* in Germany, Saudi Arabia, Armenia, Austria, Azerbaijan, Belarus, Benin, Cameroon, the Russian Federation, France, Georgia, Greece, Guinea, Guinea-Bissau, Jordan, Kazakhstan, Kuwait, Lithuania, Mauritania, Uganda, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, the Dem. People's Rep. of Korea, Romania, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine, the bands 1 550-1 559 MHz, 1 610-1 645.5 MHz and 1 646.5-1 660 MHz are also allocated to the fixed service on a primary basis. Administrations are urged to make all practicable efforts to avoid the implementation of new fixed-service stations in these bands. (WRC-12)

5.360 to **5.362** (SUP - WRC-97)

5.362A In the United States, in the bands 1 555-1 559 MHz and 1 656.5-1 660.5 MHz, the aeronautical mobile-satellite (R) service 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. (WRC-97)

5.362B *Additional allocation:* The band 1 559-1 610 MHz is also allocated to the fixed service on a secondary basis in Algeria, Saudi Arabia, Armenia, Azerbaijan, Belarus, Benin, Cameroon, Russian Federation, Gabon, Georgia, Guinea, Guinea-Bissau, Jordan, Kazakhstan, Libya, Lithuania, Mali, Mauritania, Nigeria, Uzbekistan, Pakistan, Poland, the Syrian Arab Republic, Kyrgyzstan, Dem. People's Rep. of Korea, Romania, Senegal, Tajikistan, Tanzania, Tunisia, Turkmenistan and Ukraine until 1 January 2015, at which time this allocation shall no longer be valid. Administrations are urged to take all practicable steps to protect the radionavigation-satellite service and the aeronautical radionavigation service and not authorize new frequency assignments to fixed-service systems in this band. (WRC-12)

5.362C *Additional allocation:* in Congo (Rep. of the), Eritrea, Iraq, Israel, Jordan, Qatar, the Syrian Arab Republic, Somalia, Sudan, South 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-12)

5.363 (SUP - WRC-07)

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 -15 dB(W/4 kHz) in the part of the band used by 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 –3 dB(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 the coordination of mobile-satellite networks shall make all practicable 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 frequency band 1 610-1 626.5 MHz is also allocated to the aeronautical mobile-satellite (R) service on a primary basis, subject to agreement obtained under No. **9.21**. (WRC-12)

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, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Israel, Lebanon, Liberia, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, the Dem. Rep. of the Congo, Sudan, South Sudan, 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-12)

5.370 *Different category of service:* in Venezuela, the allocation to the radiodetermination-satellite service in the band 1 610-1 626.5 MHz (Earth-to-space) is on a secondary basis.

5.371 *Additional allocation:* in Region 1, the band 1 610-1 626.5 MHz (Earth-to-space) is also allocated to the radiodetermination-satellite service on a secondary basis, subject to agreement obtained under No. **9.21**. (WRC-12)

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).

5.373 Not used.

5.373A (SUP - WRC-97)

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)

5.377 (SUP - WRC-03)

5.378 Not used.

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**. In the band 1 668-1 668.4 MHz, Resolution **904 (WRC-07)** shall apply. (WRC-07)

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/m^2) in 10 MHz and –194 dB(W/m^2) 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 1 668.4-1 675 MHz between the mobile-satellite service and the fixed and mobile services, Resolution **744 (Rev.WRC-07)** shall apply. (WRC-07)

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 (SUP - WRC-07)

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 before 1 January 2004. Any new assignment to these earth stations in this band shall also be protected from harmful interference from stations in the mobile-satellite service. (WRC-07)

5.381 *Additional allocation:* in Afghanistan, Cuba, India, Iran (Islamic Republic of) and Pakistan, the band 1 690-1 700 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis. (WRC-12)

5.382 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, the Russian Federation, Guinea, Iraq, Israel, Jordan, Kazakhstan, Kuwait, the Former Yugoslav Republic of Macedonia, Lebanon, Mauritania, Moldova, Mongolia, Oman, Uzbekistan, Poland, Qatar, the Syrian Arab Republic, Kyrgyzstan, 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 Dem. People's Rep. 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 a secondary basis. (WRC-12)

5.383 Not used.

5.384 *Additional allocation:* in India, Indonesia and Japan, the band 1 700-1 710 MHz is also allocated to the space research service (space-to-Earth) on a primary basis. (WRC-97)

5.384A The bands, or portions of the bands, 1 710-1 885 MHz, 2 300-2 400 MHz and 2 500-2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution **223 (Rev.WRC-07)***. 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-07)

5.385 *Additional allocation:* the band 1 718.8-1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. (WRC-2000)

5.386 *Additional allocation:* the band 1 750-1 850 MHz is also allocated to the space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2, in Australia, Guam, India, Indonesia and Japan on a primary basis, subject to agreement obtained under No. **9.21**, having particular regard to troposcatter systems. (WRC-03)

5.387 *Additional allocation:* in Belarus, Georgia, Kazakhstan, Kyrgyzstan, 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-12)

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 (IMT). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT in accordance with Resolution **212 (Rev.WRC-07)** (See also Resolution **223 (Rev.WRC-07)***). (WRC-12)

5.388A In Regions 1 and 3, the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz and, in Region 2, the bands 1 885-1 980 MHz and 2 110-2 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications (IMT), in accordance with Resolution **221 (Rev.WRC-07)**. Their use by IMT 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-12)

5.388B In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, China, Cuba, Djibouti, Egypt, United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, Jordan, Kenya, Kuwait, Libya, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, South Sudan, Tanzania, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT 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 dB(W/(m^2 · MHz)) at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-12)

5.389 Not used.

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 (Rev.WRC-2000)***. (WRC-07)

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

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* *Note by the Secretariat:* This Resolution was revised by WRC-12.

Argentina, Brazil, Canada, Chile, Ecuador, the United States, Honduras, Jamaica, Mexico, Peru, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

5.389C The use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz in Region 2 by the mobile-satellite service is subject to coordination under No. **9.11A** and to the provisions of Resolution **716 (Rev.WRC-2000)***. (WRC-07)

5.389D (SUP - WRC-03)

5.389E The use of the bands 2 010-2 025 MHz and 2 160-2 170 MHz by the mobile-satellite service in Region 2 shall not cause harmful interference to or constrain the development of the fixed and mobile services in Regions 1 and 3.

5.389F In Algeria, Benin, Cape Verde, Egypt, Iran (Islamic Republic of), Mali, Syrian Arab Republic 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. (WRC-2000)

5.390 (SUP - WRC-07)

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 MHz, 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 (SUP - WRC-07)

5.393 *Additional allocation:* in Canada, the United States, India and Mexico, the band 2 310-2 360 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial sound broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (Rev.WRC-03)**, with the exception of *resolves* 3 in regard to the limitation on broadcasting-satellite systems in the upper 25 MHz. (WRC-07)

5.394 In the United States, the use of the band 2 300-2 390 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. In Canada, the use of the band 2 360-2 400 MHz by the aeronautical mobile service for telemetry has priority over other uses by the mobile services. (WRC-07)

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)

5.396 Space stations of the broadcasting-satellite service in the band 2 310-2 360 MHz operating in accordance with No. **5.393** that may affect the services to which this band is allocated in other countries shall be coordinated and notified in accordance with Resolution **33 (Rev.WRC-97)***. Complementary terrestrial broadcasting stations shall be subject to bilateral coordination with neighbouring countries prior to their bringing into use.

5.397 (SUP - WRC-12)

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* *Note by the Secretariat:* This Resolution was revised by WRC-03.

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.

5.398A *Different category of service:* In Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, the band 2 483.5-2 500 MHz is allocated on a primary basis to the radiolocation service. The radiolocation stations in these countries shall not cause harmful interference to, or claim protection from, stations of the fixed, mobile and mobile-satellite services operating in accordance with the Radio Regulations in the frequency band 2 483.5-2 500 MHz. (WRC-12)

5.399 Except for cases referred to in No. **5.401**, stations of the radiodetermination-satellite service operating in the frequency band 2 483.5-2 500 MHz for which notification information is received by the Bureau after 17 February 2012, and the service area of which includes Armenia, Azerbaijan, Belarus, the Russian Federation, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Ukraine, shall not cause harmful interference to, and shall not claim protection from stations of the radiolocation service operating in these countries in accordance with No. **5.398A**. (WRC-12)

5.400 (SUP - WRC-12)

5.401 In Angola, Australia, Bangladesh, Burundi, China, Eritrea, Ethiopia, India, Iran (Islamic Republic of), Lebanon, Liberia, Libya, Madagascar, Mali, Pakistan, Papua New Guinea, Syrian Arab Republic, Dem. Rep. of the Congo, Sudan, Swaziland, Togo and Zambia, the band 2 483.5-2 500 MHz was already allocated on a primary basis to the radiodetermination-satellite service before WRC-12, subject to agreement obtained under No. **9.21** from countries not listed in this provision. Systems in the radiodetermination-satellite service for which complete coordination information has been received by the Radiocommunication Bureau before 18 February 2012 will retain their regulatory status, as of the date of receipt of the coordination request information. (WRC-12)

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 2 483.5-2 500 MHz band, especially those caused by second-harmonic radiation that would fall into the 4 990-5 000 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 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. **9.11A** apply. (WRC-07)

5.404 *Additional allocation:* in India and Iran (Islamic Republic of), the band 2 500-2 516.5 MHz may also be used for the radiodetermination-satellite service (space-to-Earth) for operation limited to within national boundaries, subject to agreement obtained under No. **9.21**.

5.405 (SUP - WRC-12)

5.406 Not used.

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/(m^2 □ 4 kHz)) in Argentina, unless otherwise agreed by the administrations concerned.

5.408 (SUP - WRC-2000)

5.409 (SUP - WRC-07)

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**. No. **9.21** does not apply to tropospheric scatter links situated entirely outside Region 1. Administrations shall make all practicable efforts to avoid developing new tropospheric scatter systems in this band. When planning new tropospheric scatter radio-relay links in this band, all possible measures shall be taken to avoid directing the antennas of these links towards the geostationary-satellite orbit. (WRC-12)

5.411 (SUP - WRC-07)

5.412 *Alternative allocation:* in 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-12)

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) is subject to coordination under No. **9.11A**. (WRC-07)

5.414A In Japan and India, the use of the bands 2 500-2 520 MHz and 2 520-2 535 MHz, under No. **5.403**, by a satellite network in the mobile-satellite service (space-to-Earth) is limited to operation within national boundaries and subject to the application of No. **9.11A**. The following pfd values shall be used as a threshold for coordination under No. **9.11A**, for all conditions and for all methods of modulation, in an area of 1 000 km around the territory of the administration notifying the mobile-satellite service network:

-136 dB(W/(m^2 · MHz)) for $0° \le \theta \le 5°$

$-136 + 0.55\ (\theta - 5)$ dB(W/(m^2 · MHz)) for $5° < \theta \le 25°$

-125 dB(W/(m^2 · MHz)) for $25° < \theta \le 90°$

where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. Outside this area Table **21-4** of Article **21** shall apply. Furthermore, the coordination thresholds in Table 5-2 of Annex 1 to Appendix **5** of the Radio Regulations (Edition of 2004), in conjunction with the applicable provisions of Articles **9** and **11** associated with No. **9.11A**, shall apply to systems for which complete notification information has been received by the Radicommunication Bureau by 14 November 2007 and that have been brought into use by that date. (WRC-07)

5.415 The use of the bands 2 500-2 690 MHz in Region 2 and 2 500-2 535 MHz and 2 655-2 690 MHz in Region 3 by the fixed-satellite service is limited to national and regional systems, subject to agreement obtained under No. **9.21**, giving particular attention to the broadcasting-satellite service in Region 1. (WRC-07)

5.415A *Additional allocation*: in India and Japan, subject to agreement obtained under No. **9.21**, the band 2 515-2 535 MHz may also be used for the aeronautical mobile-satellite service (space-to-Earth) for operation limited to within their national boundaries. (WRC-2000)

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**. The provisions of No. **9.19** shall be applied by administrations in this band in their bilateral and multilateral negotiations. (WRC-07)

5.417 (SUP - WRC-2000)

5.417A In applying provision No. **5.418**, in Korea (Rep. of) and Japan, *resolves* 3 of Resolution **528 (Rev.WRC-03)** is relaxed to allow the broadcasting-satellite service (sound) and the complementary terrestrial broadcasting service to additionally operate on a primary basis in

the band 2 605-2 630 MHz. This use is limited to systems intended for national coverage. An administration listed in this provision shall not have simultaneously two overlapping frequency assignments, one under this provision and the other under No. **5.416**. The provisions of No. **5.416** and Table **21-4** of Article **21** do not apply. Use of non-geostationary-satellite systems in the broadcasting-satellite service (sound) in the band 2 605-2 630 MHz is subject to the provisions of Resolution **539 (Rev.WRC-03)**. The power flux-density at the Earth's surface produced by emissions from a geostationary broadcasting-satellite service (sound) space station operating in the band 2 605-2 630 MHz for which complete Appendix **4** coordination information, or notification information, has been received after 4 July 2003, for all conditions and for all methods of modulation, shall not exceed the following limits:

$$\begin{aligned} &-130 && \text{dB}(\text{W}/(\text{m}^2 \cdot \text{MHz})) && \text{for} \quad 0° \le \theta \le 5° \\ &-130 + 0.4\,(\theta - 5) && \text{dB}(\text{W}/(\text{m}^2 \cdot \text{MHz})) && \text{for} \quad 5° \le \theta \le 25° \\ &-122 && \text{dB}(\text{W}/(\text{m}^2 \cdot \text{MHz})) && \text{for} \quad 25° \le \theta \le 90° \end{aligned}$$

where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. These limits may be exceeded on the territory of any country whose administration has so agreed. In the case of the broadcasting-satellite service (sound) networks of Korea (Rep. of), as an exception to the limits above, the power flux-density value of $\tilde{}$ 122 dB(W/(m^2 · MHz)) shall be used as a threshold for coordination under No. **9.11** in an area of 1 000 km around the territory of the administration notifying the broadcasting-satellite service (sound) system, for angles of arrival greater than 35°. (WRC-03)

5.417B In Korea (Rep. of) and Japan, use of the band 2 605-2 630 MHz 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. **9.12A**, in respect of geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, is considered to have been received after 4 July 2003, and No. **22.2** does not apply. No. **22.2** shall continue to apply with respect to geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, is considered to have been received before 5 July 2003. (WRC-03)

5.417C Use of the band 2 605-2 630 MHz 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 MHz 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)

5.418 *Additional allocation:* in Korea (Rep. of), India, Japan and Thailand, the band 2 535-2 655 MHz is also allocated to the broadcasting-satellite service (sound) and complementary terrestrial broadcasting service on a primary basis. Such use is limited to digital audio broadcasting and is subject to the provisions of Resolution **528 (Rev.WRC-03)**. The provisions of No. **5.416** and Table **21-4** of Article **21**, do not apply to this additional allocation. Use of non-geostationary-satellite systems in the broadcasting-satellite service (sound) is subject to Resolution **539 (Rev.WRC-03)**. Geostationary broadcasting-satellite service (sound) systems for which complete Appendix **4** coordination information has been received after 1 June 2005 are

limited to systems intended for national coverage. The power flux-density at the Earth's surface produced by emissions from a geostationary broadcasting satellite service (sound) space station operating in the band 2 630-2 655 MHz, and for which complete Appendix **4** coordination information has been received after 1 June 2005, shall not exceed the following limits, for all conditions and for all methods of modulation:

-130 dB(W/(m^2 · MHz)) for $0° \le \theta \le 5°$

$-130 + 0.4\,(\theta - 5)$ dB(W/(m^2 · MHz)) for $5° < \theta \le 25°$

-122 dB(W/(m^2 · MHz)) for $25° < \theta \le 90°$

where θ is the angle of arrival of the incident wave above the horizontal plane, in degrees. These limits may be exceeded on the territory of any country whose administration has so agreed. As an exception to the limits above, the pfd value of −122 dB(W/(m^2 · MHz)) shall be used as a threshold for coordination under No. **9.11** in an area of 1 500 km around the territory of the administration notifying the broadcasting-satellite service (sound) system.

In addition, an administration listed in this provision shall not have simultaneously two overlapping frequency assignments, one under this provision and the other under No. **5.416** for systems for which complete Appendix **4** coordination information has been received after 1 June 2005. (WRC-12)

5.418A In certain Region 3 countries listed in No. **5.418**, use of the band 2 630-2 655 MHz by non-geostationary-satellite systems in the broadcasting-satellite service (sound) for which complete Appendix **4** coordination information, or notification information, has been received after 2 June 2000, is subject to the application of the provisions of No. **9.12A**, in respect of geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, is considered to have been received after 2 June 2000, and No. **22.2** does not apply. No. **22.2** shall continue to apply with respect to geostationary-satellite networks for which complete Appendix **4** coordination information, or notification information, is considered to have been received before 3 June 2000. (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 When introducing systems of the mobile-satellite service in the band 2 670-2 690 MHz, 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**. (WRC-07)

5.420 The band 2 655-2 670 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** applies. (WRC-07)

5.420A (SUP - WRC-07)

5.421 (SUP - WRC-03)

5.422 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, Brunei Darussalam, Congo (Rep. of the), Côte d'Ivoire, Cuba, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Georgia, Guinea, Guinea-Bissau, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Mauritania, Mongolia, Montenegro, Nigeria, Oman, Pakistan, the Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, the Dem. Rep. of the Congo, Romania, 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-12)

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.

5.424 *Additional allocation:* in Canada, the band 2 850-2 900 MHz is also allocated to the maritime radionavigation service, on a primary basis, for use by shore-based radars.

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 (SIT) system shall be confined to the sub-band 2 930 -2 950 MHz.

5.426 The use of the band 2 900-3 100 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, Mongolia, Kyrgyzstan and Turkmenistan, the band 3 100-3 300 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)

5.429 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Egypt, the United Arab Emirates, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Oman, Uganda, Pakistan, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. 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-12)

5.430 *Additional allocation:* in Azerbaijan, Mongolia, Kyrgyzstan and Turkmenistan, the band 3 300-3 400 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)

5.430A *Different category of service:* in Albania, Algeria, Germany, Andorra, Saudi Arabia, Austria, Azerbaijan, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Botswana, Bulgaria, Burkina Faso, Cameroon, Cyprus, Vatican, Congo (Rep. of the), Côte d'Ivoire, Croatia, Denmark, Egypt, Spain, Estonia, Finland, France and French overseas departments and communities in Region 1, Gabon, Georgia, Greece, Guinea, Hungary, Ireland, Iceland, Israel, Italy, Jordan, Kuwait, Lesotho, Latvia, The Former Yugoslav Republic of Macedonia, Liechtenstein, Lithuania, Malawi, Mali, Malta, Morocco, Mauritania, Moldova, Monaco, Mongolia, Montenegro, Mozambique, Namibia, Niger, Norway, Oman, Netherlands, Poland,

Portugal, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Slovakia, Czech Rep., Romania, United Kingdom, San Marino, Senegal, Serbia, Sierra Leone, Slovenia, South Africa, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia, Turkey, Ukraine, Zambia and Zimbabwe, the band 3 400-3 600 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis subject to agreement obtained under No. **9.21** with other administrations and is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this band, it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m^2 · 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the band 3 400-3 600 MHz shall not claim more protection from space stations than that provided in Table **21-4** of the Radio Regulations (Edition of 2004). This allocation is effective from 17 November 2010. (WRC-12)

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)

5.431A *Different category of service:* in Argentina, Brazil, Chile, Costa Rica, Cuba, French overseas departments and communities in Region 2, Dominican Republic, El Salvador, Guatemala, Mexico, Paraguay, Suriname, Uruguay and Venezuela, the band 3 400-3 500 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis, subject to agreement obtained under No. **9.21**. Stations of the mobile service in the band 3 400-3 500 MHz shall not claim more protection from space stations than that provided in Table **21-4** of the Radio Regulations (Edition of 2004). (WRC-12)

5.432 *Different category of service:* in Korea (Rep. of), Japan and Pakistan, the allocation of the band 3 400-3 500 MHz to the mobile, except aeronautical mobile, service is on a primary basis (see No. **5.33**). (WRC-2000)

5.432A In Korea (Rep. of), Japan and Pakistan, the band 3 400-3 500 MHz is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m^2 · 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the

earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the band 3 400-3 500 MHz shall not claim more protection from space stations than that provided in Table **21-4** of the Radio Regulations (Edition of 2004). (WRC-07)

5.432B *Different category of service:* in Bangladesh, China, French overseas communities of Region 3, India, Iran (Islamic Republic of), New Zealand and Singapore, the band 3 400-3 500 MHz is allocated to the mobile, except aeronautical mobile, service on a primary basis, subject to agreement obtained under No. **9.21** with other administrations and is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m^2 · 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station) with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into account the information referred to above. Stations of the mobile service in the band 3 400-3 500 MHz shall not claim more protection from space stations than that provided in Table **21-4** of the Radio Regulations (Edition of 2004). This allocation is effective from 17 November 2010. (WRC-12)

5.433 In Regions 2 and 3, in the band 3 400-3 600 MHz the radiolocation service is allocated on a primary basis. However, all administrations operating radiolocation systems in this band are urged to cease operations by 1985. Thereafter, administrations shall take all practicable steps to protect the fixed-satellite service and coordination requirements shall not be imposed on the fixed-satellite service.

5.433A In Bangladesh, China, French overseas communities of Region 3, Korea (Rep. of), India, Iran (Islamic Republic of), Japan, New Zealand and Pakistan, the band 3 500-3 600 MHz is identified for International Mobile Telecommunications (IMT). This identification does not preclude the use of this band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations. At the stage of coordination the provisions of Nos. **9.17** and **9.18** also apply. Before an administration brings into use a (base or mobile) station of the mobile service in this band it shall ensure that the power flux-density (pfd) produced at 3 m above ground does not exceed −154.5 dB(W/(m^2 · 4 kHz)) for more than 20% of time at the border of the territory of any other administration. This limit may be exceeded on the territory of any country whose administration has so agreed. In order to ensure that the pfd limit at the border of the territory of any other administration is met, the calculations and verification shall be made, taking into account all relevant information, with the mutual agreement of both administrations (the administration responsible for the terrestrial station and the administration responsible for the earth station), with the assistance of the Bureau if so requested. In case of disagreement, the calculation and verification of the pfd shall be made by the Bureau, taking into

account the information referred to above. Stations of the mobile service in the band 3 500-3 600 MHz shall not claim more protection from space stations than that provided in Table **21-4** of the Radio Regulations (Edition of 2004). (WRC-12)

5.434 (SUP - WRC-97)

5.435 In Japan, in the band 3 620-3 700 MHz, the radiolocation service is excluded.

5.436 Not used.

5.437 (SUP - WRC-2000)

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 Iran (Islamic Republic of), the band 4 200-4 400 MHz is also allocated to the fixed service on a secondary basis. (WRC-12)

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**.

5.440A In Region 2 (except Brazil, Cuba, French overseas departments and communities, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 400-4 940 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. **1.83**). Such use shall be in accordance with Resolution **416 (WRC-07)** and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of this band by other mobile service applications or by other services to which this band is allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)

5.441 The use of the bands 4 500-4 800 MHz (space-to-Earth), 6 725-7 025 MHz (Earth-to-space) by the fixed-satellite service shall be in accordance with the provisions of Appendix **30B**. The use of the bands 10.7-10.95 GHz (space-to-Earth), 11.2-11.45 GHz (space-to-Earth) and 12.75-13.25 GHz (Earth-to-space) by geostationary-satellite systems in the fixed-satellite service shall be in accordance with the provisions of Appendix **30B**. 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 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. (WRC-2000)

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. In Region 2 (except Brazil, Cuba, Guatemala, Paraguay, Uruguay and Venezuela), and in Australia, the band 4 825-

4 835 MHz is also allocated to the aeronautical mobile service, limited to aeronautical mobile telemetry for flight testing by aircraft stations. Such use shall be in accordance with Resolution **416 (WRC-07)** and shall not cause harmful interference to the fixed service. (WRC-07)

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**).

5.443A (SUP - WRC-03)

5.443AA In the frequency bands 5 000-5 030 MHz and 5 091-5 150 MHz, the aeronautical mobile-satellite (R) service is subject to agreement obtained under No. **9.21**. The use of these bands by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems. (WRC-12)

5.443B In order not to cause harmful interference to the microwave landing system operating above 5 030 MHz, the aggregate power flux-density produced at the Earth's surface in the band 5 030-5 150 MHz by all the space stations within any radionavigation-satellite service system (space-to-Earth) operating in the band 5 010-5 030 MHz shall not exceed −124.5 dB(W/m^2) in a 150 kHz band. In order not to cause harmful interference to the radio astronomy service in the band 4 990-5 000 MHz, 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 (Rev.WRC-12)**. (WRC-12)

5.443C The use of the frequency band 5 030-5 091 MHz by the aeronautical mobile (R) service is limited to internationally standardized aeronautical systems. Unwanted emissions from the aeronautical mobile (R) service in the frequency band 5 030-5 091 MHz shall be limited to protect RNSS system downlinks in the adjacent 5 010-5 030 MHz band. Until such time that an appropriate value is established in a relevant ITU-R Recommendation, the e.i.r.p. density limit of −75 dBW/MHz in the frequency band 5 010-5 030 MHz for any AM(R)S station unwanted emission should be used. (WRC-12)

5.443D In the frequency band 5 030-5 091 MHz, the aeronautical mobile-satellite (R) service is subject to coordination under No. **9.11A**. The use of this frequency band by the aeronautical mobile-satellite (R) service is limited to internationally standardized aeronautical systems. (WRC-12)

5.444 The frequency band 5 030-5 150 MHz is to be used for the operation of the international standard system (microwave landing system) for precision approach and landing. In the frequency band 5 030-5 091 MHz, the requirements of this system shall have priority over other uses of this band. For the use of the frequency band 5 091-5 150 MHz, No. **5.444A** and Resolution **114 (Rev.WRC-12)** apply. (WRC-12)

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 satellite systems in the mobile-satellite service and is subject to coordination 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)***;

– after 1 January 2016, no new assignments shall be made to earth 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-07)

5.444B The use of the frequency band 5 091-5 150 MHz by the aeronautical mobile service is limited to:

– systems operating in the aeronautical mobile (R) service and in accordance with international aeronautical standards, limited to surface applications at airports. Such use shall be in accordance with Resolution **748 (Rev.WRC-12)**;
– aeronautical telemetry transmissions from aircraft stations (see No. **1.83**) in accordance with Resolution **418 (Rev.WRC-12)**. (WRC-12)

5.445 Not used.

5.446 *Additional allocation:* in the countries listed in No. **5.369**, 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 No. **5.369** and Bangladesh, 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 1 610-1 626.5 MHz and/or 2 483.5-2 500 MHz. The total power flux-density at the Earth's surface shall in no case exceed -159 dB(W/m^2) in any 4 kHz band for all angles of arrival. (WRC-12)

5.446A The use of the bands 5 150-5 350 MHz and 5 470-5 725 MHz by the stations in the mobile, except aeronautical mobile, service shall be in accordance with Resolution **229 (Rev.WRC-12)**. (WRC-12)

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)

5.446C *Additional allocation:* in Region 1 (except in Algeria, Saudi Arabia, Bahrain, Egypt, United Arab Emirates, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Syrian Arab Republic, Sudan, South Sudan and Tunisia) and in Brazil, the band 5 150-5 250 MHz is also allocated to the aeronautical mobile service on a primary basis, limited to aeronautical telemetry transmissions from aircraft stations (see No. **1.83**), in accordance with Resolution **418 (Rev.WRC-12)**. These stations shall not claim protection from other stations operating in accordance with Article **5**. No. **5.43A** does not apply. (WRC-12)

5.447 *Additional allocation:* in Côte d'Ivoire, Egypt, Israel, Lebanon, 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 (Rev.WRC-12)** do not apply. (WRC-12)

5.447A The allocation to the fixed-satellite service (Earth-to-space) in the band 5 150-5 250 MHz is limited to feeder links of non-geostationary-satellite systems in the mobile-satellite service and is subject to coordination 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/m^2) 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 coordinate on an equal basis in accordance with 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 (Rep. of), India, Indonesia, Iran (Islamic Republic of), Japan, Malaysia, Papua New Guinea, the Philippines, Dem. People's Rep. of Korea, Sri Lanka, Thailand and Viet Nam. 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-07)

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 Recommendations ITU-R M.1638 and ITU-R RS.1632. (WRC-03)

5.448 *Additional allocation:* in Azerbaijan, Kyrgyzstan, Romania and Turkmenistan, the band 5 250-5 350 MHz is also allocated to the radionavigation service on a primary basis. (WRC-12)

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 band 5 350-5 570 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), 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-12)

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. **21.2**, **21.3**, **21.4** and **21.5** 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 (Rep. of the), Korea (Rep. of), Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Gabon, Guinea, Equatorial Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kenya, Kuwait, Lebanon, Libya, Madagascar, Malaysia, Niger, Nigeria, Oman, Uganda, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Sri Lanka, Swaziland, Tanzania, Chad, Thailand, Togo, Viet Nam 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 (Rev.WRC-12)** do not apply. (WRC-12)

5.454 *Different category of service:* in Azerbaijan, the Russian Federation, Georgia, 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-12)

5.455 *Additional allocation:* in Armenia, Azerbaijan, Belarus, Cuba, the Russian Federation, Georgia, Hungary, Kazakhstan, 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-07)

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)

5.457 In Australia, Burkina Faso, Cote d'Ivoire, Mali and Nigeria, the allocation to the fixed service in the bands 6 440-6 520 MHz (HAPS-to-ground direction) and 6 560-6 640 MHz (ground-to-HAPS direction) may also be used by gateway links for high-altitude platform stations (HAPS) within the territory of these countries. Such use is limited to operation in HAPS gateway links and shall not cause harmful interference to, and shall not claim protection from, existing services, and shall be in compliance with Resolution **150 (WRC-12)**. Existing services

shall not be constrained in future development by HAPS gateway links. The use of HAPS gateway links in these bands requires explicit agreement with other administrations whose territories are located within 1 000 kilometres from the border of an administration intending to use the HAPS gateway links. (WRC-12)

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, United Arab Emirates, Jordan, Kuwait, Libya, Morocco, Mauritania, Oman, Qatar, the Syrian Arab Republic, Sudan, South 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-12)

5.457C In Region 2 (except Brazil, Cuba, French overseas departments and communities, Guatemala, Paraguay, Uruguay and Venezuela), the band 5 925-6 700 MHz may be used for aeronautical mobile telemetry for flight testing by aircraft stations (see No. **1.83**). Such use shall be in accordance with Resolution **416 (WRC-07)** and shall not cause harmful interference to, nor claim protection from, the fixed-satellite and fixed services. Any such use does not preclude the use of this band by other mobile service applications or by other services to which this band is allocated on a co-primary basis and does not establish priority in the Radio Regulations. (WRC-07)

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 6 425-7 075 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 coordination 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. **22.2**.

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 the 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 service (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 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 a primary basis until the end of their lifetime. (WRC-97)

5.461B The use of the band 7 750-7 900 MHz by the meteorological-satellite service (space-to-Earth) is limited to non-geostationary satellite systems. (WRC-12)

5.462 (SUP - 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 values for angles of arrival (θ), without the consent of the affected administration:

-135 dB(W/m^2) in a 1 MHz band for $0° \le \theta < 5°$

$-135 + 0.5\,(\theta - 5)$ dB(W/m^2) in a 1 MHz band for $5° \le \theta < 5°$

-125 dB(W/m^2) in a 1 MHz band for $25° \le \theta \le 90°$ (WRC-12)

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

5.464 (SUP - 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 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-12)

5.467 (SUP - WRC-03)

5.468 *Additional allocation:* in Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Burundi, Cameroon, China, Congo (Rep. of the), Costa Rica, Djibouti, Egypt, the United Arab Emirates, Gabon, Guyana, Indonesia, Iran (Islamic Republic of), Iraq, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Uganda, Pakistan, Qatar, Syrian Arab Republic, the Dem. People's Rep. of Korea, Senegal, Singapore, Somalia, Sudan, 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-12)

5.469 *Additional allocation:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Hungary, Lithuania, Mongolia, Uzbekistan, Poland, Kyrgyzstan, the Czech Rep., 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-12)

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, Egypt, the United Arab Emirates, France, Greece, Indonesia, Iran (Islamic Republic of), Libya, the Netherlands, Qatar, Sudan and South 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. (WRC-12)

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, Cuba, the Russian Federation, Georgia, Hungary, 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-07)

5.473A In the band 9 000-9 200 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, systems identified in No. **5.337** operating in the aeronautical radionavigation service, or radar systems in the maritime radionavigation service operating in this band on a primary basis in the countries listed in No. **5.471**. (WRC-07)

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 **31**).

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. (WRC-07)

5.475A The use of the band 9 300-9 500 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 300 MHz that cannot be fully accommodated within the 9 500-9 800 MHz band. (WRC-07)

5.475B In the band 9 300-9 500 MHz, stations operating in the radiolocation service shall not cause harmful interference to, nor claim protection from, radars operating in the radionavigation service in conformity with the Radio Regulations. Ground-based radars used for meteorological purposes have priority over other radiolocation uses. (WRC-07)

5.476 (SUP - WRC-07)

5.476A In the band 9 300-9 800 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from, stations of the radionavigation and radiolocation services. (WRC-07)

5.477 *Different category of service:* in Algeria, Saudi Arabia, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Djibouti, 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, Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South 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-12)

5.478 *Additional allocation:* in Azerbaijan, 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-07)

5.478A The use of the band 9 800-9 900 MHz by the Earth exploration-satellite service (active) and the space research service (active) is limited to systems requiring necessary bandwidth greater than 500 MHz that cannot be fully accommodated within the 9 300-9 800 MHz band. (WRC-07)

5.478B In the band 9 800-9 900 MHz, stations in the Earth exploration-satellite service (active) and space research service (active) shall not cause harmful interference to, nor claim protection from stations of the fixed service to which this band is allocated on a secondary basis. (WRC-07)

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.

5.480 *Additional allocation:* in Argentina, Brazil, Chile, Costa Rica, Cuba, El Salvador, Ecuador, Guatemala, Honduras, Mexico, Paraguay, the Netherlands Antilles, Peru and Uruguay, the band 10-10.45 GHz is also allocated to the fixed and mobile services on a primary basis. In Venezuela, the band 10-10.45 GHz is also allocated to the fixed service on a primary basis. (WRC-07)

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, Pakistan, Paraguay, Peru, the Dem. People's Rep. of Korea, Romania, 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-12)

5.482 In the band 10.6-10.68 GHz, the power delivered to the antenna of stations of the fixed and mobile, except aeronautical mobile, services shall not exceed −3 dBW. This limit may be exceeded, subject to agreement obtained under No. **9.21**. However, in Algeria, Saudi Arabia, Armenia, Azerbaijan, Bahrain, Bangladesh, Belarus, Egypt, United Arab Emirates, Georgia, India, Indonesia, Iran (Islamic Republic of), Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Libya, Morocco, Mauritania, Moldova, Nigeria, Oman, Uzbekistan, Pakistan, Philippines, Qatar, Syrian Arab Republic, Kyrgyzstan, Singapore, Tajikistan, Tunisia, Turkmenistan and Viet Nam, this restriction on the fixed and mobile, except aeronautical mobile, services is not applicable. (WRC-07)

5.482A For sharing of the band 10.6-10.68 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile, except aeronautical mobile, services, Resolution **751 (WRC-07)** applies. (WRC-07)

5.483 *Additional allocation:* in Saudi Arabia, Armenia, Azerbaijan, Bahrain, Belarus, China, Colombia, Korea (Rep. of), Costa Rica, Egypt, the United Arab Emirates, Georgia, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kazakhstan, Kuwait, Lebanon, Mongolia, Qatar, Kyrgyzstan, the Dem. People's Rep. of Korea, 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-12)

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. (WRC-2000)

5.485 In Region 2, in the band 11.7-12.2 GHz, transponders on space stations in the fixed-satellite service may be used additionally for transmissions in the broadcasting-satellite service, provided that such transmissions do not have a maximum e.i.r.p. greater than 53 dBW per television channel and do not cause greater interference or require more protection from interference than the coordinated fixed-satellite service frequency assignments. With respect to the space services, this band shall be used principally for the fixed-satellite service.

5.486 *Different category of service:* in Mexico and the United States, the allocation of the band 11.7-12.1 GHz to the fixed service is on a secondary basis (see No. **5.32**).

5.487 In the band 11.7-12.5 GHz in Regions 1 and 3, the fixed, fixed-satellite, mobile, except aeronautical mobile, and broadcasting services, in accordance with their respective allocations, shall not cause harmful interference to, or claim protection from, broadcasting-satellite stations operating in accordance with the 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-to-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)

5.488 The use of the band 11.7-12.2 GHz by geostationary-satellite networks in the fixed-satellite service in Region 2 is subject to application of the provisions of No. **9.14** for coordination with stations of terrestrial services in Regions 1, 2 and 3. For the use of the band 12.2-12.7 GHz by the broadcasting-satellite service in Region 2, see Appendix **30**. (WRC-03)

5.489 *Additional allocation:* in Peru, the band 12.1-12.2 GHz is also allocated to the fixed service on a primary basis.

5.490 In Region 2, in the band 12.2-12.7 GHz, existing and future terrestrial radiocommunication services shall not cause harmful interference to the space services operating in conformity with the broadcasting-satellite Plan for Region 2 contained in Appendix **30**.

5.491 (SUP - WRC-03)

5.492 Assignments to stations of the broadcasting-satellite service which are in conformity with the appropriate regional Plan or included in the Regions 1 and 3 List in Appendix **30** may also be used for transmissions in the fixed-satellite service (space-to-Earth), provided that such transmissions do not cause more interference, or require more protection from interference, than the broadcasting-satellite service transmissions operating in conformity with the Plan or the List, as appropriate. (WRC-2000)

5.493 The broadcasting-satellite service in the band 12.5-12.75 GHz in Region 3 is limited to a power flux-density not exceeding –111 dB(W/(m^2 □ 27 MHz)) for all conditions and for all methods of modulation at the edge of the service area. (WRC-97)

5.494 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Cameroon, the Central African Rep., Congo (Rep. of the), Côte d'Ivoire, Djibouti, Egypt, the United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, Guinea, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Madagascar, Mali, Morocco, Mongolia, Nigeria, Oman, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Somalia, Sudan, South 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-12)

5.495 *Additional allocation:* in France, Greece, Monaco, Montenegro, Uganda, Romania, 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-12)

5.496 *Additional allocation:* in Austria, Azerbaijan, Kyrgyzstan and Turkmenistan, the band 12.5-12.75 GHz is also allocated to the fixed service and the mobile, except aeronautical mobile, service on a primary basis. However, stations in these services shall not cause harmful interference to fixed-satellite service earth stations of countries in Region 1 other than those listed in this footnote. Coordination of these earth stations is not required with stations of the fixed and mobile services of the countries listed in this footnote. The power flux-density limit at the Earth's surface given in Table **21-4** of Article **21**, for the fixed-satellite service shall apply on the territory of the countries listed in this footnote. (WRC-2000)

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

5.498 (SUP - WRC-97)

5.498A The Earth exploration-satellite (active) and space research (active) services operating in the band 13.25-13.4 GHz shall not cause harmful interference to, or constrain the use and development of, the aeronautical radionavigation service. (WRC-97)

5.499 *Additional allocation:* in Bangladesh and India, the band 13.25-14 GHz is also allocated to the fixed service on a primary basis. In Pakistan, the band 13.25-13.75 GHz is allocated to the fixed service on a primary basis. (WRC-12)

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, Morocco, Mauritania, Niger, Nigeria, Oman, Qatar, the Syrian Arab Republic, Singapore, Sudan, South Sudan, Chad and Tunisia, the band 13.4-14 GHz is also allocated to the fixed and mobile

services on a primary basis. In Pakistan, the band 13.4-13.75 GHz is also allocated to the fixed and mobile services on a primary basis. (WRC-12)

5.501 *Additional allocation:* in Azerbaijan, Hungary, Japan, Kyrgyzstan, Romania and Turkmenistan, the band 13.4-14 GHz is also allocated to the radionavigation service on a primary basis. (WRC-12)

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 13.75-14 GHz, 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 diameter smaller than 4.5 m, it shall ensure that the power flux-density produced by this earth station does not exceed:

– –115 dB(W/(m^2 · 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/(m^2 · 10 MHz)) for more than 1% of the time produced 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 13.75-14 GHz, geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the fixed-satellite service; after that date, new geostationary space stations in the space research service will operate on a secondary basis. Until those geostationary space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this band:

– in the band 13.77-13.78 GHz, 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 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 m;

  ii) 49.2 20 log(*D*/4.5) 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;

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

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

5.503A (SUP - 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 band 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, Nigeria, Oman, the Syrian Arab Republic 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-12)

5.505 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Bahrain, Botswana, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Korea (Rep. of), Djibouti, Egypt, the United Arab Emirates, Gabon, Guinea, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Oman, the Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South Sudan, Swaziland, Tanzania, Chad, Viet Nam and Yemen, the band 14-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-12)

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 coordination 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)

5.507 Not used.

5.508 *Additional allocation:* in Germany, France, Italy, Libya, The Former Yugoslav Rep. of Macedonia and the United Kingdom, the band 14.25-14.3 GHz is also allocated to the fixed service on a primary basis. (WRC-12)

5.508A In the band 14.25-14.3 GHz, the power flux-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, 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-12)

5.509 (SUP - WRC-07)

5.509A In the band 14.3-14.5 GHz, the power flux-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, Morocco, Nigeria, Oman, the Syrian Arab Republic, the United Kingdom, Sri Lanka, Tunisia and Viet Nam 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-12)

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, Cameroon, Egypt, the United Arab Emirates, Guinea, Iran (Islamic Republic of), Iraq, Israel, Kuwait, Lebanon, Oman, Pakistan, Qatar, the Syrian Arab Republic and Somalia, the band 15.35-15.4 GHz is also allocated to the fixed and mobile services on a secondary basis. (WRC-12)

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/m^2) in a 50 MHz bandwidth, into any radio astronomy observatory site for more than 2% of the time. (WRC-2000)

5.511B (SUP - WRC-97)

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 coordination distance required to protect the aeronautical radionavigation stations (No. **4.10** 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 dB(W/(m^2 □ 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 dB(W/(m^2 □ 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. **4.10** applies). (WRC-97)

5.511E In the frequency band 15.4-15.7 GHz, stations operating in the radiolocation service shall not cause harmful interference to, or claim protection from, stations operating in the aeronautical radionavigation service. (WRC-12)

5.511F In order to protect the radio astronomy service in the frequency band 15.35-15.4 GHz, radiolocation stations operating in the frequency band 15.4-15.7 GHz shall not exceed the power flux-density level of −156 dB(W/m^2) in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz, at any radio astronomy observatory site for more than 2 per cent of the time. (WRC-12)

5.512 *Additional allocation:* in Algeria, Angola, Saudi Arabia, Austria, Bahrain, Bangladesh, Brunei Darussalam, Cameroon, Congo (Rep. of the), Costa Rica, Egypt, El Salvador, the United Arab Emirates, Eritrea, Finland, Guatemala, India, Indonesia, Iran (Islamic Republic of), Jordan, Kenya, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Montenegro, Nepal, Nicaragua, Niger, Oman, Pakistan, Qatar, Syrian Arab Republic, the Dem. Rep. of the Congo, Serbia, Singapore, Somalia, Sudan, South Sudan, 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-12)

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, Bahrain, Bangladesh, Cameroon, El Salvador, the United Arab Emirates, Guatemala, India, Iran (Islamic Republic of), Iraq, Israel, Italy, Japan, Jordan, Kuwait, Libya, Lithuania, Nepal, Nicaragua, Nigeria, Oman, Uzbekistan, Pakistan, Qatar, Kyrgyzstan, Sudan and South 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-12)

5.515 In the band 17.3-17.8 GHz, sharing between the fixed-satellite service (Earth-to-space) and the broadcasting-satellite service shall also be in accordance with the provisions of § 1 of Annex 4 of Appendix **30A**.

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 **11**. 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 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-2000)

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 applications 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)

5.517 In Region 2, use of the fixed-satellite (space-to-Earth) service in the band 17.7-17.8 GHz shall not cause harmful interference to nor claim protection from assignments in the broadcasting-satellite service operating in conformity with the Radio Regulations. (WRC-07)

5.518 (SUP - WRC-07)

5.519 *Additional allocation:* the bands 18-18.3 GHz in Region 2 and 18.1-18.4 GHz in Regions 1 and 3 are also allocated to the meteorological-satellite service (space-to-Earth) on a primary basis. Their use is limited to geostationary satellites. (WRC-07)

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. (WRC-2000)

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)

5.522 (SUP - WRC-2000)

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. **21.5A** and **21.16.2**, respectively. (WRC-2000)

5.522B The use of the band 18.6-18.8 GHz by the fixed-satellite service is limited to geostationary systems and systems with an orbit of apogee greater than 20 000 km. (WRC-2000)

5.522C In the band 18.6-18.8 GHz, in Algeria, Saudi Arabia, Bahrain, Egypt, the United Arab Emirates, Jordan, Lebanon, Libya, Morocco, Oman, Qatar, 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)

5.523 (SUP - WRC-2000)

5.523A The use of the bands 18.8-19.3 GHz (space-to-Earth) and 28.6-29.1 GHz (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. **22.2** 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-

[*] *Note by the Secretariat:* This Resolution was revised by WRC-07.

satellite service networks for which complete Appendix **4** 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. **22.2** does not apply.

5.523C No. **22.2** 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 **4** coordination 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. **22.2**. 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 **11** procedures, and to the provisions of No. **22.2**. (WRC-97)

5.523E No. **22.2** 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 **4** coordination information, or notification information, is considered as having been received by the Bureau by 21 November 1997. (WRC-97)

5.524 *Additional allocation:* in Afghanistan, Algeria, Angola, Saudi Arabia, Bahrain, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Costa Rica, Egypt, the United Arab Emirates, Gabon, Guatemala, Guinea, India, Iran (Islamic Republic of), Iraq, Israel, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, the Dem. People's Rep. of Korea, Singapore, Somalia, Sudan, South 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-12)

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.

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. **4.10** 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 19.7-20.1 GHz 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**.

5.529 The use of the bands 19.7-20.1 GHz and 29.5-29.9 GHz by the mobile-satellite service in Region 2 is limited to satellite networks which are both in the fixed-satellite service and in the mobile-satellite service as described in No. **5.526**.

5.530 (SUP - WRC-12)

5.530A Unless otherwise agreed between the administrations concerned, any station in the fixed or mobile services of an administration shall not produce a power flux-density in excess of −120.4 dB(W/(m^2 · MHz)) at 3 m above the ground of any point of the territory of any other administration in Regions 1 and 3 for more than 20% of the time. In conducting the calculations, administrations should use the most recent version of Recommendation ITU-R P.452 (see Recommendation ITU-R BO.1898). (WRC-12)

5.530B In the band 21.4-22 GHz, in order to facilitate the development of the broadcasting-satellite service, administrations in Regions 1 and 3 are encouraged not to deploy stations in the mobile service and are encouraged to limit the deployment of stations in the fixed service to point-to-point links. (WRC-12)

5.530C The use of the band 21.4-22 GHz is subject to the provisions of Resolution **755 (WRC-12)**. (WRC-12)

5.530D See Resolution 555 **(WRC-12)**. (WRC-12)

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.

5.532A The location of earth stations in the space research service shall maintain a separation distance of at least 54 km from the respective border(s) of neighbouring countries to protect the existing and future deployment of fixed and mobile services unless a shorter distance is otherwise agreed between the corresponding administrations. Nos. **9.17** and **9.18** do not apply. (WRC-12)

5.532B Use of the band 24.65-25.25 GHz in Region 1 and the band 24.65-24.75 GHz in Region 3 by the fixed-satellite service (Earth-to-space) is limited to earth stations using a minimum antenna diameter of 4.5 m. (WRC-12)

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

5.534 (SUP - WRC-03)

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. **22.2**, except as indicated in Nos. **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. **22.2**. (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 service 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 in the Earth exploration-satellite service or in the space research service should be operated taking into account the most recent version of Recommendation ITU-R SA.1862. (WRC-12)

5.536B In Saudi Arabia, Austria, Belgium, Brazil, Bulgaria, China, Korea (Rep. of), Denmark, Egypt, United Arab Emirates, Estonia, Finland, Hungary, India, Iran (Islamic Republic of), Ireland, Israel, Italy, Jordan, Kenya, Kuwait, Lebanon, Libya, Liechtenstein, Lithuania, Moldova, Norway, Oman, Uganda, Pakistan, the Philippines, Poland, Portugal, the Syrian Arab Republic, Dem. People's Rep. of Korea, Slovakia, the Czech Rep., Romania, the United Kingdom, Singapore, Sweden, Switzerland, Tanzania, Turkey, Viet Nam 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-12)

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, South 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 mobile services. (WRC-12)

5.537 Space services using non-geostationary satellites operating in the inter-satellite service in the band 27-27.5 GHz are exempt from the provisions of No. 22.2.

5.537A In Bhutan, Cameroon, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 27.9-28.2 GHz may also be used by high altitude platform stations (HAPS) within the territory of these countries. 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 services. Furthermore, the development of these other services shall not be constrained by HAPS. See Resolution **145 (Rev.WRC-12)**. (WRC-12)

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. (WRC-07)

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, Brunei Darussalam, Cameroon, China, Congo (Rep. of the), Egypt, the United Arab Emirates, Eritrea, Ethiopia, Guinea, India, Iran (Islamic Republic of), Iraq, Japan, Jordan, Kuwait, Lebanon, Malaysia, Mali, Morocco, Mauritania, Nepal, Oman, Pakistan, Philippines, Qatar, the Syrian Arab Republic, the Dem. People's Rep. of Korea, Somalia, Sudan, South 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-12)

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, Cameroon, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People's Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, 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 31.3-31.8 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 mitigate fading due to rain, provided the effective impact on the passive satellite does not exceed the impact under clear-sky conditions. See Resolution **145 (Rev.WRC-12)**. (WRC-12)

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, Georgia, 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-12)

5.546 *Different category of service:* in Saudi Arabia, Armenia, Azerbaijan, Belarus, Egypt, the United Arab Emirates, Spain, Estonia, the Russian Federation, Georgia, Hungary, Iran (Islamic Republic of), Israel, Jordan, Lebanon, Moldova, Mongolia, Oman, 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-12)

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 Resolution **75 (WRC-2000)***). Administrations should take this into account when considering regulatory provisions in relation to these bands. Because of the potential deployment of high-density applications in the fixed-satellite service in the bands 39.5-40 GHz and 40.5-42 GHz (see No. **5.516B**), administrations should further take into account potential constraints to high-density applications in the fixed service, as appropriate. (WRC-07)

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 31.8-33.4 GHz 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 service in the band 32.3-33 GHz, for the radionavigation service in the band 32-33 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, Jordan, Kuwait, Lebanon, Libya, Malaysia, Mali, Morocco, Mauritania, Nepal, Nigeria, Oman, Pakistan, the Philippines, Qatar, the Syrian Arab Republic, the Dem. Rep. of the Congo, Singapore, Somalia, Sudan, South 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-12)

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/m^2) in this band. (WRC-03)

5.550 *Different category of service:* in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, 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-12)

5.550A For sharing of the band 36-37 GHz between the Earth exploration-satellite (passive) service and the fixed and mobile services, Resolution **752 (WRC-07)** shall apply. (WRC-07)

5.551 (SUP - WRC-97)

5.551A (SUP - WRC-03)

5.551AA (SUP - WRC-03)

5.551B (SUP - WRC-2000)

5.551C (SUP - WRC-2000)

5.551D (SUP - WRC-2000)

5.551E (SUP - WRC-2000)

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**). (WRC-97)

5.551G (SUP - WRC-03)

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 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/m^2) in 1 GHz and –246 dB(W/m^2) 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/m^2) 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.1586-1 and the reference antenna pattern and the maximum gain of an antenna in the radio astronomy service given in Recommendation ITU-R RA.1631 and shall apply over the whole sky and for elevation angles higher than the minimum operating angle θ_{min} 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-07)

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

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/m^2) in 1 GHz and –153 dB(W/m^2) 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/m^2) 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 the site of 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 (Rev.WRC-07)**. (WRC-07)

5.553 In the bands 43.5-47 GHz and 66-71 GHz, stations in the land mobile service may be operated subject to not causing harmful interference to the space radiocommunication services to which these bands are allocated (see No. **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 GHz is also allocated to the radio astronomy service on a primary basis. (WRC-2000)

5.555A (SUP - WRC-03)

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/m^2) 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, 57-58.2 GHz and 59-59.3 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/(m^2 □ 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 station is limited to –26 dB(W/MHz). (WRC-2000)

5.558 In the bands 55.78-58.2 GHz, 59-64 GHz, 66-71 GHz, 122.25-123 GHz, 130-134 GHz, 167-174.8 GHz and 191.8-200 GHz, stations in the aeronautical mobile service may be operated subject to not causing harmful interference to the inter-satellite service (see No. **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/(m^2 □ 100 MHz)) for all angles of arrival. (WRC-97)

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

5.559A (SUP - WRC-07)

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 service 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)

5.561B In Japan, use of the band 84-86 GHz, by the fixed-satellite service (Earth-to-space) is limited to feeder links in the broadcasting-satellite service using the geostationary-satellite orbit. (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 1 000 km above the Earth's surface and in the vicinity of all geostationary orbital positions occupied by passive sensors, shall not exceed –148 dB(W/(m^2 · MHz)) for all angles of arrival. (WRC-2000)

5.562D *Additional allocation*: In Korea (Rep. of), the bands 128-130 GHz, 171-171.6 GHz, 172.2-172.8 GHz and 173.3-174 GHz are also allocated to the radio astronomy service on a primary basis until 2015. (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) and space research (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 dB(W/(m^2 · MHz)) for all angles of arrival. (WRC-2000)

5.563 (SUP - WRC-03)

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. (WRC-2000)

5.563B The band 237.9-238 GHz is also allocated to the Earth exploration-satellite service (active) and the space research service (active) for spaceborne cloud radars only. (WRC-2000)

5.564 (SUP - WRC-2000)

5.565 The following frequency bands in the range 275-1 000 GHz are identified for use by administrations for passive service applications:

– 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): 275-286 GHz, 296-306 GHz, 313-356 GHz, 361-365 GHz, 369-392 GHz, 397-399 GHz, 409-411 GHz, 416-434 GHz, 439-467 GHz, 477-502 GHz, 523-527 GHz, 538-581 GHz, 611-630 GHz,
634-654 GHz, 657-692 GHz, 713-718 GHz, 729-733 GHz, 750-754 GHz, 771-776 GHz,
823-846 GHz, 850-854 GHz, 857-862 GHz, 866-882 GHz, 905-928 GHz, 951-956 GHz,
968-973 GHz and 985-990 GHz.

The use of the range 275-1 000 GHz by the passive services does not preclude use of this range by active services. Administrations wishing to make frequencies in the 275-1 000 GHz range available for active service applications are urged to take all practicable steps to protect these passive services from harmful interference until the date when the Table of Frequency Allocations is established in the above-mentioned 275-1 000 GHz frequency range.

All frequencies in the range 1 000-3 000 GHz may be used by both active and passive services. (WRC-12)

ANNEX 5

USER CATEGORIES

Category	User
Military (MIL)	Armed Forces (Terrestrial, Aviation, Maritime) National Guard / Security
Governmental (GOV)	Internal Security (Inside Libya) Police Public Security Public Services: • Ambulances • Public transportation (Buses, Railways, …) • Fire brigade • Customs Energy (Electricity, gas, …) Civil Aviation Broadcasting Research Universities Maritime National Meteorology Radio astronomy Space research Distress frequencies (SMDSM, …) Standard Frequency and Time signal
Civil (CIV)	Amateurs Short range devices (PMR446, radio controls, …) PMR (Taxis, private Ambulances, …) Oil companies WiFi networks Devices or frequencies used without licences Private Wireless microphones RFID Private transportation (Buses, Railways, maritime,…) Private security services Alarms Wireless phones Operators of mobile phone , WLL, and VSAT Fixed links (Private operators) Private Broadcasting

ANNEX 6
Abbreviations

List of abbreviations and glossary terms used in the LNFP, LFAT and Preface.

ATU	African Telecommunication Union
ASBU	Arab States Broadcasting Union
BBDR	Broad Band Disaster Relief
BFWA	Broadband Frequency Wireless Access
BR	Radiocommunication Bureau (ITU)
BR IFIC Circular	Radiocommunication Bureau International Frequency Information rcular
BWA	Broadband Wireless Access
CB	Citizen Band (application)
CEPT	European Conference of Post and Telecommunication
CIV	Civil User Category
DAB	Digital Audio Broadcasting
DECT	Digital Enhanced Cordless Telecommunications (ETSI standard)
DVB	Digital Video Broadcasting
DVB-H	**S**pecification for bringing broadcast services to battery-powered handheld receivers
DVB-T	Terrestrial Digital Video Broadcasting
EC	European Commission
EHF	Extremely High Frequency 30 – 300 GHz
EMC	Electro Magnetic Compatibility
ENG	Electronic News Gathering
FDD	Frequency Division Duplex. A transmission method where the downlink /downstream path and the uplink/ upstream path are separated by frequency
FWA	Fixed Wireless Access
GE 06 A	Frequency assignment plan for analogue television broadcasting in the bands 174-230 MHz and 470-862 MHz in Region 1 and part of Region 3
GE 06 D	Frequency assignment plan for digital broadcasting (sound broadcasting and television) in the bands 174-230 MHz and 470-862 MHz in Region 1 and part of Region 3
GSM	Global System for Mobile Communications

GMDSS	Global Maritime Distress and Safety System
GOV	Governmental User Category
HAPS	High Altitude Platform Stations
HF	High Frequency 3 000 kHz – 30 MHz
ICAO	International Civil Organization
ICT	Information and Communication Technologies
IMO	International Maritime Organization
IMT-2000	International Mobile Telecommunications
ISM	Industrial, Scientific and Medical (applications)
ITU	International Telecommunication Union
ITU-R	International Telecommunication Union, Radiocommunication Sector
ITU- REC	ITU Recommendation
LF	Low Frequency 30 – 300 kHz
LFAT	Libyan Frequency allocation Table
LNFP	Libyan National Frequency Plan
MGWS	Multiple Gigabit Wireless System
MIFR	Master International Frequency Register
MIL	Military User Category
MMDS	Multichannel Multipoint Distribution Service
MNFR	Master National Frequency Register
MSI	Maritime Safety Information
MWS	Multimedia Wireless System
NAVTEX	NAVigational information TEleX, element of GMDSS
OR	Off-Route aeronautical mobile services
PAMR	Public Access Mobile Radio
PMR	Private (Professional) Mobile Radio
PMSE	Program Making Special Events
R	Route aeronautical mobile services
RR	ITU Radio Regulations
RFID	Radio Frequency Identification
RTTT	Road Transport & Traffic Telematics

SAB	Service ancillary to Broadcasting
SAP	Service Ancillary to Program making
SHF	Super High Frequency 3 – 30 GHz
SNG	Satellite News Gathering
SRD	Short Range Devices
SRR	Short Range Radar
T-DAB	Terrestrial Digital Audio Broadcasting
TDD	Time Division Duplex. A transmission method where the downlink /downstream path and the uplink/ upstream path are separated by time
T-DMB	Terrestrial Digital Multimedia Broadcasting
TETRA	Terrestrial Trunked Radio
ToR	Terms of reference
TRA	Telecommunication Regulatory Authority
UHF	Ultra High frequency (300 MHz-3 000 MHz)
UMTS	Universal Mobile Telecommunications System
UTC	Universal Coordinated Time
UWB	Ultra Wide Broadband
VHF	Very High Frequency (30-300 MHz)
VSAT	Very Small Aperture Terminal
WiMAX	Worldwide Interoperability for Microwave Access
WAS	Wireless Access System
WRC	ITU World Radiocommunication Conference