

ITU-R Study Groups

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RADIOCOMMUNICATION SECTOR (ITU-R)

Aim:

- “.. to ensure rational, equitable, efficient and economical use of the radio-frequency spectrum and satellite orbits”
- “.. to carry out studies and adopt Recommendations on radiocommunication matters”

ITU-R objective

Objective achieved through (*inter alia*):

- * World (and Regional) Radiocommunication Conferences
- * Approval of Recommendations

Technical studies are required
which are conducted in **Study Groups**

ITU-R Study Groups

- * Groups of experts from ITU membership
- * Draft technical bases for WRCs (and RRCs)
- * Draft Recommendations
 - * technical characteristics
 - * operational procedures
- * Develop Reports
- * Compile Handbooks
- * Radiocommunication Assembly : agrees the programme of work within the SGs

Study Groups

- * SG 1: Spectrum management
- * SG 3: Radiowave propagation
- * SG 4: Satellite services
- * SG 5: Terrestrial services
- * SG 6: Broadcasting service
- * SG 7: Science services

ITU-R Study Groups

- * Currently 6 Study Groups
- * Subordinate groups
 - * Working Party
 - * Task Group
 - * Rapporteur Group
 - * Joint
- * Coordination Committee for Vocabulary
- * Special Committee (regulatory/procedural)
- * CPM - Conference Preparatory Meeting

Scope of Study Group 1

(Spectrum management)

- * Principles and techniques for
 - * spectrum management
 - * sharing criteria and methods
 - * spectrum monitoring
 - * long-term strategies for spectrum utilization
- * Inter-service sharing and compatibility

Scope of Study Group 3

(Radiowave propagation)

Propagation of radiowaves in ionized and non-ionized media and the characteristics of radio noise, for the purpose of improving radiocommunication systems

Scope of Study Group 4

(Radiowave propagation)



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- * Efficient orbit/spectrum utilization for FSS and BSS
- * Systems, air interfaces, performance and availability objectives for FSS, BSS and MSS, including IP-based applications and satellite news gathering
- * Efficient orbit/spectrum utilization for MSS and RDSS

Scope of Study Group 5

(Terrestrial services)

- * Systems and networks for fixed, mobile, radiodetermination, amateur and amateur-satellite services.
 - * Land mobile service above 30 MHz*(excluding IMT); wireless access in the fixed service; amateur and amateur-satellite services
 - * Maritime mobile service including Global Maritime Distress and Safety System (GMDSS); aeronautical mobile service and radiodetermination service
 - * Fixed wireless systems; HF and other systems below 30 MHz in the fixed and land mobile services
 - * IMT Systems

Scope of Study Group 6 (Broadcasting service)

- * Radiocommunication broadcasting, including vision, sound, multimedia and data services principally intended for delivery to the general public.

Scope of Study Group 7

(Science services)

- * Systems for space operation, space research, Earth exploration and meteorology, including the related use of links in the inter satellite service.
- * Systems for remote sensing, including passive and active sensing systems, operating on both ground-based and space-based platforms.
- * Radio astronomy and radar astronomy.
- * Dissemination, reception and coordination of standard-frequency and time-signal services, including the application of satellite techniques, on a worldwide basis.

Scope of Study Group 7

(Science services)

*ITU work in general and specifically the work of the Radiocommunication Sector (ITU-R) in the area of **climate change** focus on the use of ICT (different radio and telecommunication technologies and equipment) for weather and climate change monitoring, prediction, detection and mitigation of hurricanes, typhoons, thunderstorms, earthquakes, tsunamis, man-made disasters, etc.

*ITU-R Study Group 7, in cooperation with the World Meteorological Organization, produced WMO and ITU Handbook "Use of Radio Spectrum for Meteorology" providing information on development and a proper use radiocommunication systems and radio-based technologies for environment observation, climate control, weather forecasting and natural and man-made disaster prediction, detection and mitigation.

Joint Studies: Scope of Joint Task Group 4-5-6-7

next meeting in February 2014



International
Telecommunication
Union

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Agenda item 1.1 of WRC-15: “to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution 233 [COM6/8] (WRC 12)”

Agenda item 1.2 of WRC-15: “to examine the results of ITU R studies, in accordance with Resolution 232 [COM5/10] (WRC 12), on the use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service in Region 1 and take the appropriate measures.”

Study Group Products

- * Technical bases for WRC
 - * Conference Preparatory Meeting (CPM)
 - * CPM report to WRC
- * Draft ITU-R Recommendations
- * Handbooks
- * Reports

ITU-R Recommendations

- * > 900 Recommendations in 16 series
- * “Standards” in areas of spectrum management and radio technology
- * Result of consensus from meetings of world-wide experts
- * Some referred to in RR
- * Used by spectrum planners and system designers

ITU-R Recommendations:

<http://www.itu.int/pub/R-REC>

| <i>Series</i> | <i>Subject area</i> |
|---------------|--|
| BO | Satellite delivery |
| BR | Recording for production, archival and play-out; film for television |
| BS | Broadcasting service (sound) |
| BT | Broadcasting service (television) |
| F | Fixed service |
| M | Mobile, radiodetermination, amateur and related satellite services |
| P | Radiowave propagation |
| RA | Radioastronomy |
| RS | Remote sensing systems |
| S | Fixed-satellite service |
| SA | Space applications and meteorology |
| SF | Frequency sharing and coordination between fixed-satellite and fixed service systems |
| SM | Spectrum management |
| SNG | Satellite news gathering |
| TF | Time signals and frequency standards emissions |
| V | Vocabulary and related subjects |

ITU-R Handbooks

- * Over 30 published
- * Tutorial in nature
- * Emphasis on use by developing countries
- * Liaison with ITU-D (and ITU-T)
- * Continuing Handbook programme in ITU-R

Concluding remarks

- * The **Study Groups** represent a major aspect of ITU-R activities
- * Technical forum for discussion amongst experts
- * Technical bases for Radio Conferences
- * Recommendations and Handbooks

Thank you for your attention

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ITU-R provides a lot of documents and handbooks for guidance on national Spectrum Management (most of them are free of charge) :

- Handbooks
- SM series of recommendations



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The ITU is the leading publisher of telecommunication technology, regulatory and standard information. Over 4'500 titles in printed form and growing number on CD-ROM, DVD and Online.

Radiocommunication Sector (ITU-R)

ITU-R Publications constitute an essential reference source for all those wishing to remain abreast of the rapid and complex changes occurring in the world of international radiocommunications, such as government agencies, public and private telecommunication operators, manufacturers, scientific or industrial bodies, international organizations, consultancies, universities, technical institutions, etc.

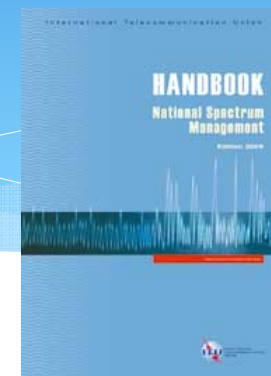
Publications are available in paper format, on CD-ROM, DVD and Online (one-time downloads or annual subscriptions) in the ITU official working languages (English, Arabic, Chinese, Spanish, French and Russian).

The ITU Radiocommunication Bureau publishes regulatory texts such as the Radio Regulations, the Final Acts of World and Regional Radiocommunication Conferences and the Rules of Procedure, as well as ITU-R Recommendations, Reports and Handbooks drawn up by the Radiocommunication Study Groups.

Radiocommunication Sector (ITU-R)

ITU-R handbooks for SM

- * Handbook on National SM (2005)



- * Spectrum Monitoring (2011)



- * Computer-Aided Techniques for SM (2005)



ITU-R HB on National SM

1. Spectrum Management Fundamentals
 2. Spectrum Planning
 3. Frequency Assignment and Licensing
 4. Spectrum Monitoring, Spectrum Inspection And Investigation
 5. Spectrum Engineering Practices
 6. Spectrum Economics
 7. Automation for Spectrum Management Activities
 8. Measures of Spectrum Utilization And Spectrum Utilization Efficiency
- Annex 1 – Spectrum Management Training
- Annex 2 – Best Practices for National SM

ITU-R SM-series Reports

- * SM.2012: Economic Aspects of SM
- * SM.2015: Methods for determining national long-term strategies for spectrum utilization
- * SM.2093: Guidance on the regulatory framework for national spectrum management
- * and many others...

ITU-R SM-series Recommendations

- * SM.1875: DVB-T coverage measurements and verification of planning criteria
- * SM.1756: Framework for the introduction of devices using ultra-wideband technology
- * SM.1751: An additional methodology for the evaluation of the effect of interference between radiocommunication networks operating in a shared frequency band
- * and many others...

Other ITU-R Resources

- * Service publications (incl. BRIFIC)
- * Software and databases
- * And many other “capacity building” assistance options:
 - * World Radiocommunication Seminars
 - * Workshops
 - * Training
 - * Dedicated SM assistance missions
 - * Attending to individual inquiries...