List of ITU-R Recommendations on DVD
2015 Edition 2

Number	Approval date	Title	Observation	Status
Series BO	**Satellite delivery**			
BO.600-1	1986-07	Standardized set of test conditions and measurement procedures for the subjective and objective determination of protection ratios for television in the terrestrial broadcasting and the broadcasting-satellite services		In force
BO.650-2	1992-03	Standards for conventional television systems for satellite broadcasting in the channels defined by Appendix 30 of the Radio Regulations		In force
BO.651-0	1986-07	Digital PCM coding for the emission of high-quality sound signals in satellite broadcasting (15 kHz nominal bandwidth)		In force
BO.652-1	1992-03	Reference patterns for Earth-station and satellite antennas for the broadcasting satellite service in the 12 GHz band and for the associated feeder links in the 14 GHz and 17 GHz bands		In force
BO.712-1	1992-03	High-quality sound/data standards for the broadcasting-satellite service in the 12 GHz band		In force
BO.789-2	1995-10	Service for digital sound broadcasting to vehicular, portable and fixed receivers for broadcasting-satellite service (sound) in the frequency range 1 400-2 700 MHz		In force
BO.790-0	1992-03	Characteristics of receiving equipment and calculation of receiver figure-of-merit (G/T) for the broadcasting-satellite service		In force
BO.791-0	1992-03	Choice of polarization for the broadcasting-satellite service		In force
BO.792-0	1992-03	Interference protection ratios for the broadcasting-satellite service (television) in the 12 GHz band		In force
BO.793-0	1992-03	Partitioning of noise between feeder links for the broadcasting-satellite service (BSS) and BSS downlinks		In force
BO.794-0	1992-03	Techniques for minimizing the impact on the overall BSS system performance due to rain along the feeder-link path		In force
BO.795-0	1992-03	Techniques for alleviating mutual interference between feeder links to the BSS		In force
BO.1130-4	2001-04	Systems for digital satellite broadcasting to vehicular, portable and fixed receivers in the bands allocated to BSS (sound) in the frequency range 1 400-2 700 MHz		In force

Number	Approval date	Title	Observation	Status
BO.1212-0	1995-10	Calculation of total interference between geostationary-satellite networks in the broadcasting-satellite service		In force
BO.1213-1	2005-11	Reference receiving Earth station antenna pattern for the broadcasting-satellite service in the 11.7-12.75 GHz band		In force
BO.1293-2	2002-04	Protection masks and associated calculation methods for interference into broadcast-satellite systems involving digital emissions	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
BO.1295-0	1997-10	Reference transmit Earth station antenna off-axis e.i.r.p. patterns for planning purposes to be used in the revision of the Appendix 30A (Orb-88) Plans of the Radio Regulations at 14 GHz and 17 GHz in Regions 1 and 3		In force
BO.1296-0	1997-10	Reference receive space station antenna patterns for planning purposes to be used for elliptical beams in the revision of the Appendix 30A (Orb-88) Plans of the Radio Regulations at 14 GHz and 17 GHz in Regions 1 and 3		In force
BO.1297-0	1997-10	Protection ratios to be used for planning purposes in the revision of the Appendices 30 (Orb-85) and 30A (Orb-88) Plans of the Radio Regulations in Regions 1 and 3		In force
BO.1373-2	2005-07	Use of broadcasting-satellite service assignments and of the associated feeder link assignments for fixed-satellite service transmissions in bands subject to Appendices 30 and 30A of the Radio Regulations		In force
BO.1383-0	1998-12	Introduction of the broadcasting-satellite service (sound) in the same frequency bands as used by mobile aeronautical telemetry systems in the frequency range 1-3 GHz		In force
BO.1408-1	2002-04	Transmission system for advanced multimedia services provided by integrated services digital broadcasting in a broadcasting-satellite channel		In force
BO.1443-3	2014-07	Reference BSS earth station antenna patterns for use in interference assessment involving non-GSO satellites in frequency bands covered by RR Appendix 30		In force
BO.1444-0	2000-03	Protection of the BSS in the 12 GHz band and associated feeder links in the 17 GHz band from interference caused by non-GSO FSS systems		In force
BO.1445-0	2000-03	Improved patterns for fast roll-off satellite transmit antennas of the Regions 1 and 3 BSS plans of RR Appendix S30		In force
BO.1504-0	2000-07	Effective utilization of spectrum assigned to the broadcasting-satellite service (sound)		In force

Number	Approval date	Title	Observation	Status
BO.1506-0	2000-07	A methodology to evaluate the impact of solar interference on GSO BSS link performance		In force
BO.1516-1	2012-01	Digital multiprogramme television systems for use by satellites operating in the 11/12 GHz frequency range		In force
BO.1517-0	2001-04	Equivalent power flux-density limits, epfddown, to protect the broadcasting-satellite service in the 12 GHz band from interference caused by non-geostationary fixed-satellite service systems		In force
BO.1597-0	2002-10	Methodology for the calculation of the worst-case interference levels between non-geostationary broadcasting-satellite service (sound) systems using highly-elliptical orbit and geostationary orbit satellite networks operating in the band 2 630-2 655 MHz		In force
BO.1658-0	2003-12	Continuous curves of epfddown versus the geostationary broadcasting-satellite service Earth station antenna diameter to indicate the protection afforded by systems complying with the limits of antennas with diameters other than those in Article 22 of the Radio Regulations		In force
BO.1659-1	2012-01	Mitigation techniques for rain attenuation for broadcasting-satellite service systems in frequency bands between 17.3 GHz and 42.5		In force
BO.1696-0	2005-02	Methodologies for determining the availability performance for digital multi-programme BSS systems, and their associated feeder links operating in the planned bands		In force
BO.1697-0	2005-02	Power flux-density values in the band 11.7-12.7 GHz and associated calculation methodology which may be used for bilateral coordination when the power flux-density values in Section 3 of Annex 1 to Appendix 30 or Annex 4 to Appendix 30 of the Radio Regulations are exceeded		In force
BO.1724-1	2007-01	Interactive satellite broadcasting systems (television, sound and data)		In force
BO.1773-0	2006-07	Criterion to assess the impact of interference to the broadcasting-satellite service from emissions of devices without a corresponding frequency allocation in the Radio Regulations, that produce fundamental emissions in the frequency bands allocated to the broadcasting satellite service		In force
BO.1774-1	2007-04	Use of satellite and terrestrial broadcast infrastructures for public warning, disaster mitigation and relief	Note - Identical to Rec. ITU-R BT.1774-1	In force
BO.1776-1	2012-01	Maximum power flux-density for the broadcasting-satellite service in the band 21.4-22.0 GHz in Regions 1 and 3		In force

Number	Approval date	Title	Observation	Status
BO.1784-0	2007-01	Digital satellite broadcasting system with flexible configuration (television, sound and data)		In force
BO.1785-0	2007-04	Intra-service sharing criteria for GSO BSS systems in the band 21.4-22.0 GHz in Regions 1 and 3		In force
BO.1834-0	2007-12	Coordination between geostationary-satellite orbit fixed-satellite service networks and broadcasting-satellite service networks in the band 17.3-17.8 GHz and among the broadcasting-satellite service and associated feeder-link networks serving Region 2 in the bands 17.3-17.8 GHz and 24.75-25.25 GHz		In force
BO.1835-0	2007-12	Sharing between broadcasting-satellite service (BSS) networks using the Region 2 17.3-17.8 GHz BSS allocation and feeder links of BSS networks using the worldwide 17.3-17.8 GHz fixed-satellite service (FSS) (Earth-to-space) allocation		In force
BO.1898-1	2012-12	Power flux-density value required for the protection of receiving earth stations in the broadcasting-satellite service in Regions 1 and 3 from emissions by a station in the fixed and/or mobile services in the band 21.4-22 GHz		In force
BO.1900-0	2012-01	Reference receive earth station antenna pattern for the broadcasting-satellite service in the band 21.4-22 GHz in Regions 1 and 3		In force
BO.2063-0	2014-09	Alternative BSS earth station antenna radiation pattern for 12 GHz BSS bands with effective apertures in the range 55-75 cm		In force

Number	Approval date	Title	Observation	Status
Series BR	**Recording for production, archival and play-out; film for television**			
BR.265-9	2004-02	Operating practices for the international exchange of programmes on film for television use		In force
BR.714-2	2001-12	International exchange of programmes produced by means of high-definition television	Approved in accordance with Resolution ITU-R 45	In force
BR.779-2	2003-01	Operating practices for digital television recording		In force
BR.780-2	2005-04	Time and control code standards, for production applications in order to facilitate the international exchange of television programmes on magnetic tapes		In force
BR.785-1	2001-04	The release of programmes in a multiple release media environment		In force
BR.1351-0	1998-02	Requirements for the application of digital technology to audio archiving systems for radio broadcasting		In force
BR.1352-3	2007-12	File format for the exchange of audio programme materials with metadata on information technology media	Note - Identical to Recommendation ITU-R BS.1352	In force
BR.1356-0	1998-02	User requirements for application of compression in mainstream standard definition television production and archival		In force
BR.1374-1	2001-06	Scanned area dimensions from 16 mm and 35 mm cinematographic film used in television	Approved in accordance with Resolution ITU-R 45	In force
BR.1375-3	2007-01	High-definition television (HDTV) digital recording formats		In force
BR.1384-2	2011-03	Parameters for international exchange of multi-channel sound recordings with or without accompanying picture		In force
BR.1441-0	2000-03	Compromise scanned area dimensions for television from 35 mm wide-screen films		In force
BR.1515-0	2001-04	International exchange of digital electronic news gathering recordings		In force
BR.1530-0	2001-06	Guide to Recommendations on the use of film in television	Approved in accordance with Resolution ITU-R 45	In force
BR.1531-0	2001-06	Exchange of sound programmes for broadcast use recorded as broadcast wave format files on compact and digital versatile recordable data disks	Approved in accordance with Resolution ITU-R 45	In force
BR.1574-0	2002-06	Archival of sound-program material in the form of files recorded on information technology media	Approved in accordance with Resolution ITU-R 45	In force
BR.1684-0	2004-09	Recording of 5.1-channel audio programmes on video tape recorders		In force
BR.1695-0	2004-09	Recording formats for international exchange for the evaluation of high-definition television programmes		In force

Number	Approval date	Title	Observation	Status
BR.1725-0	2005-04	Handling, restoration and storage of programme material that broadcasters have archived in the form of cinematographic film		In force
BR.1733-0	2005-08	Broadcasters' use of digital television recording formats designed for semi-professional or consumer applications		In force

Number	Approval date	Title	Observation	Status
Series BS	**Broadcasting service (sound)**			
BS.48-2	1986-07	Choice of frequency for sound broadcasting in the Tropical Zone		In force
BS.80-3	1990-06	Transmitting antennas in HF broadcasting		In force
BS.139-3	1990-06	Transmitting antennas for sound broadcasting in the Tropical Zone		In force
BS.215-2	1982-07	Maximum transmitter powers for broadcasting in the Tropical Zone		In force
BS.216-2	1982-07	Protection ratio for sound broadcasting in the Tropical Zone		In force
BS.411-4	1990-06	Fading allowances in HF broadcasting		In force
BS.412-9	1998-12	Planning standards for terrestrial FM sound broadcasting at VHF		In force
BS.415-2	1986-07	Minimum performance specifications for low-cost sound-broadcasting receivers		In force
BS.450-3	2001-11	Transmission standards for FM sound broadcasting at VHF		In force
BS.467-0	1970-07	Technical characteristics to be checked for frequency-modulation stereophonic broadcasting		In force
BS.468-4	1986-07	Measurement of audio-frequency noise voltage level in sound broadcasting		In force
BS.498-2	1990-06	Ionospheric cross-modulation in the LF and MF broadcasting bands		In force
BS.559-2	1990-06	Objective measurement of radio-frequency protection ratios in LF, MF and HF broadcasting		In force
BS.560-4	1997-10	Radio-frequency protection ratios in LF, MF and HF broadcasting		In force
BS.561-2	1986-07	Definitions of radiation in LF, MF and HF broadcasting bands		In force
BS.597-1	1986-07	Channel spacing for sound broadcasting in band 7 (HF)		In force
BS.598-1	1990-06	Factors influencing the limits of amplitude-modulation sound-broadcasting coverage in band 6 (MF)		In force
BS.599-0	1982-07	Directivity of antennas for the reception of sound broadcasting in band 8 (VHF)		In force
BS.638-0	1986-07	Terms and definitions used in frequency planning for sound broadcasting		In force
BS.639-0	1986-07	Necessary bandwidth of emission in LF, MF and HF broadcasting		In force
BS.641-0	1986-07	Determination of radio-frequency protection ratios for frequency-modulated sound broadcasting		In force
BS.642-1	1990-06	Limiters for high-quality sound-programme signals		In force

Number	Approval date	Title	Observation	Status
BS.643-3	2011-05	Radio data system for automatic tuning and other applications in FM radio receivers for use with pilot-tone system		In force
BS.644-1	1990-06	Audio quality parameters for the performance of a high-quality sound-programme transmission chain		In force
BS.645-2	1992-03	Test signals and metering to be used on international sound programme connections		In force
BS.646-1	1992-03	Source encoding for digital sound signals in broadcasting studios		In force
BS.647-3	2011-03	A digital audio interface for broadcasting studios		In force
BS.702-1	1992-03	Synchronization and multiple frequency use per programme in HF broadcasting		In force
BS.703-0	1990-06	Characteristics of AM sound broadcasting reference receivers for planning purposes		In force
BS.704-0	1990-06	Characteristics of FM sound broadcasting reference receivers for planning purposes		In force
BS.705-1	1995-10	HF transmitting and receiving antennas characteristics and diagrams		In force
BS.706-2	1998-02	Data system in monophonic AM sound broadcasting (AMDS)		In force
BS.707-5	2005-08	Transmission of multisound in terrestrial television systems PAL B, B1, D1, G, H and I, and SECAM D, K, K1 and L		In force
BS.708-0	1990-06	Determination of the electro-acoustical properties of studio monitor headphones		In force
BS.774-4	2014-06	Service requirements for digital sound broadcasting to vehicular, portable and fixed receivers using terrestrial transmitters in the VHF/UHF bands		In force
BS.775-3	2012-08	Multichannel stereophonic sound system with and without accompanying picture		In force
BS.1114-8	2014-06	Systems for terrestrial digital sound broadcasting to vehicular, portable and fixed receivers in the frequency range 30-3 000 MHz		In force
BS.1116-3	2015-02	Methods for the subjective assessment of small impairments in audio systems		In force
BS.1194-2	1998-12	System for multiplexing frequency modulation (FM) sound broadcasts with a sub-carrier data channel having a relatively large transmission capacity for stationary and mobile reception		In force
BS.1195-1	2013-01	Transmitting antenna characteristics at VHF and UHF		In force
BS.1196-4	2015-02	Audio coding for digital broadcasting		In force
BS.1283-1	2003-12	A guide to ITU-R Recommendations for subjective assessment of sound quality		In force

Number	Approval date	Title	Observation	Status
BS.1284-1	2003-12	General methods for the subjective assessment of sound quality	Note - This Recommendation replaces Rec. ITU-R BS.562-3	In force
BS.1285-0	1997-10	Pre-selection methods for the subjective assessment of small impairments in audio systems		In force
BS.1286-0	1997-10	Methods for the subjective assessment of audio systems with accompanying picture		In force
BS.1348-3	2014-06	Service requirements for digital sound broadcasting at frequencies below 30 MHz		In force
BS.1349-0	1998-02	Implementation of digital sound broadcasting to vehicular, portable and fixed receivers using terrestrial transmitters in the LF, MF and HF bands		In force
BS.1350-1	1998-12	Systems requirements for multiplexing (FM) sound broadcasting with a sub-carrier data channel having a relatively large transmission capacity for stationary and mobile reception		In force
BS.1352-3	2007-12	File format for the exchange of audio programme materials with metadata on information technology media	Note - Identical to Recommendation ITU-R BR.1352.	In force
BS.1386-1	2001-04	LF and MF transmitting antennas characteristics and diagrams		In force
BS.1387-1	2001-11	Method for objective measurements of perceived audio quality	The Zip file contains WAV-files referenced in section 7.3 of this Recommendation	In force
BS.1423-0	1999-12	Guidelines for producing multichannel soundtracks using surround matrix techniques		In force
BS.1514-2	2011-03	System for digital sound broadcasting in the broadcasting bands below 30 MHz		In force
BS.1534-2	2014-06	Method for the subjective assessment of intermediate quality levels of coding systems		In force
BS.1547-0	2001-11	Terrestrial component of systems for hybrid satellite-terrestrial digital sound broadcasting to vehicular, portable and fixed receivers in the frequency range 1 400-2 700 MHz		In force
BS.1548-4	2013-01	User requirements for audio coding systems for digital broadcasting		In force
BS.1596-0	2002-10	Guide to ITU-R Recommendations for broadcast sound production		In force
BS.1615-1	2011-05	"Planning parameters" for digital sound broadcasting at frequencies below 30 MHz		In force
BS.1657-0	2003-08	Procedure for the performance test of automated audio identification systems	Approved in accordance with Resolution ITU-R 45	In force
BS.1660-6	2012-08	Technical basis for planning of terrestrial digital sound broadcasting in the VHF band		In force

Number	Approval date	Title	Observation	Status
BS.1661-0	2003-12	'Signal-on-the-air' specifications of the digital system described in Annex 1 to Recommendation ITU-R BS.1514 for digital sound broadcasting in the broadcasting bands below 30 MHz		In force
BS.1679-0	2004-03	Subjective assessment of the quality of audio in large screen digital imagery applications intended for presentation in a theatrical environment		In force
BS.1688-0	2004-09	Baseband sound system and audio source-coding at delivery interfaces of large-screen digital imagery applications		In force
BS.1693-0	2004-09	Procedure for the performance test of automated query-by-humming systems		In force
BS.1698-0	2005-02	Evaluating fields from terrestrial broadcasting transmitting systems operating in any frequency band for assessing exposure to non-ionizing radiation		In force
BS.1726-0	2005-04	Signal level of digital audio accompanying television in international programme exchange		In force
BS.1734-0	2005-08	Basic performance requirements for the sound components of large-screen digital imagery applications for presentation in a theatrical environment		In force
BS.1738-0	2007-09	Identification and ordering of multiple audio channels carried on international contribution circuits		In force
BS.1770-3	2012-08	Algorithms to measure audio programme loudness and true-peak audio level		In force
BS.1771-1	2012-01	Requirements for loudness and true-peak indicating meters		In force
BS.1786-0	2007-04	Criterion to assess the impact of interference to the terrestrial broadcasting service (BS)	Note - Identical to Rec. ITU-R BT.1786	In force
BS.1864-0	2010-03	Operational practices for loudness in the international exchange of digital television programmes		In force
BS.1873-0	2010-03	Serial multichannel audio digital interface for broadcasting studios		In force
BS.1892-0	2011-05	Requirements for enhanced multimedia services for digital terrestrial broadcasting in VHF Bands I and II		In force
BS.1894-0	2011-05	Digital radio broadcast service, captioned radio		In force
BS.1895-0	2011-05	Protection criteria for terrestrial broadcasting systems	Note - Identical to Rec. ITU-R BT.1895	In force
BS.1909-0	2012-01	Performance requirements for an advanced multichannel stereophonic sound system for use with or without accompanying picture		In force

Number	Approval date	Title	Observation	Status
BS.2019-0	2012-08	Audio system for the production and international exchange of 3DTV programmes for broadcasting		In force
BS.2032-0	2013-01	Synchronization of digital audio sample clock to video references		In force
BS.2051-0	2014-02	Advanced sound system for programme production		In force

Number	Approval date	Title	Observation	Status
Series BT	**Broadcasting service (television)**			
BT.417-5	2002-10	Minimum field strengths for which protection may be sought in planning an analogue terrestrial television service		In force
BT.419-3	1990-06	Directivity and polarization discrimination of antennas in the reception of television broadcasting		In force
BT.470-7	2005-02	Conventional analogue television systems		In force
BT.471-1	1986-07	Nomenclature and description of colour bar signals		In force
BT.472-3	1990-06	Video-frequency characteristics of a television system to be used for the international exchange of programmes between countries that have adopted 625-line colour or monochrome systems		In force
BT.500-13	2012-01	Methodology for the subjective assessment of the quality of television pictures		In force
BT.601-7	2011-03	Studio encoding parameters of digital television for standard 4:3 and wide screen 16:9 aspect ratios		In force
BT.653-3	1998-02	Teletext systems		In force
BT.654-0	1986-07	Subjective quality of television pictures in relation to the main impairments of the analogue composite television signal		In force
BT.655-7	2004-02	Radio-frequency protection ratios for AM vestigial sideband terrestrial television systems interfered with by unwanted analogue vision signals and their associated sound signals		In force
BT.656-5	2007-12	Interface for digital component video signals in 525-line and 625-line television systems operating at the 4:2:2 level of Recommendation ITU-R BT.601		In force
BT.709-5	2002-04	Parameter values for the HDTV standards for production and international programme exchange		In force
BT.710-4	1998-11	Subjective assessment methods for image quality in high-definition television		In force
BT.711-1	1992-09	Synchronizing reference signals for the component digital studio		In force
BT.798-1	1994-07	Digital television terrestrial broadcasting in the VHF/UHF bands		In force
BT.799-4	2007-12	Interface for digital component video signals in 525-line and 625 line television systems operating at the 4:4:4 level of Recommendation ITU-R BT.601		In force

Number	Approval date	Title	Observation	Status
BT.802-1	1994-07	Test pictures and sequences for subjective assessments of digital codecs conveying signals produced according to Recommendation ITU-R BT.601		In force
BT.805-0	1992-03	Assessment of impairment caused to television reception by a wind turbine		In force
BT.807-0	1992-03	Reference model for data broadcasting		In force
BT.808-0	1992-03	The broadcasting of time and date information in coded form		In force
BT.811-1	1994-07	The subjective assessment of enhanced PAL and SECAM systems		In force
BT.812-0	1992-03	Subjective assessment of the quality of alphanumeric and graphic pictures in Teletext and similar services		In force
BT.813-0	1992-03	Methods for objective picture quality assessment in relation to impairments from digital coding of television signals		In force
BT.814-2	2007-09	Specifications and alignment procedures for setting of brightness and contrast of displays		In force
BT.815-1	1994-07	Specification of a signal for measurement of the contrast ratio of displays		In force
BT.1119-2	1998-02	Wide-screen signalling for broadcasting (Signalling for wide-screen and other enhanced television parameters)		In force
BT.1120-8	2012-01	Digital interfaces for HDTV studio signals		In force
BT.1122-2	2011-03	User requirements for codecs for emission and secondary distribution systems for SDTV and HDTV		In force
BT.1124-3	2001-06	Reference signals for ghost cancelling in analogue television systems	Approved in accordance with Resolution ITU-R 45	In force
BT.1125-0	1994-07	Basic objectives for the planning and implementation of digital terrestrial television broadcasting systems		In force
BT.1127-0	1994-07	Relative quality requirements of television broadcast systems		In force
BT.1128-2	1997-10	Subjective assessment of conventional television systems		In force
BT.1129-2	1998-02	Subjective assessment of standard definition digital television (SDTV) systems		In force
BT.1195-1	2013-01	Transmitting antenna characteristics at VHF and UHF	Note - Identical to Rec. ITU-R BS.1195-1 (see CACE/592)	In force
BT.1198-0	1995-10	Stereoscopic television based on R-and L-eye two channel signals		In force
BT.1199-1	2010-03	Use of bit-rate reduction in the HDTV studio environment		In force

Number	Approval date	Title	Observation	Status
BT.1203-2	2015-02	User requirements for generic video bit-rate reduction coding of digital TV signals for an end-to-end television system		In force
BT.1206-2	2014-06	Spectrum limit masks for digital terrestrial television broadcasting		In force
BT.1207-1	1997-10	Data access methods for digital terrestrial television broadcasting		In force
BT.1209-1	1997-10	Service multiplex methods for digital terrestrial television broadcasting		In force
BT.1210-4	2012-01	Test materials to be used in assessment of picture quality		In force
BT.1299-1	2010-03	The basic elements of a worldwide common family of systems for digital terrestrial television broadcasting		In force
BT.1300-3	2005-08	Service multiplex, transport, and identification methods for digital terrestrial television broadcasting		In force
BT.1301-1	2011-03	Data services in digital television broadcasting		In force
BT.1304-0	1997-10	Checksum for error detection and status information in interfaces conforming with Recommendations ITU-R BT.656 and ITU-R BT.799		In force
BT.1305-1	2010-03	Digital audio and auxiliary data as ancillary data signals in interfaces conforming to Recommendations ITU-R BT.656 and ITU-R BT.799		In force
BT.1306-6	2011-12	Error correction, data framing, modulation and emission methods for digital terrestrial television broadcasting		In force
BT.1359-1	1998-11	Relative timing of sound and vision for broadcasting		In force
BT.1363-1	1998-11	Jitter specifications and methods for jitter measurements of bit-serial signals conforming to Recommendations ITU-R BT.656, ITU-R BT.799 and ITU-R BT.1120		In force
BT.1364-2	2010-03	Format of ancillary data signals carried in digital component studio interfaces		In force
BT.1365-1	2010-03	24-bit digital audio format as ancillary data signals in HDTV serial interfaces		In force
BT.1366-2	2009-01	Transmission of time code and control code in the ancillary data space of a digital television stream according to Recommendations ITU-R BT.656, ITU-R BT.799 and ITU-R BT.1120		In force
BT.1367-1	2007-12	Serial digital fibre transmission system for signals conforming to Recommendations ITU-R BT.656, ITU-R BT.799 and ITU-R BT.1120		In force
BT.1368-12	2015-02	Planning criteria, including protection ratios, for digital terrestrial television services in the VHF/UHF bands		In force

Number	Approval date	Title	Observation	Status
BT.1369-0	1998-02	Basic principles for a worldwide common family of systems for the provision of interactive television services		In force
BT.1377-0	1998-11	Labelling of video and audio apparatus throughput (processing) delay		In force
BT.1379-2	2007-09	Safe areas of wide-screen 16:9 and standard 4:3 aspect ratio productions to achieve a common format during a transition period to wide screen 16:9 broadcasting		In force
BT.1380-1	2006-07	Standards for bit rate reduction coding systems for SDTV		In force
BT.1381-3	2007-12	Serial digital interface-based transport interface for compressed television signals and packetized data in networked television production based on Recommendation ITU-R BT.656		In force
BT.1382-0	1998-11	Assessment of the picture quality of multi-programme services		In force
BT.1434-0	2000-03	Network independent protocols for interactive systems		In force
BT.1435-0	2000-03	Digital sound and television broadcasting interaction channel through the PSTN/ISDN		In force
BT.1438-0	2000-03	Subjective assessment of stereoscopic television pictures		In force
BT.1439-1	2006-02	Measurement methods applicable in the analogue television studio and the overall analogue television system		In force
BT.1507-0	2000-10	Interaction channel using digital enhanced cordless telecommunications (DECT) system		In force
BT.1508-0	2000-10	Interaction channel using global system for mobile communications (GSM)		In force
BT.1543-0	2001-08	1 280 720, 16:9 progressively-captured image format for production and international programme exchange in the 60 Hz environment		In force
BT.1549-0	2001-11	Data link protocol for interaction channel		In force
BT.1562-0	2002-04	Consistency in the alignment of displays in production rooms and control rooms		In force
BT.1563-1	2011-03	Data encoding protocol using key-length-value		In force
BT.1564-0	2002-04	Interaction channel using local multipoint distribution systems		In force
BT.1577-0	2002-06	Serial digital interface-based transport interface for compressed television signals in networked television production based on Recommendation ITU-R BT.1120	Approved in accordance with Resolution ITU-R 45	In force
BT.1614-1	2012-01	Payload identification data structure for digital television interfaces		In force
BT.1618-1	2011-03	Data structure for DV-based audio, data and compressed video at data rates of 25 and 50 Mbit/s		In force

Number	Approval date	Title	Observation	Status
BT.1619-0	2003-05	Vertical ancillary data mapping for serial digital interface		In force
BT.1620-1	2010-03	Data structure for DV-based audio, data and compressed video at a data rate of 100 Mbit/s		In force
BT.1662-0	2003-12	General reference chain and management of post-processing headroom for programme essence in large screen digital imagery applications		In force
BT.1663-0	2003-12	Expert viewing methods to assess the quality of systems for the digital display of large screen digital imagery in theatres		In force
BT.1664-0	2003-12	Representation of various image aspect ratios into the image of large screen digital imagery applications that use a 16:9 raster		In force
BT.1665-0	2003-12	Considerations for colour encoding and spatial resolution for large screen digital imagery display		In force
BT.1666-0	2003-12	User requirements for large screen digital imagery applications intended for presentation in a theatrical environment		In force
BT.1667-0	2003-12	Terrestrial return channel for interactive broadcasting services operating in the VHF/UHF broadcast band based on Recommendation ITU-R BT.1306		In force
BT.1674-0	2004-02	Metadata requirements for production and post-production in broadcasting		In force
BT.1675-0	2004-02	System design and operational practices for minimizing disturbance from loop delay in broadcast systems		In force
BT.1676-0	2004-02	Methodological framework for specifying accuracy and cross-calibration of video quality metrics		In force
BT.1680-1	2014-06	Baseband imaging format for distribution of large screen digital imagery applications intended for presentation in a theatrical environment		In force
BT.1683-0	2004-06	Objective perceptual video quality measurement techniques for standard definition digital broadcast television in the presence of a full reference		In force
BT.1685-0	2004-09	Structure of inter-station control data conveyed by ancillary data packets		In force
BT.1686-0	2004-09	Methods of measurement of image presentation parameters for large screen digital imagery programme presentation in a theatrical environment		In force
BT.1687-1	2006-02	Video bit-rate reduction for real-time distribution of large-screen digital imagery applications for presentation in a theatrical environment		In force

Number	Approval date	Title	Observation	Status
BT.1689-0	2004-09	Guidelines on the presentation in large-screen digital imagery environments of programmes that are provided in image formats conforming to Recommendation ITU-R BT.601		In force
BT.1690-0	2004-09	Assumed characteristics of venues intended for large-screen digital imagery programme presentation in a theatrical environment		In force
BT.1691-1	2009-09	Adaptive image quality control in digital television systems		In force
BT.1692-1	2009-09	Optimization of the quality of colour reproduction in digital television		In force
BT.1699-2	2013-01	Harmonization of declarative application formats for interactive TV		In force
BT.1700-0	2005-02	Characteristics of composite video signals for conventional analogue television systems		In force
BT.1701-1	2005-08	Characteristics of radiated signals of conventional analogue television systems		In force
BT.1702-0	2005-02	Guidance for the reduction of photosensitive epileptic seizures caused by television		In force
BT.1720-0	2005-07	Quality of service ranking and measurement methods for digital video broadcasting services delivered over broadband Internet protocol networks		In force
BT.1721-0	2005-07	Objective measurement of perceptual image quality of large screen digital imagery applications for theatrical presentation		In force
BT.1722-2	2011-03	Harmonization of the instruction set for the execution engine for interactive TV applications		In force
BT.1727-0	2005-04	Terrestrial and satellite delivery of programme material to large screen digital imagery venues		In force
BT.1728-1	2010-03	Guidance on the use of flat panel displays in television production and postproduction		In force
BT.1729-0	2005-04	Common 16:9 or 4:3 aspect ratio digital television reference test pattern		In force
BT.1735-3	2015-02	Methods for objective reception quality assessment of digital terrestrial television broadcasting signals of System B specified in Recommendation ITU-R BT.1306		In force
BT.1736-0	2006-02	Broadcasting of redistribution signalling for television		In force
BT.1737-0	2006-02	Use of the ITU-T Recommendation H.264 (MPEG-4/AVC) video source-coding method to transport high definition TV programme material		In force
BT.1774-1	2007-04	Use of satellite and terrestrial broadcast infrastructures for public warning, disaster mitigation and relief	Note - Identical to Rec. ITU-R BO.1774-1	In force

Number	Approval date	Title	Observation	Status
BT.1775-0	2006-07	File format with editing capability, for the exchange of metadata, audio, video, data essence and ancillary data for use in broadcasting		In force
BT.1786-0	2007-04	Criterion to assess the impact of interference to the terrestrial broadcasting service (BS)	Note - Identical to Rec. ITU-R BS.1786	In force
BT.1788-0	2007-01	Methodology for the subjective assessment of video quality in multimedia applications		In force
BT.1789-0	2007-04	A method to reconstruct received video using transmission error information for packet video transmission		In force
BT.1790-0	2007-01	Requirements for monitoring of broadcasting chains during operation		In force
BT.1832-0	2007-12	Digital video broadcast-return channel terrestrial (DVB-RCT) deployment scenarios and planning considerations		In force
BT.1833-3	2014-02	Broadcasting of multimedia and data applications for mobile reception by handheld receivers		In force
BT.1845-1	2010-03	Guidelines on metrics to be used when tailoring television programmes to broadcasting applications at various image quality levels, display sizes and aspect ratios		In force
BT.1846-0	2008-10	Notations for video systems		In force
BT.1847-0	2009-01	1 280 × 720, 16:9 progressively-captured image format for production and international programme exchange in the 50 Hz environment		In force
BT.1848-0	2009-05	Safe areas of wide-screen 16:9 aspect ratio digital productions		In force
BT.1852-0	2009-09	Conditional-access systems for digital broadcasting		In force
BT.1865-0	2010-03	Metadata to monitor errors of SDTV and HDTV signals in the broadcasting chain		In force
BT.1866-0	2010-03	Objective perceptual video quality measurement techniques for broadcasting applications using low definition television in the presence of a full reference signal		In force
BT.1867-0	2010-03	Objective perceptual visual quality measurement techniques for broadcasting applications using low definition television in the presence of a reduced bandwidth reference		In force
BT.1868-0	2010-03	User requirements for codecs for transmission of television signals through contribution, primary distribution, and SNG networks		In force
BT.1869-0	2010-03	Multiplexing scheme for variable-length packets in digital multimedia broadcasting systems		In force
BT.1870-1	2015-02	Video coding for digital television broadcasting emission		In force

Number	Approval date	Title	Observation	Status
BT.1871-0	2010-03	User requirements for wireless microphones		In force
BT.1872-0	2010-03	User requirements for digital electronic news gathering		In force
BT.1877-1	2012-08	Error-correction, data framing, modulation and emission methods for second generation of digital terrestrial television broadcasting systems		In force
BT.1885-0	2011-03	Objective perceptual video quality measurement techniques for standard definition digital broadcast television in the presence of a reduced bandwidth reference		In force
BT.1886-0	2011-03	Reference electro-optical transfer function for flat panel displays used in HDTV studio production		In force
BT.1887-0	2011-03	Carriage of IP packets in MPEG 2 transport streams in multimedia broadcasting		In force
BT.1888-1	2011-09	Basic elements of file-based broadcasting systems		In force
BT.1889-0	2011-03	Common application environment for interactive digital broadcasting services		In force
BT.1893-0	2011-05	Assessment of impairment caused to digital television reception by a wind turbine		In force
BT.1895-0	2011-05	Protection criteria for terrestrial broadcasting systems	Note - Identical to Rec. ITU-R BS.1895	In force
BT.1907-0	2012-01	Objective perceptual video quality measurement techniques for broadcasting applications using HDTV in the presence of a full reference signal		In force
BT.1908-0	2012-01	Objective video quality measurement techniques for broadcasting applications using HDTV in the presence of a reduced reference signal		In force
BT.2000-0	2012-01	Use of large screen digital imagery Recommendations in video information systems applications		In force
BT.2016-1	2013-01	Error-correction, data framing, modulation and emission methods for terrestrial multimedia broadcasting for mobile reception using handheld receivers in VHF/UHF bands		In force
BT.2020-1	2014-06	Parameter values for ultra-high definition television systems for production and international programme exchange		In force
BT.2021-1	2015-02	Subjective methods for the assessment of stereoscopic 3DTV systems		In force
BT.2022-0	2012-08	General viewing conditions for subjective assessment of quality of SDTV and HDTV television pictures on flat panel displays		In force
BT.2023-0	2012-08	Performance requirements for the production, international exchange and broadcasting of 3DTV Programmes		In force

Number	Approval date	Title	Observation	Status
BT.2024-0	2012-08	HDTV digital image systems for the production and international exchange of 3DTV programmes for broadcasting		In force
BT.2025-0	2012-08	1 280 × 720 digital image systems for the production and international exchange of 3DTV programmes for broadcasting		In force
BT.2026-0	2012-08	Guidelines on the implementation of systems for in-service objective measurement and monitoring of "perceptual transparency" for the distribution chain of SDTV and HDTV programmes		In force
BT.2027-0	2012-08	Serial Digital Interface for production and international exchange of HDTV 3DTV programmes		In force
BT.2033-1	2015-02	Planning criteria, including protection ratios, for second generation of digital terrestrial television broadcasting systems in the VHF/UHF bands		In force
BT.2035-0	2013-07	A reference viewing environment for evaluation of HDTV program material or completed programmes		In force
BT.2036-0	2013-07	Characteristics of a reference receiving system for frequency planning of digital terrestrial television systems		In force
BT.2037-0	2013-07	General requirements for broadcast-oriented applications of integrated broadcast-broadband systems and their envisaged utilization		In force
BT.2038-0	2013-07	Transport of HDTV 3DTV programmes for international programme exchange in broadcasting		In force
BT.2050-0	2014-02	Use of UHDTV image systems for capturing, editing, finishing and archiving high-quality HDTV programmes		In force
BT.2052-0	2014-02	Planning criteria for terrestrial multimedia broadcasting for mobile reception using handheld receivers in VHF/UHF bands		In force
BT.2053-0	2014-02	Technical requirements for integrated broadcast-broadband systems		In force
BT.2054-0	2014-02	Multiplexing and transport schemes in multimedia broadcasting systems for mobile reception		In force
BT.2055-0	2014-02	Content elements in multimedia broadcasting systems for mobile reception		In force
BT.2056-0	2014-02	High-level guidelines for the international exchange of HDTV programmes over IP connections for contribution purposes		In force
BT.2072-0	2015-02	Main functionalities of consumer receivers for worldwide broadcasting roaming		In force
BT.2073-0	2015-02	Use of the high efficiency video coding (HEVC) standard for UHDTV and HDTV broadcasting		In force

Number	Approval date	Title	Observation	Status
Series F	**Fixed service**			
F.106-2	1999-05	The use of diversity for voice-frequency telegraphy on HF radio circuits		In force
F.162-3	1992-03	Use of directional transmitting antennas in the fixed service operating in bands below about 30 MHz		In force
F.240-7	2006-02	Signal-to-interference protection ratios for various classes of emission in the fixed service below about 30 MHz		In force
F.246-3	1974-07	Frequency-shift keying		In force
F.302-3	1997-05	Limitation of interference from trans-horizon radio-relay systems		In force
F.338-2	1970-07	Bandwidth required at the output of a telegraph or telephone receiver		In force
F.339-8	2013-02	Bandwidths, signal-to-noise ratios and fading allowances in HF fixed and land mobile radiocommunication systems		In force
F.348-4	1990-06	Arrangement of channels in multi-channel single-sideband and independent-sideband transmitters for long-range circuits operating at frequencies below about 30 MHz		In force
F.382-8	2006-04	Radio-frequency channel arrangements for fixed wireless systems operating in the 2 and 4 GHz bands		In force
F.383-9	2013-02	Radio-frequency channel arrangements for high-capacity fixed wireless systems operating in the lower 6 GHz (5 925 to 6 425 MHz) band		In force
F.384-11	2012-03	Radio-frequency channel arrangements for medium- and high- capacity digital fixed wireless systems operating in the the 6 425-7 125 MHz band		In force
F.385-10	2012-03	Radio-frequency channel arrangements for fixed wireless systems operating in the 7 110-7 900 MHz band		In force
F.386-9	2013-02	Radio-frequency channel arrangements for fixed wireless systems operating in the 8 GHz (7 725 to 8 500 MHz) band		In force
F.387-12	2012-03	Radio-frequency channel arrangements for fixed wireless systems operating in the 10.7-11.7 GHz band		In force
F.454-1	1978-07	Pilot carrier level for HF single-sideband and independent-sideband reduced-carrier systems		In force
F.497-7	2007-09	Radio-frequency channel arrangements for fixed wireless systems operating in the 13 GHz (12.75-13.25 GHz) frequency band		In force

Number	Approval date	Title	Observation	Status
F.556-1	1986-07	Hypothetical reference digital path for radio-relay systems which may form part of an integrated services digital network with a capacity above the second hierarchical level		In force
F.557-5	2013-12	Availability objective for radio-relay systems over a hypothetical reference circuit and a hypothetical reference digital path		In force
F.592-4	2007-09	Vocabulary of terms for the fixed service		In force
F.594-4	1997-09	Error performance objectives of the hypothetical reference digital path for radio-relay systems providing connections at a bit rate below the primary rate and forming part or all of the high grade portion of an integrated services digital network		In force
F.595-10	2012-03	Radio-frequency channel arrangements for fixed wireless systems operating in the 17.7-19.7 GHz frequency band		In force
F.612-0	1986-07	Measurement of reciprocal mixing in HF communication receivers in the fixed service		In force
F.613-0	1986-07	The use of ionospheric channel sounding systems operating in the fixed service at frequencies below about 30 MHz		In force
F.634-4	1997-09	Error performance objectives for real digital radio-relay links forming part of the high-grade portion of international digital connections at a bit rate below the primary rate within an integrated services digital network		In force
F.635-7	2013-02	Radio-frequency channel arrangements based on a homogeneous pattern for fixed wireless systems operating in the 4 GHz (3 400-4 200 MHz) band		In force
F.636-4	2012-03	Radio-frequency channel arrangements for fixed wireless systems operating in the 14.4-15.35 GHz band		In force
F.637-4	2012-03	Radio-frequency channel arrangements for fixed wireless systems operating in the 21.2-23.6 GHz band		In force
F.695-0	1990-06	Availability objectives for real digital radio-relay links forming part of a high-grade circuit within an integrated services digital network		In force
F.696-2	1997-09	Error performance and availability objectives for hypothetical reference digital sections forming part or all of the medium-grade portion of an ISDN connection at a bit rate below the primary rate utilizing digital radio-relay systems		In force
F.697-2	1997-09	Error performance and availability objectives for the local-grade portion at each end of an ISDN connection at a bit rate below the primary rate utilizing digital radio-relay systems		In force

Number	Approval date	Title	Observation	Status
F.698-2	1994-09	Preferred frequency bands for trans-horizon radio-relay systems		In force
F.699-7	2006-04	Reference radiation patterns for fixed wireless system antennas for use in coordination studies and interference assessment in the frequency range from 100 MHz to about 70 GHz		In force
F.701-2	1997-09	Radio-frequency channel arrangements for digital point-to-multipoint radio systems operating in frequency bands in the range 1 350 to 2 690 MHz (1.5, 1.8, 2.0, 2.2, 2.4 and 2.6 GHz)		In force
F.746-10	2012-03	Radio-frequency arrangements for fixed service systems		In force
F.747-1	2012-03	Radio-frequency channel arrangements for fixed wireless system operating in the 10.0-10.68 GHz band		In force
F.748-4	2001-05	Radio-frequency arrangements for systems of the fixed service operating in the 25, 26 and 28 GHz bands		In force
F.749-3	2012-03	Radio-frequency arrangements for systems of the fixed service operating in sub-bands in the 36-40.5 GHz band		In force
F.750-4	2000-05	Architectures and functional aspects of radio-relay systems for synchronous digital hierarchy (SDH)-based network		In force
F.751-2	1997-09	Transmission characteristics and performance requirements of radio-relay systems for SDH-based networks		In force
F.752-2	2006-02	Diversity techniques for point-to-point fixed wireless systems		In force
F.755-2	1999-05	Point-to-multipoint systems in the fixed service		In force
F.757-4	2011-04	Basic system requirements and performance objectives for fixed wireless access using mobile-derived technologies offering telephony and data communication services		In force
F.758-5	2012-03	System parameters and considerations in the development of criteria for sharing or compatibility between digital fixed wireless systems in the fixed service and systems in other services and other sources of interference		In force
F.763-5	2005-01	Data transmission over HF circuits using phase shift keying or quadrature amplitude modulation		In force
F.764-1	1994-09	Minimum requirements for HF radio systems using a packet transmission protocol		In force
F.1093-2	2006-04	Effects of multipath propagation on the design and operation of line-of-sight digital fixed wireless systems		In force

Number	Approval date	Title	Observation	Status
F.1094-2	2007-09	Maximum allowable error performance and availability degradations to digital fixed wireless systems arising from radio interference from emissions and radiations from other sources		In force
F.1095-0	1994-09	A procedure for determining coordination area between radio-relay stations of the fixed service		In force
F.1096-1	2011-04	Methods of calculating line-of-sight interference into fixed wireless systems to account for terrain scattering		In force
F.1097-1	2000-05	Interference mitigation options to enhance compatibility between radar systems and digital radio-relay systems		In force
F.1098-1	1995-10	Radio-frequency channel arrangements for fixed wireless systems in the 1 900-2 300 MHz band		In force
F.1099-5	2013-02	Radio-frequency channel arrangements for high- and medium-capacity digital fixed wireless systems in the upper 4 GHz (4 400-5 000 MHz) band		In force
F.1101-0	1994-09	Characteristics of digital fixed wireless systems below about 17 GHz		In force
F.1102-2	2005-01	Characteristics of fixed wireless systems operating in frequency bands above about 17 GHz		In force
F.1103-1	2007-09	Basic requirements and technologies for fixed wireless access systems operating in bands below 3 GHz for the provision of wireless subscriber connections in rural areas		In force
F.1105-3	2014-02	Fixed wireless systems for disaster mitigation and relief operations		In force
F.1106-0	1994-09	Effects of propagation on the design and operation of trans-horizon radio-relay systems		In force
F.1107-2	2011-05	Probabilistic analysis for assessing interference into the fixed service from satellites using the geostationary orbit		In force
F.1108-4	2005-01	Determination of the criteria to protect fixed service receivers from the emissions of space stations operating in non-geostationary orbits in shared frequency bands		In force
F.1110-3	2003-02	Adaptive radio systems for frequencies below about 30 MHz		In force
F.1111-1	1995-10	Improved Lincompex system for HF radiotelephone circuits		In force
F.1112-1	1995-10	Digitized speech transmissions for systems operating below about 30 MHz		In force
F.1113-0	1994-09	Radio systems employing meteor-burst propagation		In force
F.1190-0	1995-10	Protection criteria for digital radio-relay systems to ensure compatibility with radar systems in the radiodetermination service		In force

Number	Approval date	Title	Observation	Status
F.1191-3	2011-05	Necessary and occupied bandwidths and unwanted emissions of digital fixed service systems		In force
F.1192-0	1995-10	Traffic capacity of automatically controlled radio systems and networks in the HF fixed service		In force
F.1242-0	1997-05	Radio-frequency channel arrangements for digital radio systems operating in the range 1 350 MHz to 1 530 MHz		In force
F.1243-0	1997-05	Radio-frequency channel arrangements for digital radio systems operating in the range 2 290-2 670 MHz		In force
F.1245-2	2012-03	Mathematical model of average and related radiation patterns for line-of-sight point-to-point fixed wireless system antennas for use in certain coordination studies and interference assessment in the frequency range from 1 GHz to about 70 GHz		In force
F.1246-0	1997-05	Reference bandwidth of receiving stations in the fixed service to be used in coordination of frequency assignments with transmitting space stations in the mobile-satellite service in the 1-3 GHz range		In force
F.1247-3	2013-02	Technical and operational characteristics of systems in the fixed service to facilitate sharing with the space research, space operation and Earth exploration-satellite services operating in the bands 2 025-2 110 MHz and 2 200-2 290 MHz		In force
F.1248-0	1997-05	Limiting interference to satellites in the space science services from the emissions of trans-horizon radio-relay systems in the bands 2 025-2 110 MHz and 2 200-2 290 MHz		In force
F.1249-3	2013-02	Technical and operational requirements that facilitate sharing between point-to-point systems in the fixed service and the inter-satellite service in the band 25.25-27.5 GHz		In force
F.1330-2	2006-04	Performance limits for bringing into service the parts of international plesiochronous digital hierarchy and synchronous digital hierarchy paths and sections implemented by digital fixed wireless systems		In force
F.1332-1	1999-05	Radio-frequency signal transport through optical fibres		In force
F.1333-1	1999-05	Estimation of the actual elevation angle from a station in the fixed service towards a space station taking into account atmospheric refraction		In force
F.1334-0	1997-09	Protection criteria for systems in the fixed service sharing the same frequency bands in the 1 to 3 GHz range with the land mobile service		In force

Number	Approval date	Title	Observation	Status
F.1335-0	1997-09	Technical and operational considerations in the phased transitional approach for bands shared between the mobile-satellite service and the fixed service at 2 GHz		In force
F.1336-4	2014-02	Reference radiation patterns of omnidirectional, sectoral and other antennas for the fixed and mobile service for use in sharing studies in the frequency range from 400 MHz to about 70 GHz		In force
F.1337-0	1997-09	Frequency management of adaptive HF radio systems and networks using FMCW oblique-incidence sounding		In force
F.1338-0	1997-10	Threshold levels to determine the need to coordinate between particular systems in the broadcasting-satellite service (sound) in the geostationary-satellite orbit for space-to-Earth transmissions and the fixed service in the band 1 452-1 492 MHz		In force
F.1399-1	2001-05	Vocabulary of terms for wireless access		In force
F.1400-0	1999-05	Performance and availability requirements and objectives for fixed wireless access to public switched telephone network		In force
F.1401-1	2004-01	Considerations for the identification of possible frequency bands for fixed wireless access and related sharing studies		In force
F.1402-0	1999-05	Frequency sharing criteria between a land mobile wireless access system and a fixed wireless access system using the same equipment type as the mobile wireless access system		In force
F.1403-0	1999-05	Power flux-density criteria in ITU-R Recommendations for protection of systems in the fixed service in frequency bands shared with space stations of various space services		In force
F.1404-1	2002-05	Minimum propagation attenuation due to atmospheric gases for use in frequency sharing studies between systems in the fixed service and systems in the broadcasting-satellite, mobile-satellite and space science services		In force
F.1487-0	2000-05	Testing of HF modems with bandwidths of up to about 12 kHz using ionospheric channel simulators		In force
F.1488-0	2000-05	Frequency block arrangements for fixed wireless access systems in the range 3 400-3 800 MHz		In force
F.1489-0	2000-05	A methodology for assessing the level of operational compatibility between fixed wireless access and radiolocation systems when sharing the band 3.4-3.7 GHz		In force
F.1490-1	2007-09	Generic requirements for fixed wireless access systems		In force

Number	Approval date	Title	Observation	Status
F.1494-0	2000-05	Interference criteria to protect the fixed service from time varying aggregate interference from other services sharing the 10.7-12.75 GHz band on a co-primary basis		In force
F.1495-2	2012-03	Interference criteria to protect the fixed service from time varying aggregate interference from other radiocommunication services sharing the 17.7-19.3 GHz band on a co-primary basis		In force
F.1496-1	2002-02	Radio-frequency channel arrangements for fixed wireless systems operating in the band 51.4-52.6 GHz		In force
F.1497-2	2014-02	Radio-frequency channel arrangements for fixed wireless systems operating in the band 55.78-66 GHz		In force
F.1498-1	2002-05	Deployment characteristics of fixed service systems in the band 37-40 GHz for use in sharing studies		In force
F.1499-0	2000-05	Radio transmission systems for fixed broadband wireless access based on cable modem standard		In force
F.1500-0	2000-05	Preferred characteristics of systems in the fixed service using high altitude platforms operating in the bands 47.2-47.5 GHz and 47.9-48.2 GHz		In force
F.1501-0	2000-05	Coordination distance for systems in the fixed service (FS) involving high-altitude platform stations (HAPSS) sharing the frequency bands 47.2-47.5 GHz and 47.9-48.2 GHz with other systems in the fixed service		In force
F.1502-0	2000-05	Protection of the fixed service in the frequency band 8 025-8 400 MHz sharing with geostationary-satellite systems of the Earth exploration-satellite service (space-to-Earth)		In force
F.1509-2	2013-02	Technical and operational requirements that facilitate sharing between point-to-multipoint systems in the fixed service and the inter-satellite service in the band 25.25-27.5 GHz		In force
F.1518-0	2001-05	Spectrum requirement methodology for fixed wireless access and mobile wireless access networks using the same type of equipment, when coexisting in the same frequency band		In force
F.1519-0	2001-05	Guidance on frequency arrangements based on frequency blocks for systems in the fixed service		In force
F.1520-3	2011-04	Radio-frequency arrangements for systems in the fixed service operating in the band 31.8-33.4 GHz		In force

Number	Approval date	Title	Observation	Status
F.1565-0	2002-05	Performance degradation due to interference from other services sharing the same frequency bands on a co-primary basis with real digital fixed wireless systems used in the international and national portions of a 27 500 km hypothetical reference path at or above the primary rate		In force
F.1566-1	2007-01	Performance limits for maintenance of digital fixed wireless systems operating in plesiochronous and synchronous digital hierarchy-based international paths and sections		In force
F.1567-0	2002-05	Radio-frequency channel arrangement for digital fixed wireless systems operating in the frequency band 406.1-450 MHz		In force
F.1568-1	2005-01	Radio-frequency block arrangements for fixed wireless access systems in the range 10.15-10.3/10.5-10.65 GHz		In force
F.1569-0	2002-05	Technical and operational characteristics for the fixed service using high altitude platform stations in the bands 27.5-28.35 GHz and 31-31.3 GHz		In force
F.1570-2	2010-04	Impact of uplink transmission in the fixed service using high altitude platform stations on the Earth exploration-satellite service (passive) in the 31.3-31.8 GHz band		In force
F.1571-0	2002-05	Mitigation techniques for use in reducing the potential for interference between airborne stations in the radionavigation service and stations in the fixed service in the band 31.8-33.4 GHz		In force
F.1605-0	2003-02	Error performance and availability estimation for synchronous digital hierarchy terrestrial fixed wireless systems		In force
F.1606-0	2003-02	Interference criteria to protect fixed wireless systems from time varying aggregate interference produced by non-geostationary satellites operating in other services sharing the 37-40 GHz and 40.5-42.5 GHz bands on a co-primary basis		In force
F.1607-0	2003-02	Interference mitigation techniques for use by high altitude platform stations in the 27.5-28.35 GHz and 31.0-31.3 GHz bands		In force
F.1608-0	2003-02	Frequency sharing between systems in the fixed service using high altitude platform stations and conventional systems in the fixed service in the bands 47.2-47.5 and 47.9-48.2 GHz		In force
F.1609-1	2006-04	Interference evaluation from fixed service systems using high altitude platform stations to conventional fixed service systems in the bands 27.5-28.35 GHz and 31-31.3 GHz		In force

Number	Approval date	Title	Observation	Status
F.1610-0	2003-02	Planning, design and implementation of HF fixed service radio systems		In force
F.1611-0	2003-02	Prediction methods for adaptive HF system planning and operation		In force
F.1612-0	2003-02	Interference evaluation of the fixed service using high altitude platform stations to protect the radio astronomy service from uplink transmission in high altitude platform station systems in the 31.3-31.8 GHz band		In force
F.1613-0	2003-02	Operational and deployment requirements for fixed wireless access systems in the fixed service in Region 3 to ensure the protection of systems in the Earth exploration-satellite service(active) and the space research service (active) in the band 5 250-5 350 MHz	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
F.1668-1	2007-01	Error performance objectives for real digital fixed wireless links used in 27 500 km hypothetical reference paths and connections		In force
F.1669-1	2007-09	Interference criteria of fixed wireless systems operating in the 37-40 GHz and 40.5-42.5 GHz bands with respect to satellites in the geostationary orbit		In force
F.1670-1	2006-02	Protection of fixed wireless systems from terrestrial digital video and sound broadcasting systems in shared VHF and UHF bands		In force
F.1671-0	2004-01	Guidelines for a process to address the deployment of area-licensed fixed wireless systems operating in neighbouring countries		In force
F.1703-0	2005-01	Availability objectives for real digital fixed wireless links used in 27 500 km hypothetical reference paths and connections		In force
F.1704-0	2005-01	Characteristics of multipoint-to-multipoint fixed wireless systems with mesh network topology operating in frequency bands above about 17 GHz		In force
F.1705-0	2005-01	Analysis and optimization of the error performance of digital fixed wireless systems for the purpose of bringing into service and maintenance		In force
F.1706-0	2005-01	Protection criteria for point-to-point fixed wireless systems sharing the same frequency band with nomadic wireless access systems in the 4 to 6 GHz range		In force
F.1760-0	2006-02	Methodology for the calculation of aggregate equivalent isotropically radiated power (a.e.i.r.p.) distribution from point-to-multipoint high-density applications in the fixed service operating in bands above 30 GHz identified for such use		In force

Number	Approval date	Title	Observation	Status
F.1761-0	2006-02	Characteristics of HF fixed radiocommunication systems		In force
F.1762-0	2006-02	Characteristics of enhanced applications for high frequency (HF) radiocommunication systems		In force
F.1763-1	2014-02	Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz		In force
F.1764-1	2011-05	Methodology to evaluate interference from user links in fixed service systems using high altitude platform stations to fixed wireless systems in the bands above 3 GHz		In force
F.1765-0	2006-04	Methodology for determining the aggregate equivalent isotropically radiated power from point-to-point high-density applications in the fixed service operating in bands above 30 GHz		In force
F.1766-0	2006-04	Methodology to determine the probability of a radio astronomy observatory receiving interference based on calculated exclusion zones to protect against interference from point-to-multipoint high-density applications in the fixed service operating in bands around 43 GHz		In force
F.1777-0	2007-01	System characteristics of television outside broadcast, electronic news gathering and electronic field production in the fixed service for use in sharing studies		In force
F.1778-1	2015-02	Channel access requirements for HF adaptive systems in the fixed service		In force
F.1819-0	2007-09	Protection of the radio astronomy service in the 48.94-49.04 GHz band from unwanted emissions from HAPS in the 47.2-47.5 GHz and 47.9-48.2 GHz bandss		In force
F.1820-0	2007-09	Power flux-density at international borders for high altitude platform stations providing fixed wireless access services to protect the fixed service in neighbouring countries in the 47.2-47.5 GHz and 47.9-48.2 GHz bands		In force
F.1821-0	2007-09	Characteristics of advanced digital high frequency (HF) radiocommunication systems		In force
F.1891-0	2011-05	Technical and operational characteristics of gateway links in the fixed service using high altitude platform stations in the band 5 850-7 075 MHz to be used in sharing studies		In force
F.2004-0	2012-03	Radio-frequency channel arrangements for fixed service systems operating in the 92-95 GHz range		In force
F.2005-0	2012-03	Radio-frequency channel and block arrangements for fixed wireless systems operating in the 42 GHz (40.5 to 43.5 GHz) band		In force
F.2006-0	2012-03	Radio-frequency channel and block arrangements for fixed wireless systems operating in the 71-76 and 81-86 GHz bands		In force

Number	Approval date	Title	Observation	Status
F.2011-0	2012-01	Evaluation of interference from high-altitude platform (HAPS) gateway links (HAPS-to-ground direction) in the fixed service to conventional fixed wireless systems in the range 5 850-7 075 MHz		In force

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Series M	**Mobile, radiodetermination, amateur and related satellite services**			
M.2070-0	2014-11	Generic unwanted emission characteristics of base stations using the terrestrial radio interfaces of IMT-Advanced		In force
M.441-1	1982-07	Signal-to-interference ratios and minimum field strengths required in the aeronautical mobile (R) service above 30 MHz		In force
M.476-5	1995-10	Direct-printing telegraph equipment in the maritime mobile service	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.478-5	1995-10	Technical characteristics of equipment and principles governing the allocation of frequency channels between 25 and 3 000 MHz for the FM land mobile service		In force
M.489-2	1995-10	Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.492-6	1995-10	Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.493-13	2009-10	Digital selective-calling system for use in the maritime mobile service		In force
M.496-3	1992-03	Limits of power flux-density of radionavigation transmitters to protect space station receivers in the fixed-satellite service in the 14 GHz band		In force
M.540-2	1990-06	Operational and technical characteristics for an automated direct-printing telegraph system for promulgation of navigational and meteorological warnings and urgent information to ships		In force
M.541-9	2004-05	Operational procedures for the use of digital selective-calling equipment in the maritime mobile service	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.584-2	1997-11	Codes and formats for radio paging		In force
M.585-7	2015-03	Assignment and use of identities in the maritime mobile service		In force
M.586-1	1986-07	Automated VHF/UHF maritime mobile telephone system		In force
M.587-1	1986-07	Coast station identities and initiation of location registration in an automated VHF/UHF maritime mobile telephone system		In force

Number	Approval date	Title	Observation	Status
M.589-3	2001-08	Technical characteristics of methods of data transmission and interference protection for radionavigation services in the frequency bands between 70 and 130 kHz		In force
M.625-4	2012-03	Direct-printing telegraph equipment employing automatic identification in the maritime mobile service	Note - A previous version of this Recommendation is incorporated by reference in the Radio Regulations.	In force
M.626-0	1986-07	Evaluation of the quality of digital channels in the maritime mobile service		In force
M.627-1	1995-10	Technical characteristics for HF maritime radio equipment using narrow-band phase-shift keying (NBPSK) telegraphy		In force
M.628-5	2012-03	Technical characteristics for search and rescue radar transponders		In force
M.629-1	2013-02	Use for the radionavigation service of the frequency bands 2 900-3 100 MHz, 5 470-5 650 MHz, 9 200-9 300 MHz, 9 300-9 500 MHz and 9 500-9 800 MHz		In force
M.632-3	1997-02	Transmission characteristics of a satellite emergency position-indicating radio beacon (satellite EPIRB) system operating through geostationary satellites in the 1.6 GHz band		In force
M.633-4	2010-12	Transmission characteristics of a satellite emergency position-indicating radio beacon (satellite EPIRB) system operating through a satellite system in the 406 MHz band	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.687-2	1997-02	International Mobile Telecommunications-2000 (IMT-2000)		In force
M.688-0	1990-06	Technical characteristics for a high frequency direct-printing telegraph system for promulgation of high seas and NAVTEX-type maritime safety information		In force
M.689-3	2012-03	International maritime VHF radiotelephone system with automatic facilities based on DSC signalling format		In force
M.690-3	2015-03	Technical characteristics of emergency position-indicating radio beacons (EPIRBs) operating on the carrier frequencies of 121.5 MHz and 243 MHz		In force
M.693-1	2012-03	Technical characteristics of VHF emergency position-indicating radio beacons using digital selective calling		In force
M.694-1	2005-06	Reference radiation pattern for ship earth station antennas		In force
M.816-1	1997-10	Framework for services supported on International Mobile Telecommunications-2000 (IMT-2000)		In force

Number	Approval date	Title	Observation	Status
M.817-0	1992-03	International Mobile Telecommunications-2000 (IMT-2000). Network architectures		In force
M.818-2	2003-06	Satellite operation within International Mobile Telecommunications-2000 (IMT-2000)		In force
M.819-2	1997-02	International Mobile Telecommunications-2000 (IMT-2000) for developing countries		In force
M.820-1	2012-03	Use of 9-digit identities for narrow-band direct-printing telegraphy in the maritime mobile service		In force
M.821-1	1997-02	Optional expansion of the digital selective-calling system for use in the maritime mobile service		In force
M.822-1	1994-09	Calling-channel loading for digital selective calling (DSC) for the maritime mobile service		In force
M.823-3	2006-03	Technical characteristics of differential transmissions for global navigation satellite systems from maritime radio beacons in the frequency band 283.5-315 kHz in Region 1 and 285-325 kHz in Regions 2 and 3		In force
M.824-4	2013-02	Technical parameters of radar beacons		In force
M.825-3	1998-10	Characteristics of a transponder system using digital selective calling techniques for use with vessel traffic services and ship-to-ship identification		In force
M.826-0	1992-03	Transmission of information for updating electronic chart display and information systems (ECDIS)		In force
M.827-0	1992-03	Hypothetical reference digital path for systems in the mobile-satellite service using feeder links		In force
M.828-2	2006-03	Definition of availability for radiocommunication circuits in the mobile-satellite service		In force
M.830-1	2005-06	Operational procedures for mobile-satellite networks or systems in the bands 1 530-1 544 MHz and 1 626.5-1 645.5 MHz which are used for distress and safety purposes as specified for the GMDSS		In force
M.1032-0	1994-03	Technical and operational characteristics of land mobile systems using multi-channel access techniques without a central controller	Suppressed on 19/10/07 (RA-07)	In force
M.1033-1	1997-02	Technical and operational characteristics of cordless telephones and cordless telecommunication systems		In force
M.1034-1	1997-02	Requirements for the radio interface(s) for International Mobile Telecommunications-2000 (IMT-2000)		In force
M.1035-0	1994-03	Framework for the radio interface(s) and radio sub-system functionality for International Mobile Telecommunications-2000 (IMT-2000)		In force

Number	Approval date	Title	Observation	Status
M.1036-4	2012-03	Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications (IMT) in the bands identified for IMT in the Radio Regulations (RR)		In force
M.1037-0	1994-03	Bit error performance objectives for aeronautical mobile-satellite (R) service (AMS(R)S) radio link		In force
M.1038-0	1994-03	Efficient use of the geostationary-satellite orbit and spectrum in the 1-3 GHz frequency range by mobile-satellite systems		In force
M.1039-3	2006-03	Co-frequency sharing between stations in the mobile service below 1 GHz and mobile earth stations of non-geostationary mobile-satellite systems (Earth-space) using frequency division multiple access (FDMA)		In force
M.1041-2	2003-06	Future amateur radio systems		In force
M.1042-3	2007-03	Disaster communications in the amateur and amateur-satellite services		In force
M.1043-2	2003-06	Use of the amateur and amateur-satellite services in developing countries		In force
M.1044-2	2003-06	Frequency sharing criteria in the amateur and amateur-satellite services		In force
M.1072-0	1994-09	Interference due to intermodulation products in the land mobile service between 25 and 3 000 MHz		In force
M.1073-3	2012-03	Digital cellular land mobile telecommunication systems		In force
M.1074-0	1994-09	Integration of public mobile radiocommunication systems		In force
M.1075-0	1994-09	Leaky feeder systems in the land mobile services		In force
M.1076-1	2015-02	Wireless communication systems for persons with impaired hearing		In force
M.1078-0	1994-09	Security principles for International Mobile Telecommunications-2000 (IMT-2000)		In force
M.1079-2	2003-06	Performance and quality of service requirements for International Mobile Telecommunications-2000 (IMT-2000) access networks		In force
M.1080-0	1994-09	Digital selective calling system enhancement for multiple equipment installations		In force
M.1081-1	2012-03	Automatic HF facsimile and data system for maritime mobile users		In force
M.1082-1	1997-10	International maritime MF/HF radiotelephone system with automatic facilities based on digital selective calling signalling format		In force

Number	Approval date	Title	Observation	Status
M.1084-5	2012-03	Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service	Note - A previous version of this Recommendation is incorporated by reference in the Radio Regulations.	In force
M.1086-1	2006-03	Determination of the need for coordination between geostationary mobile satellite networks sharing the same frequency bands		In force
M.1089-1	2002-07	Technical considerations for the coordination of mobile-satellite systems relating to the aeronautical mobile satellite (R) service (AMS(R)S) in the bands 1 545 to 1 555 MHz and 1 646.5 to 1 656.5 MHz		In force
M.1090-0	1994-09	Frequency plans for satellite transmission of single channel per carrier (SCPC) carriers using non-linear transponders in the mobile-satellite service		In force
M.1091-0	1994-09	Reference off-axis radiation patterns for mobile eath station antennas operating in the land mobile-satellite service in the frequency range 1 to 3 GHz		In force
M.1141-2	2005-06	Sharing in the 1-3 GHz frequency range between non-geostationary space stations operating in the mobile-satellite service and stations in the fixed service		In force
M.1142-2	2005-06	Sharing in the 1-3 GHz frequency range between geostationary space stations operating in the mobile satellite service and stations in the fixed service		In force
M.1143-3	2005-06	System specific methodology for coordination of non-geostationary space stations (space-to-Earth) operating in the mobile-satellite service with the fixed service		In force
M.1167-0	1995-10	Framework for the satellite component of International Mobile Telecommunications-2000 (IMT-2000)		In force
M.1168-0	1995-10	Framework of International Mobile Telecommunications-2000 (IMT-2000)		In force
M.1170-1	2012-03	Morse telegraphy procedures in the maritime mobile service		In force
M.1171-0	1995-10	Radiotelephony procedures in the maritime mobile service	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.1172-0	1995-10	Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force

Number	Approval date	Title	Observation	Status
M.1173-1	2012-03	Technical characteristics of single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz	Note - A previous version of this Recommendation is incorporated by reference in the Radio Regulations.	In force
M.1174-3	2015-03	Technical characteristics of equipment used for on-board vessel communications in the bands between 450 and 470 MHz		In force
M.1175-0	1995-10	Automatic receiving equipment for radiotelegraph and radiotelephone alarm signals		In force
M.1176-1	2013-02	Technical parameters of radar target enhancers		In force
M.1177-4	2011-04	Techniques for measurement of unwanted emissions of radar systems		In force
M.1178-0	1995-10	Use of the maritime radionavigation band 283.5-315 kHz (Region 1) and 285-325 kHz (Regions 2 and 3)		In force
M.1179-0	1995-10	Procedures for determining the interference coupling mechanisms and mitigation options for systems operating in bands adjacent to and in harmonic relationship with radar stations in the radiodetermination service		In force
M.1180-0	1995-10	Availability of communication circuits in the aeronautical mobile-satellite (R) services (AMS(R)S)		In force
M.1181-0	1995-10	Minimum performance objectives for narrow-band digital channels using geostationary satellites to serve transportable and vehicular mobile earth stations in the 1-3 GHz range, not forming part of the ISDN		In force
M.1182-1	2003-06	Integration of terrestrial and satellite mobile communication systems		In force
M.1183-0	1995-10	Permissible levels of interference in a digital channel of a geostationary network in mobile-satellite service in 1-3 GHz caused by other networks of this service and fixed-satellite service		In force
M.1184-2	2003-06	Technical characteristics of mobile satellite systems in the frequency bands below 3 GHz for use in developing criteria for sharing between the mobile-satellite service (MSS) and other services		In force
M.1186-1	2006-03	Technical considerations for the coordination between mobile-satellite service networks utilizing code division multiple access and other spread spectrum techniques in the 1-3 GHz band		In force
M.1187-1	2006-03	A method for the calculation of the potentially affected region for a mobile-satellite service network in the 1-3 GHz range using circular orbits	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force

Number	Approval date	Title	Observation	Status
M.1188-1	2006-03	Impact of propagation on the design of non-GSO mobile-satellite systems not employing satellite diversity which provide service to handheld equipment		In force
M.1223-0	1997-02	Evaluation of security mechanisms for IMT-2000		In force
M.1224-1	2012-03	Vocabulary of terms for International Mobile Telecommunications (IMT)		In force
M.1225-0	1997-02	Guidelines for evaluation of radio transmission technologies for IMT-2000		In force
M.1226-0	1997-02	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 50 MHz		In force
M.1227-2	2001-08	Technical and operational characteristics of wind profiler radars in bands in the vicinity of 1 000 MHz		In force
M.1228-0	1997-02	Methodology for determining performance objectives for narrow-band channels in mobile satellite systems using geostationary satellites not forming part of the ISDN		In force
M.1229-0	1997-02	Performance objectives for the digital aeronautical mobile-satellite service (AMSS) channels operating in the bands 1 525 to 1 559 MHz and 1 626.5 to 1 660.5 MHz not forming part of the ISDN		In force
M.1230-0	1997-02	Performance objectives for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137-138 MHz band		In force
M.1231-0	1997-02	Interference criteria for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137-138 MHz band		In force
M.1232-0	1997-02	Sharing criteria for space-to-Earth links operating in the mobile-satellite service with non-geostationary satellites in the 137-138 MHz band		In force
M.1233-1	2006-03	Technical considerations for sharing satellite network resources between the mobile-satellite service (MSS) (other than the aeronautical mobile-satellite (R) service (AMS(R)S)) and AMS(R)S		In force
M.1234-1	2006-03	Permissible level of interference in a digital channel of a geostationary satellite network in the aeronautical mobile-satellite (R) service (AMS(R)S) in the bands 1 545 to 1 555 MHz and 1 646.5 to 1 656.5 MHz and its associated feeder links caused by other networks of this service and the fixed-satellite service		In force
M.1307-0	1997-10	Automatic determination of location and guidance in the land mobile services		In force

Number	Approval date	Title	Observation	Status
M.1308-0	1997-10	Evolution of land mobile systems towards IMT-2000		In force
M.1311-0	1997-10	Framework for modularity and radio commonality within IMT-2000		In force
M.1312-0	1997-10	A long-term solution for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service		In force
M.1314-1	2005-06	Reduction of unwanted emissions of radar systems operating above 400 MHz		In force
M.1315-0	1997-10	Methodology for evaluating interference from narrow-band mobile-satellite networks to spread-spectrum direct-sequence mobile-satellite networks operating with space stations in low-Earth orbit at frequencies below 1 GHz		In force
M.1316-1	2005-06	Principles and a methodology for frequency sharing in the 1 610.6-1 613.8 MHz and 1 660-1 660.5 MHz bands between the mobile-satellite service (Earth-to-space) and the radio astronomy service		In force
M.1318-1	2007-10	Evaluation model for continuous interference from radio sources other than in the radionavigation-satellite service to the radionavigation-satellite service systems and networks operating in the 1 164-1 215 MHz, 1 215-1 300 MHz, 1 559-1 610 MHz and 5 010-5 030 MHz bands		In force
M.1319-3	2010-01	The basis of a methodology to assess the impact of interference from a time division multiple access/frequency division multiple access (TDMA/FDMA) mobile-satellite service (MSS) space-to-Earth transmissions on the performance of line-of-sight fixed service receivers in the frequency range 1-3 GHz		In force
M.1343-1	2005-06	Essential technical requirements of mobile earth stations for global non-geostationary mobile-satellite service systems in the band 1-3 GHz		In force
M.1371-5	2014-02	Technical characteristics for an automatic identification system using time-division multiple access in the VHF maritime mobile band		In force
M.1372-1	2003-06	Efficient use of the radio spectrum by radar stations in the radiodetermination service		In force
M.1388-0	1999-01	Threshold levels to determine the need to coordinate between space stations in the broadcasting-satellite service (sound) and particular systems in the land mobile service in the band 1 452-1 492 MHz		In force
M.1389-0	1999-01	Methods for achieving coordinated use of spectrum by multiple non-geostationary mobile-satellite service systems below 1 GHz and sharing with other services in existing mobile-satellite service allocations		In force

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M.1390-0	1999-01	Methodology for the calculation of IMT-2000 terrestrial spectrum requirements		In force
M.1391-1	2006-03	Methodology for the calculation of IMT-2000 satellite spectrum requirements		In force
M.1450-5	2014-04	Characteristics of broadband radio local area networks		In force
M.1452-2	2012-05	Millimetre wave vehicular collision avoidance radars and radiocommunication systems for intelligent transport system applications		In force
M.1453-2	2005-06	Intelligent transport systems - Dedicated short range communications at 5.8 GHz		In force
M.1454-0	2000-05	E.i.r.p. density limit and operational restrictions for RLANS or other wireless access transmitters in order to ensure the protection of feeder links of non-geostationary systems in the mobile-satellite service in the frequency band 5 150-5 250 MHz		In force
M.1456-0	2000-05	Minimum performance characteristics and operational conditions for high altitude platform stations providing IMT-2000 in the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz in Regions 1 and 3 and 1 885-1 980 MHz and 2 110-2 160 MHz in Region 2		In force
M.1457-12	2015-02	Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-2000 (IMT-2000)		In force
M.1458-0	2000-05	Use of the frequency bands between 2.8-22 MHz by the aeronautical mobile (R) service for data transmission using class of emission J2D		In force
M.1459-0	2000-05	Protection criteria for telemetry systems in the aeronautical mobile service and mitigation techniques to facilitate sharing with geostationary broadcasting-satellite and mobile-satellite services in the frequency bands 1 452-1 525 MHz and 2 310-2 360 MHz		In force
M.1460-2	2015-02	Technical and operational characteristics and protection criteria of radiodetermination radars in the frequency band 2 900-3 100 MHz		In force
M.1461-1	2003-06	Procedures for determining the potential for interference between radars operating in the radiodetermination service and systems in other services		In force
M.1462-0	2000-05	Characteristics of and protection criteria for radars operating in the radiolocation service in the frequency range 420-450 MHz		In force
M.1463-3	2015-02	Characteristics of and protection criteria for radars operating in the radiodetermination service in the frequency band 1 215-1 400 MHz		In force

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M.1464-2	2015-02	Characteristics of radiolocation radars, and characteristics and protection criteria for sharing studies for aeronautical radionavigation and meteorological radars in the radiodetermination service operating in the frequency band 2 700-2 900 MHz		In force
M.1465-2	2015-02	Characteristics of and protection criteria for radars operating in the radiodetermination service in the frequency range 3 100-3 700 MHz		In force
M.1466-0	2000-05	Characteristics of and protection criteria for radars operating in the radionavigation service in the frequency band 31.8-33.4 GHz		In force
M.1467-1	2006-03	Prediction of sea area A2 and NAVTEX ranges and protection of the A2 global maritime distress and safety system distress watch channel		In force
M.1469-2	2010-01	Methodology for evaluating potential for interference from time division multiple access/frequency division multiple access (TDMA/FDMA) mobile satellite service (MSS) Earth-to-space transmissions into line-of-sight (LoS) fixed service receivers in the frequency range 1-3 GHz		In force
M.1470-0	2000-05	Methodology of sharing between MSS systems (Earth-to-space) and existing RNSS systems (space-to-Earth) in frequency bands 149.9-150.05 MHz and 399.9-400.05 MHz		In force
M.1471-1	2010-01	Guide to the application of the methodologies to facilitate coordination and use of frequency bands shared between the mobile-satellite service and the fixed service in the frequency range 1-3 GHz		In force
M.1472-1	2010-01	Methodology to evaluate the impact of interference from time division multiple access/frequency division multiple access (TDMA/FDMA) mobile-satellite service (MSS) space-to-Earth transmissions on baseband performance in frequency division multiplexing-frequency modulation (FDM-FM) analogue line-of-sight (LoS) fixed service receivers in the frequency range 1-3 GHz		In force
M.1473-1	2010-01	Methodology to evaluate the impact of interference from time division multiple access/frequency division multiple access (TDMA/FDMA) mobile-satellite service (MSS) space-to-Earth transmissions on video baseband performance in TV-FM analogue line-of-sight fixed service receivers in the frequency range 1-3 GHz		In force

Number	Approval date	Title	Observation	Status
M.1474-1	2010-01	Methodology to evaluate the impact of interference from time division multiple access/frequency division multiple access (TDMA/FDMA) mobile-satellite service (MSS) systems on baseband performance in digital line-of-sight fixed service receivers based on statistics of radio-frequency interference in the frequency range 1-3 GHz		In force
M.1475-0	2000-05	Methodology for derivation of performance objectives of non-geostationary mobile-satellite service systems operating in the 1-3 GHz band not using satellite diversity		In force
M.1476-0	2000-05	Performance objectives for narrow-band digital channels using geostationary satellites to serve transportable and mobile Earth stations in the 1-3 GHz range forming part of the integrated services digital network		In force
M.1478-3	2014-09	Protection criteria for Cospas-Sarsat search and rescue instruments in the band 406-406.1 MHz		In force
M.1480-0	2000-05	Essential technical requirements of mobile Earth stations of geostationary mobile-satellite systems that are implementing the Global mobile personal communications by satellite (GMPCS) - Memorandum of understanding arrangements in parts of the frequency band 1-3 GHz		In force
M.1544-0	2001-08	Minimum qualifications of radio amateurs		In force
M.1545-0	2001-08	Measurement uncertainty as it applies to test limits for the terrestrial component of International Mobile Telecommunications-2000		In force
M.1579-2	2015-01	Global circulation of IMT-2000 terrestrial terminals		In force
M.1580-5	2014-02	Generic unwanted emission characteristics of base stations using the terrestrial radio interfaces of IMT-2000		In force
M.1581-5	2014-02	Generic unwanted emission characteristics of mobile stations using the terrestrial radio interfaces of IMT-2000		In force
M.1582-0	2002-07	Method for determining coordination distances, in the 5 GHz band, between the international standard microwave landing system stations operating in the aeronautical radionavigation service and stations of the radionavigation-satellite service (Earth-to-space)		In force
M.1583-1	2007-10	Interference calculations between non-geostationary mobile-satellite service or radionavigation-satellite service systems and radio astronomy telescope sites	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force

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M.1584-0	2002-07	Methodology for computation of separation distances between earth stations of the radionavigation-satellite service (Earth-to-space) and radars of the radiolocation service and the aeronautical radionavigation service in the frequency band 1 300-1 350 MHz		In force
M.1634-0	2003-06	Interference protection of terrestrial mobile service systems using Monte Carlo simulation with application to frequency sharing		In force
M.1635-0	2003-06	General methodology for assessing the potential for interference between IMT-2000 or systems beyond IMT-2000 and other services		In force
M.1636-0	2003-06	Basic reference models and performance parameters of Internet Protocol packet network transmission in the mobile-satellite service		In force
M.1637-0	2003-06	Global cross-border circulation of radiocommunication equipment in emergency and disaster relief situations		In force
M.1638-1	2015-01	Characteristics of and protection criteria for sharing studies for radiolocation, aeronautical radionavigation and meteorological radars operating in the frequency bands between 5 250 and 5 850 MHz		In force
M.1639-1	2005-06	Protection criterion for the aeronautical radionavigation service with respect to aggregate emissions from space stations in the radionavigation-satellite service in the band 1 164-1 215 MHz		In force
M.1640-0	2003-06	Characteristics of, and protection criteria for sharing studies for radars operating in the radiodetermination service in the frequency band 33.4-36 GHz		In force
M.1641-1	2006-03	A methodology for co-channel interference evaluation to determine separation distance from a system using high-altitude platform stations to a cellular system to provide IMT-2000 service		In force
M.1642-2	2007-10	Methodology for assessing the maximum aggregate equivalent power flux-density at an aeronautical radionavigation service station from all radionavigation-satellite service systems operating in the 1 164-1 215 MHz band	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.1643-0	2003-06	Technical and operational requirements for aircraft earth stations of aeronautical mobile-satellite service including those using fixed-satellite service network transponders in the band 14-14.5 GHz (Earth-to-space)	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.1644-0	2003-06	Technical and operational characteristics, and criteria for protecting the mission of radars in the radiolocation and radionavigation service operating in the frequency band 13.75-14 GHz		In force

Number	Approval date	Title	Observation	Status
M.1645-0	2003-06	Framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000		In force
M.1646-0	2003-06	Parameters to be used in co-frequency sharing and pfd threshold studies between terrestrial IMT-2000 and BSS (sound) in the 2 630-2 655 MHz band		In force
M.1651-0	2003-06	A method for assessing the required spectrum for broadband nomadic wireless access systems including radio local area networks using the 5 GHz band		In force
M.1652-1	2011-05	Dynamic frequency selection in wireless access systems including radio local area networks for the purpose of protecting the radiodetermination service in the 5 GHz band	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.1653-0	2003-06	Operational and deployment requirements for wireless access systems including radio local area networks in the mobile service to facilitate sharing between these systems and systems in the Earth exploration-satellite service (active) and the space research service (active) in the band 5 470-5 570 MHz within the 5 460 5 725 MHz range		In force
M.1654-0	2003-06	A methodology to assess interference from broadcasting-satellite service (sound) into terrestrial IMT-2000 systems intending to use the band 2 630-2 655 MHz		In force
M.1677-1	2009-10	International Morse code		In force
M.1678-0	2004-05	Adaptive antennas for mobile systems		In force
M.1730-1	2009-10	Characteristics of and protection criteria for the radiolocation service in the frequency band 15.4-17.3 GHz		In force
M.1731-2	2012-01	Protection criteria for Cospas-Sarsat local user terminals in the band 1 544-1 545 MHz		In force
M.1732-1	2012-03	Characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies		In force
M.1739-0	2006-03	Protection criteria for wireless access systems, including radio local area networks, operating in the mobile service in accordance with Resolution 229 (WRC-03) in the bands 5 150-5 250 MHz, 5 250-5 350 MHz and 5 470-5 725 MHz		In force
M.1741-0	2006-03	Methodology for deriving performance objectives and its optimization for IP packet applications in the mobile-satellite service		In force
M.1746-0	2006-03	Harmonized frequency channel plans for the protection of property using data communication		In force

Number	Approval date	Title	Observation	Status
M.1747-0	2006-03	Protection of the Earth exploration-satellite service (passive) in the band 1 400-1 427 MHz from unwanted emissions of mobile satellite service feeder links that may operate in the bands 1 390-1 392 MHz (Earth-to-space) and 1 430-1 432 MHz (space-to-Earth)		In force
M.1748-0	2006-03	Protection of the radio astronomy service in the band 1 400-1 427 MHz from unwanted emissions of MSS feeder links that may operate in the bands 1 390-1 392 MHz (Earth-to-space) and 1 430-1 432 MHz (space-to-Earth)		In force
M.1767-0	2006-03	Protection of land mobile systems from terrestrial digital video and audio broadcasting systems in the VHF and UHF shared bands allocated on a primary basis		In force
M.1768-1	2013-04	Methodology for calculation of spectrum requirements for the terrestrial component of International Mobile Telecommunications		In force
M.1787-2	2014-09	Description of systems and networks in the radionavigation-satellite service (space-to-Earth and space-to-space) and technical characteristics of transmitting space stations operating in the bands 1 164-1 215 MHz,1 215-1 300 MHz and 1 559-1 610 MHz		In force
M.1795-0	2007-03	Technical and operational characteristics of land mobile MF/HF systems		In force
M.1796-2	2014-02	Characteristics of and protection criteria for terrestrial radars operating in the radiodetermination service in the frequency band 8 500-10 680 MHz		In force
M.1797-0	2007-03	Vocabulary of terms for the land mobile service		In force
M.1798-1	2010-04	Characteristics of HF radio equipment for the exchange of digital data and electronic mail in the maritime mobile service		In force
M.1799-0	2007-03	Sharing between the mobile service and the mobile-satellite service in the band 1 668.4-1 675 MHz		In force
M.1800-0	2007-03	Protection of the fixed, mobile and radiolocation services from MSS feeder links that may operate in the bands 1 390-1 392 MHz (Earth-to-space) and 1 430-1 432 MHz (space-to-Earth)		In force
M.1801-2	2013-02	Radio interface standards for broadband wireless access systems, including mobile and nomadic applications, in the mobile service operating below 6 GHz		In force
M.1802-1	2010-04	Characteristics and protection criteria for radars operating in the radiolocation service in the frequency band 30-300 MHz		In force

Number	Approval date	Title	Observation	Status
M.1808-0	2007-06	Technical and operational characteristics of conventional and trunked land mobile systems operating in the mobile service allocations below 869 MHz to be used in sharing studies		In force
M.1822-0	2007-10	Framework for services supported by IMT		In force
M.1823-0	2007-10	Technical and operational characteristics of digital cellular land mobile systems for use in sharing studies		In force
M.1824-1	2015-02	System characteristics of television outside broadcast, electronic news gathering and electronic field production in the mobile service for use in sharing studies		In force
M.1825-0	2007-10	Guidance on technical parameters and methodologies for sharing studies related to systems in the land mobile service		In force
M.1826-0	2007-10	Harmonized frequency channel plan for broadband public protection and disaster relief operations at 4 940-4 990 MHz in Regions 2 and 3		In force
M.1827-1	2015-01	Technical and operational requirements for stations of the aeronautical mobile (R) service (AM(R)S) limited to surface application at airports and for stations of the aeronautical mobile service (AMS) limited to aeronautical security (AS) applications in the band 5 091-5 150 MHz		In force
M.1828-0	2007-10	Technical and operational requirements for aircraft stations of aeronautical mobile service limited to transmissions of telemetry for flight testing in the bands around 5 GHz		In force
M.1829-0	2007-10	Method for determining the necessary geographical separation distances, in the 5 GHz band, between the international standard microwave landing system (MLS) stations operating in the aeronautical radionavigation service and transmitters operating in the aeronautical mobile service (AMS) to support telemetry		In force
M.1830-0	2007-10	Technical characteristics and protection criteria of aeronautical radionavigation service systems in the 645-862 MHz frequency band		In force
M.1831-0	2007-10	A coordination methodology for RNSS inter-system interference estimation		In force
M.1841-1	2013-02	Compatibility between FM sound-broadcasting systems in the frequency band of about 87-108 MHz and the aeronautical ground-based augmentation system in the frequency band 108-117.975 MHz		In force

Number	Approval date	Title	Observation	Status
M.1842-1	2009-06	Characteristics of VHF radio systems and equipment for the exchange of data and electronic mail in the maritime mobile service RR Appendix 18 channels		In force
M.1849-0	2009-06	Technical and operational aspects of ground-based meteorological radars		In force
M.1850-2	2014-09	Detailed specifications of the radio interfaces for the satellite component of International Mobile Telecommunications-2000 (IMT-2000)		In force
M.1851-0	2009-06	Mathematical models for radiodetermination radar systems antenna patterns for use in interference analyses		In force
M.1854-1	2012-01	Use of mobile-satellite service in disaster response and relief		In force
M.1874-1	2013-02	Technical and operational characteristics of oceanographic radars operating in sub-bands within the frequency range 3-50 MHz		In force
M.1890-0	2011-04	Intelligent transport systems - Guidelines and objectives		In force
M.1901-1	2013-12	Guidance on ITU-R Recommendations related to systems and networks in the radionavigation-satellite service operating in the frequency bands 1 164-1 215 MHz, 1 215-1 300 MHz, 1 559-1 610 MHz, 5 000-5 010 MHz and 5 010-5 030 MHz		In force
M.1902-0	2012-01	Characteristics and protection criteria for receiving earth stations in the radionavigation-satellite service (space-to-Earth) operating in the band 1 215-1 300 MHz		In force
M.1903-0	2012-01	Characteristics and protection criteria for receiving earth stations in the radionavigation-satellite service (space-to-Earth) and receivers in the aeronautical radionavigation service operating in the band 1 559-1 610 MHz		In force
M.1904-0	2012-01	Characteristics, performance requirements and protection criteria for receiving stations of the radionavigation-satellite service (space-to-space) operating in the frequency bands 1 164-1 215 MHz, 1 215-1 300 MHz and 1 559-1 610 MHz		In force
M.1905-0	2012-01	Characteristics and protection criteria for receiving earth stations in the radionavigation-satellite service (space-to-Earth) operating in the band 1 164-1 215 MHz		In force
M.1906-0	2012-01	Characteristics and protection criteria of receiving space stations and characteristics of transmitting earth stations in the radionavigation-satellite service (Earth-to-space) operating in the band 5 000-5 010 MHz		In force

Number	Approval date	Title	Observation	Status
M.2002-0	2012-03	Objectives, characteristics and functional requirements of wide-area sensor and/or actuator network (WASN) systems		In force
M.2003-1	2015-01	Multiple gigabit wireless systems in frequencies around 60 GHz		In force
M.2007-0	2012-03	Characteristics of and protection criteria for radars operating in the aeronautical radionavigation service in the frequency band 5 150-5 250 MHz		In force
M.2008-1	2014-02	Characteristics and protection criteria for radars operating in the aeronautical radionavigation service in the frequency band 13.25-13.40 GHz		In force
M.2009-1	2015-02	Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution 646 (Rev.WRC-012)		In force
M.2010-0	2012-03	Characteristics of a digital system, named Navigational Data for broadcasting maritime safety and security related information from shore-to-ship in the 500 kHz band		In force
M.2012-1	2014-02	Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications Advanced (IMT-Advanced)		In force
M.2013-0	2012-01	Technical characteristics of, and protection criteria for non-ICAO aeronautical radionavigation systems, operating around 1 GHz	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
M.2014-0	2012-03	Global circulation of IMT-2000 satellite terminals		In force
M.2015-1	2015-02	Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution 646 (Rev.WRC-12)		In force
M.2030-0	2012-12	Evaluation method for pulsed interference from relevant radio sources other than in the radionavigation-satellite service to the radionavigation-satellite service systems and networks operating in the 1 164-1 215 MHz, 1 215-1 300 MHz and 1 559-1 610 MHz frequency bands		In force
M.2031-0	2012-12	Characteristics and protection criteria of receiving earth stations and characteristics of transmitting space stations of the radionavigation-satellite service (space-to-Earth) operating in the band 5 010-5 030 MHz		In force
M.2034-0	2013-02	Telegraphic alphabet for data communication by phase shift keying at 31 baud in the amateur and amateur-satellite services		In force

Number	Approval date	Title	Observation	Status
M.2046-0	2013-12	Characteristics and protection criteria for non-geostationary mobile-satellite service systems operating in the band 399.9-400.05 MHz		In force
M.2047-0	2013-12	Detailed specifications of the satellite radio interfaces of International Mobile Telecommunications-Advanced (IMT-Advanced)		In force
M.2057-0	2014-02	Systems characteristics of automotive radars operating in the frequency band 76-81 GHz for intelligent transport systems applications		In force
M.2058-0	2014-02	Characteristics of a digital system, named navigational data for broadcasting maritime safety and security related information from shore-to-ship in the maritime HF frequency band		In force
M.2059	2014-02	Operational and technical characteristics and protection criteria of radio altimeters utilizing the band 4 200-4 400 MHz		In force
M.2067-0	2015-02	Technical characteristics and protection criteria for Wireless Avionics Intra-Communication systems		In force
M.2068-0	2015-02	Characteristics of and protection criteria for systems operating in the mobile service in the frequency range 14.5-15.35 GHz		In force
M.2069-0	2015-01	Antenna rotation variability and effects on antenna coupling for radar interference analysis		In force
M.2071-0	2015-01	Generic unwanted emission characteristics of mobile stations using the terrestrial radio interfaces of IMT-Advanced		In force

Number	Approval date	Title	Observation	Status
Series P	**Radiowave propagation**			
P.3/21	2013-09	Draft new Recommendation ITU-R P.[MATERIAL_EFFECT] - Effects of building materials and structures on radiowave propagation above about 100 MHz		D
P.3/48	2013-09	Draft new Recommendation ITU-R P.[AIRBORNE] - Prediction of path attenuation on links between an airborne platform and space and between an airborne platform and the surface of the Earth		D
P.310-9	1994-08	Definitions of terms relating to propagation in non-ionized media		In force
P.311-14	2013-09	Acquisition, presentation and analysis of data in studies of tropospheric propagation		In force
P.341-5	1999-10	The concept of transmission loss for radio links		In force
P.368-9	2007-02	Ground-wave propagation curves for frequencies between 10 kHz and 30 MHz		In force
P.371-8	1999-07	Choice of indices for long-term ionospheric predictions		In force
P.372-11	2013-09	Radio noise		In force
P.373-9	2013-09	Definitions of maximum and minimum transmission frequencies		In force
P.452.15	2013-09	Prediction procedure for the evaluation of interference between stations on the surface of the Earth at frequencies above about 0.1 GHz		In force
P.453-10	2012-02	The radio refractive index: its formula and refractivity data		In force
P.525-2	1994-08	Calculation of free-space attenuation	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
P.526-13	2013-11	Propagation by diffraction	Note - A previous version of this Recommendation is incorporated by reference in the Radio Regulations.	In force
P.527-3	1992-03	Electrical characteristics of the surface of the Earth		In force
P.528-3	2012-02	Propagation curves for aeronautical mobile and radionavigation services using the VHF, UHF and SHF bands	Note - Propagation curve tabulated values for Recommendation ITU-R P.528-3 provided in the zip file	In force
P.530-15	2013-09	Propagation data and prediction methods required for the design of terrestrial line-of-sight systems		In force

Number	Approval date	Title	Observation	Status
P.531-12	2013-09	Ionospheric propagation data and prediction methods required for the design of satellite services and systems	Licence Agreement for NeQuick2 Software: Please read the copyright document carefully before downloading, copying or using the licenced software	In force
P.532-1	1992-03	Ionospheric effects and operational considerations associated with artificial modification of the ionosphere and the radio-wave channel		In force
P.533-12	2013-09	Method for the prediction of the performance of HF circuits		In force
P.534-5	2012-02	Method for calculating sporadic-E field strength		In force
P.581-2	1990-06	The concept of "worst month"		In force
P.617-3	2013-09	Propagation prediction techniques and data required for the design of trans-horizon radio-relay systems		In force
P.618-11	2013-09	Propagation data and prediction methods required for the design of Earth-space telecommunication systems	Note (03/09/2014): Errors in formatting of equations 42, 49 and 50 have been corrected to bring the Recommendation in-line with the revision of Rec. ITU-R P.618-10 as submitted for adoption and approval (see Revision 1 to Document 3/40).	In force
P.619-1	1992-03	Propagation data required for the evaluation of interference between stations in space and those on the surface of the Earth		In force
P.620-6	2005-03	Propagation data required for the evaluation of coordination distances in the frequency range 100 MHz to 105 GHz		In force
P.676-10	2013-09	Attenuation by atmospheric gases		In force
P.678-2	2013-09	Characterization of the natural variability of propagation phenomena		In force
P.679-3	2001-02	Propagation data required for the design of broadcasting-satellite systems		In force
P.680-3	1999-10	Propagation data required for the design of Earth-space maritime mobile telecommunication systems		In force
P.681-7	2009-10	Propagation data required for the design of Earth-space land mobile telecommunication systems		In force
P.682-3	2012-02	Propagation data required for the design of Earth-space aeronautical mobile telecommunication systems		In force

Number	Approval date	Title	Observation	Status
P.684-6	2012-02	Prediction of field strength at frequencies below about 150 kHz		In force
P.832-3	2012-02	World Atlas of Ground Conductivities		In force
P.833-8	2013-09	Attenuation in vegetation		In force
P.834-6	2007-01	Effects of tropospheric refraction on radiowave propagation		In force
P.835-5	2012-02	Reference Standard Atmospheres		In force
P.836-5	2013-09	Water vapour: surface density and total columnar content		In force
P.837-6	2012-02	Characteristics of precipitation for propagation modelling	Note - Software implementation of the method for the conversion of rain rate statistics with different integration time for Recommendation ITU-R P.837-6 provided in the zip file	In force
P.838-3	2005-03	Specific attenuation model for rain for use in prediction methods	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
P.839-4	2013-09	Rain height model for prediction methods		In force
P.840-6	2013-09	Attenuation due to clouds and fog		In force
P.841-4	2005-03	Conversion of annual statistics to worst-month statistics		In force
P.842-5	2013-09	Computation of reliability and compatibility of HF radio systems		In force
P.843-1	1997-08	Communication by meteor-burst propagation		In force
P.844-1	1994-08	Ionospheric factors affecting frequency sharing in the VHF and UHF bands (30 MHz-3 GHz)		In force
P.845-3	1997-08	HF field-strength measurement		In force
P.846-1	1995-10	Measurements of ionospheric and related characteristics		In force
P.1057-3	2013-09	Probability distributions relevant to radiowave propagation modelling		In force
P.1058-2	1999-10	Digital topographic databases for propagation studies		In force
P.1060-0	1994-08	Propagation factors affecting frequency sharing in HF terrestrial systems		In force
P.1144-6	2012-02	Guide to the application of the propagation methods of Radiocommunication Study Group 3		In force
P.1147-4	2007-08	Prediction of sky-wave field strength at frequencies between about 150 and 1 700 kHz		In force

Number	Approval date	Title	Observation	Status
P.1148-1	1997-05	Standardized procedure for comparing predicted and observed HF sky-wave signal intensities and the presentation of such comparisons		In force
P.1238-7	2012-02	Propagation data and prediction methods for the planning of indoor radiocommunication systems and radio local area networks in the frequency range 900 MHz to 100 GHz		In force
P.1239-3	2012-02	ITU-R reference ionospheric characteristics		In force
P.1240-1	2007-02	ITU-R methods of basic MUF, operational MUF and ray-path prediction		In force
P.1321-4	2013-09	Propagation factors affecting systems using digital modulation techniques at LF and MF		In force
P.1322-0	1997-08	Radiometric estimation of atmospheric attenuation		In force
P.1406-1	2007-08	Propagation effects relating to terrestrial land mobile and broadcasting services in the VHF and UHF bands		In force
P.1407-5	2013-09	Multipath propagation and parameterization of its characteristics		In force
P.1409-1	2012-02	Propagation data and prediction methods for systems using high altitude platform stations and other elevated stations in the stratosphere at frequencies greater than about 1 GHz		In force
P.1410-5	2012-02	Propagation data and prediction methods required for the design of terrestrial broadband radio access systems operating in a frequency range from 3 to 60 GHz		In force
P.1411-7	2013-09	Propagation data and prediction methods for the planning of short-range outdoor radiocommunication systems and radio local area networks in the frequency range 300 MHz to 100 GHz		In force
P.1412-0	1999-10	Propagation data for the evaluation of coordination between Earth stations working in the bidirectionally allocated frequency bands		In force
P.1510-0	2001-02	Annual mean surface temperature		In force
P.1511-0	2001-02	Topography for Earth-to-space propagation modelling		In force
P.1546-5	2013-09	Method for point-to-area predictions for terrestrial services in the frequency range 30 MHz to 3 000 MHz		In force
P.1621-1	2005-03	Propagation data required for the design of Earth-space systems operating between 20 THz and 375 THz		In force
P.1622-0	2003-04	Prediction methods required for the design of Earth-space systems operating between 20 THz and 375 THz		In force
P.1623-1	2005-03	Prediction method of fade dynamics on Earth-space paths		In force

Number	Approval date	Title	Observation	Status
P.1791-0	2007-01	Propagation prediction methods for assessment of the impact of ultra-wideband devices		In force
P.1812-3	2013-09	A path-specific propagation prediction method for point-to-area terrestrial services in the VHF and UHF bands		In force
P.1814-0	2007-08	Prediction methods required for the design of terrestrial free-space optical links		In force
P.1815-1	2009-10	Differential rain attenuation		In force
P.1816-2	2013-09	The prediction of the time and the spatial profile for broadband land mobile services using UHF and SHF bands		In force
P.1817-1	2012-02	Propagation data required for the design of terrestrial free-space optical links		In force
P.1853-1	2012-02	Tropospheric attenuation time series synthesis		In force
P.2001-1	2013-09	A general purpose wide-range terrestrial propagation model in the frequency range 30 MHz to 50 GHz		In force
P.2040	2013-09	Effects of building materials and structures on radiowave propagation above about 100 MHz		In force
P.2041	2013-09	Prediction of path attenuation on links between an airborne platform and Space and between an airborne platform and the surface of the Earth		In force

Number	Approval date	Title	Observation	Status
Series RA	**Radio astronomy**			
RA.314-10	2003-06	Preferred frequency bands for radio astronomical measurements		In force
RA.479-5	2003-05	Protection of frequencies for radioastronomical measurements in the shielded zone of the Moon		In force
RA.517-4	2006-05	Protection of the radio astronomy service from transmitters operating in adjacent bands		In force
RA.611-4	2006-03	Protection of the radio astronomy service from spurious emissions		In force
RA.769-2	2003-05	Protection criteria used for radio astronomical measurements		In force
RA.1031-2	2007-06	Protection of the radio astronomy service in frequency bands shared with other services		In force
RA.1237-2	2010-01	Protection of the radio astronomy service from unwanted emissions resulting from applications of wideband digital modulation		In force
RA.1272-1	2002-02	Protection of radio astronomy measurements above 60 GHz from ground based interference		In force
RA.1417-1	2013-12	A radio-quiet zone in the vicinity of the L2 Sun-Earth Lagrange point		In force
RA.1513-2	2015-03	Levels of data loss to radio astronomy observations and percentage-of-time criteria resulting from degradation by interference for frequency bands allocated to the radio astronomy service on a primary basis		In force
RA.1630-0	2003-05	Technical and operational characteristics of ground-based astronomy systems for use in sharing studies with active services between 10 THz and 1 000 THz		In force
RA.1631-0	2003-05	Reference radio astronomy antenna pattern to be used for compatibility analyses between non-GSO systems and radio astronomy service stations based on the epfd concept	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
RA.1750-0	2006-03	Mutual planning between the Earth exploration-satellite service (active) and the radio astronomy service in the 94 GHz and 130 GHz		In force
RA.1860-0	2010-01	Preferred frequency bands for radio astronomical measurements in the range 1-3 THz		In force

Number	Approval date	Title	Observation	Status
Series RS	**Remote sensing systems**			
RS.515-5	2012-08	Frequency bands and bandwidths used for satellite passive remote sensing		In force
RS.577-7	2009-02	Frequency bands and required bandwidths used for spaceborne active sensors operating in the Earth exploration-satellite (active) and space research (active) services		In force
RS.1165-2	2006-03	Technical characteristics and performance criteria for systems in the meteorological aids service in the 403 MHz and 1 680 MHz bands		In force
RS.1166-4	2009-02	Performance and interference criteria for active spaceborne sensors		In force
RS.1259-0	1997-06	Feasibility of sharing between spaceborne passive sensors and the fixed service from 50 to 60 GHz	Note - This Recommendation replaces Rec. ITU-R SA.1259	In force
RS.1260-1	2003-05	Feasibility of sharing between active spaceborne sensors and other services in the range 420-470 MHz	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations. Note - This Recommendation replaces Rec. ITU-R SA.1260-1.	In force
RS.1261-0	1997-06	Feasibility of sharing between spaceborne cloud radars and other services in the range of 92-95 GHz	Note - This Recommendation replaces Rec. ITU-R SA.1261	In force
RS.1263-1	2010-01	Interference criteria for meteorological aids operated in the 400.15-406 MHz and 1 668.4-1 700 MHz bands		In force
RS.1264-1	2003-05	Feasibility of frequency sharing between the meteorological aids service and the mobile-satellite service (Earth-to-space) in the 1 668.4-1 700 MHz band	Note - This Recommendation replaces Rec. ITU-R SA.1264-1	In force
RS.1279-0	1997-10	Spectrum sharing between spaceborne passive sensors and inter-satellite links in the range 50.2-59.3 GHz	Note - This Recommendation replaces Rec. ITU-R SA.1279	In force
RS.1280-0	1997-10	Selection of active spaceborne sensor emission characteristics to mitigate the potential for interference to terrestrial radars operating in frequency bands 1-10 GHz	Note - This Recommendation replaces Rec. ITU-R SA.1280	In force
RS.1281-0	1997-10	Protection of stations in the radiolocation service from emissions from active spaceborne sensors in the band 13.4-13.75 GHz	Note - This Recommendation replaces Rec. ITU-R SA.1281	In force

Number	Approval date	Title	Observation	Status
RS.1282-0	1997-10	Feasibility of sharing between wind profiler radars and active spaceborne sensors in the vicinity of 1 260 MHz	Note - This Recommendation replaces Rec. ITU-R SA.1282	In force
RS.1346-0	1998-02	Sharing between the meteorological aids service and medical implant communication systems (MICS) operating in the mobile service in the frequency band 401-406 MHz	Note - This Recommendation replaces Rec. ITU-R SA.1346	In force
RS.1347-0	1998-02	Feasibility of sharing between radionavigation-satellite service receivers and the Earth exploration-satellite (active) and space research (active) services in the 1 215-1 260 MHz band	Note - This Recommendation replaces Rec. ITU-R SA.1347	In force
RS.1416-0	1999-10	Sharing between spaceborne passive sensors and the inter-satellite service operating near 118 and 183 GHz	Note - This Recommendation replaces Rec. ITU-R SA.1416	In force
RS.1449-0	2000-05	Feasibility of sharing between the FSS (space-to-Earth) and the Earth exploration-satellite (passive) and space research (passive) services in the band 18.6-18.8 GHz	Note - This Recommendation replaces Rec. ITU-R SA.1449	In force
RS.1624-0	2003-05	Sharing between the Earth exploration satellite (passive) and airborne altimeters in the aeronautical radionavigation service in the band 4 200-4 400 MHz	Note - This Recommendation replaces Rec. ITU-R SA.1624	In force
RS.1628-0	2003-05	Feasibility of sharing in the band 35.5 36 GHZ between the Earth exploration-satellite service (active) and space research service (active), and other services allocated in this band	Note - This Recommendation replaces Rec. ITU-R SA.1628	In force
RS.1632-0	2003-06	Sharing in the band 5 250-5 350 MHz between the Earth exploration-satellite service (active) and wireless access systems (including radio local area networks) in the mobile service	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations. Note - This Recommendation replaces Rec. ITU-R SA.1632	In force
RS.1744-0	2006-03	Technical and operational characteristics of ground-based meteorological aids systems operating in the frequency range 272-750 THz	Note - This Recommendation replaces Rec. ITU-R SA.1744	In force
RS.1745-0	2006-03	Use of the band 1 668.4 1 710 MHz by the meteorological aids service and meteorological-satellite service (space-to-Earth)	Note - Identical to Rec. UIT-R SA.1745	In force
RS.1749-0	2006-03	Mitigation technique to facilitate the use of the 1 215-1 300 MHz band by the Earth exploration-satellite service (active) and the space research service (active)	Note - This Recommendation replaces Rec. ITU-R SA.1749	In force

Number	Approval date	Title	Observation	Status
RS.1803-0	2007-06	Technical and operational characteristics for passive sensors in the Earth exploration-satellite (passive) service to facilitate sharing of the 10.6-10.68 GHz and 36-37 GHz bands with the fixed and mobile services		In force
RS.1804-0	2007-06	Technical and operational characteristics of Earth exploration-satellite service (EESS) systems operating above 3 000 GHz		In force
RS.1813-1	2011-02	Reference antenna pattern for passive sensors operating in the Earth exploration-satellite service (passive) to be used in compatibility analyses in the frequency range 1.4-100 GHz		In force
RS.1858-0	2010-01	Characterization and assessment of aggregate interference to the Earth exploration-satellite service (passive) sensor operations from multiple sources of man made emissions		In force
RS.1859-0	2010-01	Use of remote sensing systems for data collection to be used in the event of natural disasters and similar emergencies		In force
RS.1861-0	2010-01	Typical technical and operational characteristics of Earth exploration-satellite service (passive) systems using allocations between 1.4 and 275 GHz		In force
RS.1881-0	2011-02	Protection criteria for arrival time difference receivers operating in the meteorological aids service in the frequency band 9-11.3 kHz		In force
RS.1883-0	2011-02	Use of remote sensing systems in the study of climate change and the effects thereof		In force
RS.1884-0	2011-02	Methodology for determining terrestrial and space-to-Earth sharing and coordination criteria for meteorological aids in the 400.15-406 MHz and 1 668 1 700 MHz bands		In force
RS.2017-0	2012-08	Performance and interference criteria for satellite passive remote sensing		In force
RS.2042-0	2013-12	Typical technical and operating characteristics for spaceborne radar sounder systems using the 40-50 MHz band		In force
RS.2043-0	2013-12	Characteristics of synthetic aperture radars operating in the Earth exploration-satellite service (active) around 9 600 MHz		In force
RS.2064-0	2014-12	Typical technical and operating characteristics and frequency bands used by space research service (passive) observation systems		In force
RS.2065-0	2014-12	Protection of space research service (SRS) space-to-Earth links in the 8 400-8 450 MHz and 8 450-8 500 MHz bands from unwanted emissions of synthetic aperture radars operating in the Earth exploration-satellite service (active) around 9 600 MHz		In force

Number	Approval date	Title	Observation	Status
RS.2066-0	2014-12	Protection of the radio astronomy service in the frequency band 10.6-10.7 GHz from unwanted emissions of synthetic aperture radars operating in the Earth exploration-satellite service (active) around 9 600 MHz		In force

Number	Approval date	Title	Observation	Status
Series S	**Fixed-satellite service**			
S.354-2	1974-07	Video bandwidth and permissible noise level in the hypothetical reference circuit for the fixed-satellite service		In force
S.446-4	1993-04	Carrier energy dispersal for systems employing angle modulation by analogue signals or digital modulation in the fixed-satellite service		In force
S.465-6	2010-01	Reference radiation pattern of earth station antennas in the fixed-satellite service for use in coordination and interference assessment in the frequency range from 2 to 31 GHz		In force
S.466-6	1992-03	Maximum permissible level of interference in a telephone channel of a geostationary-satellite network in the fixed-satellite service employing frequency modulation with frequency-division multiplex, caused by other networks of this service		In force
S.483-3	1997-05	Maximum permissible level of interference in a television channel of a geostationary-satellite network in the fixed-satellite service employing frequency modulation, caused by other networks of this service		In force
S.484-3	1992-03	Station-keeping in longitude of geostationary satellites in the fixed-satellite service		In force
S.521-4	2000-01	Hypothetical reference digital paths for systems using digital transmission in the fixed-satellite service		In force
S.522-5	1994-09	Allowable bit error ratios at the output of the hypothetical reference digital path for systems in the fixed-satellite service using pulse-code modulation for telephony		In force
S.523-4	1992-03	Maximum permissible levels of interference in a geostationary-satellite network in the fixed-satellite service using 8-bit PCM encoded telephony, caused by other networks of this service		In force
S.524-9	2006-01	Maximum permissible levels of off-axis e.i.r.p. density from earth stations in geostationary-satellite orbit networks operating in the fixed-satellite service transmitting in the 6 GHz, 13 GHz, 14 GHz and 30 GHz frequency bands		In force
S.579-6	2005-04	Availability objectives for a hypothetical reference circuits and hypothetical reference digital paths when used for telephony using pulse code modulation, or as part of an integrated services digital network hypothetical reference connection, in the fixed-satellite service operating below 15 GHz		In force

Number	Approval date	Title	Observation	Status
S.580-6	2004-01	Radiation diagrams for use as design objectives for antennas of earth stations operating with geostationary satellites		In force
S.614-4	2005-02	Allowable error performance for a satellite hypothetical reference digital path in the fixed-satellite service operating below 15 GHz when forming part of an international connection in an integrated services digital network		In force
S.670-1	1992-03	Flexibility in the positioning of satellites as a design objective		In force
S.671-3	1994-09	Necessary protection ratios for narrow-band single channel-per-carrier transmissions interfered with by analogue television carriers		In force
S.672-4	1997-09	Satellite antenna radiation pattern for use as a design objective in the fixed-satellite service employing geostationary satellites	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
S.673-2	2002-03	Terms and definitions relating to space radiocommunications		In force
S.725-0	1992-03	Technical characteristics for very small aperture terminals (VSATs)		In force
S.726-1	1993-04	Maximum permissible level of spurious emissions from very small aperture terminals (VSATs)		In force
S.728-1	1995-10	Maximum permissible level of off-axis e.i.r.p. density from very small aperture terminals (VSATs)		In force
S.729-0	1992-03	Control and monitoring function of very small aperture terminals (VSATs)		In force
S.730-0	1992-03	Compensation of the effects of switching discontinuities for voice band data and of doppler frequency-shifts in the fixed-satellite service		In force
S.731-1	2005-04	Reference earth-station cross-polarized radiation pattern for use in frequency coordination and interference assessment in the frequency range from 2 to about 30 GHz		In force
S.732-1	2012-12	Method for statistical processing of earth station antenna side-lobe peaks to determine excess over antenna reference patterns and conditions for acceptability of any excess		In force
S.733-2	2000-01	Determination of the G/T ratio for Earth stations operating in the fixed-satellite service		In force
S.734-0	1992-03	The application of interference cancellers in the fixed-satellite service		In force

Number	Approval date	Title	Observation	Status
S.735-1	1993-04	Maximum permissible levels of interference in a geostationary-satellite network for an HRDP when forming part of the ISDN in the fixed-satellite service caused by other networks of this service below 15 GHz		In force
S.736-3	1997-05	Estimation of polarization discrimination in calculations of interference between geostationary-satellite networks in the fixed-satellite service		In force
S.737-0	1992-03	Relationship of technical coordination methods within the fixed-satellite service		In force
S.738-0	1992-03	Procedure for determining if coordination is required between geostationary-satellite networks sharing the same frequency bands		In force
S.739-0	1992-03	Additional methods for determining if detailed coordination is necessary between geostationary-satellite networks in the fixed-satellite service sharing the same frequency bands		In force
S.740-0	1992-03	Technical coordination methods for fixed-satellite networks		In force
S.741-2	1994-09	Carrier-to-interference calculations between networks in the fixed- satellite service		In force
S.742-1	1993-04	Spectrum utilization methodologies		In force
S.743-1	1994-09	The coordination between satellite networks using slightly inclined geostationary-satellite orbits (GSOs) and between such networks and satellite networks using non-inclined GSO satellites		In force
S.744-0	1992-03	Orbit/spectrum improvement measures for satellite networks having more than one service in one or more frequency bands		In force
S.1001-2	2010-01	Use of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief operations		In force
S.1002-0	1993-04	Orbit management techniques for the fixed-satellite service		In force
S.1003-2	2010-12	Environmental protection of the geostationary-satellite orbit		In force
S.1061-1	2007-01	Utilization of fade countermeasure strategies and techniques in the fixed-satellite service		In force
S.1062-4	2007-01	Allowable error performance for a satellite hypothetical reference digital path operating below 15 GHz		In force
S.1063-0	1994-09	Criteria for sharing between BSS feeder links and other Earth-to-space or space-to-Earth links of the FSS		In force

Number	Approval date	Title	Observation	Status
S.1064-1	1995-10	Pointing accuracy as a design objective for earthward antennas on board geostationary satellites in the fixed-satellite service		In force
S.1068-0	1994-09	Fixed-satellite and radiolocation/radionavigation services sharing in the band 13.75-14 GHz		In force
S.1069-0	1994-09	Compatibility between the fixed-satellite service and the space science services in the band 13.75-14 GHz		In force
S.1149-2	2005-02	Network architecture and equipment functional aspects of digital satellite systems in the fixed-satellite service forming part of synchronous digital hierarchy transport networks		In force
S.1150-0	1995-10	Technical criteria to be used in examinations relating to the probability of harmful interference between frequency assignments in the fixed-satellite service as required in No. S11.32A.1 of the Radio Regulations		In force
S.1151-0	1995-10	Sharing between the inter-satellite service involving geostationary satellites in the fixed-satellite service and the radionavigation service at 33 GHz		In force
S.1250-0	1997-05	Network management architecture for digital satellite systems forming part of SDH transport networks in the fixed-satellite service		In force
S.1251-0	1997-07	Network management - Performance management object class definitions for satellite systems network elements forming part of SDH transport networks in the fixed-satellite service		In force
S.1252-0	1997-05	Network management - Payload configuration object class definitions for satellite system network elements forming part of SDH transport networks in the fixed-satellite service		In force
S.1253-0	1997-05	Technical options to facilitate coordination of fixed-satellite service networks in certain orbital arc segments and frequency bands		In force
S.1254-0	1997-05	Best practices to facilitate the coordination process of fixed-satellite service satellite networks		In force
S.1255-0	1997-05	Use of adaptive uplink power control to mitigate codirectional interference between geostationary satellite orbit/fixed-satellite service (GSO/FSS) networks and feeder links of non-geostationary satellite orbit/mobile satellite service (non-GSO/MSS) networks and between GSO/FSS networks and non-GSO/FSS networks		In force
S.1256-0	1997-05	Methodology for determining the maximum aggregate power flux-density at the geostationary-satellite orbit in the band 6 700-7 075 MHz from feeder links of non-geostationary satellite systems in the mobile-satellite service in the space-to-Earth direction	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force

Number	Approval date	Title	Observation	Status
S.1257-3	2002-03	Analytical method to calculate short-term visibility and interference statistics for non-geostationary satellite orbit satellites as seen from a point on the Earth's surface		In force
S.1323-2	2002-09	Maximum permissible levels of interference in a satellite network (GSO/FSS; non-GSO/FSS; non-GSO/MSS feeder links) in the fixed-satellite service caused by other codirectional FSS networks below 30 GHz		In force
S.1324-0	1997-09	Analytical method for estimating interference between non-geostationary mobile-satellite feeder links and geostationary fixed-satellite networks operating co-frequency and codirectionally		In force
S.1325-3	2003-10	Simulation methodologies for determining statistics of short-term interference between co-frequency, codirectional non-geostationary-satellite orbit fixed-satellite service systems in circular orbits and other non-geostationary fixed-satellite service systems in circular orbits or geostationary-satellite orbit fixed-satellite service networks		In force
S.1326-0	1997-09	Feasibility of sharing between the inter-satellite service and the fixed-satellite service in the frequency band 50.4-51.4 GHz		In force
S.1327-0	1997-09	Requirements and suitable bands for operation of the inter-satellite service within the range 50.2-71 GHz		In force
S.1328-4	2002-09	Satellite system characteristics to be considered in frequency sharing analyses within the fixed-satellite service		In force
S.1329-0	1997-09	Frequency sharing of the bands 19.7-20.2 GHz and 29.5-30.0 GHz between systems in the mobile-satellite service and systems in the fixed-satellite service		In force
S.1339-1	1999-11	Sharing between spaceborne passive sensors of the Earth exploration-satellite service and inter-satellite links of geostationary-satellite networks in the range 54.25 to 59.3 GHz		In force
S.1340-0	1997-10	Sharing between feeder links for the mobile-satellite service and the aeronautical radionavigation service in the Earth-to-space direction in the band 15.4-15.7 GHz	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
S.1341-0	1997-10	Sharing between feeder links for the mobile-satellite service and the aeronautical radionavigation service in the space-to-Earth direction in the band 15.4-15.7 GHz and the protection of the radio astronomy service in the band 15.35-15.4 GHz	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force

Number	Approval date	Title	Observation	Status
S.1342-0	1997-10	Method for determining coordination distances, in the 5 GHz band, between the international standard microwave landing system stations operating in the aeronautical radionavigation service and non-geostationary mobile-satellite service stations providing feeder uplink services		In force
S.1418-0	1999-11	Method for calculating single entry carrier-to-interference ratios for links in inter-satellite service using geostationary orbit		In force
S.1419-0	1999-11	Interference mitigation techniques to facilitate coordination between non-geostationary-satellite orbit mobile-satellite service feeder links and geostationary-satellite orbit fixed-satellite service networks in the bands 19.3-19.7 GHz and 29.1-29.5 GHz		In force
S.1420-0	1999-11	Performance for broadband integrated services digital network asynchronous transfer mode via satellite		In force
S.1424-0	2000-01	Availability objectives for a hypothetical reference digital path when used for the transmission of B-ISDN asynchronous transfer mode in the fixed-satellite service by geostationary orbit satellite systems using frequencies below 15 GHz		In force
S.1425-0	2000-01	Transmission considerations for digital carriers using higher levels of modulation on satellite circuits		In force
S.1426-0	2000-01	Aggregate power flux-density limits, at the FSS satellite orbit for radio local area network (RLAN) transmitters operating in the 5 150-5 250 MHz band sharing frequencies with the FSS (RR No. S5.447A)		In force
S.1427-1	2006-01	Methodology and criterion to assess interference from terrestrial wireless access system/radio local area network transmitters to non-geostationary-satellite orbit mobile-satellite service feeder links in the band 5 150-5 250 MHz		In force
S.1428-1	2001-02	Reference FSS earth-station radiation patterns for use in interference assessment involving non-GSO satellites in frequency bands between 10.7 GHz and 30 GHz	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
S.1429-0	2000-01	Error performance objectives due to internetwork interference between GSO and non-GSO FSS systems for hypothetical reference digital paths operating at or above the primary rate carried by systems using frequencies below 15 GHz		In force

Number	Approval date	Title	Observation	Status
S.1430-0	2000-01	Determination of the coordination area for Earth stations operating with non-geostationary space stations with respect to Earth stations operating in the reverse direction in frequency bands allocated bidirectionally to the fixed-satellite service		In force
S.1431-0	2000-01	Methods to enhance sharing between non-GSO FSS systems (except MSS feeder links) in the frequency bands between 10-30 GHz		In force
S.1432-1	2006-01	Apportionment of the allowable error performance degradations to fixed-satellite service (FSS) hypothetical reference digital paths arising from time invariant interference for systems operating below 30 GHz		In force
S.1433-0	2000-01	Uplink and inter-satellite equivalent power flux-density radiated by non-GSO FSS Systems		In force
S.1503-2	2013-12	Functional description to be used in developing software tools for determining conformity of non-geostationary-satellite orbit fixed-satellite system networks with limits contained in Article 22 of the Radio Regulations		In force
S.1512-0	2001-02	Measurement procedure for determining non-geostationary satellite orbit satellite equivalent isotropically radiated power and antenna discrimination		In force
S.1521-1	2010-01	Allowable error performance for a hypothetical reference digital path based on synchronous digital hierarchy		In force
S.1522-1	2005-02	Impact of loss of synchronization recovery time on availability in hypothetical reference digital paths		In force
S.1523-0	2001-06	Methodology for performing parametric evaluation studies of interference sensitivity for geostationary-satellite orbit fixed-satellite service systems sharing spectrum in bands above 10 GHz		In force
S.1524-0	2001-06	Coordination identification between geostationary-satellite orbit fixed-satellite service networks		In force
S.1525-1	2002-09	Impact of interference from the Sun into a geostationary-satellite orbit fixed-satellite service link		In force
S.1526-1	2002-09	Methodology to assess the interference environment in relation to Nos. 9.12, 9.12A and 9.13 of the Radio Regulations when non-geostationary-satellite orbit fixed-satellite service systems are involved		In force
S.1527-0	2001-06	Procedure for the identification of non-geostationary-satellite orbit satellites causing interference into an operating geostationary-satellite orbit earth station		In force

Number	Approval date	Title	Observation	Status
S.1528-0	2001-06	Satellite antenna radiation patterns for non-geostationary orbit satellite antennas operating in the fixed-satellite service below 30 GHz		In force
S.1529-0	2001-06	Analytical method for determining the statistics of interference between non-geostationary-satellite orbit fixed-satellite service systems and other non-geostationary-satellite orbit fixed-satellite service systems or geostationary-satellite orbit fixed-satellite service networks		In force
S.1553-0	2002-03	A possible method to account for environmental and other effects on satellite antenna patterns		In force
S.1554-0	2002-03	Methodology for determining the overall accuracy of epfddown measurements		In force
S.1555-0	2002-03	Aggregate interference levels between closely spaced dual circularly and dual linearly polarized geostationary-satellite networks in the fixed-satellite service operating in the 6/4 GHz frequency bands		In force
S.1556-0	2002-03	Methodology to determine the epfddown level corresponding to the loss of synchronization in geostationary fixed satellite service networks caused by interference from non-geostationary-satellite systems		In force
S.1557-0	2002-03	Operational requirements and characteristics of fixed-satellite service systems operating in the 50/40 GHz bands for use in sharing studies between the fixed-satellite service and the fixed service		In force
S.1558-0	2002-03	Methodologies for measuring epfddown caused by a non-geostationary-satellite orbit space station to verify compliance with operational epfdown limits		In force
S.1559-0	2002-03	Methodology for computing the geographical distribution of maximum downlink equivalent power flux-density levels generated by non-geostationary fixed-satellite service systems using circular orbits		In force
S.1560-0	2002-03	Methodology for the calculation of the worst-case interference levels from a particular type of non-geostationary fixed-satellite service system using highly-elliptical orbits into geostationary fixed-satellite service satellite networks operating in the 4/6 GHz frequency bands		In force
S.1586-1	2007-01	Calculation of unwanted emission levels produced by a non geostationary fixed-satellite service system at radio astronomy sites	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force

Number	Approval date	Title	Observation	Status
S.1587-2	2007-10	Technical characteristics of earth stations on board vessels communicating with FSS satellites in the frequency bands 5 925-6 425 MHz and 14-14.5 GHz which are allocated to the fixed-satellite service		In force
S.1588-0	2002-09	Methodologies for calculating aggregate downlink equivalent power flux-density produced by multiple non-geostationary fixed-satellite service systems into a geostationary fixed-satellite service network		In force
S.1589-0	2002-09	Continuous curves of epfddown versus geostationary fixed-satellite service earth station antenna diameter and epfdup versus geostationary fixed-satellite service space station antenna beamwidth to indicate the protection afforded by systems complying with the limits to antennas with diameters other than those in Article 22 of the Radio Regulations		In force
S.1590-0	2002-09	Technical and operational characteristics of satellites operating in the range 20-375 THz		In force
S.1591-0	2002-09	Sharing of inter-satellite link bands around 23, 32.5 and 64.5 GHz between non-geostationary/geostationary inter-satellite links and geostationary/geostationary inter-satellite links		In force
S.1592-0	2002-09	Methodology to assess compliance of non-geostationary fixed-satellite service satellite systems in circular orbits with the additional operational limits on downlink equivalent power flux-density in Article 22 of the Radio Regulations		In force
S.1593-0	2002-09	Methodology for frequency sharing between certain types of homogeneous highly-elliptical orbit non-geostationary fixed-satellite service systems in the 4/6 GHz and 11/14 GHz frequency bands		In force
S.1594-0	2002-09	Maximum emission levels and associated requirements of high density fixed-satellite service earth stations transmitting towards geostationary fixed-satellite service space stations in the 30 GHz range		In force
S.1595-0	2002-09	Interference mitigation techniques to facilitate coordination between non-geostationary fixed-satellite service systems in highly elliptical orbit and non-geostationary fixed-satellite service systems in low and medium Earth orbit		In force
S.1647-0	2004-01	Methodology to determine the worst-case interference among certain types of non-GSO FSS systems in situations where no in-line interference exists		In force

Number	Approval date	Title	Observation	Status
S.1655-0	2003-10	Interference mitigation techniques and frequency sharing in the bands 37.5-42.5 GHz and 47.2-50.2 GHz between geostationary-satellite fixed-satellite service networks and non-geostationary-satellite fixed-satellite service systems		In force
S.1656-0	2004-01	Outline of a software specification for automating the examination of satellite network filings for compliance with Article 5 of the Radio Regulations		In force
S.1672-0	2004-01	Guidelines to be used in the event of non-compliance with single-entry operational and/or additional operational limits in Section II of Article 22 of the Radio Regulations		In force
S.1673-1	2010-01	Methodologies for the calculation of the worst-case interference levels from a non geostationary HEO-type fixed-satellite service system into geostationary fixed-satellite service satellite networks operating in the 10 to 30 GHz frequency bands		In force
S.1709-1	2007-01	Technical characteristics of air interfaces for global broadband satellite systems		In force
S.1711-1	2010-01	Performance enhancements of transmission control protocol over satellite networks		In force
S.1712-0	2005-04	Methodologies for determining whether an FSS earth station at a given location could transmit in the band 13.75-14 GHz without exceeding the pfd limits in No. 5.502 of the Radio Regulations, and guidelines to mitigate excesses		In force
S.1713-1	2007-01	Methodology to calculate the minimum separation angle at the Earth’s surface between a non-geostationary HEO-type FSS satellite in its ''active" arc and a geostationary satellite		In force
S.1714-0	2005-04	Static methodology for calculating epfddown to facilitate coordination of very large antennas under Nos. 9.7A and 9.7B of the Radio Regulations		In force
S.1715-0	2005-04	Guidelines developed in response to the studies requested in Resolution 140 (WRC-03)		In force
S.1716-0	2005-02	Performance and availability objectives for fixed-satellite service telemetry, tracking and command systems		In force
S.1717-0	2005-02	Electronic data file format for earth station antenna patterns		In force
S.1718-0	2005-02	Power flux-density values in the band 11.7-12.7 GHz and associated calculation methodology which may be used when the power flux-density values in § 6 of Annex 1 to Appendix 30 of the Radio Regulations are exceeded		In force

Number	Approval date	Title	Observation	Status
S.1758-0	2006-01	Characterization of HEO-type systems in the fixed-satellite service		In force
S.1759-0	2006-01	Analysis of interference from HEO system space operation transmissions in FSS bands into GSO networks and corresponding guidelines to be used for designing and operating TT&C for HEO-type FSS system		In force
S.1779-0	2007-01	Characteristics of fixed-satellite service systems using wideband spreading signals		In force
S.1780-0	2007-01	Coordination between geostationary-satellite orbit fixed satellite service networks and broadcasting-satellite service networks in the band 17.3-17.8 GHz		In force
S.1781-0	2007-01	Possible methodology for frequency sharing between bidirectional geostationary fixed-satellite service networks comprising ubiquitously deployed earth stations		In force
S.1782-0	2007-01	Possibilities for global broadband Internet access by fixed-satellite service systems		In force
S.1783-0	2007-01	Technical and operational features characterizing high-density applications in the fixed-satellite service		In force
S.1806-0	2008-08	Availability objectives for hypothetical reference digital paths in the fixed-satellite service operating below 15 GHz		In force
S.1844-0	2009-02	Cross-polarization reference gain pattern for linearly polarized very small aperture terminals (VSAT) for frequencies in the range 2 to 31 GHz		In force
S.1855-0	2010-01	Alternative reference radiation pattern for earth station antennas used with satellites in the geostationary-satellite orbit for use in coordination and/or interference assessment in the frequency range from 2 to 31 GHz		In force
S.1856-0	2010-01	Methodologies for determining whether an IMT station at a given location operating in the band 3 400-3 600 MHz would transmit without exceeding the power flux-density limits in the Radio Regulations Nos. 5.430A, 5.432A, 5.432B and 5.433A		In force
S.1857-0	2010-01	Methodologies to estimate the off-axis e.i.r.p. density levels and to assess the interference towards adjacent satellites resulting from pointing errors of vehicle mounted earth stations in the 14 GHz frequency band		In force
S.1878-0	2010-12	Multi-carrier based transmission techniques for satellite systems		In force
S.1897-0	2012-01	Cross-layer QoS provisioning in IP-based hybrid satellite-terrestrial networks		In force

Number	Approval date	Title	Observation	Status
S.1899-0	2012-01	Protection criteria and interference assessment methods for non-GSO inter-satellite links in the 23.183-23.377 GHz band with respect to the space research service		In force
S.2029-0	2012-12	Statistical methodology to assess time-varying interference produced by a geostationary fixed-satellite service network of earth stations operating with MF-TDMA schemes to geostationary fixed-satellite service networks		In force
S.2049	2013-12	Access procedures for fixed-satellite service occasional use, transmissions to geostationary-satellite orbit space stations, in the 4/6 GHz and 11-12/13/14 GHz FSS bands		In force
S.2062-0	2014-09	Carrier identification system for digital-modulation transmissions of fixed-satellite service occasional use carrier earth station transmissions using geostationary-satellite networks in the 4/6 GHz and 11-12/13/14 GHz FSS bands		In force

Number	Approval date	Title	Observation	Status
Series SA	**Space applications and meteorology**			
SA.363-5	1994-03	Space operation systems		In force
SA.364-5	1992-03	Preferred frequencies and bandwidths for manned and unmanned near-Earth research satellites		In force
SA.509-3	2013-12	Space research earth station and radio astronomy reference antenna radiation pattern for use in interference calculations, including coordination procedures, for frequencies less than 30 GHz		In force
SA.510-2	1997-10	Feasibility of frequency sharing between the space research service and other services in bands near 14 and 15 GHz - Potential interference from data relay satellite systems		In force
SA.514-3	1997-10	Interference criteria for command and data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services		In force
SA.609-2	2006-03	Protection criteria for radiocommunication links for manned and unmanned near-Earth research satellites		In force
SA.1014-2	2011-02	Telecommunication requirements for manned and unmanned deep-space research		In force
SA.1015-1	2007-06	Bandwidth requirements for deep-space research		In force
SA.1016-0	1994-03	Sharing considerations relating to deep-space research		In force
SA.1018-0	1994-03	Hypothetical reference system for systems comprising data relay satellites in the geostationary orbit and user spacecraft in low Earth-orbits		In force
SA.1019-0	1994-03	Preferred frequency bands and transmission directions for data relay satellite systems		In force
SA.1020-0	1994-03	Hypothetical reference system for the Earth exploration-satellite and meteorological satellite services		In force
SA.1021-0	1994-03	Methodology for determining performance objectives for systems in the Earth exploration-satellite and meteorological-satellite services		In force
SA.1022-1	1999-10	Methodology for determining interference criteria for systems in the Earth exploration-satellite and meteorological-satellite services		In force
SA.1023-0	1994-03	Methodology for determining sharing and coordination criteria for systems in the Earth exploration-satellite and meteorological-satellite services		In force

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SA.1024-1	1997-06	Necessary bandwidths and preferred frequency bands for data transmission from Earth exploration satellites (not including meteorological satellites)		In force
SA.1025-3	1999-10	Performance criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit		In force
SA.1026-4	2009-02	Aggregate interference criteria for space-to-Earth data transmission systems operating in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit		In force
SA.1027-4	2009-02	Sharing criteria for space-to-Earth data transmission systems in the Earth exploration-satellite and meteorological-satellite services using satellites in low-Earth orbit		In force
SA.1030-0	1994-03	Telecommunication requirements of satellite systems for geodesy and geodynamics		In force
SA.1154-0	1995-10	Provisions to protect the space research (SR), space operations (SO) and Earth exploration-satellite services (EESS) and to facilitate sharing with the mobile service in the 2 025-2 110 MHz and 2 200-2 290 MHz bands	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
SA.1155-1	2013-12	Protection criteria related to the operation of data relay satellite systems		In force
SA.1157-1	2006-03	Protection criteria for deep-space research		In force
SA.1158-3	2003-05	Feasibility of frequency sharing in the 1 670-1 710 MHz band between the meteorological-satellite service (space-to-Earth) and the mobile-satellite service (Earth-to-space)		In force
SA.1159-3	2006-03	Performance criteria for data dissemination, data collection and direct data readout systems in the Earth exploration-satellite service and meteorological-satellite service		In force
SA.1160-2	1999-10	Interference criteria for data dissemination and direct data readout systems in the earth exploration-satellite and meteorological-satellite services using satellites in the geostationary orbit		In force
SA.1161-1	1999-10	Sharing and coordination criteria for data dissemination and direct data readout systems in the Earth exploration-satellite and meteorological-satellite services using satellites in geostationary orbit		In force
SA.1162-2	2003-05	Performance criteria for service links in data collection and platform location systems in the Earth exploration- and meteorological-satellite services		In force

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SA.1163-2	1999-10	Interference criteria for service links in data collection systems in the Earth exploration-satellite and meteorological-satellite services		In force
SA.1164-2	1999-10	Sharing and coordination criteria for service links in data collection systems in the Earth exploration-satellite and meteorological-satellite services		In force
SA.1258-1	1999-10	Sharing of the frequency band 401-403 MHz between the meteorological-satellite service, Earth exploration-satellite service and meteorological Aids service		In force
SA.1273-0	1997-10	Power flux-density levels from the space research, space operation and Earth exploration-satellite services at the surface of the Earth required to protect the fixed service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz		In force
SA.1274-0	1997-10	Criteria for data relay satellite networks to facilitate sharing with systems in the fixed service in the bands 2 025-2 110 MHz and 2 200-2 290 MHz		In force
SA.1275-4	2013-12	Orbital locations of data relay satellites to be protected from the emissions of fixed service systems operating in the band 2 200-2 290 MHz		In force
SA.1276-4	2013-12	Orbital locations of data relay satellites to be protected from the emissions of fixed service systems operating in the band 25.25-27.5 GHz		In force
SA.1277-0	1997-10	Sharing in the 8 025-8 400 MHz frequency band between the Earth exploration-satellite service and the fixed, fixed-satellite, meteorological-satellite and mobile services in Regions 1, 2 and 3		In force
SA.1344-1	2009-02	Preferred frequency bands and bandwidths for the transmission of space VLBI data within existing space research service (SRS) allocations		In force
SA.1345-1	2010-01	Methods for predicting radiation patterns of large antennas used for space research and radio astronomy		In force
SA.1396-0	1999-04	Protection criteria for the space research service in the 37-38 and 40-40.5 GHz bands		In force
SA.1414-1	2013-12	Characteristics of data relay satellite systems		In force
SA.1415-0	1999-10	Sharing between inter-satellite service systems in the frequency band 25.25-27.5 GHz		In force
SA.1626-1	2013-12	Feasibility of sharing between the space research service (space-to-Earth) and the fixed and mobile services in the band 14.8-15.35 GHz		In force
SA.1627-0	2003-05	Telecommunication requirements and characteristics of EESS and MetSat service systems for data collection and platform location		In force

Number	Approval date	Title	Observation	Status
SA.1629-0	2003-05	Sharing between command links in the space research and space operation services with the fixed, mobile and mobile-satellite services in the frequency band 257-262 MHz		In force
SA.1742-0	2006-03	Technical and operational characteristics of interplanetary and deep-space systems operating in the space-to-Earth direction around 283 THz		In force
SA.1743-0	2006-03	Maximum allowable degradation to radiocommunication links of the space research and space operation services arising from interference from emissions and radiations from other radio sources		In force
SA.1745-0	2006-03	Use of the band 1 668.4 1 710 MHz by the meteorological aids service and meteorological-satellite service (space-to-Earth)	Note - Identical to Rec. UIT-R RS.1745	In force
SA.1805-0	2007-06	Technical and operational characteristics of space-to-space telecommunication systems operating around 354 THz and 366 THz		In force
SA.1807-0	2007-06	System characteristics and interference criteria for meteorological satellite systems operating around 18 GHz		In force
SA.1810-0	2007-06	System design guidelines for Earth exploration-satellites operating in the band 8 025-8 400 MHz		In force
SA.1811-0	2007-06	Reference antenna patterns of large-aperture space research service earth stations to be used for compatibility analyses involving a large number of distributed interference entries in the bands 31.8-32.3 GHz and 37.0-38.0 GHz		In force
SA.1862-0	2010-01	Guidelines for efficient use of the band 25.5-27.0 GHz by the Earth exploration-satellite service (space-to-Earth) and space research service (space-to-Earth)		In force
SA.1863-0	2010-01	Radiocommunications used for emergency in manned space flight		In force
SA.1882-0	2011-02	Technical and operational characteristics of space research service (Earth-to-space) systems for use in the 22.55-23.15 GHz band		In force
SA.2044	2013-12	Protection criteria for non-GSO data collection platforms in the band 401-403 MHz		In force
SA.2045	2013-09	Basic general partitioning and sharing conditions for the band 401-403 MHz for future long-term coordinated use of data collection systems on geostationary and non-geostationary METSAT and EESS systems		In force

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Series SF	**Frequency sharing and coordination between fixed-satellite and fixed service systems**			
SF.674-3	2013-12	Determination of the impact on the fixed service operating in the 11.7-12.2 GHz band when geostationary fixed-satellite service networks in Region 2 exceed power flux-density thresholds for coordination		In force
SF.675-4	2012-01	Calculation of the maximum power density (averaged over 4 kHz or 1 MHz) of angle-modulated and digital carriers		In force
SF.765-1	2003-02	Intersection of radio-relay antenna beams with orbits used by space stations in the fixed-satellite service		In force
SF.766-0	1992-03	Methods for determining the effects of interference on the performance and the availability of terrestrial radio-relay systems and systems in the fixed-satellite service		In force
SF.1006-0	1993-04	Determination of the interference potential between earth stations of the fixed-satellite service and stations in the fixed service		In force
SF.1395-0	1999-03	Minimum propagation attenuation due to atmospheric gases for use in frequency sharing studies between the fixed-satellite service and the fixed service		In force
SF.1482-0	2000-05	Maximum allowable values of power flux-density (pfd) produced at the Earth's surface by non-GSO satellites in the fixed-satellite service (FSS) operating in the 10.7-12.75 GHz band		In force
SF.1483-0	2000-05	Maximum allowable values of power flux-density (pfd) produced at the Earth's surface by non-GSO satellites in the fixed-satellite service (FSS) operating in the 17.7-19.3 GHz band		In force
SF.1485-0	2000-05	Determination of the coordination area for earth stations operating with non-geostationary space stations in the fixed-satellite service in frequency bands shared with the fixed service		In force
SF.1486-0	2000-05	Sharing methodology between fixed wireless access systems in the fixed service and very small aperture terminals in the fixed-satellite service in the 3 400-3 700 MHz band		In force
SF.1572-0	2002-05	Methodology to evaluate the impact of space-to-Earth interference from the fixed-satellite service to the fixed service in frequency bands where precipitation is the predominant fade mechanism		In force
SF.1585-0	2002-09	Example approach for determination of the composite area within which interference to fixed service stations from earth stations on board vessels when operating in motion near a coastline would need to be evaluated		In force

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SF.1601-2	2007-02	Methodologies for interference evaluation from the downlink of the fixed service using high altitude platform stations to the uplink of the fixed-satellite service using the geostationary satellites within the band 27.5-28.35 GHz		In force
SF.1602-0	2003-02	Methodology for determining power flux-density statistics for use in sharing studies between fixed wireless systems and multiple fixed-satellite service satellites		In force
SF.1648-0	2003-06	Use of frequencies by earth stations on board vessels transmitting in certain bands allocated to the fixed-satellite service		In force
SF.1649-1	2008-08	Guidance for determination of interference from earth stations on board vessels to stations in the fixed service when the earth station on board vessels is within the minimum distance		In force
SF.1650-1	2005-02	The minimum distance from the baseline beyond which in-motion earth stations located on board vessels would not cause unacceptable interference to the terrestrial service in the bands 5 925-6 425 MHz and 14-14.5 GHz		In force
SF.1707-0	2005-04	Methods to facilitate the implementation of large numbers of earth stations in the FSS in areas where terrestrial services are also deployed		In force
SF.1719-0	2005-02	Sharing between point-to-point and point-to-multipoint fixed service and transmitting earth stations of GSO and non-GSO FSS systems in the 27.5-29.5 GHz band		In force
SF.1843-0	2007-10	Methodology for determining the power level for high altitude platform stations ground terminals to facilitate sharing with space station receivers in the bands 47.2-47.5 GHz and 47.9-48.2 GHz		In force

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Series SM	**Spectrum management**			
SM.2061	2014-11	Test procedure for measuring direction finder immunity against multi-path propagation		In force
SM.2060	2014-11	Test procedure for measuring direction finder accuracy		In force
SM.326-7	1998-11	Determination and measurement of the power of amplitude-modulated radio transmitters		In force
SM.328-11	2006-05	Spectra and bandwidth of emissions		In force
SM.329-12	2012-09	Unwanted emissions in the spurious domain		In force
SM.331-4	1978-07	Noise and sensitivity of receivers		In force
SM.332-4	1978-07	Selectivity of receivers		In force
SM.337-6	2008-10	Frequency and distance separations		In force
SM.377-4	2007-02	Accuracy of frequency measurements at stations for international monitoring		In force
SM.378-7	2007-02	Field-strength measurements at monitoring stations		In force
SM.443-4	2007-02	Bandwidth measurement at monitoring stations		In force
SM.575-2	2013-10	Protection of fixed monitoring stations against interference from nearby or stong transmitters		In force
SM.668-1	1997-03	Electronic exchange of information for spectrum management purposes		In force
SM.851-1	1993-04	Sharing between the broadcasting service and the fixed and/or mobile services in the VHF and UHF bands	Note - This Recommendation replaces Rec. ITU-R IS.851	In force
SM.852-0	1992-03	Sensitivity of radio receivers for class of emissions F3E		In force
SM.853-1	1997-10	Necessary bandwidth		In force
SM.854-3	2011-09	Direction finding and location determination at monitoring stations		In force
SM.855-1	1997-10	Multi-service telecommunication systems		In force
SM.856-1	1997-03	New spectrally efficient techniques and systems		In force
SM.1009-1	1995-10	Compatibility between the sound-broadcasting service in the band of about 87-108 MHz and the aeronautical services in the band 108-137 MHz	Note - This Recommendation replaces Rec. ITU-R IS.1009	In force
SM.1045-1	1997-07	Frequency tolerance of transmitters		In force
SM.1046-2	2006-05	Definition of spectrum use and efficiency of a radio system		In force
SM.1047-2	2012-09	National spectrum management		In force
SM.1049-1	1995-10	A method of spectrum management to be used for aiding frequency assignment for terrestrial services in border areas		In force
SM.1050-2	2004-01	Tasks of a monitoring service		In force

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SM.1051-3	2014-08	Priority of identifying and eliminating harmful interference in the band 406-406.1 MHz		In force
SM.1054-0	1994-07	Monitoring of radio emissions from spacecraft at monitoring stations		In force
SM.1055-0	1994-07	The use of spread spectrum techniques		In force
SM.1056-1	2007-04	Limitation of radiation from industrial, scientific and medical (ISM) equipment		In force
SM.1131-0	1995-10	Factors to consider in allocating spectrum on a worldwide basis		In force
SM.1132-2	2001-07	General principles and methods for sharing between radiocommunication services or between radio stations		In force
SM.1133-0	1995-10	Spectrum utilization of broadly defined services		In force
SM.1134-1	2007-02	Intermodulation interference calculations in the land-mobile service		In force
SM.1135-0	1995-10	SINPO and SINPFEMO codes		In force
SM.1138-2	2008-10	Determination of necessary bandwidths including examples for their calculation and associated examples for the designation of emissions	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
SM.1139-0	1995-10	International monitoring system		In force
SM.1140-0	1995-10	Test procedures for measuring aeronautical receiver characteristics used for determining compatibility between the sound-broadcasting service in the band of about 87-108 MHz and the aeronautical services in the band 108-118 MHz		In force
SM.1235-0	1997-03	Performance functions for digital modulation systems in an interference environment		In force
SM.1265-1	2001-07	National alternative allocation methods		In force
SM.1266-0	1997-07	Adaptive MF/HF systems		In force
SM.1268-3	2014-08	Method of measuring the maximum frequency deviation of FM broadcast emissions at monitoring stations		In force
SM.1270-0	1997-07	Additional information for monitoring purposes related to classification and designation of emission		In force
SM.1271-0	1997-10	Efficient spectrum utilization using probabilistic methods		In force
SM.1370-2	2013-08	Design guidelines for developing automated spectrum management systems		In force
SM.1392-2	2011-02	Essential requirements for a spectrum monitoring system for developing countries		In force
SM.1393-0	1999-01	Common formats for the exchange of information between monitoring stations		In force

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SM.1394-0	1999-01	Common format for Memorandum of Understanding between the agreeing countries regarding cooperation in spectrum monitoring matters		In force
SM.1413-3	2014-08	Radiocommunication Data Dictionary for notification and coordination purposes		In force
SM.1446-0	2000-04	Definition and measurement of intermodulation products in transmitter using frequency, phase, or complex modulation techniques		In force
SM.1447-0	2000-04	Monitoring of the radio coverage of land mobile networks to verify compliance with a given licence		In force
SM.1448 Corri	2000-05	Corrigendum to Rec. ITU-R.SM.1448		In force
SM.1448-0	2000-05	Determination of the coordination area around an earth station in the frequency bands between 100 MHz and 105 GHz		In force
SM.1535-0	2001-07	The protection of safety services from unwanted emissions		In force
SM.1537-1	2013-08	Automation and integration of spectrum monitoring systems with automated spectrum management		In force
SM.1539-1	2002-11	Variation of the boundary between the out-of-band and spurious domains required for the application of Recommendations ITU-R SM.1541 and ITU-R SM.329		In force
SM.1540-0	2001-07	Unwanted emissions in the out-of-band domain falling into adjacent allocated bands		In force
SM.1541-5	2013-08	Unwanted emissions in the out-of-band domain		In force
SM.1542-0	2001-07	The protection of passive services from unwanted emissions		In force
SM.1598-0	2002-10	Methods of radio direction finding and location on time division multiple access and code division multiple access signals		In force
SM.1599-1	2007-02	Determination of the geographical and frequency distribution of the spectrum utilization factor for frequency planning		In force
SM.1600-1	2012-09	Technical identification of digital signals		In force
SM.1603-2	2014-08	Spectrum redeployment as a method of national spectrum management		In force
SM.1604-0	2003-02	Guidelines for an upgraded spectrum management system for developing countries		In force
SM.1633-0	2003-06	Compatibility analysis between a passive service and an active service allocated in adjacent and nearby bands		In force
SM.1681-0	2004-05	Measuring of low-level emissions from space stations at monitoring earth stations using noise reduction techniques		In force

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SM.1682-1	2011-09	Methods for measurements on digital broadcasting signals		In force
SM.1708-1	2011-09	Field-strength measurements along a route with geographical coordinate registrations		In force
SM.1723-2	2011-09	Mobile spectrum monitoring unit		In force
SM.1751-0	2006-05	An additional methodology for the evaluation of the effect of interference between radiocommunication networks operating in a shared frequency band		In force
SM.1753-2	2012-09	Methods for measurements of radio noise		In force
SM.1754-0	2006-05	Measurement techniques of ultra-wideband transmissions		In force
SM.1755-0	2006-05	Characteristics of ultra-wideband technology		In force
SM.1756-0	2006-05	Framework for the introduction of devices using ultra-wideband technology		In force
SM.1757-0	2006-05	Impact of devices using ultra-wideband technology on systems operating within radiocommunication services		In force
SM.1792-0	2007-02	Measuring sideband emissions of T-DAB and DVB-T transmitters for monitoring purposes		In force
SM.1794-0	2007-02	Wideband instantaneous bandwidth spectrum monitoring systems		In force
SM.1809-0	2007-04	Standard data exchange format for frequency band registrations and measurements at monitoring stations		In force
SM.1836-0	2007-12	Test procedure for measuring the properties of the IF filter of radio monitoring receivers		In force
SM.1837-1	2013-08	Test procedure for measuring the 3rd order intercept point (IP3) level of radio monitoring receivers		In force
SM.1838-0	2007-12	Test procedure for measuring the noise figure of radio monitoring receivers		In force
SM.1839-1	2011-09	Test procedure for measuring the scanning speed of radio monitoring receivers		In force
SM.1840-0	2007-12	Test procedure for measuring the sensitivity of radio monitoring receivers using analogue-modulated signals		In force
SM.1875-2	2014-08	DVB-T coverage measurements and verification of planning criteria		In force
SM.1879-2	2013-08	The impact of power line high data rate telecommunication systems on radiocommunication systems below 470 MHz		In force
SM.1880-0	2011-02	Spectrum occupancy measurement		In force
SM.1896-0	2011-11	Frequency ranges for global or regional harmonization of short-range devices (SRDs)		In force

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SM.2028-0	2012-09	Protection distance calculation between inductive systems and radiocommunication services using frequencies below 30 MHz		In force
SM.2039-0	2013-08	Spectrum monitoring evolution		In force

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Series SNG	**Satellite news gathering**			
SNG.722-1	1992-03	Uniform technical standards (analogue) for satellite news gathering (SNG)		In force
SNG.770-2	2012-01	Uniform operational procedures for digital satellite news gathering (DSNG)		In force
SNG.771-1	1993-04	Auxiliary coordination satellite circuits for SNG terminals		In force
SNG.1007-1	1995-10	Uniform technical standards (digital) for satellite news gathering (SNG)		In force
SNG.1070-0	1994-09	An automatic transmitter identification system (ATIS) for analogue-modulation transmissions for satellite news gathering and outside broadcasts		In force
SNG.1152-0	1995-10	Use of digital transmission techniques for Satellite News Gathering (SNG) (sound)		In force
SNG.1421-0	1999-11	Common operating parameters to ensure interoperability for transmission of digital television news gathering		In force
SNG.1561-0	2002-03	Digital transmission of high-definition television for satellite news gathering and outside broadcasting		In force
SNG.1710-0	2005-04	Satellite news gathering carriers universal access procedures		In force

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Series TF	**Time signals and frequency standards emissions**			
TF.374-6	2014-12	Precise frequency and time-signal transmissions		In force
TF.457-2	1997-10	Use of the modified Julian date by the standard-frequency and time-signal services		In force
TF.460-6	2002-02	Standard-frequency and time-signal emissions	Note - This version of the Recommendation is incorporated by reference in the Radio Regulations.	In force
TF.486-2	1998-02	Use of UTC frequency as reference in standard frequency and time signal emissions		In force
TF.535-2	1998-02	Use of the term UTC		In force
TF.538-3	1994-03	Measures for random instabilities in frequency and time (phase)		In force
TF.583-6	2003-05	Time codes		In force
TF.686-3	2013-12	Glossary and definitions of time and frequency terms		In force
TF.767-2	2001-03	Use of global navigation satellite systems for high-accuracy time transfer		In force
TF.768-7	2011-04	Standard frequencies and time signals		In force
TF.1010-1	1997-10	Relativistic effects in a coordinate time system in the vicinity of the Earth		In force
TF.1011-1	1997-10	Systems, techniques and services for time and frequency transfer		In force
TF.1153-3	2010-04	The operational use of two-way satellite time and frequency transfer employing pseudorandom noise codes		In force
TF.1876-0	2010-04	Trusted time source for Time Stamp Authority		In force
TF.2018-0	2012-08	Relativistic time transfer in the vicinity of the Earth and in the solar system		In force

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Series V	**Vocabulary and related subjects**			
V.430-3	1990-06	Use of the international system of units (SI)		In force
V.431-7	2000-05	Nomenclature of the frequency and wavelength bands used in telecommunications		In force
V.461-5	1993-04	Graphical symbols and rules for the preparation of documentation in telecommunications		In force
V.573-5	2007-09	Radiocommunication vocabulary		In force
V.574-4	2000-05	Use of the decibel and the neper in telecommunications		In force
V.662-3	2000-05	Terms and definitions		In force
V.663-1	1990-06	Use of certain terms linked with physical quantities		In force
V.665-2	2000-05	Traffic intensity unit		In force
V.666-2	1993-04	Abbreviations and initials used in telecommunications		In force

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Series BO	**Satellite delivery**			
BO.215-7	1990	Systems for the broadcasting satellite service (sound and television)		In force
BO.473-5	1990	Characteristics of receiving equipment for the broadcasting-satellite service		In force
BO.631-4	1990	Frequency sharing between the broadcasting-satellite service (sound and television) and terrestrial services		In force
BO.632-4	1990	Technically suitable methods of modulation		In force
BO.633-3	1986	Orbit and frequency planning in the broadcasting-satellite service		In force
BO.634-4	1990	Measured interference protection ratios for planning television broadcasting systems		In force
BO.807-3	1990	Unwanted emissions from broadcasting-satellite space stations		In force
BO.808-3	1990	Space segment technology		In force
BO.809-3	1990	Inter-regional sharing of the 11.7 to 12.75 GHz frequency band between the broadcasting-satellite service and the fixed-satellite service		In force
BO.810-4	1994	Transmitting and receiving antenna technology and reference patterns for the BSS		In force
BO.811-2	1986	Planning elements including those used in the establishment of plans of frequency assignements and orbital positions for the broadcasting-satellite service in the 12 GHz band		In force
BO.812-4	1994	Computer programs for planning broadcasting-satellite services in the 12 GHz band		In force
BO.814-2	1986	Factors to be considered in the choice of polarization for planning the broadcasting-satellite service		In force
BO.952-2	1990	Technical characteristics of feeder links to broadcasting satellites		In force
BO.953-2	1990	Digital coding for the emission of high-quality sound signals in satellite broadcasting (15 kHz nominal bandwidth)		In force
BO.954-2	1990	Multiplexing methods for the emission of several digital audio signals and also data signals in broadcasting		In force
BO.1073-1	1990	Television standards for the broadcasting-satellite service		In force
BO.1075-2	1994	High-definition television by satellite		In force
BO.1227-2	1998	Satellite broadcasting systems of integrated services digital broadcasting		In force

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BO.1228-0	1990	High quality sound/data standards for the broadcasting satellite service in the 12 GHz band		In force
BO.2006-0	1995	Introduction of satellite and complementary terrestrial digital sound broadcasting in the WARC-92 frequency allocations		In force
BO.2007-2	2014	Considerations for the introduction of broadcasting-satellite service of high-definition television and ultra-high-definition television systems in the band 21.4-22 GHz		In force
BO.2008-1	1998	Digital multiprogramme broadcasting by satellite		In force
BO.2016-0	1997	BSS systems for the 40.5-42.5 GHz band		In force
BO.2019-0	1999	Interference calculation methods		In force
BO.2029-0	2002	Broadcasting-satellite service earth station antenna pattern measurements and related analyses		In force
BO.2071-1	2011	BSS System parameters between 17.3 GHz and 42.5 GHz and associated feeder links	Note - This Report has been published only in English	In force
BO.2101-0	2007	Digital satellite broadcasting system (television, sound and data) with flexible configuration	Note - This Report has been published only in English	In force
BO.2102-0	2007	Multiple-feed BSS receiving antennas	Note - This Report has been published only in English	In force

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Series BS	**Broadcasting service (sound)**			
BS.300-7	1990	Stereophonic or multi-dimensional sound in frequency-modulation sound		In force
BS.302-1	1978	Interference to sound broadcasting in the shared bands in the Tropical Zone		In force
BS.303-3	1986	Determination of the effects of atmospheric noise on the grade of reception in the Tropical Zone		In force
BS.304-3	1990	Fading characteristics for sound broadcasting in the Tropical Zone		In force
BS.401-6	1990	Transmitting antennas in LF and MF broadcasting		In force
BS.458-5	1990	Characteristics of systems in LF, MF and HF broadcasting		In force
BS.463-5	1990	Transmission of several sound programmes or other signals with a single transmitter in frequency-modulation sound broadcasting		In force
BS.464-5	1990	Polarization of emissions in frequency-modulation broadcasting in band 8 (VHF)		In force
BS.472-2	1990	Single-sideband reception for re-broadcasting applications within the Tropical Zone		In force
BS.516-4	1990	Field strength resulting from several electromagnetic fields		In force
BS.799-2	1986	Subjective assessment of quality of sound in broadcasting using digital techniques		In force
BS.943-1	1986	Protection of sound-broadcasting stations against atmospheric electricity		In force
BS.944-0	1982	Theoretical network planning		In force
BS.945-2	1990	Methods for the assessment of multiple interference		In force
BS.946-1	1990	Frequency-planning constraints of FM sound broadcasting in band 8 (VHF)		In force
BS.1058-0	1986	Minimum AF and RF signal-to-noise ratio required for broadcasting in band 7 (HF)		In force
BS.1059-1	1990	Characteristics of single-sideband systems in HF broadcasting		In force
BS.1060-1	1990	Energy saving methods in amplitude modulation broadcasting and their influence on reception quality		In force
BS.1063-0	1986	Prediction and control of re-radiation in MF broadcasting		In force
BS.1065-0	1986	The RF spectrum of frequency-modulation sound-broadcasting transmitters		In force
BS.1067-0	1986	Improvement of the reception quality in automobiles for frequency modulation sound broadcasts in band 8 (VHF)		In force

Number	Approval date	Title	Observation	Status
BS.1071-0	1986	Sampling frequency conversion and synchronization of digital sound signals		In force
BS.1200-0	1990	The effect of delay in sound-programme operations		In force
BS.1201-0	1990	Number of HF sound broadcasting transmitters using a single channel		In force
BS.1203-1	1994	Digital sound broadcasting to vehicular, portable and fixed receivers using terrestrial transmitters in the UHF/VHF bands		In force
BS.1204-0	1990	Automatic synchronization of video and audio after transmission		In force
BS.2001-0	1994	Ancillary services for the visually impaired and hearing impaired in multi-channel sound systems		In force
BS.2002-0	1994	Introduction of satellite and complementary terrestrial digital sound broadcasting in the WARC-92 frequency allocations		In force
BS.2037-0	2004	Evaluating fields from terrestrial broadcasting transmitting systems operating in any frequency band for assessing exposure to non-ionizing radiation		In force
BS.2054-4	2014	Audio levels and loudness		In force
BS.2103-1	2008	Short-term loudness metering	Note - This Report has been published only in English	In force
BS.2104-0	2007	FM modulator interference to broadcast services	Note - This Report has been published only in English	In force
BS.2105-0	2007	Information relating to the HF broadcasting service	Note - This Report has been published only in English	In force
BS.2144-0	2009	Planning parameters and coverage for Digital Radio Mondiale (DRM) broadcasting at frequencies below 30 MHz	Note - This Report has been published only in English	In force
BS.2159-7	2015	Multichannel sound technology in home and broadcasting applications		In force
BS.2161-0	2009	Low delay audio coding for broadcasting applications	Note - This Report has been published only in English	In force
BS.2208-0	2010	Possible use of VHF Band I for digital sound broadcasting services	Note - This Report has been published only in English	In force
BS.2213-1	2013	Impact of audio signal processing and compression techniques on terrestrial FM sound broadcasting emissions at VHF		In force
BS.2214-0	2011	Planning parameters for terrestrial digital sound broadcasting systems in VHF bands	Note - This Report has been published only in English	In force

Number	Approval date	Title	Observation	Status
BS.2217-1	2012	Compliance material for Recommendation ITU-R BS.1770	Note - This Report has been published only in English	In force
BS.2251-1	2012	Digital Radio Mondiale in the 26 MHz band (25 670-26 100 kHz)	Note - This Report has been published only in English	In force
BS.2266-2	2014	Framework of future audio broadcasting systems		In force
BS.2300-0	2014	Methods for assessor screening		In force
BS.2340-0	2014	Sharing between the mobile service and the broadcasting service in the 1 452-1 492 MHz frequency band		In force

Number	Approval date	Title	Observation	Status
Series BT	**Broadcasting service (television)**			
BT.476-1	1974	Colorimetric standards in colour television		In force
BT.482-1	1986	Recommended characteristics for collective and individual antenna systems for domestic reception of signal from terrestrial transmitters		In force
BT.485-1	1982	Contribution to the planning of broadcasting services		In force
BT.624-4	1990	Characteristics of television systems		In force
BT.628-4	1990	Automatic monitoring and control of television operation		In force
BT.629-4	1990	Digital coding of colour television signals		In force
BT.801-4	1990	The present state of high-definition television		In force
BT.802-3	1990	Additional services using broadcasting channels		In force
BT.804-0	1978	Definitions of parameters for automatic measurement of televison insertion test signals		In force
BT.956-2	1990	Data broadcasting systems: signal and service quality field trials and theoretical studies		In force
BT.958-1	1986	Possibilities for incorporating the sound information in the video signal in terrestrial television		In force
BT.959-2	1990	Experimental results relating picture quality to objective magnitude of impairment		In force
BT.962-2	1990	The filtering, sampling and multiplexing for digital encoding of colour television signals		In force
BT.1079-1	1990	General characteristics of a conditional-access broadcasting system		In force
BT.1080-1	1990	International exchange of television programmes with data-encoded captions (sub-titles)		In force
BT.1081-1	1990	The relative timing of sound and picture signals		In force
BT.1082-1	1990	Studies toward the unification of picture assessment methodology		In force
BT.1088-2	2009	Interfaces for digital video signals in 525-line and 625-line television systems		S
BT.1206-0	1990	Methods for picture quality assessment in relation to impairments from digital coding of television signals		In force
BT.1207-0	1990	Reference model for data broadcasting		In force
BT.1208-0	1990	Telesoftware Services		In force
BT.1209-0	1990	Measures for the avoidance of possible interference generated by digital television studio equipment		In force
BT.1210-0	1990	Error-protection strategies for data broadcasting services		In force

Number	Approval date	Title	Observation	Status
BT.1212-0	1990	Measurements and test signals for digitally encoded colour television signals		In force
BT.1213-0	1990	Test pictures and sequences for subjective assessments of digital codecs		In force
BT.1217-0	1990	Future development of HDTV		In force
BT.1218-0	1990	Measurements in HDTV		In force
BT.1219-0	1990	Synchronizing signals for the component digital studio		In force
BT.1220-0	1990	Wider aspect ratio television systems		In force
BT.1223-0	1990	A layered model approach for digital television		In force
BT.1225-0	1990	Data broadcasting systems and services in an HDTV environment		In force
BT.1226-0	1990	Characteristic of a programme delivery control (PDC) system for video recording		In force
BT.1237-0	1990	Satellite news gathering		In force
BT.2003-0	1994	The harmonization of HDTV standards between broadcast and non-broadcast applications		In force
BT.2017-0	1998	Stereoscopic television MPEG-2 multi-view profile		In force
BT.2020-1	2000	Objective quality assessment technology in a digital environment		In force
BT.2025-0	2000	Progress on development and implementation of interactivity broadcasting systems and services		In force
BT.2035-2	2008	Guidelines and techniques for the evaluation of digital terrestrial television broadcasting systems including assessment of their coverage areas		In force
BT.2036-0	2003	The problem of unauthorized redistribution of broadcast content via the Internet		In force
BT.2042-5	2011	Technologies in the area of extremely high resolution imagery	Note - This Report has been published only in English	In force
BT.2043-0	2004	Analogue television systems currently in use throughout the world		In force
BT.2044-0	2004	Tolerable round-trip time delay for sound-programme and television broadcast programme inserts - Context and rationale		In force
BT.2049-6	2013	Broadcasting of multimedia and data applications for mobile reception		In force
BT.2052-0	2005	Protection of end-users' privacy in interactive broadcasting systems	Note - This Report has been published only in English	In force
BT.2053-2	2009	Large screen digital imagery	Note - This Report has been published only in English	In force

Number	Approval date	Title	Observation	Status
BT.2069-6	2015	Tuning ranges and operational characteristics of terrestrial electronic news gathering (ENG), television outside broadcast (TVOB) and electronic field production (EFP) systems		In force
BT.2070-1	2009	Broadcasting of content protection signalling for television		In force
BT.2075-0	2006	Protection requirements for terrestrial television broadcasting services in the 620-790 MHz band against potential interference from GSO and non-GSO broadcasting-satellite systems and networks	Note - This Report has been published only in English	In force
BT.2088-0	2006	Stereoscopic television		In force
BT.2129-0	2008	User requirements for a Flat Panel Display (FPD) as a Master monitor in an HDTV programme production environment	Note - This Report has been published only in English	In force
BT.2137-0	2009	Coverage prediction methods and planning software for digital terrestrial television broadcasting (DTTB) networks	Note - This Report has been published only in English	In force
BT.2138-0	2009	Radiation pattern characteristics of UHF television receiving antennas	Note - This Report has been published only in English	In force
BT.2139-0	2009	Diversity reception of digital terrestrial television broadcasting signals	Note - This Report has been published only in English	In force
BT.2140-8	2015	Transition from analogue to digital terrestrial broadcasting		In force
BT.2142-1	2010	The effect of the scattering of digital television signals from a wind turbine	Note - This Report has been published only in English	In force
BT.2143-2	2010	Boundary coverage assessment of digital terrestrial television broadcasting signals	Note - This Report has been published only in English	In force
BT.2160-4	2013	Features of three-dimensional television video systems for broadcasting		In force
BT.2207-2	2012	Accessibility to broadcasting services for persons with disabilities	Note - This Report has been published only in English	In force
BT.2209-1	2013	Calculation model for SFN reception and reference receiver characteristics of ISDB-T system		In force
BT.2215-4	2014	Measurements of Protection Ratios and Overload Thresholds for Broadcast TV Receivers		In force
BT.2216-0	2011	A perspective of the hierarchy of digital television image systems based on human viewing behaviour	Note - This Report has been published only in English	In force
BT.2245-1	2014	HDTV and UHDTV test materials for assessment of picture quality		In force
BT.2246-4	2015	The present state of ultra-high definition television		In force

Number	Approval date	Title	Observation	Status
BT.2247-2	2013	Field measurement and analysis of compatibility between DTTB and IMT		In force
BT.2248-0	2011	A conceptual method for the representation of loss of broadcast coverage	Note - This Report has been published only in English	In force
BT.2249-4	2013	Digital broadcasting and multimedia video information systems	Note - This Report has been published only in English	In force
BT.2250-0	2012	Delivery of wide colour gamut image content through SDTV and HDTV delivery systems	Note - This Report has been published only in English	In force
BT.2252-1	2013	Objective quality coverage assessment of digital terrestrial television broadcasting signals of Systems A and B		In force
BT.2253-0	2012	GPS timing receivers for DVB-T SFN application: 10 MHz phase recovery	Note - This Report has been published only in English	In force
BT.2254-2	2014	Frequency and network planning aspects of DVB-T2		In force
BT.2265-1	2014	Guidelines for the assessment of interference into the broadcasting service		In force
BT.2267-4	2015	Integrated broadcast-broadband systems		In force
BT.2268-0	2013	Integration of an SDI infrastructure with an IP-based infrastructure	Note - This Report has been published only in English	In force
BT.2293-1	2014	Principles for the comfortable viewing of stereoscopic three-dimensional television (3DTV) images		In force
BT.2294-0	2013	Construction technique of DTTB relay station network for ISDB-T		In force
BT.2295-0	2014	Digital terrestrial broadcasting systems		In force
BT.2296-0	2013	Example of application of Recommendation ITU-R BT.1895 and Report ITU-R BT.2265 to assess interference to the broadcasting service caused by the impact of IMT systems on existing head amplifiers of collective television distribution systems		In force
BT.2298-0	2014	Reference model to be used for the assessment of interference into the television broadcasting service in order to take into account non-linearity in the television radiofrequency receiving system		In force
BT.2299-0	2014	Broadcasting for public warning, disaster mitigation and relief		In force
BT.2301-0	2014	National field reports on the introduction of IMT in the bands with co-primary allocation to the broadcasting and the mobile services		In force

Number	Approval date	Title	Observation	Status
BT.2302-0	2014	Spectrum requirements for terrestrial television broadcasting in the UHF frequency band in Region 1 and the Islamic Republic of Iran		In force
BT.2337-0	2014	Sharing and compatibility studies between digital terrestrial television broadcasting and terrestrial mobiel broadband applications, including IMT, in the frequency band 470-694/698 MHz		In force
BT.2338-0	2014	Services ancillary to broadcasting/services ancillary to programme making spectrum use in Region 1 and the implication of a co-primary allocation for the mobile service in the frequency band 694-790 MHz		In force
BT.2339-0	2015	Co-channel sharing and compatibility studies between digital terrestrial television broadcasting and international mobile telecommunication in the frequency band 694-790 MHz in the GE06 planning area		In force
BT.2341-0	2014	TV receiver subjective picture failure thresholds and the associated minimum quasi error free levels for good quality reception		In force
BT.2342-0	2015	Production, emission and exchange of closed captions for all worldwide language character sets (latin and non-latin)		In force
BT.2343-0	2015	Collection of field trials of UHDTV over DTT networks		In force
BT.2344-0	2015	Information on technical parameters, operational characteristics and deployment scenarios of SAB/SAP as utilized in broadcasting		In force

Number	Approval date	Title	Observation	Status
Series F	**Fixed service**			
F.2058-0	2006	Design techniques applicable to broadband fixed wireless access systems conveying Internet protocol packets or asynchronous transfer mode cells		In force
F.2059-0	2005	Antenna characteristics of point-to-point fixed wireless systems to facilitate coordination in high spectrum use areas	Note - This Report is published only in English	In force
F.2060 -0	2006	Fixed service use in the IMT-2000 transport network		In force
F.2061-0	2006	HF fixed radiocommunications systems		In force
F.2062-0	2005	Enhanced high frequency digital radiocommunication systems capable of providing enhanced applications		In force
F.2086-1	2010	Technical and operational characteristics and applications of broadband wireless access in the fixed service	Note - This Report has been published only in English	In force
F.2087-0	2006	Requirements for high frequency (HF) radiocommunication systems in the fixed service		In force
F.2106-1	2010	Fixed service applications using free-space optical links	Note - This Report has been published only in English	In force
F.2107-2	2011	Characteristics and applications of fixed wireless systems operating in frequency ranges between 57 GHz and 134 GHz	Note - This Report has been published only in English	In force
F.2108-0	2007	Fixed service system parameters for different frequency bands	Note - This Report has been published only in English	In force
F.2239-0	2011	Coexistence between fixed service operating in 71-76 GHz, 81-86 GHz and 92-94 GHz bands and passive services	Note - This Report has been published only in English	In force
F.2240-0	2011	Interference analysis modelling for sharing between HAPS gateway links in the fixed service and other systems/services in the range 5 850-7 075 MHz	Note - This Report has been published only in English	In force
F.2263-0	2012	Reliability calculations for adaptive HF fixed service networks	Note - This Report has been published only in English	In force
F.2323-0	2014	Fixed service use and future trends		In force
F.2326-0	2014	Sharing and compatibility study between indoor International Mobile Telecommunication small cells and fixed service stations in the 5 925-6 425 MHz frequency band		In force
F.2327-0	2014	Sharing and compatibility study between International Mobile Telecommunication systems and point-to-point fixed wireless systems in the frequency band 4 400-4 990 MHz		In force

Number	Approval date	Title	Observation	Status
F.2328-0	2014	Sharing and compatibility between international mobile telecommunication systems and fixed service systems in the 3 400-4 200 MHz frequency range		In force
F.2331-0	2014	Sharing and compatibility between international mobile telecommunication systems and fixed service systems in the 470-694/698 MHz frequency range		In force
F.2333-0	2014	Sharing and compatibility study between international mobile telecommunication and the fixed service in the frequency band 1 350-1 527 MHz		In force

Number	Approval date	Title	Observation	Status
Series M	**Mobile, radiodetermination, amateur and related satellite services**			
M.319-7	1990	Characteristics of equipment and principles governing the assignment of frequency channels between 25 and 1000 MHz for land mobile services		In force
M.588-1	1978	Black and white facsimile transmissions over combined metallic and radio circuits in the maritime mobile service and in the maritime mobile-satellite service		In force
M.739-1	1986	Interference due to intermodulation products in the land mobile service between 25 and 100 MHz		In force
M.760-3	2004	Link power budgets for a maritime mobile-satellite service		In force
M.766-2	1990	Feasibility of frequency sharing between the GPS and other services		In force
M.778-2	1990	Wireless communication systems for persons with impaired hearing		In force
M.902-1	1990	Leaky-feeder systems in the land mobile service		In force
M.904-2	1990	Automatic determination of location and guidance in the land mobile service		In force
M.908-1	1986	Channel requirements for a digital selective-calling system		In force
M.910-1	1986	Sharing between the maritime mobile service and the aeronautical radionavigation service in the band 415-526.5 kHz		In force
M.914-2	1990	Efficient use of the radio spectrum by radar stations in the radiodetermination service		In force
M.918-1	1990	Availability of communications circuits in the maritime mobile-satellite service		In force
M.927-2	1990	General considerations relative to harmful interference from the viewpoint of the aeronautical mobile service and the aeronautical radionavigation service		In force
M.929-2	1990	Compatibility between the broadcasting service in the band of about 87-108 MHz and the aeronautical services in the band 108-136 MHz		In force
M.1021-0	1986	Equipment characteristics for digital transmission in the land mobile services		In force
M.1023-1	1990	Frequency sharing between the land mobile service dans the broadcasting service (television) below 1 GHz		In force
M.1025-1	1990	Technical and operating characteristics of cordless telephones		In force
M.1049-1	1990	Control of passive intermodulation products		In force
M.1153-0	1990	Future public land mobile telecommunication systems		In force

Number	Approval date	Title	Observation	Status
M.1155-0	1990	Adaptation of mobile radiocommunication technology to the needs of developing countries		In force
M.1156-0	1990	Digital cellular public land mobile telecommunication systems (DCPLMTS)		In force
M.1157-0	1990	Integration of public mobile radiocommunication systems		In force
M.1158-0	1990	Data communication in the maritime mobile services using MF, HF and VHF frequencies		In force
M.1159-0	1990	Characteristics of an automatic identification system for VHF and UHF transmitting stations in the maritime mobile service		In force
M.1161-0	1990	Use of MF/HF DSC for automatic connection of calls in the maritime-mobile service MF and HF bands to the public switched network		In force
M.1163-0	1990	Coordination area of an earth station of the fixed-satellite service sharing the same frequency band with the radionavigation service		In force
M.1165-0	1990	Transmission of digital data for the updating of electronic chart display systems (ECDIS)		In force
M.1166-0	1990	Technical characteristics of GPS differential transmissions from maritime radiobeacons		In force
M.1169-0	1990	Sea surface multipath effects in the aeronautical mobile-satellite service		In force
M.1186-0	1990	Use of frequency band 4 200 MHz to 4 400 MHz by radio altimeters		In force
M.2009-0	1995	Direct-dial telephone systems for the maritime mobile service		In force
M.2010-1	1997	Improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service		In force
M.2013-0	1997	Wind Profiler Radars		In force
M.2014-2	2012	Digital land mobile systems for dispatch traffic	Note - This Report has been published only in English	In force
M.2023-0	2000	Spectrum requirements for International Mobile Telecommunications-2000 (IMT-2000)		In force
M.2024-0	2000	Summary of spectrum usage survey results		In force
M.2026-0	2001	Adaptability of real zero single sideband technology to HF data communications		In force
M.2027-0	2001	Engineering guidance for operators to upgrade shore based facilities to operate the global maritime distress and safety system in the A1, A2 and A3/A4 sea areas		In force
M.2030-0	2003	Coexistence between IMT-2000 time division duplex and frequency division duplex terrestrial radio interface technologies around 2 600 MHz operating in adjacent bands and in the same geographical area		In force

Number	Approval date	Title	Observation	Status
M.2031-0	2003	Compatibility between WCDMA 1800 downlink and GSM 1900 uplink		In force
M.2032-0	2003	Tests illustrating the compatibility between maritime radionavigation radars and emissions from radiolocation radars in the band 2 900-3 100 MHz		In force
M.2033-0	2003	Radiocommunication objectives and requirements for public protection and disaster relief		In force
M.2034-0	2003	Impact of radar detection requirements of dynamic frequency selection on 5 GHz wireless access system receivers		In force
M.2038-0	2004	Technology trends		In force
M.2039-3	2014	Characteristics of terrestrial IMT-2000 systems for frequency sharing/interference analyses		In force
M.2040-0	2004	Adaptive antennas concepts and key technical aspects		In force
M.2041-0	2003	Sharing and adjacent band compatibility in the 2.5 GHz band between the terrestrial and satellite components of IMT-2000		In force
M.2045-0	2004	Mitigating techniques to address coexistence between IMT-2000 time division duplex and frequency division duplex radio interface technologies within the frequency range 2 500-2 690 MHz operating in adjacent bands and in the same geographical area		In force
M.2050-0	2004	Test results illustrating the susceptibility of maritime radionavigation radars to emissions from digital communication and pulsed systems in the bands 2 900-3 100 MHz and 9 200-9 500 MHz		In force
M.2072-0	2006	World mobile telecommunication market forecast	Note - This Report has been published only in English	In force
M.2073-0	2006	Feasibility and practicality of prioritization and real-time pre emptive access between different networks of mobile-satellite service in the bands 1 525-1 559 MHz and 1 626.5-1 660.5 MHz	Note - This Report has been published only in English	In force
M.2074-0	2006	Radio aspects for the terrestrial component of IMT-2000 and systems beyond IMT-2000	Note - This Report has been published only in English	In force
M.2076-0	2006	Factors that mitigate interference from radiolocation and Earth exploration-satellite service/space research service (active) radars to maritime and aeronautical radionavigation radars in the 9.0-9.2 and 9.3-9.5 GHz bands and between Earth exploration-satellite service/ space research service (active) radars and radiolocation radars in the 9.3-9.5 and 9.8-10.0 GHz bands		In force

Number	Approval date	Title	Observation	Status
M.2077-0	2006	Traffic forecasts and estimated spectrum requirements for the satellite component of IMT 2000 and systems beyond IMT-2000 for the period 2010 to 2020		In force
M.2078-0	2006	Estimated spectrum bandwidth requirements for the future development of IMT-2000 and IMT-Advanced		In force
M.2079-0	2006	Technical and operational information for identifying Spectrum for the terrestrial component of future development of IMT-2000 and IMT-Advanced		In force
M.2080-0	2006	Consideration of sharing conditions and usage in the 4-10 MHz band		In force
M.2081-0	2006	Test results illustrating compatibility between representative radionavigation systems and radiolocation and EESS systems in the band 8.5-10 GHz	Note - This Report has been published only in English	In force
M.2082-0	2006	Modifications of Appendix 17 of the Radio Regulations (Frequencies and channelling arrangements in the high-frequency bands for the maritime mobile service) for a possible solution of agenda item 1.13 (Resolution 351 (WRC-03))		In force
M.2083-0	2006	Level of unwanted emissions of mobile-satellite service feeder links operating in the bands 1 390-1 392 MHz (Earth-to-space) and 1 430-1 432 MHz (space-to-Earth)	Note - This Report has been published only in English	In force
M.2084-0	2007	Satellite detection of automatic identification system messages		In force
M.2085-1	2011	Role of the amateur and amateur-satellite services in support of disaster mitigation and relief		In force
M.2109-0	2007	Sharing studies between IMT Advanced systems and geostationary satellite networks in the fixed-satellite service in the 3 400-4 200 and 4 500-4 800 MHz frequency bands	Note - This Report has been published only in English	In force
M.2110-0	2007	Sharing studies between radiocommunication services and IMT systems operating in the 450-470 MHz band	Note - This Report has been published only in English	In force
M.2111-0	2007	Sharing studies between IMT-Advanced and the radiolocation service in the 3 400-3 700 MHz bands	Note - This Report has been published only in English	In force
M.2112-0	2007	Compatibility/sharing of airport surveillance radars and meteorological radar with IMT systems within the 2 700-2 900 MHz band	Note - This Report has been published only in English	In force
M.2113-1	2009	Sharing studies in the 2 500-2 690 MHz band between IMT-2000 and fixed broadband wireless access systems including nomadic applications in the same geographical area	Note - This Report has been published only in English	In force

Number	Approval date	Title	Observation	Status
M.2114-0	2007	Key technical and operational characteristics for access technologies to support IP applications over land mobile systems	Note - This Report has been published only in English	In force
M.2115-1	2009	Testing procedures for implementation of dynamic frequency selection	Note - This Report has been published only in English	In force
M.2116-2	2013	Characteristics of broadband wireless access systems operating in the land mobile service for use in sharing studies		In force
M.2117-1	2012	Software-defined radio in the land mobile, amateur and amateur-satellite services	Note - This Report has been published only in English	In force
M.2118-0	2007	Compatibility between proposed systems in the aeronautical mobile service and the existing fixed-satellite service in the 5 091-5 250 MHz band	Note - This Report has been published only in English	In force
M.2119-0	2007	Sharing between aeronautical mobile telemetry systems for flight testing and other systems operating in the 4 400-4 940 and 5 925-6 700 MHz bands	Note - This Report has been published only in English	In force
M.2120-0	2007	Initial estimate of new aviation AM(R)S spectrum requirements	Note - This Report has been published only in English	In force
M.2121-0	2007	Guidelines for AM(R)S sharing studies in the 960-1 164 MHz band	Note - This Report has been published only in English	In force
M.2122-0	2007	EMC assessment of shore-based electronic navigation (eNAV) infrastructure and new draft Standards for data exchange in the VHF maritime mobile band (156-174 MHz)	Note - This Report has been published only in English	In force
M.2123-0	2007	Long range detection of automatic identification system (AIS) messages under various tropospheric propagation conditions	Note - This Report has been published only in English	In force
M.2124-0	2007	Interference calculations to assess sharing between the mobile-satellite service and space research (passive) service in the band 1 668-1 668.4 MHz	Note - This Report has been published only in English	In force
M.2128-0	2008	Test results and simulations illustrating the effective duty cycle of frequency modulated pulsed radiolocation and EESS system waveforms in marine radionavigation receivers	Note - This Report has been published only in English	In force
M.2133-0	2008	Requirements, evaluation criteria and submission templates for the development of IMT-Advanced	Note - This Report is published only in English	In force
M.2134-0	2008	Requirements related to technical performance for IMT-Advanced radio interface(s)	Note - This Report has been published only in English	In force
M.2135-1	2009	Guidelines for evaluation of radio interface technologies for IMT-Advanced	Note - This Report has been published only in English	In force

Number	Approval date	Title	Observation	Status
M.2136-0	2009	Theoretical analysis and testing results pertaining to the determination of relevant interference protection criteria of ground-based meteorological radars	Note - This Report has been published only in English	In force
M.2141-0	2009	Study of the isolation between VHF land mobile radio antennas in close proximity	Note - This Report has been published only in English	In force
M.2146-0	2009	Coexistence between IMT-2000 CDMA-DS and IMT-2000 OFDMA TDD WMAN in the 2 500-2 690 MHz band operating in adjacent bands in the same area	Note - This Report has been published only in English	In force
M.2147-0	2009	Assessment of potential interference between FM broadcasting stations operating in the band around 87-108 MHz and aeronautical VDL Mode 4 systems in the band 112-117.975 MHz operating in the AM(R)S	Note - This Report has been published only in English	In force
M.2149-1	2011	Use and examples of mobile-satellite service systems for relief operation in the event of natural disasters and similar emergencies	Note - This Report has been published only in English	In force
M.2168-1	2010	Compatibility between a proposed new aeronautical mobile (R) service (AM(R)S) system and both radionavigation-satellite service (RNSS) operating in the 5 000-5 010 MHz band and radio astronomy in the adjacent band 4 990-5 000 MHz	Note - This Report has been published only in English	In force
M.2169-0	2009	Improved satellite detection of AIS	Note - This Report has been published only in English	In force
M.2170-0	2009	Compatibility analysis and results for radiolocation systems planned to operate in the 15.4 to 17.3 GHz band and aircraft landing system operating in the 15.4-15.7 GHz band as well as the radio astronomy service operating in the adjacent band 15.35-15.40 GHz, FSS systems and aeronautical radionavigation systems	Note - This Report has been published only in English	In force
M.2171-0	2009	Characteristics of unmanned aircraft systems and spectrum requirements to support their safe operation in non-segregated airspace	Note - This Report has been published only in English	In force
M.2172-1	2011	Radiolocation service sharing feasibility in the frequency band 154-156 MHz	Note - This Report has been published only in English	In force
M.2175-0	2010	Simultaneous dual linear polarization transmission technique using digital cross-polarization cancellation for MSS systems	Note - This Report has been published only in English	In force
M.2176-1	2012	Vision and requirements for the satellite radio interface(s) of IMT-Advanced	Note - This Report has been published only in English	In force
M.2197-0	2010	Technical characteristics and operational objectives for Wireless avionics intra-communications (WAIC)	Note - This Report has been published only in English	In force

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M.2198-0	2010	The outcome of the evaluation, consensus building and decision of the IMT-Advanced process (steps 4-7), including characteristics of IMT-Advanced radio interfaces	Note - This Report has been published only in English	In force
M.2200-0	2010	Characteristics of amateur radio stations in the range 415-526.5 kHz for sharing studies	Note - This Report has been published only in English	In force
M.2201-0	2010	Utilization of the 495-505 kHz band by the maritime mobile service for the digital broadcasting of safety and security related information from shore-to-ships	Note - This Report has been published only in English	In force
M.2202-0	2010	Maritime broadband wireless mesh networks	Note - This Report has been published only in English	In force
M.2203-0	2010	Compatibility of amateur service stations with existing services in the range 415-526.5 kHz	Note - This Report has been published only in English	In force
M.2204-0	2010	Characteristics and spectrum considerations for sense and avoid systems use on Unmanned Aircraft Systems (UAS)	Note - This Report has been published only in English	In force
M.2205-0	2010	Results of studies of the AM(R)S allocation in the band 960-1 164 MHz and of the AMS(R)S allocation in the band 5 030-5 091 MHz to support control and non-payload communications links for unmanned aircraft systems	Note - This Report has been published only in English	In force
M.2206-0	2010	Sharing between the aeronautical mobile service and the fixed service in the band 37-38 GHz	Note - This Report has been published only in English	In force
M.2218-0	2011	Traffic forecasts and estimated spectrum requirements for future development of the mobile-satellite service in the range 4 16 GHz	Note - This Report has been published only in English	In force
M.2219-0	2011	Radionavigation-satellite service applications for the 5 000-5 010 MHz and 5 010-5 030 MHz bands	Note - This Report has been published only in English	In force
M.2220-0	2011	Calculation method to determine aggregate interference parameters of pulsed RF systems operating in and near the bands 1 164-1 215 MHz and 1 215 1 300 MHz that may impact radionavigation-satellite service airborne and ground-based receivers operating in those frequency bands	Note - This Report has been published only in English	In force
M.2221-0	2011	Feasibility of MSS operations in certain frequency bands	Note - This Report has been published only in English	In force
M.2224-0	2011	System design guidelines for wide area sensor and/or actuator network (WASN) systems	Note - This Report has been published only in English	In force

Number	Approval date	Title	Observation	Status
M.2225-0	2011	Introduction to cognitive radio systems in the land mobile service	Note - This Report has been published only in English	In force
M.2226-0	2011	Description of amateur and experimental operation between 415 and 526.5 kHz in some countries	Note - This Report has been published only in English	In force
M.2227-1	2014	Multiple Gigabit Wireless Systems in frequencies around 60 GHz		In force
M.2228-0	2011	Advanced intelligent transport systems (ITS) radiocommunications	Note - This Report has been published only in English	In force
M.2229-0	2011	Compatibility study to support line-of-sight control and non-payload communications links for unmanned aircraft systems proposed in the frequency band 15.4-15.5 GHz	Note - This Report has been published only in English	In force
M.2230-0	2011	Frequency sharing between unmanned aircraft systems for beyond line of sight control and non-payload communications links and other existing and planned services in the frequency bands 13.25-13.40 GHz, 15.4-15.7 GHz, 22.5-22.55 GHz and 23.55-23.60 GHz	Note - This Report has been published only in English	In force
M.2231-1	2014	Use of Appendix 18 to the Radio Regulations for the maritime mobile service		In force
M.2232-0	2011	Spectrum requirements for surface applications at airports in the 5 GHz range	Note - This Report has been published only in English	In force
M.2233-0	2011	Examples of technical characteristics for unmanned aircraft control and non-payload communications links	Note - This Report has been published only in English	In force
M.2234-0	2011	The feasibility of sharing sub-bands between oceanographic radars operating in the radiolocation service and fixed and mobile services within the frequency band 3-50 MHz	Note - This Report has been published only in English	In force
M.2235-0	2011	Aeronautical mobile (route) service sharing studies in the frequency band 960-1 164 MHz	Note - This Report has been published only in English	In force
M.2236-0	2011	Compatibility study to support the line of sight control and non-payload communication links for unmanned aircraft systems proposed in the frequency bands 5 000-5 010 and 5 010-5 030 MHz	Note - This Report has been published only in English	In force
M.2237-0	2011	Compatibility study to support the line-of-sight control and non-payload communications link(s) for unmanned aircraft systems proposed in the frequency band 5 030-5 091 MHz	Note - This Report has been published only in English	In force
M.2238-0	2011	Compatibility study to support line of sight control and non-payload communications links for unmanned aircraft systems proposed in the frequency band 5 091-5 150 MHz	Note - This Report has been published only in English	In force

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M.2241-0	2011	Compatibility studies in relation to Resolution 224 in the bands 698-806 MHz and 790-862 MHz	Note - This Report has been published only in English	In force
M.2242-0	2011	Cognitive Radio Systems specific for IMT Systems	Note - This Report has been published only in English	In force
M.2243-0	2011	Assessment of the global mobile broadband deployments and forecasts for International Mobile Telecommunications	Note - This Report has been published only in English	In force
M.2244-0	2011	Isolation between antennas of IMT base stations in the land mobile service	Note - This Report has been published only in English	In force
M.2262-0	2012	Potential interference between the ICAO standard microwave landing system (MLS) operating above 5 030 MHz and radionavigation-satellite service(RNSS) systems in the band 5 000-5 030 MHz	Note - This Report has been published only in English	In force
M.2264-0	2012	Guidance for the development of band plans with contiguous bandwidths for mobile broadband applications for use in spectrum planning	Note - This Report has been published only in English	In force
M.2279	2013	Outcome of the evaluation, consensus building and decision of the IMT-Advanced satellite process (Steps 4 to 7), including characteristics of IMT-Advanced satellite radio interfaces		In force
M.2281-0	2014	Characteristics of amateur radio stations in the range 5 250-5 450 kHz for sharing studies		In force
M.2282-0	2013	Systems for public mobile communications with aircraft		In force
M.2283-0	2013	Technical characteristics and spectrum requirements of Wireless Avionics Intra-Communications systems to support their safe operation		In force
M.2284	2013	Compatibility of radio-navigation satellite service (space-to-Earth) systems and radars operating in the frequency band 1 215-1 300 MHz		In force
M.2285-0	2014	Maritime survivor locating systems and devices (man overboard systems) - An overview of systems and their mode of operation		In force
M.2286-0	2013	Operational characteristics of aeronautical mobile telemetry		In force
M.2287-0	2014	Automatic identification system VHHF data link loading		In force
M.2288-0	2013	Digital voice communication system on MF/HF radio channels of the maritime mobile service for shore-to-ship/ship-to-shore applications		In force
M.2289-0	2013	Future radio aspect parameters for use with the terrestrial IMT spectrum estimate methodology of Recommendation ITU-R M.1768-1		In force

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M.2290-0	2014	Future spectrum requirements estimate for terrestrial IMT		In force
M.2291-0	2013	The use of International Mobile Telecommunications for broadband public protection and disaster relief applications		In force
M.2292-0	2014	Characteristics of terrestrial IMT-Advanced systems for frequency sharing/interference analyses		In force
M.2305-0	2014	Consideration of aggregate radio frequency interference event potentials from multiple Earth exploration-satellite service systems on radionavigation-satellite service receivers operating in the 1 215-1 300 MHz frequency band		In force
M.2316-0	2014	Assessment of interference to radars operating within the 2 700-2 900 MHz band from broadband wireless systems operating in adjacent frequency bands		In force
M.2317-0	2014	VHF data exchange system channel sounding campaign		In force
M.2318-0	2014	Consideration of the aeronautical mobile (route), aeronautical mobile, and aeronautical radionavigation services allocations to accommodate wireless avionics intra-communication		In force
M.2319-0	2014	Compatibility analysis between wireless avionics intra-communication systems and systems in the existing services in the frequency band 4 200-4 400 MHz		In force
M.2320-0	2014	Future technology trends of terrestrial IMT systems		In force
M.2321-0	2014	Guidelines for the use of spectrum by oceanographic radars in the frequency range 3 to 50 MHz		In force
M.2322-0	2014	Systems characteristics and compatibility of automotive radars operating in the frequency band 77.5-78 GHz for sharing studies		In force
M.2324-0	2014	Sharing studies between potential International Mobile Telecommunication systems and aeronautical mobile telemetry systems in the frequency band 1 429-1 535 MHz		In force
M.2330-0	2014	Cognitive radio systems (CRSs) in the land mobile service		In force
M.2334-0	2014	Passive and active antenna systems for base stations of IMT systems		In force
M.2335-0	2014	Sharing and compatibility analysis of possible amateur service stations with fixed, land mobile, and radiolocation services in the frequency band 5 250-5 450 kHz and the aeronautical mobile service in an adjacent band		In force

Number	Approval date	Title	Observation	Status
M.2127-0	2008	Example of maritime wideband VHF data system	Note - This Report has been published only in English	In force

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Series P	**Radiowave propagation**			
P.227-3	1982	General methods of measuring the field strength and related parameters		In force
P.228-3	1986	Measurement of field strength for VHF (metric) and UHF (decimetric) broadcast services, including television		In force
P.239-7	1990	Propagation statistics required for broadcasting services using the frequency range 30 to 1 000 MHz		In force
P.880-2	1990	Short distance radiowave propagation in special environements	Note - Suppressed (RA-1990)	In force
P.2011-1	1999	Propagation at frequencies above the basic MUF		In force
P.2089-0	2006	The analysis of radio noise data	Note - This Report is published only in English	In force
P.2090-0	2006	Measuring the input parameters for the radiative energy transfer model of vegetation attenuation	Note - This Report is published only in English	In force
P.2097-0	2007	Transionospheric radio propagation – The Global Ionospheric Scintillation Model (GISM)	Note - This Report has been published only in English	In force
P.2145-1	2013	Model parameters for an urban environment for the physical-statistical wideband LMSS model in Recommendation ITU R P.681-6	Note - This Report has been published only in English	In force
P.2297-0	2013	Electron density models and data for transionospheric radio		In force

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Series RA	**Radio astronomy**			
RA.2099-1	2013	Radio observations of pulsars for precision timekeeping		In force
RA.2126-1	2013	Techniques for mitigation of radio frequency interference in radio astronomy		In force
RA.2131-0	2009	Supplementary information on the detrimental threshold levels of interference to radio astronomy observations in Recommendation ITU-R RA.769	Note - This Report has been published only in English	In force
RA.2163-0	2009	Astronomical use of frequency band 50-350 THz and coexistence with other applications	Note - This Report is published only in English	In force
RA.2188-0	2010	Power flux-density and e.i.r.p. levels potentially damaging to radio astronomy receivers	Note - This Report has been published only in English	In force
RA.2189-0	2010	Sharing between the radio astronomy service and active services in the frequency range 275-3 000 GHz	Note - This Report has been published only in English	In force
RA.2195-0	2010	The transition to digital television and its impact on the unprotected use by the radio astronomy service of bands used for terrestrial television broadcasting	Note - This Report has been published only in English	In force
RA.2259-0	2012	Characteristics of radio quiet zones	Note - This Report has been published only in English	In force
RA.2332-0	2014	Compatibility and sharing studies between the radio astronomy service and IMT systems in the frequency bands 608-614 MHz, 1 330-1 400 MHz, 1 400-1 427 MHz, 1 610.6-1 613.8 MHz, 1 660-1 670 MHz, 2 690-2 700 MHz, 4 800-4 990 MHz and 4 990-5 000 MHz		In force

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Series RS	**Remote sensing systems**			
RS.2068-1	2013	Current and future use of the band near 13.5 GHz by spaceborne active sensors		In force
RS.2094-0	2007	Studies related to the compatibility between Earth exploration-satellite service (active) and the radiodetermination service in the 9 300-9 500 MHz and 9 800-10 000 MHz bands and between Earth exploration-satellite service (active) and the fixed service in the 9 800-10 000 MHz band		In force
RS.2095 -0	2007	Sharing of the 36-37 GHz band by the fixed and mobile services and the Earth exploration-satellite service (passive)		In force
RS.2096-0	2007	Sharing of the 10.6-10.68 GHz band by the fixed and mobile services and the Earth exploration-satellite service (passive)		In force
RS.2165-0	2009	Identification of degradation due to interference and characterization of possible interference mitigation techniques for passive sensors operating in the Earth exploration satellite service (passive)	Note - This Report has been published only in English	In force
RS.2178-0	2010	The essential role and global importance of radio spectrum use for Earth observations and for related applications	Note - This Report has been published only in English	In force
RS.2184-0	2010	Arrival time difference lightning detection systems in the meteorological aids service in operation below 20 kHz	Note - This Report has been published only in English	In force
RS.2185-0	2010	Study on compatibility between "arrival time difference" (ATD) stations of the meteorological aids service and stations of the radionavigation service in the frequency band 9 to 14 kHz	Note - This Report has been published only in English	In force
RS.2186-0	2010	Radio services and radio-frequency environment within the band below 20 kHz	Note - This Report has been published only in English	In force
RS.2187-0	2010	Determining radiosonde maximum interference levels from link analysis and flight studies	Note - This Report has been published only in English	In force
RS.2194-0	2010	Passive bands of scientific interest to EESS/SRS from 275 to 3 000 GHz	Note - This Report has been published only in English	In force
RS.2260-0	2012	Sharing the 31.5-31.8 GHz band by the fixed and mobile services and the Earth exploration-satellite service (passive)	Note - This Report has been published only in English	In force
RS.2273-0	2013	Potential interference from EESS (active) scatterometers into ARNS systems in the frequency band 1 215-1 300 MHz		In force

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RS.2274-0	2013	Spectrum requirements for spaceborne synthetic aperture radar applications planned in an extended allocation to the Earth exploration-satellite service around 9 600 MHz		In force
RS.2308-0	2014	Radio frequency compatibility of unwanted emissions from 9 GHz EESS synthetic aperture radars (SAR) with the EESS (passive), SRS (passive), SRS and RAS operating in the frequency bands 8 400-8 500 MHz and 10.6-10.7 GHz, respectively		In force
RS.2310-0	2014	Worst-case interference levels from mainlobe-to-mainlobe antenna coupling of systems operating in the radiolocation service into active sensor receivers operating in the Earth exploration-satellite service (active) in the 35.5-36.0 GHz band		In force
RS.2311-0	2014	Pulsed radio frequency signal impact measurements and possible mitigation techniques between Earth exploration-satellite service (active) systems and RNSS systems and networks in the band 1 215-1 300 MHz		In force
RS.2313-0	2014	Sharing analyses of wideband Earth exploration-satellite service (active) transmissions with stations in the radio determination service operating in the frequency bands 8 700-9 300 MHz and 9 900-10 500 MHz		In force
RS.2314-0	2014	Sharing analyses of wideband EESS SAR transmissions with stations in the fixed, mobile, amateur, and amateur-satellite services operating in the frequency bands 8 7-00-9 300 MHz and 9 900-10 500 MHz		In force
RS.2315-0	2014	Global survey of radio frequency interference levels observed by the Aquarius scatterometer at 1 260 MHz and Aquarius and soil moisture and ocean salinity radiometers at 1 413 MHz		In force
RS.2336-0	2014	Consideration of the frequency bands 1 375-1400 MHz and 1 427-1 452 MHz for the mobile service - Compatibility with systems of the Earth exploration-satellite service within the 1 400-1 427 MHz frequency band		In force

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Series S	**Fixed-satellite service**			
S.2148-0	2009	Transmission control protocol (TCP) over satellite networks	Note - This Report has been published only in English	In force
S.2150-0	2009	An interference reduction technique by adaptive-array earth station antennas for sharing between the fixed-satellite service and fixed/mobile services	Note - This Report has been published only in English	In force
S.2151-1	2012	Use and examples of systems in the fixed-satellite service in the event of natural disasters and similar emergencies for warning and relief operations		In force
S.2173-1	2014	Multi-carrier based transmission techniques for satellite systems		In force
S.2174-0	2010	Guidelines that may be used in the design of satellite networks for assessing the impact of rain attenuation on the carrier to noise plus interference ratios of the FSS Plan allotments	Note - This Report has been published only in English	In force
S.2196-0	2010	Methodology on the modelling of earth station antenna gain in the region of the antenna main-lobe and the transition region between the minimum angle of the reference antenna pattern and the main-lobe	Note - This Report has been published only in English	In force
S.2199-0	2010	Studies on compatibility of broadband wireless access (BWA) systems and fixed-satellite service (FSS) networks in the 3 400-4 200 MHz band	Note - This Report has been published only in English	In force
S.2222-0	2011	Cross-layer QoS for IP-based hybrid satellite-terrestrial networks	Note - This Report has been published only in English	In force
S.2223-0	2011	Technical and operational requirements for GSO FSS earth stations on mobile platforms in bands from 17.3 to 30.0 GHz	Note - This Report has been published only in English	In force
S.2261-0	2012	Technical and operational requirements for earth stations on mobile platforms operating in non-GSO FSS systems in the frequency bands from 17.3 to 19.3, 19.7 to 20.2, 27 to 29.1 and from 29.5 to 30.0 GHz	Note - This Report has been published only in English	In force
S.2278-0	2013	Use of very small aperture terminals (VSATs)		In force
S.2280-0	2013	Assessment of the orbital-frequency resource used by a geostationary satellite communication network		In force
S.2306-0	2014	Multi-dimensional signal mapping technique for satellite communications		In force

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Series SA	**Space applications and meteorology**			
SA.2065-0	2006	Protection of the space VLBI telemetry link		In force
SA.2066-0	2006	Means of calculating low-orbit satellite visibility statistics		In force
SA.2067-0	2005	Use of the 13.75 to 14.0 GHz band by the space research service and the fixed-satellite service	Note - This Report has been published only in English	In force
SA.2098-0	2007	Mathematical gain models of large-aperture space research service earth station antennas for compatibility analysis involving a large number of distributed interference sources		In force
SA.2132-0	2009	Telecommunication characteristics and requirements for space VLBI systems	Note - This Report has been published only in English	In force
SA.2162-0	2009	Sharing conditions between space research service extra vehicular activities (EVA) links and fixed and mobile service links in the 410-420 MHz band	Note - This Report has been published only in English	In force
SA.2164-1	2012	Compatibility between the meteorological satellite and the fixed services in the band 7 850-7 900 MHz	Note - This Report has been published only in English	In force
SA.2166-0	2009	Examples of radiation patterns of large antennas used for space research and radio astronomy	Note - This Report has been published only in English	In force
SA.2167-0	2009	Factors affecting the choice of frequency bands for space research service deep-space (space-to-Earth) telecommunication links	Note - This Report has been published only in English	In force
SA.2177-0	2010	Selection of frequency bands in the 1-120 GHz range for deep-space research	Note - This Report has been published only in English	In force
SA.2183-0	2010	Method for calculating link performance in the space research service	Note - This Report has been published only in English	In force
SA.2190-0	2010	Study on compatibility between the mobile service (aeronautical) and the space research service (space-to-Earth) in the frequency band 37-38 GHz	Note - This Report has been published only in English	In force
SA.2191-0	2010	Spectrum requirements for future SRS missions operating under a potential new SRS allocation in the band 22.55-23.15 GHz	Note - This Report has been published only in English	In force
SA.2192-0	2010	Compatibility between the space research service (Earth-to-space) and the non-GSO-to-non-GSO systems on the inter-satellite service in the band 22.55-23.55 GHz	Note - This Report has been published only in English	In force
SA.2193-0	2010	Compatibility between the space research service (Earth-to-space) and the systems in the fixed, mobile and inter-satellite service in the band 22.55-23.15 GHz	Note - This Report has been published only in English	In force

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SA.2271-0	2013	Sharing conditions between space research service proximity operations links and fixed and mobile service links in the 410-420 MHz band		In force
SA.2272-0	2013	Spectrum requirements for future EESS missions operating under a potential new EESS uplink allocation in the 7-8 GHz range		In force
SA.2275	2013	Sharing between the EESS (Earth-to-space) and the fixed service in the 7-8 GHz range		In force
SA.2276-0	2013	Protection of SRS earth stations from transmitting aircraft stations in the 2 200-2 290 MHz band		In force
SA.2277-0	2013	Sharing studies between mobile-satellite service and space research service in the 22-26 GHz range		In force
SA.2307-0	2014	Protection of SRS and FSS systems sharing the 37.5-38 GHz band		In force
SA.2309-0	2014	Compatibility between EESS (Earth-to-space) and the space research service or the space operation service in the band 7 100-7 235 MHz		In force
SA.2312-0	2014	Characteristics, definitions and spectrum requirements of nanosatellites and picosatellites, as well as systems composed of such satellites		In force
SA.2325-0	2014	Sharing between space-to-space links in space research, space operation and Earth exploration-satellite services and IMT systems in the frequency bands 2 025-2 110 MHz and 2 200-2 290 MHz		In force
SA.2329-0	2014	Sharing assessment between meteorological-satellite systems and IMT stations in the 1 695-1 710 MHz frequency band		In force

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Series SF	**Frequency sharing and coordination between fixed-satellite and fixed service systems**			
SF.2046-0	2005	Determination of the interference potential, and its possible reduction by mitigation techniques, between earth stations in the fixed-satellite service operating with non-geostationary satellites and stations in the fixed service in the 18/19 GHz band		In force

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Series SM	**Spectrum management**			
SM.2012-4	2014	Economic aspects of spectrum management		In force
SM.2015-0	1998	Methods for determining national long-term strategies for spectrum utilization		In force
SM.2021-0	2000	Production and mitigation of intermodulation products in the transmitter		In force
SM.2022-1	2005	The effect on digital communications systems of interference from other modulation schemes		In force
SM.2028-1	2002	Monte Carlo simulation methodology for the use in sharing and compatibility studies between different radio services or systems		In force
SM.2048-0	2006	Use of the x dB bandwidth criterion for determination of spectral properties of a transmitter in the out-of-band domain		In force
SM.2055-0	2006	Radio noise measurements	Note - This Report has been published only in English	In force
SM.2056-1	2014	Airborne verification of antenna patterns of broadcasting stations		In force
SM.2057-0	2005	Studies related to the impact of devices using ultra-wideband technology on radiocommunication services	Note - This Report has been published only in English	In force
SM.2211-1	2014	Comparison of Time-Difference-of-Arrival and Angle-of-Arrival Methods of signal geolocation		In force
SM.2091-0	2007	Studies related to the impact of active space services allocated in adjacent or nearby bands on radio astronomy service		In force
SM.2092-0	2007	Studies related to the impact of active services allocated in adjacent or nearby bands on Earth exploration-satellite service (passive)		In force
SM.2093-1	2010	Guidance on the regulatory framework for national spectrum management		In force
SM.2125-1	2011	Parameters of and measurement procedures on H/V/UHF monitoring receivers and stations		In force
SM.2152-0	2009	Definitions of Software Defined Radio (SDR) and Cognitive Radio System (CRS)		In force
SM.2153-4	2013	Technical and operating parameters and spectrum requirements for short-range devices		In force
SM.2154-0	2009	Short-range radiocommunication devices spectrum occupancy measurement techniques		In force
SM.2155-0	2009	Man-made noise measurements in the HF range		In force
SM.2156-0	2009	The role of spectrum monitoring in support of inspections		In force
SM.2157-0	2009	Measurement methods for power line high data rate telecommunication systems		In force

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SM.2158-3	2014	Impact of power line telecommunication systems on radiocommunication systems operating below 80 MHz		In force
SM.2179-0	2010	Short-range radiocommunication devices measurements		In force
SM.2180-0	2010	Impact of industrial, scientific and medical (ISM) equipment on radiocommunication services		In force
SM.2181-0	2010	Use of Appendix 10 of the Radio Regulations to convey information related to emissions from both GSO and non-GSO space stations including geolocation information		In force
SM.2182-0	2010	Measurement facilities available for the measurement of emissions from both GSO and non-GSO space stations		In force
SM.2210-0	2011	Impact of emissions from short-range devices on radiocommunication services		In force
SM.2212-1	2012	Impact of power line telecommunication systems on radiocommunication systems operating in the VHF and UHF bands above 80 MHz		In force
SM.2255-0	2012	Technical characteristics, standards and frequency bands of operation for radio-frequency identification (RFID) and potential harmonization opportunities		In force
SM.2256-0	2012	Spectrum occupancy measurements and evaluation		In force
SM.2257-2	2014	Spectrum management and monitoring during major events		In force
SM.2258-0	2012	Overview of interference source detection and geolocation affecting the 406.0-406.1 MHz band used by emergency beacons		In force
SM.2269-0	2013	Methodologies to Relate Radiation from PLT installations to PLT Modem Output		In force
SM.2270-0	2013	The radio source visualizing technology for spectrum monitoring		In force
SM.2303-0	2014	Wireless power transmission using technologies other than radio frequency beam		In force
SM.2304-0	2014	Application of technical identification and analysis of specific digital signals		In force
SM.2130-0	2008	Inspection of radio stations		In force

ITU-R Handbooks

An ITU-R Handbook is a text which provides a statement of the current knowledge, the present position of studies, or of good operating or technical practice, in certain aspects of radiocommunications, which should be addressed to a radio engineer, system planner or operating official who plans, designs or uses radio services or systems, paying particular attention to the requirements of developing countries. It should be self-contained, require no familiarity with other ITU Radiocommunication texts or procedures, but should not duplicate the scope and content of publications readily available outside the ITU.

SG : Study Group

Approval	Title
SG00 - ITU-R Special Supplements	
2006	Emergency and Disaster relief Telecommunication is critical at all phases of disaster management. Aspects of radiocommunication services associated with disasters include, inter alia, disaster prediction, detection, alerting and disaster relief. In certain cases, when the 'wired' telecommunication infrastructure is significantly or completely destroyed by a disaster, only radiocommunication services can be employed for disaster relief operation.
SG01 - Spectrum Management	
2011	Spectrum Monitoring The Handbook on Spectrum Monitoring contains the latest information on all aspects of monitoring and represents a valuable reference manual for the spectrum management community. It is intended for the use by administrations of both developing and developed countries and by the Radiocommunication Bureau. The Handbook will also be useful to radiocommunication engineers everywhere.
2008	Supplement to Handbook on Spectrum Monitoring The purpose of this Supplement to the ITU-R Handbook - Spectrum Monitoring (Edition 2002) is to provide up-to-date information on several issues before the publication of the next complete edition of the Handbook. It provides a complete and self-contained revision of the following chapters of the Handbook: - Chapter 3 (Monitoring equipment and automation of monitoring operations), - Section 5.1 (Spacecraft emission monitoring) of Chapter 5, and - Annex 1 (Monitoring system planning and tenders).
2005	National Spectrum Management This Handbook describes the key elements of spectrum management: spectrum management fundamentals, spectrum planning, frequency assignment and licensing, spectrum monitoring, spectrum inspection and investigation, spectrum engineering, spectrum economics, automation of spectrum management activities and measures of spectrum utilization and spectrum utilization efficiency.
2015	Computer-aided Techniques for Spectrum Management (CAT) This Handbook should be seen as complementary to Handbooks 'National Spectrum Management' (2015) and 'Spectrum Monitoring' (2011). The topic of national spectrum management has evolved and become the central hot spot in the activities of all telecommunication administrations. This is particularly true for developing countries, where the dramatic development of ICT technologies and their wide application have led to a heavy increase in related spectrum usage. The user/reader will find basic material and numerous models for developing efficient projects that will assist in reaching their objective – implementing automated spectrum management as soon as possible.
SG03 - Radiowave Propagation	
2012	ITU-R propagation prediction methods for interference and sharing studies This Handbook provides technical information and guidance needed for sharing studies and interference assessments using selected ITU-R P-Series RF propagation models and prediction methods. The handbook is intended to be used in conjunction with ITU-R P-Series Recommendations to assist in performing interference analyses and prediction methods on radiocommunication service systems.

2009	Radiowave propagation information for designing terrestrial point-to-point links The ITU-R Handbook - Radiowave propagation information for designing terrestrial point-to-point links supplies background and supplementary information on radiowave propagation effects, and serves as a companion volume and guide to the ITU-R Recommendations that have been developed by Radiocommunication Study Group 3 to assist in the design of terrestrial communication systems.
2002	Terrestrial land mobile radiowave propagation in the VHF/UHF bands This ITU-R Handbook gives the technical basis for predicting the radio propagation in point-to-point, point-to-area, and point-to-multipoint mobile networks.
1991	Curves for Radiowave Propagation over the Surface of the Earth
1998	Ionosphere and its Effects on Radiowave Propagation This Handbook supplements information on radiowave propagation in and through the ionosphere which is addressed in related Recommendations contained in the P Series of ITU-R Recommendations. In this respect, the Handbook is intended to help the user in the application of these Recommendations in the design and operation of radiocommunication systems using, or influenced by, the ionosphere. English edition sold-out in hard-copy version.
2013	Radiometeorology The Handbook on Radiometeorology supplies background and supplementary information on radiowave propagation effects as described and used in the ITU-R P series of Recommendations thus giving a more detailed understanding of these Recommendations, in particular to those who wish to contribute to their development.
1996	Radiowave Propagation Information for Predictions for Earth-to-Space Path Communications This Handbook provides information on radiowave propagation to assist in the design of Earth-to-space communication systems.
2014	Ground Wave Propagation The Handbook on ground wave propagation is of special interest for communication, particularly broadcasting, at the lower frequencies where the mode has been in use for more than 90 years. It deals with fundamentals and theory, wide-scale considerations and prediction methods used for compatibility assessments and planning procedures. Smaller scale variability, which may be of major importance in assessing the quality of services, is also treated. The topics of measurements and phase are also covered.
SG04 - Satellite Services	
2006	Supplements No. 1, 2, 3 and 4 to Handbook on Mobile-satellite service (MSS) Supplement 1 - Systems aspects of digital mobile Earth station Supplement 2 - Methodology for the derivation of interference and sharing criteria for the Mobile-satellite services Supplement 3 - Interference and noise problems for maritime mobile-satellite systems using frequencies in the region of 1.5 and 1,6 GHz Supplement 4 - Technical aspects of coordination among mobile-satellite systems using the geostationary-satellite orbit
2002	DSB Handbook - Terrestrial and satellite digital sound broadcasting to vehicular, portable and fixed receivers in the VHF/UHF bands This Handbook describes the system and service requirements for digital sound broadcasting (DSB) to vehicular, portable and fixed receivers, the related propagation factors, the techniques employed in the digital sound broadcasting systems, and considers relevant planning parameters and sharing conditions.
2002	Mobile-satellite service (MSS) This Handbook provides a brief survey and introduction to the field of Mobile-satellite service (MSS). Note: Supplements 1, 2, 3 and 4 were published in 2006 and contain important updates to this Handbook.
SG05 - Terrestrial Services	
2006	Land Mobile (including Wireless Access) - Volume 4: Intelligent Transport Systems Volume 4 of the ITU-R Handbook on Land Mobile (including Wireless Access) provides a summary of the use of wireless communications in intelligent

	transport systems (ITS), current and under development, around the globe, including architecture, systems, and applications. This is a rapidly developing sector, which is still partly in its infancy.
2011	Migration to IMT-2000 Systems - Supplement 1 (Revision 1) of the Handbook on Deployment of IMT-2000 Systems This revised Supplement expands on the first edition of the ITU Handbook - Deployment of IMT- 2000 Systems and updates much of the work that has occurred since the release of the Handbook. It addresses the subject of evolution and migration from current mobile systems towards IMT-2000. ITU-R has developed this work in response to ongoing liaison and interaction with the ITU-D and ITU-T Sectors and sees this material as the natural extension of the information presented in the Handbook.
2005	Land Mobile (including Wireless Access) - Volume 3: Dispatch and Advanced Messaging Systems The purpose of the Land Mobile Handbook is to assist in the decision-making process involving planning, engineering and deployment of land mobile systems, especially in the developing countries. It should also provide adequate information to assist in training engineers and planners in regulating, planning, engineering and deployment aspects of these systems. Volume 3 on Dispatch and Advanced Messaging Systems provides information on state-of-the-art technology in terrestrial land mobile paging and advanced messaging and dispatch as well as descriptions of typical systems. The technical content is intended for use by administrations and operators in both developing and developed countries.
2002	Frequency adaptive communication systems and networks in the MF/HF bands This Handbook is published to assist planners and decision-makers in the deployment of adaptive MF/HF systems in the fixed service, for both commercial and government users in developed and particularly developing countries. It provides material on current present technological capabilities in the field of adaptive MF/HF communications.
1996	Digital Radio-Relay Systems This Handbook represents a comprehensive summary of basic principles, design parameters and current practices for the design and engineering of digital radio-relay systems.
2001	Land Mobile (including Wireless Access) - Volume 1: Fixed Wireless Access The purpose of this Handbook is to assist in the decision making process involving planning, engineering and deployment of wireless access based land mobile systems, especially in the developing countries. It should also provide adequate information that will assist in training engineers and planners in regulating, planning, engineering, and deployment aspects of these systems.
2014	Amateur and amateur-satellite services This Handbook provides general information about amateur and amateur-satellite services. It also includes a compendium of existing ITU texts of relevance to amateur and amateur-satellite services. This Handbook is intended to present, in one document, information about amateur services for administrations and amateur radio organizations.
2011	Land Mobile (including Wireless Access) - Volume 5: Deployment of Broadband Wireless Access Systems The overall purpose of the Handbook is to assist in the decision-making process involving planning, engineering and deployment of wireless-based land mobile systems, especially in developing countries. It also provides information that will assist in training engineers and planners in the regulating, planning, engineering and deployment aspects of these systems.
2003	Deployment of IMT-2000 Systems This Handbook addresses a variety of issues related to the deployment of IMT-2000 systems, to inform and guide key decision-makers on critical aspects concerning third-generation mobile communication systems, to facilitate decisions on the selection of options and strategies for the introduction of their IMT-2000 networks.
2015	Handbook on Global Trends in International Mobile Telecommunications This Handbook identifies International Mobile Telecommunications (IMT) and provides the general information such as service requirements, application trends, system characteristics, and substantive information on spectrum, regulatory issues, guideline for the evolution and migration, and core network evolution on IMT. The purpose of this Handbook is to provide general guidance to

	relevant parties on issues related to the deployment of IMT systems and to the introduction of their IMT 2000 and IMT Advanced networks.
SG06 - Broadcasting Service	
1989	Conclusions of the Extraordinary Meeting of Study Group 11 on High-Definition Television
2010	Digital Television Signals: Coding and Interfacing within Studios This Handbook gives a summary of the background to what has been agreed so far in ITU-R, based largely on work already reported within Reports but also including references to published material outside of the ITU.
1999	HF Broadcasting System Design This Handbook provides practical and illustrative guidance (even to radio engineers not having been previously exposed to the specific task of HF broadcasting service planning). Considerable effort has been made to meet the expectations of HF broadcasting engineers from the developing world. This publication includes relevant texts from existing ITU-R Recommendations as well as advanced material.
2002	DTTB Handbook - Digital terrestrial television broadcasting in the VHF/UHF bands This Handbook provides guidance to engineers responsible for the implementation of digital terrestrial television broadcasting and combines material dealing with digital and analogue television systems and planning aspects of this new topic.
SG07 - Science Services	
2013	Radio Astronomy The Handbook on Radio Astronomy has been developed by experts of Working Party 7D of ITU-R Study Group 7 (Science Services) that is responsible for radio astronomy. This Handbook is not intended as a source book on radio astronomy, but rather deals with such aspects of radio astronomy that are relevant to frequency coordination as the management of radio spectrum usage in order to minimize interference between radiocommunication services.
2008	Use of Radio Spectrum for Meteorology: Weather, Water and Climate Monitoring and Prediction Timely warning of impeding natural and environmental disasters, accurate climate prediction and detailed understanding of the status of global water resources: these are critically important everyday issues for the global community. Radio frequencies represent scarce and key resources used by meteorological services to measure and collect the observation data upon which analyses and predictions, including warnings, are based. This Handbook provides comprehensive technical information on the use of radio frequencies by meteorological systems for climate monitoring disaster prediction and detection. The soft-copy is exceptionally free-of-charge.
1997	Selection and Use of Precise Frequency and Time Systems This Handbook consists of ten chapters which describe basic concepts, frequency and time sources, measurement techniques, characteristics of various frequency standards, operational experience, problems and future prospects. The contents include detailed explanations and many references that can be consulted for additional details.
2010	Satellite Time and Frequency Transfer and Dissemination This is the first ITU Handbook to provide detailed information on the applied methods, technologies, algorithms, data structure and practical use of frequency and timing signals provided by satellite systems.
2011	Earth Exploration-Satellite Service This Handbook provides full and comprehensive information on the development of EESS systems. Specifically, it provides basic definitions, sheds light on the technical principles underlying the operation of systems and presents their main applications to assist administrations in the spectrum planning, engineering and deployment aspects of these systems.
2013	Space Research Communications This Handbook is concerned principally with those aspects of the space research service that are relevant to the management of radio spectrum usage in order to minimize interference between radiocommunication services when the space research service is involved.