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| **Radiocommunication Study Groups** |  |
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|  | **Source: Document 5/1-E** |
| **28 January 2020** |
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**[Attachment 1](#Att1):** ITU-R Questions assigned to Study Group 5

[**Attachment 2**](#Att2)**:** ITU-R Recommendations assigned to Study Group 5

[**Attachment 3**](#Att3)**:** ITU-R Reports assigned to Study Group 5

Useful link:

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| Search ITU-R Publications: | <https://extranet.itu.int/brdocsearch> |

Attachment 1

ITU-R Questions assigned to Study Group 5

| Question ITU‑R | Title | Category | Approval date | Target date | Comments | WP |
| --- | --- | --- | --- | --- | --- | --- |
| [1-6/5](http://www.itu.int/pub/R-QUE-SG05.1) | Interference protection ratios and minimum field strengths required in the land mobile services | S2 | 01/10/2015 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5A |
| [7-7/5](http://www.itu.int/pub/R-QUE-SG05.7) | Characteristics of equipment for the land mobile service between 30 and 6 000 MHz | S2 | 19/03/2012 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5A |
| [37-6/5](http://www.itu.int/pub/R-QUE-SG05.37) | Digital land mobile systems for specific applications | S2 | 19/03/2012 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5A |
| [48-7/5](http://www.itu.int/pub/R-QUE-SG05.48) | Techniques and frequency usage in the amateur service and amateur-satellite service | S2 | 01/10/2015 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5A |
| [62-2/5](http://www.itu.int/pub/R-QUE-SG05.62) | Interference to the aeronautical mobile and aeronautical radionavigation services | S2 | 31/12/1990 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5B |
| [77-8/5](http://www.itu.int/pub/R-QUE-SG05.77) | Consideration of the needs of developing countries in the development and implementation of IMT | S2 | 19/11/2019 | 2023 |  | 5D |
| [101-5/5](http://www.itu.int/pub/R-QUE-SG05.101) | Quality of service requirements in the land mobile service | S2 | 19/11/2019 | 2023 |  | 5A |
| [110-3/5](http://www.itu.int/pub/R-QUE-SG05.110) | Reference radiation patterns of point-to-point fixed wireless system antennas for use in sharing studies | S2 | 19/03/2012 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5C |
| [205-6/5](http://www.itu.int/pub/R-QUE-SG05.205) | Intelligent transport systems | S2 | 19/11/2019 | 2023 |  | 5A |
| [209-6/5](http://www.itu.int/pub/R-QUE-SG05.209) | Use of the mobile, amateur and the amateur satellite services in support of disaster radiocommunications | S2 | 19/11/2019 | 2023 |  | 5A, 5D |
| [212-4/5](http://www.itu.int/pub/R-QUE-SG05.212) | Nomadic wireless access systems including radio local area networks | S2 | 19/03/2012 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5A |
| [215-4/5](http://www.itu.int/pub/R-QUE-SG05.215) | Frequency bands, technical characteristics, and operational requirements for fixed wireless access systems in the fixed and/or land mobile services | S2 | 19/03/2012 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5A |
| [229-5/5](http://www.itu.int/pub/R-QUE-SG05.229) | Future development of the terrestrial component of IMT | S2 | 19/11/2019 | 2023 |  | 5D |
| [235/5](http://www.itu.int/pub/R-QUE-SG05.235) | Protection criteria for aeronautical and maritime systems | S2 | 16/05/2004 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5B |
| [238-3/5](http://www.itu.int/pub/R-QUE-SG05.238) | Mobile broadband wireless access systems | S2 | 19/11/2019 | 2023 |  | 5A |
| [241-4/5](http://www.itu.int/pub/R-QUE-SG05.241) | Cognitive radio systems in the mobile service | S2 | 19/11/2019 | 2023 |  | 5A, 5D |
| [242-2/5](http://www.itu.int/pub/R-QUE-SG05.242) | Reference radiation patterns of omnidirectional and sectoral antennas for the fixed and mobile services for use in sharing studies | S2 | 01/10/2015 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5A, 5C, 5D |
| [246-1/5](http://www.itu.int/pub/R-QUE-SG05.246) | Technical characteristics and channelling requirements for adaptive HF systems | S2 | 19/11/2019 | 2023 |  | 5C |
| [247-1/5](http://www.itu.int/pub/R-QUE-SG05.247) | Radio-frequency arrangements for fixed wireless systems | S2 | 19/03/2012 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5C |
| [248/5](http://www.itu.int/pub/R-QUE-SG05.248) | Technical and operational characteristics for systems in the fixed service used for disaster mitigation and relief | S1 | 18/07/2008 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5C |
| [250-1/5](http://www.itu.int/pub/R-QUE-SG05.250) | Mobile wireless access systems providing telecommunications for a large number of ubiquitous sensors and/or actuators scattered over wide areas as well as machine to machine communications in the land mobile service | S2 | 19/03/2012 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5A |
| [252/5](http://www.itu.int/pub/R-QUE-SG05.252) | Frequency sharing and compatibility between systems in the fixed service and systems in other services | S1 | 19/03/2012 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5C |
| [253/5](http://www.itu.int/pub/R-QUE-SG05.253) | Fixed service use and future trends | S2 | 19/03/2012 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5C |
| [254/5](http://www.itu.int/pub/R-QUE-SG05.254) | Operation of short-range radiocommunication public access system supporting hearing aid systems | S2 | 28/04/2014 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5A |
| [256-1/5](http://www.itu.int/pub/R-QUE-SG05.256) | Technical and operational characteristics of the land mobile service in the frequency range 275-1 000 GHz | S2 | 19/11/2019 | 2023 |  | 5A |
| [257-1/5](http://www.itu.int/pub/R-QUE-SG05.257) | Technical and operational characteristics of stations in the fixed service in the frequency range 275-1 000 GHz | S2 | 19/11/2019 | 2023 |  | 5C |
| [258/5](http://www.itu.int/pub/R-QUE-SG05.258) | Technical and operational principles for HF sky-wave communication stations to improve the man-made noise HF environment | S2 | 01/10/2015 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5C |
| [259/5](http://www.itu.int/pub/R-QUE-SG05.259) | Operational and radio regulatory aspects for planes operating in the upper level of the atmosphere | S2 | 01/10/2015 | 2023 | *Editorially updated by SG 5 in Sept. 2019* | 5B |
| [260/5](http://www.itu.int/pub/R-QUE-SG05.260) | Coexistence analysis between foreign object debris detection systems operating in the frequency range 92 to 100 GHz and earth exploration satellite service sensors in-band and in adjacent bands | S2 | 28/01/2019 | 2023 |  | 5B |
| [261/5](http://www.itu.int/pub/R-QUE-SG05.261) | Radiocommunication requirements for connected automated vehicles (CAV) | S2 | 19/11/2019 | 2023 |  | 5A |
| [262/5](http://www.itu.int/pub/R-QUE-SG05.262) | Usage of the terrestrial component of IMT systems for specific applications | S2 | 19/11/2019 | 2023 |  | 5D |

ATTACHMENT 2

ITU-R Recommendations assigned to Study Group 5

| Recommendation ITU-R | Title | Approval date | Reference in RR | Comments | WP |
| --- | --- | --- | --- | --- | --- |
| F.[106-2](http://www.itu.int/rec/R-REC-F.106/en) | The use of diversity for voice-frequency telegraphy on HF radio circuits | 25/05/1999 |  | *Editorially updated by SG 5 in Dec. 2009* | 5C |
| F.[162-3](http://www.itu.int/rec/R-REC-F.162/en) | Use of directional transmitting antennas in the fixed service operating in bands below about 30 MHz | 01/03/1992 |  |  | 5C |
| F.[240-7](http://www.itu.int/rec/R-REC-F.240/en) | Signal-to-interference protection ratios for various classes of emission in the fixed service below about 30 MHz | 03/05/2006 |  |  | 5C |
| F.[246-3](http://www.itu.int/rec/R-REC-F.246/en) | Frequency-shift keying | 01/07/1974 |  |  | 5C |
| F.[302-3](http://www.itu.int/rec/R-REC-F.302/en) | Limitation of interference from trans-horizon radio-relay systems | 28/05/1997 |  | *Res. 44 update at SG 9  May 2007* | 5C |
| F.[338-2](http://www.itu.int/rec/R-REC-F.338/en) | Bandwidth required at the output of a telegraph or telephone receiver | 01/07/1970 |  |  | 5C |
| F.[339-8](http://www.itu.int/rec/R-REC-F.339/en) | Bandwidths, signal-to-noise ratios and fading allowances in HF fixed and land mobile radiocommunication systems | 11/02/2013 |  |  | 5C |
| F.[348-4](http://www.itu.int/rec/R-REC-F.348/en) | Arrangement of channels in multi-channel single-sideband and independent-sideband transmitters for long-range circuits operating at frequencies below about 30 MHz | 01/06/1990 |  |  | 5C |
| F.[382-8](http://www.itu.int/rec/R-REC-F.382/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the 2 and 4 GHz bands | 27/04/2006 |  |  | 5C |
| F.[383-9](http://www.itu.int/rec/R-REC-F.383/en) | Radio-frequency channel arrangements for high-capacity fixed wireless systems operating in the lower 6 GHz (5 925 to 6 425 MHz) band | 11/02/2013 |  |  | 5C |
| F.[384-11](http://www.itu.int/rec/R-REC-F.384/en) | Radio-frequency channel arrangements for medium- and high-capacity digital fixed wireless systems operating in the 6 425-7 125 MHz band | 15/03/2012 |  |  | 5C |
| F.[385-10](http://www.itu.int/rec/R-REC-F.385/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the 7 110-7 900 MHz band | 15/03/2012 |  |  | 5C |
| F.[386-9](http://www.itu.int/rec/R-REC-F.386/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the 8 GHz (7 725 to 8 500 MHz) band | 11/02/2013 |  |  | 5C |
| [F.387-13](http://www.itu.int/rec/R-REC-F.387/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the 10.7-11.7 GHz band | 19/11/2019 |  |  | 5C |
| M.[441-1](http://www.itu.int/rec/R-REC-M.441/en) | Signal-to-interference ratios and minimum field strengths required in the aeronautical mobile (R) service above 30 MHz | 01/07/1982 |  |  | 5B |
| F.[454-1](http://www.itu.int/rec/R-REC-F.454/en) | Pilot carrier level for HF single-sideband and independent‑sideband reduced-carrier systems | 01/07/1978 |  |  | 5C |
| M.[476-5](http://www.itu.int/rec/R-REC-M.476/en) | Direct-printing telegraph equipment in the maritime mobile service | 20/10/1995 | *Incorporated by reference* |  | 5B |
| M.[478-5](http://www.itu.int/rec/R-REC-M.478/en) | Technical characteristics of equipment and principles governing the allocation of frequency channels between 25 and 3 000 MHz for the FM land mobile service | 20/10/1995 |  |  | 5A |
| M.[489-2](http://www.itu.int/rec/R-REC-M.489/en) | Technical characteristics of VHF radiotelephone equipment operating in the maritime mobile service in channels spaced by 25 kHz | 20/10/1995 | *Incorporated by reference* |  | 5B |
| M.[492-6](http://www.itu.int/rec/R-REC-M.492/en) | Operational procedures for the use of direct-printing telegraph equipment in the maritime mobile service | 20/10/1995 | *Incorporated by reference* |  | 5B |
| M.[493-15](http://www.itu.int/rec/R-REC-M.493/en) | Digital selective-calling system for use in the maritime mobile service | 30/01/2019 |  |  | 5B |
| M.[496-3](http://www.itu.int/rec/R-REC-M.496/en) | Limits of power flux-density of radionavigation transmitters to protect space station receivers in the fixed-satellite service in the 14 GHz band | 08/03/1992 |  |  | 5B |
| F.[497-7](http://www.itu.int/rec/R-REC-F.497/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the 13 GHz (12.75-13.25 GHz) frequency band | 22/09/2007 |  |  | 5C |
| M.[540-2](http://www.itu.int/rec/R-REC-M.540/en) | Operational and technical characteristics for an automated direct-printing telegraph system for promulgation of navigational and meteorological warnings and urgent information to ships | 01/06/1990 |  |  | 5B |
| M.[541-10](http://www.itu.int/rec/R-REC-M.541/en) | Operational procedures for the use of digital selective-calling equipment in the maritime mobile service | 30/10/2015 | *Incorporated by reference* |  | 5B |
| F.[556-1](http://www.itu.int/rec/R-REC-F.556/en) | 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 | 01/07/1986 |  |  | 5C |
| F.[557-5](http://www.itu.int/rec/R-REC-F.557/en) | Availability objective for radio-relay systems over a hypothetical reference digital path | 20/02/2014 |  | *This Recommendation could be used only for systems designed prior to the approval of Recommendation ITU‑R F.1703.* | 5C |
| M.[584-2](http://www.itu.int/rec/R-REC-M.584/en) | Codes and formats for radio paging | 29/11/1997 |  |  | 5A |
| M.[585-8](http://www.itu.int/rec/R-REC-M.585/en) | Assignment and use of identities in the maritime mobile service | 25/10/2019 | *Annex 1 is incorporated by reference* |  | 5B |
| M.[586-1](http://www.itu.int/rec/R-REC-M.586/en) | Automated VHF/UHF maritime mobile telephone system | 01/07/1986 |  |  | 5B |
| M.[587-1](http://www.itu.int/rec/R-REC-M.587/en) | Coast station identities and initiation of location registration in an automated VHF/UHF maritime mobile telephone system | 01/07/1986 |  |  | 5B |
| M.[589-3](http://www.itu.int/rec/R-REC-M.589/en) | Technical characteristics of methods of data transmission and interference protection for radionavigation services in the frequency bands between 70 and 130 kHz | 14/08/2001 |  | *Scope added editorially by SG 5 Feb. 2008.* | 5B |
| F.[592-4](http://www.itu.int/rec/R-REC-F.592/en) | Vocabulary of terms for the fixed service | 22/09/2007 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[594-4](http://www.itu.int/rec/R-REC-F.594/en) | 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 | 30/07/1997 |  | *This Recommendation could be used only for systems designed prior to the approval of Recommendation ITU‑R F.1668*  *Scope added editorially by SG 5 on 19 Nov. 12* | 5C |
| F.[595-10](http://www.itu.int/rec/R-REC-F.595/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the 17.7-19.7 GHz frequency band | 15/03/2012 |  |  | 5C |
| F.[612](http://www.itu.int/rec/R-REC-F.612/en)-0 | Measurement of reciprocal mixing in HF communication receivers in the fixed service | 01/07/1986 |  |  | 5C |
| F.[613](http://www.itu.int/rec/R-REC-F.613/en)-0 | The use of ionospheric channel sounding systems operating in the fixed service at frequencies below about 30 MHz | 01/07/1986 |  |  | 5C |
| M.[625-4](http://www.itu.int/rec/R-REC-M.625/en) | Direct-printing telegraph equipment employing automatic identification in the maritime mobile service | 15/03/2012 | *Incorporated by reference* |  | 5B |
| M.[626](http://www.itu.int/rec/R-REC-M.626/en)-0 | Evaluation of the quality of digital channels in the maritime mobile service | 01/07/1986 |  |  | 5B |
| M.[627-1](http://www.itu.int/rec/R-REC-M.627/en) | Technical characteristics for HF maritime radio equipment using narrow‑band phase-shift keying (NBPSK) telegraphy | 20/10/1995 |  |  | 5B |
| M.[628-5](http://www.itu.int/rec/R-REC-M.628/en) | Technical characteristics for search and rescue radar transponders | 15/03/2012 |  |  | 5B |
| M.[629-1](http://www.itu.int/rec/R-REC-M.629/en) | Use of 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 | 06/02/2013 |  |  | 5B |
| F.[634-4](http://www.itu.int/rec/R-REC-F.634/en) | 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 | 30/07/1997 |  | *This Recommendation could be used only for systems designed prior to the approval of Recommendation ITU‑R F.1668*  *Scope added editorially by SG 5 on 19 Nov. 12* | 5C |
| F.[635-7](http://www.itu.int/rec/R-REC-F.635/en) | Radio-frequency channel arrangements based on a homogeneous pattern for fixed wireless systems operating in the 4 GHz (3 400-4 200 MHz) band | 11/02/2013 |  |  | 5C |
| F.[636-5](http://www.itu.int/rec/R-REC-F.636/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the 14.4-15.35 GHz band | 18/11/2019 |  |  | 5C |
| F.[637-4](http://www.itu.int/rec/R-REC-F.637/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the 21.2-23.6 GHz band | 15/03/2012 |  |  | 5C |
| SF.[674-3](http://www.itu.int/rec/R-REC-SF.674/en) | 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 | 28/12/2013 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[675-4](http://www.itu.int/rec/R-REC-SF.675/en) | Calculation of the maximum power density (averaged over 4 kHz or 1 MHz) of angle-modulated and digital carriers | 12/01/2012 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| M.[687-2](http://www.itu.int/rec/R-REC-M.687/en) | International Mobile Telecommunications-2000 (IMT‑2000) | 28/02/1997 |  |  | 5D |
| M.[688](http://www.itu.int/rec/R-REC-M.688/en)-0 | Technical characteristics for a high frequency direct-printing telegraph system for promulgation of high seas and NAVTEX-type maritime safety information | 01/06/1990 |  |  | 5B |
| M.[689-3](http://www.itu.int/rec/R-REC-M.689/en) | International maritime VHF radiotelephone system with automatic facilities based on DSC signalling format | 15/03/2012 |  |  | 5B |
| M.[690-3](http://www.itu.int/rec/R-REC-M.690/en) | Technical characteristics of emergency position-indicating radio beacons operating on the carrier frequencies of 121.5 MHz and 243 MHz | 30/03/2015 | *Incorporated by reference* |  | 5B |
| M.[693-1](http://www.itu.int/rec/R-REC-M.693/en) | Technical characteristics of VHF emergency position-indicating radio beacons using digital selective calling | 15/03/2012 |  |  | 5B |
| F.[695](http://www.itu.int/rec/R-REC-F.695/en)-0 | Availability objectives for real digital radio-relay links forming part of a high-grade circuit within an integrated services digital network | 01/06/1990 |  | *This Recommendation could be used only for systems designed prior to the approval of Recommendation ITU‑R F.1703*  *Scope added editorially by SG 5 on 19 Nov. 12* | 5C |
| F.[696-2](http://www.itu.int/rec/R-REC-F.696/en) | 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 | 30/07/1997 |  | *This Recommendation could be used only for systems designed prior to the approval of Recommendation ITU‑R F.1668*  *Scope added editorially by SG 5 on 19 Nov. 12* | 5C |
| F.[697-2](http://www.itu.int/rec/R-REC-F.697/en) | 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 | 30/07/1997 |  | *This Recommendation could be used only for systems designed prior to the approval of Recommendation ITU‑R F.1668. Joint responsibility assigned by SG 5 Nov. 2008*  *Scope added editorially by SG 5 on 19 Nov. 12* | 5A, 5C |
| F.[698-2](http://www.itu.int/rec/R-REC-F.698/en) | Preferred frequency bands for trans-horizon radio-relay systems | 01/09/1994 |  | *Res. 44 update at SG 9  May 2007* | 5C |
| F.[699-8](http://www.itu.int/rec/R-REC-F.699/en) | Reference radiation patterns for fixed wireless system antennas for use in coordination studies and interference assessment in the frequency range from 100 MHz to 86 GHz | 30/01/2018 |  |  | 5C |
| F.[701-2](http://www.itu.int/rec/R-REC-F.701/en) | 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) | 30/07/1997 |  | *Res. 44 update at SG 9  May 2007* | 5A |
| F.[746-10](http://www.itu.int/rec/R-REC-F.746/en) | Radio-frequency arrangements for fixed service systems | 15/03/2012 |  | *Joint responsibility assigned by SG 5 Nov. 2008*  *Editorially updated by SG 5 on 3 Dec. 13* | 5A, 5C |
| F.[747-1](http://www.itu.int/rec/R-REC-F.747/en) | Radio-frequency channel arrangements for fixed wireless system operating in the 10.0-10.68 GHz band | 15/03/2012 |  |  | 5C |
| F.[748-4](http://www.itu.int/rec/R-REC-F.748/en) | Radio-frequency arrangements for systems of the fixed service operating in the 25, 26 and 28 GHz bands | 02/05/2001 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[749-3](http://www.itu.int/rec/R-REC-F.749/en) | Radio-frequency arrangements for systems of the fixed service operating in sub-bands in the 36-40.5 GHz band | 15/03/2012 |  | *Joint responsibility assigned by SG 5 Nov. 2008.*  *Editorially updated by SG 5 on 19 Nov. 12* | 5A, 5C |
| F.[750-4](http://www.itu.int/rec/R-REC-F.750/en) | Architectures and functional aspects of radio-relay systems for synchronous digital hierarchy (SDH)-based network | 05/05/2000 |  |  | 5C |
| F.[751-2](http://www.itu.int/rec/R-REC-F.751/en) | Transmission characteristics and performance requirements of radio-relay systems for SDH-based networks | 30/07/1997 |  |  | 5C |
| F.[752-2](http://www.itu.int/rec/R-REC-F.752/en) | Diversity techniques for point-to-point fixed wireless systems | 03/05/2006 |  |  | 5C |
| F.[755-2](http://www.itu.int/rec/R-REC-F.755/en) | Point-to-multipoint systems used in the fixed service | 25/05/1999 |  | *Joint responsibility assigned by SG 5 Nov. 2008.*  *Editorially updated by SG 5 Dec. 2009* | 5A, 5C |
| F.[757-4](http://www.itu.int/rec/R-REC-F.757/en) | Basic system requirements and performance objectives for fixed wireless access using mobile-derived technologies offering telephony and data communication services | 19/04/2011 |  |  | 5A |
| F.[758-7](http://www.itu.int/rec/R-REC-F.758/en) | 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 | 19/11/2019 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[763-5](http://www.itu.int/rec/R-REC-F.763/en) | Data transmission over HF circuits using phase shift keying or quadrature amplitude modulation | 29/01/2005 |  |  | 5C |
| F.[764-1](http://www.itu.int/rec/R-REC-F.764/en) | Minimum requirements for HF radio systems using a packet transmission protocol | 01/09/1994 |  |  | 5C |
| SF.[765-1](http://www.itu.int/rec/R-REC-SF.765/en) | Intersection of radio-relay antenna beams with orbits used by space stations in the fixed-satellite service | 05/02/2003 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[766](http://www.itu.int/rec/R-REC-SF.766/en)-0 | 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 | 08/03/1992 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| M.[816-1](http://www.itu.int/rec/R-REC-M.816/en) | Framework for services supported on International Mobile Telecommunications-2000 (IMT-2000) | 24/10/1997 |  |  | 5D |
| M.[817](http://www.itu.int/rec/R-REC-M.817/en)-0 | International Mobile Telecommunications-2000 (IMT‑2000). Network architectures | 08/03/1992 |  |  | 5D |
| M.[819-2](http://www.itu.int/rec/R-REC-M.819/en) | International Mobile Telecommunications-2000 (IMT‑2000) for developing countries | 28/02/1997 |  |  | 5D |
| M.[820-1](http://www.itu.int/rec/R-REC-M.820/en) | Use of 9-digit identities for narrow-band direct-printing telegraphy in the maritime mobile service | 15/03/2012 |  |  | 5B |
| M.[821-1](http://www.itu.int/rec/R-REC-M.821/en) | Optional expansion of the digital selective-calling system for use in the maritime mobile service | 28/02/1997 |  |  | 5B |
| M.[822-1](http://www.itu.int/rec/R-REC-M.822/en) | Calling-channel loading for digital selective calling (DSC) for the maritime mobile service | 31/09/1994 |  |  | 5B |
| M.[823-3](http://www.itu.int/rec/R-REC-M.823/en) | 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 | 20/03/2006 |  |  | 5B |
| M.[824-4](http://www.itu.int/rec/R-REC-M.824/en) | Technical parameters of radar beacons | 06/02/2013 |  |  | 5B |
| M.[825-3](http://www.itu.int/rec/R-REC-M.825/en) | Characteristics of a transponder system using digital selective calling techniques for use with vessel traffic services and ship-to-ship identification | 31/10/1998 |  | *Editorially updated by SG 5 on 22 Nov. 2011* | 5B |
| M.[826](http://www.itu.int/rec/R-REC-M.826/en)-0 | Transmission of information for updating electronic chart display and information systems (ECDIS) | 08/03/1992 |  |  | 5B |
| SF.[1006](http://www.itu.int/rec/R-REC-SF.1006/en)-0 | Determination of the interference potential between earth stations of the fixed-satellite service and stations in the fixed service | 25/04/1993 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| M.[1033-1](http://www.itu.int/rec/R-REC-M.1033/en) | Technical and operational characteristics of cordless telephones and cordless telecommunication systems | 28/02/1997 |  |  | 5A |
| M.[1034-1](http://www.itu.int/rec/R-REC-M.1034/en) | Requirements for the radio interface(s) for International Mobile Telecommunications-2000 (IMT-2000) | 28/02/1997 |  |  | 5D |
| M.[1035](http://www.itu.int/rec/R-REC-M.1035/en)-0 | Framework for the radio interface(s) and radio sub-system functionality for International Mobile Telecommunications-2000 (IMT-2000) | 16/11/1993 |  |  | 5D |
| M.[1036-6](http://www.itu.int/rec/R-REC-M.1036/en) | Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications (IMT) in the bands identified for IMT in the Radio Regulations | 25/10/2019 |  | *Revision approved by RA‑19* | 5D |
| M.[1039-3](http://www.itu.int/rec/R-REC-M.1039/en) | 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) | 19/03/2006 |  | *To be jointly approved by SGs 4 and 5* | 4C, 5A |
| M.[1041-2](http://www.itu.int/rec/R-REC-M.1041/en) | Future amateur radio systems | 19/06/2003 |  |  | 5A |
| M.[1042-3](http://www.itu.int/rec/R-REC-M.1042/en) | Disaster communications in the amateur and amateur-satellite services | 14/03/2007 |  |  | 5A |
| M.[1043-2](http://www.itu.int/rec/R-REC-M.1043/en) | Use of the amateur and amateur-satellite services in developing countries | 19/06/2003 |  | *Scope added editorially by SG 5 Feb. 2008* | 5A |
| M.[1044-2](http://www.itu.int/rec/R-REC-M.1044/en) | Frequency sharing criteria in the amateur and amateur-satellite services | 19/06/2003 |  | *Scope added editorially by SG 5 Feb. 2008* | 5A |
| M.[1072](http://www.itu.int/rec/R-REC-M.1072/en)-0 | Interference due to intermodulation products in the land mobile service between 25 and 3 000 MHz | 31/09/1994 |  |  | 5A |
| M.[1073-3](http://www.itu.int/rec/R-REC-M.1073/en) | Digital cellular land mobile telecommunication systems | 15/03/2012 |  |  | 5A |
| M.[1074](http://www.itu.int/rec/R-REC-M.1074/en)-0 | Integration of public mobile radiocommunication systems | 31/09/1994 |  |  | 5A |
| M.[1075](http://www.itu.int/rec/R-REC-M.1075/en)-0 | Leaky feeder systems in the land mobile services | 31/09/1994 |  |  | 5A |
| M.[1076-1](http://www.itu.int/rec/R-REC-M.1076/en) | Wireless communication systems for persons with impaired hearing | 02/02/2015 |  |  | 5A |
| M.[1078](http://www.itu.int/rec/R-REC-M.1078/en)-0 | Security principles for International Mobile Telecommunications-2000 (IMT-2000) | 31/09/1994 |  |  | 5D |
| M.[1079-2](http://www.itu.int/rec/R-REC-M.1079/en) | Performance and quality of service requirements for International Mobile Telecommunications-2000 (IMT‑2000) access networks | 19/06/2003 |  |  | 5D |
| M.[1080](http://www.itu.int/rec/R-REC-M.1080/en)-0 | Digital selective calling system enhancement for multiple equipment installations | 31/09/1994 |  |  | 5B |
| M.[1081-1](http://www.itu.int/rec/R-REC-M.1081/en) | Automatic HF facsimile and data system for maritime mobile users | 15/03/2012 |  |  | 5B |
| M.[1082-1](http://www.itu.int/rec/R-REC-M.1082/en) | International maritime MF/HF radiotelephone system with automatic facilities based on digital selective calling signalling format | 24/10/1997 |  | *Editorially updated by SG 5 on 22 Nov. 2011* | 5B |
| M.[1084-5](http://www.itu.int/rec/R-REC-M.1084/en) | Interim solutions for improved efficiency in the use of the band 156‑174 MHz by stations in the maritime mobile service | 15/03/2012 | *Incorporated by reference* |  | 5B |
| M.[1085-1](http://www.itu.int/rec/R-REC-M.1085/en) | Technical and operational characteristics of wind profiler radars for bands in the vicinity of 400 MHz | 28/02/1997 |  |  | 5B |
| F.[1093-2](http://www.itu.int/rec/R-REC-F.1093/en) | Effects of multipath propagation on the design and operation of line-of-sight digital fixed wireless systems | 27/04/2006 |  |  | 5C |
| F.[1094-2](http://www.itu.int/rec/R-REC-F.1094/en) | Maximum allowable error performance and availability degradations to digital fixed wireless systems arising from radio interference from emissions and radiations from other sources | 22/09/2007 |  |  | 5C |
| F.[1095](http://www.itu.int/rec/R-REC-F.1095/en)-0 | A procedure for determining coordination area between radio‑relay stations of the fixed service | 01/09/1994 |  |  | 5C |
| F.[1096-1](http://www.itu.int/rec/R-REC-F.1096/en) | Methods of calculating line-of-sight interference into fixed wireless systems to account for terrain scattering | 19/04/2011 |  |  | 5C |
| F.[1097-1](http://www.itu.int/rec/R-REC-F.1097/en) | Interference mitigation options to enhance compatibility between radar systems and digital radio-relay systems | 05/05/2000 |  | *Editorially updated by SG 5 December 2009* | 5C |
| F.[1098-1](http://www.itu.int/rec/R-REC-F.1098/en) | Radio-frequency channel arrangements for fixed wireless systems in the 1 900-2 300 MHz band | 20/10/1995 |  | *Editorially updated in accordance with Resolution ITU-R 44* | 5C |
| F.[1099-5](http://www.itu.int/rec/R-REC-F.1099/en) | Radio-frequency channel arrangements for high- and medium-capacity digital fixed wireless systems in the upper 4 GHz (4 400‑5 000 MHz) band | 11/02/2013 |  |  | 5C |
| F.[1101](http://www.itu.int/rec/R-REC-F.1101/en)-0 | Characteristics of digital fixed wireless systems below about 17 GHz | 01/09/1994 |  |  | 5C |
| F.[1102-2](http://www.itu.int/rec/R-REC-F.1102/en) | Characteristics of fixed wireless systems operating in frequency bands above about 17 GHz | 29/01/2005 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[1103-1](http://www.itu.int/rec/R-REC-F.1103/en) | 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 | 22/09/2007 |  |  | 5A |
| F.[1105-4](http://www.itu.int/rec/R-REC-F.1105/en) | Fixed wireless systems for disaster mitigation and relief operations | 27/01/2019 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[1106](http://www.itu.int/rec/R-REC-F.1106/en)-0 | Effects of propagation on the design and operation of trans‑horizon radio-relay systems | 01/09/1994 |  |  | 5C |
| F.[1107-2](http://www.itu.int/rec/R-REC-F.1107/en) | Probabilistic analysis for assessing interference into the fixed service from satellites using the geostationary orbit | 04/05/2011 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[1108-4](http://www.itu.int/rec/R-REC-F.1108/en) | Determination of the criteria to protect fixed service receivers from the emissions of space stations operating in non-geostationary orbits in shared frequency bands | 29/01/2005 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[1110-3](http://www.itu.int/rec/R-REC-F.1110/en) | Adaptive radio systems for frequencies below about 30 MHz | 26/02/2003 |  | *Editorially updated by SG 5 Dec. 2009.* | 5C |
| F.[1111-1](http://www.itu.int/rec/R-REC-F.1111/en) | Improved Lincompex system for HF radiotelephone circuits | 20/10/1995 |  |  | 5C |
| F.[1112-1](http://www.itu.int/rec/R-REC-F.1112/en) | Digitized speech transmissions for systems operating below about 30 MHz | 20/10/1995 |  |  | 5C |
| F.[1113](http://www.itu.int/rec/R-REC-F.1113/en)-0 | Radio systems employing meteor-burst propagation | 01/09/1994 |  |  | 5C |
| M.[1168](http://www.itu.int/rec/R-REC-M.1168/en)-0 | Framework of International Mobile Telecommunications-2000 (IMT‑2000) | 20/10/1995 |  |  | 5D |
| M.[1170-1](http://www.itu.int/rec/R-REC-M.1170/en) | Morse telegraphy procedures in the maritime mobile service | 15/03/2012 |  |  | 5B |
| M.[1171](http://www.itu.int/rec/R-REC-M.1171/en)-0 | Radiotelephony procedures in the maritime mobile service | 20/10/1995 | *Incorporated by reference* |  | 5B |
| M.[1172](http://www.itu.int/rec/R-REC-M.1172/en)-0 | Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service | 20/10/1995 | *Incorporated by reference* |  | 5B |
| M.[1173-1](http://www.itu.int/rec/R-REC-M.1173/en) | 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 | 15/03/2012 | *Incorporated by reference* |  | 5B |
| M.[1174-4](http://www.itu.int/rec/R-REC-M.1174/en) | Technical characteristics of equipment used for on-board vessel communications in the bands between 450 and 470 MHz | 25/10/2019 | *Incorporated by reference* | *Revision approved by RA‑19* | 5B |
| M.[1175](http://www.itu.int/rec/R-REC-M.1175/en)-0 | Automatic receiving equipment for radiotelegraph and radiotelephone alarm signals | 20/10/1995 |  |  | 5B |
| M.[1176-1](http://www.itu.int/rec/R-REC-M.1176/en) | Technical parameters of radar target enhancers | 11/02/2013 |  |  | 5B |
| M.[1177-4](http://www.itu.int/rec/R-REC-M.1177/en) | Techniques for measurement of unwanted emissions of radar systems | 19/04/2011 |  |  | 5B |
| M.[1178](http://www.itu.int/rec/R-REC-M.1178/en)-0 | Use of the maritime radionavigation band 283.5‑315 kHz (Region 1) and 285-325 kHz (Regions 2 and 3) | 20/10/1995 |  |  | 5B |
| M.[1179](http://www.itu.int/rec/R-REC-M.1179/en)-0 | 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 | 20/10/1995 |  | *Editorially updated by SG 5 May 2009* | 5B |
| M.[1182-1](http://www.itu.int/rec/R-REC-M.1182/en) | Integration of terrestrial and satellite mobile communication systems | 19/06/2003 |  | *Res. 44 update at SG 8 on Dec. 2004. To be jointly approved by SGs 4 and 5* | 4B, 5D |
| F.[1190](http://www.itu.int/rec/R-REC-F.1190/en)-0 | Protection criteria for digital radio-relay systems to ensure compatibility with radar systems in the radiodetermination service | 20/10/1995 |  |  | 5C |
| F.[1191-3](http://www.itu.int/rec/R-REC-F.1191/en) | Necessary and occupied bandwidths and unwanted emissions of digital fixed service systems | 04/05/2011 |  |  | 5A, 5C |
| F.[1192](http://www.itu.int/rec/R-REC-F.1192/en)-0 | Traffic capacity of automatically controlled radio systems and networks in the HF fixed service | 20/10/1995 |  |  | 5C |
| M.[1223-0](http://www.itu.int/rec/R-REC-M.1223/en) | Evaluation of security mechanisms for IMT-2000 | 28/02/1997 |  |  | 5D |
| M.[1224-1](http://www.itu.int/rec/R-REC-M.1224/en) | Vocabulary of terms for International Mobile Telecommunications (IMT) | 15/03/2012 |  |  | 5D |
| M.[1225-0](http://www.itu.int/rec/R-REC-M.1225/en) | Guidelines for evaluation of radio transmission technologies for IMT-2000 | 28/02/1997 |  |  | 5D |
| M.[1226-0](http://www.itu.int/rec/R-REC-M.1226/en) | Technical and operational characteristics of wind profiler radars in bands in the vicinity of 50 MHz | 28/02/1997 |  |  | 5B |
| M.[1227-2](http://www.itu.int/rec/R-REC-M.1227/en) | Technical and operational characteristics of wind profiler radars in bands in the vicinity of 1 000 MHz | 14/08/2001 |  | *Scope added editorially by SG 5 Feb 2008* | 5B |
| F.[1242](http://www.itu.int/rec/R-REC-F.1242/en)-0 | Radio-frequency channel arrangements for digital radio systems operating in the range 1 350 MHz to 1 530 MHz | 28/05/1997 |  |  | 5C |
| F.[1243](http://www.itu.int/rec/R-REC-F.1243/en)-0 | Radio-frequency channel arrangements for digital radio systems operating in the range 2 290-2 670 MHz | 28/05/1997 |  |  | 5C |
| F.[1245-3](http://www.itu.int/rec/R-REC-F.1245/en) | Mathematical model of average and related radiation patterns for point-to-point fixed wireless system antennas for use in interference assessment in the frequency range from 1 GHz to 86 GHz | 30/01/2019 |  |  | 5C |
| F.[1246](http://www.itu.int/rec/R-REC-F.1246/en)-0 | 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 | 28/05/1997 |  | *Jointly developed by SGs 8 and 9. Editorially updated in accordance with Resolution ITU-R 44* | 5C |
| F.[1247-4](http://www.itu.int/rec/R-REC-F.1247/en) | 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 | 30/09/2015 |  |  | 5A, 5C |
| F.[1248](http://www.itu.int/rec/R-REC-F.1248/en)-0 | 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 | 28/05/1997 |  | *Jointly developed by SGs 7 and 9. Res. 44 update at SG 9 May 2007* | 5C |
| F.[1249-5](http://www.itu.int/rec/R-REC-F.1249/en) | 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 | 30/01/2018 |  | *Jointly developed by SGs 5 and 7* | 5C |
| M.[1307-0](http://www.itu.int/rec/R-REC-M.1307/en) | Automatic determination of location and guidance in the land mobile services | 24/10/1997 |  |  | 5A |
| M.[1308-0](http://www.itu.int/rec/R-REC-M.1308/en) | Evolution of land mobile systems towards IMT-2000 | 24/10/1997 |  |  | 5A |
| M.[1311-0](http://www.itu.int/rec/R-REC-M.1311/en) | Framework for modularity and radio commonality within IMT-2000 | 24/10/1997 |  |  | 5D |
| M.[1312-0](http://www.itu.int/rec/R-REC-M.1312/en) | A long-term solution for improved efficiency in the use of the band 156‑174 MHz by stations in the maritime mobile service | 24/10/1997 |  |  | 5B |
| M.[1314-1](http://www.itu.int/rec/R-REC-M.1314/en) | Reduction of unwanted emissions of radar systems operating above 400 MHz | 15/06/2005 |  |  | 5B |
| F.[1330-2](http://www.itu.int/rec/R-REC-F.1330/en) | 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 | 27/04/2006 |  |  | 5C |
| F.[1332-1](http://www.itu.int/rec/R-REC-F.1332/en) | Radio-frequency signal transport through optical fibres | 25/05/1999 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1333-1](http://www.itu.int/rec/R-REC-F.1333/en) | Estimation of the actual elevation angle from a station in the fixed service towards a space station taking into account atmospheric refraction | 25/05/1999 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1334](http://www.itu.int/rec/R-REC-F.1334/en)-0 | 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 | 30/07/1997 |  | *Res. 44 update at SG 9 May 2007* | 5C |
| F.[1335](http://www.itu.int/rec/R-REC-F.1335/en)-0 | Technical and operational considerations in the phased transitional approach for bands shared between the mobile‑satellite service and the fixed service at 2 GHz | 30/07/1997 |  |  | 5C |
| F.[1336-5](http://www.itu.int/rec/R-REC-F.1336/en) | Reference radiation patterns of omnidirectional, sectoral and other antennas for the fixed and mobile services for use in sharing studies in the frequency range from 400 MHz to about 70 GHz | 30/01/2019 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[1337](http://www.itu.int/rec/R-REC-F.1337/en)-0 | Frequency management of adaptive HF radio systems and networks using FMCW oblique-incidence sounding | 30/07/1997 |  |  | 5C |
| F.[1338](http://www.itu.int/rec/R-REC-F.1338/en)-0 | 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 | 24/10/1997 |  | *Jointly developed by SGs 6 and 9. Res. 44 update at SG 9 May 2007* | 5C |
| M.[1371-5](http://www.itu.int/rec/R-REC-M.1371/en) | Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile band | 18/02/2014 |  | *Editorially updated by SG 5 on 11 Nov. 2014* | 5B |
| M.[1372-1](http://www.itu.int/rec/R-REC-M.1372/en) | Efficient use of the radio spectrum by radar stations in the radiodetermination service | 06/06/2003 |  |  | 5B |
| M.[1388-0](http://www.itu.int/rec/R-REC-M.1388/en) | 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 | 14/01/1999 |  |  | 5A |
| M.[1390-0](http://www.itu.int/rec/R-REC-M.1390/en) | Methodology for the calculation of IMT-2000 terrestrial spectrum requirements | 14/01/1999 |  |  | 5D |
| SF.[1395-0](http://www.itu.int/rec/R-REC-SF.1395/en) | Minimum propagation attenuation due to atmospheric gases for use in frequency sharing studies between the fixed-satellite service and the fixed service | 21/03/1993 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| F.[1399-1](http://www.itu.int/rec/R-REC-F.1399/en) | Vocabulary of terms for wireless access | 02/05/2001 |  |  | 5A |
| F.[1400](http://www.itu.int/rec/R-REC-F.1400/en)-0 | Performance and availability requirements and objectives for fixed wireless access to public switched telephone network | 25/05/1999 |  |  | 5A |
| F.[1401-1](http://www.itu.int/rec/R-REC-F.1401/en) | Considerations for the identification of possible frequency bands for fixed wireless access and related sharing studies | 06/01/2004 |  | *Editorially updated by SG 5 on 22 Nov. 2011* | 5A |
| F.[1402](http://www.itu.int/rec/R-REC-F.1402/en)-0 | 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 | 25/05/1999 |  |  | 5A |
| F.[1403](http://www.itu.int/rec/R-REC-F.1403/en)-0 | Power flux-density criteria in ITU-R Recommendations for protection of systems in the fixed service shared with space stations of various space services | 25/05/1999 |  |  | 5C |
| F.[1404-1](http://www.itu.int/rec/R-REC-F.1404/en) | 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 | 25/05/2002 |  | *Joint responsibility assigned by SG 5 Nov. 2008.*  *Scope added editorially by SG 5 May 2009* | 5A, 5C |
| M.[1450-5](http://www.itu.int/rec/R-REC-M.1450/en) | Characteristics of broadband radio local area networks | 17/04/2014 |  |  | 5A |
| M.[1452-2](http://www.itu.int/rec/R-REC-M.1452/en) | Millimetre wave vehicular collision avoidance radars and radiocommunication systems for intelligent transport system applications | 22/05/2012 |  |  | 5A |
| M.[1453-2](http://www.itu.int/rec/R-REC-M.1453/en) | Transport information and control systems – dedicated short range communications at 5.8 GHz | 15/06/2005 |  |  | 5A |
| M.[1454-0](http://www.itu.int/rec/R-REC-M.1454/en) | 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 | 05/05/2000 |  | *To be jointly approved by SGs 4 and 5.*  *Scope added editorially by SG 5 Feb. 2008* | 4A, 5A |
| M.[1456-0](http://www.itu.int/rec/R-REC-M.1456/en) | 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 | 05/05/2000 |  | *Scope added editorially by SG 5 Nov. 2008* | 5D |
| M.[1457-14](http://www.itu.int/rec/R-REC-M.1457/en) | Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-2000 (IMT‑2000) | 27/01/2019 |  |  | 5D |
| M.[1458-0](http://www.itu.int/rec/R-REC-M.1458/en) | Use of the frequency bands between 2.8-22 MHz by the aeronautical mobile (R) service for data transmission using class of emission J2D | 05/05/2000 |  | *Scope added editorially by SG 5 Feb. 2008* | 5B |
| M.[1459-0](http://www.itu.int/rec/R-REC-M.1459/en) | 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 | 05/05/2000 |  | *To be jointly approved by SGs 4 and 5. Scope added editorially by SG 5 Feb. 2008* | 4A, 4C, 5B |
| M.[1460-2](http://www.itu.int/rec/R-REC-M.1460/en) | Technical and operational characteristics and protection criteria of radiodetermination radars in the frequency band 2 900‑3 100 MHz | 02/02/2015 |  |  | 5B |
| M.[1461-](http://www.itu.int/rec/R-REC-M.1461/en)2 | Procedures for determining the potential for interference between radars operating in the radiodetermination service and systems in other services | 29/01/2018 |  |  | 5B |
| M.[1462-1](http://www.itu.int/rec/R-REC-M.1462/en) | Characteristics of and protection criteria for radars operating in the radiolocation service in the frequency range 420-450 MHz | 30/01/2019 |  |  | 5B |
| M.[1463-3](http://www.itu.int/rec/R-REC-M.1463/en) | Characteristics of and protection criteria for radars operating in the radiodetermination service in the frequency band 1 215-1 400 MHz | 02/02/2015 |  |  | 5B |
| M.[1464-2](http://www.itu.int/rec/R-REC-M.1464/en) | Characteristics of non-meteorological radiolocation radars, and characteristics and protection criteria for sharing studies for aeronautical radionavigation and radars in the radiodetermination service operating in the frequency band 2 700‑2 900 MHz | 02/02/2015 |  |  | 5B |
| M.[1465-3](http://www.itu.int/rec/R-REC-M.1465/en) | Characteristics of and protection criteria for radars operating in the radiodetermination service in the frequency range 3 100‑3 700 MHz | 30/01/2018 |  |  | 5B |
| M.[1466-1](http://www.itu.int/rec/R-REC-M.1466/en) | Characteristics of and protection criteria for radars operating in the radionavigation service in the frequency band 31.8-33.4 GHz | 30/01/2017 |  |  | 5B |
| M.[1467-1](http://www.itu.int/rec/R-REC-M.1467/en) | Prediction of sea area A2 and NAVTEX ranges and protection of the A2 global maritime distress and safety system distress watch channel | 20/03/2006 |  |  | 5B |
| SF.[1482-0](http://www.itu.int/rec/R-REC-SF.1482/en) | 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 | 05/05/2000 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[1483-0](http://www.itu.int/rec/R-REC-SF.1483/en) | 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 | 05/05/2000 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[1485](http://www.itu.int/rec/R-REC-SF.1485/en)-0 | 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 | 05/05/2000 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[1486-0](http://www.itu.int/rec/R-REC-SF.1486/en) | 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 | 05/05/2000 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| F.[1487-0](http://www.itu.int/rec/R-REC-F.1487/en) | Testing of HF modems with bandwidths of up to about 12 kHz using ionospheric channel simulators | 05/05/2000 |  | *Editorially updated by SG 5 December 2009* | 5C |
| F.[1488-0](http://www.itu.int/rec/R-REC-F.1488/en) | Frequency block arrangements for fixed wireless access systems in the range 3 400-3 800 MHz | 05/05/2000 |  | *Scope added editorially by SG 5 May 2009* | 5A |
| F.[1489-0](http://www.itu.int/rec/R-REC-F.1489/en) | 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 | 05/05/2000 |  |  | 5A |
| F.[1490-1](http://www.itu.int/rec/R-REC-F.1490/en) | Generic requirements for fixed wireless access systems | 22/09/2007 |  |  | 5A |
| F.[1494-0](http://www.itu.int/rec/R-REC-F.1494/en) | 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 | 05/05/2000 |  | *Editorially updated by SG 5 May 2009* | 5C |
| F.[1495-2](http://www.itu.int/rec/R-REC-F.1495/en) | 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 | 15/03/2012 |  |  | 5C |
| F.[1496-1](http://www.itu.int/rec/R-REC-F.1496/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the band 51.4-52.6 GHz | 02/02/2002 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1497-2](http://www.itu.int/rec/R-REC-F.1497/en) | Radio-frequency channel arrangements for fixed wireless systems operating in the band 55.78-66 GHz | 18/02/2014 |  |  | 5C |
| F.[1498-1](http://www.itu.int/rec/R-REC-F.1498/en) | Deployment characteristics of fixed service systems in the band 37-40 GHz for use in sharing studies | 25/05/2002 |  | *Editorially updated by SG 5 May 2009* | 5C |
| F.[1499-0](http://www.itu.int/rec/R-REC-F.1499/en) | Radio transmission systems for fixed broadband wireless access based on cable modem standard | 05/05/2000 |  |  | 5A |
| F.[1500-0](http://www.itu.int/rec/R-REC-F.1500/en) | 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 | 05/05/2000 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1501-0](http://www.itu.int/rec/R-REC-F.1501/en) | 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 | 05/05/2000 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1502-0](http://www.itu.int/rec/R-REC-F.1502/en) | 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) | 05/05/2000 |  | *Res. 44 update at SG 9 March 2004* | 5C |
| F.[1509-4](http://www.itu.int/rec/R-REC-F.1509/en) | 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 | 30/01/2018 |  |  | 5A, 5C |
| F.[1518-0](http://www.itu.int/rec/R-REC-F.1518/en) | 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 | 02/05/2001 |  |  | 5A |
| F.[1519-0](http://www.itu.int/rec/R-REC-F.1519/en) | Guidance on frequency arrangements based on frequency blocks for systems in the fixed service | 02/05/2001 |  | *Joint responsibility assigned by SG 5 Nov. 2008.*  *Editorially updated by SG 5 Dec. 2009* | 5A, 5C |
| F.[1520-3](http://www.itu.int/rec/R-REC-F.1520/en) | Radio-frequency arrangements for systems in the fixed service operating in the band 31.8-33.4 GHz | 19/04/2011 |  |  | 5C |
| M.[1544-1](http://www.itu.int/rec/R-REC-M.1544/en) | Minimum qualifications of radio amateurs | 30/09/2015 |  |  | 5A |
| M.[1545-0](http://www.itu.int/rec/R-REC-M.1545/en) | Measurement uncertainty as it applies to test limits for the terrestrial component of International Mobile Telecommunications-2000 | 14/08/2001 |  | *Scope added editorially by SG 5 Nov. 08* | 5D |
| F.[1565-1](http://www.itu.int/rec/R-REC-F.1565/en) | 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 | 18/11/2019 |  |  | 5C |
| F.[1566-1](http://www.itu.int/rec/R-REC-F.1566/en) | Performance limits for maintenance of digital fixed wireless systems operating in plesiochronous and synchronous digital hierarchy-based international paths and sections | 06/01/2007 |  |  | 5C |
| F.[1567-0](http://www.itu.int/rec/R-REC-F.1567/en) | Radio-frequency channel arrangement for digital fixed wireless systems operating in the frequency band 406.1-450 MHz | 25/05/2002 |  | *Editorial update agreed during May 2009 SG 5 meeting* | 5A, 5C |
| F.[1568-1](http://www.itu.int/rec/R-REC-F.1568/en) | Radio-frequency block arrangements for fixed wireless access systems in the range 10.15-10.3/10.5-10.65 GHz | 29/01/2005 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[1569-0](http://www.itu.int/rec/R-REC-F.1569/en) | 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 | 25/05/2002 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1570-2](http://www.itu.int/rec/R-REC-F.1570/en) | 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 | 19/04/2010 |  |  | 5C |
| F.[1571-0](http://www.itu.int/rec/R-REC-F.1571/en) | 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 | 25/05/2002 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| SF.[1572-0](http://www.itu.int/rec/R-REC-SF.1572/en) | 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 | 15/05/2002 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| M.[1579-2](http://www.itu.int/rec/R-REC-M.1579/en) | Global circulation of IMT terrestrial terminals | 27/01/2015 |  |  | 5D |
| M.[1580-5](http://www.itu.int/rec/R-REC-M.1580/en) | Generic unwanted emission characteristics of base stations using the terrestrial radio interfaces of IMT‑2000 | 20/02/2014 |  |  | 5D |
| M.[1581-5](http://www.itu.int/rec/R-REC-M.1581/en) | Generic unwanted emission characteristics of mobile stations using the terrestrial radio interfaces of IMT‑2000 | 20/02/2014 |  |  | 5D |
| M.[1582-0](http://www.itu.int/rec/R-REC-M.1582/en) | 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) | 30/07/2002 |  | *Res. 44 update at SG 8 Dec. 2004. To be jointly approved by SGs 4 and 5* | 4C, 5B |
| M.[1584-0](http://www.itu.int/rec/R-REC-M.1584/en) | 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 | 30/07/2002 |  | *Res. 44 update at SG 8 Dec. 2004. To be jointly approved by SGs 4 and 5* | 4C, 5B |
| SF.[1585-0](http://www.itu.int/rec/R-REC-SF.1585/en) | 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 | 05/09/2002 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[1601-2](http://www.itu.int/rec/R-REC-SF.1601/en) | 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 | 08/02/2007 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[1602-0](http://www.itu.int/rec/R-REC-SF.1602/en) | Methodology for determining power flux-density statistics for use in sharing studies between fixed wireless systems and multiple fixed-satellite service satellites | 05/02/2003 |  | *To be jointly approved by SGs 4 and 5*  *Editorially updated by SG 5 Nov. 2010* | 4A, 5C |
| F.[1605-0](http://www.itu.int/rec/R-REC-f.1605/en) | Error performance and availability estimation for synchronous digital hierarchy terrestrial fixed wireless systems | 26/02/2003 |  | *Editorially updated by SG 5 May 2009* | 5C |
| F.[1606-0](http://www.itu.int/rec/R-REC-F.1606/en) | Interference criteria to protect fixed wireless systems from time varying aggregate interference produced by non-GSO satellites operating in other services sharing the 37-40 GHz and 40.5‑42.5 GHz bands on a co‑primary basis | 26/02/2003 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1607-0](http://www.itu.int/rec/R-REC-F.1607/en) | Interference mitigation techniques for use by high altitude platform stations in the 27.5-28.35 GHz and 31.0‑31.3 GHz bands | 26/02/2003 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1608-0](http://www.itu.int/rec/R-REC-F.1608/en) | 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 | 26/02/2003 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1609-1](http://www.itu.int/rec/R-REC-F.1609/en) | 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 | 27/04/2006 |  |  | 5C |
| F.[1610-0](http://www.itu.int/rec/R-REC-F.1610/en) | Planning, design and implementation of HF fixed service radio systems | 26/02/2003 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1611-0](http://www.itu.int/rec/R-REC-F.1611/en) | Prediction methods for adaptive HF system planning and operation | 26/02/2003 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1612-0](http://www.itu.int/rec/R-REC-F.1612/en) | 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 | 26/02/2003 |  | *Editorially updated by SG 5 Dec. 2009* | 5C |
| F.[1613-0](http://www.itu.int/rec/R-REC-F.1613/en) | 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 | 26/02/2003 | *Incorporated by reference* | *Jointly developed by SGs 7 and 9* | 5A |
| M.[1634-0](http://www.itu.int/rec/R-REC-M.1634/en) | Interference protection of terrestrial mobile service systems using Monte Carlo simulation with application to frequency sharing | 19/06/2003 |  |  | 5A |
| M.[1635-0](http://www.itu.int/rec/R-REC-M.1635/en) | General methodology for assessing the potential for interference between IMT-2000 or systems beyond IMT-2000 and other services | 19/06/2003 |  |  | 5D |
| M.[1637-1](http://www.itu.int/rec/R-REC-M.1637/en) | Global cross-border circulation of radiocommunication equipment for use in emergency and disaster relief situations | 30/01/2019 |  |  | 5A |
| M.[1638-1](http://www.itu.int/rec/R-REC-M.1638/en) | Characteristics of and protection criteria for sharing studies for radiolocation (except ground based meteorological radars) and aeronautical radionavigation radars operating in the frequency bands between 5 250 and 5 850 MHz | 27/01/2015 | *M.1638-0 is incorporated by reference. See Res.* ***764******(WRC-15)*** |  | 5B |
| M.[1640-](http://www.itu.int/rec/R-REC-M.1640/en)1 | Characteristics of, and protection criteria for sharing studies for radars operating in the radiodetermination service in the frequency band 33.4‑36 GHz | 30/01/2018 |  |  | 5B |
| M.[1641-1](http://www.itu.int/rec/R-REC-M.1641/en) | 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 | 19/03/2006 |  |  | 5D |
| M.[1644-0](http://www.itu.int/rec/R-REC-M.1644/en) | 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 | 06/06/2003 |  |  | 5B |
| M.[1645-0](http://www.itu.int/rec/R-REC-M.1645/en) | Framework and overall objectives of the future development of IMT-2000 and systems beyond IMT-2000 | 06/06/2003 |  | *To be jointly approved by SGs 4 and 5* | 4B, 5D |
| M.[1646-0](http://www.itu.int/rec/R-REC-M.1646/en) | 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 | 06/06/2003 |  | *Scope added editorially by SG 5 Nov. 08* | 5D |
| SF.[1648-0](http://www.itu.int/rec/R-REC-SF.1648/en) | Use of frequencies by earth stations on board vessels transmitting in certain bands allocated to the fixed-satellite service | 06/06/2003 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[1649-1](http://www.itu.int/rec/R-REC-SF.1649/en) | 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 | 09/08/2008 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[1650-1](http://www.itu.int/rec/R-REC-SF.1650/en) | 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 | 24/02/2005 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| M.[1651-0](http://www.itu.int/rec/R-REC-M.1651/en) | A method for assessing the required spectrum for broadband nomadic wireless access systems including radio local area networks using the 5 GHz band | 06/06/2003 |  |  | 5A |
| M.[1652-1](http://www.itu.int/rec/R-REC-M.1652/en) | 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 | 04/05/2011 | *Annex 1 is incorporated by reference* | *Referenced in* resolves *8 of Res.****229****.* | 5A |
| M.[1653-0](http://www.itu.int/rec/R-REC-M.1653/en) | 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 | 06/06/2003 |  | *Scope added editorially by SG 5 Feb. 2008* | 5A |
| M.[1654-0](http://www.itu.int/rec/R-REC-M.1654/en) | 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 | 06/06/2003 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5D |
| F.[1668-1](http://www.itu.int/rec/R-REC-F.1668/en) | Error performance objectives for real digital fixed wireless links used in 27 500 km hypothetical reference paths and connections | 06/01/2007 |  |  | 5C |
| F.[1669-1](http://www.itu.int/rec/R-REC-F.1669/en) | 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 | 22/09/2007 |  |  | 5C |
| F.[1670-1](http://www.itu.int/rec/R-REC-F.1670/en) | Protection of fixed wireless systems from terrestrial digital video and sound broadcasting systems in shared VHF and UHF bands | 03/05/2006 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[1671-0](http://www.itu.int/rec/R-REC-F.1671/en) | Guidelines for a process to address the deployment of area‑licensed fixed wireless systems operating in neighbouring countries | 06/01/2004 |  | *Joint responsibility assigned by SG 5 Nov. 2008. Scope added editorially by SG 5 May 2009* | 5A, 5C |
| M.[1677-1](http://www.itu.int/rec/R-REC-M.1677/en) | International Morse code | 03/10/2009 |  |  | 5A |
| M.[1678-0](http://www.itu.int/rec/R-REC-M.1678/en) | Adaptive antennas for mobile systems | 03/05/2004 |  | *Scope added editorially by SG 5 Feb. 2008* | 5A |
| F.[1703-0](http://www.itu.int/rec/R-REC-F.1703/en) | Availability objectives for real digital fixed wireless links used in 27 500 km hypothetical reference paths and connections | 24/01/2005 |  | *Editorially updated by SG 5 on 11 Nov. 2014* | 5C |
| F.[1704-0](http://www.itu.int/rec/R-REC-F.1704/en) | Characteristics of multipoint-to-multipoint fixed wireless systems with mesh network topology operating in frequency bands above about 17 GHz | 24/01/2005 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[1705-0](http://www.itu.int/rec/R-REC-F.1705/en) | Analysis and optimization of the error performance of digital fixed wireless systems for the purpose of bringing into service and maintenance | 24/01/2005 |  |  | 5C |
| F.[1706-0](http://www.itu.int/rec/R-REC-F.1706/en) | 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 | 24/01/2005 |  |  | 5C |
| SF.[1707-0](http://www.itu.int/rec/R-REC-SF.1707/en) | Methods to facilitate the implementation of large numbers of earth stations in the FSS in areas where terrestrial services are also deployed | 07/04/2005 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| SF.[1719-0](http://www.itu.int/rec/R-REC-SF.1719/en) | 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 | 24/02/2005 |  | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| M.[1730-1](http://www.itu.int/rec/R-REC-M.1730/en) | Characteristics of and protection criteria for the radiolocation service in the frequency band 15.4‑17.3 GHz | 03/10/2009 |  |  | 5B |
| M.[1732-2](http://www.itu.int/rec/R-REC-M.1732/en) | Characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies | 30/01/2017 |  |  | 5A |
| M.[1739-0](http://www.itu.int/rec/R-REC-M.1739/en) | 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 | 19/03/2006 |  |  | 5A |
| M.[1746-](http://www.itu.int/rec/R-REC-M.1746/en)1 | Harmonized frequency channel plans for the protection of property using data communication | 19/11/2019 |  |  | 5A |
| F.[1760-0](http://www.itu.int/rec/R-REC-F.1760/en) | 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 | 03/05/2006 |  | *Joint responsibility assigned by SG 5 Nov. 2008* | 5A, 5C |
| F.[1761-0](http://www.itu.int/rec/R-REC-F.1761/en) | Characteristics of HF fixed radiocommunication systems | 03/05/2006 |  |  | 5C |
| F.[1762-0](http://www.itu.int/rec/R-REC-F.1762/en) | Characteristics of enhanced applications for high frequency (HF) radiocommunication systems | 03/05/2006 |  |  | 5C |
| F.[1763-1](http://www.itu.int/rec/R-REC-F.1763/en) | Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz | 18/02/2014 |  |  | 5A |
| F.[1764-1](http://www.itu.int/rec/R-REC-F.1764/en) | 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 | 04/05/2011 |  |  | 5C |
| F.[1765-0](http://www.itu.int/rec/R-REC-F.1765/en) | 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 | 27/04/2006 |  |  | 5C |
| F.[1766-0](http://www.itu.int/rec/R-REC-F.1766/en) | 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 | 27/04/2006 |  | *Joint responsibility assigned by SG 5 Nov. 2008*  *Editorially updated by SG 5 on 20 Nov. 2017* | 5A, 5C |
| M.[1767-0](http://www.itu.int/rec/R-REC-M.1767/en) | 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 | 02/06/2006 |  |  | 5A |
| M.[1768-1](http://www.itu.int/rec/R-REC-M.1768/en) | Methodology for calculation of spectrum requirements for the terrestrial component of International Mobile Telecommunications | 08/04/2013 |  |  | 5D |
| F.[1777-2](http://www.itu.int/rec/R-REC-F.1777/en) | System characteristics of television outside broadcast, electronic news gathering and electronic field production in the fixed service for use in sharing studies | 29/01/2018 |  |  | 5C |
| F.[1778-1](http://www.itu.int/rec/R-REC-F.1778/en) | Channel access requirements for HF adaptive systems in the fixed and land mobile services | 02/02/2015 |  |  | 5C |
| M.[1795-0](http://www.itu.int/rec/R-REC-M.1795/en) | Technical and operational characteristics of land mobile MF/HF systems | 14/03/2007 |  |  | 5C |
| M.[1796-2](http://www.itu.int/rec/R-REC-M.1796/en) | Characteristics of and protection criteria for terrestrial radars operating in the radiodetermination service in the frequency band 8 500-10 680 MHz | 18/02/2014 |  |  | 5B |
| M.[1797-0](http://www.itu.int/rec/R-REC-M.1797/en) | Vocabulary of terms for the land mobile service | 08/03/2007 |  |  | 5A |
| M.[1798-1](http://www.itu.int/rec/R-REC-M.1798/en) | Characteristics of HF radio equipment for the exchange of digital data and electronic mail in the maritime mobile service | 19/04/2010 |  |  | 5B |
| M.[1801-2](http://www.itu.int/rec/R-REC-M.1801/en) | Radio interface standards for broadband wireless access systems, including mobile and nomadic applications, in the mobile service operating below 6 GHz | 11/02/2013 |  |  | 5A |
| M.[1802-1](http://www.itu.int/rec/R-REC-M.1802/en) | Characteristics and protection criteria for radars operating in the radiolocation service in the frequency band 30-300 MHz | 19/04/2010 |  |  | 5B |
| M.[1808-](http://www.itu.int/rec/R-REC-M.1808/en)1 | 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 | 19/11/2019 |  |  | 5A |
| F.[1819-0](http://www.itu.int/rec/R-REC-F.1819/en) | 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 bands | 22/09/2007 |  |  | 5C |
| F.[1820-0](http://www.itu.int/rec/R-REC-F.1820/en) | Power flux density at international borders for high altitude platform stations providing fixed wireless access services to protect fixed service in neighbouring countries in the 47.2-47.5 GHz and 47.9‑48.2 GHz bands | 22/09/2007 |  |  | 5C |
| F.[1821-0](http://www.itu.int/rec/R-REC-F.1821/en) | Characteristics of advanced digital high frequency (HF) radiocommunication systems | 22/09/2007 |  |  | 5C |
| M.[1822-0](http://www.itu.int/rec/R-REC-M.1822/en) | Framework for services supported by IMT | 25/10/2007 |  |  | 5D |
| M.[1823-0](http://www.itu.int/rec/R-REC-M.1823/en) | Technical and operational characteristics of digital cellular land mobile systems for use in sharing studies | 25/10/2007 |  |  | 5A |
| M.[1824-1](http://www.itu.int/rec/R-REC-M.1824/en) | System characteristics of television outside broadcast, electronic news gathering and electronic field production in the mobile service for use in sharing studies | 02/02/2015 |  |  | 5A |
| M.[1825-0](http://www.itu.int/rec/R-REC-M.1825/en) | Guidance on technical parameters and methodologies for sharing studies related to systems in the land mobile service | 25/10/2007 |  |  | 5A |
| M.[1826-](http://www.itu.int/rec/R-REC-M.1826/en)1 | Harmonized frequency channel plan for broadband public protection and disaster relief operations at 4 940-4 990 MHz in Regions 2 and 3 | 19/11/2019 |  |  | 5A |
| M.[1827-1](http://www.itu.int/rec/R-REC-M.1827/en) | Guideline on technical and operational requirements for stations of the aeronautical mobile (R) service limited to surface application at airports in the frequency band 5 091-5 150 MHz | 27/01/2015 | *Incorporated by reference* |  | 5B |
| M.[1828-0](http://www.itu.int/rec/R-REC-M.1828/en) | Technical and operational requirements for aircraft stations of aeronautical mobile service limited to transmission for flight testing in the bands around 5 GHz | 25/10/2007 |  |  | 5B |
| M.[1829-0](http://www.itu.int/rec/R-REC-M.1829/en) | 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 | 25/10/2007 |  |  | 5B |
| M.[1830-0](http://www.itu.int/rec/R-REC-M.1830/en) | Technical characteristics and protection criteria of aeronautical radionavigation service systems in the 645-862 MHz frequency band | 25/10/2007 |  |  | 5B |
| M.[1841-1](http://www.itu.int/rec/R-REC-M.1841/en) | 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 | 11/02/2013 |  |  | 5B |
| M.[1842-1](http://www.itu.int/rec/R-REC-M.1842/en) | Characteristics of VHF radio systems and equipment for the exchange of data and electronic mail in the maritime mobile service RR Appendix 18 channels | 06/06/2009 |  |  | 5B |
| SF.[1843-0](http://www.itu.int/rec/R-REC-SF.1843/en) | 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 | 19/10/2007 |  | *To be jointly approved by SGs 4 and 5*  *Editorially updated by SG 5 Nov. 2010* | 4A, 5C |
| M.[1849-2](http://www.itu.int/rec/R-REC-M.1849/en) | Technical and operational aspects of ground-based meteorological radars | 30/01/2019 |  |  | 5B |
| M.[1851-1](http://www.itu.int/rec/R-REC-M.1851/en) | Mathematical models for radiodetermination radar systems antenna patterns for use in interference analyses | 29/01/2018 |  |  | 5B |
| M.[1874-1](http://www.itu.int/rec/R-REC-M.1874/en) | Technical and operational characteristics of oceanographic radars operating in sub-bands within the frequency range 3‑50 MHz | 11/02/2013 |  |  | 5B |
| M.[1890-1](http://www.itu.int/rec/R-REC-M.1890/en) | Operational radiocommunication objectives and requirements for advanced Intelligent Transport Systems | 30/01/2019 |  |  | 5A |
| F.[1891-0](http://www.itu.int/rec/R-REC-F.1891/en) | 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 | 04/05/2011 |  |  | 5C |
| M.[2002-0](http://www.itu.int/rec/R-REC-M.2002/en) | Objectives, characteristics and functional requirements of wide-area sensor and/or actuator network (WASN) systems | 15/03/2012 |  |  | 5A |
| M.[2003-2](http://www.itu.int/rec/R-REC-M.2003/en) | Multiple gigabit wireless systems in frequencies around 60 GHz | 30/01/2018 |  |  | 5A |
| F.[2004-0](http://www.itu.int/rec/R-REC-F.2004/en) | Radio-frequency channel arrangements for fixed service systems operating in the 92-95 GHz range | 15/03/2012 |  |  | 5C |
| F.[2005-0](http://www.itu.int/rec/R-REC-F.2005/en) | Radio-frequency channel and block arrangements for fixed wireless systems operating in the 42 GHz (40.5 to 43.5 GHz) band | 15/03/2012 |  |  | 5C |
| F.[2006-0](http://www.itu.int/rec/R-REC-F.2006/en) | Radio-frequency channel and block arrangements for fixed wireless systems operating in the 71-76 and 81-86 GHz bands | 15/03/2012 |  |  | 5C |
| M.[2007-0](http://www.itu.int/rec/R-REC-M.2007/en) | Characteristics of and protection criteria for radars operating in the aeronautical radionavigation service (ARNS) in the frequency band 5 150‑5 250 MHz | 15/03/2012 |  |  | 5B |
| M.[2008-1](http://www.itu.int/rec/R-REC-M.2008/en) | Characteristics and protection criteria for radars operating in the aeronautical radionavigation service in the frequency band 13.25‑13.40 GHz | 18/02/2014 |  |  | 5B |
| M.[2009-2](http://www.itu.int/rec/R-REC-M.2009/en) | Radio interface standards for use by public protection and disaster relief operations in accordance with Resolution **646 (Rev.WRC-15)** | 30/01/2019 |  |  | 5A |
| M.[2010-1](http://www.itu.int/rec/R-REC-M.2010/en) | 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 | 30/01/2019 |  |  | 5B |
| F.[2011-0](http://www.itu.int/rec/R-REC-F.2011/en) | 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 | 20/01/2012 |  |  | 5C |
| M.[2012-4](http://www.itu.int/rec/R-REC-M.2012/en) | Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications Advanced (IMT-Advanced) | 19/11/2019 |  |  | 5D |
| M.[2013-0](http://www.itu.int/rec/R-REC-M.2013/en) | Technical characteristics of, and protection criteria for non-ICAO aeronautical radionavigation systems, operating around 1 GHz | 20/01/2012 | *Incorporated by reference* |  | 5B |
| M.[2015-2](http://www.itu.int/rec/R-REC-M.2015/en) | Frequency arrangements for public protection and disaster relief radiocommunication systems in accordance with Resolution **646 (Rev.WRC-15)** | 30/01/2018 |  |  | 5A |
| M.[2034-0](http://www.itu.int/rec/R-REC-M.2034/en) | Telegraphic alphabet for data communication by phase shift keying at 31 baud in the amateur and amateur-satellite services | 11/02/2013 |  |  | 5A |
| M.[2057-1](http://www.itu.int/rec/R-REC-M.2057/en) | Systems characteristics of automotive radars operating in the frequency band 76-81 GHz for intelligent transport systems applications | 30/01/2018 |  |  | 5A, 5B |
| M.[2058-0](http://www.itu.int/rec/R-REC-M.2058/en) | 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 | 18/02/2014 |  |  | 5B |
| M.[2059-0](http://www.itu.int/rec/R-REC-M.2059/en) | Operational and technical characteristics and protection criteria of radio altimeters utilizing the band 4 200-4 400 MHz | 20/02/2014 |  |  | 5B |
| M.[2067-0](http://www.itu.int/rec/R-REC-M.2067/en) | Technical characteristics and protection criteria for Wireless Avionics Intra‑Communication systems | 02/02/2015 |  |  | 5B |
| M.[2068-0](http://www.itu.int/rec/R-REC-M.2068/en) | Characteristics of and protection criteria for systems operating in the mobile service in the frequency range 14.5-15.35 GHz | 02/02/2015 |  |  | 5A |
| M.[2069-0](http://www.itu.int/rec/R-REC-M.2069/en) | Antenna rotation variability and effects on antenna coupling for radar interference analysis | 27/01/2015 |  |  | 5B |
| M.[2070-1](http://www.itu.int/rec/R-REC-M.2070/en) | Generic unwanted emission characteristics of base stations using the terrestrial radio interfaces of IMT-Advanced | 09/02/2017 |  |  | 5D |
| M.[2071-1](http://www.itu.int/rec/R-REC-M.2071/en) | Generic unwanted emission characteristics of mobile stations using the terrestrial radio interfaces of IMT-Advanced | 09/02/2017 |  |  | 5D |
| M.[2083-0](http://www.itu.int/rec/R-REC-M.2083/en) | IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond | 29/09/2015 |  |  | 5D |
| M.[2084-](http://www.itu.int/rec/R-REC-M.2084/en)1 | Radio interface standards of vehicle-to-vehicle and vehicle-to-infrastructure communications for Intelligent Transport System applications | 19/11/2019 |  |  | 5A |
| M.[2085-0](http://www.itu.int/rec/R-REC-M.2085/en) | Technical conditions for the use of wireless avionics intra-communication systems operating in the aeronautical mobile (R) service in the frequency band 4 200-4 400 MHz | 30/09/2015 |  |  | 5B |
| F.[2086-0](http://www.itu.int/rec/R-REC-F.2086/en) | Deployment scenarios for point-to-point systems in the fixed service | 30/09/2015 |  |  | 5C |
| M.[2089-0](http://www.itu.int/rec/R-REC-M.2089/en) | Technical characteristics and protection criteria for aeronautical mobile service systems in the frequency range 14.5-15.35 GHz | 30/10/2015 |  |  | 5B |
| M.[2090-0](http://www.itu.int/rec/R-REC-M.2090/en) | Specific unwanted emission limit of IMT mobile stations operating in the frequency band 694-790 MHz for protection of existing services in Region 1 in the frequency band 470-694 MHz | 30/10/2015 |  |  | 5D |
| M.[2092-0](http://www.itu.int/rec/R-REC-M.2092/en) | Technical characteristics for a VHF data exchange system in the VHF maritime mobile band | 30/10/2015 |  |  | 5B |
| M.[2101-0](http://www.itu.int/rec/R-REC-M.2101/en) | Modelling and simulation of IMT networks and systems for use in sharing and compatibility studies | 09/02/2017 |  |  | 5D |
| F.[2113-0](http://www.itu.int/rec/R-REC-F.2113/en) | Error performance and availability objectives and requirements for real point-to-point packet-based radio links | 30/01/2018 |  |  | 5C |
| M.[2114-0](http://www.itu.int/rec/R-REC-M.2114/en) | Technical and operational characteristics of and protection criteria for aeronautical mobile service systems in the frequency bands 22.5-23.6 GHz and 25.25-27.5 GHz | 30/01/2018 |  |  | 5B |
| M.[2115-0](http://www.itu.int/rec/R-REC-M.2115/en) | Technical and operational characteristics of and protection criteria for aeronautical mobile systems operating in the 45.5–47 GHz frequency range | 30/01/2018 |  |  | 5B |
| M.[2116-0](http://www.itu.int/rec/R-REC-M.2116/en) | Technical characteristics and protection criteria for the aeronautical mobile service systems operating within the 4 400-4 990 MHz frequency range | 29/01/2018 |  |  | 5B |
| F.[2119-0](http://www.itu.int/rec/R-REC-M.2119/en) | Guidance on technical parameters and methodologies for sharing and compatibility studies related to fixed and land mobile services in the frequency range 1.5-30 MHz | 27/01/2019 |  |  | 5C |
| M.[2120-0](http://www.itu.int/rec/R-REC-M.2120/en) | Technical characteristics and protection criteria for aeronautical mobile systems operating in the mobile service in the frequency range 21.2-22 GHz | 30/01/2019 |  |  | 5B |
| M.[2121-0](http://www.itu.int/rec/R-REC-M.2121/en) | Harmonization of frequency bands for Intelligent Transport Systems in the mobile service | 30/01/2019 |  |  | 5A |
| M.[2122-0](http://www.itu.int/rec/R-REC-M.2122/en) | Technical and operational characteristics for aeronautical mobile service systems limited to aircraft transmissions of aeronautical mobile telemetry for flight testing in the band 5 150-5 250 MHz in Region 1 and in Brazil in accordance with RR No. **5.446C** | 30/01/2019 |  |  | 5B |
| [M.2134-0](http://www.itu.int/rec/R-REC-M.2134/en) | Receiver characteristics and protection criteria for systems in the mobile service in the frequency range 27.5-29.5 GHz for use in sharing and compatibility studies | 25/10/2019 |  | *Approved by RA-19* | 5A |
| [M.2135-0](http://www.itu.int/rec/R-REC-M.2135/en) | Technical characteristics of autonomous maritime radio devices operating in the frequency band 156-162.05 MHz | 25/10/2019 |  | *Approved by RA-19* | 5B |

Attachment 3

ITU-R Reports assigned to Study Group 5

| Report ITU-R | Title | Approval date | Comments | WP |
| --- | --- | --- | --- | --- |
| M.[319-7](http://www.itu.int/pub/R-REP-M.319) | Characteristics of equipment and principles governing the assignment of frequency channels between 25 and 1 000 MHz for land mobile services | 31/12/1990 |  | 5A |
| M.[588-1](http://www.itu.int/pub/R-REP-M.588) | Black and white facsimile transmissions over combined metallic and radio circuits in the maritime mobile service and in the maritime mobile-satellite service | 31/12/1978 |  | 5B |
| M.[739-1](http://www.itu.int/pub/R-REP-M.739) | Interference due to intermodulation products in the land mobile service between 25 and 1 000 MHz | 31/12/1986 |  | 5A |
| M.[902-1](http://www.itu.int/pub/R-REP-M.902) | Leaky-feeder systems in the land mobile service | 31/12/1990 |  | 5A |
| M.[904-2](http://www.itu.int/pub/R-REP-M.904) | Automatic determination of location and guidance in the land mobile service | 31/12/1990 |  | 5A |
| M.[908-1](http://www.itu.int/pub/R-REP-M.908) | Channel requirements for a digital selective-calling system | 31/12/1986 |  | 5B |
| M.[910-1](http://www.itu.int/pub/R-REP-M.910) | Sharing between the maritime mobile service and the aeronautical radionavigation service in the band 415-526.5 kHz | 31/12/1986 |  | 5B |
| M.[914-2](http://www.itu.int/pub/R-REP-M.914) | Efficient use of the radio spectrum by radar stations in the radiodetermination service | 31/12/1990 |  | 5B |
| M.[927-2](http://www.itu.int/pub/R-REP-M.927) | General considerations relative to harmful interference from the viewpoint of the aeronautical mobile services and the aeronautical radionavigation service | 31/12/1990 |  | 5B |
| M.[929-2](http://www.itu.int/pub/R-REP-M.929) | Compatibility between the broadcasting service in the band of about 87‑108 MHz and the aeronautical services in the band 108‑137 MHz | 31/12/1990 |  | 5B |
| M.[1021-0](http://www.itu.int/pub/R-REP-M.1021) | Equipment characteristics for digital transmission in the land mobile services | 31/12/1986 |  | 5A |
| M.[1023-1](http://www.itu.int/pub/R-REP-M.1023) | Frequency sharing between the land mobile service and the broadcasting service (television) below 1 GHz | 31/12/1990 |  | 5A |
| M.[1025-1](http://www.itu.int/pub/R-REP-M.1025) | Technical and operating characteristics of cordless telephones | 31/12/1990 |  | 5A |
| M.[1153-0](http://www.itu.int/pub/R-REP-M.1153) | Future public land mobile telecommunication systems | 31/12/1990 |  | 5D |
| M.[1155-0](http://www.itu.int/pub/R-REP-M.1155) | Adaptation of mobile radiocommunication technology to the needs of developing countries | 31/12/1990 |  | 5A, 5D |
| M.[1156-0](http://www.itu.int/pub/R-REP-M.1156) | Digital cellular public land mobile telecommunication systems (DCPLMTS) | 31/12/1990 |  | 5A |
| M.[1157-0](http://www.itu.int/pub/R-REP-M.1157) | Integration of public mobile radiocommunication systems | 31/12/1990 |  | 5A |
| M.[1158-0](http://www.itu.int/pub/R-REP-M.1158) | Data communication in the maritime mobile services using MF, HF and VHF frequencies | 31/12/1990 |  | 5B |
| M.[1159-0](http://www.itu.int/pub/R-REP-M.1159) | Characteristics of an automatic identification system for VHF and UHF transmitting stations in the maritime mobile service | 31/12/1990 |  | 5B |
| M.[1161-0](http://www.itu.int/pub/R-REP-M.1161) | Use of MF/HF DSC for automatic connection of calls in the maritime-mobile service MF and HF bands to the public switched network | 31/12/1990 |  | 5B |
| M.[1163-0](http://www.itu.int/pub/R-REP-M.1163) | Coordination area of an earth station of the fixed-satellite service sharing the same frequency band with the radionavigation service | 31/12/1990 |  | 5B |
| M.[1165-0](http://www.itu.int/pub/R-REP-M.1165) | Transmission of digital data for the updating of electronic chart display systems (ECDIS) | 31/12/1990 |  | 5B |
| M.[1166-0](http://www.itu.int/pub/R-REP-M.1166) | Technical characteristics of GPS differential transmissions from maritime radiobeacons | 31/12/1990 |  | 5B |
| M.[1186-0](http://www.itu.int/pub/R-REP-M.1186) | Use of frequency band 4 200 to 4 400 MHz by radio altimeters | 31/12/1990 |  | 5B |
| M.[2009-0](http://www.itu.int/pub/R-REP-M.2009) | Direct-dial telephone systems for the maritime mobile service | 31/12/1995 |  | 5B |
| M.[2010-1](http://www.itu.int/pub/R-REP-M.2010) | Improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service | 31/12/1997 |  | 5B |
| M.[2013-0](http://www.itu.int/pub/R-REP-M.2013) | Wind profiler radars | 31/12/1997 |  | 5B |
| M.[2014-](http://www.itu.int/pub/R-REP-M.2014)3 | Digital land mobile systems for dispatch traffic | 21/11/2016 |  | 5A |
| M.[2023-0](http://www.itu.int/pub/R-REP-M.2023) | Spectrum requirements for International Mobile Telecommunications-2000 (IMT-2000) | 31/12/2000 |  | 5D |
| M.[2024-0](http://www.itu.int/pub/R-REP-M.2024) | Summary of spectrum usage survey results | 31/12/2000 |  | 5D |
| M.[2026-0](http://www.itu.int/pub/R-REP-M.2026) | Adaptability of real zero single sideband technology to HF data communications | 31/12/2001 |  | 5C |
| M.[2027-0](http://www.itu.int/pub/R-REP-M.2027) | 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 | 31/12/2001 |  | 5B |
| M.[2030-0](http://www.itu.int/pub/R-REP-M.2030) | Coexistence between IMT-2000 time division duplex and frequency division duplex around 2 600 MHz operating in adjacent bands and in the same geographical area | 05/02/2003 |  | 5D |
| M.[2031-0](http://www.itu.int/pub/R-REP-M.2031) | Compatibility between WCDMA 1800 downlink and GSM 1900 uplink | 05/02/2003 |  | 5D |
| M.[2032-0](http://www.itu.int/pub/R-REP-M.2032) | Tests illustrating the compatibility between maritime radionavigation radars and emissions from radiolocation radars in the band 2 900-3 100 MHz | 05/02/2003 |  | 5B |
| M.[2034-0](http://www.itu.int/pub/R-REP-M.2034) | Impact of radar detection requirements of dynamic frequency selection on 5 GHz wireless access system receivers | 05/02/2003 |  | 5A |
| M.[2038-0](http://www.itu.int/pub/R-REP-M.2038) | Technology trends | 05/12/2003 |  | 5D |
| M.[2039-3](http://www.itu.int/pub/R-REP-M.2039) | Characteristics of terrestrial IMT-2000 systems for frequency sharing/interference analyses | 11/11/2014 |  | 5D |
| M.[2040-0](http://www.itu.int/pub/R-REP-M.2040) | Adaptive antennas concepts and key technical aspects | 05/12/2003 |  | 5A |
| M.[2041-0](http://www.itu.int/pub/R-REP-M.2041) | Sharing and adjacent band compatibility in the 2.5 GHz band between the terrestrial and satellite components of IMT-2000 | 05/12/2003 | *To be jointly approved by SGs 4 and 5* | 4C, 5D |
| M.[2045-0](http://www.itu.int/pub/R-REP-M.2045) | 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 | 10/12/2004 |  | 5D |
| SF.[2046-0](http://www.itu.int/pub/R-REP-SF.2046) | 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 | 12/10/2004 | *To be jointly approved by SGs 4 and 5* | 4A, 5C |
| M.[2050-0](http://www.itu.int/pub/R-REP-M.2050) | 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 | 10/12/2004 |  | 5B |
| F.[2058-0](http://www.itu.int/pub/R-REP-F.2058) | Design techniques applicable to broadband fixed wireless access systems conveying Internet protocol packets or asynchronous transfer mode cells | 01/01/2006 | *Transferred from  WP 5C to WP 5A at SG 5 Nov. 2008* | 5A |
| F.[2059-0](http://www.itu.int/pub/R-REP-F.2059) | Antenna characteristics of point-to-point fixed wireless systems to facilitate coordination in high spectrum use areas | 01/01/2006 |  | 5C |
| F.[2061-0](http://www.itu.int/pub/R-REP-F.2061) | HF fixed radiocommunication systems | 01/01/2006 |  | 5C |
| F.[2062-0](http://www.itu.int/pub/R-REP-F.2062) | Enhanced high frequency digital radiocommunication systems capable of providing enhanced applications | 01/01/2006 |  | 5C |
| M.[2072-0](http://www.itu.int/pub/R-REP-M.2072) | World mobile telecommunication market forecast | 22/11/2005 |  | 5D |
| M.[2074-0](http://www.itu.int/pub/R-REP-M.2074) | Radio aspects for the terrestrial component of IMT-2000 and systems beyond IMT‑2000 | 22/11/2005 |  | 5D |
| M.[2076-0](http://www.itu.int/pub/R-REP-M.2076) | 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 GHz 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 GHz and 9.8-10.0 GHz bands | 21/09/2006 |  | 5B |
| M.[2078-0](http://www.itu.int/pub/R-REP-M.2078) | Estimated spectrum bandwidth requirements for the future development of IMT‑2000 and IMT-Advanced | 21/09/2006 |  | 5D |
| M.[2079-0](http://www.itu.int/pub/R-REP-M.2079) | Technical and operational information for identifying spectrum for the terrestrial component of future development of IMT-2000 and IMT-Advanced | 21/09/2006 |  | 5D |
| M.[2080-0](http://www.itu.int/pub/R-REP-M.2080) | Consideration of sharing conditions and usage in the 4-10 MHz band | 21/09/2006 |  | 5B |
| M.[2081-0](http://www.itu.int/pub/R-REP-M.2081) | Test results illustrating compatibility between representative radionavigation systems and radiolocation and EESS systems in the band 8.5-10 GHz | 21/09/2006 |  | 5B |
| M.[2082-0](http://www.itu.int/pub/R-REP-M.2082) | 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)**) | 21/09/2006 |  | 5B |
| M.[2084-0](http://www.itu.int/pub/R-REP-M.2084) | Satellite detection of automatic identification system messages | 21/09/2006 |  | 5B |
| M.[2085-1](http://www.itu.int/pub/R-REP-M.2085) | Role of the amateur and amateur-satellite services in support of disaster mitigation and relief | 23/11/2011 |  | 5A |
| [F.2086-1](http://www.itu.int/pub/R-REP-F.2086) | Technical and operational characteristics and applications of broadband wireless access in the fixed service | 23/11/2010 |  | 5A |
| F.[2087-0](http://www.itu.int/pub/R-REP-F.2087) | Requirements for high frequency (HF) communication systems | 01/09/2006 |  | 5C |
| F.[2106-1](http://www.itu.int/pub/R-REP-F.2106) | Fixed service applications using free-space optical links | 23/11/2010 |  | 5C |
| F.[2107-2](http://www.itu.int/pub/R-REP-F2107) | Characteristics and applications of fixed wireless systems operating in frequency ranges between 57 GHz and 134 GHz | 23/11/2011 |  | 5C |
| F.[2108-0](http://www.itu.int/pub/R-REP-F.2108) | Fixed service system parameters for different frequency bands | 01/09/2007 |  | 5C |
| M.[2109-0](http://www.itu.int/pub/R-REP-M.2109) | Sharing studies between IMT-Advanced systems and geostationary satellite networks in the fixed satellite service in the 3 400-4 200 MHz and 4 500‑4 800 MHz frequency bands | 26/06/2007 |  | 5D |
| M.[2110-0](http://www.itu.int/pub/R-REP-M.2110) | Sharing studies between radiocommunication services and IMT systems operating in the 450-470 MHz band | 26/06/2007 |  | 5D |
| M.[2111-0](http://www.itu.int/pub/R-REP-M.2111) | Sharing studies between IMT-Advanced and radiolocation services in the 3 400‑3 700 MHz bands | 26/06/2007 |  | 5D |
| M.[2112-0](http://www.itu.int/pub/R-REP-M.2112) | Compatibility/sharing of airport surveillance radars and meteorological radar with IMT systems within the 2 700-2 900 MHz band | 26/06/2007 |  | 5D |
| M.[2113-1](http://www.itu.int/pub/R-REP-M.2113) | Sharing studies in the 2 500-2 690 MHz band between IMT-2000 and fixed broadband wireless access (BWA) systems including nomadic applications in the same geographical area | 11/11/2008 |  | 5D |
| M.[2114-0](http://www.itu.int/pub/R-REP-M.2114) | Key technical and operational characteristics for access technologies to support IP applications over land mobile systems | 26/06/2007 |  | 5A |
| M.[2115-1](http://www.itu.int/pub/R-REP-M.2115) | Testing procedures for implementation of dynamic frequency selection | 08/12/2009 |  | 5A |
| M.[2116-2](http://www.itu.int/pub/R-REP-M.2116) | Characteristics of broadband wireless access systems operating in the land mobile service to be used in sharing studies | 03/12/2013 |  | 5A |
| M.[2117-1](http://www.itu.int/pub/R-REP-M.2117) | Software-defined radio in the land mobile, amateur and amateur-satellite services | 19/11/2012 |  | 5A |
| M.[2118-0](http://www.itu.int/pub/R-REP-M.2118) | Compatibility between proposed systems in the aeronautical mobile service and the existing fixed-satellite service in the 5 091-5 250 MHz band | 26/06/2007 |  | 5B |
| M.[2119-0](http://www.itu.int/pub/R-REP-M.2119) | 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 | 26/06/2007 |  | 5B |
| M.[2120-0](http://www.itu.int/pub/R-REP-M.2120) | Initial estimate of new aviation AM(R)S spectrum requirements | 26/06/2007 |  | 5B |
| M.[2121-0](http://www.itu.int/pub/R-REP-M.2121) | Guidelines for AM(R)S sharing studies in the 960-1 164 MHz band | 26/06/2007 |  | 5B |
| M.[2122-0](http://www.itu.int/pub/R-REP-M.2122) | 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) | 26/06/2007 |  | 5B |
| M.[2123-0](http://www.itu.int/pub/R-REP-M.2123) | Long range detection of automatic identification system (AIS) messages under various tropospheric propagation conditions | 26/06/2007 |  | 5B |
| M.[2127-0](http://www.itu.int/pub/R-REP-M.2127) | Example of maritime wideband VHF data system | 19/02/2008 |  | 5B |
| M.[2128-0](http://www.itu.int/pub/R-REP-M.2128) | Test results and simulations illustrating the effective duty cycle of frequency modulated pulsed radiolocation and EESS system waveforms in marine radionavigation receivers | 19/02/2008 |  | 5B |
| M.[2133-0](http://www.itu.int/pub/R-REP-M.2133) | Requirements, evaluation criteria and submission templates for the development of IMT‑Advanced | 11/11/2008 |  | 5D |
| M.[2134-0](http://www.itu.int/pub/R-REP-M.2134) | Requirements related to technical performance for IMT-Advanced radio interface(s) | 11/11/2008 |  | 5D |
| M.[2135-1](http://www.itu.int/pub/R-REP-M.2135) | Guidelines for evaluation of radio interface technologies for IMT-Advanced | 08/12/2009 |  | 5D |
| M.[2136-0](http://www.itu.int/pub/R-REP-M.2136) | Theoretical analysis and testing results pertaining to the determination of relevant interference criteria of ground-based meteorological radars | 11/11/2008 |  | 5B |
| M.[2141-0](http://www.itu.int/pub/R-REP-M.2141) | Study of the isolation between VHF land mobile radio antennas in close proximity | 29/05/2009 |  | 5A |
| M.[2146-0](http://www.itu.int/pub/R-REP-M.2146) | 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 | 29/05/2009 |  | 5D |
| M.[2147-0](http://www.itu.int/pub/R-REP-M.2147) | 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 | 29/05/2009 |  | 5B |
| [M.2168-1](http://www.itu.int/pub/R-REP-M.2168) | 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 | 23/11/2010 |  | 5B |
| [M.2169-0](http://www.itu.int/pub/R-REP-M.2169) | Improved satellite detection of AIS | 08/12/2009 |  | 5B |
| [M.2170-0](http://www.itu.int/pub/R-REP-M.2170) | 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 | 08/12/2009 |  | 5B |
| M.[2171-0](http://www.itu.int/pub/R-REP-M.2171) | Characteristics of unmanned aircraft systems and spectrum requirements to support their safe operation in non-segregated airspace | 08/12/2009 |  | 5B |
| M.[2172-1](http://www.itu.int/pub/R-REP-M.2172) | Radiolocation service sharing feasibility in the frequency band 154-156 MHz | 23/11/2011 |  | 5B |
| M.[2197-0](http://www.itu.int/pub/R-REP-M.2197) | Technical characteristics and operational objectives for Wireless avionics intra-communications (WAIC) | 23/11/2010 |  | 5B |
| M.[2198-0](http://www.itu.int/pub/R-REP-M.2198) | The outcome of the evaluation, consensus building and decision of the IMT‑Advanced process (steps 4-7), including characteristics of IMT-Advanced radio interfaces | 23/11/2010 |  | 5D |
| S.[2199-0](http://www.itu.int/pub/R-REP-S.2199) | Studies on compatibility of broadband wireless access (BWA) systems and fixed‑satellite service (FSS) networks in the 3 400-4 200 MHz band | 23/11/2010 | *Jointly developed by SGs 4 and 5* | 4A, 5A |
| M.[2200-0](http://www.itu.int/pub/R-REP-M.2200) | Characteristics of amateur radio stations in the range 415-526.5 kHz for sharing studies | 23/11/2010 |  | 5A |
| M.[2201-0](http://www.itu.int/pub/R-REP-M.2201) | 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 | 23/11/2010 |  | 5B |
| M.[2202-0](http://www.itu.int/pub/R-REP-M.2202) | Maritime broadband wireless mesh networks | 23/11/2010 |  | 5B |
| M.[2203-0](http://www.itu.int/pub/R-REP-M.2203) | Compatibility of amateur service stations with existing services in the range  415‑526.5 kHz | 23/11/2010 |  | 5A |
| M.[2204-0](http://www.itu.int/pub/R-REP-M.2204) | Characteristics and spectrum considerations for sense and avoid systems use on Unmanned Aircraft Systems (UAS) | 23/11/2010 |  | 5B |
| M.[2205-0](http://www.itu.int/pub/R-REP-M.2205) | 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 | 23/11/2010 |  | 5B |
| M.[2206-0](http://www.itu.int/pub/R-REP-M.2206) | Sharing between the aeronautical mobile service and the fixed service in the band 37‑38 GHz | 23/11/2010 |  | 5C |
| M.[2224-0](http://www.itu.int/pub/R-REP-M.2224) | System design guidelines for wide area sensor and/or actuator network (WASN) systems | 23/11/2011 |  | 5A |
| M.[2225-0](http://www.itu.int/pub/R-REP-M.2225) | Introduction to cognitive radio systems in the land mobile service | 23/11/2011 |  | 5A |
| M.[2226-0](http://www.itu.int/pub/R-REP-M.2226) | Description of amateur and experimental operation between 415 and 526.5 kHz in some countries | 23/11/2011 |  | 5A |
| M.[2227-2](http://www.itu.int/pub/R-REP-M.2227) | Use of multiple gigabit wireless systems in frequencies around 60 GHz | 20/11/2017 |  | 5A |
| M.[2228-1](http://www.itu.int/pub/R-REP-M.2228) | Advanced intelligent transport systems radiocommunications | 21/07/2015 |  | 5A |
| M.[2229-0](http://www.itu.int/pub/R-REP-M.2229) | 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 | 23/11/2011 |  | 5B |
| M.[2230-0](http://www.itu.int/pub/R-REP-M.2230) | 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 | 23/11/2011 |  | 5B |
| M.[2231-1](http://www.itu.int/pub/R-REP-M.2231) | Use of Appendix **18** to the Radio Regulations for the maritime mobile service | 11/11/2014 |  | 5B |
| M.[2232-0](http://www.itu.int/pub/R-REP-M.2232) | Spectrum requirements for surface applications at airports in the 5 GHz range | 23/11/2011 |  | 5B |
| M.[2233-0](http://www.itu.int/pub/R-REP-M.2233) | Examples of technical characteristics for unmanned aircraft control and non-payload communications links | 23/11/2011 |  | 5B |
| M.[2234-0](http://www.itu.int/pub/R-REP-M.2234) | 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 | 23/11/2011 |  | 5B |
| M.[2235-0](http://www.itu.int/pub/R-REP-M.2235) | Aeronautical mobile (route) service sharing studies in the frequency band 960‑1 164 MHz | 23/11/2011 |  | 5B |
| M.[2236-0](http://www.itu.int/pub/R-REP-M.2236) | 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 | 23/11/2011 |  | 5B |
| M.[2237-0](http://www.itu.int/pub/R-REP-M.2237) | 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 | 23/11/2011 |  | 5B |
| M.[2238-0](http://www.itu.int/pub/R-REP-M.2238) | 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 | 23/11/2011 |  | 5B |
| F.[2239-0](http://www.itu.int/pub/R-REP-F.2239) | Coexistence between fixed service operating in 71-76 GHz, 81-86 GHz and 92‑94 GHz bands and passive services | 23/11/2011 |  | 5C |
| F.[2240-0](http://www.itu.int/pub/R-REP-F.2240) | 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 | 23/11/2011 |  | 5C |
| M.[2241-0](http://www.itu.int/pub/R-REP-M.2241) | Compatibility studies in relation to Resolution **224** in the bands 698-806 MHz and 790‑862 MHz | 23/11/2011 |  | 5D |
| M.[2242-0](http://www.itu.int/pub/R-REP-M.2242) | Cognitive Radio Systems specific for International Mobile Telecommunications systems | 23/11/2011 |  | 5D |
| M.[2243-0](http://www.itu.int/pub/R-REP-M.2243) | Assessment of the global mobile broadband deployments and forecasts for International Mobile Telecommunications | 23/11/2011 |  | 5D |
| M.[2244-0](http://www.itu.int/pub/R-REP-M.2244) | Isolation between antennas of IMT base stations in the land mobile service | 23/11/2011 |  | 5D |
| F.[2263-0](http://www.itu.int/pub/R-REP-F.2263) | Reliability calculations for adaptive HF fixed service network | 19/11/2012 |  | 5C |
| M.[2264-0](http://www.itu.int/pub/R-REP-M.2264) | Guidance for the development of band plans with contiguous bandwidths for mobile broadband applications for use in spectrum planning | 19/11/2012 |  | 5A |
| M.[2281-0](http://www.itu.int/pub/R-REP-M.2281) | Characteristics of amateur radio stations in the range 5 250-5 450 kHz for sharing studies | 03/12/2013 |  | 5A |
| M.[2282-0](http://www.itu.int/pub/R-REP-M.2282) | Systems for public mobile communications with aircraft | 03/12/2013 |  | 5A |
| M.[2283-0](http://www.itu.int/pub/R-REP-M.2283) | Technical characteristics and spectrum requirements of Wireless Avionics Intra-Communications systems to support their safe operation | 03/12/2013 |  | 5B |
| M.[2284-0](http://www.itu.int/pub/R-REP-M.2284) | Compatibility of Radionavigation Satellite Service (space-to-Earth) Systems and radars operating in the frequency band 1 215-1 300 MHz | 03/12/2013 |  | 5B |
| M.[2285-0](http://www.itu.int/pub/R-REP-M.2285) | Maritime survivor locating systems and devices (man overboard systems) – An overview of systems and their mode of operation | 03/12/2013 |  | 5B |
| M.[2286-0](http://www.itu.int/pub/R-REP-M.2286) | Operational characteristics of aeronautical mobile telemetry systems | 03/12/2013 |  | 5B |
| M.[2287-0](http://www.itu.int/pub/R-REP-M.2287) | Automatic identification system VHF data link loading | 03/12/2013 |  | 5B |
| M.[2288-0](http://www.itu.int/pub/R-REP-M.2288) | Digital voice communication system on MF/HF radio channels of the maritime mobile service for shore-to-ship/ship-to-shore applications | 03/12/2013 |  | 5B |
| M.[2289-0](http://www.itu.int/pub/R-REP-M.2289) | Future radio aspect parameters for use with the terrestrial IMT spectrum estimate methodology of Recommendation ITU-R M.1768-1 | 03/12/2013 |  | 5D |
| M.[2290-0](http://www.itu.int/pub/R-REP-M.2290) | Future spectrum requirements estimate for terrestrial IMT | 03/12/2013 |  | 5D |
| M.[2291-1](http://www.itu.int/pub/R-REP-M.2291) | The use of International Mobile Telecommunications (IMT) for broadband public protection and disaster relief (PPDR) applications | 21/11/2016 |  | 5D |
| M.[2292-0](http://www.itu.int/pub/R-REP-M.2292) | Characteristics of terrestrial IMT-Advanced systems for frequency sharing/interference analyses | 03/12/2013 |  | 5D |
| M.[2316-0](http://www.itu.int/pub/R-REP-M.2316) | Assessment of interference to radars operating within the 2 700-2 900 MHz band from broadband wireless systems operating in adjacent frequency bands | 11/11/2014 |  | 5B |
| M.[2317-0](http://www.itu.int/pub/R-REP-M.2317) | VHF data exchange system channel sounding campaign | 11/11/2014 |  | 5B |
| M.[2318-0](http://www.itu.int/pub/R-REP-M.2318) | Consideration of the aeronautical mobile (route), aeronautical mobile, and aeronautical radionavigation services allocations to accommodate wireless avionics intra-communication | 11/11/2014 |  | 5B |
| M.[2319-0](http://www.itu.int/pub/R-REP-M.2319) | Compatibility analysis between wireless avionics intra-communication systems and systems in the existing services in the frequency band 4 200-4 400 MHz | 11/11/2014 |  | 5B |
| M.[2320-0](http://www.itu.int/pub/R-REP-M.2320) | Future technology trends of terrestrial IMT systems | 11/11/2014 |  | 5D |
| M.[2321-0](http://www.itu.int/pub/R-REP-M.2321) | Guidelines for the use of spectrum by oceanographic radars in the frequency range 3 to 50 MHz | 11/11/2014 |  | 5B |
| M.[2322-0](http://www.itu.int/pub/R-REP-M.2322) | Systems characteristics and compatibility of automotive radars operating in the frequency band 77.5-78 GHz for sharing studies | 11/11/2014 |  | 5B |
| F.[2323-1](http://www.itu.int/pub/R-REP-F.2323) | Fixed service use and future trends | 20/11/2017 |  | 5C |
| M.[2324-0](http://www.itu.int/pub/R-REP-M.2324) | Sharing studies between potential International Mobile Telecommunication systems and aeronautical mobile telemetry systems in the frequency band 1 429-1 535 MHz | 11/11/2014 |  | 5B, 5D |
| SA.[2325-0](http://www.itu.int/pub/R-REP-SA.2325) | 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 | 11/11/2014 | *Jointly developed by SGs 5 and 7* | SG 7, 5D |
| F.[2326-0](http://www.itu.int/pub/R-REP-F.2326) | Sharing and compatibility study between indoor International Mobile Telecommunication small cells and fixed service station in the 5 925‑6 425 MHz frequency band | 11/11/2014 |  | 5C, 5D |
| F.[2327-0](http://www.itu.int/pub/R-REP-F.2327) | 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 | 11/11/2014 |  | 5C, 5D |
| F.[2328-0](http://www.itu.int/pub/R-REP-F.2328) | Sharing and compatibility between international mobile telecommunication systems and fixed service systems in the 3 400-4 200 MHz frequency range | 11/11/2014 |  | 5C, 5D |
| SA.[2329-0](http://www.itu.int/pub/R-REP-SA.2329) | Sharing assessment between meteorological satellite systems and IMT stations in the 1 695-1 710 MHz frequency band | 11/11/2014 | *Jointly developed by SGs 5 and 7* | SG 7, 5D |
| M.[2330-0](http://www.itu.int/pub/R-REP-M.2330) | Cognitive radio systems (CRSs) in the land mobile service | 11/11/2014 |  | 5A |
| F.[2331-0](http://www.itu.int/pub/R-REP-F.2331) | Sharing and compatibility between international mobile telecommunication systems and fixed service systems in the 470-694/698 MHz frequency range | 11/11/2014 |  | 5C, 5D |
| RA.[2332-0](http://www.itu.int/pub/R-REP-RA.2332) | 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 | 11/11/2014 | *Jointly developed by SGs 5 and 7* | SG 7, 5D |
| F.[2333-0](http://www.itu.int/pub/R-REP-F.2333) | Sharing and compatibility study between international mobile telecommunication and the fixed service in the frequency band 1 350-1 527 MHz | 11/11/2014 |  | 5C, 5D |
| M.[2334-0](http://www.itu.int/pub/R-REP-M.2334) | Passive and active antenna systems for base stations of IMT systems | 11/11/2014 |  | 5D |
| M.[2335-0](http://www.itu.int/pub/R-REP-M.2335) | 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 | 11/11/2014 |  | 5A |
| RS.[2336-0](http://www.itu.int/pub/R-REP-RS.2336) | Consideration of the frequency bands 1 375-1 400 MHz and 1 427-1 452 MHz for the mobile service – Compatibility with systems of the Earth exploration-satellite service (EESS) within the 1 400-1 427 MHz frequency band | 11/11/2014 | *Jointly developed by SGs 5 and 7* | SG 7, 5D |
| BT.[2337-0](http://www.itu.int/pub/R-REP-BT.2337) | Sharing and compatibility studies between digital terrestrial television broadcasting and terrestrial mobile broadband applications, including IMT, in the frequency band 470‑694/698 MHz | 21/11/2014 | *Jointly developed by SGs 5 and 6* | SG 6, 5D |
| BT.[2338-0](http://www.itu.int/pub/R-REP-BT.2338) | 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 | 21/11/2014 | *Jointly developed by SGs 5 and 6* | SG 6, 5D |
| BT.[2339-0](http://www.itu.int/pub/R-REP-BT.2339) | 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 | 21/11/2014 | *Jointly developed by SGs 5 and 6* | SG 6, 5D |
| BS.[2340-0](http://www.itu.int/pub/R-REP-BS.2340) | Sharing between the mobile service and the broadcasting service in the 1 452‑1 492 MHz frequency band | 21/11/2014 | *Jointly developed by SGs 5 and 6* | SG 6, 5D |
| S.[2367-0](http://www.itu.int/pub/R-REP-S.2367) | Sharing and compatibility between International Mobile Telecommunication systems and fixed-satellite service networks in 5 850-6 425 MHz frequency range | 26/06/2015 | *Jointly developed by SGs 4 and 5* | SG 4, 5D |
| S.[2368-0](http://www.itu.int/pub/R-REP-S.2368) | Sharing studies between International Mobile Telecommunication-Advanced systems and geostationary satellite networks in the fixed-satellite service in the 3 400-4 200 MHz and 4 500-4 800 MHz frequency bands in the WRC study cycle leading to WRC-15 | 26/06/2015 | *Jointly developed by SGs 4 and 5* | SG 4, 5D |
| M.[2369-0](http://www.itu.int/pub/R-REP-M.2369) | Use of non-geostationary orbit mobile satellite systems to enhance maritime safety | 21/07/2015 |  | 5B |
| M.[2370-0](http://www.itu.int/pub/R-REP-M.2370) | IMT Traffic estimates for the years 2020 to 2030 | 21/07/2015 |  | 5D |
| M.[2371-0](http://www.itu.int/pub/R-REP-M.2371) | Selection of the channel plan for a VHF data exchange system | 21/07/2015 |  | 5B |
| M.[2372-0](http://www.itu.int/pub/R-REP-M.2372) | Technical assessment of RR Appendix **18** – Channel usage to protect automatic identification system channels and also protect any additional channels that may be allocated to support automatic identification system technology applications | 21/07/2015 |  | 5B |
| M.[2373-1](http://www.itu.int/pub/R-REP-M.2373) | Audio-visual capabilities and applications supported by terrestrial IMT systems | 19/11/2018 |  | 5D |
| M.[2374-0](http://www.itu.int/pub/R-REP-M.2374) | Coexistence of two TDD networks in the 2 300-2 400 MHz band | 21/07/2015 |  | 5D |
| M.[2375-0](http://www.itu.int/pub/R-REP-M.2375) | Architecture and topology of IMT networks | 21/07/2015 |  | 5D |
| M.[2376-0](http://www.itu.int/pub/R-REP-M.2376) | Technical feasibility of IMT in bands above 6 GHz | 21/07/2015 |  | 5D |
| M.[2377-1](http://www.itu.int/pub/R-REP-M.2377) | Radiocommunication objectives and requirements for Public Protection and Disaster Relief (PPDR) | 20/11/2017 |  | 5A |
| M.[2378-0](http://www.itu.int/pub/R-REP-M.2378) | Operational guidelines for the deployment of broadband wireless access systems for local coverage operating below 6 GHz | 21/07/2015 |  | 5A |
| F.[2379-0](http://www.itu.int/pub/R-REP-F.2379) | Sharing and compatibility issues between electronic news gathering and other systems in frequency bands allocated to the fixed, mobile and broadcasting services | 21/07/2015 |  | 5C |
| F.[2393-0](http://www.itu.int/pub/R-REP-F.2393) | Use of fixed service for transport of traffic, including backhaul, for IMT and other terrestrial mobile broadband systems | 21/11/2016 |  | 5C |
| F.[2394-0](http://www.itu.int/pub/R-REP-F.2394) | Compatibility between point-to-point applications in the fixed service operating in the 71‑76 GHz and 81-86 GHz bands and automotive radar applications in the radiolocation service operating in the 76-81 GHz bands | 21/11/2016 |  | 5C |
| M.[2395-0](http://www.itu.int/pub/R-REP-F.2395) | Introduction to railway communication systems in certain countries | 21/11/2016 |  | 5A |
| M.[2410-0](http://www.itu.int/pub/R-REP-M.2410) | Minimum requirements related to technical performance for IMT-2020 radio interface(s) | 20/11/2017 |  | 5D |
| M.[2411-0](http://www.itu.int/pub/R-REP-M.2411) | Requirements, evaluation criteria and submission templates for the development of IMT‑2020 | 20/11/2017 |  | 5D |
| M.[2412-0](http://www.itu.int/pub/R-REP-M.2412) | Guidelines for evaluation of radio interface technologies for IMT-2020 | 20/11/2017 |  | 5D |
| M.[2413-0](http://www.itu.int/pub/R-REP-M.2413) | Reception of automatic dependent surveillance broadcast via satellite and compatibility studies with incumbent systems in the frequency band 1 087.7-1 092.3 MHz | 20/11/2017 |  | 5B |
| M.[2414-0](http://www.itu.int/pub/R-REP-M.2414) | Performance measurements of interference into one example of a Radar operating under the aeronautical radionavigation service in the frequency band 2 700-2 900 MHz | 20/11/2017 |  | 5B |
| M.[2415-0](http://www.itu.int/pub/R-REP-M.2415) | Spectrum needs for Public Protection and Disaster Relief (PPDR) | 20/11/2017 |  | 5A |
| F.[2416-0](http://www.itu.int/pub/R-REP-M.2416) | Technical and operational characteristics and applications of the point-to-point fixed service applications operating in the frequency band 275-450 GHz | 20/11/2017 |  | 5C |
| M.[2417-0](http://www.itu.int/pub/R-REP-M.2417) | Technical and operational characteristics of land-mobile service applications in the frequency range 275-450 GHz | 20/11/2017 |  | 5A |
| M.[2418-0](http://www.itu.int/pub/R-REP-M.2418) | Description of Railway Radiocommunication Systems between Train and Trackside (RSTT) | 20/11/2017 |  | 5A |
| M.[2435-0](http://www.itu.int/pub/R-REP-M.2435) | Technical studies on the satellite component of the VHF data exchange system | 19/11/2018 |  | 5B |
| M.[2436-0](http://www.itu.int/pub/R-REP-M.2436) | The global aeronautical distress and safety system | 19/11/2018 |  | 5B |
| F.[2437-0](http://www.itu.int/pub/R-REP-M.2437) | Sharing and compatibility studies of HAPS systems in the fixed service for the frequency band 6 440-6 520 MHz | 19/11/2018 |  | 5C |
| F.[2438-0](http://www.itu.int/pub/R-REP-M.2438) | Spectrum needs of high altitude platform stations (HAPS) broadband links operating in the fixed service | 19/11/2018 |  | 5C |
| F.[2439-0](http://www.itu.int/pub/R-REP-M.2439) | Deployment and technical characteristics of broadband high altitude platform stations in the fixed service in the frequency bands 6 440-6 520 MHz, 21.4 22.0 GHz, 24.25‑27.5 GHz, 27.9-28.2 GHz, 31.0-31.3 GHz, 38.0-39.5 GHz, 47.2-47.5 GHz and 47.9-48.2 GHz used in sharing and compatibility studies | 19/11/2018 |  | 5C |
| M.[2440-0](http://www.itu.int/pub/R-REP-M.2440) | The use of the terrestrial component of International Mobile Telecommunications (IMT) for Narrowband and Broadband Machine-Type Communications | 19/11/2018 |  | 5D |
| M.[2441-0](http://www.itu.int/pub/R-REP-M.2441) | Emerging usage of the terrestrial component of International Mobile Telecommunication (IMT) | 19/11/2018 |  | 5D |
| M.[2442-0](http://www.itu.int/pub/R-REP-M.2442) | Current and future usage of railway radiocommunication systems between train and trackside | 19/11/2018 |  | 5A |
| M.[2443-0](http://www.itu.int/pub/R-REP-M.2443) | NAVDAT Guidelines | 19/11/2018 |  | 5B |
| M.[2444-0](http://www.itu.int/pub/R-REP-M.2444) | Examples of arrangements for Intelligent Transport Systems deployments under the mobile service | 19/11/2018 |  | 5A |
| M.[2445-0](http://www.itu.int/pub/R-REP-M.2445) | Intelligent Transport Systems (ITS) usage | 19/11/2018 |  | 5A |
| F.[2471-0](http://www.itu.int/pub/R-REP-F.2471) | Sharing and compatibility studies of HAPS systems in the fixed service in the 21.4‑22 GHz frequency range for Region 2 | 03/09/2019 |  | 5C |
| F.[2472-0](http://www.itu.int/pub/R-REP-F.2472) | Sharing and compatibility studies of HAPS systems in the fixed service in the 24.25‑27.5 GHz frequency range in Region 2 | 03/09/2019 |  | 5C |
| F.[2473-0](http://www.itu.int/pub/R-REP-F.2473) | Sharing and compatibility studies of HAPS systems in the fixed service in the 27.9‑28.2 GHz and 31.0‑31.3 GHz frequency ranges | 03/09/2019 |  | 5C |
| M.[2474-0](http://www.itu.int/pub/R-REP-M.2474) | Conventional digital land mobile radio systems | 03/09/2019 |  | 5A |
| F.[2475-0](http://www.itu.int/pub/R-REP-F.2475) | Sharing and compatibility studies of High Altitude Platform Station systems in the fixed service in the 38‑39.5 GHz frequency range | 03/09/2019 |  | 5C |
| F.[2476-0](http://www.itu.int/pub/R-REP-F.2476) | Sharing and compatibility studies of HAPS systems in the fixed service in the 47.2‑47.5 GHz and 47.9‑48.2 GHz frequency ranges | 03/09/2019 |  | 5C |
| M.[2477-0](http://www.itu.int/pub/R-REP-M.2477) | Radiocommunications for suborbital vehicles | 03/09/2019 |  | 5B |
| M.[2478-0](http://www.itu.int/pub/R-REP-M.2478) | Spectrum needs for the amateur service in the frequency band 50-54 MHz in Region 1 and sharing with mobile, fixed, radiolocation and broadcasting services | 03/09/2019 |  | 5A |
| M.[2479-0](http://www.itu.int/pub/R-REP-M.2479) | The use of land mobile systems, excluding IMT, for machine-type communications | 03/09/2019 |  | 5A |
| M.[2480-0](http://www.itu.int/pub/R-REP-M.2480) | National approaches of some countries on the implementation of terrestrial IMT systems in bands identified for IMT | 03/09/2019 |  | 5D |
| M.[2481-0](http://www.itu.int/pub/R-REP-M.2481) | In band and adjacent band coexistence and compatibility studies between IMT systems in 3 300-3 400 MHz and radiolocation systems in 3 100 3 400 MHz | 03/09/2019 |  | 5D |

NOTE – An approval date 31-Dec-xx indicates that the precise day and month of approval is not known or to be decided after the publication of this document.

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