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| **Radiocommunication Study Groups** |  |
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| **18 May 2021** |
| **English only** |
| Annex 1 to Working Party 5A Chairman’s Report | |
| Working Party 5A Management | |
|  | |

Table of contents

Page

[1 Status of texts of Working Party 5A 2](#_Toc56781669)

[1.1 Questions 2](#_Toc56781670)

[1.2 Recommendations and Reports in force 3](#_Toc56781671)

[1.3 Handbooks, Opinions and Resolutions 12](#_Toc56781672)

[2 Organization of Working Party 5A 14](#_Toc56781673)

[2.1 Mandate and responsibility of the Working Groups 14](#_Toc56781674)

[2.2 Structure of Working Party 5A 15](#_Toc56781675)

[2.3 Guidelines for the preparation of WP5A texts 16](#_Toc56781676)

[2.4 Schedule of sessions during the twenty fourth meeting 16](#_Toc56781677)

[3 Preparatory work for WRC-23 16](#_Toc56781678)

[3.1 Principles to be considered and taken into account in studies relating to   
WRC-23 agenda items 19](#_Toc56781679)

[4 Working Party 5A Contacts for liaison and collaboration with other   
organizations under Resolution ITU-R 9 22](#_Toc56781680)

[5 Procedure and guidelines for the development of the land mobile Handbook 25](#_Toc56781681)

[5.1 Guidelines on text for the Handbook 25](#_Toc56781682)

[5.2 Mandate and responsibility of the land mobile Handbook Group 25](#_Toc56781683)

[5.3 Method of work of the land mobile Handbook Group 25](#_Toc56781684)

[6 Electronic working methods 25](#_Toc56781685)

[6.1 Overview of electronic facilities used by Working Party 5A 26](#_Toc56781686)

[6.2 E-mail reflectors 26](#_Toc56781687)

[6.3 FTP 26](#_Toc56781688)

[6.4 SharePoint meetings site 27](#_Toc56781689)

[6.5 RSS Feed 28](#_Toc56781690)

1 Status of texts of Working Party 5A[[1]](#footnote-1)

Useful links:

|  |  |
| --- | --- |
| Free online access to ITU-R Publications, Software and Databases: | <http://www.itu.int/oth/R040200003C/en> |
| Search ITU Publications: | <http://www.itu.int/en/publications/Pages/Search.aspx> |

## 1.1 Questions

| Question No. | Title | Category | Appr. Year | Last-Cont | Target-year | WG 5A- | Comment |
| --- | --- | --- | --- | --- | --- | --- | --- |
| [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 | 2015 | 2021 | 2023 | 4 | *Note 1* |
| [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 | 2012 | 2021 | 2023 | 4 | *Note 1* |
| [37-6/5](http://www.itu.int/pub/R-QUE-SG05.37) | Digital land mobile systems for specific applications | S2 | 2012 | 2021 | 2023 | 2, 3 | *Note 1* |
| [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 | 2015 | 2021 | 2023 | 1 | *Note 1* |
| [101-5/5](http://www.itu.int/pub/R-QUE-SG05.101) | Quality of service requirements in the land mobile service | S2 | 2019 | 2019 | 2023 | 2 | *Note 1* |
| [205-6/5](http://www.itu.int/pub/R-QUE-SG05.205) | Intelligent transport systems | S2 | 2019 | 2021 | 2023 | 5 |  |
| [209-6/5](http://www.itu.int/pub/R-QUE-SG05.209) | Use of the mobile, amateur and amateur satellite services in support of disaster radiocommunications | S2 | 2019 | 2021 | 2023 | 1, 3 | *Also assigned to WP 5D. MSS aspects are addressed in SG 4 under* [*Question  ITU-R 286/4*](http://www.itu.int/publ/R-QUE-SG04.286/en) |
| [212-4/5](http://www.itu.int/pub/R-QUE-SG05.212) | Nomadic wireless access systems including radio local area networks | S2 | 2012 | 2021 | 2023 | 2, 4 | *Note 1* |
| [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 | 2012 | 2021 | 2023 | 2, 4 | *Note 1* |
| [238-3/5](http://www.itu.int/pub/R-QUE-SG05.238) | Mobile broadband wireless access systems | S2 | 2019 | 2021 | 2023 | 2, 4 |  |
| [241-4/5](http://www.itu.int/pub/R-QUE-SG05.241) | Cognitive radio systems in the mobile service | S2 | 2019 | 2019 | 2023 | 5 | *Also assigned to WP 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 | 2015 | 2021 | 2023 | 4 | *Also assigned to WPs 5C and 5D. Note 1* |
| [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 | 2012 | 2019 | 2023 | 5 | *Note 1* |
| [254/5](http://www.itu.int/pub/R-QUE-SG05.254) | Operation of short-range radiocommunication public access system supporting hearing aid systems | S2 | 2014 | 2019 | 2023 | 2 | *Note 1* |
| [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 | 2019 | 2021 | 2023 | 5 |  |
| [261/5](http://www.itu.int/pub/R-QUE-SG05.261) | Radiocommunication requirements for connected automated vehicles (CAV) | S2 | 2019 | 2021 | 2023 | 5 |  |
| [RSTT]/5 | Draft new study Question ITU-R [RSTT]/5 - Studies related to the further development of RSTT | S2 |  | 2021 | 2023 | 2 | *Submitted by WP5A to SG5* [*Doc. 5/39*](https://www.itu.int/md/R19-SG05-C-0039/en) |
| Note 1: Editorially updated by SG 5 in September 2019. | | | | | | | |

## 1.2 Recommendations and Reports in force

In the following tables the topic letter/numbers on the last column correspond to the following list:

A Amateur services

1 Cellular systems

2 Cordless telecommunication systems

3 Intelligent transport systems (ITS)

4 Interference

5 Vocabulary

6 Paging systems

7 Public protection and disaster relief (PPDR)

8 Private systems

9 Spectrum sharing

10 Technology

11 Trunked systems

12 Wireless access, including RLANs.

NOTE – An approval date 31-Dec-xx indicates that the precise day and month of approval is not known.

| Type | Series | Number | Rev | Title | Comments | Approved | WP | WG | Topic |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rep. | M. | [319](http://www.itu.int/publ/R-REP-M.319) | 7 | Characteristics of equipment and principles governing the assignment of frequency channels between 25 and 1 000 MHz for land mobile services |  | 31 Dec 90 | 5A | 5 | 10 |
| Rec. | M. | [478](http://www.itu.int/rec/R-REC-M.478/en) | 5 | 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 Oct 95 | 5A | 2 | 8 |
| Rec. | M. | [584](http://www.itu.int/rec/R-REC-M.584/en) | 2 | Codes and formats for radio paging |  | 29 Nov 97 | 5A | 2 | 6 |
| Rec. | F. | [592](http://www.itu.int/rec/R-REC-F.592) | 4 | Vocabulary of terms for the fixed service | *Joint responsibility assigned by SG 5 Nov. 2008* | 22 Sep 07 | 5A/5C | 2 | 5 |
| Rec. | F. | [697](http://www.itu.int/rec/R-REC-F.697) | 2 | 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 | *This Rec. could be used only for systems designed prior to the approval of Rec. ITU-R F.1668. Joint responsibility assigned by SG 5 Nov. 2008*  *Scope added editorially by SG 5 on 19 Nov. 12* | 30 Jul 97 | 5A/5C | 2 | 12 |
| Rec. | F. | [701](http://www.itu.int/rec/R-REC-F.701) | 2 | Radio-frequency channel arrangements for digital point-to-multipoint radio systems operating in frequency bands in the range 1.350 to 2.690 GHz (1.5, 1.8, 2.0, 2.2, 2.4 and 2.6 GHz) | *Note: F.701 is the responsibility of WP5A (Ref.:* [*Doc. 5/116*](http://www.itu.int/md/R07-SG05-C-0116/en) *and the last paragraph of section 7.3.1 of* [*Doc. 5/124*](http://www.itu.int/md/R07-SG05-C-0124/en)*).* | 30 Jul 97 | 5A | 2 | 12 |
| Rep. | M. | [739](http://www.itu.int/publ/R-REP-M.739) | 1 | Interference due to intermodulation products in the land mobile service between 25 and 1 000 MHz |  | 31 Dec 95 | 5A | 4 | 4 |
| Rec. | F. | [746](http://www.itu.int/rec/R-REC-F.746) | 10 | Radio-frequency arrangements for fixed service systems | *Joint responsibility assigned by SG 5 Nov. 2008*  *Editorially updated by SG 5 on 3 Dec. 13* | 15 Mar 12 | 5A/5C | 2 | 12 |
| Rec. | F. | [748](http://www.itu.int/rec/R-REC-F.748) | 4 | Radio-frequency arrangements for systems of the fixed service operating in the 25, 26 and 28 GHz bands | *Joint responsibility assigned by SG 5 Nov. 2008* | 02 May 01 | 5A/5C | 2 | 12 |
| Rec. | F. | [749](http://www.itu.int/rec/R-REC-F.749/en) | 3 | Radio-frequency arrangements for systems of the fixed service operating in sub-bands in the 36-40.5 GHz band | *Joint responsibility assigned by SG 5 Nov. 2008.*  *Editorially updated by SG 5 on 19 Nov. 12* | 15 Mar 12 | 5A/5C | 2 | 12 |
| Rec. | F. | [755](http://www.itu.int/rec/R-REC-F.755/en) | 2 | Point-to-multipoint systems in the fixed service | *Joint responsibility assigned by SG 5 Nov. 2008. Editorially updated by SG 5 December 2009* | 25 May 99 | 5A/5C | 2 | 12 |
| Rec. | F. | [757](http://www.itu.int/rec/R-REC-F.757/en) | 4 | Basic system requirements and performance objectives for fixed wireless access using mobile-derived technologies offering telephony and data communication services |  | 19 Apr 11 | 5A | 2 | 12 |
| Rec. | F. | [758](http://www.itu.int/rec/R-REC-F.758/en) | 7 | 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 | *Joint responsibility assigned by SG 5 Nov. 2008.* | 19 Nov 19 | 5A/5C | 4 | 9, 12 |
| Rep. | M. | [902](http://www.itu.int/publ/R-REP-M.902) | 1 | Leaky-feeder systems in the land mobile service |  | 31 Dec 90 | 5A | 5 | 10 |
| Rep. | M. | [904](http://www.itu.int/publ/R-REP-M.904) | 2 | Automatic determination of location and guidance in the land mobile service |  | 31 Dec 90 | 5A | 5 | 3, 7, 11 |
| Rep. | M. | [1021](http://www.itu.int/publ/R-REP-M.1021) | 0 | Equipment characteristics for digital transmission in the land mobile services |  | 31 Dec 86 | 5A | 5 | 10 |
| Rep. | M. | [1023](http://www.itu.int/publ/R-REP-M.1023) | 1 | Frequency sharing between the land mobile service and the broadcasting service (television) below 1 GHz |  | 31 Dec 90 | 5A | 4 | 9 |
| Rep. | M. | [1025](http://www.itu.int/publ/R-REP-M.1025) | 1 | Technical and operating characteristics of cordless telephones |  | 31 Dec 90 | 5A | 2 | 2 |
| Rec. | M. | [1033](http://www.itu.int/rec/R-REC-M.1033/en) | 1 | Technical and operational characteristics of cordless telephones and cordless telecommunication systems |  | 28 Feb 97 | 5A | 2 | 2 |
| Rec. | M. | [1039](http://www.itu.int/rec/R-REC-M.1039/en) | 3 | 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) | *To be jointly approved by SGs 4 and 5* | 19 Mar 06 | 5A, 4C | 4 | 9 |
| Rec. | M. | [1041](http://www.itu.int/rec/R-REC-M.1041/en) | 2 | Future amateur radio systems (FARS) |  | 19 Jun 03 | 5A | 1 | A |
| Rec. | M. | [1042](http://www.itu.int/rec/R-REC-M.1042/en) | 3 | Disaster communications in the amateur and amateur-satellite services |  | 14 Mar 07 | 5A | 1 | A, 7 |
| Rec. | M. | [1043](http://www.itu.int/rec/R-REC-M.1043/en) | 2 | Use of the amateur and amateur-satellite services in developing countries | *Scope added editorially by SG 5 Feb. 2008* | 19 Jun 03 | 5A | 1 | A |
| Rec. | M. | [1044](http://www.itu.int/rec/R-REC-M.1044/en) | 2 | Frequency sharing criteria in the amateur and amateur-satellite services | *Scope added editorially by SG 5 Feb. 2008* | 19 Jun 03 | 5A | 1 | A |
| Rec. | 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 |  | 16 Nov 93 | 5A | 4 | 4 |
| Rec. | M. | [1073](http://www.itu.int/rec/R-REC-M.1073/en) | 3 | Digital cellular land mobile telecommunication systems |  | 15 Mar 12 | 5A | 2 | 1 |
| Rec. | M. | [1074](http://www.itu.int/rec/R-REC-M.1074/en) | 0 | Integration of public mobile radiocommunication systems | *See Appendix 1 to* [*Annex 1*](https://www.itu.int/dms_ties/itu-r/md/07/wp5a/c/R07-WP5A-C-0411!N01!MSW-E.doc) *to* [*Doc. 5A/411*](https://www.itu.int/md/R07-WP5A-C-0411/en) *(2009). Contributions are solicited for further updates* | 16 Nov 93 | 5A | 2 | 1 |
| Rec. | M. | [1075](http://www.itu.int/rec/R-REC-M.1075/en) | 0 | Leaky feeder systems in the land mobile services |  | 16 Nov 93 | 5A | 5 | 10 |
| Rec. | M. | [1076](http://www.itu.int/rec/R-REC-M.1076/en) | 1 | Wireless communication systems for persons with impaired hearing |  | 2-Feb-15 | 5A | 2 | 10 |
| Rec. | F. | [1102](http://www.itu.int/rec/R-REC-F.1102/en) | 2 | Characteristics of fixed wireless systems operating in frequency bands above about 17 GHz | *Joint responsibility assigned by SG 5 Nov. 2008* | 29 Jan 05 | 5A/5C | 2 | 12 |
| Rec. | F. | [1103](http://www.itu.int/rec/R-REC-F.1103/en) | 1 | Basic requirements and technologies for fixed wireless systems operating in bands below 3 GHz for the provision of wireless subscriber connections in rural areas |  | 22 Sep 07 | 5A | 2 | 12 |
| Rec. | F. | [1105](http://www.itu.int/rec/R-REC-F.1105/en) | 4 | Fixed wireless systems for disaster mitigation and relief operations | *Joint responsibility assigned by SG 5 Nov. 2008.* | 30 Jan 19 | 5A/5C | 3 | 7, 12 |
| Rec. | F. | [1107](http://www.itu.int/rec/R-REC-F.1107/en) | 2 | Probabilistic analysis for calculating interference into the fixed service from satellites using the geostationary orbit | *Joint responsibility assigned by SG 5 Nov. 2008* | 04 May 11 | 5A/5C | 4 | 4, 9 |
| Rec. | F. | [1108](http://www.itu.int/rec/R-REC-F.1108/en) | 4 | Determination of the criteria to protect fixed service receivers from the emissions of space stations operating in non-geostationary orbits in shared frequency bands | *Joint responsibility assigned by SG 5 Nov. 2008* | 29 Jan 05 | 5A/5C | 4 | 4, 9 |
| Rep. | M. | [1155](http://www.itu.int/publ/R-REP-M.1155) | 0 | Adaptation of mobile radiocommunication technology to the needs of developing countries |  | 31 Dec 90 | 5A, 5D | 2 | 10 |
| Rep. | M. | [1156](http://www.itu.int/publ/R-REP-M.1156) | 0 | Digital cellular public land mobile telecommunication systems (DCPLMTS) |  | 31 Dec 90 | 5A | 2 | 1 |
| Rep. | M. | [1157](http://www.itu.int/publ/R-REP-M.1157) | 0 | Integration of public mobile radiocommunication systems |  | 31 Dec 90 | 5A | 2 | 1 |
| Rec. | F. | [1191](http://www.itu.int/rec/R-REC-F.1191/en) | 3 | Necessary and occupied bandwidths and unwanted emissions of digital fixed service systems |  | 04 May 11 | 5A/5C | 2 | 4 |
| Rec. | F. | [1247](http://www.itu.int/rec/R-REC-F.1247/en) | 4 | 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 Sep 2015 | 5A/5C | 4 | 9, 12 |
| Rec. | M. | [1307](http://www.itu.int/rec/R-REC-M.1307/en) | 0 | Automatic determination of location and guidance in the land mobile services |  | 24 Oct 97 | 5A | 5 | 3, 7, 11 |
| Rec. | M. | [1308](http://www.itu.int/rec/R-REC-M.1308/en) | 0 | Evolution of land mobile systems towards IMT-2000 |  | 24 Oct 97 | 5A | 2 | 1 |
| Rec. | F. | [1336](http://www.itu.int/rec/R-REC-F.1336/en) | 5 | 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 | *Joint responsibility assigned by SG 5 Nov. 2008.* | 30 Jan 19 | 5A/5C | 4 | 9, 12 |
| Rec. | M. | [1388](http://www.itu.int/rec/R-REC-M.1388/en) | 0 | 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 Jan 99 | 5A | 4 | 9 |
| Rec. | F. | [1399](http://www.itu.int/rec/R-REC-F.1399/en) | 1 | Vocabulary of terms for wireless access |  | 02 May 01 | 5A | 2 | 5 |
| Rec. | 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 May 99 | 5A | 2 | 12 |
| Rec. | F. | [1401](http://www.itu.int/rec/R-REC-F.1401/en) | 1 | Considerations for the identification of possible frequency bands for fixed wireless access and related sharing studies | *Editorially updated by SG 5 on 2011-11-22* | 06 Jan 04 | 5A | 2 | 9, 12 |
| Rec. | 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 May 99 | 5A | 2 | 9, 12 |
| Rec. | F. | [1404](http://www.itu.int/rec/R-REC-F.1404/en) | 1 | 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 | *Joint responsibility assigned by SG 5 Nov. 2008. Scope added editorially by SG 5 May 2009* | 25 May 02 | 5A/5C | 2 | 9 |
| Rec. | M. | [1450](http://www.itu.int/rec/R-REC-M.1450/en) | 5 | Characteristics of broadband radio local area networks | *Being revised by WP5A* | 17 Apr 14 | 5A | 2 | 12 |
| Rec. | M. | [1452](http://www.itu.int/rec/R-REC-M.1452/en) | 2 | Millimetre wave radiocommunication systems for intelligent transport system applications |  | 22 May 12 | 5A | 5 | 3 |
| Rec. | M. | [1453](http://www.itu.int/rec/R-REC-M.1453/en) | 2 | Intelligent transport systems – Dedicated short range communications at 5.8 GHz |  | 15 Jun 05 | 5A | 5 | 3 |
| Rec. | M. | [1454](http://www.itu.int/rec/R-REC-M.1454/en) | 0 | 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 | *To be jointly approved by SGs 4 and 5. Scope added editorially by SG 5  Feb. 2008* | 05 May 00 | 5A, 4A | 4 | 4, 12 |
| Rec. | F. | [1488](http://www.itu.int/rec/R-REC-F.1488/en) | 0 | Frequency block arrangements for fixed wireless access systems in the range 3 400‑3 800 MHz | *Scope added editorially by SG 5 May 2009* | 05 May 00 | 5A | 2 | 12 |
| Rec. | F. | [1489](http://www.itu.int/rec/R-REC-F.1489/en) | 0 | 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 May 00 | 5A | 4 | 9, 12 |
| Rec. | F. | [1490](http://www.itu.int/rec/R-REC-F.1490/en) | 1 | Generic requirements for fixed wireless access systems |  | 22 Sep 07 | 5A | 2 | 12 |
| Rec. | F. | [1499](http://www.itu.int/rec/R-REC-F.1499/en) | 0 | Radio transmission systems for fixed broadband wireless access based on cable modem standard |  | 05 May 00 | 5A | 2 | 12 |
| Rec. | F. | [1509](http://www.itu.int/rec/R-REC-F.1509/en) | 4 | 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 | *Jointly developed by Study Groups 7 and 9* | 30 Jan 18 | 5A/5C | 2 | 9 |
| Rec. | F. | [1518](http://www.itu.int/rec/R-REC-F.1518/en) | 0 | 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 |  | 01 May 01 | 5A | 2 | 9,12 |
| Rec. | F. | [1519](http://www.itu.int/rec/R-REC-F.1519/en) | 0 | Guidance on frequency arrangements based on frequency blocks for systems in the fixed service | *Joint responsibility assigned by SG 5 Nov. 2008. Editorially updated by SG 5 December 2009* | 02 May 01 | 5A/5C | 2 | 12 |
| Rec. | M. | [1544](http://www.itu.int/rec/R-REC-M.1544/en) | 1 | Minimum qualifications of radio amateurs |  | 30 Sep 15 | 5A | 1 | A |
| Rec. | F. | [1567](http://www.itu.int/rec/R-REC-F.1567/en) | 0 | Radio-frequency channel arrangement for digital fixed wireless systems operating in the frequency band 406.1-450 MHz | *Editorial update agreed during May 2009 SG 5 meeting* | 25 May 02 | 5A/5C | 2 | 12 |
| Rec. | F. | [1568](http://www.itu.int/rec/R-REC-F.1568/en) | 1 | Radio-frequency block arrangements for fixed wireless access systems in the range 10.15-10.3/10.5-10.65 GHz | *Joint responsibility assigned by SG 5 Nov. 2008* | 29 Jan 05 | 5A/5C | 2 | 12 |
| Rec | F. | [1613](http://www.itu.int/rec/R-REC-F.1613/en) | 0 | Operational and deployment requirements for fixed wireless access (FWA) 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 | *Jointly developed by Study Groups 7 and 9. Incorporated by reference in RR* | 26 Feb 03 | 5A | 4 | 9, 12 |
| Rec. | M. | [1634](http://www.itu.int/rec/R-REC-M.1634/en) | 0 | Interference protection of terrestrial mobile service systems using Monte Carlo simulation with application to frequency sharing |  | 19 Jun 03 | 5A | 4 | 4, 9 |
| Rec. | M. | [1637](http://www.itu.int/rec/R-REC-M.1637/en) | 1 | Global cross-border circulation of radiocommunication equipment in emergency and disaster relief situations |  | 30 Jan 19 | 5A | 3 | 7 |
| Rec. | M. | [1651](http://www.itu.int/rec/R-REC-M.1651/en) | 0 | A method for assessing the required spectrum for broadband nomadic wireless access systems including RLANs using the 5 GHz band |  | 06 Jun 03 | 5A | 2 | 12 |
| Rec. | M. | [1652](http://www.itu.int/rec/R-REC-M.1652/en) | 1 | 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 | *Referenced in resolves 8 of Resolution 229. Annex 1 is incorporated by reference in RR* | 04 May 11 | 5A | 4 | 9, 12 |
| Rec. | M. | [1653](http://www.itu.int/rec/R-REC-M.1653/en) | 0 | Operational and deployment requirements for wireless access systems (WAS) including radio local area networks (RLANs) 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 | *Scope added editorially by SG 5 Feb. 2008* | 06 Jun 03 | 5A | 4 | 9, 12 |
| Rec. | F. | [1670](http://www.itu.int/rec/R-REC-F.1670) | 1 | Protection of fixed wireless systems from terrestrial digital video and sound broadcasting systems in the shared VHF and UHF bands | *Joint responsibility assigned by SG 5 Nov. 2008* | 03 May 06 | 5A/5C | 4 | 4, 9, 12 |
| Rec. | F. | [1671](http://www.itu.int/rec/R-REC-F.1671/en) | 0 | Guidelines for a process to address the deployment of area‑licensed fixed wireless systems operating in neighbouring countries | *Joint responsibility assigned by SG 5 Nov. 2008. Scope added editorially by SG 5 May 2009* | 01 Jan 04 | 5A/5C | 2 | 12 |
| Rec. | M. | [1677](http://www.itu.int/rec/R-REC-M.1677) | 1 | International Morse code |  | 03 Oct 09 | 5A | 1 | A |
| Rec. | M. | [1678](http://www.itu.int/rec/R-REC-M.1678) | 0 | Adaptive antennas for mobile systems |  | 03 May 04 | 5A | 5 | 10 |
| Rec. | F. | [1704](http://www.itu.int/rec/R-REC-F.1704) | 0 | Characteristics of multipoint-to-multipoint (MP-MP) fixed wireless systems with mesh network topology operating in frequency bands above about 17 GHz | *Joint responsibility assigned by SG 5 Nov. 2008* | 24 Jan 05 | 5A/5C | 2 | 12 |
| Rec. | M. | [1732](http://www.itu.int/rec/R-REC-M.1732) | 2 | Characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies. | *Being revised by WP5A* | 30 Jan 17 | 5A | 1 | A |
| Rec. | M. | [1739](http://www.itu.int/rec/R-REC-M.1739) | 0 | 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 Mar 06 | 5A | 2 | 4, 9, 12 |
| Rec. | M. | [1746](http://www.itu.int/rec/R-REC-M.1746) | 1 | Harmonized frequency channel plans for the protection of property using data communication |  | 19 Nov 19 | 5A | 2 | 8 |
| Rec. | F. | [1760](http://www.itu.int/rec/R-REC-F.1760) | 0 | Methodology for the calculation of the 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 | *Joint responsibility assigned by SG5 Nov. 2008* | 03 May 06 | 5A/5C | 2 | 4, 12 |
| Rec. | F. | [1763](http://www.itu.int/rec/R-REC-F.1763) | 1 | Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz |  | 18 Feb 14 | 5A | 2 | 12 |
| Rec. | F. | [1766](http://www.itu.int/rec/R-REC-F.1766) | 0 | 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 | *Joint responsibility assigned by SG 5 Nov. 2008*  *Editorial update approved by SG5 on 20-Nov-2017* | 27 Apr 06 | 5A/5C | 4 | 4, 9, 12 |
| Rec. | M. | [1767](http://www.itu.int/rec/R-REC-M.1767) | 0 | 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 Jun 06 | 5A | 4 | 4, 9, 1, 12 |
| Rec. | M. | [1797](http://www.itu.int/rec/R-REC-M.1797) | 0 | Vocabulary of terms for the land mobile service |  | 08 Mar 07 | 5A | All | 5 |
| Rec. | M. | [1801](http://www.itu.int/rec/R-REC-M.1801) | 2 | Radio interface standards for broadband wireless access systems, including mobile and nomadic applications, in the mobile service operating below 6 GHz | *Being revised by WP5A* | 11 Feb 13 | 5A | 2 | 12 |
| Rec. | M. | [1808](http://www.itu.int/rec/R-REC-M.1808) | 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 Nov 19 | 5A | 4 | 9 |
| Rec. | M. | [1823](http://www.itu.int/rec/R-REC-M.1823) | 0 | Technical and operational characteristics of digital cellular land mobile systems for use in sharing studies |  | 25 Oct 07 | 5A | 4 | 1, 9 |
| Rec. | M. | [1824](http://www.itu.int/rec/R-REC-M.1824) | 1 | System characteristics of television outside broadcast (TVOB), electronic news gathering (ENG) and electronic field production (EFP) in the mobile service for use in sharing studies | *Being revised by WP5A* | 2-Feb-15 | 5A | 4 | 9 |
| Rec. | M. | [1825](http://www.itu.int/rec/R-REC-M.1825) | 0 | Guidance on technical parameters and methodologies for sharing studies related to systems in the land mobile service |  | 25 Oct 07 | 5A | 4 | 1, 9 |
| Rec. | M. | [1826](http://www.itu.int/rec/R-REC-M.1826) | 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 Nov 19 | 5A | 3 | 7 |
| Rec. | M. | [1890](http://www.itu.int/rec/R-REC-M.1890) | 1 | Operational radiocommunication objectives and requirements for advanced Intelligent Transport Systems |  | 30 Jan 19 | 5A | 5 | 3 |
| Rec. | M. | [2002](http://www.itu.int/rec/R-REC-M.2002/en) | 0 | Objectives, characteristics and functional requirements of wide-area sensor and/or actuator network (WASN) systems |  | 15 Mar 12 | 5A | 5 | 12 |
| Rec. | M. | [2003](http://www.itu.int/rec/R-REC-M.2003/en) | 2 | Multiple-Gigabit wireless systems in frequencies around 60 GHz |  | 30 Jan 18 | 5A | 2 | 12 |
| Rec. | M. | [2009](http://www.itu.int/rec/R-REC-M.2009/en) | 2 | Radio interface standards for use by public protection and disaster relief operations in accordance with Resolution **646 (WRC-15)** |  | 30 Jan 19 | 5A | 3 | 7 |
| Rep. | M. | [2014](http://www.itu.int/publ/R-REP-M.2014) | 3 | Digital land mobile systems for dispatch traffic |  | 21 Nov 16 | 5A | 2 | 11 |
| Rec. | M. | [2015](http://www.itu.int/rec/R-REC-M.2015/en) | 2 | Frequency arrangements for public protection and disaster relief radiocommunication systems in accordance with Resolution **646 (Rev.WRC-15)** |  | 30 Jan 18 | 5A | 3 | 7 |
| Rec. | M. | [2034](http://www.itu.int/rec/R-REC-M.2034/en) | 0 | Telegraphic alphabet for data communication by phase shift keying at 31 baud in the amateur and amateur-satellite services |  | 11 Feb 13 | 5A | 1 | A |
| Rep. | M. | [2034](http://www.itu.int/publ/R-REP-M.2034) | 0 | Impact of radar detection requirements of dynamic frequency selection on 5 GHz wireless access system receivers |  | 05 Feb 03 | 5A | 4 | 9, 12 |
| Rep. | M. | [2040](http://www.itu.int/publ/R-REP-M.2040) | 0 | Adaptive antennas concepts and key technical aspects |  | 05 Dec 03 | 5A | 5 | 10 |
| Rec. | M. | [2057](http://www.itu.int/publ/R-REP-M.2057) | 1 | Systems characteristics of automotive radars operating in the frequency band 76-81 GHz for intelligent transport systems applications | *Joint responsibility assigned by SG 5 Nov. 2016* | 30 Jan 18 | 5A / 5B | 5 | 3 |
| Rep. | F. | [2058](http://www.itu.int/publ/R-REP-F.2058) | 0 | Design techniques applicable to broadband fixed wireless access (FWA) systems conveying Internet protocol (IP) packets or asynchronous transfer mode (ATM) cells | *Transferred from  WP 5C to WP5A at SG 5 Nov. 2008* | 01 Dec 05 | 5A | 2 | 12 |
| Rec. | M. | [2068](http://www.itu.int/rec/R-REC-M.2068/en) | 0 | Characteristics of and protection criteria for systems operating in the mobile service in the frequency range 14.5-15.35 GHz |  | 2-Feb-15 | 5A | 4 | 9 |
| Rec | 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 Nov 19 | 5A | 5 | 3 |
| Rep. | M. | [2085](http://www.itu.int/publ/R-REP-M.2085) | 1 | Role of the amateur and amateur satellite services in support of disaster mitigation and relief |  | 23 Nov 11 | 5A | 1 | 7 |
| Rep. | F. | [2086](http://www.itu.int/publ/R-REP-F.2086) | 1 | Technical and operational characteristics and applications of broadband wireless access in the fixed service |  | 23 Nov 10 | 5A | 2 | 12 |
| Rep. | M. | [2114](http://www.itu.int/publ/R-REP-M.2114) | 0 | Key technical and operational characteristics for access technologies to support IP applications over land mobile systems |  | 26 Jun 07 | 5A | 5 | 10 |
| Rep. | M. | [2115](http://www.itu.int/publ/R-REP-M.2115) | 1 | Testing procedures for implementation of dynamic frequency selection |  | 07 Dec 09 | 5A | 4 | 9, 12 |
| Rep. | M. | [2116](http://www.itu.int/publ/R-REP-M.2116) | 2 | Characteristics of broadband wireless access systems operating in the land mobile service to be used in sharing studies | *Being revised by WP5A* | 3 Dec 13 | 5A | 4 | 9, 12 |
| Rep. | M. | [2117](http://www.itu.int/publ/R-REP-M.2117) | 1 | Software defined radio in the land mobile, amateur and amateur-satellite services | *Replaces M.2063 and M.2064* | 19 Nov 12 | 5A | 5 | 10 |
| Rec. | M. | [2121](https://www.itu.int/rec/R-REC-M.2121/en) | 0 | Harmonization of frequency bands for Intelligent Transport Systems in the mobile service | *Being revised by WP5A* | 30 Jan 19 | 5A | 5 | 3 |
| Rec. | M. | [2134](https://www.itu.int/rec/R-REC-M.2134/en) | 0 | Receiver characteristics and protection criteria for systems (excluding IMT) in the mobile service in the frequency range 27.5-29.5 GHz for use in sharing and compatibility studies | *Approved by RA-19* | Oct 2019 | 5A | 2 | 1, 12 |
| Rep. | M. | [2141](http://www.itu.int/publ/R-REP-M.2141) | 0 | Study of the isolation between VHF land mobile radio antennas in close proximity |  | 29 May 09 | 5A | 4 | 4 |
| Rep. | S. | [2199](http://www.itu.int/pub/R-REP-S.2199) | 0 | Studies on compatibility of broadband wireless access (BWA) systems and fixed-satellite service (FSS) networks in the 3 400‑4 200 MHz band | *Jointly developed by SGs 4 and 5* | 22 Nov 10 | 4A, 5A | 4 | 4, 9 |
| Rep. | M. | [2200](http://www.itu.int/pub/R-REP-M.2200) | 0 | Characteristics of amateur radio stations in the range 415-526.5 kHz for sharing studies |  | 22 Nov 10 | 5A | 1 | A |
| Rep. | M. | [2203](http://www.itu.int/pub/R-REP-M.2203) | 0 | Compatibility of amateur service stations with existing services in the range 415-526.5 kHz |  | 22 Nov 10 | 5A | 1 | A |
| Rep. | M. | [2224](http://www.itu.int/publ/R-REP-M.2224) | 0 | System design guidelines for wide area sensor and/or actuator network (WASN) systems |  | 23 Nov 11 | 5A | 5 | 12 |
| Rep. | M. | [2225](http://www.itu.int/publ/R-REP-M.2225) | 0 | Introduction to cognitive radio systems in the land mobile service |  | 23 Nov 11 | 5A | 5 | 10 |
| Rep. | M. | [2226](http://www.itu.int/publ/R-REP-M.2226) | 0 | Description of amateur and experimental operation between 415 and 526.5 kHz in some countries |  | 23 Nov 11 | 5A | 1 | A |
| Rep | M. | [2227](http://www.itu.int/publ/R-REP-M.2227) | 2 | Use of multiple gigabit wireless systems in frequencies around 60 GHz |  | 20 Nov 18 | 5A | 2 | 12 |
| Rep. | M. | [2228](http://www.itu.int/publ/R-REP-M.2228) | 1 | Advanced intelligent transport systems (ITS) radiocommunications |  | 21 Jul 15 | 5A | 5 | 3 |
| Rep. | M. | [2264](http://www.itu.int/publ/R-REP-M.2264) | 0 | Guidance for the development of band plans with contiguous bandwidths for mobile broadband applications for use in spectrum planning |  | 19 Nov 12 | 5A | 4 | 1, 9 |
| Rep. | M. | [2281](http://www.itu.int/publ/R-REP-M.2281) | 0 | Characteristics of amateur radio stations in the range 5 250-5 450 kHz for sharing studies |  | 3 Dec 13 | 5A | 1 | A |
| Rep. | M. | [2282](http://www.itu.int/publ/R-REP-M.2282) | 0 | Systems for public mobile communications with aircraft | *Being revised by WP5A* | 3 Dec 13 | 5A | 2 | 10 |
| Rep. | M. | [2330](http://www.itu.int/publ/R-REP-M.2330) | 0 | Cognitive radio systems (CRSs) in the land mobile service |  | 11 Nov 14 | 5A | 5 | 10 |
| Rep. | M. | [2335](http://www.itu.int/publ/R-REP-M.2335) | 0 | 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 Nov 2014 | 5A | 1 | A |
| Rep. | M. | [2377](http://www.itu.int/publ/R-REP-M.2377) | 1 | Radiocommunication objectives and requirements for Public Protection and Disaster Relief (PPDR) |  | 20 Nov 17 | 5A | 3 | 7 |
| Rep. | M. | [2378](http://www.itu.int/pub/R-REP-M.2378) | 0 | Operational guidelines for the deployment of broadband wireless access systems for local coverage operating below 6 GHz |  | 21 Jul 15 | 5A | 2 | 12 |
| Rep. | M. | [2395](http://www.itu.int/pub/R-REP-M.2395) | 0 | Introduction to railway communication systems |  | 21 Nov 16 | 5A | 2 | 3 |
| Rep. | M. | [2415](http://www.itu.int/pub/R-REP-M.2415) | 0 | Spectrum needs for Public Protection and Disaster Relief (PPDR) |  | 20 Nov 17 | 5A | 3 | 7 |
| Rep. | M. | [2417](http://www.itu.int/pub/R-REP-M.2417) | 0 | Technical and operational characteristics of land-mobile service applications in the frequency range 275-450 GHz | *Being revised by WP5A* | 20 Nov 17 | 5A | 5 | 10 |
| Rep. | M. | [2418](http://www.itu.int/pub/R-REP-M.2418) | 0 | Description of Railway Radiocommunication Systems between Train and Trackside (RSTT) |  | 20 Nov 17 | 5A | 2 | 3 |
| Rep. | M. | [2442](http://www.itu.int/publ/R-REP-M.2442) | 0 | Current and future usage of railway radiocommunication systems between train and trackside | *Being revised by WP5A* | 19 Nov 18 | 5A | 2 | 3 |
| Rep. | M. | [2444](http://www.itu.int/publ/R-REP-M.2444) | 0 | Examples of arrangements for Intelligent Transport Systems deployments under the mobile service | *Being revised by WP5A* | 19 Nov 18 | 5A | 5 | 3 |
| Rep. | M. | [2445](http://www.itu.int/publ/R-REP-M.2445) | 0 | Intelligent Transport Systems (ITS) usage |  | 19 Nov 18 | 5A | 5 | 3 |
| Rep. | M. | [2474](http://www.itu.int/publ/R-REP-M.2474) | 0 | Conventional digital land mobile radio systems |  | 3 Sep 2019 | 5A | 2 | 8 |
| Rep. | M. | [2478](http://www.itu.int/publ/R-REP-M.2478) | 0 | 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 |  | 3 Sep 2019 | 5A | 1 | A |
| Rep. | M. | [2479](http://www.itu.int/publ/R-REP-M.2479) | 0 | The use of land mobile systems, excluding IMT, for machine-type communications |  | 3 Sep 2019 | 5A | 5 | 8 |

## 1.3 Handbooks, Opinions and Resolutions

| Type | No. | Rev | Title | Comments | Approved | WP | WG | Topics |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Handbook | [25](http://www.itu.int/publ/R-HDB-25) | 0 | Land mobile (including wireless access)  [Volume 1](http://www.itu.int/pub/R-HDB-25/en): Fixed wireless access | *2nd edition*  *See Note 1* | 20 Mar 00 | 5A | 2 | 12 |
| Handbook | [30](http://www.itu.int/pub/R-HDB-30/en) | 0 | Land mobile (including wireless access)  [Volume 2](http://www.itu.int/pub/R-HDB-30/en): Principles and approaches on Evolution to IMT-2000/FPLMTS | *See Note 1* | 31 Dec. 97 | 5D |  | 12 |
| Handbook | [47](http://www.itu.int/publ/R-HDB-47) | 0 | Land mobile (including wireless access)  [Volume 3](http://www.itu.int/pub/R-HDB-47/en): Dispatch and advanced messaging systems | *See Note 1* | 13 Apr. 05 | 5A | 2 | 6, 12 |
| Handbook | [49](http://www.itu.int/publ/R-HDB-49) | 0 | Land mobile (including wireless access)  [Volume 4](http://www.itu.int/pub/R-HDB-49/en): Intelligent transportation systems | *2006 Edition*  *2021 Edition*  *See Note 1* | 21 Sep. 06  20 Nov 20 | 5A | 5 | 3 |
| Handbook | [57](http://www.itu.int/pub/R-HDB-57-2011) | 0 | Land mobile (including wireless access)  [Volume 5](http://www.itu.int/pub/R-HDB-57-2011): Deployment of Broadband Wireless Access systems | *See Note 1* | 17 Nov. 10 | 5A | 2 | 12 |
| Handbook | [52](http://www.itu.int/publ/R-HDB-52) | 1 | Amateur service and amateur-satellite service Handbook | *See Note 1* | 22 Nov 2013 | 5A | 1 | A |
| Res. ITU-R [55-3](http://www.itu.int/pub/R-RES-R.55) | | | ITU studies of disaster prediction, detection, mitigation and relief | *See Note 2* | 25 Oct 2019 | 5A, 5C | 3 |  |
| Res. ITU-R [58-2](http://www.itu.int/pub/R-RES-R.58) | | | Studies on the implementation and use of cognitive radio systems | *See Note 2* | 25 Oct 2019 | 5A, 5D | 5 |  |
| Res. ITU-R [60-2](http://www.itu.int/pub/R-RES-R.60) | | | Reduction of energy consumption for environmental protection and mitigating climate change by use of ICT/radiocommunication technologies and systems | *See Note 2* | 25 Oct 2019 | 5A, 5B, 5C, 5D | 2 |  |
| Res. ITU-R [62-2](http://www.itu.int/pub/R-RES-R.62) | | | Studies related to testing for conformance with ITU R Recommendations and interoperability of radiocommunication equipment and systems | *See Note 2* | 25 Oct 2019 | 5A, 5B, 5C, 5D | 2 |  |
| Res. [ITU-R 66-1](http://www.itu.int/pub/R-RES-R.66) | | | Studies related to wireless systems and applications for the development of the Internet of Things (IoT) |  | 25 Oct 2019 | SG 6, 5A, 5D | 5 |  |
| Res. [ITU-R 67-1](http://www.itu.int/pub/R-RES-R.67) | | | Telecommunication/ICT accessibility for persons with disabilities and persons with specific needs |  | 30 Oct 15 | 5A | 2 |  |
| [Res. **229**  **(Rev.WRC-19)**](https://www.itu.int/oth/R0A0600009D/en) | | | Use of the bands 5 150-5 250 MHz, 5 250‑5 350 MHz and 5 470-5 725 MHz by the mobile service for the implementation of wireless access systems including radio local area networks |  | 2019 | 5A | 2 | 9, 12 |
| [Res. **240  (WRC-19)**](https://www.itu.int/oth/R0A060000A0/en) | | | Spectrum harmonization for railway radiocommunication systems between train and trackside within the existing mobile-service allocations |  | 2019 | 5A | 2 | 3 |
| [Res. **646**  **(Rev.WRC-19)**](https://www.itu.int/oth/R0A0600009E/en) | | | Public protection and disaster relief |  | 2015 | 5A | 3 | 7 |
| [Res. **647**  **(Rev.WRC-19)**](https://www.itu.int/oth/R0A0600009F/en) | | | Spectrum management guidelines for emergency and disaster relief radiocommunication |  | 2015 | 5A | 3 | 7 |
| [Res. **703  (WRC-07)**](http://www.itu.int/oth/R0A0600001C/en) | | | Calculation methods and interference criteria recommended by ITU-R for sharing frequency bands between space radiocommunication and terrestrial radiocommunication services or between space radiocommunication services |  | 2007 | 5A, 5B, 5C, 5D | 4 | 4 |
| Res. [**731  (Rev.WRC-19)**](https://www.itu.int/oth/R0A060000A1/en) | | | Consideration of sharing and adjacent-band compatibility between passive and active services above 71 GHz | *See Note 2* | 2019 | 5A, 5C | 4, 5 | 10 |
| Recommendation 34 (WRC-12) | | | Principles for the allocation of frequency bands |  | 2012 | 5A, 5B, 5C, 5D | 2 |  |
| Recommendation [208 (WRC-19)](https://www.itu.int/oth/R0A060000A3/en) | | | Harmonization of frequency bands for evolving Intelligent Transport Systems applications under mobile-service allocations |  | 2019 | 5A | 5 | 3 |

NOTE 1 – Study Group 5 has delegated, for the entire study period, the approval of Handbooks to its Working Parties in accordance with § A2.8.2 of Resolution ITU-R 1.

NOTE 2 – The studies under this Resolution relate also to the scope of other Study Groups.

# 2 Organization of Working Party 5A

## 2.1 Mandate and responsibility of the Working Groups

The mandate and responsibility of each Working Group is to carry out the work in response to ITU‑R Questions and WRC Recommendations/Resolutions, as well as the designated preparatory work for WRC-23. Section 2.2 provides the structure of Working Party 5A.

Each Working Group is to carry out work program as follows:

1 consider all input contributions assigned to it and act on them accordingly;

2 based on input contributions, carry out work programs associated with the questions assigned;

3 carry out work program resulting from the first Conference Preparatory Meeting (CPM23-1) for WRC-19 outlined in section 3;

4 review the ITU-R related Questions to bring them up to date and to consider their relevance to current work within Working Party 5A;

5 identify any Recommendations or Reports that require updates and revisions;

6 prepare and approve output documents for consideration by the Plenary of WP5A (Note: Documents prepared by the working groups for consideration by WP5A must be approved as numbered 5A/TEMP/ documents before submission to WP5A);

7 prepare and approve any required liaison statement to other Working Parties, Study Groups, and External Organizations for consideration and approval by the Plenary of Working Party 5A for transmission to the appropriate Groups;

8 identify areas of work that require future contributions from ITU-R Membership;

9 prepare texts to form part of the land mobile Handbook;

10 the working group can create sub-working groups and drafting groups to facilitate its work as required (Note: Presentation of input contributions should not be delegated to drafting groups);

11 maintain the momentum of work and to be able to meet the requirements on a timely basis, the working group could carry out its work by correspondence between meetings of WP5A;

12 conduct work on vocabulary in accordance with Resolution [ITU-R 36-5](http://www.itu.int/pub/R-RES-R.36) and following the guidance in Doc. [5A/75](http://www.itu.int/md/R19-WP5A-C-0075/en), and bring to the attention of WP5A proposed terms and definitions to be sent to the [CCV](http://www.itu.int/ITU-R/go/rccv) for consideration before the formal adoption and approval of the related Recommendations.

The Chairman of each Working Group is to provide a written Report covering work activities carried out during the meeting, including an executive summary of the results of the meeting and the objectives for the following meeting. This Report will form part of Annex 3 to the Working Party 5A Chairman’s Report. The Report should also include the status of the input contributions assigned to the working group, list of areas requiring future contributions, and proposed changes of status of ITU-R Questions, Recommendations, Reports and Handbooks.

## 2.2 Structure of Working Party 5A

In accordance with the guidance from the RAG (cf. Circular [CA/252](https://www.itu.int/md/R00-CA-CIR-0252/en), p.5) the chairman of Working Party 5A has identified two vice-chairmen for Working Party 5A: Amy Sanders and Michael Kraemer.

The structure of Working Party 5A is follows:

| Group | Title | Resolutions, Recommendations, Questions .../5 | Chairman |
| --- | --- | --- | --- |
| WG5A-1 | Amateur services | AI 9.1 Topic b (Res. **774(WRC-19)**);  [Q. 48-7](http://www.itu.int/publ/R-QUE-SG05.48/en); [Q. 209-6](http://www.itu.int/pub/R-QUE-SG05.209/en) (Amateur aspects only) | Dale Hughes, Australia |
| WG5A-2 | Systems and standards | AI 9.1 Topic c ([Res. **175 (WRC-19)**](http://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000C0012PDFE.pdf))  Wireless Access: [Q. 101-5](http://www.itu.int/pub/R-QUE-SG05.101/en) and (except sharing aspects) [Q. 212-4](http://www.itu.int/pub/R-QUE-SG05.212/en), [Q. 215-4](http://www.itu.int/pub/R-QUE-SG05.215/en), [Q. 238-3](http://www.itu.int/pub/R-QUE-SG05.238/en);  Accessibility and Human Factors: [Q. 254/5](http://www.itu.int/pub/R-QUE-SG05.254-2014);  Specific Appl.: [Q. 37-6](http://www.itu.int/pub/R-QUE-SG05.37/en) (except PPDR);  Railway: Res. [**240 (WRC-19)**](https://www.itu.int/oth/R0A060000A0/en)  Climate Change: [Res. ITU-R 60](http://www.itu.int/pub/R-RES-R.60/en);  Conformance: [Res. ITU-R 62](http://www.itu.int/pub/R-RES-R.62/en) | Lang Baozhen, China |
| WG5A-3 | PPDR | [Res.](https://www.itu.int/oth/R0A0600009E/en" \o "blocked::http://www.itu.int/oth/R0A0600001A/en) **[646 (Rev.WRC‑19)](https://www.itu.int/oth/R0A0600009E/en" \o "blocked::http://www.itu.int/oth/R0A0600001A/en)**, [Res.](https://www.itu.int/oth/R0A0600009F/en" \o "blocked::http://www.itu.int/oth/R0A0600001B/en) **[647 (Rev.WRC-19)](https://www.itu.int/oth/R0A0600009F/en" \o "blocked::http://www.itu.int/oth/R0A0600001B/en)**;  [Res. 55-1](http://www.itu.int/publ/R-RES-R.55/en); [Q. 37-6](http://www.itu.int/pub/R-QUE-SG05.37/en) (PPDR aspects only);  [Q. 209-6](http://www.itu.int/pub/R-QUE-SG05.209/en) (Mobile aspects only) | Amy Sanders, USA |
| WG5A-4 | Interference and sharing | AI 1.3 ([Res. **246 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0003PDFE.pdf));  [Res. **229 (Rev.WRC-19)**](https://www.itu.int/oth/R0A0600009D/en), [Res. **703 (WRC-07)**](http://www.itu.int/oth/R0A0600001C/en);  Rec. 34 (WRC-12);  [Q. 1-6](http://www.itu.int/pub/R-QUE-SG05.1/en), [Q. 7-7](http://www.itu.int/pub/R-QUE-SG05.7/en);  Sharing aspects of: [Q. 212-4](http://www.itu.int/pub/R-QUE-SG05.212/en), [Q. 215-4](http://www.itu.int/pub/R-QUE-SG05.215/en), [Q. 238-3](http://www.itu.int/pub/R-QUE-SG05.238/en);  Antennas: [Q. 242-2](http://www.itu.int/pub/R-QUE-SG05.242)  [Res. **731 (Rev.WRC-19)**](https://www.itu.int/oth/R0A060000A1/en) | Michael Kraemer, Germany |
| WG5A-5 | New technologies | ITS: [Res. **237 (WRC-15)**](http://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000C0013PDFE.pdf)); [Q 205-6](http://www.itu.int/pub/R-QUE-SG05.205/en); [Q. 261](http://www.itu.int/pub/R-QUE-SG05.261/en)  CRS: [Res.](http://www.itu.int/publ/R-RES-R.58/en" \o "blocked::http://www.itu.int/publ/R-RES-R.55/en) **[58](http://www.itu.int/publ/R-RES-R.58/en" \o "blocked::http://www.itu.int/publ/R-RES-R.55/en)**; Rec. **76 (WRC-12)**; [Q. 241-4](http://www.itu.int/pub/R-QUE-SG05.241/en" \o "blocked::http://www.itu.int/pub/R-QUE-SG05.241/en);  WASN: [Q. 250-1](http://www.itu.int/pub/R-QUE-SG05.250);  >275 GHz: [Q. 256](http://www.itu.int/pub/R-QUE-SG05.256)-1 | Hitoshi Yoshino, Japan |

During the 25th meeting the work on WRC-23 Topic 9.1c was conducted in the Ad Hoc WG 5A/5C.

| Liaison Rapporteurs\* | Topic |
| --- | --- |
| Gabrielle Owen, The Netherlands | Report on relevant activities in certain countries in Region 1 |
| Jonathan Siverling, USA | Report on relevant activities in certain countries in Region 2 |
| Hitoshi Yoshino, Japan | Report on relevant activities in certain countries in Region 3 |
| Amy Sanders, USA | Report on [disaster relief](http://www.itu.int/ITU-R/index.asp?category=information&link=emergency&lang=en) |
| Paul Najarian, USA | Report on [ITS communication standards collaboration](http://www.itu.int/en/ITU-T/extcoop/cits/Pages/default.aspx) |
| Brian Copsey, UK | Report on [ITU-T JCA-AHF](http://www.itu.int/en/ITU-T/jca/ahf/Pages/default.aspx) |
| \* See section A1.6.1.2 of [Resolution ITU-R 1](http://www.itu.int/pub/R-RES-R.1). | |

|  |  |  |
| --- | --- | --- |
| Rapporteurs\*\* | Topic | Resolutions |
| Gabrielle Owen, The Netherlands (2010-2018)  Takahiko Yamazaki,  Japan (2019-…) | Land mobile Handbook (including wireless access) | [Res. 12-1](http://www.itu.int/pub/R-RES-R.12/en) |
| Brian Patten, USA | Vocabulary | [Res. 36-5](http://www.itu.int/pub/R-RES-R.36/en) |
| \*\* See section A1.3.2.6 of [Resolution ITU-R 1](http://www.itu.int/pub/R-RES-R.1). | | |

## 2.3 Guidelines for the preparation of WP5A texts

Working Party 5A encourages the use of the ITU English Style Guide for the preparation of texts: <http://www.itu.int/SG-CP/docs/styleguide.doc>.

In accordance with the decisions of the Radiocommunication Assembly there is a mandatory common [format](http://www.itu.int/oth/R0A0E000097) for new and revised ITU-R Recommendations (cf. section A1.6.2.2 of [Resolution ITU-R 1](http://www.itu.int/pub/R-RES-R.1)); WP5A will need to verify that draft new and revised ITU-R Recommendations are in accordance with the prescribed “[Format of ITU-R Recommendations](http://www.itu.int/dms_pub/itu-r/oth/0a/0E/R0A0E0000970001MSWE.docx)”.

## 2.4 Schedule of sessions during the twenty-fifth meeting

The schedule of sessions during the twenty-fourth meeting of Working Party 5A is contained in Doc. [5A/ADM/14](https://www.itu.int/md/R19-WP5A-ADM-0014/en).

# 3 Preparatory work for WRC-23

Refer to [Resolution ITU-R 2](http://www.itu.int/pub/R-RES-R.2) (2019) “Conference Preparatory Meeting”. CPM23-1 identified WP5A as a responsible group or concerned group for a number of WRC-23 agenda items and topics, refer to Circular Letter [CA/251](http://www.itu.int/md/R00-CA-CIR-0251/en).

WP5A has responsibility for one WRC-23 agenda item and two topics under agenda item 9.1; as the work progresses it will be captured in annexes to the WP5A Chairman’s Report as follows:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Agenda item  Topic | Topic | Resolution | Draft CPM text | Workplan/ Report of activities |
| 1.3 | Primary allocation of the band 3 600-3 800 MHz to the mobile service within Region 1 | [**246 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0003PDFE.pdf) | [Annex 4](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0359!N04!MSW-E) | [Annex 5](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0359!N05!MSW-E) |
| 9.1 b) | Amateur service and amateur-satellite service allocations in 1 240-1 300 MHz | [**774 (WRC‑19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0023PDFE.pdf) | [Annex 6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0359!N06!MSW-E) | [Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0359!N07!MSW-E) |
| 9.1 c) | IMT for fixed wireless broadband in the frequency bands allocated to the fixed services on primary basis | [**175 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0024PDFE.pdf) | [Annex 8](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0359!N08!MSW-E) | [Annex 9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0359!N09!MSW-E) |

These annex numbers will be maintained from meeting to meeting until the work is completed. The annexes with the work plans will be converted to reports of the work undertaken when the work is completed (i.e., prior to CPM-23-2). The full list of WRC-23 agenda items follows:

*Legend:* **R** = Responsible group; C = Contributing group;

| Agenda item | Topic | Resolution | Notes | WP 5A | WP 5B | WP 5C | WP 5D | Other WPs/TG |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1.1 | Protection of stations of the aeronautical and maritime mobile services in the frequency band 4 800-4 990 MHz | [**223 (Rev.WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0001PDFE.pdf)  (re No. **5.441B**) | [[2]](#footnote-2) |  | **R** | C | **R** | 1B, 3K, 3M, 5C, 7D |
| 1.2 | Identification of frequency bands for IMT in 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0- 10.5 GHz | [**245 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0002PDFE.pdf)[[3]](#footnote-3) |  | C | C | C | **R** | 3K, 3M, 4A, 4B, 4C, 7B, 7C, 7D |
| 1.3 | Primary allocation of the band 3 600-3 800 MHz to the mobile service within Region 1 | [**246 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0003PDFE.pdf) |  | **R** | C | C | C | 3K, 3M, 4A |
| 1.4 | Use of high-altitude platform stations as IMT base stations (HIBS) in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT. | [**247 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0004PDFE.pdf) |  | C | C | C | **R** | 3K, 3M, 4A, 4C, 6A, 7B, 7C, 7D |
| 1.5 | Review the frequency band 470-960 MHz in Region 1 and consider possible regulatory actions in 470-694 MHz in Region 1 | [**235 (WRC-15)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000C0036PDFE.pdf) | [[4]](#footnote-4) | C | C | C | C | **6/1**, 3K, 3M, 6A, 7D |
| 1.6 | Radiocommunications for sub-orbital vehicles | [**772 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0005PDFE.pdf) | [[5]](#footnote-5) |  | **R** |  |  | 3M, 4A, 4C, 7B, 7D |
| 1.7 | New aeronautical mobile-satellite (R) service (AMS(R)S) allocation within 117.975-137 MHz | [**428 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0006PDFE.pdf) | [[6]](#footnote-6) |  | **R** |  |  | 3M, 4C, 7B |
| 1.8 | Use of FSS in UAS | [**171 (WRC-19)-155(Rev.WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0027PDFE.pdf) | [[7]](#footnote-7) |  | **R** |  |  | 4A, 4B |
| 1.9 | Review Appendix **27** for commercial aviation safety-of-life applications in HF | [**429 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0009PDFE.pdf) |  |  | **R** |  |  | 3L, 3M, 6A |
| 1.10 | New allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications | [**430 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0010PDFE.pdf) |  | C | **R** | C |  | 3K, 3M, 4A, 7C, 7D |
| 1.11 | Modernization of the Global Maritime Distress and Safety System | [**361 (Rev.WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0011PDFE.pdf) | [[8]](#footnote-8) |  | **R** |  |  | **4C**[[9]](#footnote-9), 7D |
| 1.12 | New secondary allocation to the EESS (active) for spaceborne radar sounders within frequencies around 45 MHz | [**656 (Rev.WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0012PDFE.pdf) |  | C | C | C |  | **7C**, 3K, 3L, 3M, 6A |
| 1.13 | Upgrade the allocation of 14.8-15.35 GHz to the space research service | [**661 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0013PDFE.pdf) |  | C | C | C |  | **7B**, 3M, 7C, 7D |
| 1.14 | Primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz | [**662 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0014PDFE.pdf) |  | C | C | C |  | **7C**, 3J, 3M, 4A, 4C, 7D |
| 1.15 | Use of 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels communicating with geostationary space stations in the FSS globally | [**172 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0015PDFE.pdf) |  | C | C | C |  | **4A**, 3M. 7C |
| 1.16 | Use of 17.7-18.6 GHz and 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) by non-GSO FSS ESIM | [**173 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0016PDFE.pdf) |  | C | C | C |  | **4A**, 3M, 4C, 7B, 7C |
| 1.17 | Inter-satellite links in specific frequency bands, or portions thereof, by adding inter-satellite service allocations | [**773 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0017PDFE.pdf) |  | C | C | C |  | **4A**, 3M, 4B, 4C, 7B, 7C |
| 1.18 | New allocations to MSS for future development of narrowband MSS systems in 1 695-1 710 MHz, 2 010-2 025 MHz, 3 300-3 315 MHz and 3 385-3 400 MHz | [**248 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0018PDFE.pdf) |  | C | C | C | C | **4C**, 3M, 4A, 4B, 7B, 7C |
| 1.19 | New primary allocation to FSS (space-to-Earth) in 17.3-17.7 GHz in Region 2 | [**174 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0019PDFE.pdf) |  | C | C | C |  | **4A**, 3M, 7C |
| 9.1 a) | Technical and operational characteristics, spectrum requirements and appropriate radio service designations for space weather sensors | [**657 (Rev.WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0022PDFE.pdf) |  | C | C | C |  | **7C**, 1B, 3J, 3K, 3L, 3M, 4A, 4C, 6A, 7D |
| 9.1 b) | Amateur service and amateur-satellite service allocations in 1 240-1 300 MHz | [**774 (WRC‑19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0023PDFE.pdf) |  | **R** |  |  |  | 3M, 4C[[10]](#footnote-10), 7C |
| 9.1 c) | IMT for fixed wireless broadband in the frequency bands allocated to the fixed services on primary basis | [**175 (WRC 19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0024PDFE.pdf) | [[11]](#footnote-11) | **R** |  | **R** | C | 1B, 4A, 4C, 6A, 7B, 7C, 7D |
| 9.1 d) | Protection of EESS (passive) in the frequency band 36-37 GHz | See WRC-19 [Document 535](https://www.itu.int/md/R16-WRC19-C-0535/en), 2nd section of the Annex |  | C |  | C | C | **7C**, 4A |

ease refer to [CA/251](http://www.itu.int/md/R00-CA-CIR-0251/en) and the [CPM web page](http://www.itu.int/ITU-R/index.asp?category=study-groups&link=rcpm&lang=en) for additional information, in particular:

– [ITU-R Preparatory Studies for WRC-23](http://www.itu.int/en/ITU-R/study-groups/rcpm/Pages/wrc-23-studies.aspx)

– [Proposed detailed structure of the Draft CPM Report to WRC-23](https://www.itu.int/oth/R0A0A000014/en).

– The deadline for reporting to Task Group 6/1 the results of studies by the contributing working parties under WRC-23 agenda item 1.5 is 15 May 2021.

– The service/application characteristics and parameters are to be sent by the contributing groups to the responsible groups by the deadline of 23 July 2021.

– The final draft CPM texts from the responsible groups shall be received by the respective CPM-23 Chapter Rapporteurs, with a copy to the CPM-23 Chairman and to the BR Counsellor for the CPM by 21 October 2022 at the latest.

CPM23-1 noted that several agenda items have overlapping frequency bands, as shown in Table 1 below. The responsible groups have been invited to exchange the necessary characteristics, parameters and protection criteria to complete studies addressing mutual compatibility and sharing feasibility among the applicable services/applications. They should coordinate their work and review, as appropriate, the progress of studies so that any potential difficulties can be addressed.

Table 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1.2 (IMT)  WP 5D | 1.4 (HIBS)  WP 5D | 1.16 (non-GSO FSS ESIMs)  WP 4A | 1.17 (ISL)  WP 4A | 1.18 (narrowband MSS)  WP 4C |
|  | 2 010-2 025 MHz (Regions 1 & 3) |  |  | 2 010-2 025 MHz (Region 1) |
| 3 300-3 400 MHz (Regions 1 & 2) |  |  |  | 3 300-3 315 MHz  3 385-3 400 MHz (Region 2) |
|  |  | 27.5-29.1 GHz (E-s) 29.5-30 GHz (E-s) | 27.5-30 GHz (s-s) |  |

The RAG (cf. [CA/252](https://www.itu.int/md/R00-CA-CIR-0252/en)) and the Chairmen and Vice-Chairmen meeting (cf. Doc. [CVC-16/2](https://www.itu.int/md/R19-CVC-C-0002/en)) have provided principles to be considered and taken into account in studies relating to WRC-23 agenda items, which appear in the Annex in Doc. [CVC-16/2](https://www.itu.int/md/R19-CVC-C-0002/en) and are reproduced in Section 3.1 below. WP5A participants are encouraged to apply these principles in their work.

## 3.1 Principles to be considered and taken into account in studies relating to WRC-23 agenda items

### 3.1.1 Frequency bands not already allocated to a radiocommunication service(s) under study

Principles applied when studying a frequency band or bands in a given Region or in Regions/countries in case that the corresponding frequency band or bands was/were not allocated to that service in that Region or Regions/countries.

This principle mainly applies to those agenda items dealing with IMT and HAPS of any type.

Existing services to which the frequency band is allocated shall be protected.

### 3.1.2 Frequency bands already allocated to a radiocommunication service(s) under study

Principles applied when studying a frequency band or bands for radiocommunication service(s) under study in a given Region or Regions/countries in case that the corresponding frequency band or bands was/were already allocated to that service in that Region, or Regions / countries.

This principle mainly applies to those agenda items dealing with IMT and HAPS of any type.

### 3.1.3 Identification of in-band and adjacent band services

Identification of all services other than the service in those frequency bands to be studied and all services in the adjacent frequency bands, as appropriate.

This principle is important to identify all services in the frequency band under study.

The impact of the incoming in-band service subject to the agenda item with respect to in-band secondary services need to be assessed if it is mentioned in the resolution supporting that agenda item. In the absence of guidance from the resolution, the matter is to be treated in accordance with the relevant provisions of the Radio Regulations.

The protection of primary services in the adjacent frequency band is to be treated in accordance with the relevant provisions of the Radio Regulations.

[Editor’s note: The [CVC] meeting considered that the highlighted part of Section 3 requires further discussion and did not reach a conclusion on an agreeable text]

### 3.1.4 Previous sharing and compatibilities studies

Use, to the extent practicable and available, any sharing and compatibilities studies carried out in previous cycles.

This principle is necessary to avoid repeating studies previously performed. However, in the light of progress made, those studies may need to be examined to identify if they need revision or to be further amended.

### 3.1.5 Take into account decisions of previous WRCs on the matter as closely as possible

Studies previously carried out in certain frequency bands were subject to extensive studies since previous WRCs. The use of the frequency bands in question by other services, may not have changed drastically, thus the overwhelming majority of conclusions reached in the previous studies may still be valid and prevail.

### 3.1.6 In-band sharing and compatibility studies to be carried out

It is essential to investigate the extent to which the in-band sharing and compatibility studies are to be carried out, namely whether they should be limited to the services having a primary status or also include other services having a secondary status.

This is also an important element to be looked at in line with the language used in the Resolution supporting the agenda items, namely whether or not the Resolution in its *resolves* part referred to the “protection of the services to which the band is allocated” or whether it referred only to protect services to which the frequency band is allocated having a primary status or whether the resolve is silent.

### 3.1.7 Adjacent frequency band sharing and compatibility studies to be carried out

It is essential to investigate the extent to which the adjacent frequency band sharing and compatibility studies to be carried out namely whether they should be limited to some sensitive services having a primary status or also include other services irrespective of their sensitivities.

This principle is also important due to the fact that the language used in the *resolves* part of the supporting resolution might have clearly mentioned the protection of adjacent band services or whether the *resolves* part is silent on the matter.

### 3.1.8 In-band and adjacent frequency band sharing and compatibility studies in adjacent Region

It is important to note that whenever, when dealing with in-band and adjacent frequency band sharing and compatibility studies in a given Region, the impact of these studies in other Regions adjacent to the Region in which such studies are being carried out, should be carefully taken into account.

This is an important issue due to the fact that in certain agenda items the required action is limited to a specific Region or sub-Region. However, the impact of the study and the need to protect the services allocated to other Regions is of vital importance, in particular, when two Regions are geographical contiguous.

It is necessary that the studies take into account any negative impact on other Regions and properly deal with that.

### 3.1.9 Sharing and compatibility

Sharing criteria, assumptions, simulation processes and mitigation techniques to be used in the required studies:

**3.1.9.1** It is necessary to agree on sharing and compatibility criteria, assumptions, simulation processes and, to the extent possible, fair and balanced mitigation techniques preferably at the early stage of studies.

This principle is essential in order not to repeat the studies afterward due to the fact that certain membership are / could be reluctant to repeat certain studies which in their views could be waste of time and resources.

Protection criteria need to be determined by the SGs/WPs concerned that are responsible for the incumbent service, but the sharing criteria need to be agreed amongst the responsible and contributing working parties/groups.

**3.1.9.2** Any approach different from a coordinated and harmonized approach may result in different conclusions reached by each study and thus makes it very difficult, if not impossible, to draw an overall conclusion which is an essential element to conclude on the results of sharing and compatibility studies. This problem was faced during the studies which were carried out during the previous study cycles.

### 3.1.10 Needs or otherwise to prepare a new ITU-R Report or New ITU-R Recommendation

**3.1**.**10.1** It is essential to discuss the needs or otherwise to prepare a new ITU-R Report or Recommendation due to the fact that there are already several Reports and Recommendations on the matter. The only aspect to be verified is if such Reports and Recommendations need any amendments/revisions. See paragraph A1.3.1.5*bis* of Resolution ITU‑R 1-8;

**3.1.10.2** Moreover, it is worth mentioning that there is a difference between a supporting technical and operational and/or a regulatory document, and a formal ITU-R Report or Recommendation, because after the WRC-23, once the agenda is treated, those Reports may have little additional value other than elements which would be included in the output/outcome of the conference on that agenda;

In other words, before embarking on the need or otherwise of a new ITU-R Recommendation or Report or both, it is necessary to verify why the existing Recommendation(s) or Report(s) are not sufficient. Rather than starting a new Recommendation or Report or both perhaps revising one or some of the existing Recommendations/Reports would be sufficient.

Preparation of ITU-R Recommendations in relation to agenda items would normally start once there is sufficient progress in the ITU-R Reports under consideration.

### 3.1.11 Coordination with other contributing working parties

This is an important element to be carefully considered and taken into account. In other words, in addition to Liaison Statements sent to those contributing working parties, arrangements should be made that any document be shared with these contributing working parties, in particular, before being upgraded to the level of draft at the responsible working parties. Moreover, towards the end of the study, in order to be safer, more effective and efficient, efforts should be made by the BR Study Group Department to plan joint meetings with those working parties that are heavily involved or, to the extent practicable, at least to convene back-to-back meetings with them.

# 4 Working Party 5A Contacts for liaison and collaboration with other organizations under [Resolution ITU-R 9](http://www.itu.int/pub/R-RES-R.9)

See table below.



*Last updated: 10 May 2021*

List of acronyms and abbreviations

|  |  |
| --- | --- |
| AAR | [Association of American Railroads](http://www.aar.org/) |
| AHF | Accessibility and Human Factors |
| APCO | [Associated Public Safety Communications Officials](http://www.apco911.org/) |
| APT | [Asia-Pacific Telecommunity](http://www.aptsec.org/) |
| ARIB | [Association of Radio Industries and Businesses](http://www.arib.or.jp/english/) |
| ATIS | [Alliance for Telecommunications Industry Solutions](http://www.atis.org/) |
| AWG | [Asia-Pacific Telecommunity Wireless Group](http://www.aptsec.org/APTAWG) |
| BAPCO | [British Association of Public Safety Communications Officers](http://www.bapco.org.uk/) |
| BBF | Broadband Forum |
| C2C-CC | Car 2 Car - Communication Consortium |
| CCSA | [China Communications Standards Association](http://www.ccsa.org.cn/english/) |
| CDG | CDMA Development Group |
| EHIMA | [European Hearing Instrument Manufacturers Association](http://www.ehima.com/) |
| EMTEL | [Emergency Communications (ETSI)](http://www.emtel.etsi.org/) |
| ERA | [European Railway Agency](http://www.era.europa.eu/) |
| ERM | [Electromagnetic compatibility and Radio spectrum Matters](http://portal.etsi.org/portal/server.pt/community/ERM/306?tbId=286) |
| ETNO | [European Telecommunications Network Operators' Association](http://www.etno.eu/) |
| ETSI | [European Telecommunications Standards Institute](http://www.etsi.org/) |
| GSA | [Global mobile Suppliers Association](http://gsacom.com/) |
| GSMA | [GSM Association](http://www.gsma.com/) |
| IEEE | [Institute of Electrical and Electronics Engineers](http://www.ieee.org/) |
| IETF | [Internet Engineering Task Force](http://www.ietf.org/) |
| ITU IRG-AVQA | [Intersector Rapporteur Group Audiovisual Quality Assessment](http://www.itu.int/en/irg/avqa/Pages/default.aspx) |
| ITU JCA-AHF | [Joint Coordination Activity on Accessibility and Human Factors](http://www.itu.int/en/ITU-T/jca/ahf/Pages/default.aspx) |
| MEC | [Multi-Access Edge Computing](http://www.etsi.org/technologies-clusters/technologies/multi-access-edge-computing) |
| MEF | [Metro Ethernet Forum](http://metroethernetforum.org/) |
| MFA | [MulteFire Alliance](https://www.multefire.org/) |
| MGWS | Multi Gigabit Wireless Systems |
| MSG | Mobile Standards Group |
| OASIS | [Organization for the Advancement of Structured Information Standards](http://www.oasis-open.org/) |
| PPDR | Public Protection and Disaster Relief |
| QoS | Quality of Service |
| RAC | [Railway Association of Canada](http://www.railcan.ca/) |
| TCCE | TETRA and Critical Communications Evolution |
| TETRA | Terrestrial Trunked Radio |
| TGSRR | [Task Group Automotive and Surveillance Radar](http://portal.etsi.org/erm/ERMtgSRR_ToR.asp) |
| TIA | [Telecommunications Industry Association](http://www.tiaonline.org/) |
| TSDSI | Telecommunications Standards Development Society, India |
| TTA | [Telecommunications Technology Association](http://www.tta.or.kr/English/) |
| TTC | [The Telecommunication Technology Committee](http://www.ttc.or.jp/e/) |
| UIC | [Union Internationale des Chemins de fer](http://www.uic.org/) |
| WASN | Wireless Access Sensor Networks |
| WGA | [Wireless Gigabit Alliance](http://wirelessgigabitalliance.org/) |
| WGET | [Working Group on Emergency Telecommunications](http://www.reliefweb.int/telecoms/intro/wget.html) |
| WWRF | [Wireless World Research Forum](http://www.wireless-world-research.org/) |
| XGP | [eXtended Global Platform](http://www.xgpforum.com/) |

# 5 Procedure and guidelines for the development of the land mobile Handbook

## 5.1 Guidelines on text for the Handbook[[12]](#footnote-12)

– Text to contain the latest information on the topic.

– Text to cover an agreed item on the list of contents and in accordance with an agreed outline.

– Text to provide and update technical and related information as it becomes available on specific systems which should be described on their own individual merits.

– The purpose of the text is to allow the readers of the Handbook to make their own judgement and to reach their own conclusions in accordance with their specific requirements.

– It is assumed that the reader of the Handbook has some engineering background but is not necessarily a specialist.

## 5.2 Mandate and responsibility of the land mobile Handbook Group

– The land mobile Handbook Group under the direction of the Rapporteur is instructed to prepare, revise and submit text to Working Party 5A for the land mobile Handbook in accordance with an agreed list of contents and should report to Working Party 5A on the progress on the development of the land mobile Handbook.

– Members represented in the land mobile Handbook Group are responsible for coordinating the text and its review within their own administration, if necessary.

## 5.3 Method of work of the land mobile Handbook Group

– All contributions should be sent to the Rapporteur and the responsible Editor along with a clear indication of the source.

– The land mobile Handbook Group will carry its work mainly by correspondence using the Share Folder facilities.

– Text is maintained and updated in a designated directory on ITU TIES. The Rapporteur is the authorized person to post and update the text on TIES.

– Delegates interested in participating in the work of the land mobile Handbook Group are invited to contact the Rapporteur.

– Comments concerning posted texts are to be compiled by the Rapporteur and posted in the designated directory on TIES.

– The land mobile Handbook Group can propose the agreed text to Working Party 5A for consideration for approval.

# 6 Electronic working methods

IMPORTANT: TIES Email Services were discontinued as of 17 November 2017. Users had the option to redirect their TIES email to an alternative service provider for a transitional period of 12 months, ending 30 November 2018. For further information see: <https://www.itu.int/en/ties-services/Pages/default.aspx>.

## 6.1 Overview of electronic facilities used by Working Party 5A

To make full use of the ITU electronic facilities you need a TIES user id and password. If you do not have a TIES ID, please read: <http://www.itu.int/TIES/registration/index.html> to determine whether you are eligible and then apply online.

For further information about the ITU-R electronic facilities, please consult:   
<http://www.itu.int/ITU-R/go/e-facilities>.

The electronic facilities used by Working Party 5A are as follows:

***E-mail reflectors*** *(mailing lists)****:*** Used to send messages to all those that have subscribed to the reflector. Large file attachments are discouraged. See section 6.2.

***FTP:*** For file exchange. See section 6.3.

***SharePoint meetings site:*** The site provides “Share Folders” for informal document exchange amongst participants. See section 6.4.

***RSS Feed:*** An RSS feed exists for Working Party 5A documentation, which offers an easy way to be kept updated automatically on recent documents posted. See section 6.5.

## 6.2 E-mail reflectors

TIES e-mail reflectors have been created for various working groups to work by correspondence between meetings of Working Party 5A. The following Working Party 5A reflectors are maintained (see also section 6.4 for the WP5A correspondence group(s) using the new SharePoint facility):

| Reflector address | Subject | Available Archived Messages |
| --- | --- | --- |
| [*rwp5a@lists.itu.int*](mailto:rwp5a@lists.itu.int) | *General* | [*Archive*](http://ties.itu.int/listarchives/rwp5a) |
| [*rwp5a-rstt@itu.int*](mailto:rwp5a-rstt@itu.int) *\** | *RSTT (Convener: Mr. LIU Bin) (Note: Inactive)* | [*Archive*](http://ties.itu.int/listarchives/rwp5a-rstt) |
| [*rwp5a-wg4@itu.int*](mailto:rwp5a-wg4@itu.int) *\** | *Interference and sharing (Note: Inactive)* | [*Archive*](http://ties.itu.int/listarchives/rwp5a-wg4) |
| [*rwp5a-5c-jcg@itu.int*](mailto:rwp5a-5c-jcg@itu.int) *\** | *Note: Disbanded on 28 November 2013 because WP 5C will continue this work in the fixed service only.* | [*Archive*](http://ties.itu.int/listarchives/rwp5a-5c-jcg) |
| [*rwp5a-lmhbook@itu.int*](mailto:rwp5a-lmhbook@itu.int) *\** | *Land Mobile Handbook (Note: Inactive)* | [*Archive*](http://ties.itu.int/listarchives/rwp5a-lmhbook) |
| \* Note: As part of the ongoing maintenance and due to their recent inactivity, this e-mail reflector address will soon be fully archived (not visible anymore on the e-mail reflector list, but in the archive of WP5A). | | |

When you send an email to one of the above e-mail reflector addresses, your message is automatically forwarded to all those who have subscribed to that e-mail reflector. You must be subscribed to an e-mail reflector to be able to send messages to it.

To manage your e-mail reflector subscriptions, login to your TIES account:   
[https://ties.itu.int](https://ties.itu.int/).

Once subscribed, in the part of the web page showing which mailing lists you're subscribed to, you will also be able to see who else is subscribed to each list (“Members”) and have access to an archive of emails previously sent to each list (“Archive”). You are also automatically granted access to the associated ftp site.

To unsubscribe from a list, simply click the check-box(es) on the right-hand side of the page corresponding to the list(s) that you want to unsubscribe from, then click the “Unsubscribe” button.

## 6.3 FTP

To be able to access the Working Party 5A FTP site, you need to have a TIES ID and Password and be subscribed to at least one of the e-mail reflectors in SG 5. If, after your subscription to the reflector has been approved, you are still unable to access the Working Party 5A FTP site, please send an e-mail to [brweb@itu.int](mailto:brweb@itu.int) and provide your TIES username and the name of the mailing list you have subscribed to.

The WP5A FTP directory can be accessed either via World Wide Web (WWW) at <http://ties.itu.int/u/itu-r/ede/rsg5/rwp5a/> or via File Transfer Protocol (FTP) ITU servers.

For accessing the ITU FTP server, use FTP communication software with the host address as *ftp.itu.int* or *ties.itu.int* using your TIES ID and Password. Then change the directory to the following: */u/itu-r/ede/rsg5/rwp5a*.

For further information about the FTP activities of Working Party 5A in a specific area please see the README file in the corresponding folder. The Working Group Chairman and Rapporteurs are kindly requested to create the README files as required; please make sure a contact point is included in the README file.

## 6.4 SharePoint meetings site

A SharePoint meetings site has been set up for these meetings. The site provides “Share Folders” for informal document exchange amongst participants. Links to other ITU-R documents and resources are also provided.

To access the SharePoint meetings site, go to: <https://extranet.itu.int/rsg-meetings>.

Then login as:

**Username:** <your TIES username>

**Password:** <your TIES password>

The SharePoint meetings site is also used for the work of correspondence groups. Persons who wish to join a Correspondence Group can request to join the group by clicking on “Join this community”.

Group members can upload documents, change uploaded documents, post announcements and discussion items or reply to them. All TIES users can download documents, read the discussions and announcements, but they cannot make any changes.

Members are reminded to ensure that they have configured a valid forwarding e-mail address in their TIES account as the system sends all messages to their TIES e-mail address only. The TIES profile can be updated at <http://ties.itu.int>.

Once members have been accepted to the group they would need to link the team discussion list to their e-mail client by clicking on the item, “Team discussions”, then on the menu item “List” on the new page and then by clicking on the item “Connect to Outlook”. The discussion board will be added as a SharePoint list item in your Outlook mail client (or a client that is compatible with SharePoint). You can then post articles directly to the discussion board and reply to items others have posted. Attachments to individual posts are also possible.

Currently, WP5A has set up the following correspondence groups using SharePoint:

|  |  |
| --- | --- |
| Status | Active until the 26th meeting of WP5A |
| Denomination: | Topic 9.1c |
| SharePoint URL:  Email reflector address: | <https://extranet.itu.int/rsg-meetings/sg5/wp5c/CG%20on%20WRC-23%20AI%209.1%20c)/SitePages/Home.aspx>  [rwp5a-5c-cg-wrc23-ai9-1-c@lists.itu.int](mailto:rwp5a-5c-cg-wrc23-ai9-1-c@lists.itu.int) |
| Subject: | Correspondence Group on WRC-23 Topic 9.1c |
| Convener: | Chairman: Ms Christine Di Lapi (USA) (e-mail: [cdilapi@alionscience.com](mailto:cdilapi@alionscience.com)) Vice-Chairman: Mr Abdulhadi AbouAlmal (UAE) (e-mail: [aalmal@etisalat.ae](mailto:aalmal@etisalat.ae)) |
| Terms of Reference: | See [Annex 3](https://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0359!N03!MSW-E) to [Doc. 5A/359](http://www.itu.int/md/R15-WP5A-C-0359/en) |
|  |  |
| Status | Closed |
| Denomination: | RSTT |
| SharePoint URL: | <https://extranet.itu.int/rsg-meetings/sg5/wp5a/cg-RSTT/> |
| Subject: | Correspondence Group on local coverage |
| Convener: | Ms. Ying XU (CHN) (e-mail: [xuying@srrc.org.cn](mailto:xuying@srrc.org.cn)) |
| Terms of Reference: | See [Annex 3](https://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0298!N03!MSW-E) to [Doc. 5A/298](http://www.itu.int/md/R15-WP5A-C-0298/en) |

|  |  |
| --- | --- |
| Status | Closed |
| Denomination: | LC |
| SharePoint URL: | <https://extranet.itu.int/rsg-meetings/sg5/wp5a/cg-lc/> |
| Subject: | Correspondence Group on local coverage |
| Convener: | Mr. Satoshi Imata (e-mail: [sa-imata@kddi.com](mailto:sa-imata@kddi.com)) |
| Terms of Reference: | See [Annex 3](https://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0636!N03!MSW-E) to [Doc. 5A/636](http://www.itu.int/md/R12-WP5A-C-0636/en) |

|  |  |
| --- | --- |
| Status | Closed |
| Denomination: | PPDR |
| SharePoint URL: | <https://extranet.itu.int/rsg-meetings/sg5/wp5a/cg-ppdr/> |
| Subject: | Correspondence Group on Report PPDR |
| Convener: | Mr. Karsten Buckwitz (e-mail: [karsten.buckwitz@ties.itu.int](mailto:karsten.buckwitz@ties.itu.int)) |
| Terms of Reference: | See [Annex 3](https://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0543!N03!MSW-E) to [Doc. 5A/543](http://www.itu.int/md/R12-WP5A-C-0543/en) |

|  |  |
| --- | --- |
| Status | Closed |
| Denomination: | [CG-PPDR-Report-N-W](https://extranet.itu.int/rsg-meetings/sg5/wp5a/cg-ppdr-report-n-w/) |
| SharePoint URL: | <https://extranet.itu.int/rsg-meetings/sg5/wp5a/cg-ppdr-report-n-w/> |
| Subject: | Correspondence Group on N+W parts of the Report ITU-R M.[PPDR] |
| Convener: | Mr. Karsten Buckwitz (e-mail: [karsten.buckwitz@ties.itu.int](mailto:karsten.buckwitz@ties.itu.int)) |
| Terms of Reference: | See [Annex 3](https://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N03!MSW-E) to [Doc. 5A/421](http://www.itu.int/md/R12-WP5A-C-0421/en) |

## 6.5 RSS Feed

ITU offers an RSS feed (or channel) for Working Party 5A documentation. RSS (which stands for Really Simple Syndication) is an easy way to be kept updated automatically on websites of interest.

The RSS feed for Working Party 5A is: <http://www.itu.int/dms_pages/itu-r/md/07/wp5a/R07-WP5A-RSS.xml>.

In general, you need to get hold of a program called a News Reader. This displays RSS information feeds from your chosen websites on your computer. All you then have to do is choose which RSS feeds you want, for instance, an RSS feed of all the latest Meeting Documents of a specific ITU Study Group.

There are a range of different News Readers available, many of which are free to install. Some popular free feed readers include [FeedReader](http://www.feedreader.com/) (Windows), and [Amphetadesk](http://www.disobey.com/amphetadesk/) (Linux, Mac, Windows).

For further information on RSS: <http://www.itu.int/md/rss_feed.htm> and <http://www.whatisrss.com>

1. Based on Document [5/1(Rev.1)](https://www.itu.int/md/R19-SG05-C-0001/en). [↑](#footnote-ref-1)
2. WP 5B to provide characteristics and protection criteria for the aeronautical and maritime mobile services. WP 5D initiates studies with characteristics of IMT. Studies must take into account comments from both Working Parties (*invites the ITU-R* 2). WP 5D in consultation with WP 5B develops reports/recommendations, as appropriate, which are approved by SG 5 in accordance with Resolution ITU-R 1-8 (*invites the ITU-R* 4). WP 5B and WP 5D develop relevant parts, as appropriate, of the draft CPM text. WP 5D finalizes draft CPM text taking into consideration comments by WP 5B (for *invites WRC-23*). [↑](#footnote-ref-2)
3. Note: With respect to resolves 1 of Resolution **245 (WRC-19)**, CPM23-1 defined that the date by which technical and operational characteristics needed for sharing and compatibility studies are to be available is 15 June 2021. [↑](#footnote-ref-3)
4. See Annex 9 to [CA/251](https://www.itu.int/md/R00-CA-CIR-0251/en). [↑](#footnote-ref-4)
5. Note: See relevant text in CPM23-1 meeting report (Annex 4 to Administrative Circular [CA/251](http://www.itu.int/md/R00-CA-CIR-0251/en)) on how to facilitate the work related to satellite. [↑](#footnote-ref-5)
6. Note: See relevant text in CPM23-1 meeting report (Annex 4 to Administrative Circular [CA/251](http://www.itu.int/md/R00-CA-CIR-0251/en)) on how to facilitate the work related to satellite. [↑](#footnote-ref-6)
7. Note: See relevant text in CPM23-1 meeting report (Annex 4 to Administrative Circular [CA/251](http://www.itu.int/md/R00-CA-CIR-0251/en)) on how to facilitate the work related to satellite. [↑](#footnote-ref-7)
8. Note: See relevant text in CPM23-1 meeting report (Annex 4 to Administrative Circular [CA/251](http://www.itu.int/md/R00-CA-CIR-0251/en)). [↑](#footnote-ref-8)
9. Responsible for developing studies and draft CPM text on *resolves to invite the 2023 World Radiocommunication Conference* 3 and sending this to WP 5B. [↑](#footnote-ref-9)
10. Responsible for developing studies on *resolves to invite ITU R* 2 and sending this to WP5A. [↑](#footnote-ref-10)
11. This is a joint activity, and a joint plenary may be held if required. WP5A will provide the draft text on the results of studies to the CPM Chapter Co-Rapporteurs. [↑](#footnote-ref-11)
12. Note also the applicable ITU-R Resolutions, in particular [Res. ITU-R 12](http://www.itu.int/publ/R-RES-R.12/en), as well as the definition of “Handbook” in section A2.8 of [Res. ITU-R 1](http://www.itu.int/publ/R-RES-R.1/en). [↑](#footnote-ref-12)