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| **Radiocommunication Study Groups** |  |
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|  | **Document 5A/85-E** |
| **10 August 2020** |
| **English only** |
| Chairman, Working Party 5A | |
| report on the TWENTY-THIRD meeting of working party 5a | |
| (Geneva e-Meeting, 20-30 July 2020) | |

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Annexes

[1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx) Working Party 5A Management

[2](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N02!MSW-E.docx) Consolidation of texts approved by Working Party 5A

[3](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N03!MSW-E.docx) Consolidation of reports from the Working Groups of Working Party 5A  
(Source: Docs. 5A/TEMP/27, 33, 37, 39, 48, 49, 50, 51)

[4](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N04!MSW-E.docx) Working document towards draft CPM text for WRC-23 agenda item 1.3   
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[5](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N05!MSW-E.docx) Work plan for WRC-23 agenda item 1.3 (Source: Doc. 5A/TEMP/15)

[6](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N06!MSW-E.docx) Working document towards draft CPM text for WRC-23 agenda item 9.1 topic b  
(Source: Doc. 5A/TEMP/9)

[7](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N07!MSW-E.docx) Work plan for WRC-23 agenda item 9.1 topic b (Source: Doc. 5A/TEMP/10(Rev.1))

[8](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N08!MSW-E.docx) Working document towards draft CPM text for WRC-23 agenda item 9.1 topic c (Source: Doc. 5A/TEMP/28)

[9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N09!MSW-E.docx) Work plan for WRC-23 agenda item 9.1 topic c (Source: Doc. 5A/TEMP/30(Rev.1))

[10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N10!MSW-E.docx) Elements of a working document towards a preliminary draft new Report ITU-R M.[AMATEUR.CHARACTERISTICS] (Source: Doc. 5A/TEMP/11)

[11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N11!MSW-E.docx) Working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ] – *Spectrum Harmonization for Railway Radiocommunication Systems between Train and Trackside (RSTT)* (Source: Doc. 5A/TEMP/21(Rev.1))

[12](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N12!MSW-E.docx) Working document towards a preliminary draft new study Question ITU-R [RSTT] – *Studies related to the further development of RSTT*   
(Source: Doc. 5A/TEMP/22(Rev.1))

[13](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N13!MSW-E.docx) Working document towards a preliminary draft revision of Report ITU-R M.2442-0 – *Current and future usage of railway radiocommunication systems between train and trackside* (Source: Doc. 5A/TEMP/23)

[14](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N14!MSW-E.docx) Working document towards a preliminary draft new Report ITU-R M.[UCS] [or ITU-R Handbook] – *Utility Communication Systems*   
(Source: Doc. 5A/TEMP/395(Rev.1))

[15](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N15!MSW-E.docx) Working document towards a preliminary draft new Report ITU-R M.[100-GHZ.RSTT.EESS.COEXIST] – *Coexistence between high-speed railway radiocommunication system between train and trackside operating in the frequency bands 92-94 GHz, 94.1-100 GHz and 102-109.5 GHz, and radio astronomy service and Earth exploration- satellite service (EESS) (active) and EESS (passive) services* (Source: Doc. 5A/TEMP/46)

[16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N16!MSW-E.docx) Working document towards a preliminary draft new Report ITU-R M.[CAV] – *Connected Automated Vehicles (CAV)* (Source: Doc. 5A/TEMP/26)

[17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N17!MSW-E.docx) Working document towards a preliminary draft revision of Report ITU-R M.2417-0 – *Technical and operational characteristics of land-mobile service applications in the frequency range 275-450 GHz* (Source: Doc. 5A/TEMP/34(Rev.1))

[18](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N18!MSW-E.docx) List of output documents

Annexes from previous WP 5A Chairman’s Reports that are being carried forward:

[Annex 17](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0844!N17!MSW-E.docx) to [Doc. 5A/844](https://www.itu.int/md/R15-WP5A-C-0844/en): Vocabulary for RLANs: DFS and TCP (elements for a future update of Rec. ITU-R M.1450).

[Annex 14](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0976!N14!MSW-E.docx) to [Doc. 5A/976](https://www.itu.int/md/R15-WP5A-C-0976/en): Preliminary draft new Report ITU-R M.[GEO.SHARE] – *Sharing schemes in the land mobile service on the basis of geographical use*.

[Annex 17](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0976!N17!MSW-E.docx) to [Doc. 5A/976](https://www.itu.int/md/R15-WP5A-C-0976/en): Preliminary draft new Report ITU-R M.[AGGREGATE RLAN MEASUREMENTS] – *Use of aggregate RLAN measurements from airborne and terrestrial platforms to support studies under WRC-19 agenda item 1.16*.

[Annex 6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N06!MSW-E) to [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en): Working document towards a preliminary draft revision of Report ITU-R M.2282-0 – *Systems for public mobile communications with aircraft*.

[Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N07!MSW-E) to [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en): Working document towards a preliminary draft new Report on Broadband Air To Ground Systems – *Frequency usage in the land mobile service for broadband direct air-to-ground (A2G) communications links with passenger aircraft.*

[Annex 9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N09!MSW-E) to [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en): Preliminary draft new Report ITU-R M.[RLAN REQ-PAR] – *Technical characteristics and operational requirements of WAS/RLAN in the 5 GHz frequency range*.

[Annex 10](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N10!MSW-E) to [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en): Preliminary draft new Report ITU-R M.[RLAN SHARING 5 350-5 470 MHZ] – *Sharing and compatibility studies of WAS/RLAN in the 5 350-5 470 MHz frequency range*.

[Annex 11](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N11!MSW-E) to [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en): Preliminary draft new Report ITU-R M.[RLAN SHARING 5 150-5 250 MHz] – *Sharing and compatibility studies of WAS/RLAN in the 5 150-5 250 MHz frequency range*.

[Annex 12](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N12!MSW-E) to [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en): Preliminary draft new Report ITU-R M.[RLAN SHARING 5 725-5 850 MHz] – *Sharing and compatibility studies of WAS/RLAN in the 5 725-5 850 MHz frequency range*.

Management documents referred to in the Report:

List of input documents: [Doc. 5A/1](https://www.itu.int/md/R19-WP5A-C-0001/en) (documents from the study period 2015-2019) and [5A/83](https://www.itu.int/md/R19-WP5A-C-0083/en)

Final list of participants: Doc. [5A/84](https://www.itu.int/md/R19-WP5A-C-0084/en)

# 1 Introduction

Working Party 5A (WP 5A) held its twenty-third (23rd) meeting and first e-meeting from 20-30 July 2020. The meeting participants (see list in [Doc.](http://www.itu.int/md/R15-WP5A-C-1064)[5A/84](https://www.itu.int/md/R19-WP5A-C-0084/en) ) included up to 414 participants (note that the actual number was less because some participants represented more than one organization), from 52 countries representing 48 Member States, 18 recognized operating agencies, 25 scientific or industrial organizations, 3 other entities dealing with telecommunication matters, 9 regional and other international organizations, 2 United Nations and its specialized agencies, 1 associate, 1 academia, and the ITU staff. WP 5A held its opening plenary in one session on 20 July and a closing plenary in three sessions that spanned 2 days, 29-30 July.

The meeting dealt with 110 input documents (82 listed in Doc. [5A/83](https://www.itu.int/md/R19-WP5A-C-0083/en) and [28](https://www.itu.int/md/R19-WP5A-C-0028/en) carried over from the 2015-2019 study period as listed in Doc. [5A/1](https://www.itu.int/md/R19-WP5A-C-0001/en)) and upon their consideration the meeting prepared 51 output temporary documents (see list in [Annex 18](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N18!MSW-E) to [Doc. 5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

At the opening plenary the chairman asked the meeting to join him in e-welcoming to WP 5A the new counsellor for SG 5, Uwe Loewenstein, after Sergio Buonomo was promoted to chief of the BR Study Group Department (e-applause). The meeting agenda in Doc. [5A/ADM/3](https://www.itu.int/md/R19-WP5A-ADM-0003/en) was adopted.

The Chairman’s Report of the twenty-second meeting of WP 5A ([Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en)) was adopted, including the objectives for the 23rd meeting as presented in Section 4 of [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en).

The structure of WP 5A for this meeting was also adopted as presented in Section 2.2 of Doc. [5A/45](https://www.itu.int/md/R19-WP5A-C-0045/en), which is reproduced in [Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N01!MSW-E) to [Doc. 5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en).

[Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N01!MSW-E) contains the management aspects of WP 5A, including a summary of the status of the texts that are the responsibility of WP 5A, the WP 5A contacts in external organizations, and the use of electronic facilities.

The chairman informed the meeting on related ITU and external activities of interest to WP 5A:

– Results of the Study Group 5 meeting (Doc. [5A/12](https://www.itu.int/md/R19-WP5A-C-0012/en))

– Results of WRC-19 ([Final Acts WRC-19](https://www.itu.int/pub/R-ACT-WRC.14-2019/en), [WRC-19 Decisions – CR/456](https://www.itu.int/md/R00-CR-CIR-0456/en))

– Results of CPM23-1 ([CA/251](https://www.itu.int/md/R00-CA-CIR-0251/en), Doc. [5A/4](https://www.itu.int/md/R19-WP5A-C-0004/en))

– Vocabulary: [CCV](https://www.itu.int/ITU-R/go/rccv/), SCV, and CCT activities (Doc. [CCV/2](https://www.itu.int/md/R19-CCV-C-0002/en))

– 27th meeting of the RAG, 25-27 May 2020 ([CA/252](https://www.itu.int/md/R00-CA-CIR-0252/en))

– Results of the 16th CVC meeting, 4 July 2020 (Doc. [CVC-16/2](https://www.itu.int/md/R19-CVC-C-0002/en), Doc. [5A/39](https://www.itu.int/md/R19-WP5A-C-0039/en))

The Chairman asked the meeting participants to review the list of contacts that appears in section 4 of Doc. [5A/45](https://www.itu.int/md/R19-WP5A-C-0045/en) and inform him of any necessary changes (the updated list appears in section 4 of [Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N01!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en) and updates between meetings are maintained by the BR and the Chairman of WP 5A). The Chairman indicated this list showing the contacts by topics is used for all liaison statements to external organizations on those topics and the e-mail distribution lists are generated automatically from it.

The work program for the WP 5A meeting was adopted as presented in Doc. [5A/ADM/1](http://www.itu.int/md/R19-WP5A-ADM-0001/en), also shown in [Table 1](#t1) below. It was agreed to consider the input contributions on Res. ITU-R 59 (ENG) and WRC-23 topic 9.1c in a joint meeting with WP 5C (see Section 3.10). The initial schedule was adopted as per Doc. [5A/ADM/2](http://www.itu.int/md/R19-WP5A-ADM-0002/en) and it was updated in conjunction with the meetings of WPs 5B and 5C, eventually resulting in Revision 2.

At the opening Plenary three input documents were considered (Doc. [5A/1091](http://www.itu.int/md/R15-WP5A-C-1091), Doc. [5A/38](https://www.itu.int/md/R19-WP5A-C-0038/en), and the Annex to Doc. [CVC-16/2](https://www.itu.int/md/R19-CVC-C-0002/en)). Doc. [5A/1091](http://www.itu.int/md/R15-WP5A-C-1091) on vocabulary was assigned to all working groups and WG5A-5 volunteered to take the lead to develop a reply liaison statement to ITU-T SG 20. The chairman pointed out that the principles in the Annex to Doc. [CVC-16/2](https://www.itu.int/md/R19-CVC-C-0002/en) are included in [Section 3](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx#s3) of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en) to assist with the preparations for WRC-23. Furthermore, Doc. [5A/75](http://www.itu.int/md/R19-WP5A-C-0075/en) on the work on vocabulary was presented by the Chairman of the CCV and was assigned to all the working groups (see #12 in [Section 2.1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx#s21) of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

The Chairman also drew the attention of the meeting to the WP 5A texts that are listed in section 1 of Doc. [5A/45](https://www.itu.int/md/R19-WP5A-C-0045/en), the [Guide to the use of ITU-R texts related to the land mobile service](http://www.itu.int/oth/R0A06000001/en), and the [Guide to the use of ITU-R texts relating to the amateur and amateur-satellite services](http://www.itu.int/oth/R0A06000067) asking each Working Group to review the texts assigned to them, noting that following the results of RA-19 and WRC-19, the two guides to the use of ITU-R texts had already been updated editorially.

The Chairman also pointed out the guidelines for the preparation of WP 5A texts in section 2.3 of Doc. [5A/45](https://www.itu.int/md/R19-WP5A-C-0045/en) ([Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N01!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)), including the [Format of ITU-R Recommendations](http://www.itu.int/dms_pub/itu-r/oth/0a/0E/R0A0E0000970001MSWE.docx) and the [ITU English Style Guide](http://www.itu.int/SG-CP/docs/styleguide.doc).

The Liaison Rapporteurs presented their reports at the opening and closing Plenary sessions of WP 5A, including on certain countries in Region 2 by Jonathan Siverling (Doc. [5A/76](http://www.itu.int/md/R19-WP5A-C-0076)) and on [Disaster Relief](http://www.itu.int/ITU-R/index.asp?category=information&link=emergency&lang=en) by Amy Sanders (Doc. [5A/81](http://www.itu.int/md/R19-WP5A-C-0081)).

# 2 Objectives and work programme for the meeting

The objectives for the meeting were adopted as set forth in the Chairman’s Report of the twenty-second meeting of WP 5A (section 4 of [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en)) noting that need to consider also the proposals in the input contributions for the twenty second meeting, in particular those related to the WRC-23 agenda items and topics under the responsibility of WP 5A. With regards to the update of documents that are the joint responsibility of WPs 5A and 5C, the Chairmen of WP 5A and WP 5C decided to hold a joint session to address the proposals on Resolution ITU-R 59 and topic 9.1c (cf. [Section 3.10](#s310)). Actions regarding future updates of documents that have a joint responsibility will be considered on a case-by-case basis depending on the input contributions and the nature of the proposed update.

The work was carried out within five Working Groups. The responsibilities for input contributions were assigned as per [Table 1](#t1), showing also the organization of the work for the meeting (the documents in the rows “Reports” and “General” were assigned to all the Working Groups).

TABLE 1

Assignment of input contributions and organization of the work for the meeting

The carried forward documents from previous meetings are highlighted in green (8 documents).  
New documents: 1065-1092 and 1-82 (28+82=110 contributions)

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| **Working Party 5A (Chairman:** [**José Costa**](mailto:jose.costa@ericsson.com?subject=WP5A-meeting)**, Canada)** | |
| **Reports** | [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) (Chairman, WP 5A); [12](https://www.itu.int/md/R19-WP5A-C-0012/en) (Chairman, WP 5A); [76](https://www.itu.int/md/R19-WP5A-C-0076/en) (L.R. #2); [81](https://www.itu.int/md/R19-WP5A-C-0081/en) (Disaster Relief L.R.) |
| **General** | [1091](http://www.itu.int/md/R15-WP5A-C-1091en) *(*SCV); [1](https://www.itu.int/md/R19-WP5A-C-0001/en) (List of documents from study period 2015-2019); [4](https://www.itu.int/md/R19-WP5A-C-0004/en) (Chairman, WP 5A);  [38](https://www.itu.int/md/R19-WP5A-C-0038/en) (Iran); [39](https://www.itu.int/md/R19-WP5A-C-0039/en) (CVC); [45](https://www.itu.int/md/R19-WP5A-C-0045/en) (Chairman, WP 5A); [75](https://www.itu.int/md/R19-WP5A-C-0075/en) (Chairman, CCV); [83](https://www.itu.int/md/R19-WP5A-C-0083/en) (List of documents) |

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| **Working Group 1: Amateur Services (Chairman:** [**Dale Hughes**](mailto:dalevk1dsh@gmail.com?subject=WP5A-meeting)**, Australia)** | |
| **WRC-23 AI 9.1 b)** [**Res. 774**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0023PDFE.pdf) | [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.13 (WMO); [26](https://www.itu.int/md/R19-WP5A-C-0026/en) (WP 4C); [55](https://www.itu.int/md/R19-WP5A-C-0055/en) (IARU); [61](https://www.itu.int/md/R19-WP5A-C-0061/en) (Japan) |
| **Amateur satellite** | [1087](http://www.itu.int/md/R15-WP5A-C-1087/en) *(*WP 4A); [82](https://www.itu.int/md/R19-WP5A-C-0082/en) (Chairman, WP 5A) |
| **Amateur services protection** | *Wireless power transmission:* [1075](http://www.itu.int/md/R15-WP5A-C-1075/en) *(*WP 1B); [1082](http://www.itu.int/md/R15-WP5A-C-1082/en) *(*SG 1); [1083](http://www.itu.int/md/R15-WP5A-C-1083/en) *(*WP 1A); [1084](http://www.itu.int/md/R15-WP5A-C-1084/en) *(*WP 1A) |
| **Protection of other services** | [1068R2](http://www.itu.int/md/R15-WP5A-C-1068/en) (WPs 3J, 3K, 3L & 3M) |

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| **Working Group 2: Systems and standards (Chairman:** [**Lang Baozhen**](mailto:langbaozhen@caict.ac.cn?subject=WP5A-meeting)**, China)** | |
| **Railways**  **(incl.** [**Res. 240 (WRC-19)**](https://www.itu.int/oth/R0A060000A0/en)**)** | *RSTT:* [976](http://www.itu.int/md/R15-WP5A-C-0976/en) [Annex 12](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0976!N12!MSW-E) (WP 5A); [1056](http://www.itu.int/md/R15-WP5A-C-1056/en) (WP 6A); [37](https://www.itu.int/md/R19-WP5A-C-0037/en) (USA); [69](https://www.itu.int/md/R19-WP5A-C-0069/en) (Germany);  [70](https://www.itu.int/md/R19-WP5A-C-0070/en) (Motorola Solutions);  *M.2442:* [1000](http://www.itu.int/md/R15-WP5A-C-1000/en) (Ukraine)  *RSTT Frequencies:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 4](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N04!MSW-E) (WP 5A); [50](https://www.itu.int/md/R19-WP5A-C-0050/en) (Korea); [59](https://www.itu.int/md/R19-WP5A-C-0059/en) (Japan) |
| **Broadband Wireless Access** | *M.2134:* [35](https://www.itu.int/md/R19-WP5A-C-0035/en) (USA)  *M.1801:* [43](https://www.itu.int/md/R19-WP5A-C-0043/en) (IEEE); [80](https://www.itu.int/md/R19-WP5A-C-0080/en) (Chairman, WP 5A)  *Infrastructure sharing:* [1072](http://www.itu.int/md/R15-WP5A-C-1072/en) *(*SG 1)  *Broadband for rural and remote areas:* [11](https://www.itu.int/md/R19-WP5A-C-0011/en) (ITU-D SG 1 Q5/1); [49](https://www.itu.int/md/R19-WP5A-C-0049/en) (WP 5D); [57](https://www.itu.int/md/R19-WP5A-C-0057/en) (Ericsson)  *WRC-23 Topic 9.1 c) (*[*Res. 175*](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0024PDFE.pdf)*):* [19](https://www.itu.int/md/R19-WP5A-C-0019/en) (Chairmen, WP 5A and WP 5C); [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.14 (WMO); [58](https://www.itu.int/md/R19-WP5A-C-0058/en) (China); [72](https://www.itu.int/md/R19-WP5A-C-0072/en) (Germany *et al.*); [73](https://www.itu.int/md/R19-WP5A-C-0073/en) (UK)  *Question 101-5/5:* [54](https://www.itu.int/md/R19-WP5A-C-0054/en) (ITU-T SG 2); [77](https://www.itu.int/md/R19-WP5A-C-0077/en) (Chairman, WP 5A) |
| **Land mobile systems** | *Res. ITU-R 59 (ENG):* [6](https://www.itu.int/md/R19-WP5A-C-0006/en) (WP 6A); [67](https://www.itu.int/md/R19-WP5A-C-0067/en) (Germany); [68](https://www.itu.int/md/R19-WP5A-C-0068/en) (Germany);  *Utilities:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 5](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N05!MSW-E) (WP 5A); [1069](http://www.itu.int/md/R15-WP5A-C-1069/en) *(*ITU-T SG 15); [1081](http://www.itu.int/md/R15-WP5A-C-1081/en) *(*WP 1A); [42](https://www.itu.int/md/R19-WP5A-C-0042/en) (Canada);  [53](https://www.itu.int/md/R19-WP5A-C-0053/en) (UTC América Latina); [71](https://www.itu.int/md/R19-WP5A-C-0071/en) (Motorola Solutions) |
| **Air to Ground** | *Update of Rep. ITU-R M.2282:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N06!MSW-E) (WP 5A)  *New Report:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N07!MSW-E) (WP 5A) |
| **RLAN characteristics** | *M.1450:* [844](http://www.itu.int/md/R15-WP5A-C-0844/en) [Annex 17](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0844!N17!MSW-E) (WP 5A); [44](https://www.itu.int/md/R19-WP5A-C-0044/en) (IEEE); [79](https://www.itu.int/md/R19-WP5A-C-0079/en) (Chairman, WP 5A) |
| **ANT, HNT** | [1088](http://www.itu.int/md/R15-WP5A-C-1088/en) *(*ITU-T SG 15); [9](https://www.itu.int/md/R19-WP5A-C-0009/en) (ITU-T SG 15); [10](https://www.itu.int/md/R19-WP5A-C-0010/en) (ITU-T SG 15); [25](https://www.itu.int/md/R19-WP5A-C-0025/en) (ITU-T SG 9) |

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| **Working Group 3: PPDR (Chairman:** [**Amy Sanders**](mailto:asanders@ntia.gov?subject=WP5A-meeting)**, USA)** | |
| **Updates of ITU-R Recs.** |  |
| **Updates of ITU-R Reports** | *M.2377:* [891](http://www.itu.int/md/R15-WP5A-C-0891/en) (WP 5D) |
|  | [2](https://www.itu.int/md/R19-WP5A-C-0002/en) (ITU-D SG 2 Question 5/2); [17](https://www.itu.int/md/R19-WP5A-C-0017/en) (ITU-D SG 2 Question 5/2); [20](https://www.itu.int/md/R19-WP5A-C-0020/en) (ITU-T SG 11);  [46](https://www.itu.int/md/R19-WP5A-C-0046/en) (Chairmen, WP 5A & WG 5A-3); [48](https://www.itu.int/md/R19-WP5A-C-0048/en) (WP 5D); [78](https://www.itu.int/md/R19-WP5A-C-0078/en) (Chairman, WP 5A) |

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| **Working Group 4: Interference and sharing (Chairman:** [**Michael Kraemer**](mailto:michael.kraemer@intel.com?subject=WP5A-meeting)**, Germany)** | |
| **Sharing studies (general)** | *Antenna patterns:* [1066](http://www.itu.int/md/R15-WP5A-C-1066/en) *(*WP 5C); [56](https://www.itu.int/md/R19-WP5A-C-0056/en) (ATDI)  *Protection of radio services:* [1078](http://www.itu.int/md/R15-WP5A-C-1078/en) *(*WP 1A); [1090](http://www.itu.int/md/R15-WP5A-C-1090/en) *(*WP 6A)  *RR Appendix 7 and Rec. ITU-R SM.1448-0:* [1073](http://www.itu.int/md/R15-WP5A-C-1073/en) *(*WP 1A)  *Range 40-50 MHz:*  *Range 137-138 MHz:* [1063](http://www.itu.int/md/R15-WP5A-C-1063/en) (WP 5B)  *Range 1240-1300 MHz:*  *Range 2655-2690 MHz:* [1085](http://www.itu.int/md/R15-WP5A-C-1085/en) *(*WP 4C); [13](https://www.itu.int/md/R19-WP5A-C-0013/en) (WP 5D)  *Range 1-3 GHz:* [1086](http://www.itu.int/md/R15-WP5A-C-1086/en) *(*WP 4C)  *Range 20-22 GHz:*  *IMT:* [47](https://www.itu.int/md/R19-WP5A-C-0047/en) (France);  *Range 92-109.5 GHz:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 8](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N08!MSW-E) (WP 5A); [1070](http://www.itu.int/md/R15-WP5A-C-1070/en) *(*WP 7D); [1071](http://www.itu.int/md/R15-WP5A-C-1071/en) (WP 7C); [36](https://www.itu.int/md/R19-WP5A-C-0036/en) (USA); [63](https://www.itu.int/md/R19-WP5A-C-0063/en) (Japan) |
| **Dynamic Access – sharing** | *Support WG 5 on sharing & coexistence studies* |
| **Sharing by zones** | [976](http://www.itu.int/md/R15-WP5A-C-0976/en) [Annex 14](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0976!N14!MSW-E) (WP 5A) |
| **Non-ionizing radiation** | [1074](http://www.itu.int/md/R15-WP5A-C-1074/en) *(*ITU-T SG 5); [1076](http://www.itu.int/md/R15-WP5A-C-1076/en) *(*WP 1A); [1077](http://www.itu.int/md/R15-WP5A-C-1077/en) *(*WP 1A); [1092](http://www.itu.int/md/R15-WP5A-C-1092/en) *(*ITU-T SG 5); [3](https://www.itu.int/md/R19-WP5A-C-0003/en) (ITU-D SG 2);  [64](https://www.itu.int/md/R19-WP5A-C-0064/en) (ITU-T SG 5) |
| **RLAN sharing**  **(incl.** [**Res. 229 (Rev.WRC-19)**](https://www.itu.int/oth/R0A0600009D/en)**)** | *REQ-PAR:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N09!MSW-E) (WP 5A)  *Aggregate Measurements:* [976](http://www.itu.int/md/R15-WP5A-C-0976/en) [Annex 17](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0976!N17!MSW-E) (WP 5A)  *Sharing 5150-5250 MHz:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 10](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N10!MSW-E) (WP 5A)  *Sharing 5750-5250 MHz:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 11](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N11!MSW-E) (WP 5A)  *Sharing 5725-5850 MHz:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 12](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N12!MSW-E) (WP 5A) |
| **AI 1.2: IMT** [**Res. 245**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0002PDFE.pdf) | [15](https://www.itu.int/md/R19-WP5A-C-0015/en) (WP 5D); [16](https://www.itu.int/md/R19-WP5A-C-0016/en) (WP 5D); [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.1 (WMO) |
| **AI 1.3: 3.6-3.8 R1** [**Res. 246**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0003PDFE.pdf) | [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.2 (WMO); [74](https://www.itu.int/md/R19-WP5A-C-0074/en) (ESOA) |
| **AI 1.4: HIBS** [**Res. 247**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0004PDFE.pdf) | [14](https://www.itu.int/md/R19-WP5A-C-0014/en) (WP 5D); [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.3 (WMO) |
| **AI 1.5: 470-960 R1** [**Res. 235**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000C0036PDFE.pdf) | [7](https://www.itu.int/md/R19-WP5A-C-0007/en) (WP 6A); [8](https://www.itu.int/md/R19-WP5A-C-0008/en) (WP 6A); [66](https://www.itu.int/md/R19-WP5A-C-0066/en) (Germany) |
| **AI 1.10: AMS** [**Res. 430**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0010PDFE.pdf) | [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.5 (WMO) |
| **AI 1.12: EESS @45** [**Res. 656**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0012PDFE.pdf) | [22](https://www.itu.int/md/R19-WP5A-C-0022/en)(Rev.1) (WP 7C); [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.6 (WMO) |
| **AI 1.13: SRS** [**Res. 661**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0013PDFE.pdf) | [21](https://www.itu.int/md/R19-WP5A-C-0021/en) (WP 7B); [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.7 (WMO) |
| **AI 1.14: EESS @231** [**Res.662**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0014PDFE.pdf) | [23](https://www.itu.int/md/R19-WP5A-C-0023/en) (WP 7C); [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.8 (WMO) |
| **AI 1.15: FSS** [**Res. 172**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0015PDFE.pdf) | [27](https://www.itu.int/md/R19-WP5A-C-0027/en) (WP 4A); [28](https://www.itu.int/md/R19-WP5A-C-0028/en) (WP 4A); [65](https://www.itu.int/md/R19-WP5A-C-0065/en) (Germany) |
| **AI 1.16: FSS ESIM** [**Res. 173**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0016PDFE.pdf) | [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.8bis (WMO); [32](https://www.itu.int/md/R19-WP5A-C-0032/en) (WP 4A) |
| **AI 1.17: ISL** [**Res. 773**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0017PDFE.pdf) | [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.9 (WMO); [31](https://www.itu.int/md/R19-WP5A-C-0031/en) (WP 4A) |
| **AI 1.18: MSS** [**Res. 248**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0018PDFE.pdf) | [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.10 (WMO); [29](https://www.itu.int/md/R19-WP5A-C-0029/en) (WP 4C) |
| **AI 1.19: FSS @17** [**Res. 174**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0019PDFE.pdf) | [30](https://www.itu.int/md/R19-WP5A-C-0030/en) (WP 4A) |
| **AI 9.1 a): SWS** [**Res. 657**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0022PDFE.pdf) | [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.12 (WMO) |
| **AI 9.1 d): EESS@36** [**Doc.573**](https://www.itu.int/dms_pub/itu-r/md/16/wrc19/c/R16-WRC19-C-0573!!MSW-E.docx) | [24](https://www.itu.int/md/R19-WP5A-C-0024/en) §3.15 (WMO) |
| **ITU-T interference** | [1080](http://www.itu.int/md/R15-WP5A-C-1080/en) *(*WP 1A); |
| [**Q.256/5**](https://www.itu.int/pub/R-QUE-SG05.256)**,** [**Res. 731**](https://www.itu.int/oth/R0A060000A1/en)**: >275 GHz** | *support WG 5 on sharing & coexistence studies* |

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| **Working Group 5: New technologies (Chairman:** [**Hitoshi Yoshino**](mailto:hitoshi.yoshino@g.softbank.co.jp?subject=WP5A-meeting)**, Japan)** | |
| **ITS**  **(incl.** [**Rec. 208 (WRC-19)**](https://www.itu.int/oth/R0A060000A3/en)**)** | *General:* [1089](http://www.itu.int/md/R15-WP5A-C-1089/en)(ITU-T FG VM); [5](https://www.itu.int/md/R19-WP5A-C-0005/en) (ITU-T FG VM); [18](https://www.itu.int/md/R19-WP5A-C-0018/en) (WP 5D)  *CAV (*[*Question ITU-R 261/5*](https://www.itu.int/pub/R-QUE-SG05.261)*):* [33](https://www.itu.int/md/R19-WP5A-C-0033/en) (USA); [40](https://www.itu.int/md/R19-WP5A-C-0040/en) (Canada); [52](https://www.itu.int/md/R19-WP5A-C-0052/en) (Korea)  *Sharing:* [1001](http://www.itu.int/md/R15-WP5A-C-1001/en) (Telstra)  *Handbook:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 3](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N03!MSW-E) Att. 1 (WP 5A); [Share Folder](https://extranet.itu.int/rsg-meetings/sg5/wp5a/Share/Forms/Column%20view.aspx?RootFolder=%2Frsg%2Dmeetings%2Fsg5%2Fwp5a%2FShare%2FLMH%20review%2FLMH%20vol4%20ITS&FolderCTID=0x012000FB880722B4622243913B1114C70648D5&View=%7B627C3C95%2DCC37%2D49E0%2D8D8A%2D33AC93C6F497%7D) (WP 5A); [34](https://www.itu.int/md/R19-WP5A-C-0034/en) (USA); [51](https://www.itu.int/md/R19-WP5A-C-0051/en) (Korea); [60](https://www.itu.int/md/R19-WP5A-C-0060/en) (Japan) |
| [**Q.256/5**](https://www.itu.int/pub/R-QUE-SG05.256)**,** [**Res. 731**](https://www.itu.int/oth/R0A060000A1/en)**: >275 GHz** | *M.2417:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 13](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N13!MSW-E) (WP 5A); [1067](http://www.itu.int/md/R15-WP5A-C-1067/en) *(*WPs 3J, 3K & 3M); [1079](http://www.itu.int/md/R15-WP5A-C-1079/en) *(*WP 1A); [41](https://www.itu.int/md/R19-WP5A-C-0041/en) (Canada); [62](https://www.itu.int/md/R19-WP5A-C-0062/en) (Japan) |

The Working Groups developed preliminary draft revised/new Recommendations, Reports, Questions, and liaison statements, and progress reports on the work. The detailed reports from the Working Groups are contained in [Annex 3](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N03!MSW-E). The texts proposed by these Working Groups in TEMP documents ([Annex 18](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N18!MSW-E)) were considered by WP 5A and are either annexed to this Report for further work to be considered at future meetings of WP 5A or were approved by WP 5A as liaison statements to other groups or for submission to Study Group 5 ([Annex 2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N02!MSW-E)).

# 3 Executive summary of the results of the meeting

## 3.1 Summary of documents approved by WP 5A

The list of texts that are the responsibility of WP 5A has been updated in line with Doc. [5/1](http://www.itu.int/md/R19-SG05-C-0001/en), including the assignment of responsibilities to the Working Groups of WP 5A and identification of topics for the Recommendations and Reports. ([Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N01!MSW-E)).

At a previous meeting, WP 5A already decided to implement factual editorial updates of the guides to the use of ITU-R texts related to the radiocommunication services under the responsibility of WP 5A between the meetings of WP 5A (i.e., updates of references to Recommendations, Reports and Handbooks as they are approved), while amendments of substance will be considered for approval at the WP 5A meetings.

The consolidation of all the texts approved by WP 5A, including the liaison statements and proposals to Study Group 5, appears in [Annex 2](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N02!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en).

## 3.2 Summary of proposals and documents submitted by Working Party 5A to Study Group 5

### 3.2.1 Proposed editorial update of a Question

WP 5A proposed to SG 5 the editorial update of [Question ITU-R 101-5/5](https://www.itu.int/pub/R-QUE-SG05.101) in Doc. [5/15](https://www.itu.int/md/R19-SG05-C-0015/en).

### 3.2.2 Approval of Handbooks

WP 5A asked for confirmation from SG 5 that, in accordance with §A2.8.2 of Resolution ITU-R 1, the approval of Handbooks is delegated to its working parties for the study period 2019-2023.

## 3.3 Amateur and amateur-satellite services

Commenced work on the draft work plan for activities covering WRC-23 agenda item 9.1b, including initiating a working document towards preliminary draft CPM text, a draft work plan for activities, and discussed parameters needed for studies. Work was initiated towards a preliminary draft new Report ITU-R M.[AMATEUR.CHARACTERISTICS] ([Annex 10](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N10!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)). Generated two liaison statements to other groups. Reviewed recent editorial revisions to the information document “[Guide to the use of ITU-R texts relating to the amateur and amateur-satellite services](http://www.itu.int/oth/R0A06000067)” which can be found on the WP 5A webpage. Two liaison statements were sent to other groups.

## 3.4 Systems and standards

Work continued on the development of a working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ] – “Spectrum Harmonization for Railway Radiocommunication Systems between Train and Trackside (RSTT)” ([Annex 11](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N11!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

Initiated the development of a working document towards a preliminary draft new study Question ITU-R [RSTT][[1]](#footnote-1) – “Studies related to the further development of RSTT” ([Annex 12](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N12!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

Initiated the development of a working document towards a preliminary draft revision of Report ITU-R M.2442-0 – “Current and future usage of railway radiocommunication systems between train and trackside” ([Annex 13](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N13!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

Continued to develop a working document towards a preliminary draft new Report ITU-R M.[UCS] [OR ITU-R HANDBOOK] – “Utility Communication Systems” ([Annex 14](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N14!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

Considered two contributions proposing to develop draft revisions of Recommendations ITU-R M.1450-5 (Doc. [5A/44](https://www.itu.int/md/R19-WP5A-C-0044/en)) and M.1801-2 (Doc. [5A/43](https://www.itu.int/md/R19-WP5A-C-0043/en)); however, consensus could not be achieved, so these two contributions and the consequential draft liaison statements to external organizations (Docs. [5A/79](https://www.itu.int/md/R19-WP5A-C-0079/en) and [5A/80](https://www.itu.int/md/R19-WP5A-C-0080/en)) were carried forward to the next meeting.

Two liaison statements were sent to other groups.

## 3.5 Public protection and disaster relief

Produced two liaison statements, to ITU-T SG 11 on disaster relief use cases and to ITU-D SG 2 on utilization of telecommunications/ICTs for disaster risk reduction and management.

## 3.6 Interference and sharing

Continued the work on the development of a PDN Report ITU-R M.[100GHz.RSTT.COEXIST] ([Annex 15](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N15!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)), started the preparatory work for WRC-23 agenda item 1.3 where WP 5A is the lead group by developing 2 liaison statements to the contributing groups, as well as initial drafts for the workplan and CPM text, and developed 5 reply liaison statements on a number of WRC-23 agenda items where WP 5A is a contributing group.

## 3.7 New technologies

Initiated the work on [Question ITU-R 261/5](http://www.itu.int/pub/R-QUE-SG05.261/en) on Connected Automated Vehicles and created a working document towards a preliminary draft new Report ITU-R M.[CAV] “Connected Automated Vehicles”([Annex 16](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N16!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

Continued to develop a working document towards revision of Land Mobile Handbook, Vol.4 – Intelligent Transport Systems, and elevated its status from working document to preliminary draft new revision of Land Mobile Handbook vol.4.

Continued to develop a working document towards the development of preliminary draft revision of Report ITU-R M.2417-0 on Technical and operational characteristics of land-mobile service applications in the frequency range 275-450 GHz ([Annex 17](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N17!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

Five liaison statements were sent to other groups.

## 3.8 Land Mobile Handbook

Continued to develop a draft new edition of the Land Mobile Handbook, [Volume 4](http://www.itu.int/pub/R-HDB-49/en) – Intelligent Transport Systems, which will continue to be developed by correspondence through the Share [LMH Review folder](https://extranet.itu.int/rsg-meetings/sg5/wp5a/Share/Forms/Column%20view.aspx?RootFolder=%2frsg-meetings%2fsg5%2fwp5a%2fShare%2fLMH%20review&FolderCTID=0x012000FB880722B4622243913B1114C70648D5) by the LMH Rapporteur. The plan is to approve this new edition at the 24th meeting of WP 5A.

## 3.9 Vocabulary

WP 5A still carries forward vocabulary for RLANs on DFS and TCP (elements for a future update of Rec. ITU-R M.1450), in [Annex 17](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0844!N17!MSW-E.docx) to [Doc. 5A/844](https://www.itu.int/md/R15-WP5A-C-0844/en).

## 3.10      Joint meeting of WP 5A and WP 5C

WP 5A and WP 5C held two joint sessions to address areas of common interest, including WRC-23 topic 9.1c and Resolution ITU-R 59 (ENG). The meeting agendas are in Documents [5A/ADM/4](https://www.itu.int/md/R19-WP5A-ADM-0004/en) and [5A/ADM/5](https://www.itu.int/md/R19-WP5A-ADM-0005/en).  Refer to the WP 5C Chairman’s report (Doc. [5C/59](https://www.itu.int/md/R19-WP5C-C-0059/en)) for additional information.

### 3.10.1 WRC-23 topic 9.1c

There was a good discussion of WRC-23 agenda item 9.1 topic c (“study the use of International Mobile Telecommunication system for fixed wireless broadband in the frequency bands allocated to the fixed services on primary basis, in accordance with Resolution [175 (WRC-19)](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0024PDFE.pdf)”) and it was clarified that the objective being investigated is the use of IMT technologies for fixed wireless broadband in the fixed service and not the deployment of mobile systems in the fixed service. It was recognized that the activity is within the usual activities of WPs 5A and 5C, and consideration of development of a specific new recommendation, providing guidance in the use of IMT technology in fixed wireless broadband could be a possible result of the activity.  Documents 5A/[19](https://www.itu.int/md/R19-WP5A-C-0019/en) = [5C/13](https://www.itu.int/md/R19-WP5C-C-0013/en) (Chairmen, WP 5A and WP 5C), 5A/[58](https://www.itu.int/md/R19-WP5A-C-0058/en) (China), 5A/[72](https://www.itu.int/md/R19-WP5A-C-0072/en) = [5C/55](https://www.itu.int/md/R19-WP5C-C-0055/en) (Germany *et al.*), and 5A/[73](https://www.itu.int/md/R19-WP5A-C-0073/en) = [5C/56](https://www.itu.int/md/R19-WP5C-C-0056/en) (UK) were considered.  Different opinions were expressed by administrations on whether the possible regulatory related studies could be conducted or not on this topic; however, no consensus was reached.  No plans were made yet on the development of specific new or revised ITU-R Recommendations, Reports and/or Handbooks and contributions are encouraged for the next meeting, taking into account principle [#10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx#s3110) in [Section 3.1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx#s31) of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx) to [Doc. 5A/85](https://www.itu.int/md/R19-WP5A-C-0085/en) or in the Annex to [CVC-16/2](https://www.itu.int/md/R19-CVC-C-0002/en).  Document 5A/[58](https://www.itu.int/md/R19-WP5A-C-0058/en) is carried forward to the next meeting.  No liaison statements to other working parties were approved; they may be sent in the future requesting specific information when the work is more advanced.

### 3.10.2 Resolution [ITU-R 59](https://www.itu.int/pub/R-RES-R.59-2-2019) (ENG)

The joint meeting considered Documents [5A/6](https://www.itu.int/md/R19-WP5A-C-0006/en) = [5C/5](https://www.itu.int/md/R19-WP5C-C-0005/en) (WP 6A), [5A/66](https://www.itu.int/md/R19-WP5A-C-0066/en) = [5C/49](https://www.itu.int/md/R19-WP5C-C-0049/en) (Germany), [5A/67](https://www.itu.int/md/R19-WP5A-C-0067/en) = [5C/50](https://www.itu.int/md/R19-WP5C-C-0050/en) (Germany), and [5A/68](https://www.itu.int/md/R19-WP5A-C-0068/en) = [5C/51](https://www.itu.int/md/R19-WP5C-C-0051/en) (Germany).  Several members agreed that the items require to be carefully considered, since there is possibility to contribute on ongoing studies. The need to provide support to populate the ENG/SNG was expressed and found also supporters. It was also discussed that the applications addressed by this Resolution could be under several other services, in addition to FS and MS, and some of them could be considered belonging to SRDs. There is therefore a need that other WPs are involved in the discussion, such as WPs 1B and 6A. Propagation aspects were also indicated among possible different aspects to be considered. A comment was made that this is not the introduction of a new task, but rather a possible way forward to work on existing tasks.  In the end, most participants expressed interest for this topic, agreeing that, considering the views expressed on the general discussion, consolidation of an agreement is expected at the next meeting. Contributions are requested from Administrations.  The possibility to send a liaison statement to TG 6/1 was not agreed from this meeting. Due to lack of time, the proposal to start the development of a new Report on ENG was not discussed and the related Document [5A/68](https://www.itu.int/md/R19-WP5A-C-0068/en) = [5C/51](https://www.itu.int/md/R19-WP5C-C-0051/en) will be carried forward to next meeting.

# 4 Summary of WRC-23 preparations

WP 5A has initiated its work towards WRC-23. WP 5A has responsibility for one WRC-23 agenda item and two topics under agenda item 9.1, as summarized in the following table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 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-0085!N04!MSW-E) | [Annex 5](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!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-0085!N06!MSW-E) | [Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!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-0085!N08!MSW-E) | [Annex 9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N09!MSW-E) |

These annex numbers of the WP 5A Chairman’s Report 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 as the work is progressed.

Refer to [Section 3](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx#s3) of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx) for further information on the WRC-23 preparations, in particular the principles in [Section 3.1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx#s31) of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085!N01!MSW-E.docx) to [Doc. 5A/85](https://www.itu.int/md/R19-WP5A-C-0085/en) or in the Annex to [CVC-16/2](https://www.itu.int/md/R19-CVC-C-0002/en).

WP 5A invites the membership to provide characteristics and protection criteria where applicable for radiocommunication systems operating and intended to operate in the future in the frequency band subject to WRC-23 agenda items.

# 5 Objectives for the twenty-fourth meeting of WP 5A

The principal objective for the 24th meeting of Working Party 5A is to assess the work that may need to be conducted by WP 5A in support of the preparations for WRC-23, as per the results of CPM23-1, and to continue the work on the study questions assigned to WP 5A.

Based on the reports from the Working Groups of WP 5A (cf. [Annex 3](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N03!MSW-E)), the following overall objectives are tentatively set for the 24th meeting of WP 5A:

**1) Amateur and amateur satellite**

– Continue work on WRC-23 agenda item 9.1b.

– Continue work on developing CPM text for WRC-23 agenda item 9.1b.

– Respond to liaison statements from other groups as appropriate.

– Deal with any other work relevant to the amateur and amateur-satellite service that is brought to the meeting.

**2) Systems and standards**

– Development of the working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ] – “Spectrum Harmonization for Railway Radiocommunication Systems between Train and Trackside (RSTT)” ([Annex 11](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N11!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

– Development of the working document towards a preliminary draft new study Question ITU-R [RSTT] – “Studies related to the further development of RSTT” ([Annex 12](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N12!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

– Development of the working document towards a preliminary draft revision of Report ITU\_R M.2442-0 – “Current and future usage of railway radiocommunication systems between train and trackside” ([Annex 13](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N13!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

– Development of the working document towards a preliminary draft new Report on Broadband Air To Ground Systems – “Frequency usage in the land mobile service for broadband direct air-to-ground (A2G) communications links with passenger aircraft” ([Annex 6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N06!MSW-E) to [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en)).

– Development of the working document towards a preliminary draft revision of Report ITU‑R M.2282-0 – “Systems for public mobile communications with aircraft” ([Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N07!MSW-E) to [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en)).

– Development of the working document towards a preliminary draft new Report ITU-R M.[UCS] [OR ITU-R HANDBOOK] – “Utility Communication Systems” ([Annex 14](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N14!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

– Development of a preliminary draft revision of Recommendation ITU-R M.478.

– Continue the work on the WAS Study Questions on the basis of input contributions.

**3) Public protection and disaster relief**

– Consider the possible revision of Report ITU-R M.2377, based on input contributions.

– Consider the possible revision of the ITU-R portion of the Compendium of ITU’s Work on Emergency Telecommunications, based on input contributions.

**4) Interference and sharing**

– Continue work on the PDN Report on sharing schemes in the land mobile service ([Annex 14](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0976!N14!MSW-E.docx) to [Doc. 5A/976](https://www.itu.int/md/R15-WP5A-C-0976/en)).

– Consider how to proceed with the RLAN documents from WRC-19 agenda item 1.16 ([Annex 17](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0976!N17!MSW-E.docx) to [Doc. 5A/976](https://www.itu.int/md/R15-WP5A-C-0976/en) and Annexes [9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N09!MSW-E), [10](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N10!MSW-E), [11](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N11!MSW-E), and [12](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N12!MSW-E) [Doc. 5A/1065](http://www.itu.int/md/R15-WP5A-C-1065/en)).

– Consider the proposal from CISPR to extend EMC limit to 6-40 GHz.

– Continue work on the working document on 100 GHz.RSTT.EESS.COEXIST   
([Annex 15](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N15!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

– Continue work in preparation of WRC-23 agenda item 1.3.

– Consider how to provide system parameters for the various WRC-23 agenda items where WP 5A has received requests from other Working Parties.

**5) New technologies**

– Continue to develop a working document towards a PDN Report ITU-R M.[CAV] “Connected Automated Vehicles” ([Annex 16](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N16!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

– Continues to develop a preliminary draft new revision of Land Mobile Handbook, Vol. 4 – Intelligent Transport Systems, so that it can be finalized and submitted for approval.

– Continue to develop a preliminary draft revision of Report ITU-R M.2417 of Technical and operational characteristics of land-mobile service applications in the frequency range 275‑450 GHz ([Annex 17](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N17!MSW-E) to [Doc.  5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en)).

– Develop a reply liaison statement to ITU-T FG VM on Vehicular Multimedia and invites input contributions to the 2020 November meeting of WP 5A.

**6) Land Mobile Handbook**

– Complete the development of a draft new edition of the Land Mobile Handbook, [Volume 4](http://www.itu.int/pub/R-HDB-49/en) – Intelligent Transport Systems, which continues to be developed by correspondence through the Share [LMH Review folder](https://extranet.itu.int/rsg-meetings/sg5/wp5a/Share/Forms/Column%20view.aspx?RootFolder=%2frsg-meetings%2fsg5%2fwp5a%2fShare%2fLMH%20review&FolderCTID=0x012000FB880722B4622243913B1114C70648D5) by the LMH Rapporteur. The plan is to approve this new edition at the 24th meeting of WP 5A.

- Consider the need to update the handbooks that are the responsibility of WP 5A. The development of future volumes will be contribution driven.

**7) Vocabulary**

– Continue the development of the land mobile vocabulary and liaise with the CCV.

# 6 Future meetings

The next meeting of WP 5A (#24) is tentatively scheduled to be held in the period from 9-20 November 2020. The deadline for contributions is 1600 hours UTC, Monday, 2 November 2020[[2]](#footnote-2).

# 7 Progression of the work and concluding remarks

The work may continue by correspondence. The correspondence groups will conduct their work using the Share Point facilities as described in section 6.5 of [Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N01!MSW-E) to [Doc. 5A/85](http://www.itu.int/md/R19-WP5A-C-0085/en).

[Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0085!N01!MSW-E) also summarizes the status of the texts that are the responsibility of WP 5A (section 1), the structure of WP 5A (section 2), and the list of contacts for liaison and collaboration with other organizations under Resolution ITU-R 9-5 (section 4).

The WP 5A and wireless access systems (WAS) home pages can be found, respectively, at:

<http://www.itu.int/ITU-R/go/rwp5a/en>

<http://www.itu.int/ITU-R/go/rwp8a-was>.

In closing, The Chairman thanked all the WP 5A participants for their hard work, and in particular the Chairmen of the Working Groups, Ms. Amy Sanders and Messrs. Dale Hughes, Lang Baozhen, Michael Kraemer, and Hitoshi Yoshino; the LMH Rapporteur, Mr. Takahiko Yamazaki; the Vocabulary Rapporteur, Mr. Brian Patten; the Liaison Rapporteurs, Mses. Gabrielle Owen and Amy Sanders and Messrs. Jonathan Siverling, Paul Najarian, Hitoshi Yoshino, and Brian Copsey; and the BR, in particular the SG 5 Counsellor, Mr. Uwe Loewenstein, and his team for the excellent support provided at the meetings, as well as the organizers and moderators that supported this e-meeting with the use of GoToWebinar tool.

1. At the closing plenary of WP 5A Motorola Solutions sought clarification regarding the proposed draft new Question vis-à-vis Resolution [**240 (WRC-19)**](https://www.itu.int/oth/R0A060000A0/en); Document [5A/70](http://www.itu.int/md/R19-WP5A-C-0070/en) is carried forward to the next meeting. [↑](#footnote-ref-1)
2. Members are strongly advised to pay attention to the strict time deadline for contributions; refer to the forthcoming [5/LCCE Circular Letter](https://www.itu.int/md/R00-SG05-CIR/e) announcing the meeting. [↑](#footnote-ref-2)