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| --- | --- |
| **Radiocommunication Study Groups** |  |
|  |  |
|  |  |
| Source: Documents 5A/TEMP/343, 349, 334R1, 341, 350R1, 346 | **Annex 3 to Document 5A/837-E** |
| **28 September 2023** |
| **English only** |
| Annex 3 to Working Party 5A Chair’s Report |
| consolidation of reports from the working groupsof working party 5a |
|  |

Contents

[1](#s1) Working Group 5A-1 – Amateur and amateur-satellite services
(Chair: Mr Dale Hughes, Australia)

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(Chair: Mr Lang Baozhen, China)

[3](#s3) Working Group 5A-3 – Mission critical applications
(Chair: Ms Amy Sanders, USA)

[4](#s4) Working Group 5A-4 – Interference and sharing
(Chair: Mr Michael Kraemer, Germany)

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(Chair: Mr Hitoshi Yoshino, Japan)

**Attachments**: 2

[Attachment 1](#att1): Workplan for completion of the work on RSTT under Resolution **240 (WRC-19).**

[Attachment 2](#att2): Work plan for the development of a working document towards a preliminary draft new Report ITU-R M.[LMS.SPEC.NEED.ABOVE.275GHZ] – “Spectrum needs for land mobile service applications in the frequency above 275 GHz.”

NOTE 1 – Throughout this Annex reference is made to the temporary documents (5A/TEMP/…) produced by the Working Groups. Since the TEMP documents are not kept, please refer to [Annex 10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0837%21N10%21MSW-E.docx) to [Doc. 5A/837](http://www.itu.int/md/R19-WP5A-C-0837/en) to find the final disposition of these documents by Working Party 5A.

NOTE 2 – Table 1 below shows the documents being carried forward to the next meeting of Working Party 5A.

TABLE 1

List of 12 documents carried forward to the 31th meeting of WP 5A

|  |
| --- |
| Working Group 2: Systems and standards (8 documents) |
| **BB-WAS.FREQ** | [5A/597](https://www.itu.int/md/R19-WP5A-C-0597/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597%21N17%21MSW-E.docx) (WP 5A); [5A/675](http://www.itu.int/md/R19-WP5A-C-0675) (IEEE); [5A/723](https://www.itu.int/md/R19-WP5A-C-0723/en) (Canada); [5A/799](https://www.itu.int/md/R19-WP5A-C-0799/en) (IEEE) |
| **F.1763** | [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 22](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N22%21MSW-E.docx) (WP 5A) |
| **PMSE** | [5A/829](https://www.itu.int/md/R19-WP5A-C-0829/en) (WP 6A) |
| **Air-to-Ground** | [5A/823](https://www.itu.int/md/R19-WP5A-C-0823/en) (China); [5/151](https://www.itu.int/md/R19-SG05-C-0151/en) (Chair, WP 5A) |

|  |
| --- |
| Working Group 4: Interference and sharing (4 documents) |
| **Rev. Rep. M.2116** | [5A/769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N16%21MSW-E.docx) (WP 5A) |
| **RLAN sharing** | [5A/529](https://www.itu.int/md/R19-WP5A-C-0529/en) (WP 7C); [5A/676](https://www.itu.int/md/R19-WP5A-C-0676/en) (France) |
| **Resolution 731 (>71 GHz)** | [5A/597](https://www.itu.int/md/R19-WP5A-C-0597/en) [Annex 24](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597%21N24%21MSW-E.docx) (WP 5A) |

# Working Group 5A-1 – Amateur and amateur-satellite services (Chair: Mr Dale Hughes, Australia)

1.1 Summary of work undertaken by Working Group 5A-1 during the September 2023 meeting of Working Party 5A

During the September 2023 meeting of Working Party (WP) 5A, Working Group (WG) 5A-1 met sixteen times and undertook the following work:

– Considered twelve input contributions.

– Completed preliminary draft new Recommendation ITU-R M.[AS.GUIDANCE].

– Completed preliminary draft new Report ITU-R M.[AMATEUR CHARACTERISTICS].

– Reviewed and revised the WP 5A web page document [Guide to the use of ITU-R texts relating to the amateur and amateur-satellite services](https://www.itu.int/oth/R0A06000067).

1.2 Documents and details of work

Working Group 5A-1 was assigned the following input contributions(see [5A/ADM/193](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R19-WP5A-ADM-0193)):

|  |
| --- |
| Working Group 1: Amateur Services (Chair: Dale Hughes, Australia) |
| **WRC-23 AI 9.1 b)** [Res. 774](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0023PDFE.pdf) | *Characteristics:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 5](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N05%21MSW-E.docx) (WP 5A); [782](https://www.itu.int/md/R19-WP5A-C-0782/en) (WP 4C); [809](https://www.itu.int/md/R19-WP5A-C-0809/en) (France)*Draft new Rec. M.[AS GUIDANCE]:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 6](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N06%21MSW-E.docx) (WP 5A); [789](https://www.itu.int/md/R19-WP5A-C-0789/en) (Canada); [795](https://www.itu.int/md/R19-WP5A-C-0795/en) (Russian F.); [800](https://www.itu.int/md/R19-WP5A-C-0800/en) (CITEL); [801](https://www.itu.int/md/R19-WP5A-C-0801/en) (Japan); [804](https://www.itu.int/md/R19-WP5A-C-0804/en) (IARU); [810](https://www.itu.int/md/R19-WP5A-C-0810/en) (France, Korea); [818](https://www.itu.int/md/R19-WP5A-C-0818/en) (China); [826](https://www.itu.int/md/R19-WP5A-C-0826/en) (Germany) |

Elements of documents [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 5](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N05%21MSW-E.docx) (WP 5A), [782](https://www.itu.int/md/R19-WP5A-C-0782/en) (WP 4C) and [809](https://www.itu.int/md/R19-WP5A-C-0809/en) (France) were incorporated into preliminary draft new Report ITU-R M.[AMATEUR CHARACTERISTICS]. Following approval by WG 5A-1 this preliminary new draft Report was submitted to WP 5A for approval as Doc. 5A/TEMP/319. This document was approved without comment by WP 5A and will be submitted to Study Group 5 for approval.

Elements of Documents [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 6](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N06%21MSW-E.docx) (WP 5A), [795](https://www.itu.int/md/R19-WP5A-C-0795/en) (Russian F.), [800](https://www.itu.int/md/R19-WP5A-C-0800/en) (CITEL), [801](https://www.itu.int/md/R19-WP5A-C-0801/en) (Japan), [804](https://www.itu.int/md/R19-WP5A-C-0804/en) (IARU), [810](https://www.itu.int/md/R19-WP5A-C-0810/en) (France, Korea), [818](https://www.itu.int/md/R19-WP5A-C-0818/en) (China) and [826](https://www.itu.int/md/R19-WP5A-C-0826/en) (Germany) were incorporated into preliminary draft new Recommendation ITU-R M.[AS.GUIDANCE]. Following approval by WG 5A-1 this preliminary new draft Recommendation was submitted to WP 5A for approval as Doc. 5A/TEMP/320.

Regarding the Liaison Note [782](https://www.itu.int/md/R19-WP5A-C-0782/en) (WP 4C), the note provided no guidance at all about what WP 4C considered to be wrong with the existing work. Because all the operators of the RNS systems operating in the 1 240-1 300 MHz band were represented in the meeting it was decided that work could proceed on the existing preliminary new draft resolution. Input document [789](https://www.itu.int/md/R19-WP5A-C-0789/en) (Canada) also supported this course of action.

1.3 Output documents from WG 5A-1

| Topic | WP 5A Action | Temp document |
| --- | --- | --- |
| WRC-23 AI 9.1b) – Preliminary draft new Report ITU-R M.[AMATEUR.CHARACTERISTRICS] | Approve | 5A/TEMP/319 |
| WRC-23 AI 9.1b) – Preliminary draft new Recommendation ITU-R M.[AS GUIDANCE] | Approve | 5A/TEMP/320 r1 |
| Revision of WP 5A – *Guide to the use of ITU-R texts relating to the amateur and amateur-satellite services* | Approve | 5A/TEMP/323 |
| WG 5A-1 Chair’s Report  | Attach to WP 5A Chair Report | 5A/TEMP/343 |

1.4 Comments

Because this was the last meeting of WG 5A-1 before WRC-23 all work on WRC-23 agenda item 9.1, topic b), had to be completed. As there was a range of strongly held views on the topic it was difficult to reach consensus on the content of preliminary draft new Recommendation ITU-R M.[AS GUIDANCE] and progress was slow.

In the final few days of the meeting there was considerable movement towards agreement on the content of the preamble and annex of PDNR ITU-R M.[AS GUIDANCE] and the (what is now alternative 1) annex was agreed by all the administration representing the GLONASS, COMPASS and Galileo systems. Each representative administration was asked individually if they agreed with the text of the annex and each concurred. This alternative (1) provides flexibility for administrations to implement the protection measures they consider are appropriate for their national circumstances because the proposed measures could be applied to protect any, or all, of the RNSS receivers used in any particular country.

However very late in the process one administration presented a new annex to replace the almost agreed annex. This administration insisted on replacing the existing annex with their new proposal, however this was resisted by other administrations and so it was agreed to include two alternative annexes. The basis of the objection for (what is now) alternative 2 is that the new alternative was perceived, by some other administrations, to override their rights to implement any technical and operational measures they considered necessary to meet their national needs to protect the RNSS receivers from interference. Neither did it meet the needs of another administration because it ignored their RNS system.

Following this event the other administration wanting to include a third alternative annex, the content of this alternative was not discussed in the meeting. Various attempts to reduce the number of alternative annexes to either one or two variations failed after lengthy off-line discussions. Consequently, the outcome of the work in WG 5A1 is a preliminary new draft recommendation with three alternatives for the annex and the WG 5A-1 Chair deeply regrets this outcome because of the difficulty it may cause WP 5A and higher-level meetings.

Work on the other documents was straightforward and no difficulties were encountered in completing preliminary draft new Report ITU-R M.[AMATEUR CHARACTERISTICS]. This document was submitted to WP 5A and was approved without comment. WG 5A-1 also considered the revisions to the WP 5A *Guide to the use of ITU-R texts relating to the amateur and amateur-satellite services* and this resulted in the addition of new information to the document and the revision was approved by WG 5A-1 and submitted to WP 5A for approval.

The WG 5A-1 Chair thanks the WP 5A Chair, Counsellor and ITU support staff for their support and smooth operation of the meetings, especially since additional meeting arrangements were required to allow for the work of WG 5A-1 to start several days before the other WP 5A Working Groups because of the shorter duration of the WP 5A meeting overall.

# 2 Working Group 5A-2 – Systems and standards (Chair: Mr Lang Baozhen, China)

**2.1 Executive summary**

Working Group 5A-2 continued its work on the development of 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*.

Working Group 5A-2 continued its work on the development of working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ] – *Spectrum harmonization for Railway Radiocommunication Systems between Train and Trackside (RSTT)*.

Working Group 5A-2 continued its work on the development of working document towards a preliminary draft revision of Recommendation ITU-R M.1450-5 – *Characteristics of broadband radio local area networks*.

Working Group 5A-2 continued its work on the development of working document towards a preliminary draft revision of Recommendation ITU-R M.1801-2 – *Radio interface standards for broadband wireless access systems, including mobile and nomadic applications, in the mobile service* ,and agreed to elevate its status to preliminary draft revision.

Working Group 5A-2 continued its work on the development of working document towards a preliminary draft new Report ITU-R M.[AUDIO-PMSE\_LMS] - *[Status and trends regarding regional and global usage of audio applications of PMSE in the land mobile service]*

**2.2 Systems and standards**

Working Group 5A-2 met six times at the thirtieth meeting of WP 5A. Working Group 5A-2 received the 30 documents assigned by the WP 5A Plenary as follows:

|  | **Document 5A/…** |
| --- | --- |
| **2.2.1 Railways (incl.** [**Res. 240 (WRC-19)**](https://www.itu.int/oth/R0A060000A0/en)**)** | *Rep. M.2442:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 7](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N07%21MSW-E.docx) (WP 5A); [824](https://www.itu.int/md/R19-WP5A-C-0824/en) (China)*Draft new Rec. RSTT Frequencies:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 8](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N08%21MSW-E.docx) (WP 5A); [805](https://www.itu.int/md/R19-WP5A-C-0805/en) (Korea); [812](https://www.itu.int/md/R19-WP5A-C-0812/en) (CITEL)*Draft rev. Question 263:* [806](https://www.itu.int/md/R19-WP5A-C-0806/en) (Korea) |
| **2.2.2 Broadband Wireless Access** | *Rec. M.2134:* [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N11%21MSW-E.docx) (WP 5A)*Rec. M.1801:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N10%21MSW-E.docx) (WP 5A); [779](https://www.itu.int/md/R19-WP5A-C-0779/en) (WP 5D); [792](https://www.itu.int/md/R19-WP5A-C-0792/en) (Canada); [798](https://www.itu.int/md/R19-WP5A-C-0798/en) (IEEE)*Rep. M.[BB-WAS-FREQ]:* [597](https://www.itu.int/md/R19-WP5A-C-0597/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597%21N17%21MSW-E.docx) (WP 5A); [675](http://www.itu.int/md/R19-WP5A-C-0675) (IEEE); [723](https://www.itu.int/md/R19-WP5A-C-0723/en) (Canada); [799](https://www.itu.int/md/R19-WP5A-C-0799/en) (IEEE)*Rec. M.1450:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N09%21MSW-E.docx) (WP 5A); [791](https://www.itu.int/md/R19-WP5A-C-0791/en) (Canada); [797](https://www.itu.int/md/R19-WP5A-C-0797/en) (IEEE); [817](https://www.itu.int/md/R19-WP5A-C-0817/en) (China); [825](https://www.itu.int/md/R19-WP5A-C-0825/en) (Mexico)*Rec. F.1401:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 20](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N20%21MSW-E.docx) (WP 5A)*Rec. F.1490:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 21](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N21%21MSW-E.docx) (WP 5A)*Rec. F.1763:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 22](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N22%21MSW-E.docx) (WP 5A); [819](https://www.itu.int/md/R19-WP5A-C-0819/en) (China) |
| **2.2.3 Land mobile systems** | *PSME/Res.59:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N11%21MSW-E.docx) (WP 5A); [781](https://www.itu.int/md/R19-WP5A-C-0781/en) (WP 5D); [787](https://www.itu.int/md/R19-WP5A-C-0787/en) (USA); [828](https://www.itu.int/md/R19-WP5A-C-0828/en) (WP 6A); [829](https://www.itu.int/md/R19-WP5A-C-0829/en) (WP 6A) |
| **2.2.4 Air to Ground**  | *Waiting for guidance from SG 5 re update of Rep. ITU-R M.2282, refer to*[*Doc. 5/151*](https://www.itu.int/md/R19-SG05-C-0151/en); [823](https://www.itu.int/md/R19-WP5A-C-0823/en) (China) |
| **2.2.5 RLAN characteristics** | *Support WG 4 with characteristics for sharing & coexistence studies* |

Working Group 5A-2 set up two Sub-Working Groups deal with RSTT and WAS:

– SWG 5A2-1 Railways
Mr Yan Yang **e-mail**: yyang@bjtu.edu.cn

– SWG 5A2-2 Broadband Wireless Access (BWA)
Mr José COSTA **e-mail**: jose.costa@ericsson.com

**2.2.1 Railways (incl.** [**Res. 240 (WRC-19)**](https://www.itu.int/oth/R0A060000A0/en)**)**

Input documents:

*Rep. M.2442:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 7](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N07%21MSW-E.docx) (WP 5A); [824](https://www.itu.int/md/R19-WP5A-C-0824/en) (China)

*Draft new Rec. RSTT Frequencies:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 8](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N08%21MSW-E.docx) (WP 5A); [805](https://www.itu.int/md/R19-WP5A-C-0805/en) (Korea); [812](https://www.itu.int/md/R19-WP5A-C-0812/en) (CITEL)

*Draft rev. Question 263:* [806](https://www.itu.int/md/R19-WP5A-C-0806/en) (Korea)

Output documents: 5A/TEMP/333 (M.2442), 5A/TEMP/332 (M.[RSTT\_FRQ]), 5A/TEMP/334 (Work plan), 5A/TEMP/331 (Question 263)

Carried forward documents: None

SWG Railways had two meeting sessions during this WP 5A meeting.

The SWG Railways was working on the following issues:

 Issue 1: Progress working documents of Report ITU-R M.2442-0.

 Issue 2: Progress working documents of Rec. ITU-R RSTT FRQ.

 Issue 3: Revision of Question 263.

Regarding to the working document towards a preliminary draft revision of Report ITU-R M.2442‑0, the revision document was further developed based on the input contribution and the discussion.

Regarding to the working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ], this document was further developed based on the input contribution and discussion.

Regarding to the revision of Question 263, this document was further developed based on the input contribution and discussion.

Sub-Working Group Railways updated the workplan for the working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ] based on the discussion.

**2.2.2 Broadband Wireless Access**

Input documents:

*Rec. M.2134:* [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N11%21MSW-E.docx) (WP 5A)

*Rec. M.1801:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N10%21MSW-E.docx) (WP 5A); [779](https://www.itu.int/md/R19-WP5A-C-0779/en) (WP 5D); [792](https://www.itu.int/md/R19-WP5A-C-0792/en) (Canada); [798](https://www.itu.int/md/R19-WP5A-C-0798/en) (IEEE)

*Rep. M.[BB-WAS-FREQ]:* [597](https://www.itu.int/md/R19-WP5A-C-0597/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597%21N17%21MSW-E.docx) (WP 5A); [675](http://www.itu.int/md/R19-WP5A-C-0675) (IEEE); [723](https://www.itu.int/md/R19-WP5A-C-0723/en) (Canada); [799](https://www.itu.int/md/R19-WP5A-C-0799/en) (IEEE)

*Rec. M.1450:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N09%21MSW-E.docx) (WP 5A); [791](https://www.itu.int/md/R19-WP5A-C-0791/en) (Canada); [797](https://www.itu.int/md/R19-WP5A-C-0797/en) (IEEE); [817](https://www.itu.int/md/R19-WP5A-C-0817/en) (China); [825](https://www.itu.int/md/R19-WP5A-C-0825/en) (Mexico)

*Rec. F.1401:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 20](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N20%21MSW-E.docx) (WP 5A)

*Rec. F.1490:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 21](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N21%21MSW-E.docx) (WP 5A)

*Rec. F.1763:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 22](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N22%21MSW-E.docx) (WP 5A); [819](https://www.itu.int/md/R19-WP5A-C-0819/en) (China)

Output document: 5A/TEMP/340（M.1450）5A/TEMP/335 rev1(M.1801)

Carried forward documents:[597](https://www.itu.int/md/R19-WP5A-C-0597/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597%21N17%21MSW-E.docx) (WP 5A); [675](http://www.itu.int/md/R19-WP5A-C-0675) (IEEE); [723](https://www.itu.int/md/R19-WP5A-C-0723/en) (Canada); [799](https://www.itu.int/md/R19-WP5A-C-0799/en) (IEEE); [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 22](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N22%21MSW-E.docx) (WP 5A).

Regarding Recommendation ITU-R M.2134,the meeting decided not to continue carrying forward Documents [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N11%21MSW-E.docx) (WP 5A).

Sub-Working Group 5A2-2 WAS met two times according to the agendas in Docs. 5A/ADM/205 and 209. All the contributions assigned to the SWG were discussed.

The following topics were addressed:

*Report ITU-R M.[BB-WAS-FREQ]:*

Following the discussion the Chair noted that there is still no consensus on the development of a draft Report ITU-R M.[BB-WAS-FREQ]; therefore, all documents are carried forward
(Docs [597](https://www.itu.int/md/R19-WP5A-C-0597/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597%21N17%21MSW-E.docx) (WP 5A); [675](http://www.itu.int/md/R19-WP5A-C-0675) (IEEE); [723](https://www.itu.int/md/R19-WP5A-C-0723/en) (Canada); [799](https://www.itu.int/md/R19-WP5A-C-0799/en) (IEEE)). The meeting invites members to input contributions to progress this work.

*Recommendation ITU-R M.1801:*

The working document towards a preliminary draft revision on Rec. ITU-R M.1801 was reviewed in detail along with the input contributions ([779](https://www.itu.int/md/R19-WP5A-C-0779/en) (WP 5D); [792](https://www.itu.int/md/R19-WP5A-C-0792/en) (Canada); [798](https://www.itu.int/md/R19-WP5A-C-0798/en) (IEEE)) and the meeting agreed to elevate it from working document to preliminary draft revision (Doc. 5A/TEMP/335R1).

*Recommendation ITU-R M.1450:*

Following the consideration of all the input contributions ([769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N09%21MSW-E.docx) (WP 5A); [791](https://www.itu.int/md/R19-WP5A-C-0791/en) (Canada); [797](https://www.itu.int/md/R19-WP5A-C-0797/en) (IEEE); [817](https://www.itu.int/md/R19-WP5A-C-0817/en) (China); [825](https://www.itu.int/md/R19-WP5A-C-0825/en) (Mexico), the SWG discussed a composite document and created an offline group, convened by Mr Michael Kraemer (Intel), to develop further the working document towards a preliminary draft revision of Recommendation ITU-R M.1450-5 and reporting directly to WG 5A-2, by including the proposals in the input contributions. The output reflects those contributions and further edits proposed by delegates during the offline discussion; however, there is no agreement on the content of the document (Doc. 5A/TEMP/340R1).

Regarding FWA, the meeting decided not to continue carrying forward Documents [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 20](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N20%21MSW-E.docx) (WP 5A) and Recommendation ITU-R F.1490: [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 21](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708%21N21%21MSW-E.docx) (WP 5A). [819](https://www.itu.int/md/R19-WP5A-C-0819/en) (China) proposed to elevate Recommendation ITU-R F.1763 from working document to preliminary draft revision in this WP 5A meeting. But the meeting didn’t reach agreement on the elevation. Members are invited to contribute to Recommendation ITU-R F.1763 at next WP 5A meeting in May 2024.

**2.2.3 Land mobile systems**

Input documents: *PSME/Res.59:* [769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N11%21MSW-E.docx) (WP 5A); (WP 5D); [787](https://www.itu.int/md/R19-WP5A-C-0787/en) (USA); [828](https://www.itu.int/md/R19-WP5A-C-0828/en) (WP 6A); [829](https://www.itu.int/md/R19-WP5A-C-0829/en) (WP 6A)

Output documents: 5A/[TEMP/337](https://www.itu.int/md/R19-WP5A-230509-TD-0311/en)（Report M.[AUDIO-PMSE\_LMS]）

Carried forward documents: [829](https://www.itu.int/md/R19-WP5A-C-0829/en) (WP 6A)

Regard to PMSE/Res59, the report on PMSE was further developed based on the input contributions and discussion.

Working Group 5A-2 took note of the information provided by ITU-R WP5D ([781](https://www.itu.int/md/R19-WP5A-C-0781/en) ) and WP 6A([828](https://www.itu.int/md/R19-WP5A-C-0828/en)) did not see the need for further action at this point in time.

Document [829](https://www.itu.int/md/R19-WP5A-C-0829/en) (WP 6A) brought the information of the report of the Rapporteur Group (RG) on SAB/SAP and seek comments from WP5A, if any. The meeting decided to give more time to administrations to review the information included in the RG report and carry this liaison forward to the next meeting for further consideration.

**2.2.4 Air to Ground**

Input documents: [823](https://www.itu.int/md/R19-WP5A-C-0823/en) (China)

Output documents: None

Carried forward documents: [823](https://www.itu.int/md/R19-WP5A-C-0823/en) (China)

Regarding to Report ITU-R M.2282, one contribution was received from China. During the 29th meeting of WP 5A some member states raised concerns about this work being conducted within WP 5A and at the closing plenary of WP 5A on 18 May 2023 one administration prevented the working document from being annexed to the WP 5A Chair’s report for further development, even though it was clarified that the maintenance of Report ITU-R M.2282-0 has been assigned to WP 5A by SG 5 (cf. [Doc. 5/1](https://www.itu.int/md/R19-SG05-C-0001/en)). Therefore, the chair of WP 5A indicated that he had sent the working document to SG 5 ([Doc. 5/151](https://www.itu.int/md/R19-SG05-C-0151/en)) to seek further guidance about the continuation of this work. Therefore, the contribution from China was decided to be carried forward to the next meeting for further consideration.

**2.2.5 RLAN characteristics**

Input documents: None

Output documents: None

Carried forward documents: None

The working document towards a preliminary draft revision of Recommendation ITU-R M.1450-5 was considered with Recommendation ITU-R M.1801-2 together under section 2.2.2.

**2.2.6 Review of ITU-R texts**

Working Group 5A-2 reviewed the WP 5A texts Section 1 of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N01%21MSW-E.docx) and [Annex 4](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N04%21MSW-E.docx) to [Document 5A/769](http://www.itu.int/md/R19-WP5A-C-0769), [Guide to the use of ITU-R texts relating to the land mobile service](http://www.itu.int/oth/R0A06000001/en) ([Doc. 5A/814](https://www.itu.int/md/R19-WP5A-C-0814/en)) , Questions and Resolutions under the purview of WG5A-2. There is some minor modification was proposed from the Working Group 2 perspective.

**2.2.7 Objectives for the next meeting**

The objectives for the next meeting are to continue the work on WAS Study Questions on the basis of input contributions and, in particular, to continue the work on:

– Development of working document towards a preliminary draft new Recommendation ITU‑R M.[RSTT\_FRQ] – *Spectrum Harmonization for Railway Radiocommunication Systems between Train and Trackside (RSTT)*.

– Development of 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*.

– Development of working document towards a preliminary draft revision of Recommendation ITU-R M.1450-5 – *Characteristics of broadband radio local area networks*.

– Development of the preliminary draft revision of Recommendation ITU-R M.1801-2 – *Radio interface standards for broadband wireless access systems, including mobile and nomadic applications, in the mobile service operating below 6 GHz*.

– Development of working document towards a preliminary draft new Report ITU-R M.[AUDIO-PMSE\_LMS] – *[Status and trends regarding regional and global usage of audio applications of PMSE in the land mobile service]*

– Development of working document towards a preliminary draft new Report ITU-R M.[bb‑WAS.freq] – *Frequencies used by systems based on radio interface standards for broadband wireless access*

– Development of working document towards a preliminary draft revision of Recommendation [ITU-R F.1763-1](https://www.itu.int/rec/R-REC-F.1763/en) – *Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz*

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

**2.2.8 Chair’s closing remarks**

Finally, chair of Working Group 5A-2 would like to thank all participants of WG 5A-2 for their contributions and cooperation and particularly thank Sub-working Groups chairs Mr Yan Yang from China, Mr José Costa from Canada and Mr Michael Kraemer for leading the offline discussion on the Recommendation ITU-R M.1450, and Mr Wolfgang Bilz from Germany for incorporating the PMSE report. The WG Chair would also like to express sincere thanks to Mr Uwe Loewenstein and other ITU staff for their professional support.

[Attachment 1](#att1): Workplan for completion of the work on RSTT under Resolution **240 (WRC-19).**

# 3 Working Group 5A-3 – Mission critical applications (Chair: Ms Amy Sanders, USA)

**3.1 Executive summary**

Working Group (WG) 5A-3 met three times at the September 2023 meeting of Working Party (WP) 5A. Working Group 5A-3 considered nine input contributions and four annexes to the Chair’s Report as assigned by the WP 5A Plenary.

Section 3.5 of [Annex 3 of Document 5A/769](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N03%21MSW-E.docx) indicated that the objectives for Working Group 3 at this meeting would be to:

– Finalize the revision of Report ITU-R M.2377-1, Radiocommunication objectives and requirements for Public Protection and Disaster Relief, based on input contributions, with the objective of submitting it to the meeting of Study Group 5 in September 2023.

– Complete the draft revision of Resolution ITU-R 55-3, ITU-R studies of disaster prediction, detection, mitigation and relief, based on input contributions, with the objective of submitting it to the meeting of Study Group 5 in September 2023.

– Finalize the draft revisions of Questions ITU-R 37-6/5 and ITU-R 209-6/5, based on input contributions, with the objective of submitting them to the meeting of Study Group 5 in September 2023.

– Further develop the working document towards the revision of Report ITU-R M.2415, based on input contributions.

– Further develop the working document towards a preliminary draft new Report ITU-R M.[UTILITIES], Utility radiocommunication systems operating in the land mobile service, based on input contributions.

**3.2 Organization of the work**

All input contributions were introduced at the WG level. The Disaster Relief Liaison Rapporteur’s Report (Doc. [5A/835](https://www.itu.int/md/R19-WP5A-C-0835/en)) was addressed at the WP 5A Plenary. The WP 5A Chair also tasked all WGs to consider the relevant portions of Section 1 of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N01%21MSW-E.docx) to  [Document 5A/769](http://www.itu.int/md/R19-WP5A-C-0769) and [Annex 4](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N04%21MSW-E.docx) to  [Document 5A/769](http://www.itu.int/md/R19-WP5A-C-0769), as well as the [Guide to the use of ITU-R texts relating to the land mobile service](http://www.itu.int/oth/R0A06000001/en) ([Doc. 5A/814](https://www.itu.int/md/R19-WP5A-C-0814/en)).

**3.3 Execution of work**

*Objective 1: Finalize the revision of Report ITU-R M.2377-1, Radiocommunication objectives and requirements for Public Protection and Disaster Relief*

There were no input contributions to further develop [Annex 13 of Document 5A/769](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N13%21MSW-E.docx). Working Group 5A-3 undertook a detailed review of the revision of Report [ITU-R M.2377-1](https://www.itu.int/pub/R-REP-M.2377). The WG agreed on some additional revisions to the document and proposed elevation from working document to draft revision status, which was agreed at WP 5A Plenary (Doc. 5A/TEMP/325).

*Objective 2: Complete the draft revision of Resolution ITU-R 55-3, ITU-R studies of disaster prediction, detection, mitigation and relief*

As Resolution ITU-R 55-3 is assigned to WG 5A-3, the meeting continued to develop possible revisions to the resolution. WG 5A-3 recognized that any revision of the Resolution would only be agreed at a Radiocommunications Assembly. If approved, this revised question would be submitted to Study Group 5 for its September 2023 meeting for transmission to the Radiocommunications Assembly. There was one contribution from Working Party 6A (5A/827) with additional suggested revisions to further develop [Annex 12 of Document 5A/769](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N12%21MSW-E.docx). WG 5A-3 undertook a detailed review of the revision of the Resolution. The WG agreed on some additional revisions to the document and proposed elevation draft revision status, which was agreed at WP 5A Plenary (Doc. 5A/TEMP/327).

*Objective 3: Finalize the revisions of Questions ITU-R 37-6/5 and ITU-R 209-6/5*

There were no input contributions to further develop [Annex 4 of Document 5A/769](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N04%21MSW-E.docx). WG 5A-3 undertook a detailed review of the revision of Questions ITU-R 37-6/5, “Digital land mobile systems for specific applications”, and ITU-R 209-6/5, “Use of the mobile, amateur and the amateur-satellite services in support of disaster radiocommunications”. The WG also considered the revisions of Q.209 referenced in 5A/778 from Working Party 5D. The WG agreed on some additional revisions to the Questions and proposed elevation preliminary draft revision status, which was agreed at WP 5A Plenary (Docs. 5A/TEMP/321 (Q.37) and 5A/TEMP/322 (Q.209)).

*Objective 4: Further develop the working document towards the revision of Report ITU-R M.2415, Spectrum needs for Public Protection and Disaster Relief (PPDR)*

No additional input contributions were received to further develop the revision of Report ITU-R M.2415-0, “Spectrum needs for Public Protection and Disaster Relief (PPDR)”. WG 5A-3 determined that the incorporation of material from the input (Doc. [5A/751](https://www.itu.int/md/R19-WP5A-C-0751en) (France)) was sufficiently stable and proposed elevation to preliminary draft revision status, which as agreed at WP 5A Plenary (Doc. 5A/TEMP/326).

*Objective 5: Further develop the working document towards a preliminary draft new Report ITU-R M.[UTILITIES], Utility radiocommunication systems operating in the land mobile service.*

Six contributions were received at this meeting to further develop [Annex 15 of Document 5A/769](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N15%21MSW-E.docx), the working document towards a preliminary draft new Report ITU-R M.[UTILITIES], “Utility radiocommunication systems operating in the land mobile service”. The contributions were incorporated and the WG undertook a review of the entire document. The WG considered the work to be stable and proposed elevation to preliminary draft status, which was agreed at WP 5A Plenary (Doc. 5A/TEMP/328).

*Liaisons and other documents*

Working Party 5A received a liaison from ITU-T Study Group (SG) 11 on Question 3/11 (Q3/11), on initiation of a new work item ITU-T Q.Req\_Frame\_RRDN “Requirements and framework for rapid response to sudden natural disasters in network”. SG11 and Q3/11 invited WP 5A to collaborate on the work item. WG 5A-3 developed a reply liaison informing SG11 of recent relevant activity in the area of disaster relief and inviting SG11 to also engage with ITU-D SG1 as well as to ensure that the work remained within the purview of ITU-T.

WG 5A-3 noted with interest the information provided in Document [5A/788](https://www.itu.int/md/R19-WP5A-C-0788/en) on developments of First Responder Network (FirstNet), its roadmap, and efforts to share international best practices.

**3.4 Administrative matters**

Working Group 5A-3 followed the WP 5A Chair’s instructions to consider the relevant portions of Section 1 of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N01%21MSW-E.docx) to [Document 5A/769](http://www.itu.int/md/R19-WP5A-C-0769) and [Annex 4](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N04%21MSW-E.docx) to [Document 5A/769](http://www.itu.int/md/R19-WP5A-C-0769), as well as the [Guide to the use of ITU-R texts relating to the land mobile service](http://www.itu.int/oth/R0A06000001/en) ([Doc. 5A/814](https://www.itu.int/md/R19-WP5A-C-0814/en)). The meeting provided editorial suggestions.

**3.5 Future work**

With regard to work on mission critical applications at the next meeting of Working Party 5A, Working Group 5A-3 completed all the objectives for this meeting and has no outstanding or carryover activities. The objectives for the next cycle will depend on input contributions to those meetings.

**3.6 Conclusion**

All parties are encouraged to contribute to the next meeting of Working Party 5A, particularly to determine the objectives of the group for the coming study cycle.

The Working Group 5A-3 Chair would like to express sincere thanks to all the participants of Working Group 5A-3 for their contributions to the work at this meeting and to the accomplishment of all the objectives.

# 4 Working Group 5A-4 – Interference and sharing (Chair: Mr Michael Kraemer, Germany)

**4.1 Executive Summary**

WG 5A-4 did not update the working documents on the revision of Report ITU-R M.2116 and the preliminary draft new Report ITU-R M.[LMS.CONDITIONS>275GHz] and the current versions of these working documents from the previous WP 5A meeting are carried forward to the next WP 5A meeting by reference. WG 5A-4 developed a reply liaison statement to WP 1A related to Beam WPT in the 24.1-24.15 GHz and took note of a number of liaison statements from other Working Parties that did not require further action from WP 5A.

**4.2 Introduction**

Working Group 5A-4 met three times during the September 2023 meeting of Working Party 5A and considered 15 input and carried-forward documents and developed 1 output document.

**4.3 Consideration of input documents**

The following issues were considered based on input contributions as assigned to WG 5A-4 by the WP 5A opening plenary based on Document 5A/ADM/193.

**4.3.1 Revision of Report ITU-R M.2116**

Input document: 5A/769 Annex 16 (WP 5A)

WG 5A-4 discussed how to best progress the revision of Report ITU-R M.2116 and, as at the previous WP 5A meeting already, it was pointed out that the ability to make further progress on the revision of Report ITU-R M.2116 would probably depend on discussions in WG 5A-2 and progress being made related to the revision of Recommendation ITU-R M.1450 since both documents are somewhat related, with Recommendation ITU-R M.1450 containing the System Standards parameters and Report ITU-R M.2116 containing the characteristics for sharing studies.

Therefore, the revision of Report ITU-R M.2116 and the possible inclusion of typical deployment parameters was not further progressed at this WP 5A meeting and the current working document (5A/769 Annex 16) is carried forward to the next WP 5A meeting by reference.

**4.3.2 Protection of Land Mobile systems (scaling factor)**

Input document: 5A/784 (WP 4A)

WG 5A-4 took note of the information provided by WP 4A related to their studies on the appropriateness of the equations in RR No. **21.16.6** as applied to large non-GSO satellite systems and discussed a possible reply but concluded that no reply was necessary at this time.

**4.3.3 Beam Wireless Power Transmission (WPT)**

Input documents: 5A/775 (WP 1A); 5A/783 (WP 4C)

Output document: 5A/TEMP/342(Rev.1)

WG 5A-4 took note of the information provided by WP 1A and developed a reply liaison statement containing the information requested by WP 1A.

WG 5A-4 took note of the information provided by WP 4C and did not see a need for further action at this point in time.

**4.3.4 Non-Beam Wireless Power Transmission (WPT)**

Input document: 5A/777 (WP 1A)

WG 5A-4 took note of the information provided by WP 1A and did not see a need for further action at this point in time.

**4.3.5 CISPR Radio Services Database**

Input document: 5A/830 (WP 6A)

WG 5A-4 took note of the information provided by WP 6A and did not see a need for further action at this point in time.

**4.3.6 Vocabulary**

Input document: 5A/772 (WPs 3J, 3K & 3M)

WG 5A-4 took note of the information provided by WPs 3J, 3K & 3M and did not see a need for further action at this point in time.

**4.3.7 RLAN sharing**

Input documents: 5A/529 (WP 7C); 5A/676 (France)

WG 5A-4 came back to the discussion held at the previous WP 5A meetings and, without much additional discussion, it became clear that similar diverging views as at the previous WP 5A meetings still remained regarding the RLAN parameters proposed in Document 5A/676. Therefore, the summary of the situation as from the previous WP 5A Chair’s Report remains factual and is reproduced below for reference:

 *Whilst some administrations considered these typical for possible future RLAN deployments in their countries, other administrations considered these unrealistic and not appropriate to be used in the impact assessment studies that WP 7C is carrying out related to the passive microwave sensor measurements in the 6 GHz band related to RR No.* ***5.458****.*

 *As a consequence of these diverging views, it was not possible to develop a reply liaison statement to WP 7C to provide more detailed information on RLAN parameters for their work. It was pointed out during the discussion, that WP 5A had already informed WP 7C from the previous WP 5A meeting that work is ongoing to revise Report ITU-R M.2116 and that WP 5A would inform WP 7C once that work was completed with the relevant information for the work of WP 7C. Furthermore, it was pointed out during the discussion, that some of the RLAN parameters suggested during the revision of Recommendation ITU-R M.1450 and Report ITU-R M.2116 would be relevant for WP 7C and input contributions were encouraged to the next WP 5A meeting in order to progress the revisions of both documents, focusing the radio interface standards information in Recommendation ITU-R M.1450 and the RLAN sharing parameters in Report ITU-R M.2116. Once that work has progressed, it should then be possible to inform WP 7C about the relevant RLAN parameters for their work.*

As a consequence, Documents 5A/529 and 5A/676 are carried forward to the next WP 5A meeting for further consideration.

**4.3.8 WRC-19 agenda item 1.3**

Input document: 5A/708 Annex 14 (WP 5A)

The previous WP 5A had already concluded that no further work would take place on this working document and therefore WG 5A-4 concluded that the working document should no longer be carried forward to the next meeting and should be discontinued.

**4.3.9 WRC-19 agenda item 1.13**

Input document: 5A/774 (WPs 3K & 3M)

WG 5A-4 took note of the information provided by WPs 3K & 3M and did not see a need for further action at this point in time.

**4.3.10 Resolution 731 (Rev.WRC-19)**

Input documents: 5A/597 Annex 24 (WP 5A); 5A/607 (WP 3M); 5A/613 (WP 1A); 5A/776 (WP 3M)

WG 5A-4 did not update the working document towards a Preliminary Draft New Report ITU-R M.[LMS.CONDITIONS>275GHz] at this meeting and the current working document (5A/769 Annex 24) is carried forward to the next WP 5A meeting by reference.

WG 5A-4 had already replied to the liaison statements from WP 3M (Document 5A/607) and WP 1A (Document 5A/613) from the previous WP 5A meeting and therefore took not further action at this meeting.

WG 5A-4 took note of the information provided by WP 3M (Document 5A/776) and did not see a need for further action at this point in time.

**4.4 Revision of WP 5A texts**

Input document: 5A/814 (Chair, WP 5A)

WG 5A-4 did not have any comments on Section 1 of Annex 1 to document 5A/769 and the updates of the Guide to the use of ITU-R texts relating to the land mobile service during the WG 5A-4 sessions and delegates were encouraged to communicate any comments on Section 1 of Annex 1 to document 5A/769 directly to the WP 5A Chair.

Furthermore, delegates were encouraged to consider the proposed amendments to the Questions assigned to WP 5A as contained in Annex 4 to document 5A/769 but no comments were raised during the WG 5A-4 sessions.

**4.5 Documents carried forward to the next WP 5A meeting**

– Revision of Report ITU-R M.2116: 5A/769 Annex 16 (WP 5A)

– RLAN Sharing: 5A/529 (WP 7C); 5A/676 (France)

– Res. 731 (>71 GHz): 5A/597 Annex 24 (WP 5A)

**4.6 Objectives for the next WP 5A meeting**

**The objectives for the next meeting related to “Interference and Sharing” are:**

– Progress the ongoing revision of Report ITU-R M.2116, in particular for WAS/RLAN parameters for the 6 GHz range (see sections 4.3.1 and 4.3.7 above).

– Continue work on the working document towards a preliminary draft new Report ITU-R M.[LMS.CONDITIONS>275GHz].

**4.7 Conclusion**

# The Chair of WG 5A-4 would like to thank all the WG 5A-4 participants for their active contributions to the work of WG 5A-4 and all the efforts put into the online and offline work to discuss and advance the topics under the responsibility of WG 5A-4.

# 5 Working Group 5A-5 – New technologies (Chair: Mr Hitoshi Yoshino, Japan)

Working Group 5A-5 (WG 5A-5) met four times during the 30th meeting of Working Party (WP) 5A from 18th to 22nd September 2023. The tasks assigned to WG 5A-5 address new technologies.

Working Group 5A-5 considered fourteen input contributions and developed four output documents, which were:

| **Topic** | **Input Contributions** | **Output** |
| --- | --- | --- |
| ITS (incl. [**Rec. 208 (WRC-19)**](https://www.itu.int/oth/R0A060000A3/en)) | *CAV (*[*Question ITU-R 261/5*](https://www.itu.int/pub/R-QUE-SG05.261)*):*[769](https://www.itu.int/md/R19-WP5A-C-0769/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N17%21MSW-E.docx) (WP 5A); [786](https://www.itu.int/md/R19-WP5A-C-0786/en) (USA); [790](https://www.itu.int/md/R19-WP5A-C-0790/en) (Canada); [802](https://www.itu.int/md/R19-WP5A-C-0802/en) (Japan); [813](https://www.itu.int/md/R19-WP5A-C-0813/en) (Qualcomm); [820](https://www.itu.int/md/R19-WP5A-C-0820/en) (China); [821](https://www.itu.int/md/R19-WP5A-C-0821/en) (China); [822](https://www.itu.int/md/R19-WP5A-C-0822/en) (China) | 5A/TEMP/338R2 |
| *P.D.N.Question M.[FUTURE-ITS-CAV]:* [785](https://www.itu.int/md/R19-WP5A-C-0785/en) (USA); [803](https://www.itu.int/md/R19-WP5A-C-0803/en) (Japan); [808](https://www.itu.int/md/R19-WP5A-C-0808/en) (Korea) | 5A/TEMP/339R1 |
| [**Q.256/5**](https://www.itu.int/pub/R-QUE-SG05.256): >275 GHz | *P.D.N.Report M.[LMS.SPEC.NEED.ABOVE.275GHZ]:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 27](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491%21N27%21MSW-E.docx) (WP 5A); [769](http://www.itu.int/md/R19-WP5A-C-0769) Annex 3 Attachment 2 (WP5A), [811](https://www.itu.int/md/R19-WP5A-C-0811/en) (NICT, Waseda U.) | 5A/TEMP/329Updated workplan |
| *Question 256:* [794](https://www.itu.int/md/R19-WP5A-C-0794/en) (Russian F.) | 5A/TEMP/330R1 |

Working Group 5A-5 established a Drafting Group (DG) to facilitate its work:

|  |  |
| --- | --- |
| **Drafting Group: Chair** | **Terms of Reference** |
| **DG-CAV (**DG 5A-5-1): Mr. Jeffrey Bellone (USA); E-mail: Jeffrey.Bellone@dot.gov | – Develop a preliminary draft new Report ITU-R M.[CAV] on Connected Automated Vehicles (CAV) and consider its upgrade to DNR;– Develop a preliminary draft new Question [FUTURE-ITS-CAV] on studies related to ITS, CAV and future topics |

The other issues were directly considered by the meetings of WG 5A-5.

DG-CAV (DG 5A-5-1) met seven times a during the 30th meeting of WP 5A.

**5.1 Executive summary**

Working Group 5A-5 completed its work of the development of Report ITU-R M.[CAV] on Connected Automated Vehicles (CAV), and agreed to propose the elevation of its status to draft new Report to WP 5A plenary,

Working Group 5A-5 completed its work of the development of Preliminary Draft New Question on [FUTURE-ITS-CAV] on studies related to ITS including CAV and future applications and agreed to propose the elevation of its status to draft Report to WP 5A plenary.

Working Group 5A-5 developed Preliminary Draft Revision of Question ITU-R 256-1/5 on Technical and operational characteristics of the land mobile service in the frequency range 275‑1 000 GHz and agreed to propose the elevation of its status to draft Report to WP 5A plenary.

Working Group 5A-5 continued to develop a working document towards a preliminary draft new Report ITU-R M.[LMS.SPEC.NEED.ABOVE.275 GHz] on spectrum needs for land-mobile service applications in the frequency above 275 GHz.

**5.2 Intelligent transport system (ITS)**

Working Group 5A-5 also considered eight input contribution and further developed preliminary draft New Report ITU-R M.[CAV] on CAV. WG 5A-5 agreed to upgrade the status of the document from preliminary draft New Report to draft New Report (Document 5A/TEMP/338R2).

Working Group 5A-5 considered three input contributions and further developed preliminary draft new Question on studies related to Intelligent Transport Systems, including Connected Automated Vehicles and future applications. WG 5A-5 agreed to upgrade its status to draft New Question (Document 5A/TEMP/339R1).

**5.3 Land mobile service applications in the frequency above 275 GHz**

Working Group 5A-5 considered an input contribution and further developed a working document towards a preliminary draft new report ITU-R M.[LMS.SPEC.NEED.ABOVE.275GHz] on Spectrum needs for land-mobile service applications in the frequency above 275 GHz (Doc. 5A/TEMP/329). The meeting agreed to carry forward the document to the next WP 5A meeting in May 2024 for further development. The meeting also updated its workplan ([Attachment 2](#att2)).

Working Group 5A-5 considered an input contribution on the revision of Question ITU-R 256-1/5 on Technical operational characteristics of the land mobile service in the frequency range 257-1 000 GHz and developed a Preliminary Draft Revision of Question ITU-R 256-1/5 (Doc. 5A/TEMP/330R1). The meeting agreed to elevate its status from Preliminary Draft Revision to Draft Revision.

**5.4 Review of ITU-R texts**

Working Group 5A-5 reviewed ITU-R texts pertinent to WG 5A-5 in [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N01%21MSW-E.docx) and [Annex 4](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769%21N04%21MSW-E.docx) to [Document 5A/769](http://www.itu.int/md/R19-WP5A-C-0769), together with Attachments 3 and 4 to Annex 3 to [Document 5A/769](http://www.itu.int/md/R19-WP5A-C-0769), which entitle ”Questions assigned to Working Group 5A-5” and “Proposed deletion of Recommendations and Reports in force under the purview of WG 5A-5 with approval dates prior to 2000”, respectively. There were no views to change them.

Working Group 5A-5 reviewed the [Guide to the use of ITU-R texts relating to the land mobile service](http://www.itu.int/oth/R0A06000001/en) ([Doc. 5A/814R1](https://www.itu.int/md/R19-WP5A-C-0814/en)). There were no suggestions to modify it at this time.

**5.5 Future work**

Working Group 5A-5 continues the development of working document towards a preliminary draft new Report ITU-R M.[LMS.SPEC.NEED.ABOVE.275 GHZ].

**5.6 Acknowledgement**

Finally, Working Group 5A-5 Chair would like to thank Drafting Group Chair Mr Jeffrey Bellone (USA) for his excellent Chairship and all participants for their contribution to work of the group.

[Attachment 2](#att2): Work plan for the development of a working document towards a preliminary draft new Report ITU-R M.[LMS.SPEC.NEED.ABOVE.275GHZ] – “Spectrum needs for land mobile service applications in the frequency above 275 GHz.”

Attachment 1 to Annex 3

WORKPLAN FOR COMPLETION OF THE WORK ON RSTT
UNDER RESOLUTION 240 (WRC-19)

*[Note: The work plan is a living document and contains planned objectives, which are subject to review and updates at each WP5A meeting as necessary. Further, the progress of the work is, as usual in ITU-R, subject to agreement within WP5A.]*

| Meetings | Work plan |
| --- | --- |
| 25th meetingApril 2021 | 1 Develop and adopt a work plan on RSTT under Resolution **240 (WRC-19)**;2 Finalize the development of the working document towards PDN Question ITU-R [RSTT]/5, elevate it to draft new Question ITU-R [RSTT]/5 and submit it to Study Group 5 (December 2021 meeting) for approval;3 Continue developing the working document toward a PDN Recommendation ITU-R M.[RSTT\_FRQ];4 Draft relevant liaison statement(s) if needed. |
| 26th meetingNov. 2021 | 1 Consider any input contribution(s);2 Continue developing the working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ];3 Review and revise the work plan if needed. |
| 27th meetingMay-June 2022 | 1 Consider any input contribution(s);2 Take note of approved new study Question ITU-R [RSTT]/5;3 Continue developing working document towards preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ];4 Draft relevant liaison statement(s);5 Review and revise the work plan. |
| 28th meetingNov. 2022 | 1 Consider any input contribution(s);2 Continue progressing on the working document towards preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ]with a view to consider its elevation to preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ];3 Draft relevant liaison statement(s), if needed. |
| 29th meetingMay 2023 | 1 Consider any input contribution(s);2 Progress on the working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ]; if possible, elevate it to preliminary draft new Recommendation;3 Draft relevant liaison statement(s), if needed. |
| 30th meetingSeptember 2023 | 1 Consider any input contribution(s);2 Progress on the working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ]; if possible, elevate it to preliminary draft new Recommendation;3 Draft relevant liaison statement(s), if needed. |
| 31th meetingMay 2024 | 1 Consider any input contribution(s);2 Progress on the working document towards preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ]; if possible, elevate it to preliminary draft new Recommendation;3 Draft relevant liaison statement(s), if needed.4 Review the workplan |
| 32th meetingNovember 2024 | 1 Consider any input contribution(s);2 Finalize the preliminary draft new Recommendation, if possible, for submission to SG 5 (December 2024 meeting) |

Attachment 2 to Annex 3

WORK PLAN FOR THE DEVELOPMENT OF A WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW REPORT ITU-R M.[LMS.SPEC.NEED.ABOVE.275GHZ]

**Spectrum needs for land-mobile service applications
in the frequency above 275 GHz**

*{Editor’s Note: The change of the title of this document should also be considered at the first WP 5A new study cycle, taking into account that unless ITU-R is directed by WRC to discuss spectrum issue. ITU-R is not entitled to involve directly or indirectly to raise spectrum issue.}*

*{Note: The finalization date is of indicative nature as it will depend on the progress of work and the extent of any possible contributions. This workplan may therefore be adjusted at each meeting. Furthermore, the prevailing situation and circumstances might impact the workplan.}*

|  |  |
| --- | --- |
| **Title** | Spectrum needs for land-mobile service applications in the frequency above 275 GHz |
| **Document type** | Report |
| **WP 5A Lead Group** | WG 5A-5 New Technologies  |
| **WG Chair** | Mr. Hitoshi Yoshino; **E-mail**: hitoshi.yoshino@g.softbank.co.jp |
| **Editor** | Hiroyo Ogawa **E-mail**: hiroyoogawa@nict.go.jp |
| **Focus for scope and work** | This Report addresses the estimation of the spectrum needs for land mobile service applications operating in the frequency above 275 GHz. |
| **Related Documents** | Question ITU-R 256-1/5 |
| **Milestones** | **26th meeting (November 2021) – virtual meeting**– Develop working document toward the PDN Report ITU-R M.[LMS.SPEC.NEED. ABOVE.275GHZ].**27th meeting (May 2022)**– Develop working document toward the PDN Report ITU-R M.[LMS.SPEC.NEED. ABOVE.275GHZ]– Develop and adopt work plan.**28th meeting (November 2022)** – Develop working document toward the PDN Report ITU-R M.[LMS.SPEC.NEED. ABOVE.275GHZ]– Liaise as needed with concerned and interested organizations– Update work plan if needed.**29th meeting (May 2023)**– Continue developing working document toward the PDN Report ITU-R M.[LMS.SPEC.NEED. ABOVE.275GHZ] – Liaise as needed with concerned and interested organizations– Update work plan if needed.**30th meeting (September 2023)**– Continue developing working document toward the PDN Report ITU-R M.[LMS.SPEC.NEED.ABOVE.275GHz]– Liaise as needed with concerned and interested organizations– Update work plan.**31st meeting (May 2024)**– Continue developing working document towards the PDN Report ITU-R M.[LMS.SPEC.NEED. ABOVE.275GHZ]and, consider its elevation to PDNR– Liaise as needed with concerned and interested organizations– Update work plan if needed.**32nd meeting (November 2024)**– Finalize the PDN Report ITU-R M.[LMS.SPE.NEED.ABOVE.275GHZ] and consider its elevation to draft new Report for submission to SG 5– Liaise as needed with concerned and interested organizations |

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