|  |  |
| --- | --- |
| **Radiocommunication Study Groups** |  |
|  |  |
|  |  |
| Source: Documents 5A/TEMP/294, 305, 312, 316, 318 | **Annex 3 to  Document 5A/769-E** |
| **18 May 2023** |
| **English only** |
| Annex 3 to Working Party 5A Chairman’s Report | |
| consolidation of reports from the working groups of working party 5a | |
|  | |

Contents

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

[2](#s2) Working Group 5A-2 – Systems and standards  
(Chairman: Mr Lang Baozhen, China)

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

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

[5](#s5) Working Group 5A-5 – New technologies  
(Chairman: Mr Hitoshi Yoshino, Japan)

**Attachments**: 4

[Attachment 1](#att1): Work plan for the development of a draft new Report ITU-R M.[CAV] – “Connected Automated Vehicles”.

[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] – “Operational aspects of land mobile service applications in the frequency above 275 GHz.”

[Attachment 3](#att3): Questions assigned to Working Group 5A-5.

[Attachment 4](#att4): Proposed deletion of Recommendations and Reports in force under the purview of WG 5A-5 with approval dates prior to 2000.

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 18](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0769!N18!MSW-E.docx) to [Doc. 5A/769](http://www.itu.int/md/R19-WP5A-C-0769/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 14 documents carried forward to the 30th meeting of WP 5A

|  |  |
| --- | --- |
| Working Group 2: Systems and standards (7 documents) | |
| **Broadband Wireless Access – Rec. M.2134** | [5A/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!N11!MSW-E.docx) (WP 5A) |
| **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!N17!MSW-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) |
| **FWA** | *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!N20!MSW-E.docx) (WP 5A)  *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!N21!MSW-E.docx) (WP 5A)  *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!N22!MSW-E.docx) (WP 5A) |

|  |  |
| --- | --- |
| Working Group 4: Interference and sharing (6 documents) | |
| **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) |
| **WRC-23 AI 1.3** | [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 14](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N14!MSW-E.docx) (WP 5A) |
| **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!N24!MSW-E.docx) (WP 5A); [5A/607](https://www.itu.int/md/R19-WP5A-C-0607/en) (WP 3M); [5A/613](https://www.itu.int/md/R19-WP5A-C-0613/en) (WP 1A) |

|  |  |
| --- | --- |
| Working Group 5: New Technologies (1 document) | |
| **LMS spectrum needs above 275 GHz** | [5A/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!N27!MSW-E.docx) (WP 5A) |

Carried-forward proposed work plans for reference:

– Proposed draft work plan for revision of Recommendation ITU-R M.1801-2 (Attachment 2 to Annex 3 to Doc. [5A/359](http://www.itu.int/md/R15-WP5A-C-0359/en))

– Proposed draft workplan for revision of Recommendation ITU-R M.1450-5 (Attachment 3 to Annex 3 to Doc. [5A/359](http://www.itu.int/md/R15-WP5A-C-0359/en)).

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

## 1.1 Summary of work undertaken by WG 5A-1 during the May 2023 meeting of WP 5A

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

• Considered eleven input contributions.

• Continued work on Preliminary Draft New Recommendation [AS.GUIDANCE].

• Continued work on Preliminary Draft New Report M.[AMATEUR CHARACTERISTICS].

• Drafted one Liaison Statement to other working parties.

## 1.2 Documents and details of work

Working Group 5A-1 was assigned the following input contributions(see Doc. [5A/ADM/154](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R19-WP5A-ADM-0154)(Rev.1)):

|  |  |
| --- | --- |
| **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) | *Characteristics:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 5](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N05!MSW-E.docx) (WP 5A); [730](https://www.itu.int/md/R19-WP5A-C-0730/en) (IARU); [755](https://www.itu.int/md/R19-WP5A-C-0755/en) (France)  *Proposed new Rec. M.[AS GUIDANCE]:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 6](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N06!MSW-E.docx) (WP 5A); [724](https://www.itu.int/md/R19-WP5A-C-0724/en) (Canada);  [729](https://www.itu.int/md/R19-WP5A-C-0729/en) (IARU); [731](https://www.itu.int/md/R19-WP5A-C-0731/en) (Japan); [735](https://www.itu.int/md/R19-WP5A-C-0735/en) (Russian F.); [744](https://www.itu.int/md/R19-WP5A-C-0744/en) (China); [756](https://www.itu.int/md/R19-WP5A-C-0756/en) (France, Korea)  *Proposed LS to WP 4C:* [754](https://www.itu.int/md/R19-WP5A-C-0754/en) (France) |

Documents 5A/[708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 5](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N05!MSW-E.docx) (WP 5A), 5A/[730](https://www.itu.int/md/R19-WP5A-C-0730/en) (IARU) and 5A/[755](https://www.itu.int/md/R19-WP5A-C-0755/en) (France) were incorporated into Preliminary Draft New Report M.[AMATEUR CHARACTERISTICS] for further and final work at the next WP 5A meeting. The Report going forward to the next meeting of WP 5A is in Document 5A/TEMP/302.

Elements of Documents 5A/[708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 6](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N06!MSW-E.docx) (WP 5A), 5A/[724](https://www.itu.int/md/R19-WP5A-C-0724/en) (Canada), 5A/[729](https://www.itu.int/md/R19-WP5A-C-0729/en) (IARU), 5A/[731](https://www.itu.int/md/R19-WP5A-C-0731/en) (Japan), 5A/[735](https://www.itu.int/md/R19-WP5A-C-0735/en) (Russian F.), 5A/[744](https://www.itu.int/md/R19-WP5A-C-0744/en) (China), 5A/[756](https://www.itu.int/md/R19-WP5A-C-0756/en) (France, Korea) were incorporated into preliminary draft new Recommendation ITU-R M.[AS.GUIDANCE] for further and final work at the next WP 5A meeting. The Recommendation going forward to the next meeting of WP 5A is in Document 5A/TEMP/301.

Input contribution 5A/[754](https://www.itu.int/md/R19-WP5A-C-0754/en) (France) was considered by WG 5A-1, this resulted in a liaison statement to WP 4C. This liaison statement informs WP 4C of the status of work on WRC-23 agenda item 9.1b) and requesting guidance and feedback from WP 4C about aspects of preliminary draft new Report ITU-R M.[AMATEUR CHARACTERISTICS]. The draft liaison statement is in Document 5A/TEMP/300 and it requires adoption by WP 5A.

## 1.3 Output documents from WG 5A-1

| Topic | WP 5A Action | Temp document |
| --- | --- | --- |
| WRC-23 AI 9.1b) preliminary draft new Report M.[AMATEUR.CHARACTERISTRICS] | Attach to WP 5A Chairman’ Report | 5A/TEMP/302 |
| WRC-23 AI 9.1b) preliminary draft new Recommendation  M.[AS GUIDANCE] | Attach to WP 5A Chairman’ Report | 5A/TEMP/301 |
| Liaison statement to WP 4C re AI 9.1b) Progress on work. | Approve | 5A/TEMP/300 |
| WG 5A-1 Chairman’s Report | Attach to WP 5A Chairman’ Report | 5A/TEMP/305 |

## 1.4 Objectives for the September 2023 meeting of Working Group 5A-1

1) Based on contributions, complete all work on WRC-23 agenda item 9.1b) Report and Recommendation.

2) Present the completed final WRC-23 agenda item 9.1b) Report and Recommendation to the final WP 5A Plenary meeting for adoption and subsequent transmission to Study Group 5 for approval prior to WRC-23.

3) Respond to liaison notes from other groups and update other groups as appropriate.

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

With respect to the above-mentioned objectives, in particular items 1 and 2, the WG 5A-1 Chair is very concerned about the proposal to shorten the duration of the next WP 5A meeting because it will limit the number of meetings available to complete the work on the preliminary draft new Recommendation M.[AS GUIDANCE] which is a key deliverable for WRC-23 discussions on agenda item 9.1b). Work on this document has been very contentious and WG 5A-1 will need additional flexibility for meeting arrangements to complete its work.

## 1.5 Conclusion

Noting that some difficult and unpopular decisions had to be made during the meeting about document content and meeting process, the view of the Chair is that, overall, there was good progress on our tasks as the responsible group for WRC-23 agenda item 9.1b).

The Chair thanks the physically present and on-line participants in the WG 5A-1 meetings for their input contributions, thoughtful discussion, and general willingness to achieve consensus on many issues. The Chair also thanks the WP 5A Chair, counsellor and ITU support staff for their support and smooth operation of the meetings. Finally, the Chair also thanks the technical staff supporting the meeting, the hotel staff for their excellent facilities and work, and the administration of Mexico for hosting the WP 5A meeting in Merida.

# 2 Working Group 5A-2 – Systems and standards (Chairman: 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*

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]*

Working Group 5A-2 continued its work on the development of working document towards a preliminary draft revision of Report ITU‑R M.2282-0 – *Systems for public mobile communications with aircraft*.

## 2.2 Systems and standards

Working Group 5A-2 met five times at the twenty-ninth meeting of WP 5A. Working Group 5A-2 received the 35 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:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 7](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N07!MSW-E.docx) (WP 5A); [740](https://www.itu.int/md/R19-WP5A-C-0740/en) (Korea); [749](https://www.itu.int/md/R19-WP5A-C-0749/en) (China)  *Rec. RSTT Frequencies:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 8](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597!N08!MSW-E.docx) (WP 5A); [732](https://www.itu.int/md/R19-WP5A-C-0732/en) (Japan); [750](https://www.itu.int/md/R19-WP5A-C-0750/en) (China); [752](https://www.itu.int/md/R19-WP5A-C-0752/en) (France) |
| **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!N11!MSW-E.docx) (WP 5A)  *Rec. M.1801:* [597](https://www.itu.int/md/R19-WP5A-C-0597/en) [Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597!N16!MSW-E.docx) (WP 5A)  *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!N17!MSW-E.docx) (WP 5A); [654](http://www.itu.int/md/R19-WP5A-C-0654) (Canada); [675](http://www.itu.int/md/R19-WP5A-C-0675) (IEEE); [723](https://www.itu.int/md/R19-WP5A-C-0723/en) (Canada)  *Rec. M.1450:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N09!MSW-E.docx) (WP 5A); [725](https://www.itu.int/md/R19-WP5A-C-0725/en) (Canada); [727](https://www.itu.int/md/R19-WP5A-C-0727/en) (France); [743](https://www.itu.int/md/R19-WP5A-C-0743/en) (China, France)  *Q.215/5 FWA:* [5A/19](https://www.itu.int/md/R19-WP5A-C-0019/en) (Chairmen, WP 5A and WP 5C)  *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!N20!MSW-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!N21!MSW-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!N22!MSW-E.docx) (WP 5A);  *F.[IMT-FWB]:* [5A/221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 18](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221!N18!MSW-E.docx) (WP 5A); [5A/329](https://www.itu.int/md/R19-WP5A-C-0329/en) (Egypt); [5A/336](https://www.itu.int/md/R19-WP5A-C-0336/en) (UAE) |
| **2.2.3 Land mobile systems** | *PMSE/Res.59:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 12](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N12!MSW-E.docx) (WP 5A); [709](https://www.itu.int/md/R19-WP5A-C-0709/en) (WP 5C); [718](https://www.itu.int/md/R19-WP5A-C-0718/en) (WP 5D); [721](https://www.itu.int/md/R19-WP5A-C-0721/en) (WP 6A); [722](https://www.itu.int/md/R19-WP5A-C-0722/en) (WP 6A); [741](https://www.itu.int/md/R19-WP5A-C-0741/en) (Germany); [758](https://www.itu.int/md/R19-WP5A-C-0758/en) (Germany) |
| **2.2.4 Air to Ground** | *Update of Rep. ITU-R M.2282:* [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N10!MSW-E.docx) (WP 5A); [748](https://www.itu.int/md/R19-WP5A-C-0748/en) (China); [753](https://www.itu.int/md/R19-WP5A-C-0753/en) (France) |
| **2.2.5 RLAN characteristics** | *Support WG 4 with characteristics for sharing & coexistence studies* |
| **2.2.6** **[Resolution ITU-R 60](https://www.itu.int/pub/R-RES-R.60)** | [715](https://www.itu.int/md/R19-WP5A-C-0715/en) (ITU-D SG 2) |
|  |  |

Working Group 5A-2 set up two Sub-Working Groups and two draft groups to deal with RSTT, BWA, PMSE, and ATG:

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

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

– DG 5A2-1 PMSE   
Mr. Wolfgang Bilz **e-mail**: bilzw@shure.com

– DG 5A2-2 on ATG

Mr. Meng Xi **e-mail**: [mengx5@chinatelecom.cn](mailto:mengx5@chinatelecom.cn)

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

Input documents:

*Report ITU-R M.2442:* 5A/[708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 7](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N07!MSW-E.docx) (WP 5A); 5A/[740](https://www.itu.int/md/R19-WP5A-C-0740/en) (Korea); 5A/[749](https://www.itu.int/md/R19-WP5A-C-0749/en) (China)

*Recommendation RSTT Frequencies:* 5A/[708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 8](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597!N08!MSW-E.docx) (WP 5A); 5A/[732](https://www.itu.int/md/R19-WP5A-C-0732/en) (Japan); 5A/[750](https://www.itu.int/md/R19-WP5A-C-0750/en) (China); 5A/[752](https://www.itu.int/md/R19-WP5A-C-0752/en) (France)

Output documents: 5A/TEMP/310 (M.2442), 5A/TEMP/309 (M.[RSTT\_FRQ])

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

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.

### 2.2.2 Broadband Wireless Access

Input documents:

*Recommendation ITU-R M.2134:* 5A/[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!N11!MSW-E.docx) (WP 5A)

*Recommendation ITU-R M.1801:* 5A/[597](https://www.itu.int/md/R19-WP5A-C-0597/en) [Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597!N16!MSW-E.docx) (WP 5A)

*Report ITU-R M.[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!N17!MSW-E.docx) (WP 5A); 5A/[654](http://www.itu.int/md/R19-WP5A-C-0654) (Canada); 5A/[675](http://www.itu.int/md/R19-WP5A-C-0675) (IEEE);   
[723](https://www.itu.int/md/R19-WP5A-C-0723/en) (Canada)

*Recommendation ITU-R M.1450:* 5A/[708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N09!MSW-E.docx) (WP 5A); 5A/[725](https://www.itu.int/md/R19-WP5A-C-0725/en) (Canada); 5A/[727](https://www.itu.int/md/R19-WP5A-C-0727/en) (France); 5A/[743](https://www.itu.int/md/R19-WP5A-C-0743/en) (China, France)

*Q.215/5 FWA:* [5A/19](https://www.itu.int/md/R19-WP5A-C-0019/en) (Chairmen, WP 5A and WP 5C)

*Recommendation ITU-R F.1401:* 5A/[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!N20!MSW-E.docx) (WP 5A);

*Recommendation ITU-R F.1490:* 5A/[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!N21!MSW-E.docx) (WP 5A);

*Recommendation ITU-R 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!N22!MSW-E.docx) (WP 5A);

*F.[IMT-FWB]:* [5A/221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 18](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221!N18!MSW-E.docx) (WP 5A); [5A/329](https://www.itu.int/md/R19-WP5A-C-0329/en) (Egypt); [5A/336](https://www.itu.int/md/R19-WP5A-C-0336/en) (UAE)

Output document: 5A/TEMP/306(Rev.2)（M.1450）5A/TEMP/303(M.1801), 5A/TEMP/304(Rev.1)(LS to 5D)

Carried forward documents: 5A/[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!N11!MSW-E.docx) (WP 5A), 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!N17!MSW-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/[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!N20!MSW-E.docx) (WP 5A),5A/[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!N21!MSW-E.docx) (WP 5A), 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!N22!MSW-E.docx) (WP 5A).

Regarding Recommendation ITU-R M.2134,the meeting decided to carry forward the document to the next meeting and invite Members to input contributions to progress the revision work.

SWG 5A2-2 BWA meeting met 2 times according to the agendas in Docs. 5A/ADM/[170](https://www.itu.int/md/R19-WP5A-ADM-0170/en) and [185](https://www.itu.int/md/R19-WP5A-ADM-0185/en). All the contributions assigned to the SWG were presented and discussed.

The following topics were addressed:

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

*Contributions:* 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!N17!MSW-E.docx) (WP 5A); 5A/[654](http://www.itu.int/md/R19-WP5A-C-0654) (Canada); 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).

*Results:* Canada informed the meeting that Doc. 5A/[723](https://www.itu.int/md/R19-WP5A-C-0723/en) supersedes Doc. 5A/[654](http://www.itu.int/md/R19-WP5A-C-0654). Following the discussion the chairman 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.

*Carried forward documents:* 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!N17!MSW-E.docx) (WP 5A); 5A/[675](http://www.itu.int/md/R19-WP5A-C-0675) (IEEE) and 5A/[723](https://www.itu.int/md/R19-WP5A-C-0723/en) (Canada).

*Recommendation ITU-R M.1801:*

*Contributions:* 5A/[597](https://www.itu.int/md/R19-WP5A-C-0597/en) [Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597!N16!MSW-E.docx) (WP 5A).

*Results:* Since there were no new contributions on the update of Rec. ITU-R M.1801, a detailed review of [Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597!N16!MSW-E.docx) [to](https://www.itu.int/md/R19-WP5A-C-0597/en) Doc. 5A/[597](https://www.itu.int/md/R19-WP5A-C-0597/en) was undertaken by the SWG and it was cleaned up significantly, with some remaining text that needs attention highlighted in yellow in the output document. After the SWG meeting, the chairman and some delegates developed a draft liaison statement to WP 5D soliciting their assistance in updating the information on the IMT radio interfaces, for consideration in WG 5A-2.

*Output documents*: 5A/TEMP/303 (M.1801); 5A/TEMP/304 (LS to WP 5D)

*Recommendation ITU-R M.1450:*

*Contributions:* 5A/[708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N09!MSW-E.docx) (WP 5A); 5A/[725](https://www.itu.int/md/R19-WP5A-C-0725/en) (Canada); 5A/[727](https://www.itu.int/md/R19-WP5A-C-0727/en) (France); 5A/[743](https://www.itu.int/md/R19-WP5A-C-0743/en) (China, France).

*Results:* The SWG created a drafting group, chaired by Ms Patricia Paoletta (USA), to develop further the working document towards a preliminary draft revision of Recommendation ITU-R M.1450-5 by including the proposals in the input contributions. The output reflects those contributions and further edits proposed by delegates during the drafting group meeting.

*Output document*: 5A/TEMP/306R2 (M.1450)

Regarding FWA, the meeting decided not to continue carrying forward Documents [5A/19](https://www.itu.int/md/R19-WP5A-C-0019/en) (Chairmen, WP 5A and WP 5C), [5A/221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 18](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221!N18!MSW-E.docx) (WP 5A), [5A/329](https://www.itu.int/md/R19-WP5A-C-0329/en) (Egypt) and [5A/336](https://www.itu.int/md/R19-WP5A-C-0336/en) (UAE). Members are invited to contribute to *Q.215/5 FWA, Rec. ITU-R F.1401 Rec. ITU-R F.1490* and *Rec. ITU-R F.1763* at next WP 5A meeting in September 2023.

*Carried forward documents:* 5A/[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!N20!MSW-E.docx) (F.1401);5A/[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!N21!MSW-E.docx) (F.1490); 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!N22!MSW-E.docx) (F.1763)

### 2.2.3 Land mobile systems

Input documents:

*PMSE/Res.59:* 5A/[708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 12](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N12!MSW-E.docx) (WP 5A); 5A/[709](https://www.itu.int/md/R19-WP5A-C-0709/en) (WP 5C); 5A/[718](https://www.itu.int/md/R19-WP5A-C-0718/en) (WP 5D); 5A/[721](https://www.itu.int/md/R19-WP5A-C-0721/en) (WP 6A); 5A/[722](https://www.itu.int/md/R19-WP5A-C-0722/en) (WP 6A); 5A/[741](https://www.itu.int/md/R19-WP5A-C-0741/en) (Germany); 5A/[758](https://www.itu.int/md/R19-WP5A-C-0758/en) (Germany)

Output documents: 5A/[TEMP/311](https://www.itu.int/md/R19-WP5A-230509-TD-0311/en)（Report M.[AUDIO-PMSE\_LMS]）；5A/TEMP/292(Rev.1)(LS on PMSE definition)

Carried forward documents: None

Regard to PMSE/Res59, the report on PMSE was further developed based on the input contributions. A liaison statement to CCT (copy for information to WPs 5C, 5D and 6A) was developed based on feedback received from other Working Parties to inclusion of the definition of Programme Making and Special Events (PMSE) to the ITU Terms and Definitions database.

### 2.2.4 Air to Ground

Input documents:

*Update of Report ITU-R M.2282:* 5A/[708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N10!MSW-E.docx) (WP 5A); 5A/[748](https://www.itu.int/md/R19-WP5A-C-0748/en) (China); 5A/[753](https://www.itu.int/md/R19-WP5A-C-0753/en) (France)

Output documents: 5A/[TEMP/307](https://www.itu.int/md/R19-WP5A-230509-TD-0307/en) (M.2282), 5A/TEMP/308(LS to EO)

Carried forward documents: None

Regarding to Rep. ITU-R M.2282, two contributions were received from China and France. The revision work of Rep. ITU-R M.2282 was further developed based on input contribution and discussion by DG ATG. The updated working document (Doc. 5A/TEMP/307) is attached to the WP 5A Chairman’s Report. There was no consensus on sending a liaison statement to external organizations to invite input updates on the revision work of Rep. ITU-R M.2282; consequently Doc. 5A/TEMP/308 was abandoned.

### 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 Resolution ITU-R 60

Input documents: 5A/[715](https://www.itu.int/md/R19-WP5A-C-0715/en) (ITU-D SG 2)

Output documents: None.

Carried forward documents: None

Working Group 5A-2 took note of the information provided by ITU-D SG 2 on new Question 1/2 and did not see the need for further action at this point in time.

### 2.2.7 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-0491!N01!MSW-E.docx) to [Doc. [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en)](http://www.itu.int/md/R19-WP5A-C-0491) and [Guide to the use of ITU-R texts relating to the land mobile service](http://www.itu.int/oth/R0A06000001/en). There is no modification was proposed from the Working Group 2 perspective.

Regarding resolutions under the responsibility of WG 5A-2, WG 5A-2 encourages ITU members to input their updates and views in the next WP 5A meeting.

### 2.2.8 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 Report ITU‑R M.2282-0 – *Systems for public mobile communications with aircraft*.

– 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 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 operating below 6 GHz*.

– Development of working document towards a preliminary draft revision of Recommendation ITU-R M.2134-5 – *Receiver characteristics and protection criteria for systems in the mobile service in the frequency range 27.5-29.5 GHz for use in sharing and compatibility studies*.

– 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 draft new revision of Recommendation [ITU-R F.1401-1](https://www.itu.int/rec/R-REC-F.1401/en) – *Considerations for the identification of possible frequency bands for fixed wireless access and related sharing studies*

– Development of working document towards a preliminary draft revision of Recommendation [ITU-R F.1490-1](https://www.itu.int/rec/R-REC-F.1490/en) – *Generic requirements for fixed wireless access systems*

– 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.

### 2.2.9 Chairman’s closing remarks

Finally, Chairman 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 and Draft Group chairs Mr Yan Yang from China, Mr José Costa from Ericsson, Ms Patricia Paoletta from USA, Mr Wolfgang Bilz from Germany and Mr Meng Xi from China, for their good and efficient work. The WG Chairman would also like to express sincere thanks to Mr. Uwe Loewenstein and other ITU staffs for their professional support.

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

## 3.1 Executive summary

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

The objectives for this meeting were outlined in section 3.5 of [Annex 3 of Doc. 5A/708](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N03!MSW-E.docx) as:

– Further develop the working document toward the revision of Report [ITU-R M.2377-1](https://www.itu.int/pub/R-REP-M.2377), “Radiocommunication objectives and requirements for Public Protection and Disaster Relief”, based on input contributions;

– Further develop the working document toward the 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.

– Further develop the working documents toward revisions of Questions ITU-R 37-6/5 and ITU-R 209-6/5, based on input contributions, with the objective of submitting it to the meeting of Study Group 5 in September 2023. The meeting advanced work on the revision of Resolution ITU-R 55-3. There were no contributions on the other topics. The meeting agreed to remove the objective relating to the handbook until such time as contributions are received, as there had been no contributions on the topic for several meetings.

## 3.2 Organization of the work

All input contributions were introduced at the WG level. The Disaster Relief Liaison Rapporteur’s Report (Doc. [5A/760](https://www.itu.int/md/R19-WP5A-C-0760/en)) was addressed at the WP 5A Plenary. The WP 5A Chairman also tasked all WGs to consider the relevant portions of the “[Guide to the use of ITU-R texts relating to the land mobile service](http://www.itu.int/oth/R0A06000001/en)” and of section 1 of [Annex 1 of Doc. 5A/708](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N01!MSW-E.docx). The Working Group established a drafting group, chaired by Mr. Brett Kilbourne, to address the contributions related to Utilities.

## 3.3 Execution of work

*Objective 1: Further develop the working document toward a preliminary draft 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 20](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597!N20!MSW-E.docx) of [5A/597](https://www.itu.int/md/R19-WP5A-C-0597/en). WG 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 preliminary draft revision status, which was agreed at WP 5A Plenary (Doc. 5A/TEMP/287). The meeting agreed to attach the preliminary draft revision to the Chairman’s Report. Contributions are sought to finalize work the revision of Report ITU-R M.2377-1 at the next meeting.

*Objective 2: Further develop the working document toward a 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 were no input contributions to further develop [Annex 13](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N13!MSW-E.docx) of [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en). 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 from working document to preliminary draft revision status, which was agreed at WP 5A Plenary (Doc. 5A/TEMP/298). The meeting agreed to attach the preliminary draft revision to the Chairman’s Report. Contributions are sought to finalize work the revision of Resolution ITU-R 55-3 at the next meeting.

Recognizing that Resolution ITU-R 55-3 is also assigned to a number of other working parties by their study groups, WG 5A-3 developed a liaison statement (Doc. 5A/TEMP/295) to those WPs to inform them of this work.

*Objective 3: Further develop the working documents toward revisions of Questions ITU-R 37-6/5 and ITU-R 209-6/5*

There were no input contributions to further develop [Annex 4](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N04!MSW-E.docx) of [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en). 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 agreed on some additional revisions to the Questions and proposed elevation from working document to preliminary draft revision status, which was agreed at WP 5A Plenary (Doc. 5A/TEMP/297 (Q.37) and 5A/TEMP/296 (Q.209)). The meeting agreed to attach the preliminary draft revisions to the Chairman’s Report. Contributions are sought to finalize work the revision of the Questions at the next meeting.

*Report ITU-R M.[UTILITIES], Utility radiocommunication systems operating in the land mobile service.*

At the November 2022 meeting of WP 5A, it was agreed that the radiocommunications aspects of utilities would be included under the purview of WG 5A-3. Three contributions were received at this meeting to further develop [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N11!MSW-E.docx) of [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en), the working document towards a preliminary draft new Report ITU-R M.[UTILITIES], “Utility radiocommunication systems operating in the land mobile service”. The contributions, (5A/[719](https://www.itu.int/md/R19-WP5A-C-0719/en) (Ireland), 5A/[739](https://www.itu.int/md/R19-WP5A-C-0739/en) (Korea), 5A/[757](https://www.itu.int/md/R19-WP5A-C-0757/en) (UTCAL)), were considered in the Drafting Group (DG) under Mr. Kilbourne. The DG incorporated material from the inputs and undertook a review of the open issues in the document. When the revised working document, Doc. 5A/TEMP/299 was considered at the WG, additional open issues were resolved. The WG then considered the possible elevation of the working document, which was not agreed. The meeting agreed to attach the working document to the Chairman’s Report. Contributions are sought to further develop the document at the next meeting.

*Report ITU-R M.2415, Spectrum needs for Public Protection and Disaster Relief (PPDR)*

A contribution was received at this meeting proposing revisions to Report ITU-R M.2415-0, “Spectrum needs for Public Protection and Disaster Relief (PPDR)”. WG 5A-3 incorporated material from the input (5A/[751](https://www.itu.int/md/R19-WP5A-C-0751en) (France)) and created a working document towards a preliminary draft revision of the Report (Doc. 5A/TEMP/288). The meeting agreed to attach the working document to the Chairman’s Report. Contributions are sought to further develop the document at the next meeting.

*Liaisons*

WP 5A received a liaison from ITU-D Study Group (SG) 1 on Question 3/1 (Q3/1), “The use of telecommunications/ICTs for disaster risk reduction and management”. Q3/1 appreciated the past collaboration with WP 5A, supported the suppression of the Compendium, and invited continued cooperation on topics of mutual interest. WG 5A-3 noted the liaison and will look for future opportunities to work with Q 3/1 on common interests.

## 3.4 Administrative matters

Working Group 5A-3 followed the WP 5A Chairman’s instructions to consider the relevant portions of the “[Guide to the use of ITU-R texts relating to the land mobile service](http://www.itu.int/oth/R0A06000001/en)” and of section 1 of [Annex 1 of Doc. 5A/708](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N01!MSW-E.docx). The meeting did not identify any further revisions required.

## 3.5 Future work

With regard to work on mission critical applications at the next meeting of Working Party 5A, the objectives for Working Group 5A-3 will 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 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.

## 3.6 Conclusion

All parties are encouraged to contribute to the next meeting of Working Party 5A, particularly to advance work on the objectives outlined above.

The WG 5A-3 Chairman would like to express sincere thanks to Brett Kilbourne for his leadership of the Utilities Drafting Group, and to all the participants of Working Group 5A-3 for their contributions to the work at this meeting.

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

## 4.1 Executive Summary

Working Group (WG) 5A-4 slightly updated the working document towards a revision of Report ITU-R M.2116, developed a reply liaison statement to the CCT related to the revision of Recommendation ITU-R V.431-8, developed a reply liaison statement to Working Party (WP) 3M on P-series Recommendations above 100 GHz, developed a reply liaison statement to WP 1A related to future revisions of Report ITU-R SM.2352 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 four times during the May 2023 meeting of Working Party 5A and considered 12 input and carried-forward documents and developed 4 output documents.

## 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/154(Rev.1)](https://www.itu.int/md/R19-WP5A-ADM-0154/en).

## 4.3.1 Non-Beam Wireless Power Transmission (WPT)

Input document: [5A/711](https://www.itu.int/md/R19-WP5A-C-0711/en) (WP 5C)

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

**4.3.2 Vocabulary**

Input documents: [5A/710](https://www.itu.int/md/R19-WP5A-C-0710/en) (ATDI); [5A/712](https://www.itu.int/md/R19-WP5A-C-0712/en) (WP 5C); [5A/763](https://www.itu.int/md/R19-WP5A-C-0763/en) (CCT)

Output document: 5A/TEMP/293(Rev.1)

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

Regarding the request from the CCT for further comments/suggestions related to the proposed revision of Recommendation ITU-R V.431-8, WG 5A-4 prepared a reply liaison statement to reiterate previous comments and to provide a reference to Report ITU-R M.2417.

### 4.3.3 Revision of Report ITU-R M.2116

Input documents: [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en) Annex 15 (WP 5A); [5A/728](https://www.itu.int/md/R19-WP5A-C-0728/en) (France)

Output document: 5A/TEMP/284(Rev.2)

Working Group 5A-4 discussed how to best progress the revision of Report ITU-R M.2116 and slightly updated the working document to better clarify the Editor’s Notes.

Related to the RLAN characteristics for sharing studies and the idea to possibly capture some of those in Report ITU-R M.2116 instead of Recommendation ITU-R M.1450, which had been already discussed at the previous WP 5A meeting but not yet agreed, France provided the following views:

*During Working Party (WP) 5A of November 2022, some suggested that some of the parameter and deployment information, proposed for the revision of Recommendation ITU‑R M.1450, could be better placed in the revision of Report ITU-R M.2116.*

*France is of the view to maintain the RLAN characteristics in Recommendation ITU-R M.1450 which is the main reference for RLAN characteristics as its scope indicates.*

*Scope of Recommendation ITU-R M.1450: “This Recommendation provides the characteristics of broadband radio local area networks (RLANs) including technical parameters, and information on RLAN standards and operational characteristics. Basic characteristics of broadband RLANs and general guidance for their system design are also addressed”. However, the Report ITU-R M.2116 is generic and relates to the characteristics of BWA systems operating in the land mobile services.*

It was pointed out during the discussion 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.

It was further mentioned during the discussion that WP 5A had developed a number of RLAN sharing parameters for the 5 GHz range during the previous study cycle under WRC-19 agenda item 1.16, which are included in a preliminary draft new Report ITU-R M.[RLAN REQ-PAR] (see [Document 5A/1065 (Annex 9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N09!MSW-E)) from the 2015-2019 study cycle). This document was not further developed after WRC-19 and could also be taking into account as relevant RLAN sharing parameters for the revision of Report ITU-R M.2116.

Related to the IMT-2020 characteristics for sharing studies, it was clarified during the discussion that whilst WP 5A had received these parameters from WP 5D in two liaison statements, those input documents could not be used as references in a published ITU-R Report. Therefore, an ITU-R Report including these IMT-2020 sharing parameters would need to be developed by WP 5D in order for WP 5A to be able to reference those parameters in the same way as was done for the IMT‑2000 and IMT-Advanced parameters in Report ITU-R M.2116. A liaison statement to WP 5D was discussed but not further pursued with the view that WP 5D might take up the development of such an ITU-R Report if they so wish.

### 4.3.4 Passive microwave sensor measurements in the 6 GHz band related to RR No. 5.458

Input documents: [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)

Working Group 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 Chairman’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](https://www.itu.int/md/R19-WP5A-C-0529/en) and [5A/676](https://www.itu.int/md/R19-WP5A-C-0676/en) are carried forward to the next WP 5A meeting for further consideration.

### 4.3.5 WRC-19 agenda item 1.3

Input document: [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en) Annex 14 (WP 5A)

Working Group 5A-4 reiterated the decision from the previous WP 5A meeting to retain this sharing and compatibility study document as a Working Document and not to elevate it to a PDN Report. It is expected that no further work will take place on this document. However, it was also noted that WP 5A is contribution-driven and, if inputs related to this working document would be received at the next WP 5A meeting, WG 5A-4 would of course consider those. The working document will be carried forward by reference to the next meeting.

### 4.3.6 Resolution 731 (Rev.WRC-19)

Input documents: [5A/597](https://www.itu.int/md/R19-WP5A-C-0597/en) Annex 24 (WP 5A); [5A/607](https://www.itu.int/md/R19-WP5A-C-0607/en) (WP 3M); [5A/613](https://www.itu.int/md/R19-WP5A-C-0613/en) (WP 1A); [5A/713(Rev.1)](https://www.itu.int/md/R19-WP5A-C-0713/en) (WP 5C); [5A/717](https://www.itu.int/md/R19-WP5A-C-0717/en) (ETSI); [5A/736](https://www.itu.int/md/R19-WP5A-C-0736/en) (Russian Federation)

Output documents: 5A/TEMP/285(Rev.1) (LS to WP 3M); 5A/TEMP/286(Rev.1) (LS to WP 1A)

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

Related to the request from WP 3M about possible P-series Recommendations to be extended above 100 GHz (Document [5A/607](https://www.itu.int/md/R19-WP5A-C-0607/en)), a reply liaison statement was developed to provide the WP 5A views to WP 3M.

Related to the request from WP 1A about information related to future revisions of Report ITU-R SM.2352 (Document [5A/613](https://www.itu.int/md/R19-WP5A-C-0613/en)), a reply liaison statement was developed to provide the WP 5A views to WP 1A.

The Working Document “Assessment of mitigation techniques and specific conditions to be applied to the land mobile service applications in the frequency bands 296-306 GHz, 313‑318 GHz and 333-356 GHz, to ensure the protection of earth exploration-satellite service (passive) applications in accordance with RR No. **5.564A**” (Document [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!N24!MSW-E.docx)) was not modified and is carried forward by reference to the next WP 5A meeting for further work.

## 4.4 Revision of WP 5A texts

Working Group 5A-4 did not have any comments on section 1 of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597!N01!MSW-E.docx) to Document [5A/597](https://www.itu.int/md/R19-WP5A-C-0597/en) and 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](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N01!MSW-E.docx) to Document [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en) directly to the WP 5A Chairman.

Furthermore, delegates were encouraged to consider the proposed amendments to the Questions assigned to WP 5A as contained in [Annex 4](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N04!MSW-E.docx) to Document [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en) but no comments were raised during the WG 5A-4 sessions.

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

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)

WRC-23 AI 1.3: [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 14](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N14!MSW-E.docx) (WP 5A)

Res. 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!N24!MSW-E.docx) (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 4.3.3 and 4.3.4 above).

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

## 4.7 Conclusion

The Chairman 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 (Chairman: Mr Hitoshi Yoshino, Japan)

Working Group 5A-5 (WG 5A-5) met three times during the 29th meeting of ITU-R WP 5A from 9th to 18th November 2023. The tasks assigned to WG 5A-5 address new technologies.

Working Group 5A-5 considered twelve input contributions and developed five 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)***):***  [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N16!MSW-E.docx) (WP 5A); [*733*](https://www.itu.int/md/R19-WP5A-C-0733/en) *(Japan)*; [737](https://www.itu.int/md/R19-WP5A-C-0737/en) (USA);  [738](https://www.itu.int/md/R19-WP5A-C-0738/en) (Korea); [742](https://www.itu.int/md/R19-WP5A-C-0742/en) (Germany); [745](https://www.itu.int/md/R19-WP5A-C-0745/en) (China); [746](https://www.itu.int/md/R19-WP5A-C-0746/en) (China);  [747](https://www.itu.int/md/R19-WP5A-C-0747/en) (China) | 5A/TEMP/314R1  Attached to the WP 5A chairman’s report |
| ***P.D.N.Question M.[FUTURE-ITS-CAV]:***  [691](http://www.itu.int/md/R19-WP5A-C-0691) *(Germany);* [*708 Annex 4, Attachment 2*](https://www.itu.int/md/R19-WP5A-C-0708/en) *(WP 5A);* [734](https://www.itu.int/md/R19-WP5A-C-0734/en) (Japan) | 5A/TEMP/315R1  Attached to the WP 5A chairman’s report |
| ***Rec. M.2121:***  [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N17!MSW-E.docx) (WP 5A); [726](https://www.itu.int/md/R19-WP5A-C-0726/en) Att.1 (Canada) | 5A/TEMP/290R1 |
| ***Rep. M.2444:***  [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 18](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N18!MSW-E.docx) (WP 5A); [726](https://www.itu.int/md/R19-WP5A-C-0726/en) Att.2 (Canada) | 5A/TEMP/289R1 |
| [**Q.256/5**](https://www.itu.int/pub/R-QUE-SG05.256)**: >275 GHz** | ***Spectrum needs:***  [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!N27!MSW-E.docx) (WP 5A) | [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!N27!MSW-E.docx) (WP 5A) to be carried forward |
| **M2M** | ***Rep. M.2479:***  [708](https://www.itu.int/md/R19-WP5A-C-0708/en) [Annex 19](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0708!N19!MSW-E.docx) (WP 5A) | 5A/TEMP/291 |

Working Group 5A-5 established two Drafting Groups (DGs) to facilitate its work:

|  |  |
| --- | --- |
| Drafting Group: Chairperson | Terms of Reference |
| **DG-CAV (**DG 5A-5-1):  Mr Jeffrey Bellone (USA);  E-mail: Jeffrey.Bellone@dot.gov | – Develop Working Document towards a preliminary draft new Report ITU-R M.[CAV] on Connected Automated Vehicles (CAV) and consider its upgrade to PDNR;  – Review and update the workplan of PDN Rep. ITU-R M.[CAV];  – Develop working Document towards a preliminary draft new Question [FUTURE-ITS-CAV] on studies related to ITS, CAV and future topics;  – Develop work plan, if needed. |
| **DG-ITS** (DG 5A-5-2):  Mr Tom Schaffnit (USA);  E-mail: [Tom.Schaffnit@dot.gov](mailto:Tom.Schaffnit@dot.gov) | – Develop Preliminary draft Revision of Recommendation ITU-R M.2121-0 on harmonization of frequency bands for Intelligent Transport Systems in the mobile service;  – Consider its upgrade to DNR;  – Develop Preliminary draft Revision of Report ITU-R M.2444-0 on examples of arrangements for Intelligent Transport System;  – Consider its upgrade to DNR |

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

DG-CAV (DG 5A-5-1) and DG-ITS (DG 5A-5-2) met eight times and once respectively, during the 29th meeting of WP 5A.

## 5.1 Executive summary

Working Group 5A-5 completed its work of the revision of Recommendation ITU-R M.2121-0 on harmonization of frequency bands for Intelligent Transport Systems in the mobile service and agreed to elevate its status to draft Revision,

Working Group 5A-5 completed its work of the revision of Report ITU-R M.2444-0 on examples of arrangements for Intelligent Transport System and agreed to elevate its status to draft Revision,

Working Group 5A-5 completed its work of the revision of Report ITU-R M.2479-0 on the use of land mobile systems, excluding IMT, for machine-type communications,

Working Group 5A-5 continued to develop a working document towards a preliminary draft new Report ITU-R M.[CAV] on Connected Automated Vehicles (CAV), and agreed to elevate its status to draft new Question,

Working Group 5A-5 continued to develop a working document towards a preliminary draft new Question [FUTURE-ITS-CAV] on studies related to ITS, CAV and future topics, and elevated its status to preliminary draft Report.

## 5.2 Intelligent transport system (ITS)

Working Group 5A-5 also considered an input contribution and further developed preliminary draft Revision of Recommendation ITU-R M.2121-0 on harmonization of frequency bands for Intelligent Transport Systems in the mobile service. WG 5A-5 agreed to upgrade the status of the document from preliminary draft Revision of Recommendation ITU-R M.2121-0 to draft Revision. (Document 5A/TEMP/290R1).

Working Group 5A-5 considered four an input contribution and further developed preliminary draft Revision of Report ITU-R M.2444-0 on examples of arrangements for Intelligent Transport System. WG 5A-5 agreed to upgrade its status to draft Revision of Report ITU-R M.2444-0 (Document 5A/TEMP/289R1).

Working Group 5A-5 considered eight input contributions and further developed Working Document towards a preliminary draft new Report ITU-R M.[CAV] on Connected Automated Vehicles (CAV) (Document 5A/TEMP/314R1). WG 5A-5 agreed to upgrade its status from working document to preliminary draft new Report. WG 5A-5 reviewed its workplan for the development of a draft new report ITU-R M.[CAV] and agreed to endorse it ([Attachment 1](#att1)). WG 5A-5 will finalize the document at the next WP 5A meeting in September 2023.

Working Group 5A-5 considered two input contributions, together with Doc. [5A/708](https://www.itu.int/md/R19-WP5A-C-0708/en) (Attachment 2 to Annex 4), on a working document toward a preliminary draft new Question on ITS, CAV and future topics, which will supersede the current ITU-R Questions 205-6/5 and 261/5. The meeting further developed a working document towards a preliminary draft new Question [FUTURE-ITS-CAV] (Document 5A/TEMP/315R1). The meeting recognizes that the “decide” part of the current document needs more elaboration and invites further input contributions for the future ITS topic, to the next WP 5A meeting in September 2023. The meeting agreed to upgrade its status to Preliminary Draft New Question. WG 5A-5 will finalize the document at the next WP 5A meeting in September 2023.

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

There was no input contribution for the development of working document towards a preliminary draft new Report ITU-R M.[LMS.SPEC.NEED.ABOVE.275 GHZ]. WG 5A-5 agreed to carried forward Document 5A/[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!N27!MSW-E.docx) (WP 5A) to the next WP 5A meeting in September 2023, keeping its status as a working document. WG 5A-5 also reviewed and updated its work plan.

At the 28th meeting of WP 5A in November, 2022, WG 5A-5 received a liaison statements from WP 1A (Document 5A/[613](https://www.itu.int/md/R19-WP5A-C-0613/en) (WP 1A)) which inform us that WP 1A has recently completed work on a draft revision of Report ITU-R SM.2352-0, *Technology trends of active services in the frequency range 275-3 000 GHz*. WG 5A-5 noted it at that time. In this meeting, WG 5A-5 considered a possible reply liaison statement to WP 1A, together with WG 5A-4. WG 5A-5 agreed that WG 5A‑5 has no comments from a technical point of view at this time and informed WG 5A‑4 that WG 5A‑5 has no elements to be included in the reply liaison statement to WP 1A.

## 5.4 Machine-to-Machine (M2M) communications

Working Group 5A-5 reviewed a preliminary draft revision of Report ITU-R M.2479-0 on the use of land mobile systems, excluding IMT, for machine-type communications. The meeting agreed to upgrade its status from preliminary draft revision to draft revision (Document 5A/TEMP/291).

## 5.5 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-0708!N01!MSW-E.docx) to [Doc. 5A/708](http://www.itu.int/md/R19-WP5A-C-0708), together with [Document 5A/708](http://www.itu.int/md/R19-WP5A-C-0708) (Attach. 8 to Annex 3), which has a table of Recommendations and Reports proposed for deletion. WG 5A-5 reviewed the list and agreed to propose their suppression to WP 5A plenary ([Attachment 4](#att4)). Regarding the Resolutions ITU-R 58-2 and ITU-R 66-1, there was no views to change them. WG 5A-5 reviewed Attachment 7 to Annex 3 of Doc.5A/708 on Questions assigned to WG 5A-5. The meeting has no further comment at this time and agreed to keep the Attachment.

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). There are no suggestions to modify it at this time.

## 5.6 Future work

Working Group 5A-5 continues its work on the development of a preliminary draft new Report ITU-R M.[CAV] on Connected Automated Vehicles (CAV).

Working Group 5A-5 continues to develop a preliminary draft new Question [FUTURE-ITS-CAV].

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].

## 5.7 Acknowledgement

Finally, WG 5A-5 Chairman would like to thank Drafting Group Chairpersons Mr Jeffrey Bellone (USA) and Mr Tom Schaffnit (USA) for their excellent chairmanship and all participants for their contribution to work of the group.

**Attachments**: 4

[Attachment 1](#att1): Work plan for the development of a draft new Report ITU-R M.[CAV] – “Connected Automated Vehicles”.

[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] – “Operational aspects of land mobile service applications in the frequency above 275 GHz.”

[Attachment 3](#att3): Questions assigned to Working Group 5A-5.

[Attachment 4](#att4): Proposed deletion of Recommendations and Reports in force under the purview of WG 5A-5 with approval dates prior to 2000.

Attachment 1 to Annex 3

Workplan for the development of a draft   
new Report ITU-R M.[CAV]

Connected Automated Vehicles

|  |  |
| --- | --- |
| **Title** | Work plan for the development of a new Report ITU-R M.[CAV] on the Connected Automated Vehicles |
| **Document type** | Report |
| **WP 5A Lead Group** | WG 5A-5 New Technologies |
| **Drafting Group Chairperson** | Mr. Jeffrey Bellone; E-mail: Jeffrey.Bellone@dot.gov |
| **Focus for scope and work** | This report addresses overall objectives and radiocommunication requirements for CAVs. |
| **Related Documents** | Recommendation 208 (WRC-19), Question ITU-R 261/5, Recommendation ITU-R M.2121,  Report ITU-R M.2444 and ITU-R M.2445, ITS Handbook |
| **Milestones** | **23rd meeting (July 2020)- virtual meeting**  – Develop and adopt work plan  – Liaise as needed with concerned and interested organizations on development of the PDN Report  – Carry forward the framework of working document toward a PDN Report.  **24th meeting (November 2020) - virtual meeting**  – Develop working document toward a PDN Report  – Liaise as needed with concerned and interested organizations on development of the PDN Report  – Update work plan as needed.  **25th meeting (May 2021) – virtual meeting**  – Continue developing working document toward a PDN Report  – Liaise as needed with concerned and interested organizations on development of the PDN Report  – Update work plan as needed.  **26th meeting (November 2021)**  – Continue developing working document toward a PDN Report  – Liaise as needed with concerned and interested organizations on development of the PDN Report  – Update work plan as needed.  **27th meeting (May 2022)**  – Continue developing the working document towards PDN Report  – Liaise as needed with concerned and interested organizations on development of the working document towards PDN Report  – Call for contributions in the WP5A chairman report  – Review and update the work plan. |
| **28th meeting (November 2022)**  – Review the received input contributions and consolidate them into the relevant sections of the draft document  – Continue developing and stabilizing the working document towards a PDN Report  – Review and update the work plan.  **29th meeting (May 2023)**  – Review the received input contributions and consolidate them into the relevant sections of the draft document  – Continue developing and stabilizing the working document towards a PDN Report  – Consider elevation of the document to PDNR  – Review and update the work plan.  **30th meeting (September 2023)**  – Final review of the document  – Consider elevation of the document from PDNR to DNR  – Finalize Report and submit to WP 5A for adoption and to SG 5 for approval. |

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]

Operational aspects of 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** | Operational aspects of land-mobile service applications in the frequency above 275 GHz |
| **Document type** | Report |
| **WP 5A Lead Group** | WG 5A-5 New Technologies |
| **WG Chairman** | Mr. Hitoshi Yoshino; **E-mail**: hitoshi.yoshino@g.softbank.co.jp |
| **Editor** | [t.b.d.] **E-mail**: [xxxxxxx] |
| **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 PND Report ITU-R M.[LMS.SPEC.NEED.ABOVE.275GHz] and consider its elevation to PDNR  **31st meeting (May 2024)**   * Finalize the PDN Report ITU-R M.[LMS.SPEC.NEED. ABOVE.275GHZ] and, consider its elevation to draft new Report for submission to SG 5   – Liaise as needed with concerned and interested organizations. |

Attachment 3 to Annex 3

Questions assigned to Working Group 5A-5

| Question No. | Title | Category | Appr. Year | Last-Cont | Target-year | WG 5A-- | Comment | WG 5A-5 proposal |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [205-6/5](http://www.itu.int/pub/R-QUE-SG05.205) | Intelligent transport systems | S2 | 2019 | 2022 | 2027 | 5 | *Note 2* | **MOD** |
| [241-4/5](http://www.itu.int/pub/R-QUE-SG05.241) | Cognitive radio systems in the mobile service | S2 | 2019 | 2019 | 2027 | 5 | *Also assigned to WP 5D*. | **MOD** |
| [250-1/5](http://www.itu.int/pub/R-QUE-SG05.250) | Mobile wireless access systems providing telecommunications for a large number of ubiquitous sensors and/or actuators scattered over wide areas as well as machine to machine communications in the land mobile service | S2 | 2012 | 2019 | 2027 | 5 | *Note 1* | **MOD** |
| [256-1/5](http://www.itu.int/pub/R-QUE-SG05.256) | Technical and operational characteristics of the land mobile service in the frequency range 275-1 000 GHz | S2 | 2019 | 2022 | 2027 | 5 |  | **MOD** |
| [261/5](http://www.itu.int/pub/R-QUE-SG05.261) | Radiocommunication requirements for connected automated vehicles (CAV) | S2 | 2019 | 2022 | 2027 | 5 | *Note 2* | **MOD** |
| Note 1: Editorially updated by SG 5 in September 2019.  Note 2: The substance of these Questions is being considered for incorporation into a new Question for next study cycle. Therefore, possible suppression of these Question is envisaged later. | | | | | | | |  |

Categories used to identify the priority and urgency of Questions (*Source:* [*Resolution ITU-R 5-8*](https://www.itu.int/pub/R-RES-R.5-8-2019)):

C: Conference-oriented Questions associated with work related to specific preparations for, and decisions of, world and regional radiocommunication conferences:

C1: very urgent and priority studies, required for the next World Radiocommunication Conference;

C2: urgent studies, expected to be required for other radiocommunication conferences;

S: Questions which are intended to respond to:

– matters referred to the Radiocommunication Assembly by the Plenipotentiary Conference, any other conference, the Council or the Radio Regulations Board;

– advances in radiocommunication technology or spectrum management;

– changes in radio usage or operation:

S1: urgent studies which are intended to be completed within two years;

S2: important studies, necessary for the development of radiocommunications;

S3: required studies, expected to facilitate the development of radiocommunications;

Attachment 4 to Annex 3

Proposed deletion of Recommendation and Reports in force under the purview of WG 5A-5 with approval dates prior to 2000

Working Group 5A-5 agreed to propose the deletion of the following five Recommendation and/or Reports:

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

A Amateur services

1 Cellular systems

2 Cordless telecommunication systems

3 Intelligent transport systems (ITS)

4 Interference

5 Vocabulary

6 Paging systems

7 Public protection and disaster relief (PPDR)

8 Private systems

9 Spectrum sharing

10 Technology

11 Trunked systems

12 Wireless access, including RLANs

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

| Type | Series | Number | Rev | Title | Comments by WG 5A-5 | Approved | WP | WG | Topic |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Rec. | M. | [1075](http://www.itu.int/rec/R-REC-M.1075/en) | 0 | Leaky feeder systems in the land mobile services | *Proposed deletion at the 29th meeting of WP 5A* | 16 Nov 93 | 5A | 5 | 10 |
| Rep. | M. | [319](http://www.itu.int/publ/R-REP-M.319) | 7 | Characteristics of equipment and principles governing the assignment of frequency channels between 25 and 1 000 MHz for land mobile services | *Proposed deletion at the 29th meeting of WP 5A* | 31 Dec 90 | 5A | 5 | 10 |
| Rep. | M. | [902](http://www.itu.int/publ/R-REP-M.902) | 1 | Leaky-feeder systems in the land mobile service | *Proposed deletion at the 29th meeting of WP 5A* | 31 Dec 90 | 5A | 5 | 10 |
| Rep. | M. | [904](http://www.itu.int/publ/R-REP-M.904) | 2 | Automatic determination of location and guidance in the land mobile service | *Proposed deletion at the 29th meeting of WP 5A deletion* | 31 Dec 90 | 5A | 5 | 3, 7, 11 |
| Rep. | M. | [1021](http://www.itu.int/publ/R-REP-M.1021) | 0 | Equipment characteristics for digital transmission in the land mobile services | *Proposed deletion at the 29th meeting of WP 5A* | 31 Dec 86 | 5A | 5 | 10 |

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