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| **Radiocommunication Study Groups** |  |
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|  |  |
| Source: Documents 5A/TEMP/ 213, 222, 231, 240, 243, 244; *Attachments:* 5A/TEMP/207R1, 208R1, 235 | **Annex 3 to  Document 5A/597-E** |
| **10 June 2022** |
| **English only** |
| Annex 3 to Working Party 5A Chairman’s Report | |
| consolidation of reports from the working groups of working party 5a | |
|  | |

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(Chairman: Mr Lang Baozhen, China)

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6 [Ad Hoc Working Group 5A/5C – WRC-23 Topic 9.1c](#s6)  
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**Attachments**: 7

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

[Attachment 2](#att2): Work plan for working document towards a preliminary draft new Report ITU-R M.[UTILITIES] on utility radiocommunication systems.

[Attachment 3](#att3): Work plan for working document towards a preliminary draft new Report ITU-R M.[AUDIO-PMSE\_LMS]

[Attachment 4](#att4): Work plan for the development of draft revisions of Recommendation ITU-R M.2121 and Report ITU‑R M.2444 on Intelligent Transport Systems.

[Attachment 5](#att5): Work plan for the development of a draft new Report ITU-R M.[CAV] – “Connected Automated Vehicles”.

[Attachment 6](#att6): 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 7](#att7): Work plan for the development of a working document towards a draft revision of Report ITU-R M.2479-0 – “The use of land mobile systems, excluding IMT, for machine-type communications.

NOTE 1 – Throughout this Annex reference is made to the temporary documents (5A/TEMP/…) produced by the Working Groups. Since these documents are not kept, please refer to [Annex 26](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0597!N26!MSW-E) to [Doc. 5A/597](http://www.itu.int/md/R19-WP5A-C-0597/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 26 documents carried forward to the 28th WP5A meeting

|  |  |
| --- | --- |
| **Working Party 5A (1 document)** | |
| **General** | [5A/541](https://www.itu.int/md/R19-WP5A-C-0541/en) (Canada) |

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| --- | --- |
| **Working Group 2: Systems and standards (2 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) (WP5A); |
| **Air to Ground – Rep. M.2282** | 5A/359 [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0359!N17!MSW-E.docx) (WP5A) |

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| **Working Group 4: Interference and sharing (3 document)** | |
| **Rep. ITU-R M.2116** | 5A/359 Annex 19 (WP5A) |
| **EESS(passive) in the 6 GHz range** | 5A/529 (WP7C); 5A/555 (France) |

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| --- | --- |
| **Working Group 5: New Technologies (5 documents)** | |
| **Rec. ITU-R M.2121** | 5A/359 [Annex 25](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0359!N25!MSW-E.docx) (WP5A) |
| **Rep. ITU-R M.2444** | [5A/491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 24](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N24!MSW-E.docx) (WP5A) |
| **Rep. ITU-R M.2479** | [5A/491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 25](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N25!MSW-E.docx) (WP5A) |
| **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) (WP5A) |
| **Rep. ITU-R M.1307** | [5A/571](https://www.itu.int/md/R19-WP5A-C-0571/en) (Japan) |

|  |
| --- |
| **Ad Hoc WG5A/5C: Topic 9.1c) (15 documents)** |
| [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) (WP5A); [5A/271](https://www.itu.int/md/R19-WP5A-C-0271/en) (USA); [5A/307](https://www.itu.int/md/R19-WP5A-C-0307/en) (China), [5A/321](https://www.itu.int/md/R19-WP5A-C-0321/en) (UK/CEPT PTA);  [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), [5A/418](https://www.itu.int/md/R19-WP5A-C-0418/en) (UK/CEPT PT A); [5A/431](https://www.itu.int/md/R19-WP5A-C-0431/en) (USA); [5A/445](https://www.itu.int/md/R19-WP5A-C-0445/en) (IAFI);  [5A/458](https://www.itu.int/md/R19-WP5A-C-0458/en) (South Africa); [5A/469](https://www.itu.int/md/R19-WP5A-C-0469/en) (Egypt); [5A/472](https://www.itu.int/md/R19-WP5A-C-0472/en) (Russian Federation); [5A/478](https://www.itu.int/md/R19-WP5A-C-0478/en) (Saudi Arabia, UAE); [5A/521](https://www.itu.int/md/R19-WP5A-C-0521/en) (USA), [5A/582](https://www.itu.int/md/R19-WP5A-C-0582/en) (UAE). |

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](https://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0359!N03!MSW-E) to Doc. [5A/359](http://www.itu.int/md/R15-WP5A-C-0359/en))

– Proposed draft workplan for revision of Recommendation ITU-R M.1450-5 (Attachment 3 to [Annex 3](https://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0359!N03!MSW-E) to Doc. [5A/359](http://www.itu.int/md/R15-WP5A-C-0359/en)).

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

## 1.1 Summary of work undertaken by WG5A-1 during the May 2022 meeting of WP5A

During the May 2022 hybrid meeting of WP5A, WG5A-1 met fourteen times and undertook the following work:

– Reviewed fifteen new input contributions.

– Completed work on draft CPM text covering WRC-23 agenda item 9.1, topic b).

– Produced one liaison statement covering work on WRC-23 agenda item 9.1, topic b).

– Reviewed the draft work plan for activities covering WRC-23 agenda item 9.1, topic b).

– Produced one liaison statement covering aspects of WRC-23 agenda item 1.12.

– Continued work on working document towards a preliminary draft new Recommendation ITU-R M.[AS.GUIDANCE].

– Continued work on a preliminary draft new Report ITU-R M.[AMATEUR CHARACTERISTICS].

– Completed work on the revision of Recommendation ITU-R M.1732.

## 1.2 Documents and details of work

WG5A-1 was assigned the following input contributions:

|  |  |
| --- | --- |
| **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) | [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 6](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N06!MSW-E.docx) (WP5A); [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 7](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N07!MSW-E.docx) (WP5A); [522](https://www.itu.int/md/R19-WP5A-C-0522/en) (France, Germany); [538](https://www.itu.int/md/R19-WP5A-C-0538/en) (Canada); [543](https://www.itu.int/md/R19-WP5A-C-0543/en) (Russian Federation); [544](https://www.itu.int/md/R19-WP5A-C-0544/en) (France); [556](https://www.itu.int/md/R19-WP5A-C-0556/en) (WP4C); [557](https://www.itu.int/md/R19-WP5A-C-0557/en) (IARU)  *Characteristics:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N10!MSW-E.docx) (WP5A); [539](https://www.itu.int/md/R19-WP5A-C-0539/en) (Canada)  *Proposed new Rec. M.[AS GUIDANCE]:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N11!MSW-E.docx) (WP5A); [545](https://www.itu.int/md/R19-WP5A-C-0545/en) (France);  [577](https://www.itu.int/md/R19-WP5A-C-0577/en) (Germany) |
| **Sharing studies** | *Rec. ITU-R M.1732:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 12](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N12!MSW-E.docx) (WP5A); [586](https://www.itu.int/md/R19-WP5A-C-0586/en) (IARU) |

Concerning WRC-23 agenda item 9.1 b); elements of input contributions [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 6](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N06!MSW-E.docx) (WP5A), [522](https://www.itu.int/md/R19-WP5A-C-0522/en) (France, Germany), [538](https://www.itu.int/md/R19-WP5A-C-0538/en) (Canada), [543](https://www.itu.int/md/R19-WP5A-C-0543/en) (Russian Federation), [556](https://www.itu.int/md/R19-WP5A-C-0556/en) (WP4C) and [557](https://www.itu.int/md/R19-WP5A-C-0557/en) (IARU) were incorporated into Draft CPM text for presentation to WP5A for approval as Document 5A/TEMP/198(Rev.1).

Documents [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N10!MSW-E.docx) (WP5A) and [539](https://www.itu.int/md/R19-WP5A-C-0539/en) (Canada) were incorporated into preliminary draft new Report ITU-R M.[AMATEUR CHARACTERISTICS] for further work at the next WP5A meeting. The document going forward is Doc. 5A/TEMP/218.

Documents [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N11!MSW-E.docx) (WP5A), [545](https://www.itu.int/md/R19-WP5A-C-0545/en) (France), [577](https://www.itu.int/md/R19-WP5A-C-0577/en) (Germany) and parts of [543](https://www.itu.int/md/R19-WP5A-C-0543/en) (Russian Federation) were incorporated into working document towards a preliminary draft new Recommendation ITU-R M.[AS.GUIDANCE] for further work at the next WP5A meeting. The document going forward is Document 5A/TEMP/214.

The WG5A-1 work plan for WRC-23 agenda item 9.1, topic b), was revised and will go forward as 5A/TEMP/217R1. A progress report of work towards WRC-23 agenda item 9.1, topic b), incorporating elements of Document [5A/544](https://www.itu.int/md/R19-WP5A-C-0544/en) (France), was drafted and will be sent to WP4C as Document 5A/TEMP/219R1.

A liaison statement to WP7C in response to Document [5A/530](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R19-WP5A-C-0530) covering work on WRC-23 agenda item 1.12 was drafted. The WP5A response to WP7C included comments from WG5A-1 and WG5A-4; see Document 5A/TEMP/232, which includes 5A/TEMP/202R1.

Revisions to [Report ITU-R M.1732](https://www.itu.int/rec/R-REC-M.1732/en) – *Characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies* were completed. The final revisions incorporated Document [5A/586](https://www.itu.int/md/R19-WP5A-C-0586/en) (IARU) into Document [5A/491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 12](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N12!MSW-E.docx) (WP5A) and the document has been submitted to WP5A for approval as Doc. 5A/TEMP/220R1.

## 1.3 Offline Drafting Group

To facilitate progress on the working document towards a preliminary draft new Recommendation ITU-R M.[AS GUIDANCE] an offline email drafting group was established in accordance with the [guidance provided by WP5A](https://extranet.itu.int/rsg-meetings/sg5/wp5a/Share/Offline%20Email%20Discussions/5A%265C%20draft%20working%20methods%20for%20offline%20email%20discussion.docx?d=w9d7da9213b07403ca9f4525b68c38d54).

## 1.4 Output documents from WG5A-1

| Topic | WP5A action | Temp document |
| --- | --- | --- |
| WRC-23 AI 9.1b) draft CPM text | Approve  Attach to WP5A Chairman’ Report (Annex 6) | 5A/TEMP/198R1 |
| WRC-23 AI 9.1b) – Preliminary draft new Report ITU-R M.[AMATEUR.CHARACTERISTRICS] | Attach to WP5A Chairman’ Report (Annex 10) | 5A/TEMP/218R1 |
| WRC-23 AI 9.1b) – Working document towards a preliminary draft new Recommendation ITU-R M.[AS GUIDANCE] | Attach to WP5A Chairman’ Report (Annex 11) | 5A/TEMP/214 |
| Revised WRC-23 AI 9.1b work plan | Attach to WP5A Chairman’ Report (Annex 7) | 5A/TEMP/217R1 |
| Liaison statement to WP4C re AI 9.1b) – Progress on work | Approve | 5A/TEMP/219R1 |
| Liaison statement to WP7C re AI 1.12 | Approve | 5A/TEMP/232 |
| Revisions to Rec. [ITU-R M.1732](https://www.itu.int/rec/R-REC-M.1732/en) | Approve | 5A/TEMP/220R1 |
| WG5A-1 Chairman’s Report | Attach to WP5A Chairman’ Report | 5A/TEMP/231 |

## 1.5 Objectives for the next meeting of Working Group 5A-1

– Based on contributions, continue work on WRC-23 agenda item 9.1, topic b), Report and Recommendation.

– Complete the draft revision of Recommendation ITU-R M.1732 “Characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies” following non-approval at the 27th meeting WP5A.

– Update WG5A-1 work plan as required.

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

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

The WG5A-1 Chairman thanks: Mr Martin Bisig (SUI) for convening the offline group, Mr Jon Siverling (USA) for acting as substitute WG5A-1 Chair, Ms Alicia Soto Romero for her assistance during the meeting and the other ITU staff who supported the meeting. The Chair also thanks the many participants in all the WG5A-1 meetings for their input contributions, thoughtful discussion and general willingness to achieve consensus on many issues. The Chairman even managed to re-learn some correct English grammar.

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

## 2.1 Executive summary

WG5A-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*.

WG5A-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)*.

WG5A-2 continued its work on the development of working document towards a preliminary draft new Report ITU-R M.[UCS] – *Utility communication systems*.

WG5A-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*.

WG5A-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 operating below 6 GHz.*

WG5A-2 initiated the 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*

WG5A-2 initiated 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 nine times at the twenty-seventh meeting of WP5A. Working Group 5A‑2 received the 34 documents assigned by the WP5A Plenary as follows:

|  |  |
| --- | --- |
|  | **Document 5A/…** |
| **2.2.1 Railways  (incl.** [Res. **240 (WRC-19)**](https://www.itu.int/oth/R0A060000A0/en)**)** | *Rep. ITU-R M.2442:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 13](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N13!MSW-E.docx) (WP5A); [537](https://www.itu.int/md/R19-WP5A-C-0537/en) (Korea)  *Rec. ITU-R RSTT Frequencies:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 14](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N14!MSW-E.docx) (WP5A); [513](https://www.itu.int/md/R19-WP5A-C-0513/en) (APT); [551](https://www.itu.int/md/R19-WP5A-C-0551/en) (China) |
| **2.2.2 Broadband Wireless Access** | *Rec. ITU-R 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) (WP5A)  *Rec. ITU-R M.1801:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N16!MSW-E.docx) (WP5A); [540](https://www.itu.int/md/R19-WP5A-C-0540/en) (Canada); [547](https://www.itu.int/md/R19-WP5A-C-0547/en) (IEEE); [576](https://www.itu.int/md/R19-WP5A-C-0576/en) (XGP Forum)  *Rec. ITU-R M.1450:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 15](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N15!MSW-E.docx) (WP5A); [526](https://www.itu.int/md/R19-WP5A-C-0526/en) (ETSI); [535](https://www.itu.int/md/R19-WP5A-C-0535/en) (Korea); [546](https://www.itu.int/md/R19-WP5A-C-0546/en) (IEEE); [548](https://www.itu.int/md/R19-WP5A-C-0548/en) (China); [568](https://www.itu.int/md/R19-WP5A-C-0568/en) (Japan) |
| **2.2.3 Land mobile systems** | *Utilities:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N17!MSW-E.docx) (WP5A); [501](https://www.itu.int/md/R19-WP5A-C-0501/en) (ITU-T SG15); [509](https://www.itu.int/md/R19-WP5A-C-0509/en) (WP5D);  [534](https://www.itu.int/md/R19-WP5A-C-0534/en) (Ireland)  *Testbeds:* [497R1](https://www.itu.int/md/R19-WP5A-C-0497/en) (ITU-T SG11); [518](https://www.itu.int/md/R19-WP5A-C-0518/en) (FG-TBFXG)  *Artificial Intelligence:* [498](https://www.itu.int/md/R19-WP5A-C-0498/en) (ITU-T SG13)  *PSME/Res.59:* [485](https://www.itu.int/md/R19-WP5A-C-0485/en) (WP6A); [495](https://www.itu.int/md/R19-WP5A-C-0495/en) (WP5C); [510](https://www.itu.int/md/R19-WP5A-C-0510/en) (WP5D); [512](https://www.itu.int/md/R19-WP5A-C-0512/en) (WP6A); [581](https://www.itu.int/md/R19-WP5A-C-0581/en) (Germany) |
| **2.2.4 Air to Ground** | *Update of Rep. ITU-R M.2282:* [359](https://www.itu.int/md/R19-WP5A-C-0359/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0359!N17!MSW-E.docx) (WP5A); [580](https://www.itu.int/md/R19-WP5A-C-0580/en) (Germany) |
| **2.2.5 RLAN characteristics** | *Support WG4 with characteristics for sharing & coexistence studies* |
| **2.2.6 ANT, HNT** | [500](https://www.itu.int/md/R19-WP5A-C-0500/en) (ITU-T SG9); [502](https://www.itu.int/md/R19-WP5A-C-0502/en) (ITU-T SG15); [504](https://www.itu.int/md/R19-WP5A-C-0504/en) (ITU-T SG9);  [505](https://www.itu.int/md/R19-WP5A-C-0505/en) (ITU-T SG15) |

Working Group 5A-2 set up 4 draft groups and offline e-mail discussion group to deal with RSTT, M.1801/ M.1450, Utilities and Res.59:

– DG RSTT  
Mr. Yan Yang **e-mail**: [yyang@bjtu.edu.cn](mailto:yyang@bjtu.edu.cn)

– M.1801/M.1450 (offline e-mail discussion group)   
Convener: Mr. Jose COSTA **e-mail**:[jose.costa@ericsson.com](mailto:jose.costa@ericsson.com)

– DG Utilities   
Mr. Brett Kilbourne **e-mail**:[brett.kilbourne@utc.org](mailto:brett.kilbourne@utc.org)

– DG Res.59  
Mr. Wolfgang Bilz **e-mail**: bilzw@shure.com

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

Input documents:

*Report ITU-R M.2442:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 13](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N13!MSW-E.docx) (WP5A); [537](https://www.itu.int/md/R19-WP5A-C-0537/en) (Korea)

*Recommendation ITU-R RSTT Frequencies:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 14](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N14!MSW-E.docx) (WP5A); [513](https://www.itu.int/md/R19-WP5A-C-0513/en) (APT); [551](https://www.itu.int/md/R19-WP5A-C-0551/en) (China)

Output documents: 5A/TEMP/205 (M.2442), 206(Rev.1) (FRQ), 208Rev1 (workplan), 209(Rev.1) (LS to all Regions), 210(Rev.1) (LS to AWG)

Carry forward document: None

DG RSTT had three meeting sessions during this WP5A meeting. An off-line discussion group for RSTT was established by the decision of WG5A-2 prior to the DG meetings.

The DG RSTT was working on the following issues:

Issue 1: Progress working documents of Recs RSTT FRQ and ITU-R M.2442-0

Issue 2: Update work plan for RSTT.

Issue 3: liaison statements to Regional Organization and AWG

There are five TEMP documents submitted for discussion at the WG level. Two working documents and one workplan would be attached to the WP5A Chairman's Report except two liaison documents.

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 discussion on work plan, the work plan has been updated. The working document towards workplan on RSTT is in [Attachment 1](#att1) to this annex.

Two liaison statements were fully discussed and agreed in off-line discussion group and formal sessions for DG RSTT and were submitted to the WP5A plenary meeting for approval.

### 2.2.2 Broadband Wireless Access

Input documents:

*Recommendation ITU-R 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) (WP5A)

*Recommendation ITU-R M.1801:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N16!MSW-E.docx) (WP5A); [540](https://www.itu.int/md/R19-WP5A-C-0540/en) (Canada); [547](https://www.itu.int/md/R19-WP5A-C-0547/en) (IEEE); [576](https://www.itu.int/md/R19-WP5A-C-0576/en) (XGP Forum)

*Recommendation ITU-R M.1450:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 15](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N15!MSW-E.docx) (WP5A); [526](https://www.itu.int/md/R19-WP5A-C-0526/en) (ETSI); [535](https://www.itu.int/md/R19-WP5A-C-0535/en) (Korea); [546](https://www.itu.int/md/R19-WP5A-C-0546/en) (IEEE); [548](https://www.itu.int/md/R19-WP5A-C-0548/en) (China); [568](https://www.itu.int/md/R19-WP5A-C-0568/en) (Japan)

Output document: 5A/[TEMP/238](https://www.itu.int/md/R19-WP5A-210428-TD-0134/en) (WD on M.1801); [236](https://www.itu.int/md/R19-WP5A-210428-TD-0135/en) (WD on M.1450); [237](https://www.itu.int/md/R19-WP5A-210428-TD-0136/en) (WAS.FRQ)

Carry forward documents: 221 Annex 11 (WP5A)

An offline DG M.1450-M.1801 email activity was held from Friday, 27.05.2022 (6:00 hours) to Tuesday, 31.05.2022 (6:00 hours) convened by José Costa (Canada).

*Scope of the offline activity:* Address how to handle the frequencies included in Table 2 of M.1450 and produce draft TEMP documents for the progression of the working documents to be attached to the WP5A chairman’s report.

*Participants:* 42 delegates participated representing 11 member states and 8 sector members.

*Input contributions (presented in WG5A-2):*

*Rec. ITU-R M.1450:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 15](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N15!MSW-E.docx) (WP5A); [526](https://www.itu.int/md/R19-WP5A-C-0526/en) (ETSI); [535](https://www.itu.int/md/R19-WP5A-C-0535/en) (Korea); [546](https://www.itu.int/md/R19-WP5A-C-0546/en) (IEEE); [548](https://www.itu.int/md/R19-WP5A-C-0548/en) (China); [568](https://www.itu.int/md/R19-WP5A-C-0568/en) (Japan)

*Rec. ITU-R M.1801:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N16!MSW-E.docx) (WP5A); [540](https://www.itu.int/md/R19-WP5A-C-0540/en) (Canada); [547](https://www.itu.int/md/R19-WP5A-C-0547/en) (IEEE); [576](https://www.itu.int/md/R19-WP5A-C-0576/en) (XGP Forum)

*Compilation of input contributions (kindly prepared by Ms. Dorothy Stanley, IEEE) – Filenames:*

2022-05-24-M1450-Compilation of contribution comments.docx

2022-05-24-M1801-Compilation of contribution comments.docx

*Offline email activity contributions (8):* USA (x2), IEEE, China, Brazil, Saudi Arabia, Canada, and Intel.

The offline email activity documents are available in the WP5A share folder [here](https://extranet.itu.int/rsg-meetings/sg5/wp5a/Share/Forms/Column%20view.aspx?RootFolder=%2Frsg%2Dmeetings%2Fsg5%2Fwp5a%2FShare%2F5A2%2DSystems%20and%20Standards&FolderCTID=0x012000FB880722B4622243913B1114C70648D5&View=%7B627C3C95%2DCC37%2D49E0%2D8D8A%2D33AC93C6F497%7D).

Results of the discussion:

*M.1801:* No objections to any of the proposals in the input contributions. Therefore, the compilation document on M.1801 should be annexed to the WP5A chairman’s report, as well as the proposed companion working document in Doc. 5A/540 towards a draft new ITU-R Report.

*M.1450:* The discussion focused in 3 areas: 1) wording of the ‘recommends’ 2) the inclusion of frequencies in the tables of characteristics of broadband RLAN standards, and 3) the table of “Frequency ranges and use conditions for RLAN at regional and national level”. The compilation document on M.1450 should be annexed to the WP5A chairman’s report for further work and contributions are invited to resolve the outstanding issues:

1) *Wording of the recommends of M.1450:* There is opposition to the use of the proposed wording “can be referred to” instead of “should be used” and no consensus could be achieved. Examples of the wording in Recommendations ITU-R M.1036 and M.2071 were given; however, these Recommendations deal with the use of the frequency spectrum. The ITU-R Recommendations on standards (including, inter alia, F.1763, M.1073, M.1450, M.1801, M.2012, and M.2150) use the wording “should be used”.

2) *The inclusion of frequencies in the tables of characteristics of broadband RLAN standards:* there is no consensus yet on how to maintain information on the frequencies where the standards can operate. It is understood that the Recommendation is to recommend standards, not frequencies. For some participants frequencies are an important characteristic associated with the standards. Other participants propose to remove the frequencies from Table 2.

3) *The table of “Frequency ranges and use conditions for RLAN at regional and national level”:* there is no objection to the inclusion of this information in the Recommendation and several member states indicated they will contribute their information at the November 2022 meeting of WP5A.

Although it was not discussed in the offline activity, in line with the format of ITU-R Recommendations, the information in Annex 3 of the compilation document should be referred to in the ‘recognizing’ (for Table 3 “Frequency ranges and use conditions for RLAN in Radio Regulation”) and in the ‘noting’ (for Table 4 “Frequency ranges and use conditions for RLAN at regional and national level”). Otherwise, recommending the articles of the Radio Regulations would be in derogation of the Radio Regulations.

### 2.2.3 Land mobile systems

Input documents:

*Utilities:* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N17!MSW-E.docx) (WP5A); [501](https://www.itu.int/md/R19-WP5A-C-0501/en) (ITU-T SG15); [509](https://www.itu.int/md/R19-WP5A-C-0509/en) (WP5D); [534](https://www.itu.int/md/R19-WP5A-C-0534/en) (Ireland)

*Testbeds:* [497R1](https://www.itu.int/md/R19-WP5A-C-0497/en) (ITU-T SG11); [518](https://www.itu.int/md/R19-WP5A-C-0518/en) (FG-TBFXG)

*Artificial Intelligence:* [498](https://www.itu.int/md/R19-WP5A-C-0498/en) (ITU-T SG13)

*PSME/Res.59:* [485](https://www.itu.int/md/R19-WP5A-C-0485/en) (WP6A); [495](https://www.itu.int/md/R19-WP5A-C-0495/en) (WP5C); [510](https://www.itu.int/md/R19-WP5A-C-0510/en) (WP5D); [512](https://www.itu.int/md/R19-WP5A-C-0512/en) (WP6A); [581](https://www.itu.int/md/R19-WP5A-C-0581/en) (Germany)

Output documents: TEMP/239 (Report on Utilities); 233(Rev.1) (LS- 5D on Utilities);

207Rev.1 (Work plan on Utilities); 204(Rev.1) (LS-5C on Res.59);

234Rev.1(WD on AUDIO-PMSE\_LMS); 235 (Workplan on AUDIO-PMSE\_LMS)

Carry forward documents: None

Regard to Utilities, one contribution and two liaison statements were received. The contribution and the two LSs were consolidated into a temp document which is Document 5A/TEMP/239. A reply liaison was developed to inform WP5D on the progress of utilities. The work plan was reviewed and updated ([Attachment 2](#att2)).

WG5A-2 took note of the information provided by ITU-T SG11 and FG-TBFXG on testbeds and did not see the need for further action at this point in time.

WG5A-2 took note of the information provided by ITU-T SG13 on Artificial Intelligence and did not see the need for further action at this point in time.

Regard to PSME/Res59, a reply liaison statement to WP5C and a new report on PSME were developed based on the input contribution. A work plan was developed accordingly ([Attachment 3](#att3)).

### 2.2.4 Air to Ground

Input documents:

*Update of Report ITU-R M.2282:* [359](https://www.itu.int/md/R19-WP5A-C-0359/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0359!N17!MSW-E.docx) (WP5A); [580](https://www.itu.int/md/R19-WP5A-C-0580/en) (Germany)

Output documents: None

Carry forward document: [359](https://www.itu.int/md/R19-WP5A-C-0359/en) [Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0359!N17!MSW-E.docx) (WP5A)

Regarding to Report ITU-R M.2282, one contribution was received from Germany proposing to elevate the document to PDNR. However, no consensus was reached. Administrations are encouraged to input their update information in the future WP5A meetings to facilitate the revision work of Report ITU-R M.2282, especially for Region 2 and Region 3.

### 2.2.5 RLAN characteristics

Input documents: None

Output documents: None

Carry forward document: None

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

### 2.2.6 ANTs, HNTs. etc.

Input documents:

[500](https://www.itu.int/md/R19-WP5A-C-0500/en) (ITU-T SG9); [502](https://www.itu.int/md/R19-WP5A-C-0502/en) (ITU-T SG15); [504](https://www.itu.int/md/R19-WP5A-C-0504/en) (ITU-T SG9); [505](https://www.itu.int/md/R19-WP5A-C-0505/en) (ITU-T SG15)

Output documents: None.

Carry forward document: None

WG5A-2 took note of the information provided by ITU-T SG9 and ITU-T SG15 on ANTs and HNTs 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 WP5A 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 [Document 5A/491](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). A minor modification was proposed from the Working Group 2 perspective.

### 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 new Report ITU-R M.[Utilities] – *Utility communication systems*.

– 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*

– 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 WG5A-2 for their contributions and cooperation and particularly thank the Draft Groups chairmen Mr Yan Yang from China, Mr Brett Kilbourne from UTC, Mr Jose Costa from Ericsson and Mr Wolfgang Bilz from Germany, 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.

**Attachments**:

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

[Attachment 2](#att2): Work plan for working document towards a preliminary draft new Report ITU-R M.[UTILITIES] on utility radiocommunication systems.

[Attachment 3](#att3): Work plan for working document towards a preliminary draft new Report ITU-R M.[AUDIO-PMSE\_LMS]

# 3 Working Group 5A-3 – Public protection and disaster relief (Chairman: Ms Amy Sanders, USA)

## 3.1 Executive summary

Working Group 5A-3 met two times at the May-June 2022 meeting of Working Party 5A. WG5A-3 considered two input contribution and two annexes to the Chairman’s Report as assigned by the WP5A Plenary.

The objectives for this meeting were outlined in (Section 3.5 of [Annex 3 of Doc. 5A/491](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N03!MSW-E.docx)) as:

– Further develop the editorial, or more substantive, revisions to Report ITU-R M.2377-1, based on input contributions;

– Develop the scope and structure of a possible handbook on emergency communications under the land mobile service, based on input contributions;

– Further develop the working document toward a revision of Resolution ITU-R 55-3, based on input contributions.

The meeting advanced work on the revisions of Report ITU-R 2377-1 and Resolution ITU-R 55-3. Contributions are sought on these revisions as well as on the possible development of a handbook with best practices or guidelines for emergency communications.

## 3.2 Organization of the work

All input contributions were introduced at the Working Group (WG) level. The Disaster Relief Liaison Rapporteur’s Report (Doc. [5A/585](https://www.itu.int/md/R19-WP5A-C-0585/en)) was addressed at the WP5A Plenary. The WP5A 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 Document 5A/491](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N01!MSW-E.docx). WG5A-3 decided to handle these items at the working group level.

## 3.3 Execution of work

*Objective 1: Further develop editorial, or more substantive, revisions to Report ITU-R M.2377-1, Radiocommunication objectives and requirements for Public Protection and Disaster Relief*

At a previous meeting, WP5A initiated the revision of Report ITU-R M.2377-1 based on input contributions. At this meeting, a further contribution (Doc. [5A/559](https://www.itu.int/md/R19-WP5A-C-0559/en)) was received to advance the work, and WG5A-3 revised the working document (5A/TEMP/197). Contributions are sought to further advance the work at the next meeting.

*Objective 2: possible development of a new document on emergency communications under the land mobile service*

WG5A-3 had agreed to consider developing a new document on emergency telecommunications under the land mobile service. One idea was to possibly develop a handbook on emergency radiocommunications to address the mandate in Resolution ITU-R 55-3 that “the relevant ITU‑R Study Groups continue studies on new emerging technologies which could support disaster prediction, detection, mitigation and relief”.

The exact nature of the handbook is still under consideration. Both ‘best practices’ and ‘guidelines’ were suggested as possible content. Contributions were sought to this meeting; but none were received. Recognizing that much attention is currently focused on WRC-23-related topics, WG5A‑3 reiterated its request for contributions to the next meeting to clarify the scope and structure of the handbook, as this would facilitate later contributions on content.

*Objective 3: Further develop the working document toward a revision of Resolution ITU-R 55-3, ITU-R studies of disaster prediction, detection, mitigation and relief, based on input contributions.*

Recognizing that Resolution ITU-R 55-3 is assigned to WG5A-3, the meeting continued to develop possible revisions to the resolution with the clear understanding that any revision of the Resolution would only be agreed at a Radiocommunications Assembly. Based on the input contribution received (Doc. [5A/558](https://www.itu.int/md/R19-WP5A-C-0558/en)), the meeting further developed the working document toward a revision of the Resolution (5A/TEMP/196). Additional inputs are sought to improve the text in future meetings.

## 3.4 Administrative matters

The meeting sought an update on the request WP5A sent from the previous meeting to the Inter‑Sector Coordination Task Force (ISC-TF), which asked the ISC-TF to take appropriate action to suppress the [Compendium of ITU’s work on Emergency Telecommunications](https://www.itu.int/net/ITU-R/terrestrial/res647/docs/Compendium.pdf).

WG5A-3 followed the WP5A 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 Document 5A/359](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0359!N01!MSW-E.docx). Editorial suggestions were provided to the WP5A Chairman.

## 3.5 Future work

With regard to work on public protection and disaster relief at the next meeting of WP5A, the objectives for WG5A-3 will be to:

– Further develop the working document toward the revision of Report ITU-R M.2377-1, 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;

– Develop the scope and structure of a possible handbook on emergency communications under 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 WG5A-3 Chairman would like to express sincere thanks all the participants of Working Group 5A-3 for their contributions to the work at this meeting and to Ms Alicia Soto Romero and the other ITU staff who supported the meeting.

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

## 4.1 Executive Summary

WG5A-4 completed the draft CPM text on WRC-23 agenda item 1.3, updated the working document towards a PDN Report ITU-R M.[252-296 GHZ.LMS.FS.COEXIST] and elevated it the 1st step to a PDN Report, developed a reply liaison statement to WP7C to inform them about the ongoing work to develop WAS/RLAN parameters for the 6 GHz range, updated the working document towards a preliminary draft new Report ITU-R M.[LMS.CONDITIONS>275GHz] and developed reply liaison statements to WPs 4A, 7B and 7C on WRC-23 agenda items 1.12, 1.13, 1.14, 1.15, 1.16, 1.17 and 1.19.

## 4.2 Introduction

Working Group 5A-4 met seven times during the May 2022 meeting of Working Party 5A, considered 45 input and carried-forward documents and developed 14 output documents.

## 4.3 Consideration of input documents

The following issues were considered based on input contributions as assigned to WG5A-4 by the WP5A opening plenary based on Document 5A/ADM/70(Rev.1).

It was pointed out during the discussion on various of the topics below, that it is important to have the contact person for liaison statements attending the meeting sessions where those documents are discussed.

### 4.3.1 Report of the 17th meeting of the joint IMO/ITU Experts Group

Input document: [5A/492](https://www.itu.int/md/R19-WP5A-C-0492/en) (IMO)

WG5A-4 took note of the information provided by IMO and will take it into account in the further work of WP5A as needed.

### 4.3.2 Revision of Recommendation ITU-R F.699

Input document: [5A/494](https://www.itu.int/md/R19-WP5A-C-0494/en) (WP5C)

WG5A-4 took note of the information provided by WP5C and did not see a need for further action at this point in time.

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

Input document: [5A/359](https://www.itu.int/md/R19-WP5A-C-0359/en) Annex 19 (WP5A)

In the absence of input contributions to further develop the revision, WG5A-4 agreed to carry forward the working document of the revision to the next meeting for further work and encouraged input contributions to progress the revision, in particular regarding WAS/RLAN parameters for the 6 GHz range (see section 4.3.8 below).

### 4.3.4 Range 252-296 GHz

Input documents: [5A/487](https://www.itu.int/md/R19-WP5A-C-0487/en) (WP5C); [5A/491](https://www.itu.int/md/R19-WP5A-C-0491/en) Annex 21 (WP5A); [5A/573](https://www.itu.int/md/R19-WP5A-C-0573/en) (Japan)

Output document: 5A/TEMP/200 (PDN Report)

WG5A-4 updated the working document based on the input contributions and also agreed to elevate the document the 1st step to a PDN Report since the work has been going on for a number of meetings already and the document has reached a mature state. It will be further considered at the next WP5A meeting in November 2022 where it will be considered whether the document can be completed and submitted to Study Group 5.

### 4.3.5 Beam Wireless Power Transmission (WPT)

Input documents: [5A/371](https://www.itu.int/md/R19-WP5A-C-0371/en) (WP 1A); [5A/524](https://www.itu.int/md/R19-WP5A-C-0524/en) (WP 7D)

WG5A-4 took note of the information provided by WP 1A and WP 7D and did not have any comments on the issue at this point in time.

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

Input documents: [5A/483](https://www.itu.int/md/R19-WP5A-C-0483/en) (WP 1A); [5A/532](https://www.itu.int/md/R19-WP5A-C-0532/en) (WP 7A)

WG5A-4 took note of the information provided by WP 1A and WP 7A and did not have any comments on the issue at this point in time.

### 4.3.7 Vocabulary

Input documents: [5A/515](https://www.itu.int/md/R19-WP5A-C-0515/en) (ATDI); [5A/523](https://www.itu.int/md/R19-WP5A-C-0523/en) (WP 7D)

WG5A-4 took note of the information provided by WP7D in document 5A/523 and did not have any comments on the issue at this point in time.

Related to Document 5A/515, WG5A-4 discussed the proposal to add “THF” as a symbol for the 300-3 000 GHz range in the Radio Regulations and to revise Recommendation ITU-R V.341 accordingly. A view was expressed during the discussion that the fact that this symbol was not yet included in the RR was affecting ITU-R work and that WP5A should consider this issue, also related to ongoing work in WP5A regarding this frequency range. Another view was expressed that this issue should first be addressed in the CCV (to which Doc. 5A/515 was also submitted) and, based on discussion at the CCV meeting, further action could be taken as required by WP5A as a next step. It was also pointed out that WP5A had already developed Report ITU-R M.2417 (and has completed a revision at this meeting for submission to SG5), which also addresses this frequency range, and the lack of the “THF” symbol in the RR had not been an issue when preparing this Report. WP5A will revisit this issue as needed at the next WP5A meeting in November 2022 based on discussions of this proposal at the CCV meeting.

### 4.3.8 EESS (passive) in the 6 GHz range related to RR No. 5.458

Input documents: [5A/496](https://www.itu.int/md/R19-WP5A-C-0496/en) (WP5C); [5A/529](https://www.itu.int/md/R19-WP5A-C-0529/en) (WP 7C); [5A/533](https://www.itu.int/md/R19-WP5A-C-0533/en) (WP 7A); [5A/555](https://www.itu.int/md/R19-WP5A-C-0555/en) (France)

Output document: 5A/TEMP/212 (LS to WP 7C)

WG5A-4 took note of the information provided by WP5C and WP7A in Documents 5A/496 and 5A/533 respectively and did not see a need for further action at this point in time.

WG5A-4 considered the request from WP7C in Document 5A/529 to review the WAS/RLAN parameters used in the study submitted to WP7C as well as the proposal from France in Document [5A/555](https://www.itu.int/md/R19-WP5A-C-0555/en) to revise these parameters. Some concerns were expressed on these parameters, but due to lack of time, it was not possible to further discuss them in detail at this meeting and it was agreed to carry forward both documents to the next meeting for further consideration.

It was also agreed that WP5A would further work on these parameters at the November 2022 meeting and that they would be included in the revision of Report ITU-R M.2116 once agreed. Input contributions on this topic are encouraged to the next WP5A meeting in order to be able to progress the development of the appropriate WAS/RLAN parameters for the 6 GHz range for use in sharing and compatibility studies. It was also agreed to prepare a short reply liaison statement to WP7C to inform them that this work is now in progress in WP5A.

WG5A-4 also considered a proposal to prepare a compilation document containing the various elements that have been received so far on WAS/RLAN parameters for the 6 GHz range, but not yet discussed. Whilst this compilation was prepared in Document 5A/TEMP/203 for consideration of the group, it was agreed to not further pursue this document at this time given that no discussion had taken place and concerns had been expressed about the content of the document. This TEMP document was therefore disbanded and is not submitted to the WP5A closing plenary.

### 4.3.9 WRC-19 agenda item 1.3

Input documents: [5A/491](https://www.itu.int/md/R19-WP5A-C-0491/en) Annex 4 (WP5A); 5A/491 Annex 5 (WP5A); 5A/491 Annex 20 (WP5A); [5A/553](https://www.itu.int/md/R19-WP5A-C-0553/en) (China); [5A/554](https://www.itu.int/md/R19-WP5A-C-0554/en) (China); [5A/560](https://www.itu.int/md/R19-WP5A-C-0560/en) (GSMA); [5A/561](https://www.itu.int/md/R19-WP5A-C-0561/en) (UK); [5A/562](https://www.itu.int/md/R19-WP5A-C-0562/en) (Ericsson); [5A/564](https://www.itu.int/md/R19-WP5A-C-0564/en) (Nigeria, South Africa, Zimbabwe); [5A/565](https://www.itu.int/md/R19-WP5A-C-0565/en) (Nigeria, South Africa, Zimbabwe); [5A/566](https://www.itu.int/md/R19-WP5A-C-0566/en) (GSMA); [5A/574](https://www.itu.int/md/R19-WP5A-C-0574/en) (Nokia); [5A/575](https://www.itu.int/md/R19-WP5A-C-0575/en) (Egypt, UAE); [5A/583](https://www.itu.int/md/R19-WP5A-C-0583/en) (Burkina Faso et al.); [5A/584](https://www.itu.int/md/R19-WP5A-C-0584/en) (Burkina Faso et al.)

Output documents: 5A/TEMP/242 (draft CPM text); 5A/TEMP/223 (Working doc); 5A/TEMP/241 (Report of activities)

WG5A-4 continued this work in a SWG led by Mr César GUTIÉRREZ. The SWG discussed all input contributions, updated the working document for the sharing and compatibility studies and finalized the draft CPM text. The workplan was also converted to a report of the activities.

Discussions on this topic were again difficult and sometimes polarized during this meeting, as had already been seen at previous meetings. Nevertheless, thanks to the cooperation of all delegates, and facilitated by the in-person meeting, it was possible to resolve all open issues and to complete the draft CPM text according to schedule and that was to a large extent due to the leadership of the SWG Chair Mr GUTIÉRREZ and WG5A-4 thanked him with a big round of applause.

### 4.3.10 WRC-23 agenda item 1.4

Input documents: [5A/506](https://www.itu.int/md/R19-WP5A-C-0506/en) (CG3J-3K-3M-14); [5A/508](https://www.itu.int/md/R19-WP5A-C-0508/en) (WP5D); [5A/511](https://www.itu.int/md/R19-WP5A-C-0511/en) (WP 6A)

WG5A-4 took note of the information provided by CG3J-3K-3M-14, WP5D and WP 6A and did not see the need for further action at this point in time.

### 4.3.11 WRC-23 agenda item 1.12

Input document: [5A/530R1](https://www.itu.int/md/R19-WP5A-C-0530/en) (WP 7C)

Output document: 5A/TEMP/202 (Text for LS to WP 7C)

WG5A-4 considered the information provided by WP7C related to their work on WRC-23 agenda item 1.12 and developed text to reflect the WG5A-4 views to be incorporated into the reply LS to WP 7C developed by WG5A-1.

### 4.3.12 WRC-23 agenda item 1.13

Input documents: [5A/517](https://www.itu.int/md/R19-WP5A-C-0517/en) (WP5B); [525](https://www.itu.int/md/R19-WP5A-C-0525/en) (WP 7D); [563](https://www.itu.int/md/R19-WP5A-C-0563/en) (France)

Output document: 5A/TEMP/211 (LS to WP 7B)

WG5A-4 took note of the information provided by WP5B and did not see the need for further action at this point in time.

Based on the proposed reply LS from France (Document 5A/563), WG5A-4 prepared a response to WP 7B, also taking into account discussions in WP5C on this issue.

### 4.3.13 WRC-23 agenda item 1.14

Input document: [5A/528](https://www.itu.int/md/R19-WP5A-C-0528/en) (WP 7C)

Output document: 5A/TEMP/216 (LS to WP 7C)

WG5A-4 took note of the information provided by WP7C and developed a reply LS to provide comments as requested.

During the discussion of the reply LS text, it was suggested that WP 7C might want to update the table in the Attachment of the LS to add some further relevant RR footnotes that seem to be missing from the table currently.

### 4.3.14 WRC-23 agenda item 1.15

Input document: [5A/590](https://www.itu.int/md/R19-WP5A-C-0590/en) (WP 4A)

Output document: 5A/TEMP/229 (LS to WP 4A)

WG5A-4 took note of the information provided by WP4A and developed a reply LS to provide comments as requested.

### 4.3.15 WRC-23 agenda item 1.16

Input document: [5A/591](https://www.itu.int/md/R19-WP5A-C-0591/en) (WP 4A)

Output document: 5A/TEMP/226 (LS to WP 4A)

WG5A-4 took note of the information provided by WP 4A and developed a reply LS to provide comments as requested.

### 4.3.16 WRC-23 agenda item 1.17

Input document: [5A/592](https://www.itu.int/md/R19-WP5A-C-0592/en) (WP 4A)

Output document: 5A/TEMP/227 (LS to WP 4A)

WG5A-4 took note of the information provided by WP 4A and developed a reply LS to explain that WP5A did not have time to review the information and had to comments at this time.

### 4.3.17 WRC-23 agenda item 1.19

Input document: [5A/589](https://www.itu.int/md/R19-WP5A-C-0589/en) (WP 4A)

Output document: 5A/TEMP/228 (LS to WP 4A)

WG5A-4 took note of the information provided by WP 4A and developed a reply LS to explain that WP5A did not have time to review the information and had to comments at this time.

### 4.3.18 WRC-23 agenda item 9.1 topic a)

Input document: [5A/527](https://www.itu.int/md/R19-WP5A-C-0527/en) (WP 7C)

Output document: 5A/TEMP/215 (LS to WP 7C)

WG5A-4 took note of the information provided by WP 7C and developed draft text for a possible reply LS. However, no agreement could be reached on whether to comment on *resolves* 2 of Resolution **657** **(Rev.WRC-19)** in the draft LS and an objection was received against the retention of such text in the draft LS. During the discussion, a view was expressed that WP5A should comment on this point, however, another view was expressed that this point should be discussed directly at WP 7C and CPM23-2. As a result, it was not possible to agree the draft reply LS and it was decided to discontinue the TEMP document and not forward it to the WP5A Closing Plenary.

*Statement from Canada and the United States of America*

*During the WP5A discussions regarding a reply to WP 7C’s liaison statement (see Doc. 5A/527) on the progress of WRC-23 agenda item 9.1 Topic A), Canada and the United States raised a number of issues and concerns regarding the progress and approach being taken by WP7C to satisfy Topic A. In particular, the fact that sharing studies with incumbent systems, including the mobile service, operating in frequency bands to be used by space weather sensors, in accordance with resolves 2 of Resolution* ***657 (Rev.WRC-19)****, are not planned to be performed by WP 7C in time for WRC-23. In view of these Administrations, this approach introduces a considerable risk to concerned incumbent services. As such, the approach currently being taken by WP 7C in the draft CPM text requires reconsideration to ensure that no additional constraints are placed on concerned incumbent services. However, a draft liaison response to WP 7C to elaborate these issue and concerns was not agreed by WP5A.*

### 4.3.19 WRC-23 agenda item 9.1 topic d)

Input document: [5A/531](https://www.itu.int/md/R19-WP5A-C-0531/en) (WP 7C)

WG5A-4 took note of the information provided by WP 7C and did not see the need for further action at this point in time.

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

Input documents: [5A/343](https://www.itu.int/md/R19-WP5A-C-0343/en) (WP 7C); [5A/388](https://www.itu.int/md/R19-WP5A-C-0388/en) (WPs 3J, 3K and 3M); [5A/406](https://www.itu.int/md/R19-WP5A-C-0406/en) (WP 7D);   
[5A/491](https://www.itu.int/md/R19-WP5A-C-0491/en) Annex 22 (WP5A); [5A/493](https://www.itu.int/md/R19-WP5A-C-0493/en) (WP5C); [5A/542](https://www.itu.int/md/R19-WP5A-C-0542/en) (Russian Federation)

Output document: 5A/TEMP/199 (Working doc.)

WG5A-4 took note of the information provided by WP 7C, WPs 3J, 3K and 3M, WP 7D and WP5C in Documents 5A/343, 5A/388, 5A/406 and 5A/493 respectively, and did not see the need for further action at this point in time.

WG5A-4 updated the working document based on input contribution 5A/542 and will further work on this topic at the next meeting in November 2022 and input contributions are encouraged to progress the work.

## 4.4 Revision of WP5A texts

WG5A-4 did not have any comments on Section 1 of Annex 1 to Document [5A/221](https://www.itu.int/md/R19-WP5A-C-0221/en) and the Guide to the use of ITU-R texts relating to the land mobile service at this WP5A meeting and delegates were encouraged to communicate any comments on Section 1 of Annex 1 to Document 5A/221 directly to the WP5A Chairman.

## 4.5 Documents carried forward to the next meeting

– Revision of Report ITU-R M.2116: [5A/359](https://www.itu.int/md/R19-WP5A-C-0359/en) Annex 19 (WP5A)

– EESS(passive) in the 6 GHz range: [5A/529](https://www.itu.int/md/R19-WP5A-C-0529/en) (WP 7C); [5A/555](https://www.itu.int/md/R19-WP5A-C-0555/en) (France)

## 4.6 Objectives for the next WP5A 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 Section 4.3.8 above).

– Progress work on the PDN Report ITU-R M.[252-296 GHZ.LMS.FS.COEXIST] and consider whether it can be completed and submitted to Study Group 5.

– Continue work on the working document on sharing and compatibility studies related to WRC-23 agenda item 1.3 with a view to finalize it, if necessary, for submission to Study Group 5.

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

## 4.7 Conclusion

The Chairman of WG5A-4 would like to thank all the WG5A-4 participants for their active contributions to the work of WG5A-4 and all the efforts put into the online and offline work to discuss and advance the many topics under the responsibility of WG5A-4. In particular, I would like to thank the conveners of these offline discussions, as well as the chairman of the SWG, Mr GUTIÉRREZ for successfully managing the completion of the draft CPM text for WRC-23 agenda item 1.3.

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

Working Group (WG) 5A-5 met five times during the 27th meeting of ITU-R WP5A from 23rd May to 3rd June 2022. The tasks assigned to WG5A-5 address new technologies.

Thirteen input contributions were attributed to WG5A-5, which were:

|  |  |
| --- | --- |
|  |  |
| – Intelligent transport system (ITS) (Q. 205-6/5, Q.261/5) | **CAV** *(*[*Question ITU-R 261/5*](https://www.itu.int/pub/R-QUE-SG05.261)*):* [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 23](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N23!MSW-E.docx) (WP5A); [519](https://www.itu.int/md/R19-WP5A-C-0519/en) (USA); [536](https://www.itu.int/md/R19-WP5A-C-0536/en) (Korea);   [549](https://www.itu.int/md/R19-WP5A-C-0549/en) (China); [550](https://www.itu.int/md/R19-WP5A-C-0550/en) (China); [552](https://www.itu.int/md/R19-WP5A-C-0552/en) (China); [567](https://www.itu.int/md/R19-WP5A-C-0567/en) (Qualcomm); [569](https://www.itu.int/md/R19-WP5A-C-0569/en) (Japan); [570](https://www.itu.int/md/R19-WP5A-C-0570/en) (Japan); [578](https://www.itu.int/md/R19-WP5A-C-0578/en) (Germany); [579](https://www.itu.int/md/R19-WP5A-C-0579/en) (Germany)  **Rec. ITU-R M.2121:** [359](https://www.itu.int/md/R19-WP5A-C-0359/en) [Annex 25](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0359!N25!MSW-E.docx) (WP5A)  **Rep. ITU-R M.2444**: [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 24](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N24!MSW-E.docx) (WP5A)  **Rec. ITU-R M.1307***:* [571](https://www.itu.int/md/R19-WP5A-C-0571/en) (Japan) |
| – Above 275 GHz, Q.256-1/5) | **Rep. ITU-R M.2417:** [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 26](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N26!MSW-E.docx) (WP5A); [572](https://www.itu.int/md/R19-WP5A-C-0572/en) (Japan)  **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) (WP5A) |
| – M2M | **Rep. ITU-R M.2479:** [491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 25](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N25!MSW-E.docx) (WP5A) |

WG5A-5 established a Drafting Group (DG) to facilitate its work during -5A meeting:

|  |  |
| --- | --- |
| SWG/DG (Chairperson) | Terms of Reference |
| DG-CAV  – CAV (Connected Automated Vehicles)  (Mr Jeffrey Bellone (U.S.A.)) | – Develop the working document towards a PDN Report ITU-R M.[CAV] on Connected Automated Vehicles (CAV);  – Review and update workplan for a Report ITU-R M.[CAV]; |

The DG-CAV met twelve times during the 27th meeting of WP5A.

## 5.1 Executive summary

WG5A-5 completed its work of the revision of Report ITU-R M.2417-0 - *Technical and operational characteristics of land-mobile service applications in the frequency range 275-450 GHz* and sent PD Revision to WP5A Plenary for agreement to send to SG5 for approval.

WG5A-5 created its workplan for the development of a working document towards the 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*.

WG5A-5 continued to develop a working document towards a preliminary draft new Report ITU-R M.[CAV] - *Connected Automated Vehicles*.

## 5.2 Intelligent transport system (ITS)

WG5A‑5 considered eleven input contributions and updated a working document towards a Preliminary draft new Report ITU-R M.[CAV] – *Connected Automated Vehicles* (Document 5A/TEMP/221R1). The restructuring of the working document was discussed and done, based on input contributions. Editor’s notes were added to the working document, to identify issues and further to invite contributions to the 28th meeting of WP5A in November 2022. WG5A-5 also reviewed its workplan for the development of a new Report ITU-R M.[CAV] and extended its completion date to 29th meeting of WP5A (May, 2023). The workplan is in [Attachment 5](#att5).

There was no input contribution to the revisions of Recommendation ITU-R [M. 2121](file:///C:\Users\Tom.Schaffnit\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\Downloads\R-REC-M.2121-0-201901-I!!MSW-E.docx) - *Harmonization of frequency bands for Intelligent Transport Systems in the mobile service* and Report ITU-R [M.2444](file:///C:\Users\Tom.Schaffnit\AppData\Local\Microsoft\Windows\INetCache\Content.Outlook\Downloads\R-REP-M.2444-2019-MSW-E.docx)  - E*xamples of arrangements for Intelligent Transport Systems deployments under the mobile service*. WG5A-5 reviewed and updated its work plan for the revisions. The workplan is in [Attachment 4](#att4). Current working documents (Documents 5A/359 ([Annex 25](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0359!N25!MSW-E.docx)) and [491](https://www.itu.int/md/R19-WP5A-C-0491/en) ([Annex 24](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N24!MSW-E.docx) )) were carried forward to the 28th meeting of WP5A.

There was an input contribution to the revision of Recommendation ITU-R M.1307 *Automatic determination of location and guidance in the land mobile services*. The input contribution provided updated information of “*Appendix 3: Taxi automatic vehicle monitoring system use in Japan”* of the Recommendation, for WP5A’s further consideration of the revision/suppression of the Recommendation, upon the request at the 26th meeting of WP5A. During the meeting, USA provided information on Appendix 1 of the Recommendation. No information was provided from UK on Appendix 2. The views were expressed that it is too early to create a working document towards the revision of Report ITU-R M.1307. The meeting finally decided to carry forward Document [5A/571](https://www.itu.int/md/R19-WP5A-C-0571/en) to the 28th meeting of WP5A, for further discussion on whether it should be suppressed or revised. WG5A-5 invite input contributions to the 28th meeting of WP5A.

## 5.3 Technical and operational characteristics of the land mobile service in the frequency range above 275GHz

WG5A-5 considered input contributions. WG5A-5 updated a document towards the revision of Report ITU‑R M.2417 (Document 5A/TEMP/201R2). WG5A-5 also discussed the upgrade of its status from PDN Revision to DN Revision. The meeting agreed its upgrade and submission to WP5A plenary for agreement to submit to SG5. WG5A-5 completed its work on the revision of Report ITU‑R M.2417-0.

WG5A-5 also created a workplan for the development of a working document towards the 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*. The workplan is in [Attachment 6](#att6). Working document (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)) was carried forward to the 28th meeting of WP5A, since there is no input contribution to the meeting.

## 5.4 Machine Type Communication (MTC)

There was no input contribution to the 27th meeting of WP5A on the revision of Report ITU-R M.2479-0: *The use of land mobile systems, excluding IMT, for machine-type communications*. WG5A-5 updated its workplan for the development of a working document towards the 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*. The workplan is in [Attachment 7](#att7). Working document (Document 5A/[491](https://www.itu.int/md/R19-WP5A-C-0491/en) [Annex 25](https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.itu.int%2Fdms_pub%2Fitu-r%2Fmd%2F19%2Fwp5a%2Fc%2FR19-WP5A-C-0491!N25!MSW-E.docx&wdOrigin=BROWSELINK)) was carried forward to the 28th meeting of WP5A.

## 5.5 Review of ITU-R texts

WG5A-5 reviewed ITU-R texts pertinent to WG5A-5 in Section 1 of [Annex 1 of Document 5A/491](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0491!N01!MSW-E.docx). The revision/suppression of Recommendation ITU-R M.1307 was discussed, based on an input contribution (Document 5A/571). WG5A-5 agreed to continue the discussion on the revision/suppression of ITU-R Recommendation M.1307 at the 28th meeting of WP5A. WG5A-5 further invited input contributions to the next WP5A meetings on the suppression/revision of old ITU-R Recommendations and Reports.

WG5A-5 also reviewed [Guide to the use of ITU-R texts relating to the land mobile service](http://www.itu.int/oth/R0A06000001/en). There was no suggested modification to the texts. WG5A-5 invites input contributions to the future meetings.

## 5.6 Future work

WG5A-5 continues to develop a working document towards a PDN revision of Recommendation ITU-R M.2121 of *Harmonization of frequency bands for Intelligent Transport Systems in the mobile service*.

WG5A-5 continues to develop a working document towards a PDN revision of Report ITU-R M.2444 of E*xamples of arrangements for Intelligent Transport Systems deployments under the mobile service*.

WG5A-5 continues to develop a working document towards a PDN Report ITU-R M.[CAV] of *Connected Automated Vehicles*.

WG5A-5 continues to develop a working document towards a PDN Report ITU-R M.[LMS.SPEC.NEED.ABOVE.275GHZ] of *Spectrum needs for land mobile service applications in the frequency above 275 GHz*.

WG5A-5 continues to develop a working document towards a PDN Revision of Report ITU-R M.2479-0 of *The use of land mobile systems, excluding IMT, for machine-type communications*, and to finalize it, taking into account its progress.

WG5A-5 continue to discuss the suppression or revision of Recommendation ITU-R M.1307 of *Automatic determination of location and guidance in the land mobile services.*

Finally, WG5A-5 Chairman would like to thank Drafting Group Chairperson Mr Jeffrey Bellone (USA) for his excellent work, and all participants for their contribution to work of the group.

**Attachments:**

[Attachment 4](#att4): Work plan for the development of draft revisions of Recommendation ITU-R M.2121 and Report ITU‑R M.2444 on Intelligent Transport Systems.

[Attachment 5](#att5): Work plan for the development of a draft new Report ITU-R M.[CAV] – “Connected Automated Vehicles”.

[Attachment 6](#att6): 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 7](#att7): Work plan for the development of a working document towards a draft revision of Report ITU-R M.2479-0 – “The use of land mobile systems, excluding IMT, for machine-type communications.

# 6 Ad Hoc Working Group 5A/5C – WRC-23 Topic 9.1c (Chairman: Ms Christine Di Lapi, USA)

The Ad Hoc WG5A/5C (topic 9.1c)) considered four input contributions received regarding proposals for draft CPM text for this topic, which included one input submitted at the 26th meeting of WP5A. The Ad Hoc convened for a total of thirteen times at the 27th meeting and developed a draft CPM text element that was presented at a joint plenary session of Working Parties 5A and 5C, at which it was approved so that it can be sent to the appropriate CPM-23 Chapter Rapporteur. One input contribution was received that proposed revisions to some existing F-Series Recommendations, given that there was no time to consider it, it will be carried forward to the 28th meeting of WP5A, along with inputs from prior meetings that still have not been considered.

## 6.1 Carried forward documents to the 28th meeting of WP5A

Annex 18 to Document [5A/221](https://www.itu.int/md/R19-WP5A-C-0221/en); Docs. [5A/ 271](https://www.itu.int/md/R19-WP5A-C-0271/en) (USA); [307](https://www.itu.int/md/R19-WP5A-C-0307/en) (China), [321](https://www.itu.int/md/R19-WP5A-C-0321/en) (UK/CEPT PTA); [329](https://www.itu.int/md/R19-WP5A-C-0329/en) (Egypt); [336](https://www.itu.int/md/R19-WP5A-C-0336/en) (UAE), [418](https://www.itu.int/md/R19-WP5A-C-0418/en) (UK/CEPT PT A); [431](https://www.itu.int/md/R19-WP5A-C-0431/en) (USA); [445](https://www.itu.int/md/R19-WP5A-C-0445/en) (IAFI); [458](https://www.itu.int/md/R19-WP5A-C-0458/en) (South Africa); [469](https://www.itu.int/md/R19-WP5A-C-0469/en) (Egypt); [472](https://www.itu.int/md/R19-WP5A-C-0472/en) (Russian Federation); [478](https://www.itu.int/md/R19-WP5A-C-0478/en) (Saudi Arabia, UAE); [521](https://www.itu.int/md/R19-WP5A-C-0521/en) (USA), [582](https://www.itu.int/md/R19-WP5A-C-0582/en) (UAE).

## 6.2 Objectives for the 28th meeting of WP5A

• Consider input contributions received at 28th meeting and those carried forward from prior meetings of the study cycle;

• Continue to review existing F-Series Recommendations to provide a basis for future proposals to revise them and to consider new deliverables that address the resolves of Resolution **175 (WRC-19)**, as needed;

• Likewise review existing ITU-R SG 5 Study Questions that may be applicable and propose revisions, if determined to be necessary.

Attachment 1 to Annex 3

*Source: Documents 5A/TEMP/240 and 5A/TEMP/208R1*

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 meeting April 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 meeting Nov. 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 meeting May-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 meeting Nov. 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 meeting May 2023 | 1 Consider any input contribution(s);  2 Progress on the preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ]; if possible, elevate it to draft new Recommendation for submission to SG 5 (September 2023 meeting);  3 Draft relevant liaison statement(s), if needed. |

Attachment 2 to Annex 3

*Source: Documents 5A/TEMP/240 & 5A/TEMP/207R1*

WORK PLAN FOR WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW REPORT ITU-R M.[UTILITIES] ON   
UTILITY RADIOCOMMUNICATION SYSTEMS

| Working Party 5A meetings | Activity |
| --- | --- |
| 28th Meeting  2nd half/ 2022 | • Consider the received contributions;  • Update working document considering contributions received;  • Analysis of liaison statements responses from other Working Parties, respond as appropriate;  • Transmit updated Working Document towards a preliminary draft new Report ITU-R M.[UTILITIES] as LS to contributing groups as appropriate for review;  • Consider elevating the Working Document to PDNR, as appropriate. |
| 29th Meeting  1st half / 2023 | • Consider the received contributions;  • Update working document considering contributions received;  • Analysis of liaison statements responses from other Working Parties, respond as appropriate;  • Transmit updated preliminary draft new Report ITU-R M.[UTILITIES] as LS to contributing groups as appropriate for review;  • Elevate the PDNR to DNR, as appropriate. |
| 30th Meeting  2nd half / 2023 | • Complete draft new Report ITU-R M.[UTILITIES], taking into account feedback from contributing groups and send to Study Group 5 (September 2023 meeting). |

Attachment 3 to Annex 3

*Source: Documents 5A/TEMP/240 & 5A/TEMP/235*

WORK PLAN FOR WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW REPORT ITU-R M.[AUDIO-PMSE\_LMS]

*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.*

| Working Party 5A meetings | Activity |
| --- | --- |
| 27th Meeting  May-June 2022 | * Develop a working document towards a preliminary draft new (PDN) Report; * Create and adopt a related workplan; * Call for contributions in the WP5A Chairman’s Report. |
| 28th Meeting  November 2022 | * Review the received contributions and consolidate them into the relevant sections of the working document; * Continue developing the working document towards a PDN Report; * Liaise as needed with concerned Working Parties; * Call for contributions in the WP5A Chairman’s Report; * Review and update the workplan. |
| 29th Meeting  May 2023 | * Review the received contributions and consolidate them into the relevant sections of the working document; * Continue developing the working document towards a PDN Report ; * Liaise as needed with concerned Working Parties; * Consider elevation of the working document to PDN Report; * Call for contributions in the WP5A Chairman’s Report; * Review and update the workplan. |
| 30th meeting September 2023 | * Review the received contributions and consolidate them into the relevant sections of the draft document; * Continue developing the document; * Consider elevation of the document to draft new Report (DNR); * Review and update the workplan. |
| 31st Meeting May 2024 | * Final review of the document; * Consider elevation of the document to DNR; * Finalize report and submit to WP5A for adoption and to SG 5 for approval. |

Attachment 4 to Annex 3

*Source: Document 5A/TEMP/243*

WOrk plan For THE DRAFT Revisions of   
Recommendation ITU-R M.2121 and Report ITU-R M.2444  
on intelligent transport systems

|  |  |
| --- | --- |
| **Title** | Work plan for Revisions of Recommendation ITU-R M.2121 and Report ITU-R M.2444 |
| **Document type** | Recommendation and Report |
| **WP5A Lead Group** | WG5 New Technologies |
| **Drafting Group Chairperson** | Mr. Tom Schaffnit; **E-mail**: [Tom.Schaffnit@dot.gov](mailto:Tom.Schaffnit@dot.gov) |
| **Focus for scope and work** | These revisions are to update existing Recommendation ITU-R M.2121 and  Report ITU-R M.2444 |
| **Related Documents** | Question ITU-R 205/5 –Intelligent Transport Systems Question ITU-R 261/5 – Connected Automated Vehicles |
| **Milestones** | **25th meeting (April/May 2021)**   * Develop and adopt work plan * Develop working documents toward PD Revisions of Recommendation and Report * Liaise if needed with concerned WPs and interested organizations on revising the Recommendation ITU-R M.2121 and Report ITU-R M.2444   **26th meeting (November 2021)**   * Continue developing working documents toward PD revisions of Recommendation and Report * Update work plan if needed   **27th meeting (May 2022)**   * Develop the working document towards the revisions of Recommendation and Report * Liaise if needed with concerned and interested organizations on development of PD revisions of Recommendation and Report   **28th meeting (November 2022)**   * Develop the working document towards the revisions of Recommendation and Report * Consider the elevation of the Recommendation and the Report to PD Revision * Liaise if needed with concerned and interested organizations on development of PD revisions of Recommendation and Report   **29th meeting (May 2023)**   * Finalize revisions of Recommendation and Report. * Submit them to WP5A for adoption and to SG5 for adoption/approval. |

Attachment 5 to Annex 3

*Source: Document 5A/TEMP/243*

WORK PLAN 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 |
| **WP5A Lead Group** | WG5 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  – Consider elevation of the document to PDNR  – Review and update the work plan.  **29th meeting (May 2023)**  – Final review of the document  – Consider elevation of the document from PDNR to DNR  – Finalize Report and submit to WP5A for adoption and to SG5 for approval. |

Attachment 6 to Annex 3

*Source: Document 5A/TEMP/243*

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: 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 |
| **WP5A Lead Group** | WG5 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] and consider its elevation to PDNR  – Liaise as needed with concerned and interested organizations  – Update work plan if needed.  **30th meeting (September 2023)**  – 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 (September 2023 meeting)  – Liaise as needed with concerned and interested organizations. |

Attachment 7 to Annex 3

*Source: Document 5A/TEMP/243*

WORK PLAN FOR THE DEVELOPMENT OF A WORKING DOCUMENT TOWARDS A DRAFT REVISION OF REPORT ITU-R M.2479-0

The use of land mobile systems, excluding IMT,   
for machine-type communications

{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** | Workplan for the development of a working document towards a Draft Revision of Report ITU-R M.2479-0 | |
| **Document type** | Report | |
| **WP5A Lead Group** | WG5 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 provides information on the use of land mobile systems, excluding IMT, for Machine-type communications (MTC). | |
| **Related Documents** |  | |
| Milestones | Meetings | Activity |
| 26th meeting  November 2021 | – Develop a working document towards Preliminary Draft Revision of Report ITU-R M.2479-0  – Develop and adopt a workplan |
| 27th meeting  May 2022 | – Continue developing the working document towards Preliminary Draft Revision of Report ITU-R M.2479-0, based on input contributions  – Review and update work plan if needed  – Liaise, if needed, to concerned and interested Working Parties/organizations on the revision of Report ITU-R M.2479-0 |
| 28th meeting  November 2022 | – Continue developing the working document towards Preliminary Draft Revision of Report ITU-R M.2479-0, based on input contributions  – Review and update work plan if needed  Consider elevation of the working document to the Preliminary Draft Revision |
| 29th meeting  May 2023 | – Finalize the Preliminary Draft Revision of Report ITU-R M.2479-0  – Review and update work plan if needed  – Consider elevation to Draft Revision of Report ITU-R M.2479 and submit it to WP5A for adoption and to SG5 for adoption/ approval |