|  |  |
| --- | --- |
| **Radiocommunication Study Groups** |  |
|  |  |
|  |  |
| Source: Docs. 5A/TEMP/119, 122, 142, 147, 148; *Attachments:* 5A/TEMP/96(Rev.1), 102(Rev.1), 117, 133(Rev.1), 136(Rev.1), 137(Rev.1), 146(Rev.1) | **Annex 3 to Document 5A/359-E** |
| **19 May 2021** |
| **English only** |
| Annex 3 to Working Party 5A Chairman’s Report |
| consolidation of reports from the working groupsof working party 5a |

Contents

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

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

[**3**](#s3) [Working Group 5A-3 – Public protection and disaster relief](#s3)
(Chairman: Ms. Amy Sanders, USA)

[**4**](#s3) [Working Group 5A-4 – Interference and sharing](#s4)
(Chairman: Mr. Michael Kraemer, Germany)

[**5**](#s4) [Working Group 5A-5 – New technologies](#s5)
(Chairman: Mr. Hitoshi Yoshino, Japan)

**6** [Ad Hoc Working Group 5A/5C – WRC-23 Topic 9.1c](#s6)
(Co-chairmen: Mr. José Costa, Canada, and Mr. Pietro Nava, Italy)

**Attachments**: 9

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

[Attachment 2](#att2): Proposed draft workplan for revision of Recommendation M.1801-2.

[Attachment 3](#att3): Proposed draft workplan for revision of Recommendation ITU-R M.1450-5.

[Attachment 4](#att4): Draft liaison statement to APT, ASMG, ATU, CEPT, CITEL and RCC – Invitation for input to progress on the development of the working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ].

[Attachment 5](#att5): Meeting report of Sub-Working Group 5A-4 on WRC-23 agenda item 1.3.

[Attachment 6](#att6): Work plan for the revisions of Recommendation ITU-R M.2121 and Report ITU‑R M.2444 on Intelligent Transport Systems (TEMP/96R1).

[Attachment 7](#att7): Work plan for the development of a new Report ITU-R M.[CAV] – Connected Automated Vehicles.

[Attachment 8](#att8): Work plan for the development of a working document towards 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.

[Attachment 9](#att9): Terms of Reference – Correspondence group on WRC-23 agenda item 9.1, topic c).

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

NOTE 2 – 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 28](http://www.itu.int/md/dologin_md.asp?lang=en&id=R19-WP5A-C-0359!N28!MSW-E) to [Doc. 5A/359](http://www.itu.int/md/R19-WP5A-C-0359/en) to find the final disposition of these documents by Working Party 5A.

TABLE 1

List of 31 documents carried forward to the next WP5A meeting

|  |
| --- |
| **Working Group 2: Systems and standards (5 documents)** |
| **Broadband Wireless Access** | *Rec. M.2134:* [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N11%21MSW-E.docx) (WP5A);  |
| **Land mobile systems** | *PSME:* [242](https://www.itu.int/md/R19-WP5A-C-0242/en) (UK/CEPT WGFM) |
| **ANTS, HTN** | [351](https://www.itu.int/md/R19-WP5A-C-0351/en) (ITU-T SG9); [352](https://www.itu.int/md/R19-WP5A-C-0352/en) (ITU-T SG15); [353](https://www.itu.int/md/R19-WP5A-C-0353/en) (ITU-T SG15) |

|  |
| --- |
| **Working Group 4: Interference and sharing (20 documents)** |
| **AI 1.2: IMT** [**Res. 245**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0002PDFE.pdf) | [15](https://www.itu.int/md/R19-WP5A-C-0015/en) (WP5D); [206](https://www.itu.int/md/R19-WP5A-C-0206/en) (UAE); |
| **AI 1.3: 3.6-3.8 R1** [**Res. 246**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0003PDFE.pdf) | [74](https://www.itu.int/md/R19-WP5A-C-0074/en) (ESOA); [88](https://www.itu.int/md/R19-WP5A-C-0088/en) (WP5B); [190](https://www.itu.int/md/R19-WP5A-C-0190/en) (China); [203](https://www.itu.int/md/R19-WP5A-C-0203/en), [204](https://www.itu.int/md/R19-WP5A-C-0204/en) (Ericsson, Huawei, Intel, Nokia, Samsung); [233](https://www.itu.int/md/R19-WP5A-C-0233/en) (WP5C); [298](https://www.itu.int/md/R19-WP5A-C-0298/en) (Sweden, Finland); [301](https://www.itu.int/md/R19-WP5A-C-0301/en) (China); [313](https://www.itu.int/md/R19-WP5A-C-0313/en) (South Africa, Zimbabwe); [322](https://www.itu.int/md/R19-WP5A-C-0322/en) (Bosch); [328](https://www.itu.int/md/R19-WP5A-C-0328/en) (ESOA); [331](https://www.itu.int/md/R19-WP5A-C-0331/en) (Egypt, UAE); [332](https://www.itu.int/md/R19-WP5A-C-0332/en) (Egypt, UAE); [333](https://www.itu.int/md/R19-WP5A-C-0333/en) (Egypt, UAE); [334](https://www.itu.int/md/R19-WP5A-C-0334/en) (Egypt, UAE) |
| [**Res. 731**](https://www.itu.int/oth/R0A060000A1/en)**: >71 GHz** | [343](https://www.itu.int/md/R19-WP5A-C-0343/en) (WP7C) |

|  |
| --- |
| **Ad Hoc WG5A/5C: Topic 9.1c (8 documents)** |
| **WRC-23 AI 9.1 c)** [**Res. 175**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0024PDFE.pdf) | [5A/19](https://www.itu.int/md/R19-WP5A-C-0019/en) (Chairmen, WP5A and WP5C); [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%21N18%21MSW-E.docx) (WP5A); [5A/271](https://www.itu.int/md/R19-WP5A-C-0271/en) (USA); [5A/273](https://www.itu.int/md/R19-WP5A-C-0273/en) (IAFI); [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) (CEPT CPG 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). |

# 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 2021 meeting of WP5A

During the May 2021 e-meeting of WP5A, WG5A-1 met seven times and undertook the following work:

• Reviewed eight new input contributions.

• Continued work on studies towards WRC-23 agenda item 9.1 b).

• Started work on revisions to 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****, Australia)** |
| **WRC-23 AI 9.1 b)** [**Res. 774**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0023PDFE.pdf) | [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 6](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N06%21MSW-E.docx) (WP5A); [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 7](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N07%21MSW-E.docx) (WP5A); [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N10%21MSW-E.docx) (WP5A); [247](https://www.itu.int/md/R19-WP5A-C-0247/en) (WP4C); [251](https://www.itu.int/md/R19-WP5A-C-0251/en) §3.16 (WMO); [261](https://www.itu.int/md/R19-WP5A-C-0261/en) §9.1b (IARU); [276](https://www.itu.int/md/R19-WP5A-C-0276/en) (IARU); [293](https://www.itu.int/md/R19-WP5A-C-0293/en) (Canada); [348](https://www.itu.int/md/R19-WP5A-C-0348/en%20) (WP3M) |
| **Sharing studies** | *Rec. ITU-R M.1732:* [277](https://www.itu.int/md/R19-WP5A-C-0277/en) (IARU)*10 MHz to 15.5 GHz:* [278](https://www.itu.int/md/R19-WP5A-C-0278/en) (IARU) |

Concerning WRC-23 agenda item 9.1 b); contributions 5A/[247](https://www.itu.int/md/R19-WP5A-C-0247/en) (WP4C), 5A/[251](https://www.itu.int/md/R19-WP5A-C-0251/en) § 3.16 (WMO), 5A/[261](https://www.itu.int/md/R19-WP5A-C-0261/en) §9.1 b) (IARU) and 5A/[348](https://www.itu.int/md/R19-WP5A-C-0348/en%20) (WP3M) were noted. Parts of Documents 5A/[276](https://www.itu.int/md/R19-WP5A-C-0276/en) (IARU) and 5A/[293](https://www.itu.int/md/R19-WP5A-C-0293/en) (Canada) were incorporated with Document 5A/[221](https://www.itu.int/md/R19-WP5A-C-0221/en) ([Annex 10](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N10%21MSW-E.docx)) into Document 5A/TEMP/127 which provides operational characteristics and usage of stations of the amateur and amateur-satellite services in the 1 240-1 300 MHz frequency band; the resulting document was elevated to a preliminary new draft Report and will go forward as an annex of the WP5A Chairman’s report for further work next session of WP5A. A progress report of work towards WRC-23 agenda item 9.1, topic b) was drafted and will be sent to WP4C and WP3M as liaison statement Document 5A/TEMP/126.

Minor editorial revisions were made to the draft CPM text for AI 9.1 b) and are presented in Document 5A/TEMP/124 for further work at future meetings of WP5A. The WG5A-1 work plan was revised and is in Document 5A/TEMP/125.

Input 5A/[277](https://www.itu.int/md/R19-WP5A-C-0277/en) (IARU) was a proposal for revisions to [Rec. ITU-R M.1732](https://www.itu.int/rec/R-REC-M.1732/recommendation.asp?lang=en&parent=R-REC-M.1732-2-201701-I). The revisions were to improve clarity of text in some places, update a number of parameters in the various characteristics tables and to suggest suitable protection criteria for the amateur and amateur-satellite services when required for sharing and compatibility studies. The draft revisions for further work next session are in Document 5A/TEMP/123.

Input 5A/[278](https://www.itu.int/md/R19-WP5A-C-0278/en) (IARU) was a draft liaison statement to WP7C providing information on the amateur and amateur-satellite services relevant to AI 9.1 a); following minor editorial revisions the draft document was passed to WG5A-4 for further consideration.

1.3 Output documents from WG5A-1

| Topic | WP5A Action | Temp document |
| --- | --- | --- |
| Liaison statement to WP4C & WP3M re.Progress on work on AI 9.1 b) | Approve | 5A/TEMP/126 |
| WRC-23 AI 9.1 b) draft CPM textRevised (Annex 6) | Carry forward updated draft | 5A/TEMP/124 |
| WRC-23 AI 9.1 b) work planRevised (Annex 7) | Carry forward updated draft | 5A/TEMP/125 |
| WRC-23 AI 9.1 b) PDNR ITU-R M.[AMATEUR.CHARACTERISTICS];for work next meeting (Annex 10) | Carry forward updated draft | 5A/TEMP/127 |
| Preliminary draft revisions to M.1732 for further work next WP5A meeting | Carry forward updated draft | 5A/TEMP/123 |
| WG5A-1 Chairman’s Report |  | 5A/TEMP/142 |

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

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

– Update WG5A-1 work plan as required.

– Respond to liaison notes from other groups as appropriate.

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

– Based on contributions continue work on revisions to Rec. ITU-R M.1732.

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

1.5 Conclusion

The WG5A-1 Chairman thanks ITU-R members for their contributions to WP5A which assisted in the work undertaken by WG5A-1. The Chairman appreciated the diligent work, expert knowledge and goodwill shown by the meeting participants.

# 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 new Recommendation ITU-R M.[RSTT\_FRQ] – *Spectrum Harmonization for Railway Radiocommunication Systems between Train and Trackside (RSTT)*.

WG5A-2 finalized its work on the development of working document towards a preliminary draft new Study Question ITU-R [RSTT] – *Studies related to the further development of RSTT*.

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 Report ITU-R M.[Utilities] – *Utility Communication Systems*.

WG5A-2 initiated 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 initiated 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 continued its work on 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 nine times at the twenty-fifth meeting of WG5A. Working Group 5A-2 received the 39 documents assigned by the WG5A Plenary as follows:

|  |  |
| --- | --- |
|  | **Document 5A/…** |
| **2.2.1 Railways (incl.** [**Res. 240 (WRC-19)**](https://www.itu.int/oth/R0A060000A0/en)**)** | *RSTT:* [70](https://www.itu.int/md/R19-WP5A-C-0070/en) (Motorola Solutions); [85](https://www.itu.int/md/R19-WP5A-C-0085/en) [Annex 12](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085%21N12%21MSW-E.docx) (WP5A); [156](https://www.itu.int/md/R19-WP5A-C-0156/en)-Res.240 (3GPP); [257](https://www.itu.int/md/R19-WP5A-C-0257/en) (CEPT FM56); [269](https://www.itu.int/md/R19-WP5A-C-0269/en) (USA); [272](https://www.itu.int/md/R19-WP5A-C-0272/en) (IAFI); [286](https://www.itu.int/md/R19-WP5A-C-0286/en) (Japan); [291](https://www.itu.int/md/R19-WP5A-C-0291/en) (Korea); [318](https://www.itu.int/md/R19-WP5A-C-0318/en) Annex (France)*Rep. M.2442:* [85](https://www.itu.int/md/R19-WP5A-C-0085/en) [Annex 13](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085%21N13%21MSW-E.docx) (WP5A)*Rec. RSTT Frequencies:* [85](https://www.itu.int/md/R19-WP5A-C-0085/en) [Annex 11](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085%21N11%21MSW-E.docx) (WP5A); [287](https://www.itu.int/md/R19-WP5A-C-0287/en) (Japan); [304](https://www.itu.int/md/R19-WP5A-C-0304/en) (China); [318](https://www.itu.int/md/R19-WP5A-C-0318/en) Attachment (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%21N11%21MSW-E.docx) (WP5A); [292](https://www.itu.int/md/R19-WP5A-C-0292/en) (Russian Federation); [317](https://www.itu.int/md/R19-WP5A-C-0317/en) (France)*Rec. M.1801:* [80](https://www.itu.int/md/R19-WP5A-C-0080/en) (Chairman, WP5A); [246](https://www.itu.int/md/R19-WP5A-C-0246/en) (IEEE); [252](https://www.itu.int/md/R19-WP5A-C-0252/en) (WP5D); [296](https://www.itu.int/md/R19-WP5A-C-0296/en) (Canada); [306](https://www.itu.int/md/R19-WP5A-C-0306/en) (China)*UAVs:* [228](https://www.itu.int/md/R19-WP5A-C-0228/en) (ITU-T SG20)*Broadband for rural and remote areas:* [258](https://www.itu.int/md/R19-WP5A-C-0258/en) (ITU-D SG1) |
| **2.2.3 Land mobile systems** | *Utilities:* [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 12](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N12%21MSW-E.docx) (WP5A); [274](https://www.itu.int/md/R19-WP5A-C-0274/en) (IAFI)*Characteristics of IoT devices:* [235](https://www.itu.int/md/R19-WP5A-C-0235/en) (ITU-T SG 11)*PSME:* [242](https://www.itu.int/md/R19-WP5A-C-0242/en) (UK/CEPT WGFM) |
| **2.2.4 Air to Ground**  | *Update of Rep. ITU-R M.2282:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N06!MSW-E) (WP5A); [281](https://www.itu.int/md/R19-WP5A-C-0281/en) (Germany); [310](https://www.itu.int/md/R19-WP5A-C-0310/en) (Saudi Arabia)*New Report:* [1065](http://www.itu.int/md/R15-WP5A-C-1065/en) [Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-1065!N07!MSW-E) (WP5A) |
| **2.2.5 RLAN characteristics** | *Rec. M.1450:* [844](http://www.itu.int/md/R15-WP5A-C-0844/en) [Annex 17](http://www.itu.int/md/dologin_md.asp?lang=en&id=R15-WP5A-C-0844!N17!MSW-E) (WP5A); [79](https://www.itu.int/md/R19-WP5A-C-0079/en) (Chairman, WP5A); [245](https://www.itu.int/md/R19-WP5A-C-0245/en) (IEEE); [254](https://www.itu.int/md/R19-WP5A-C-0254/en) (ATIS); [305](https://www.itu.int/md/R19-WP5A-C-0305/en) (China); [319](https://www.itu.int/md/R19-WP5A-C-0319/en) (France)*Support WG4 with characteristics for sharing & coexistence studies* |
| **2.2.6 ANT, HNT** | [351](https://www.itu.int/md/R19-WP5A-C-0351/en) (ITU-T SG9); [352](https://www.itu.int/md/R19-WP5A-C-0352/en) (ITU-T SG15); [353](https://www.itu.int/md/R19-WP5A-C-0353/en) (ITU-T SG15) |

Working Group 5A-2 set up one Sub-Working Group and 3 offline e-mail discussion groups to deal with Railways, Recommendations ITU-R M.1801 ITU-R M.1801, ITU-R M.1450 and LS on RSTT:

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

– Recommendation ITU-R M.1801 (offline e-mail discussion group)
Convener: Mr. Jose COSTA e-mail: jose.costa@ericsson.com

– Recommendation ITU-R M.1450 (offline e-mail discussion group)
Convener: Mr. Jose COSTA e-mail: jose.costa@ericsson.com

– LS on RSTT (offline e-mail discussion group)
Convener: Mr. Yan Yang e-mail: yyang@bjtu.edu.cn

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

Input documents: RSTT: [5A/70](https://www.itu.int/md/R19-WP5A-C-0070/en) (Motorola Solutions); [5A/85](https://www.itu.int/md/R19-WP5A-C-0085/en) (Annex 12) (WP5A); [5A/156](https://www.itu.int/md/R19-WP5A-C-0156/en) Resolution **240** (3GPP); [5A/257](https://www.itu.int/md/R19-WP5A-C-0257/en) (CEPT FM56); [5A/269](https://www.itu.int/md/R19-WP5A-C-0269/en) (USA); [5A/272](https://www.itu.int/md/R19-WP5A-C-0272/en) (IAFI); [5A/286](https://www.itu.int/md/R19-WP5A-C-0286/en) (Japan); [5A/291](https://www.itu.int/md/R19-WP5A-C-0291/en) (Korea); [5A/318](https://www.itu.int/md/R19-WP5A-C-0318/en) Annex (France)

Rep. ITU-R M.2442: [5A/85](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085%21N13%21MSW-E.docx) (Annex 13) (WP5A)

Rec. RSTT Frequencies: [5A/85](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0085%21N11%21MSW-E.docx) (Annex 11) (WP5A); [5A/287](https://www.itu.int/md/R19-WP5A-C-0287/en) (Japan); [5A/304](https://www.itu.int/md/R19-WP5A-C-0304/en) (China); [5A/318](https://www.itu.int/md/R19-WP5A-C-0318/en) Attachment (France)

Rep. ITU-R M.2442: 5A/85 (Annex 13) (WP5A)

Rec. RSTT Frequencies: 5A/85 (Annex 11) (WP5A); 5A/287 (Japan); 5A/304 (China); 5A/318 Attachment (France)

Output documents: 5A/TEMP/102(Workplan), 107(Question), 120(M.2442), 121(FRQ), 137(LS)

Carry forward document: 5A/TEMP/137 ([Attachment 4](#att4))

The SWG 5A2-1 Railways had four sessions during this WP5A meeting. An offline discussion group was established by the decision of WG5A-2.

Offline discussion was held on the following issues:

Issue: Draft LS on RSTT to regional organizations.

There are 5 TEMP documents submitted for discussion at the WG level. 4 working documents would be attached to the Chairman's Report, and 1 working document (LS) would be carried forward to next meeting.

Regarding to the Work Plan for Completion of the Work on RSTT under Resolution **240 (WRC‑19)**, a contribution was received in April 2021 WG5A meeting from France. The workplan was developed based on the input contribution. The working document towards workplan on RSTT is in [Attachment 1](#att1).

Regarding to the working document towards a preliminary draft new study Question ITU-R [RSTT] and the working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ], these 2 documents were fully discussed and agreed in SWG 5A2-1 Railways meeting.

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

Regarding to the draft Liaison statement to APT, ASMG, ATU, CEPT, CITEL AND RCC. No consensus was reached for the meeting. It was decided to carry forward the draft LS to the next meeting as part of the Chairman’s Report for further discussion and consideration ([Attachment 4](#att4)).

### 2.2.2 Broadband Wireless Access

Input documents: Rec. ITU-R M.2134: [5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N11%21MSW-E.docx) (Annex 11) (WP5A); [5A/292](https://www.itu.int/md/R19-WP5A-C-0292/en) (Russian Federation); [5A/317](https://www.itu.int/md/R19-WP5A-C-0317/en) (France)

Rec. ITU-R M.1801: [5A/80](https://www.itu.int/md/R19-WP5A-C-0080/en) (Chairman, WP5A); [5A/246](https://www.itu.int/md/R19-WP5A-C-0246/en) (IEEE); [5A/252](https://www.itu.int/md/R19-WP5A-C-0252/en) (WP5D); [5A/296](https://www.itu.int/md/R19-WP5A-C-0296/en) (Canada); [5A/306](https://www.itu.int/md/R19-WP5A-C-0306/en) (China)

UAVs: 5A/228 (ITU-T SG20)

Broadband for rural and remote areas: [5A/258](https://www.itu.int/md/R19-WP5A-C-0258/en) (ITU-D SG1)

Output document: [TEMP/134](https://www.itu.int/md/R19-WP5A-210428-TD-0134/en) (WD on M.1801);[135](https://www.itu.int/md/R19-WP5A-210428-TD-0135/en)(LS to EO);[136](https://www.itu.int/md/R19-WP5A-210428-TD-0136/en)(WP on M.1801)

Carry forward documents: 5A/221 (Annex 11) (WP5A)

Regarding to revision of Rec. ITU-R M.2134 “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”, input contribution 5A/292 and 5A/317 proposed the technical and operational characteristics of the transmitters should be included in the document as part of Section 2, alongside with the receivers. Furthermore, the protection criteria of the mobile service should be enhanced in Section 3, by the additional precision e.g. “The above *I/N* value should not be exceeded for more than 20% of time”. No agreement was reached through tensive discussion. Given the broader relevance of the protection criteria to the mobile service more generally, it was proposed to submit this issue to up level for instruction.

The meeting developed a working document towards a preliminary draft revision of Recommendation ITU-R M.1801-2, a liaison statement to external organization and a workplan based on the input contributions. The working document towards workplan for the revision work on Rec. ITU-R M.1801 is attached in [Attachment 2](#att2).

With regards to the working document, some administrations were of the view that proposals were not agreed because no conditions for compatibility with other service including FSS are specified for RLAN in the proposed frequency bands.

WG5A-2 took note of the information provided by ITU-T SG20 on UAV and ITU-D SG1 on broadband for rural and remote areas and did not see the need for further action at this point in time.

### 2.2.3 Land mobile systems

Input documents: Utilities: [5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N12%21MSW-E.docx) (Annex 12) (WP5A); [5A/274](https://www.itu.int/md/R19-WP5A-C-0274/en) (IAFI)

Characteristics of IoT devices: [5A/235](https://www.itu.int/md/R19-WP5A-C-0235/en) (ITU-T SG 11)

PSME: [5A/242](https://www.itu.int/md/R19-WP5A-C-0242/en) (UK/CEPT WGFM)

Output documents: TEMP/105 (Report on Utilities; 5A/235 (LS- ITU-T SG11)

Carry forward documents: 5A/242 (UK/CEPT WGFM)

Regard to Utilities, one contribution was received from IAFI. The contribution was consolidated into a temp document which is 5A/TEMP/105.

A reply liaison was developed to inform ITU-T SG11 on Characteristics of IoT devices which is 5A/TEMP/235.

Input contribution 5A/242 provided the information on Spectrum use and future spectrum requirements for PMSE. The ECC Report 323 was embedded which contains information directly relevant to the work of WG5A, WG5C and WG6A in connection with Resolution ITU-R 59-2 and comprises, inter alia, sections on the technical and operational considerations for PMSE applications, changing working practices in PMSE, and technological development of PMSE equipment. The ECC Report 323 could be used for reference to develop relevant ITU-R Reports/Recommendations.

### 2.2.4 Air to Ground

Input documents: Update of Rep. ITU-R M.2282: [5A/1065](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-1065%21N06%21MSW-E.docx) (Annex 6) (WP5A); [5A/281](https://www.itu.int/md/R19-WP5A-C-0281/en) (Germany);
[5A/310](https://www.itu.int/md/R19-WP5A-C-0310/en) (Saudi Arabia)

New Report: [5A/1065](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-1065%21N05%21MSW-E.docx) (Annex 7) (WP5A)

Output documents: TEMP/104 (Revision on Rep. ITU-R M.2282)

Carry forward document: None

Regarding Rep. ITU-R M.2282, two contributions were received from Germany and Saudi Arabia. The contributions were consolidated into a single document which is 5A/TEMP/104.

Due to no new input on the working document towards a preliminary draft new Report on *Broadband Air To Ground Systems - Frequency usage in the land mobile service for broadband direct air-to-ground (A2G) communications links with passenger aircraft* for several meetings, Working Group 5A-2 reached agreement on discontinuing the development of the new report.

### 2.2.5 RLAN characteristics

Input documents: Rec. ITU-R M.1450: [5A/844](https://www.itu.int/dms_pub/itu-r/md/15/wp5a/c/R15-WP5A-C-0844%21N17%21MSW-E.docx) (Annex 17) (WP5A); [5A/79](https://www.itu.int/md/R19-WP5A-C-0079/en) (Chairman, WP5A); [5A/245](https://www.itu.int/md/R19-WP5A-C-0245/en) (IEEE); [5A/254](https://www.itu.int/md/R19-WP5A-C-0254/en) (ATIS); [5A/305](https://www.itu.int/md/R19-WP5A-C-0305/en) (China); [5A/319](https://www.itu.int/md/R19-WP5A-C-0319/en) (France)

Output documents: TEMP/131 (WD on ITU-R M.1450); 132(LS to EO);
5A/133 (WP on ITU-R M.1450)

Carry forward document: None

The meeting developed a working document towards a preliminary draft revision of Recommendation ITU-R M. M.1450-5, a liaison statement to external organization and a workplan based on the input contributions. The working document towards workplan for the revision work on Rec. ITU-R M.1450 is in [Attachment 3](#att3). With regards to the workplan document, some administrations were of the view that the workplan should be limited to the next two meetings of WP5A. Once the replies are received from the EOs at the 26th meeting of WP5A, it is a question of revising the content of M.1450 and approving it for submission to SG5.

### 2.2.6 ANTs, HNTs, etc.

Input documents: [5A/351](https://www.itu.int/md/R19-WP5A-C-0351/en) (ITU-T SG9); [5A/352](https://www.itu.int/md/R19-WP5A-C-0352/en) (ITU-T SG15); [5A/353](https://www.itu.int/md/R19-WP5A-C-0353/en) (ITU-T SG15)

Output documents: None.

Carry forward document: 5A/351 (ITU-T SG9); 5A/352 (ITU-T SG15); 5A/353 (ITU-T SG15)

Due to time constraints, the three liaison statements will be considered at next WP5A meeting.

### 2.2.7 Review of ITU-R texts

Working Group 5A-2 reviewed the WG5A texts Section 1 of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N01%21MSW-E.docx) to [Doc. 5A/221](http://www.itu.int/md/R19-WP5A-C-0221) and [Guide to the use of ITU-R texts relating to the land mobile service](http://www.itu.int/oth/R0A06000001/en). No modification is needed 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*.

– 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 SWG chairman Mr. Yan Yang from China, Offline Discussion Group chairman Mr. Jose Costa from Ericsson 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): Proposed draft workplan for revision of Recommendation M.1801-2.

[Attachment 3](#att3): Proposed draft workplan for revision of Recommendation ITU-R M.1450-5

[Attachment 4](#att4): Draft liaison statement to APT, ASMG, ATU, CEPT, CITEL and RCC – Invitation for input to progress on the development of the working document towards a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ]

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

3.1 Executive summary

Working Group 5A-3 (WG5A-3) met two times at the April-May 2021 meeting of Working Party 5A (WP5A). WG5A-3 considered six input contribution and one carried-forward document as assigned by the WP5A Plenary.

The objectives for this meeting were outlined in Section 3.5 of [Annex 3 of 5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N03%21MSW-E.docx) as:

– Consider the possible revision of Report [ITU-R M.2377](https://www.itu.int/pub/R-REP-M.2377), based on input contributions

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

The meeting agreed to once again invite contributions to revise Report ITU-R M.2377 and to discontinue considering an update of the Compendium. The meeting agrees to propose suppression of the Compendium and produced an output liaison statement seeking concurrence on that way forward. The meeting also agrees on two other output liaison statements to groups in ITU-T.

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/275](https://www.itu.int/md/R19-WP5A-C-0275/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 Doc. 5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N01%21MSW-E.docx). WG5A-3 decided to handle the disposition of all these items at the working group level.

3.3 Execution of work

Update of Compendium (Input: 5A/[270](https://www.itu.int/md/R19-WP5A-C-0270/en) (USA))

As there had been no inputs received for multiple meetings, the meeting agreed to discontinue the objective of updating the Compendium. Recognizing the wealth of information already available on the ITU website on Emergency Communications, as well as on the various sector websites on the topic, WG5A-3 still considered that there might be value in developing a new document on emergency telecommunications under the land mobile service. Inputs are sought on the idea and possible content.

The meeting agreed to propose suppression of the Compendium to the other sectors and working parties that might have interest in its content. Therefore, the meeting reviewed a list, which had been placed on the SharePoint by the WG5A-3 Chair, of possible recipients of a liaison statement to that effect. The meeting agreed to provide the Chairman with any additions to the list of possible recipients and revised a proposed liaison statement. The revised liaison statement was approved as 5A/TEMP/99.

Updates of ITU-R Reports (Input: carried forward Document [5A/891](http://www.itu.int/md/R15-WP5A-C-0891/en) (WP5D))

The possible revision of Report ITU-R M.2377 had been an objective for many meetings. No input contributions had been received to advance the work. Bearing in mind that Document 5A/891 was superseded by Document [5/35](https://www.itu.int/md/R19-SG05-C-0035/en), the meeting decided not to carry it forward any further.

After reviewing a document on the SharePoint, provided by the WG5A-3 Chairman, which identified some editorial updates that might be appropriate, the meeting agreed to consider editorial, and possibly more substantive elements, for an update of ITU-R M.2377, based on input contributions to the next meeting.

Liaison statements

– [5A/227](https://www.itu.int/md/R19-WP5A-C-0227/en) (WP5B): As 5A/227 was sent to WP5A ‘for information’, the meeting agreed that no response was required.

– [5A/230](https://www.itu.int/md/R19-WP5A-C-0230/en) (ITU-T SG11): Recognizing that ITU-T SG11 believed the concerns raised by WP5A had been addressed, the meeting agreed that a reply liaison would be appropriate. The meeting reviewed and agreed a draft proposed liaison statement, prepared by the WG5A-3 Chairman, from the SharePoint. The liaison statement was approved as Document 5A/TEMP/95.

– [5A/239](https://www.itu.int/md/R19-WP5A-C-0239/en) (ITU-T SG2): As 5A/239 was superseded by 5A/255, the meeting agreed that no response was required.

– [5A/255](https://www.itu.int/md/R19-WP5A-C-0255/en) (FG-AI4NDM): The new Focus Group on Artificial Intelligence for Natural Disaster Management sought input on related standards. The meeting did not consider that WP5A had any specific documents addressing artificial intelligence but could provide Recommendation [ITU-R M.2009](https://www.itu.int/rec/R-REC-M.2009/en), which addressed PPDR technology standards. The meeting reviewed and agreed a draft proposed liaison statement, prepared by the WG5A-3 Chairman, from the SharePoint. The liaison statement was approved as 5A/TEMP/94.

– [5A/265](https://www.itu.int/md/R19-WP5A-C-0265/en) (ITU-D SG2): As the work of ITU-D was concluded for the cycle, the meeting agreed that no response was required.

3.4 Administrative matters

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/dms_pub/itu-r/oth/0a/06/R0A060000010001MSWE.docx) and Section 1 of [Annex 1 of Doc. 5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N01%21MSW-E.docx).

In discussing Section 1 of Annex 1 of the Chairman’s Report, the WG5A-3 Chairman asked the meeting to consider the ongoing validity of Recommendation [ITU-R M.1307](https://www.itu.int/rec/R-REC-M.1307/en), which was published in 1997. For example, it was noted that Recommendation ITU-R M.1307 references the Transport Information and Control System (TICS) in its scope, and Recommendation ITU-R M.1310-0 on TICS was suppressed in 2011. The meeting agreed that the Chairman should invite proposals to the next meeting to WG5A-5, under whose purview the Recommendation lies, on what action, if any, should be taken with regard to Rec. ITU-R M.1307. No further proposals regarding Section 1 of Annex 1 of the Chairman’s Report were made.

3.5 Future work

With regard to work on public protection and disaster relief at the next meeting of Working Party 5A, the objectives for Working Group 5A-3 will be to:

– Consider any responses received regarding the possible suppression of the Compendium of ITU’s Work on Emergency Telecommunications;

– Consider input contributions on possible editorial, or more substantive, revisions to Report ITU-R M.2377;

– Consider input contributions on the possible development of a new document on emergency communications under the land mobile service.

3.6 Conclusion

All parties are encouraged to contribute to the next meeting of Working Party 5A, particularly to advance work on the possible revision of Report ITU-R M.2377 and to consider development of a possible new document addressing emergency communications under the land mobile service.

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.

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

4.1 Executive Summary

WG5A-4 continued the revision of Recommendation ITU-R M.1824 and initiated a revision of Report ITU-R M.2116, continued work related to the 92-109.5 GHz and 252-296 GHz frequency ranges as well as Resolution **731 (Rev.WRC-19)**, continued the preparatory work for WRC-23 agenda item 1.3 where WP5A is the lead group, and provided technical characteristics and other relevant information to various Working Parties for WRC-23 related sharing studies. Furthermore, it was decided to discontinue a number of working documents that had been carried forward from the last study cycle, for which it became clear that no further work was expected going forward.

4.2 Introduction

Working Group 5A-4 met eight times during the April/May 2021 meeting of Working Party 5A and considered 109 input and carried-forward documents and developed 19 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/13.

### 4.3.1 Document copied to WP5A for information

Input documents: [5A/222](https://www.itu.int/md/R19-WP5A-C-222/en) (ITU-T SG5); [5A/223](https://www.itu.int/md/R19-WP5A-C-223/en) (WP5C); [5A/224](https://www.itu.int/md/R19-WP5A-C-224/en) (WP5C); [5A/226](https://www.itu.int/md/R19-WP5A-C-226/en) (WP5C); [5A/229](https://www.itu.int/md/R19-WP5A-C-229/en) (WP5B); [5A/232](https://www.itu.int/md/R19-WP5A-C-0232/en) (WP5C); [5A/234](https://www.itu.int/md/R19-WP5A-C-0234/en) (WP5C); [5A/236](https://www.itu.int/md/R19-WP5A-C-0236/en) (WP1C); [5A/237R1](https://www.itu.int/md/R19-WP5A-C-0237/en) (WP1A);
[5A/262](https://www.itu.int/md/R19-WP5A-C-0262/en) (WP6A); [5A/264](https://www.itu.int/md/R19-WP5A-C-0264/en) (WP7B); [5A/266](https://www.itu.int/md/R19-WP5A-C-0266/en) (WP7B); [5A/338](https://www.itu.int/md/R19-WP5A-C-0338/en) (WP7C); [5A/339](https://www.itu.int/md/R19-WP5A-C-0339/en) (WP7C);
[5A/341](https://www.itu.int/md/R19-WP5A-C-0341/en) (WP7C); [5A/344](https://www.itu.int/md/R19-WP5A-C-0344/en) (WP7C); [5A/345](https://www.itu.int/md/R19-WP5A-C-0345/en) (WP7A); [5A/349](https://www.itu.int/md/R19-WP5A-C-0349/en), [5A/350](https://www.itu.int/md/R19-WP5A-C-0350/en) (WPs 3K&3M);
[5A/354](https://www.itu.int/md/R19-WP5A-C-0354/en) (WP7C)

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

### 4.3.2 Preliminary draft WMO position on WRC-23 agenda item 1.3

Input document: [5A/251](https://www.itu.int/md/R19-WP5A-C-251/en) (WMO)

WG5A-4 took note of the information provided by the WMO and will take it into account when further progressing the work on WRC-23 agenda item 1.3.

### 4.3.3 Preliminary draft IARU position on WRC-23 agenda item 1.3

Input document: [5A/261](https://www.itu.int/md/R19-WP5A-C-261/en) (IARU)

WG5A-4 took note of the information provided by the IARU and will take it into account when further progressing the work on WRC-23 agenda item 1.3.

### 4.3.4 Discontinuation of working documents from the last study cycle

WG5A-4 had been carrying forward some working documents from the last study cycle for a few meetings without receiving further input contributions and it became clear that there is no intention to further work on these documents. Therefore, WG5A-4 decided to discontinue the following working documents:

– PDN Report ITU-R M.[GEO.SHARE] “Sharing schemes in the land mobile service on the basis of geographical use” as in document 5A/976 Annex 14 (last updated Nov. 2018).

– PDN Report ITU-R M.[AGGREGATE RLAN MEASUREMENTS] “Use of aggregate RLAN measurements from airborne and terrestrial platforms to support studies under WRC-19 agenda item 1.16” as in document 5A/976 Annex 17 (last updated Nov. 2018).

– PDN Report ITU-R M.[RLAN REQ-PAR] “Technical characteristics and operational requirements of WAS/RLAN in the 5 GHz frequency range” as in document 5A/1065 Annex 9 (last updated April 2019).

– PDN Report ITU-R M.[RLAN SHARING 5 350-5 470 MHz] “Sharing and compatibility studies of WAS/RLAN in the 5 350-5 470 MHz frequency range” as in document 5A/1065 Annex 10 (last updated April 2019).

– PDN Report ITU-R M.[RLAN SHARING 5 150-5 250 MHz] “Sharing and compatibility studies of WAS/RLAN in the 5 150-5 250 MHz frequency range” as in document 5A/1065 Annex 11 (last updated April 2019).

– PDN Report ITU-R M.[RLAN SHARING 5 725-5 850 MHz] “Sharing and compatibility studies of WAS/RLAN in the 5 725-5 850 MHz frequency range” as in document 5A/1065 Annex 12 (last updated April 2019).

These documents are therefore no longer carried forward to future WP5A meetings.

### 4.3.5 Revision of Recommendation ITU-R M.1824

Output document: 5A/TEMP/114

The working document for the revision of this Recommendation as contained in Document [5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N13%21MSW-E.docx) (Annex 13) did not receive further inputs at this WP5A meeting and the revision was considered to reach a level of stability that would justify the 1st step elevation to PDR Recommendation. A summary of the revision was added, and the document is attached to the Chairman’s Report for further work and possible finalization at the next WP5A meeting as appropriate.

### 4.3.6 WRC-19 agenda item 1.3

Input documents: [5A/74](https://www.itu.int/md/R19-WP5A-C-0074/en) (ESOA); [5A/88](https://www.itu.int/md/R19-WP5A-C-0088/en) (WP5B); [5A/190](https://www.itu.int/md/R19-WP5A-C-0190/en) (China); [5A/192](https://www.itu.int/md/R19-WP5A-C-0192/en) (China); [5A/203](https://www.itu.int/md/R19-WP5A-C-0203/en), [5A/204](https://www.itu.int/md/R19-WP5A-C-0204/en) (Ericsson, Huawei, Intel, Nokia, Samsung); [5A/221](https://www.itu.int/md/R19-WP5A-C-0221/en) Annex 4, Annex 5; [5A/233](https://www.itu.int/md/R19-WP5A-C-0233/en) (WP5C); [5A/298](https://www.itu.int/md/R19-WP5A-C-0298/en) (Sweden, Finland); [5A/299](https://www.itu.int/md/R19-WP5A-C-0299/en) (China); [5A/301](https://www.itu.int/md/R19-WP5A-C-0301/en) (China); [5A/308](https://www.itu.int/md/R19-WP5A-C-0308/en) (GSMA);
[5A/313](https://www.itu.int/md/R19-WP5A-C-0313/en) (South Africa, Zimbabwe); [5A/322](https://www.itu.int/md/R19-WP5A-C-0322/en) (Germany); [5A/328](https://www.itu.int/md/R19-WP5A-C-0328/en) (ESOA); [5A/330](https://www.itu.int/md/R19-WP5A-C-0330/en) (GSA);
[5A/331](https://www.itu.int/md/R19-WP5A-C-0331/en) (Egypt, UAE); [5A/332](https://www.itu.int/md/R19-WP5A-C-0332/en) (Egypt, UAE); [5A/333](https://www.itu.int/md/R19-WP5A-C-333/en) (Egypt, UAE); [5A/334](https://www.itu.int/md/R19-WP5A-C-334/en) (Egypt, UAE)

Output documents: 5A/TEMP/110 (Parameter compilation); 5A/TEMP/117 (SWG Chairman’s Report)

WG5A-4 continued this work in a SWG led by Mr. Cesar GUTIERREZ as established at the last meeting which met five times. The SWG discussed all input contributions, prepared a compilation of the technical characteristics and operational parameters of the land mobile service for sharing and compatibility studies under WRC-23 agenda item 1.3 and decided to carry forward input contributions 5A/74 (ESOA), 5A/88 (WP5B); 5A/190 (CHN); 5A/203, 5A/204 (Multi-company); 5A/233 (WP5C); 5A/298 (S, FIN); 5A/301 (CHN); 5A/313 (AFS, ZWE); 5A/322 (D);
5A/328 (ESOA); 5A/331 (EGY, UAE); 5A/332 (EGY, UAE); 5A/333 (EGY, UAE);
5A/334 (EGY, UAE).

The working documents for the draft CPM text and the workplan as contained in the Chairman’s Report from the previous WP5A meeting (documents 5A/221 Annex 4 and 5) were not updated at this WP5A meeting and are therefore carried forward to the next meeting unchanged.

For a more detailed report from this SWG activity, see [Attachment 5](#att5).

During the discussion it was pointed out that the sharing and coexistence studies under WRC-23 agenda item 1.3 could be quite similar to those under WRC-23 agenda item 1.2 depending on what parameters are defined for the land mobile service systems and IMT systems in WP5A and WP5D respectively. It was also clarified that the current focus of the work is on gathering the relevant parameters for the work and a liaison statement had already been set to all contributing groups from the previous WP5A meeting. Discussion on the actual scope of the studies and whether these may be similar between WRC-23 agenda items 1.2 and 1.3 should be deferred to the next meeting once the parameters for the studies are available and the work on the studies has started. At that time, it could be further discussed whether some studies could be used for the work under both agenda items. It was also suggested that informal consultations between the relevant SWG/WG chairmen in WP5A and WP5D could then take place to facilitate such future discussions as needed.

### 4.3.7 Technical and operational characteristics for WRC-23 related studies

Input documents: [5A/231](https://www.itu.int/md/R19-WP5A-C-0231/en) (Iran); [5A/355](https://www.itu.int/md/R19-WP5A-C-0355/en), [5A/356](https://www.itu.int/md/R19-WP5A-C-0356/en) (Director, BR)

WG5A-4 took note of the discussion on this topic in the WP5A opening plenary and provided references to the relevant information in reply liaison statements to various Working Parties as described in the sections below.

### 4.3.8 WRC-23 agenda item 1.5

Input documents: [5A/176](https://www.itu.int/md/R19-WP5A-C-0176/en) (UK); [5A/179](https://www.itu.int/md/R19-WP5A-C-0179/en) (BBC); [5A/186](https://www.itu.int/md/R19-WP5A-C-0186/en) (France); [5A/197](https://www.itu.int/md/R19-WP5A-C-0197/en) (Thales SA); [5A/199](https://www.itu.int/md/R19-WP5A-C-0199/en), [5A/200](https://www.itu.int/md/R19-WP5A-C-0200/en), [5A/201](https://www.itu.int/md/R19-WP5A-C-0201/en) (Germany); [5A/202](https://www.itu.int/md/R19-WP5A-C-0202/en) (Motorola Solutions); [5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N03%21MSW-E.docx) (Annex 3 Attachment 4); [5A/242](https://www.itu.int/md/R19-WP5A-C-0242/en) Annex to Attachment, [5A/243](https://www.itu.int/md/R19-WP5A-C-0243/en) (CEPT CPG PTD); [5A/249](https://www.itu.int/md/R19-WP5A-C-0249/en), 5A/250 (WP5D); [5A/315](https://www.itu.int/md/R19-WP5A-C-0315/en),
[5A/316](https://www.itu.int/md/R19-WP5A-C-0316/en) (France); [5A/323](https://www.itu.int/md/R19-WP5A-C-0323/en) (Germany et al.); [5A/324](https://www.itu.int/md/R19-WP5A-C-0324/en) (Germany); [5A/355](https://www.itu.int/md/R19-WP5A-C-0355/en) (Director, BR)
[*CACE/966*](https://www.itu.int/md/R00-CACE-CIR-0966/en)*:* [5A/240R3](https://www.itu.int/md/R19-WP5A-C-0240/en) (France); [5A/259](https://www.itu.int/md/R19-WP5A-C-0259/en) (Switzerland); [5A/267](https://www.itu.int/md/R19-WP5A-C-0267/en) (Sweden); [5A/268](https://www.itu.int/md/R19-WP5A-C-0268/en) (Austria); [5A/279](https://www.itu.int/md/R19-WP5A-C-0279/en) (UK); [5A/282](https://www.itu.int/md/R19-WP5A-C-0282/en) (Russian Federation); [5A/309](https://www.itu.int/md/R19-WP5A-C-0309/en) (Saudi Arabia); [5A/311](https://www.itu.int/md/R19-WP5A-C-0311/en) (Ireland);
[5A/312](https://www.itu.int/md/R19-WP5A-C-0312/en) (The Netherlands); [5A/314](https://www.itu.int/md/R19-WP5A-C-0314/en) (Tunisia); [5A/320](https://www.itu.int/md/R19-WP5A-C-0320/en) (Italy); [5A/325](https://www.itu.int/md/R19-WP5A-C-0325/en) (Germany);
[5A/326](https://www.itu.int/md/R19-WP5A-C-0326/en) (Lithuania); [5A/335](https://www.itu.int/md/R19-WP5A-C-0335/en) (UAE)

Output documents: 5A/TEMP/139 (parameter compilation); 5A/TEMP/140 (spectrum use and needs compilation); 5A/TEMP/141 (LS to TG 6/1)

WG5A-4 establish a DG led by Mr. Michael KRAEMER for this topic which met four times to prepare information in response to the request from TG 6/1. Whilst it was possible to develop a compilation of the spectrum use and spectrum needs information as provided by various administrations in response to CACE/966 without open issues, WG5A-4 was not able to agree on the compilation of parameters and sharing studies due to diverging views expressed in the meeting about which elements from the inputs from administrations should be included in this compilation or rather submitted directly to TG 6/1 as they had not been reviewed and endorsed by WP5A. As a result, this second compilation document was presented to the WP5A closing plenary with various open issues in square brackets for further consideration. Furthermore, a cover page for the LS back to TG 6/1 was prepared, also including a reference to relevant information from the BR, noting that the cover page would have to be adjusted depending on the conclusions of the WP5A closing plenary on the open issues described above.

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

Input document: [5A/300](https://www.itu.int/md/R19-WP5A-C-0300/en) (China)

Output document: 5A/TEMP/143

WG5A-4 considered the proposal to start a revision of this Recommendation and agreed with it in principle; however, it was emphasized that the approach needs to be consistent with that of revising other ITU-R Reports and Recommendations under responsibility of WP5A. Therefore, a working document was created with a clear statement at beginning that the content has not yet been reviewed and pointing to the fact that further progress of this revision will depend on progress made on the ongoing revisions of other WP5A deliverables.

Regarding the proposal to send a liaison statement to WP5D, WG5A-4 was not able to agree due to diverging views about the need for this and it was also pointed out that WP5D had already provided some relevant information to WP5A (see Document [5A/252](https://www.itu.int/md/R19-WP5A-C-0252/en)).

### 4.3.10 IMT

Input document: [5A/47](https://www.itu.int/md/R19-WP5A-C-0047/en) (France)

WG5A-4 noted that this input had been overtaken by events and the guidance provided by the Chairmen of SG 4 and SG 5 on this matter (see Document [5D/407](https://www.itu.int/md/R19-WP5D-C-0407/en)) and, therefore, did not see the need for further action at this point in time.

### 4.3.11 Range 92-109.5 GHz

Input documents: [5A/85](https://www.itu.int/md/R19-WP5A-C-0085/en) (Annex 15); [5A/137](https://www.itu.int/md/R19-WP5A-C-0137/en) (WP7C); [5A/285](https://www.itu.int/md/R19-WP5A-C-0285/en) (Japan)

Output documents: 5A/TEMP/115 (PDN Report); 5A/TEMP/118 (LS to 7C)

WG5A-4 was able to agree with the proposal to retain the current text in Annex 3 and delete the square brackets and with that to elevate the document the 1st step to a PDN Report. It was also agreed to prepare a liaison statement to inform WP7C accordingly.

### 4.3.12 Range 252-296 GHz

Input documents: [5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N15%21MSW-E.docx) (Annex 15); [5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N03%21MSW-E.docx) (Annex 3) Attachment 3; [5A/244](https://www.itu.int/md/R19-WP5A-C-0244/en) (TIA TR-45);
[5A/260](https://www.itu.int/md/R19-WP5A-C-0260/en) (IEEE); [5A/288](https://www.itu.int/md/R19-WP5A-C-0288/en), [5A/289](https://www.itu.int/md/R19-WP5A-C-0289/en) (Japan)

Output documents: 5A/TEMP/112 (LS to 5C); 5A/TEMP/113 (Working doc)

WG5A-4 took note of the information from TIA, agreed to incorporate the figure on the channel arrangement as provided by the IEEE and decided to create a working document towards a preliminary draft new Report ITU-R M.[252-296 GHZ.LMS.FS.COEXIST] “Coexistence between land-mobile and fixed service applications operating in the frequency range 252-296 GHz” and prepared a liaison statement to WP5C accordingly.

### 4.3.13 EMF and human exposure

Input document: [5A/253](https://www.itu.int/md/R19-WP5A-C-0253/en) (ITU-D SG2); [5A/263](https://www.itu.int/md/R19-WP5A-C-0263/en) (ATDI)

Output document: 5A/TEMP/138 (LS to ITU-D and ITU-T)

WG5A-4 took note of the information provided by ITU-D SG 2 and developed a reply liaison statement to provide the WP5A views on this topic.

## 4.3.14 WRC-23 agenda item 1.2

Input documents: [5A/15](https://www.itu.int/md/R19-WP5A-C-0015/en) (WP5D); [5A/206](https://www.itu.int/md/R19-WP5A-C-0206/en) (UAE)

WG5A-4 did not have further discussion on these specific documents but took into account the related discussion as described in the section on WRC-23 agenda item 1.3 above. Documents 5A/15 (WP5D) and 5A/206 (UAE) are therefore carried forward to the next WP5A meeting for further consideration as appropriate.

### 4.3.15 WRC-23 agenda item 1.4

Input document: [5A/248](https://www.itu.int/md/R19-WP5A-C-0248/en) (WP5D)

WG5A-4 took note of the information provided by WP5D and did not see the need for further action at this point in time.

### 4.3.16 WRC-23 agenda item 1.8

Input document: [5A/356](https://www.itu.int/md/R19-WP5A-C-0356/en) (Director, BR)

Output document: 5A/TEMP/129 (LS to 5B)

Based on the information provided by the BR, WG5A-4 developed a liaison statement to provide further information as requested by WP5B.

### 4.3.17 WRC-23 agenda item 1.12

Input document: [5A/342](https://www.itu.int/md/R19-WP5A-C-0342/en) (WP7C)

WG5A-4 took note of the information provided by WP7C and did not see the need for further action at this point in time.

### 4.3.18 WRC-23 agenda item 1.14

Input document: [5A/340](https://www.itu.int/md/R19-WP5A-C-0340/en) (WP7C); [5A/355](https://www.itu.int/md/R19-WP5A-C-0355/en) (Director, BR)

Output document: 5A/TEMP/109 (LS to 7C)

Based on feedback from WG5A-1 and the information provided by the BR, WG5A-4 developed a liaison statement to provide further information as requested by WP7C.

### 4.3.18 WRC-23 agenda items 1.16 and 1.17

Input documents: [5A/31](https://www.itu.int/md/R19-WP5A-C-0031/en), [5A/32](https://www.itu.int/md/R19-WP5A-C-0032/en) (WP7C); [5A/355](https://www.itu.int/md/R19-WP5A-C-0355/en) (Director, BR)

Output document: 5A/TEMP/116 (LS to 7C)

Based on elements from the previous WP5A meeting and the information provided by the BR, WG5A-4 developed a reply liaison statement to provide relevant information as requested by WP4A.

### 4.3.19 WRC-23 agenda item 1.18

Input document: [5A/29](https://www.itu.int/md/R19-WP5A-C-0029/en) (WP4C); [5A/355](https://www.itu.int/md/R19-WP5A-C-0355/en) (Director, BR)

Output document: 5A/TEMP/128 (LS to 4C)

Based on the information provided by the BR, WG5A-4 developed a reply liaison statement to provide further information as requested by WP4C.

### 4.3.20 WRC-23 agenda item 1.19

Input document: [5A/30](https://www.itu.int/md/R19-WP5A-C-0030/en), [5A/214](https://www.itu.int/md/R19-WP5A-C-0214/en) (WP4A); [5A/355](https://www.itu.int/md/R19-WP5A-C-0355/en) (Director, BR)

Output document: 5A/TEMP/130 (LS to 4A)

Based on the information provided by the BR, WG5A-4 developed a reply liaison statement to provide further information as requested by WP4A.

### 4.3.21 WRC-23 agenda item 9.1, topic a)

Input document: 5A/355 (Director, BR)

Output document: 5A/TEMP/108 (LS to 7C)

Based on feedback from WG5A-1 and the information provided by the BR, WG5A-4 developed a liaison statement to provide further information as requested by WP7C.

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

Input documents: [5A/221](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N14%21MSW-E.docx) (Annex 14); [5A/225](https://www.itu.int/md/R19-WP5A-C-0225/en) (Chairmen, SG1, SG5 and SG7); [5A/251](https://www.itu.int/md/R19-WP5A-C-0251/en) (WMO); [5A/260](https://www.itu.int/md/R19-WP5A-C-0260/en) (IEEE); [5A/295](https://www.itu.int/md/R19-WP5A-C-0295/en) (Canada); [5A/327](https://www.itu.int/md/R19-WP5A-C-0327/en) (ESA, EUMETSAT); [5A/343](https://www.itu.int/md/R19-WP5A-C-0343/en) (WP7C)

Output document: 5A/TEMP/111 (Working doc)

WG5A-4 took note of the information provided by the Chairmen of SG 1, SG 5 and SG 7; the WMO and the IEEE and updated the working document from the previous meeting based on the inputs from Canada and ESA, EUMETSAT. It was also decided to carry forward document 5A/343 to the next WP5A meeting so that a reply liaison statement to WP7C can be developed at that time as appropriate, and input contributions to the next WP5A meeting are encouraged in order to further progress the development of the working document.

# 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/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N01%21MSW-E.docx) 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

– WRC-23 agenda item 1.2: 5A/[15, 5](https://www.itu.int/md/R19-WP5A-C-0015/en)A/[206](https://www.itu.int/md/R19-WP5A-C-0206/en)

– WRC-23 agenda item 1.3: [5A/74](https://www.itu.int/md/R19-WP5A-C-0074/en), [5A/88](https://www.itu.int/md/R19-WP5A-C-0088/en), [5A/190](https://www.itu.int/md/R19-WP5A-C-0190/en), [5A/203](https://www.itu.int/md/R19-WP5A-C-0203/en), [5A/204](https://www.itu.int/md/R19-WP5A-C-0204/en), [5A/221](https://www.itu.int/md/R19-WP5A-C-0221/en) (Annex 4 and Annex 5), [5A/233](https://www.itu.int/md/R19-WP5A-C-0233/en), [5A/298](https://www.itu.int/md/R19-WP5A-C-0298/en), [5A/301](https://www.itu.int/md/R19-WP5A-C-0301/en), [5A/313](https://www.itu.int/md/R19-WP5A-C-0313/en), [5A/322](https://www.itu.int/md/R19-WP5A-C-0322/en), [5A/328](https://www.itu.int/md/R19-WP5A-C-0328/en), [5A/331](https://www.itu.int/md/R19-WP5A-C-0331/en), [5A/332](https://www.itu.int/md/R19-WP5A-C-0332/en), [5A/333](https://www.itu.int/md/R19-WP5A-C-0333/en), [5A/334](https://www.itu.int/md/R19-WP5A-C-0334/en)

– Resolution **731 (Rev.WRC-19)**: 5A/[343](https://www.itu.int/md/R19-WP5A-C-0343/en)

# [4.](https://www.itu.int/md/R19-WP5A-C-0343/en)6 Objectives for the next WP5A meeting

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

– Continue work on the various working documents that are currently under development in WG5A-4.

– Continue work in preparation of WRC-23 agenda item 1.3 as the lead group, including discussion on the possible overlap in the technical studies depending on the agreed parameters.

– Consider how to respond to WP7C related to the ongoing study work in response to Resolution **731 (Rev.WRC-19)**.

# 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 WG5A4 under these exceptional circumstances of the virtual WP5A meeting. In particular I would like to thank the conveners of these offline discussions, as well as the chairman of the SWG, Mr. GUTIERREZ.

**Attachments**:

[Attachment 5](#att5): Meeting Report of Sub-Working Group 5A-4 on WRC-23 agenda item 1.3

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

Working Group (WG) 5A-5 met four times during the 25th meeting of ITU-R WP5A from 28th April to 11th May, 2021. 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) | *General:* [238](https://www.itu.int/md/R19-WP5A-C-0238/en) (ITU-T (FG-VM)); [256](https://www.itu.int/md/R19-WP5A-C-0256/en) (ETSI TC ITS); [280](https://www.itu.int/md/R19-WP5A-C-0280/en) (ITU-T FG-VM); [297](https://www.itu.int/md/R19-WP5A-C-0297/en) (Brazil)*CAV (*[*Question ITU-R 261/5*](https://www.itu.int/pub/R-QUE-SG05.261)*):* [221](https://www.itu.int/md/R19-WP5A-C-0221/en) ([Annex 16](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N16%21MSW-E.docx)) (WP5A); [283](https://www.itu.int/md/R19-WP5A-C-0283/en) (Japan); [284](https://www.itu.int/md/R19-WP5A-C-0284/en) (Japan); [290](https://www.itu.int/md/R19-WP5A-C-0290/en) (Korea); [302](https://www.itu.int/md/R19-WP5A-C-0302/en) (China); [303](https://www.itu.int/md/R19-WP5A-C-0303/en) (China) |
| – Above 275 GHz, Q.256-1/5) | *Rep. M.2417:* [221](https://www.itu.int/md/R19-WP5A-C-0221/en) ([Annex 17](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N17%21MSW-E.docx)) (WP5A); [260](https://www.itu.int/md/R19-WP5A-C-0260/en) (IEEE); [294](https://www.itu.int/md/R19-WP5A-C-0294/en) (Canada) |

WG5A-5 established a Sub-working Group (SWG) to facilitate its work during WP5A virtual meeting:

|  |  |
| --- | --- |
| SWG/DG (Chairperson/Editor) | Terms of Reference |
| SWG 5A5-1 ITS– CAV (Connected Automated Vehicles) (Mr. Satoshi Oyama, Japan/ Mr. Tom Schaffnit, U.S.A.) | – Develop workplan for the revisions of Recommendation ITU-R M.2121 and Report ITU-R M.2444;– Develop a working document towards the revision of Recommendation ITU-R M.2121,– Develop a working document towards the revision of Report ITU-R M.2444,– Develop liaison statements to relevant Working Parties and External Organizations on the development of the revisions of ITU-R Recommendation ITU-R M.2121 and Report M.2444;– 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 SWG activities were also carried out as a virtual meeting during the 25th meeting of WP5A.

## 5.1 Executive summary

WG5A-5 initiated its work of the revision of Recommendation ITU-R [M. 2121](file:///C%3A%5CUsers%5CTom.Schaffnit%5CAppData%5CLocal%5CMicrosoft%5CWindows%5CINetCache%5CContent.Outlook%5CDownloads%5CR-REC-M.2121-0-201901-I%21%21MSW-E.docx) - *Harmonization of frequency bands for Intelligent Transport Systems in the mobile service* and Report ITU-R [M.2444](file:///C%3A%5CUsers%5CTom.Schaffnit%5CAppData%5CLocal%5CMicrosoft%5CWindows%5CINetCache%5CContent.Outlook%5CDownloads%5CR-REP-M.2444-2019-MSW-E.docx) - E*xamples of arrangements for Intelligent Transport Systems deployments under the mobile service*.

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

WG5A-5 continued to develop a working document towards 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*.

## 5.2 Intelligent transport system (ITS)

WG5A-5 considered an input contribution (Document 5A/297) proposing the revisions of Recommendation ITU-R [M. 2121](file:///C%3A%5CUsers%5CTom.Schaffnit%5CAppData%5CLocal%5CMicrosoft%5CWindows%5CINetCache%5CContent.Outlook%5CDownloads%5CR-REC-M.2121-0-201901-I%21%21MSW-E.docx) - *Harmonization of frequency bands for Intelligent Transport Systems in the mobile service* and Report ITU-R [M.2444](file:///C%3A%5CUsers%5CTom.Schaffnit%5CAppData%5CLocal%5CMicrosoft%5CWindows%5CINetCache%5CContent.Outlook%5CDownloads%5CR-REP-M.2444-2019-MSW-E.docx) - E*xamples of arrangements for Intelligent Transport Systems deployments under the mobile service*. Based on the contribution, WG5A-5 added a frequency band used in Brazil to the working documents towards the revisions of Recommendation ITU-R M.2121 and Report ITU-R M.2444 (Document 5A/TEMP/100R1 and 101R1). WG5A-5 also developed work plan for the revisions (Document 5A/TEMP/96R1). The workplan is in [Attachment 6](#att6). WG5A-5 developed two liaison statements to relevant Working Parties and External Organizations to invite their contribution to the next WP5A meeting in November, 2021 (Document 5A/TEMP/97R1 and 98R1).

WG5A‑5 considered six input contributions and updated a working document towards a Preliminary draft new Report ITU-R M.[CAV] - *Connected Automated Vehicles* (Document 5A/TEMP/106). WG5A-5 also reviewed and endorsed a current workplan for the development of a new Report ITU-R M.[CAV] . The workplan is in [Attachment 7](#att7).

WG5A-5 considered liaison statements from ITU-T FG VM (Focus Group Vehicular Multimedia) (Documents 5A/238 and 280) on its technical report on “Use Cases and Requirements for Vehicular Multimedia”. WG5A-5 noted the liaison statements.

WG5A-5 considered an input contribution on Open contribution or Review of the Final Multi-Channel Operations study results, Mature Draft ETSI TR 103 439 from ETSI TC ITS – *Intelligent Transport Systems (ITS); Multi‑Channel Operation Study; Release 2*. WG5A-5 noted the liaison statement.

## 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 the working document towards the revision of Report ITU-R M.2417 (Document 5A/TEMP/93).

During the meetings, the views were expressed in Section 3 ***Related Recommendations and Reports*** of the working document that Recommendations ITU-R F.699 and ITU-R RS.2017 were NOT referred in the working document and the meeting decided to put [ ]s around them. Justification for the inclusion of these recommendations are invited, through input contributions, to the WP5A November 2021 meeting so that WG5A-5 consider the removal of these [ ]s.

After the meeting agreed to replace Figure 8 with a new figure in Annex 1 ***Examples of radio-frequency channel arrangement*** based on an input contribution, the view was expressed that lower boundary of the frequency band in Table 2 (in Section 7.1 ) ***Technical and operational characteristics of land-mobile CPMS applications in the frequency range 275-450 GHz for use in sharing and compatibility studies*** should be changed from 275 GHz to 252 GHz, i.e. 252-450 GHz. The other view was also expressed that the title of the Report ITU-R M.2417-0 describes the frequency range 275-450 GHz and further discussion is needed. WG5A-5 invited input contributions on this issue to the WP5A November 2021 meeting.

WG5A-5 also reviewed and confirmed a workplan for the development of a working document towards the revision of ITU-R M.2417-0. The workplan is in [Attachment 8](#att8).

## 5.4 Review of ITU-R texts

WG5A-5 reviewed ITU-R texts pertinent to WG5A-5 in Section 1 of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N01%21MSW-E.docx) to Doc. [5A/221](http://www.itu.int/md/R19-WP5A-C-0221) and review it with regard to WG5A-5 related ITU-R texts. The suggestion was made that very old Recommendations, such as Recommendation ITU-R M.1307, should further be reviewed with a view to supressing them. Particularly, ADL system described in Appendices 1, 2 and 3 in Recommendation ITU-R M.1307 should be reviewed by USA, UK and Japan, in which the systems are used. WG5A-5 invited input contributions to the next WP5A meetings on the supress of old ITU-R Recommendations and Reports.

WG5A-5 also reviewed the guide to the use of ITU-R texts relating to Land Mobile Systems. There was no suggested modification to the texts. WG5A-5 invites input contributions to the future meetings.

## 5.5 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 preliminary draft revision of Report ITU-R M.2417 of *Technical and operational characteristics of land-mobile service applications in the frequency range 275‑450 GHz*.

Finally, WG5A-5 Chairman would like to thank Sub-Working Group Chairperson Mr. Satoshi Oyama (J) and Editor Mr. Tom Schaffnit (USA) for their excellent work, and all participants for their contribution to work of the group.

**Attachments:**

[Attachment 6](#att6): Work plan for the revisions of Recommendation ITU-R M.2121 and Report ITU‑R M.2444 on Intelligent Transport Systems (TEMP/96R1)

[Attachment 7](#att7): Work plan for the development of a new Report ITU-R M.[CAV] – Connected Automated Vehicles

[Attachment 8](#att8): Work plan for the development of a working document towards 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

# 6 Ad Hoc Working Group 5A/5C – WRC-23 Topic 9.1c (Chairmen: Mr. José Costa, Canada, and Mr. Pietro Nava, Italy)

WPs 5A and 5C agreed that for the May 2021 block meeting there would be no need for a joint plenary of the working parties, since the expected results may be attached to the Chairmen’s Reports. Therefore, the work on WRC-23 Topic 9.1c “Study the use of International Mobile Telecommunication systems for fixed wireless broadband in the frequency bands allocated to the fixed service on a primary basis, in accordance with [Resolution **175 (WRC-19)**](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0024PDFE.pdf)” was conducted in the Ad Hoc WG5A/5C.

The WG considered all the input contributions assigned to it: Documents [5A/221](https://www.itu.int/md/R19-WP5A-C-0221/en) ([Annex 8](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N08%21MSW-E.docx)) (WP5A); [5A/221](https://www.itu.int/md/R19-WP5A-C-0221/en) ([Annex 9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N09%21MSW-E.docx)) (WP5A); [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%21N18%21MSW-E.docx)) (WP5A); [5A/251](https://www.itu.int/md/R19-WP5A-C-0251/en) §3.17 (WMO); [5A/271](https://www.itu.int/md/R19-WP5A-C-0271/en) (USA); [5A/273](https://www.itu.int/md/R19-WP5A-C-0273/en) (IAFI); [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) (CEPT CPG PTA); [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).

Document [5A/251](https://www.itu.int/md/R19-WP5A-C-0251/en) § 3.17 (WMO) was noted for information. The other documents (WP5A) were grouped for discussion as follows:

|  |  |
| --- | --- |
| Vocabulary | [19](https://www.itu.int/md/R19-WP5A-C-0019/en) (Chairmen, WP5A and WP5C); [321](https://www.itu.int/md/R19-WP5A-C-0321/en) [Att.1](https://www.itu.int/dms_ties/itu-r/md/19/wp5a/c/R19-WP5A-C-0321%21P01%21MSW-E.docx) (CEPT CPG PTA) |
| Rec. ITU-R F.1401-1 | [321](https://www.itu.int/md/R19-WP5A-C-0321/en) [Att.2](https://www.itu.int/dms_ties/itu-r/md/19/wp5a/c/R19-WP5A-C-0321%21P02%21MSW-E.docx) (CEPT CPG PTA); [271](https://www.itu.int/md/R19-WP5A-C-0271/en) (USA); [273](https://www.itu.int/md/R19-WP5A-C-0273/en) (IAFI) |
| Rec. ITU-R F.1763-1 | [307](https://www.itu.int/md/R19-WP5A-C-0307/en) (China), [271](https://www.itu.int/md/R19-WP5A-C-0271/en) (USA); [321](https://www.itu.int/md/R19-WP5A-C-0321/en) (CEPT CPG PTA) |
| Proposed new Rec./Rep. | [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%21N18%21MSW-E.docx) (WP5A); [271](https://www.itu.int/md/R19-WP5A-C-0271/en) (USA); [321](https://www.itu.int/md/R19-WP5A-C-0321/en) [Att.3](https://www.itu.int/dms_ties/itu-r/md/19/wp5a/c/R19-WP5A-C-0321%21P03%21MSW-E.docx) (CEPT CPG 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) |
| Draft CPM text | [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 8](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N08%21MSW-E.docx) (WP5A); [273](https://www.itu.int/md/R19-WP5A-C-0273/en) (IAFI); [321](https://www.itu.int/md/R19-WP5A-C-0321/en) (CEPT CPG PTA) |
| Work plan | [221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N09%21MSW-E.docx) (WP5A); [273](https://www.itu.int/md/R19-WP5A-C-0273/en) (IAFI); [321](https://www.itu.int/md/R19-WP5A-C-0321/en) [Att.4](https://www.itu.int/dms_ties/itu-r/md/19/wp5a/c/R19-WP5A-C-0321%21P04%21MSW-E.docx) (CEPT CPG PTA) |

No draft CPM text was developed, see Doc. 5A/[221](https://www.itu.int/md/R19-WP5A-C-0221/en) ([Annex 8](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N08%21MSW-E.docx)). The work plan was updated as proposed in Doc. [5A/321](https://www.itu.int/md/R19-WP5A-C-0321/en) [Att.4](https://www.itu.int/dms_ties/itu-r/md/19/wp5a/c/R19-WP5A-C-0321%21P04%21MSW-E.docx) (CEPT CPG PTA), see [Annex 9](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N09%21MSW-E.docx) to Doc. 5A/359.

The WG discussed the vocabulary, the proposed updates of existing Recommendations, and the proposed development of a new draft Recommendation/Report; however, no consensus could be reached due to the shortness of time available, all the input contributions are carried forward to the next meeting, and the WG agreed to the creation of a correspondence group to progress the work between the 25th and 26th meetings of the working parties, with Terms of Reference in [Attachment 9](#att9).

No liaison statements to other working parties were considered. Input contributions are encouraged for the next meeting scheduled for November 2021 to help progress the work on topic 9.1 c).

**Attachments:**

[Attachment 9](#att9): Terms of reference – Correspondence group on WRC-23 agenda item 9.1, topic c)

Attachment 1 to Annex 3

*Source: Document 5A/TEMP/102(Rev.1), 148 Appendix 1*

Workplan for completion of the work on RSTT
under Resolution 240 (WRC-19)

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

| Meetings | Work plan |
| --- | --- |
| 25th meetingApril 2021 | 1 Develop and adopt a work plan on RSTT under Resolution **240 (WRC-19)**2 Continue developing working document towards PDN Question ITU-R [RSTT]/5 and elevate it to preliminary draft new Question ITU-R [RSTT]/53 Continue developing the working document toward a PDN Recommendation ITU-R M.[RSTT\_FRQ] 4 Draft relevant liaison statement(s) if needed |
| 26th meetingNov. 2021 | 1 Consider any input contribution 2 Finalize PDN Question ITU-R [RSTT]/5 and elevate it to draft new Question ITU-R [RSTT]/5 for submission to Study Group 5 November 2021 meeting3 Continue developing WD2PDN Recommendation ITU-R M.[RSTT\_FRQ]4 Draft relevant liaison statement(s), if needed5 Review and revise the work plan if needed |
| 27th meetingMay 2022 | 1 Consider any input contribution2 Continue developing working document towards PDN Recommendation ITU-R M.[RSTT\_FRQ] and elevate it to preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ]3 Draft relevant liaison statement(s), if needed4 Review and revise the work plan if needed |
| 28th meetingNov. 2022 | 1 Consider any input contribution2 Finalize preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ], elevate it to DNR and submit it to SG5 (November 2022 meeting) for approval3 Draft relevant liaison statement(s), if needed |

Attachment 2 to Annex 3

*Source: Document 5A/TEMP/136R1, 148 Appendix 2*

Proposed draft work plan for revision of Recommendation ITU-R M.1801-2

*[Editor’s note: Due to time constraints, this work plan was not fully discussed nor agreed and it is still under consideration and needs to be revised. Participants are invited to submit input contributions to progress this work at the next meeting of WP5A.]*

|  |  |
| --- | --- |
| **Title** | The revision of radio interface standards for broadband wireless access systems |
| **Identifier** | Revision of ITU-R M.1801  |
| **Document type** | Recommendation |
| **WP5A Lead Group** | WG2 Systems and standards  |
| **SWG Chairman** | Lang Baozhen; **E-mail**: langbaozhen@caict.ac.cn |
| **Editor** | TBD |
| **Focus for scope and work** | The revision of ITU-R Recommendation ITU-R M.1801 includes specific standards for broadband wireless access in the mobile service, of which the associated frequency bands has been studied in ITU-R to assess the sharing and/or compatibility conditions. |
| **Related Documents** | Question ITU-R 212-4/5 and Question ITU-R 238-3/5 |
| **Milestones** | **25th meeting (May 2021)**Develop work scope and work plan; Consider the received contributions;Develop the working document towards PDN Recommendation;Draft and send Liaisons to external organizations and other Working Parties within ITU‑R as appropriate;**26th meeting (November 2021)**1 Consider the received contributions;3 Update the working document towards PDN Recommendation;4 Draft and send Liaisons to external organizations and other Working Parties within ITU-R as appropriate;**27th meeting (May 2022)**1 Consider the received contributions;2 Update the work plan as necessary;3 Develop the PDN Recommendation4 Draft and send Liaisons to external organizations and other Working Parties within ITU-R as appropriate;**28th meeting (November 2022)**1 Consider the received contributions;2 Update the work plan as necessary;3 Develop the draft revision of Recommendation;4 Draft and send Liaisons to external organizations and other Working Parties within ITU-R as appropriate;**29th meeting (May 2023)**1 Finalize the draft revision of Recommendations and send to SG5 for approval  |

Attachment 3 to Annex 3

*Source: Document 5A/TEMP/133R1, 148 Appendix 3*

*[Editor’s note: Due to time constraints, this work plan was not fully discussed nor agreed and it is still under consideration and needs to be revised. Participants are invited to submit input contributions to progress this work at the next meeting of WP5A.]*

|  |  |
| --- | --- |
| **Title** | The revision of characteristics of broadband radio local area networks |
| **Identifier** | Revision of ITU-R M.1450  |
| **Document type** | Recommendation |
| **WP5A Lead Group** | WG2 Systems and standards  |
| **SWG Chairman** | Lang Baozhen; **E-mail**: langbaozhen@caict.ac.cn |
| **Editor** | TBD |
| **Focus for scope and work** | The revision of ITU-R Recommendation ITU-R M.1450 includes the characteristics of broadband radio local area networks, of which the associated frequency bands has been studied in ITU-R to assess the sharing and/or compatibility conditions.  |
| **Related Documents** | Question ITU-R 212-4/5 and Question ITU-R 238-3/5 |
| **Milestones** | **25th meeting (May 2021)**1 Develop and adopt work scope and work plan; 2 Consider the received contributions;3 Develop the working document towards PDN Recommendation;4 Draft and send Liaisons to external organizations and other Working Parties within ITU-R as appropriate;**26th meeting (November 2021)**1 Consider the received contributions;2 Update the work plan as necessary;3 Update the working document towards PDN Recommendation;4 Draft and send Liaisons to external organizations and other Working Parties within ITU-R as appropriate;**[27th meeting (May 2022)**1 Consider the received contributions;2 Update the work plan as necessary;3 Develop the PDN Recommendation4 Draft and send Liaisons to external organizations and other Working Parties within ITU-R as appropriate;**28th meeting (November 2022)**1 Consider the received contributions;2 Update the work plan as necessary;3 Develop the draft revision of Recommendation;4 Draft and send Liaisons to external organizations and other Working Parties within ITU-R as appropriate;**29th meeting (May 2023)**1 Finalize the draft revision of Recommendations and send to SG 5 for approval.]  |

Attachment 4 to Annex 3

*Source: Document 5A/TEMP/137R2*

draft liaison statement to APT, ASMG, ATU, CEPT, CITEL and RCC

Information of the progress on the work of RSTT

At its [twenty-fifth] meeting from [28 April to 11 May 2021], Working Party 5A (WP5A) progressed the draft new study Question ITU-R [RSTT] on studies related to the further development of RSTT.

In addition, WP5A continued the development of the working document toward a preliminary draft new Recommendation ITU-R M.[RSTT\_FRQ] on spectrum harmonization for Railway Radiocommunication Systems between Train and Trackside (RSTT).

WP5A therefore would like to invite the Regional Organizations to provide update information on the frequency bands that they are considering for possible spectrum harmonization within the existing mobile service allocations to support RSTT.

The next meeting of ITU-R WP5A is scheduled from [15 to 26 November 2021] and the deadline for submission of contributions for that meeting is 16:00 hours UTC, [XX November 2021].

WP5A looks forward to ongoing collaboration with the Regional Organizations on RSTT.

|  |  |
| --- | --- |
| **Status:** For information and for action, as appropriate |  |
| **Contact:** Uwe Loewenstein | **E-mail:** uwe.loewenstein@itu.int |

**Attachments** (3): Work plan, Study Question RSTT, and WD Rec. M.[RSTT\_FRQ]

Attachment 5 to Annex 3

*Source: Document 5A/TEMP/117*

Meeting Report of Sub-working Group 5A-4
on WRC-23 Agenda Item 1.3

To consider primary allocation of the band 3 600-3 800 MHz to mobile service within Region 1 and take appropriate regulatory actions, in accordance with Resolution 246 (WRC-19);

# A5.1 Introduction

Sub-Working Group (SWG) 5A-4 on WRC-23 agenda item (AI) 1.3 had its second meeting during the 25th meeting of Working Party 5A (WP5A). The SWG was assigned 22 input documents, newly received and carried forward from the previous WP5A meeting, of which 6 could not be reviewed due to the lack of time.

The group met 5 times:

– Thursday, 29th April, Session 3, 1510-1630

– Monday, 3rd May, Session 2, 1335-1455 & Session 3, 1510-1630

– Wednesday, 5th May, Session 1, 1200-1320 & Session 3, 1510-1630.

# A5.2 Incoming liaison statements

The SWG considered two LSs: Documents 5A/[88 (WP](https://www.itu.int/md/R19-WP5A-C-0088/en)5B) and 5A/[233](https://www.itu.int/md/R19-WP5A-C-0233/en) (WP5C). These LSs contain information and references on parameters for radiolocation systems and for fixed services systems, to be used in the sharing studies. The two documents are carried forward to the next meeting so that their content can be incorporated to the working document and used in the studies.

# A5.3 Structure of the working document

Documents 5A/[190](https://www.itu.int/md/R19-WP5A-C-0190/en) (China), 5A/[204](https://www.itu.int/md/R19-WP5A-C-0204/en) (Ericsson *et al.*) and 5A/[313](https://www.itu.int/md/R19-WP5A-C-0313/en) (South Africa, Zimbabwe) propose structures for the working document that will contain studies and other relevant material produced under this agenda item. The first two documents were carried over from the November meeting and were not presented, while 5A/313 was presented.

During the discussion that followed presentation, participants commented in three broad directions:

– Some participants thanked South Africa and Zimbabwe for the proposal, which they viewed as a good way to start the working document and supported moving the draft forward.

– Others argued that it was premature to discuss this document, in particular because the group should first analyse existing studies and because the work on sharing studies cannot start before July 23 this year, when sharing study parameters become available.

– Others argued that whilst this was a good start, several important elements were missing.

It was noted that the work plan for this AI called for initiation of the working document at this meeting. To comply with this schedule, it was proposed to set-up an email correspondence group for consolidating the 3 input contributions as well as similar aspects from Document [5A/74](https://www.itu.int/md/R19-WP5A-C-0074/en) from ESOA. However, the prevailing view after the debate was that the group should not discuss the working document at this meeting and that the 3 documents above should be carried forward to the next meeting. It was also agreed that, at the next WP5A meeting, the SWG should take account of the comments made by participants after presentation of 5A/313. These include:

– The working document should include a clear definition of the issue under consideration, as well as reference to the relevant Resolution such as the protection of specific service and the condition of use for the frequency band and those referred to in RR No. **5.430A**.

– The group must agree on parameters, so that different studies do not use different parameters.

– The group must analyse existing ITU reports and recommendations before doing studies. The result of this analysis can be captured in the working document.

– It is not necessary to include a section on the characteristics of mobile systems in each Study section in the Annex, since these characteristics should be common to all studies.

– The working document should contemplate studies for adjacent band scenarios (there was also the view that it should not address this topic since the group has not agreed to do adjacent band studies).

– The 3 documents should be carried forward and used as the starting point for the discussion.

– Studies of 3 600-3 800 MHz must take account of the conditions in 3 400-3 600 MHz.

# A5.4 Parameters of mobile systems

Documents 5A/[203](https://www.itu.int/md/R19-WP5A-C-0203/en) (Ericsson *et al.*), 5A/[322](https://www.itu.int/md/R19-WP5A-C-0322/en) (Germany), 5A/[298](https://www.itu.int/md/R19-WP5A-C-0298/en) (Sweden, Finland) and 5A/[333](https://www.itu.int/md/R19-WP5A-C-0333/en) (Egypt, UAE) contain proposals for technical and operational characteristics of mobile systems in 3 600-3 800 MHz. Document 5A/[203](https://www.itu.int/md/R19-WP5A-C-0203/en) was carried over from last meeting. It contains a proposal to use Report [ITU-R M.2116](https://www.itu.int/pub/R-REP-F.2116) as the source of characteristics of mobile systems in the band.

The other 3 documents contain detailed parameters for mobile systems that the submitting administrations propose for use in the band. The parameters appear to be very similar across the 3 documents, so a proposal was made to consolidate the 3 documents into one set. This was agreed and a consolidated document was presented at a later session (available in share point [here](https://extranet.itu.int/rsg-meetings/sg5/wp5a/Share/5A4-Interference%20and%20sharing/SWG5A-4%20on%20WRC-23%20AI1.3/5A-TEMP-%20Mobile%20service%20parameters.docx?d=wa1aa799cf6584d329690d0bdd60599ea&csf=1)). This consolidated document contains parameters for BS for urban/suburban macro, outdoor micro, indoor small cells and private networks types of deployments, as well as terminal parameters and parameters for beamforming antennas. It also lists in its introduction some aspects that, in the view of some members, would need to be considered at future meetings.

There were lengthy and ultimately fruitless discussions on this document. The point of contention was the mention that the parameters in the document are those of IMT systems. Some members asked to remove all mention of IMT, whereas others asked to capture explicitly that the document takes into account parameters from IMT systems/technologies. The SWG could not agree on text acceptable to all, and the discussion ended with a version of the document containing various edits made online. It was agreed to submit to WG4 this last version of the document with the edits made during the meeting, so that WG4 could continue the discussion. Several participants expressed disappointment that a document that should contain just a list of technical parameters was also used to express views on whether IMT was in the scope of the AI, and whether IMT could be introduced in the band.

Document 5A/[333](https://www.itu.int/md/R19-WP5A-C-0333/en) also includes a proposal that WP5A sends a LS to WP5D ask that the sharing studies with IMT systems conducted in that group are shared with WP5A, who should focus on non-IMT mobile systems. This proposal was not agreed by the SWG.

# A5.5 Other inputs

The following documents were also considered by the SWG: 5A/[74](https://www.itu.int/md/R19-WP5A-C-0074/en) (ESOA), 5A/[192](https://www.itu.int/md/R19-WP5A-C-0192/en) (China), 5A/[299](https://www.itu.int/md/R19-WP5A-C-0299/en) (China), 5A/[308](https://www.itu.int/md/R19-WP5A-C-0308/en) (GSMA), 5A/[330](https://www.itu.int/md/R19-WP5A-C-0330/en) (GSA) and 5A/[301](https://www.itu.int/md/R19-WP5A-C-0301/en) (China)

Document 5A/[74](https://www.itu.int/md/R19-WP5A-C-0074/en) was carried over from last meeting. It was agreed to carry it forward to the next, for consideration in the discussion about the working document.

Document 5A/[192](https://www.itu.int/md/R19-WP5A-C-0192/en) (carried over from last meeting) and 5A/[299](https://www.itu.int/md/R19-WP5A-C-0299/en) (China) explains the technical conditions put in place in China for the coexistence of IMT in the 3 300-3 600 MHz and FSS in the 3 400-4 200 MHz. Some participants argued that China is not a Region 1 country and that the frequency range is not 3 600-3 800 MHz and thus the document was not relevant for the AI. However, other participants argued that the information from China was useful for Region 1 countries nevertheless. Ultimately it was agreed to note these documents.

Document 5A/[308](https://www.itu.int/md/R19-WP5A-C-0308/en) (GSMA) contains information about the mobile use of the band today globally, and the benefits of a primary allocation to mobile. While some members objected that it is focused on IMT and not relevant for the work if the SWG, others suggested that some of the text here could be useful to give the context of mobile use in the band and could be used in the CPM document. It was agreed to note Document 5A/[308](https://www.itu.int/md/R19-WP5A-C-0308/en), but it was suggested that GSMA could produce a specific text proposal for inclusion in the CPM document and focusing on Mobile use and not IMT.

Document 5A/[330](https://www.itu.int/md/R19-WP5A-C-0330/en) (GSA) contains the regulatory conditions for Mobile use of 3 600-3 800 MHz in CEPT. It is presented for information to WP5A and Region 1 administrations outside of CEPT that may be looking at introducing Mobile systems. The document was noted.

Document 5A/[301](https://www.itu.int/md/R19-WP5A-C-0301/en) (China) contains a review of existing ITU deliverables relevant to the scope of AI1.3. The SWG agreed at its last meeting to conduct this analysis in order to avoid duplicating what could be existing work. The document concludes with a few areas that have not been studied so far and that would therefore merit further studies. The proposal is to incorporate the analysis to the working document, including a detailed comparison of the studies in Report [ITU-R S.2368](https://www.itu.int/pub/R-REP-S.2368). While there was general agreement that the analysis was good, there was reticence to include the detailed comparison. No agreement was reached, the document is carried forward to the next meeting.

# A5.6 Documents carried forward

The following documents were considered by the meeting and the decision was to carry them forward to the next meeting:

– Incoming LSs: 5A/[88](https://www.itu.int/md/R19-WP5A-C-0088/en) (WP5B), 5A/[233](https://www.itu.int/md/R19-WP5A-C-0233/en) (WP5C)

– Structure of the working document: 5A/[190](https://www.itu.int/md/R19-WP5A-C-0190/en) (China), 5A/[204](https://www.itu.int/md/R19-WP5A-C-0204/en) (Ericsson *et al.*), 5A/[313](https://www.itu.int/md/R19-WP5A-C-0313/en) (South Africa, Zimbabwe), 5A/[74](https://www.itu.int/md/R19-WP5A-C-0074/en) (ESOA)

– Parameters of mobile systems: 5A/[203](https://www.itu.int/md/R19-WP5A-C-0203/en) (Ericsson *et al.*), 5A/[322](https://www.itu.int/md/R19-WP5A-C-0322/en) (Germany), 5A/[298](https://www.itu.int/md/R19-WP5A-C-0298/en) (Sweden, Finland), 5A/[333](https://www.itu.int/md/R19-WP5A-C-0333/en) (Egypt, UAE) (noting that the content of the last 3 document is in the consolidated document, which would ideally be carried forward instead)

– Analysis of existing ITU deliverables: 5A/[301](https://www.itu.int/md/R19-WP5A-C-0301/en) (China).

The SWG could not consider the following inputs and therefore they will be carried forward to the next meeting, if they are not addressed at WG4:

– Working document for sharing studies: 5A/[332](https://www.itu.int/md/R19-WP5A-C-0332/en) (Egypt, UAE)

– CPM text: 5A/[221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 4](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N04%21MSW-E.docx) (WP5A), 5A/[328](https://www.itu.int/md/R19-WP5A-C-0328/en) (ESOA), 5A/[331](https://www.itu.int/md/R19-WP5A-C-0331/en) (Egypt, UAE)

– Work plan: 5A/[221](https://www.itu.int/md/R19-WP5A-C-0221/en) [Annex 5](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0221%21N05%21MSW-E.docx) (WP5A)

– Proposed LS: 5A/[334](https://www.itu.int/md/R19-WP5A-C-0334/en) (Egypt, UAE).

# A5.7 Final remarks

There were concerns with the slow progress at the SWG. In particular, it was observed that speakers take the floor for too long or just to repeat arguments that had been stated previously, that the attitude of participants is at times inflexible, and that offline email discussions were not accepted. In the light of the slow progress, WP5A should give consideration to how the SWG could improve working methods and accelerate the progress on this agenda item.

Attachment 6 to Annex 3

*Source: Document 5A/TEMP/96R1, 122 Attachment 1*

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  |
| **SWG Chairman** | Mr. Satoshi (Sam) Oyama; **E-mail**: s-oyama@arib.or.jp |
| **Editor** | Mr. Tom Schaffnit; **E-mail**: 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 SystemsQuestion ITU-R 261/5 – Connected Automated Vehicles |
| **Milestones** | **25th meeting (April/May 2021)** Develop and adopt work planDevelop working documents toward PD Revisions of Recommendation and ReportLiaise as 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)**1. Continue developing working documents toward PD revisions of Recommendation and Report2. Update work plan as needed**27th meeting (May 2022)**1. Develop the PD revisions of Recommendation and Report2. Liaise as needed with concerned and interested organizations on development of PD revisions of Recommendation and Report**28th meeting (November 2022)**Finalize revisions of Recommendation and Report. Submit them to WP5A for adoption and to SG5 for adoption/approval. |

Attachment 7 to Annex 3

*Source: Document 5A/TEMP/91(Rev.1), 122 Attachment 2*

WORK PLAN FOR THE DEVELOPMENT OF A 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  |
| **SWG Chairman** | Mr. Satoshi (Sam) Oyama; **E-mail**: s-oyama@arib.or.jp |
| **Editor** | Mr. Tom Schaffnit; **E-mail**: Tom.Schaffnit@dot.gov |
| **Focus for scope and work** | This report addresses overall objectives and radiocommunication requirements for CAVs, including the consideration of global or regional harmonization of frequency spectrum 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 |
| **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)**– Developing a PDN Report– Liaise as needed with concerned and interested organizations on development of the PDN Report– Update work plan as needed **28th meeting (November 2022)**– Finalize Report and submit to WP5A for adoption and to SG5 for approval |

Attachment 8 to Annex 3

*Source: Document 5A/TEMP/91(Rev.1), 122 Attachment 3*

WORK PLAN FOR THE DEVELOPMENT OF A WORKING DOCUMENT TOWARDS 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

|  |  |
| --- | --- |
| **Title** | Technical and operational characteristics of land-mobile service applications in the frequency range 275-450 GHz |
| **Document type** | Report |
| **WP5A Lead Group** | WG5 New Technologies  |
| **WG Chairman** | Mr. Hitoshi Yoshino; **E-mail**: [hitoshi.yoshino@g.softbank.co.jp](hitoshi.yoshino%40g.softbank.co.jp) |
| **Editor** | [t.b.d.] E-mail: [xxxxxxx] |
| **Focus for scope and work** | This report addresses Technical and operational characteristics of land-mobile service applications in the frequency range 275-450 GHz. |
| **Related Documents** | Question ITU-R 256-1/5 |
| **Milestones** | **23rd meeting (July 2020)- virtual-meeting** – Develop working document toward the revision of ITU-R Report M.2417-0**24th meeting (November 2020) – virtual meeting**– Develop working document toward the revision of ITU-R Report M.2417-0– Develop and adopt work plan.**25th meeting (May 2021) – virtual meeting**– Develop working document toward the revision of ITU-R Report M.2417-0– Liaise as needed with concerned and interested organizations on development of the PD revision of Report– Update work plan as needed**26th meeting (November 2021)**– Continue developing working document toward the revision of ITU-R Report M.2417-0– Liaise as needed with concerned and interested organizations on development of the PD revision of Report– Update work plan as needed**27th meeting (May 2022)**– Continue developing working document toward the revision of ITU-R Report M.2417-0– Liaise as needed with concerned and interested organizations on development of the PD revision of Report– Update work plan as needed **28th meeting (November 2022)**– Finalize Report and submit to WP5A for adoption and to SG 5 for approval |

Attachment 9 to Annex 3

*Source: Document 5A/TEMP/146(Rev.1)*

TERMS OF REFERENCE
Correspondence Group on WRC-23 agenda item 9.1, topic c)

Study the use of International Mobile Telecommunication system for fixed wireless broadband in the frequency bands allocated to the fixed services on primary basis, in accordance with Resolution 175 (WRC-19)

This Correspondence Group (CG) will work from the closure of 25th meetings of WP5A and WP5C (May 2021) to the 26th meetings of these working parties (November 2021). This CG is to progress the studies on WRC-23 agenda item 9.1, topic c) “Study the use of International Mobile Telecommunication system for fixed wireless broadband in the frequency bands allocated to the fixed services on primary basis, in accordance with [Resolution 175 (WRC-19)](https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000D0024PDFE.pdf)”.

The CG will work in accordance with § A1.3.2.9 and § A1.3.2.10 of Resolution ITU-R 1-8[[1]](#footnote-1), and perform the following items, using the relevant contributions from WP5A and WP5C and additional proposals directly into the work of the CG:

1) Seek contributions towards the development of a common understanding on the use of the term ‘fixed wireless broadband’ (FWB), as referred to in Resolution **175 (WRC-19)**, to facilitate the work under this topic taking into account available and agreed definitions and terminology of the Fixed Service.

2) Prepare a summary report of the CG activities to be submitted by the convener in a contribution to the 26th meetings of WP5A and WP5C, to be available at least 21 days before the start of the meetings to enable members to submit related contributions to the WPs if they so wish.

**CG Convener:**

Chairman: Ms Christine Di Lapi (USA) (e-mail: cdilapi@alionscience.com)

Vice-Chairman: Mr Abdulhadi AbouAlmal (UAE) (e-mail: aalmal@etisalat.ae)

**CG SharePoint:** [https://extranet.itu.int/rsg-meetings/sg5/wp5c/CG%20on%20WRC-23%20AI%209.1%20c)/SitePages/Home.aspx](https://extranet.itu.int/rsg-meetings/sg5/wp5c/CG%20on%20WRC-23%20AI%209.1%20c%29/SitePages/Home.aspx)

**Participants:** Representatives of Member States, Sector Members, Associates and Academia and other interested parties. Persons who wish to join the CG should contact the convener.

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1. A1.3.2.9 Correspondence Groups may also be established under the leadership of an appointed Correspondence Group Chairman. The Correspondence Group differs from the RG in that the Correspondence Group performs its work only via electronic correspondence and no meetings are required. A Correspondence Group must have clearly defined Terms of Reference and may be established, and its Chairman appointed by a WP, a TG, an SG, CCV, or RAG.

 A1.3.2.10 Participation in the work of the RGs, JRGs and Correspondence Groups of the SGs is open to representatives of Member States, Sector Members, Associates and Academia. Any views expressed and documentation submitted to these groups should indicate the Member State, Sector Member, Associate or Academia, as the case may be, making the submission. [↑](#footnote-ref-1)