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| **Radiocommunication Study Groups** |  |
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| Source: Documents 5A/TEMP/212, 218, 229R1, 243, 247, 251, 252 | **Annex 3 toDocument 5A/543-E** |
| **30 June 2014** |
| **English only** |
| Annex 3 to Working Party 5A Chairman’s Report |
| consolidation of reports from the working groupsof working party 5a |
|  |

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NOTE – 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 22](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0543!N22!MSW-E) of [Doc. 5A/543](http://www.itu.int/md/R12-WP5A-C-0543/en) to find the final disposition of these documents by Working Party 5A.

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

Working Group 5A-1 met seven times during this block of meetings, considered seventeen input documents, and completed its work. The input documents assigned were:

|  |  |
| --- | --- |
| **AI 1.4 (~5300 kHz)** | [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 4](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N04!MSW-E) and [Annex 5](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N05!MSW-E) (WP 5A Chairman’s Report)[467](http://www.itu.int/md/R12-WP5A-C-0467/en) (Russian Federation) [471](http://www.itu.int/md/R12-WP5A-C-0471/en) (Netherlands) [476](http://www.itu.int/md/R12-WP5A-C-0476/en) (USA)[488](http://www.itu.int/md/R12-WP5A-C-0488/en) (China) [493](http://www.itu.int/md/R12-WP5A-C-0493/en) (Norway) [498](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-C-0498) (Canada) |
| **COMPAT Report** | [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 10](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N10!MSW-E) (WP 5A Chairman’s Report)[418](http://www.itu.int/md/R12-WP5A-C-0418/en) (WP 5C) [468](http://www.itu.int/md/R12-WP5A-C-0468/en) (Russian Federation)[482](http://www.itu.int/md/R12-WP5A-C-0482/en) (USA) [489](http://www.itu.int/md/R12-WP5A-C-0489/en) (China)[503](http://www.itu.int/md/R12-WP5A-C-0503/en) (Canada)[531](http://www.itu.int/md/R12-WP5A-C-0531/en) (WP 5C) |
| **AI 7, AI 9.1.8, and other** | [431](http://www.itu.int/md/R12-WP5A-C-0431/en) (SC-WP) [432](http://www.itu.int/md/R12-WP5A-C-0432/en) (WP 5B) [462](http://www.itu.int/md/R12-WP5A-C-0462/en) (WMO)  |

A sub-working group to consider CPM text for WRC-15 agenda item 1.4 was formed and was chaired by Mr C. Glass (USA). The previous Draft CPM text in Document 5A/421 [Annex 4](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N04!MSW-E) became the basis for updated draft CPM text. Documents [5A/467](http://www.itu.int/md/R12-WP5A-C-0467/en) (Russian Federation), [5A/471](http://www.itu.int/md/R12-WP5A-C-0471/en) (Netherlands), [5A/476](http://www.itu.int/md/R12-WP5A-C-0476/en) (USA), [5A/488](http://www.itu.int/md/R12-WP5A-C-0488/en) (China), [5A/493](http://www.itu.int/md/R12-WP5A-C-0493/en) (Norway) and [5A/498](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-C-0498) (Canada) were considered and incorporated into a significantly modified draft CPM text in Document 5A/TEMP/234, which is presented to the Working Party 5A plenary for adoption.

Two liaison statements from Working Party 5C (Documents [5A/418](http://www.itu.int/md/R12-WP5A-C-0418/en) and [5A/531](http://www.itu.int/md/R12-WP5A-C-0531/en)) provided guidance on suitable methods to be used in sharing and compatibility studies and suitable areas for further work. The contents of the documents were noted and guided the group’s work.

The working document toward a preliminary draft new Report on compatibility issues relating to WRC-15 agenda item 1.4 ([Annex 10](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N10!MSW-E) to Doc. 5A/421) became the basis of further work. Documents [5A/468](http://www.itu.int/md/R12-WP5A-C-0468/en) (Russian Federation), [5A/482](http://www.itu.int/md/R12-WP5A-C-0482/en) (USA), [5A/489](http://www.itu.int/md/R12-WP5A-C-0489/en) (China) and [5A/503](http://www.itu.int/md/R12-WP5A-C-0503/en) (Canada) were considered. These studies, along with documents covering aspects of agenda item 1.4 that were discussed at earlier WP 5A meetings, will be incorporated in the final compatibility report for the agenda item as annexes. The resulting Document 5A/TEMP/236 (ITU-R.M.[5 MHz COMPAT]), was given preliminary draft new Report status and is to be carried forward for further work. It is expected that this work toward this Report will be completed during the next Working Party 5A meeting.

WG 5A-1 produced a liaison statement to keep other Working Parties informed of our work and progress. This statement is found in Document 5A/TEMP/235.

WG 5A-1 has reviewed and revised the work plan for agenda item 1.4 (Doc. 5A/421 [Annex 5](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N05!MSW-E)) to take account of progress to date. The revised work plan is Document 5A/TEMP/233.

Document [5A/432](http://www.itu.int/md/R12-WP5A-C-0432/en) (Working Party 5B), regarding Morse telegraphy identification methods for oceanographic radars in the 3-50 MHz frequency range, was considered in conjunction with Working Party 5C. A reply liaison statement was drafted and approved as Document 5A/TEMP/208.

Documents [5A/431](http://www.itu.int/md/R12-WP5A-C-0431/en) (Working Party of the Special Committee) and the relevant sections of Document [5A/462](http://www.itu.int/md/R12-WP5A-C-0462/en) (WMO), dealing with issues under WRC-15 agenda items 7 and 9.1.8, were noted.

The chair enjoyed working with all the delegates and is grateful for their thoughtful input contributions and general goodwill.

The chair thanks Mr. Charles Glass for his excellent work in chairing the CPM sub-working group and also thanks of the members of WG 5A-1 for their diligence and enthusiasm in the undertaking the assigned work.

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

2.1 Executive summary

The development of preliminary draft revision of Recommendation ITU-R M.2003 and preliminary draft revision of Report ITU-R M.2227 were completed and will be submitted to SG 5 at the next meeting. Work continued on the development of draft revisions of Recommendations
ITU-R M.1076 and draft new Report ITU-R M.[LOCAL\_CoVERAGE].

# 2.2 Organization of the work

Working Group 5A-2 met three times at the thirteenth meeting of WP 5A in Geneva with approximately 30 delegates in attendance. Working Group 5A-2 received the 15 documents remanded by the WP 5A Plenary as follows:

|  |  |
| --- | --- |
|  | Documents |
| 2.1 Wireless Gigabit Networks | [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 13](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N13!MSW-E) and [Annex 14](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N14!MSW-E) (WP 5A); [429](http://www.itu.int/md/R12-WP5A-C-0429/en) (ETSI); |
| 2.2 Broadband Wireless Access | [423](http://www.itu.int/md/R12-WP5A-C-0423/en), [424](http://www.itu.int/md/R12-WP5A-C-0424/en) (WP 5C); [452](http://www.itu.int/md/R12-WP5A-C-0452/en) (ITU-T SG 13); [463](http://www.itu.int/md/R12-WP5A-C-0463/en) (ITU-D SG 2) |
| 2.3 Local coverage aspects | [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 12](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N12!MSW-E) (WP 5A); [478](http://www.itu.int/md/R12-WP5A-C-0478/en) (USA); [506](http://www.itu.int/md/R12-WP5A-C-0506/en) (Japan) |
| 2.4 AI 9.1.6 (Def. Res. 957) | [441](http://www.itu.int/md/R12-WP5A-C-0441/en) (WP 1B); [462](http://www.itu.int/md/R12-WP5A-C-0462/en)-9.1.6 (WMO); |
| 2.5 ITU-T (Energy, ANTS, etc.) | [461](http://www.itu.int/md/R12-WP5A-C-0461/en) (ITU-T SG 15) |
| 2.6 Hearing aids | [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 11](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N11!MSW-E) (WP 5A); [512](http://www.itu.int/md/R12-WP5A-C-0512/en) (Korea) |

Working Group 5A-2 set up two drafting groups to deal with Hearing aids and Local coverage issue respectively.

• DG5A2-1 Hearing Aids Mr. Brian Copsey

• DG5A2-2 Local Coverage Mr. Hitoshi Yoshino

## 2.3 Wireless Gigabits networks

Regarding wireless gigabits networks, Working Party 5A received one liaison contribution from ETSI on the revisions to Recommendation ITU-R M.2003 and Report ITU-R M.2227.

ITU-R Working Party 5A-2 further developed the Recommendation ITU-R M.2003, Multiple Gigabit Wireless Systems (MGWS) in frequencies around 60 GHz, and its companion
Report ITU-R M.2227 based on the liaison.

Working Group 5A-2 reached an agreement to submit these two documents (5A/TEMP/224R1 and 226R1) to WP 5A Plenary for approval.

## 2.4 Broadband Wireless Access

The meeting considered 4 documents [423](http://www.itu.int/md/R12-WP5A-C-0423/en), [424](http://www.itu.int/md/R12-WP5A-C-0424/en) (WP 5C), [452](http://www.itu.int/md/R12-WP5A-C-0452/en) (ITU-T SG 13) and [463](http://www.itu.int/md/R12-WP5A-C-0463/en) (ITU-D SG 2).

A liaison statement (5A/[423](http://www.itu.int/md/R12-WP5A-C-0423/en)) of WP 5C informs 5A that 5C has updated its working document of draft new Report ITU-R F.[FS.IMT/BB] “Fixed service backhaul networks for IMT and other terrestrial mobile broadband systems”. Working Party 5A-2 reviewed the liaison and noticed that 5C doesn't consider the reply LS of 5A at previous meeting yet, the meeting decided to take further action after receiving the comments from 5C.

A liaison statement (5A/[424](http://www.itu.int/md/R12-WP5A-C-0424/en)) of WP 5C informs WP 5A that WP 5C has developed a preliminary draft New Report ITU-R F.[FS USE-Trends] “Fixed service use and future trends”. Working Group 5A-2 reviewed the liaison and developed a reply liaison which is Document 5A/TEMP/230.

A liaison statement (5A/[452](http://www.itu.int/md/R12-WP5A-C-0452/en)) from ITU-T SG 13 regarding the development of a draft new Report
ITU-R F.[FS.IMT/BB] “Fixed service backhaul networks for IMT and other terrestrial mobile broadband systems” was reviewed by Working Group 5A-2. Because the liaison is just information for WP 5A, the meeting did not consider any replies.

A liaison statement (5A/[463](http://www.itu.int/md/R12-WP5A-C-0463/en)) from ITU-D SG 2 regarding the development of the “Report on Access Technology for Broadband Telecommunications Including IMT, for Developing Countries” was reviewed by Working Group 5A-2. Because the liaison is just information for WP 5A, the meeting did not consider any replies.

## 2.5 Local coverage aspects

Working Group 5A-2 received two contributions [478](http://www.itu.int/md/R12-WP5A-C-0478/en) (USA) and [506](http://www.itu.int/md/R12-WP5A-C-0506/en) (Japan) on local coverage issue.

DG5A2-2 Local coverage further developed the working document towards a preliminary draft new Report ITU-R M.[LOCAL\_CoVERAGE] based on the input contributions(Doc. 5A/TEMP/220). DG5A2-2 Local coverage also developed a time plan document (Doc. 5A/TEMP/218) for Report
ITU-R M.[LOCAL\_CoVERAGE] contained in Attachment 1 to this Annex. To facilitate the work on the report, a correspondence group was established. The ToR of the CG (Doc. 5A/TEMP/219) is in Attachment 2 to this Annex.

An information liaison statement (Doc. 5A/TEMP/228) was developed to inform WP 5D about the activity on local coverage.

## 2.6 AI 9.1.6 (Def. Res. 957)

Two input contributions [441](http://www.itu.int/md/R12-WP5A-C-0441/en) (WP 1B) and [462](http://www.itu.int/md/R12-WP5A-C-0462/en)-9.1.6 (WMO) were considered under this issue.

Working Group 5A-2 took note of the information provided by WP 1B on studies towards review of the definitions of fixed service, fixed station and mobile station, and did not see the need for further action at this point in time.

Working Group 5A-2 also took note of the information provided by WMO on this issue, and did not see the need for further action at this point in time.

## 2.7 ITU-T (Energy, ANTS, etc.)

Working Group 5A-2 received a liaison statement from ITU-T SG 15. WG 5A-2 considered the information provided by ITU-T SG 15 on the updated documents ANT Standards Overview (Issue 24, April 2014 Q 1/15 Meeting), containing ANT scenarios and a list of Standards and Recommendations from ITU and various Standardization Bodies, as well as the ANT Work Plan (Issue 22, April 2014 Q 1/15 Meeting), providing an overview of various Standardization Groups and ongoing ANT activities (Reference: <http://www.itu.int/ITU-T/studygroups/com15/ant/>, 22 April 2014), and developed a reply liaison statement (Doc. 5A/ TEMP/227) to offer some comments on the current ANT Work Plan and ANT Standards Overview documents.

## 2.8 Hearing aids

The meeting considered two documents [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 11](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N11!MSW-E) (WP 5A) and [512](http://www.itu.int/md/R12-WP5A-C-0512/en) (Korea).

Working Group 5A-2 further developed the Preliminary draft Revision of Recommendation
ITU-R M.1076 on Wireless communication systems for persons with impaired hearing based on input contribution. The output document is 5A/TEMP/205.

A liaison statement was developed to inform JCA-AHF and IRG-AVQA, CEPT WG FM, ETSI ERM, ETSI TG 17, and EHIMA that [Question ITU-R 254/5](http://www.itu.int/pub/R-QUE-SG05.254) “Operation of short-range radiocommunication public access system supporting hearing aid systems” was approved by the ITU-R Member States as of 28 April 2014 (refer to [Circular Letter CACE/674](http://www.itu.int/md/R00-CACE-CIR-0674/en)). Working Party 5A would welcome input from these organizations to assist Working Party 5A on the studies.

## 2.9 Review of ITU-R texts

Working Group 5A-2 reviewed the WP 5A texts (Section 1 of [Annex 1](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N01!MSW-E) to [Doc. 5A/421](http://www.itu.int/md/R12-WP5A-C-00421/en),
 [Doc. 5A/473](http://www.itu.int/md/R12-WP5A-C-00473/en), and [Doc. 2/5(Rev.2)](http://www.itu.int/md/R12-SG05-C-0002/en), including the [Guide to the use of ITU-R texts related to the land mobile service](http://www.itu.int/oth/R0A06000001/en)) and Vocabulary ([Annex 25](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0079!N25!MSW-E) to [Doc. 5A/79](http://www.itu.int/md/R12-WP5A-C-0079), [Doc. 5A/497](http://www.itu.int/md/R12-WP5A-C-0497/en), Res. [33-3](http://www.itu.int/pub/R-RES-R.33/en), [34-3](http://www.itu.int/pub/R-RES-R.34/en), [35-3](http://www.itu.int/pub/R-RES-R.35/en), [36-3](http://www.itu.int/pub/R-RES-R.36/en)). WP 5A chair provided four draft TEMP documents for consideration. Working Group 5A-2 only gave some minor comments on the 5A-Temp-Annex1-Draft1.

## 2.10 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 a preliminary draft revision of Recommendation ITU-R M.1076

- Development of a working document on Operational guidelines for the deployment of broadband mobile systems for local coverage in the frequency bands below 6 GHz.

## 2.11 Chairman’s closing remarks

Finally, Chairman of Working Group 5A-2 wishes to thank all participants of WG 2 for their contributions and cooperation and particularly thank DG Chairs Mr. Brian Copsey and Dr. Hitoshi Yoshino for their good and efficient work.

**Attachments:**

[Attachment 1](#att1): Work plan for further studies on local coverage issues.

[Attachment 2](#att2): Terms of reference for the Correspondence Group on local coverage.

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

# 3.1 Executive summary

Working Group 3 met on four occasions and considered 27 contributions to this meeting, one document carried forward from previous meetings, and five Annexes to previous Working Party 5A Chairman’s Reports. The input documents were related to WRC-15 agenda items 1.3 and revisions of documents under the purview of WG 3. Three sub-working groups conducted the majority of the work. The work of the group produced WRC-15 agenda item 1.3 CPM text, four documents to be carried forward in the Chairman’s Report, two liaison statements, and terms of reference for a Correspondence Group.

# 3.2 Organization of the work

As outlined in Section 3 of [Annex 3 of 5A/421](http://www.itu.int/md/R12-WP5A-C-0421%21N03%21MSW-E) the Objectives for WG 3 at this meeting were to:

– finalize draft CPM text for agenda item 1.3 based on the results of studies and input contributions;

– continue development of the new Report on narrowband, wideband and broadband PPDR based on input contributions;

– continue development of the working document toward a preliminary draft revision of Recommendation ITU-R M.2009 based on input contributions; and

– continue development of the working document toward a preliminary draft revision of Recommendation ITU-R M.2015 based on input contributions.

All input contributions were introduced at the Working Group level. The Disaster Relief Rapporteur’s Report (Doc. [5A/522](http://www.itu.int/md/R12-WP5A-C-0522/en)) was presented at the WP 5A Plenary. The Chairman tasked all WGs to conduct a review of the relevant portions of the “Guide to the use of ITU-R texts related to the land mobile service” and the texts attributed to the group and to identify any relevant vocabulary to share with the CCV.

Three Sub-Working Group were established to address the work of the WG 3, as follows:

1. SWG 5A-3 agenda item 1.3 CPM text under the leadership of Mr. Charles Glass, USA
2. SWG 5A-3 PPDR Report under the leadership of Mr. Andy Gowans, UK.
3. SWG 5A-3 PPDR Recommendations under the leadership of Mr. Stuart Shepard (Australia)

In addition, Ms. Christine Hsu (Canada) led an offline drafting group to develop a liaison statement to WP 1B on WRC-15 issue 9.1.7 in response to [5A/442](http://www.itu.int/md/R12-WP5A-C-0442/en) based on [5A/464](http://www.itu.int/md/R12-WP5A-C-0464/en) from Canada.

# 3.3 Sub-Working Group activities

## 3.3.1 SWG 5A-3 agenda item 1.3 CPM Text

The meeting received nine contributions toward the development of CPM text for WRC-15 agenda item 1.3 as shown below:

|  |  |
| --- | --- |
| **AI 1.3 CPM (PPDR Res. 646)** | [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 6](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N06!MSW-E) and [Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N07!MSW-E) (WP 5A); [462](http://www.itu.int/md/R12-WP5A-C-0462/en)-1.3 (WMO); [466](http://www.itu.int/md/R12-WP5A-C-0466/en) (Israel); [472](http://www.itu.int/md/R12-WP5A-C-0472/en) (Motorola, Ericsson); [475](http://www.itu.int/md/R12-WP5A-C-0475/en) (USA);[499](http://www.itu.int/md/R12-WP5A-C-0499en) (Canada); [507](http://www.itu.int/md/R12-WP5A-C-0507/en) (Japan); [511](http://www.itu.int/md/R12-WP5A-C-0511/en) (Germany, UK); [515](http://www.itu.int/md/R12-WP5A-C-0515/en) (Egypt, UAE); [516](http://www.itu.int/md/R12-WP5A-C-0516/en) (UAE & Jordan)Note: Guidance from CPM 5A/330 |

The sub-working group met six times and revised the working document toward preliminary draft CPM text to reflect the above input contributions and the discussions in the meeting. The result of the work of the SWG is reflected in Doc. 5A/TEMP/232, which will be sent to CPM and attached to the WP 5A Chairman’s Report.

During discussions, Japan noted that it has launched a PPDR system in 174-205 MHz, Qatar noted that it is deploying a PPDR network in the bands 791-801 / 832-842 MHz, and China noted that it has begun trials of a government PPDR network in the band 1447- 1467 MHz. These bands are not reflected in the current version of Resolution **646 (Rev.WRC-12)**.

When the agenda item 1.3 CPM text was considered at WG 3, it was noted: “Some administrations are of the view that revisions to Recommendation ITU-R M.2015 should include additional proposed harmonized frequency bands/ranges. Annex Y to [5A/TEMP/238](http://www.itu.int/md/R12-WP5A-140519-TD-0238/en) provides possible scenarios for channeling arrangements to achieve a harmonized arrangement across Region 1 for the delivery of broadband PPDR within a harmonized IMT band in 694-790 MHz.”

Following completion of the development of CPM text, WG 3 reconsidered the CPM text-related elements of the work plan for agenda item 1.3 as contained in Document [5A/421, Annex 7](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N07!MSW-E).
In consultation with the WP 5A Chairman, the meeting agreed to re-format the workplan as report of the work on WRC-15 agenda item 1.3 and revised the work plan as reflected in Document [5A/TEMP/249](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-140519-TD-0249), which will also be attached to the WP 5A Chairman’s Report.

## 3.3.2 SWG 5A-3 PPDR Report

Sub-Working Group 5A-3 PPDR Report met on twelve occasions. The SWG was assigned 12 input contributions and one carried-forward documents by WG 3 as shown in the table below:

|  |  |
| --- | --- |
| **Draft new Rep. ITU-R M.[PPDR] & Supp. of M.2033** | [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 16](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0306!N16!MSW-E) (WP 5A); [457](http://www.itu.int/md/R12-WP5A-C-0457/en) (CG on Rep. M.[PPDR]); [470](http://www.itu.int/md/R12-WP5A-C-0470/en) (Israel); [474](http://www.itu.int/md/R12-WP5A-C-0474/en) (USA); [484](http://www.itu.int/md/R12-WP5A-C-0484/en) (CCSA); [486](http://www.itu.int/md/R12-WP5A-C-0486/en), [487](http://www.itu.int/md/R12-WP5A-C-0487/en) (China); [490](http://www.itu.int/md/R12-WP5A-C-0490/en), [491](http://www.itu.int/md/R12-WP5A-C-0491/en), [492](http://www.itu.int/md/R12-WP5A-C-0492/en) (Motorola Solutions); [500](http://www.itu.int/md/R12-WP5A-C-0500/en) (Canada); [510](http://www.itu.int/md/R12-WP5A-C-0510/en) (Germany) [516](http://www.itu.int/md/R12-WP5A-C-0516/en) (UAE & Jordan) |

The group worked on updating the draft working document toward a PDNR ITU-R M.[PPDR] in line with the inputs. Firstly, there was a pre-editing exercise carried out to put all the relevant input documents into a single document. Secondly, the SWG reviewed the results of the pre-editing exercise to see if the single document took account of all the relevant input documents. It was noted that all of the relevant contributions had been addressed during this process.

The group then carried out a full review of the inputs and discussed the proposals contained in all of the input contributions. As a result of these discussions the SWG was able to produce a clean version of the working document to be carried forward in the WP 5A Chairman’s Report.

The group also agreed to send a liaison to WP 5D to pass on some information on CCSA standards that was considered more relevant for input into Report ITU-R M.2291.

Finally, the SWG drafted Terms Of Reference for a correspondence group to review Parts 1, 2, 3, 4 and the tables within Annexes 4 and 5 of the working document towards a preliminary draft new Report ITU-R M.[PPDR].

The results of the SWG’s work are three documents:

– [5A/TEMP/241](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-131118-TD-0241) - Working Document toward a PDNR ITU-R M.[PPDR] to be carried forward as an Annex to the WP 5A Chairman's Report

– [5A/TEMP/242](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-131118-TD-0241) – Liaison Statement to ITU-R WP 5D.

– [5A/TEMP/248](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=R12-WP5A-131118-TD-0248) - Draft Terms of Reference for Correspondence Group on Report
ITU-R M.[PPDR]

### 3.3.3 SWG 5A-3 PPDR Recommendations

The Sub-Working Group on PPDR Recommendations continued work on the update to Recommendation ITU-R M.2009, “Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution 646
(WRC-03)”, and considered the input contributions below:

|  |  |
| --- | --- |
| **Update of Rec. ITU-R M.2009 “**Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution **646 (WRC-03)”** | [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 15](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N15!MSW-E) (WP 5A); [458](http://www.itu.int/md/R12-WP5A-C-0458/en)(§4) (APT); [501](http://www.itu.int/md/R12-WP5A-C-0501/en) (Canada); [511](http://www.itu.int/md/R12-WP5A-C-0511/en) (Germany, UK) |

Based on these inputs and discussions during the meeting, the SWG agreed on revisions to the preliminary draft revision. The meeting agreed to carry forward the updated preliminary draft revision as contained in Document 5A/TEMP/239.

The SWG also continued work on the update to Recommendation ITU-R M.2015 and considered the five contributions below:

|  |  |
| --- | --- |
| **Update of Rec. ITU-R M.2015** “Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution **646 (Rev.WRC-12)”** | [458](http://www.itu.int/md/R12-WP5A-C-0458/en)(§3) (APT); [502](http://www.itu.int/md/R12-WP5A-C-0502/en) (Canada); [511](http://www.itu.int/md/R12-WP5A-C-0511/en) (Germany, UK); [516](http://www.itu.int/md/R12-WP5A-C-0516/en) (UAE & Jordan)Documents carried forward related to revision of Rec. ITU-R M.2015: [Annex 19](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0306!N19!MSW-E) of Documents [5A/306](http://www.itu.int/md/R12-WP5A-C-0306/en) and [5A/273](http://www.itu.int/md/R12-WP5A-C-0273/en)  |

The meeting decided not to elevate this document as it contains a number of sections that need to be further considered. The meeting agreed to carry forward the working document toward a preliminary draft revision to the next meeting as contained in Document 5A/TEMP/238.

The contribution from the United Arab Emirates and Jordan (5A/516) to Recommendation
ITU-R M.2015 provided a new broadband PPDR arrangement in the 700 MHz band, but the meeting noted that this is outside the scope of Resolution **646 (Rev.WRC-12)** with respect to Region 1. It was retained in square brackets for further consideration at the next meeting.

In this regard, it was noted: “Some administrations are of the view that revisions to Recommendation ITU-R M.2015 should include additional proposed harmonized frequency bands/ranges. Annex Y to Document 5A/TEMP/238 provides possible scenarios for channeling arrangements to achieve a harmonized arrangement across Region 1 for the delivery of broadband PPDR within a harmonized IMT band in 694-790 MHz.”

China noted that it has begun trials of a government PPDR network in the band 1 447-1 467 MHz, and Qatar noted that it is deploying a PPDR network in the bands 791-801/832-842 MHz.

Administrations are encouraged to bring further contributions to the next meeting of WP 5A with a view to finalising M.2009 and continuing work on M.2015.

# 3.4 Other matters

## 3.4.1 Draft liaison statement to ITU-R Working Party 1B on WRC-15 agenda item 9.1, issue 9.1.7

Working Group 3 received the following input contributions related to Resolution **647
(Rev.WRC-12)**:

|  |  |
| --- | --- |
| **AI 9.1 Issue 9.1.7 (E&DR Res. 647)** | [442](http://www.itu.int/md/R12-WP5A-C-0442/en) (WP 1B); [464](http://www.itu.int/md/R12-WP5A-C-0464/en) (Canada); 511 (CEPT) |

Based on these input contributions, WG 3 tasked Ms. Christine Hsu of Canada with leading an offline drafting effort to develop a reply liaison statement to WP 1B. The results of the offline work as contained in 5A/TEMP/210 were approved in WG 3 and sent to WP 5A Plenary for consideration.

**3.4.2 Relevant Recommendations and Reports**

Working Group 3 reviewed [Appendix 1 of Document 5A/198 Annex 3](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N03!MSW-E), “Proposed course of action toward the review of Recommendations and Reports associated with work on WRC-15 agenda item 1.3” and made appropriate revisions. In line with the work done at this meeting,
the WG agreed to suggest editorial improvements to better reflect the work of the group.

The meeting reviewed and revised the “Proposed course of action toward the review of Recommendations and Reports associated with work on WRC-15 agenda item 1.3” contained in [Attachment 3](#att3) to this Annex.

## 3.4.3 Administrative Issues

WG 3 followed the Chairman’s instructions to consider the Texts, the Guide, the structure of the work in WP 5A, and [Vocabulary](http://www.itu.int/md/R12-WP5A-C-0079/en). No revisions were recommended.

With regard to work at the fourteenth meeting of Working Party 5A, the objectives for Working Group 3 will be to:

– continue development of the working document toward a preliminary draft new Report ITU-R M.[PPDR] based input contributions;

– continue development of the preliminary draft revision of Recommendation
ITU-R M.2009 based on input contributions;

– continue development of the working document toward a preliminary draft revision of Recommendation ITU-R M.2015 based on input contributions; and

The WG Chairman would like to thank Mr. Glass, Mr. Gowans, Mr. Shepard, and Ms. Hsu for their leadership of the subordinate groups and all the participants of Working Group 3 for their contributions and cooperative approach to the discussions.

**Attachments:**

[Attachment 3](#att3): Proposed course of action toward the review of Recommendations and
Reports associated with work on WRC-15 agenda item 1.3 and status of work

[Attachment 4](#att4): Terms of reference of the Correspondence Group on Report ITU-R M.[PPDR]

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

# 4.1 Executive summary

WG 5A-4 continued work on the revision of Recommendation ITU-R M.1824, as well as the development of a PDNR ITU-R M.[MS 14.5-15.35 CHAR]. WG 5A-4 also developed a detailed compilation of technical information on techniques that could be used in RLAN deployments to facilitate sharing, provided feedback on mitigation techniques for RLANs as requested by
JTG 4-5-6-7, and developed reply liaison statements to a number of Working Parties on various WRC-15 agenda items.

# 4.2 Introduction

Working Group 5A-4 met five times during the May 2014 meeting of Working Party 5A and in addition held 5 dedicated drafting sessions on RLAN mitigation techniques. WG 5A-4 considered 37 input contributions and developed 10 output documents.

# 4.3 Consideration of input documents

The following issues were considered based on input contributions as assigned to WG 5A-4 by the WP 5A opening plenary based on Document 5A/ADM/22.

## 4.3.1 RLAN mitigation techniques

Input documents: [5A/446](http://www.itu.int/md/R12-WP5A-C-0446/en) (JTG 4-5-6-7); [5A/462](http://www.itu.int/md/R12-WP5A-C-0462/en) (WMO); [5A/465](http://www.itu.int/md/R12-WP5A-C-0465/en) (Canada); [5A/494](http://www.itu.int/md/R12-WP5A-C-0494/en) and [495](http://www.itu.int/md/R12-WP5A-C-0495/en) (UK); [5A/504](http://www.itu.int/md/R12-WP5A-C-0504/en) (France); [5A/518](http://www.itu.int/md/R12-WP5A-C-0518/en) (Intel, Qualcomm); [5A/519](http://www.itu.int/md/R12-WP5A-C-0519/en) (ESA); [5A/523](http://www.itu.int/md/R12-WP5A-C-0523/en) (France) and [5A/526](http://www.itu.int/md/R12-WP5A-C-0526/en) (WP 7C).

Output documents: 5A/TEMP/211(Rev.1) (RLAN compilation document); 5A/TEMP/237(Rev.1) (LS to JTG 4-5-6-7 on possible RLAN mitigation techniques)

WG 5A-4 reviewed the information provided by JTG 4-5-6-7 and also discussed possible additional mitigation techniques as provided in the input contributions. A compilation document was created to capture the suggested techniques and also a number of comments / questions that were raised on these techniques.

The focus of the document is on the implementation in and deployment of RLANs as this is the area of expertise of WP 5A. Comments on the suitability of these techniques to mitigation interference w.r.t. EESS (active) and radars will need to be addressed by JTG 4-5-6-7.

At this point in time, the document is just a compilation of technical information to be attached to the Chairman’s Report and further consideration at the next meeting of WP 5A is required to determine how to further progress and develop this document.

WG 5A-4 also developed and agreed reply liaison statement to JTG 4-5-6-7 to provide comments on RLAN mitigation techniques as requested by JTG 4-5-6-7.

Another item for further discussion at the next meeting of WP 5A is the proposal received at this meeting to revise Recommendation ITU-R M.1652 to ensure that the 5 GHz band is covered by this recommendation and that all the relevant radar protection requirements, in particular for frequency hopping radars are added.

WG 5A-4 took note of the WMO position regarding WRC-15 agenda item 1.1 as contained in Document 5A/462 and the WP 7C comments to JTG 4-5-6-7 as contained in Document 5A/526.

## 4.3.2 Dynamic Spectrum Access / TVWS

Input documents: [5A/422](http://www.itu.int/md/R12-WP5A-C-0422/en) (WP 5B); [5A/430](http://www.itu.int/md/R12-WP5A-C-0430/en) (CCV); [5A/440](http://www.itu.int/md/R12-WP5A-C-0440/en) (WP 1B); [5A/444](http://www.itu.int/md/R12-WP5A-C-0444/en) (WP 5D); [5A/479](http://www.itu.int/md/R12-WP5A-C-0479/en) (USA); [5A/483](http://www.itu.int/md/R12-WP5A-C-0483/en) (Canada)

Output document: 5A/TEMP/221(Rev.1) (LS to WP1B on Dynamic Spectrum Access)

WG 5A-4 took note of the comments from WP 5B and WP 5D as contained in Documents 5A/422 and 5A/444 respectively. WG 5A-4 considered the comments from the CCV as contained in document 5A/440 and did not see the need for further action at this point in time.

A reply liaison statement to WP 1B was developed based on the input contributions received and with the support from WG 5A-5 to provide WP 5A comments on the work of WP 1B regarding Dynamic Spectrum Access.

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

Input document[: 5A/454](http://www.itu.int/md/R12-WP5A-C-0454/en) (WP 6A)

Output document: 5A/TEMP/217(Rev.1) (PDNR ITU-R M.1824)

WG 5A-4 took note of the comments provided by WP 6A on possible future contributions from WP 6A to the revision of this Recommendation and decided to elevate the working document as contained in Annex 18 of the Chairman’s Report of the previous WP 5A meeting to a Preliminary Draft Revised Recommendation. The document is to be attached to the Chairman’s Report for further work at the next meeting of WP 5A.

## 4.3.4 PLT interference and liaison activity with ITU-T

Input documents: [5A/428](http://www.itu.int/md/R12-WP5A-C-0428/en) (WP 5B); [5A/433](http://www.itu.int/md/R12-WP5A-C-0433/en), 434 and [435](http://www.itu.int/md/R12-WP5A-C-0435/en) (ITU-T SG 9); [5A/443](http://www.itu.int/md/R12-WP5A-C-0443/en) (WP 5D); 5A/445 (ITU-T SG 15); [5A/455](http://www.itu.int/md/R12-WP5A-C-0455/en) (WP 6A); [5A/460](http://www.itu.int/md/R12-WP5A-C-0460/en) (ITU-T SG 15)

WG 5A-4 took note of the comments provided in the various liaison statements and did not see the need for further action at this point in time. However, one document (5A/443) was forwarded to WG 5A-5 for further consideration as it addressed CRS issues for which WG 5A-5 is the responsible sub-group in WP 5A.

## 4.3.5 WRC-15 agenda item 1.5

Input document: 5A/462 (WMO)

WG 5A-4 took note of the WMO position regarding WRC-15 agenda item 1.5 as contained in Document 5A/462 and did not see a need for further action at this point in time.

## 4.3.6 WRC-15 agenda item 1.6

Input documents: [5A/436](http://www.itu.int/md/R12-WP5A-C-0436/en) (SG 7); [5A/447](http://www.itu.int/md/R12-WP5A-C-0447/en) (WP 4A); [5A/462](http://www.itu.int/md/R12-WP5A-C-0462/en) (WMO); [5A/480](http://www.itu.int/md/R12-WP5A-C-0480/en) and [481](http://www.itu.int/md/R12-WP5A-C-0481/en)(Rev.1) (USA)

Output documents: 5A/TEMP/216 (PDNR ITU-R M.[MS 14.5-15.35 CHAR]); 5A/TEMP/222 (LS to WP4A on WRC-15 agenda item 1.6)

WG 5A-4 took note of the comments provided by SG 7 as contained in Document 5A/436 and the WMO position on WRC-15 agenda item 1.6 as contained in Document 5A/462.

The Preliminary Draft New Recommendation ITU-R M.[MS 14.5-15.35 CHAR] as contained in Annex 17 of the Chairman’s Report of the previous WP 5A meeting was updated based on the proposals from Document 5A/481. The PDNR is to be attached to the Chairman’s Report for further work at the next meeting of WP 5A.

WG 5A-4 developed and agreed a reply liaison statement to WP 4A based on the proposal from document 5A/480.

## 4.3.7 WRC-15 agenda items 1.9.1 and 1.9.2

Input documents: [5A/426](http://www.itu.int/md/R12-WP5A-C-0426/en) (WP 5C); [5A/448](http://www.itu.int/md/R12-WP5A-C-0448/en) (WP 4A); [5A/449](http://www.itu.int/md/R12-WP5A-C-0449/en) (WP 4C) and [5A/462](http://www.itu.int/md/R12-WP5A-C-0462/en) (WMO)

Output document: 5A/TEMP/213 (LS to WP4C on WRC-15 Agenda item 1.9.2)

WG 5A-4 took note of the comments provided by WP 5C and WP 4A as well as the WMO position on WRC-15 agenda items 1.9.1 and 1.9.2.

A reply liaison statement to WP 4C was developed and agreed to provide the WP 5A views on the ongoing work within WP 4C related to this issue.

## 4.3.8 WRC-15 agenda Item 1.10

Input documents: 5A/450 (WP 4C); 5A/462 (WMO)

Output document: 5A/TEMP/214 (LS to WP 4C on WRC-15 agenda item 1.10)

WG 5A-4 took note of the WMO position on WRC-15 agenda item 1.10 and developed a reply liaison statement to WP 4C in response to Document 5A/450 to provide the WP 5A views on the ongoing work within WP 4C on this issue.

## 4.3.9 WRC-15 agenda item 1.11

Input document: 5A/462 (WMO)

WG 5A-4 took note of the WMO position on WRC-15 agenda item 1.11 and did not see the need for further action at this point in time.

## 4.3.10 WRC-15 agenda item 1.12

Input document: 5A/462 (WMO)

WG 5A-4 took note of the WMO position on WRC-15 agenda item 1.12 and did not see the need for futher action at this point in time.

## 4.3.11 WRC-15 agenda item 1.16

Input documents: [5A/469](http://www.itu.int/md/R12-WP5A-C-0469/en) (Russian Federation); [5A/520](http://www.itu.int/md/R12-WP5A-C-0520/en) (France, ESA)

Output document: 5A/TEMP/204(Rev.1) (LS to WP 5B on WRC-15 agenda item 1.16)

Based on the input contributions received, WG 5A-4 developed and agreed a liaison statement to WP 5B to provide the WP 5A views on the ongoing work within WP 5B on this issue.

## 4.3.12 WRC-15 agenda item 1.17

Input document: 5A/462 (WMO)

WG 5A-4 took note of the WMO position on WRC-15 agenda item 1.17 and did not see the need for further action at this point in time.

## 4.3.13 WRC-15 agenda item 9.1.x

Input documents: [5A/451](http://www.itu.int/md/R12-WP5A-C-0451/en) (WP 4C); 5A/462 (WMO); [5A/485](http://www.itu.int/md/R12-WP5A-C-0485/en) (China)

Output document: 5A/TEMP/215 (LS to WP4C on WRC-15 agenda item 9.1, Issue 9.1.1)

WG 5A-4 took note of the WMO position on WRC-15 agenda item 9.1.x and developed a reply liaison statement to WP 4C to provide the WP 5A views on the ongoing work within WP 4C on this issue.

# 4.4 Revision of WP 5A texts

WG 5A-4 reviewed the WP 5A texts and only identified one editorial comment to update the reference to the ongoing revision of Recommendation ITU-R M.1824 to the appropriate Annex of the most recent Chairman’s Report.

# 4.5 Objectives for the next WP 5A meeting

The objectives for the 14th WP 5A meeting related to the WG 5A-4 activities are:

* Continue the revision of Recommendation ITU-R M.1824 on system characteristics of television outside broadcast, electronic news gathering and electronic field production in the mobile service for use in sharing studies;
* Further progress the development of the Preliminary Draft New Recommendation ITU-R M.[MS 14.5-15.35 CHAR] on characteristics of and protection criteria for systems operating in the mobile service in the frequency range 14.5-15.35 GHz;
* Determine how to further progress and develop the RLAN compilation document and consider the proposal to revise Recommendation ITU-R M.1652 in this regard.

## **4.5 Conclusion**

The Chairman of WG 5A-4 would like to thank all the WG 5A-4 participants for their active contributions to the work of WG 5A-4.

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

Working Group 5A-5 (WG 5A-5) met five times during the 13th meeting of ITU-R WP 5A from May 19th to 29th, 2014. Around 60 delegates from Algeria, Australia, Germany, Canada, Cameroon, China, Finland, France, India, Italy, Japan, Kenya, Korea, The Netherlands, Norway, Russia, Saudi Arabia, Sweden, Switzerland, Thailand, Togo, United Kingdom, USA, Vietnam, Alcatel-Lucent, Cisco, COST-TERRA, EADS, Ericsson, Intel, IUCAF, Microsoft, Motorola, Nokia Solutions and Networks, Orange, Robert Bosch and Telecom Italia participated in the meetings. The tasks assigned to WG 5A-5 address new technologies.

Twenty-two input contributions were attributed to WG 5A-5, which were:

|  |  |
| --- | --- |
| – Cognitive radio systems (CRS) (Q.241-2/5) | Documents [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 20](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N20!MSW-E) (WP 5A); [433](http://www.itu.int/md/R12-WP5A-C-0433/en) (WP 5D), [437](http://www.itu.int/md/R12-WP5A-C-0437/en), [438](http://www.itu.int/md/R12-WP5A-C-0438/en) (COST-TERRA); [477](http://www.itu.int/md/R12-WP5A-C-0477/en) (USA); [496](http://www.itu.int/md/R12-WP5A-C-0496/en) (UK); [508](http://www.itu.int/md/R12-WP5A-C-0508/en) (Japan); [517](http://www.itu.int/md/R12-WP5A-C-0517/en) (Nokia Solutions and Networks Oy / VTT); [521](http://www.itu.int/md/R12-WP5A-C-0521/en) (Orange, Telecom Italia); [524](http://www.itu.int/md/R12-WP5A-C-0524/en) (Liaison Rapporteur); [525](http://www.itu.int/md/R12-WP5A-C-0525/en) (WWRF); [530](http://www.itu.int/md/R12-WP5A-C-0530/en) (Liaison Rapporteur); |
| – Intelligent transport system (ITS) (Q. 205-5/5) | Documents [198](http://www.itu.int/md/R12-WP5A-C-0198/en) [Annex 20](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0198!N20!MSW-E), [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 19](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N19) (WP 5A); [427](http://www.itu.int/md/R12-WP5A-C-0427/en) (WP 5C); [439R1](http://www.itu.int/md/R12-WP5A-C-0439/en) (ITU‑T SG 16); [459](http://www.itu.int/md/R12-WP5A-C-0459/en) (APT); [509](http://www.itu.int/md/R12-WP5A-C-0509/en) (Japan); [513](http://www.itu.int/md/R12-WP5A-C-0513/en) (Korea) |
| – agenda item 1.18 (WRC-15) | Documents [421](http://www.itu.int/md/R12-WP5A-C-0421/en) [Annex 8](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N08!MSW-E) and [Annex 9](http://www.itu.int/md/dologin_md.asp?lang=en&id=R12-WP5A-C-0421!N09!MSW-E) (WP 5A); [527](http://www.itu.int/md/R12-WP5A-C-0527/en) (WP 7D) |

WG 5A-5 established two Sub-working Groups (SWGs) to facilitate its work:

|  |  |
| --- | --- |
| **SWG** (**Chairman**) | **Terms of Reference** |
| SWG 5A-5-1 –CRS: Cognitive Radio System(Ms. Marja Matinmmikko, Finland) | * Update a preliminary draft new Report ITU-R [LMS.CRS2]
* Maintain the workplan for further studies on CRS
* Assist WG 5A-4 in developing a draft liaison statement to WP 1B on Dynamic Spectrum Access
* Assist WG 5A-4 in developing a liaison statement to JTG 4-5-6-7.
 |
| SWG 5A-5-2 – ITS: Intelligent Transport System(Mr. Satoshi Oyama, Japan) | * Develop working document towards a preliminary draft new Recommendation ITU-R M.[V2X] on radio interface standards of vehicle-to-vehicle and vehicle-to-infrastructure communication for intelligent transport systems (ITS) applications
* Develop working document towards a preliminary draft revision of Report ITU-R M.2228 on advanced ITS radiocommunications
* Develop a working document toward a draft new Report ITU-R M.[ITS USAGE] on the usage of intelligent transport systems in ITU-R member countries.
* Maintain the work plan on WRC-15 agenda item 1.18
 |

SWG 5A-5-1 on CRS and SWG 5A-5-2 on ITS met seventeen and four times, respectively, during the 13th meeting of WP 5A.

# 5.1 Executive summary

WG 5A-5 continued its work on the development of a preliminary draft new Report M.[LMS.CRS2] on cognitive radio systems. WG 5A-5 developed a liaison statement to ITU-T Focus Group Innovation, TSAG and Study Group 17 on ITU-T’s new study question on cognitive radio system security.

WG 5A-5 worked on three documents on ITS; (1) a working document towards a preliminary draft new Recommendation ITU-R M.[V2X], (2) a working document towards a preliminary draft revision of Report ITU-R M.2228 on advanced ITS radiocommunications and (3) a working document toward a draft new Report ITU-R M.[ITS USAGE] on the usage of intelligent transport systems in ITU-R member countries.

# 5.2 Cognitive radio systems (CRS) in the land mobile service

WG 5A-5 considered twelve input contributions in the scope of CRS. WG 5A-5 reviewed and maintained its work plan for future studies on CRS ([Attachment 5](#att5)).

WG 5A-5 continued the development of the preliminary draft new Report (PDNR) M.[LMS.CRS2] based on the input contributions (Document 5A/TEMP/240R1). WG 5A-5 plans to complete its work on the PDNR M.[LMS.CRS2] at the 14th meeting in October/November 2014 to be submitted for consideration for approval for SG 5.

WG 5A-5 considered a liaison statement from WP 5D (Document [5A/433](http://www.itu.int/md/R12-WP5A-C-0433/en) ) together with a draft document (Draft Document D2: [New standardization activities for ITU-T study groups](http://ifa.itu.int/t/fg/innovation/docs/1401-tun/out/innovation-o-014-New%20standardization%20activities%20for%20ITU-T.docx)). WG 5A-5 developed a liaison statement to ITU-T Focus Group Innovation, TSAG and Study Group 17 on ITU‑T’s new study question on cognitive radio system security (Document 5A/TEMP/203), noting 1) that ITU-T FG Innovation is seeking comments from ITU-T, ITU-D and ITU-R Study Groups on its new standardization activities for ITU-T Study Groups and 2) that ITU-T FG Innovation would possibly set up a new study question on Cognitive Radio system security in the draft document.

In addition, WG 5A-5 helped WG 5A-4 in the preparation of a liaison statement to WP1B in response to Document [5A/440](http://www.itu.int/md/R12-WP5A-C-0440/en) by reviewing and providing comments to the working document towards PDNR ITU-R SM.[DYNAMIC ACCESS] of WP 1B (Annex 7 to Document [1B/132](http://www.itu.int/md/R12-WP1B-C-0132/en)).

Upon a request from WG 5A-4, some CRS experts participated in WG 5A-4 meetings and provided requested information with regard to the development of a liaison statement to JTG 4-5-6-7 from a technical point of CRS-related technology, i.e. database issue.

# 5.3 Intelligent transport system (ITS)

WG 5A-5 considered ten input contributions and developed five output documents; four for ITS and the other for WRC-15 A.I. 1.18 related.

Regarding ITS general, a working document towards a preliminary draft new Recommendation ITU-R M.[V2X] on radio interface standards of vehicle-to-vehicle and vehicle-to-infrastructure communication for ITS applications was developed (Document 5A/TEMP/223R1). The Chairman of SWG 5A-5-2 suggested that Korean contribution on technical characteristics would better move into a preliminary draft revision of Report ITU-R M.2228 on advanced ITS radiocommunications (Document [5A/198](http://www.itu.int/md/R12-WP5A-C-0198/en) (Annex 20)) and invited a contribution to the next meeting. This working

document has been carried forward to the next WP 5A meeting in October/November 2014. WG 5A‑5 also reviewed and decided to keep the schedule in the work plan on the development of the above working document ([Attachment 6](#att6)).]

To invite additional contributions from ETSI and IEEE, WG 5A-5 also developed a liaison statement to ETSI and IEEE802.11 (Document 5A/TEMP/225).

Based on a contribution by APT (Document [5A/459](http://www.itu.int/md/R12-WP5A-C-0459/en)) on the usage of ITS in ITU-R member countries, WG 5A-5 developed a work plan ([Attachment 7](#att7)) (Document 5A/TEMP/229R1)) and a working document toward a preliminary draft new report M.[ITS USAGE]
(Document 5A/TEMP/231).

Regarding the working document towards a preliminary draft revision of Report ITU-R M.2228 on advanced ITS radiocommunications (Document [5A/198](http://www.itu.int/md/R12-WP5A-C-0198/en) (Annex 20)), WG 5A-5 decided to carry forward this document to the next WP 5A meeting, taking into account that there was no contributions to this meeting and there is a potential duplication of texts with a preliminary draft new Recommendation ITU-R M.[V2X] and a preliminary draft new Report ITU-R M.[ITS USAGE].

WG 5A-5 noted a liaison statement on ITU-T standardization efforts related to ISO TC22-TC204 JWG2 for VSG to [ISO TC22-TC204 JWG2 for VSG] contributed by ITU-T SG 16
(Document 5A/[439R1](http://www.itu.int/md/R12-WP5A-C-0439/en)).

Regarding WRC-15 agenda item 1.18, WG 5A-5 held co-located meetings with relevant SWG of WP 5B on WRC-15 A.I. 1.18 (SWG 5B1-1.18) as it did at the previous WP 5A/WP 5B meetings.

The meeting decided to maintain the draft CPM text for WRC-15 A.I. 1.18 developed by WP 5B and the work plan for WRC-15 A.I. 1.18 (Documents 5B/TEMP/294 and 5B/TEMP/259).

WG 5A-5 considered a liaison statement from WP 5C on Potential impact to the fixed service from automotive collision avoidance radar in adjacent frequency bands 76-77 GHz and 77-81 GHz (Document 5A/[427](http://www.itu.int/md/R12-WP5A-C-0427/en)), and sent a reply liaison statement to WP 5C (Document 5A/TEMP/207R1).

WG 5A-5 also considered a liaison statement from WP 7D regarding Systems characteristics and compatibility of automotive radars operating in the frequency band 77.5-78 GHz for sharing studies (Document [5A/527](http://www.itu.int/md/R12-WP5A-C-0527/en)). WP 5B1-1.18 developed a reply liaison statement to WP 7D.

# 5.4 Review of ITU-R texts

WG 5A-5 reviewed ITU-R texts pertinent to WG 5A-5 in Annex 1 to Document 5A/[421](http://www.itu.int/md/R12-WP5A-C-0421/en) (WP5A). There were no views on suppression or revision with regard to the ITU-R text relating to WG 5A-5. The meeting agreed to retain all the ITU-R texts relating to WG 5A-5. WG 5A-5 also reviewed the Guide to the use of ITU-R texts related to the land mobile service. WG 5A-5 also reviewed the working document towards a preliminary draft revision of Recommendation ITU-R M.1797/ New Recommendation ITU-R M.[5A/VOC] on Vocabulary of terms for the land mobile service (Annex 25 to Document [5A/79](http://www.itu.int/md/R12-WP5A-C-0079/en)). There was an observation that new terms will be considered once WG 5A-5 completes its work on the preliminary draft new Report (PDNR) M.[LMS.CRS2] (Document 5A/TEMP/240R1).

# 5.5 Future work

At the next meeting of WP 5A, WG 5A-5 plans to further develop a PDN Reports ITU-R M.[LMS.CRS2] on cognitive radio systems in accordance with Question ITU-R 241-1/5 and Resolution ITU-R 58,with an aim to finalize it in its 14th meeting in October/November 2014.

Working Group 5A-5 also continues the development of working document towards a preliminary draft new Recommendation ITU-R M.[V2X], working document towards a preliminary draft revision of Report ITU-R M.2228 on advanced ITS radiocommunications, and working document towards a preliminary draft new Report ITU-R M.[ITS USAGE].

With respect to WRC-15 agenda item 1.18, WG 5A-5 will continue its work with WP 5B SWG 1-18 on a preliminary draft new Report ITU-R M.[AUTOMOTIVE RADARS] - systems characteristics and compatibility of automotive radars operating in the frequency band 77.5-78 GHz for sharing studies, which WP5B SWG 1.18 has responsibility.

Finally the WG 5A-5 Chairman would like to thank Sub-Working Group Chairmen Ms Marja Matinmikko and Mr Satoshi Oyama for their excellent chairmanship and all participants for their contribution to work of the group.

**Attachments:**

[Attachment 5](#att5): Work plan for further studies on cognitive radios systems (CRS)

[Attachment 6](#att6): Work plan for the development of a new Recommendation ITU-R M.[V2X] on vehicle to vehicle and vehicle to infrastructure communication.

[Attachment 7](#att7): Work plan for the development of a new Report ITU-R M.[ITS USAGE] on the usage of intelligent transport systems in ITU-R member countries.

Attachment 1 to Annex 3

**Work plan for further studies on local coverage issues.**

(Source: Document 5A/TEMP/218)

|  |  |  |
| --- | --- | --- |
| Date | Meeting | Activity |
| May 2014 | 13th WP 5A | * Study to develop a working document towards a draft new Report
 |
| 30th May to 8th September 2014 |  | * Correspondence Group activity on the development of the working document towards a draft new Report
 |
| 27th October to 6th November 2014 | 14th WP 5A | * Continue to develop the working document towards a draft new Report
* Consider the finalization of the Report and submission to SG 5
* Make a decision on whether the development of a draft new Recommendation is required
* Review the progress and revise the work plan appropriately
 |
| 7th November 2014 to [18th May] 2015 |  | * Correspondence Group activity, if needed, to progress the work.
 |
| [6th to 17th July 2015] | 15th WP 5A | * Work will depend on the decision taken at the meeting in October 2014
 |

Attachment 2 to Annex 3

**Terms of Reference**

**Correspondence Group on Local Coverage Issues**

(Source: Document 5A/TEMP/219(Rev.1))

The Correspondence Group (CG) will work in accordance with § 2.16 and § 2.17 of Resolution ITU‑R 1-6[[1]](#footnote-1), and perform the following items:

- to develop the working document towards a preliminary draft new Report ITU-R M.[LOCAL\_COVERAGE] on [Operational guidelines for the deployment of broadband mobile systems for local coverage/ Local coverage operation of broadband wireless access systems in the bands below 6 GHz] in the frequency bands below 6 GHz; and

- that the report of the result of the CG activity is submitted through the convenor of the CG to ITU-R BR as a contribution to the 14th Working Party 5A meeting six weeks in advance of the deadline of the contribution to the 14th Working Party 5A meeting in October 2014;

- the status of the CG will be reviewed at the 14th meeting of WP 5A.

**Correspondence Group Dates:** 30th May 2014 (end of 13th meeting of WP 5A) – 8th September 2014 (6 weeks prior to the deadline of contribution for the 14th meeting of WP 5A).

**Correspondence Group Convenor:** Mr. Satoshi Imata (e-mail: sa-imata@kddi.com).

**Correspondence Group Sharepoint site:** <https://extranet.itu.int/rsg-meetings/sg5/wp5a/default.aspx>.

**Participants:** Interested parties are encouraged to join Correspondence Group activity on the [Working Party 5A Sharepoint site](https://extranet.itu.int/rsg-meetings/sg5/wp5a/default.aspx) using their TIES account.

Attachment 3 to Annex 3

Proposed course of action toward the review of Recommendations and Reports associated with work on WRC-15 agenda item 1.3 and status of work

reviEW of recommendations and reports associated
with work on wrc-15 agenda item 1.3

(Source: 5A/TEMP/212)

As part of the work under WRC-15 agenda item 1.3, Working Group 3 has examined the Recommendations and Reports under its purview and identified the following courses of action. It was noted that the preparatory work for WRC-15 agenda item 1.3 may include the development of new Recommendations and/or Reports.

**Priority 1: Recommendations and Reports relevant to WRC-15 agenda item 1.3**

**Report ITU-R** [**M.2033**](http://www.itu.int/pub/R-REP-M.2033): “Radiocommunication objectives and requirements for public protection and disaster relief” (2003)

This document “identifies objectives, applications, requirements, a methodology for spectrum calculations, spectrum requirements and solutions for interoperability”

1) Relevant to WRC-15 agenda item 1.3.

2) Propose review and revision to further address broadband requirements.

3) Decision taken to develop a new Report on narrowband, wideband, and broadband PPDR with a view to suppress Report ITU-R M.2033 upon completion of the new Report.

**Priority 1bis: Recommendations and Reports already under revision**

**Recommendation** [**ITU-R M.2009**](http://www.itu.int/rec/R-REC-M.2009/en): “Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution **646 (WRC‑03)**” (2012)

1) Relevant to WRC-15 agenda item 1.3.

2) Already under revision.

**Recommendation** [**ITU-R M.2015**](http://www.itu.int/rec/R-REC-M.2015/en): “Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution **646 (Rev.WRC‑12)**” (2012)

1) Relevant to WRC-15 agenda item 1.3.

2) Already under revision.

**Report ITU-R** [**M.2014**](http://www.itu.int/pub/R-REP-M.2014): “Digital land mobile systems for dispatch traffic” (2006)

1) Not relevant to WRC-15 agenda item 1.3.

2) Revision complete and submitted to SG 5for consideration.

3) Completed (2012).

**Priority 2: Recommendations and Reports for which consequential changes may be required based on results of technical studies**

**Recommendation** [**ITU-R M.1637**](http://www.itu.int/rec/R-REC-M.1637/en): “Global cross-border circulation of radiocommunication equipment in emergency and disaster relief situations” (2006)

The document is designed “to facilitate the global circulation of radiocommunications equipment to be used in emergency and disaster relief situations”.

1) References Resolution **646 (Rev.WRC-12)**; therefore relevant to WRC-15 agenda item 1.3.

2) Consequential changes based on WRC-15 action to be considered in next study cycle.

**Recommendation** [**ITU-R M.1826**:](http://www.itu.int/rec/R-REC-M.1826/en) “Harmonized frequency channel plan for broadband public protection and disaster relief operations at 4 940-4 990 MHz in Regions 2 and 3” (2007)

The document “addresses harmonized frequency channel plans in the band 4 940‑4 990 MHz for broadband public protection and disaster relief radiocommunications in Regions 2 and 3”

1) Relevant to WRC-15 agenda item 1.3, appears to address broadband already.

2) Suggest no further revision needed under WRC-15 agenda item 1.3; possible further review based on technical studies developed to support CPM text.

3) No requirement for revision identified at this point in time.

**Recommendation** [**ITU-R F.1105**](http://www.itu.int/rec/R-REC-F.1105/en): “Fixed wireless systems for disaster mitigation and relief operations” (2006)

This document “provides characteristics of fixed wireless systems used for disaster mitigation and relief operations”

1) Not relevant to WRC-15 agenda item 1.3.

2) Revision to address broadband characteristics based on technical studies developed to support CPM text.

3) Completed (2014).

**Priority 3: Recommendations and Reports proposed for suppression**

**Recommendation** [**ITU-R M.1222**](http://www.itu.int/rec/R-REC-M.1222/en): “Transmission of data messages on shared private land mobile radio channels” (1997)

The document standardizes “the data transmission procedures for users who share an analogue radio channel in order to minimize interference to other users who also operate on the channel”.

1) Not relevant to WRC-15 agenda item 1.3 work.

2) Proposed for suppression.

3) Suppressed by Study Group 5 (2013)

**Report ITU-R** [**M.741**](http://www.itu.int/pub/R-REP-M.741): “Multi-channel land mobile systems for dispatch traffic (with or without PSTN interconnection)” (1990)



1) Not relevant to WRC-15 agenda item 1.3.

2) Proposed for suppression.

3) Suppressed by Study Group 5 (2013)

**Handbooks**

**Volume 3 of the Land Mobile Handbook** (2005)

TBD – Chairman of WP 5A to request a copy be placed on the Sharepoint to allow participants to review between meetings.

Attachment 4 to Annex 3

**Terms of Reference**

**Correspondence Group on Report ITU-R M.[PPDR]**

(Source: Document 5A/TEMP/248)

The Correspondence Group (CG) should review Parts 1, 2, 3, 4 and the tables within Annexes 4 and 5 of the working document towards a preliminary draft new Report ITU-R M.[PPDR] (Annex 16 of Document 5A/xxx). The CG should develop a proposal to deal with the tasks indicated below.

The CG will work in accordance with § 2.16 and § 2.17 of Resolution ITU-R 1-6[[2]](#footnote-2), and perform the following tasks:

1. Review Parts 1, 2, 3, 4 and the tables within Annexes 4 and 5 of the working document towards a preliminary draft new Report ITU-R M.[PPDR] in order to develop
a proposal to:
	1. resolve any duplication between the above-mentioned parts of the
	2. Report by proposing changes to the document, including determining the appropriate section where material should be placed, deletion of text, etc.
	3. carry out the editorial revisions to interchange Part 2 (Broadband) and Part 3(Narrowband/Wideband), and
	4. carry out the editorial revisions to address the numbering and referencing issues throughout the document.
2. Provide a CG Report to WP 5A on the activities of the CG, which may include proposals to revise the relevant sections of the working document towards a preliminary draft new Report ITU-R M.[PPDR]. This Report should be submitted at least 21 days prior to the official WP 5A deadline for contributions.

Attachment 5 TO ANnEX 3

Work plan for further studies on cognitive radios systems (CRS)

(Source: Document 5A/TEMP/251)

|  |  |
| --- | --- |
| **Title** | Work plan for further studies on CRS |
| **Document type** | Report(s) |
| **WP 5A Lead Group** | WG New Technologies  |
| **SWG Chairman** | Marja Matinmikko |
| **Editor** | TBD |
| **Focus for scope and work** | The scope of this work is to study CRS in accordance with Question ITU-R 241-2/5 and Resolution ITU-R 58. On this basis the work should address the implementation and use of CRS by considering:* operational and technical requirements at a high level;
* characteristics;
* performance;
* possible benefits;
* cognitive capabilities and CRS technologies that could enhance sharing between the mobile service and other services;
* cognitive capabilities and CRS technologies that could enhance coexistence of the systems in the mobile service, and
* factors that need to be considered for the introduction of CRS technologies in the land mobile service including migration issues.

These items should be addressed in one or more Reports |
| **Related Documents** | Reports ITU-R [M.2225](http://www.itu.int/pub/R-REP-M.2225), ITU-R [M.2242](http://www.itu.int/pub/R-REP-M.2242), ITU-R [SM.2152](http://www.itu.int/pub/R-REP-SM.2152) |
| **Milestones** | **Meeting No. 9 (May 2012)**1. Review Question ITU-R 241-2/5 and Resolution ITU-R 58 and identify items to be studied
2. Develop a work plan for further studies on CRS
3. Review and revise the working document towards [LMS.CRS2]
4. Prepare liaisons to relevant ITU-R groups and other appropriate external organisations, as necessary

**Meeting No. 10 (November 2012)**1. Consider the received input contributions related to the scope of work
2. Review and revise the working document towards [LMS.CRS2]
3. Review and revise work plan as necessary
4. Prepare liaisons to relevant ITU-R Groups and other appropriate external organisations, as necessary

**Meeting No. 11  (May 2013)**1. Consider the received input contributions related to the scope of work
2. Review and revise work plan as necessary. Prepare liaisons to relevant ITU-R Groups and other appropriate external organisations, as necessary (e.g. on review of the working document towards [LMS.CRS2])

**Meeting No. 12 (November 2013)**1. Consider the received input contributions related to the scope of work
2. Review and revise work plan as necessary
3. Consider the responses to the liaison statement for further revision and completion of the working document towards [LMS.CRS2]
4. Prepare liaisons to relevant ITU-R Groups and other appropriate external organisations, as necessary
5. Elevate the status of the working document to a PDNR [LMS.CRS2]

**Meeting No. 13 (May 2014)**1. Consider the received input contributions related to the scope of work
2. Review and revise the PDN Report [LMS.CRS2] aiming for completion and finalize the related work
3. Prepare liaisons to relevant ITU-R Groups and other appropriate external organisations, as necessary

**Meeting No. 14 (November 2014)**1. Complete/adjust the PDN Report [LMS.CRS2] as necessary
 |

Attachment 6 TO ANnEX 3

**Work plan for the development of a new Recommendation ITU-R M.[V2X] on Vehicle to vehicle and vehicle to infrastructure communication**

(Source: Document 5A/TEMP/251)

|  |  |
| --- | --- |
| **Title** | Work plan for the development of a new Recommendation on V2X communication |
| **Document type** | Recommendation |
| **WP 5A Lead Group** | WG New Technologies  |
| **SWG Chairman** | Satoshi (Sam) Oyama |
| **Editor** | Takeshi Yamamoto |
| **Focus for scope and work** | Intelligent transport systems (ITS) are applied to services such as electric toll collection by using dedicated short-range communications (DSRC) and deployed in many countries. Regarding DSRC, Recommendation ITU-R M.1453 “DSRC at 5.8 GHz”.To extend the existing ITS applications and to achieve traffic safety and reduction of environmental burden in transportation sector, R&D and standardization works on advanced ITS radiocommunications have been conducted. Such works include not only vehicle to infrastructure but also vehicle to vehicle (V2X) communications.The scope of this work is to identify specific radio interface standards of V2X communication for ITS applications. |
| **Related Documents** | Recommendations ITU-R [M.1453](http://www.itu.int/rec/R-REC-M.1453/en), ITU-R [M.1890](http://www.itu.int/rec/R-REC-F.1890/en) |
| **Milestones** | **11th meeting (May 2013)**– Develop and adopt work plan– Carry forward the working document toward a PDN Recommendation– Liaise as needed with concerned and interested groups on development of the PDN Recommendation.**12th meeting (November 2013)**– Continue developing the PDN Recommendation– Liaise as needed with concerned and interested groups on development of the PDN Recommendation– Update work plan as needed.**13th meeting (May 2014)**– Continue developing the PDN Recommendation– Liaise as needed with concerned and interested groups on development of the PDN Recommendation– Update work plan as needed.**14th meeting (November 2014)**– Complete draft Recommendation to be finally considered at the 15th meeting in May 2015.**15th meeting (May 2015)**– Finalize Recommendation and submit to SG 5 meeting for approval. |

Attachment 7 TO Annex 3

**Work plan for the development of a new Report ITU-R M.[ITS USAGE] on the usage of intelligent transport systems in ITU-R member countries**

(Source: Document 5A/TEMP/229R1)

| **Working Party 5A meetings** | **Workplan** |
| --- | --- |
| 1st meetingMay 2014 | - Develop and adopt work plan- Carry forward the framework of working document toward a PDN Report |
| 2nd meetingOctober 2014 | - 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 |
| 3rd meetingJuly 2015 | - 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 |
| 4th meetingMay 2016 | - Developing a PDN Report- Liaise as needed with concerned and interested organizations on development of the PDN Report- Update work plan as needed |
| 5th meetingNovember 2016 | - Finalize Report and submit to SG 5 meeting for approval |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. 2.16 Correspondence Groups may also be established under the leadership of an appointed Correspondence Group Chairman. The Correspondence Group differs from the Rapporteur Group 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 Working Party, a Task Group, a Study Group, CCV, or RAG.

 2.17 Participation in the work of the Rapporteur and Correspondence Groups of the Study Groups 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 appropriate, making the submission. [↑](#footnote-ref-1)
2. 2.16 Correspondence Groups may also be established under the leadership of an appointed Correspondence Group Chairman. The Correspondence Group differs from the Rapporteur Group 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 Working Party, a Task Group, a Study Group, CCV, or RAG.

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