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| 1. **Agenda item**
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| **Agenda Item**[Number]1.7 | [short description]To consider a new aeronautical mobile-satellite (R) service (AMS(R)S) allocation in accordance with Resolution 428 (WRC-19) for both the Earth-to-space and space-to-Earth directions of aeronautical VHF communications in all or part of the frequency band 117.975-137 MHz, while preventing any undue constraints on existing VHF systems operating in the AM(R)S, the ARNS, and in adjacent frequency bands |
| **Working Group** | WG 2 | **Sub-Working Group**  | SWG-2B |
| **Coordinator** | Mr. Kok Pin PUAH | **Email** | puah\_kok\_pin@caas.gov.sg |
| **WP Chair** | Mr. BUI Ha Long | **Email** | longbh@rfd.gov.vn |
| **Report Date** | **4 April 2023** |
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| 1. **APT**
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| **APT Preliminary Views**CPM23-2/xxxx | [short extract or summary of APT PV]APG23-5-OUT-13:APT Members are considering Method B for this agenda item provided that the following issues are duly addressed:* ensuring protection of the existing services in the same frequency band and adjacent frequency bands including those of MSS/SOS/MetSat/SRS through an appropriate limit for AMS(R)S unwanted emissions above 137 MHz;
* limiting to internationally standardized aeronautical systems.
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| **APT Views for modification of CPM Report**CPM23-2/xxxx | [if any]None |
| **Outcome from earlier** **APT Coord meeting** | [Brief summary any change in views/approach agreed at previous APT coordination meeting. Include date of relevant meeting]None |
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| 1. **Other regional groups**
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|  | **ATU**  | **ASMG** | **CEPT** | **CITEL** | **RCC** |
| **Input(s)** | CPM23-2/xxxx | CPM23-2/xxxx | CPM23-2/xxxx | CPM23-2/xxxx | CPM23-2/xxxx |
| **Summary of views/proposals** | None | None | None | None | None |
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| 1. **Summary of discussions during CPM23-2**
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| **Working documents/TEMPs etc** | [include number and hyper link to relevant working documents etc]The working document towards a consolidated AI1.7 consolidated text is located in the Sharepoint\* folder ***WG 2 (Chapter 2),*** subfolder ***SWG-2B ai 1.7***, subfolder ***Working document***. <https://extranet.itu.int/rsg-meetings/cpm/Share/>The ***Temporary Document*** approved by WG 2 on 4 Apr: <https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R19-CPM23.2-230327-TD-0032>\*TIES login is required to access the folders and documents |
| The SWG-2B for AI 1.7 met over eleven sessions during the CPM23-2 meeting. A total of thirteen documents were introduced, comprising the Draft CPM Report and twelve contributions as summarized in the table below.

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| **Source:** | **Doc#** | **Description** |
| Director, BR | 1 | Draft CPM Report |
| International Maritime Organisation (IMO)   | 2 | No impact should occur to the frequencies 123.1 MHz and 121.5 MHz for distress and safety communications for the GMDSS |
| International Civil Aviation Organization (ICAO)  | 16 | Supports a new allocation, provided it is limited to standardised (ICAO/SARPs) systems and does not constrain terrestrial (AM(R)S) use. |
| Canada | 24 | Proposes modifications to **Method B1** in regard to its regulatory and procedural considerations in Section 2/1.7/5.2.1, with the adoption of 9.11A as the coordination method.  |
| China  | 77 | Proposes the modifications to **Method B1** and the texts in the draft CPM Report related to WRC-23 agenda item 1.7. China also shared that it is of the view to consider Method A, NOC. |
| Russian Federation | 101 | Proposes to make modifications to **Method B1 and B2** of the draft CPM Report under WRC-23 agenda item 1.7 for the purpose of ruling out any additional conditions or constraints on the existing safety services.   |
| Australia | 126 | Proposes to merge **Methods B1 and B2** into a single Method B.  |
| France | 130 | Proposes **new Method B3** - AMS(R)S allocation up to 136.8 MHz (with a 200kHz guard band to avoid protection coordination from adjacent services; coordination under 9.11A. France also proposes a new Resolution **[A7-SATVHF B3] (WRC-23)** on the use of the frequency band 117.975-136.8 MHz by the AMS(R)S, detailing the regulatory framework of AMS(R)S, in particular to address the respective roles of ITU and ICAO. |
| Spain, Eurocontrol | 145 | Proposes modifications to existing **Method B1 and B2**, including a breakpoint at 136.9375 MHz for the application of a pfd limit on unwanted emissions in the adjacent band. Add 9.12 for coordination between AMS(R)S for Method B1.  |
| USA | 155 | Proposes a **new Method B3** - AMS(R)S allocation up to 136 MHz; coordination under 9.11A; downlink threshold of -148 dBW/m2/4 kHz and 480km from national border to trigger coordination with AM(R)S under 9.14. USA proposes a 1 MHz guard band to avoid protection requirements between adjacent band services. |
| New Zealand, Singapore | 186 | Proposes modifications to **Method B2** and corresponding addition to Appendix 5 |
| Square Kilometre Array Observatory (SKAO) | 209, 210 | Proposes modifications to **Method B2, and** addition of RAS protection requirements for 150 MHz allocation, and reference in Resolution **739**. |

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| [identify key developments during discussions]During the 2nd session of SWG-2B, the meeting reached a consensus to create two new sub-methods B3 and B4 to accommodate different views. Correspondingly, offline groups were formed and assigned with the responsibility to develop the respective sub-methods under Method B. The members of the offline groups were as follow:* Offline group for Method B1 – Australia, Canada, New Zealand, Singapore, Spain
* Offline group for Method B2 – Russia
* Offline group for Method B3 – France
* Offline group for Method B4 – USA

Key differences between the sub-methods were discussed, primarily on the following topics: * Upper range of the band which starts from 117.975 MHz and ends at either 136, 136.8 or 137 MHz
* Applicability of coordination under Article 9, i.e., 9.11A etc.
* Values of the pfd limit and coordination threshold

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| **Method** | **Key Development** |
| B | Addition of RR No. 9.12 for the coordination of the AMS(R)S satellite network which will apply to all the sub-methods B1, B2, B3 and B4 |
| B1 | * New allocation in the band 117.975-137 MHz
* Subject to coordination under RR No. 9.11A
* Coordination threshold −140 dB(W/(m² ‧ 4 kHz)) at the Earth’s surface and within [TBD km] from a country’s border
* Pfd limit −166.6 dB(W/(m² ‧ 14 kHz) at the Earth’s surface in adjacent band 137-138 MHz
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| B2 | * New allocation in the band 117.975-137 MHz
* Subject to coordination under RR No. 9.11A (except RR No. 9.16)
* Coordination threshold −140 dB(W/(m² ‧ 4 kHz)) at the Earth’s surface including international waters within [TBD km] from the coastline
* Different pfd limits at the Earth’s surface in adjacent band 137-138 MHz:
	+ −211.93 dB(W/(m² ‧ Hz)) 0.001% of the time [SRS]
	+ −179.93 dB(W/(m² ‧ kHz)) 1% of the time [SOS]
	+ −146.93 dB(W/(m² ‧ 150 kHz)) 20% of the time [MetSat]
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| B3 | * New allocation in the band 117.975-136.8 MHz with a 200 kHz frequency separation to avoid potential constrain on planned usage of satellite systems operating above 137 MHz
* Subject to coordination under RR No. 9.11A
* Coordination threshold −140 dB(W/(m² ‧ 4 kHz)) at the Earth’s surface with respect to AM(OR)S on the territory of countries listed in No. 5.201 or 5.202
* Apply a new Resolution for WRC-23; specify roles of ITU and ICAO
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| B4 | * New allocation in the band 117.975-136 MHz with 1 MHz guard band to avoid protection requirements between adjacent band services
* Subject to coordination under RR No. 9.11A
* Coordination threshold −148 dB(W/(m² ‧ 4 kHz)) at the Earth’s surface and within 480km of a country’s border
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In relation to APT Preliminary Views,* Method B1 and B2 are aligned with APT Preliminary Views
	+ proposing new allocation in the 117.975-137 MHz and ensuring protection of the existing services in the same frequency band and adjacent frequency bands including those of MSS/SOS/MetSat/SRS through an appropriate limit for AMS(R)S unwanted emissions above 137 MHz
* Method B3 and B4 are new methods that have not been considered by APT members
	+ proposing frequency separation of 200 kHz and guard band of 1 MHz, therefore limiting the new allocation to 117.975-136.8 MHz and 117.975-136 MHz respectively.
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| 1. **Issue(s) which require discussion and further guidance at APG Coordination meeting**
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| [if any]None.APT members Australia, China, New Zealand and Singapore have participated actively in the development of **Method B1** with members from other regional group, Canada from CITEL and Spain from CEPT, to enhance the in-band and adjacent band protection criteria through pdf limit for unwanted emissions and coordination through RR No. 9.11A.  |