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| **U.S. Radiocommunications Sector**  **Fact Sheet** | |
| **Working Party:** ITU-R WP-5B | **Document No:** USWP5B26-02-Final Draft |
| **Ref:** Annex 32 to Document 5B/225-E | **Date:** 4 April 2021 |
| **Document Title:** WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW REPORT ITU-R M.[UA-AIRBORNE-DAA] - Guidance on suitable frequency bands and services to be used by airborne unmanned aircraft detect-and-avoid non-cooperative systems | |
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| **Purpose/Objective:** The purpose of this contribution is to propose replacing this report with a handbook that would provide information on appropriate frequency bands for Detect and Avoid (DAA) radar systems installed on unmanned aircraft or for ground radars DAA radar systems to support unmanned aircraft operations. This handbook will supplement ITU-R Report M.2204-0. | |
| **Abstract:** This contribution proposes to transform this document along with the companion report for ground based radars to support unmanned aircraft operations (Annex 32 to Document 5B/225-E) into a handbook to supplement ITU-R Report M.2204-0 to identify the use of appropriate frequency bands for DAA radar systems on board aircraft and on the ground. This handbook will replace earlier effort of continue the process of drafting a new report for Detect and Avoid radar systems installed on unmanned aircraft and on the ground found in Annex 32 and 33 of the Chairman’s Report of the November 2020 WP-5B meeting. The initial efforts of developing these two documents explored various frequency bands to populate Section 5 (Spectrum analysis on suitability for detect and avoid system onboard unmanned aircraft) and the Summary Table in Section 6 are best suited for handbook. This new handbook will explore the list of frequency bands allocated to the Aeronautical Radionavigation and Radionavigation Services, which could be used for Detect and Avoid radar systems installed on unmanned aircraft and at the ground. The handbook will also provide information on other systems and services in these bands, coexistence issues, and an evaluation of the suitability of the band for UAS Detect and Avoid radar systems. This handbook will ultimately supplement Chapter 4, Spectrum considerations for UAS sense and avoid system of the Report ITU-R M.2204 (11/2010). | |

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| **Radiocommunication Study Groups** |  |
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| Subject: Handbook to supplement Report ITU-R M.2204-0  Source: | **Document 5B/XXX** |
| **5 April 2021** |
| **English only** |
| **United State of America** | |
| WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW  REPORT ITU-R M.[UA-AIRBORNE-DAA] | |
| **Guidance on suitable frequency bands and services to be used by airborne unmanned aircraft detect-and-avoid non-cooperative systems** | |

**Introduction**

Report ITU-R M.2204-0 was published in November 2010 in support of WRC-12 agenda item 1.3 efforts to identify the requirements of Unmanned Aircraft Systems (UAS). Since the report was published, not only have the requirements of UAS evolved but, changes have also been made to the Radio Regulations that affect the frequency bands identified in Report ITU-R M.2204-0. As a result Working Party 5B had been considering a revision to Report ITU-R M.2204-0.

At the November 2018 Working Party 5B meeting it became obvious that the format of the existing report was not adequate for the needs of the intended audience so, it was decided to develop a new report to replace Report ITU-R M.2204-0. Thus, an outline for the new report was developed during the November 2018 Working Party 5B meeting (see [Annex 11](https://www.itu.int/dms_ties/itu-r/md/15/wp5b/c/R15-WP5B-C-0646!N11!MSW-E.docx) to Document [5B/646](https://www.itu.int/md/R15-WP5B-C-0646/en)) to begin the process of developing a replacement report for the existing report. At the April-May 2019, Working Party 5B meeting it was further decided to split the new Report into two Reports for unmanned DAA, one for airborne systems and one for ground based systems.

**Proposal**

This contribution proposes to transform this document along with the companion report for ground based radars to support unmanned aircraft operations (Annex 32 to Document 5B/225-E) into a handbook to supplement ITU-R Report M.2204-0 to identify the use of appropriate frequency bands for DAA radar systems on board aircraft and on the ground. This handbook will replace earlier effort of continue the process of drafting a new report for Detect and Avoid radar systems installed on unmanned aircraft and on the ground found in Annex 32 and 33 of the Chairman’s Report of the November 2020 WP-5B meeting. The initial efforts of developing these two documents explored various frequency bands to populate Section 5 (Spectrum analysis on suitability for detect and avoid system onboard unmanned aircraft) and the Summary Table in Section 6 are best suited for handbook. This new handbook will explore the list of frequency bands allocated to the Aeronautical Radionavigation and Radionavigation Services, which could be used for Detect and Avoid radar systems installed on unmanned aircraft and at the ground. The handbook will also provide information on other systems and services in these bands, coexistence issues, and an evaluation of the suitability of the band for UAS Detect and Avoid radar systems. This handbook will ultimately supplement Chapter 4, Spectrum considerations for UAS sense and avoid system of the Report ITU-R M.2204 (11/2010).

**Attachment:** 1

Attachment

working document towards a preliminary draft new   
Handbook ITU-R M.[UA-DAA]

Guidance on frequency bands and services to be used by airborne unmanned aircraft detect-and-avoid non-cooperative systems

(201X)

**Draft Table of Contents of the Characteristics and spectrum considerations for sense and avoid systems use on unmanned aircraft systems Handbook**

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