International Civil Aviation Organization

ELECTRONIC BULLETIN

For information only

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PROTECTION OF THE 5 030-5 150 MHZ FREQUENCY BAND FOR CURRENT AND FUTURE AVIATION APPLICATIONS

1. In accordance with the Assembly Resolution A42-7, the International Civil Aviation Organization (ICAO) actively participates in the preparatory studies for the International Telecommunication Union (ITU) World Radiocommunication Conference 2027 (WRC-27). As reflected in the ICAO Position for WRC-27 (reference State letter E 3/5-25/65), a number of WRC-27 agenda items are of particular importance to aviation. The outcome of WRC-27 may influence the future access to and use of frequency spectrum by aeronautical systems and services, and could affect the level of safety, efficiency and resilience they provide.

2. One WRC-27 item of particular concern to aviation is agenda item 2.9 of the conference, which will consider whether preliminary studies should be undertaken for a potential WRC-31 agenda item, to introduce radionavigation-satellite service (RNSS) allocations into the frequency bands 5 030-5 150 MHz and 5 150-5 250 MHz, or portions thereof, in accordance with Resolution 684 (WRC-23).

3. The frequency band 5 030-5 150 MHz is of critical importance to civil aviation. This band supports, or is planned to support, safety-critical aeronautical communications such as AeroMACS, and has been identified as the primary spectrum resource for Remotely Piloted Aircraft Systems (RPAS) command and control (C2) communications. It remains the only aviation spectrum resource capable of supporting both terrestrial and satellite-based C2 links, required for the safe integration of RPAS into non-segregated airspace.

4. Consequently, any proposal to introduce an RNSS allocation in the same frequency band raises significant compatibility and safety concerns. The ITU Radio Regulations already require aeronautical systems operating in the 5 030-5 150 MHz band to limit their emissions to protect RNSS systems operating in an adjacent frequency band (below 5 030 MHz)[1]. If the RNSS were to share the5 030-5150 MHz frequency band with aeronautical safety services, this would create substantial challenges and make sustainable coexistence difficult to achieve.

5. The specific vulnerability of frequency bands providing RNSS to intentional interference such as jamming and spoofing of the Global Navigation Satellite System (GNSS) should also be noted. The number of incidents involving intentional interference in existing RNSS bands has increased significantly over the past decade. Although such interference is not directed primarily at civil aviation, intentional RNSS interferers have created a significant risk to the safe operation of aircraft. The introduction of a new RNSS allocation in the 5 030-5 150 MHz frequency band would create a credible risk that intentional jamming

[1] ITU Radio Regulations No 5.443C constrains the e.i.r.p density limit of AM(R)S station unwanted emission of AM(R)S station to protect current RNSS operating below 5030 MHz.

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and spoofing activities could extend into a band which is shared by systems providing safety-critical aviation communications such as RPAS C2 link.

6. While WRC-27 has not yet decided whether this issue should become a formal agenda item for WRC-31, relevant ITU-R studies have already commenced within the ITU Working Parties, reflecting a growing interest in considering these frequency bands for a future RNSS allocation. Recognizing that participation by aviation stakeholders in these studies remains limited, ICAO wishes to reiterate the importance of safeguarding the 5 030-5 150 MHz frequency band, which remains essential for existing aeronautical systems and future RPAS operations.

7. ICAO therefore maintains its position to oppose the inclusion of the 5 030-5 150 MHz frequency band within the scope of any future WRC-31 agenda item arising from preliminary Agenda Item 2.9. As WRC preparatory studies continue to progress, active engagement by States is essential to ensure that the interests of international civil aviation are appropriately reflected. ICAO urges States to participate actively in national, regional and international spectrum discussions and to support the continued protection of this critical aviation frequency band (refer to State letter E 3/5-25/65).

Issued under the authority of the Secretary General