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| A close up of a sign  Description automatically generated | **World Radiocommunication Conference (WRC-23) Dubai, 20 November - 15 December 2023** | |  |
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| PLENARY MEETING | | **Addendum 9 to Document 65-E** | |
|  | | **29 September 2023** | |
|  | | **Original: English** | |
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| European Common Proposals | | | |
| PROPOSALS FOR THE WORK OF THE CONFERENCE | | | |
|  | | | |
| Agenda item 1.9 | | | |

1.9 to review Appendix **27** of the Radio Regulations and consider appropriate regulatory actions and updates based on ITU‑R studies, in order to accommodate digital technologies for commercial aviation safety-of-life applications in existing HF bands allocated to the aeronautical mobile (R) service and ensure coexistence of current HF systems alongside modernized HF systems, in accordance with Resolution **429 (WRC‑19)**;

Introduction

This agenda item provides the opportunity to include in RR Appendix **27** the relevant part of current text of the Rules of Procedure and make other changes to Appendix **27** on the use of wideband digital emissions. A decision in accordance with this proposal would require appropriate action to be taken in regards with the Rules of Procedure relating to RR Appendix **27**. The suppression of Resolution **429 (WRC-19)** is also proposed.

Proposals

APPENDIX 27 (REV.WRC‑19)[[1]](#footnote-1)\*

Frequency allotment Plan for the aeronautical mobile (R)  
service and related information

PART I – General provisions

Section II – Technical and operational principles used  
for the establishment of the Plan of allotment of frequencies  
in the aeronautical mobile (R) service

**A – Channel characteristics and utilization**

# 2 Frequencies allotted

ADD EUR/65A9/1#1633

27/18A Individual contiguous or non-contiguous channels complying with the provisions of the Plan3 contained in this Appendix may be aggregated to provide wideband communications.

ADD EUR/65A9/2#1634

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3 27/18A.1 In particular the provisions related to the protection (Part I, Section II B), to power limits (Nos. **27**/60 and **27**/61), to class of emissions (No. **27**/58), to out-of-band spectrum mask (No. **27**/74), to assigned frequency (No. **27**/75) and, to channel spacing (No. **27**/11).

**Reasons:** In order to use wideband transmissions, and make explicit the possibility of aggregating individual 3 kHz channels as defined in Appendix **27**.

**C – Classes of emission and power**

# 1 Classes of emission

MOD EUR/65A9/3#1635

**27**/57 1.1 Telephony – amplitude modulation:

− double sideband A3E[[2]](#footnote-2)\*

− single sideband, full carrier H3E\*

− single sideband, suppressed carrier J3E, J2E, J7E, J9E

**Reasons:** To align with the current Rules of Procedure.

MOD EUR/65A9/4#1636

1.2 Telegraphy and data transmission

MOD EUR/65A9/5#1637

**27**/58 1.2.1 Amplitude modulation:

− telegraphy without the use of a modulating audio frequency (by on‑off keying) A1A, A1B[[3]](#footnote-3)\*\*

– telegraphy by the on-off keying of an amplitude modulating audio frequency or audio frequencies or by the on-off keying of the modulated emission and including selective calling, single sideband, full carrier H2B

– multichannel voice frequency telegraphy, single sideband, suppressed carrier J7A

– telegraphy or data transmissions using any other single sideband, suppressed carrier modulation, under the condition that the reference frequency of the concerned transmission corresponds to the list of carrier (reference) frequencies (No. **27**/18) and its occupied bandwidth does not exceed the upper limit of J3E emissions (No. **27**/12), i.e. 2 800 Hz for each individual channel J2B, J2D, J7B, J7D, J9B, J9D

**Reasons:** Correction replacing the misspelled J7B with J7A and alignments with the Rules of Procedure in the last section.

# 2 Power

MOD EUR/65A9/6#1638

27/60 2.1 Unless otherwise specified in Part II of this Appendix, the peak envelope powers supplied to the antenna transmission line shall not exceed the maximum values indicated in the Table below; the corresponding peak effective radiated powers being assumed to be equal to two-thirds of these values.

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| Class of emission | | Stations | Maximum peak envelope power |
| H2B, J3E, J7A, J2E, J7E, J9E, J2B, J2D, J7B, J7D, J9B, J9D A3E\*, H3E\* | | Aeronautical stations Aircraft stations | 6 kW 400 W  (100% modulation)\*\* |
| Other emissions such as A1A, A1B, F1B | | Aeronautical stations Aircraft stations | 1.5 kW 100 W |
| \* A3E and H3E to be used only on 3 023 kHz and 5 680 kHz.  \*\* "100% modulation" implies that during measurement or calculation, the modulation depth should be adjusted to produce the maximum peak envelope power. | | |

Note: The "(100% modulation)" may require additional clarification.

**Reasons:** To align with the Rules of Procedure and to clarify how to consider the 100% modulation.

SUP EUR/65A9/7#1639

RESOLUTION 429 (WRC-19)

Consideration of regulatory provisions for updating Appendix 27 of the Radio Regulations in support of aeronautical HF modernization

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1. \* *Note by the Secretariat*: This edition of Appendix **27** incorporates editorial amendments to the Appendix **27** Aer2 as adopted by the WARC‑Aer2.

   The references in Appendix **27** now conform to the new numbering scheme of the Radio Regulations. In addition, the text of Appendix **27** contains updated definitions of the relevant aeronautical areas conforming with the new geographical situation reflecting the political changes since 1979. It also contains updated references to the classes of emissions in accordance with Article **2**.      (WRC‑03) [↑](#footnote-ref-1)
2. \* A3E and H3E to be used only on 3 023 kHz and 5 680 kHz. [↑](#footnote-ref-2)
3. \*\* A1A, A1B and F1B are permitted provided they do not cause harmful interference to the classes of emission H2B, J3E, J2E, J7E, J9E, J7A, J2B, J2D, J7B, J7D, J9B, and J9D. In addition, AlA, A1B and FlB emissions shall be in accordance with the provisions in Nos. **27**/70 to **27**/74 and care should be taken to place these emissions at or near the centre of the channel. However, a modulating audio frequency is permitted with single sideband transmitters, where the carrier is suppressed in accordance with No. **27**/69. [↑](#footnote-ref-3)