



PLENARY MEETING

**Addendum 9 to
Document 6057-E
4 October 2023
Original: English**

African 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);

APPENDIX 27 (REV.WRC-19)*

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 AFCP/6057A9/1

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 communication without changing the Plan of individual channels.

ADD AFCP/6057A9/2

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**).

C – Classes of emission and power

1 Classes of emission

MOD AFCP/6057A9/3

27/57 1.1 Telephony – amplitude modulation:

– double sideband

A3E*

* *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)

* A3E and H3E to be used only on 3 023 kHz and 5 680 kHz.

- single sideband, full carrier H3E*
- single sideband, suppressed carrier J3E, J2E, J7E, J9E

MOD AFCP/6057A9/4

1.2 Telegraphy (~~including automatic and~~ data transmission)

MOD AFCP/6057A9/5

27/58 1.2.1 Amplitude modulation:

- telegraphy without the use of a modulating audio frequency (by on-off keying) A1A, A1B**
- 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 J7BA
- ~~other transmissions such as automatic data transmission, single sideband, suppressed carrier~~ ~~JXX~~
- 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

2 Power

MOD AFCP/6057A9/6

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.

** A1A, A1B and F1B are permitted provided they do not cause harmful interference to the classes of emission H2B, J3E, J2E, J7E, J9E, J7AB, J2B, J2D, J7B, J7D, J9B, and J9D and ~~JXX~~. In addition, A1A, A1B and F1B 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.

Class of emission	Stations	Maximum peak envelope power
H2B, J3E, J7 AB , <u>J2E, J7E, J9E, J2B, J2D, J7B, J7D, J9B, J9D</u> JXX , A3E*, H3E* (100% modulation)	Aeronautical stations Aircraft stations	6 kW 400 W
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.

Note: the “(100% modulation)” may require additional clarification.

Reasons:

1. The new proposed digital wideband HF systems comply with the existing analog voice and data communication systems without causing interference or assignment modification unless agreed to by affected member states and operate in accordance with the ICAO international Standards and Recommended Practices and procedures.
2. Protection of in band and adjacent band services shall be ensured.

SUP AFCP/6057A9/7

RESOLUTION 429 (WRC-19)

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