

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Amendment of Parts 2 and 87 of the Commission's) WT Docket No. 00-77
Rules to Accommodate Advanced Digital)
Communications in the 117.975-137 MHz Band)
and to Implement Flight Information Services in the) RM Nos. 9376, 9462
136-137 MHz Band)

MEMORANDUM OPINION AND ORDER

Adopted: December 21, 2001

Released: December 28, 2001

By the Commission:

I. INTRODUCTION

1. We have before us a petition filed by Aeronautical Radio, Inc. (ARINC)¹ seeking partial reconsideration of the *Report and Order* in this proceeding.² For the reasons that follow, we grant the Petition and amend Section 87.139(k) of our Rules³ to revise the emission mask and out-of-band power levels for very high frequency (VHF) digital aviation communications systems.

II. BACKGROUND

2. On April 13, 2001, the Commission released the *Report and Order* in this proceeding, which amended Parts 2 and 87 of the Rules to (1) give the Federal Aviation Administration access to five additional channels in the 136-136.475 MHz frequency band; (2) authorize the implementation of Flight Information Services-Broadcast (FIS-B) in the 136-137 MHz band; (3) permit digital communications throughout the 117.975-137 MHz aeronautical radio spectrum; and (4) make available for general purpose aeronautical enroute operations five channels that had been reserved for helicopter flight following systems in the Gulf of Mexico Region.⁴ Among the specific rule changes adopted to facilitate the transition from analog to digital aviation communications systems was an amendment of Section 87.139 authorizing the emissions classes for phase modulation digital data transmission throughout the 117.975-137 MHz band.⁵ The Commission concluded that these amendments would enhance the safety of aviation by alleviating congestion in the aeronautical radio spectrum and by permitting the introduction of new digital communications services.⁶ The *Report and Order* appeared in the Federal Register on May 15, 2001,⁷ and ARINC filed the Petition on June 14, 2001. No other petitions for reconsideration or

¹ Petition for Partial Reconsideration filed by Aeronautical Radio, Inc. on June 14, 2001 (Petition).

² Amendment of Parts 2 and 87 of the Commission's Rules to Accommodate Advanced Digital Communications in the 117.975-137 MHz Band and to Implement Flight Information Services in the 136-137 MHz Band, *Report and Order*, WT Docket No. 00-77, 16 FCC Rcd 8228 (2001) (*Report and Order*).

³ 47 C.F.R. § 87.139(k).

⁴ *Report and Order*, 16 FCC Rcd at 8226 ¶ 1.

⁵ *Id.* at 8231-32 ¶¶ 12-14.

⁶ *Id.* at 8226 ¶ 1.

⁷ 66 Fed. Reg. 26796 (May 15, 2001).

responsive pleadings have been filed in this proceeding.

III. DISCUSSION

3. While ARINC supports the actions taken by the Commission in this proceeding, it seeks partial reconsideration because Section 87.139(k) of the Commission's Rules, as adopted in the *Report and Order*, does not reflect recent changes in international standards pertaining to the emission mask and out-of-band power levels for VHF digital aviation communications systems. These modifications of the international Standards and Recommended Practices (SARPs), adopted by the International Civil Aviation Organization (ICAO) after the period for submitting comments to the *Notice of Proposed Rulemaking* in this proceeding, are to take effect on January 1, 2002.⁸ ARINC notes that the ICAO has increased the amount of power permissible in the first adjacent channel by 2 dB, specifying that the total amount of power across the first adjacent channel shall not exceed 2 dBm, rather than the 0 dBm now specified in Section 87.139(k)(1).⁹ ARINC further notes that the ICAO has also specified that the power measured over a 16 kHz bandwidth centered in either first adjacent 25 kHz channel shall be limited to -18 dBm, instead of the -20 dBm limit set forth in Section 87.139(k)(3).¹⁰ Finally, ARINC observes that the SARPs have been modified to increase the amount of suppression required for out-of-band emissions in the second adjacent channels and beyond.¹¹ Specifically, the old standard required that the amount of power measured across either second adjacent channel be less than -25 dBm, and that the power measured in any other adjacent 25 kHz channels decrease monotonically by at least 5 dB per octave to a maximum value of -52 dBm. Under the new standard, the amount of power measured across either second adjacent 25 kHz channel must be less than -28 dBm, the amount of power measured across either fourth adjacent 25 kHz channel must be less than -38 dBm, and from thereon the power measured in any other adjacent 25 kHz channel must monotonically decrease at a rate of at least 5 dB per octave to a maximum value of -53 dBm.

4. Based upon our review of the record in this proceeding, we agree with ARINC that it would serve the public interest to have these revised standards reflected in our Rules because they have been accepted by the aviation community globally and will assist the aviation industry in implementing new data communications systems.¹² In addition, we believe that, by facilitating the deployment of advanced aviation communications technology, this amendment will also serve the goals of effective aviation safety and efficiency that underlie this proceeding.¹³ Consistent with the ICAO rules scheduled to take effect on January 1, 2002, stations installed before January 1, 2002 that meet the existing out-of-band emission suppression standard in Section 87.139(k)(2) but not the revised standard will be permitted to continue operating indefinitely. We are unaware of any factors militating against such an amendment that would outweigh the public interest benefits to be derived therefrom. Accordingly, we grant the Petition, and amend Section 87.139(k) to conform to the new international standards for VHF digital aviation communications systems.

⁸ See Convention on International Civil Aviation, Annex 10, Volume III, Part 1 ¶¶ 6.2.4, 6.3.4 (Amendment No. 75) (application date 2 November 2000).

⁹ Petition at 2.

¹⁰ *Id.*

¹¹ *Id.*

¹² See *id.* at 2-3.

¹³ See *Report and Order*, 16 FCC Rcd at 8235-36 ¶ 24.

IV. CONCLUSION

5. For the reasons stated above, we conclude that the public interest will be served by amending Section 87.139(k) to specify that VHF aeronautical stations and aircraft stations operating with phase modulation digital data emissions shall limit their power and out-of-band emissions in accord with recently modified SARPs adopted by the ICAO.

V. ADMINISTRATIVE MATTERS

A. Final Regulatory Flexibility Certification

6. The Regulatory Flexibility Act of 1980, as amended, (RFA)¹⁴ requires that a regulatory flexibility analysis be prepared for rulemaking proceedings, unless the agency certifies that “the rule will not have a significant economic impact on a substantial number of small entities.”¹⁵ The RFA generally defines “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹⁶ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.¹⁷ A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).¹⁸

7. In this *Memorandum Opinion and Order*, we make minor revisions to the out-of-band emission limits applicable to VHF aeronautical stations and aircraft stations operating with digital communications technology. These minor revisions conform our rules with international standards applicable to equipment and aircraft operating outside United States airspace, and have been adopted at the request of Aeronautical Radio, Inc., an organization representing the civil aviation industry,¹⁹ without objection from any party. These minor revisions do not impose any new reporting or compliance requirements on any entity, do not otherwise impose any additional burdens on any small entities, and do not require alteration of the Final Regulatory Flexibility Analysis for the *Report and Order*.²⁰ We therefore certify that the adoption of this *Memorandum Opinion and Order* will not have a significant economic impact on a substantial number of small entities. The Commission will send a copy of the *Memorandum Opinion and Order*, including a copy of this final certification, in a report to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996.²¹ In addition, the *Memorandum Opinion and Order* and this final certification will be sent to the Chief Counsel for

¹⁴ The RFA, 5 U.S.C. § 601 *et seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (“CWAAA”). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (“SBREFA”).

¹⁵ 5 U.S.C. § 605(b).

¹⁶ 5 U.S.C. § 601(6).

¹⁷ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consulting with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

¹⁸ Small Business Act, 15 U.S.C. § 632.

¹⁹ See *Report and Order*, 16 FCC Rcd at 8227 n.6.

²⁰ See *id.*, at 8237-39, Appendix A.

²¹ 5 U.S.C. § 801(a)(1)(A).

Advocacy of the SBA and will be published in the Federal Register.

B. Ordering Clauses

8. Authority for issuance of this *Memorandum Opinion and Order* is contained in Sections 1, 4(i), 302, 303(f) and (r), and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 302, 303(f) and (r), 332.

9. Accordingly, IT IS ORDERED that the Petition for Partial Reconsideration filed by Aeronautical Radio, Inc. on June 14, 2001 IS GRANTED.

10. IT IS FURTHER ORDERED pursuant to Sections 1, 4(i), 302, 303(f) and (r), and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 302, 303(f) and (r), 332, that Section 87.139 of the Commission's Rules, 47 C.F.R. § 87.139, IS AMENDED as set forth in Appendix A, effective thirty days after publication of this *Memorandum Opinion and Order* in the Federal Register.

11. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this *Memorandum Opinion and Order*, including the Final Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the Small Business Administration.

C. Contacts for Information

12. For further information, contact Jeffrey Tobias, Wireless Telecommunications Bureau, Public Safety and Private Wireless Division, at (202) 418-1617, TTY (202) 418-7233.

13. Alternative formats (computer diskette, large print, audio cassette, and Braille) are available to persons with disabilities by contacting Brian Millin at (202) 418-7426, TTY (202) 418-7365, or via e-mail to bmillin@fcc.gov. This *Memorandum Opinion and Order* can be downloaded at <http://wireless.fcc.gov/releases/fcc01378.pdf>.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

APPENDIX A

Final Rules

Part 87 of Title 47 of the Code of Federal Regulations is amended as follows:

1. The authority citation for Part 87 continues to read as follows:

AUTHORITY: 47 U.S.C. §§ 154, 303, and 307(e), unless otherwise noted.

2. Section 87.139 is amended by revising paragraph (k) to read as follows:

§ 87.139 Emission limitations.

* * * * *

(k) For VHF aeronautical stations and aircraft stations operating with G1D or G7D emissions:

- (1) The amount of power measured across either first adjacent 25 kHz channel shall not exceed 2 dBm.
- (2) For stations first installed before January 1, 2002, the amount of power measured across either second adjacent channel shall be less than -25 dBm and the power measured in any other adjacent 25 kHz channels shall monotonically decrease at a rate of at least 5 dB per octave to a maximum value of -52 dBm. For stations first installed on or after January 1, 2002,
 - (i) the amount of power measured across either second adjacent 25 kHz channel shall be less than -28 dBm;
 - (ii) the amount of power measured across either fourth adjacent 25 kHz channel shall be less than -38 dBm; and
 - (iii) from thereon the power measured in any other adjacent 25 kHz channel shall monotonically decrease at a rate of at least 5 dB per octave to a maximum value of -53 dBm.
- (3) The amount of power measured over a 16 kHz channel bandwidth centered on the first adjacent 25 kHz channel shall not exceed -18 dBm.