



Federal Communications Commission
Washington, D.C. 20554

August 15, 2017

DA 17-771

Small Entity Compliance Guide

**Emission Mask Requirements for Digital Technologies on 800 MHz NPSPAC
Channels; Analog FM Capability on Mutual Aid and Interoperability Channels**

**FCC 16-48
PS Docket No. 13-209
RM-11663
Released April 25, 2016**

This Guide is prepared in accordance with the requirements of Section 212 of the Small Business Regulatory Enforcement Fairness Act of 1996. It is intended to help small entities—small businesses, small organizations (non-profits), and small governmental jurisdictions—to comply with the new rules adopted in the above-referenced FCC rulemaking dockets. This Guide is not intended to replace the rules and, therefore, final authority rests solely with the rules. Although we have attempted to cover all parts of the rules that might be especially important to small entities, the coverage may not be exhaustive. This Guide may, perhaps, not apply in a particular situation based on the circumstances, and the FCC retains the discretion to adopt approaches on a case-by-case basis that may differ from this Guide, where appropriate. Any decisions regarding a particular small entity will be based on the statute and regulations.

In any civil or administrative action against a small entity for a violation of a rule or rules, the content of the Small Entity Compliance Guide may be considered only as evidence of the reasonableness or appropriateness of proposed fines, penalties or damages. Interested parties are free to file comments regarding this Guide and the appropriateness of its application to a particular situation; the FCC will consider whether the recommendations or interpretations in the Guide are appropriate in that situation. The FCC may decide to revise this Guide without public notice to reflect changes in the FCC's approach to implementing a rule, or to clarify or update the text of the Guide. Direct your comments and recommendations, or calls for further assistance, to the FCC's Consumer Center:

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I. Objectives of the Proceeding

On April 25, 2016, the Federal Communications Commission (Commission) released a *Report and Order* in PS Docket 13-209. The *Report and Order* amends the Part 90 technical rules to improve adjacent channel interference protections and promote interoperability for critical public safety communications in the 800 MHz National Public Safety Planning Advisory Committee (NPSPAC) band (806-809/851-854 MHz). In taking this action, the Commission lessens the possibility that first responders will encounter harmful interference when operating on channels in the NPSPAC band and provides public safety entities, regional planning committees (RPC), equipment manufacturers, and equipment certification laboratories with certainty about the required capabilities of the radios authorized for that band. Moreover, by responding to the development of digital transmission equipment and its use, the Commission's action not only promotes interoperability, but also maintains certainty by ensuring that licensed facilities operate under uniform and effective technical parameters that maintain the extant interference environment in the NPSPAC band. In addition, the rule changes take steps to enhance public safety system interoperability across multiple bands -- *i.e.*, the VHF, UHF and 800 MHz bands -- by specifying analog FM as the standard emission for use on all interoperability channels in these bands.

II. Compliance Requirements

The *Report and Order* makes rule changes to (1) the digital emission mask requirements in sections 90.210 and (2) the analog FM capability requirements in sections 90.20, 90.203, 90.617, and 90.619.

Digital Emission Mask Requirements (47 CFR § 90.210)

Under the amended rules, digital transmitters are now required to comply with Emission Mask H in order to be approved for operation in the NPSPAC band. In formulating this rule change, the Commission noted that the advent of digital transmitters increases the potential for adjacent channel interference and reduces frequency reuse in the NPSPAC band. The Emission Mask H requirement addresses these problems and thereby provides certainty to public safety entities, regional planning committees (RPCs) and equipment manufacturers that licensed facilities will operate under a uniform set of technical parameters that maintain the existing interference environment in the NPSPAC band.

As of June 15, 2016 (the effective date of the rules adopted in the *Report and Order*), equipment that does not conform to Emission Mask H may no longer be used in new or modified NPSPAC systems. To the extent any party seeks a waiver of this requirement based on claims that a non-conforming device provides comparable interference protection, the Commission strongly recommends that the waiver request be supported by a technical showing that demonstrates persuasively that the proposed deviation from Emission Mask H would provide no greater interference to adjacent channel (12.5 kilohertz spacing) signals than equivalent equipment that conforms to Emission Mask H. In addition, measurements of interference potential should be made by a Commission-accredited laboratory.

Analog FM Capability Requirements (47 CFR §§ 90.20(d)(80), 90.203(i) & (j), 90.617 (a)(1), and 90.619(a)(5)(i) & (c)(6)(i))

All mobile and portable radios capable of operating in the VHF, UHF or 800 MHz bands must use analog FM modulation when operating on the mutual aid and interoperability channels in those bands. The Commission concluded that this rule change will promote interoperability among public safety licensees yielding substantial benefits in terms of facilitating the work of first responders in emergency situations without appreciably affecting equipment costs.

Equipment Certification and Marketing

The Commission will not certify equipment that fails to meet the requirements of the amended rules adopted in the *Report and Order*. For equipment that has fallen out of compliance, manufacturers may submit new or amended applications for equipment certification accompanied by the requisite engineering showings that demonstrate compliance with these amended rules. The Commission's certification requirements, coupled with the new requirements for use and operation of radios used for public safety communications in the NPSPAC, VHF and UHF bands, will ensure that manufacturers do not market equipment that fails to comply with these requirements, and that equipment that does enter the marketplace will be designed as the amended rules require, to improve adjacent channel interference protections and promote the interoperability of devices used by the public safety community.

III. Recordkeeping Requirements

There are no recordkeeping requirements.

IV. Internet Link

A copy of the *Report and Order* is available at:
https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-48A1.docx.

A copy of the Federal Register publication of the *Report and Order* summary is available at: <https://www.federalregister.gov/documents/2016/05/16/2016-11336/emission-mask-requirements-for-digital-technologies-on-800-mhz-npsac-channels-analog-fm-capability>.