

Before the

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
Emission Mask Requirements for Digital) PS Docket No. 13-209
Technologies on 800 MHz NPSPAC) RM-11663
Channels; Analog FM Capability on Mutual)
Aid and Interoperability Channels)

To: The Commission

COMMENTS OF THE TELECOMMUNICATIONS
INDUSTRY ASSOCIATION

The Telecommunications Industry Association (TIA),¹ supported by approximately 500 participating members, is a trade association representing the ICT manufacturer, vendor, and supplier interest.² We appreciate the opportunity to respond to the Commission’s request for comment on a Notice of Proposed Rulemaking (NPRM), initiated in response to a Petition

¹ TIA is the leading trade association for the information and communications technology (“ICT”) industry, representing companies that manufacture or supply the products and services used in global communications across all technology platforms, as well as an American National Standards Institute-accredited standard development organization for the telecommunications industry. TIA represents its members on the full range of policy issues affecting the ICT industry and forges consensus on industry standards. Among their numerous lines of business, TIA member companies design, produce, and deploy a wide variety of devices with the goal of making technology accessible to all Americans.

² For an overview of the ICT market, technologies and policies that drive innovation and investment, see TIA’s *2013 Policy Playbook* at <http://www.tiaonline.org/policy/tia-2013-playbook>.

for Rulemaking filed by Harris Corporation (Harris),³ proposing the requirement that digital technologies comply with Emission Mask H when operated in the 800 MHz National Public Safety Planning Advisory Committee (NPSPAC).⁴

This proceeding presents the Commission with the opportunity to advance two central public safety communications policy objectives for the 800 MHz NPSPAC band:

- Protecting users from interference and
- Promoting interoperability.

As telecommunications manufacturers, operators and system integrators, our member companies are sources of expertise in addressing the broad range of communications network and service requirements, and have extensive experience in deploying advanced telecommunications infrastructure. As we have in the past, TIA appreciates this opportunity to share its insight in this proceeding with the Commission from the perspective of the equipment manufacturer and standard developer.

A. TIA SUPPORT OF PUBLIC SAFETY COMMUNICATIONS

TIA has a long and deep record in support of the advanced communications needs of the public safety community. As a standards development organization accredited by the American

³ See, Petition for Rulemaking of Harris Corporation, Preventing Interference in Public Safety Frequencies By Requiring H Mask and Mutual Aid for Digital Technologies filed April 30, 2012 (Harris Petition).

⁴ See, Emission Mask Requirements for Digital Technologies on 800 MHz NPSPAC Channels; Analog FM Capability on Mutual Aid and Interoperability Channels PS Docket No. 13-209, RM-11663 (rel. August 27, 2013) “NPRM”

National Standards Institute, TIA has endeavored to enhance the public safety community's ability to access advanced communications technologies.

Within TIA, Engineering Committee TR-8 formulates and maintains standards for private radio communications systems and equipment for both voice and data applications.⁵ TR-8 addresses all technical matters for systems and services, including definitions, interoperability, compatibility, and compliance requirements. The types of systems addressed by these standards include business and industrial dispatch applications, as well as public safety (such as police, EMS and firefighting) applications.

TIA's TR-8 has created a series of technical documents known as the TIA-102 suite of standards developed during Phase 1 of the Project 25 implementation and newly created Phase 2 standards, including two-slot TDMA technology to meet the Commission's spectrum efficiency goals. The depths of the standards formulated provide agencies with feature-rich voice and data radio communications. These are standards sponsored by the Association of Public-Safety Officials International (APCO), the National Association of State Telecommunications Directors (NASTD), and agencies of the federal government. Project 25 standards are developed to provide digital voice and data communications systems suited for public safety and first-responder applications.

⁵ See, TIA TR-8 Committee charter, Mobile and Personal Private Radio Standards, <http://www.tiaonline.org/all-standards/committees/tr-8> (last accessed November 14, 2013).

TIA seeks to ensure that incumbent public safety users are protected from interference and that they can count on interoperability when mutual aid is required, consistent to the greatest extent possible, with an open standards and technology-neutral approach.

B. AVOIDING INTERFERENCE: EMISSION MASK

As TIA has previously commented regarding this matter: “The public safety and manufacturer communities have both demonstrated for the Commission that, at minimum, there is apparent concern over the prospect that alternative technologies be permitted to interfere with incumbent uses, as well as coordination and interoperability issues relating to incumbent uses.”⁶ The record supports the FCC’s tentative conclusion that “manufacturers of digital equipment shouldn’t continue to be able to take advantage of an emission mask rule intended to apply only to analog FM systems.”⁷

⁶ See, TIA replies 8/9/11 at 2 <http://apps.fcc.gov/ecfs/document/view?id=7021701457> Citing to See Comments of Association of Public-Safety Communications Officials (APCO), WT Docket No. 11-69, ET Docket No. 09-234 (filed June 27, 2011) at 2 (APCO Comments); Comments of EF Johnson, Inc., WT Docket No. 11-69, ET Docket No. 09-234 (filed June 27, 2011) at 2 (EF Johnson Comments); Comments of Harris Corporation, WT Docket No. 11-69, ET Docket No. 09-234 (filed June 27, 2011) at 1, 4 (Harris Comments); Comments of Motorola Solutions, WT Docket No. 11-69, ET Docket No. 09-234 (filed June 27, 2011) at 4 (Motorola Solutions Comments), 11, 16; Comments of the National Public Safety Telecommunications Council (NPSTC), WT Docket No. 11-69, ET Docket No. 09-234 (filed June 27, 2011) at 6 (NPSTC Comments); Comments of P25 Technology Interest Group, WT Docket No. 11-69, ET Docket No. 09-234 (filed June 27, 2011) at 2, 5 (P25 Group Comments); Comments of TIA, WT Docket No. 11-69, ET Docket No. 09-234 (filed June 27, 2011) at 3 (TIA Comments).

⁷ See, NPRM at 11

These interference concerns have been addressed in the record. In fact, as the Commission observes (PN FN35) NPSPAC channels are susceptible to adjacent channel interference due to 12.5 kHz channel spacing relative to the rest of the 800 MHz band, which are spaced 25 kHz apart. TIA supports the application of the H Mask requirement to digital technology that is focused on equipment that operates in the sensitive interference environment of the NPSPAC band, where 25 kHz channels are spaced only 12.5 kHz apart.

We note that the NPSPAC channels operate under a specific combination of more stringent technical requirements to enable “modified 25 kHz” equipment on 12.5 kHz channel centers with geographic separation between adjacent channel systems. The technical and operational standards applicable to the NPSPAC channels raise unique issues when considering whether to allow non Mask H compliant digital technologies on Part 90 frequencies.⁸

As the FCC notes, “requiring digital systems to comply with Emission Mask H will reduce the potential of those systems to cause adjacent-channel interference in the NPSPAC band.”⁹ Moreover, compliance with Emission Mask H appears to be achievable, as demonstrated by Harris and other manufacturers. In fact, as the Commission observes, the record contains no evidence that other manufacturers are “incapable of adapting its technology to comply with Emission Mask H.”¹⁰

⁸ See, Motorola Solutions Comments at 11-13.

⁹ See, NPRM at 11

¹⁰ See, NPRM at footnote 34

TIA underscores that our comments are directed at non-Mask H compliant technologies because of the likely interference facing first responders should Mask B be applied in public safety frequencies. As was noted in the initial Harris Petition, until recently, manufacturers generally have interpreted Part 90 rules to preclude use of Mask B in public safety frequencies due to the obvious and inevitable interference. To be specific, digital technology meeting the more stringent Mask H emissions requirements is almost universally utilized in public safety frequencies used by first responders and others protecting life, health, and property.¹¹

C. PROMOTING INTEROPERABILITY

The NPRM appropriately details the Commission’s existing policies regarding interoperability, including dedicating “a number of channels in the public safety bands to interoperable communications, including five mutual aid channels in the 800 MHz NPSPAC band and nine interoperability channels in the VHF and UHF bands.”¹² The NPRM further cites the Commission’s rules requiring equipment certified and marketed for public safety use in the 800 MHz, VHF, and UHF bands to be capable of operating on the applicable mutual aid or interoperability channels.¹³

¹¹ See, Harris Petition at 4

¹² See, NPRM at 16, FN citing to 47 C.F.R. § 90.617(a)(1). See NPSPAC Report and Order, 3 FCC Rcd at 908 ¶¶ 27-30 (1987). 47 C.F.R. § 90.20(c)(3). In 2000, the Commission dedicated five channels in the 150-174 MHz band and four channel pairs in the 450-512 MHz band for interoperability purposes. See Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, Establishment of Rules and Requirements For Priority Access Service, WT Docket No. 96-86, *Third Memorandum Opinion and Order and Third Report and Order*, 15 FCC Rcd 19844, 19848-19849 ¶ 9 (2000). The Commission also designated two channel pairs in the VHF 156-162 MHz band for interoperability communication in thirty-three Economic Areas (EAs), where these channels are allocated for public safety entities.

¹³ See, NPRM at 16, FN citing See 47 C.F.R. § 90.203(i) (equipment certified after February 16, 1988 and marketed for public safety operation in the 800 MHz NPSPAC bands “must have the capability to be programmed for operation on the mutual aid channels as designated in § 90.617(a)(1) of the rules”); 47 C.F.R. § 90.203(j)(1) (mobile/portable equipment certified after January 1, 2005 for use on 150–174 MHz or 450–470 MHz public safety

TIA concurs that applications seeking 800 MHz NPSPAC channels should be capable of analog FM modulation on the NPSPAC mutual aid channels. As the Commission’s summary of the proceeding record notes, most subscriber equipment manufacturers and public safety licensees have historically used a common modulation – analog FM – for operations in 800 MHz, VHF, and UHF interoperability channels, and that alternative technologies have obtained certification for low-power equipment using a different and incompatible digital modulation.¹⁴

The Commission’s policy of promoting interoperability would be best served by requiring analog FM as a uniform modulation standard for certification of all 800 MHz, VHF, and UHF public safety subscriber equipment. The Commission has previously adopted a similar modulation requirement for 700 MHz public safety narrowband subscriber equipment. TIA recommends that, as in the existing 700 MHz requirements and the proposed VHF/UHF requirements, the 800 MHz analog FM requirement rule specifically apply to mobile and portable transmitters only. By harmonizing these rules, the Commission will ensure interoperability while mitigating any rule application to non-subscriber equipment that could increase cost to public safety but do nothing to advance interoperability.

frequencies must be “capable of operating” on the nationwide public safety interoperability channel in the applicable band).

¹⁴ See, NPRM at 17

III. CONCLUSION

For the foregoing reasons, TIA urges the Commission to adopt policies consistent with the recommendations above.

Respectfully submitted,

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