

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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In the Matter of )  
)  
Service Rules for the 746-764 and )  
776-794 MHz Bands, and Revisions to )  
Part 27 of the Commission's Rules )

WT Docket No. 99-168

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

COMMENTS OF MOTOROLA, INC.

Motorola hereby files these comments in support of the Petition for Reconsideration filed by the National Public Safety Telecommunications Council (NPSTC) in the above-referenced proceeding.<sup>1</sup> The NPSTC petition provides strong supporting documentation to justify the reconsideration of the 700 MHz technical standards to ensure that the band can adequately serve the needs of both commercial and public safety operations. The technical analysis provided by the Telecommunications Industry Association (TIA) that accompanies the NPSTC petition demonstrates that the current level of interference protection afforded to 700 MHz public safety systems is inadequate especially considering the recent decision to allow high powered commercial base transmitters to operate in the 777-792 MHz band.<sup>2</sup> The FCC should act expeditiously to minimize CMRS interference to 700 MHz public safety systems in order to ensure that systems operating in this band can actually use the spectrum as allocated.

<sup>1</sup> *Petition for Reconsideration by The National Public Safety Telecommunications Council*, WT Docket No. 99-168, submitted March 7, 2001. See also, 66 Fed. Reg. 18474, 18475, April 9, 2001.

<sup>2</sup> *Service Rules for the 746-764 and 776-794 MHz Bands, and Revisions to Part 27 of the Commission's Rules*, WT Docket No. 99-168, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, FCC 00-224, released June 30, 2000 (MO&O).

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The TIA technical analysis concludes that there is a high potential for interference to 700 MHz public safety systems from 700 MHz commercial mobile radio systems (CMRS). Based on path loss studies that are augmented by the real world deployment experience of multiple public safety equipment providers, the TIA report essentially concludes that the current out-of-band emissions applicable to commercial operations in the 747-762/777-792 MHz bands are insufficient to allow public safety users to the reliability necessary for systems devoted to the protection of life and property.<sup>3</sup> Based on its analysis of the various interference mechanisms implicated by the 700 MHz band plan, TIA recommends that the FCC increase the level of attenuation of out-of-band emissions from commercial fixed, base and mobile stations that fall within the public safety 700 MHz band.<sup>4</sup>

Motorola supports the conclusions raised in the TIA report as its fundamental description of the potential problems facing public safety users corresponds well with previous Motorola filings in this proceeding.<sup>5</sup> TIA also correctly notes that the policy of allowing commercial base and mobile transmitters to operate in either half of the commercial allocation raises great potential for intra CMRS interference when TDD and FDD technologies are deployed on adjacent spectrum blocks in the same geographic area.<sup>6</sup> This analysis is in agreement with recent filings in the FCC's "3G" proceeding where the FCC is similarly considering flexible allocations

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<sup>3</sup> *Id.* at Appendix, page 6 (unnumbered).

<sup>4</sup> *Id.* at Appendix, page 9 (unnumbered).

<sup>5</sup> *See, e.g.*, Motorola Petition for Reconsideration, WT Docket No. 99-168, submitted August 11, 2000.

<sup>6</sup> *NPSTC Petition* at Appendix, page 9 (unnumbered).

that allow both TDD and FDD technologies in the same band. In response to such considerations, AT&T Wireless stated the following:<sup>7</sup>

In seeking comment on the merits of frequency division duplex (“FDD”) and time division duplex (“TDD”), the Commission acknowledges that the spectrum requirements of individual carriers will vary depending on preferred technology. AT&T has evaluated TDD and found that its detriments far outweigh any advantages it might offer. In particular, TDD systems can cause significant interference to existing FDD systems, resulting in a noticeable deterioration in the FDD systems’ operating range. To overcome these problems, a fairly wide guard band would be required. Accordingly, AT&T recommends that allocations or identifications for TDD not be made at this time.

The FCC’s 700 MHz band plan, however, provides no such guard band between commercial TDD and FDD systems.

The Commission has indicated that Motorola’s concerns for interference to 700 MHz public safety users are “overly pessimistic.”<sup>8</sup> Based on the submission of the instant petition, NPSTC and other public safety representatives are apparently not comforted by the FCC’s conclusion that “[w]here instances of interference actually occur, however, we believe that they can be readily addressed on a case-by-case basis, and that historically-followed coordination procedures, requiring cooperation and accommodation by both commercial and public safety entities, will generally be able to resolve such interference.”<sup>9</sup> The 700 MHz band is critical to the future success of public safety communications; it is critical that every bit of this allocation’s capacity be available to meet the expressed goals of Congress, the FCC and the Public Safety Wireless Advisory Committee. Given the dire warnings contained in the TIA analysis, Motorola

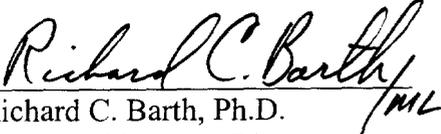
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<sup>7</sup> *Comments of AT&T Wireless Services Inc.*, ET Docket No. 00-258, submitted February 22, 2001 at 6, 7 (footnotes omitted).

<sup>8</sup> *Second Memorandum Opinion and Order*, WT Docket No. 99-168, FCC 01-2, released January 12, 2001, at ¶6.

believes that the FCC must fully consider these issues and ensure that public safety agencies will indeed be able to use the entirety of its Congressionally mandated 24 MHz allocation of spectrum.

Respectfully submitted,  
MOTOROLA, INC.

  
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April 24, 2001

CC: Marilyn Ward  
Chair, NPSTC

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<sup>9</sup> *Id.* at ¶13.