

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20054

In the Matter of: )  
)  
Implementation of Sections 309(j) and 337 ) WT Docket No. 99-87  
of the Communications Act of 1934 as )  
Amended; Promotion of Spectrum Efficient )  
Technologies on Certain Part 90 )  
Frequencies )

**COMMENTS OF MOTOROLA SOLUTIONS, INC.**

Motorola Solutions, Inc. (“MSI”) hereby files these comments in response to the Petition For Clarification And/Or Declaratory Ruling filed by the Telecommunications Industry Association (“TIA”) concerning the Part 90 narrowbanding requirements applicable to the 470-512 MHz band (“T-Band”).<sup>1</sup> As further discussed below, MSI urges the FCC to ensure that T-Band licensees are able to maintain effective communications networks while the Commission implements the spectrum reallocation provisions mandated by Congress in the 2012 Middle Class Tax Relief and Job Creation Act.<sup>2</sup> The FCC should grant TIA’s request and clarify that it has waived the ban on 25 kHz efficiency technologies in radios for use in the T-Band for new equipment certification applications.

For nearly the past two decades, MSI has worked with the private wireless community and the Commission to develop a rational plan for improving the efficient use of Part 90 spectrum allocated for two-way land mobile services. This long term initiative

---

<sup>1</sup> Petition For Clarification And/Or Declaratory Ruling, WT Docket No. 99-87, filed by Telecommunications Industry Association, May 21, 2012 (*TIA Petition*). See also Public Notice, DA 12-296, April 26, 2012.

<sup>2</sup> See Middle Class Tax Relief and Job Creation Act of 2012 § 6103(a), Pub. L. No. 112-96, 126 Stat. 156 (2012) (“Spectrum Act”).

has spurred many positive developments, such as the introduction of advanced digital trunking technologies on shared channels below 512 MHz, and has resulted in the primary channel bandwidth in most private wireless allocations being halved from 25 kHz to 12.5 kHz equivalent efficiency. These efforts are both welcomed and necessary as the non-public safety private wireless radio services have not received an allocation of new spectrum for nearly 20 years.

The Spectrum Act mandates that the Commission reallocate and reauction public safety T-Band spectrum. Acknowledging that this change in law dramatically upsets the narrowbanding plan for T-Band licensees, the Commission has appropriately waived its requirement to migrate to narrowband (12.5 kHz efficiency) technology by January 1, 2013, for all T-Band licensees.<sup>3</sup> Concomitantly, the Commission also waived a corresponding January 1, 2013, deadline that cuts off the manufacture or importation of equipment capable of operating with only one voice path per 25 kHz of spectrum in the 470-512 MHz band.<sup>4</sup> In so doing, the Commission recognized that blocking T-Band licensees' access to 25 kHz efficiency equipment would hamper interoperability between systems (or different parts of the same system) that are at different stages of the narrowbanding conversion and prevent operational T-Band systems from maintaining peak performance during the waiver period.<sup>5</sup>

---

<sup>3</sup> Implementation of Sections 309(j) and 337 of the Communications Act of 1934 as Amended, WT Docket No. 99-87, *Order*, 27 FCC Rcd 4213, ¶ 6 (2012) (*Order*).

<sup>4</sup> *Id.* at ¶ 8.

<sup>5</sup> *Id.*

The *TIA Petition* notes that the Commission's *Order* contains ambiguity on the impact of the waiver on the equipment certification process. Specifically, while the *Order* allows for continuing manufacture, marketing and import of 25 kHz efficiency equipment, it appears to limit equipment modifications to "permissible changes" of existing approved equipment. TIA asks the Commission to affirm that it has waived the ban on the inclusion of 25 kHz technologies for the 470-512 MHz spectrum in applications for certification of T-Band capable equipment and, therefore, would accept new applications for equipment certifications specifying a 25 kHz efficiency mode.<sup>6</sup>

MSI supports the TIA Petition and urges the FCC to clarify that its waiver of the prohibition on the continued manufacture and importation of equipment capable of operating with only one voice path per 25 kHz of spectrum in the 470-512 MHz band would enable the filing of new applications for equipment certifications. The *Order* explicitly allows manufacturers to enable wide band operation in the T-Band via a permissive change if the current grant of equipment authorization does not cover such operation and if the change is made through software.<sup>7</sup> While this flexibility is necessary, it is not sufficient to ensure that T-band licensees will have continued access to improved equipment, including future multi-band devices that could ensure continued interoperability with neighboring or regional systems, or devices that could smooth the process of relocating the T-band licensees to alternate spectrum in the future, should such alternate spectrum and sufficient relocation funding become available.

---

<sup>6</sup> As part of the overall narrowbanding program, inclusion of a 25 kHz mode of operation that does not meet the FCC's equivalent efficiency specifications is prohibited in equipment certification applications filed after January 1, 2011. 47 C.F.R. § 90.203(j)(4).

<sup>7</sup> *Order* at n. 19.

Under the provisions of the Spectrum Act, the relocation of displaced public safety T-Band licensees is not required to occur before the year 2023. Given the possibility of another 11 years of operation, the FCC should make certain that these systems continue to be supported with full-featured technology. Licensees in the T-Band include many of the nation's largest and most sophisticated public safety organizations that require state-of-the-art communications capabilities. However, given the blanket waiver on narrowbanding from an operational standpoint, licensees may choose to maintain 25 kHz efficiency systems. Without relief from the prohibition on new 25 kHz equipment certifications, T-band licensees will only have access to equipment designs already certified that include 25 kHz efficiency operational mode. They would be denied the benefit of new features and capabilities that are part of the normal design process for new products and associated accessories.

In addition to limiting performance, limiting T-Band licensees that do not narrowband to existing technology designs will result in increased costs. If existing T-band licensees are required to use their existing generations of equipment, their costs to replace lost or damaged equipment will increase, as the inventory supply dwindles over time. The cost of maintenance will also increase as replacement parts become scarce, and manufacturers phase out hardware and software support.

Allowing access to new equipment provides opportunities to develop migration strategies for future displaced licensees. Accommodating the displacement of T-Band licenses may involve the allocation of new spectrum bands not already available under Part 90 or Part 22. Allowing new certifications could ensure access to newer, multi-band equipment for frequency bands that can facilitate such transitions.

The complications raised by the Spectrum Act's reallocation of the T-Band compel the Commission to adopt a flexible approach for T-Band licensees. As stated earlier, there are thousands of users that will need to find replacement spectrum in the nation's largest cities and most congested wireless markets. Allowing these licenses to avail themselves to new technology designs in order to maintain effective communications during this difficult transition would serve the public interest. Any concern that new 25 kHz single voice channel operation might illegally migrate into other VHF/UHF bands should be discounted as software can be employed to prevent such use. Furthermore, impermissible wideband operation will be more easily detected once users in other bands convert to narrowband. For these reasons, MSI urges the Commission to grant TIA's request and waive all provisions related to the Commission's narrowbanding rules for the 470-512 MHz band.

Respectfully submitted,

/s/ Catherine Seidel

Catherine Seidel  
Chief,  
Global Spectrum and Regulatory Policy

/s/ Chuck Powers

Chuck Powers  
Director, Engineering & Technology Policy  
Global Government Affairs

Motorola Solutions, Inc.  
1455 Pennsylvania Avenue, N.W.  
Washington, DC 20004  
(202) 371-6900

June 27, 2012