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

In the Matter of	)	
	)	
Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band	)	ET Docket No. 13-49
	)	

PETITION FOR PARTIAL RECONSIDERATION OF MOTOROLA SOLUTIONS, INC.

Motorola Solutions, Inc. ("MSI") hereby seeks partial reconsideration of the Federal Communications Commission's ("Commission") First Report and Order that revises the Unlicensed National Information Infrastructure ("U-NII") rules for devices operating in the 5.150-5.925 GHz ("5 GHz") band.[1] Specifically, MSI asks that the Commission reconsider its requirement that the manufacture, marketing, sale and importation into the United States of digitally modulated and hybrid devices certified under Section 15.247 operating in the 5.725-5.850 GHz U-NII-3 band cease two years after the effective date of the First R&O.[2] If retained, this requirement would impose significant costs on manufacturers without corresponding benefits in terms of interference protection to incumbent services.

Notwithstanding this request for limited relief, MSI strongly supports the overarching themes that were promoted by the Commission's adoption of the First R&O. Once again, the Commission has provided the appropriate regulatory environment necessary to encourage the development of new and innovative unlicensed technologies that will serve a variety of

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[1] *See* Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band, ET Docket No. 13-49, *First Report and Order*, 29 FCC Rcd 4127 (2013) ("First R&O").

[2] First R&O at ¶ 134.

broadband applications. MSI commends the Commission's efforts and urges it to complete its task by expeditiously resolving the remaining issues that stand in the way of making new segments of the 5 GHz band available for unlicensed use.[3]

In broad terms, the Commission adopted four sets of rule changes in the First R&O:[4]

- For U-NII devices in the 5.15-5.25 GHz band (U-NII-1), the Commission removed the indoor-only operational restriction and increased the permitted power, subject to protections for incumbent satellite operations.
- To prevent harmful interference to incumbent co-channel services, the Commission adopted a requirement for manufacturers of U-NII devices to take steps to prevent unauthorized software changes to all 5 GHz band U-NII equipment.
- To protect Terminal Doppler Weather Radar (TDWR) and other radar systems, the Commission adopted additional technical rule changes and compliance measurement procedures for U-NII devices operating in the 5.250-5.350 GHz and 5.470-5.725 GHz bands.
- To ensure uniform application of the U-NII rules to devices in those bands, the Commission extended the upper edge of the 5.725-5.825 GHz U-NII-3 band to 5.85 GHz and consolidated the Part 15 rules applicable to all digitally-modulated devices operating in this spectrum.

MSI's request for partial reconsideration is limited in scope to the adopted transition plan for implementing the revisions to the U-NII-3 band. The Commission has provided manufacturers with 12 months to continue filing applications for equipment certification under the previous rules and 24 months to exhaust inventory supply of previously approved devices:[5]

> We will continue to allow digital modulation equipment and the digital modulation portion of hybrid devices, i.e., those that can function as either spread spectrum or digitally modulated systems, operating in the 5.725-5.850 GHz band to be certified to meet the Section 15.247 requirements for 12 months after the

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[3] The Commission has deferred consideration of new rules that would make the proposed U-NII-2B and U-NII-4 bands available for new unlicensed uses pending the results of on-going technical analysis. *See id.* at ¶ 10.

[4] *Id.* at ¶ 2.

[5] *Id.* at ¶ 134 (emphasis added).

> effective date of the new rules. After 12 months, digital modulation devices and the digital modulation portion of hybrid devices must meet the new Section 15.407 U-NII-3 rules in order to be FCC certified. . . . The manufacture, marketing, sale and importation into the United States of digitally modulated and hybrid devices certified under Section 15.247 operating in the 5.725-5.850 GHz band must cease two years after the effective date of this First R&O. Likewise they may apply for Class II permissive changes to demonstrate compliance with the old rules for up to two years after the effective date of these new rules. After two years, these devices must be certified to meet the new rules and Class II permissive changes may only be made if these devices meet the new rules as well.

In adopting these policies, the Commission stated that it is "sympathetic to the arguments of commenters that the more restrictive unwanted emission limits for digital modulation devices may present design challenges for some manufacturers," but concluded that "it is in the public interest to implement the changes as soon as possible to eliminate the potential of harmful interference to TDWRs."[6] In this manner, the Commission rejected MSI's recommendation that the Commission adopt a final transition period of five years, with at least two years for manufacturers to begin producing U-NII devices that comply with the new rules.[7]

MSI urges the Commission to reconsider this decision and to extend the period of time that digitally modulated and hybrid devices certified under Section 15.247 can continue to be manufactured, marketed, sold and imported into the United States for three reasons. First, the two year transition deadline likely is unattainable. The task MSI faces in re-engineering and recertifying its existing product portfolio is massive. MSI estimates that almost all of its nearly 200 enterprise WLAN products and access points will require reengineering to comply with the more stringent out-of-band emissions limits of Section 15.407 instead of Section 15.247. MSI believes that this undertaking simply cannot be completed within the provided two years.

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[6] *Id.* at ¶ 129.

[7] *Id.* at ¶ 128.

Second, the accelerated transition would be unreasonably burdensome on manufacturers. The costs associated with compliance would be very high – MSI estimates that the total project would involve several million dollars in reengineering costs and testing/lab fees. Unfortunately, this level of investment will not result in improved products or services to customers. In fact, compliance with the new out-of-band emissions limits in Section 15.407 is likely to degrade product performance as operation on the band edge channels will require a reduction in output power to meet the new standard. This reduction in power will lead to corresponding reductions in both throughput and range for many customer installations.

Finally, there would be no harm in reconsidering the transition timeline. The Commission justified adoption of its expeditious transition policies on the need to eliminate the potential for harmful interference to TDWRs. MSI believes that there is little, if any, risk that the unwanted emissions from a properly operating device certified under Section 15.247 would create any interference to TDWRs given that the two services operate at least 75 MHz apart. In fact, the risk is sufficiently low that the Commission grandfathered hundreds of thousands (or more) of existing devices in perpetuity.[8] Allowing additional devices operating under the same parameters would similarly not create any interference scenarios to TDWR.

For these reasons, MSI urges the Commission to reconsider its two-year sunset provision and instead allow manufacturers more time to market devices certified under Section 15.247. While the 5 year transition originally recommended by MSI would be an improvement over what was adopted in the First R&O, it seems unnecessary and somewhat arbitrary to impose any time limit on the continued sale of pre-approved devices, as the new certification obligations adopted

[8] MSI's primary effort in transitioning to the new rules will be in complying with the out-of-band emissions limits of Section 15.407. This modification will require the greatest engineering.

by the Commission will facilitate a prompt transition on their own. As a manufacturer's ability to amend existing grants is removed, products approved under the old regime will eventually be replaced by equipment compliant with the new rules. Without any interference, this type of transition would prove more orderly for both manufacturers and consumers.

Respectfully submitted,

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