



WASHINGTON, DC

KEVIN M. COOKLER  
202.416.6749  
KCOOKLER@LERMANSENTER.COM

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VIA HAND DELIVERY

Mr. Scot Stone  
Deputy Chief, Mobility Division  
Wireless Telecommunications Bureau  
Federal Communications Commission  
445 Twelfth Street, SW  
Washington, DC 20554

Received-FCC

SEP 27 2018

Bureau / Office

**Re: MiMOMax Wireless Limited Request for Waiver  
of Section 90.207(i) of the Commission's Rules**

Dear Mr. Stone:

Pursuant to Section 1.3<sup>1</sup> and 1.925<sup>2</sup> of the Federal Communications Commission's ("FCC" or "Commission") rules, MiMOMax Wireless Limited ("MiMOMax Wireless"), through its undersigned counsel, respectfully requests a waiver of Section 90.207(i) of the FCC's rules to permit the certification, licensing, and use of the MiMOMax Tornado data telemetry radios utilizing a Quadrature Amplitude Modulation ("QAM") radio module topology in certain Private Land Mobile Radio ("PLMR") service frequency bands.

**Background**

MiMOMax Wireless specializes in ultra-high spectral efficiency and very low latency, long range wireless solutions for mission-critical applications including Supervisory Control and Data Acquisition ("SCADA"), Power Line Protection, PMR Linking and/or IP Backhaul Linking. MiMOMax products are designed to operate in licensed frequencies occupying narrowband Radio Frequency ("RF") channels.

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<sup>1</sup> 47 C.F.R. § 1.3.

<sup>2</sup> 47 C.F.R. § 1.925.

MiMOMax utilizes MiMO and Space Time Coding technologies to provide high reliability, ultra-high spectral efficiency and very low latency linking solutions in narrowband licensed channels to ensure reliable and interference-free operation. The MiMOMax cutting-edge technology is specifically designed for mission-critical communication infrastructure, primarily owned by utilities, public safety organizations and transport markets.

MiMOMax Wireless delivers the next generation of high performance true MiMO narrowband remote radios for SCADA, Protection and Linking applications. The MiMOMax Tornado is a full-duplex, software flexible, ultra spectrally efficient, long range point-to-multipoint remote radio unit with built-in intelligent network features for Critical Network Infrastructure. The MiMOMax Tornado offers full duplex aggregate data rate of up to 1280 kb/s in 50 kHz in the highest modulation mode. With scalable data rates and an efficient random access protocol, it can provide near real-time access to a large number of remote sites with very high reliability and low latency. The MiMOMax Tornado provides economical SCADA and Telemetry solutions to remote sites in the power, gas and water acquisition and distribution industries.

Features of the MiMOMax Tornado include isolated power supply with low power consumption, full duplex operation with built in duplexers and supporting a combination of Ethernet and RS232 interfaces, with very high scalable data rates, remote over the air network management, optional SNMP, ModBus and DNP3 support and a very efficient random access protocol.

The MiMOMax Tornado radio has been previously certified by the FCC under Parts 15, 27, and 101. To meet the expanding needs of its customer base, MiMOMax Wireless is currently seeking compliance for the certification, licensing, and use of the MiMOMax Tornado radio in the Part 90 PLMR bands, including, but not limited to, Part 90 UHF 450-470 MHz, 800/900 MHz, and other Part 90 bands for point-to-point and point-to-multipoint data telemetry master and remote radio type operations.

### **Request for Waiver**

Section 90.207 sets forth the emissions that may be authorized under Part 90 of the Commission's Rules and references the types of operations in which they may be utilized.<sup>3</sup> Currently, under Section 90.207(i) of the Commission's rules, for data telemetry operations,

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<sup>3</sup> 47 C.F.R. § 90.207.



when specifically authorized under Part 90, only A1D, A2D, F1D, or F2D emissions will be authorized.<sup>4</sup>

This limits a licensee's ability to use the MiMOMax Tornado radio for high-speed telemetry applications. The MiMOMax Tornado radio supports QAM-64 and the more advanced QAM-256. The MiMOMax Tornado radio has been assigned the W1W suffix for its emission designators – 41K0W1W, 20K0W1W and 10K0W1W. Therefore, MiMOMax Wireless respectfully requests a blanket waiver of Section 90.207(i) of the Commission's rules to allow for the certification, licensing, and operation of telemetry devices using its MiMOMax Tornado radios with WIW emissions.

The FCC may grant a waiver of its rules when (1) the underlying purpose of the rule would not be served or would be frustrated by application to the instant case, and a grant of the requested waiver would be in the public interest; or (2) in view of the unique or unusual circumstances of the case, application of the rule would be inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative.<sup>5</sup> As set forth below, this Request for Waiver meets these standards and should be granted.

The public interest would be served by grant of the requested waiver because radios services used to support critical infrastructure industry ("CII") operations play a vital role in ensuring the protection of life, property, and the environment while assisting the development and delivery of economic benefits. The safe, reliable, and efficient delivery of critical utility services is critical to public safety, health and welfare, and the use of the MiMOMax Tornado radio will enhance the ability of critical infrastructure companies to ensure that these important public interest needs are met.

MiMOMax further notes that the Commission has previously found it to be in the public interest to grant similar waiver requests by radio equipment designers/manufacturers to permit the use of telemetry equipment to be operated using D1D emissions for QAM modulations. The Commission has stated that "[a]llowing licensees to utilize the D1D emissions will promote the efficient use of limited spectrum resources and can improve the effectiveness of critical infrastructure operations that protect life, property, and the environment."<sup>6</sup> The Commission has further stated that grant of a waiver request allowing for the operation of telemetry radios

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<sup>4</sup> 47 C.F.R. § 90.207(i).

<sup>5</sup> 47 C.F.R. § 1.925.

<sup>6</sup> See *4RF Limited, Request for Waiver of Part 90 Rules to Permit Use of Certain Emission Designators for Telemetry Radios*, WT Docket No. 13-188, Order, 29 FCC Rcd 2898, 2899 ¶ 5 (2014); see also *GE MDS, LLC Request for Waiver of Section 90.207(i) of the Commission's Rules*, DA 15-593 (rel. May 18, 2015).

communication devices using a QAM radio module topology “would not frustrate the underlying purposes of the emission designator rules and would serve the public interest.”<sup>7</sup>

Similar to the radio systems previously granted waivers of Section 90.207(i), the MiMOMax Tornado telemetry radio equipment will promote the efficient use of spectral resources and will improve the effectiveness of critical infrastructure operations that protect life, property, and the environment. Thus, there is precedent for the Commission to grant a waiver of Section 90.207(i) to permit the certification, licensing, and use of MiMOMax’s Tornado radio platform equipment using the W1W emission designator for QAM modulations.

Moreover, grant of the requested waiver would also be in the public interest as it would advance the Commission’s policy of facilitating the nationwide transition to next-generation, IP-based communications networks.<sup>8</sup> CII companies are increasingly seeking to migrate to IP-enabled technologies for remote monitoring and control applications. However, CII entities lack exclusive access to spectrum suitable for high-speed point-to-multipoint operations. Accordingly, licensees will be increasingly required to make more efficient use of spectrum that is currently available. By granting the requested waiver, the Commission would enable licensees to migrate their operations to next-generation networks. MiMOMax respectfully submits that grant of its requested waiver will therefore benefit prospective CII users that seek to utilize certain PLMR bands for data services such as smart grid and critical infrastructure control applications in a fixed, point-to-point and/or point-to-multipoint SCADA operations.

Finally, MiMOMax submits that, just as grant of the requested waiver would serve the public interest, a denial of the requested waiver would be contrary to the public interest for the same reasons. The Commission furthermore has long recognized that utilities and other critical infrastructure entities need reliable communications facilities to fulfill their public service obligations. Failure to grant the requested relief will prevent prospective CII users from taking advantage of improvements in technology by adopting spectrally-efficient technologies that promote Commission bandwidth utilization objectives.

As stated above, MiMOMax Wireless is currently seeking compliance for the certification, licensing, and use of the MiMOMax Tornado radio in the Part 90 PLMR bands. As such, the MiMOMax Tornado radio will be tested and certified by a telecommunications certification body consistent with Part 2 of the Commission’s rules.

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<sup>7</sup> *Id.* (citing *Lojack Corporation*, Order, 20 FCC Rcd 20497, 20499 ¶ 7 (2005)).

<sup>8</sup> *See Technology Transitions; Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers*, GN Docket No. 13-5, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 30 FCC Rcd 9372 (2015).



To the extent necessary, MiMOMax agrees to be subject to the same conditions imposed by the Commission in previous similar waivers that a copy of the waiver grant be submitted with any equipment authorization application and that license applications must reference any such waiver grant.

### Conclusion

In consideration of the foregoing, MiMOMax Wireless Limited submits that the foregoing request for waiver of Section 90.207(i) satisfies the Commission's waiver criteria and that grant of the requested would be in the public interest, and accordingly requests that a waiver be granted.

Respectfully submitted,

**MiMOMax Wireless Limited**

By:   
Kevin M. Cookler  
Lerman Senter PLLC  
2001 L Street NW, Suite 400  
Washington, DC 20036  
Tel. (202) 416-6744  
*Counsel to MiMOMax Wireless Limited*