

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)
)
Request by Progeny LMS, LLC for Waiver of) WT Docket No. 11-49
Certain Multilateration Location and Monitoring)
Service Rules)

To: Chief, Wireless Telecommunications Bureau
Chief, Office of Engineering and Technology

**COMMENTS OF
THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

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December 21, 2012

Summary

In its Comments, the Wireless Internet Service Providers Association (“WISPA”) demonstrates that the results of cooperative testing conclusively shows that operation by Progeny LMS, LLC (“Progeny”) of its multilateration and monitoring service (“M-LMS”) would cause “unacceptable levels of interference” to fixed wireless broadband (“FWB”) services in the 902-928 MHz band. Accordingly, and consistent with the conditions applicable to Progeny’s licenses, the Wireless Telecommunications Bureau and the Office of Engineering and Technology (together, the “Bureaus”) cannot authorize Progeny to operate licensed commercial facilities in the band.

Wireless Internet service providers (“WISPs”) utilize the 902-928 MHz band to provide fixed wireless broadband service to millions of residences, businesses and public safety access points around the country. Of the unlicensed bands the Commission has established, the 900 MHz band has the best propagation characteristics and enables service to hilly and heavily foliated areas that, in many cases, would have no other means to obtain broadband services. Accordingly, the potential introduction of a new service – one that is higher powered, densely deployed and licensed with primary status – requires cautious and thorough analysis.

After initially failing to meet the Commission’s requirements to engage in cooperative testing, in January 2012 Progeny submitted a flawed test report that attempted to show that it complied with the Commission’s requirement that Progeny not cause “unacceptable levels of interference” to Part 15 devices. After WISPA and others exposed the report as wholly inadequate, the Bureaus asked Progeny to engage in cooperative testing with WISPA, Itron, Inc. and Landis + Gyr Company.

WISPA and Progeny subsequently designed a test plan, conducted joint testing and, on October 31, 2012, submitted a joint test report (“WISPA/Progeny Joint Test Report”) to the Commission. Unlike Progeny’s unilateral test, the joint test assessed the performance of two of the most popular FWB devices bi-directionally in various channel configurations.

The results of the joint testing confirmed that Progeny’s network would cause an aggregate reduction in FWB throughput of at least 60 percent when the Progeny transmitters and the FWB devices operated in the same parts of the 900 MHz band. The severity of this interference results from the higher power of the Progeny transmitters, the long duty cycle and the density of Progeny’s M-LMS network. This interference occurred even when the FWB antennas and the Progeny network antennas were cross-polarized to attempt to minimize the interference.

The consequences of this substantial reduction in throughput are severe. WISPs would be forced to choose from among the lesser of three evils – continue operations with substantially degraded throughput, suffer degraded service by restricting operations solely to the lower portion of the band that is unaffected by Progeny, or lose a substantial number of current and future

customers by abandoning operations in the 902-928 MHz band altogether. These choices are imposed solely because of interference from Progeny. From a business perspective, all of these choices are unacceptable.

Progeny contends that interference mitigation techniques can be effective. WISPA agrees in principle but the level of Progeny's interference is simply too great to overcome with any practical mitigation technique. Manual frequency selection would relegate all FWB operations to the lower third of the 902-928 MHz band, creating new, exponential instances of interference among Part 15 unlicensed users. At bottom, there are no effective means for WISPs to mitigate the crushing effects resulting from Progeny's operation.

The WISPA/Progeny Joint Test Report absolutely demonstrates that Progeny's operation causes "unacceptable levels of interference" that cannot be overcome. Progeny has not satisfied the pre-condition to commercial operation, and the Bureaus therefore must deny Progeny its requested authority.

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**COMMENTS OF
THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

The Wireless Internet Service Providers Association (“WISPA”), in response to the *Public Notice* in this proceeding,¹ hereby submits its Comments regarding the WISPA/Progeny Joint Test Report submitted on October 31, 2012.² As further discussed and demonstrated herein, the results presented in the WISPA/Progeny Joint Test Report show that operation of the Progeny LMS, LLC (“Progeny”) system would cause unacceptable levels of interference to the operation of Part 15 devices, in contravention to the Commission’s requirement. Accordingly, the Commission must deny Progeny authority to commence commercial operation.

Introduction

WISPA is a trade association representing the interests of wireless Internet service providers (“WISPs”) that provide fixed wireless broadband (“FWB”) Internet access services to millions of residences, businesses, hospitals and public safety access points across the country.

¹ *Public Notice*, “The Wireless Telecommunications Bureau and the Office of Engineering and Technology Seek Comment on Progeny’s Joint M-LMS Field Testing Reports,” WT Docket No. 11-49, DA 12-1877 (rel. Nov. 20, 2012) (“*Public Notice*”). In response to a request filed by the Part 15 Coalition, the Commission extended the deadline for filing Comments to December 21, 2012. *See Order*, DA 12-1930 (rel. Nov. 30, 2012). Accordingly, these Comments are timely filed.

² *See* Letter from Bruce A. Olcott, Counsel to Progeny LMS, LLC and Stephen E. Coran, counsel to WISPA, to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 11-49, Progeny LMS, LLC & Wireless Internet Service Providers Association Part 15 Joint Test Report (Oct. 31, 2012) (“WISPA/Progeny Joint Test Report”). WISPA’s Comments are limited to the issues presented in the WISPA/Progeny Joint Test Report.

WISPs rely principally on unlicensed frequencies to provide service. In some locations, WISPs may provide the only terrestrial source for broadband access, while in other locations, WISPs offer a competitive alternative. The 902-928 MHz band is one of the primary bands used by WISPs and the only unlicensed non-line-of-sight band that enables broadband service to be delivered to customers in hilly, wooded or obstructed areas.

Background

By *Order* dated December 20, 2011 (“*Waiver Order*”), the Wireless Telecommunications Bureau and the Office of Engineering and Technology (together, the “Bureaus”) granted Progeny waivers of certain technical rules so it could begin field testing its multilateration location and monitoring service (“M-LMS”).³ The *Waiver Order* contained a specific condition requiring Progeny to file a report “once it has completed design of its M-LMS system but prior to commencing commercial operations.”⁴ The condition required Progeny “to file a report in this proceeding that provides details on the M-LMS system design . . . , describes the process by which it carried out the field testing, including the particular types of Part 15 devices tested, and *demonstrates that its M-LMS system will not cause unacceptable levels of interference to Part 15 devices that operate in the 902-928 MHz band.*”⁵

Rather than engage in cooperative testing as required by the Commission,⁶ Progeny conducted a unilateral test of Part 15 devices, including a single FWB link, and submitted its test

³ See *Order*, DA 11-2036 (rel. Dec. 20, 2011) (“*Waiver Order*”).

⁴ *Id.* at 12.

⁵ *Id.* (emphasis added).

⁶ See Amendment of Part 90 of the Commission’s Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, *Memorandum Opinion and Order and further Notice of Proposed Rulemaking*, 12 FCC Rcd 13942 (1997), at 13968.

report to the Commission. By Public Notice dated February 14, 2012, the Bureaus invited comment on the test report.⁷

WISPA opposed Progeny's initial test report because it was predicated on flawed assumptions and parameters that, not surprisingly, unfairly skewed the results in Progeny's favor.⁸ Similar criticisms were voiced by Itron, Inc. ("Itron") and Landis+Gyr ("L+G"), manufacturers of automated meter reading technology also operating in the unlicensed 902-928 MHz band. Given the "significant interference concerns"⁹ raised by these three parties and the potential for serious harm to millions of existing users of Part 15 devices, the Bureaus asked Progeny to conduct cooperative field tests with each of WISPA, Itron and L+G.

WISPA and Progeny worked together over the summer to design a suitable field test process to determine the interference effect of Progeny's operations on FWB performance in the 902-928 MHz band. During September 25-27, 2012, WISPA and Progeny conducted joint testing in the San Jose-Santa Clara area of California. WISPA and Progeny then drafted the WISPA/Progeny Joint Test Report to describe the test environment and report the results. The WISPA/Progeny Joint Test Report did not attempt to characterize the results.¹⁰

⁷ See *Public Notice*, "The Wireless Telecommunications Bureau and the Office of Engineering and Technology Seek Comment on Progeny's M-LMS Field Testing Report," DA 12-209 (rel. Feb. 14, 2012).

⁸ See Comments of WISPA, WT Docket No. 11-49, filed March 15, 2012 ("WISPA Comments").

⁹ *Waiver Order* at 12.

¹⁰ Since the WISPA/Progeny Joint Test Report was filed with the Commission, the parties have made written ex parte presentations to the Commission. See Ex Parte Letter on Part 15 Joint Test Reports from Bruce A. Olcott, Counsel to Progeny, to Marlene H. Dortch, FCC Secretary, WT Docket No. 11-49, filed Oct. 31, 2012 ("First Progeny Ex Parte Letter"); Ex Parte Notice from Stephen E. Coran, Counsel to WISPA, Lawrence J. Movshin, Counsel to L+G and Laura Stefani, Counsel to Itron, to Marlene H. Dortch, FCC Secretary, WT Docket No. 11-49, filed Nov. 8, 2012 ("Part 15 Ex Parte Letter"); Notice of Oral Ex Parte Presentation from Stephen E. Coran, Counsel to WISPA, to Marlene H. Dortch, FCC Secretary, WT Docket No. 11-49, filed Nov. 16, 2012 ("WISPA Ex Parte Letter"); Written Ex Parte Letter Addressing WISPA Part 15 Joint Test Report from Bruce A. Olcott, Counsel to Progeny, to Marlene H. Dortch, FCC Secretary, WT Docket No. 11-49, filed Nov. 19, 2012 ("Second Progeny Ex Parte Letter").

Discussion

I. THE WISPA/PROGENY JOINT TEST REPORT CONFIRMS THAT OPERATION OF PROGENY'S NETWORK WOULD CAUSE "UNACCEPTABLE LEVELS OF INTERFERENCE" TO FWB DEVICES OPERATING IN THE 902-928 MHz BAND.

The WISPA/Progeny Joint Test Report demonstrates that operation of Progeny's network would reduce aggregate throughput by as much as 62 percent between FWB access points and the customers' end-user devices. This substantial reduction in throughput and its corresponding material adverse effects on the ability of customers to access and use broadband service constitutes "unacceptable levels of interference." Progeny has therefore failed to meet the pre-condition to operation established in the *Waiver Order*, and the Bureaus thus cannot authorize such operations.

The Commission has not defined what constitutes "unacceptable levels of interference" for purposes of this proceeding. While interpretations may differ depending on the context, under no circumstances can a 60 percent reduction in throughput be deemed anything less than "unacceptable." Such a substantial throughput reduction would render 60 percent of the 902-928 MHz band unusable for FWB operations. The Commission's standards cannot possibly endorse this result.

The WISPA/Progeny Joint Test Process

The joint WISPA/Progeny testing examined the performance of equipment from two of the most commonly deployed Part 15 FWB equipment manufacturers, Cambium and Ubiquiti Networks. The tests were conducted in the San Jose-Santa Clara area where Progeny had already established a network of base station transmitters.¹¹ The test process consisted of six separate FWB bi-directional throughput test sets with each bi-directional test set consisting of four

¹¹ See WISPA/Progeny Joint Test Report at 2.

separate and independent uni-directional throughput tests. Each of the six test sets included two downlink (“DL”) tests (one with the Progeny network turned “OFF” and one with the Progeny network turned “ON”) from access point (“AP”) to subscriber module (“SM”) or customer premise equipment (“CPE”), and two uplink (“UL”) tests from SM or CPE to the AP, again one with the Progeny network turned “OFF” and one with the Progeny network turned “ON.”¹² Uplink and downlink throughputs were recorded for each manufacturer on each of three frequency segments. One frequency segment was in the lower one-third of the band where Progeny does not operate; one was in the mid-band, overlapping the Progeny B frequency block; and one was in the upper part of the band overlapping both the Progeny B and C frequency blocks.¹³ During the testing, 13 separate Progeny beacon transmitters were detected at two of the test locations and 14 Progeny beacon transmitters were detected at the third test location.¹⁴

The WISPA/Progeny Joint Test Results

The table below summarizes the results shown in Figures 12-17 of the WISPA/Progeny Joint Test Report and shows the percent of throughput reduction measured when the Progeny network was turned “ON” compared to when the Progeny network was turned “OFF.”¹⁵ For example, Test Set #1 shows that the Cambium Canopy equipment experienced an overall aggregate throughput reduction of 0.5 percent between Progeny “OFF” and “ON” states when tested in the 8-megahertz frequency segment between 902-910 MHz. By contrast, the same Cambium Canopy equipment experienced an overall aggregate throughput reduction of 62.2 percent when tested in the 8-megahertz frequency segment between 919-927 MHz.

¹² *See id.*

¹³ *See id.*, Figures 6-11.

¹⁴ *See id.* at 4.

¹⁵ *See id.*, Figures 12-17.

| Equipment | Test Set# | WISP Equipment Frequency (MHz) | Progeny Frequency Block(s) (MHz) | % Throughput Reduction w/ Progeny Network "ON" |
|---|--------------|--|--|---|
| Cambium Canopy M9000 AP and M9000 SMC (SM on hill; AP on valley floor; both horizontal polarization) | 1 DL 1 UL | 902-910 (Outside Progeny B and C Blocks) | 919-921 (B-Block) 925-927 (C-Block) | AP to SM – 0.5% SM to AP – None Overall = 0.5% |
| | 2 DL 2 UL | 916-924 (Overlaps Progeny B Block) | 919-921 (B-Block) 925-927 (C-Block) | AP to SM – 14.9% SM to AP – 8.3% Overall = 23.2% |
| | 3 DL 3 UL | 919-927 (Overlaps Progeny B and C Blocks) | 919-921 (B-Block) 925-927 (C-Block) | AP to SM – 49% SM to AP – 13.2% Overall = 62.2% |
| Ubiquiti Rocket M900S AP and CPE (AP on hill; CPE on valley floor; dual horizontal and vertical polarization) | 4 DL 4 UL | 902-912 (Outside Progeny B and C Blocks) | 919-921 (B-Block) 925-927 (C-Block) | AP to CPE – (+) 2% CPE to AP – 2.3% Overall = 0.2% |
| | 5 DL 5 UL | 912-922 (Overlaps Progeny B Block) | 919-921 (B-Block) 925-927 (C-Block) | AP to CPE – 7.9% CPE to AP – 41.5% Overall = 49.4% |
| | 6 DL 6 UL | 917-927 (Overlaps Progeny B and C Blocks) | 919-921 (B-Block) 925-927 (C-Block) | AP to CPE – 2.5% CPE to AP – 17.6% Overall = 20.1% |

The throughput reductions shown in the above table can be summarized as follows:

Lower band – Both Cambium and Ubiquiti equipment experienced no significant aggregate throughput reduction (0.5 percent and 0.2 percent, respectively) when the Progeny network was turned “ON.”

Mid-band – The Cambium equipment experienced a 23.2 percent aggregate throughput reduction and the Ubiquiti equipment experienced a 49.4 percent aggregate throughput reduction when the Progeny equipment was turned “ON.” These are significant reductions that would substantially harm network performance and would be immediately noticed by customers.

Upper band – The Cambium equipment experienced a 62.2 percent aggregate throughput reduction and the Ubiquiti equipment experienced a 20.1 percent aggregate throughput reduction when the Progeny equipment was turned “ON.” Again, as in the mid-band test, these throughput reduction percentages are substantial and would result in most WISP

customers immediately calling their WISP and asking “Why did my network slow down?” or “Why can’t I connect to the Internet anymore? Is the network down?”

Throughput Reductions Resulting from Progeny’s Operations

The operation of Progeny’s network essentially forecloses use of 60 percent of the band (912-927 MHz) for FWB operations. Although Progeny is only operating on two 2-megahertz channels (for a total of 4 megahertz of spectrum), its operation severely reduces the throughput of both the 8-megahertz Cambium and the 10-megahertz Ubiquiti FWB equipment when the FWB equipment is operating in the middle and upper parts of the unlicensed 902-928 MHz band where the licensed Progeny B- and C-Blocks are located.

Several factors contribute to the interference Progeny caused during the testing and will continue to cause nationwide if the Commission permits it to operate commercially. First, the adverse impact of the Progeny network on the operation of FWB equipment is so severe because the Progeny transmit power level is so high (30 Watts ERP) relative to the much lower power level (4 Watts EIRP) used by the FWB equipment. Second, the Progeny transmit duty cycle is 80-to-100 percent, meaning that the Progeny interference is essentially continuous. Third, the Progeny test network utilizes a large number of widely deployed 30 Watt transmitters.

Progeny claims that the noise level in the 902-928 MHz band is already high even without transmissions from its M-LMS network.¹⁶ While WISPA agrees that the noise level in some areas of the country may be high, Progeny further claims that the additional noise they introduce “is only a small fraction of the degradation that BWA networks already experience from other users” in the band.¹⁷ Strikingly, Progeny presents no valid evidence to support this claim. Further, the joint testing process itself was agreed to by both Progeny and WISPA well in

¹⁶ See Second Progeny Ex Parte Letter at 3.

¹⁷ *Id.*

advance of the actual testing. That test process was never designed to measure and quantify existing noise or compare that noise with the higher noise levels introduced by Progeny's network. The test plan objective, as demonstrated through "ON/OFF" testing of stable FWB links, was solely to determine whether and to what extent the operation of Progeny's network would have on FWB performance.

Finally, WISPs operate successfully on the 902-928 MHz band every day, all over the country in spite of sometimes-high noise levels. The primary engineering technique used to mitigate against the effects of noise is to select and use an antenna system that is cross-polarized relative to the predominant existing noise. Many 902-928 MHz users use vertically-polarized omnidirectional antenna systems (as does Progeny). WISPs therefore typically use horizontally-polarized antenna systems to mitigate against this vertically-polarized noise. During the San Jose-Santa Clara testing, the Cambium Canopy equipment used horizontally-polarized antennas for this very reason – to minimize the noise and the throughput loss likely to be caused by Progeny's network. Even with this cross-polarization, the interference impact of the Progeny network operation on the throughput of the Cambium equipment during testing was still profoundly adverse, resulting in unacceptable levels of interference.

Consequences of Progeny's Interference

The consequences of the substantial throughput reductions demonstrated by the testing are profound and drastically affect the ability of WISPs to maintain existing service to end users in the presence of a Progeny network. As described below, WISPs will be forced to choose from among the lesser of three evils – continue operations with substantially degraded throughput, suffer degraded service by restricting operations solely to the lower portion of the band that is unaffected by Progeny, or lose a substantial number of customers by abandoning operations in

the 902-928 MHz band altogether. These choices are imposed solely because of interference from Progeny. From a business perspective, all of these choices are unacceptable.

A throughput reduction of 60 percent, as demonstrated by Test Set #3, would result in a 60 percent reduction in the number of end users that could receive service. Thus, if there were 40 customers subscribed to an AP affected by Progeny's transmissions, 24 of those customers would lose service. Alternatively, a 60 percent throughput reduction could result in all of the customers experiencing a 60 percent reduction in speed. Reductions in throughput in either or both directions would affect the customers' ability to send and receive information to the Internet. All in all, the customer experience would be grossly deteriorated – customers would receive Internet communications at less-than-half-speed, send Internet communications at less-than-half-speed, or both.

Progeny's attempts to mischaracterize the results of the WISPA/Progeny Joint Test Report with regard to throughput loss percentages are entirely disingenuous. In the First Progeny Ex Parte Letter filed concurrently with the WISPA/Progeny Joint Test Report, Progeny argues that the throughput reduction should be *averaged* across all of the frequency tests so as to yield "only" a 24.4 percent loss.¹⁸ Progeny also attempts to casually exclude the "two worst case outliers,"¹⁹ as if discarding the salient facts somehow reveals the truth. Such an analysis obscures the fact that customers are not subject to *average losses* across multiple channels, but rather suffer the consequences of aggregate loss on the spectrum they are using in both directions. Progeny's position is like citing an average temperature when the thermometer is below zero. As pointed out in the Part 15 Ex Parte Letter, customers are not concerned with

¹⁸ See First Progeny Ex Parte Letter at 5. See also Second Progeny Ex Parte Letter at 2.

¹⁹ *Id.* at 2.

average losses, but rather with the potential for having either no broadband access or unreliable half-speed broadband access.²⁰

Progeny's claim that WISPs can mitigate interference by manual selection of "optimal spectrum segments" is misleading, uninformed or naive.²¹ Given that Progeny's network would effectively deny the usage of two of the three available broadband channels, Progeny is really suggesting that WISPs confine all of their capacity to a single channel at the lower end of the 900 MHz band. Cramming all 900 MHz broadband use into one-third of the band is not a viable solution – it would lead to the creation of new, exponential instances of interference with other Part 15 users, many of whom may already be experiencing the effects of congestion in the band. Progeny itself notes that that the 902-928 MHz band is "relatively noisy"²² – Progeny's impact on two-thirds of the channels and its suggestion that WISPs simply "us[e] the same mitigation techniques they already employ to address noise from other Part 15 devices"²³ ignore reality and demonstrate the cavalier way in which Progeny underestimates the potential for interference to its sole benefit.

In sum, WISPA sees no technical solution that would mitigate the severe and debilitating interference that Progeny's operations will inflict on FWB providers and their customers. Congress and the Commission have established as policy objectives the provision of broadband services to all Americans,²⁴ and the Commission is taking forward steps to stimulate broadband

²⁰ See Part 15 Ex Parte Letter, Attachment at 2.

²¹ See First Progeny Ex Parte Letter at 4. See also Second Progeny Ex Parte Letter at 3 (suggesting that "worst case" results can be "easily remedied" by "adjustments in frequencies or the configuration of antennas").

²² See Second Progeny Ex Parte Letter at 3.

²³ *Id.*

²⁴ See, e.g., Section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 56, 153 (1996), as amended by the Broadband Data Improvement Act, Pub. L. No. 110-385, 122 Stat. 4096 (2008); "Connecting America: The National Broadband Plan" (March 2010).

access to the 19 million Americans that do not currently receive fixed broadband services.²⁵

Authorizing Progeny to conduct commercial operations nationwide would be a giant step backward.

II. THE COMMISSION MUST NOT AUTHORIZE PROGENY TO COMMENCE COMMERCIAL OPERATIONS.

The WISPA/Progeny Joint Test Report demonstrates conclusively that operation of Progeny's M-LMS network would cause "unacceptable levels of interference" to millions of FWB devices operating in two-thirds of the 902-928 MHz band. Progeny has not satisfied the condition on its license, and thus should not be authorized to commence commercial operations.

If Progeny is allowed to launch commercial service, it will have little or no incentive to resolve the inevitable interference that it will cause. Given the arguments it has already asserted before the public comment period even began, Progeny would likely deny the existence of interference or claim that any such interference would not be "unacceptable." Any such denial or delaying tactics would enable Progeny to avoid taking any action to investigate or cure interference, to the detriment of Part 15 users.

Nothing would prevent Progeny from deploying its transmitters more densely or from increasing its transmit power from 30 Watts to the 300 Watt limit in the upper part of the band.²⁶ In either of these two scenarios, the interference Progeny would cause to unlicensed users would be several times more severe than the level of already-severe interference that, according to the WISPA/Progeny Joint Test Report, Progeny will cause. Progeny's assertion that its

²⁵ See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 11-121, Eighth Broadband Progress Report, FCC 12-90 (rel. Aug. 21, 2012). See also *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 11-121, Ninth Broadband Progress Notice of Inquiry, GN Docket No. 12-228, FCC 12-91 (rel. Aug. 21, 2012).

²⁶ See Section 90.205(l). Operations at 300 Watts also could lead to overloading of Part 15 receivers.

urban/suburban operations will not interfere with WISPs that serve rural areas is unconvincing because Progeny is not limited to serving only urban/suburban areas.²⁷ WISPs and other Part 15 users will have no recourse in the future to seek geographical restrictions on Progeny's licensed operations.

WISPA takes no comfort in the Bureaus' stated authority to "reserve the right to require Progeny to take any necessary remedial action, including turning off its service, if we find that its network operations are causing unacceptable levels of interference to Part 15 users in the 902-928 MHz band."²⁸ In this regard, it is important to recognize that the Bureaus' decision here will necessarily apply to the other M-LMS licensees. Moreover, reductions in throughput that are less than those described herein also may justify a finding of "unacceptable levels of interference."

²⁷ See First Progeny Ex Parte Letter at 5.

²⁸ Waiver Order at 12.

Conclusion

The WISP/Progeny Joint Test Report conclusively demonstrates that operation of Progeny's M-LMS network would cause "unacceptable levels of interference" to fixed wireless broadband devices, with substantial reductions in throughput having significant harmful effects on millions of consumers that receive broadband service using Part 15 devices. Accordingly, the Bureaus should deny Progeny permanent authority to commence commercial operations in the 902-928 MHz band.

Respectfully submitted,

December 21, 2012

**WIRELESS INTERNET SERVICE
PROVIDERS ASSOCIATION**

By: */s/ Elizabeth Bowles, President*
/s/ Matt Larsen, FCC Committee Chair

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