

**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

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

The Wireless Internet Service Providers Association (“WISPA”) hereby submits its Reply Comments addressing the Comments filed in this proceeding.<sup>1</sup> Without a single exception, the Comments demonstrate that commercial operation of the Progeny LMS, LLC (“Progeny”) system would cause unacceptable levels of interference to a large number of Part 15 devices, including critical fixed wireless broadband (“FWB”) operations. Based on the test results and this record of unanimous opposition, Progeny has not met the condition precedent to commercial operations established in the *Waiver Order*,<sup>2</sup> and the Commission therefore must permanently deny Progeny authority to commence commercial operations in the 902-928 MHz band.

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<sup>1</sup> *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). In response to a request filed by the Part 15 Coalition, the Commission extended the deadline for filing Reply Comments to January 11, 2013. *See Order*, WT Docket No. 11-49, DA 12-1930 (rel. Nov. 30, 2012). Accordingly, these Reply Comments are timely filed.

<sup>2</sup> *See Order*, WT Docket No. 11-49, DA 11-2036 (rel. Dec. 20, 2011) (“*Waiver Order*”).

## Discussion

### **THE RECORD DEMONSTRATES THAT OPERATION OF PROGENY'S NETWORK WOULD CAUSE "UNACCEPTABLE LEVELS OF INTERFERENCE" TO PART 15 OPERATIONS.**

In its Comments,<sup>3</sup> WISPA demonstrated that the WISPA/Progeny Joint Test Report<sup>4</sup> showed that co-frequency operation of Progeny's network would result in dramatic reductions in throughput and reliability that would render most of the 902-928 MHz band unusable for FWB operations.<sup>5</sup> WISPA further explained that, contrary to Progeny's technically unsupportable assertions, interference mitigation techniques such as cross-polarization and manual channel selection would not be viable or effective to overcome the catastrophic interference levels caused by the operation of Progeny's network.<sup>6</sup> In the end, WISPs and their customers would have no choice but to suffer severely negative operational and business consequences "solely because of interference from Progeny."<sup>7</sup> The unavoidable conclusion from the WISPA/Progeny Joint Test Report is that Progeny has failed to meet its burden to demonstrate that its operations will not cause unacceptable levels of interference to FWB devices and operations.

In separate Comments, approximately 35 wireless Internet service providers ("WISPs") confirmed that the consequences of Progeny's operation would severely hamper their ability to continue to serve FWB customers, particularly those for which the 902-928 MHz band is the only available non-line-of-sight frequency band. For instance, Intelliwave, a WISP in Ohio,

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<sup>3</sup> Comments of WISPA, WT Docket No. 11-49, filed Dec. 21, 2012 ("WISPA Comments").

<sup>4</sup> 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").

<sup>5</sup> See WISPA Comments at 5-8.

<sup>6</sup> See *id.* at 8, 10. See also Comments of Blaze Broadband, WT Docket No. 11-49, filed Dec. 20, 2012 ("Blaze Comments"), at 1 ("Progeny's vertical polarization is not sufficient to insulate our customers"); Comments of Joink, LLC, WT Docket No. 11-49, filed Dec. 21, 2012 ("Joink Comments"), at 1 ("If the test was run with Canopy also being vertically polarized, the results would almost certainly be significantly worse"); Comments of Central Coast Internet, WT Docket No. 11-49, filed Dec. 21, 2012 ("unacceptable level of interference which is impossible to mitigate with cross-polarization or other techniques").

<sup>7</sup> WISPA Comments at 9.

explained that “[t]he combination of trees and terrain render all other unlicensed band[s] unusable for the point to multipoint capabilities required to provide last mile services to our customers.”<sup>8</sup> Joink, a WISP operating in Indiana and Illinois, indicated that its customers using the 900 MHz band “cannot be serviced reliably with another spectrum, or with wireline options.”<sup>9</sup> Similarly, Shelby Broadband stated that its 900 MHz “customers are not able to receive internet using other frequencies because of the trees.”<sup>10</sup> Commenters agree: because of its superior propagation characteristics, the 902-928 MHz band is “key spectrum,”<sup>11</sup> “important,”<sup>12</sup> “necessary”<sup>13</sup> and “essential”<sup>14</sup> to provide FWB service to wooded and terrain-obstructed areas that have no viable alternatives. It is “the only technically viable solution in these conditions.”<sup>15</sup>

The WISP commenters also confirmed WISPA’s conclusion that interference from Progeny would be unacceptable. Finding the WISPA/Progeny Joint Test Report to be “very alarming,” Mercury.net explained that:

interference does NOT simply cause a linear loss of capacity. Interference causes packet loss, packet retransmission that reduces capacity even further, loss of reliability (incomplete web page downloads, long pauses, and buffering of streaming services), and loss of coverage (inability to reach customers further

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<sup>8</sup> Comments of Intelliwave, WT Docket No. 11-49, filed Dec. 21, 2012 (“Intelliwave Comments”), at 1. *See also* Comments of CKS Wireless, Inc., WT Docket No. 11-49, filed Dec. 21, 2012 (“CKS Wireless Comments”), at 1 (“customers are not able to receive internet using other frequencies because of the trees”).

<sup>9</sup> Joink Comments at 1. *See also* Comments of Portative Technologies, LLC, WT Docket No. 11-49, filed Dec. 21, 2012 (“customers have no other means to receive access to broadband”);

<sup>10</sup> Comments of Shelby Broadband, WT Docket No. 11-49, filed Dec. 21, 2012, at 1. *See also* Comments of Net-change.com, WT Docket No. 11-49, filed Dec. 20, 2012 (“Net-change Comments”) (“vast majority of our customers can only be served with 900 MHz equipment”); Comments of QWireless, WT Docket No. 11-49, filed Dec. 19, 2012 (“QWireless Commnets”), at 1 (“only successful band to propagate will [*sic*] enough to reach our customers through terrain and foliage”).

<sup>11</sup> Comments of Northern Neck Wireless Internet Services LLC, WT Docket No. 11-49, filed Dec. 21, 2012.

<sup>12</sup> Comments of Fourway Computer Products, Inc., WT Docket No. 11-49, filed Dec. 19, 2012 (“Fourway Comments”), at 1; Comments of Mercury.net, WT Docket No. 11-49, filed Dec. 19, 2012, at 1 (“Mercury.net Comments”); Comments of Internet Holdings, Inc. dba High Country Online, WT Docket No. 11-49, filed Dec. 19, 2012; Comments of Teletec Communications LLC, WT Docket No. 11-49, filed Dec. 21, at 1.

<sup>13</sup> Comments of Imagine Networks, WT Docket No. 11-49, filed Dec. 19, 2012, at 1.

<sup>14</sup> Fourway Comments at 1.

<sup>15</sup> Comments of New Wave Net Corporation, WT Docket No. 11-49, filed Dec. 21, at 1.

from the AP [access point] because the interference completely overwhelms distant customer's weaker signals).<sup>16</sup>

Other WISPs agreed that Progeny's operations would "reduce our network throughput, reduce our network reliability, and reduce the number of customers we could serve."<sup>17</sup> Another WISP observed that "the reductions in throughput shown would cripple my broadband network."<sup>18</sup> The message is uniform and unanimous – Progeny's network operations would introduce new interference that would substantially degrade FWB performance and reliability in far-reaching ways.

WISPs agree that the consequences of this debilitating interference would be severe.

Some examples:

- "I will eventually be unable to provide internet service to most of my customers as it will be too expensive or even impossible to convert them to a different system other than 900 Mhz equipment."<sup>19</sup>
- "I would no longer be able to provide service to our 900 Mhz customers. This would cause financial damage to our company, and leave those users with no broadband Internet access."<sup>20</sup>
- "Many customers would face loss of service."<sup>21</sup>
- "With no other frequency band to use to reach these customers, they will lose service and move from 'served' to 'unserved.'"<sup>22</sup>

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<sup>16</sup> Mercury.net Comments at 1.

<sup>17</sup> Net-change Comments at 1. *See also* Blaze Comments at 1 ("service to all customers would be dramatically slowed, all would see reduced reliability, and many would loose [sic] their Internet access entirely"); Comments of Vistabeam, WT Docket No. 11-49, filed Dec. 21, 2012, at 1 ("test reports show that this will cause a substantial reduction in throughput, unreliable connectivity, loss of service to many customers and substantial re-engineering costs to network operators"); Intellwave Comments at 1 ("interference will cause reductions in both service reliability and throughput"); QWireless Comments at 2 (900 MHz noise "will decrease existing customers' throughput, it will make our service less reliable, and it will cost us money to retrofit equipment, deploy additional equipment and channel plan"); Comments of InvisiMax Inc., WT Docket No. 11-49, filed Dec. 21, 2012, at 1 ("will reduce throughput (everyone needs more, not less) it will reduce reliability, we will lose the number of channels we can use, affecting customer performance").

<sup>18</sup> CKS Wireless Comments at 1.

<sup>19</sup> Comments of Radio Communications Service, WT Docket No. 11-49, filed Dec. 21, 2012, at 1.

<sup>20</sup> Comments of LakeNet, LLC, WT Docket No. 11-49, filed Dec. 18, 2012, at 1.

<sup>21</sup> Fourway Comments at 1.

<sup>22</sup> Mercury.net Comments at 1.

- “We would no longer be able to serve those customers and attempt to help them switch to another ISP, most likely a satellite provider with much poorer performance. If satellite was not available, those customers would have no access to high speed internet, through us or any other ISP.”<sup>23</sup>
- “[O]ur likely course of action would be to cease installing customers in the 900 MHz frequency.... The likely outcome would be the loss of many existing customers and the failure to install many customers that would currently be viable 900 MHz customers.”<sup>24</sup>
- This unacceptable interference and loss of channel capacity will cause Intelliwave to be unable to serve our hundreds of customers. This will severely impact the affected customers and will cause significant financial harm to Intelliwave’s business.”<sup>25</sup>
- “Finally, and ultimately, the results of Progeny broadcasting in this spectrum could be a loss of broadband service to both residential and commercial customers who rely on this service today.”<sup>26</sup>

These statements confirm that the adverse impact from Progeny’s interference is not hyperbole, but rather the reality that WISPs and their customers would face when Progeny’s network operates in their areas. The Commission should avoid making a decision that will force this outcome.<sup>27</sup>

The record also shows that Progeny’s operations could interfere with lower-power Part 15 devices in other ways. As GE Digital Energy and GE MDS LLC state, “a high power signal such as the 30 Watt beacon that Progeny proposes has the potential to create receiver overload and block the receiver throughout the entire 902-928 MHz band within some distance of the beacon transmitter – estimated at approximately .25 miles.”<sup>28</sup> This situation would apply not just

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<sup>23</sup> Comments of Siuslaw Broadband, WT Docket No. 11-49, filed Dec. 20, 2012, at 2.

<sup>24</sup> Comments of Magnum Wireless, LLC, WT Docket No. 11-49, filed Dec. 20, 2012, at 2.

<sup>25</sup> Intelliwave Comments at 2.

<sup>26</sup> Comments of Razzo Link, Inc., WT Docket No. 11-49, filed Dec. 21, 2012, at 1.

<sup>27</sup> WISPA and the WISP commenters were joined by RKF Engineering in interpreting the WISPA/Progeny Joint Test Report. RKF Engineering concluded that the “results of the field tests indicate that the Progeny system had a significant impact on the top two carriers.” Comments of RKF Engineering Solutions, LLC, WT Docket No. 11-49, filed Dec. 21, 2012, at 7.

<sup>28</sup> Comments of GE Digital and GE MDS LLC, WT Docket No. 11-49, filed Dec. 21, 2012, at 6.

to automated meter reading technologies, but also to FWB and other Part 15 equipment located near Progeny's beacon transmitters. This unacceptable receiver overloading is likely to occur in smaller markets and in some medium-sized markets where there are a limited number of available transmitting sites because Progeny's licensed transmitters and unlicensed Part 15 devices are likely to be either co-located on the same towers or physically close to each other on the same hilltop. The high-power Progeny beacon transmissions will overload and render nearby Part 15 receivers unusable.

The Comments show that additional Part 15 devices would suffer unacceptable levels of interference. Inovonics explained that Progeny's system would have a "substantial negative impact" on the performance of its customers' wireless security systems.<sup>29</sup> Starkey Laboratories, a manufacturer of wireless-enabled hearing aids and accessories, stated that "Progeny's transmissions have a significant probability of degrading the operations of Starkey's devices."<sup>30</sup> The Utilities Telecom Council concluded that Progeny would "substantially degrade the operational performance of millions of smart grid devices."<sup>31</sup> Kapsch TrafficCom IVHS Inc. observed that Progeny did not demonstrate the absence of unacceptable levels of interference to Non-Multilateration Location and Monitoring Service systems that provide electronic toll services in the 900 MHz band.

The record is clear – Progeny's operations cause unacceptable levels of interference to a wide range of Part 15 devices. Progeny has failed to demonstrate that it has met the conditions to operating authority that the Commission rightfully imposed in the *Waiver Order*.

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<sup>29</sup> Comments of Inovonics Wireless Corporation, WT Docket No. 11-49, filed Dec. 20, 2012, at 1.

<sup>30</sup> Comments of Starkey Technologies, Inc., WT Docket No. 11-49, filed Dec. 21, 2012, at 1.

<sup>31</sup> Comments of Utilities Telecom Council, WT Docket No. 11-49, filed Dec. 21, 2012, at 1.

## Conclusion

The record in this proceeding unquestionably and unanimously shows that operation of Progeny's M-LMS network would cause "unacceptable levels of interference" to fixed wireless broadband devices and to other Part 15 devices, and that Progeny's interference would prevent consumers from continuing to receive wireless services, *often in the only band available to provide those services*. The Commission should deny Progeny permanent authority to commence commercial operations in the 902-928 MHz band.

Respectfully submitted,

January 11, 2013

**WIRELESS INTERNET SERVICE  
PROVIDERS ASSOCIATION**

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