



Stephen E. Coran
Rini Coran, PC
Direct Dial: 202.463.4310
E-mail: scoran@rinicoran.com

April 26, 2012

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: Written Ex Parte Presentation
WT Docket No. 11-49**

Dear Ms. Dortch:

The Wireless Internet Service Providers Association (“WISPA”), by counsel, hereby responds to certain arguments and inaccuracies presented by Progeny LMS, LLC (“Progeny”) in its Reply Comments in this proceeding.¹ While in some cases Progeny does not adequately address the significant concerns expressed by WISPA and in other cases it chooses to ignore WISPA altogether, the result is the same – Progeny’s outdoor test process was defective, significant interference concerns remain and the Commission should not authorize Progeny to commercially deploy until it can be confirmed, through comprehensive cooperative testing, that Progeny’s network would not cause unacceptable levels of interference to the millions of Part 15 outdoor devices that are deployed across the country.

The following, while not exhaustive, summarizes WISPA’s principal concerns and highlights Progeny’s shortcomings.

The Progeny Outdoor Equipment Test Process Was Fatally Flawed

First, as discussed in the WISPA Comments,² Progeny tested its equipment in a single area, Santa Clara County, California. This location is not representative of most American cities. Although Progeny claims that the need for their system is highest in areas with “urban canyons” where signals from GPS satellites are more frequently blocked, the physical geography as well as the urban topography of the Santa Clara Valley is the opposite – a flat valley of mostly single story stucco residences with some two-story “tilt-up” commercial buildings. Other than a relatively small area of downtown San Jose, there are no urban canyons and, notably, Progeny decided not to test there. By its failure, Progeny itself makes the point that its choice of Santa Clara County as a test

¹ On March 15, 2012, WISPA filed Comments in this proceeding. See Comments of the Wireless Internet Service Providers Association, WT Docket No. 11-49, filed Mar. 15, 2012 (“WISPA Comments”). Progeny filed its Reply Comments on March 30, 2012.

² See WISPA Comments at 7.

site is not representative of real-world deployment conditions. Moreover, Progeny readily concedes that it “will need to deploy its transmitters more densely” in urban areas in order to deliver on its performance claims³ and further that “the urban canyon environment will attenuate the signal of each transmitter much more rapidly,”⁴ again necessitating the deployment of more Progeny WAPS base stations. WISPA’s point is simply this – it is highly likely that the larger number of WAPS transmitter locations (the increase in base station density) that Progeny will need in most urban areas, combined with the geographically tall (high elevation) WAPS transmitter locations, will result in unacceptable levels of interference that will adversely affect millions of Part 15 outdoor devices. Last but not least, Progeny used only one of its WAPS transmitters when testing the level of interference caused to the Motorola Canopy equipment. In the real world, outdoor WISP equipment will be subjected to interference from multiple Progeny WAPS transmitters simultaneously. The interference that WISP base stations and customers would experience would be far more severe and extensive than Progeny’s Santa Clara County test process indicates.

Second, Progeny tested only one make and model of outdoor fixed broadband equipment.⁵ Progeny argues that the Canopy system it tested is “adequately representative of the Part 15 devices deployed in the field”⁶ and was included in the test “because it is more susceptible to interference.”⁷ Even if all the other Progeny test conditions and assertions were consistent with real-world conditions – which they most certainly were not – the testing of only one single outdoor device is an utterly inadequate sample size for anyone to reasonably conclude that Progeny’s testing was complete and dispositive.

Third, Progeny tested outdoor equipment at only 1/100 of the maximum range of the Canopy equipment. The Canopy equipment, although designed to operate at distances of up to 40 miles, was tested for only 1/100 of that distance – a distance of only 0.4 miles. As stated in the WISPA Comments,⁸ testing only at a very short distance heavily skews the test results in Progeny’s favor because the high Canopy signal-to-noise ratio at such a short test distance would mask any interference effects caused by the Progeny WAPS transmitter. Progeny argues that testing at a greater distance would reduce throughput to below 1 Mbps, and that when it tried to increase the distance by one block, it could not establish a link between the base station and receiver.⁹ Progeny’s failure to get the Canopy equipment to link at distances greater than 0.4 miles indicates that Progeny either used defective Canopy equipment (low transmitter power or low receiver sensitivity) or misconfigured or misinstalled the Canopy test equipment link. Had Progeny engaged in cooperative testing with WISPA or an experienced wireless ISP,

³ Reply Comments at 29.

⁴ *Id.*

⁵ See WISPA Comments at 5.

⁶ Reply Comments at 23

⁷ *Id.* at 24.

⁸ See WISPA Comments at 8.

⁹ See Reply Comments at 38.

its test results would be more representative of the real-world. Without testing at real-world fixed wireless broadband link distances, Progeny's claim that its network would not increase interference to unacceptable levels is completely meaningless.

Fourth, Progeny did not perform any bi-directional testing of outdoor Part 15 equipment. Notwithstanding the fact that all outdoor fixed wireless equipment is designed to deliver throughput bi-directionally, Progeny performed only a uni-directional test. WISPA pointed out this flaw in its Comments,¹⁰ yet Progeny failed to address this point. Progeny's failure to perform any throughput testing in the opposite direction obviously masked any interference effects caused by its test base station in the other, untested direction.

Fifth, Progeny tested at low throughput levels not indicative of real-world outdoor deployments. The Canopy equipment, with a raw data rate of 3.3 Mbps, should (assuming 75% efficiency with 25% overhead) deliver a throughput of approximately 2.3 Mbps (2300 kbps). Rather than test at this maximum throughput level, Progeny tested at only 500 kbps (22% of capacity), 750 kbps (33% of capacity) and 1000 kbps (43% of capacity).¹¹ Progeny's chosen test conditions therefore masked any throughput reduction caused by interference from its single WAPS test transmitter. This is like testing the high-speed handling limits and capabilities of an Indianapolis 500 race car but never shifting the car out of second gear. Progeny's failure to test for throughput reduction relative to maximum throughput capability renders its results invalid.

In sum, the flaws in Progeny's test procedures and its obvious attempt to avoid an honest assessment of the interference effects require the Commission to send Progeny back to the drawing board for more comprehensive, accurate and real-world testing. Any other conclusion would contradict sound engineering and due diligence practices and, undoubtedly, lead to significant, harmful interference to the operation of millions of Part 15 outdoor devices.

Progeny Failed to Engage in Cooperative Testing

Progeny asserts that it was not required to engage in cooperative testing as a condition of its waiver grant.¹² The Commission's policy on this is clear.¹³ Progeny even acknowledges that "with respect to Part 15 devices intended for commercial and industrial use [e.g., Part 15 outdoor devices used for wireless broadband], Progeny agreed with the Commission that cooperative testing was desirable."¹⁴ Why, then, did Progeny totally ignore the entire wireless broadband community of ISPs, vendors and consultants

¹⁰ See WISPA Comments at 8.

¹¹ See *id.*, at 8.

¹² See Reply Comments at 16.

¹³ *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, 13968 (1997).

¹⁴ Reply Comments at 17.

that could have provided meaningful input, and instead rig a single test who's flaws and shortcomings presaged the outcome it desired?

Further, Progeny attempts to hide behind a statement that, in operating a developmental network in the San Francisco Bay Area for two years, it never received a single interference complaint.¹⁵ While these activities were apparently authorized under Progeny's experimental license, Progeny failed to engage in any public outreach or provide the details of the time and location of any public process that would assist or allow the public to identify and report interference.

Conclusion

In conclusion, Progeny's test process conclusions are completely invalid and meaningless with regard to the level of interference that Progeny's network will cause to Part 15 outdoor equipment. WISPA respectfully requests that the FCC withhold the granting Progeny's request to begin widespread commercial deployment of its network at this time. Further, WISPA respectfully requests that the Commission order Progeny to engage in real-world, cooperative testing with WISPA to determine the actual level of interference that Progeny's network does or does not cause to outdoor Part 15 commercial operations.

Respectfully submitted,

/s/ Stephen E. Coran
Stephen E. Coran

cc: Julius Knapp
Roger Noel
Geri Matisse
Paul Murray

¹⁵ See *id.* at 2.