



July 8th, 2014

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

*Re: 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*

Dear MS Dortch,

I am writing to express with great concern our objection to the FCC ruling Section 15.407.

Convergence Technologies is a leading supplier and manufacturer of wireless products in which our primary market is the WISP industry.

There are over 3800 Wireless Internet Service Provider businesses (WISP organizations) and over 16 million homes and businesses who are serviced by them through-out the United States and the implementation of Section 15.407 will result in significant and detrimental economic impacts, not only for the WISPs, but for all manufacturers, suppliers, and people who supply or access the internet via WISP services.

As you know, implementing Section 15.407 will result in Section 15.247 equipment no longer legal to manufacture. The fix appears simple by adding a filter, however, there are several implications to this fix, primarily cost, throughput, and performance.

For example, the channel size will be reduced from 20 MHz to 5 MHz resulting in much less throughput and effectively eliminating the ability for a WISP to deliver critical services to businesses and households alike. In order to comply, the WISP would be required to buy a significant amount of hardware, including towers in some cases, which may simply drive them out of business and even if they do so the filtered equipment will not have the ability to deliver the distance or bandwidth required by their customers. The impacts of this scenario are immeasurable due to trickle up economics.

Not only do residents of rural communities depend heavily on the 5 GHz band for their internet access, oil and gas companies, schools, healthcare, and local governments will also potentially lose service or at the least have to replace their existing WISP services with far more expensive and poorer performing service.

A letter from Cambium Networks a leading manufacturer of 5Ghz radios used by the WISP industry and who happens to be our largest supplier, states the following:

“For a device operating at the maximum EIRP of 53 dBm, the Section 15.407 limit is approximately 50 db lower than the Section 15.247 limit. If devices operating in the 5.7

GHz band are to meet the out of band emission limits from Section 15.407, they must incorporate transmitter sections of considerable greater complexity than those found in Section 15.247 devices, including the use of additional high performance RF filters.”

Cambium makes it perfectly clear that the cost and performance reductions are quite significant.

According to the Federal Government, roughly 24 percent of the population is living in the rural areas with the United States which equates to 14.5 million citizens. Providing wired services to the millions of people, and businesses is virtually impossible, and by implementing this new rule, these people, including businesses, will be without Internet, VoIP, and in many cases E911.

Furthermore, the Communications Act of 1934 states the following;

*"regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States a rapid, efficient, nationwide, and worldwide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, and for the purpose of securing a more effective execution of this policy by centralizing authority theretofore granted by law to several agencies and by granting additional authority with respect to interstate and foreign commerce in wire and radio communication, there is hereby created a commission to be known as the 'Federal Communications Commission', which shall be constituted as hereinafter provided, and which shall execute and enforce the provisions of this Act”.*

Therefore, by implementing Section 15.407 you are not only putting the entire WISP industry at risk, including all manufactures and suppliers, but at the very core, aren't you rejecting your own policy?

As discussed above, there will be significant economic impacts if the FCC proceeds as currently proposed regarding Section 15.407. Cost will rise exponentially for manufacturers, suppliers, the WISPs and their customers. The level of availability of service and bandwidth WISPs customers have come to depend on will be seriously degraded. How does this help us

collectively grow the rural areas by increasing their cost while virtually eliminating services that are critical to their very existence?

The Cambium report estimates the following cost increases per unit and is seen below.

WISP Product	Current MSRP to WISP	New MSRP to WISP w/ filter	Increase
Point to Point	\$2615	\$3215	\$600
PMP Low Cost (Access point)	\$500	\$700	\$200
PMP Low Cost (Subscriber)	\$99	\$399	\$300
PMP Medium Cost (Access point)	\$2895	\$3095	\$200
PMP Medium Cost (Subscriber)	\$249	\$549	\$300

In another report known as the Rangwala Analysis, Mr. Rangwala concludes “this requirement harshly limits 5 GHz spectrum – especially for long-distance backhaul where this is very useful. Mr. Rangwala also provides calculations that result in “unrealistic emissions limits” eventually concluding that this effort is “costly, impractical, and ineffective.

Increased cost is only part of the serious damage that will be done, since under the new guidelines proposed, many will lose service entirely due to the reduction in distance and bandwidth available with radios compliant with the new guidelines.

Along with WISPA, Convergence Technologies supports the Commissions goal of reducing unwanted emissions. We cannot, however, support the proposed new guidelines and application of Section 15.407 as we feel it would have devastating effects on jobs and Americans access to the internet.

In conclusion, Convergence Technologies respectfully requests the commission to reconsider your decision and reinstate the OOB standard of Section 15.247 in the interest of our communities, businesses, and local governments.

Respectfully,

Marc Kruer  
CEO/President  
Convergence Technologies  
16W215 83<sup>rd</sup> St Suite D  
Burr Ridge, IL 60527