

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

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| In the Matter of                             | ) |                      |
|  | ) |                      |
| Facilitating the Provision of Spectrum-Based | ) | ET Docket No. 02-381 |
| Services to Rural Areas and Promoting        | ) |                      |
| Opportunities for Rural Telephone Companies  | ) |                      |
| To Provide Spectrum-Based Services           | ) |                      |

**COMMENTS**

The PART-15 Organization (PART-15.ORG), by its membership and pursuant to the Commission’s *Notice of Inquiry* released December 20, 2002, hereby submits its comments in response to the questions raised by the Commission in the above-captioned proceeding.

As the Commission is aware, the PART-15.ORG is a worldwide coalition of Wireless Internet Service Providers (“WISPs”) and equipment vendors who provide technical support and training in the provisioning of broadband service via license-exempt spectrum in the 902-928 MHz, 2.4 GHz and 5 GHz bands. The PART-15.ORG voices our regulatory concerns via the License Exempt Alliance (LEA) who are active in a number of Commission proceedings that directly or indirectly pertain to the license-exempt industry. The PART-15.ORG fully indorses and supports the LEA filing on this matter and submits on our own behalf the following.

The PART-15.ORG agree with the LEA in that the Commission’s inquiry will lay the groundwork for a meaningful reassessment of the Commission’s regulatory framework for the license-exempt industry, and PART-15.ORG appreciates the opportunity to contribute to that process.

As our organization is comprised largely of members using the license-exempt spectrums to provide Wireless Broadband Internet Access, we will limit our response to those issues associated with the license-exempt bands only and more specifically to the ROIs **Section H – Unlicensed Spectrum**.

With regards to the record being developed during these proceedings – *The Commission seeks to determine the appropriateness of revising existing policies or the adaptation of new policies to promote more extensive provision of spectrum-based services to rural areas*. We believe that current commission rules (specifically Part 15) should reflect a more current utilization of the license-exempt spectrum and encourage the commission to update and enhance those regulations and policies pertaining to Broadband Wireless Access (BWA).

Commission rules should foster the perpetuation of growth in the use of the license-exempt spectrums that provide BWA. What may have been founded on accident, has now become what we feel is the nations best asset for providing BWA in not just metropolitan areas but urban and rural areas as well. We are confident that the commission is aware that most of the urban and rural areas in America are still without broadband access. However, as the commission is also aware, it appears that the smaller WISPs are (by far) leading the way in providing such services utilizing the license-exempt frequencies.

With regards to Section 309(j) and the Commissions statutory mandate to promote the development and deployment of wireless technologies to rural areas – *The Commission seeks comment on the effectiveness of their current regulatory tools in facilitating the delivery of spectrum-based services to areas that traditionally may have been underserved*. The previous commission efforts are to be commended for the current growth of Broadband Wireless Access to urban areas as well as all communities, nationwide. However, many commission policies and

procedures are no longer an effective tool for managing the license-exempt spectrum as it is being used today in providing BWA. At present, our organization is preparing, (in association with the LEA), draft recommendations that the LEA will present formally to the commission in our behalf.

We believe that more license-exempt spectrum (below 6GHZ) is needed to fulfill the BWA market. There is an abundance of technical reasons for seeking the additional frequencies. The most prevalent is to overcome the Line-of-Sight (LOS) requirements needed above 1GHZ. Additional 900MHZ, 2.4GHZ and 5GHZ license-exempt spectrums could be the determining factor of whether BWA is available to much of the nation and is especially important in urban and rural areas where mother nature is at her best with beautiful tree canopy's and rolling hills. The additional use of the 700MHZ band would also significantly increase the availability of BWA in rural, urban and metropolitan areas nationwide.

The permissible license-exempt operations could be expanded to include a separate and distinct reference for BWA purposes. As a WISP, one of our membership companies explained to us that over 65 sources of license-exempt interference were prevalent within a one-mile radius of one of their BWA repeater sites and most of these sources of interference were coming from license-exempt "indoor" home-use products, such as home-wireless-LAN devices sold through local retailers. We feel strongly that there would be no logical reason for license-exempt "indoor" devices to have the capability necessary to transmit up to one mile away. We are not aware of any structures within the United States that are one mile in diameter. One specific source of interference pertained to the use of two omni antennas being used in a one-quarter mile point-to-point configuration. PART-15.ORG considers this a very poorly designed system and not in keeping within the highest industry standard for use of the license-exempt spectrum.

Additionally, these types of poorly designed deployments do nothing for the license-exempt “good neighbor” policy the WISP industry tries to foster.

PART-15.ORG believes that a separate and distinct difference should be in place for the dissimilar usages of the license-exempt frequencies. We believe that BWA equipment should not be in the same category as “indoor” home-use devices.

To accomplish this, a viable solution cannot be forthcoming overnight or by the stroke of a pen. It will take every bit of the commissions efforts to seek industry agreement and cooperation to conclude a “best” scenario for the use of license-exempt “outdoor” use regulations.

Some consumers believe better service means unlimited upload and download ability, while other consumers believe better service means reliability. It is a business model decision for each WISP to determine which approach they will take. Some WISPs concentrate on the business consumers, while others put their efforts towards residential consumers. Either direction will still have interference issues that must be overcome to succeed; therefore the importance of dealing with license-exempt interference is still a major concern regardless of the business approach taken to provide BWA services.

We are concerned with the efficient use of the license-exempt spectrum and would suggest the commission concentrate their efforts in this area. For example -- The current commission rules pertaining to the use of amplifiers is well received by most operators. Rules such as these could and should be enhanced to facilitate the efficient use of the spectrum to a greater capacity, thereby allowing more usage of the license-exempt spectrum.

With regards to obstacles – *The Commission seeks comments to identify the obstacles to providing wireless serving in rural areas.*

It is PART-15.ORG's belief that most of the obstacles in providing BWA to rural areas is not technology related but more regulatory in nature. PART-15.ORG feels very strongly in protecting the experimental, innovation and development of new spectrum-based technologies and services. However, as mentioned earlier in this response, we believe that a separation needs to exist to facilitate the "new" widespread outdoor usages of the license-exempt spectrums as they relate to BWA. Since the use of "indoor" license-exempt wireless LAN equipment is relatively new in the area of providing outdoor WWAN (Wireless Wide Area Networking) present commission rules and policies should reflect this "new" advancement in technology and usage.

Many of the worlds leading wireless manufactures (Orinoco, Alvarion, and Redline Communications for example) are providing equipment designed specifically for license-exempt "outdoor" BWA deployments and presently still come under the "indoor" commission rules. Along the same lines, we the WISPs must endure those same "indoor" rules when deploying a large-scale "outdoor" system.

We would like to propose (given the appropriate time) and through our LEA counsel, a separate set of guidelines similar to those of Part 15 of the Telecommunications Act but showing a separate and distinct set of rules and policies for the use of license-exempt "outdoor" spectrum use.

PART-15.ORG recommends that the current rule of "system" certification (15.247) should be relaxed or modified to allow the spirit of the intent of the rule to outweigh the wording of the rule. We believe the intent of the rule is to not exceed maximum EIRP. However, the

current “system” certification process restrains the creativity of the “Professional Installer”. Maintaining the maximum allowable EIRP can be accomplished in a number of ways and should be left to the discretion of the installer. The “Professional Installer” has many tools available at their disposal to ensure maximum EIRP (the intent) is not exceeded; length and type of cable used, (certain cables have different power losses associated with them), specific antenna selection (a stronger powered antenna may have a tighter beamwidth thereby causing less interference to surrounding users) and the use of “directional” antennas in lieu of omni directional. These are just a few of the many other options that can be utilized by the “Professional Installer” to ensure the intent of the rule (max EIRP) is complied with. Additionally increased maximum allowable EIRP in “frequency – uncongested” rural areas can be of significant importance to rural WISPs deploying in open areas not commonly used by other PART 15 devices.

We encourage the commission to review this organizations “Professional Installer Certification” program along with many of the other “industry standards set by this organization. Our training and certification program (along with our other training programs and certifications), provide an excellent example of the WISPs industry taking the lead to ensure deployments are the least intrusive (interference wise) as possible in the license-exempt frequencies. Most of what PART-15.ORG tries to accomplish is to provide the technical assistance and training needed to provide WISPs free use of Part 15 devices that are driven by and in accordance with sound engineering practices and efficient spectrum usage.

With regards the definition of a “rural area” – *The Commission seeks comments on whether the Commission should adopt different definitions of what constitutes a “rural area”.*

PART-15.ORG believes that an additional specific and distinct definition should be in place where a “rural area” would not be defined by geographical area or human population but rather a more frequency guided definition based on spectrum usage within a defined area of a more common definition.

PART-15.ORG believes that new and expanded definitions of “interference” and “harmful interference” are needed in the license-exempt spectrums. A broad range of interference consideration is needed along with the separation of “indoor” and “outdoor” devices. Current commission rules pertaining to interference and harmful interference only apply to licensed frequencies and equipment with the exception that license-exempt equipment must not cause harmful interference, but must accept any and all interference. Again, this is where we recommend the commission pursue a line of distinction between equipment designed for indoor use and that designed for outdoor use.

We recommend that the current rules be changed to reflect a distinction between indoor and outdoor equipment. Furthermore the current rules, with minor modifications could remain for indoor equipment. While equipment designed for outdoor use will require a completely revised (or new) set of rules. The modifications pertaining to indoor equipment could reflect a decrease in power (maximum allowable EIRP), or restrictions on the use of specific antennas. The new rules required for outdoor use would require coverage of interference issues, higher power levels (if applied in such a fashion as to not cause “significant” interference with other uses in the license-exempt spectrum), and restrictions on certain antennae, along with other “outdoor” specific guidelines.

We also recommend the commission review the current rules of maximum allow emissions (EIRP) and provide a distinction and separate rule as it pertains to “congested”

spectrums and “un-congested” spectrums. e.g. In rural areas where license-exempt frequencies are seldom in use, more radio power could be allowed to overcome distance and LOS issues. However, in a more frequency “congested” area, a stricter EIRP policy should be implemented.

With regards Section H – License-exempt Spectrum – *The Commission seeks comment on the extent to which license-exempt spectrum is being used to provide wireless services to rural communities.*

Because there is no regulatory requirement for identification of smaller WISPs – we “believe” there are approximately 8000 small WISPs nationwide. We further believe that by the end of this year, more than 1.5 Million customers will be served by the small WISPs use of the license-exempt spectrums in rural, urban and metropolitan areas across the United States.

PART-15.ORG is currently reviewing the prospect of regional cooperation agreements among the license exempt WISP community in a self-policing effort. In addition, PART-15.ORG is preparing to provide the nations largest online database of independent WISPs and their respective coverage areas. The database will serve two main purposes, (1) Provide identification of all areas covered by BWA nationwide, based on zip codes. (2) Provide the public a resource to enable them to easily find BWA service in their area.

PART-15.ORG stands ready to work with the commission and other private organizations such as the LEA in securing a more meaningful use and protection of the license-exempt spectrums.

Respectfully submitted,

PART-15 ORGANIZATION

By: \_\_\_\_\_  
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