



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

In the Matter of)
)
Modifications of Part 2 and 15 of the) ET Docket No. 03-201
Commission's Rules for Unlicensed Devices)
and Equipment Approval)
)

COMMENTS OF TELETRONICS INTERNATIONAL INC.

Keeping in view the purpose of the Commission, i.e.

- 1. To facilitate deployment of advanced technologies and
- 2. To streamline regulations to increase flexibility,

Teletronics International, Inc (Teletronics) hereby submits its comments in response to the Commission's *Notice of Proposed Rulemaking* ("NPRM") in the above-captioned proceeding.

INTRODUCTION

Teletronics is a U.S. technology company which designs, manufactures and sells products and equipment for use in license-free bands. With a complete line of products for Wireless Internet Service Providers ("WISPs") and last-mile telecom providers and consumers, Teletronics has been and continues to be a leader in the development and provision of wireless broadband products. As such, Teletronics has a direct interest in the proposed modifications to Part 2 and 15 of the Commission's Rules

Teletronics commends the Commission for taking the initiative in proposing these rule modifications. These modifications will help eliminate confusion and simplify installation while keeping interference at minimum. In addition, they assist with accomplishing the Commission's objective of facilitating wider deployment in rural areas. Furthermore, the proposed changes related to certification and "mixing and matching" will help promote competition and assist rural WISPs ultimately benefiting the consumer.

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DISCUSSION

1. Advanced Antenna Technologies

Teletronics fully supports the proposed modification in antenna gain rules to view sectorized and phased array antennas as point-to-point directional antennas. Specifically, regarding item 12 of FCC 03-223, in an attempt to achieve optimum utilization of the spectrum, sectorized antennas offer a solution that cannot be attained with the use of traditional Omni antennas. We agree that, due to the lack of clear rules for sectorized antennas, most of the WISPs and system integrators are limited to the use of Omni antennas with 36 dB E.I.R.P. limits. The proposed changes would stabilize the environment through the efficient use of the spectrum. Thus, Teletronics supports the proposal to apply the point-to-point antenna rules where transmitter power is required to be reduced by 1 dB for every 3dB increase in antenna gain.

2. Replacement antennas for Unlicensed Devices

Teletronics supports more flexible antenna requirements for unlicensed devices by requiring testing only with the highest gain antenna of each type that would be used with the transmitter at the maximum output power of that transmitter. Regarding items 16 and 17 of FCC 03-223, current requirements of getting every antenna tested only makes the certification process time-consuming and costly, thus unnecessarily causing delays in the installation of the latest technologies after inception. Modification of the rules to require the testing of the antenna with the highest gain only would reduce the amount of testing required, provide greater flexibility to the manufacturers, and facilitate the deployment of advanced technologies.

3. Flexible equipment Authorization for Radio Transmission Systems

Teletronics supports “mixing and matching” of certified systems as long as the amplifiers used in the systems are smart enough to limit the power output regardless of signal input (items 18, 19 and 20 of FCC 03-223). Anticipating this issue may be

controversial, we believe the underlying concern comes mainly from the users' inability to properly calculate and limit the power of their radios (or radios with amplifiers).

It is a fact that the latest generation of radios with OFDM modulation requires amplifiers to be in a highly linear zone. Strong signal input to the amplifier will put them in saturation, thus severely affecting their performance. Moreover, there will be undesired noise for sidebands as well as harmonics. Fortunately, current technology can easily solve this problem.

1. By using Automatic Gain Control (AGC) on the input side of the amplifier, amplifier output power can be limited to a certain value (e.g. 1 watt for 2.4GHz).
2. AGC amplifiers would eliminate the need of complicated RF calculations, enabling the average user to easily comply with FCC regulations.
3. With AGC, all amplifiers (from various vendors) will act in the same manner, providing consistency and uniformity in the market.
4. AGC amplifiers can be marketed separately as they cannot exceed rated output under any condition.

CONCLUSION

As indicated in the enclosed comments, Teletronics supports many of the Commission's proposed modifications outlined in the *NPRM* and welcomes the opportunity to work with the Commission and all interested parties to help improve the regulatory environment of the license-exempt industry.

With the dramatic growth in the wireless LAN segment of ISM bands, we believe it is in the best interests of all parties concerned to streamline the regulations in order to help facilitate the deployment of the latest technologies which will bring more product uniformity and certainty to the marketplace.

Respectfully submitted,
Teletronics International, Inc

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