



Mr. Ed Thomas
Chief
Office of Engineering and Technology
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20054

May 16, 2005

Re: Petition for Rulemaking - Amendment of the
Commission's Rules for the License-Exempt
57-64 GHz Band

Dear Mr. Thomas:

I am the C.E.O. of SiBEAM, Inc., which is a start-up company in the business of making low-cost, consumer electronic hardware products that operate in the license-exempt band 57 – 64 GHz over modest (<100 meter) distances. I would like to register a strong opposition to the petition filed by the Wireless Communications Association International, Inc., (WCA) on September 30, 2004, in the matter of rules for this portion of the frequency spectrum.

While we believe SiBEAM is the first company to develop products aimed at the consumer market for use in the 57 – 64 GHz band, we also believe that we will soon be joined by other companies who see the benefits of the high bandwidths available and the relative freedom from interference owing to strong atmospheric and the quite reasonable transmit power limitations required by the FCC rules.

In order to address the consumer market - one that will ultimately see very high volumes - our products require the use of low-cost silicon (CMOS) electronics that are typically capable of limited or modest radiated power. Hence, the limits on radiated power in the 57 – 64 GHz band, wisely required by the FCC in its Report and Order of 1995, are of great benefit to us. Therefore, it is quite important that these limits be maintained and adhered to by all those companies that make use of this portion of the spectrum.

We note that the WCA requests in their petition three changes to the existing rules:

- Point 1: A change in the specification of transmitters' power to the use of EIRP instead of Power Density;
- Point 2: An increase in EIRP limits for unlicensed 57-64GHz transmitters; and,
- Point 3: An exemption for "window mounted" point-to-point links from the call sign requirement.

We are also mindful that other opposition to WCA petition has been registered, namely that of Mr. Van Tuyl of Agilent Technologies. Addressing the above-listed elements of the WCA petition, we agree with Mr. Van Tuyl on all counts; in particular we make the following supporting points:

1. The WCA's proposal to replace the practice of regulation through power density measurements in the far field with an EIRP-based measurement is unnecessary and misleading. Their proposal contains a misinterpretation of the motivation for imposing radiation limits (they claim the basis is safety from radiation exposure). The real issue is interference between high power point-to-point transmitters and low-power mobile devices.
2. Perhaps the most troubling portion of the WCA petition is the request for an increase in EIRP limits from 40dBm [10W] to "82dBm less 2 dB for every dB that antenna gain is below 51dBi". Using those guidelines, the amount of radiated power from a 51 dBi antenna would be more than 6,000 times higher than current guidelines. In a short-range environment, such as the one in which our products will operate, there is already a source of substantial interference from reflections (inside of a room, for instance); the addition of the enormous amounts of power that would be available to the manufacturers of point-to-point links with 40 – 50 dBi antennas has the potential to render our products, and all similar products, unusable. We believe the guidelines adopted by The Commission in the 1995 R&O are reasonable and beneficial to the public, who have an interest in low-power mobile devices.
3. Even without the increased power limits requested in the WCA petition, glass windows reflect mmWave power and the unintentional splatter from a beam incident on a window. This could pose a major interference problem in the products that we are designing and intend to offer to consumers. The use of a Transmit I.D. eliminates this problem by providing a means of transmit / receive identification; this is the way all products operating in this spectrum should be implemented and sold. The increased power limits requested in the WCA petition would indeed exacerbate this problem. Hence, the best spectrum management policy is to maintain the Transmit I.D. requirement and to continue to limit indoor transmitters to low-to-moderate EIRP levels.

In summary, we strongly recommend that the Commission reject the requests contained in the WCA petition. To implement these requests would deny the public access to an important suite of new consumer products.

Thank you for your consideration. If you have any questions, please contact me immediately.

Respectfully submitted,



Tim A. Williams, Ph.D.
Chief Executive Officer
SiBEAM, Inc.