From: Rashmi Contractor
To: John Kennedy
Date: March 01, 2006
Subject:
FCC File # 0294-EX-PL-2005

Message:

Dear Mr. Kennedy,

Please see a detailed explanation for your follow-up questions.

a. The complete program of research and experimentation proposed including description of equipment and theory of operation.

Siemens will demonstrate equipment operating in the 3.5 GHz band, which is used in Europe and Canada for fixed wireless applications. The product(s) being demonstrated are sold only for use outside the United States. The program will include training of our personnel in the operation of the equipment as well as customer demonstrations. The equipment is based on the 802.16-2004 WiMAX standard using the newly introduced Intel 5116 mac/phy silicon device. Siemens will be performing demonstrations of equipment confirming to 802.16-2004 WiMAX standard and 5116 mac/phy silicon device in a lab and office environment. Demonstration will be conducted indoors but base station equipment will be installed on rooftop of our office building and customer units will be installed on a desk in several remote office locations which vary in distance from the base stations to be between 0.5 miles to 5 miles in distance. For some period of experimentation we will also test optional external antenna for the customer units. Base station will be Siemens WayMAX base station with one, two or three 60, 90 and 120 degree sectorized antennas from Andrew antenna corporation. This will cover the Boca Raton Siemens Communications office and surrounding areas. Subscriber stations will include fixed, nomadic, portable and mobile units with omni and directional antennas. Portable and mobile units will be confined within this 5 miles radius and within the coverage of the sectorized 60/90/120 degree antennas.
Please see our detailed technical brochure for more information on the products: base stations as well as subscriber units.

b. The specific objectives sought to be accomplished.

Siemens Communications has developed a wireless point to multipoint wireless broadband access product for IEEE 802.16-2004 WiMAX operation. In order to demonstrate the product's conformance to standards requirements and to test the product's performance, a wireless communications channel is required. The product will be developed first for the Canadian and European markets which use the 3500 MHz band.
We will be training our personnel on the equipment. We will demonstrate the system for our customers to generate interest and convince on the performance of the product to help the sales. We will fine tune the product to be better compliant with FCC requirements as well as standards requirements based on the measurements in an outdoor environment as opposed to a confined laboratory environment.
As with any new product introduced to the market, extensive testing is necessary to make any necessary changes both for performance of the product and regarding emissions. An outdoor medium is necessary to carry out such objectives.

c. How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along line not already investigated.

The IEEE 802.16 WIMAX standard has been under development by the standards organizations for sometime but the actual products are just beginning to find any commercial application. WiMAX standard has the promise to bring wireless broadband access to far reaching areas both in the U.S. and around the world, especially in rural settings where broadband alternatives are scarce or non existent. Development of such high capacity and higher technology products are not easy and require tremendous resources both in research and development as well as testing and productization. This experimentation will help our design and installation teams to expand their knowledge to further improve current product as well prepare them for future more sophisticated products. The experience gained through this experimentation will be most invaluable to achieve such goals.