

EXHIBIT 1

Description of Experimental Use

Applicant

The Applicant, Oregon Fast.Net, is a successful wireless Internet service provider currently serving 576 wireless broadband customers on the coast of Oregon. Much of the geographic area served by Oregon Fast.Net does not have available DSL or cable broadband. Oregon Fast.Net operates its wireless network using unlicensed spectrum with three antenna sites. Oregon Fast.Net seeks the use of the 3.65-3.7 GHz spectrum in order to determine whether operations can be successful in the band using existing, available equipment. If successful, the spectrum will be used to serve end user wireless broadband customers, and as a method to backhaul broadband traffic. Oregon Fast.Net estimates that use of this spectrum will allow the ability to serve an additional 300 customers.

Program of Research and Experimentation

Oregon Fast.Net desires to develop and deploy systems for the delivery of efficient, affordable high-speed Internet access to homes and businesses utilizing radio spectrum in the 3650 – 3700 MHz band. To support this advanced system development, Oregon Fast.net is requesting an authorization to conduct system performance trials in the Florence, Oregon area to determine the relationship between theoretical performance predictions and actual system performance of new technology for high speed Non-Line Of Sight (“NLOS”) wireless broadband service under signal propagation conditions typical in the coastal Oregon area.

The objective of the system trials proposed herein is to determine the feasibility and optimum equipment configuration requirements for utilization of the 3650 – 3700 MHz band to deploy high speed NLOS wireless data services to indoor and outdoor installations in suburban and rural Illinois area using Time Division Duplex (“TDD”) technology. Additionally, these system trials will help ascertain the interference impact of system transmissions on existing co-channel and interference mitigating protocols used in the modulation. The results of these tests will be used to establish the minimum system parameters and hardware required to provide reliable, affordable high speed wireless data services without an adverse impact on existing FSS operations as well as adverse impact on additional band users as outlined in the Commission’s Report and Order (ET Docket No. 04-151).

Oregon Fast.Net proposes to utilize 14 MHz-wide channels in 14 MHz steps utilizing Quadrature Amplitude Modulation with an EIRP not to exceed 40 dBm (10 watts). All transmission devices will be fixed and located within a 20 km radius area. Primary base station and remote equipment for these trials will be the AN-100 system developed by Redline Communications and configured by the manufacturer for transmissions in the 3650 MHz band. All base stations and remote devices utilized by Oregon Fast.Net for these tests will be professionally installed and will operate in compliance with Part 90 and

within the parameters and power levels in the Report and Order, ET Docket No. 04-1541.

No Interference Concerns

To assure protection of existing FSS earth stations and Federal Government operations in this band, a search of the IBFS database was conducted to identify facilities in the 3650 – 3700 MHz band located within 180 km of the proposed service area. This separation distance is the maximum radius of the FSS Protection Zone as defined in Report and Order, ET Docket No. 04-151. As demonstrated by the database search, the nearest facilities were found to be more than 200 km distant, well outside the protection zones identified in the Report and Order. Due to the distance separation of the proposed operations to the existing facilities in the database, no interference to FSS earth stations and Federal Government operations is expected to occur.

Should interference from these experimental operations occur to existing authorized facilities, the tests will be suspended immediately pending resolution of the interference.

While this equipment does meet the Commission's intent of *Interference Mitigation*, this equipment does not presently meet "the letter of the law" regarding the "contention-based" protocol requirement currently under Commission Reconsideration. The planned equipment has an excellent compliance record from its utilization in the licensed 3.5 GHz bands utilized outside the United States. Additionally, a major portion of this trial will be to provide the Commission adequate data sufficient to act on currently open Petitions for Reconsideration regarding the mandatory requirement of the use of "contention-based" protocols.

Another specific goal of these tests is to monitor for interference in the adjacent frequency bands. From these tests, Oregon Fast.Net can determine if additional filtering at the band edges is necessary to avoid adjacent channel interference problems. Should interference to existing adjacent channel users of this band occur, Oregon Fast.Net will take immediate action, including discontinuance of operation, to eliminate the interference.

Specific Objectives to be Accomplished

An important aspect of these trials is to determine the coverage capabilities of this band for fixed unlicensed wireless communications systems to both indoor and outdoor use installations. As this band is currently being used for this type of service in Europe, the results will be used to establish the minimum system design specifications required to achieve reliable coverage in the typical rural and suburban areas of the United States under recently released changes to Part 90 of the Commission's rules.

Parameters to be determined by the system tests will include the following:

- Maximum coverage areas from a single hub site

- Signal reliability over time
- Signal penetration losses through foliage and building walls
- Changes in signal propagation due to weather conditions
- System durability based on the number of users simultaneously accessing the network
- Quality of Service (QoS) reliability based on new technologies such as VoIP and Video Over IP.

Up to 25 test sites may be utilized at various distances from the hub site. Locations currently utilizing regular Oregon Fast.Net service on other spectrum will be utilized for the test transmissions. By using Oregon Fast.Net's extensive customer base for these tests, the impact of an actual full system deployment can be experienced for this spectrum. Since a TDD system is proposed, a maximum of only six simultaneous transmissions will exist at any one point in time. Once service is verified at a test site, the trial of service availability at that site continues on a 24-hour basis for at least 1000 hours. Among other collection procedures, reports from volunteer users at each site will be utilized to determine system performance and reliability.

Contribution to State of Radio Art

Oregon Fast.Net already holds significant experience providing wireless high speed two-way data services to customers in other frequency bands. Oregon Fast.Net currently provides License Exempt Wireless Broadband to over 500 customers in a rural, hilly service area on the coast of Oregon. Oregon Fast.Net has learned how the local geography, land clutter, atmospheric conditions and frequency of operation affect propagation and interference characteristics of these systems. Along with the technical characteristics of its existing operations, Oregon Fast.Net also has learned the business and communications demands of its customers within its service areas. From this technical and market experience, Oregon Fast.Net is uniquely qualified to model operation in the 3650–3700 MHz spectrum to determine its ability to match the reliability and quality of service expected by residential, business and educational customers.

The data obtained from these tests will contribute to the further development and utilization of unlicensed operation as a secondary to FSS earth stations and government operations in the 3650–3700 MHz band.

Upon successful completion of these trials, Oregon Fast.Net will report its data and other findings from these tests to the Commission to support future Rules for this service. Should the Commission require further information or materials regarding the information submitted herein, such will be promptly furnished upon request.

Exhibits

- 1 Experimental Description
- 2 Equipment Information
- 3 FSS Facilities Considered
- 4 Antenna Structure Data
5. Request for Expedited Processing