

Until recently, WinStar had utilized its Experimental Authority exclusively to test its 38 GHz point-to-point fixed wireless microwave services. In December, WinStar utilized its Experimental Authority to demonstrate and test the capabilities of a new multiple access scheme based on Point to Multipoint (PMP) 38 GHz microwave radio technology. The wireless ATM technology can deliver multimedia services allowing high speed packet access, voice, and video. Efforts continued in March using the capabilities of ATM switching at hub locations. This has set the stage for introduction of new Products and Services to existing and potential customers of WinStar. Siemens was the system integrator for the telecommunications equipment and supplier of the switching gear. Nortel provided the digital wireless equipment.

The initial trial completed in Boca Raton in December included prototype equipment. The March trial included more advanced equipment and beta customers are expected over the next few months. In both cases, the network configuration enabled WinStar to serve many customers' buildings from centrally located hubs. Customer calls are then routed to other buildings within a serving hub or at other buildings served by other hubs. The hubs are interconnected with an ATM based Metropolitan Area Network (MAN) architecture. WinStar completed extensive testing to validate the system's performance, test functional requirements, and evaluate technical feasibility. The process involved various tests as follows:

- Network and Link Reliability
- Spectrum and Modulation Efficiency
- Spectrum Efficiency and Support for Multi-Sector, Multi-Channel cells
- Transmission Quality and Availability
- Data, Video, and Voice traffic handling (in TDM and ATM formats)
- User and Network Interfaces
- Network Management

The test results demonstrated increased spectrum efficiency achieved using higher order modulation schema and improvements in overall system gain. Spectrum efficiency allowed higher capacity delivered through multi-sector, multi-channel cells supporting overall data rates of several gigabits per second. In addition, the testing demonstrated significant operational efficiencies which allowed quick deployment and delivery of services at a building. Service provisioning and configuration changes were managed remotely via software definable attributes downloaded through the network to subscriber terminals at customer premises. The test demonstrated voice, data, and video applications for services that WinStar intends to market. The results successfully demonstrated WinStar's convergence capability for delivery of telecommunication services using this innovative technology. These efficiency enhancements and product innovations well serve the public interest. WinStar therefore requests expedited renewal of its Experimental License so that additional critical testing of this 38 GHz PMP technology may continue.

To date, WinStar has utilized its nationwide Experimental Authority to test deployment of its 38 GHz point-to-point fixed microwave services to several customers in a variety of deployment scenarios. These tests usually last for a duration of 3 months or less, at which time the equipment is removed. WinStar has filed Progress Reports with the Commission reporting on use of its Experimental Authority. The date of WinStar's most recent Progress Report was November 24, 1997.