

**DESCRIPTION OF THE PROPOSED EXPERIMENT AND
STATEMENT OF PUBLIC INTEREST**

Comcast requests that the FCC grant an experimental license so that tests can be performed with 802.16e mobile WiMAX equipment on WCS channel blocks A, B, and C, in Muncie, Indiana (call signs: KNLB280, KNLB281, and WPQL633). The tests will be performed at a single base station location, with base station antennas mounted on an existing antenna structure that is currently owned and operated by Comcast (ASR Registration Number: 1031323). The base station will be a standard three-sector base station with three antennas connected to three base station transceivers; each is designed to cover a 120 degree sector, and together they will provide omni-directional coverage around the base station. The coverage range is not expected to exceed three kilometers. The mobile stations will be PC card devices in notebook computers.

The equipment to be used in these tests is standard production equipment that is widely used in other parts of the world, and is designed for the 2.3-2.4 GHz global WiMAX band conforming to the IEEE 802.16e global wireless broadband standard and the WiMAX Forum band class 1A system profile. However, neither the base station equipment nor the mobile stations are type accepted by the FCC to meet part 27 rules for the WCS band. Therefore, at some power levels within the range of normal operation, the emission levels may briefly exceed the limits specified in part 27.53. At all times, however, during the course of testing under the requested experimental license, Comcast will have the ability to control and limit the operating range of both the mobile stations and the base station to comply with part 27.53 emission limits.

Under tightly controlled conditions, for limited periods of time, and with careful monitoring of any interference to neighboring bands, Comcast requests authority to include testing under the experimental license to operate in ranges for both the base station and mobile stations that exceed the limits of part 27.53. In these cases, the emission levels will be known and the impact to other services will be assessed. For the majority of testing under the experimental license, the base station EIRP will be below the limits set in part 27.50. However, Comcast requests authority to test base station operation above 2,000 watts peak EIRP, but conforming to a 2,000 watt average power EIRP limit. Signals tested above 2,000 watts peak EIRP will be for very limited time periods, under controlled conditions, and with careful monitoring of interference. At all times, Comcast will maintain the ability to turn down the peak EIRP below 2,000 watts if needed. All other requirements for part 27 WCS band operation will be adhered to.

As described above, Comcast requests the experimental license in order to conduct tests to determine the applicability of global WiMAX equipment designed for the 2.3-2.4 GHz band to the United States WCS band. Comcast seeks to test various technical parameters, such as range, coverage, throughput, latency, reliability, and availability, as well as mobile broadband applications enabled by this technology that may provide additional options for wireless broadband connectivity, which may significantly benefit consumers. WiMAX has been chosen because it is a global standard with significant technical advantages, and equipment is readily

available from multiple sources that work in the WCS band. 802.16e based mobile WiMAX shares many common features with other fourth generation mobile standards, such as those proposed by 3GPP and 3GPP2 (commonly referred to as UMB and LTE). These common features include OFDM, OFDMA, and MIMO, as well as similar EIRP and out of band emission characteristics. So while the testing under this experimental license will use 802.16e mobile WiMAX equipment, the lessons learned will apply to all fourth generation mobile broadband standards under consideration.

Finally, paramount importance will be placed on causing no harmful interference to SDARS receivers. In fact, a significant goal of these tests will be to attempt to determine the maximum operating range of the WiMAX base station and mobile station(s) within which no harmful interference will be caused to SDARS receivers. Comcast will then seek to determine if the service provided within this operating range has satisfactory range, coverage, throughput, latency, reliability, and availability to satisfy customer requirements. Both WCS and SDARS license holders have filed petitions with the FCC to modify parts 25 and 27 in an effort to lessen interference. In meetings between the FCC and WCS license holders, it was agreed that more testing would help determine what changes, if any, should be made to parts 25 and 27 to help both SDARS and WCS licenses operate without harmful interference to each other. The testing under this experimental license is of a limited timeframe and only in one specific location, so it cannot answer all questions. Still, the testing proposed in this application will significantly advance the mutual goal of interference avoidance while permitting flexible use of scarce spectrum resources, which is in the public interest and a key policy directive of the FCC.