

Request for Experimental License Exhibit

Purpose:

AT&T plans to test experimental integrated radio and adaptive antenna systems to evaluate the performance of short distance microwave radio digital communications systems. This testing will assess various performance characteristics of each system in a real world rural/suburban outdoor environment, such as data throughput, latency, error rates, and availability.

Radio & Antenna Systems:

Each integrated unit consists of a transmitter, receiver, and adaptive beamforming antenna. The units will be tested using microwave radio and digital communications test equipment. Each unit weighs approximately 50-100 lbs. and is housed in a weatherproof outdoor enclosure approximately 21" (w) x 39" (h) x 6" (d) in size. The maximum transmitter power of the fixed base station unit will not exceed 47 dBm ERP. Remote transmitters will operate at a maximum 31 dbm ERP. Testing will focus on the evaluation of the adaptive antenna systems in a non-line-of-sight (NLOS) environment; so, the exact antenna gains and beam widths are unknown. The antennas tested will not exceed a maximum gain of 20 dBi. The main lobe of the antenna will be pointed approximately to the horizon plus or minus 10 degrees and with an azimuthal orientation that may be arbitrary.

Equipment Deployment:

Base station units (i.e. the radios and the antennas) will be deployed at a maximum height of 19 meters (65 feet) above ground level (AGL) on several masts on the roof top of an AT&T facility at 3400 W Plano Parkway, Plano TX, 75075 (33-00-31.63511 N, 96-45-32.09787 W) and at a maximum height of 44 meters (144 feet) AGL on several masts on the rooftop of an AT&T facility at 9505 Arboretum Blvd, Austin, TX 78759 (30-23-28 N, 97-45-05 W). No more than 2 radio transmitters will be operated simultaneously from each base station. See the diagrams in Figures 1 and 2 below for a depiction of each base station deployment. Remote transmitters will be located within 5 km from the fixed base station at a maximum height of 6 meters (19 ft) AGL.

Spectrum Use:

The radio transmitters may occupy spectrum from 2500 to 2690 MHz. Depending on how it is configured, each radio will use a digitally modulated 10 MHz, 15 MHz, 20 MHz, 40 MHz, 60 MHz channel. Different transmitters may use the same or different channels as each other. The total transmit power of any transmitter will not exceed 47 dBm (50 Watts) ERP.

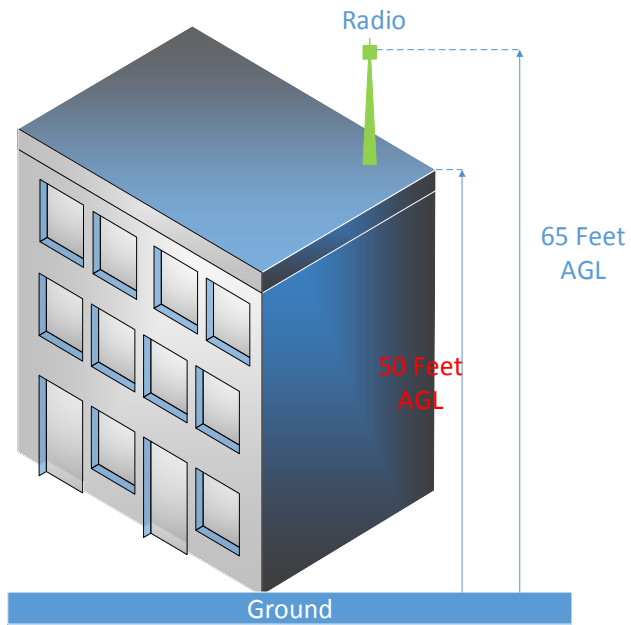


Figure 1 – Radio/Antenna Mount (Plano, TX)

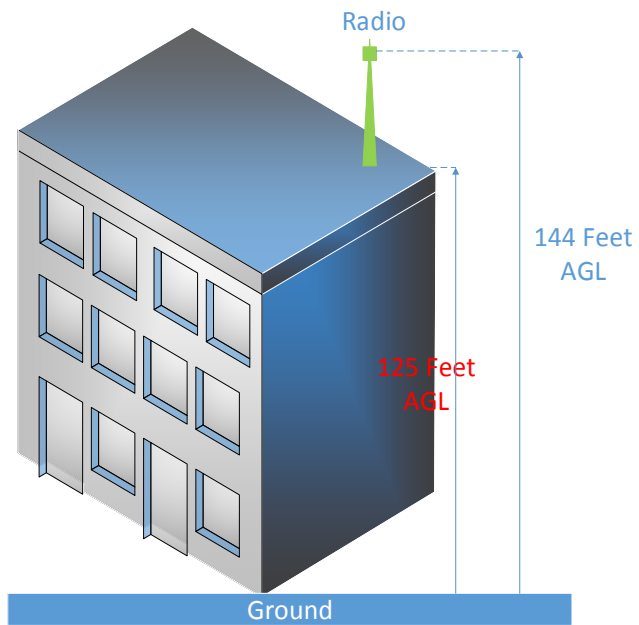


Figure 2 – Radio/Antenna Mount (Austin, TX)