

**Application for New Radio Station Authorization Under Part 5 of FCC Rules
– Experimental Radio Service**

California Amplifier, Inc. Exhibit 1, Narrative Statement

10. (a) California Amplifier is conducting a research program to develop new techniques for the transmission and reception of high speed data over an air interface. The equipment will be capable of simultaneously transmitting and receiving information over MMDS (2500MHz – 2686MHz) and MDS (2150MHz – 2162MHz) frequencies. Channel bandwidths for upstream and downstream channels will be 6MHz.

The equipment will function as a point to multipoint Ethernet bridge. The RF, antenna and modem sections will be contained in a single housing. Nodes will communicate at adaptive data rates, the more robust the link, the higher the modulation density over that link. Current modes are QPSK, 16 QAM, 64 QAM over OFDM. Indoor equipment is limited in output power to +39dBmW Eirp. A warning label is placed prominently on the equipment warning users of RF exposure safety limits. Outdoor equipment may also be tested, output power on outdoor equipment is 400W Eirp.

10. (b) Objectives to be accomplished include:

Definition of propagation characteristics for the transmission of QPSK, 16 QAM, 64 QAM over OFDM in a non line of sight mobile environment.

Develop transmission and reception equipment to support high speed data over an air interface on MMDS/MDS frequencies in a mobile non line of sight environment.

10. (c) This program will contribute to the state of the radio art as there is currently no type approved equipment available that supports the transmission and reception of high speed data traffic over MMDS/MDS frequencies in a mobile non line of sight environment. Our goal is to develop this equipment.