

Exhibit A
Program Description

Demonstration of a 14 inch antenna and associated communication equipment to access and track a commercial Ku-Band satellite while on a mobile platform. Demonstration of a 14 inch antenna and associated communication equipment to access and track a commercial Ku-Band satellite while on a mobile platform. (We plan to equip two vehicles with the aforementioned 14 inch satellite terminal and it is likely that each will be operating at separate locations during the testing period.) Experiments of this type will be conducted while driving the mobile platform within a 30 mile radius of Gaithersburg, Maryland. Subsequent experiments will also be conducted within a 16 mile radius of Suffolk, Virginia and Indian Springs (Creech Air Force Base), Nevada. A duplex communications link will be established with a fixed 4.8 meter Ku-Band antenna located in Gaithersburg, Maryland. (We will apply for a separate license for the 4.8 meter terminal.) These links will be used to demonstrate the ability of the proposed system to access commercial Ku-Band Geostationary satellites. Communications services that would be demonstrated would be duplex 128 kbp/s and 256 kbp/s digital data links over a Ku-Band satellite, as well as over unbalanced links, with as much as 1024 kbit/s to the mobile and 384 kbit/s from the mobile. The modulation will be BPSK spread spectrum with selectable spreading from 0 to 12 dB (7.170 MHz maximum occupied bandwidth) to allow the EIRP density to accommodate the antenna's sidelobe characteristics and meet the off-axis emission requirements. Two vehicles will be equipped L-3 Datron FSS-4180-LP mobile Ku Satcom antenna.