

Exhibit 1: Purpose of Experiment

a. Complete program of research and experimentation including description of equipment and theory of operation.

AvL Technologies is applying for an experimental license to operate an antenna test range near its Asheville, NC headquarters. AvL Technologies is a privately held US company specializing in the design, development, and production of mobile satellite antenna/positioner systems. AvL provides solutions and support for satellite ground terminals for commercial, professional and military customers throughout the world.

The test range will be used to test and develop satellite antennas. Antenna data provided by this test range will be used to confirm predicted performance and compliance to various satellite operator and regulatory authority requirements.

The testing will be accomplished by monitoring a CW signal transmitted from a fixed site toward the antenna under test on a receive pedestal. The transmit site will include CW signal source and a suitable directive antenna mounted on a 18m tower. The transmitting antenna main beam will always be pointed at azimuth 147° and elevation negative 4° toward the receive pedestal. The maximum transmitting antenna beamwidth will be 14° at the lowest measurement frequency of 1500MHz. Much narrower beamwidths will be used at higher frequencies.

The performance characteristics of the antenna under test will be measured by monitoring the received signal level. Antenna parameters including gain, cross-pol isolation and radiation patterns will be measured.

b. The specific objectives sought to be accomplished

AvL Technologies will perform measurements to establish the gain and radiation pattern characteristics of prototype and production antennas. As a major world supplier of satellite antennas AvL Technologies must assemble extensive performance data on its products and requires a test range to make the necessary measurements.

c. How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along a line not already investigated

Far field measurements on a test range are a critical component of the antenna development process. Design predictions must be verified and radiation patterns must be collected to support customer's antenna certification efforts. The test range will contribute to the development of new antennas allowing efficient use of spectrum by proving antenna gain and radiation pattern characteristics are optimized.