

1. The antenna is a custom design developed by Sierra Nevada Corporation. The same antenna is used in each of the 3 locations requested. The antenna specifications are as follows:

Center Frequency: 94 GHz

Gain: 44 dBi

3dB Beamwidth: 1 deg

Aperture Size: Approximately 10 inches by 10 inches

Coverage: The antenna is mechanically scanned over a volume 30 deg wide by 30 deg high.

2. Radius of operation in each location.

The radar has a maximum operating range of less than 350 feet. This is sufficient for its use as a landing aid in a helicopter, however for testing it is convenient to attach the radar to a mobile platform of some kind. At the two locations near Reno, Nevada, (both of which are facilities owned by Sierra Nevada Corporation) the radar will be installed on a truck and transported to nearby points for testing. The third location, Felker Army Airfield at Ft. Eustis, Virginia, is the location of the final phase of testing. There the radar will be installed on a US Army helicopter and tested in flight in the vicinity of Felker Army Airfield. In all three of these locations, we do not anticipate that the radar will be operated at a distance of more than 16 km from the coordinates indicated on the application.

3. Type of modulation: DSSS, FHSS, etc.

The modulation scheme is similar to DSSS. The 10 nsec transmitted pulse is bi-phase modulated with a 5-chip Barker code with a 2 nsec chip width. The pulses are transmitted at a 70 KHz rate. Each pulse is transmitted at a fixed frequency, however the transmit frequency changes from pulse to pulse at the 70 KHz rate. The radar is capable of tuning its transmitter in 120 MHz steps over the range 92.5 GHz to 95.5 GHz.

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