4. Directional Antenna Information – both Antenna locations

Explanation

The system being tested has multiple transmitter amplifiers and antennas for use at the various frequencies of operation. The table below shows the parameters for each frequency.

The antennas are mounted on the test aircraft, which could turn to be pointed in any direction during the test. The antennas are mounted parallel to the wings, which means in the vertical plane, the antennas are horizontal, except for a slight canted up or down depending on the angle of attack of the wing relative to the ground.

(a) Width of beam in degrees at the half power point: See table below

Operating Frequency	Transmitter Power	Transmitter Power	**Antenna Beamwidth**	Antenna Gain
(GHz)	(W)	(dBW)	(Degrees)	(dBi)
0.435	100	20	80	7
3.3	200	23	34	15
4.6	200	23	34	15
5.6	200	23	34	15
9.3	125	21	16	20

(b) Orientation in horizontal plane: full rotation, 0 through 360°

(c) Orientation in vertical plane: -10° to 10°

Station Location

Location 1: Cartersville Airport (VPC)
City, State: Cartersville, GA
Latitude, Longitude: 34° 07' 23"N, 84° 50' 55"W
Fixed or Mobile: Mobile
If Mobile, describe exact area of operation: For this test, Transmitter will be operated at the Cartersville Airport (VPC)
Radius (in meters): 805 m (0.5 mi)
Elevation: 231 m (759 ft)
Datum: NAD83

Station Location (continued)

Location 2: Newport News/Williamsburg Airport (PHF)
City, State: Newport News, VA
Latitude, Longitude: 34° 07' 23"N, 84° 50' 55"W
Fixed or Mobile: Mobile
If Mobile, describe exact area of operation: For this test, Transmitter will be operated at the Newport News/Williamsburg Airport (PHF)
Radius (in meters): 805 m (0.5 mi)
Elevation: 13 m (42 ft)
Datum: NAD83