Antenna VSWR Test

The Boeing Company
El Segundo, CA

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by

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Why an Experimental License is Necessary

An Experimental License is required to support an independent test of the Variable Standing Wave Ratio (VSWR) on UHF Cup Dipole antennae. This experimental license application is being filed in conjunction with an STA extension of call sign WC9XUB, file 0535-EX-ST-2006.

Purpose of Operation

Independent Variable Standing Wave Ratio (VSWR) test on a UHF Cup Dipole antenna.

Test Description

The test will involve use of an Agilent PNA E8364A or 8722ES Network Analyzer, and a graphic plotter/printer to analyze and record the VSWR of a UHF Cup Dipole antenna (see figure 1). The Network Analyzer will provide the RF source, as well as perform the VSWR analysis, which will be recorded using the attached printer/plotter. The frequency range under test is from 245 MHz to 275 MHz, which will be swept throughout the range. The maximum EIRP will be -6 dBm, or 0.251 mW. Specific power, frequency, emission and test location data is listed in Table 1. The test will be conducted in an outdoor environment at the Boeing facility located in El Segundo, CA.

Test Data and Parameters	
Frequency Band	245 MHz – 275 MHz
Emission	N0N
Antenna Type	UHF Cup Dipole
Antenna Gain	14 dBi
RF Source	Agilent PNA E8364A or 8722ES
Antenna Input Power Level	-20 dBm (0.01 mW)
Maximum EIRP	-6 dBm (0.251 mW)
Test Location	33-55-48N, 118-23-37W NAD83

Table 1

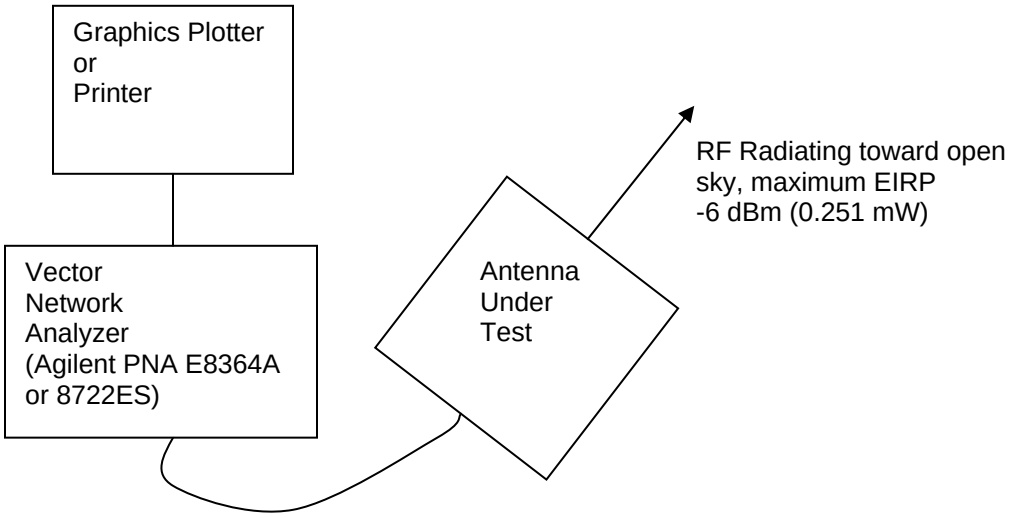

Figure 1

FAA Coordination

Coordination Number NG T060382

Frequencies, Power and Emission

Frequency Tolerance	Emission	RF Power	Station Class	Frequency
245 – 275 MHz	NON	0.251 mW Peak EIRP	FX	0.001

Schedule for Test

This request is for a 2 year license.

Location

El Segundo, CA
Coordinates: 33-55-48N, 118-23-19W NAD83

Stop Buzzer Contact Information

The “Stop Buzzer” point of contact is Roy Virkler, telephone 310-529-4716.