

## Antenna VSWR Test

**The Boeing Company**  
**El Segundo, CA**

Submitted: 7/19/06

by

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## Why an STA is Necessary

An STA is required to support an independent test of the Variable Standing Wave Ratio (VSWR) on a UHF Cup Dipole antenna.

## Purpose of Operation

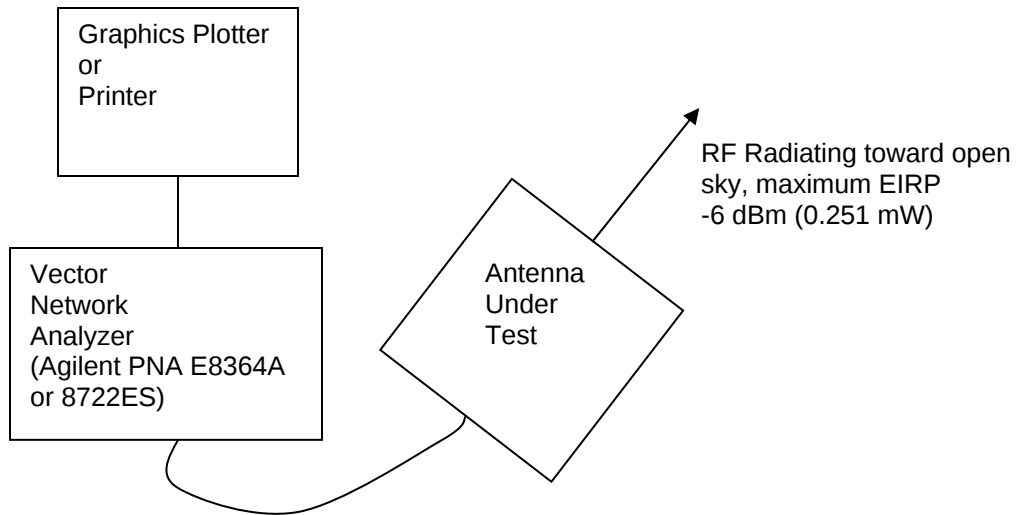
Independent Variable Standing Wave Ratio (VSWR) test on a UHF Cup Dipole antenna.

## 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, submitted as a separate attachment.

### **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**

September 15, 2006 Through March 15, 2007

### **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.