

Amphenol

Electrical Performance RF Report

UT F3000

(WLAN Single Band/Stubby Antenna)

2005-09-28

Project: UT F3000		Author: Scott	File Name: UT F3000-RF_B.doc
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Revision History

Date	Revision	Description of Changes
2005-09-22	TA	After 1 st trial run
2005-09-28	TB	Change matching circuit

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1 Technical Summary

This report summarizes the electrical results of the proposed stubby antenna to support the UT F3000 program.

2 General Description

2.1 Definitions

VSWR: Voltage Standing Wave Rate

3 Mechanical Description



4 Electrical Performance

4.1 Set-up

4.1.1 VSWR

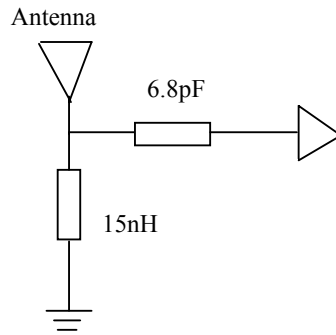
VSWR measurements (S11) were performed using an Agilent E5070B Network Analyzer and the previously described test fixture. Coaxial chokes were used to mitigate surface currents on the outside of the cabling. The testing was performed in free space.

4.1.2 Gain & Radiation Patterns

The gain of the antenna was measured in the Amphenol Shanghai Airwave anechoic chamber. Coaxial chokes on the feed cable were used to mitigate surface currents. The chamber provides less than -30 dB reflectivity from 800 MHz through 3 GHz and an 18" diameter spherical quiet zone. The measurement results are calibrated using both dipole and leaky wave horn standards.

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4.1.3 Matching Circuit Description



Matching circuit

4.2 Measurement Data

4.2.1 VSWR

Frequency	2400MHz	2450MHz	2500MHz
Flip open	1.1	1.2	1.2
Flip closed	1.7	1.8	1.8

4.2.2 Gain

Open

Frequency	2400MHz	2450MHz	2500MHz
E1 Plane	3.02	3.19	3.37
E2 Plane	0.14	0.37	0.57
H Plane	1.36	1.36	1.28

Closed

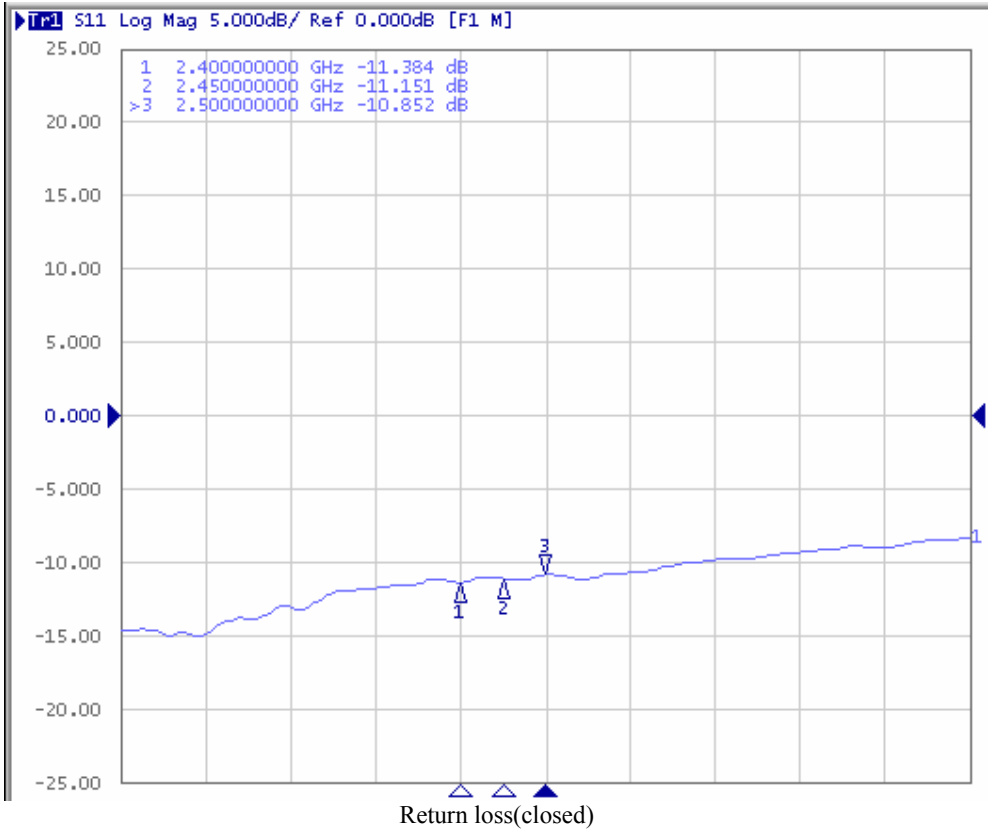
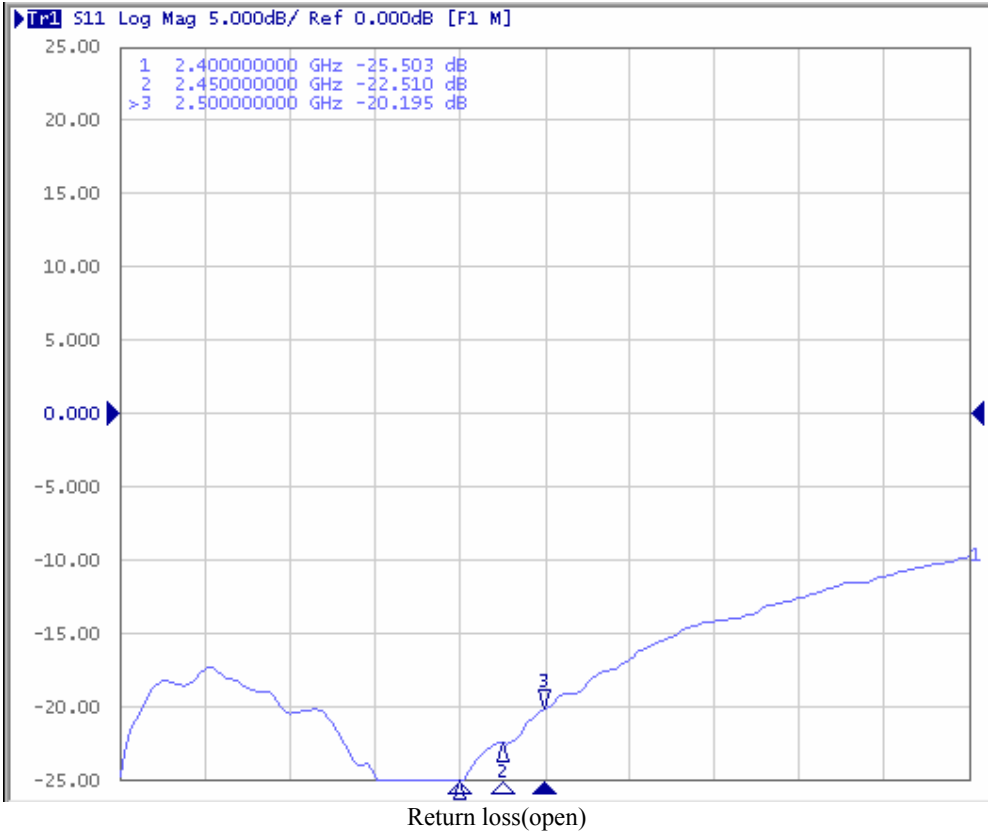
Frequency	2400MHz	2450MHz	2500MHz
E1 Plane	-0.05	0.28	0.63
E2 Plane	0.06	0.40	0.44
H Plane	0.54	0.65	0.81

4.2.3 Efficiency

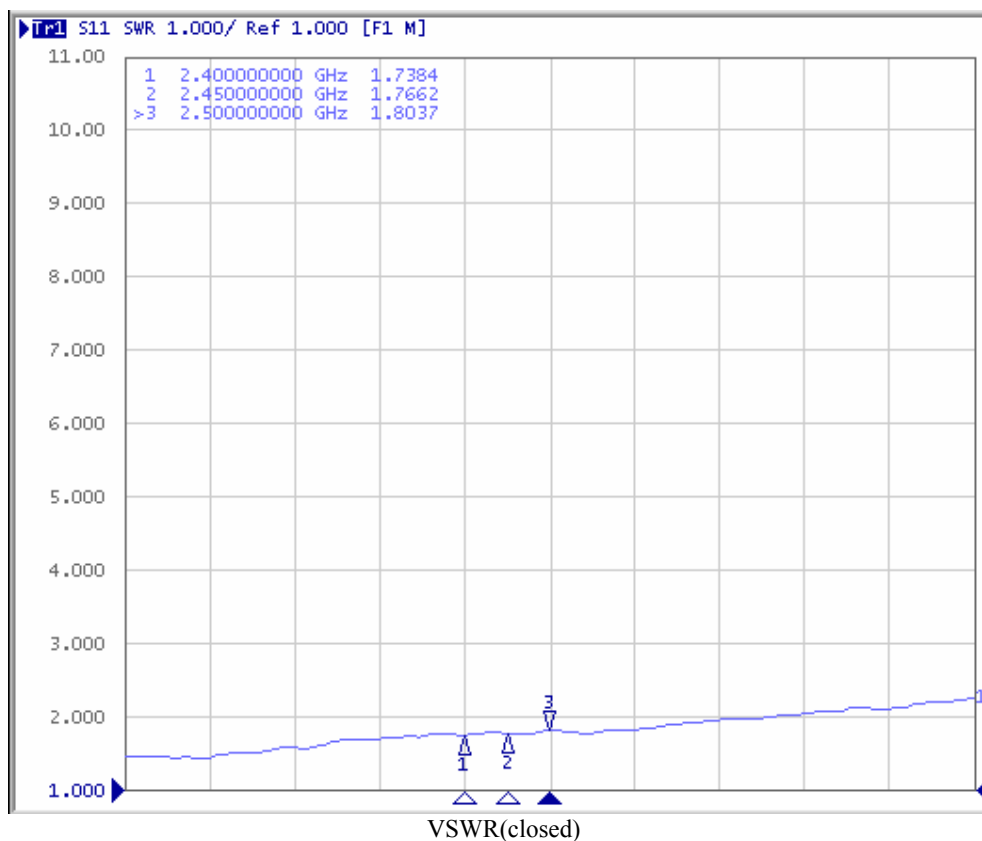
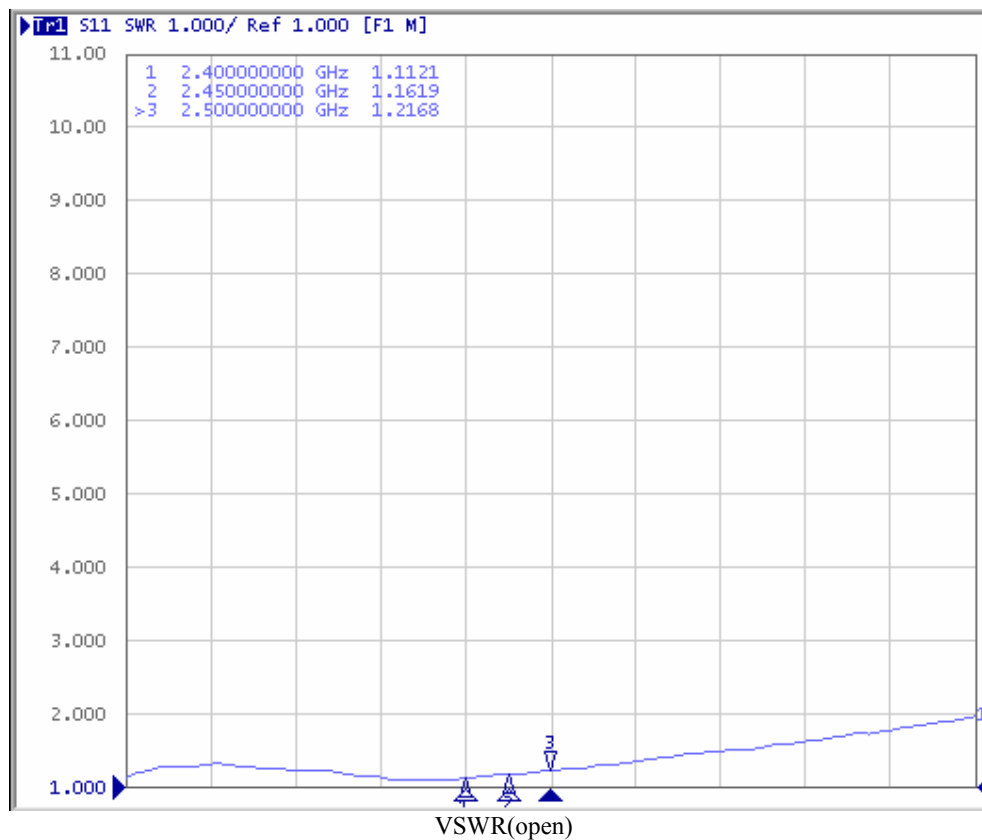
Frequency	2400MHz	2450MHz	2500MHz
Flip open	75%	77%	78%
Flip closed	65%	67%	69%

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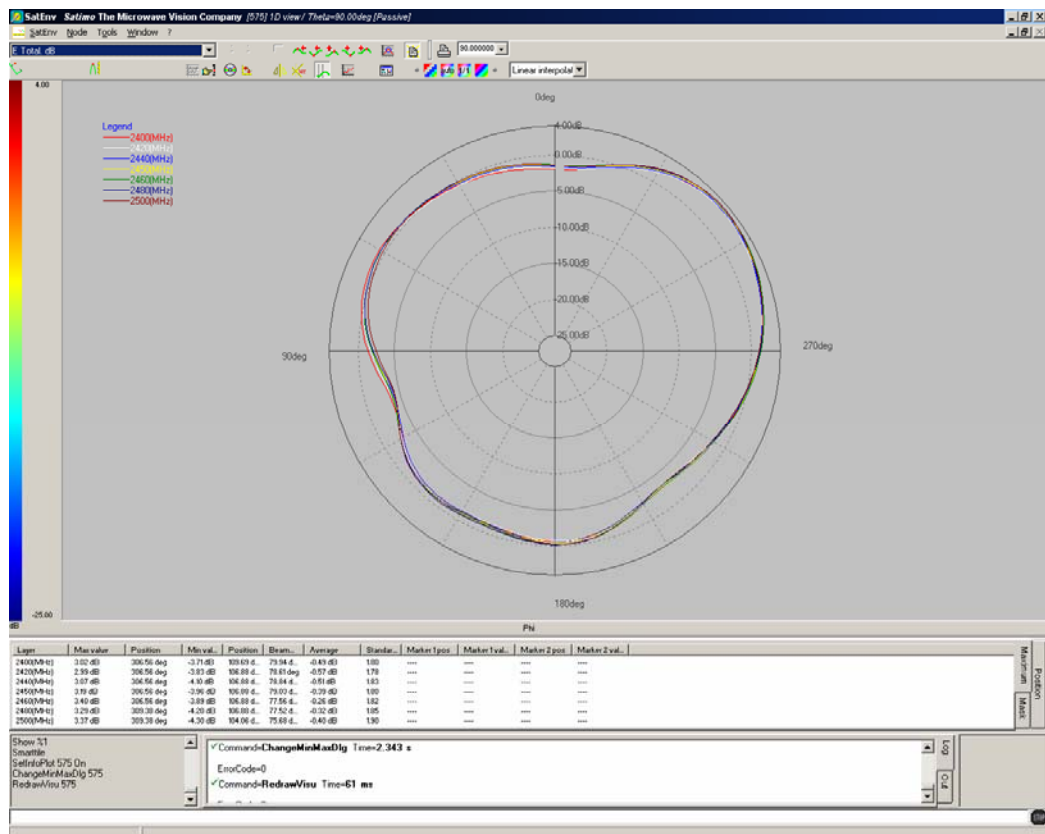
Plots



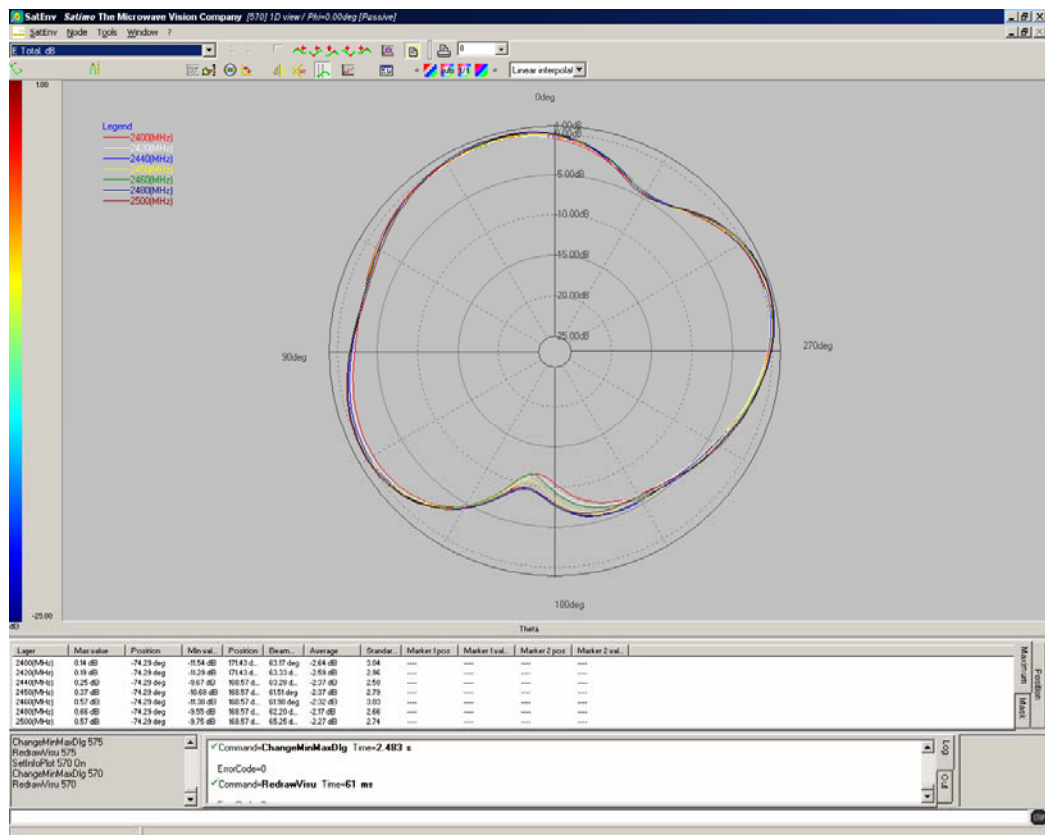
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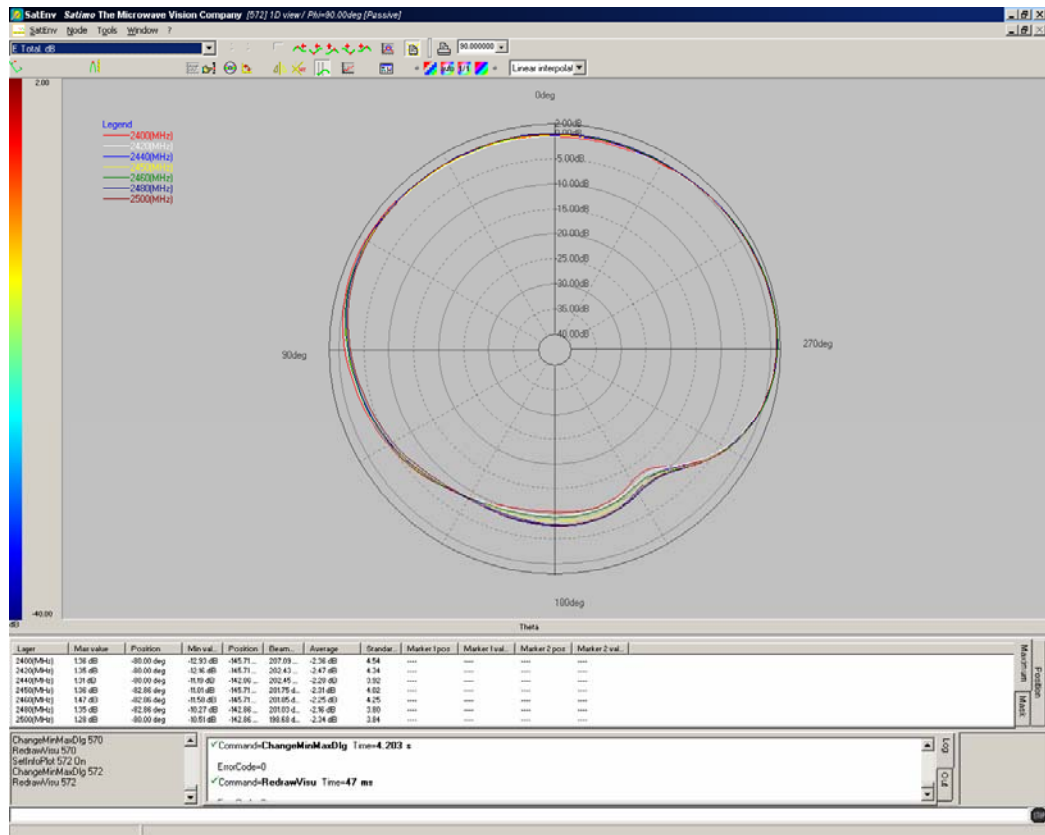


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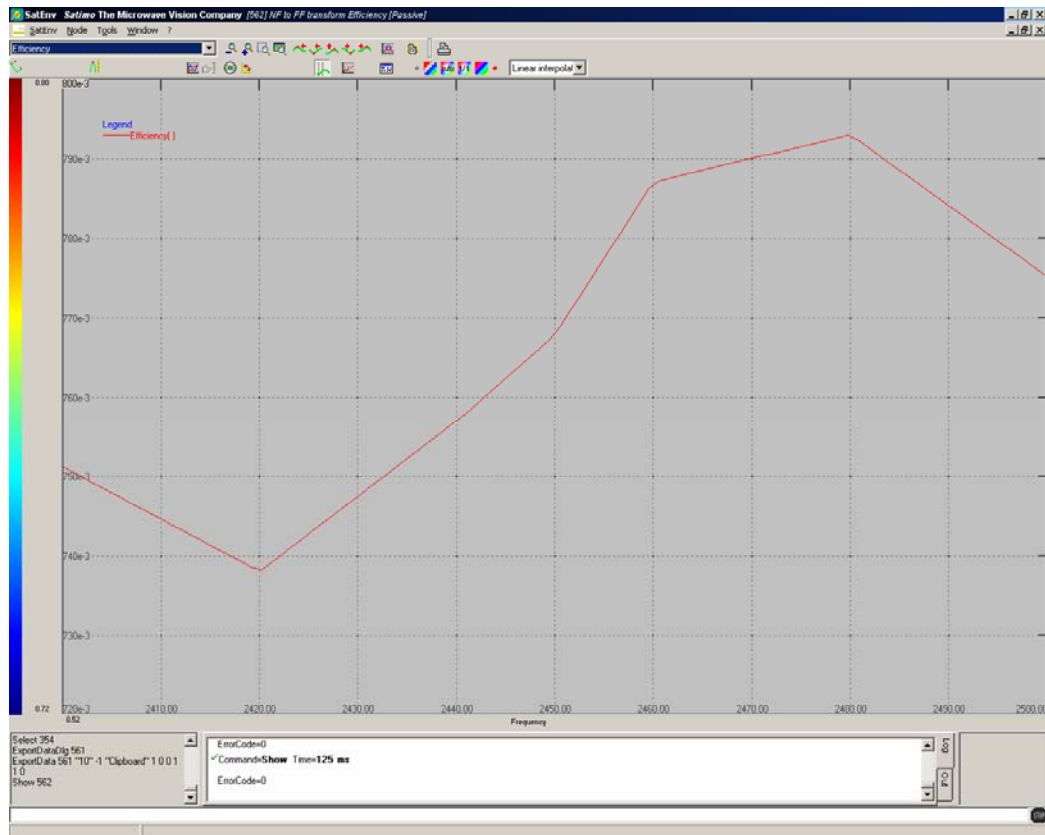


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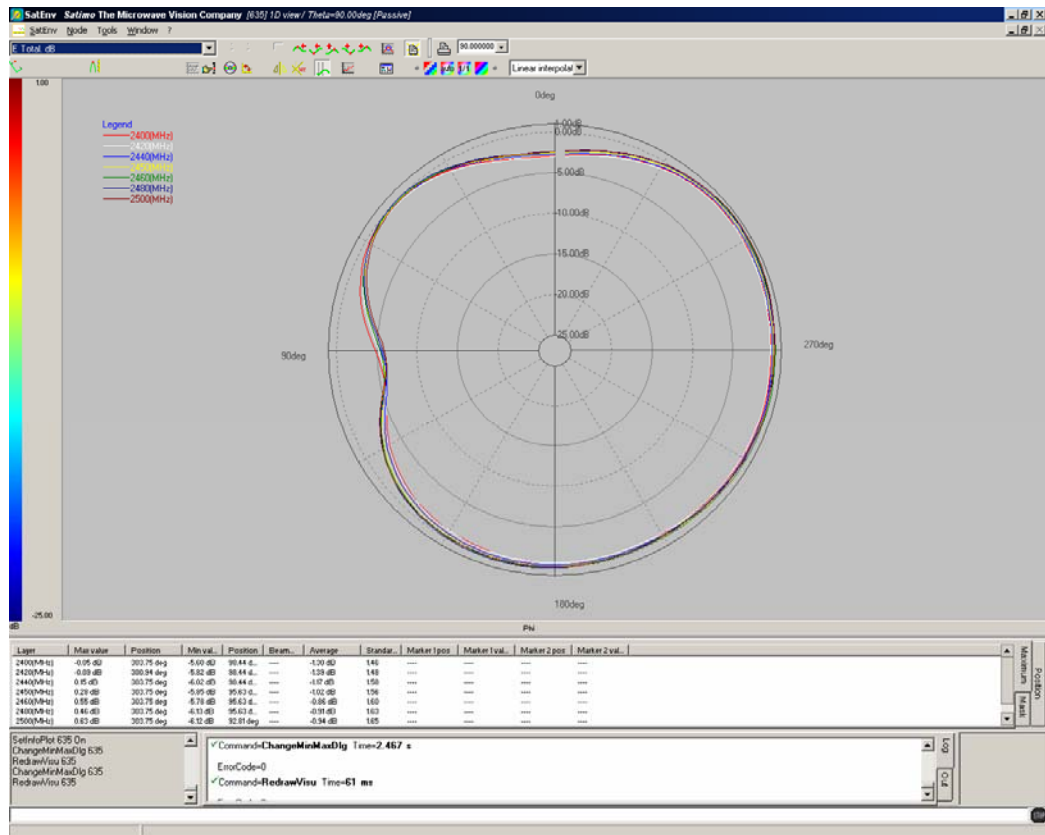


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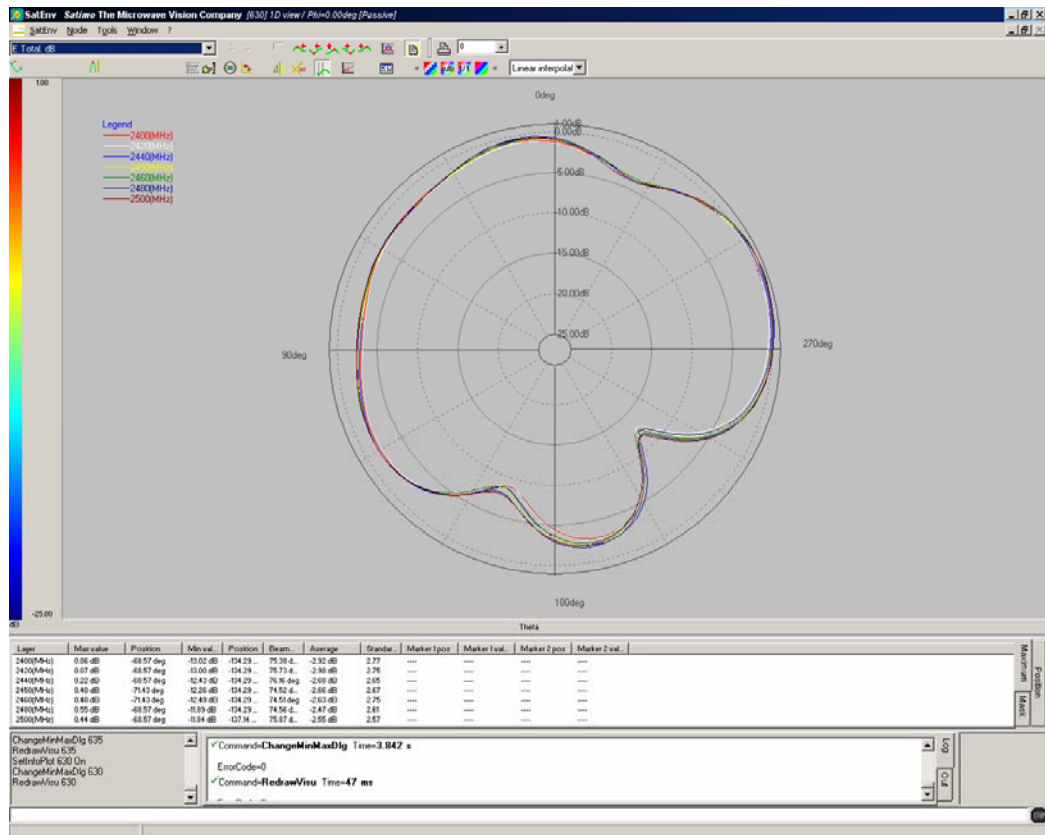


Efficiency(open)

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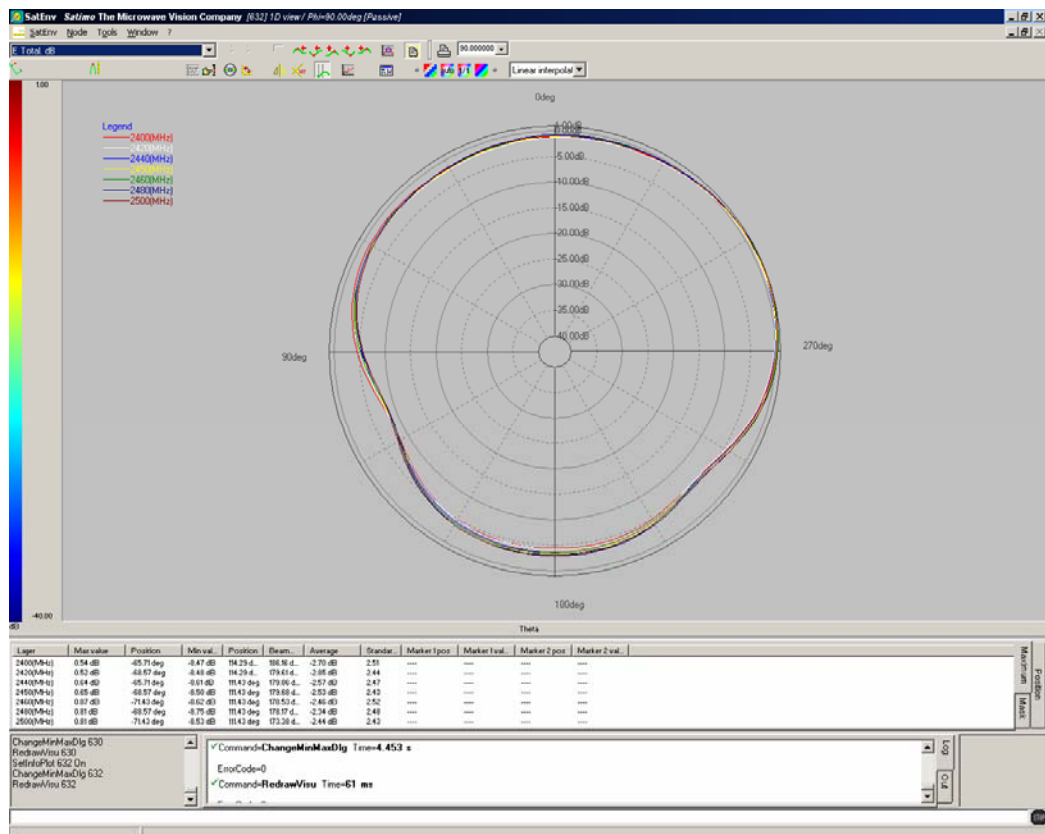


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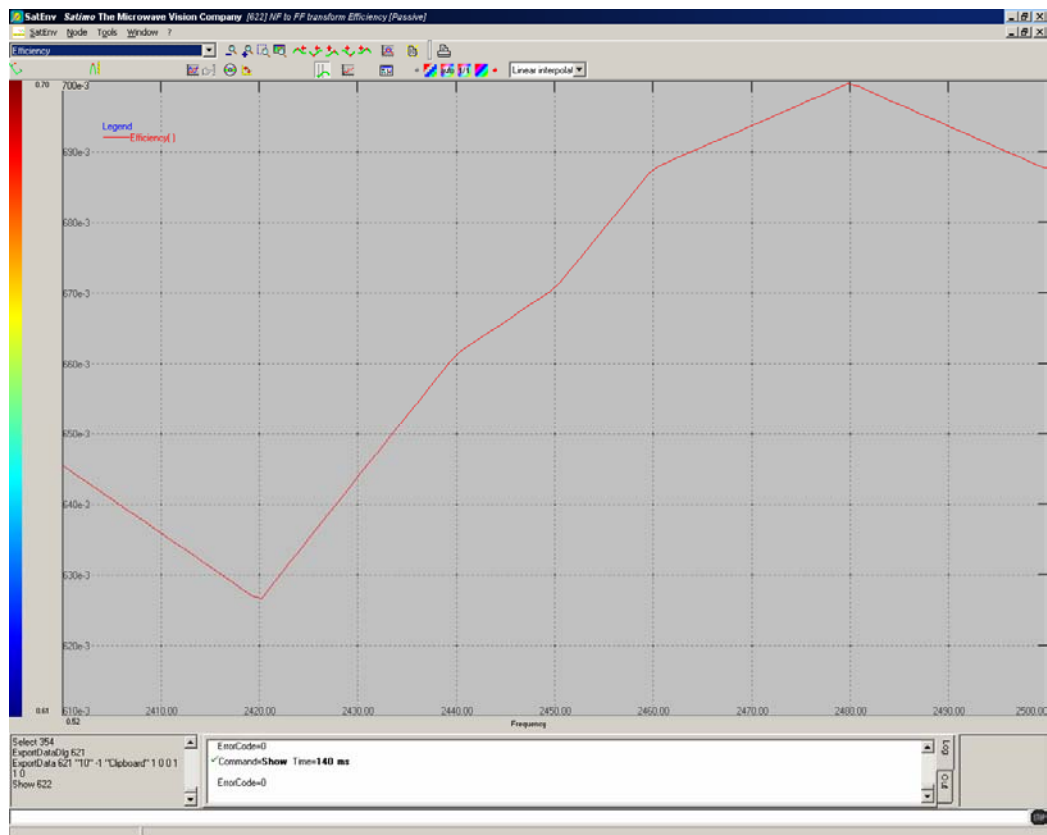


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H(closed)



Efficiency(closed)

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