LXE
VM1 System

VM1 Bluetooth SMD Antenna Measurement Report (DVT3)

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Signature Sheet

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Revision History

Item	Description Changes	Latest update date	Prepared By
1	Ver01, First Draft Version	16 Feb 2011	Tan Huang Fong
2	Changed Chip Antenna to SMD Antenna	27 Sep 2011	Tan Huan Fong
3	Added Peak Gain Table	27 Sep 2011	Tan Huan Fong

Table of Content

1. INTRODUCTION

The following report describes the results for the Smd Chip Bluetooth Antenna for the VM1 DVT3 Terminal. The test is based on the Section 1 of the RF Hardware Validation Test Plan Version 1.0. The Antenna 2D Radiation Plots measurement is being performed in the Full Anechoic Chamber.

2. BLUETOOTH SMD ANTENNA

Figure 1 shows the Bluetooth SMD Antenna used for LXE VM1 DVT3 Terminal. Figure 2 shows test setup for the Antenna Return Loss measurement and Figure 3 shows the Return Loss of the Bluetooth Printed Antenna with the matching components.

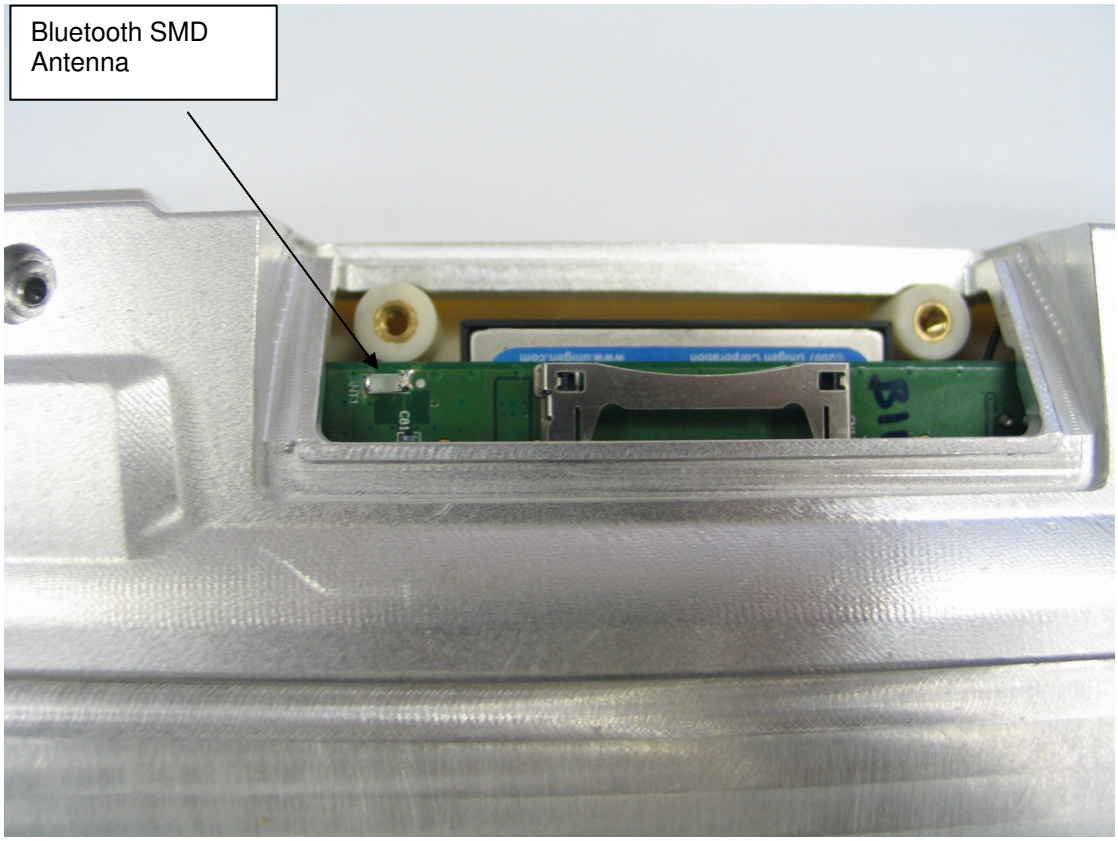

Figure 1 Bluetooth SMD Antenna

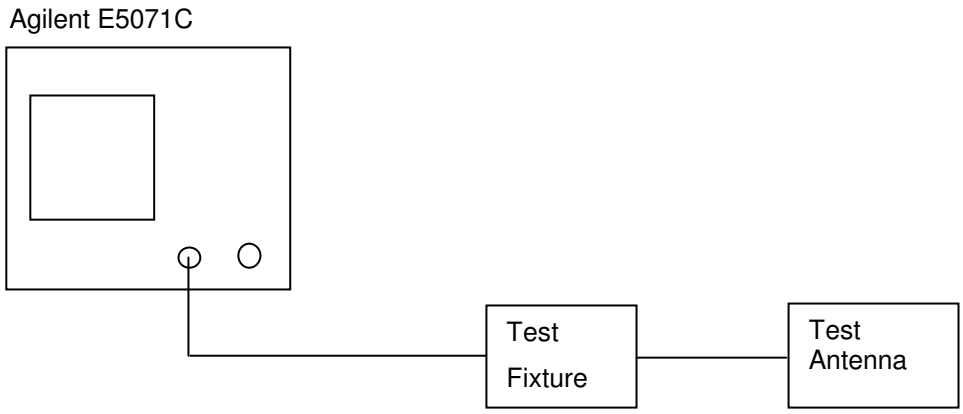

Figure 2 Return Loss Test Setup

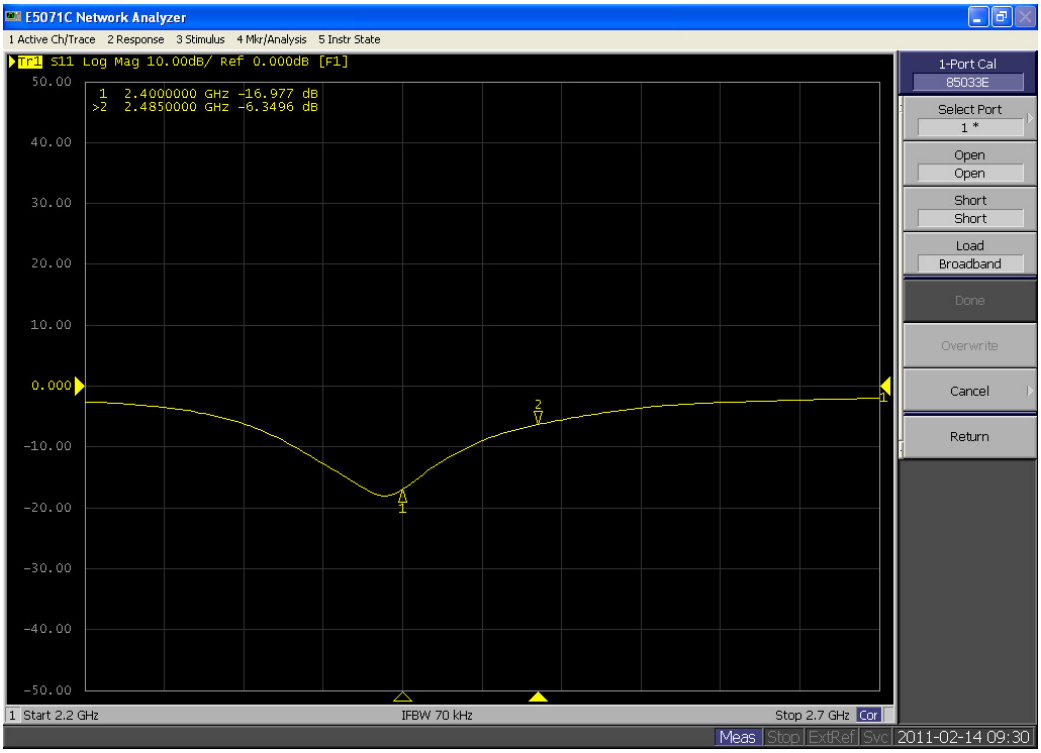

Figure 3 Return Loss of Bluetooth Printed Antenna

Figure 4 to 6 describes the definition of the various plane cut for the Antenna measurement.

Figure 4 Definition of various H- Plane Cut

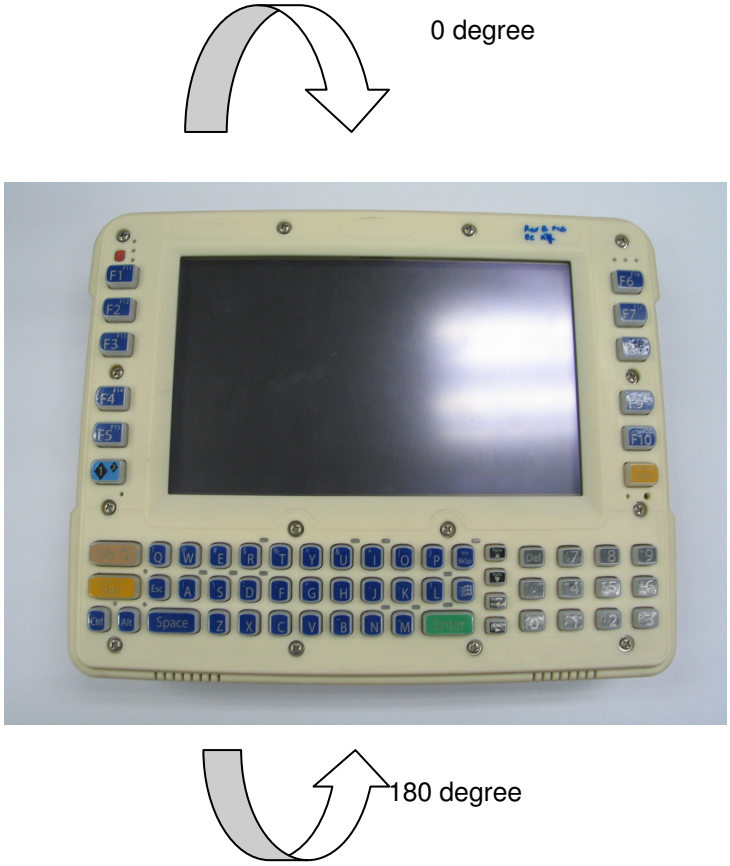

Figure 5 Definition of various E1 Plane Cut

Figure 6 Definition of various E2 Plane Cut

Figure 7 shows the setup of the Full Anechoic Chamber used for the Antenna Measurement.

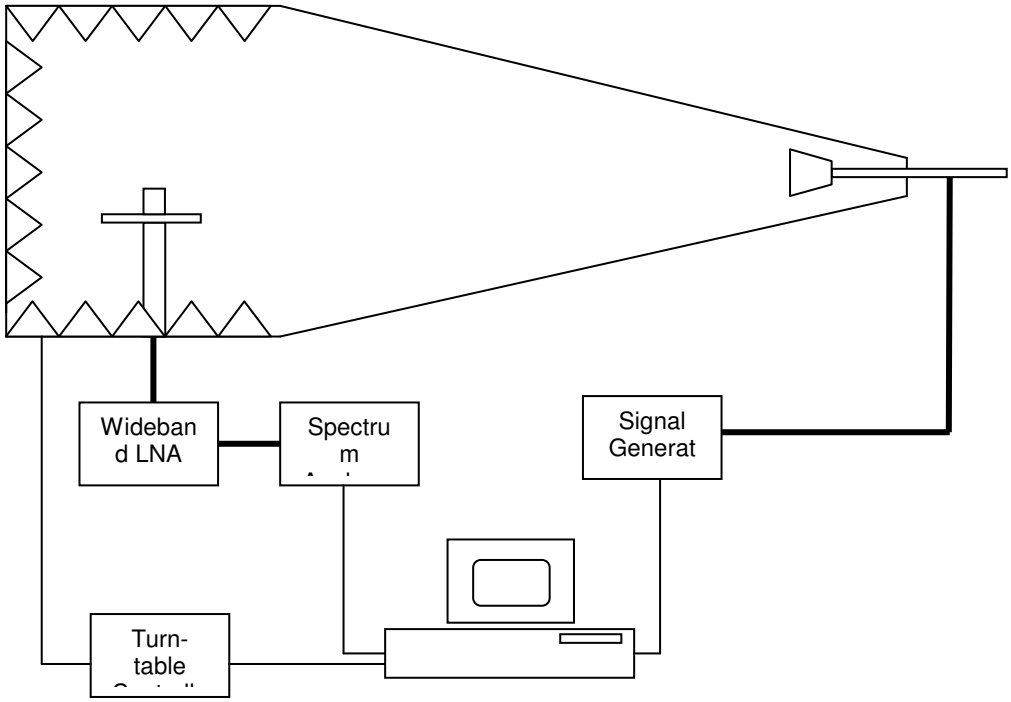

Figure 7 Anechoic Chamber Setup

Figure 8 shows the interior view of the Full Anechoic Chamber.

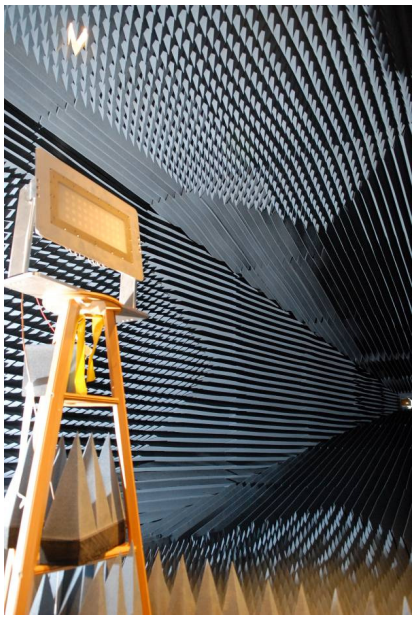

Figure 8 Interior View of the Full Anechoic Chamber

3. BLUETOOTH SMD CHIP ANTENNA RADIATION PLOTS

The following plots describe the 2D Radiation pattern for Bluetooth SMD Antenna as used for the VM1 DVT3 Terminal.

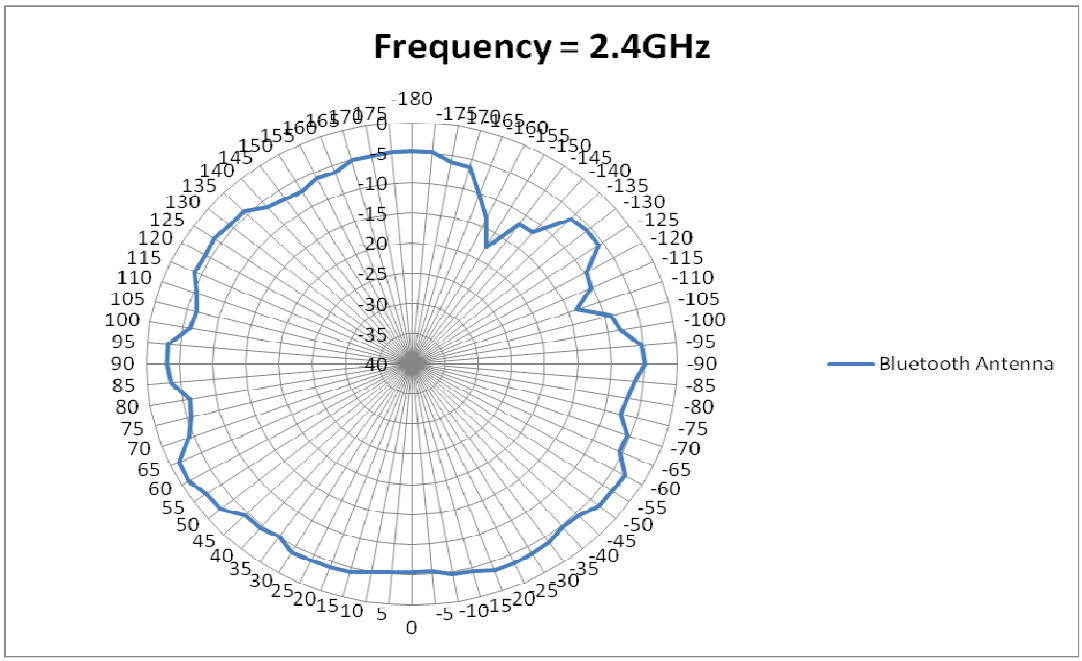

Figure 9 Radiation Plots for 2.400GHz (H-Plane)

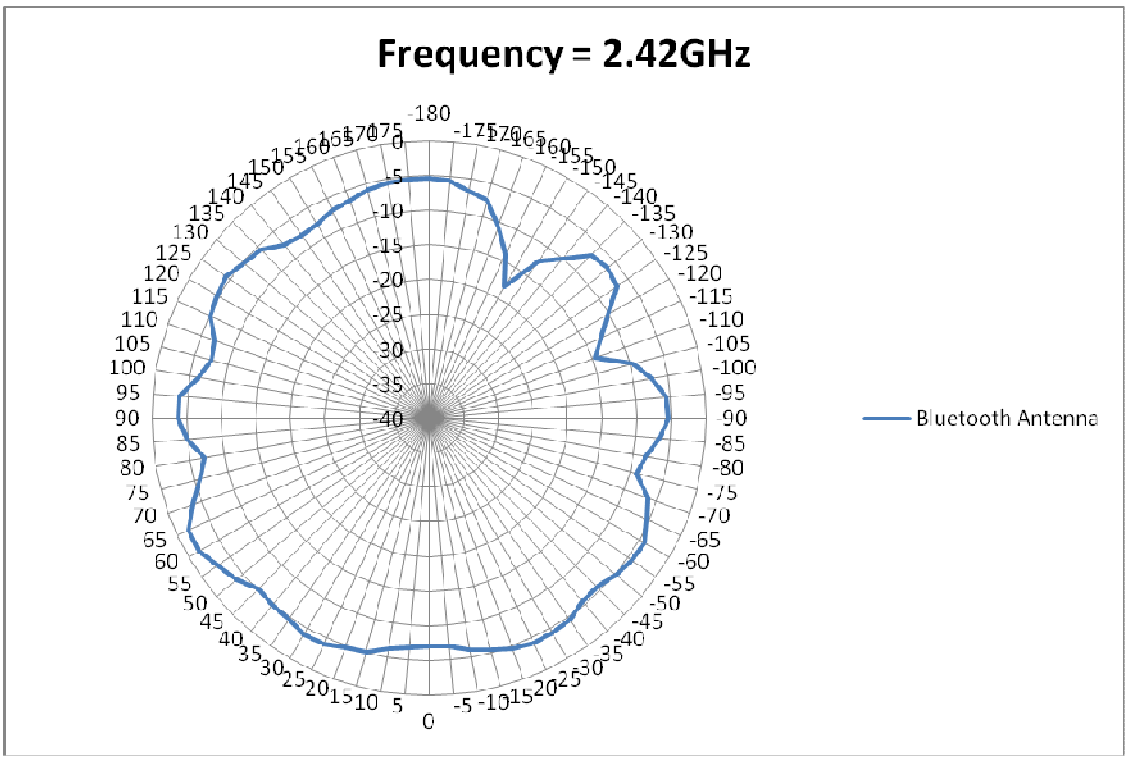

Figure 10 Radiation Plots for 2.420GHz (H-Plane)

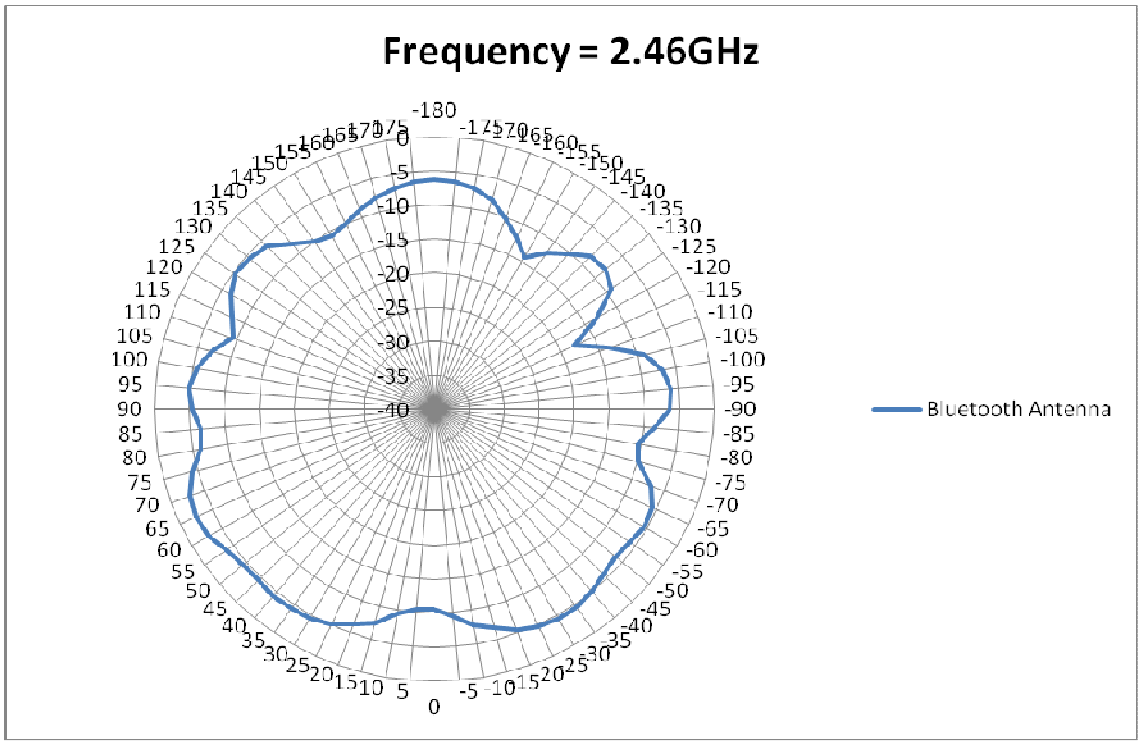

Figure 11 Radiation Plots for 2.460GHz (H-Plane)

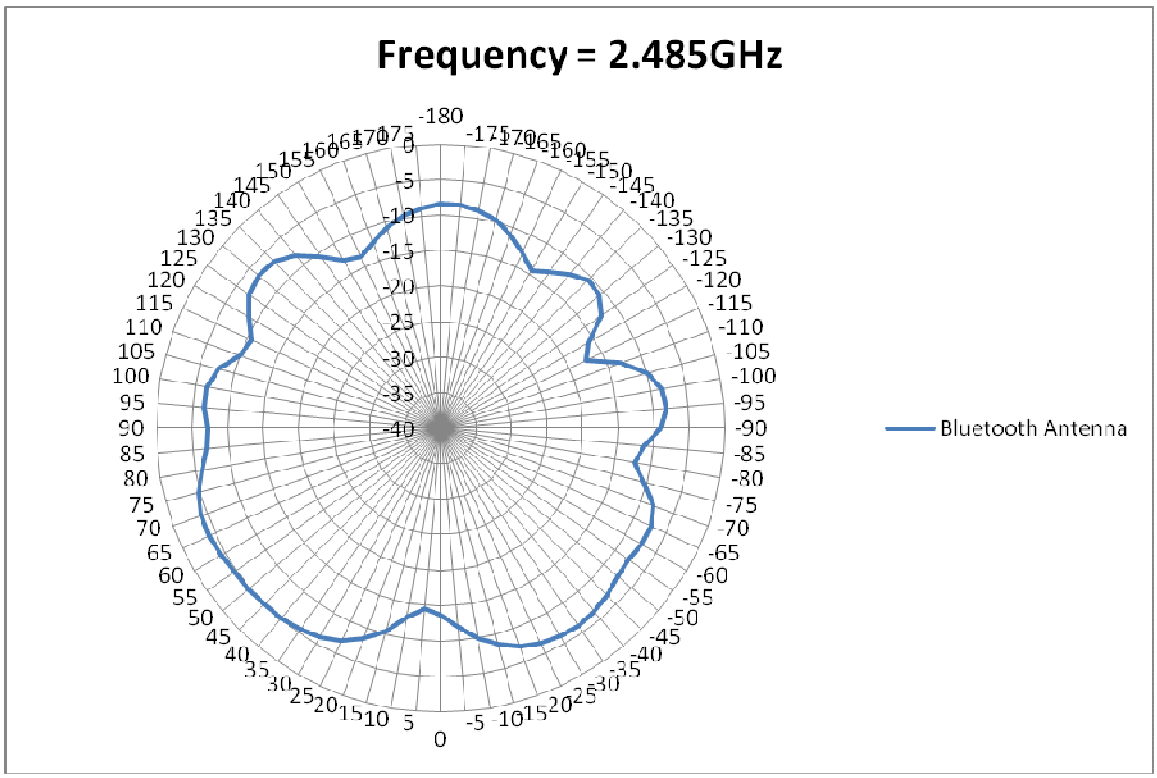

Figure 12 Radiation Plots for 2.485GHz (H-Plane)

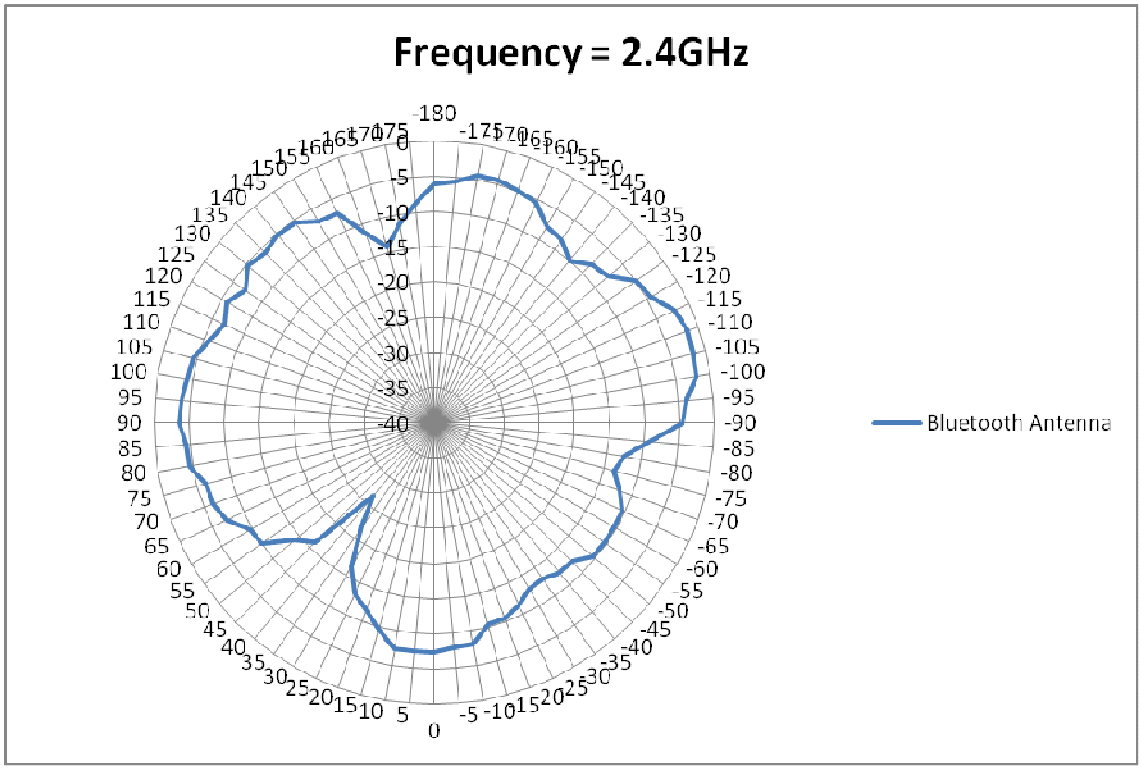

Figure 13 Radiation Plots for 2.400GHz (E1-Plane)

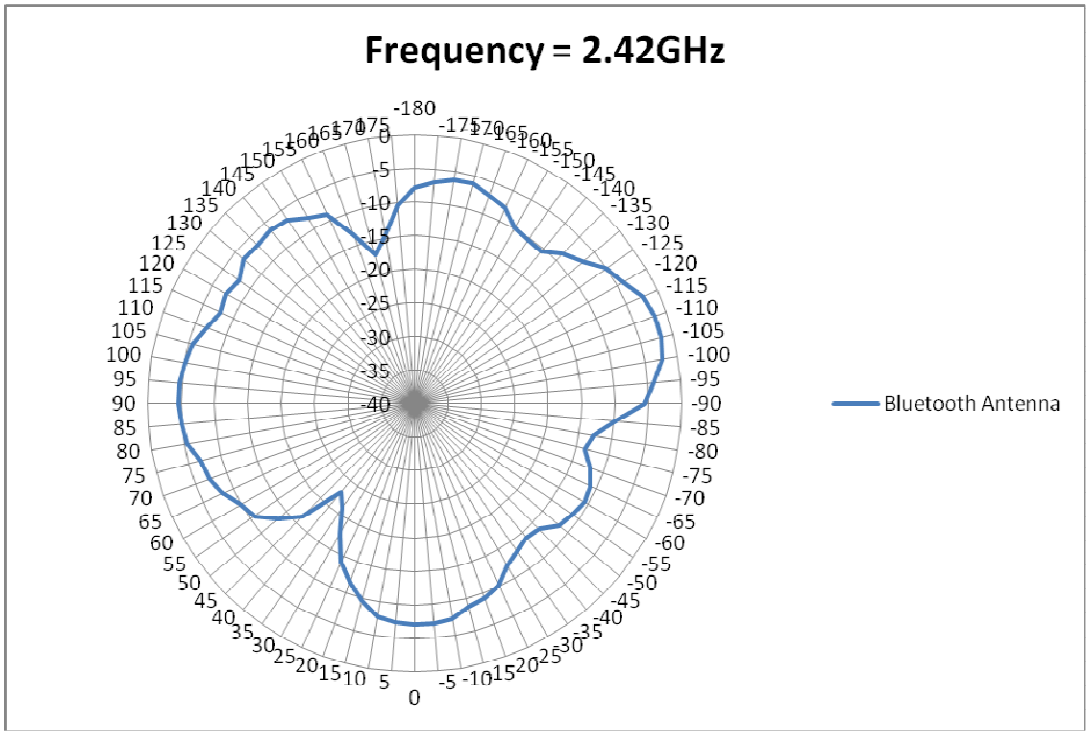

Figure 14 Radiation Plots for 2.420GHz (E1-Plane)

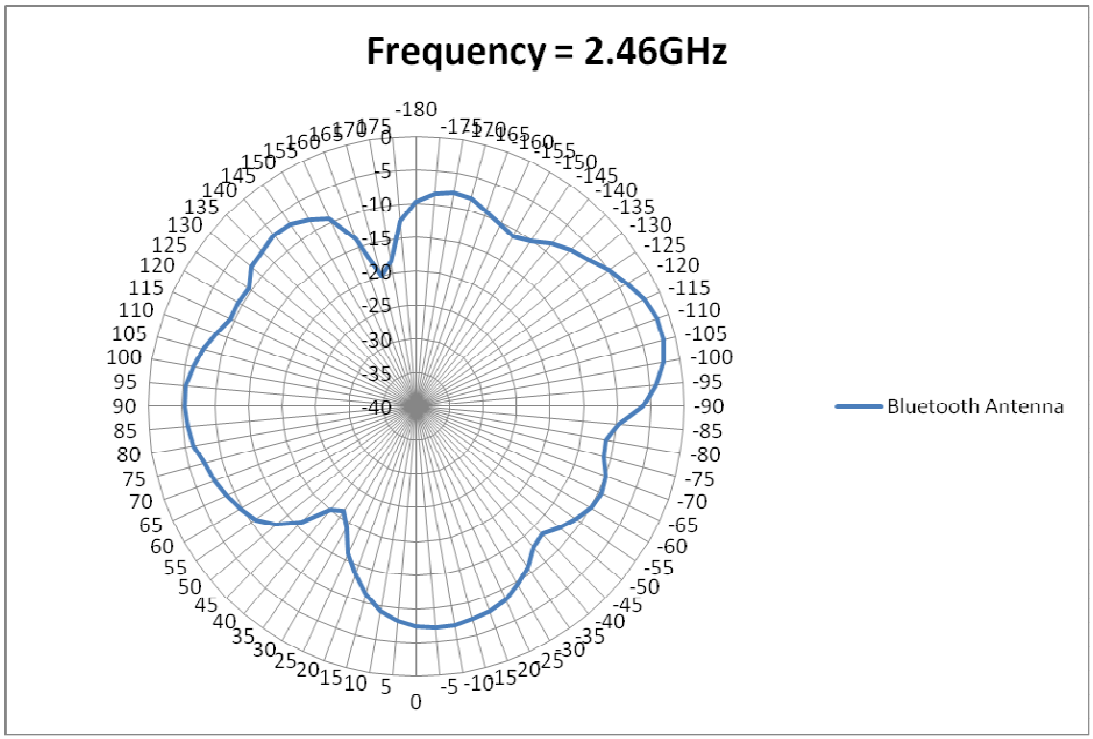

Figure 15 Radiation Plots for 2.460GHz (E1-Plane)

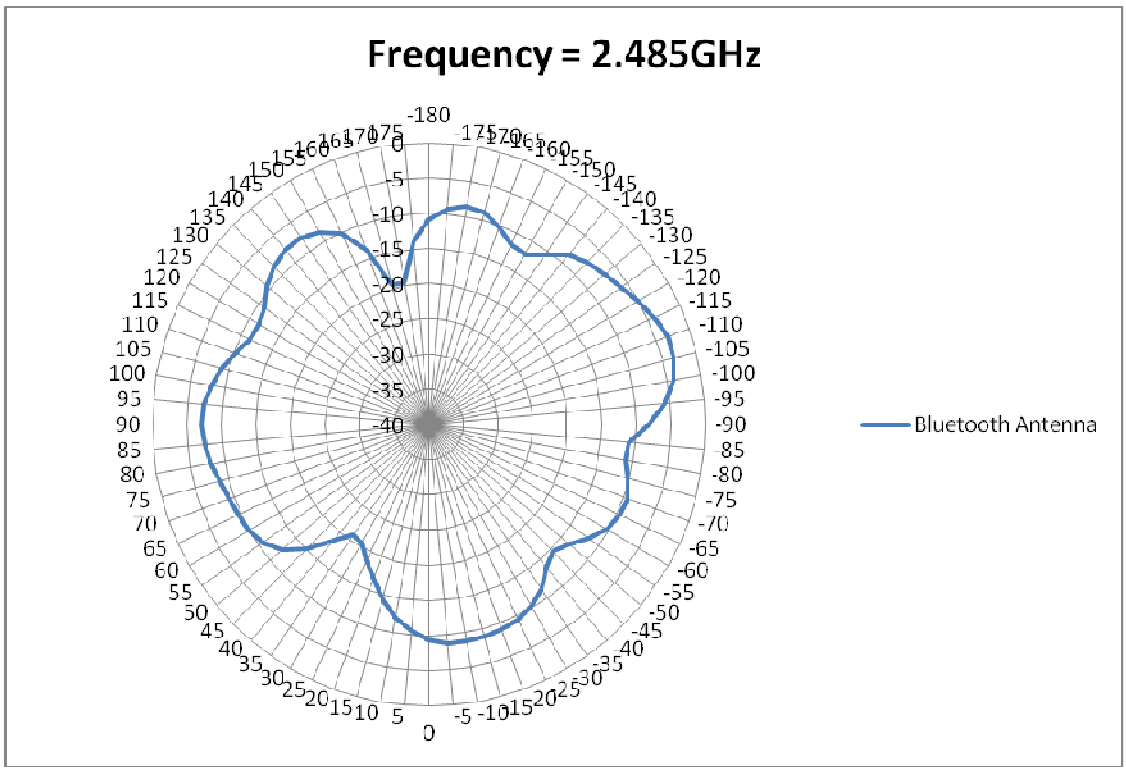

Figure 16 Radiation Plots for 2.485GHz (E1-Plane)

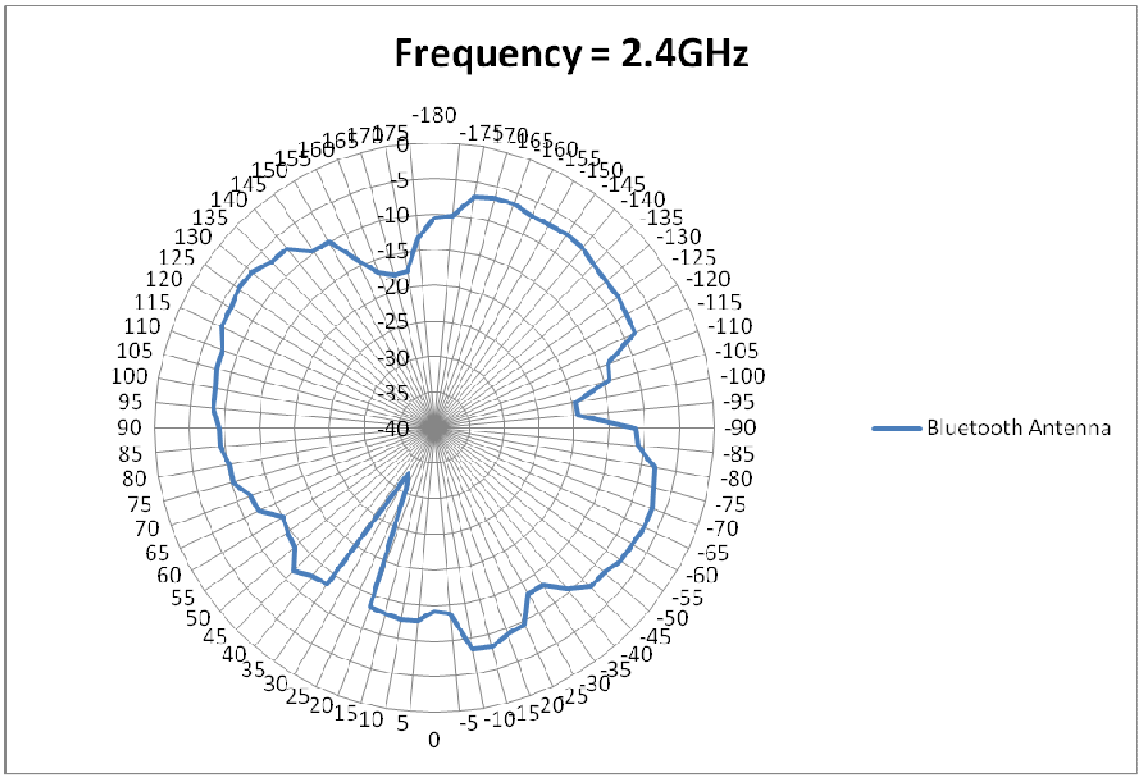

Figure 17 Radiation Plots for 2.400GHz (E2-Plane)

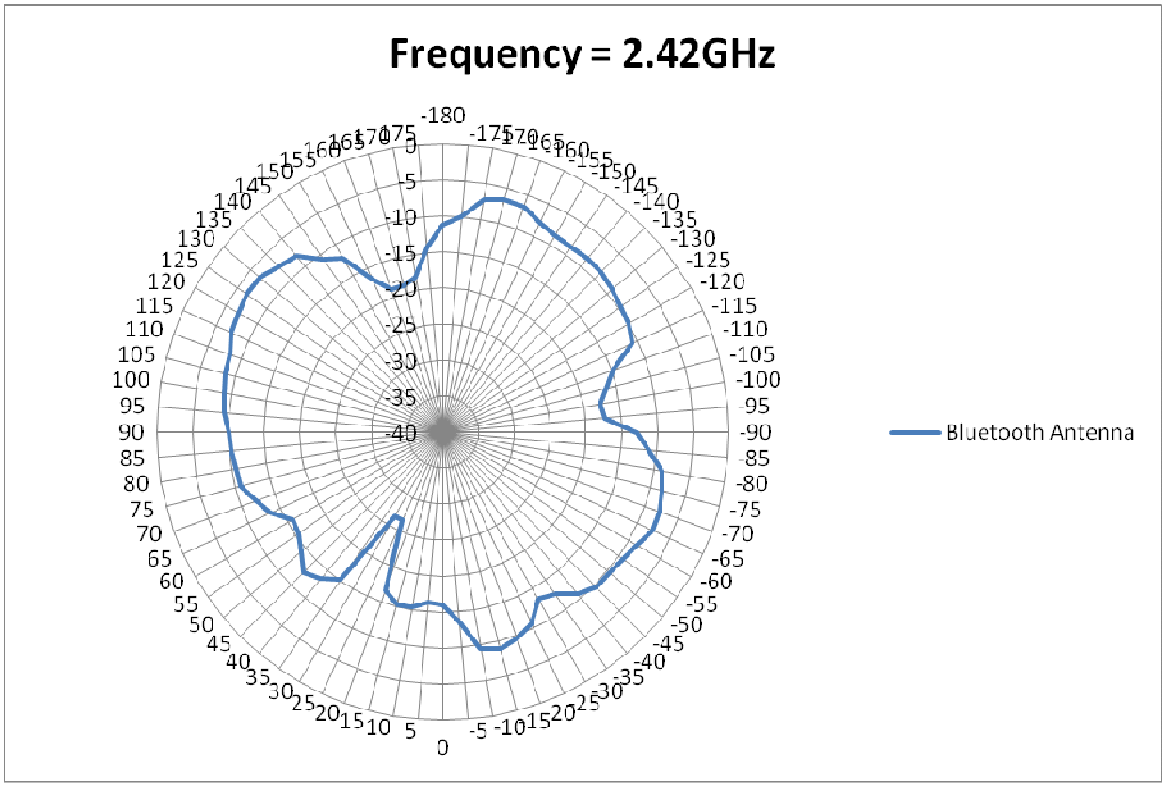

Figure 18 Radiation Plots for 2.420GHz (E2-Plane)

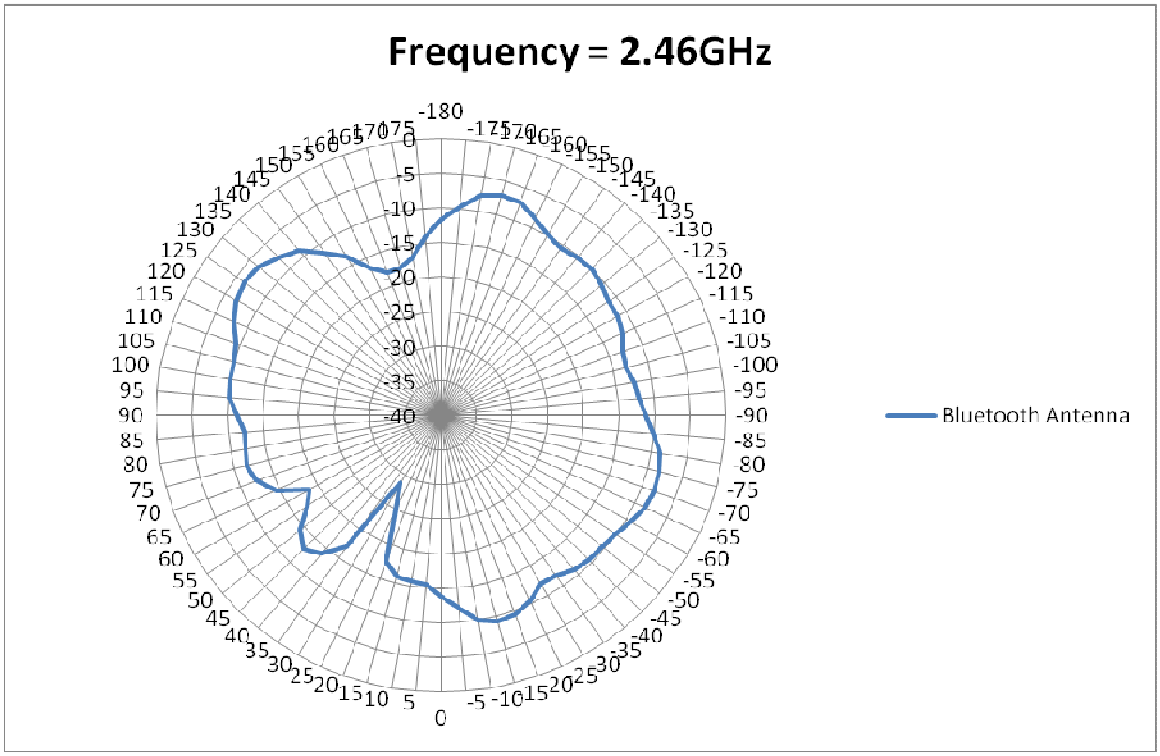

Figure 19 Radiation Plots for 2.460GHz (E2-Plane)

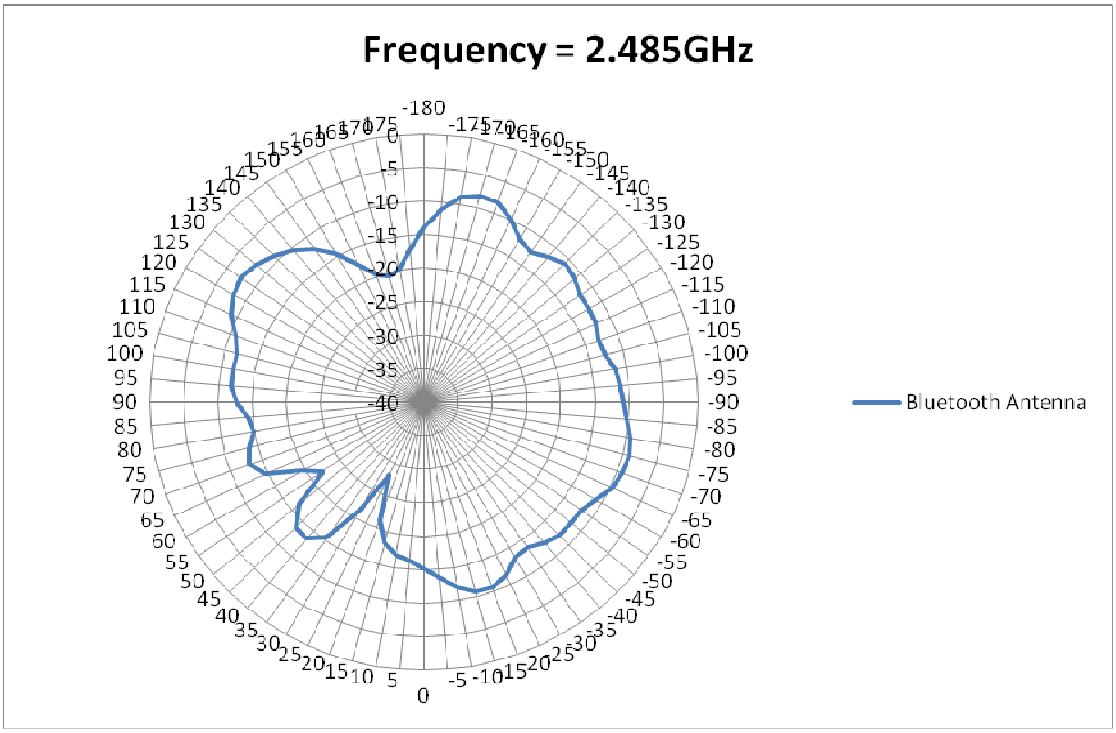

Figure 20 Radiation Plots for 2.485GHz (E2-Plane)

The following Plots shall describe the peak gain of the antenna for various planes with respect to frequency.

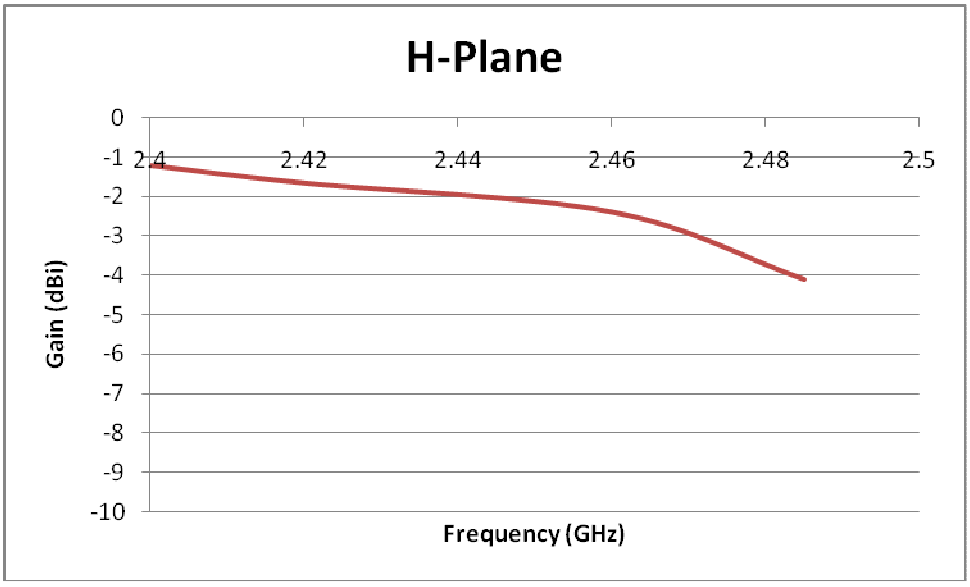

Figure 21 Peak Gain for Bluetooth SMD Antenna (H-Plane)

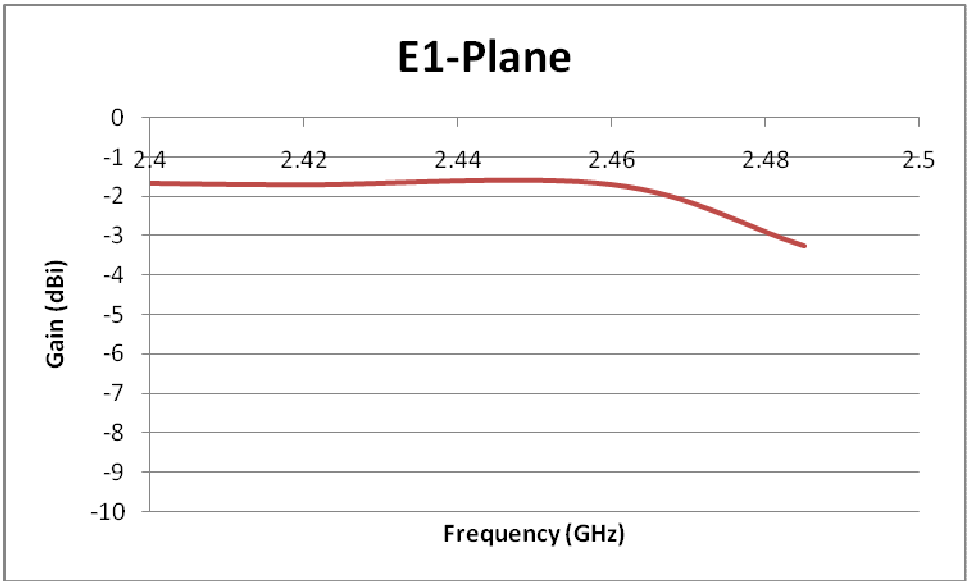

Figure 22 Peak Gain for Bluetooth SMD Antenna (E1-Plane)

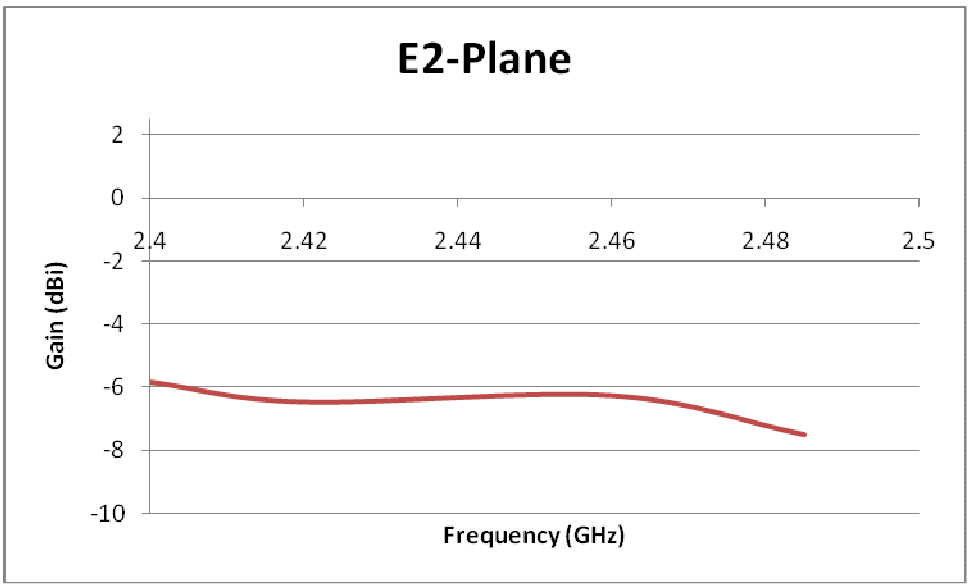

Figure 23 Peak Gain for Bluetooth SMD Antenna (E2-Plane)

	2.4GHz	2.42GHz	2.46GHz	2.485GHz
H-Plane	-1.20dBi	-1.65dBi	-2.39dBi	-4.12dBi
E1-Plane	-1.67dBi	-1.71dBi	-1.70dBi	-3.24dBi
E2-Plane	-5.85dBi	-6.48dBi	-6.28dBi	-7.51dBi

Table 1 Peak Gain for Bluetooth SMD Antenna

4. CONCLUSION

The above report describes the optimized radiated performance of the SMD Bluetooth Antenna for VM1 DVT3 Terminal.