Product specification

	Antenna module on the system board	
Frequency	2.45GHz[*1]	
Ant. Port Input Pwr. (dBm)	0 (Typ. BT class 2 output power)	
Tot. Rad. Pwr. (dBm)	-2.3 (Input pwr – loss pwr)	
Peak EIRP(dBm)	1.3	
Directivity (dBi)	1 (all direction antenna)	
Efficiency (dB)	-2.3 (58.5%)	
Gain (dBi)	1.3 (Peak Gain XY-plane)	
Maximum Power (dBm)	1.3 (XY-plane)	
Minimum Power (dBm)	-4(XY-plane)	
Avg. Power (dBm)	-0.5(XY-plane)	
Max/Min Ratio (dB)	5.3(XY-plane)	
Max/Avg Ratio (dB)	1.8(XY-plane)	
Min/Avg Ratio (dB)	-3.5(XY-plane)	
Average Gain (dB)	-0.5 (Avg Gain XY-plane)	

All the technical data and information contained herein are subject to change without prior notice
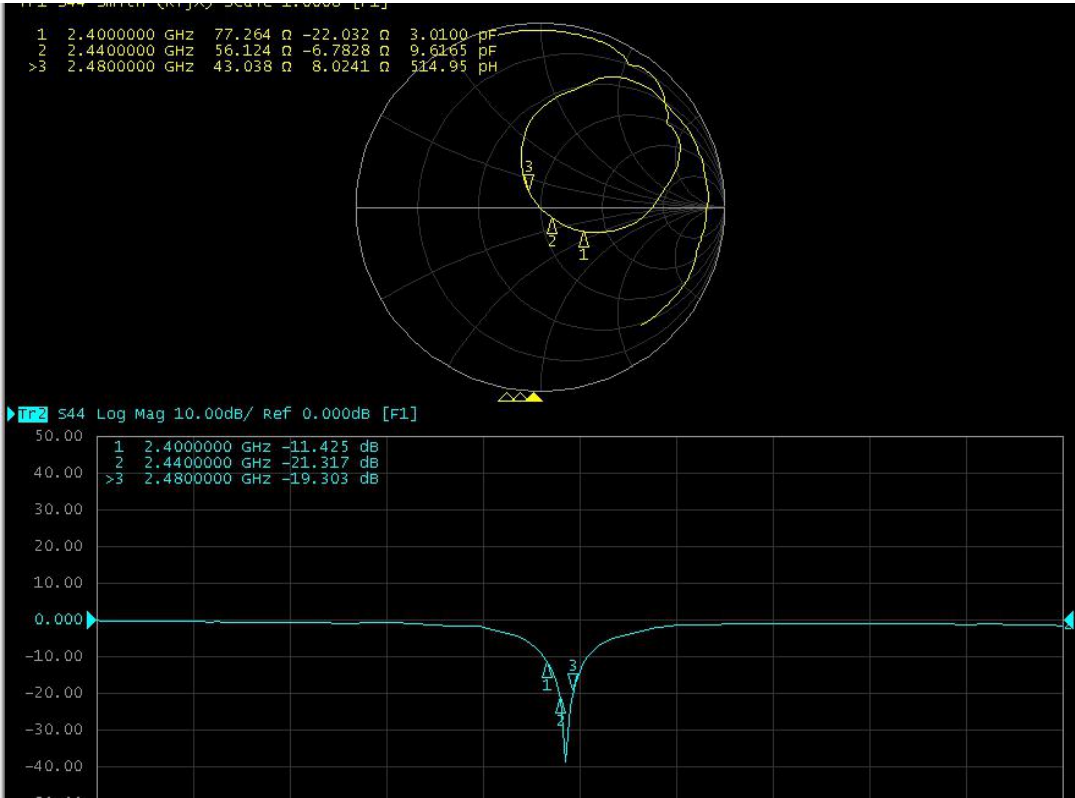
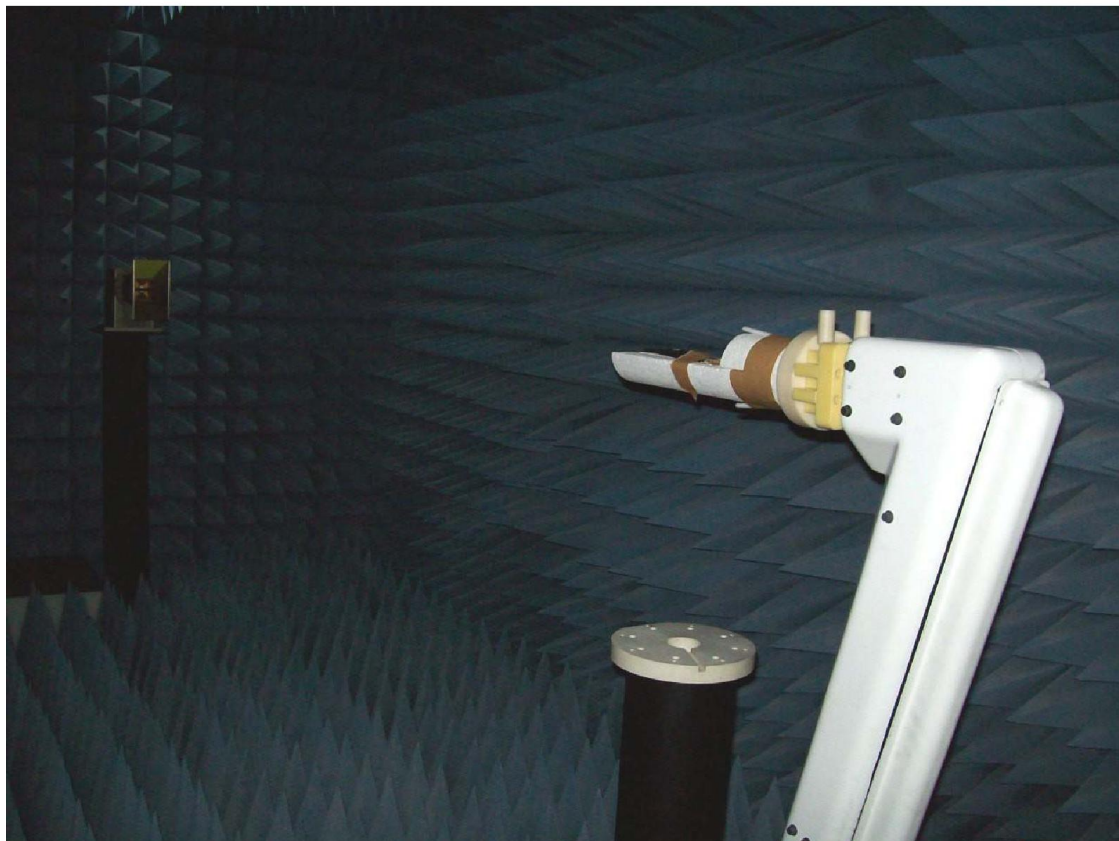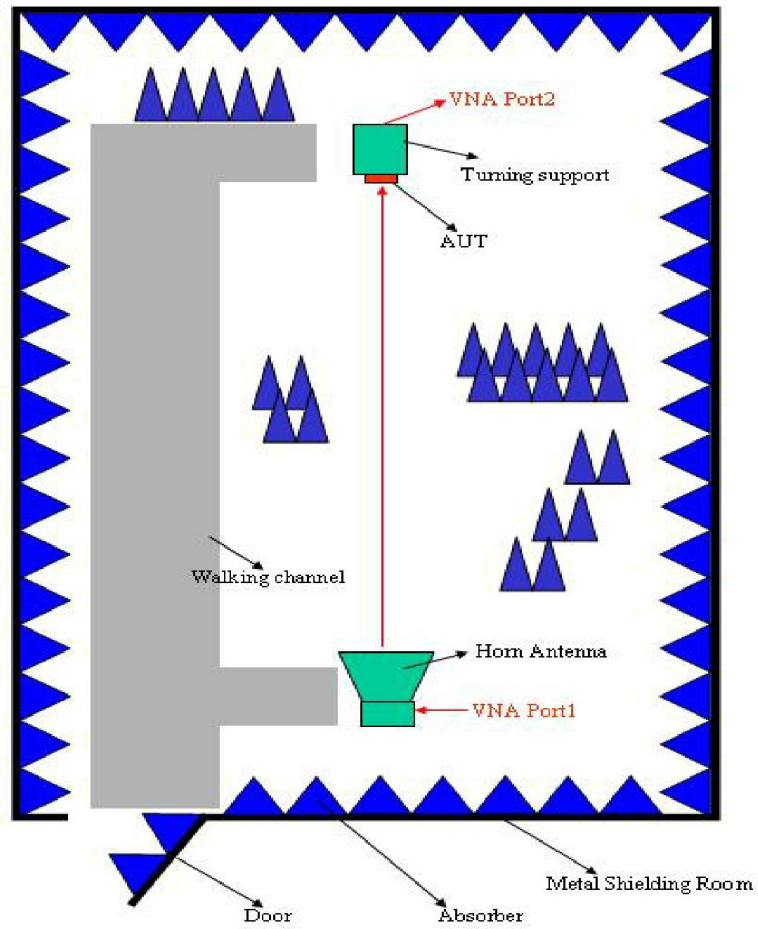## Antenna Layout & module on the system board

Antenna Gain

Gain Table

Unit in dBi @2.44GHz	XY-plane		XZ-plane		YZ-plane		Efficiency
	Peak	Avg.	Peak	Avg.	Peak	Avg.	
Module Board	1.3	-0.5	1.7	-3.8	1.1	-3.0	58.5%

Return Loss

Tr1 S44 Smith (R+jX) Scale 1.000U [F1]

1	2.4000000 GHz	77.264 Ω	−22.032 Ω	3.0100 pF
2	2.4400000 GHz	56.124 Ω	−6.7828 Ω	9.6165 pF
>3	2.4800000 GHz	43.038 Ω	8.0241 Ω	514.95 pH

Tr2 S44 Log Mag 10.00dB/ Ref 0.000dB [F1]

1	2.4000000 GHz	−11.425 dB	
2	2.4400000 GHz	−21.317 dB	
>3	2.4800000 GHz	−19.303 dB	

The Environment of Antenna Radiation Pattern

3D radiation pattern diagram
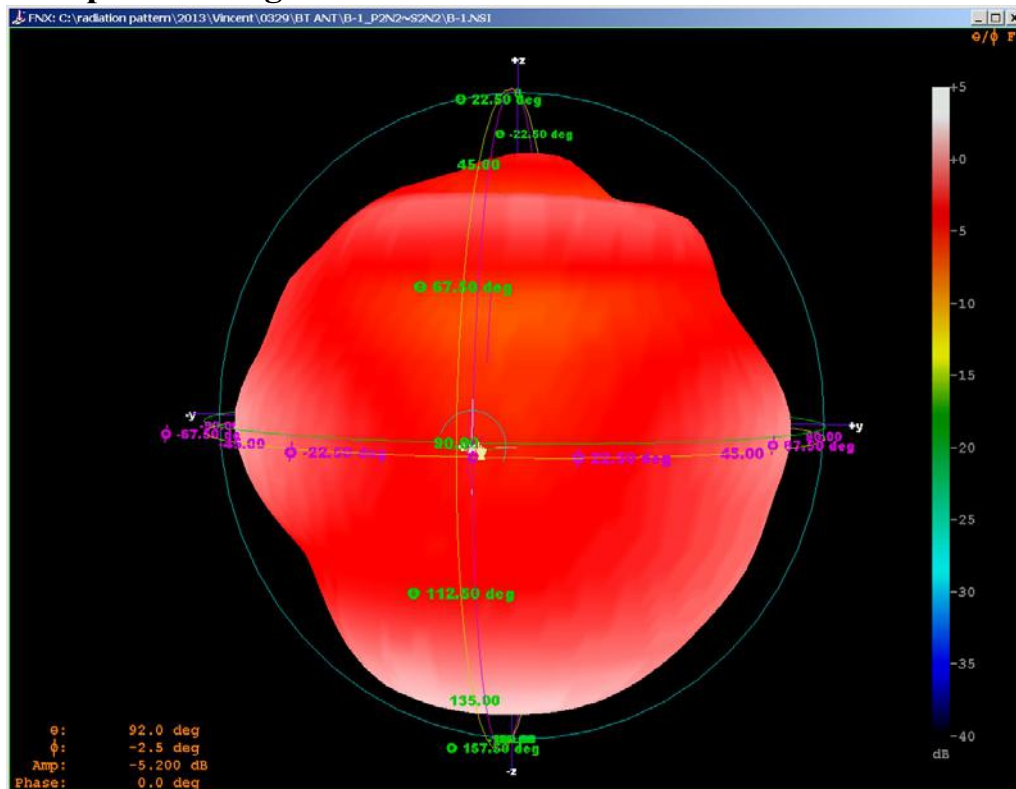
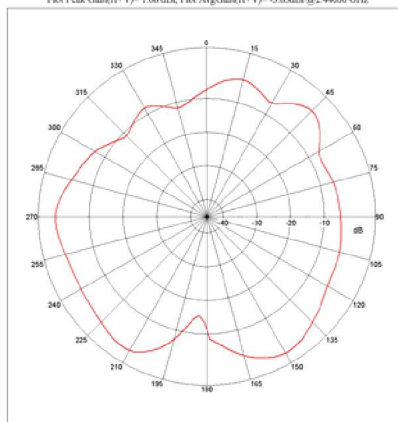| XY-plane	XZ-plane	YZ-plane

Far-field Power Distribution(H+V) on X-Y Plane
Plot Peak Gain(H+V)= 1.35 dBi, Plot AvgGain(H+V)= -0.48dBi @2.44000 GHz

Far-field Power Distribution(H+V) on X-Z Plane
Plot Peak Gain(H+V)= 1.68 dBi, Plot AvgGain(H+V)= -3.83dBi @2.44000 GHz

Far-field Power Distribution(H+V) on Y-Z Plane
Plot Peak Gain(H+V)= 1.11 dBi, Plot AvgGain(H+V)= -2.99dBi @2.44000 GHz