

**Product specification**

**Quick Reference Data**

	Antenna module on the system board	
Antenna type	PCB	
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)	1.7 (Peak Gain X Z-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)	

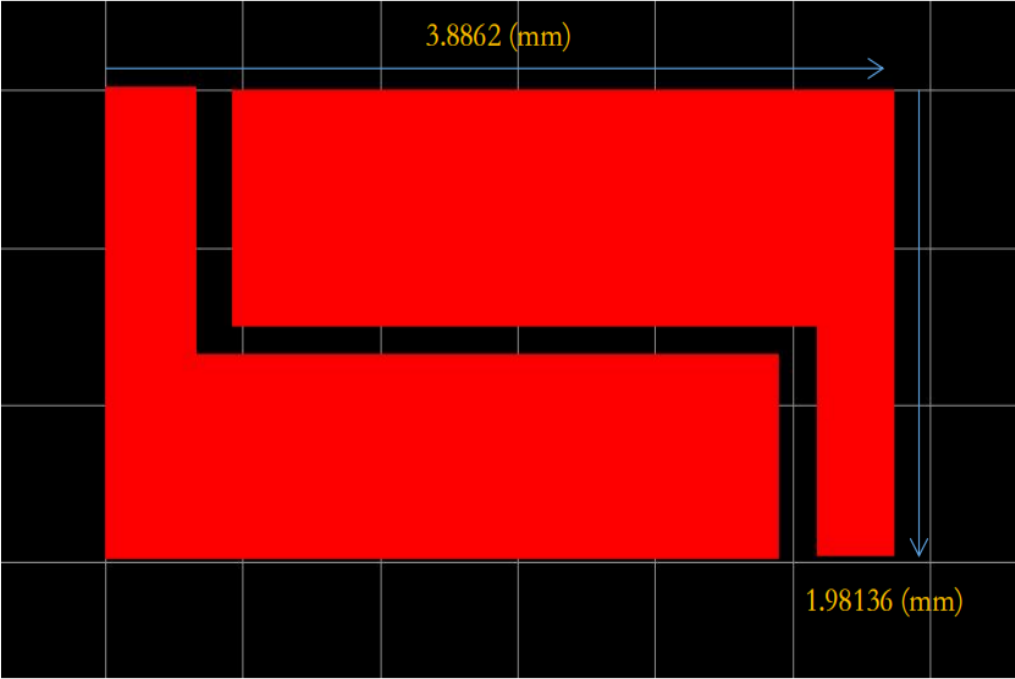
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**Antenna Gain**

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%

UNLESS OTHER SPECIFIED TOLERANCES ON: X=±      X.X=±      X.XX=± A N G L E S = ±      H O L E D I A = ±		江门市永旭电路板有限公司	
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DESIGNED BY: Sera	APPROVED BY: XD		
TITLE: WH-H03		DOCUMENT NO.	SPEC REV. P1

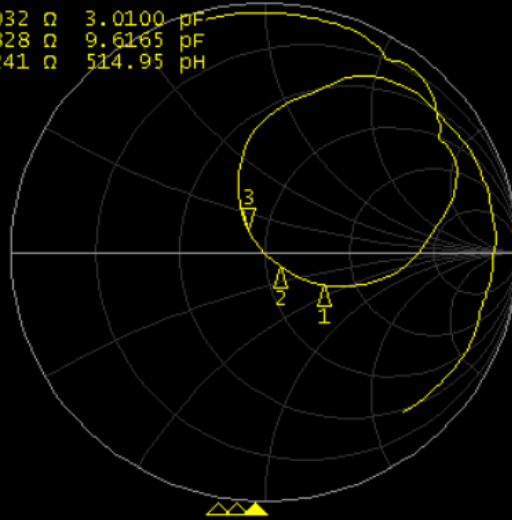
Antenna Layout & module on the system board



UNLESS OTHER SPECIFIED TOLERANCES ON: <b>X=±            X.X=±            X.XX=</b> <b>ANGL ES = ±            HOLEDIA = ±</b>		<div>江门市永旭电路板有限公司</div>	
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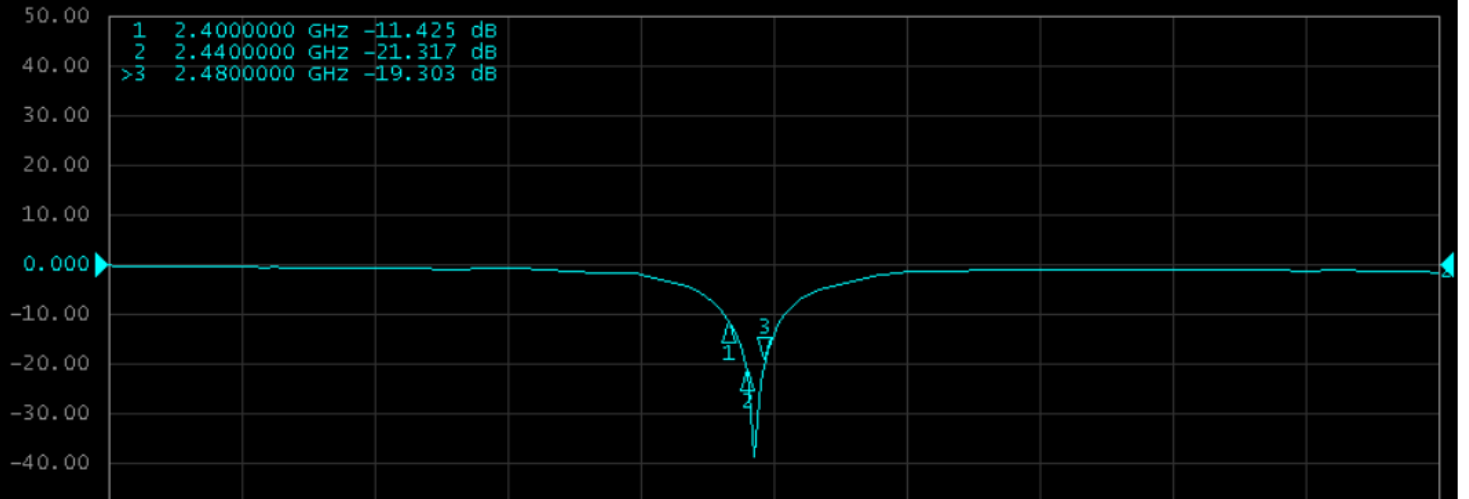
## Return Loss

1	2.4000000	GHZ	77.264	$\Omega$	-22.032	$\Omega$	3.0100	pF
2	2.4400000	GHZ	56.124	$\Omega$	-6.7828	$\Omega$	9.6165	pF
>3	2.4800000	GHZ	43.038	$\Omega$	8.0241	$\Omega$	514.95	pH

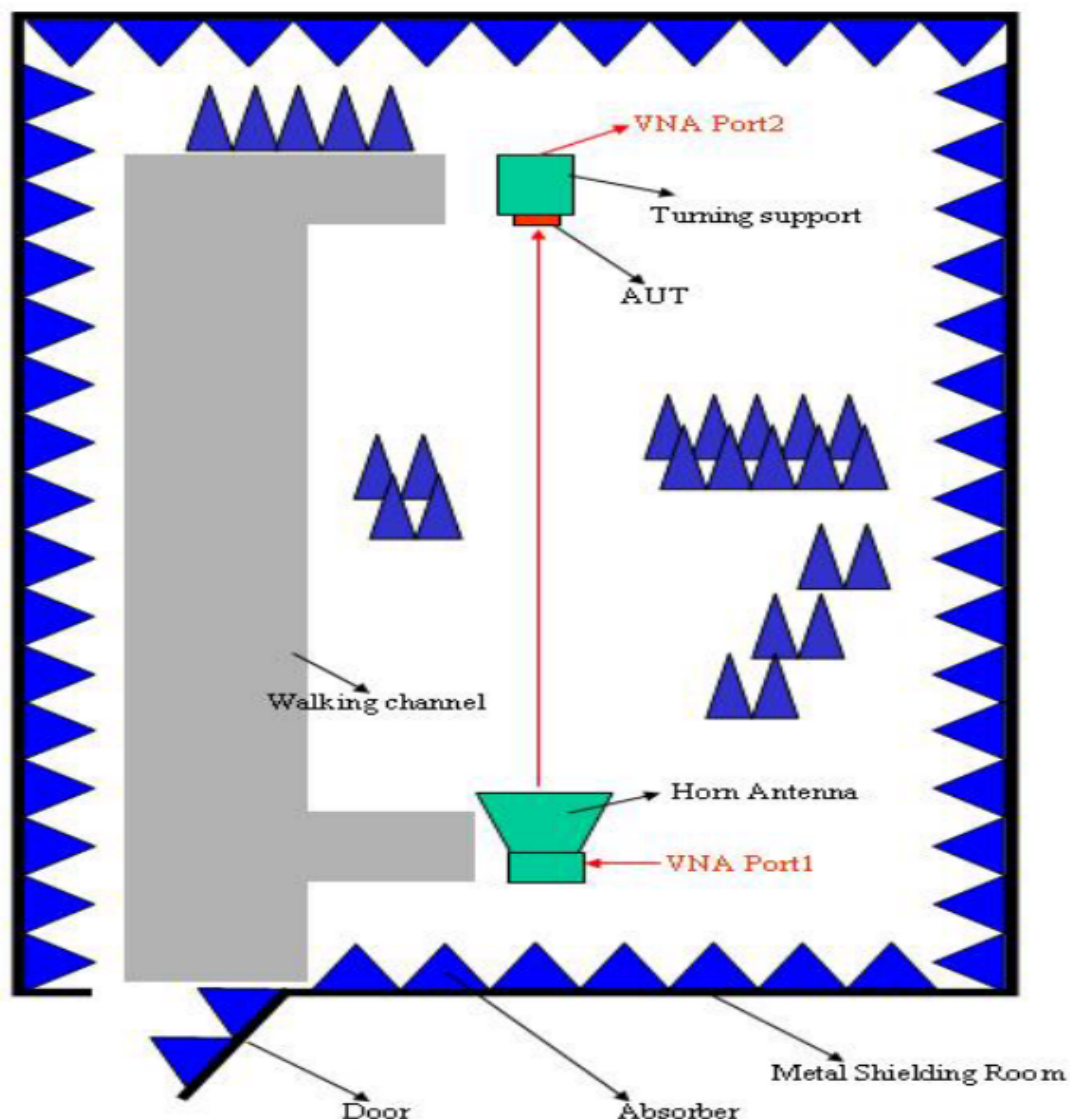


► Tr2 S44 Log Mag 10.00dB/ Ref 0.000dB [F1]

1	2.4000000	GHZ	-11.425	dB
2	2.4400000	GHZ	-21.317	dB
>3	2.4800000	GHZ	-19.303	dB

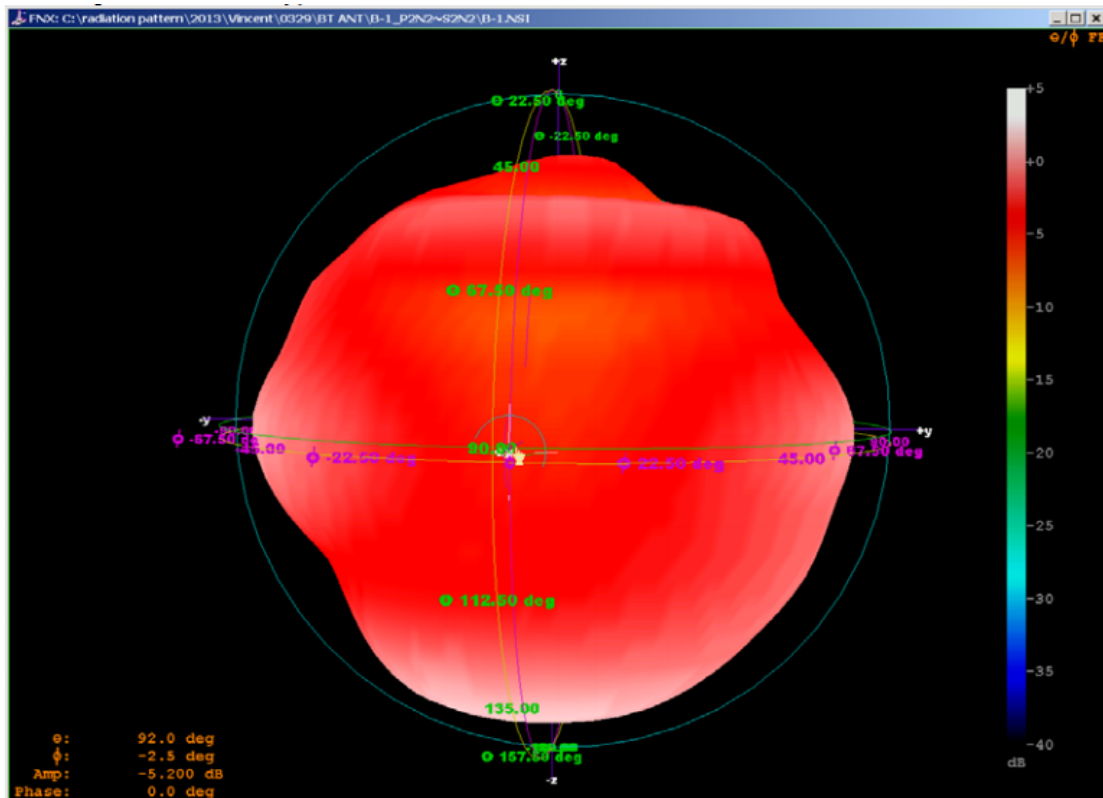


# The Environment of Antenna Radiation Pattern



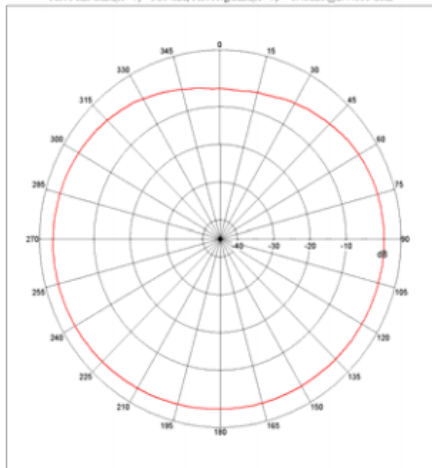
UNLESS OTHER SPECIFIED TOLERANCES ON: $X = \pm$ $X.X = \pm$ $X.XX =$ <b>ANGLES = <math>\pm</math></b> <b>HOLEDIA = <math>\pm</math></b>		江门市永旭电路板有限公司	
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### 3D radiation pattern diagram



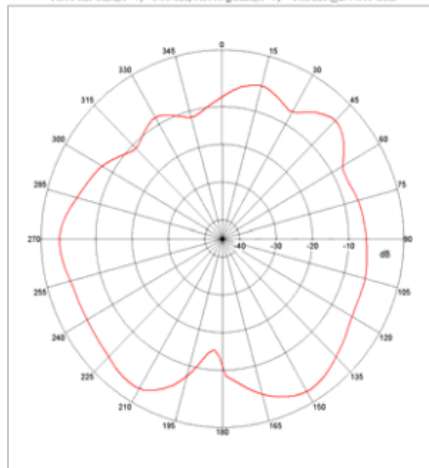
### XY-plane

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



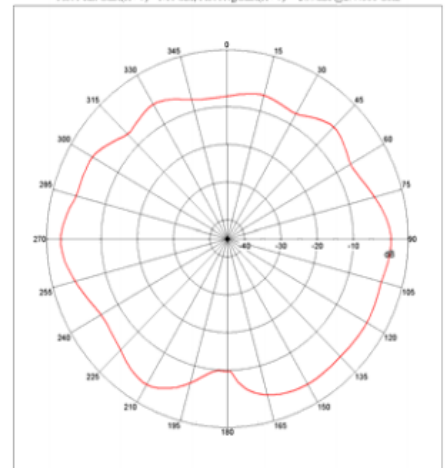
### XZ-plane

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



### YZ-plane

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



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