



RTANT

RtantCommunications Co., Ltd

Antenna Commissioning & Test Report

Customers : Rigal
Project : P7 naifei
Antenna engineer : huangshupeng
Date : 2025-4-22
Edition : V0.0
Project leader: Jame 15899911229



1.Introduction to Project Debugging

2.Laboratory testing environment and equipment

3.Antenna matching circuit

4.Coordinate marking of darkroom

5.Antenna placement position

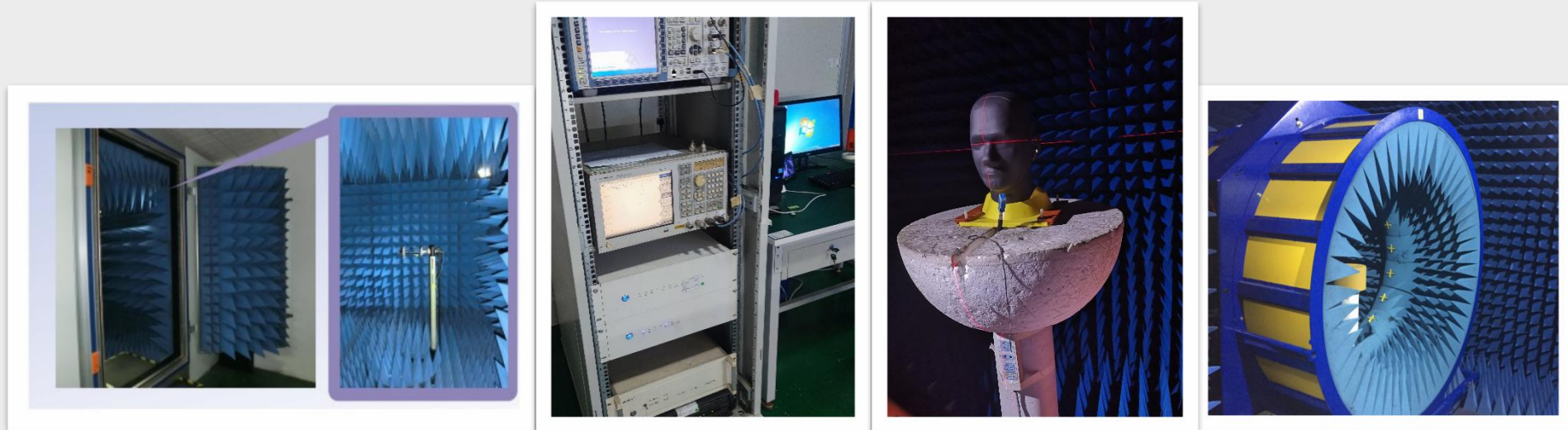
6.Passive data

7.Active data

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Machine type				
Antenna type And frequency band information	Antenna type	Frequency band information	Antenna form	Match changes
	BT	2400-2500MHz	FPC	no
	WIFI	2400-2500MHz/5150-5850MHz	FPC	no
Antenna description	BT0 Antenna φ1.13 Black L=200mm One generation IPEX WIFI-0 Antenna φ1.13 White L=200mm One generation IPEX WIFI-1 Antenna φ1.13 Grey L=250mm One generation IPEX			
Antenna material				



Test project	Test equipment
S11、 S12 、 VSWR 、 LOSS	Network analyzer E5071B、 E8753D
Efficiency、 Gain、 3D Radiation Pattern	Satimo SG16Anechoic chamber、 Taiwan's top ten 7*4*3antenna darkrooms 、 E5071B、 Second generation head
TRP、 TIS	Satimo SG16Anechoic chamber、 Taiwan's top ten 7*4*3antenna darkrooms 、 CMW500 、 Second generation head

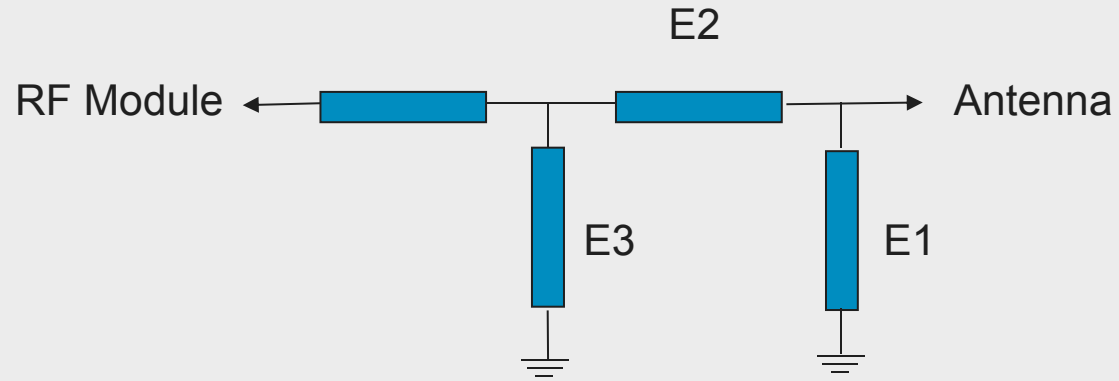
Note: Equipment used for debugging & testing of this project is marked in blue



Antenna matching circuit



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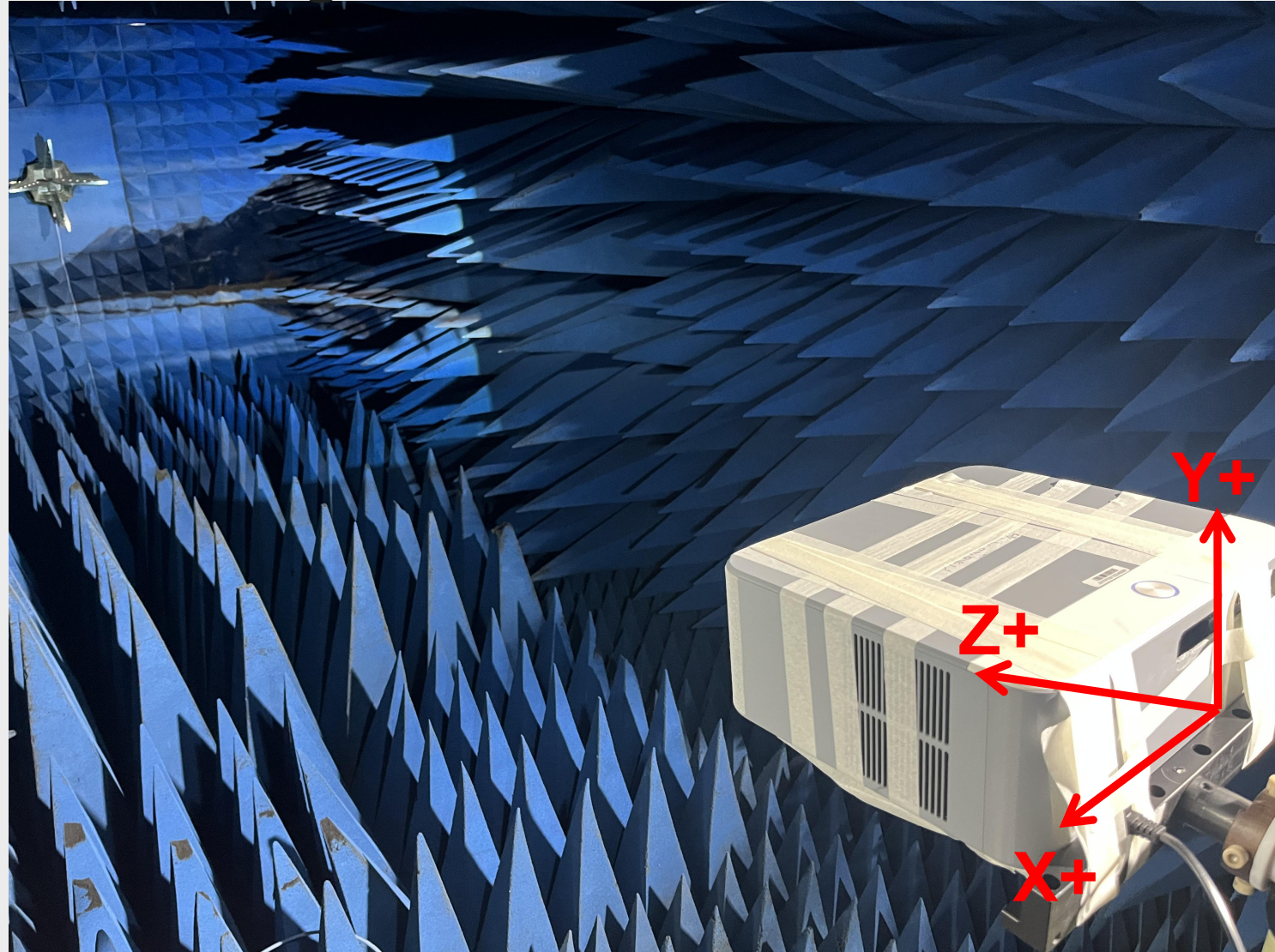
	Element	Value
	E1	NO
	E2	0 ohms
	E3	NO



Coordinate marking of darkroom

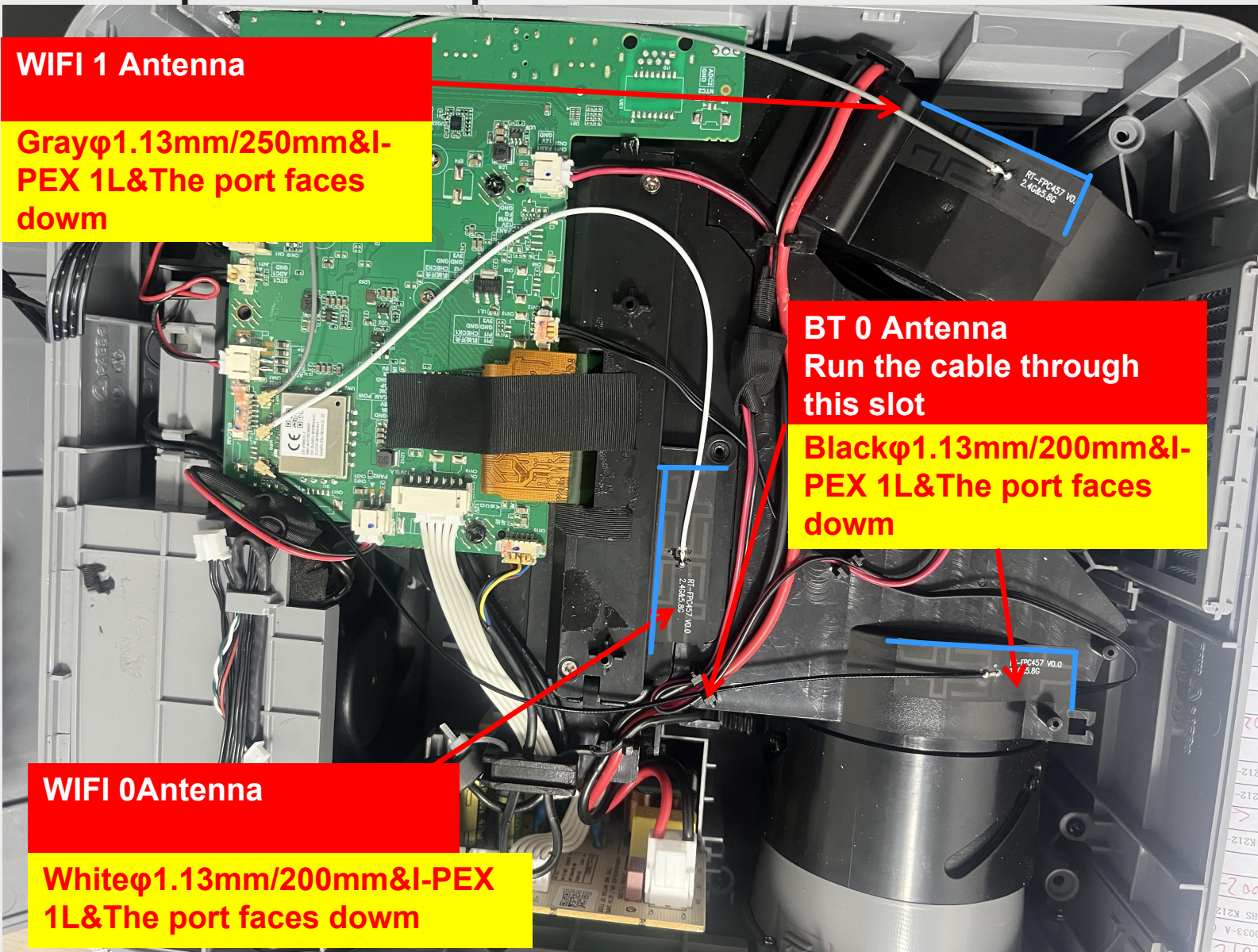


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Antenna placement position



WiFi 1 Antenna

Gray ϕ 1.13mm/250mm & I-PEX 1L & The port faces down

BT 0 Antenna
Run the cable through this slot

Black ϕ 1.13mm/200mm & I-PEX 1L & The port faces down

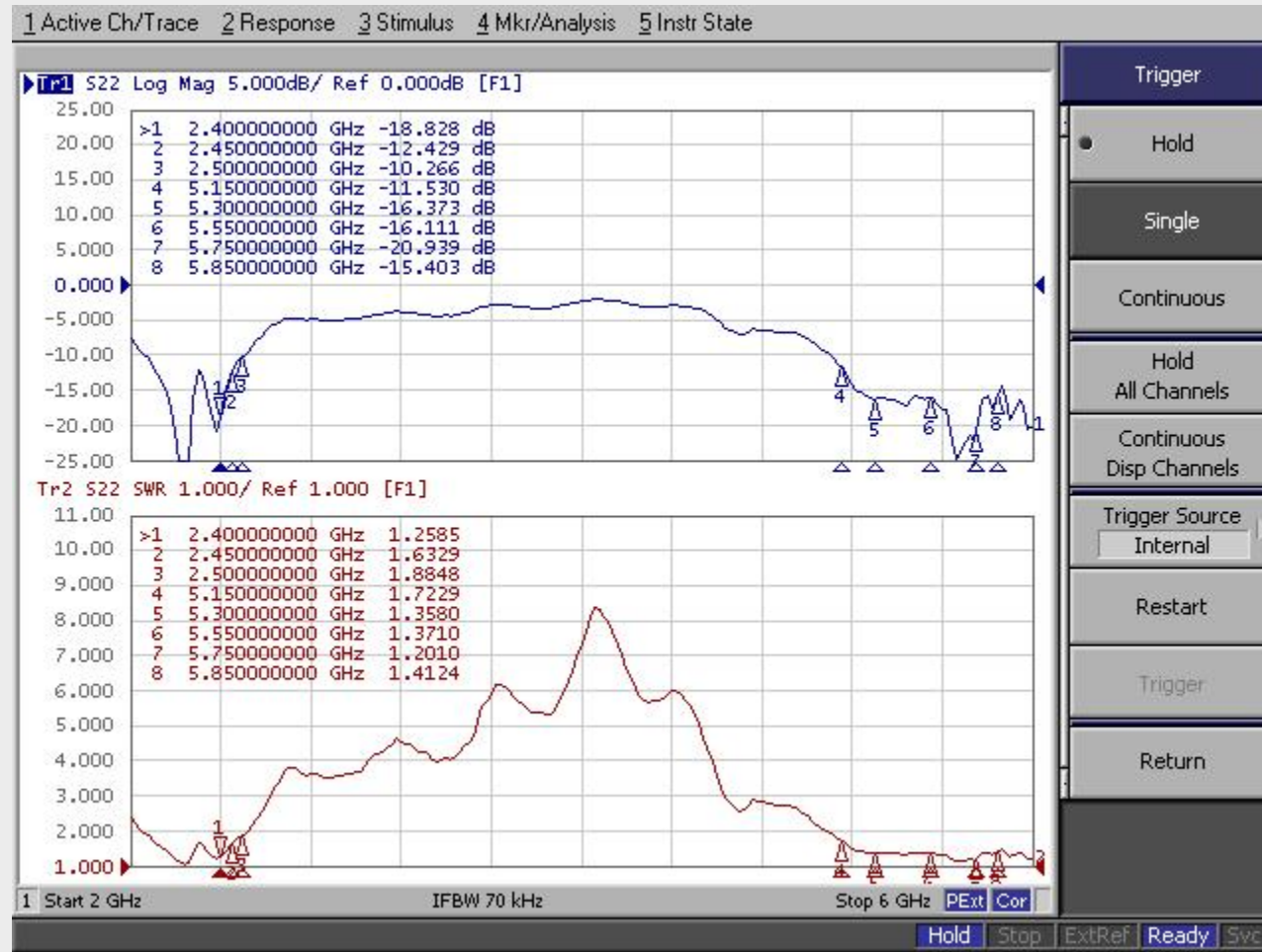
WiFi 0 Antenna

White ϕ 1.13mm/200mm & I-PEX 1L & The port faces down



Passive data

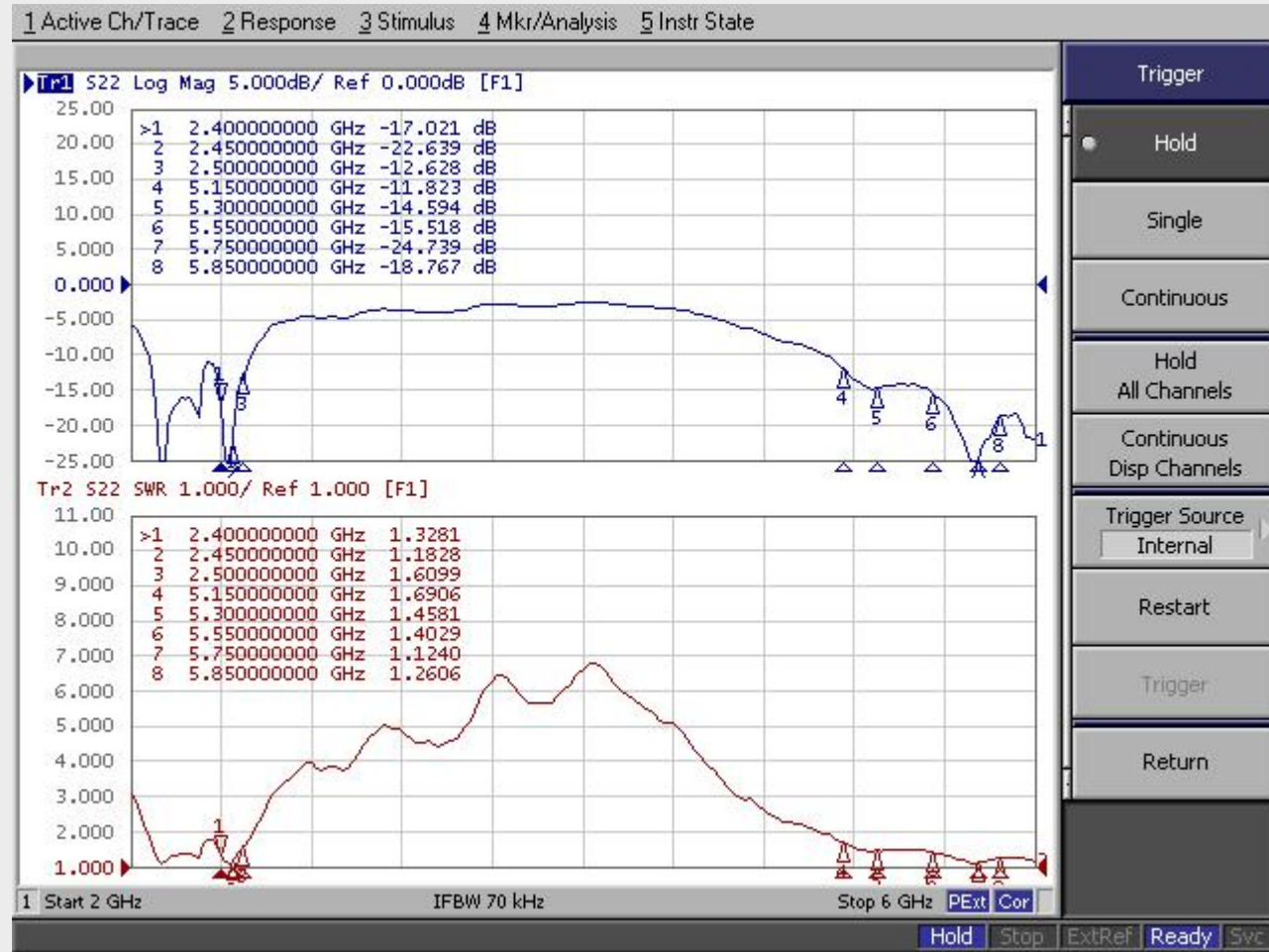
R-LOSS.VSWR(BT-0)





Passive data

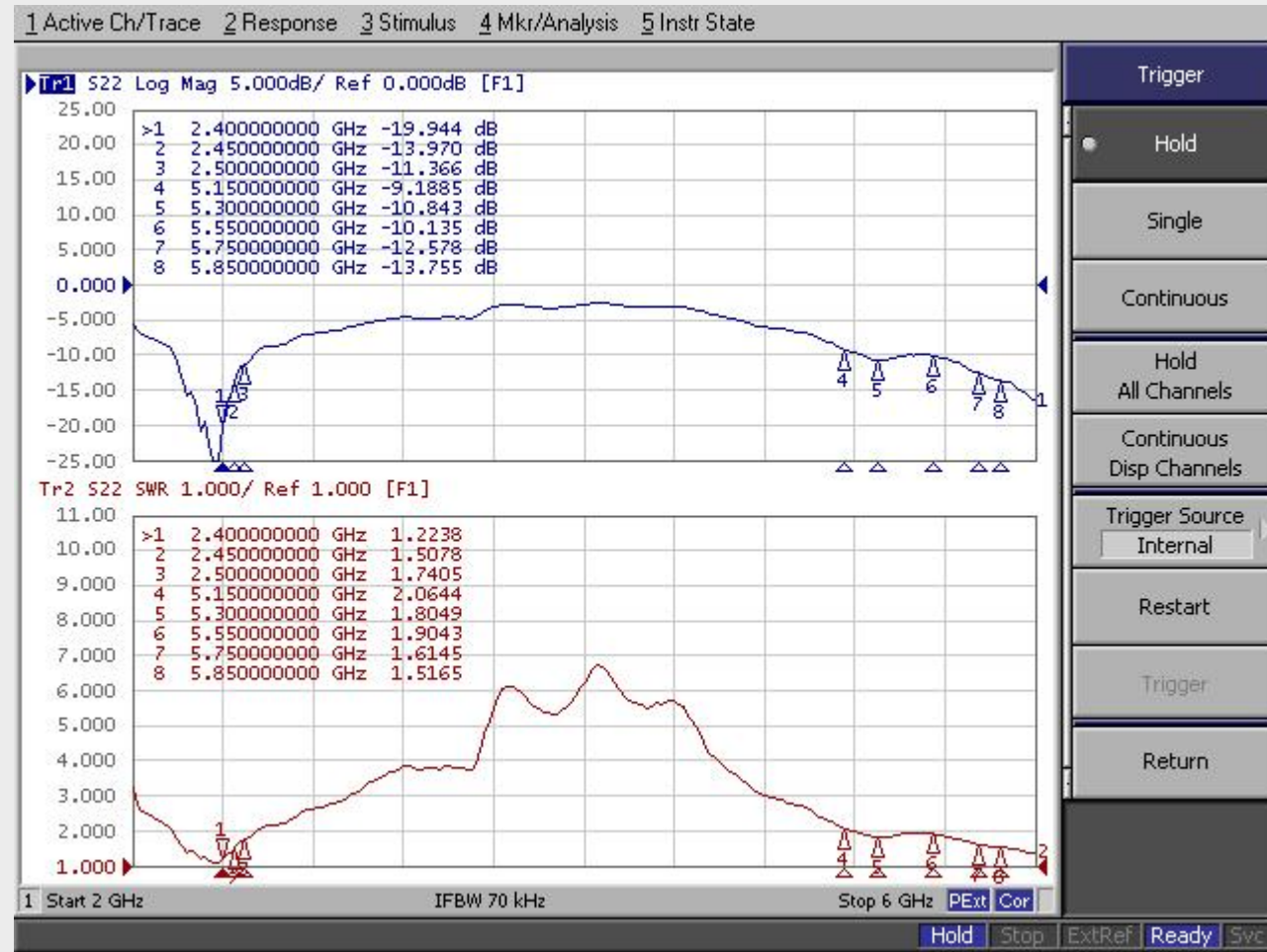
R-LOSS.VSWR(WIFI-0)





Passive data

R-LOSS.VSWR(WIFI-1)





Effi / Gain

BT 0

Frequency	2.4GHz	2.45GHz	2.5GHz
Efficiency (%)	43.67	42.73	44.37
Gain (dBi)	1.49	1.14	1.33



WIFI 0

Frequency	2.40GHz	2.45GHz	2.50GHz	5.15GHz	5.5GHz	5.85GHz
Efficiency (%)	40.48	39.61	38.34	40.96	44.02	42.98
Gain (dBi)	1.02	1.67	1.55	1.67	1.68	1.61

WIFI 1

Frequency	2.40GHz	2.45GHz	2.50GHz	5.15GHz	5.5GHz	5.85GHz
Efficiency (%)	38.07	45.12	43.33	45.47	45.61	44.5
Gain (dBi)	1.22	1.01	1.24	1.8	1.86	1.76

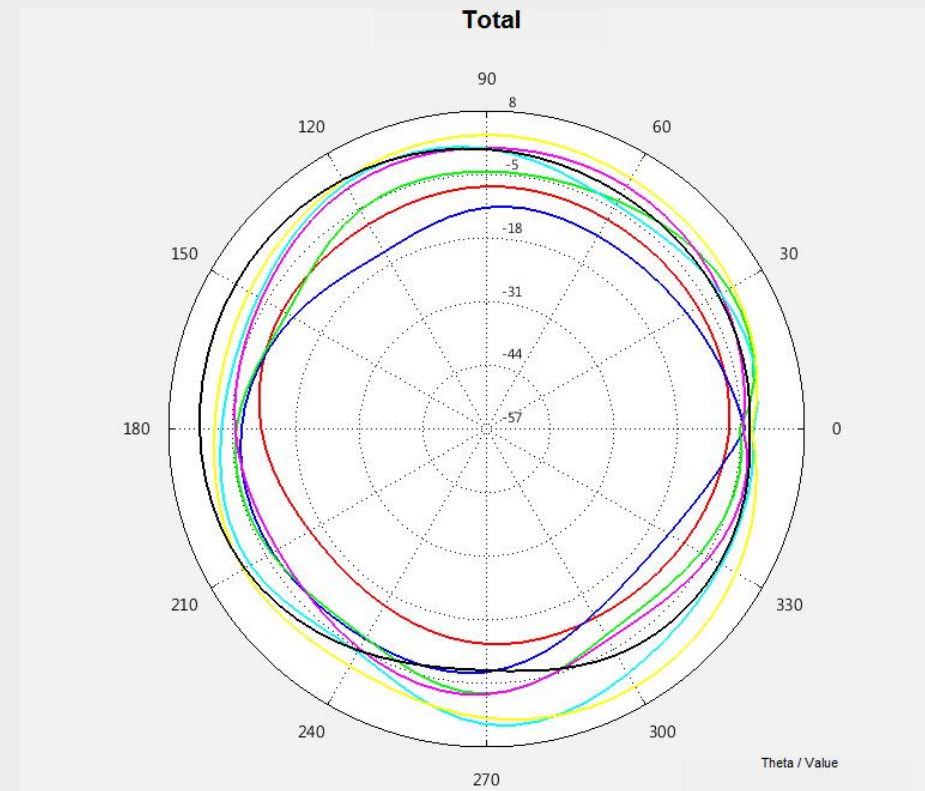
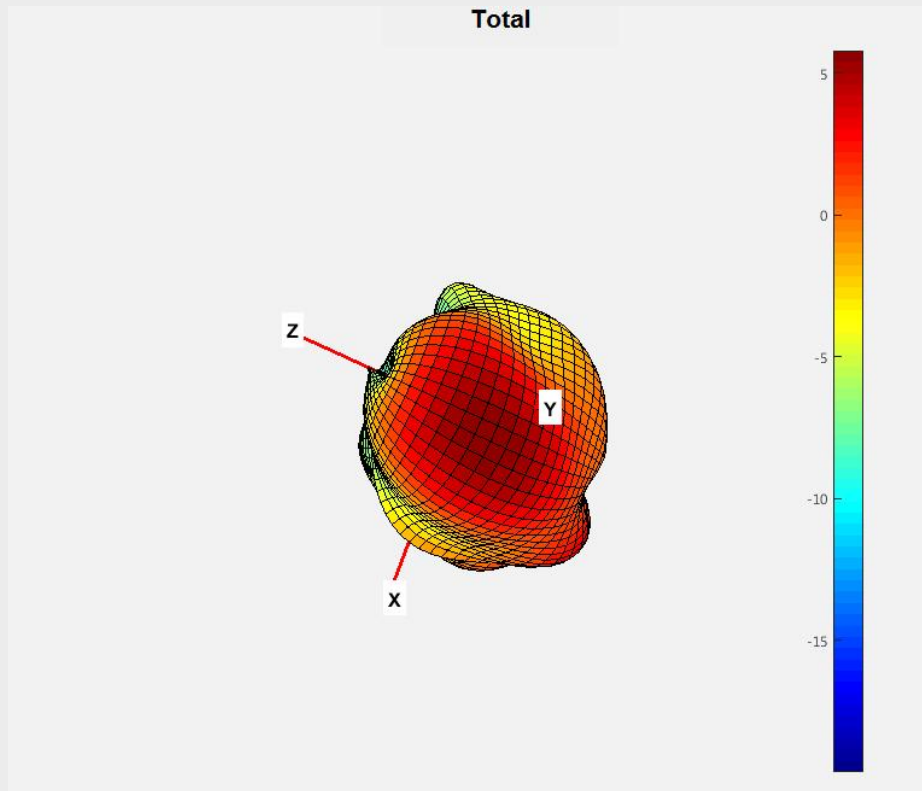


Radiation Map



BT0 2450MHz 3D

BT0 2450MHz 2D

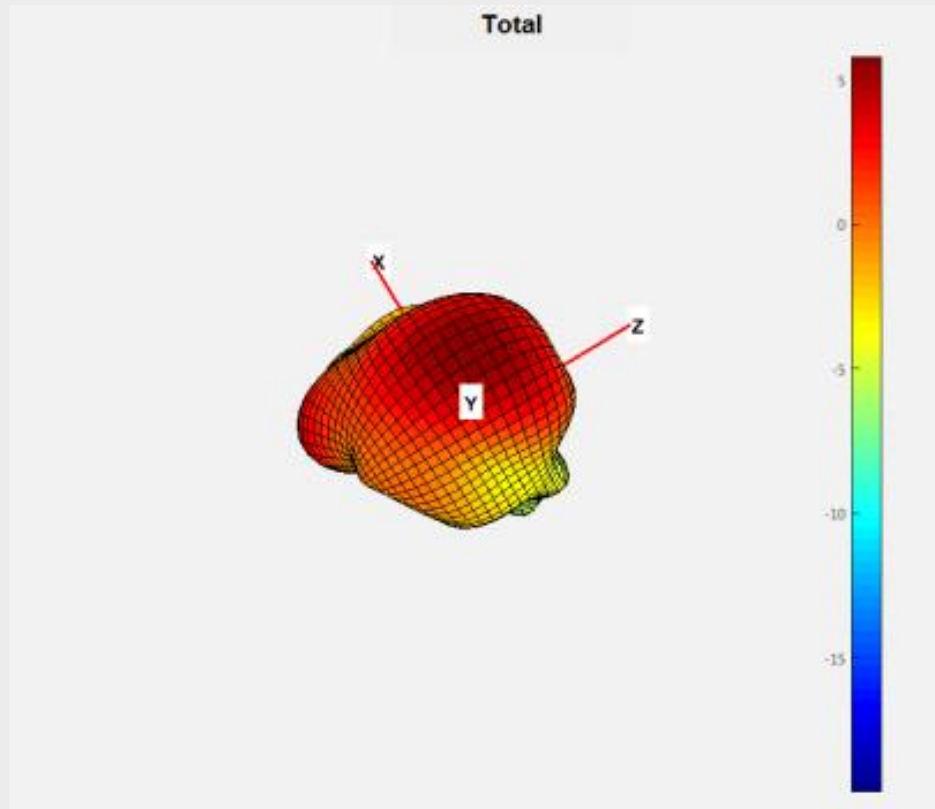




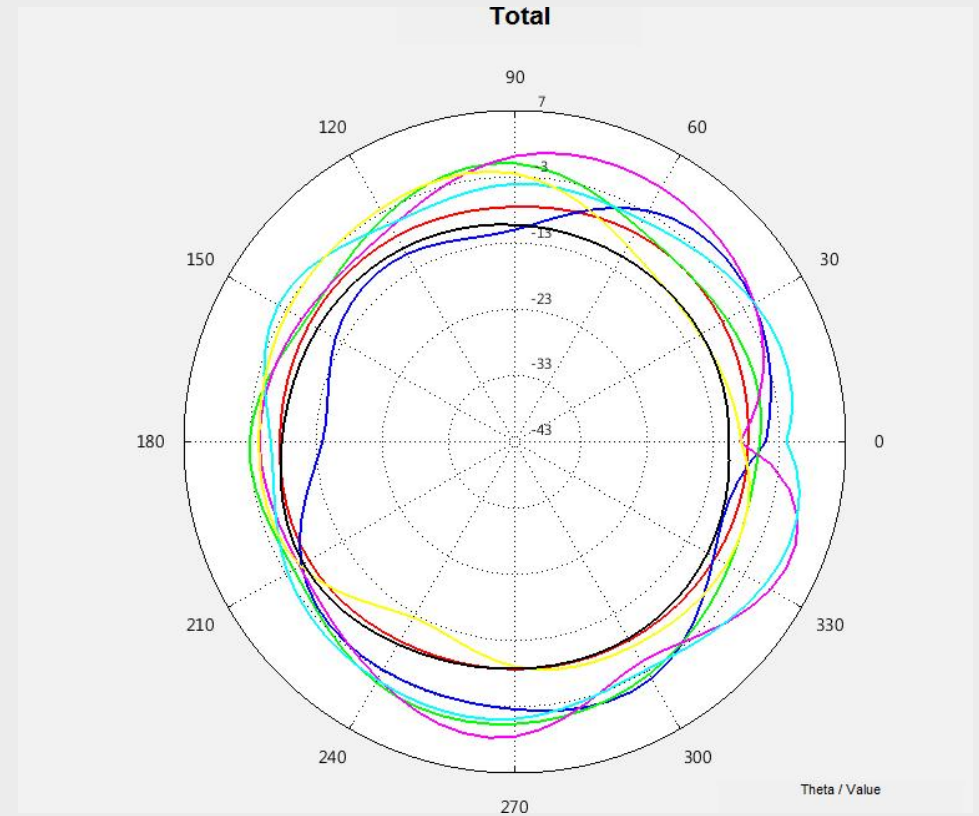
Radiation Map



WiFi0 2450MHz 3D



WiFi0 2450MHz 2D



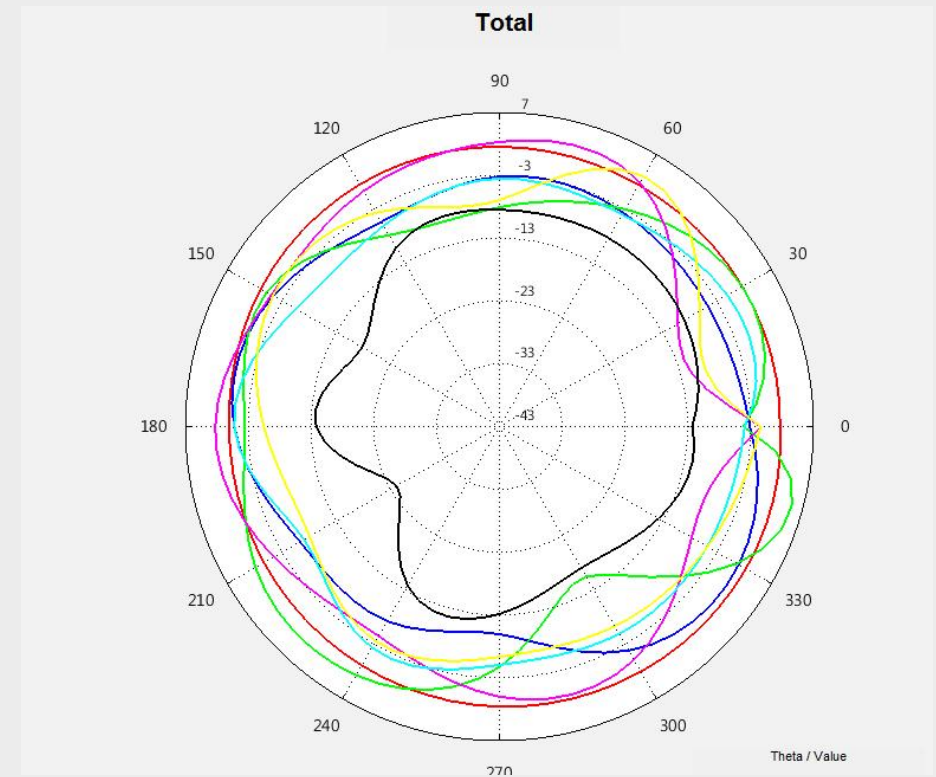
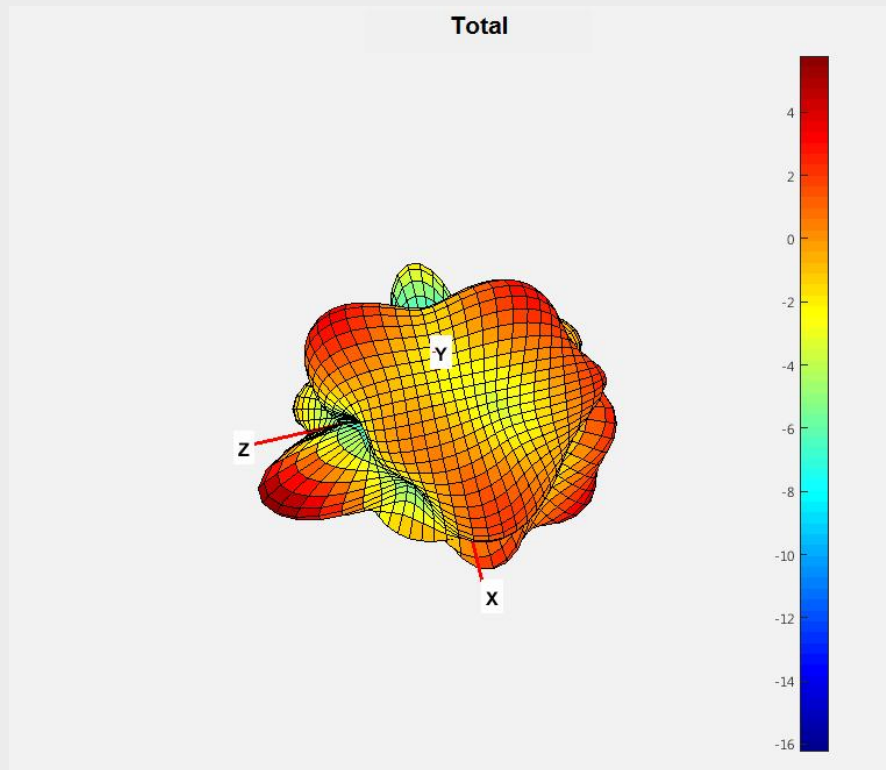


Radiation Map



WiFi0 5500MHz 3D

WiFi0 5500MHz 2D

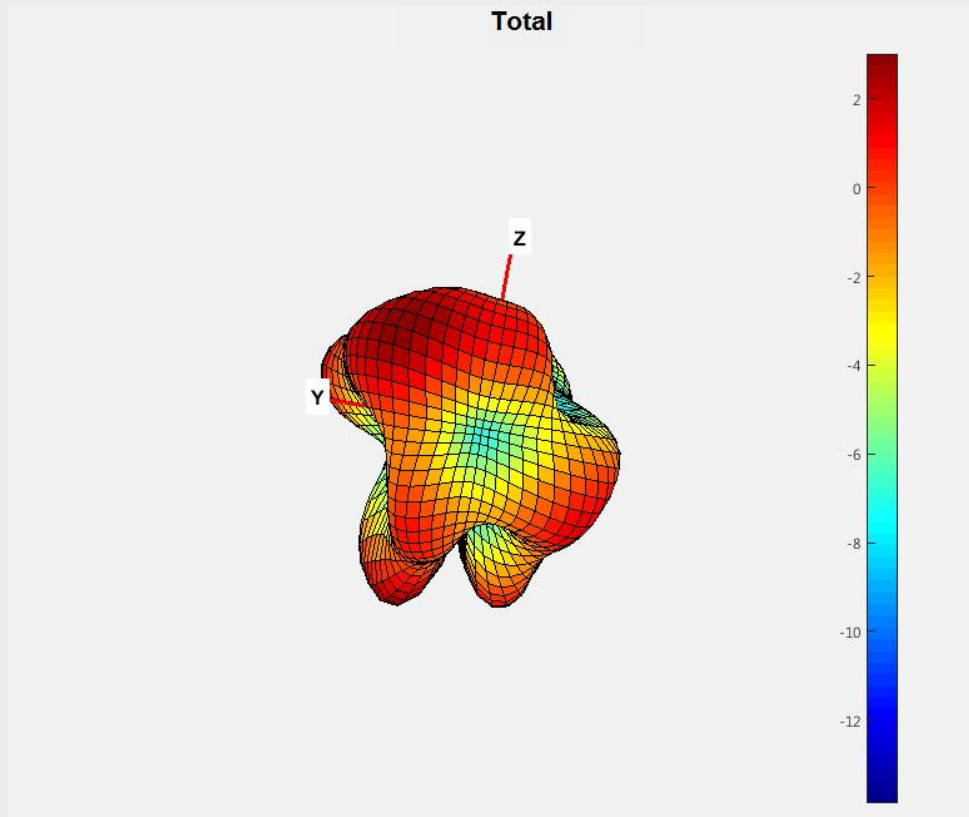




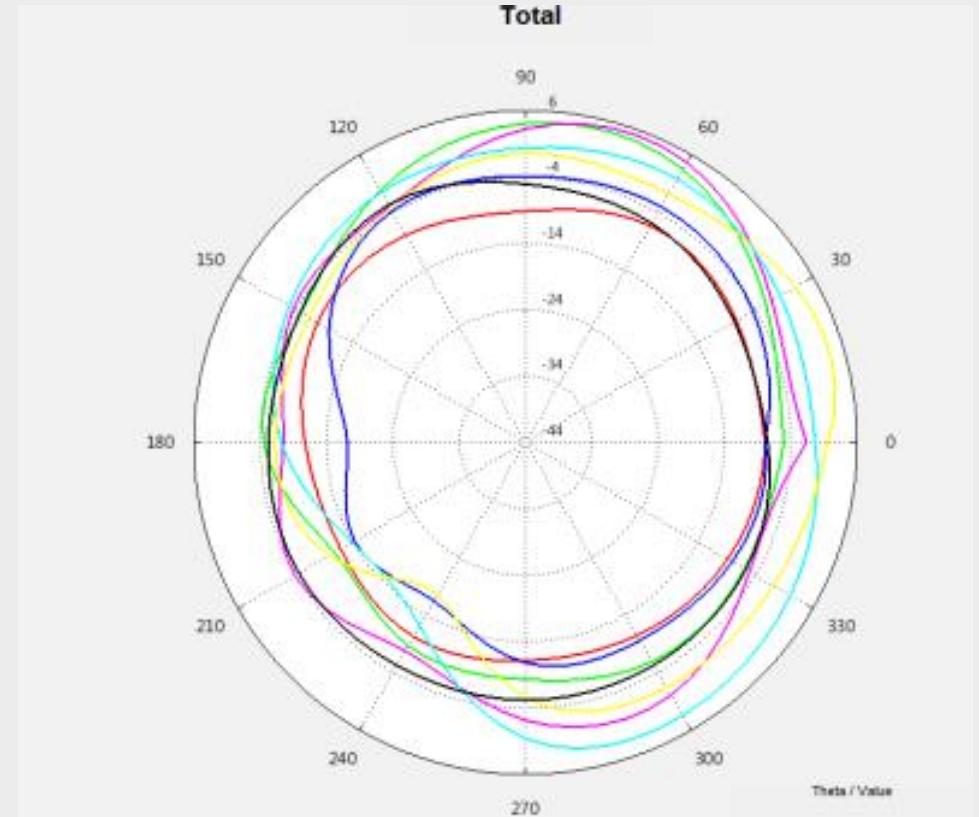
Radiation Map



WiFi1 2450MHz 3D



WiFi1 2450MHz 2D

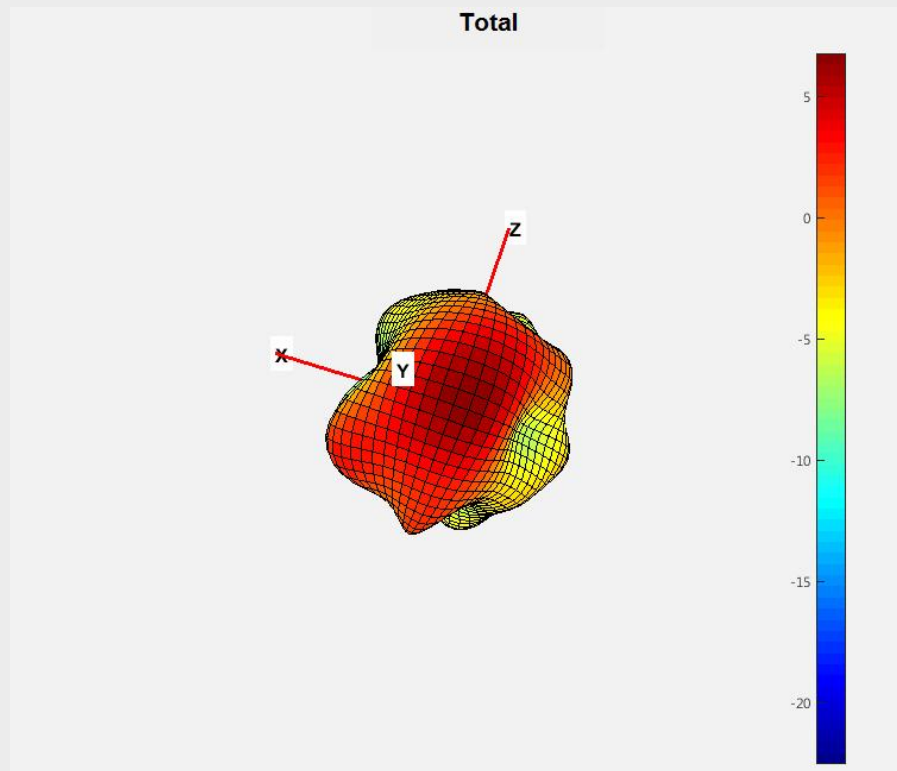




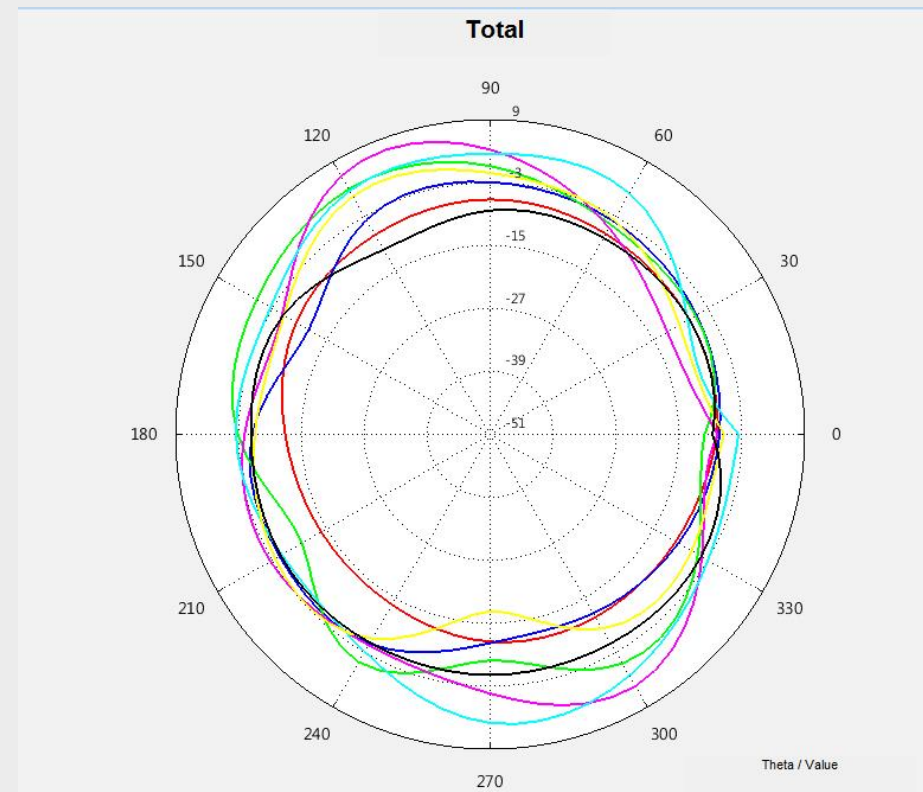
Radiation Map



WiFi1 5500MHz 3D



WiFi1 5500MHz 2D





Active data



TEST DATA FOR RADIATED TESTING							
BAND	MODE	TX RATE	CHANNEL	TRP	RX RATE	CHANEL	TIS
2.4G	11b	11M	1	15.72	11M	1	-82.14
		11M	6	16.58	11M	6	-81.78
		11M	11	15.36	11M	11	-81.15
	11g	6M	1	13.6	54M	1	-75.13
		6M	6	14.19	54M	6	-73.19
		6M	11	14.93	54M	11	-72.85
	11n	6.5M	1	13.85	65M	1	-63.22
		6.5M	6	13.57	65M	6	-65.27
		6.5M	11	13.51	65M	11	-65.3
5G	11a	6M	36	12.94	54M	36	-81.75
		6M	149	13.23	54M	149	-81.25
		6M	165	12.55	54M	165	-81.4
	11n	6.5M	36	12.65	65M	36	-80.33
		6.5M	149	12.89	65M	149	-80.21
		6.5M	165	12.78	65M	165	-80.14



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contact information



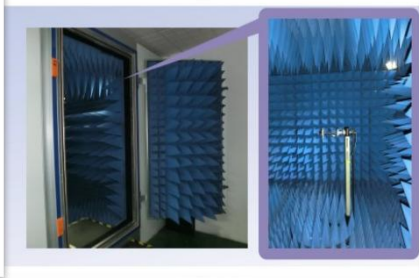
成立
11年

专注
无线

设计
研发



制造



Learn more <http://www.rtant.com>

contact information - **Jame**

Mob: 15899911229 Email: jl@rtant.com

DONGGUAN (HONGJIE) - SHANGHAI (PUDONGXINQU)



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Thank you for your trust in Rtant