



Antenna Approval Sheet

For **Station05** Project

Customer	EKEN INNOVA TION	Project	Station05
Band	WiFi 2.4GHZ/5GHZ		
ZC PN	AC034-WA-94/AC034-CB-93		
Version	R:A	Data	2025-10-16

RF		ME	
Checked By			
Confirmed By			
Cust Confirm			



1.Manufacturer information

Company name: Shenzhen Zhongcheng communication products Co., Ltd

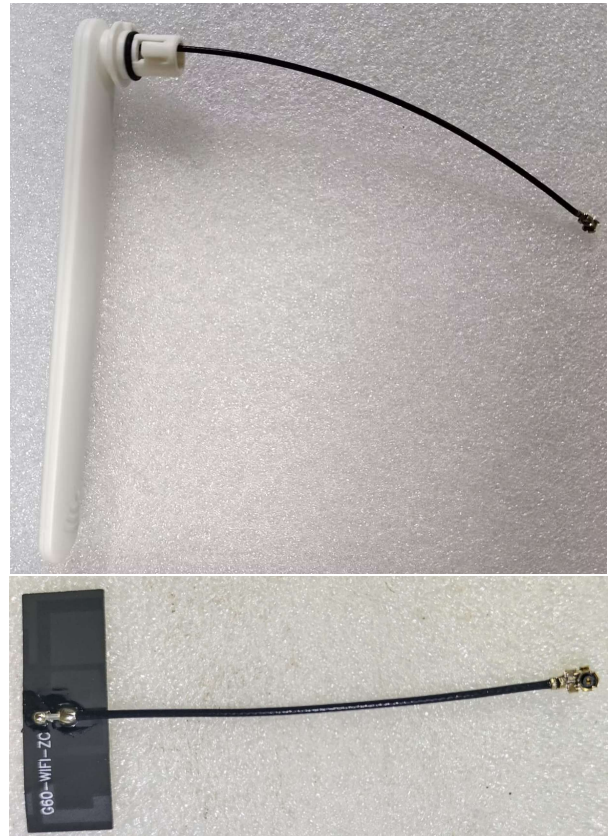
Address: 5th floor, building C, Huafeng Industrial Zone, Liuxian Road, 71 District, Bao' an, Shenzhen

2. Summary of the DUT

Station05 Picture



Antenna Picture



3. Electrical Specification-外置 WIFI 天线

Antenna types	External 2.4GHZ WIFI antenna
Frequency	2400-2500 MHz
Impedance	50 Ω
Peak Gain	1.95 dBi REF
Antenna Material	PCB+同轴线+塑料外壳
Connector Type	1.13 MHF-1-Plug



4. Electrical Specification-内置 WIFI 天线

Antenna types	Built-in WIFI Antenna
Frequency	2400-2500 MHz, 5150-5350MHz, 5725-5850MHz
Impedance	50 Ω
VSWR	< 2.0
Gain	2.4GHZ 1.73dbi, 5.1GHZ 4.31dbi, 5.5GHZ 3.97, 5.8GHZ 4.45dbi
Antenna Material	FPCB+Coaxial Cable
Connector Type	1.13 MHF-1-Plug

5. Test Condition

5.1	TEST ITEM	TESTING INSTRUMENT	REMARKS
PASSIVE TEST	1.Radiation Pattern 2.Antenna Gain 3. Return Loss 4. S.W.R	1.Satimo SG24(3D) 2. Agilent 8960 E5515C 3. R&S ZVL6	

6. RF Performance-外置 WIFI 天线

6.1 Passive parameters

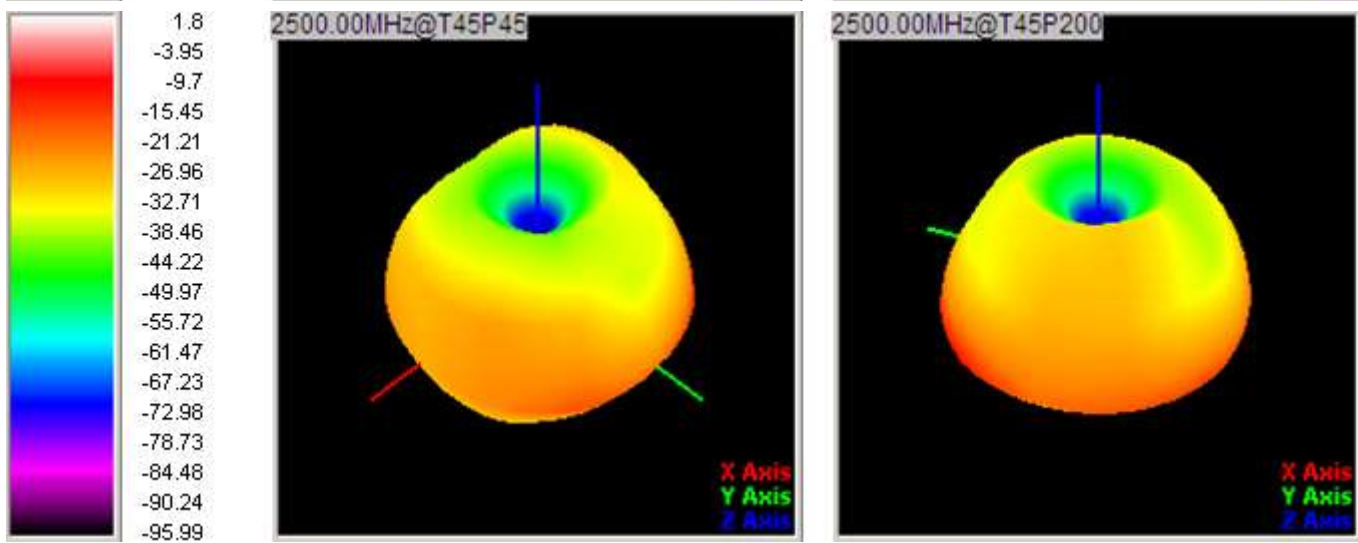
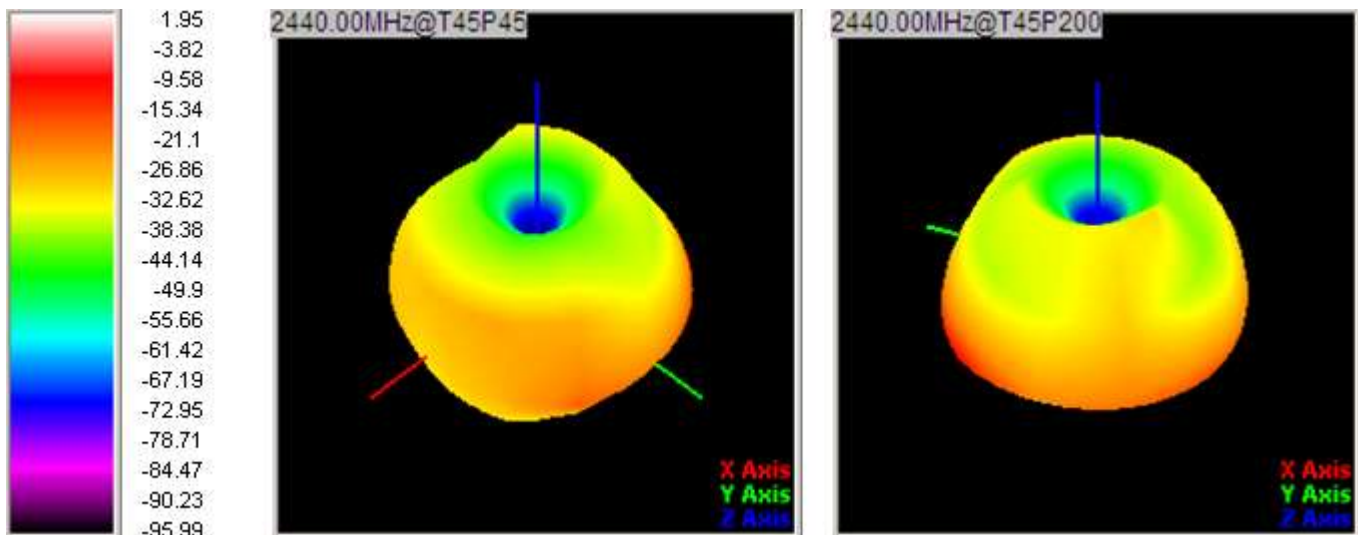
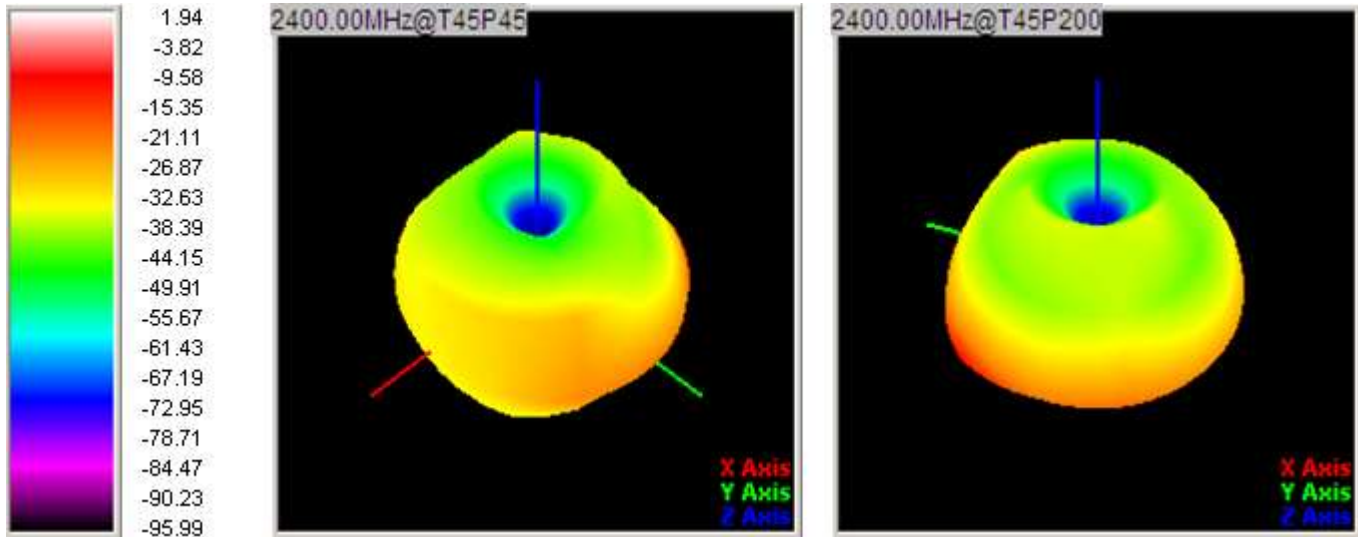
Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	1.94	1.48	1.31	1.54	1.95	1.50	1.64	0.88	1.37	1.35	1.80

6.2 S Parameter

Frequency (MHz)	2400	2450	2480
Return Loss (dB)	-15.54	-20.28	-16.33
VSWR	1.38	1.10	1.34



6.3 Antenna 3D Radiation Pattern (Unit:dbi)





7. RF Performance-内置 WIFI 天线

7.1 Passive parameters

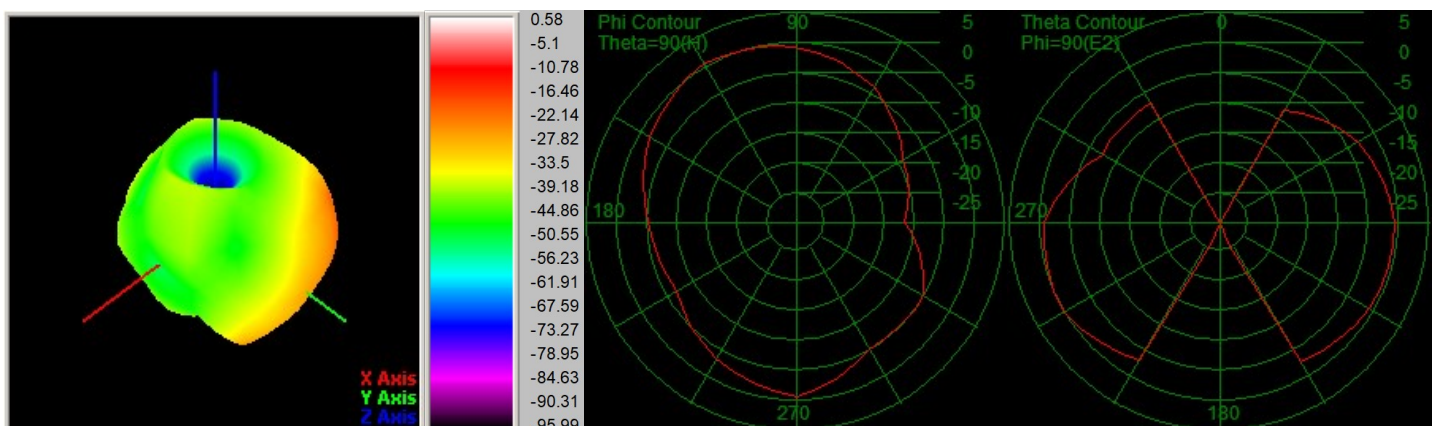
Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain (dBi)	0.58	0.66	1.1	1.02	1.17	1.59	0.72	0.08	0.72	1.19	1.73
Freq. (MHz)	5150	5170	5190	5210	5230	5250	5270	5290	5310	5330	5350
Gain (dBi)	3.13	3.45	3.56	4.11	4.31	4.21	4.1	3.82	3.28	3.19	3.04
Freq. (MHz)	5475	5500	5525	5550	5575	5600	5625	5650	5675	5700	
Gain (dBi)	2.18	2.66	3.51	3.23	3.43	3.97	3.28	3.19	2.68	2.29	
Freq. (MHz)	5720	5740	5760	5780	5800	5820	5840	5860	5880		
Gain (dBi)	2.51	4.45	3.32	4.18	2.54	4.01	1.41	2.47	1.09		

7.2 S Parameter

Frequency (MHz)	2400	2450	2480	5180	5725	5875
Return Loss (dB)	-13.25	-20.67	-13.92	-10.36	-17.56	-17.17
VSWR	1.5	1.27	1.6	1.89	1.28	1.33



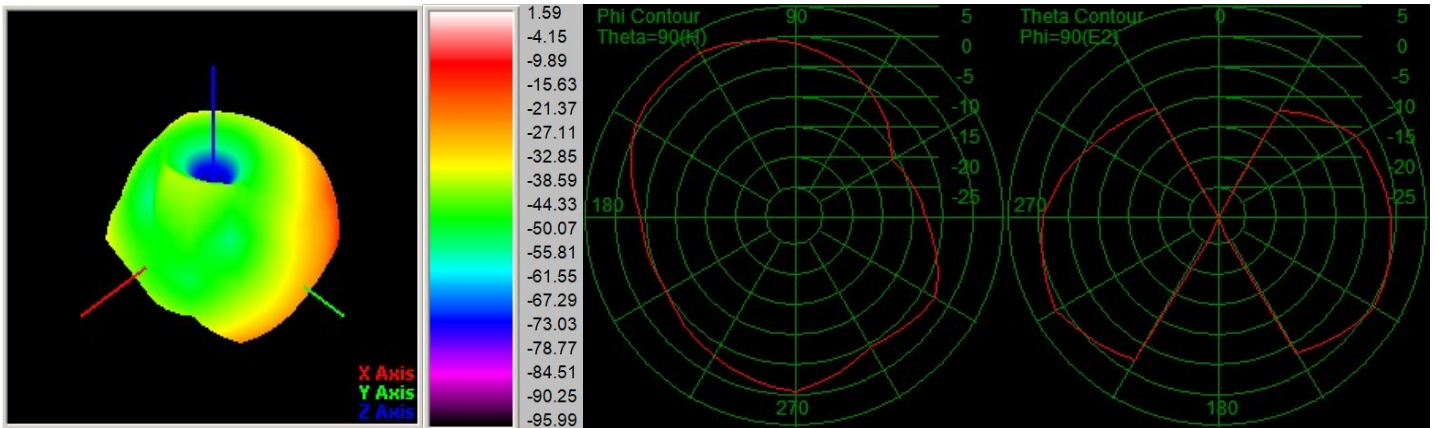
7.3 Radiation





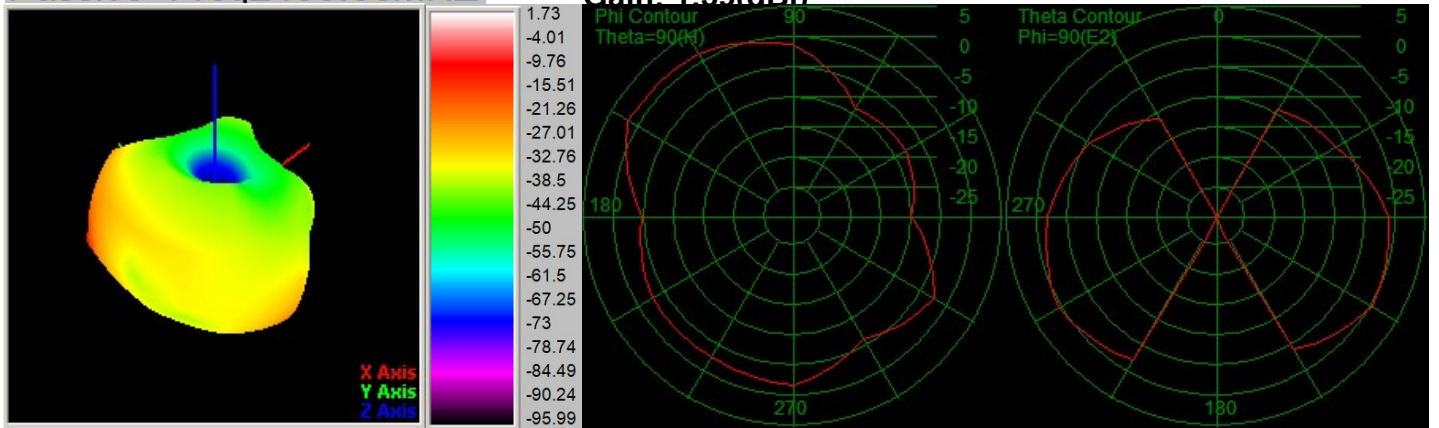
Passive -Freq2400.00MHZ

Gain:0.58(dBi)



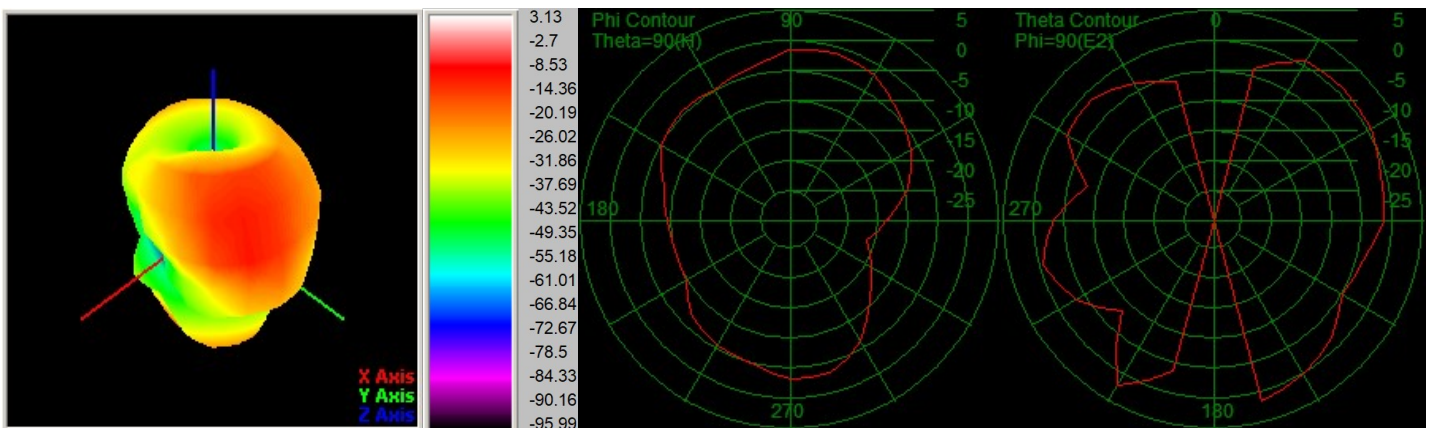
Passive -Freq2450.00MHZ

Gain: 1.59(dBi)



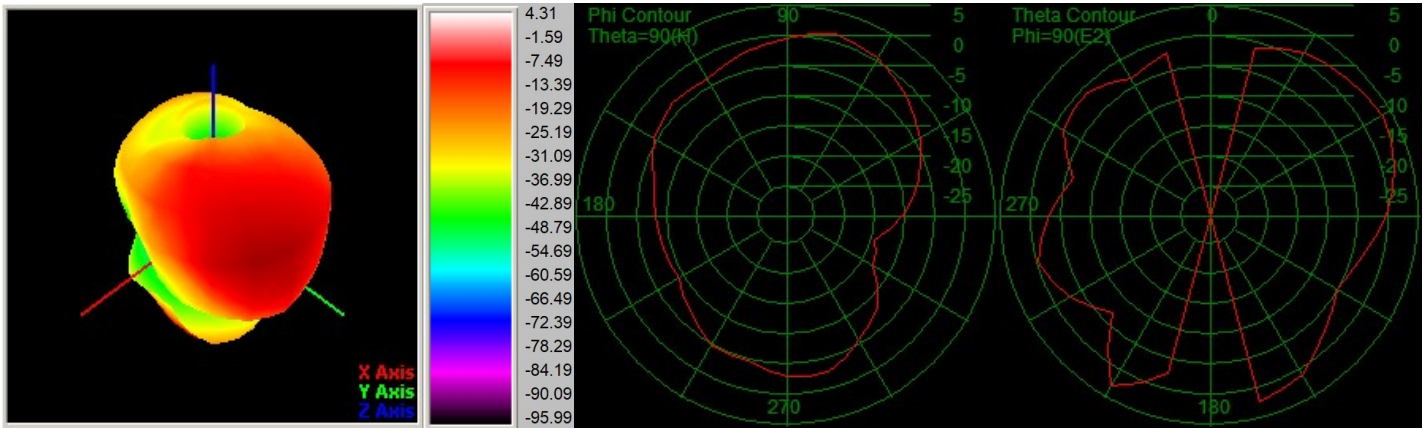
Passive -Freq2500.00MHZ

Gain: 1.73(dBi)



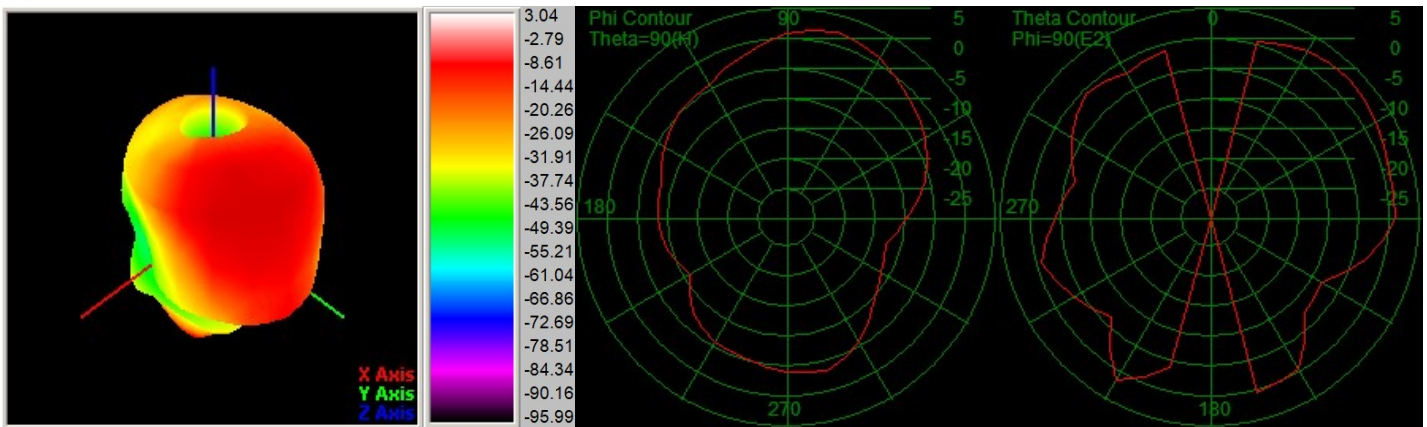
Passive -Freq5150.00MHZ

Gain: 3.13(dBi)



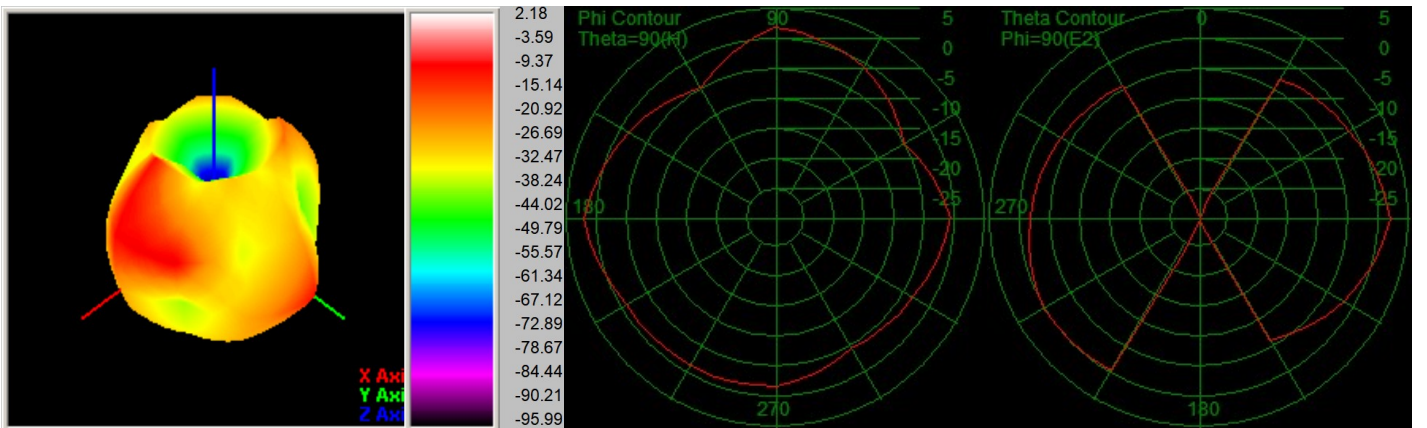
Passive -Freq5230.00MHZ

Gain: 4.31(dBi)



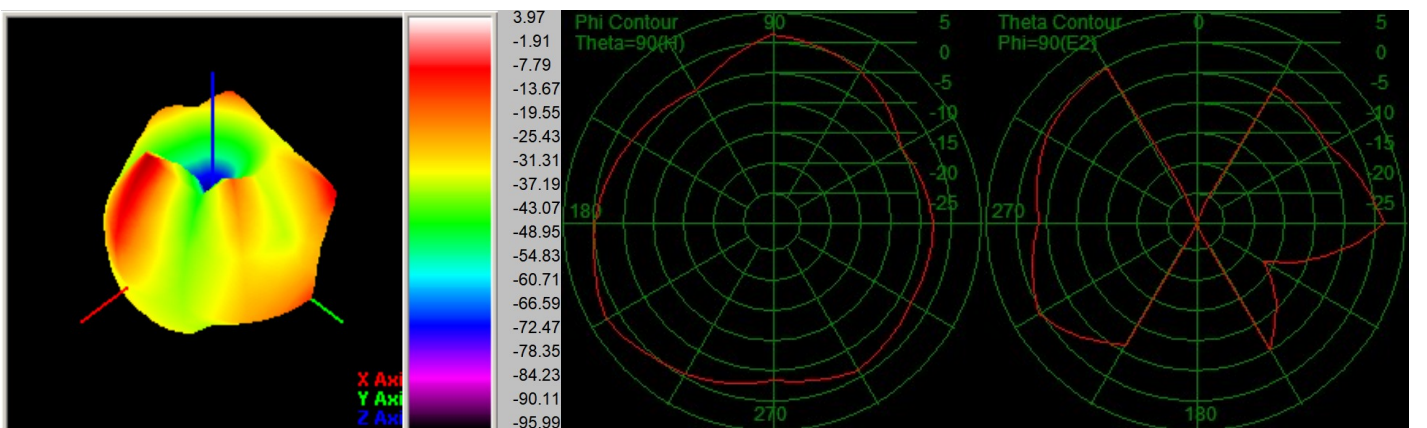
Passive -Freq5350.00MHZ

Gain: 3.04(dBi)



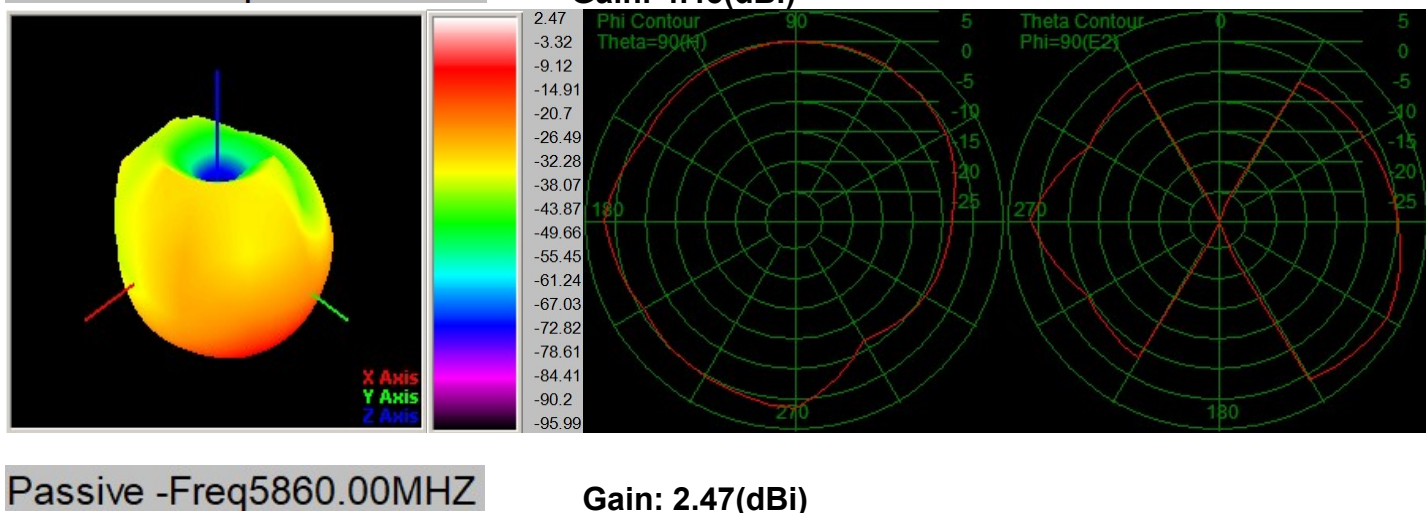
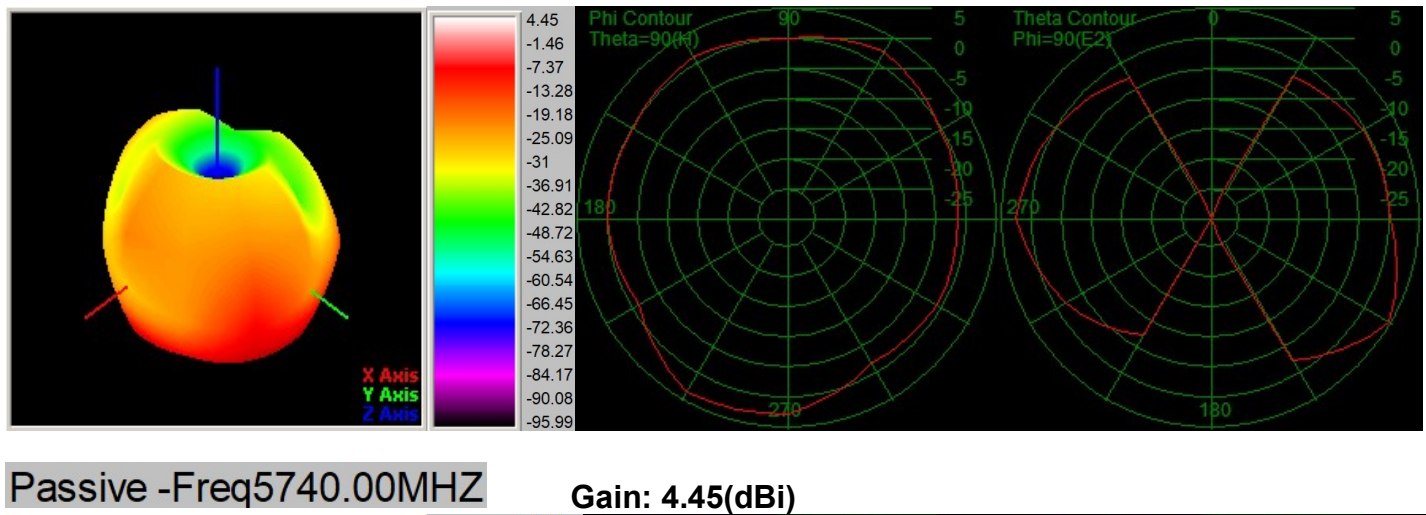
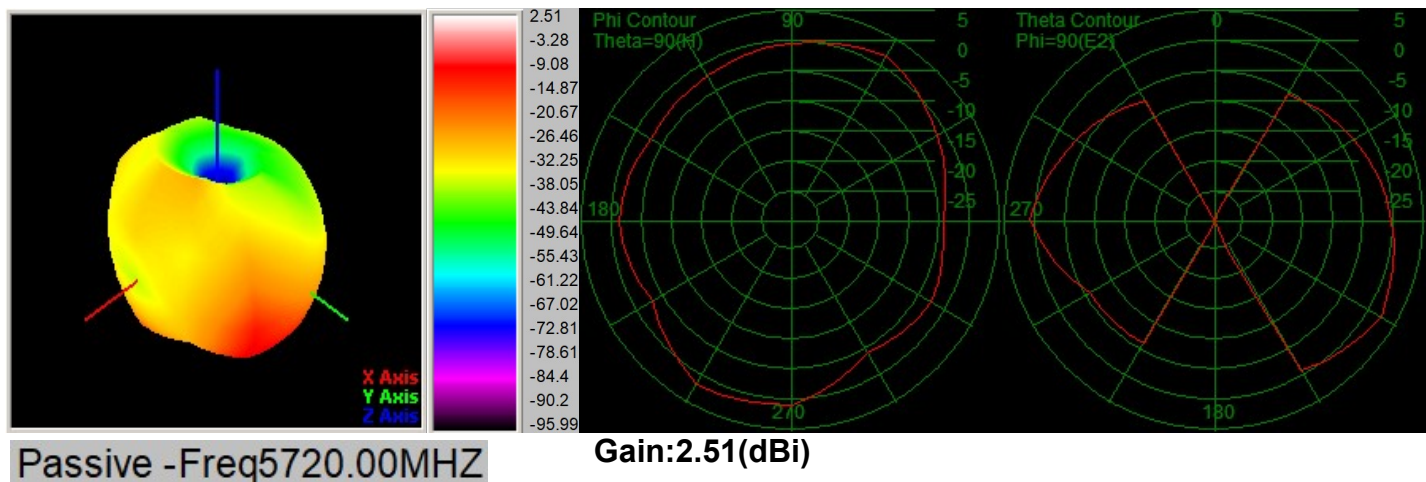
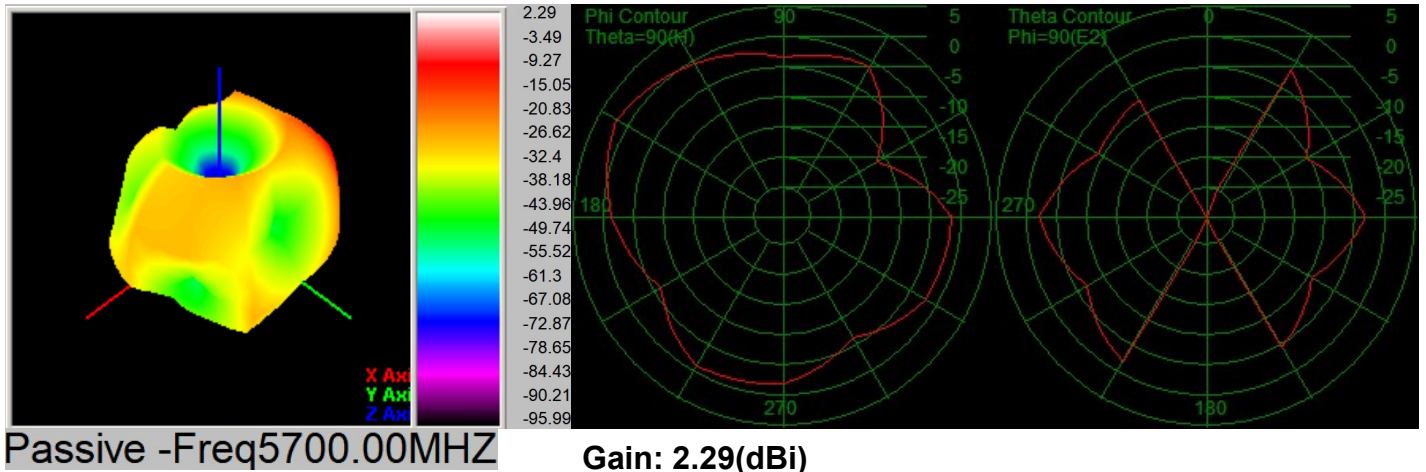
Passive -Freq5475.00MHZ

Gain: 2.18(dBi)



Passive -Freq5600.00MHZ

Gain: 3.97(dBi)





8. ME Drawing for the antenna

1		2		3		4	
61-37S-SF				REV	Description of change	BY	DATE
				T:A	New drawings	GUO	2025-10-16

技术说明:

1. 焊点要求饱满, 不能有虚焊, 焊点尽量均匀一致,
2. 表面无油污, 焊缝均匀,
3. 加*尺寸为重点尺寸, 加◆为实配尺寸, 加()为参考尺寸。

序号	名称	料号	材质	表面处理	颜色
4	下壳	AC013-08-21	ABS	—	白色
3	上壳	AC013-04-11	ABS	—	白色
2	同轴线	T13-123	TC-FEP	—	黑色
1	PCB	AC013-04-13	FR4玻纤板+Cu	—	黑色

General Tolerance:

Third Angle: Unit: mm

General Tolerance	NAME: Antenna	DATE: 2025-10-16
X ±0.5	PART NO. AC034-WA-94-TA	DRWN:
.X ±0.25	MATERIAL:	CHKD:
.XX ±0.10	SURFACE:	APPD:
.XXX ±0.05	COLOR:	SCALE: 2:1
ANGULAR ±1°		REV: T:A

