Antenna Approval Sheet

For
3-WIFI-2450-05 Project

Customer	TripleCam	Project	**3-WIFI-2450-05**
Band	WiFi 2.4GHZ/5.2GHZ/5.8GHZ		
ZC PN	SG001-CA-93		
Version	R:A	Data	2023-8-8

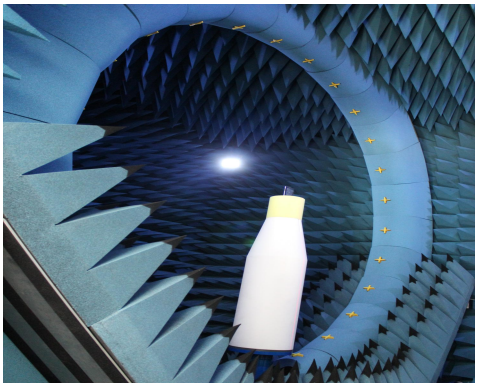
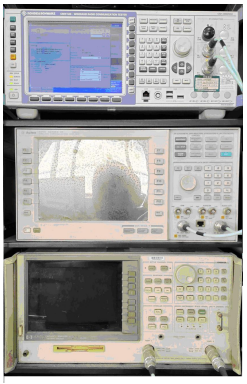
RF		ME	
Checked By			
Confirmed By			
Cust Confirm			

1. Electrical Specification:

Antenna types	Built-in WIFI Antenna
Frequency	2400-2500 MHz, 5150-5350MHZ,5730-5835MHz
Impedance	50 Ω
VSWR	< 2.0
Gain	2.4GHZ 1.5 dbi, 5.2GHZ 3.5dbi,5.8GHZ 5dbi
Efficiency	>35 %
Antenna Material	FPCB+Coaxial Cable
Connector Type	0.81 MHF-3-Plug

2. Test Condition

2.1	TEST ITEM	TESTING INSTRUMENT	REMARKS
1.PASSIVE TEST	1.TRP 2.TIS	1. 3D microwave darkroom (Satimo SG24) 2. Comprehensive test instrument（CMW500） 3. Agilent 8960 E5515C	
2.ACTIVE TEST	1. Antenna Gain 2. S.W.R 3. Return Loss 4. Radiation Pattern	1. Network analyzer （R&S ZVL6） 2. Network analyzer （HP 8753D）	

2.2 Matching Circuit The matching circuit was Default

3. RF Performance –WIFI Antenna

3.1 Active test data

Item	Standard	Band	Channel	Frequency	TRP	TIS
1	WIFI (AP)	WIFI_B (11M)	1	2412	**13.9**	**-64.33**
2	WIFI (AP)	WIFI_B (11M)	6	2437	**13.96**	**-64.32**
3	WIFI (AP)	WIFI_B (11M)	11	2462	**12.09**	**-64.01**
1	WIFI (AP)	WIFI_A (54M)	149	5745	**10.94**	**-67.2**
2	WIFI (AP)	WIFI_A (54M)	157	5785	**8.82**	**-66.03**
3	WIFI (AP)	WIFI_A (54M)	165	5825	**11.66**	**-68.04**

3.2 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

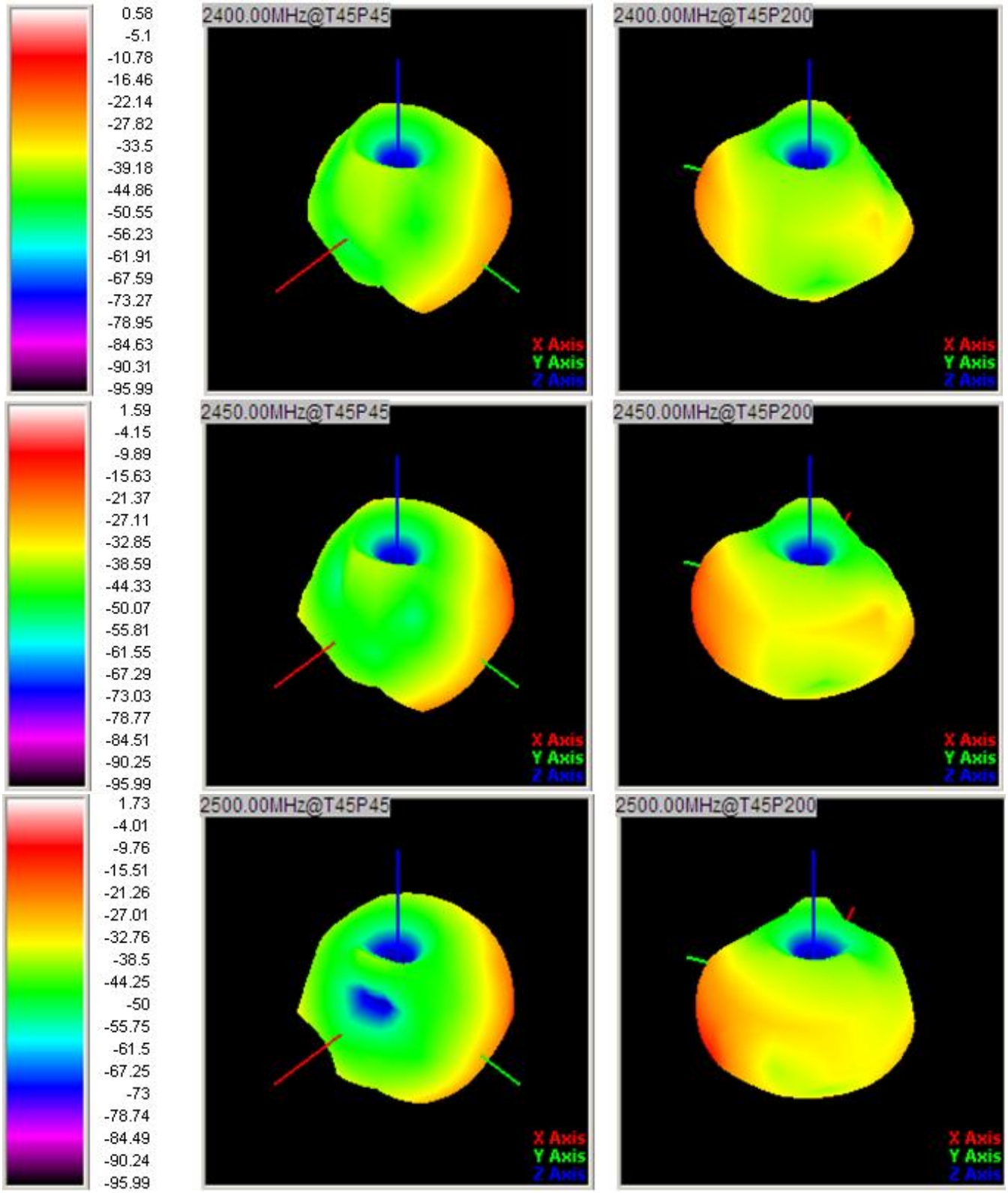
Freq. (MHz)	5150	5175	5200	5225	5250	5275	5300	5325	5350
Gain (dBi)	2.44	1.86	2.08	2.76	3.15	3.64	3.28	2.84	2.56

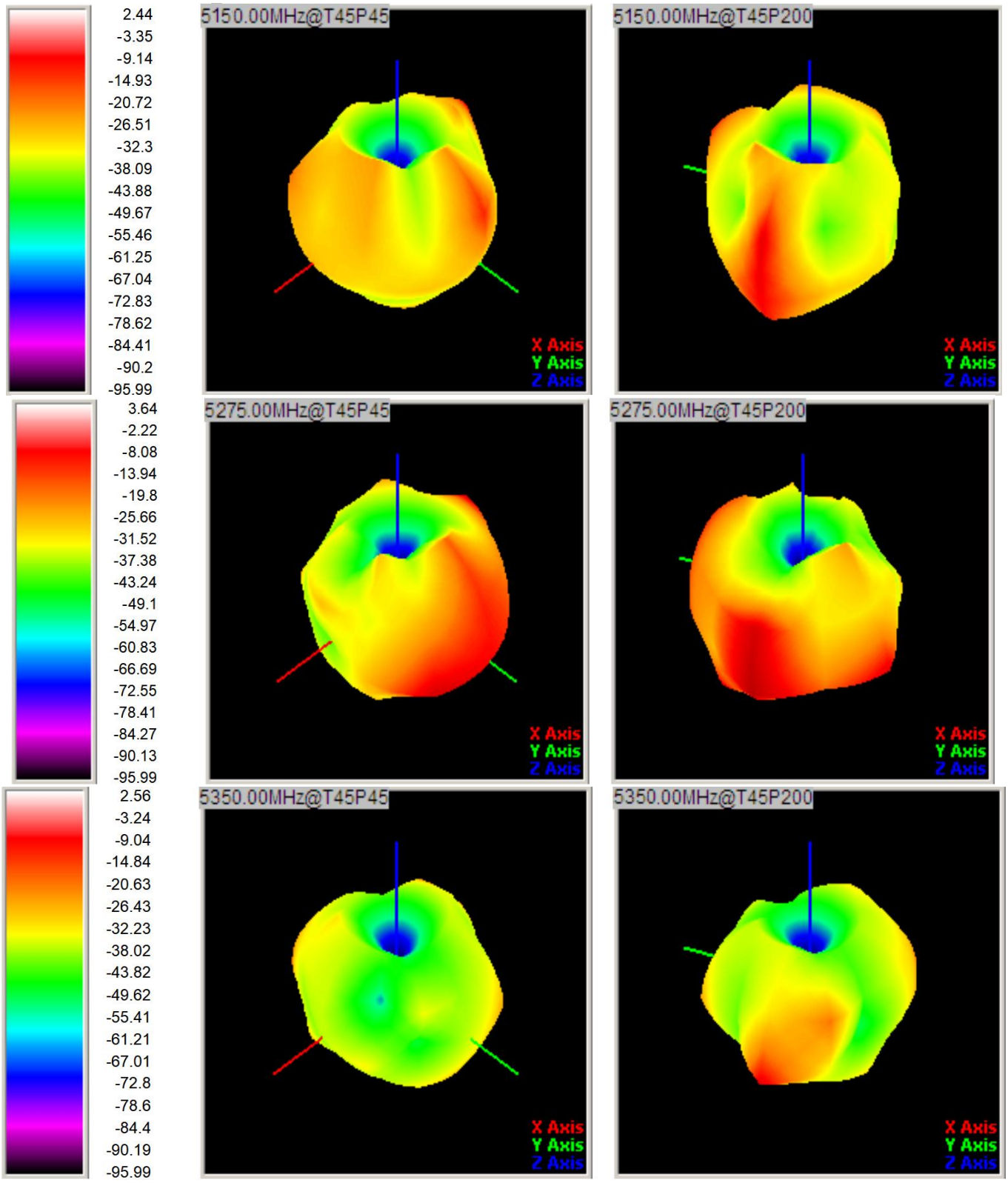
Freq. (MHz)	5720	5740	5760	5780	5800	5820	5840	5860	5880
Gain (dBi)	2.65	4.39	4.95	3.22	5.25	4.26	3.48	1.91	4.32

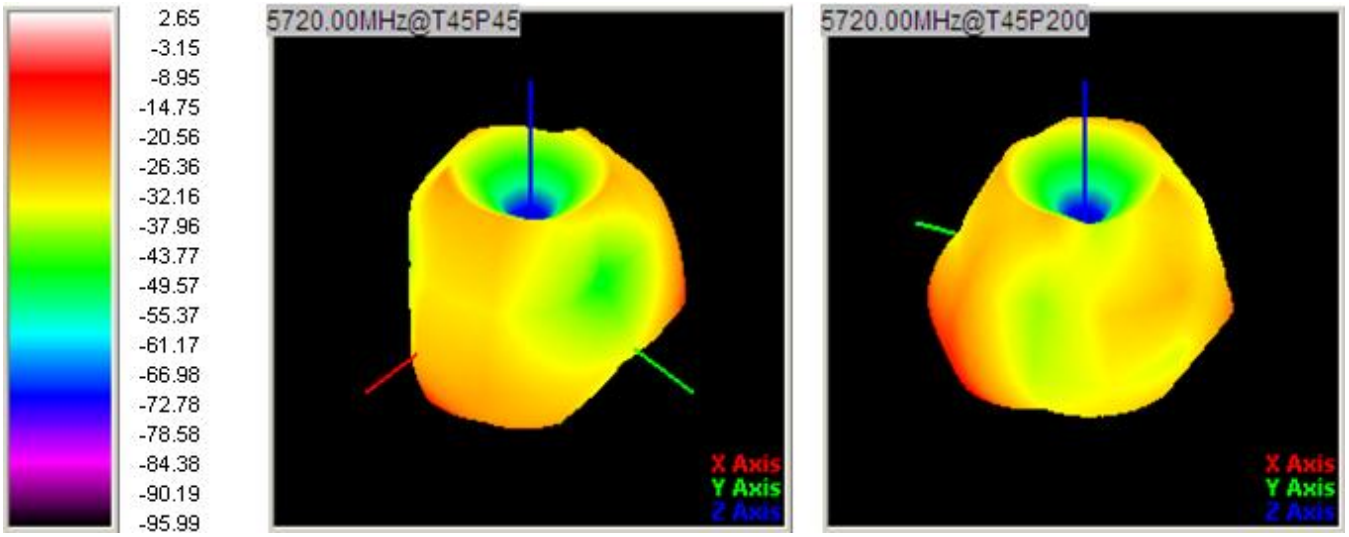
3.3 S Parameter

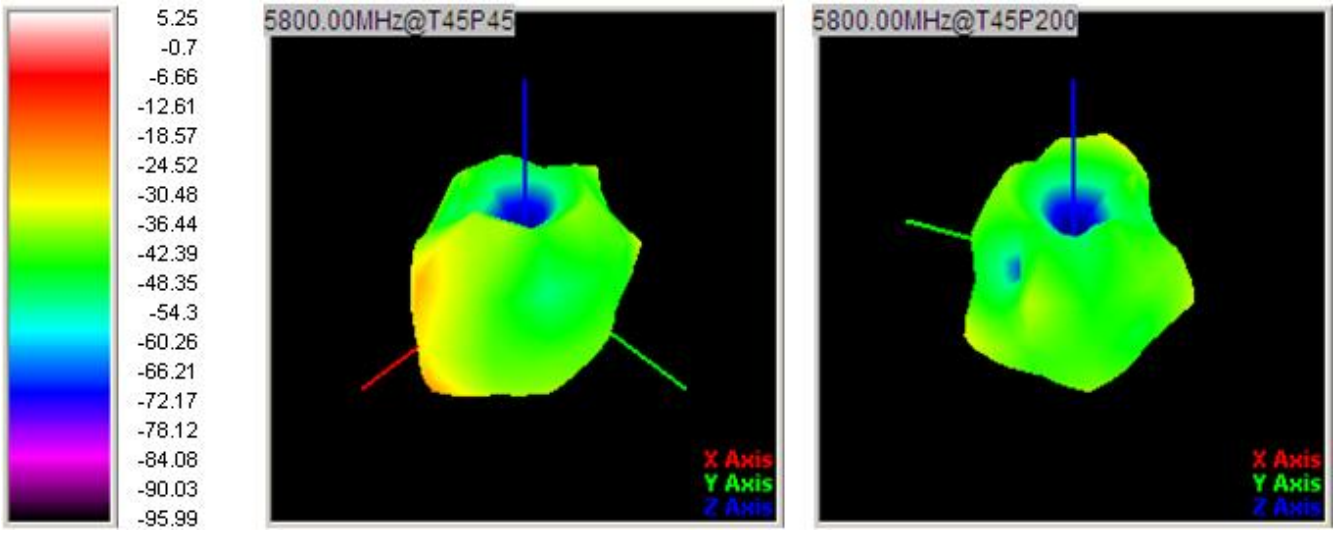
Frequency (MHz)	2400	2450	2480	5180	5320	5725	5875
Return Loss(dB)	-13.2	-20.6	-13.9	-10.36	-13.13	-17.5	-17.1
VSWR	1.53	1.27	1.6	1.89	1.6	1.28	1.33

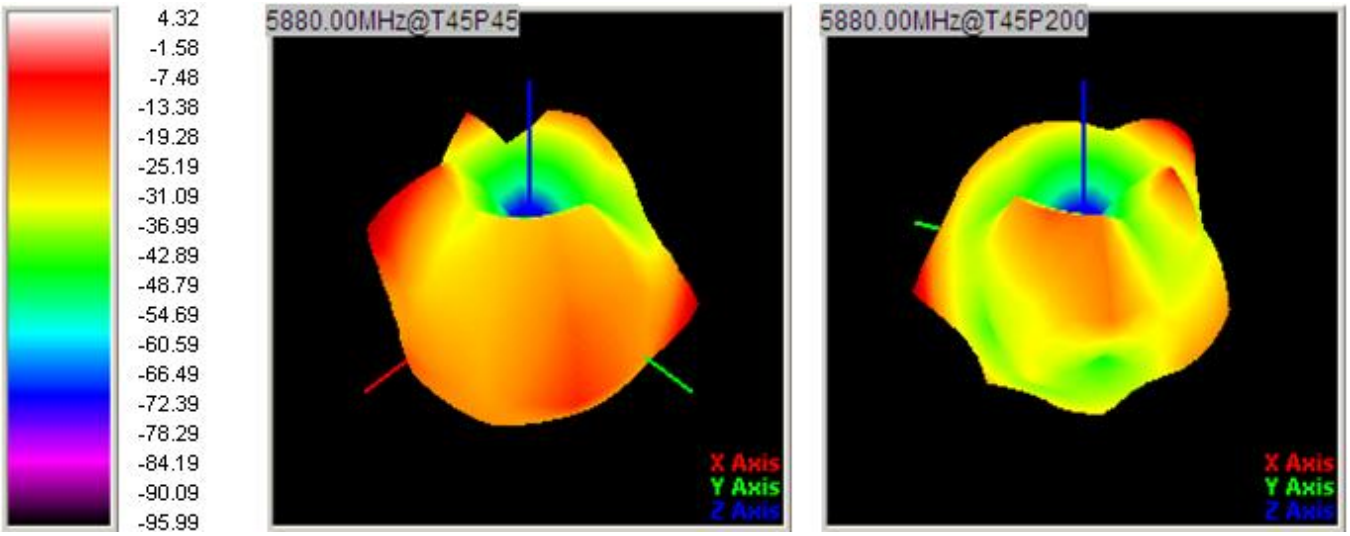
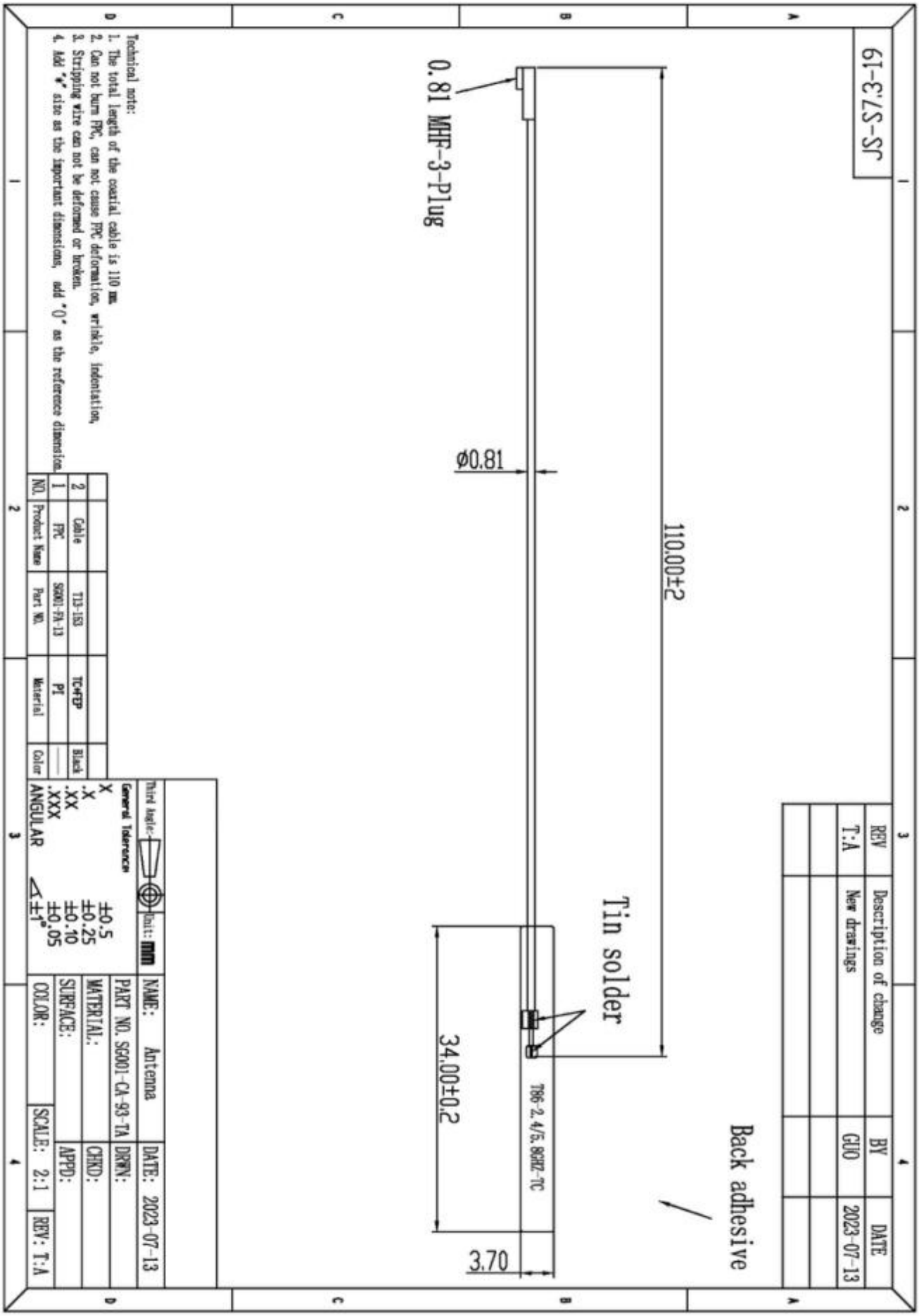
3.4 Antenna 3D Radiation Pattern (Unit:dbi)




2.44
-3.35
-9.14
-14.93
-20.72
-26.51
-32.3
-38.09
-43.88
-49.67
-55.46
-61.25
-67.04
-72.83
-78.62
-84.41
-90.2
-95.99
5150.00MHz@T45P45
X Axis
Y Axis
Z Axis
5150.00MHz@T45P200
X Axis
Y Axis
Z Axis
3.64
-2.22
-8.08
-13.94
-19.8
-25.66
-31.52
-37.38
-43.24
-49.1
-54.97
-60.83
-66.69
-72.55
-78.41
-84.27
-90.13
-95.99
5275.00MHz@T45P45
X Axis
Y Axis
Z Axis
5275.00MHz@T45P200
X Axis
Y Axis
Z Axis
2.56
-3.24
-9.04
-14.84
-20.63
-26.43
-32.23
-38.02
-43.82
-49.62
-55.41
-61.21
-67.01
-72.8
-78.6
-84.4
-90.19
-95.99
5350.00MHz@T45P45
X Axis
Y Axis
Z Axis
5350.00MHz@T45P200
X Axis
Y Axis
Z Axis


2.65
-3.15
-8.95
-14.75
-20.56
-26.36
-32.16
-37.96
-43.77
-49.57
-55.37
-61.17
-66.98
-72.78
-78.58
-84.38
-90.19
-95.99
5720.00MHz@T45P45
X Axis
Y Axis
Z Axis
5720.00MHz@T45P200
X Axis
Y Axis
Z Axis


5.25
-0.7
-6.66
-12.61
-18.57
-24.52
-30.48
-36.44
-42.39
-48.35
-54.3
-60.26
-66.21
-72.17
-78.12
-84.08
-90.03
-95.99
5800.00MHz@T45P45
X Axis
Y Axis
Z Axis
5800.00MHz@T45P200
X Axis
Y Axis
Z Axis


4.32
-1.58
-7.48
-13.38
-19.28
-25.19
-31.09
-36.99
-42.89
-48.79
-54.69
-60.59
-66.49
-72.39
-78.29
-84.19
-90.09
-95.99
5880.00MHz@T45P45
X Axis
Y Axis
Z Axis
5880.00MHz@T45P200
X Axis
Y Axis
Z Axis

4.ME Drawing for the antenna