



## Antenna Approval Sheet

For

**WIFI/BT-PCB 天线 Project**

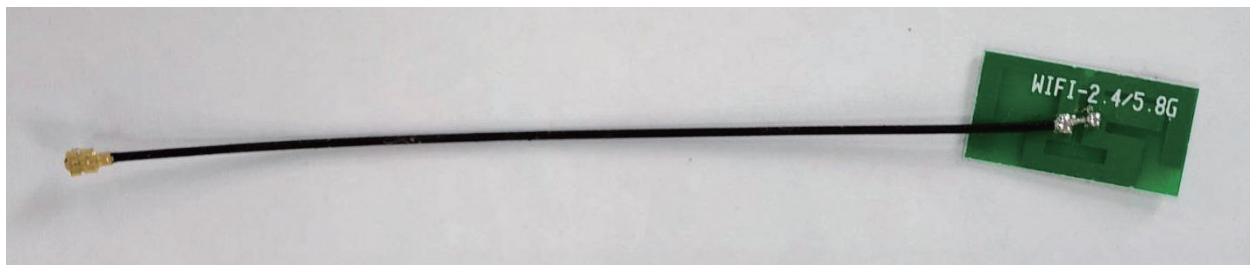
Customer	爱尚互动	Project	WIFI/BT-PCB 天线
Band	WiFi 2.4GHZ/5GHZ/BT2.4GHZ		
ZC PN	AE001-PA-96		
Version	R:A	Data	2023-11-7

RF		ME	
Checked By			
Confirmed By			
Cust Confirm			



## 1. Summary of the DUT

### Antenna Picture



## 2. Electrical Specification:

Antenna types	Built-in WIFI/BT antenna
Frequency	2400-2500 MHz, 5150-5350MHz, 5725-5825MHz
Impedance	50 $\Omega$
VSWR	< 2.0
Peak Gain	2.4GHZ 1.73dbi, 5.1GHZ 5.25dbi, 5.8GHZ 5.25dbi
Efficiency	>35 %
Antenna Material	PCB+同轴线
Connector Type	1.13 MHF-1-Plug

## 2. Test Condition

3.1	测试项目	测试设备和型号	备注
1.有源测试	1. TRP 2. TIS	1. 3D microwave darkroom (Satimo SG24) 2. Comprehensive test instrument (CMW500) 3. Agilent 8960 E5515C	
2.无源测试	1. Antenna Gain 2. S.W.R 3. Return Loss 4. Radiation Pattern	1. Network analyzer (R&S ZVL6) 2. Network analyzer (HP 8753D)	

### 3.2 Matching Circuit The matching circuit was Default



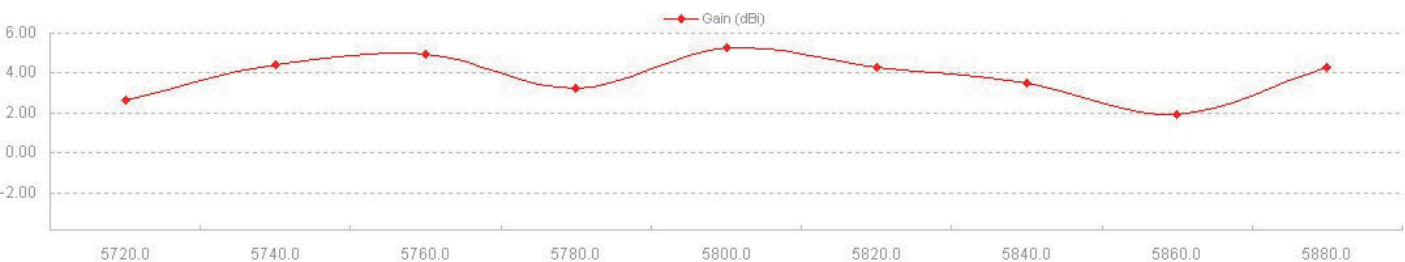
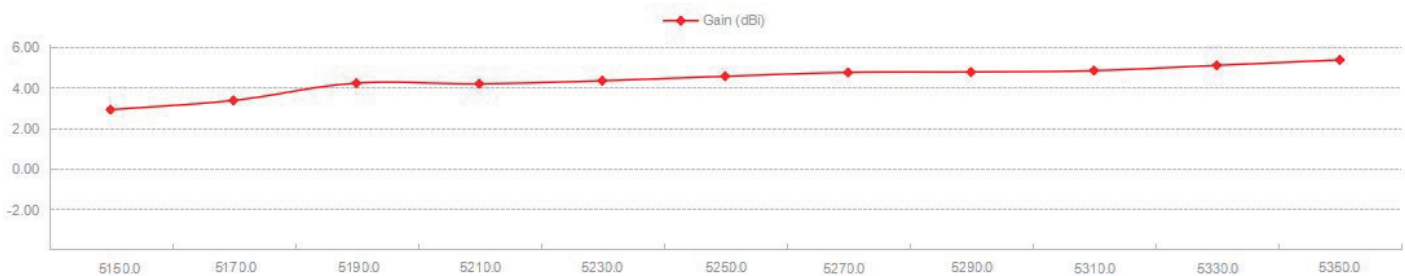
## 4.1 RF Performance-WIFI

### 4.1.1 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
Efficiency (%)	40.3	40.2	40.7	42.4	44.6	48.4	42.2	36.3	40	42.5	45.4

Freq. (MHz)	5150	5170	5190	5210	5230	5250	5270	5290	5310	5330	5350
Gain (dBi)	2.90	3.36	4.21	4.18	4.33	5.25	4.74	4.76	4.83	5.09	4.55
Efficiency (%)	<b>41.60</b>	<b>43.10</b>	<b>46.90</b>	<b>49.40</b>	<b>51.10</b>	<b>51.50</b>	<b>53.20</b>	<b>53.20</b>	<b>54.10</b>	<b>54.40</b>	<b>56.20</b>

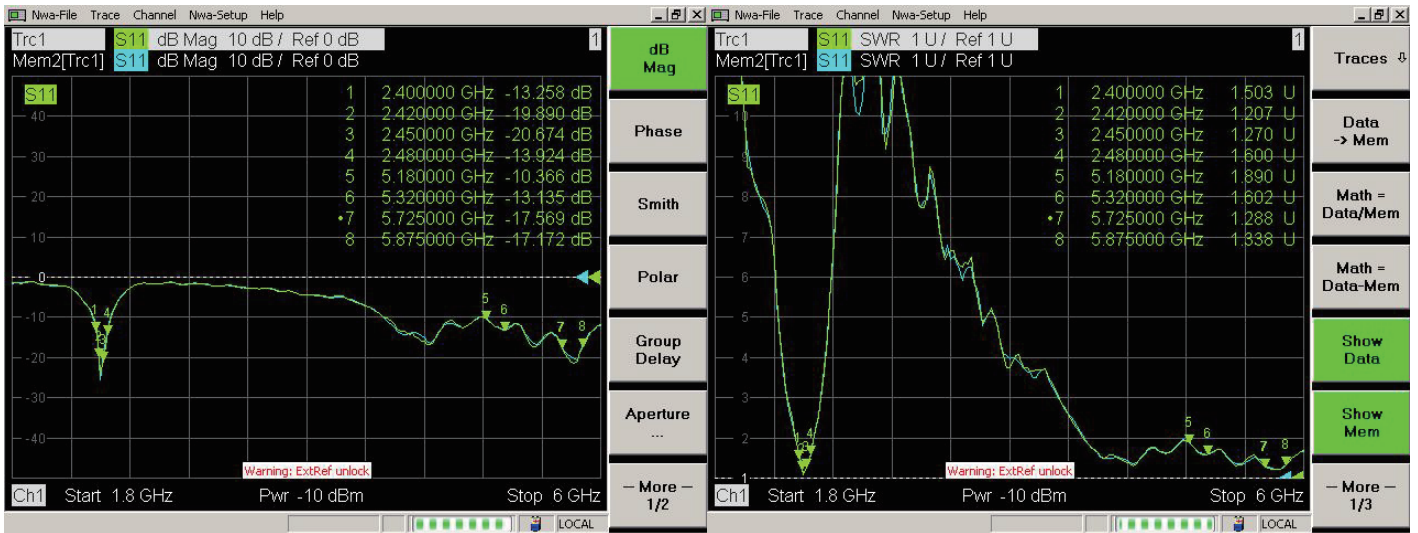
Freq. (MHz)	5720	5740	5760	5780	5800	5820	5840	5860	5880
Gain (dBi)	2.65	4.39	4.95	3.22	5.25	4.26	3.48	1.91	4.32
Efficiency (%)	52.2	57.4	56.4	60.4	60.6	54.3	58.9	53.6	52.4



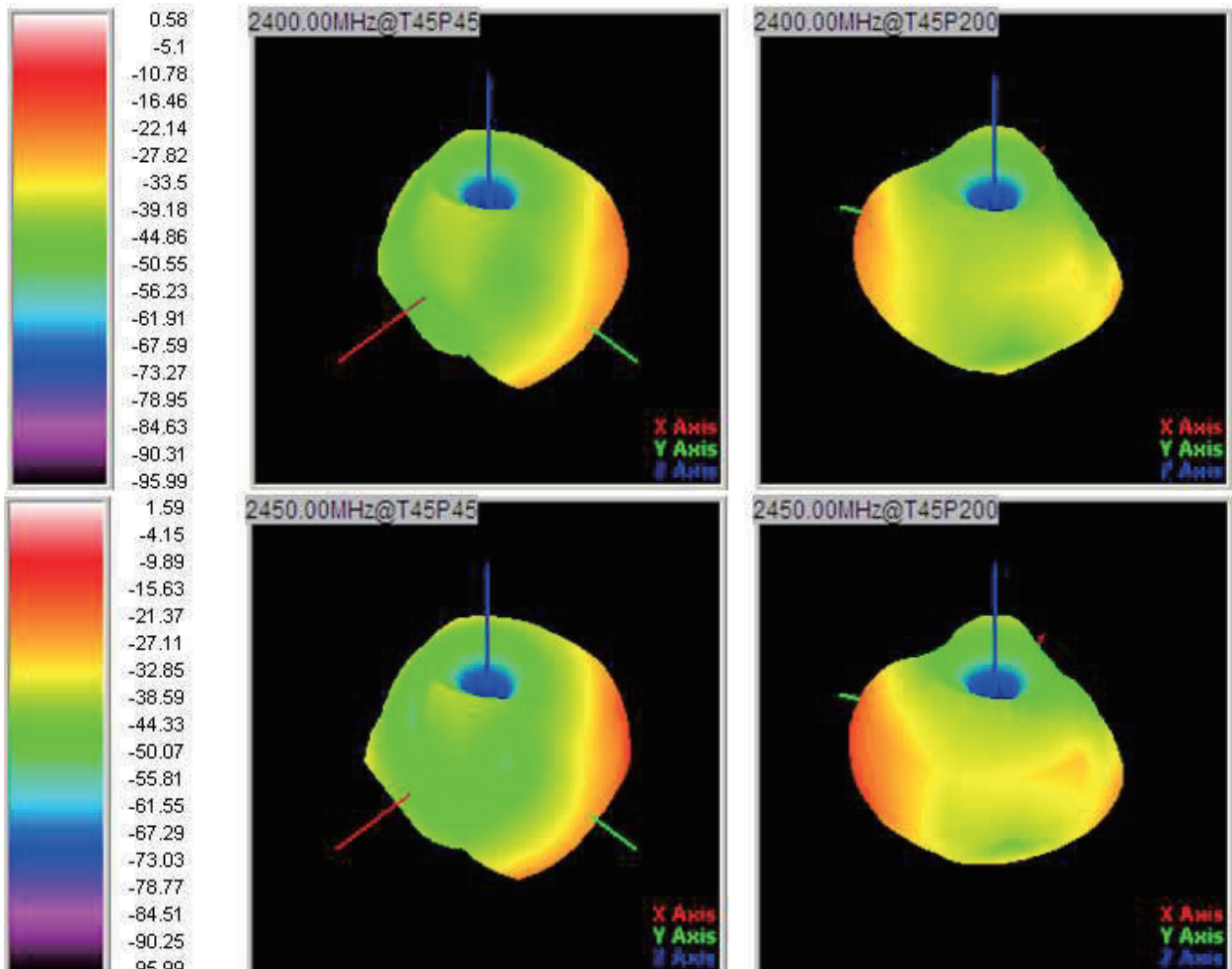


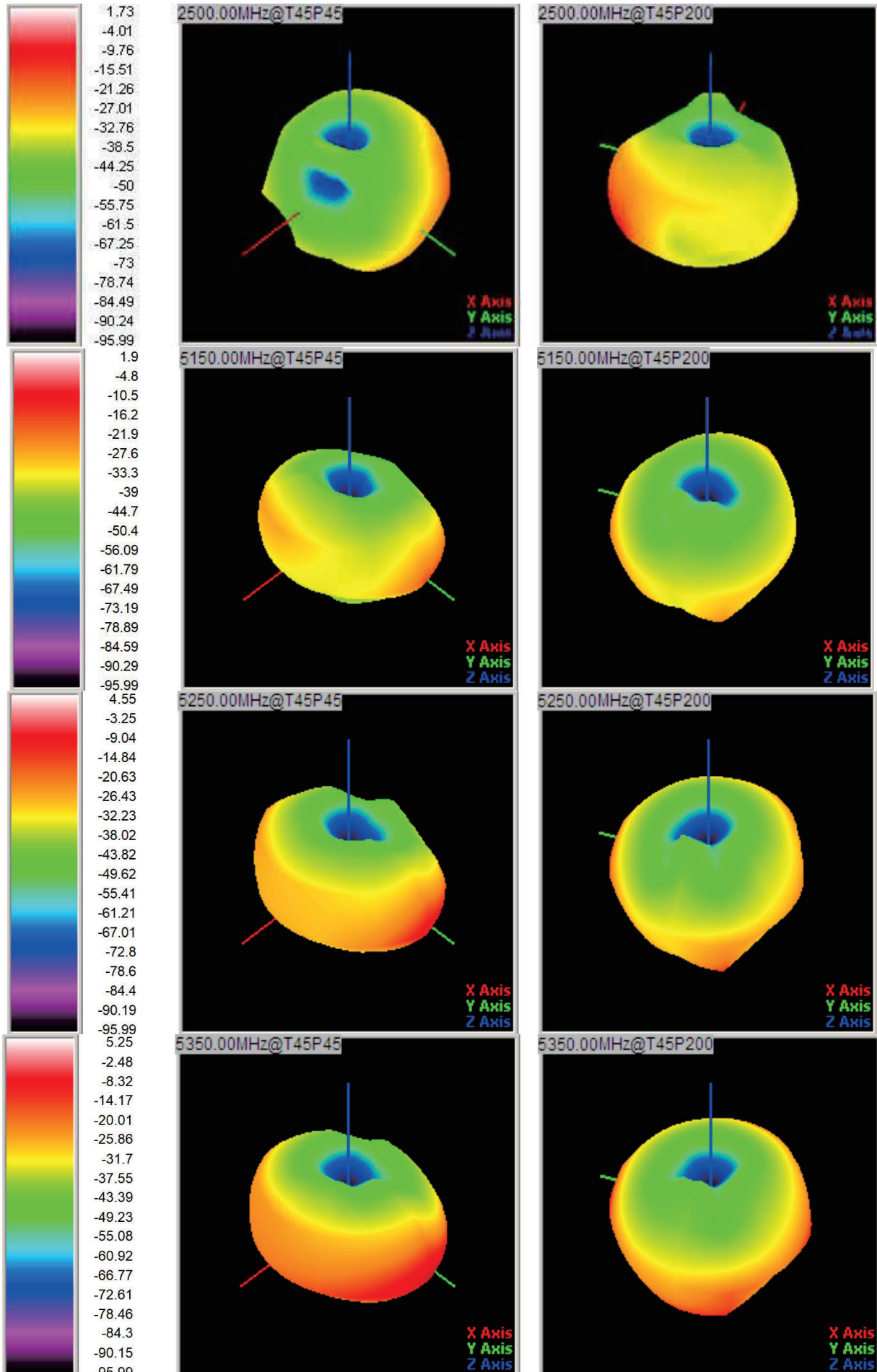
### 4.1.2 S Parameter

Frequency (MHz)	2400	2450	2480	5180	5320	5725	5875
Return Loss (dB)	-13.2	-20.6	-13.9	-10.3	-13.1	-17.5	-17.1
VSWR	1.53	1.27	1.6	1.89	1.6	1.28	1.33

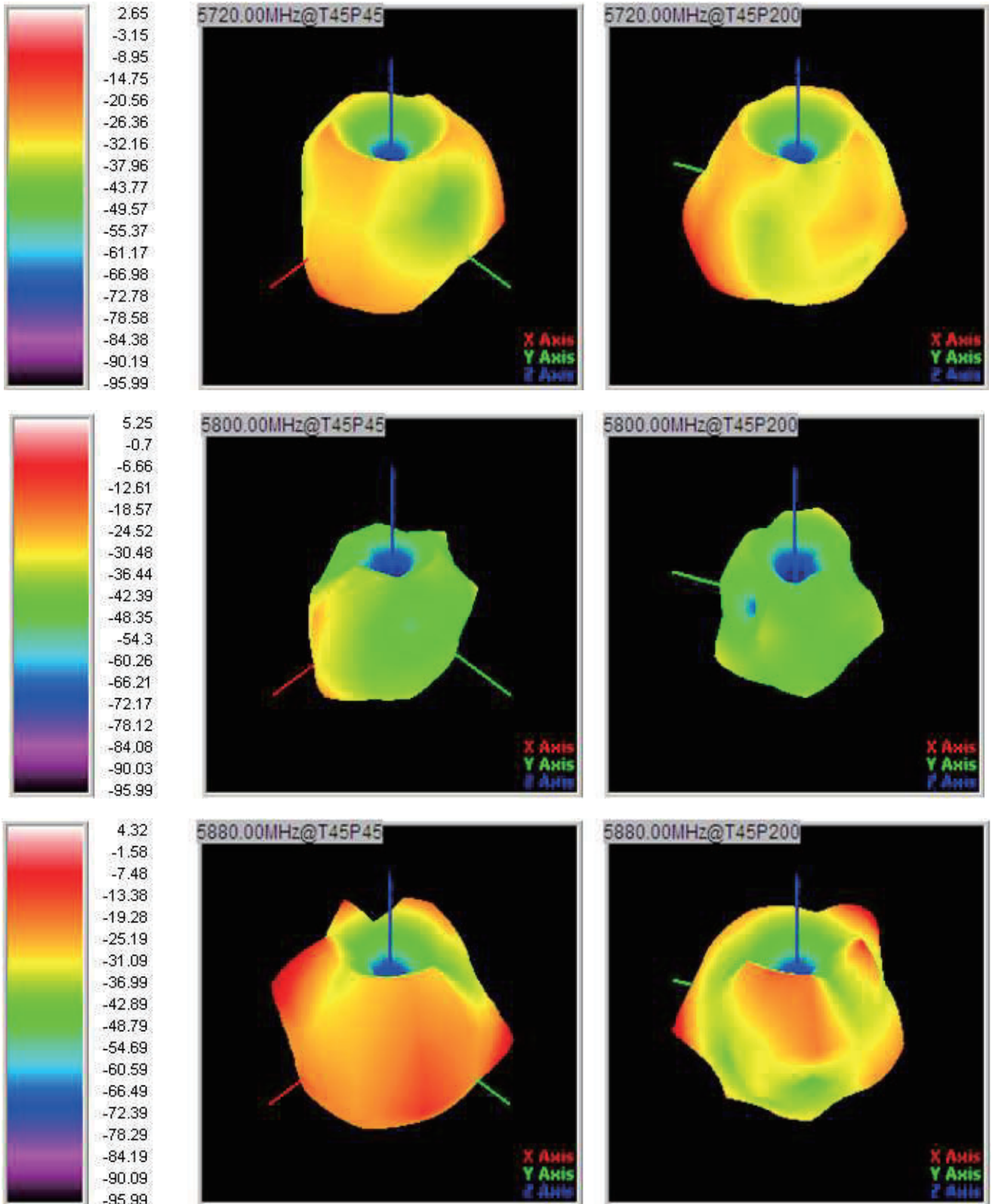


### 4.1.3 Antenna 3D Radiation Pattern (Unit:dbi)









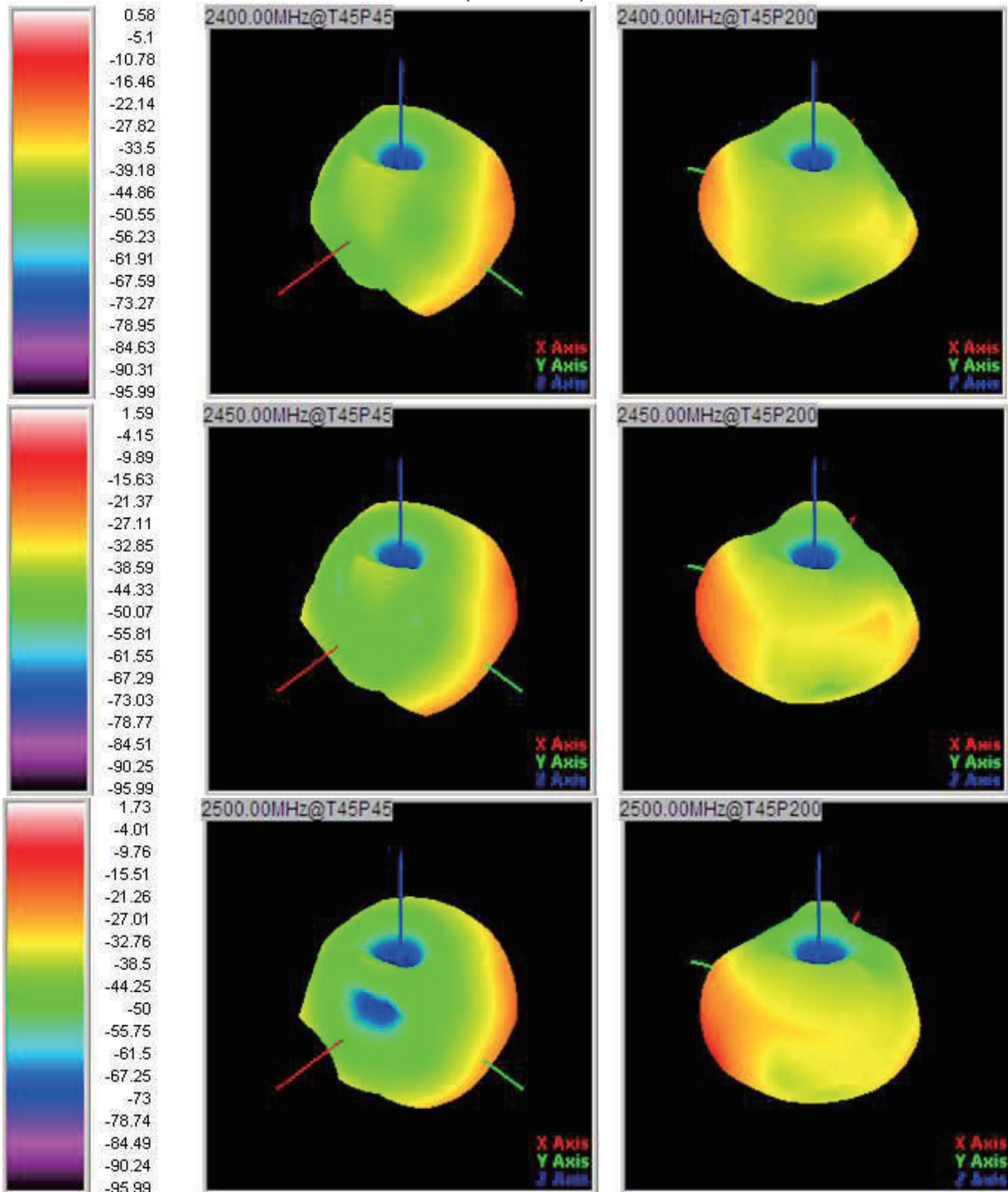


## 4.2 RF Performance-BT

### 4.2.1 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
Efficiency (%)	40.3	40.2	40.7	42.4	44.6	48.4	42.2	36.3	40	42.5	45.4

### 4.2.2 Antenna 3D Radiation Pattern (Unit:dbi)





### 3. ME Drawing for the antenna

