BT Antenna Product Approval

Name of antenna manufacturer：Guangdong Jinshun Technology Co., LTD

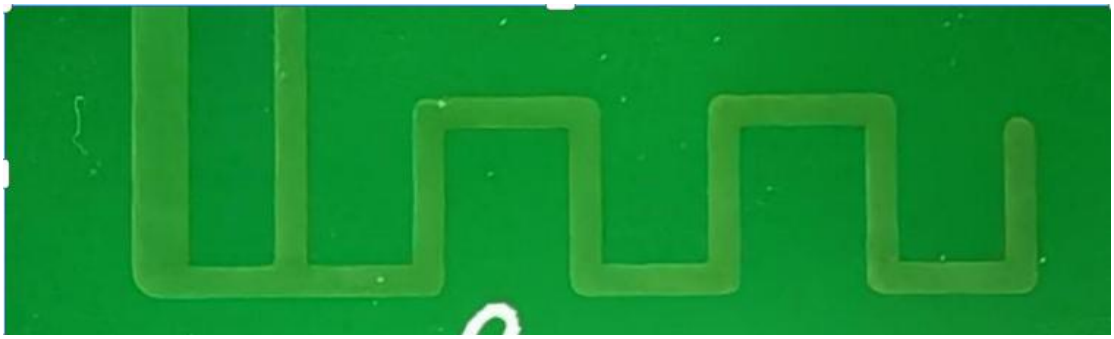
Address of antenna manufacturer：The back block of the Auto Parts City in the South Development Zone, Tangkeng Town, Fengshun County

1. Antenna Introduction

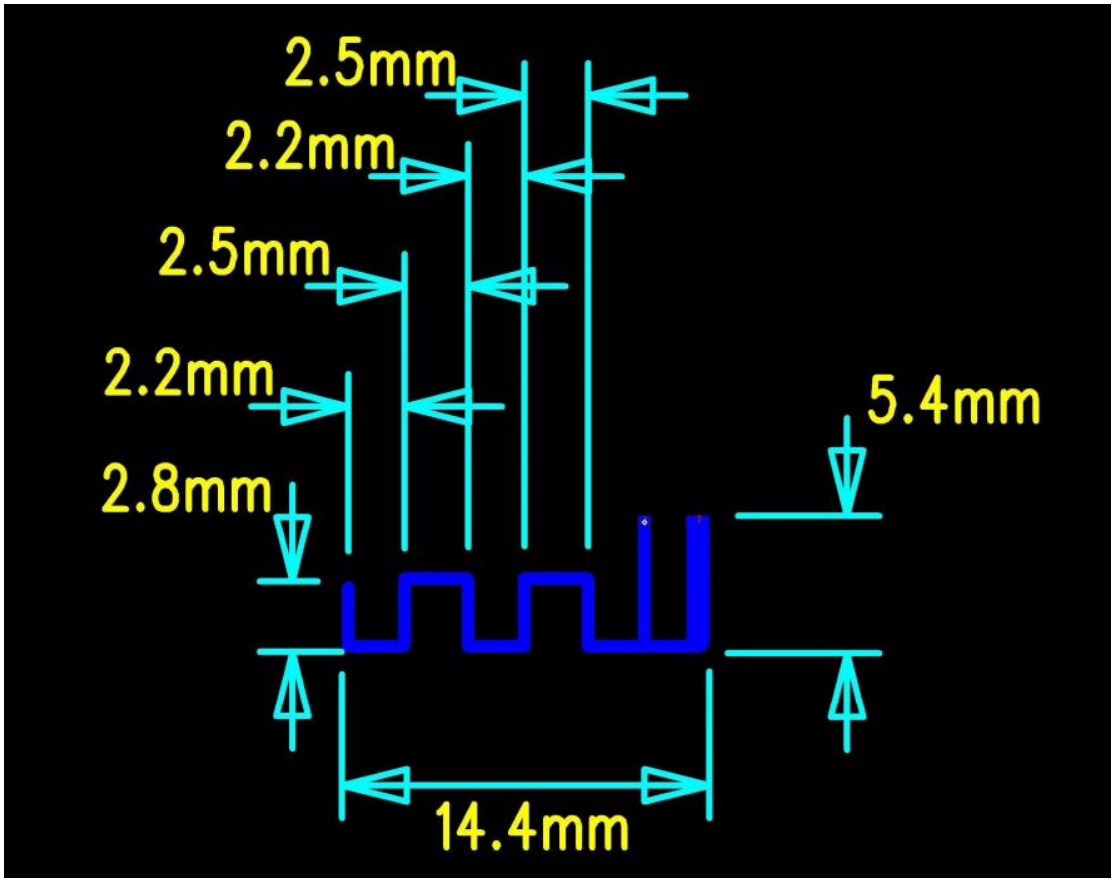
Our Bluetooth antenna is directly mounted on the PCB board using a copper foil and tin spraying process. The copper foil thickness: 1OZ, and the board is made of FR-4 material with a thickness of 1.6mm.

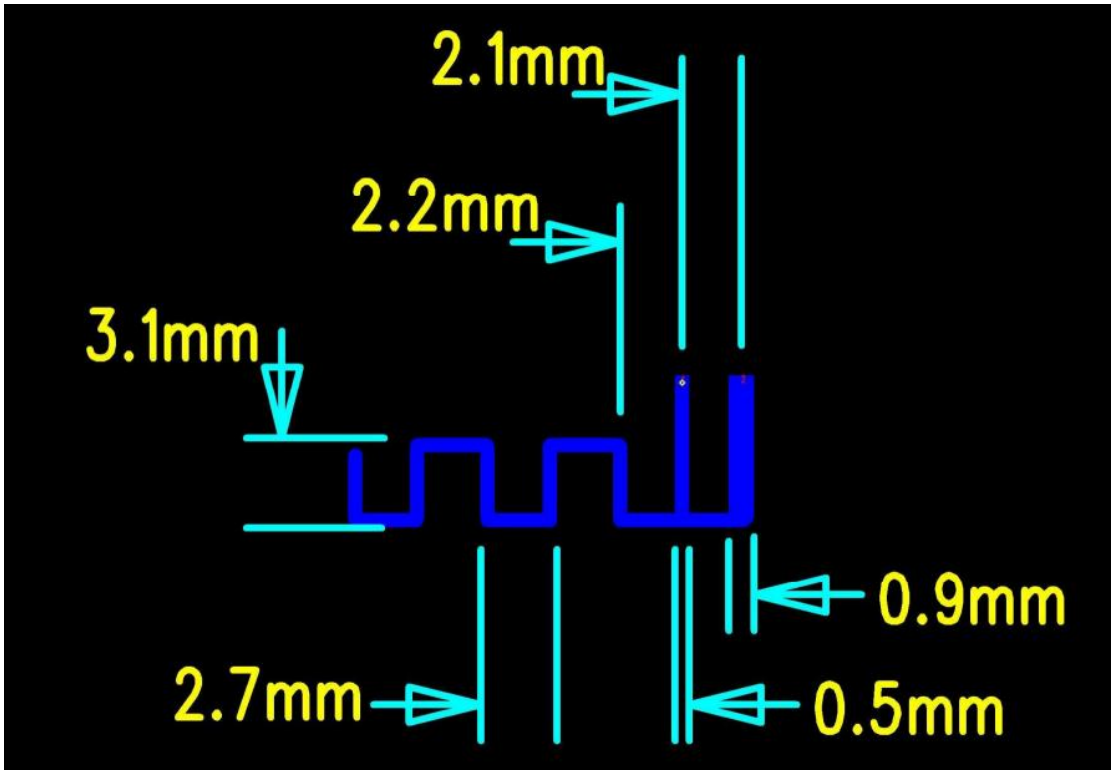
2. Antenna Appearance

(1) Physical picture



(2) Dimensional drawing: 14.5mm * 5.4mm





3. Antenna Parameters

The working frequency of Bluetooth is between 2402-2480 MHz, where resonance occurs.

The following table shows the main parameters of the antenna:

Bluetooth built-in antenna	
Frequency(MHz)	2402~2500MHz
VSWR	≤1.92
Impedance	50OhmNominal
Return Loss	-10dBMax
Radiation	Omni - directional
Gain(Peak)	0.5dBi
Polarization	Linear, Vertical

Bluetooth built-in antenna	
Admitted Power	2W
Connector	Tin

4. Antenna Gain Detection Report

Spectrum Detector: PK

Test Date: June 8, 2013

Test By: Andy

Temperature: 28 ℃

Test Result: PASS

Humidity: 55 %

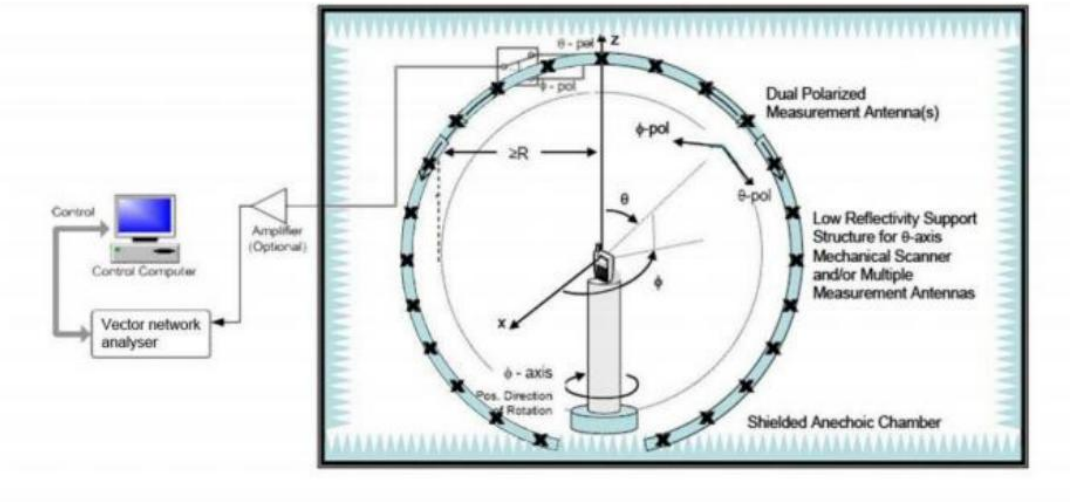
Modulation: GFSK

Maximum gain value:

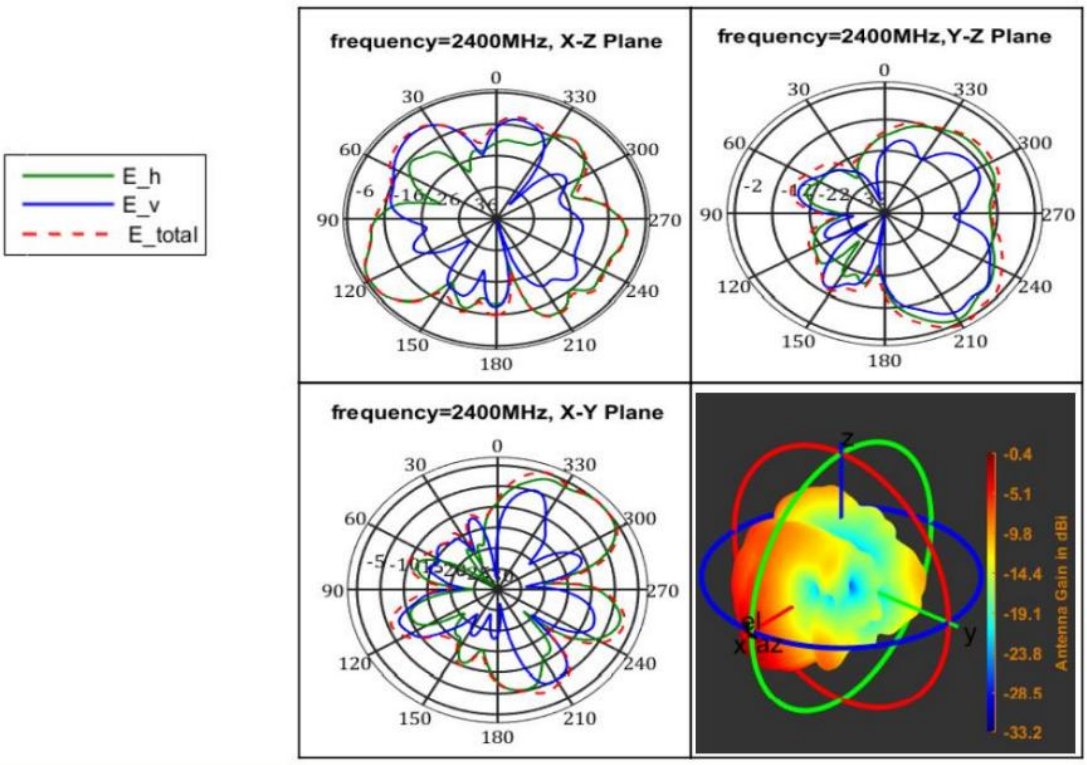
Frequency VNA：(MHz)	E Total.dB(dB)
2400MHz	-0.41
2410MHz	-0.18
2420MHz	0.34
2430MHz	0.50
2440MHz	0.38
2450MHz	-0.01
2460MHz	-0.06
2470MHz	-0.42
2480MHz	-0.74
2490MHz	-0.85

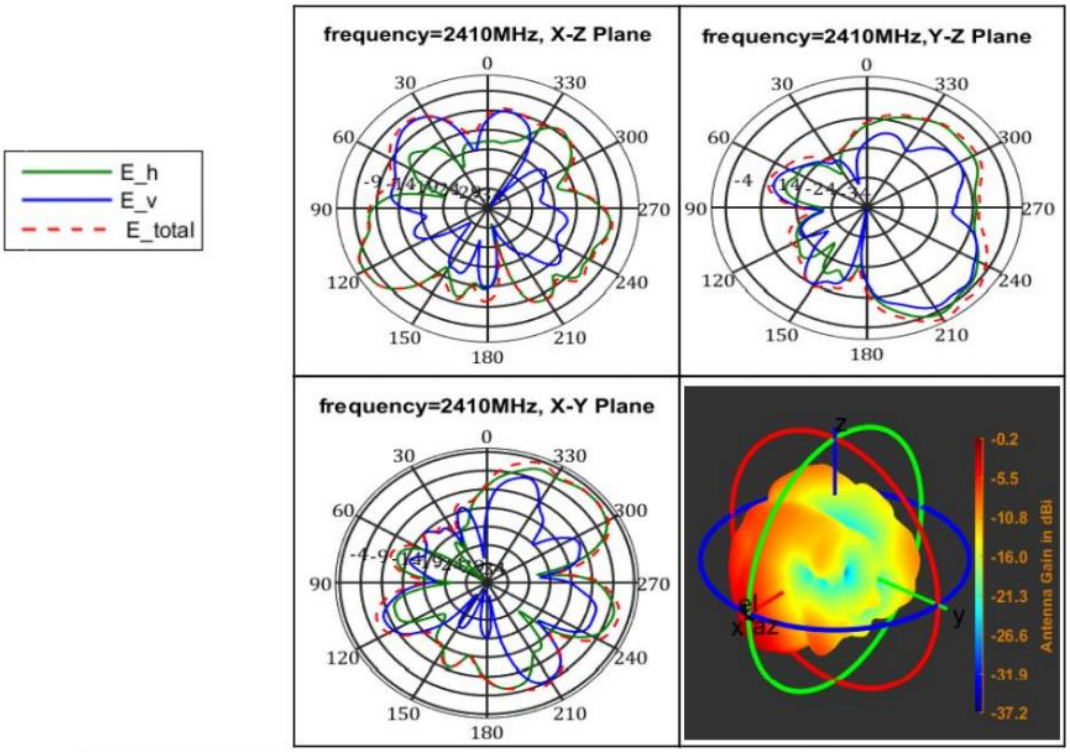
Frequency VNA：(MHz)	E Total.dB(dB)
2500MHz	-1.13

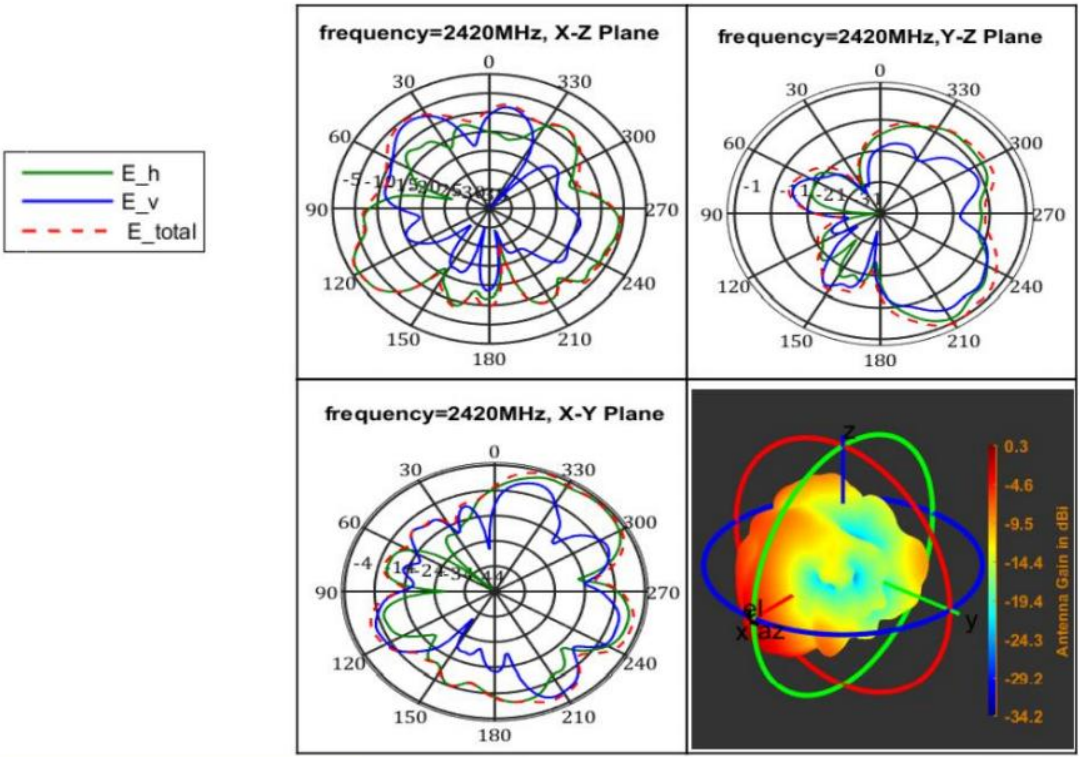
5. Test Setup：

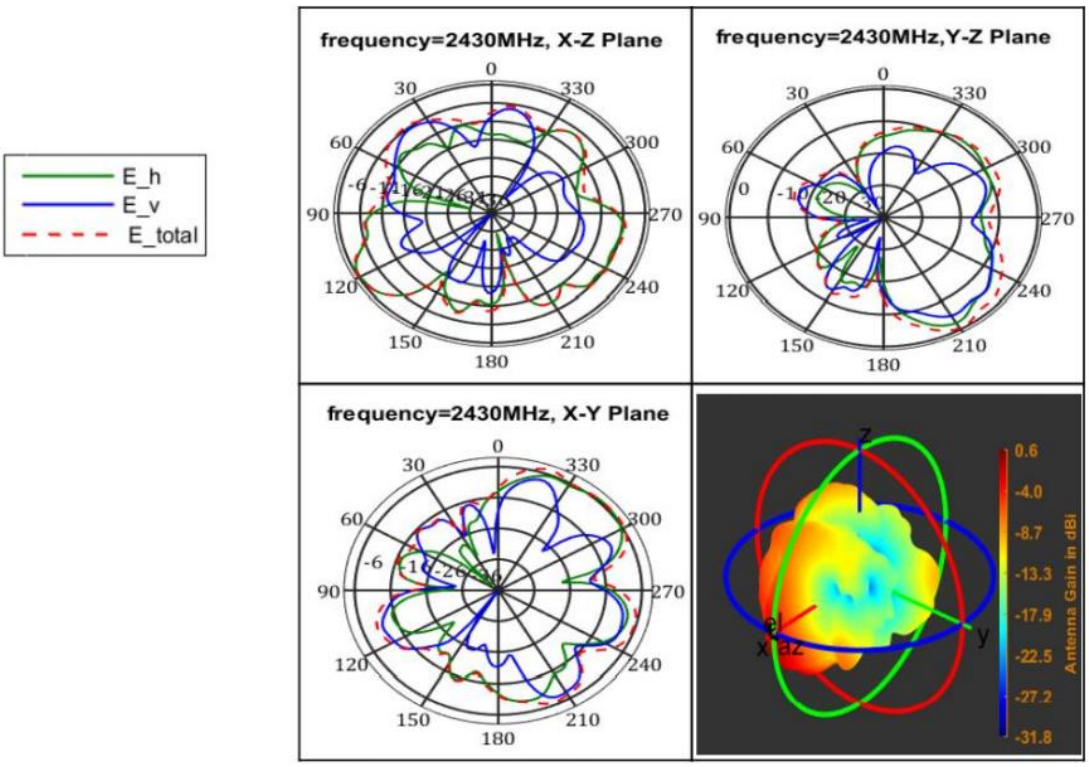


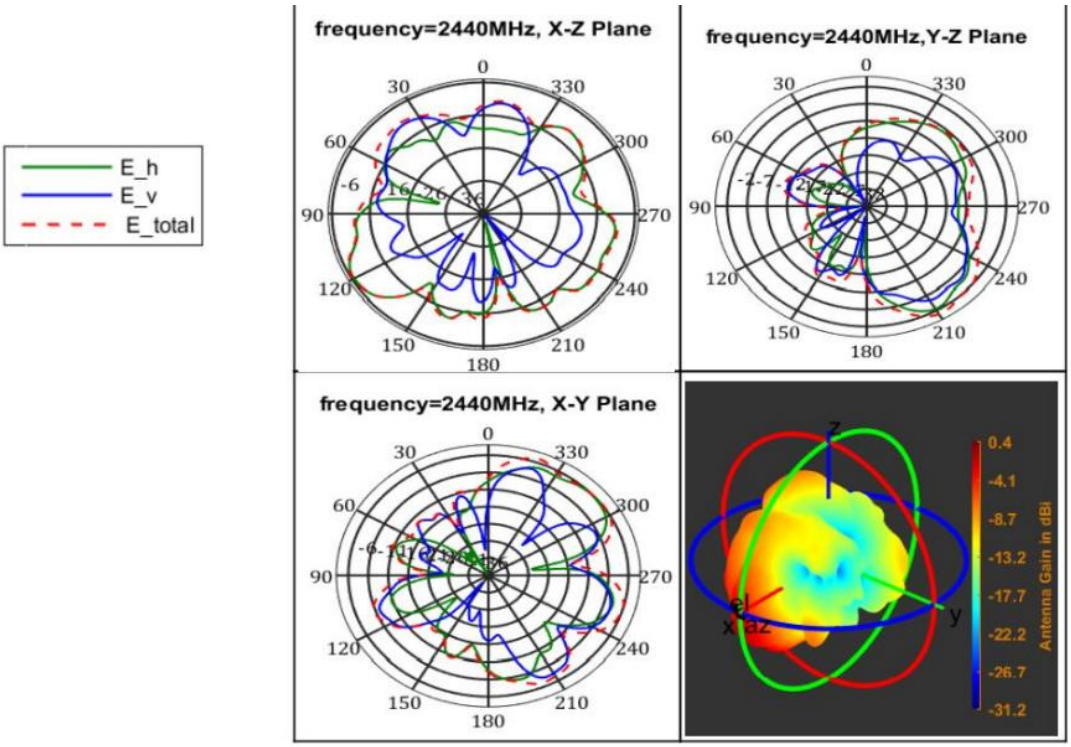
6. 2D Radiation Pattern

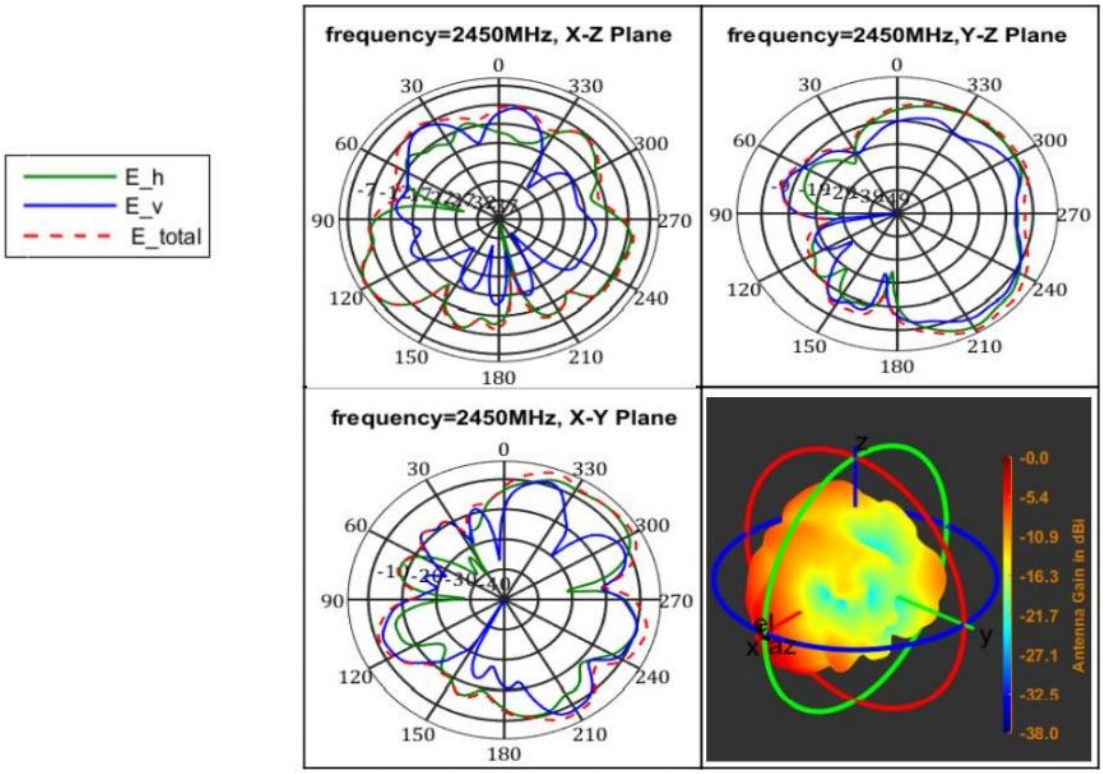


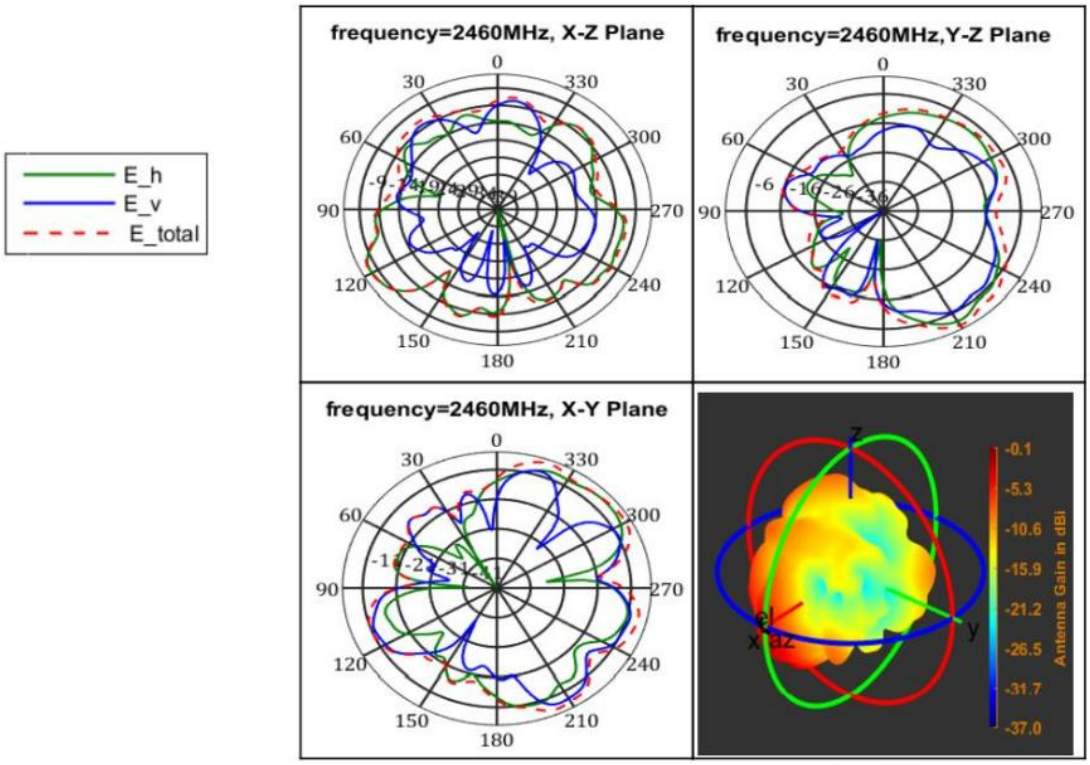

E_h
E_v
E_total
frequency=2410MHz, X-Z Plane
frequency=2410MHz,Y-Z Plane
frequency=2410MHz, X-Y Plane
0
30
60
90
120
150
180
210
240
270
300
330
-0.2
-5.5
-10.8
-16.0
-21.3
-26.6
-31.9
-37.2
Antenna Gain in dBi
z
y
x

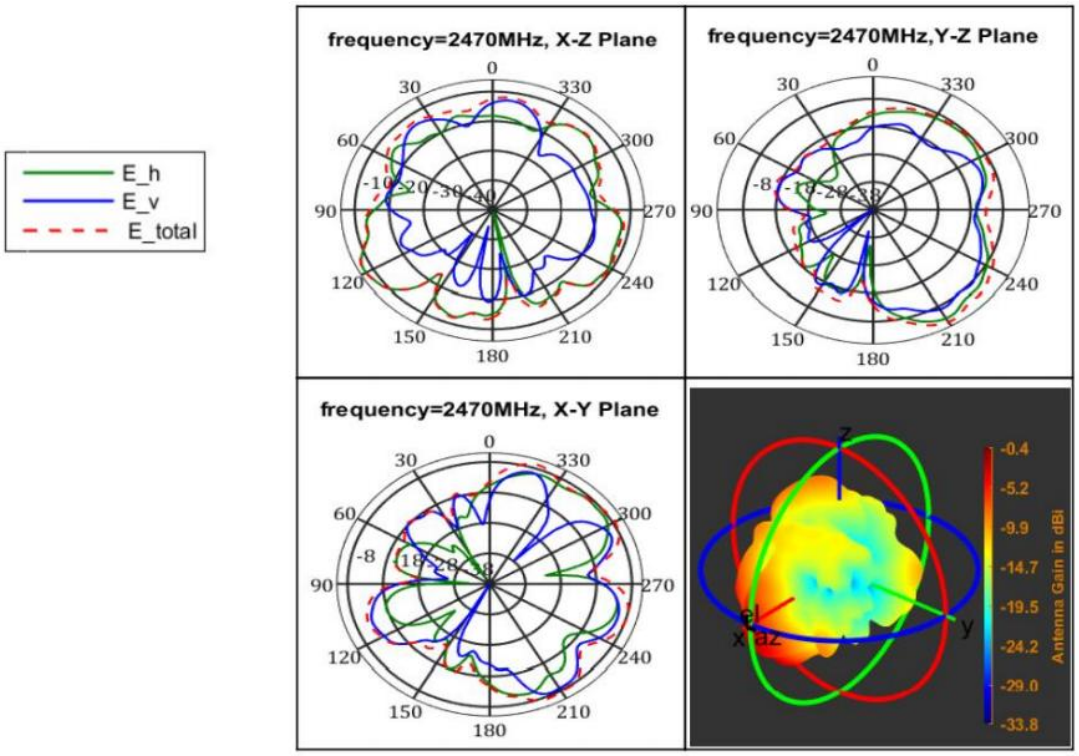

E_h
E_v
E_total
frequency=2420MHz, X-Z Plane
frequency=2420MHz,Y-Z Plane
frequency=2420MHz, X-Y Plane
0.3
-4.6
-9.5
-14.4
-19.4
-24.3
-29.2
-34.2
Antenna Gain in dBi

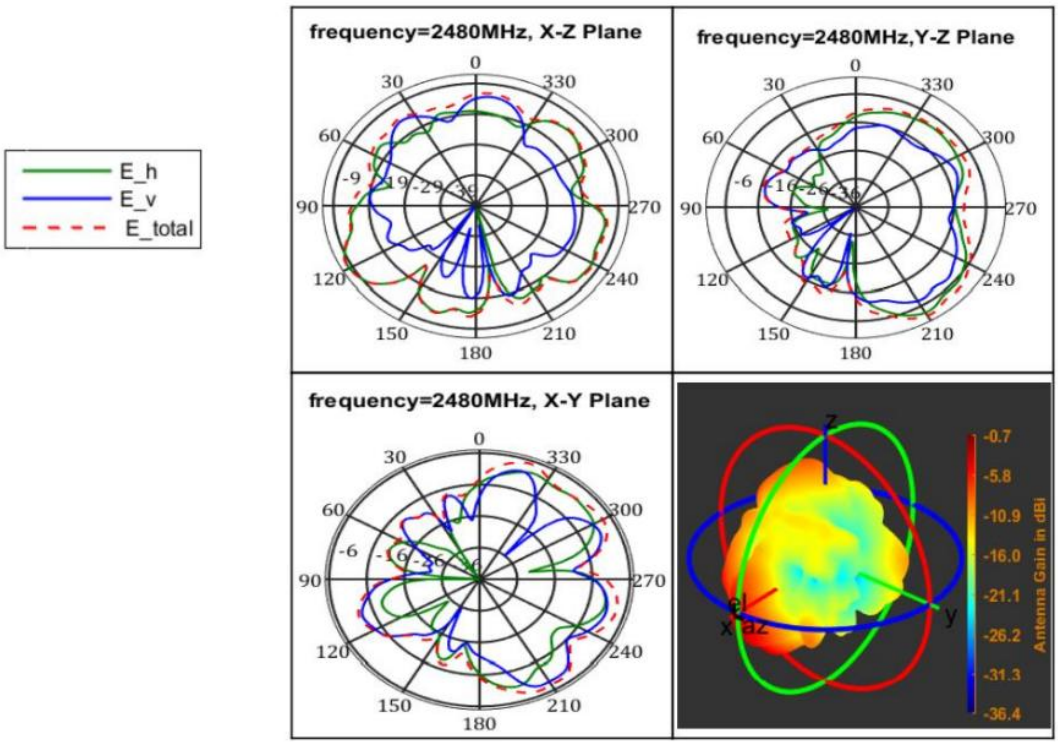

E_h
E_v
E_total
frequency=2430MHz, X-Z Plane
frequency=2430MHz,Y-Z Plane
frequency=2430MHz, X-Y Plane
0.6
-4.0
-8.7
-13.3
-17.9
-22.5
-27.2
-31.8
Antenna Gain in dBi

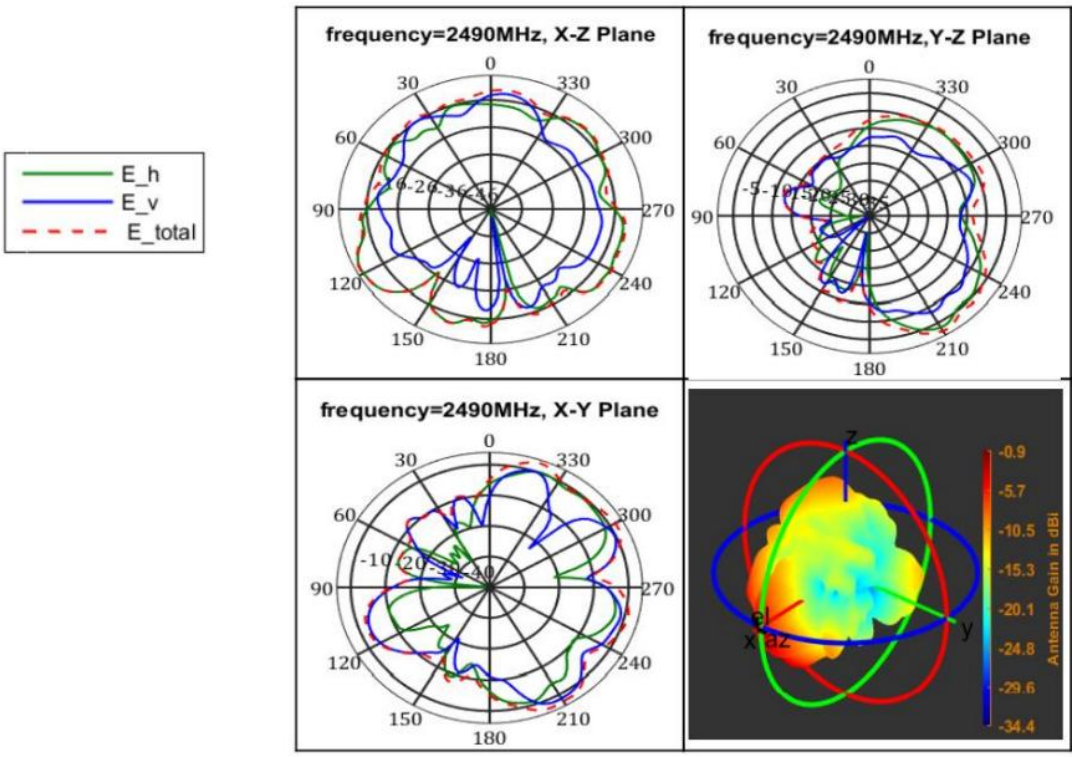

E_h
E_v
E_total
frequency=2440MHz, X-Z Plane
frequency=2440MHz,Y-Z Plane
frequency=2440MHz, X-Y Plane
Antenna Gain in dBi
0.4
-4.1
-8.7
-13.2
-17.7
-22.2
-26.7
-31.2

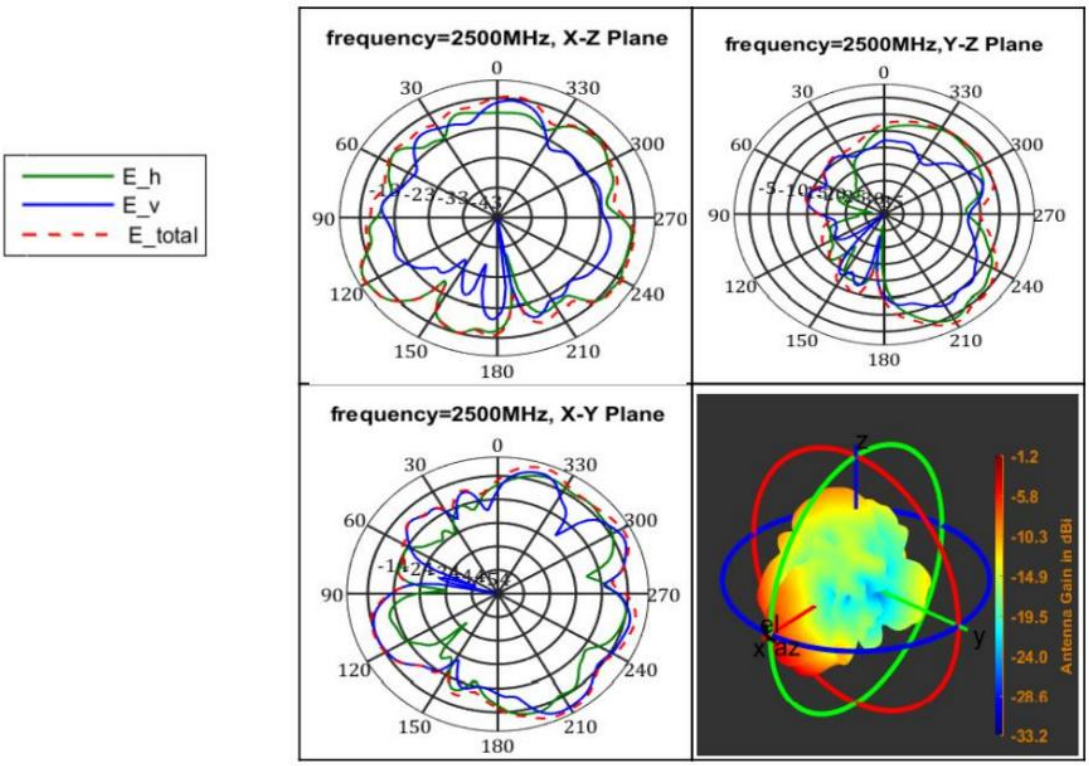

E_h
E_v
E_total
frequency=2450MHz, X-Z Plane
frequency=2450MHz,Y-Z Plane
frequency=2450MHz, X-Y Plane
Antenna Gain in dBi
-0.0
-5.4
-10.9
-16.3
-21.7
-27.1
-32.5
-38.0


E_h
E_v
E_total
frequency=2460MHz, X-Z Plane
frequency=2460MHz,Y-Z Plane
frequency=2460MHz, X-Y Plane
Antenna Gain in dBi
-0.1
-5.3
-10.6
-15.9
-21.2
-26.5
-31.7
-37.0


E_h
E_v
E_total
frequency=2470MHz, X-Z Plane
frequency=2470MHz,Y-Z Plane
frequency=2470MHz, X-Y Plane
Antenna Gain in dBi
-0.4
-5.2
-9.9
-14.7
-19.5
-24.2
-29.0
-33.8


E_h
E_v
E_total
frequency=2480MHz, X-Z Plane
frequency=2480MHz,Y-Z Plane
frequency=2480MHz, X-Y Plane
0
30
330
60
300
90
270
120
240
150
210
180
-9
-19
-29
-39
-6
-16
-26
-36
z
y
x
el
az
-0.7
-5.8
-10.9
-16.0
-21.1
-26.2
-31.3
-36.4
Antenna Gain in dBi


E_h
E_v
E_total
frequency=2490MHz, X-Z Plane
frequency=2490MHz,Y-Z Plane
frequency=2490MHz, X-Y Plane
Antenna Gain in dBi
-0.9
-5.7
-10.5
-15.3
-20.1
-24.8
-29.6
-34.4


E_h
E_v
E_total
frequency=2500MHz, X-Z Plane
frequency=2500MHz,Y-Z Plane
frequency=2500MHz, X-Y Plane
Antenna Gain in dBi
-1.2
-5.8
-10.3
-14.9
-19.5
-24.0
-28.6
-33.2

PHI 90 degrees