Testing Report

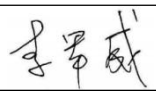
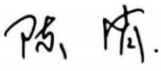
Customer Name: SHENZHENSHIXINZHONGXIN TECHNOLOGY.CO.,LTD

Product Name: BT Antenna

Sample Model: SPKA740

Reference Standard: *GB/T9410-2008; ANSI/IEEE Std 149-1979*

Issue Date: 2023.06.16

Engineer:		Date:2023.06.16
Auditor:		Date:2023.06.16
Approver:		Date:2023.06.16

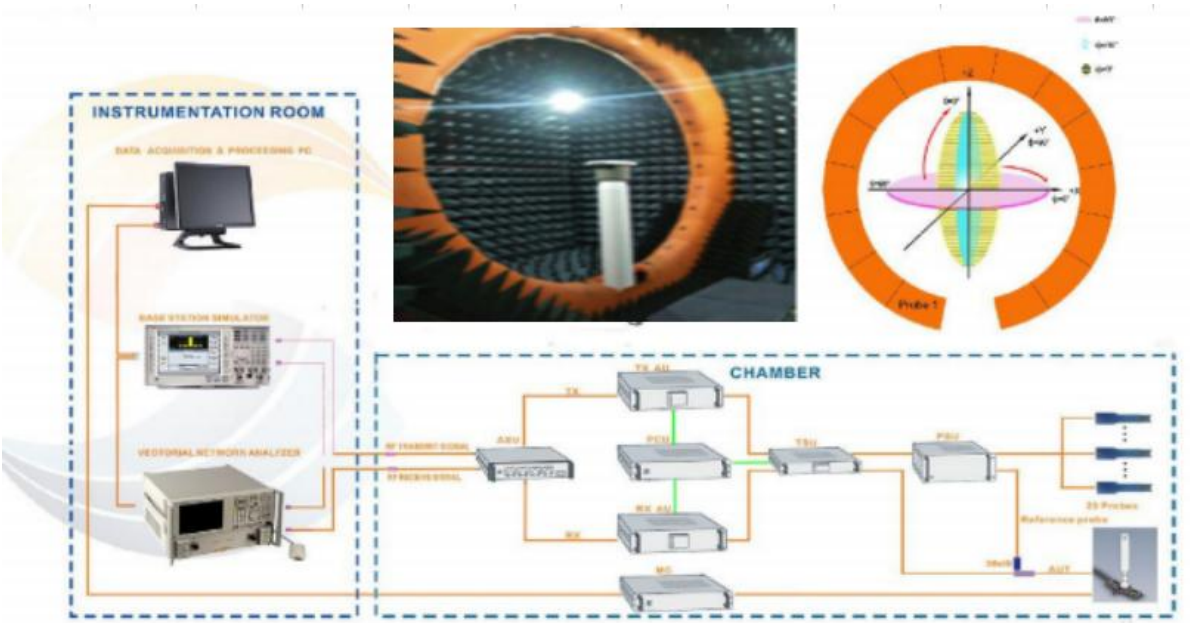
1. General Information

1.1 General Information of testing institutions

Name	Shenzhen Hetuo Technology Co.,Ltd.
Address	Room 1202B, Building C6, Hengfeng Industrial City, Xixiang, Baoan District, Shenzhen
Tel	18665849001
E-mail	18665849001@163.com
Equipment	Agilent 5071C

1.2 Testing principle

Multi-probe OTA Measurement System



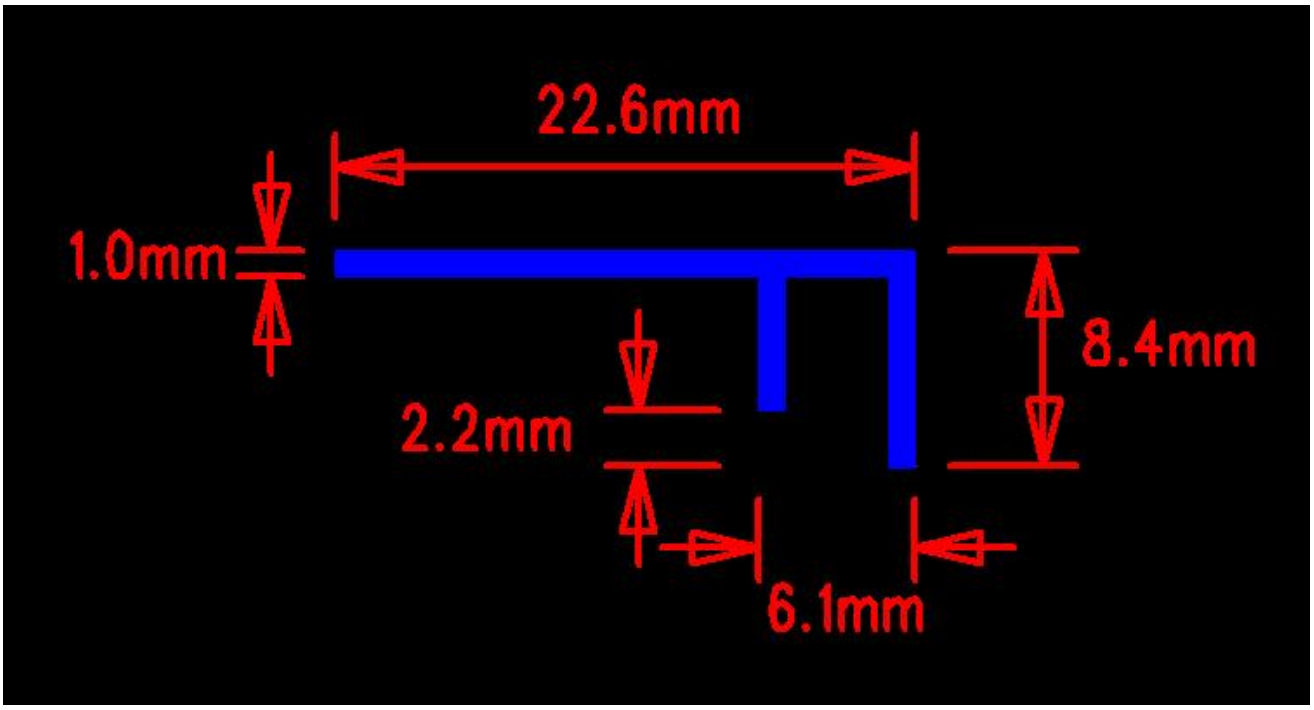
1.3 Test equipment

Equipment	Model No.	Serial No.	Manufacturer	Calibration date	Next calibration date
24 probe microwave chamber	4*3*3	NA	FEITU	2023.05.29	2023.08.31
Network Analyzer	5071C	NA	Agilent	2023.05.29	2023.08.31

1.4 Test environment

Temperature	24℃±1.5℃
Humidity	45%RH
Pressure	101kPa

1.5 Antenna Photo & Lenght(mm)



2. Sample Information

2.1 Client information

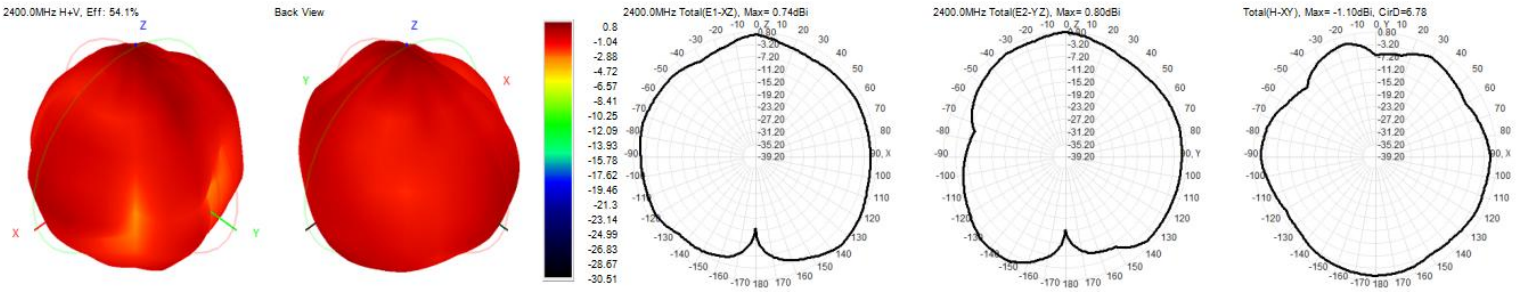
Name	SHENZHENSHIXINZHONGXIN TECHNOLOGY.CO.,LTD
Address	A1, Shajing Donghuan Industrial Zone, Bao 'an District, Shenzhen
Contacts	Ma Chao
Tel	18218809918
E-mail	machao@c-chip.com.cn

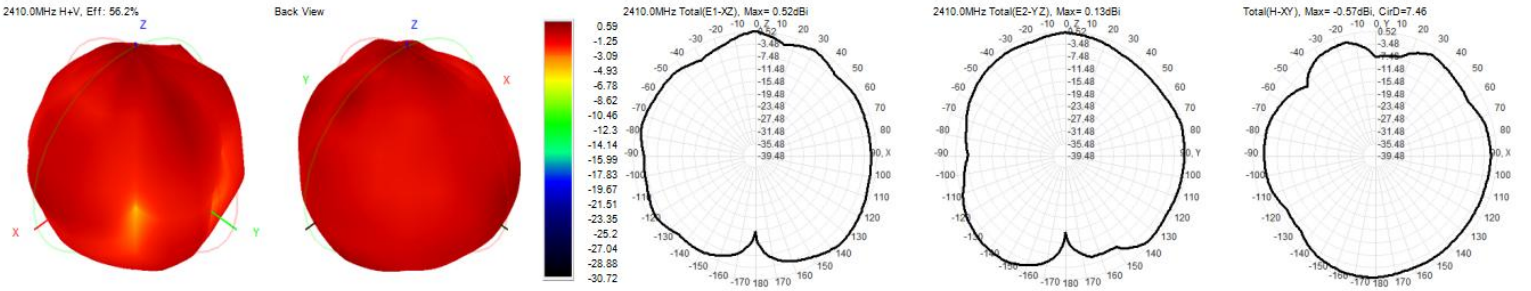
2.2 Description of EUT(S)

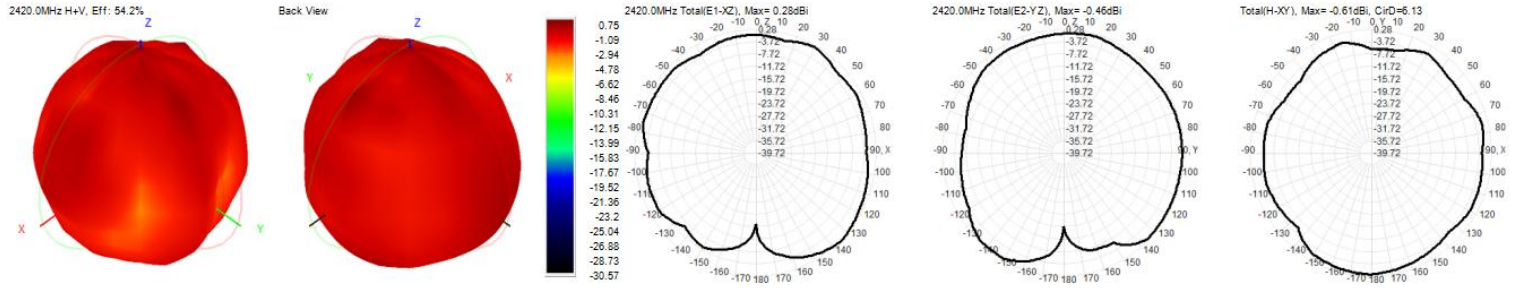
Product Name	BT Antenna
Sample Model	SPKA740
Antenna Size	8.4*22.6mm
Antenna Type	PCB antenna
Serial No.	/
Test Item	Antenna Gain,Radiation pattern
Frequency Range	2400-2500MHz
Received Date	2023.06.13
Test Date	2023.06.16
Remark	The length of the RF cable is 50mm

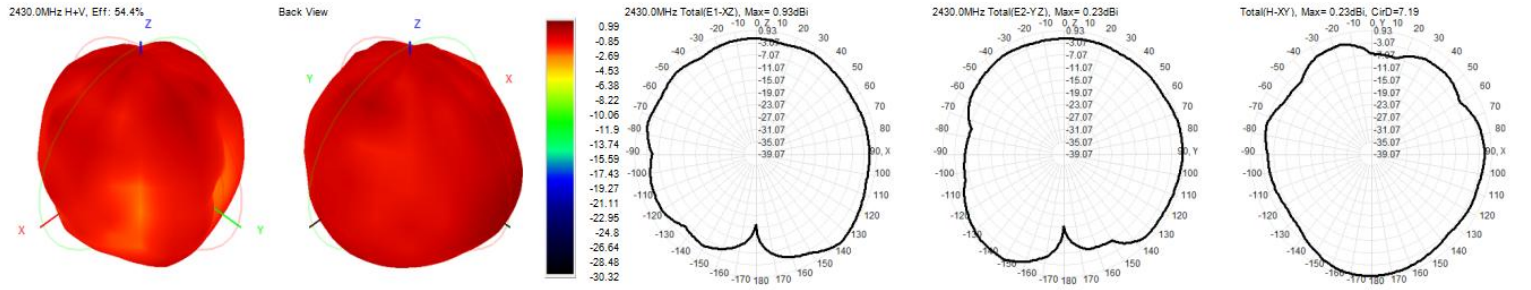
Test data

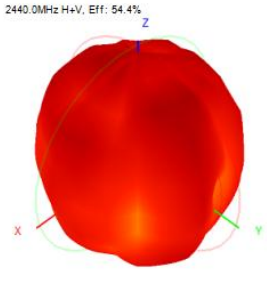
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	0.80	0.59	0.75	0.99	0.92	0.70	0.67	0.57	0.82	0.95	1.12
Efficiency (%)	54.09	56.22	54.22	54.42	54.39	51.98	51.15	51.50	50.06	52.54	53.18

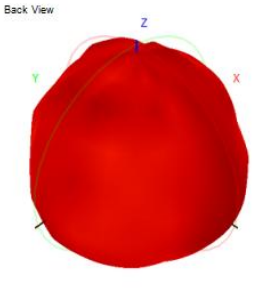


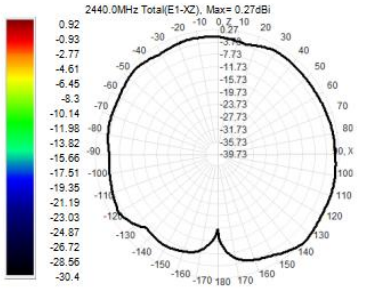


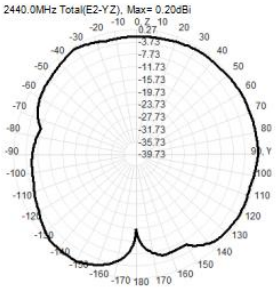


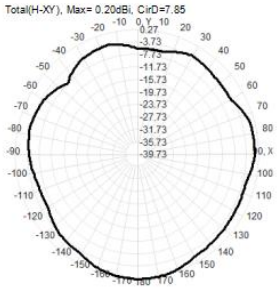


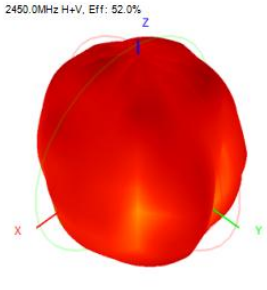

2440.0MHz H+V, Eff: 54.4%
Z
X
Y

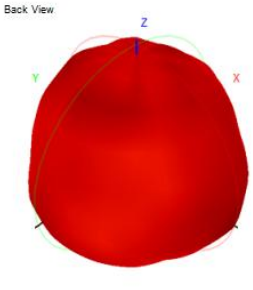

Back View
Z
Y
X

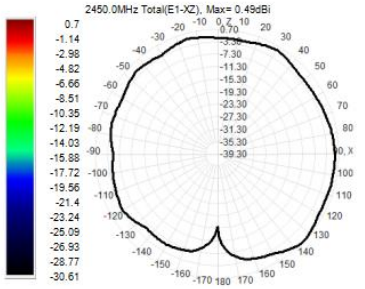

2440.0MHz Total(E1-XZ), Max= 0.27dBi
0.92
-0.93
-2.77
-4.61
-6.45
-8.3
-10.14
-11.98
-13.82
-15.66
-17.51
-19.35
-21.19
-23.03
-24.87
-26.72
-28.56
-30.4

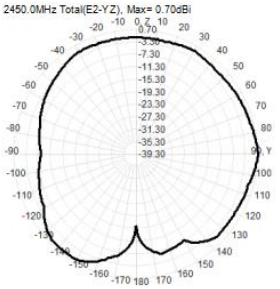

2440.0MHz Total(E2-YZ), Max= 0.20dBi

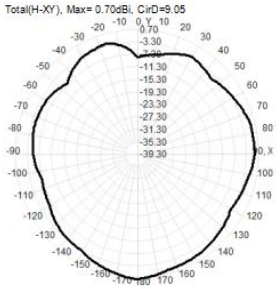

Total(H-XY), Max= 0.20dBi, CirD=7.85

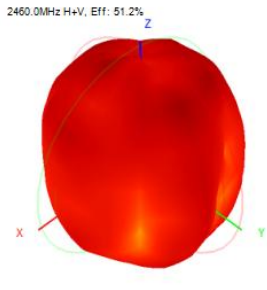

2450.0MHz H+V, Eff: 52.0%
Z
X
Y

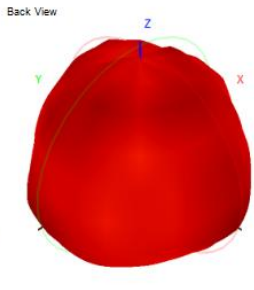

Back View
Z
Y
X

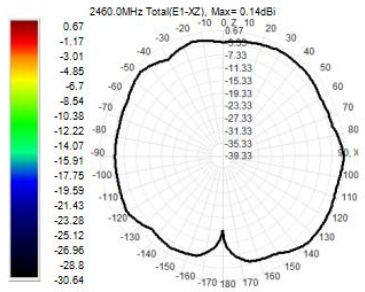

2450.0MHz Total(E1-XZ), Max= 0.49dBi
0.7
-1.14
-2.98
-4.82
-6.66
-8.51
-10.35
-12.19
-14.03
-15.88
-17.72
-19.56
-21.4
-23.24
-25.09
-26.93
-28.77
-30.61

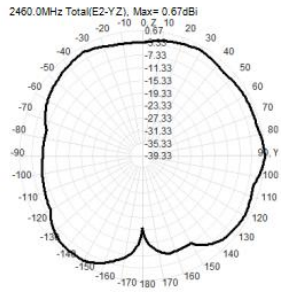

2450.0MHz Total(E2-YZ), Max= 0.70dBi

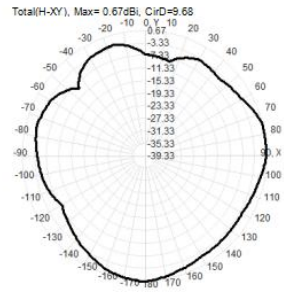

Total(H-XY), Max= 0.70dBi, CirD=9.05


2460.0MHz H+V, Eff: 51.2%
Z
X
Y


Back View
Z
Y
X


2460.0MHz Total(E1-XZ), Max= 0.14dBi
0.67
-1.17
-3.01
-4.85
-6.7
-8.54
-10.38
-12.22
-14.07
-15.91
-17.75
-19.59
-21.43
-23.28
-25.12
-26.96
-28.8
-30.64


2460.0MHz Total(E2-YZ), Max= 0.67dBi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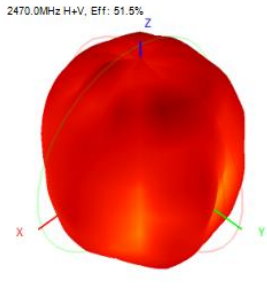
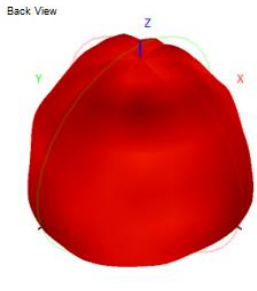
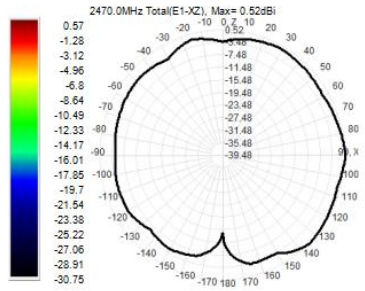

2470.0MHz H+V, Eff: 51.5%
Z
X
Y


Back View
Z
Y
X


2470.0MHz Total(E1-XZ), Max= 0.52dBi
0.57
-1.28
-3.12
-4.96
-6.8
-8.64
-10.49
-12.33
-14.17
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-17.85
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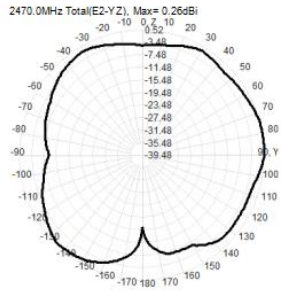
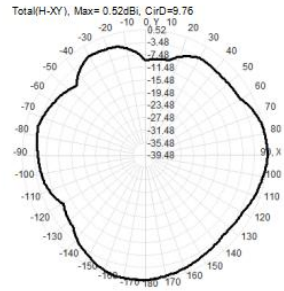
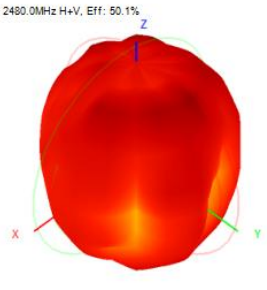
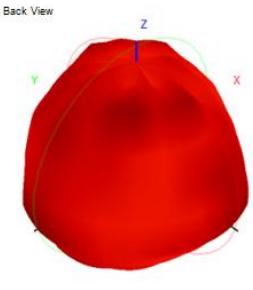
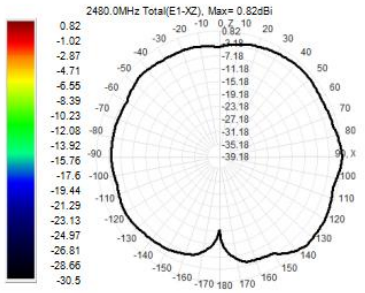
-23.38
-25.22
-27.06
-28.91
-30.75

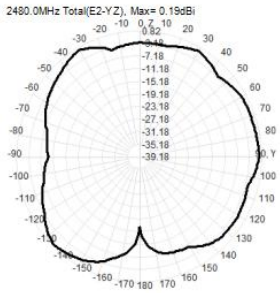

2470.0MHz Total(E2-YZ), Max= 0.26dBi

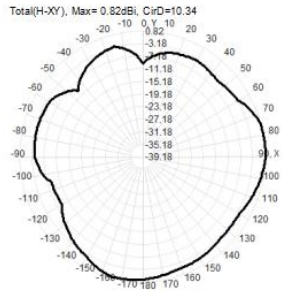

Total(H-XY), Max= 0.52dBi, CirD=9.76

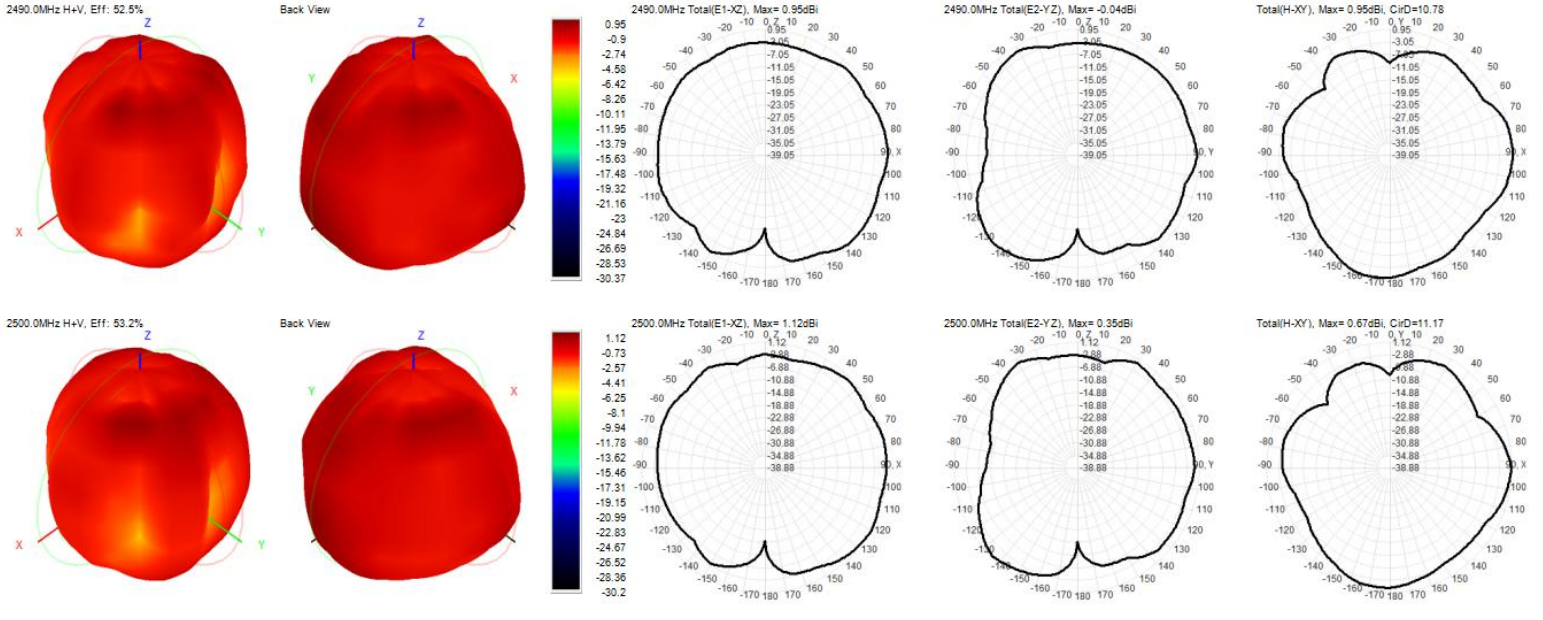

2480.0MHz H+V, Eff: 50.1%
Z
X
Y


Back View
Z
Y
X


2480.0MHz Total(E1-XZ), Max= 0.82dBi
0.82
-1.02
-2.87
-4.71
-6.55
-8.39
-10.23
-12.08
-13.92
-15.76
-17.6
-19.44
-21.29
-23.13
-24.97
-26.81
-28.66
-30.5


2480.0MHz Total(E2-YZ), Max= 0.19dBi


Total(H-XY), Max= 0.82dBi, CirD=10.34



The test photos