Testing Report

Customer Name: SHENZHENSHIXINZHONGXIN TECHNOLOGY.CO.,LTD

Product Name: BT Antenna

Sample Model: F-6988

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

Issue Date: 2022.9.27

Engineer: junwei Li	Date:2022.09.27
Auditor: chao Ma	Date:2022.09.27
Approver: xiao Chen	Date:2022.09.27

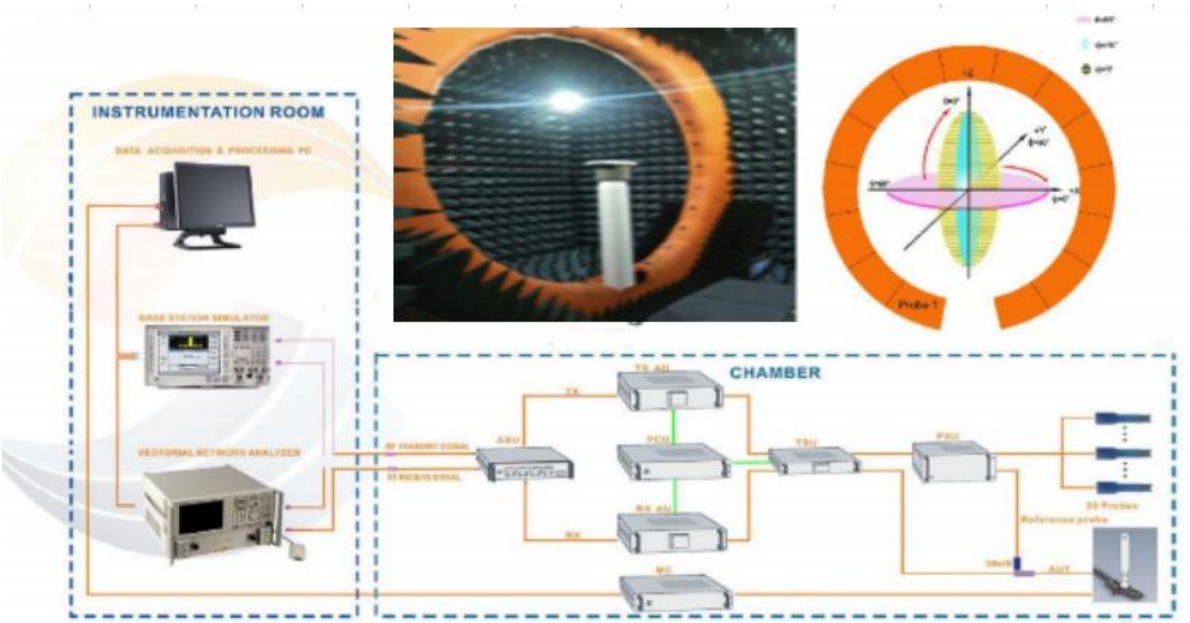
1. General Information

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	2021.3.15	2023.3.14
Network Analyzer	5071C	NA	Agilent	2022.5.13	2023.5.12

1.4 Test uncertainty

The uncertainty was calculated on the basis of the GUM published by ISO,
using the inclusion factor of K=2 and the 95% confidence level to express the extended uncertainty.

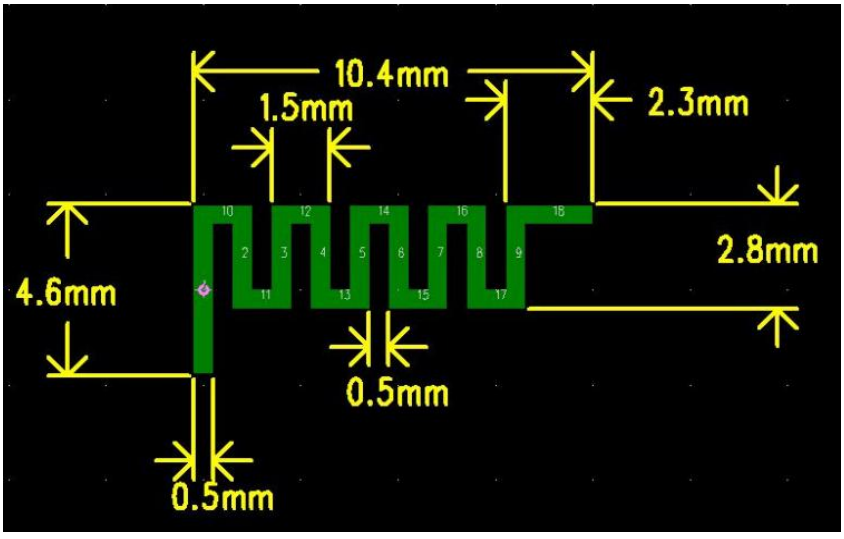
Item	Uncertainty
Antenna gain	±0.72dB
Radiation efficiency	±0.72dB

1.5 Test environment

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

1.6

Antenna Photo & Lenght(mm)



2. Sample Information

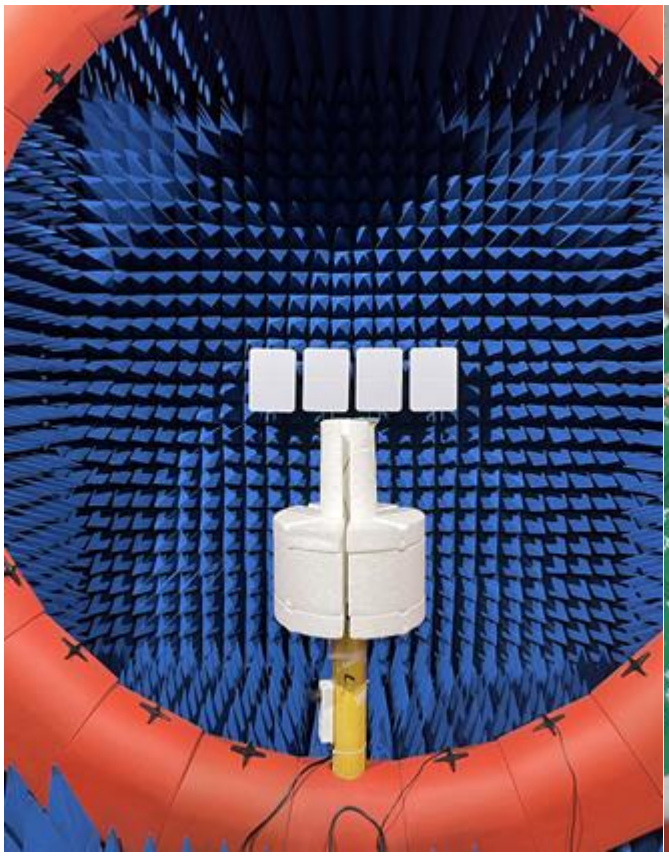
2.1 Client information

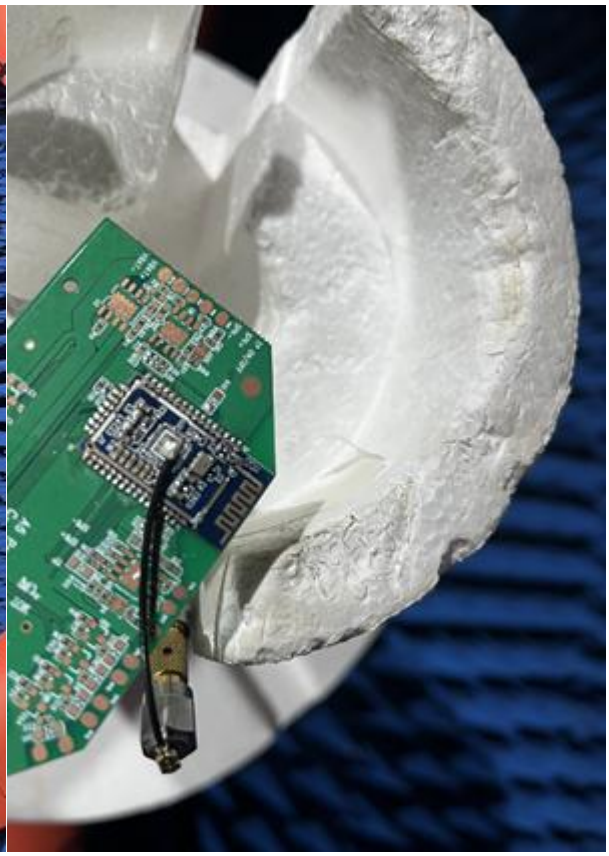
Name	SHENZHENSHIXINZHONGXIN TECHNOLOGY.CO.,LTD
Address	A1, Shajing Donghuan Industrial Zone, Bao'an District, Shenzhen
Contacts	Ma Chao
Tel	18218809918
E-mail	machao@c-chip.com.cn

2.2 Description of EUT(S)

Product Name	BT Antenna
Sample Model	F-6988
Antenna Size	4.6*10.4mm
Antenna Type	PCB antenna
Serial No.	/
Test Item	Antenna Gain,Radiation pattern
Frequency Range	2400-2500MHz
Received Date	2022.09.25
Test Date	2022.09.27
Remark	The length of the RF cable is 50mm

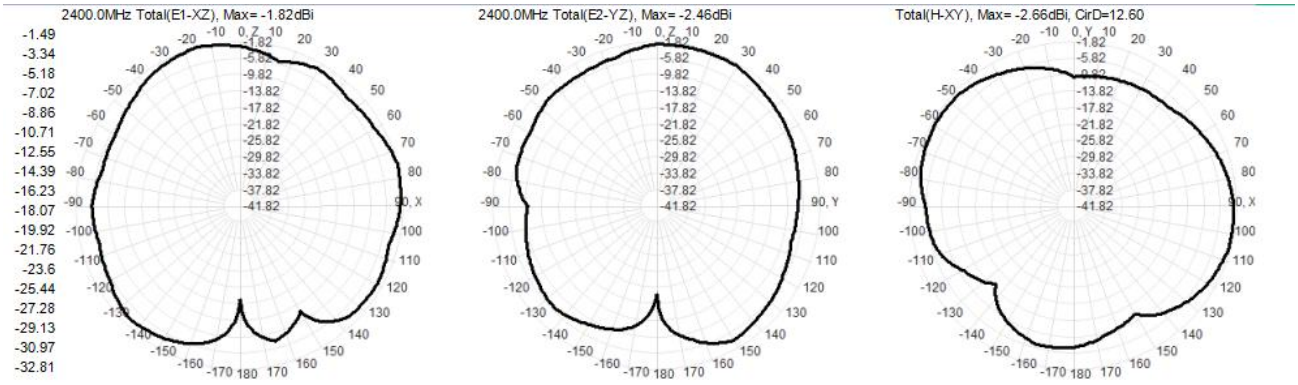
Test Photos

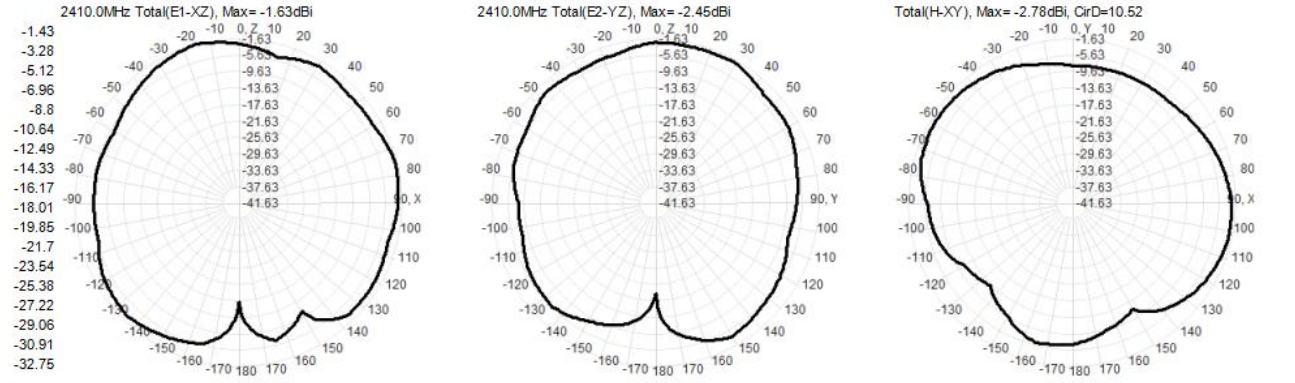


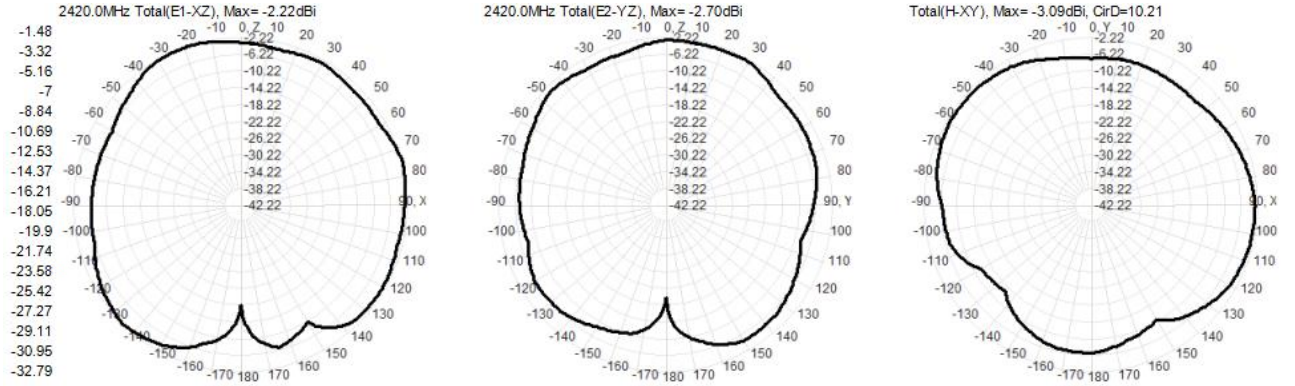


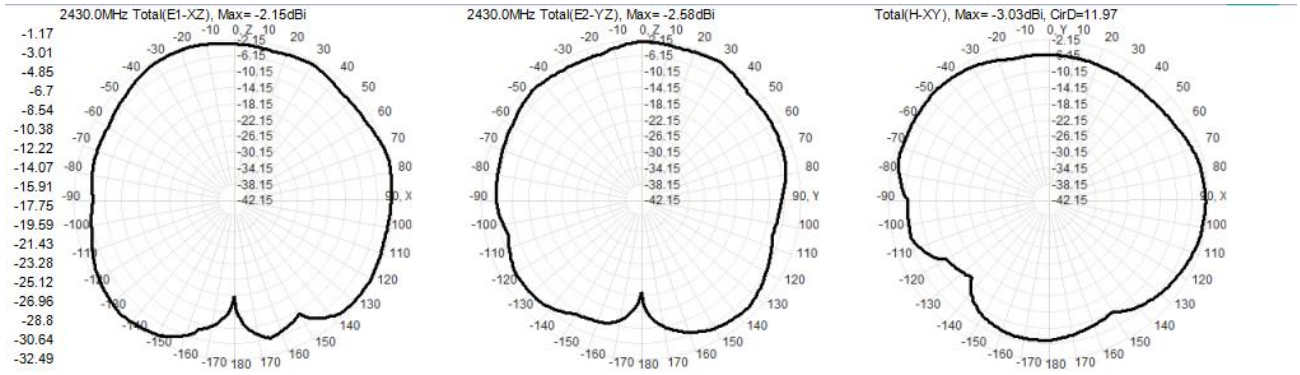
Test data

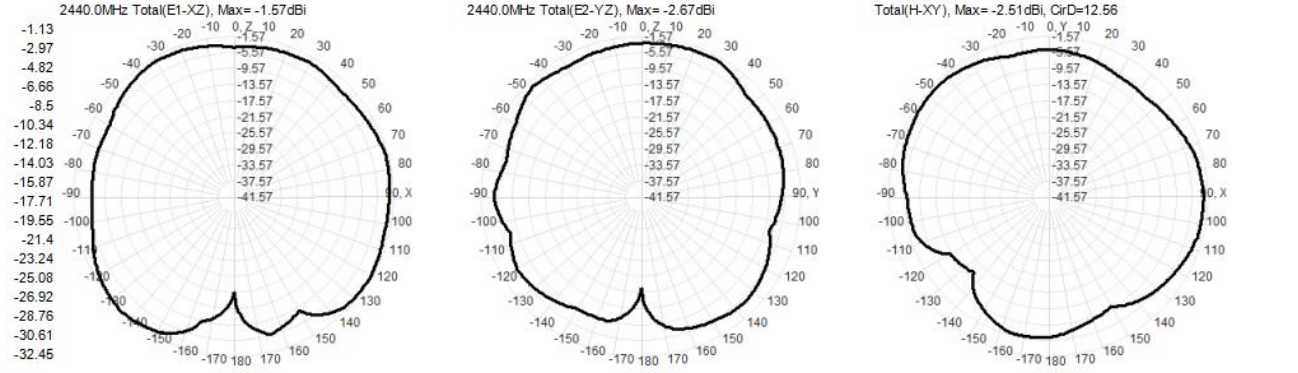
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	-1.82	-1.63	-2.22	-2.15	-1.57	-1.61	-1.39	-1.23	-1.28	-1.57	-1.23

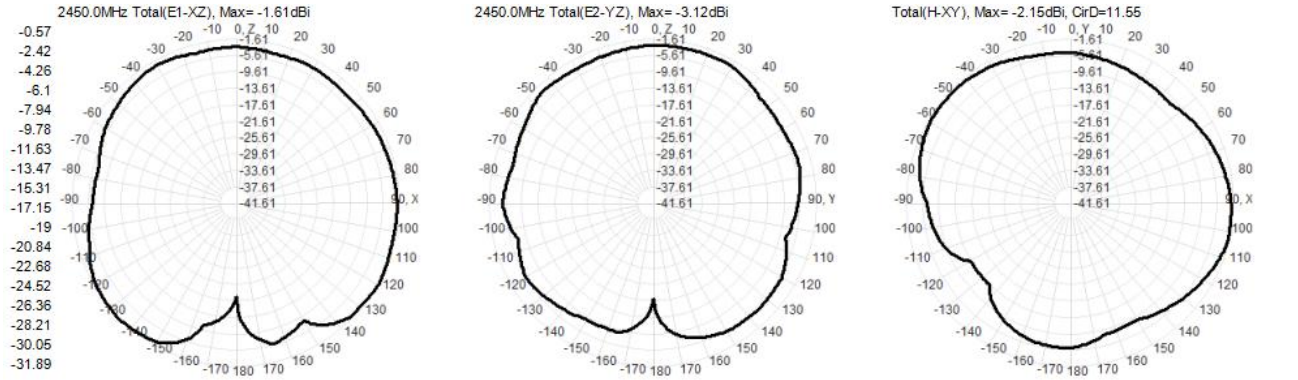


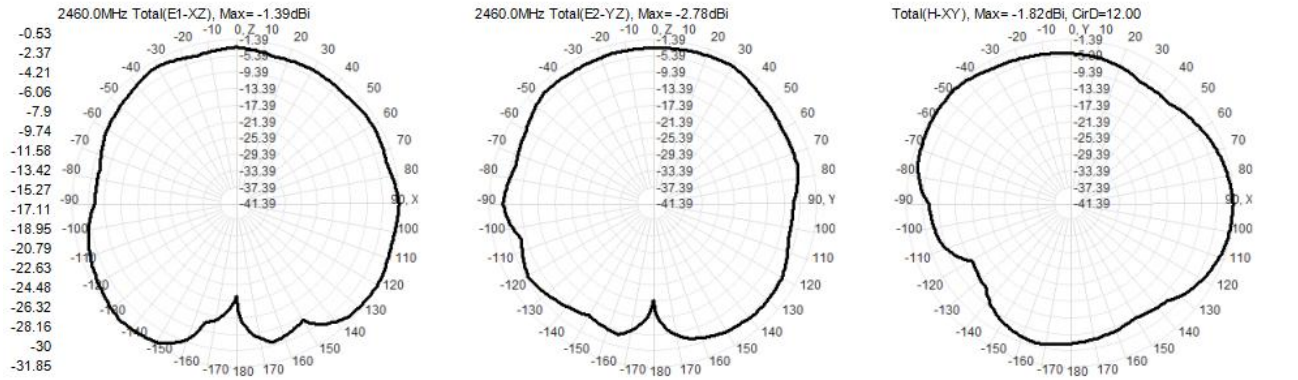


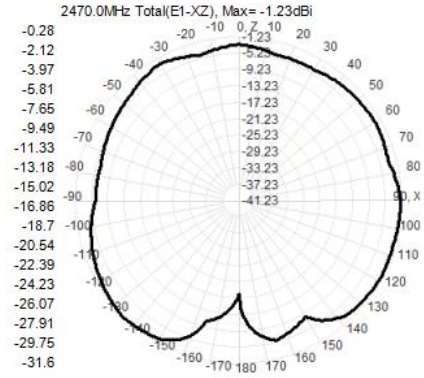


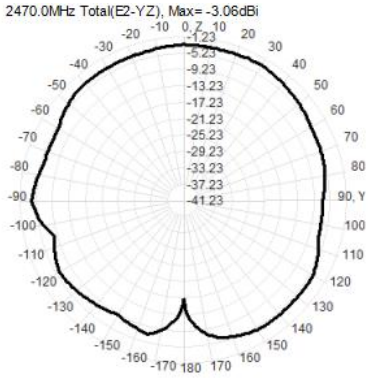

2430.0MHz Total(E1-XZ), Max= -2.15dBi
2430.0MHz Total(E2-YZ), Max= -2.58dBi
Total(H-XY), Max= -3.03dBi, CirD=11.97

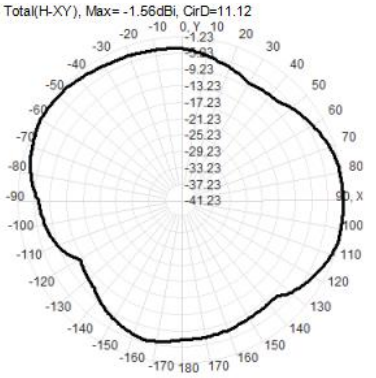

2440.0MHz Total(E1-XZ), Max= -1.57dBi
2440.0MHz Total(E2-YZ), Max= -2.67dBi
Total(H-XY), Max= -2.51dBi, CirD=12.56

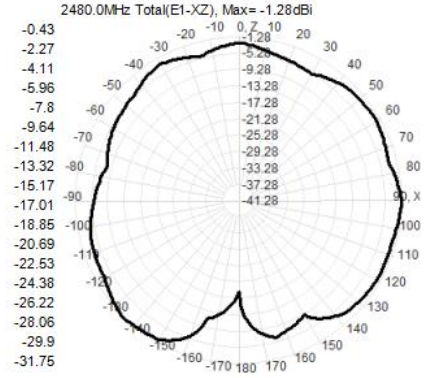

2450.0MHz Total(E1-XZ), Max= -1.61dBi
2450.0MHz Total(E2-YZ), Max= -3.12dBi
Total(H-XY), Max= -2.15dBi, CirD=11.55

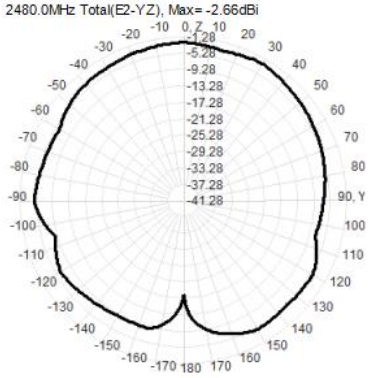

2460.0MHz Total(E1-XZ), Max= -1.39dBi
2460.0MHz Total(E2-YZ), Max= -2.78dBi
Total(H-XY), Max= -1.82dBi, CirD=12.00

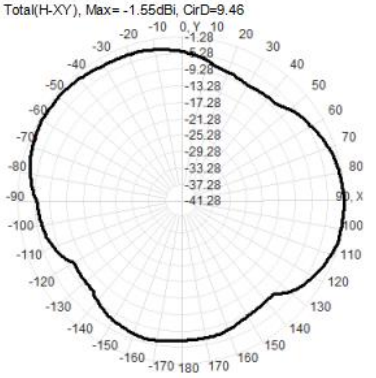

2470.0MHz Total(E1-XZ), Max= -1.23dBi
-0.28
-2.12
-3.97
-5.81
-7.65
-9.49
-11.33
-13.18
-15.02
-16.86
-18.7
-20.54
-22.39
-24.23
-26.07
-27.91
-29.75
-31.6

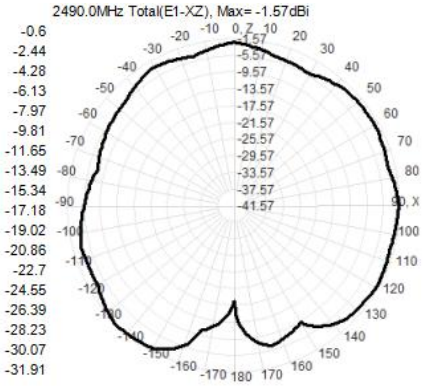

2470.0MHz Total(E2-YZ), Max= -3.06dBi


Total(H-XY), Max= -1.56dBi, CirD=11.12


2480.0MHz Total(E1-XZ), Max= -1.28dBi
-0.43
-2.27
-4.11
-5.96
-7.8
-9.64
-11.48
-13.32
-15.17
-17.01
-18.85
-20.69
-22.53
-24.38
-26.22
-28.06
-29.9
-31.75


2480.0MHz Total(E2-YZ), Max= -2.66dBi


Total(H-XY), Max= -1.55dBi, CirD=9.46


2490.0MHz Total(E1-XZ), Max= -1.57dBi
-0.6
-2.44
-4.28
-6.13
-7.97
-9.81
-11.65
-13.49
-15.34
-17.18
-19.02
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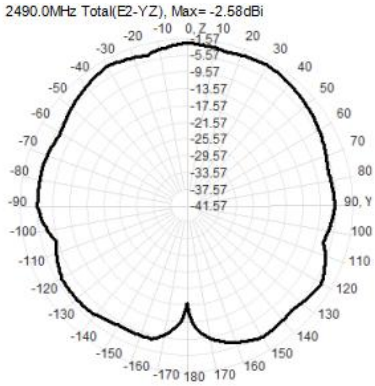
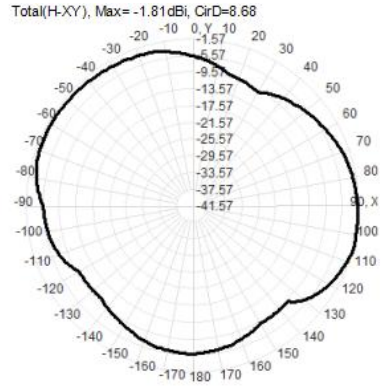
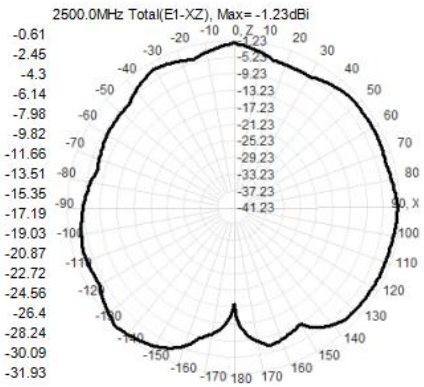
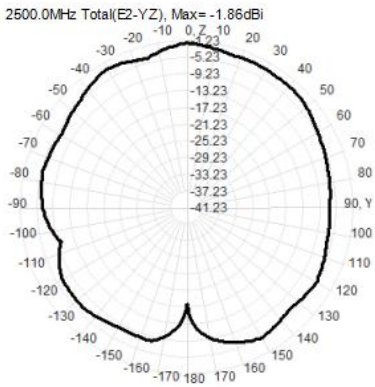
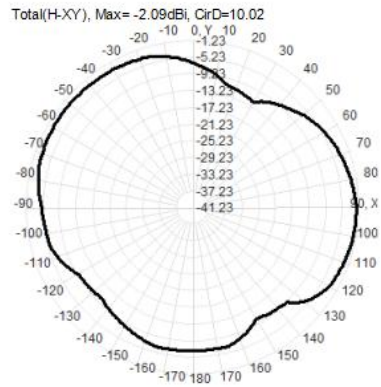
-22.7
-24.55
-26.39
-28.23
-30.07
-31.91


2490.0MHz Total(E2-YZ), Max= -2.58dBi


Total(H-XY), Max= -1.81dBi, CirD=8.68


2500.0MHz Total(E1-XZ), Max= -1.23dBi
-0.61
-2.45
-4.3
-6.14
-7.98
-9.82
-11.66
-13.51
-15.35
-17.19
-19.03
-20.87
-22.72
-24.56
-26.4
-28.24
-30.09
-31.93


2500.0MHz Total(E2-YZ), Max= -1.86dBi


Total(H-XY), Max= -2.09dBi, CirD=10.02