Shenzhen double xin communication equipment Co., LTD

a 3,silver Unicom Industrial Park,Zhangbei village,Ailian Town,Longgang District,Shenzhen,Guangdong Province,China

SPECIFICATION OF APPROVA

CUSTOMER: ZKTECO CO., LTD.

DESCRIPTION: 2.4G Built-in FPC Antenna (L=60MM)

PART NO: SX-2.4G-FPC-8*22-060A

SIGNATURE

Approval	Engineer
Shenzhen double xin communication equipment Co., LTD	Technology Department
MONTH,2020	

CUSTOMER APPROVAL

Confirm Result	Engineer
☐ Qualified ☐Unqualified	
MONTH,2020	

Product Feature

3.10dBi Peak Gain

Flexible, Ultra Low Profile

IPEX MHF I Connector (U.FL compatible)

60mm 1.13 Mini-Coaxial Cable

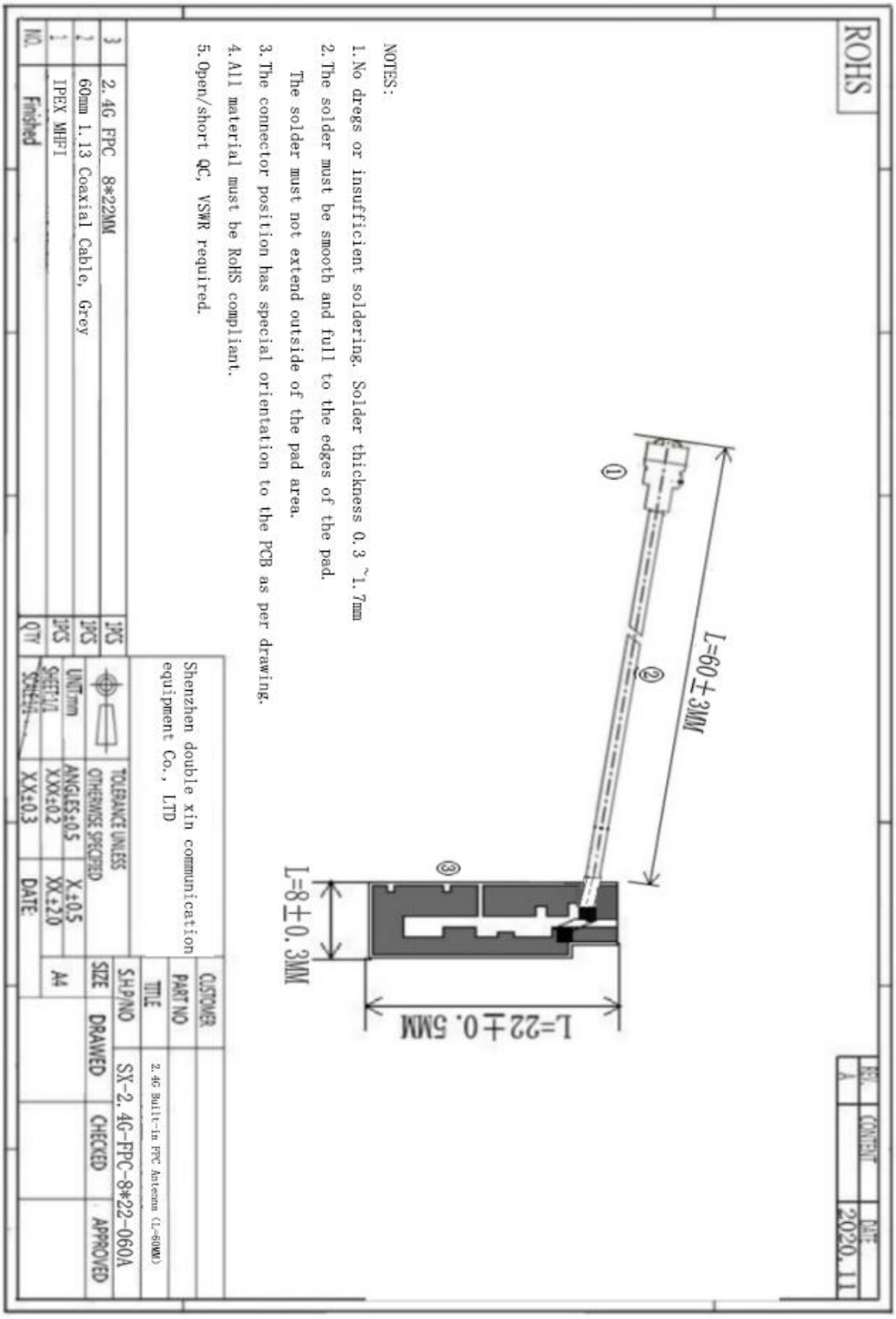
22*8*0.1 mm

RoHS & Reach Compliant

SPECIFICATION

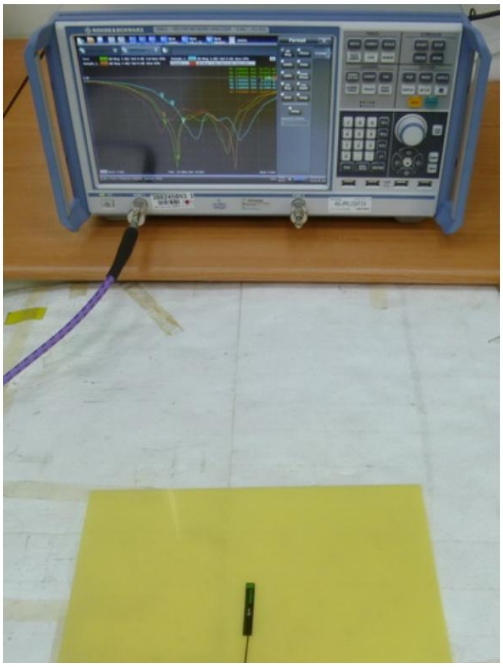
Model	SX-2.4G-FPC-8*22-060A
SPECIFICATIONS	
Frequency Range	2400~2500MHz
Efficiency	50%
Gain	3.10dBi
VSWR	≤2:1
Input Impedance	50Ω
Polarization	Linear
Max input power	5W
MECHANICAL	
Dimensions	22*8*0.1 mm
Weight	1.2g
Connector	MHFI (U.FL Compatible)
Cable Standard	Mini-Coax 1.13 mm
Cable Length and color	60mm, Grey
Adhesive tape	3M
ENVIRONMENTAL	
Operation Temperature	-40 ºC ~ +85 ºC
Storage Temperature	-40 ºC ~ +85 ºC
RoHS Compliant	Yes

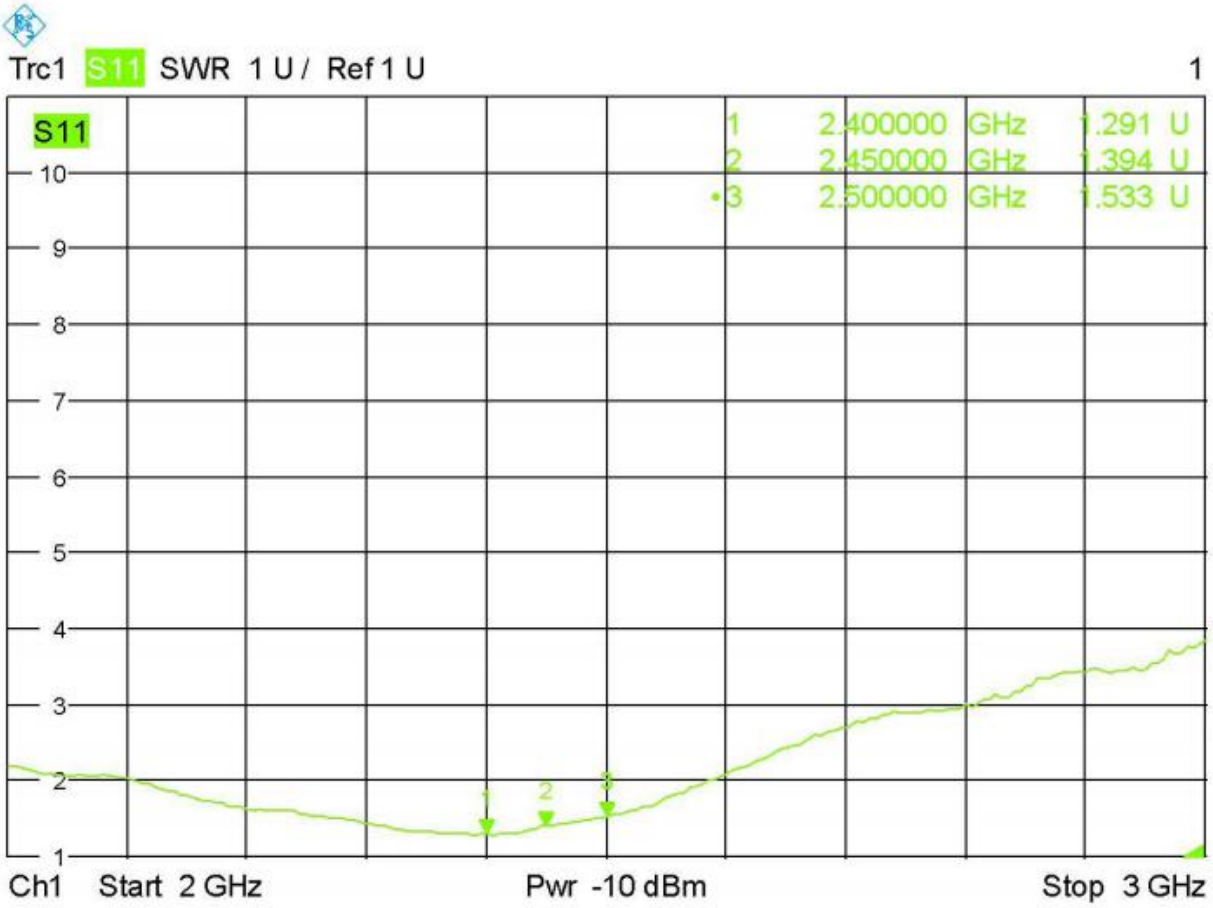
Antenna Drawing



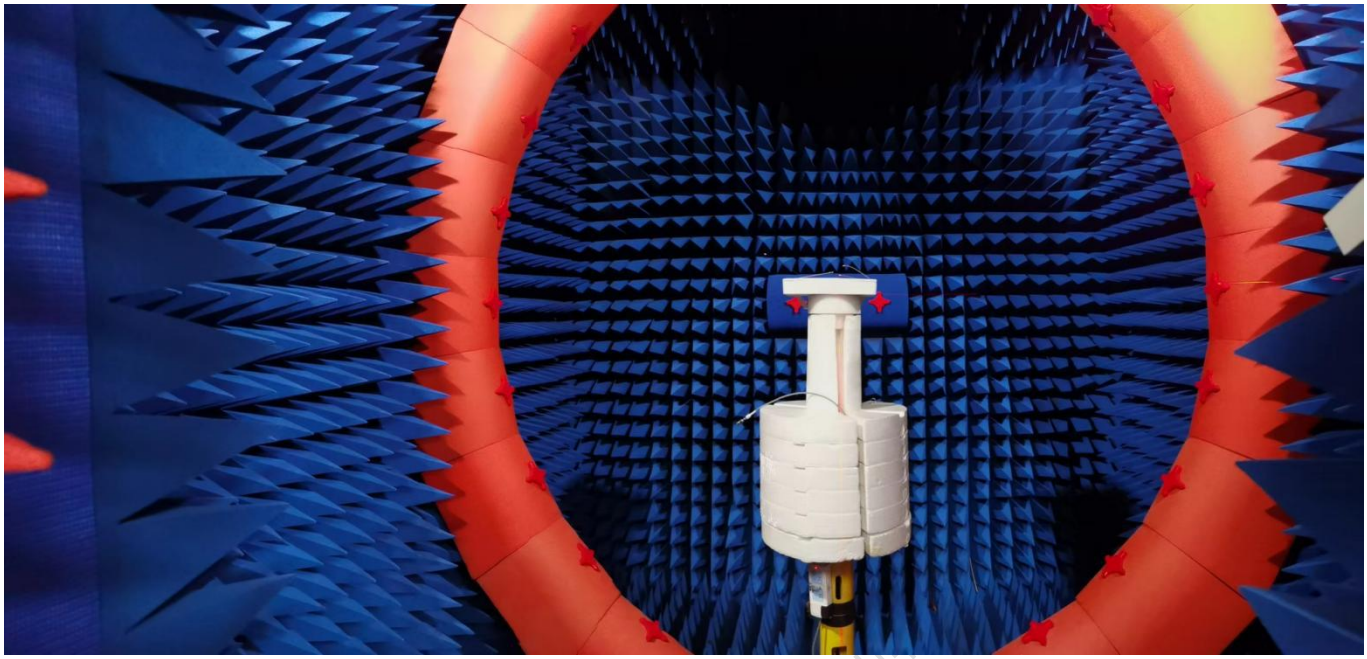
Antenna Characteristics

Rohde & Schwarz Network Analyzer

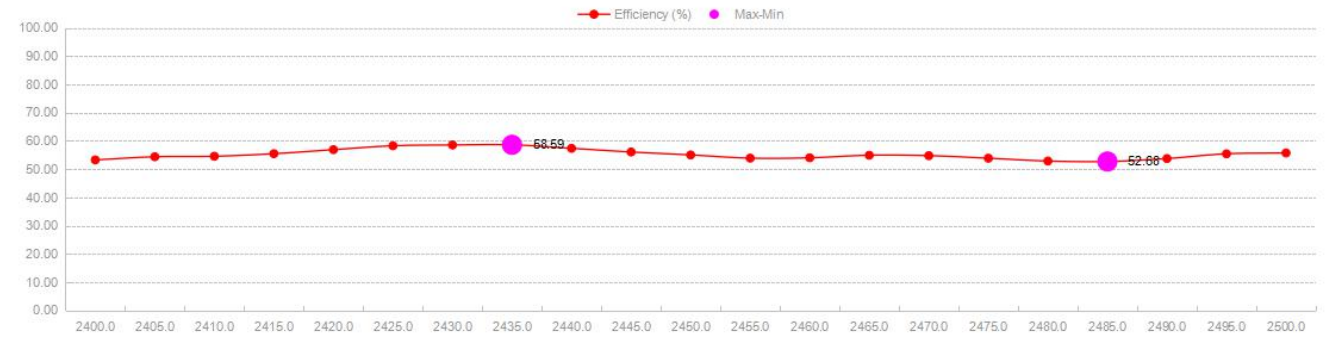


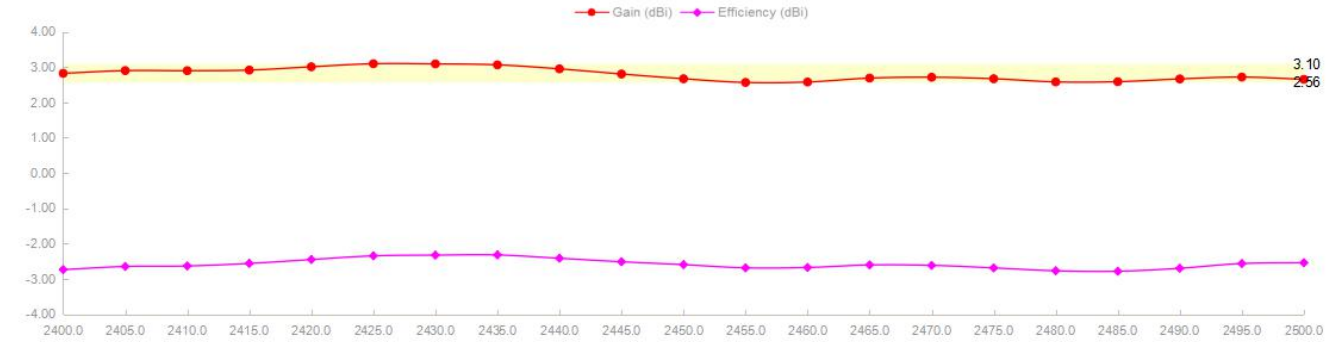


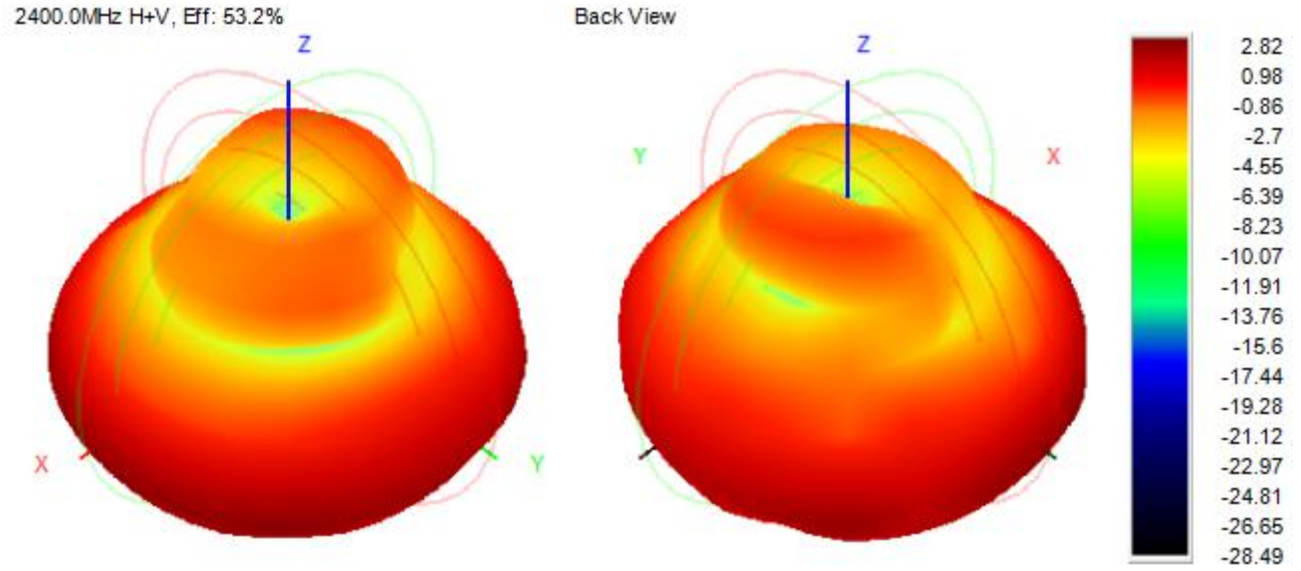
ETS 3D Radiation Scan System with Anechoic Chamber

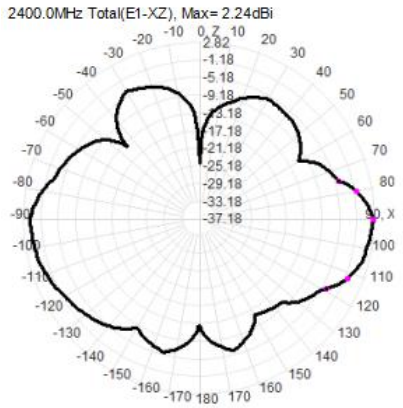


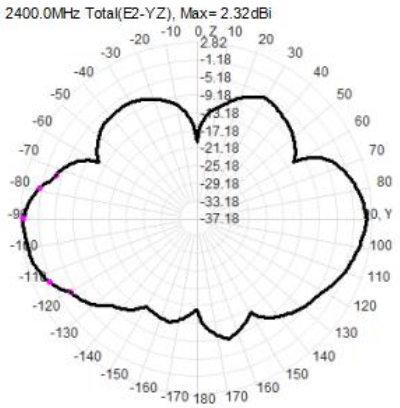
Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Frequency (MHz)	2400.0	2405.0	2410.0	2415.0	2420.0	2425.0	2430.0	2435.0	2440.0	2445.0	2450.0	2455.0	2460.0	2465.0	2470.0	2475.0	2480.0	2485.0	2490.0	2495.0	2500.0
Efficiency (dBi)	-2.74	-2.65	-2.63	-2.56	-2.45	-2.35	-2.33	-2.32	-2.41	-2.51	-2.60	-2.69	-2.68	-2.60	-2.62	-2.69	-2.77	-2.78	-2.70	-2.56	-2.54
Gain (dBi)	2.82	2.90	2.90	2.91	3.01	3.10	3.09	3.06	2.95	2.80	2.67	2.56	2.58	2.69	2.71	2.67	2.58	2.59	2.66	2.72	2.65
Efficiency (%)	53.25	54.36	54.53	55.44	56.87	58.25	58.53	58.59	57.35	56.05	55.01	53.87	54.00	54.90	54.75	53.85	52.85	52.68	53.73	55.41	55.70
Directivity (dB)	5.56	5.55	5.53	5.48	5.46	5.44	5.42	5.38	5.36	5.32	5.26	5.25	5.25	5.29	5.33	5.36	5.35	5.37	5.36	5.28	5.19
Peak Gain Position (Theta)	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
Peak Gain Position (Phi)	285.00	285.00	285.00	285.00	45.00	45.00	45.00	315.00	315.00	315.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
Efficiency ThetaPol (%)	51.11	52.36	52.61	53.49	54.82	56.20	56.55	56.65	55.36	54.01	52.99	51.96	52.14	52.96	52.65	51.59	50.59	50.40	51.29	52.61	52.60
Efficiency PhiPol (%)	2.14	2.00	1.92	1.95	2.05	2.05	1.98	1.94	1.99	2.04	2.02	1.91	1.86	1.94	2.10	2.26	2.26	2.29	2.44	2.79	3.10
Upper Hem. Efficiency (%)	21.91	22.36	22.39	22.70	23.21	23.68	23.72	23.64	23.05	22.45	21.96	21.41	21.34	21.56	21.34	20.78	20.18	19.89	20.03	20.36	20.17
Lower Hem. Efficiency (%)	31.34	32.00	32.15	32.74	33.66	34.57	34.81	34.95	34.30	33.59	33.05	32.47	32.65	33.34	33.42	33.07	32.67	32.79	33.70	35.05	35.53

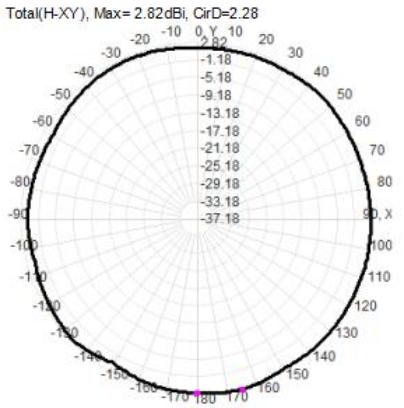


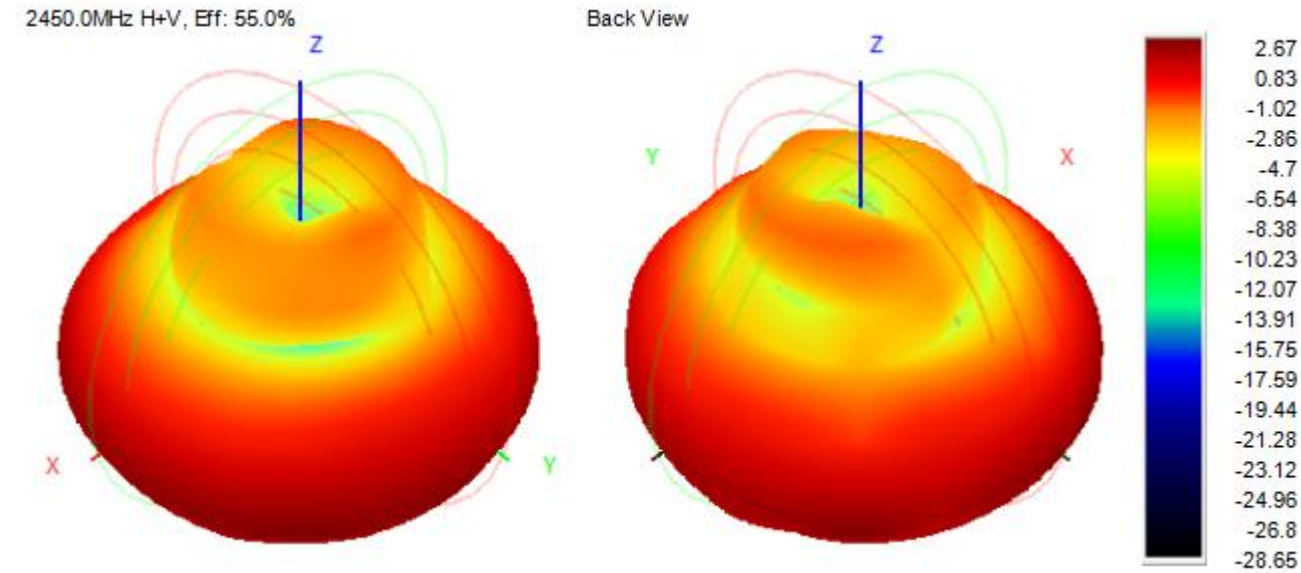


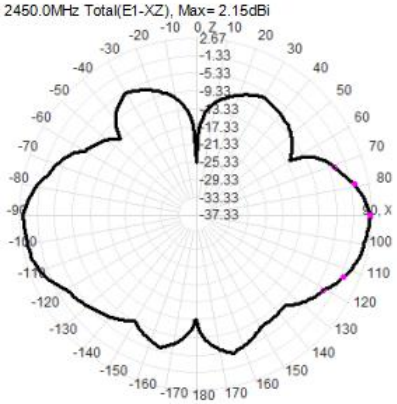

2400.0MHz H+V, Eff: 53.2%
Back View
Z
X
Y
2.82
0.98
-0.86
-2.7
-4.55
-6.39
-8.23
-10.07
-11.91
-13.76
-15.6
-17.44
-19.28
-21.12
-22.97
-24.81
-26.65
-28.49

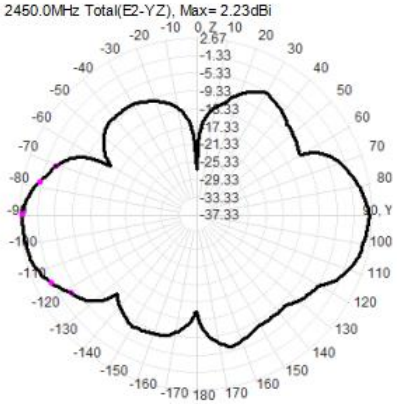

2400.0MHz Total(E1-XZ), Max= 2.24dBi

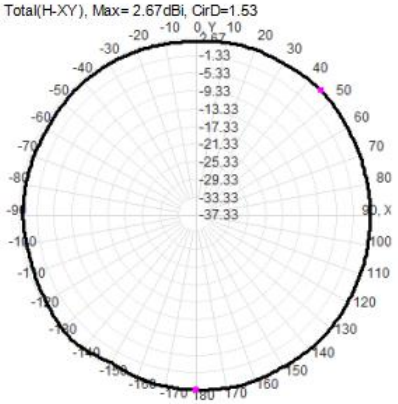

2400.0MHz Total(E2-YZ), Max= 2.32dBi

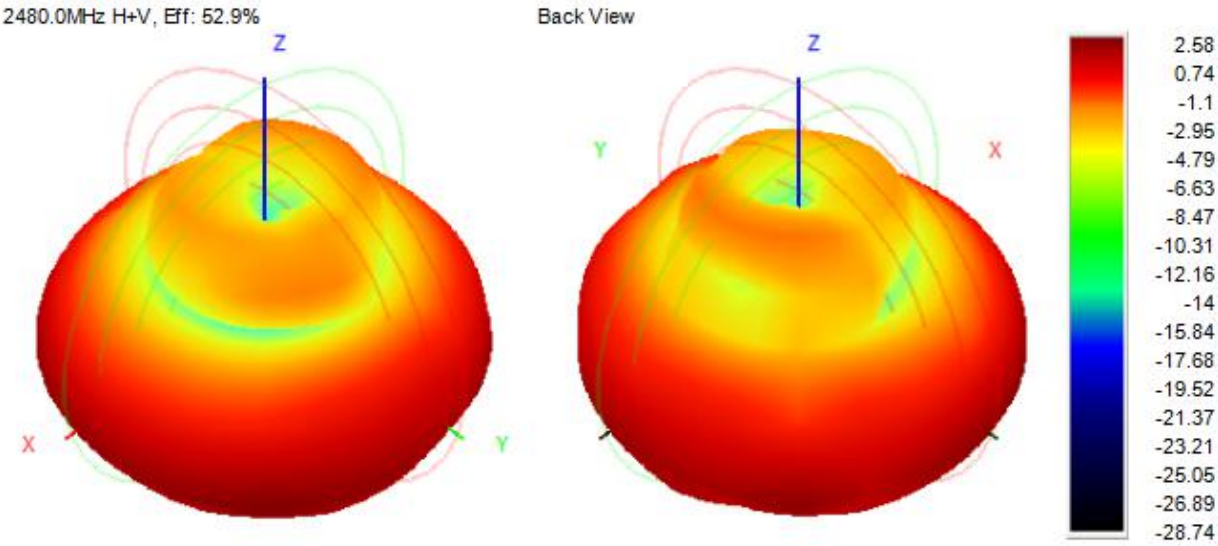

Total(H-XY), Max= 2.82dBi, CirD=2.28


2450.0MHz H+V, Eff: 55.0%
Back View
Z
X
Y
2.67
0.83
-1.02
-2.86
-4.7
-6.54
-8.38
-10.23
-12.07
-13.91
-15.75
-17.59
-19.44
-21.28
-23.12
-24.96
-26.8
-28.65


2450.0MHz Total(E1-XZ), Max= 2.15dBi


2450.0MHz Total(E2-YZ), Max= 2.23dBi


Total(H-XY), Max= 2.67dBi, CirD=1.53


2480.0MHz H+V, Eff: 52.9%
Back View
Z
X
Y
2.58
0.74
-1.1
-2.95
-4.79
-6.63
-8.47
-10.31
-12.16
-14
-15.84
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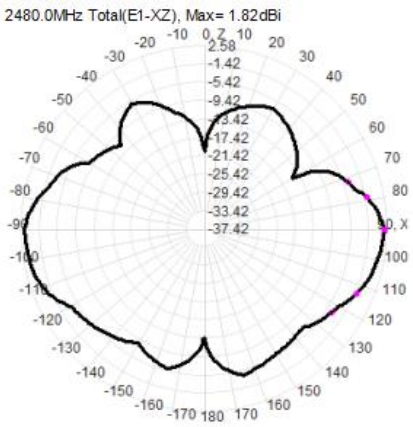
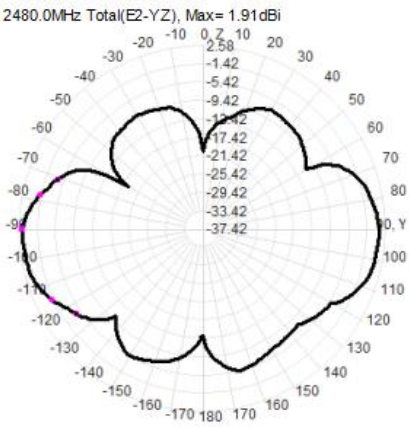
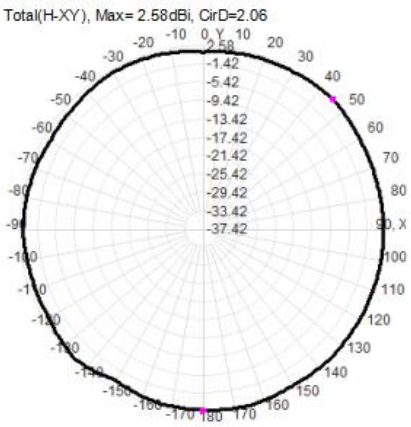
-19.52
-21.37
-23.21
-25.05
-26.89
-28.74


2480.0MHz Total(E1-XZ), Max= 1.82dBi


2480.0MHz Total(E2-YZ), Max= 1.91dBi


Total(H-XY), Max= 2.58dBi, CirD=2.06