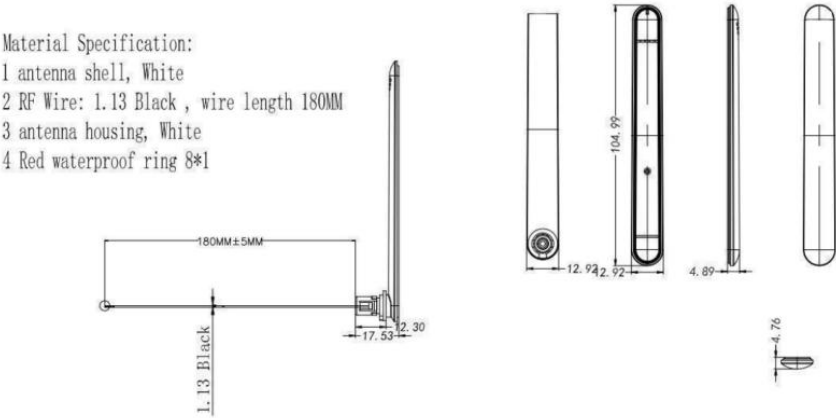


Antenna Specification

1. Antenna Description:

Antenna type	External antenna
Antenna model	U21/U22
Frequency range	2400-2500MHz
ANT Gain	4.52 dBi/2.4G 3.70 dBi/5G
Manufacture	Shenzhen Urant Technology Co., Ltd 4th Floor, Building 63, Fumin Industrial Zone, Pinghu Community, Pinghu Street, Longgang District, Shenzhen

2. Antenna Photo:

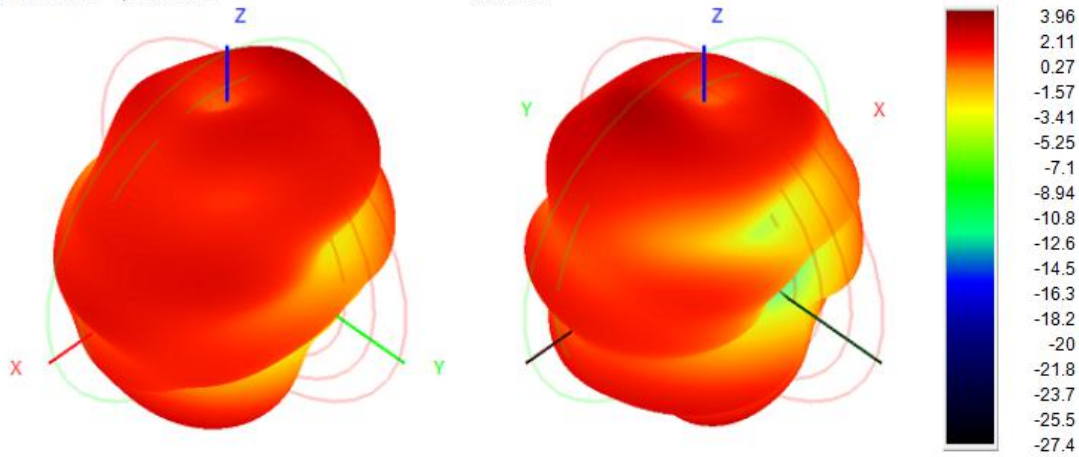


3. Antenna Radiation Pattern

Frequency (MHz)	2400.0	2450.0	2500.0
Efficiency (dBi)	-2.53	-1.71	-1.21
Gain (dBi)	3.96	4.38	4.52
Efficiency (%)	55.91	67.42	75.76
Directivity (dB)	6.48	6.09	5.72
Peak Gain Position (Theta)	165.00	166.00	166.00
Peak Gain Position (Phi)	287.00	284.00	286.00
Efficiency ThetaPol (%)	18.91	21.65	24.32
Efficiency PhiPol (%)	36.99	45.76	51.44
Upper Hem. Efficiency (%)	28.86	35.45	40.20
Lower Hem. Efficiency (%)	27.05	31.96	35.56

2400.0MHz H+V, Eff: 55.9%

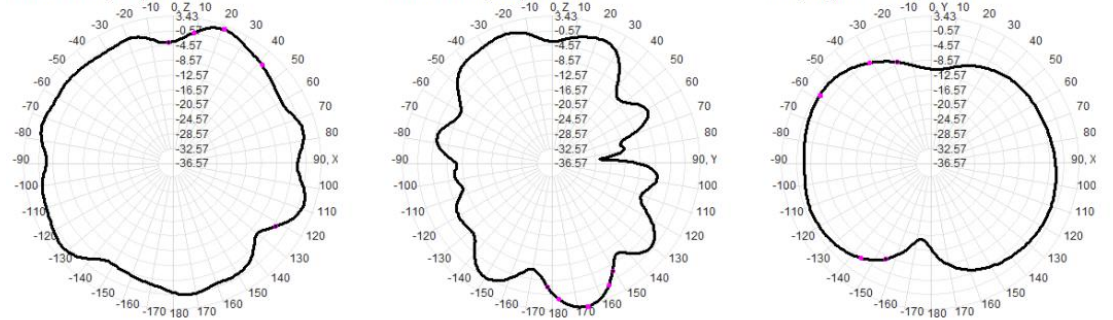
Back View



2400.0MHz Total(E1-XZ), Max= 2.30dBi

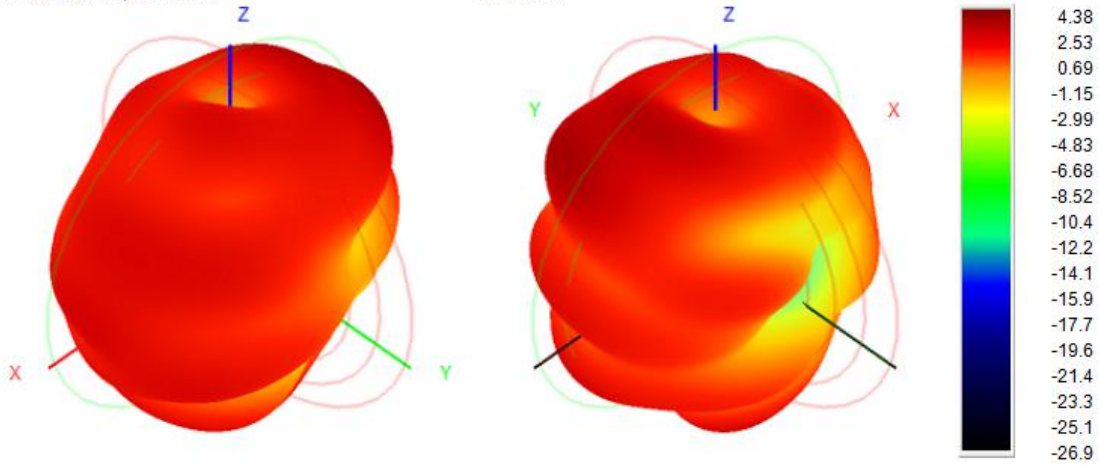
2400.0MHz Total(E2-YZ), Max= 3.43dBi

Total(H-XY), Max= -1.64dBi, CirD=14.23

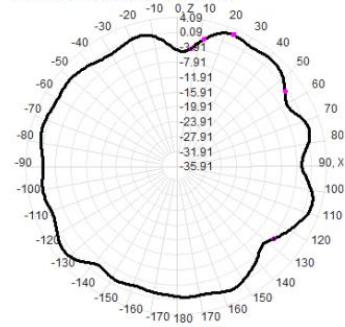


2450.0MHz H+V, Eff: 67.4%

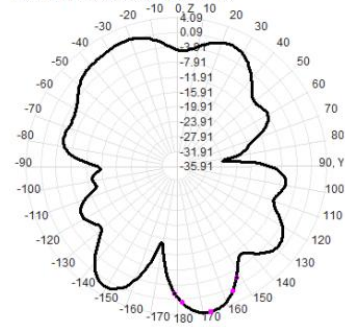
Back View



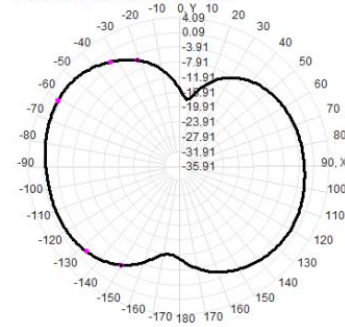
2450.0MHz Total(E1-XZ), Max= 2.42dBi



2450.0MHz Total(E2-YZ), Max= 4.09dBi

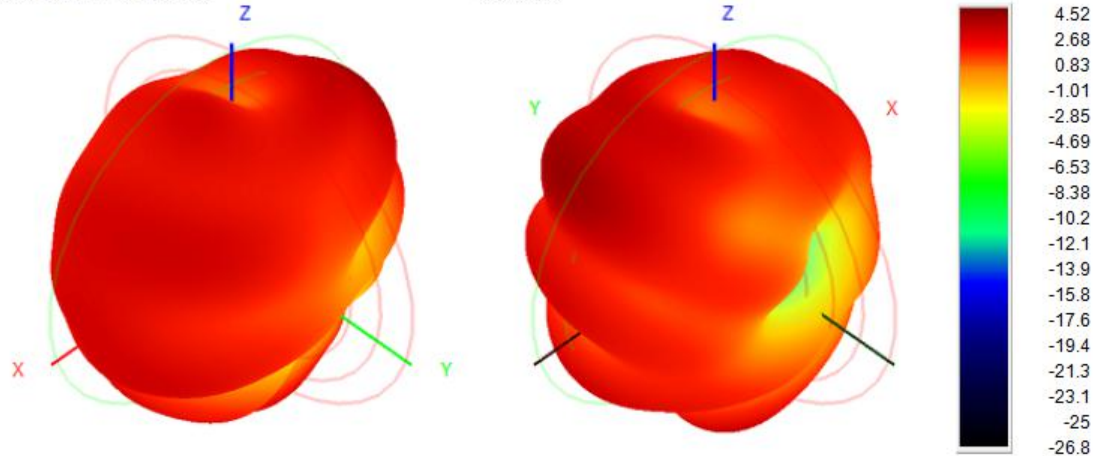


Total(H-XY), Max= 0.63dBi, CirD=18.41



2500.0MHz H+V, Eff: 75.8%

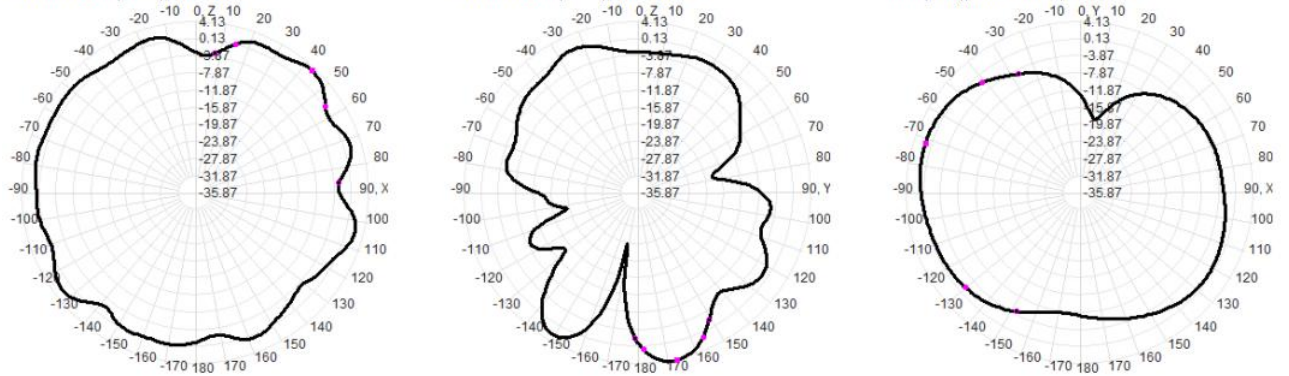
Back View



2500.0MHz Total(E1-XZ), Max= 3.28dBi

2500.0MHz Total(E2-YZ), Max= 4.52dBi

Total(H-XY), Max= 1.41dBi, CirD=19.79



Frequency (MHz)	5150.0	5200.0	5250.0	5300.0	5350.0	5400.0	5450.0	5500.0	5550.0	5600.0	5650.0	5700.0	5750.0	5800.0	5850.0
Efficiency (dBi)	-2.35	-2.35	-2.26	-2.15	-2.17	-2.10	-2.13	-2.34	-2.50	-2.65	-2.76	-2.86	-2.88	-2.94	-2.90
Gain (dBi)	3.66	3.17	3.16	2.87	3.32	3.61	3.70	3.70	3.65	3.54	3.50	3.49	3.10	2.86	3.06
Efficiency (%)	58.21	58.17	59.40	60.95	60.72	61.62	61.16	58.38	56.20	54.36	52.98	51.77	51.55	50.85	51.34
Directivity (dB)	6.01	5.52	5.42	5.02	5.49	5.71	5.83	6.04	6.15	6.19	6.26	6.35	5.98	5.79	5.95
Peak Gain Position (Theta)	101.00	100.00	140.00	117.00	114.00	114.00	113.00	113.00	112.00	112.00	143.00	143.00	143.00	142.00	142.00
Peak Gain Position (Phi)	315.00	316.00	20.00	13.00	169.00	170.00	170.00	172.00	173.00	175.00	21.00	20.00	19.00	18.00	18.00
Efficiency ThetaPol (%)	25.71	24.13	23.15	22.73	22.67	20.89	19.46	18.09	16.86	15.79	15.05	14.61	13.89	13.29	13.35
Efficiency PhiPol (%)	32.49	34.04	36.26	38.22	38.05	40.72	41.70	40.29	39.35	38.57	37.93	37.17	37.66	37.56	37.99
Upper Hem. Efficiency (%)	23.13	23.24	24.36	26.51	28.06	30.20	30.72	29.61	28.45	27.63	27.45	27.45	27.81	27.61	27.96
Lower Hem. Efficiency (%)	35.08	34.93	35.05	34.44	32.66	31.42	30.44	28.77	27.75	26.73	25.53	24.33	23.74	23.24	23.38