

WAG-F-LTE12LB-00-003 Specification

1. Explanation of part number :

WAG F LTE12LB 00 003
(1) (2) (3) (4) (5)

(1) Product Type : ANT3+ANT4 Antenna

(2) Material: FPC

(3) Frequency : ANT3: 2400-2500&5150-5850MHz ; ANT4: 617-960&1400-2700MHz

(4) Coaxial Cable Type : 00

(5) Suffix :003

2. Storage Condition:

Temperature -40 to +70 °C
Humidity 65±20 % RH

3. Operating Condition:

Temperature -40 to +70 °C
Humidity 65±20 % RH

4. Electrical Specification :

Those specifications were specially defined for 龙旗 X708 (ANT 3&4) model, and all characteristics were measured under the model's handset testing. :

4-1. Frequency Band:

Frequency Band	MHz
ANT3	2400-2500 & 5150-5850
ANT4	617-960 & 1400-2700

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4-2. Impedance

50 ohm nominal

4-3. Matching circuit

项目阶段	EVB	EVT	DVT 1	DVT 2	
天线编号	位号	名称		名称	名称
ANT3	J5703	弹片	弹片	弹片	弹片
	J5704	弹片	弹片	弹片	弹片
	C5728	33PF	33PF	33PF	33PF
	D5700	TVS管	TVS管	TVS管	TVS管
	L5729	NC	NC	NC	NC
	L5718	100NH	100NH	120NH	120NH
	C5729	33PF	33PF	33PF	33PF
	L5719	82NH	82NH	27NH	27NH
	C5730	33PF	1.2PF	0R	3.3PF
	C5739	NC	NC	0.3PF	0.3PF
	C5731	33PF	零欧姆	1NH	1NH
	C5740	NC	NC	NC	NC
	CON5701	射频口	射频口	射频口	射频口
ANT4	J5908	弹片	弹片	弹片	弹片
	D5810	TVS管	TVS管	TVS管	TVS管
	L5825	100NH	100NH	100NH	100NH
	C5813	33PF	33PF	33PF	33PF
	L5919	82NH	82NH	82NH	82NH
	R5812	0R	0R	0R	0R
	C5920	NC	5.1nH	8.2nH	8.2nH
	R5816	0R	5.6pF	5.6pF	5.6pF
	C5819	NC	NC	NC	NC
	C5817	33PF	33PF	33PF	33PF
	L5830	120NH			
	L5829	56NH			
	R5813	100KR			
	C5814	33PF			
	J5910	弹片	弹片	弹片	弹片
	FV5901	TVS管	TVS管	TVS管	TVS管
	C5910	33PF	33PF	33PF	33PF
	L5924	82NH	82NH	120NH	120NH
	R5909	0R	0R	0R	0R
	R5910	0R	1.5NH	15NH	15NH
	R5911	0R	5.6NH	4.3NH	4.3NH
	R5912	0R	18NH	18NH	18NH
	C5914	NC			
	C5913	NC			
	C5915	100PF			
	U5902	开关	开关	开关	开关

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DESIGNED BY : 熊勇 APPROVED BY : 赵付辉

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4-4. VSWR

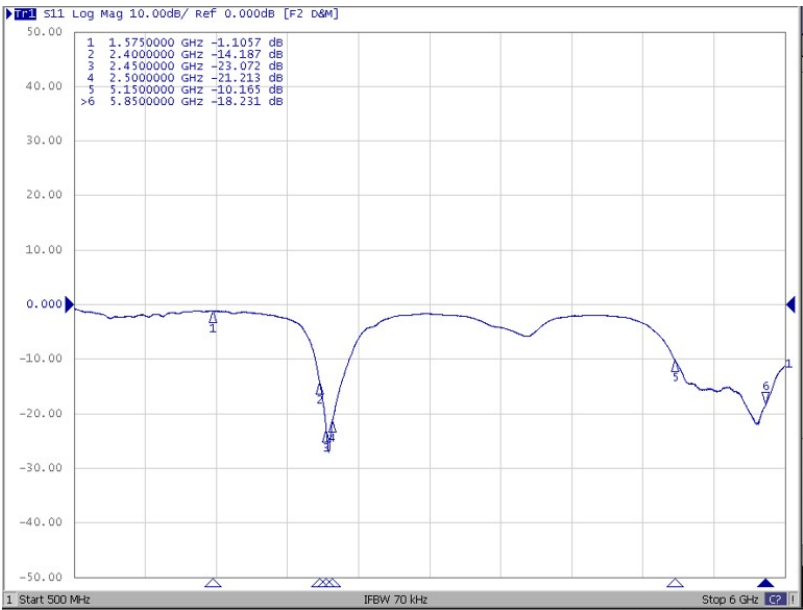
4-4.1 Measuring Method

- 1.A 50Ω coaxial cable is connected to the antenna. Then this cable is connected to a network analyzer to measure the VSWR
- 2.Keeping this jig away from metal at least 20cm

4-4.2 Measurement frequency points and Return loss value

ANT3:

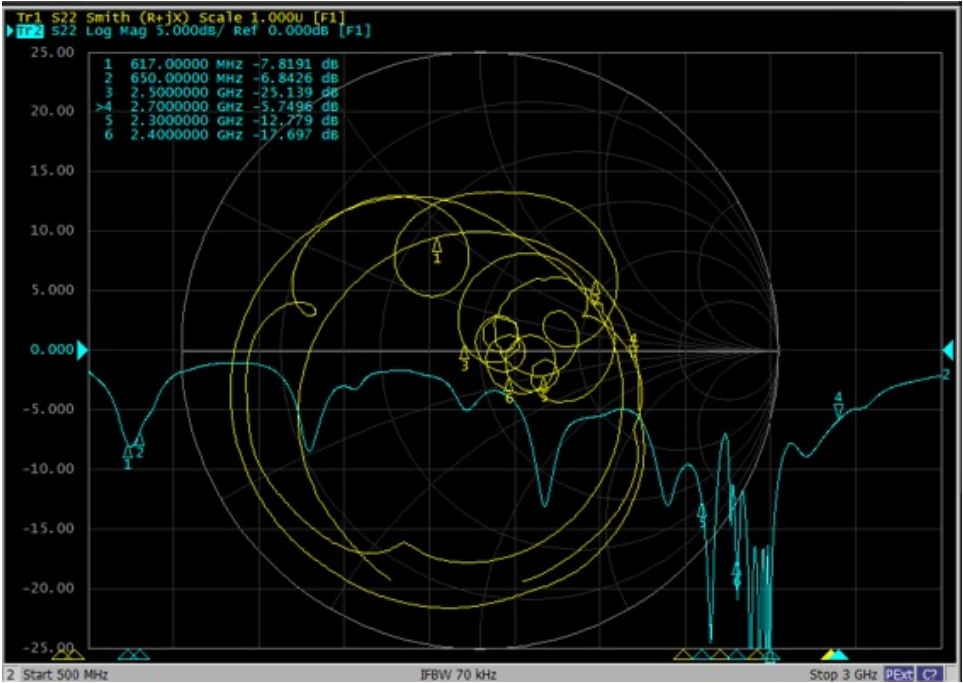
Frequency (Unit MHz)	2400	2450	2500	5150	5850
VSWR	-14.1	-23	-21	-10.1	-18.2



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ANT4:

Frequency (Unit MHz)	617	650	2500	2700
VSWR	-7.8	-6.8	-25.1	-5.7



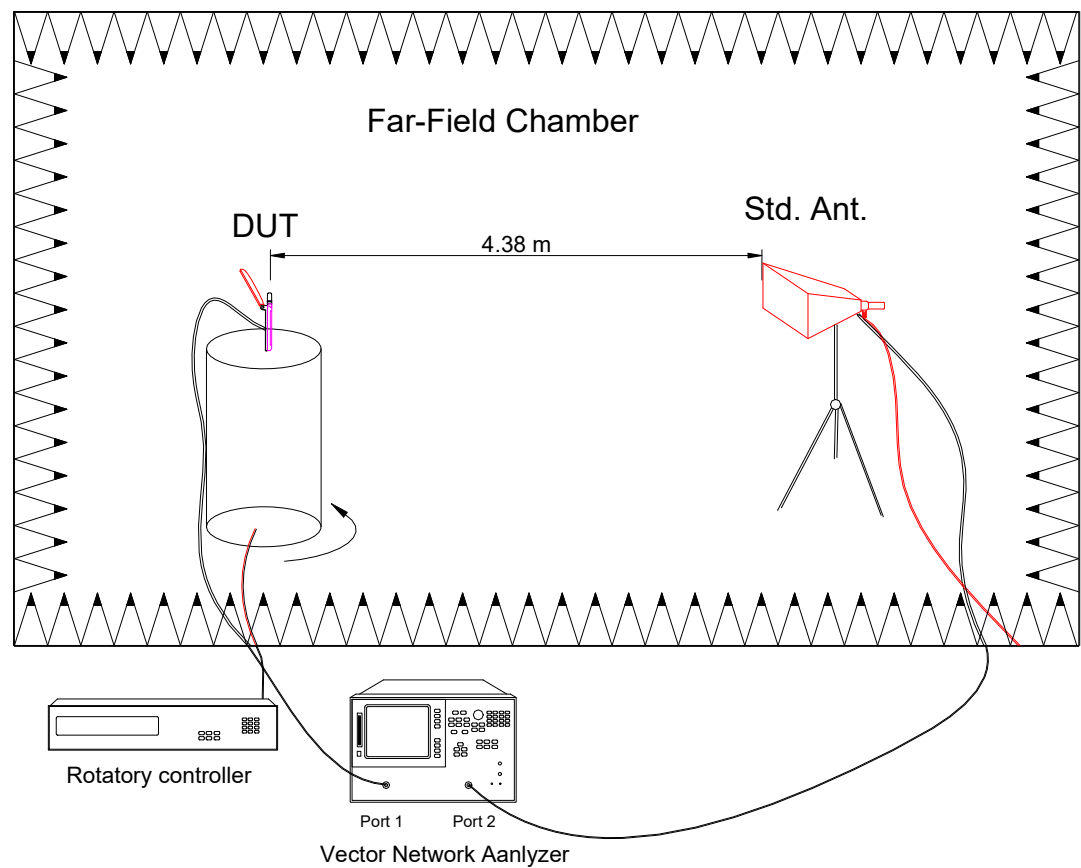
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4-5. Efficiency and Gain

4-5.1 Measure method

- 1. Using a low loss coaxial cable to link a standard handset jig
- 2. Fixed this handset jig on chamber’s rotator plane
- 3. Linking jig into network analyzer port and using a probing horn antenna to collect data.
- 4. Using another standard gain horn antenna to calibrated those data

4-5.2 Chamber definition



- 1. An anechoic chamber (7mx4mx3m) which satisfied far-field condition was applied to avoid multi-path effect
- 2. The quiet room region is 40cmx40cmx40cm at the center of rotator
- 3. The distance between DUT and standard antenna is 4.38 m
- 4. Probing antenna (9120D horn antenna) and standard gain horn antenna (BBHA9120 LPF 700MHz ~6GHz)

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4-5.3 Efficiency and Gain

Antenna gain is marked (dBi) and is based on STANDARD HORN antenna. The data shows Peak Gain and Average Gain.

ANT3:

Frequency	Efficiency	Efficiency	MaxGain/d	Frequency	Efficiency	Efficiency	MaxGain/d
2400	-7.44	18.03	-1.03	5150	-6.73	21.23	-0.72
2410	-7.23	18.92	-1.08	5200	-6.15	24.27	-0.01
2420	-6.89	20.46	-0.65	5250	-5.45	28.51	0.41
2430	-6.53	22.23	-0.38	5300	-5.5	28.18	0.06
2440	-6.53	22.23	-0.42	5350	-4.99	31.7	0.74
2450	-6.13	24.38	0.23	5400	-4.65	34.28	0.89
2460	-6.52	22.28	-0.3	5450	-4.68	34.04	0.14
2470	-6.15	24.27	0.39	5500	-4.49	35.56	0.36
2480	-6.52	22.28	-0.35	5550	-4.44	35.97	0.3
2490	-6.29	23.5	0.13	5600	-4.59	34.75	-0.44
2500	-6.61	21.83	-0.46	5650	-4.71	33.81	-1.35
				5700	-5.04	31.33	-1.87
				5750	-5.11	30.83	-1.79
				5800	-5.46	28.44	-2.41
				5850	-5.63	27.35	-2.47

ANT4:

	State	NA版本	GLOBAL版本
		Band	Band
0	Isolation	LTE B7 B38 B41 B71 & NR N7 N41 N71	LTE B7 B38 B41 B71 & NR N7 N41 N38 N71
1	RF1		
2	RF2	LTE B12 B13 B17 B29 & NR N12 N29	LTE B12 B17
4	RF3	B14 & N14	LTE B28 & NR N28
8	RF4		
3	RF1+RF2		
5	RF1+RF3	LTE B1 B4 B66 & NR N66 N70	LTE B1 B4 B66 & NR N1
9	RF1+RF4		
6	RF2+RF3	LTE B20	LTE B20 & NR N20
A	RF2+RF4		
C	RF3+RF4		
7	RF1+RF2+RF3	LTE B5 B26 B30 & NR N5 N26 N30	B5 B18 B19 B26 & NR N5 N26
B	RF1+RF2+RF4		
D	RF1+RF3+RF4		
E	RF2+RF3+RF4		
F	RF1+RF2+RF3+RF4	LTE B2 B3 B8 B25 B39 B40 & NR N2 N25	LTE B2 B3 B8 B11 B21 B25 B32 B34 B39 B40 & NR N3 N8 N40

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	Frequency	Efficiency	Efficiency	MaxGain/dBi		Frequency	Efficiency	Efficiency	MaxGain/d
SW-0	600	-14.15	3.85	-10.21	SW-f	1800	-6.22	23.88	-0.4
	610	-13.34	4.63	-9.6		1820	-5.8	26.3	-0.41
	620	-12.59	5.51	-8.59		1840	-5.4	28.84	-1.1
	630	-12.33	5.85	-8.18		1860	-5	31.62	-0.89
	640	-12.25	5.96	-7.7		1880	-4.66	34.2	-0.69
	650	-12.03	6.27	-7.55		1900	-4.39	36.39	0.29
						1920	-4.13	38.64	0.71
SW-2	720	-10.76	8.39	-8.24		1940	-3.85	41.21	0.7
	730	-10.2	9.55	-7.84		1960	-3.59	43.75	0.89
	740	-10.01	9.98	-7.31		1980	-3.43	45.39	1.14
	750	-10.32	9.29	-7.38		2000	-3.41	45.6	0.95
	760	-10.54	8.83	-8.01		2020	-3.36	46.13	0.99
	770	-10.9	8.13	-8.59					
SW-6	790	-9.59	10.99	-6.18	SW-5	2100	-4.77	33.34	-0.66
	800	-9.21	11.99	-5.71		2120	-4.81	33.04	-1.15
	810	-9.04	12.47	-5.17		2140	-5	31.62	-1.5
	820	-9.14	12.19	-5.09		2160	-4.88	32.51	-1.8
						2180	-4.95	31.99	-1.49
				2200		-5.18	30.34	-1.32	
SW-7	860	-10.49	8.93	-6.42	SW-1				
	870	-9.79	10.5	-6.42		2300	-6.26	23.66	-1.66
	880	-9.07	12.39	-5.95		2320	-6.82	20.8	-2.15
	890	-8.9	12.88	-5.41		2340	-7.58	17.46	-2.5
	900	-8.59	13.84	-5.33		2360	-8.61	13.77	-2.8
				2380		-9.58	11.02	-2.49	
SW-f	930	-8.28	14.86	-5.04	SW-0	2400	-10.46	8.99	-2.32
	940	-8.71	13.46	-5.66					
	950	-9.36	11.59	-6.44		2520	-7.98	15.92	-2.5
	960	-10.48	8.95	-7.51		2540	-6.89	20.46	-2.8
						2560	-5.89	25.76	-2.49
SW-f	1440	-11.5	7.08	-5.2		2580	-5.28	29.65	-2.32
	1460	-10.96	8.02	-5.66		2600	-4.96	31.92	-1.01
	1480	-10.34	9.25	-6.14		2600	-6.18	24.1	0.01
	1500	-9.68	10.76	-5.66		2620	-5.94	25.47	0.34
	1520	-8.99	12.62	-6.44		2640	-6.02	25	0.64
						2660	-6.33	23.28	0.82
						2680	-6.58	21.98	0.95
						2700	-6.86	20.61	0.94

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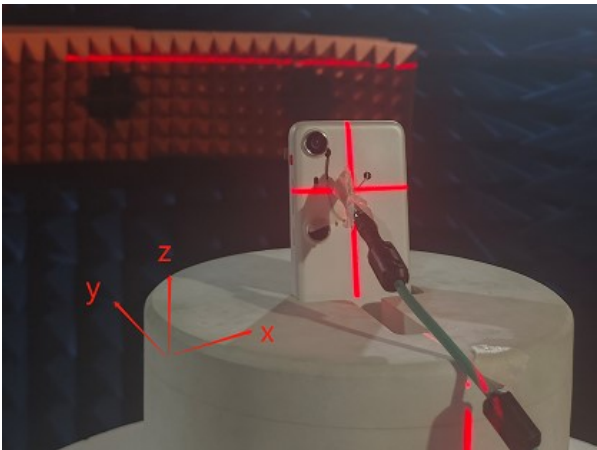


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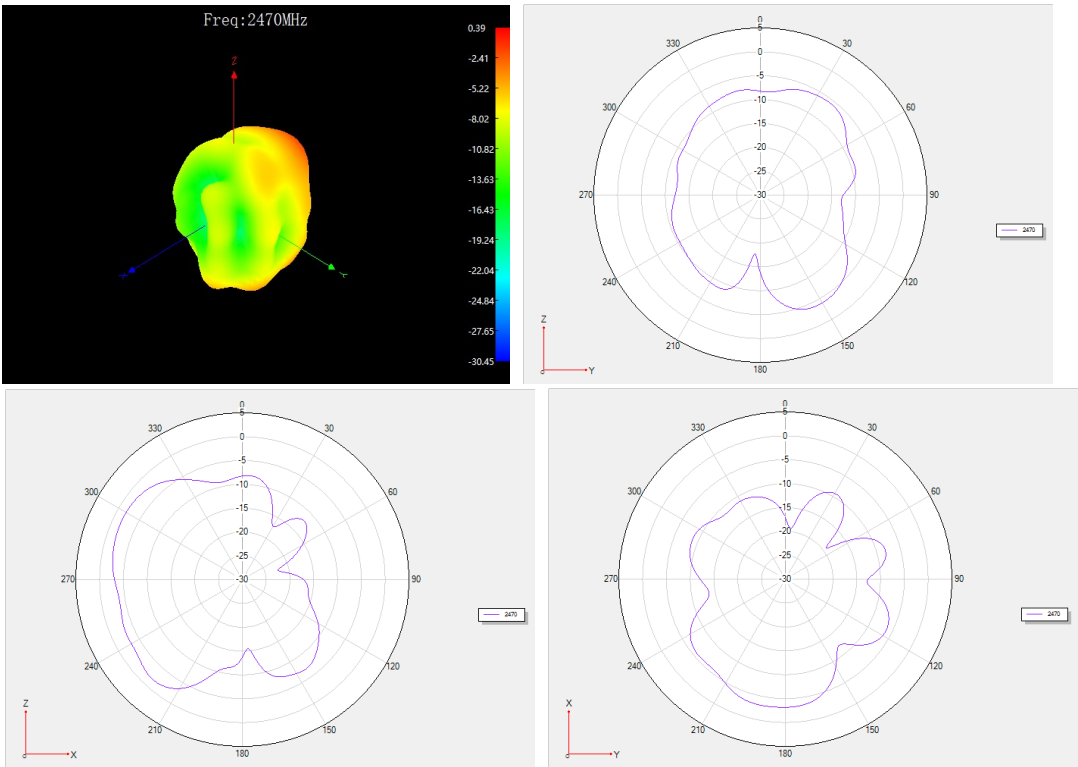
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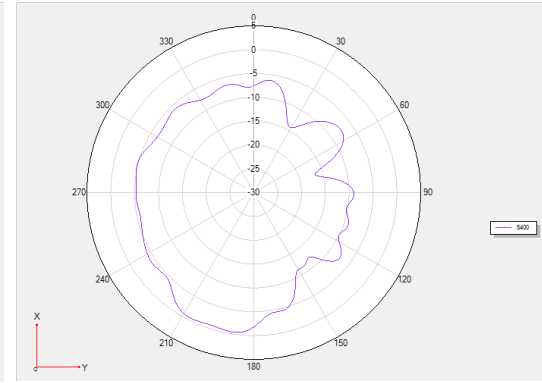
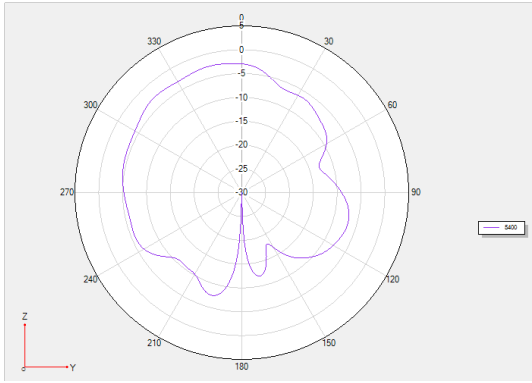
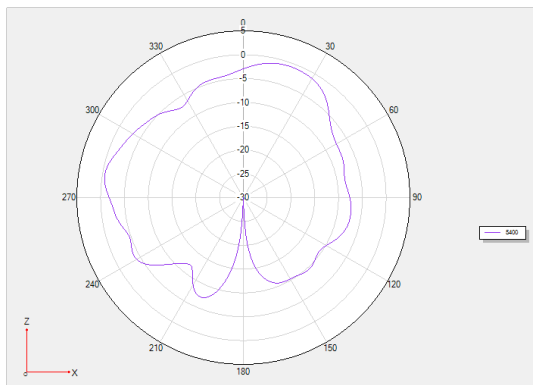
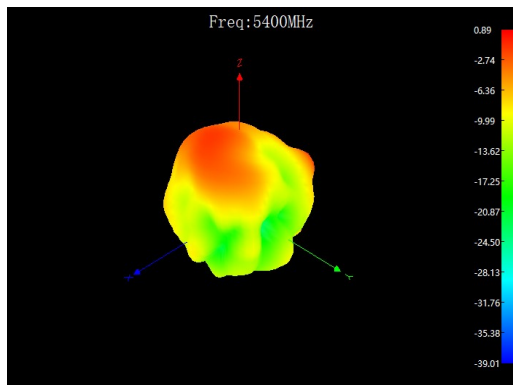
4-5.4 2/3D Radiation Pattern Results



ANT3:

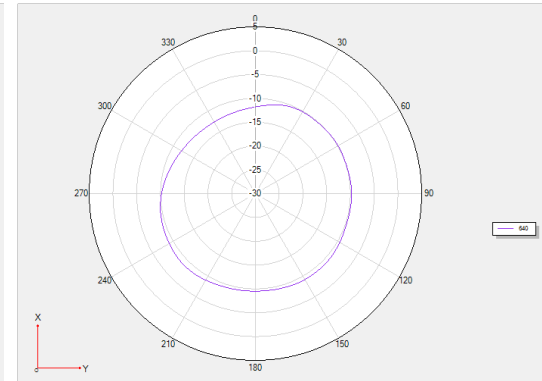
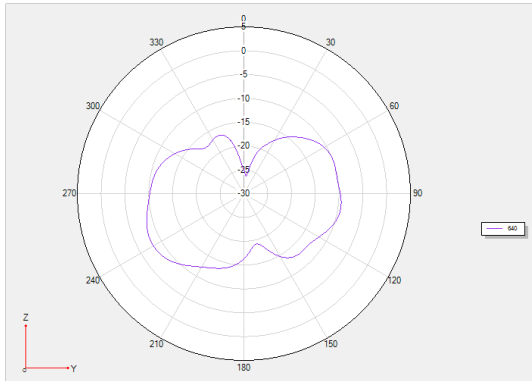
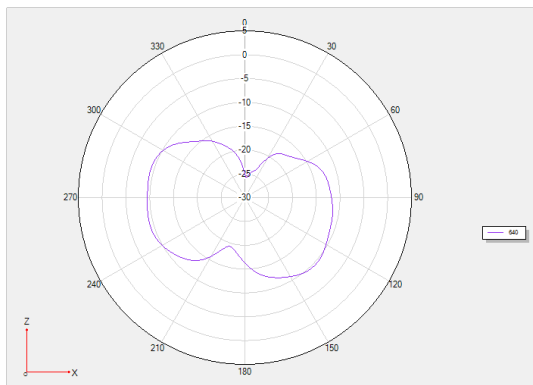
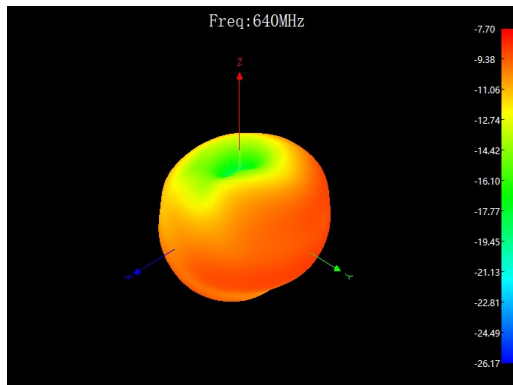


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ANT4:

SW-0:



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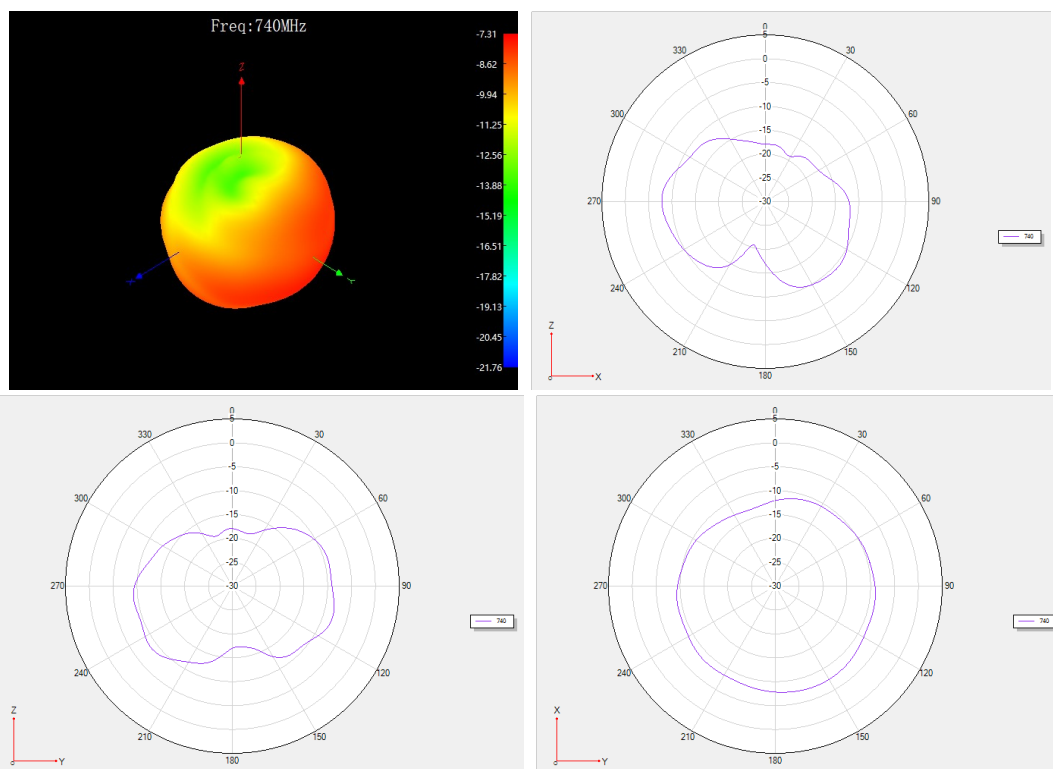
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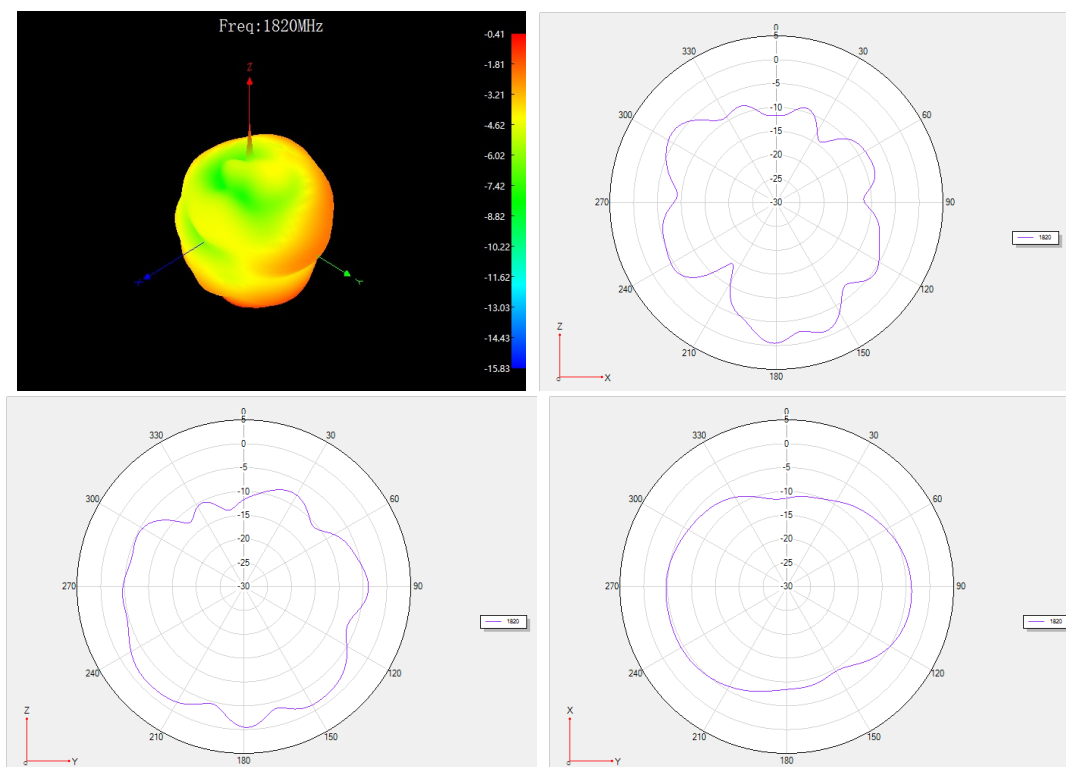
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SW-2:



SW-f:



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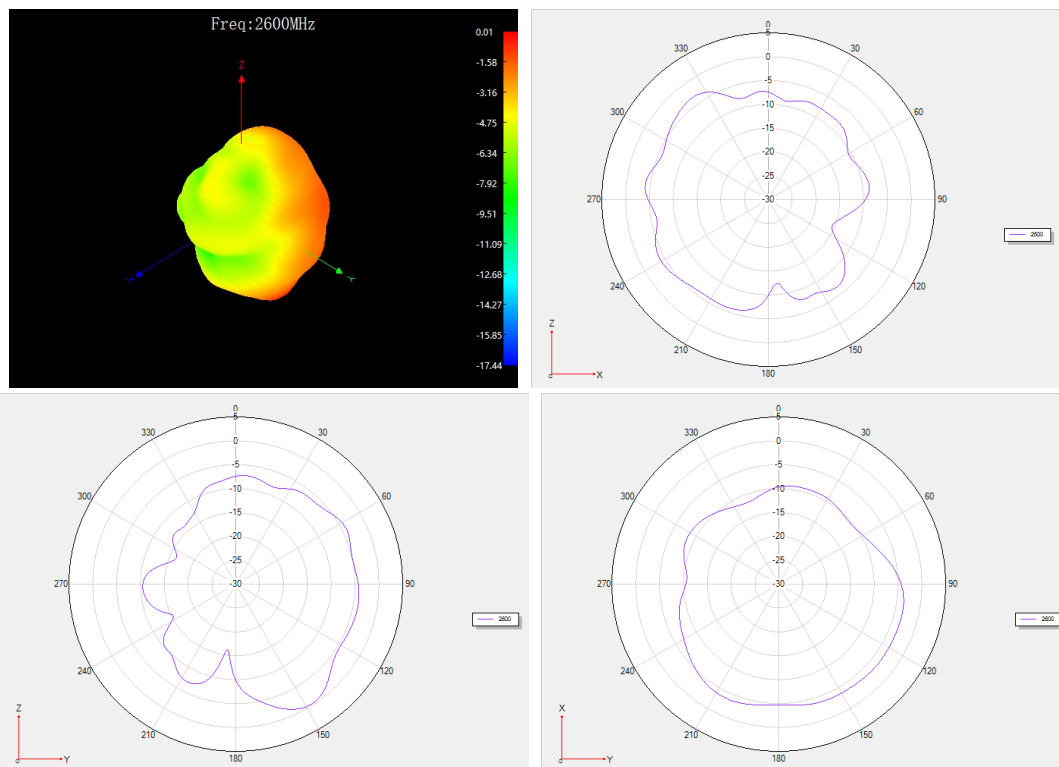
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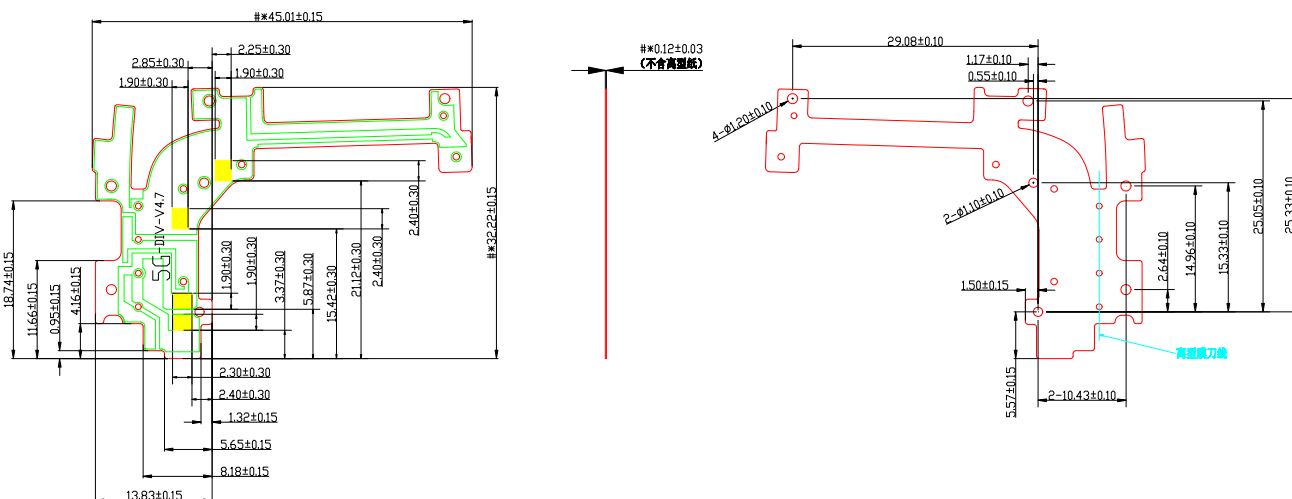
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5. Mechanical Specification:

5-1. Mechanical Configuration (Unit: mm)

The appearance of the antenna is according to drawing Figure 5-1-1



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6. Physical illustration



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