



Shenzhen Dosing Technology Co., Ltd

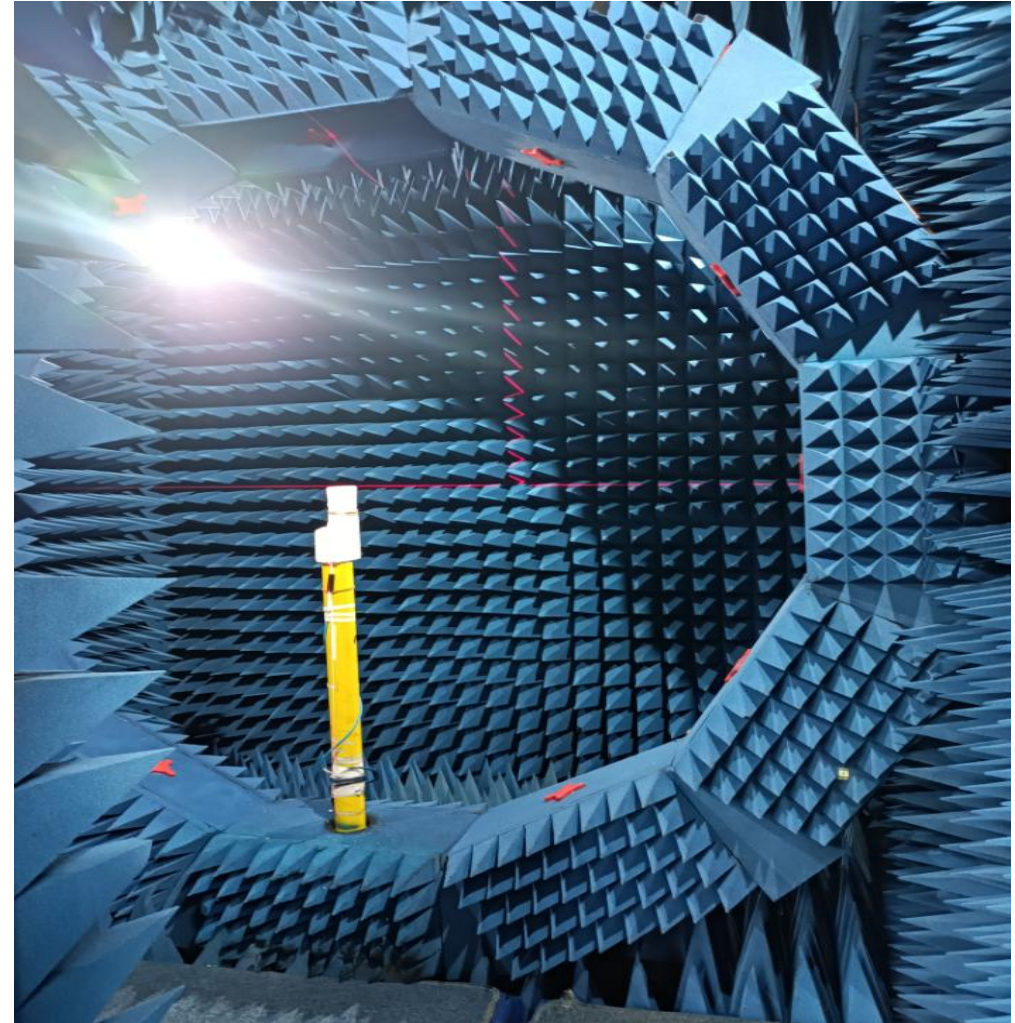
D9N Antenna specifications

1.Test equipment

Wireless communications test set: CMW500

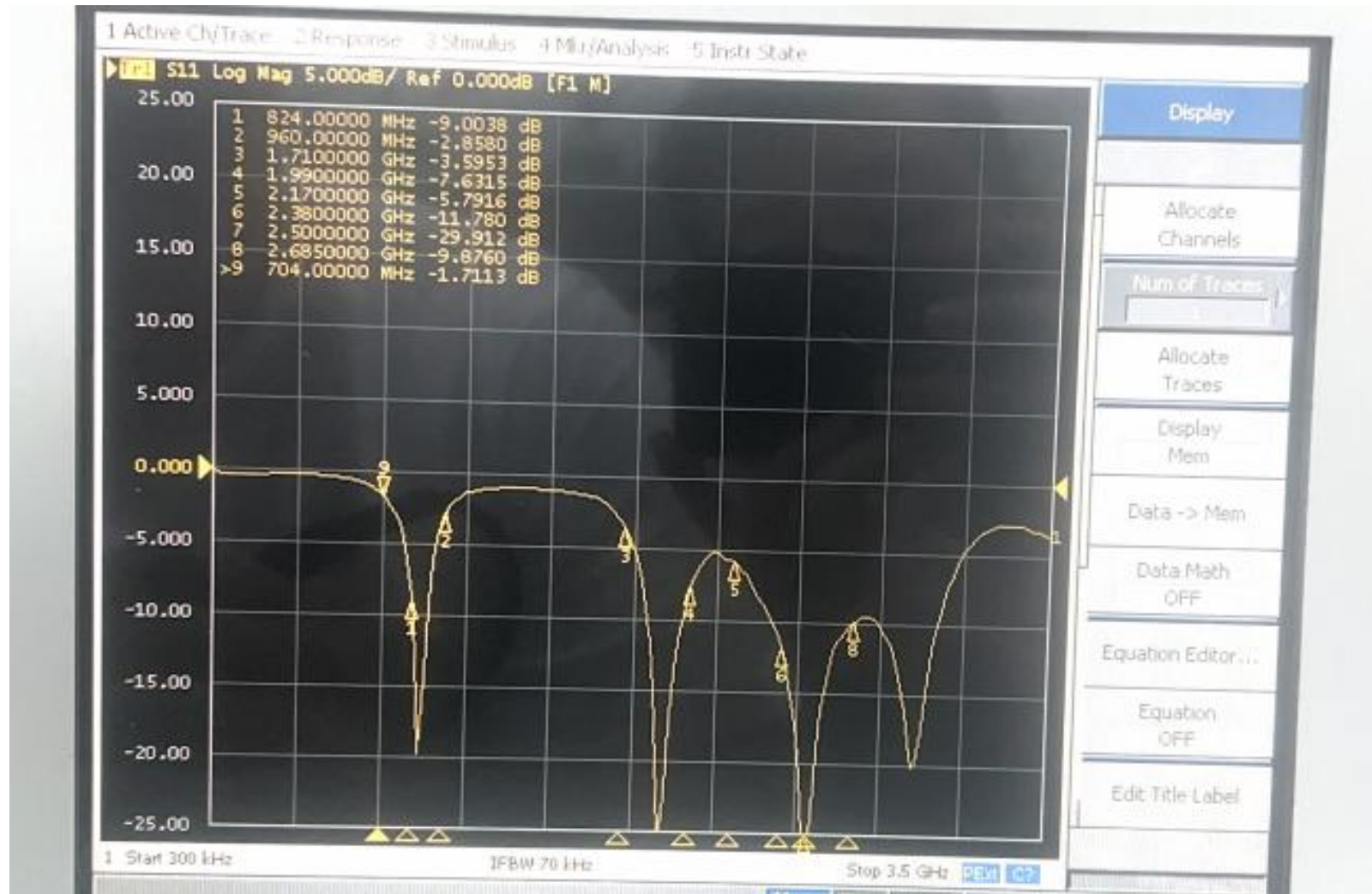
Network Analyzer: Agilent 5071B

Anechoic Chamber : GTS 1800



2. Passive parameters

ANT 0

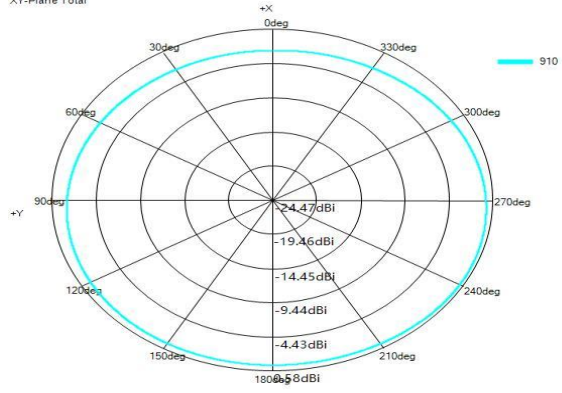


Frequency	960MHZ	2600MHZ
Return Loss	-2.85	-10.36

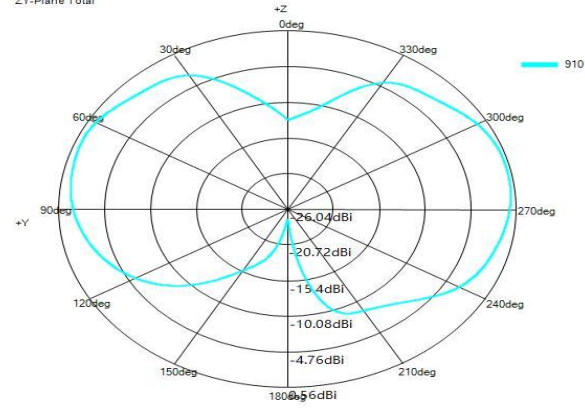


ESHIQIN

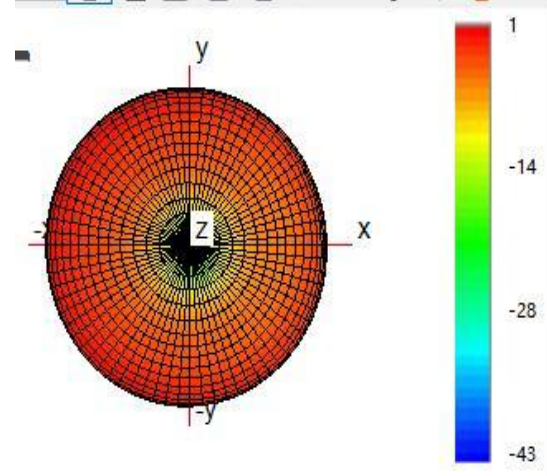
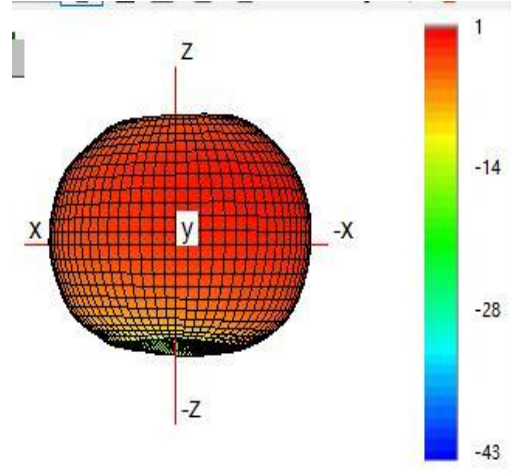
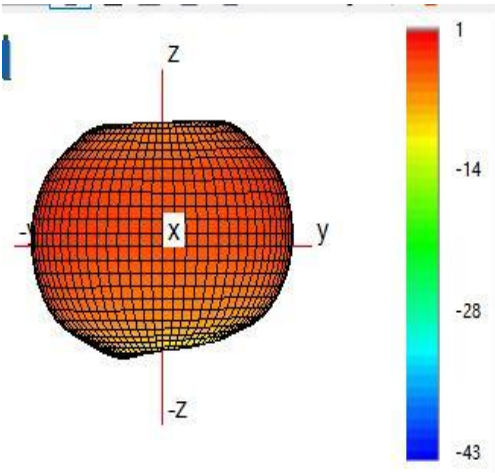
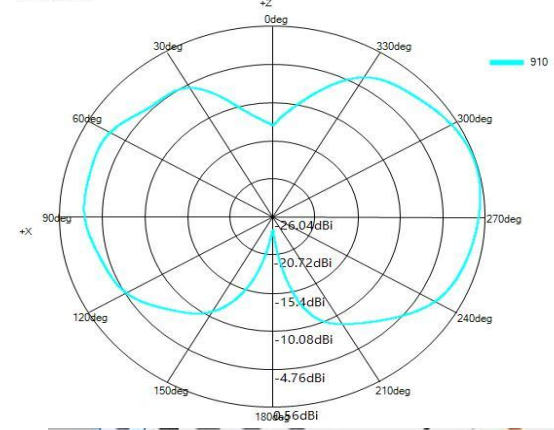
XY-Plane Total



ZY-Plane Total

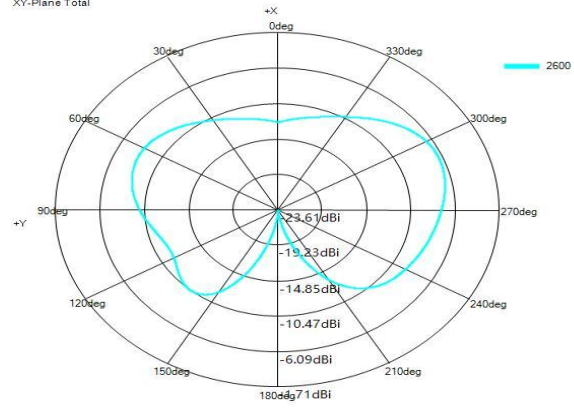


ZX-Plane Total

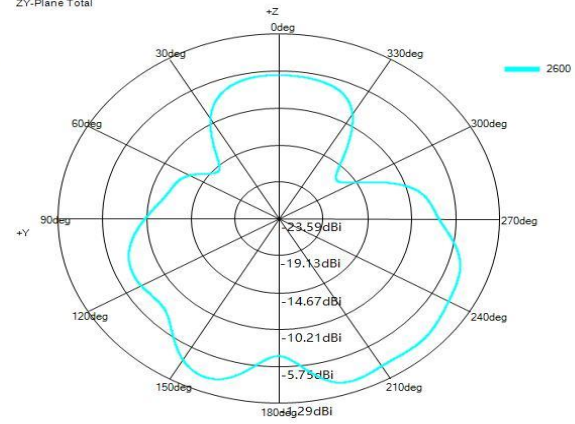




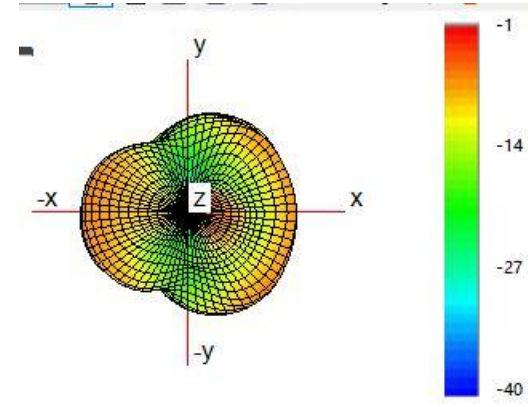
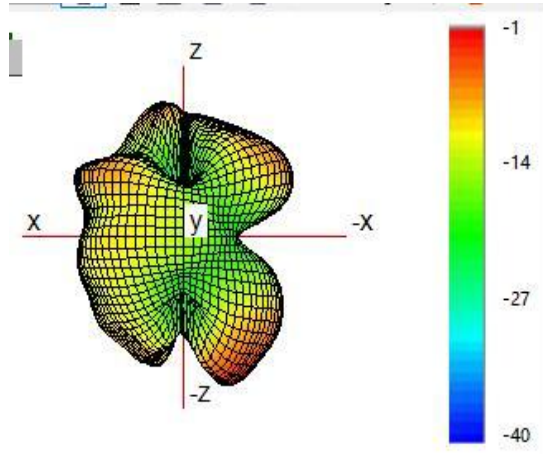
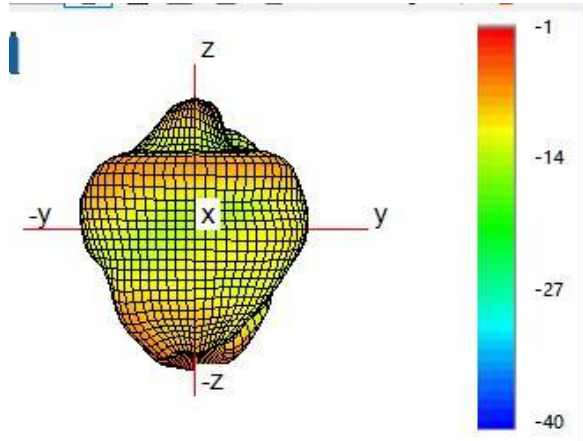
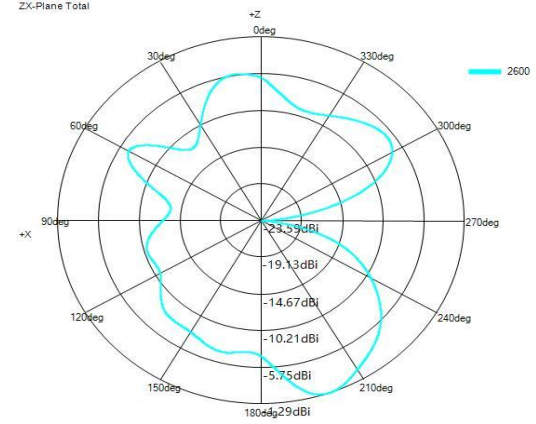
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XY-Plane Total



ZY-Plane Total



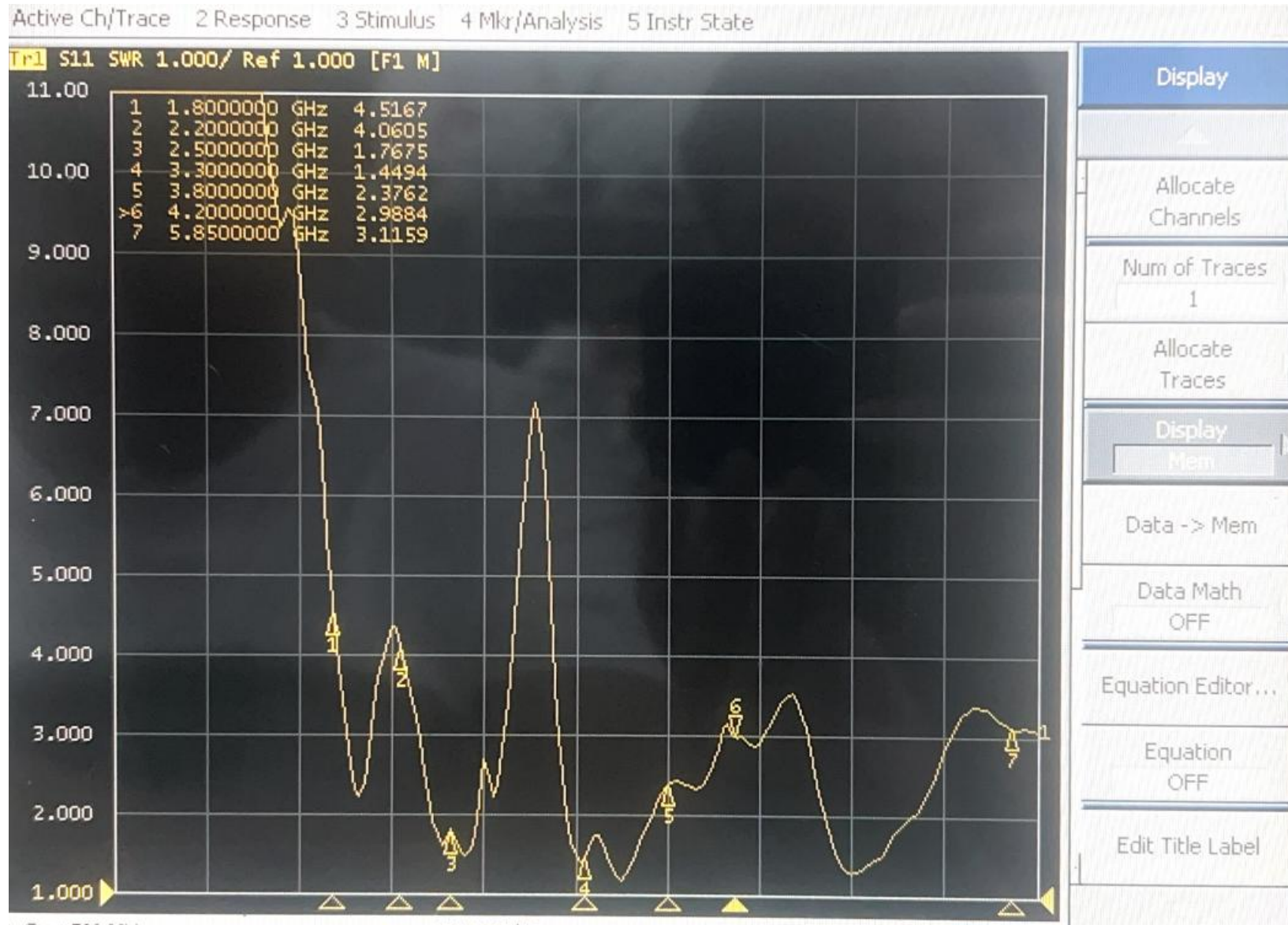
ZX-Plane Total





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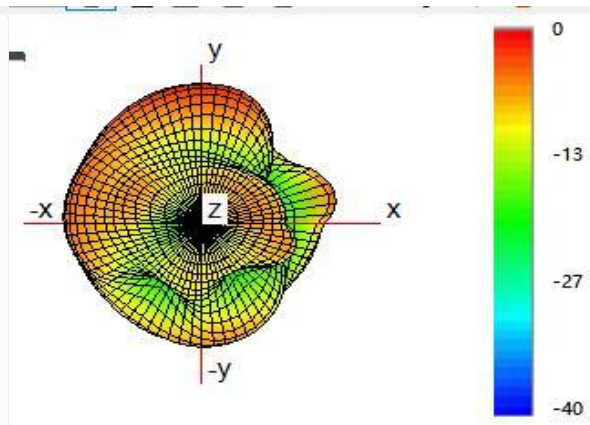
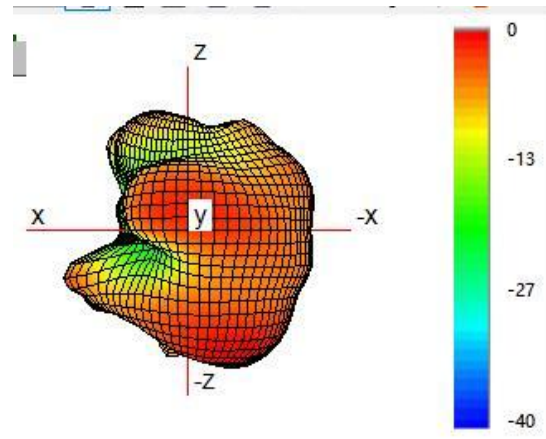
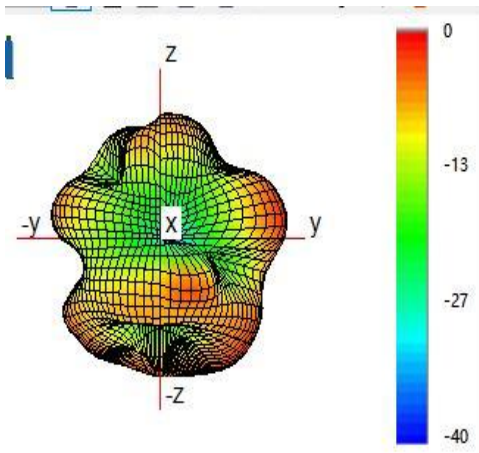
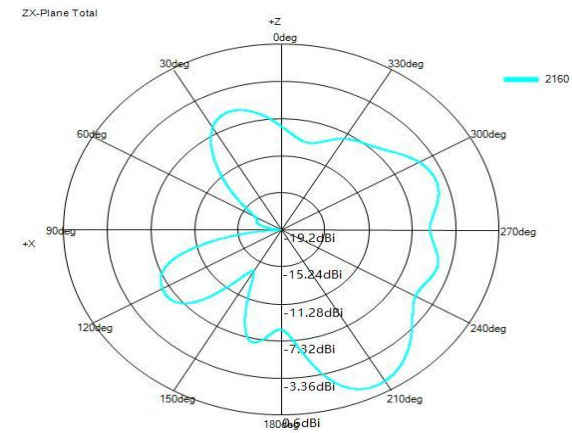
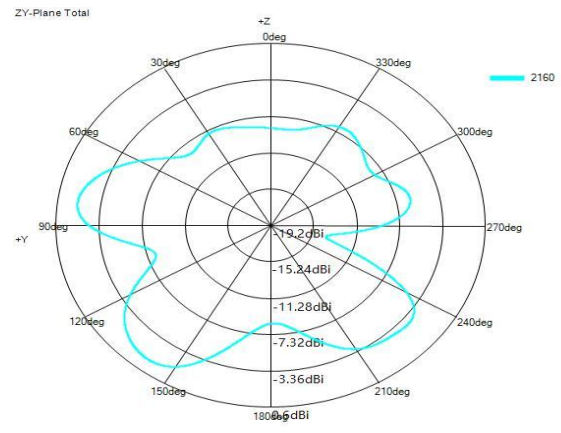
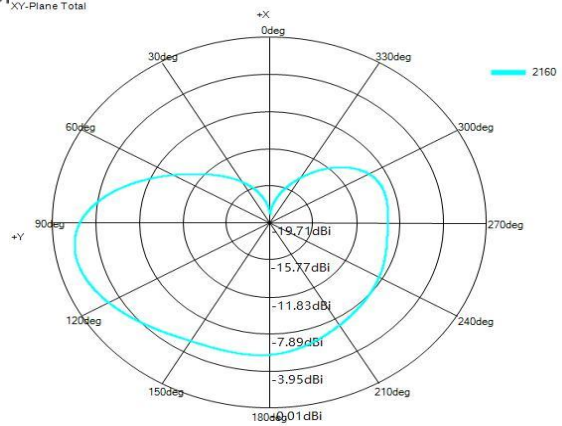
ANT 1



Frequency	2200MHz	3800MHz
Return Loss	-6.7	-8.39

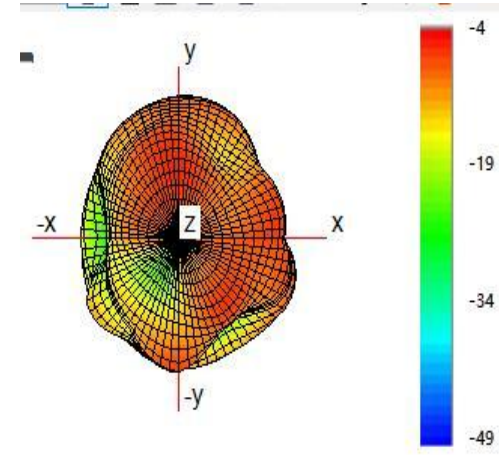
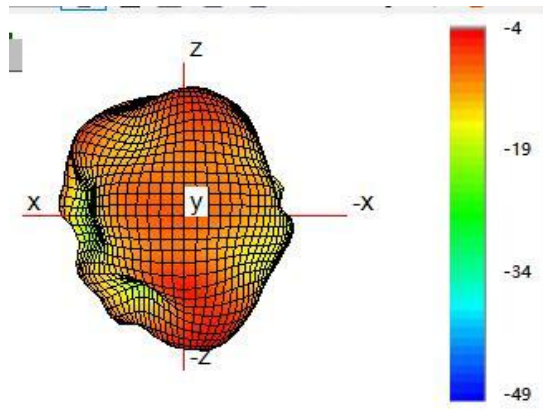
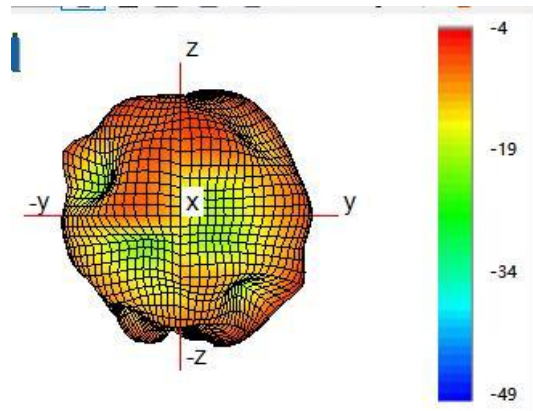
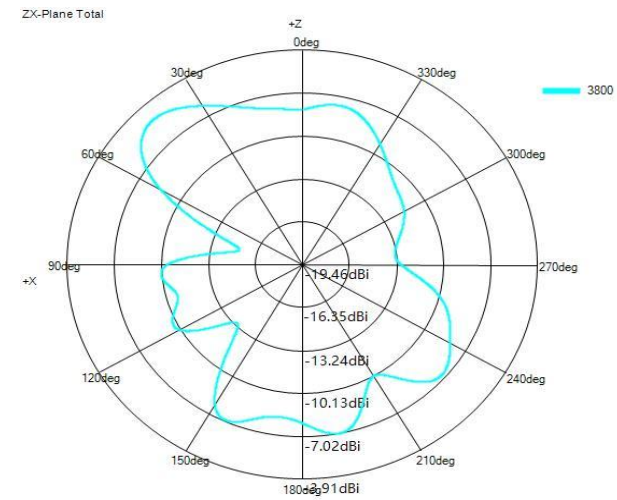
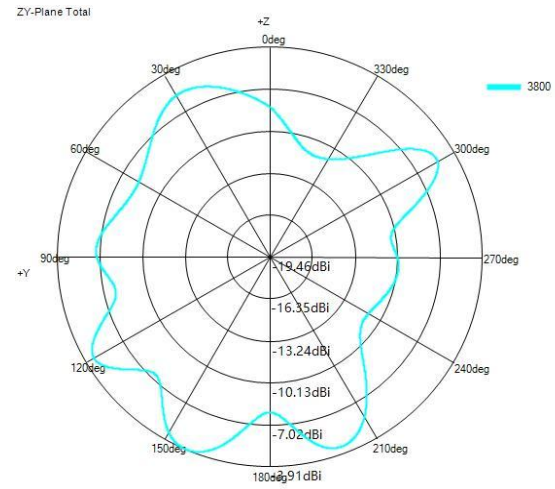
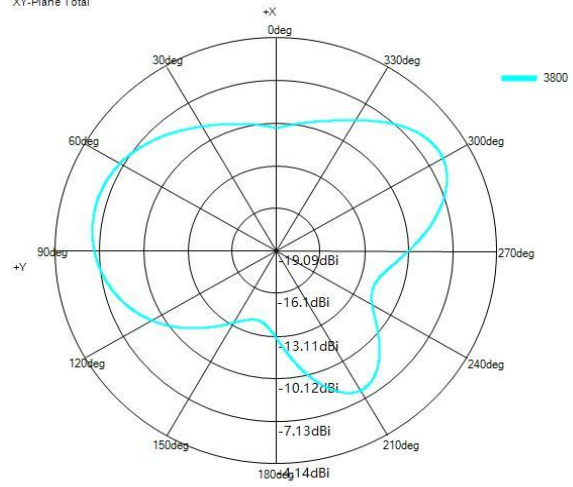


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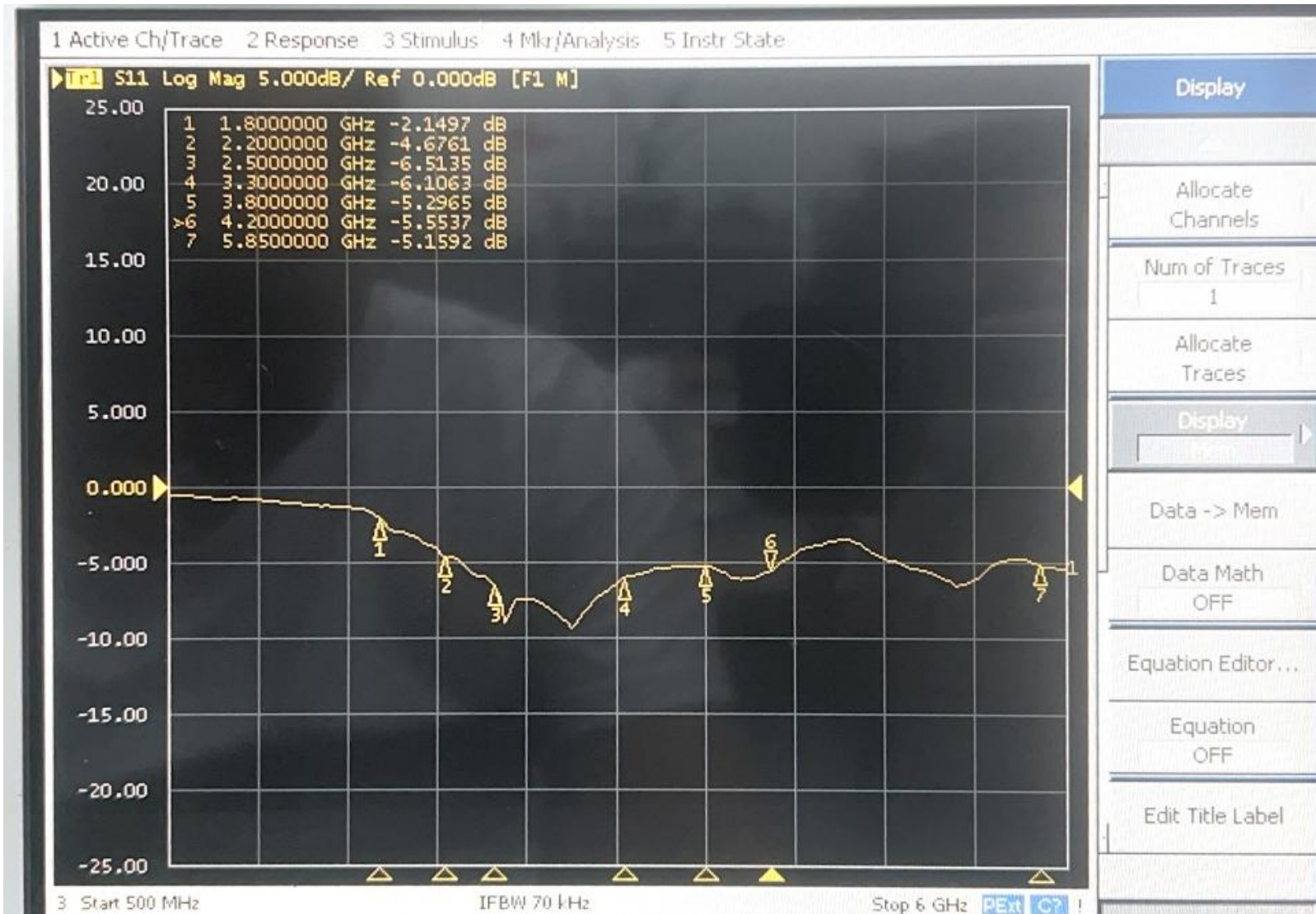
DSHIQIN
XY-Plane Total





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ANT 2

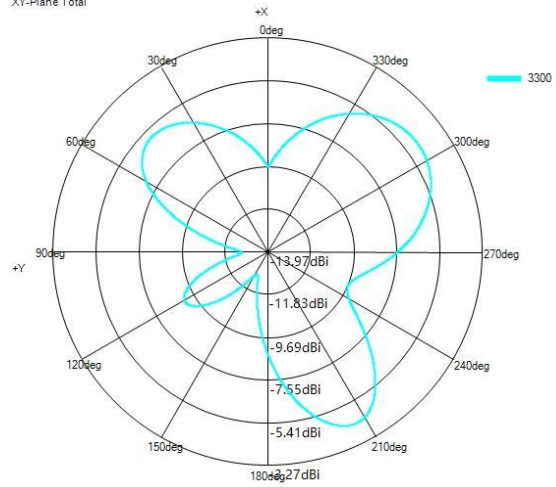


Frequency	3750MHz
Return Loss	-5.87

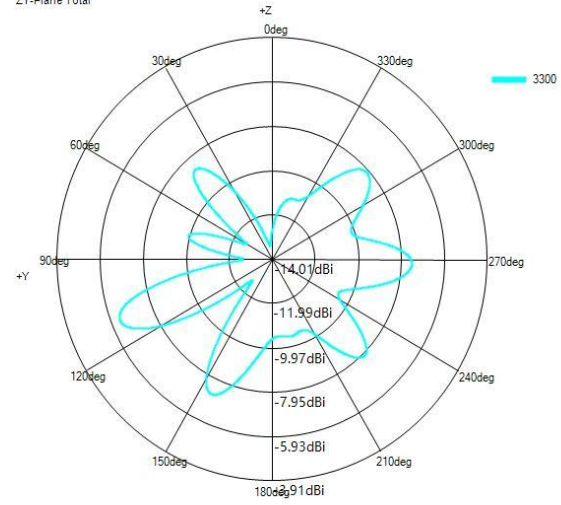


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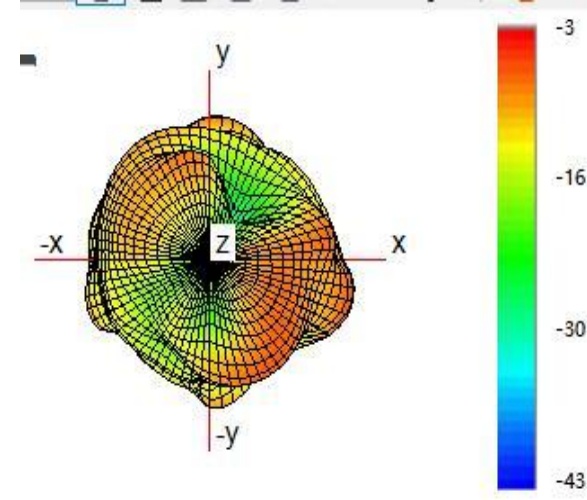
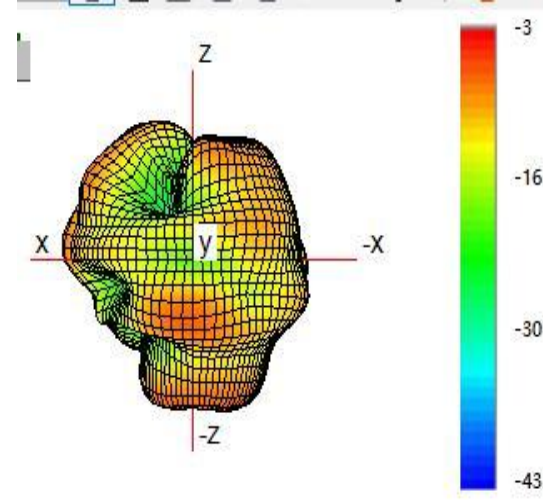
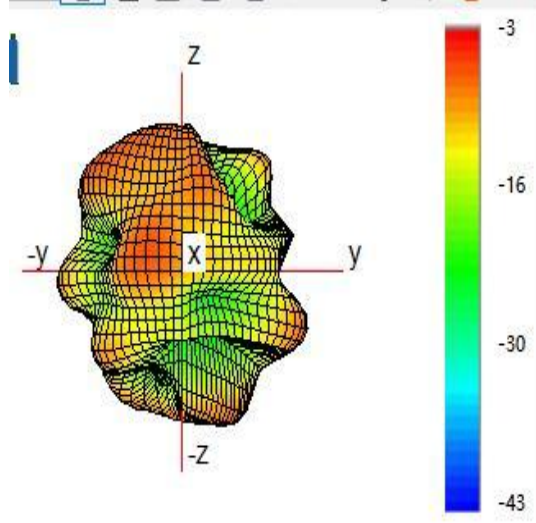
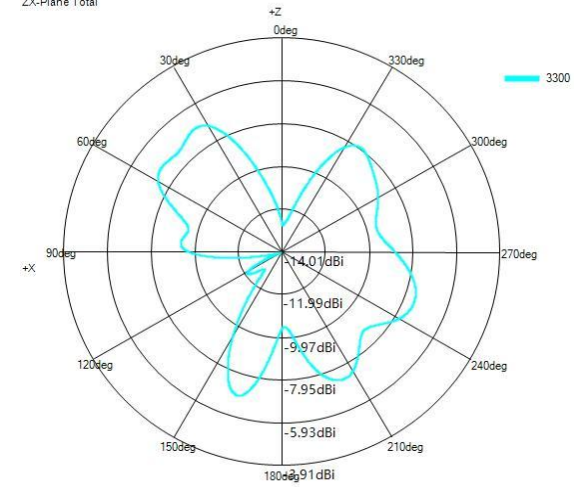
XY-Plane Total



ZY-Plane Total



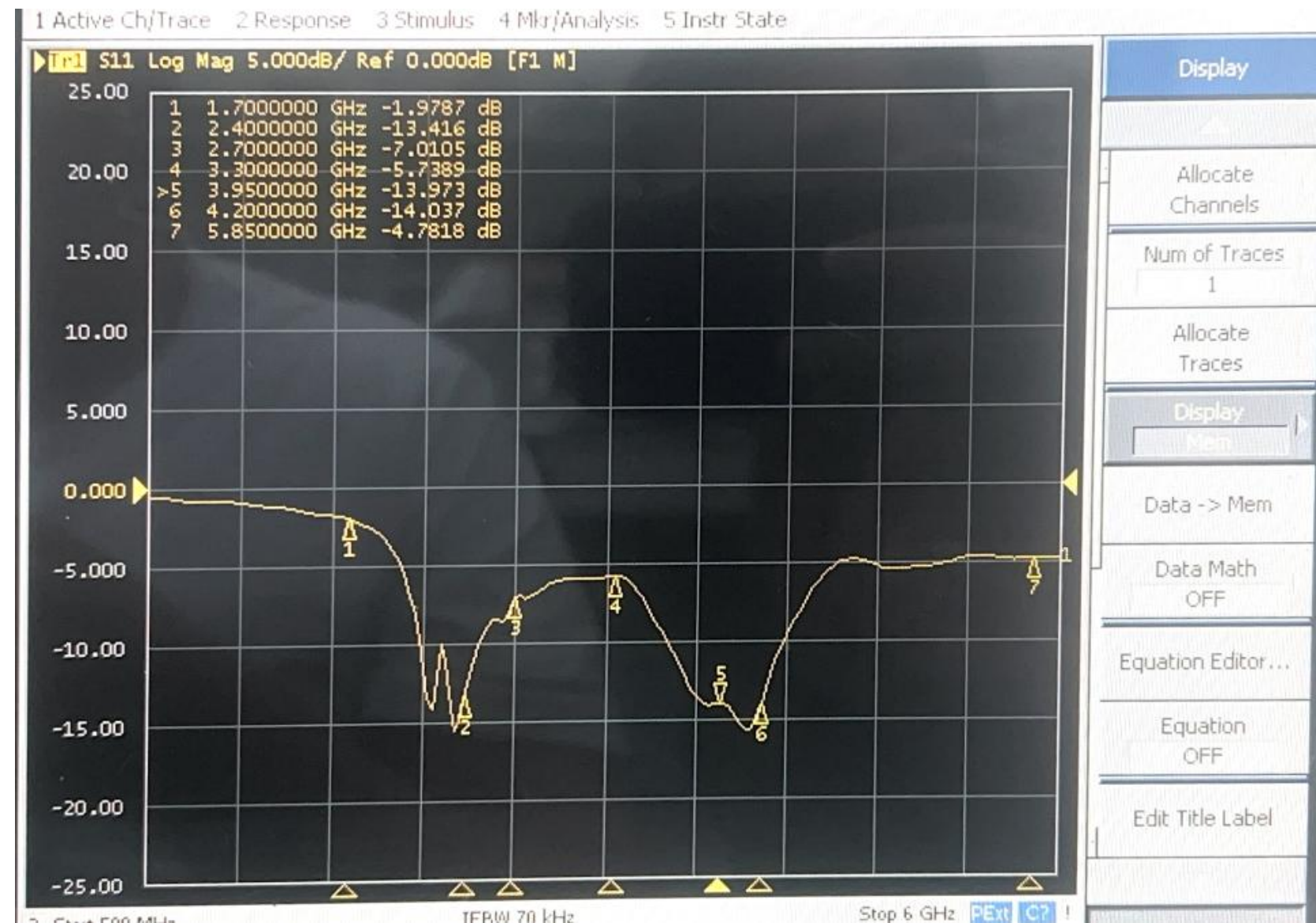
ZX-Plane Total





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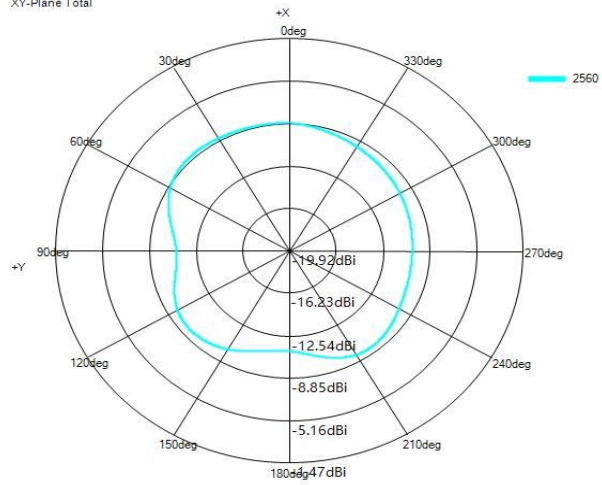
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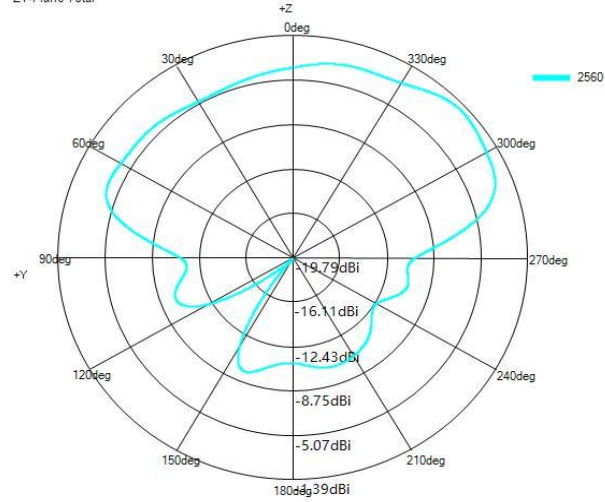
Frequency	2400MHz	3950MHz
Return Loss	-13.4	-13.9



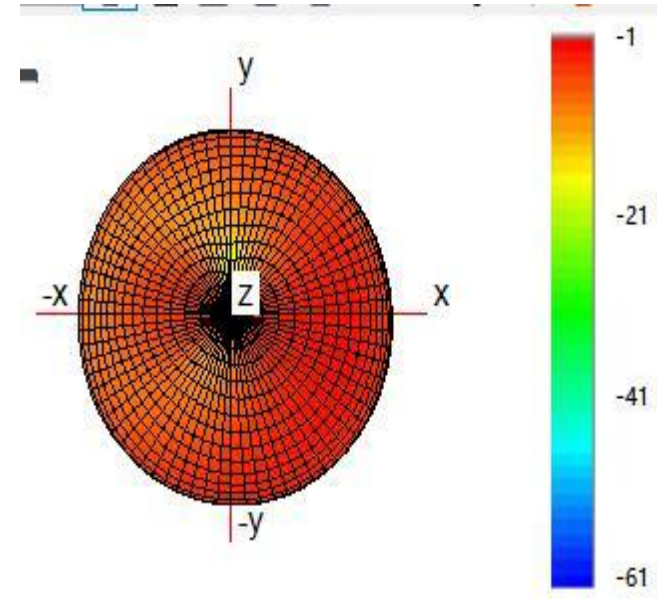
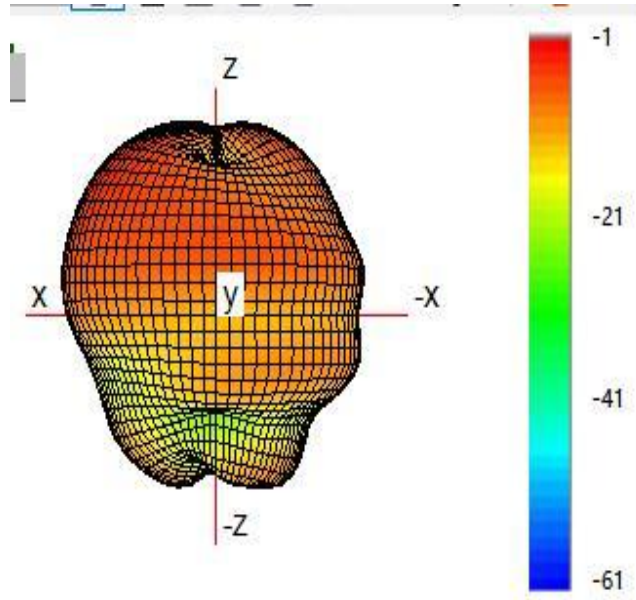
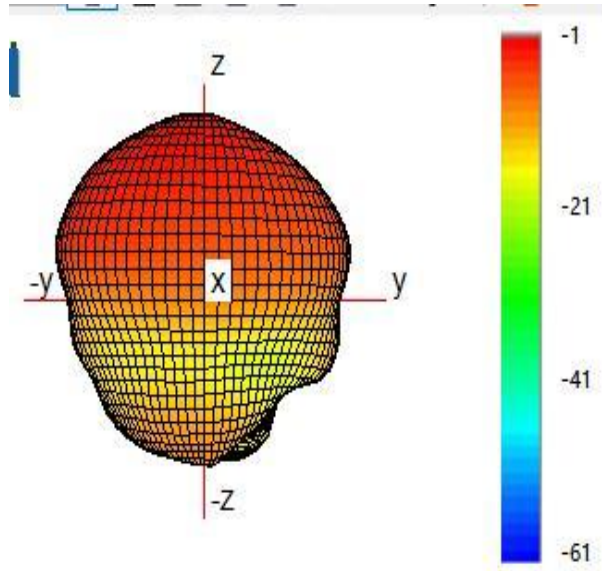
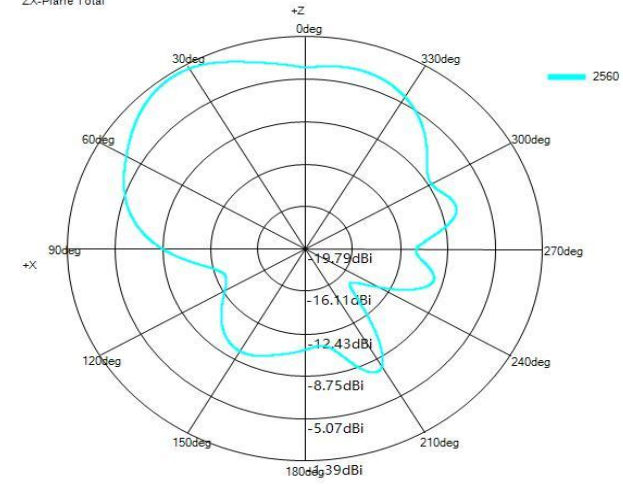
ESHIQIN
XY-Plane Total



ZY-Plane Total

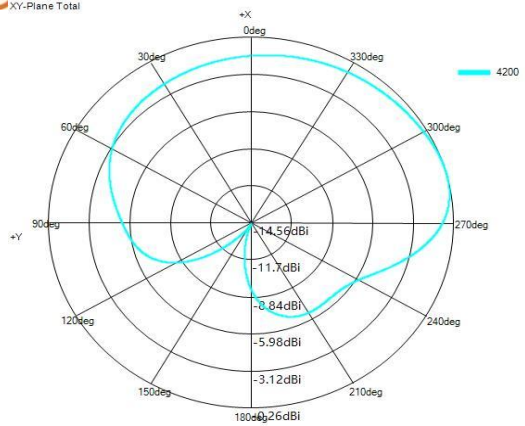


ZX-Plane Total

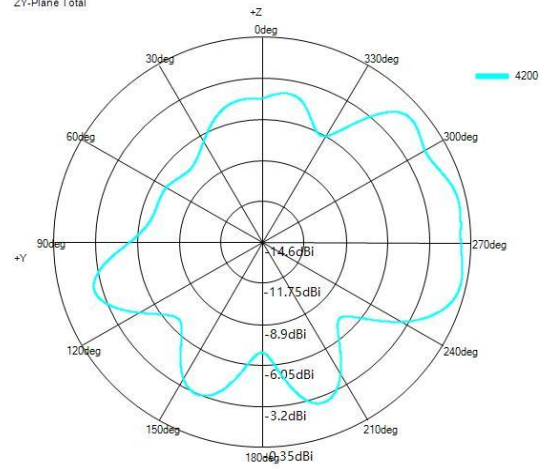




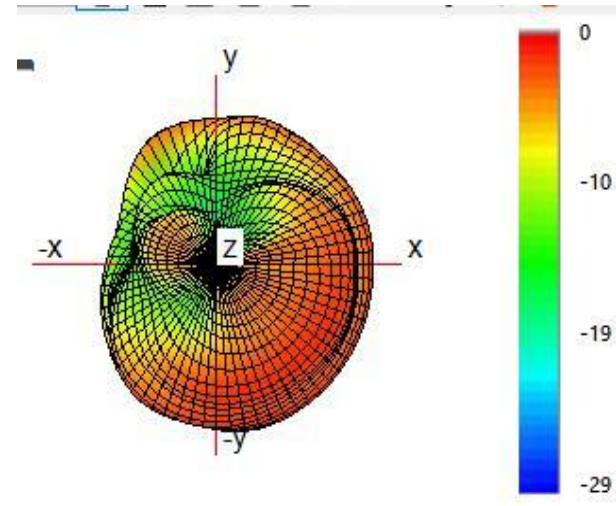
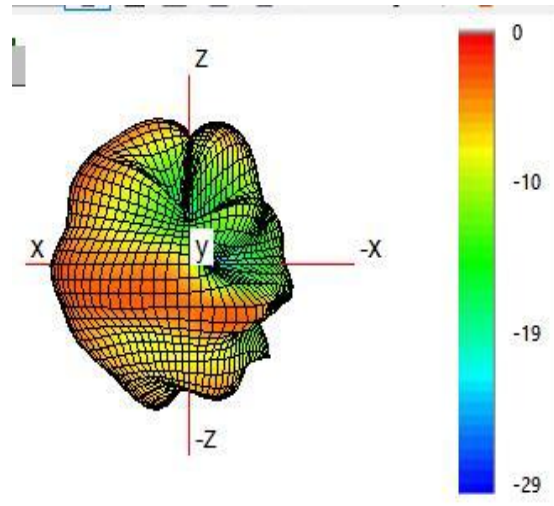
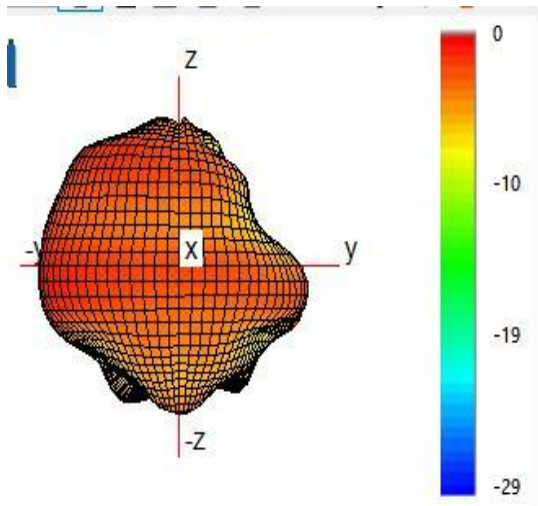
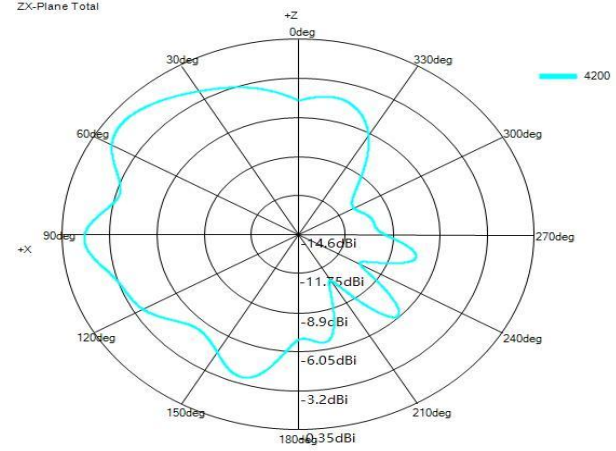
ESHIQIN
XY-Plane Total



ZY-Plane Total



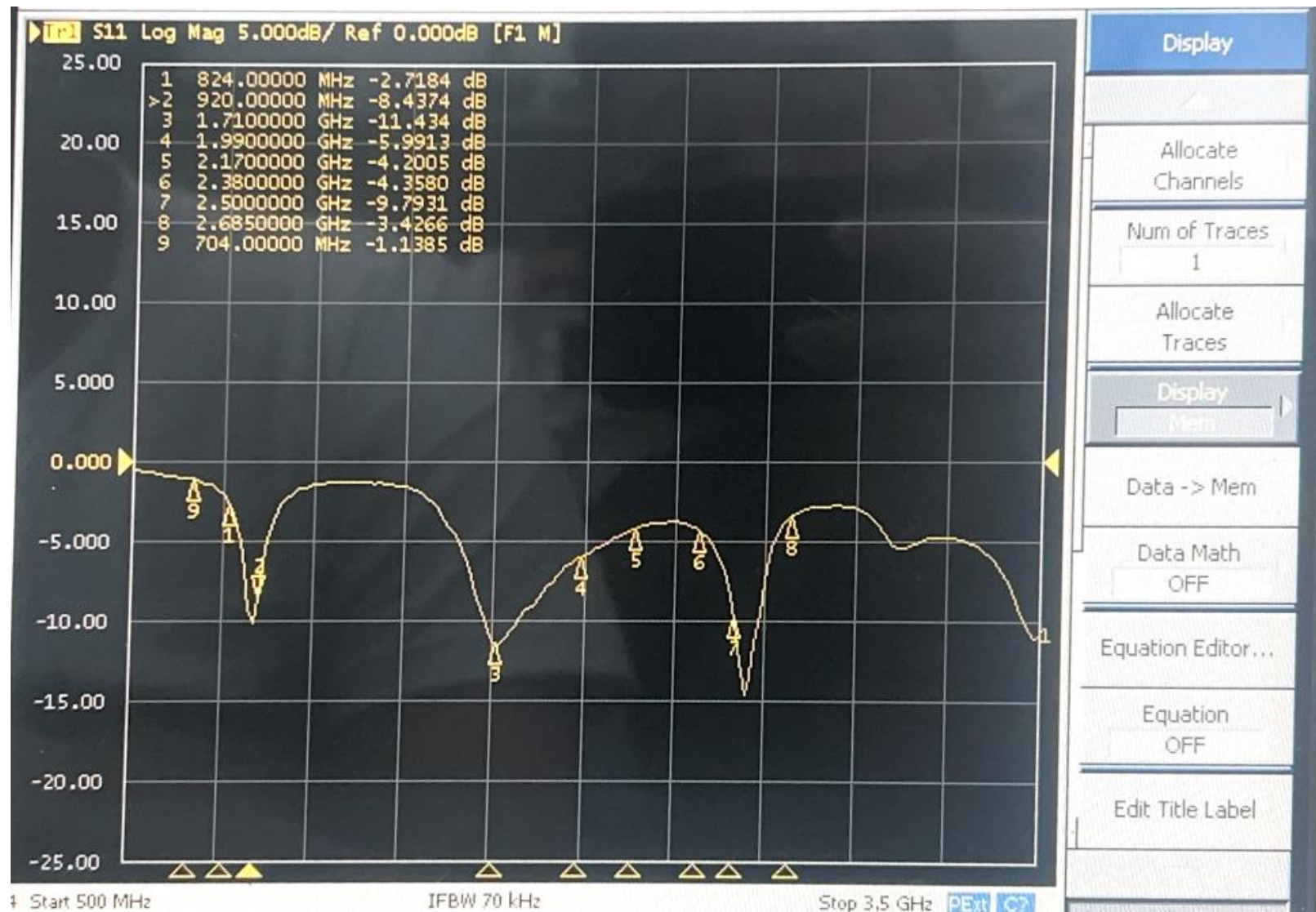
ZX-Plane Total





ESHIQIN

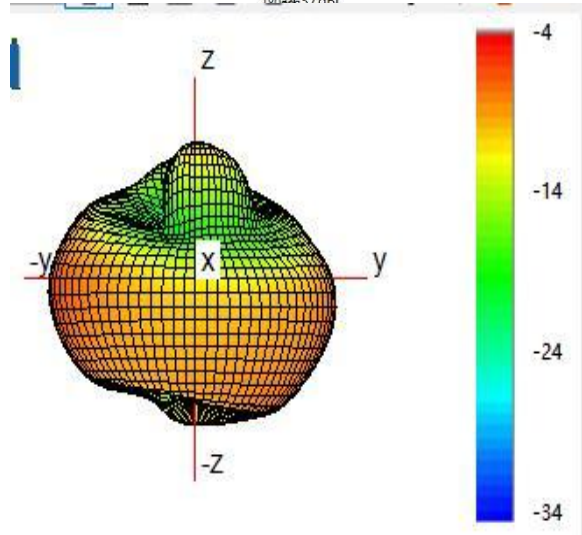
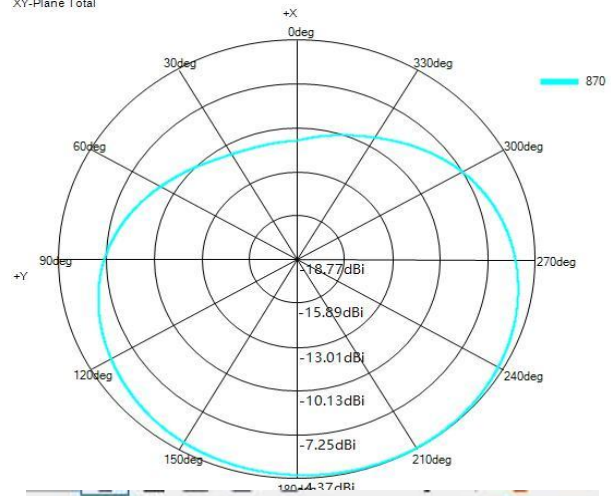
ANT 4



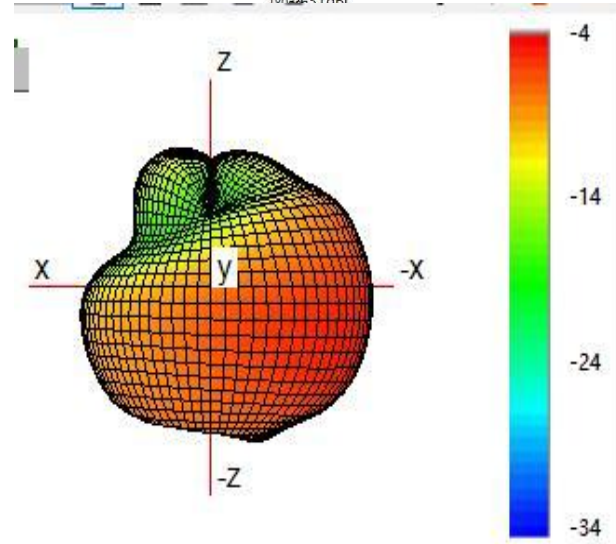
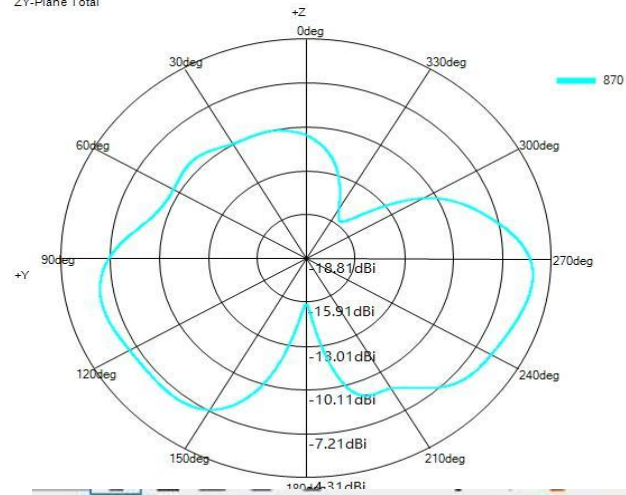
Frequency	920MHz	2700MHz
Return Loss	-8.4	-3.4



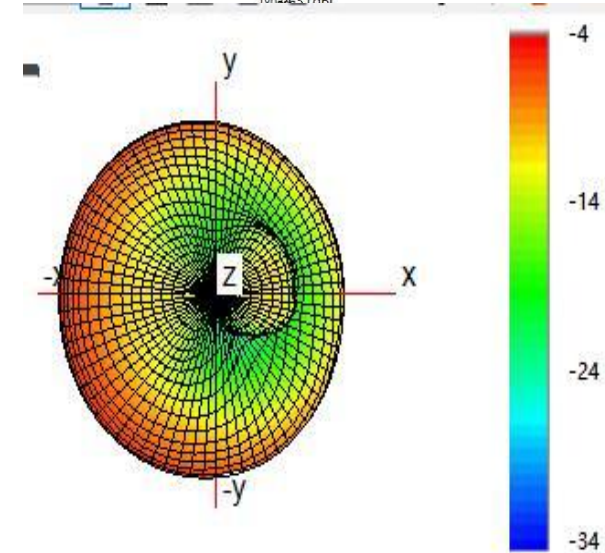
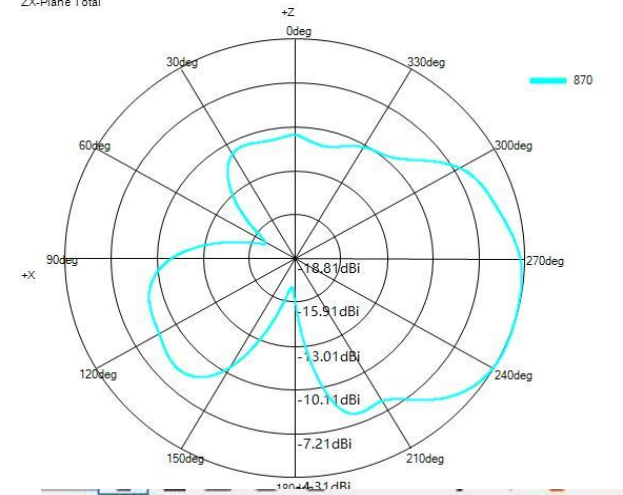
ESHIQIN
XY-Plane Total



ZY-Plane Total

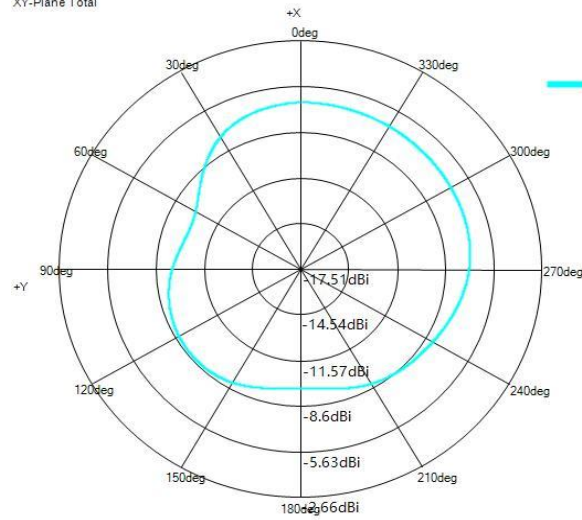


ZX-Plane Total

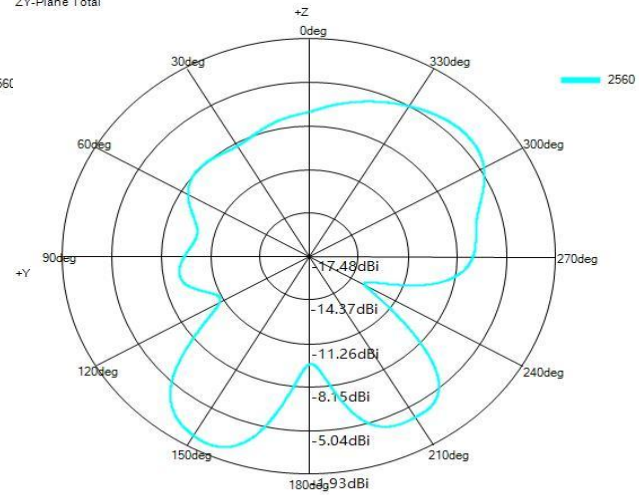




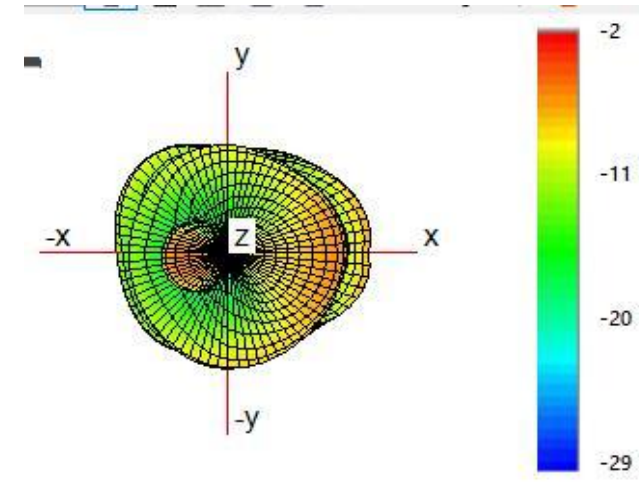
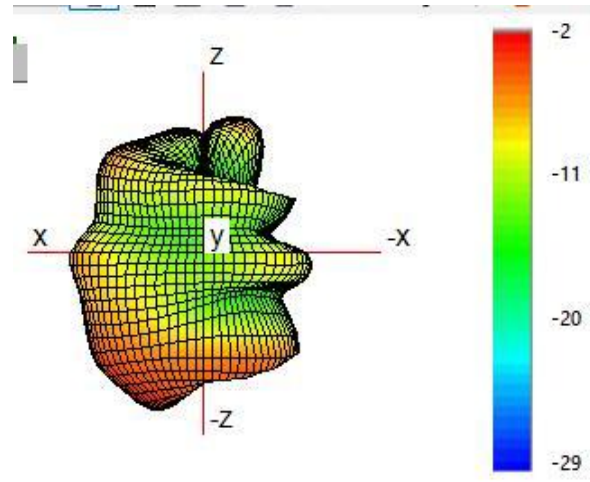
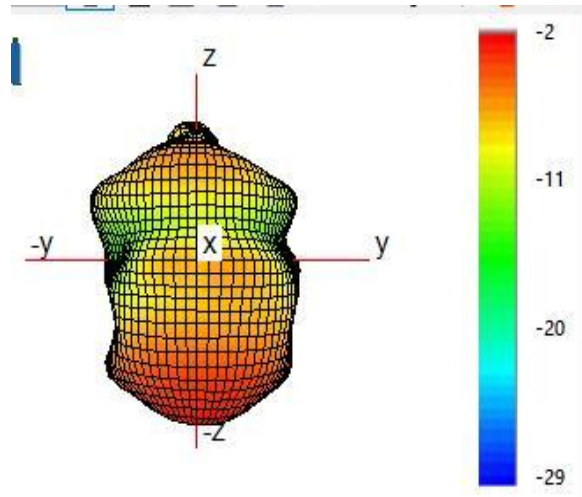
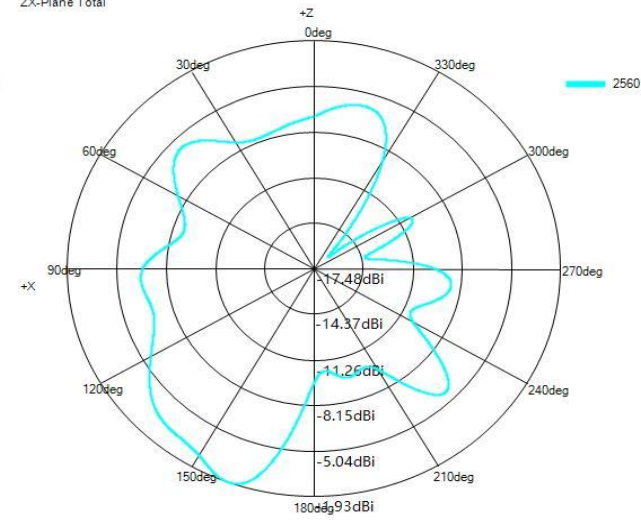
ESHIQIN
XY-Plane Total



ZY-Plane Total



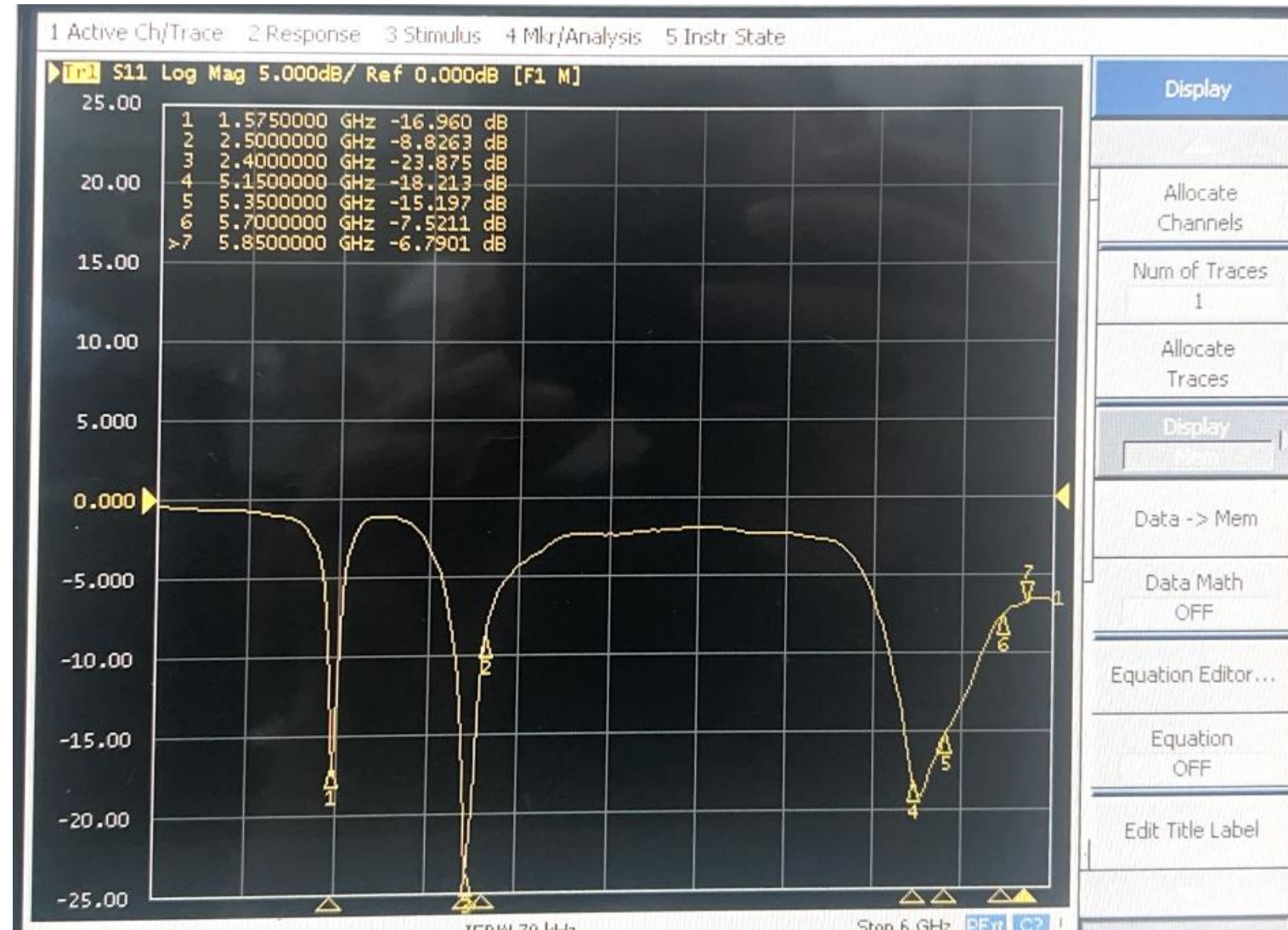
ZX-Plane Total





ESHIQIN

ANT 5

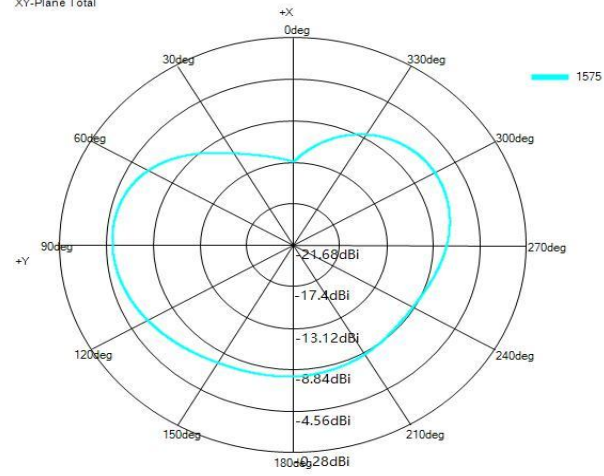


Frequency	1575MHz	2450MHz	5550MHz
Return Loss	-16.9	-14.53	-5.14

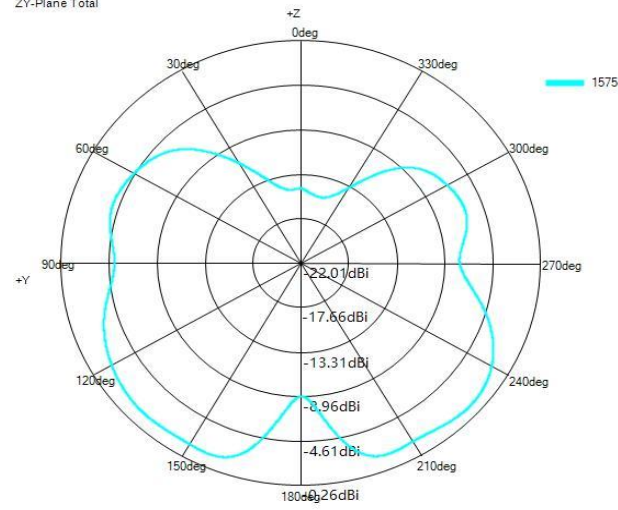


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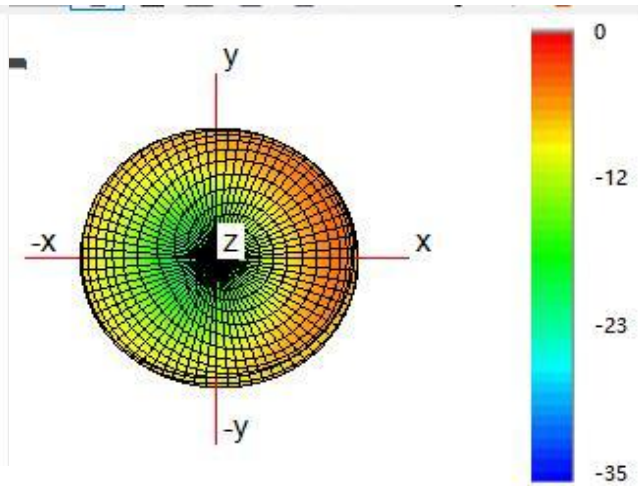
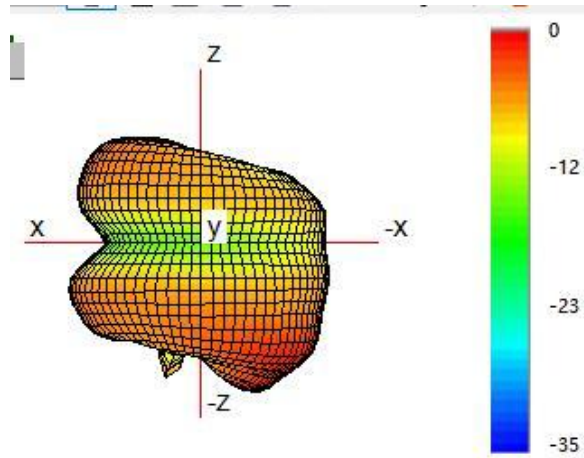
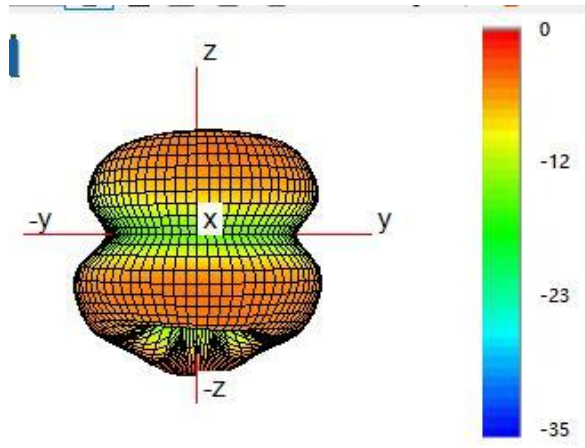
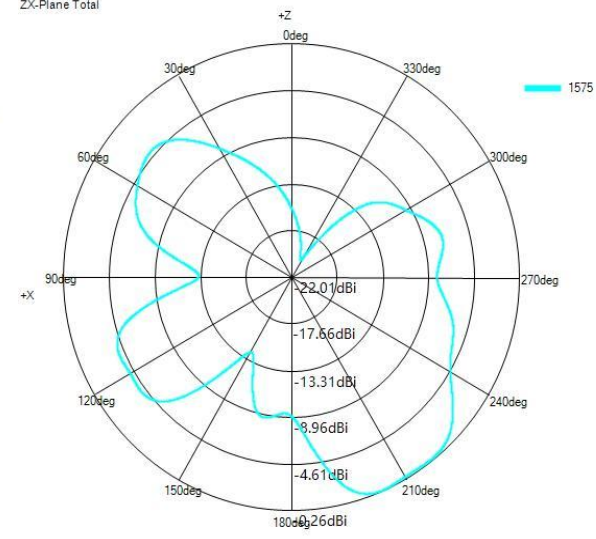
XY-Plane Total



ZY-Plane Total

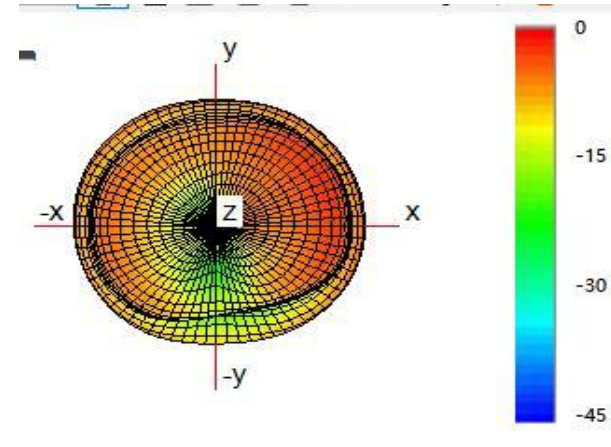
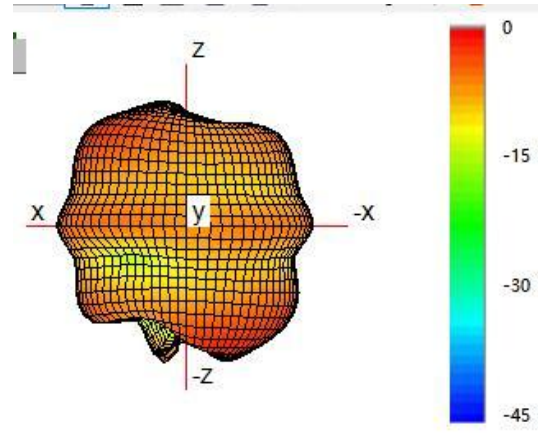
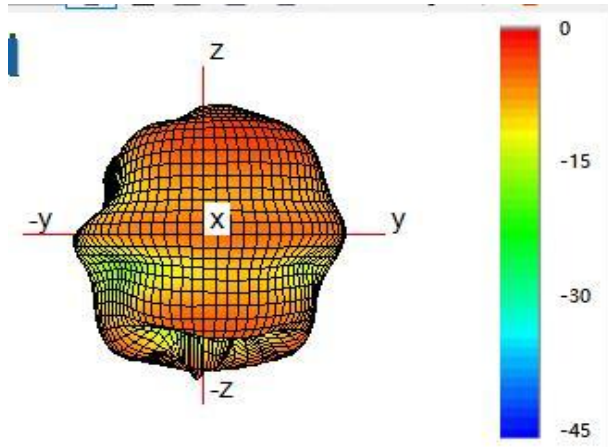
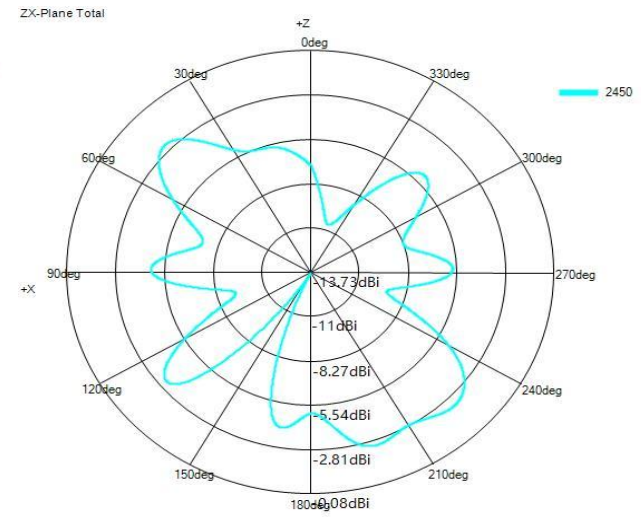
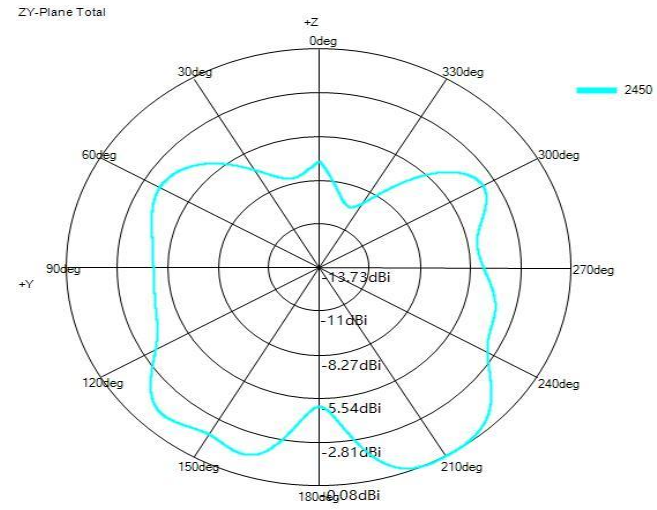
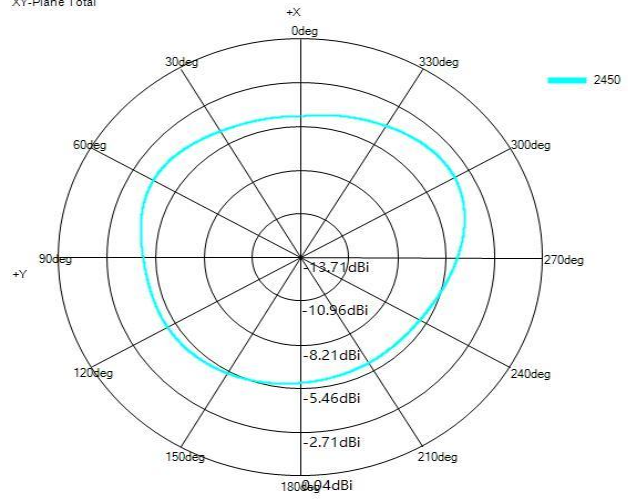


ZX-Plane Total



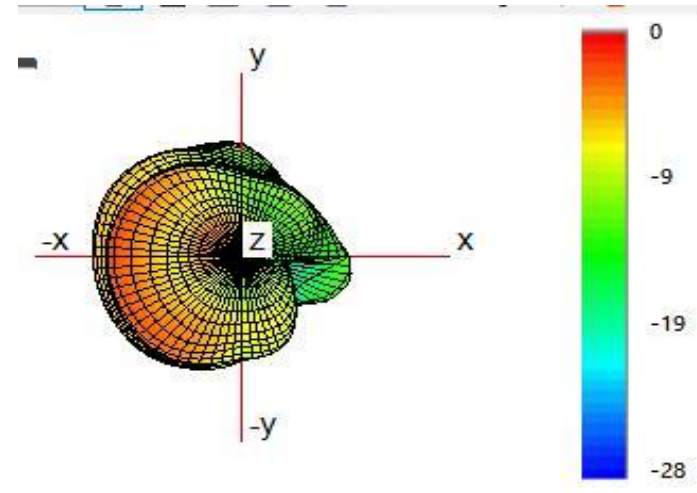
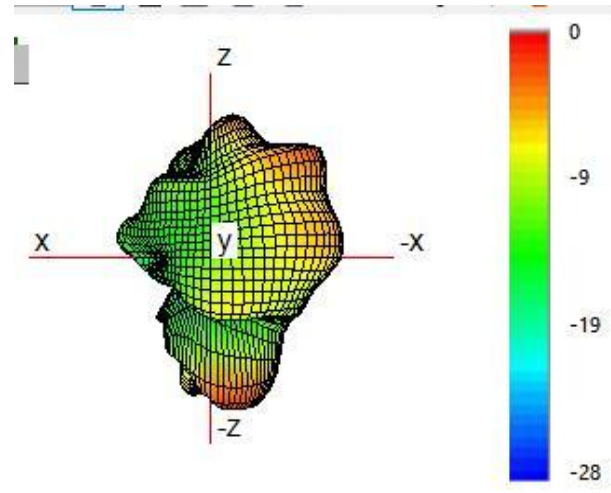
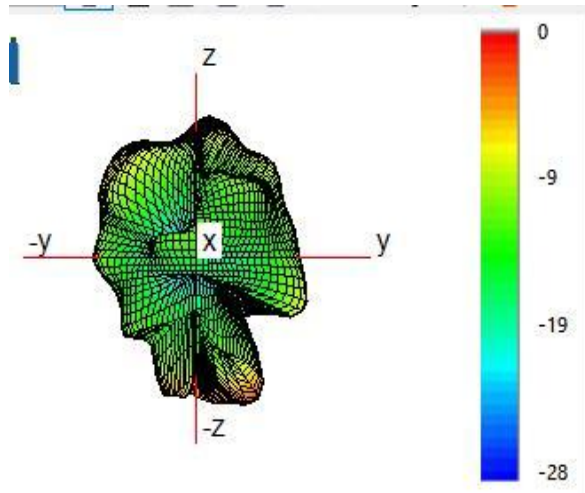
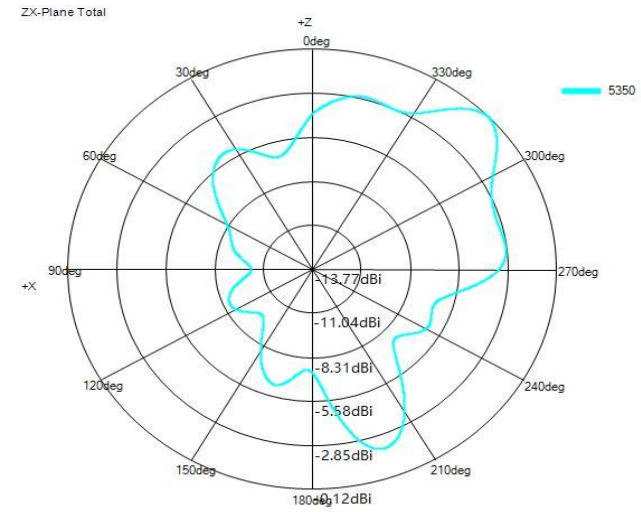
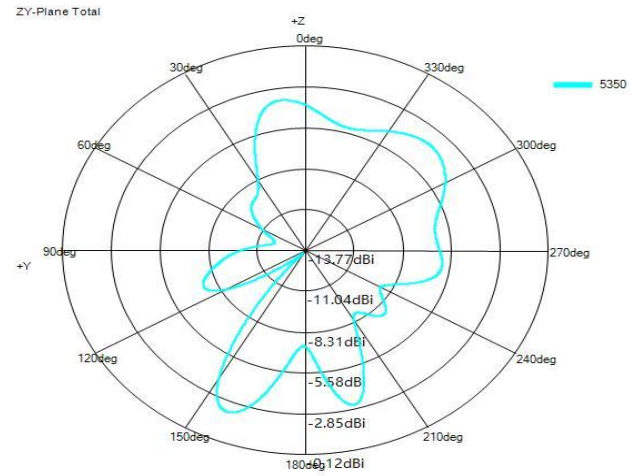
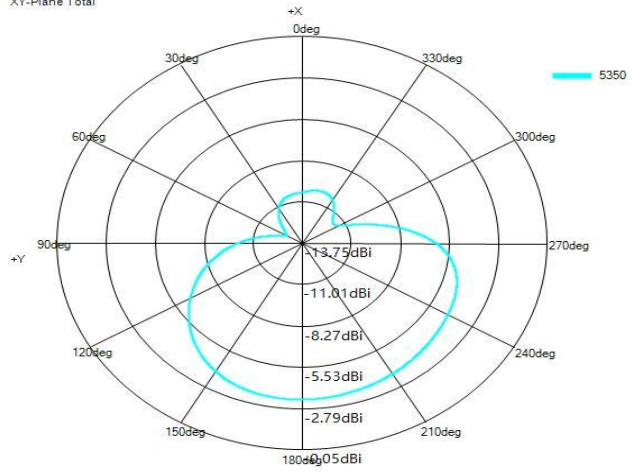


ESHIQIN
XY-Plane Total

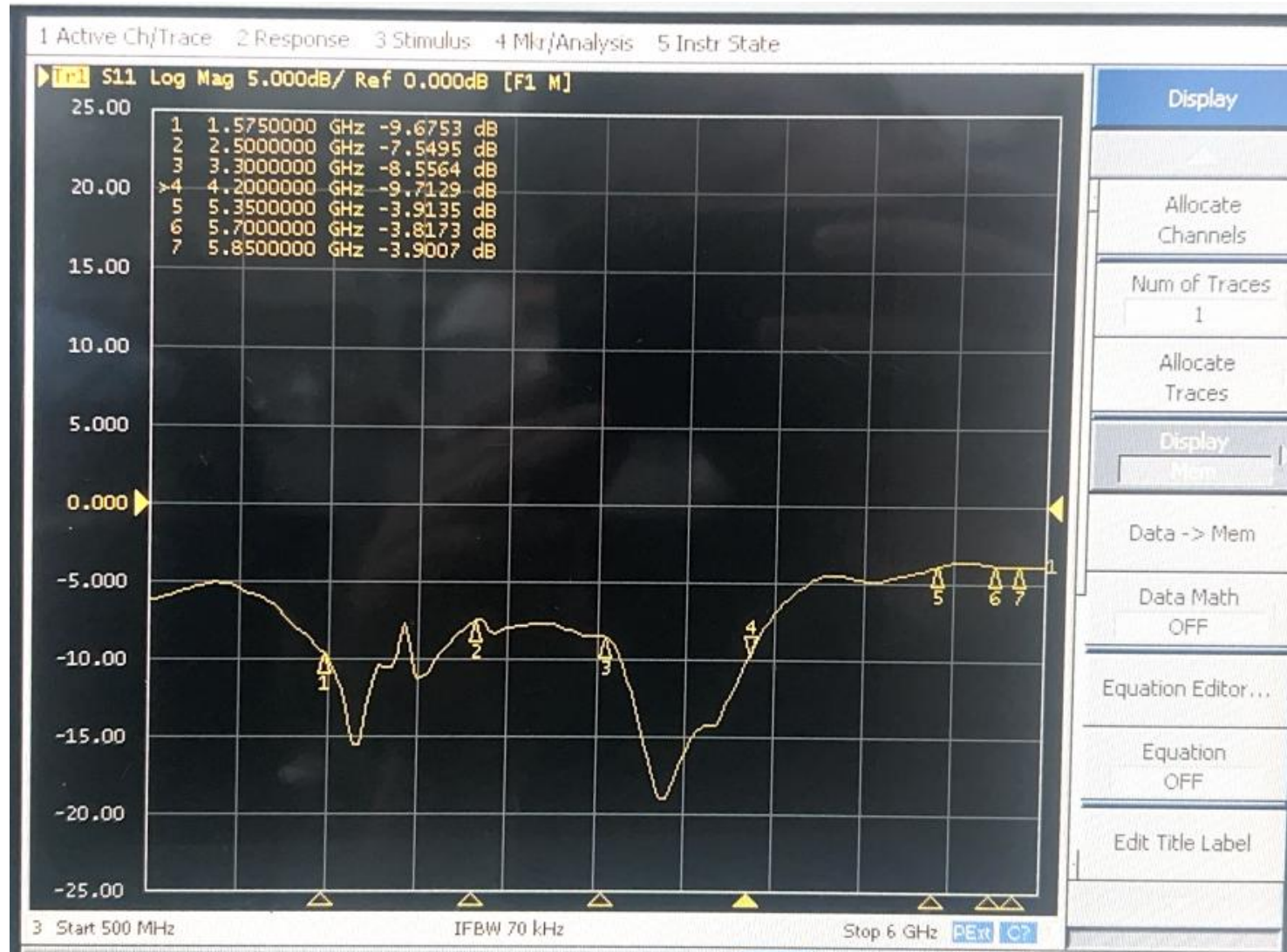




DASHI QIN
XY-Plane Total



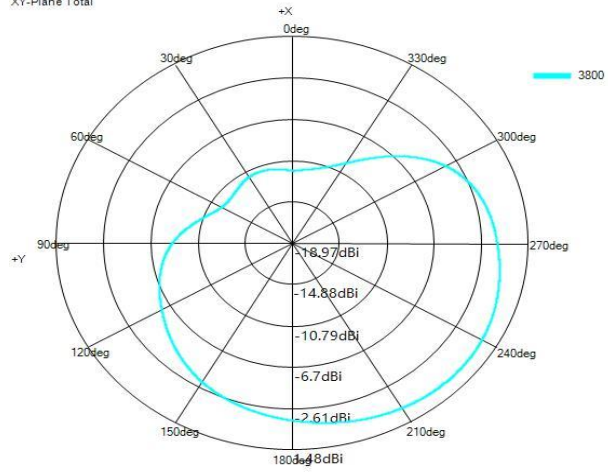
ANT 6



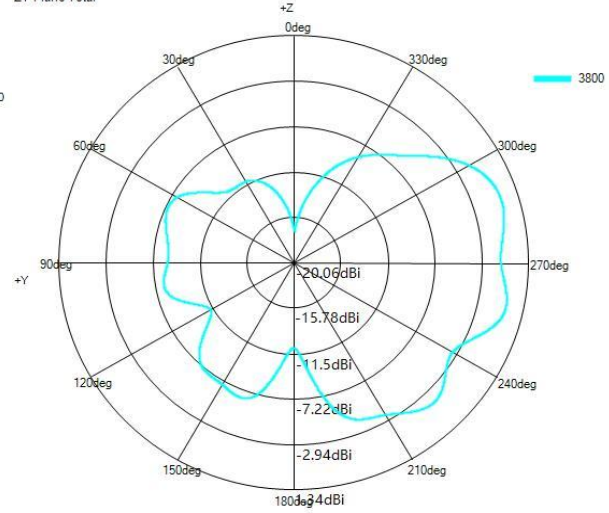
Frequency	3750MHz
Return Loss	-8.39



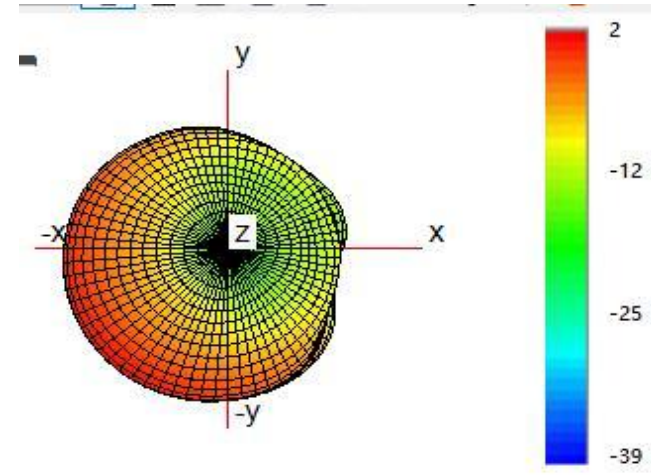
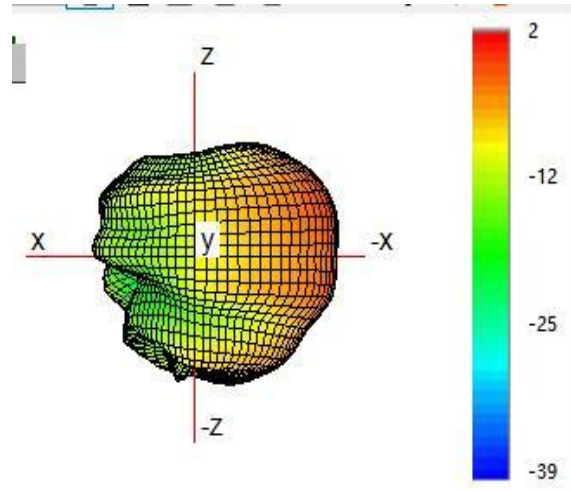
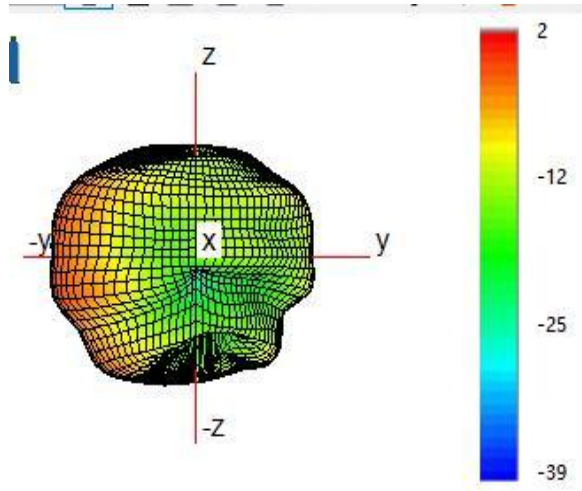
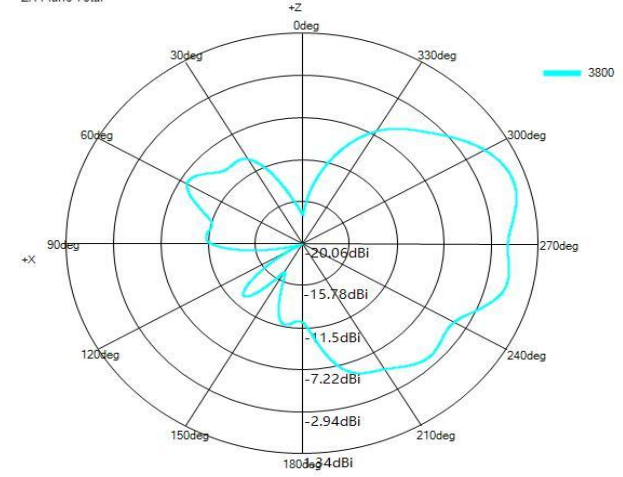
ESHIQIN
XY-Plane Total



ZY-Plane Total



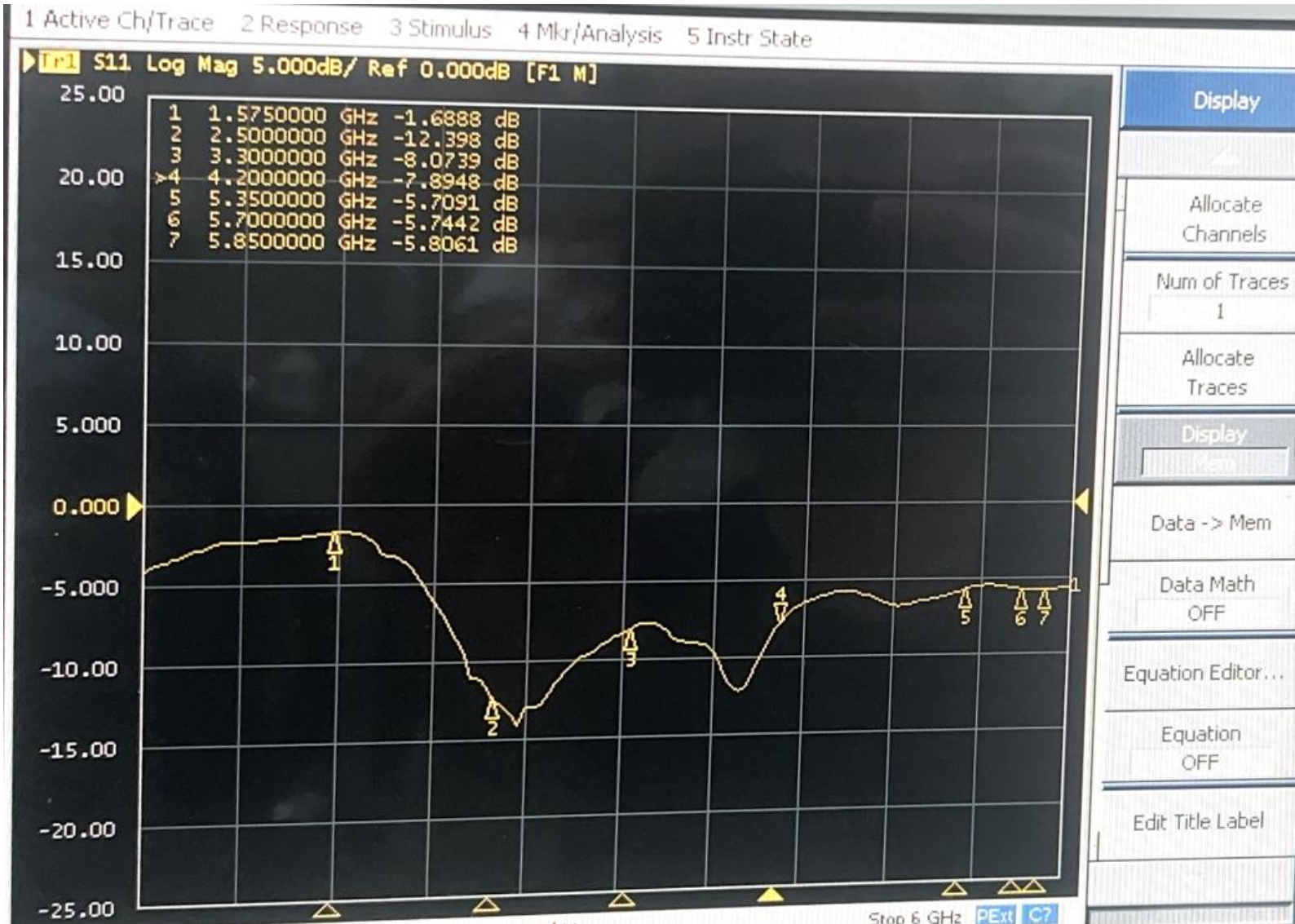
ZX-Plane Total





ESHIQIN

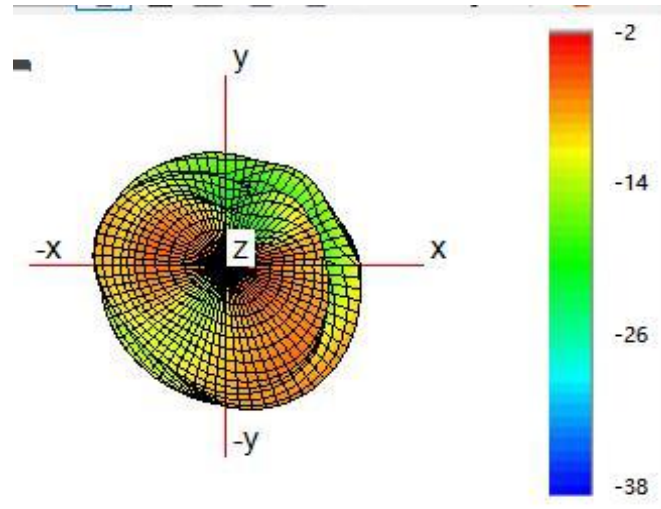
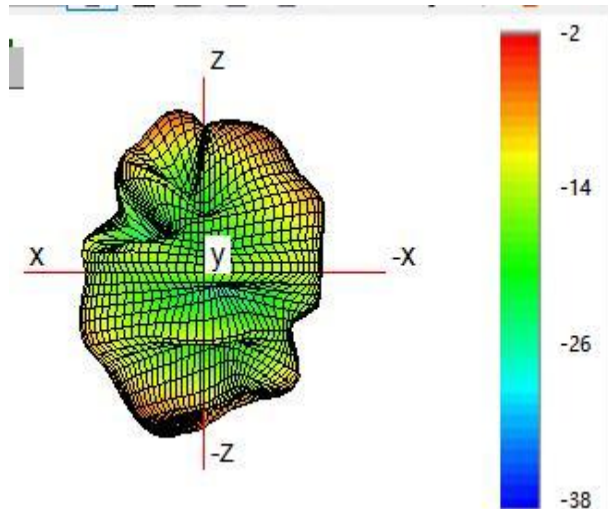
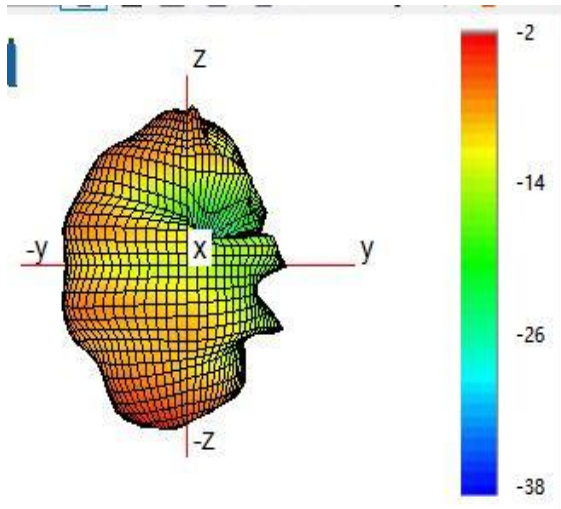
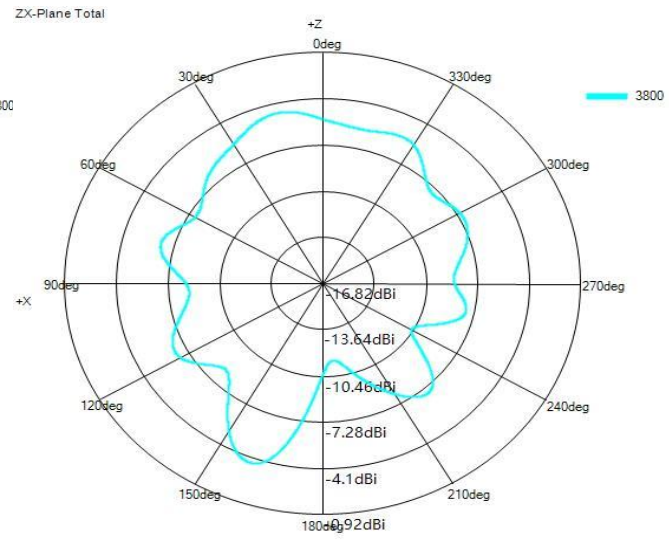
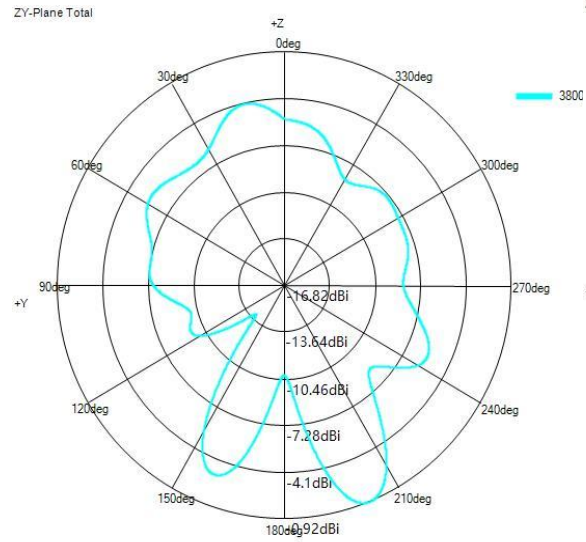
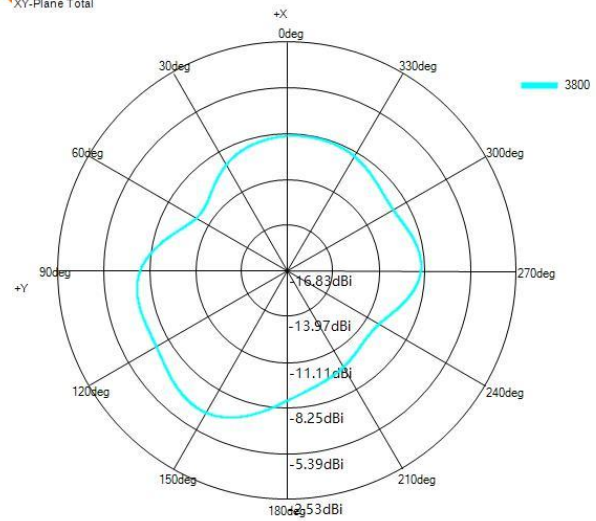
ANT 7



Frequency	3750MHz
Return Loss	-7.62



DASHIQIN
XY-Plane Total

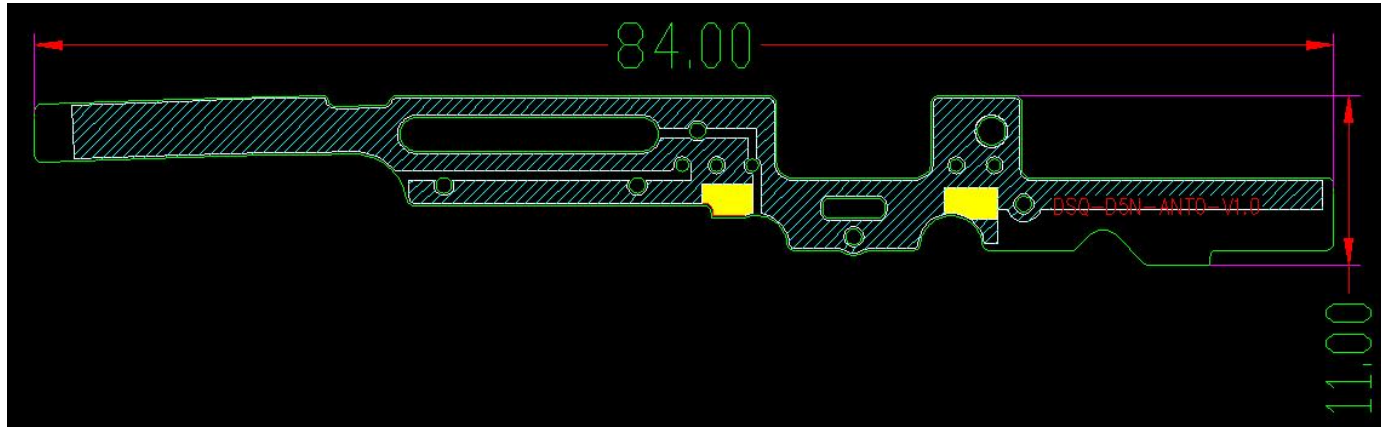


3. Antenna gain

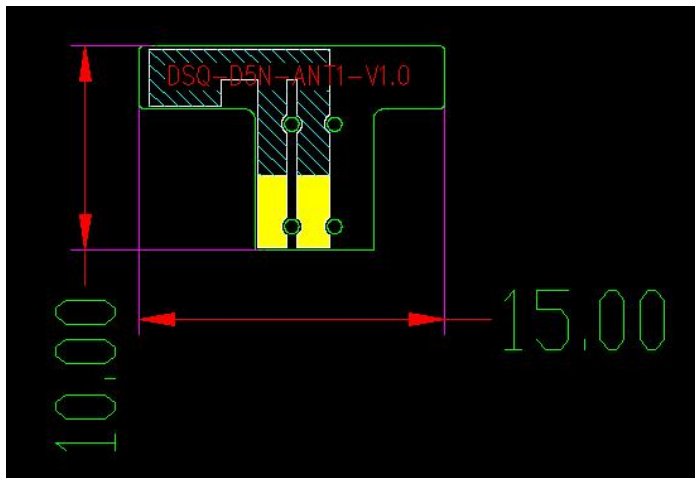
AQ6-A antenna info.								
Band	Frequency (MHZ)	Max Gain (dbi)	Band	Frequency (MHZ)	Max Gain (dbi)	Band	Frequency (MHZ)	Max Gain (dbi)
GSM850	824-894	-1.25	LTE-B12	699-746	-1.59	NR-N38	2570-2620	-0.48
EGSM900	880-960	-1.09	LTE-B13	777-756	-1.34	NR-N40	2300-2400	-0.92
DCS1800	1710-1880	-0.88	LTE-B17	880-746	-1.47	NR-N41	2496-2690	-0.58
PCS1900	1850-1990	-0.58	LTE-B20	824-894	-1.25	NR-N66	1710-2200	-0.89
W2100	1920-2170	-0.69	LTE-B28	703-803	-1.39	NR-N71	617-652	-1.75
W1900	1850-1990	-0.58	LTE-B38	2570-2620	-0.48	NR-N77	3300-4200	0.39
W1700	1710-2155	-0.88	LTE-B40	2300-2400	-0.92	NR-N78	3300-3800	0.51
W850	824-894	-1.25	LTE-B41	2496-2690	-0.58			
W900	880-960	-1.09	LTE-B66	1710-2200	-0.89			
LTE-B1	1920-2170	-0.69	LTE-B71	617-652	-1.75			
LTE-B2	1850-1990	-0.58	NR-N1	1920-2170	-0.69			
LTE-B3	1710-1880	-0.88	NR-N2	1850-1990	-0.58			
LTE-B4	1710-2155	-0.71	NR-N3	1710-1880	-0.88			
LTE-B5	824-894	-1.25	NR-N7	2500-2690	-0.42			
LTE-B7	2500-2690	-0.42	NR-N8	880-960	-1.09			
LTE-B8	880-960	-1.09	NR-N20	824-894	-1.25			
WIFI(5G)	5180-5850	0.18						
WIFI(2.4G)	2412-2472	-0.97						
BT antenna	2400-2500	-0.97						
GPS	1570-1620	-1.63						

4. Antenna size diagram

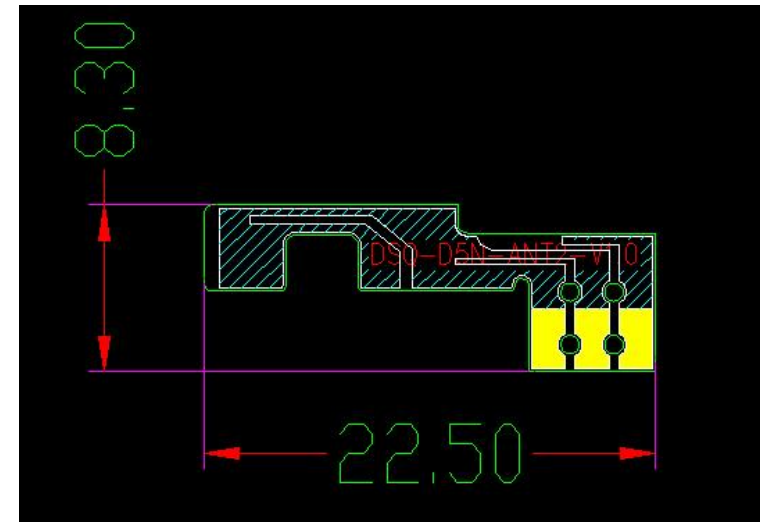
ANT 0



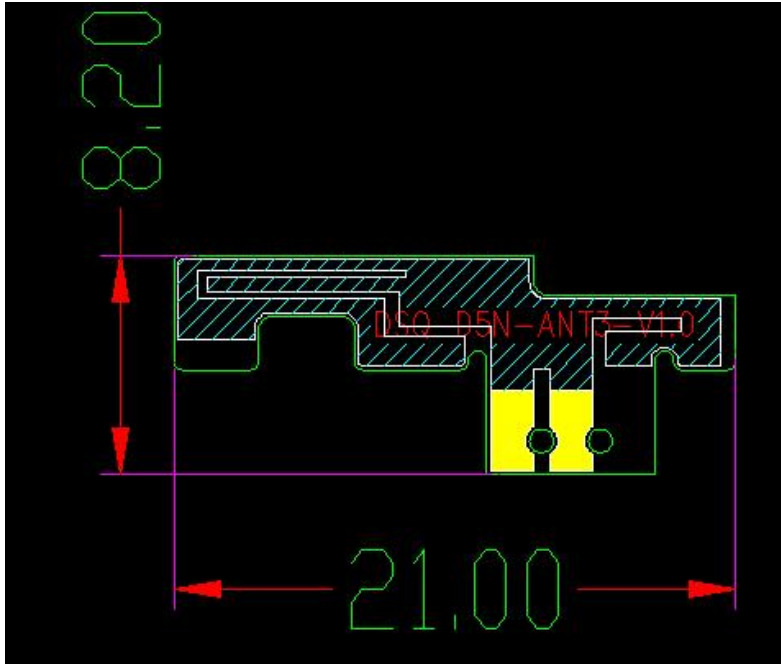
ANT 1



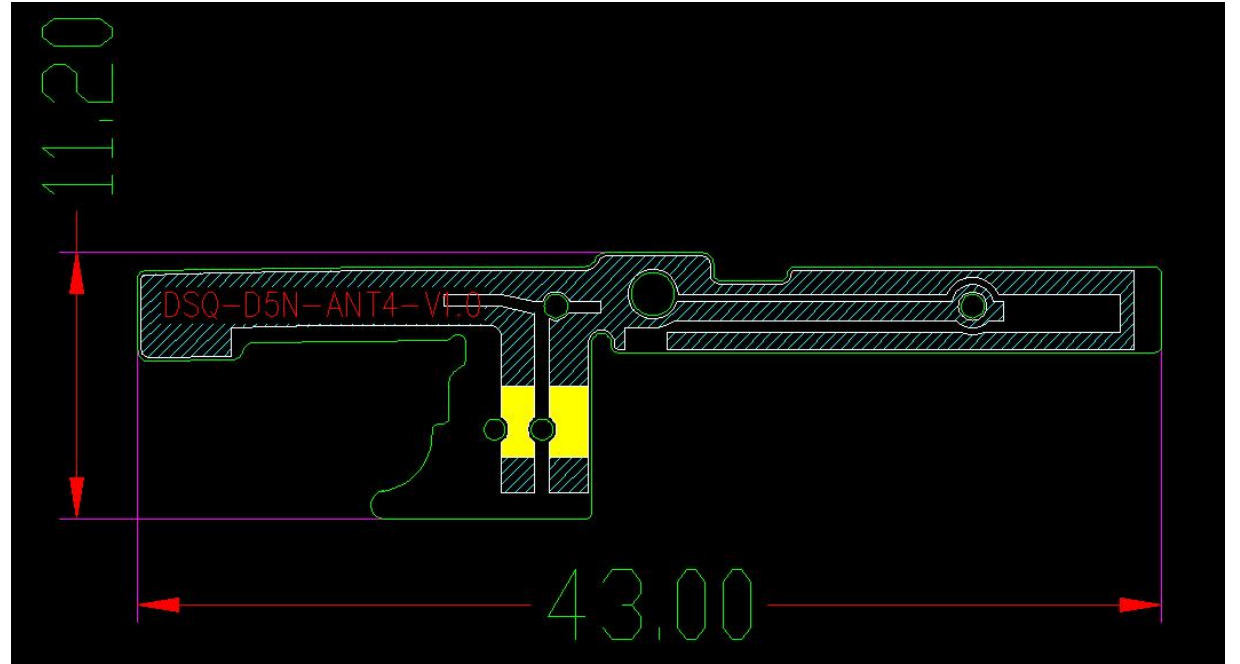
ANT 2



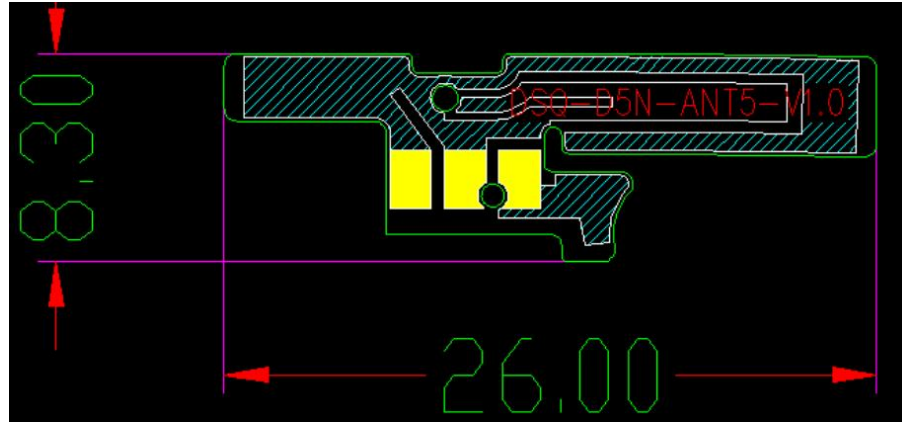
ANT 3



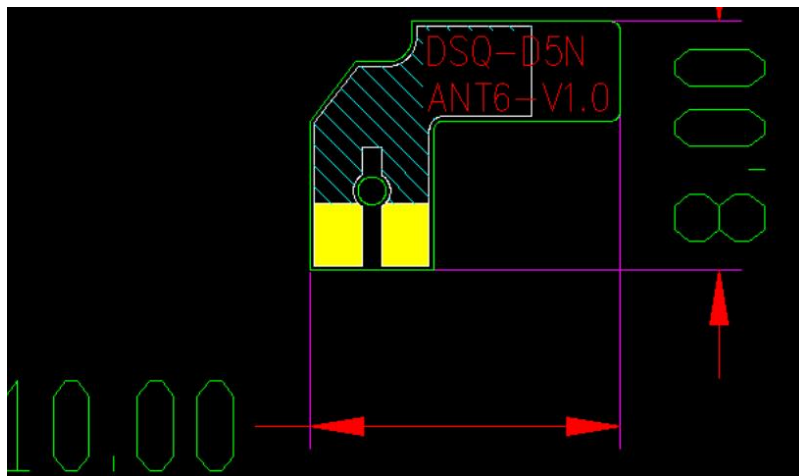
ANT 4



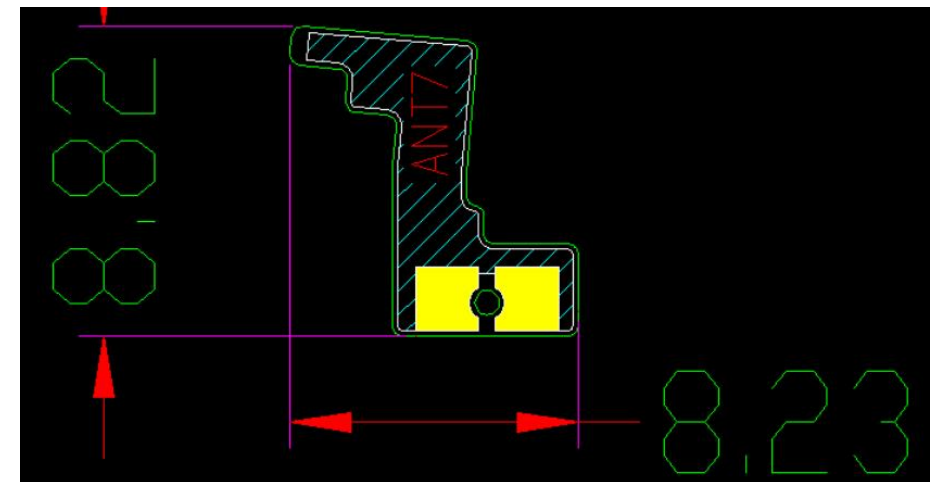
ANT 5



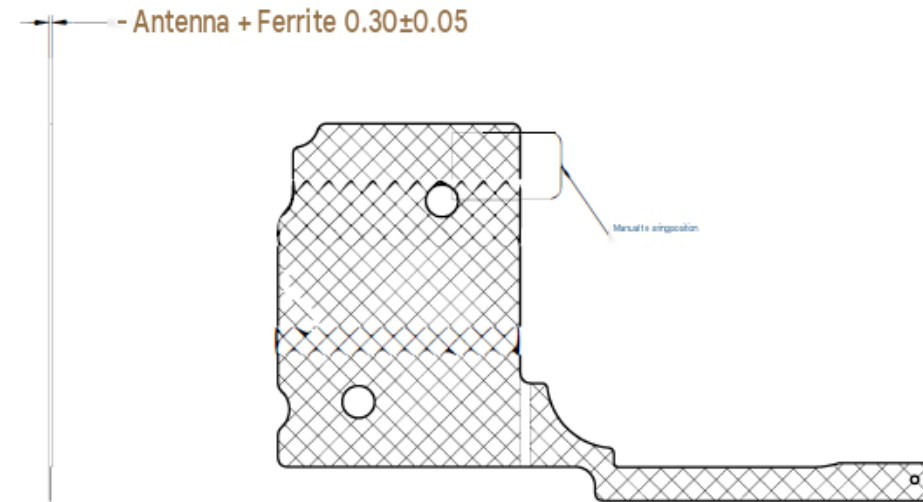
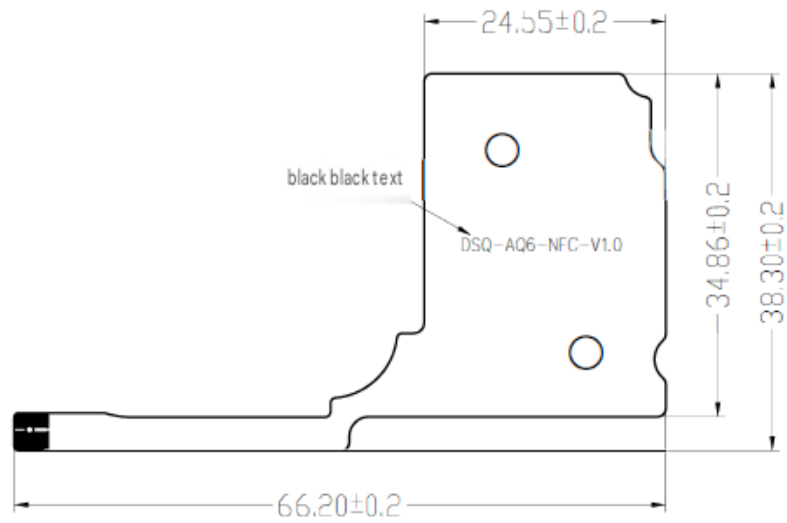
ANT 6



ANT 7



NFC Antenna





5.Active parameters

4.天线 OTA 测试 2G/3G

Model : AQ6				天线实现方式 : PIFA						单位 : dBm		
信道	GSM850			GSM900			DCS1800			PCS1900		
	CH128	CH192	CH251	CH1	CH62	CH124	CH512	CH698	CH885	CH512	CH661	CH810
TRP	25.87	25.92	26.17	26.39	26.68	26.82	23.87	24.15	24.26	24.39	24.03	23.68
TIS			-101.59			-101.63			-102.69			-103.02
信道	WCDMA-850			WCDMA-1700			WCDMA-1900			WCDMA-2100		
	CH4357	CH4408	CH4458	CH1537	CH1637	CH1738	CH9662	CH9800	CH9938	CH10562	CH10700	CH10838
TRP	16.58	16.62	16.84	17.17	17.39	17.68	17.98	17.62	17.36	18.03	17.69	17.51
TIS			-102.01			-101.22			-102.47			-101.06

信道	WCDMA-900		
	CH2937	CH3013	CH3083
TRP	16.87	17.12	17.36
TIS			-101.69

5.天线 OTA 测试 : 4G

信道	LTE-FDD-B1			LTE-FDD-B2			LTE-FDD-B3			LTE-FDD-B4		
	CH18050	CH18300	CH18550	CH18650	CH18900	CH19150	CH19250	CH19575	CH19900	CH20000	CH20175	CH20350
TRP	19.3	18.49	18.32	19.18	18.84	18.51	17.54	18.13	19.06	18.12	18.22	18.34
TIS			-91.7			-90.41			-92.08			-91.21
信道	LTE-FDD-B5			LTE-FDD-B7			LTE-FDD-B8			LTE-FDD-B12		
	CH20450	CH20525	CH20600	CH20800	CH21100	CH21400	CH21500	CH21625	CH21750	CH23050	CH23090	CH23130
TRP	16.57	16.53	16.66	19.81	19.12	19.09	16.83	17.32	17.49	15.75	16.07	16.45
TIS			-91.16			-92.63			-88.85			-90.87
信道	LTE-FDD-B13			LTE-FDD-B17			LTE-FDD-B20			LTE-FDD-B28A		
		CH23230		CH23780	CH23790	CH23800	CH24200	CH24300	CH24400	CH27260	CH27360	CH27460
TRP		17.06		15.62	16.02	16.28	16.37	16.16	16.06	15.92	16.49	16.51
TIS		-87.42				-89.95			-89.41			-88.61
信道	LTE-FDD-B28B			LTE-FDD-B66			LTE-FDD-B71			LTE-TDD-B38		
	CH27410	CH27510	CH27610	CH132022	CH132322	CH132622	CH133172	CH133297	CH133422	CH37850	CH38000	CH38150
TRP	16.03	16.28	16.58	18.36	18.57	19.01	15.22	16.5	16.25	19.43	19.44	19.05
TIS			-88.17			-91.74			-87.5			-91.39
信道	LTE-TDD-B40			LTE-TDD-B41								
	CH38750	CH39150	CH39550	CH40240	CH40620	CH41140						
TRP	17.3	18.31	18.68	19.36	19.04	18.36						
TIS			-93.24			-90.47						



ESHIQIN

6.天线 OTA 测试：5G

信道	N1 (20M)			N2 (20M)			N3 (20M)			N7 (20M)		
	CH386000	CH390000	CH394000	CH372000	CH376000	CH380000	CH344000	CH349500	CH355000	CH502000	CH507000	CH512000
TRP	18.4	18.39	18.51	18.57	18.82	18.38	17.71	17.66	18.68	19.4	19.07	19.77
TIS			-89.34			-89.56			-89.73			-88.49
信道	N13 (20M)			N28 (20M)			N40 (100M)			N41 (100M)		
		CH156400		CH509202	CH518598	CH528000	CH462000	CH470000	CH478000	CH509202	CH518598	CH528000
TRP		16.68		16.03	16.35	16.47	16.43	16.88	17.11	19.19	18.35	18.45
TIS		-88.45				-87.1			-90.34			-85.17
信道	N66 (20M)			N71 (100M)			N77 (100M)			N78 (100M)		
	CH344000	CH349000	CH354000	CH134600	CH136100	CH136700	CH623334	CH636666	CH650000	CH623334	CH636666	CH650000
TRP	17.44	17.47	17.82	15.3	16.1	16.5	20.32	18.31	18.51	20.31	18.27	18.26
TIS			-87.74			-85.17			-85.17			-86.11



6.GPS/WIFI Antenna Test

信道	2.4			5.8		
	1	6	11	36	60	165
TRP	10.02	10.12	12.16	12.57	12.46	13.34
TIS	-83.34	-82.66	-81.49	-71.03	-71.14	-71.6

速度: 0.0 m/s 方位:
速度精度: 0.1 m/s 方位精度:
PDOP: 1.2 H/V DOP: 0.9/0.8

ID	GNSS	CF	C/N0	标识	高度角	方位角
5		L1	39.6	AEU	47.0°	2.0°
6		L1		A	11.0°	120.0°
11		L1	30.8	EU	38.0°	104.0°
11		L5		E	38.0°	104.0°
12		L1		A	3.0°	205.0°
13		L1	31.7	AEU	76.0°	67.0°
15		L1	35.0	AEU	58.0°	237.0°
18		L1		A	7.0°	316.0°
23		L1	19.1	A	5.0°	272.0°
23		L5		A	5.0°	272.0°
24		L1	23.6	A	11.0°	184.0°
24		L5		A	11.0°	184.0°
25		L1		A	1.0°	236.0°
29		L1	40.2	AEU	45.0°	293.0°
30		L1	28.5	AEU	14.0°	63.0°
30		L5		AE	14.0°	63.0°
1		L1	35.5	A	34.0°	17.0°
2		L1	36.6	AEU	63.0°	302.0°
3		L1	40.4	AEU	25.0°	236.0°
17		L1	35.6	AEU	37.0°	339.0°
23		L1		A	18.0°	140.0°
24		L1	40.8	AEU	75.0°	92.0°
8		E1	32.1	EU	74.0°	52.0°
8		E5a		E	74.0°	52.0°

8		E5a		E	74.0°	52.0°
13		E1	37.8	AEU	52.0°	350.0°
13		E5a		AE	52.0°	350.0°
21		E1	21.1	A	5.0°	258.0°
21		E5a		A	5.0°	258.0°
27		E1	27.4	A	6.0°	209.0°
27		E5a		A	6.0°	209.0°
195		L1	21.2	AEU	62.0°	100.0°
195		L5		AE	62.0°	100.0°
1		B1		A	47.0°	121.0°
2		B1		A	47.0°	237.0°
3		B1	23.3	A	64.0°	188.0°
4		B1	23.5	A	33.0°	108.0°
5		B1		A	23.0°	255.0°
8		B1	34.5	AEU	45.0°	342.0°
10		B1		A	79.0°	313.0°
12		B1		A	31.0°	84.0°
13		B1	35.8	A	60.0°	254.0°
14		B1		A	52.0°	183.0°
25		B1		A	6.0°	157.0°
27		B1		A	15.0°	321.0°
38		B1	34.2	AEU	48.0°	2.0°
38		B2a		AE	48.0°	2.0°
38		B1C	33.4	AEU	48.0°	2.0°
41		B1	38.0	AEU	45.0°	265.0°
41		B2a		AE	45.0°	265.0°
41		B1C	42.0	AEU	45.0°	265.0°
ID	SBAS	CF	C/N0	标识	高度角	方位角

7. Test setup diagram

