

天线测试报告

上海圣丹纳无线科技有限公司
Shanghai Saintenna Wireless Technology Co., LTD.

Project Information

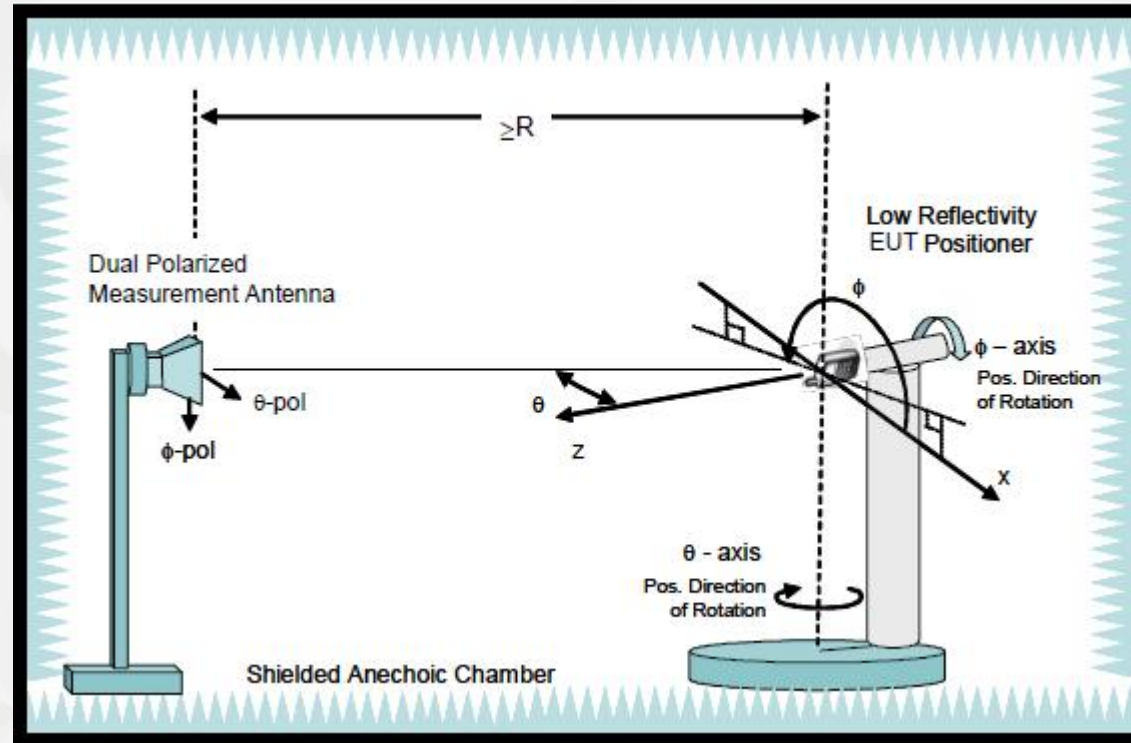
客户名称 Customer Name	
项目名称 Project Name	
工作频段 Working Band	
规格 Description	
版本 Version	
日期 Date	2023-12-21

Tuning Instrument

Network Analyzer	Agilent E5071C
Frequency Range	100KHz ~ 8.5GHz
Test Item	Return Loss/VSWR/Smith Chart /Isolation

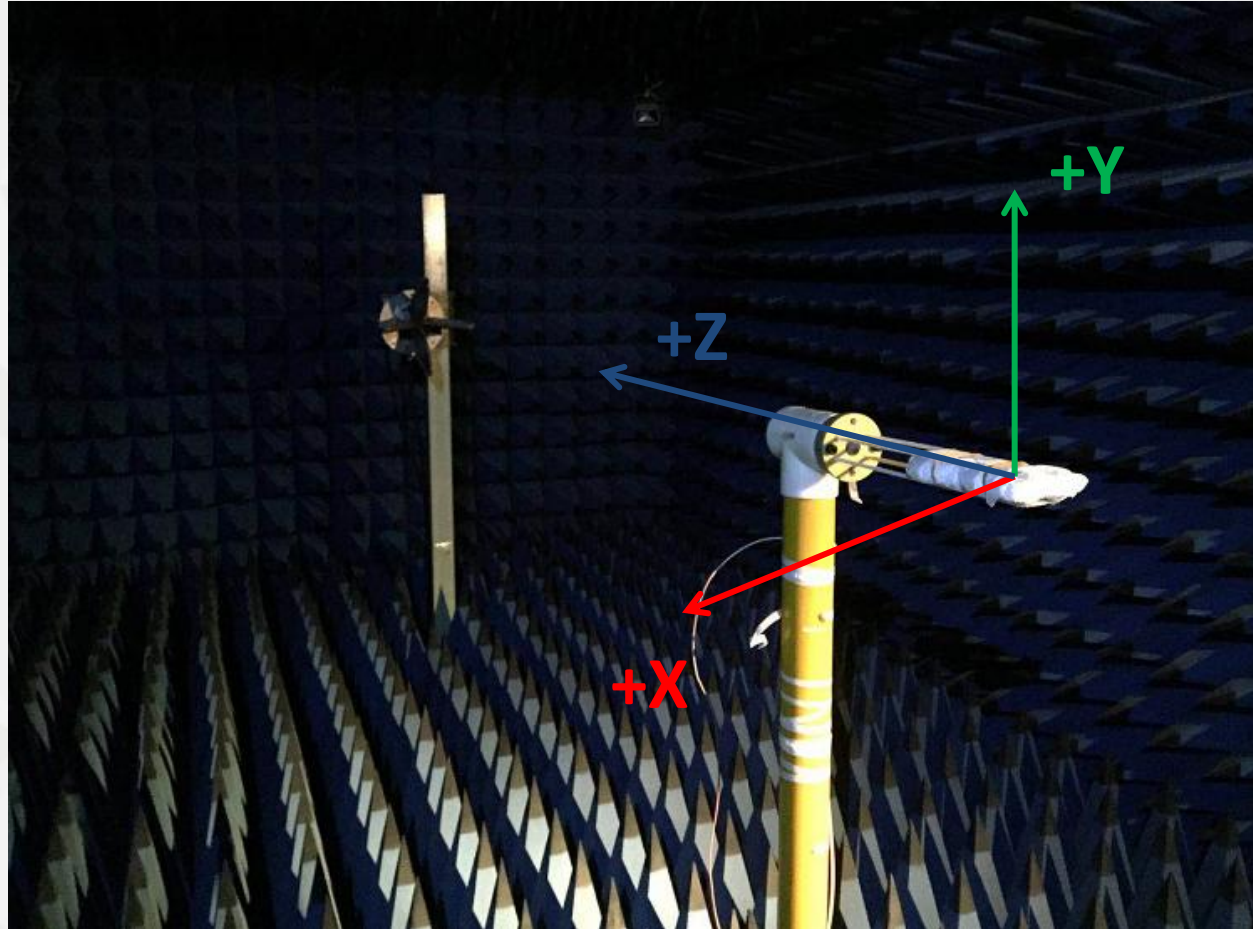


Typical Setup for Test System



Combined-Axes System

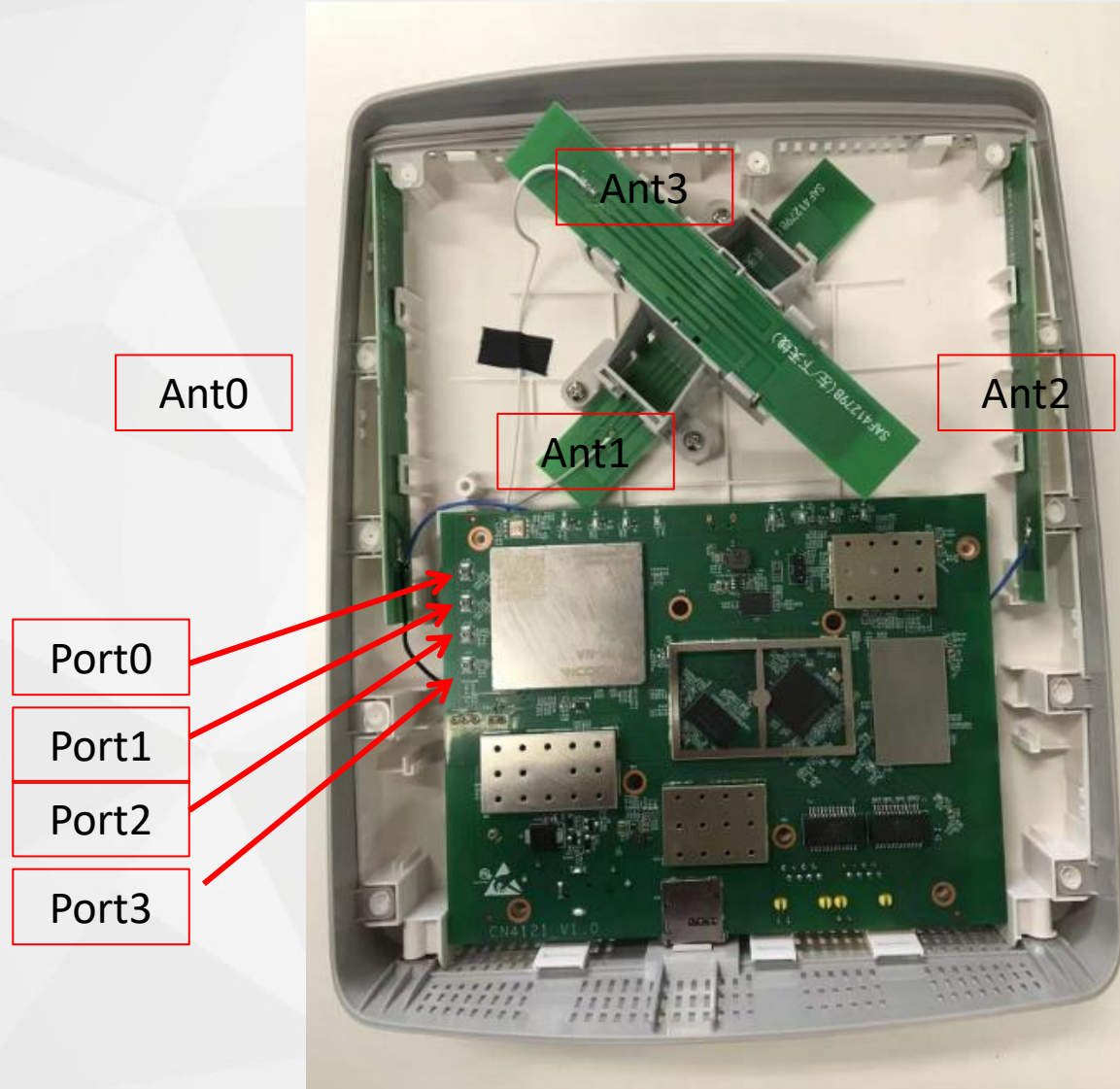
Anechoic Chamber



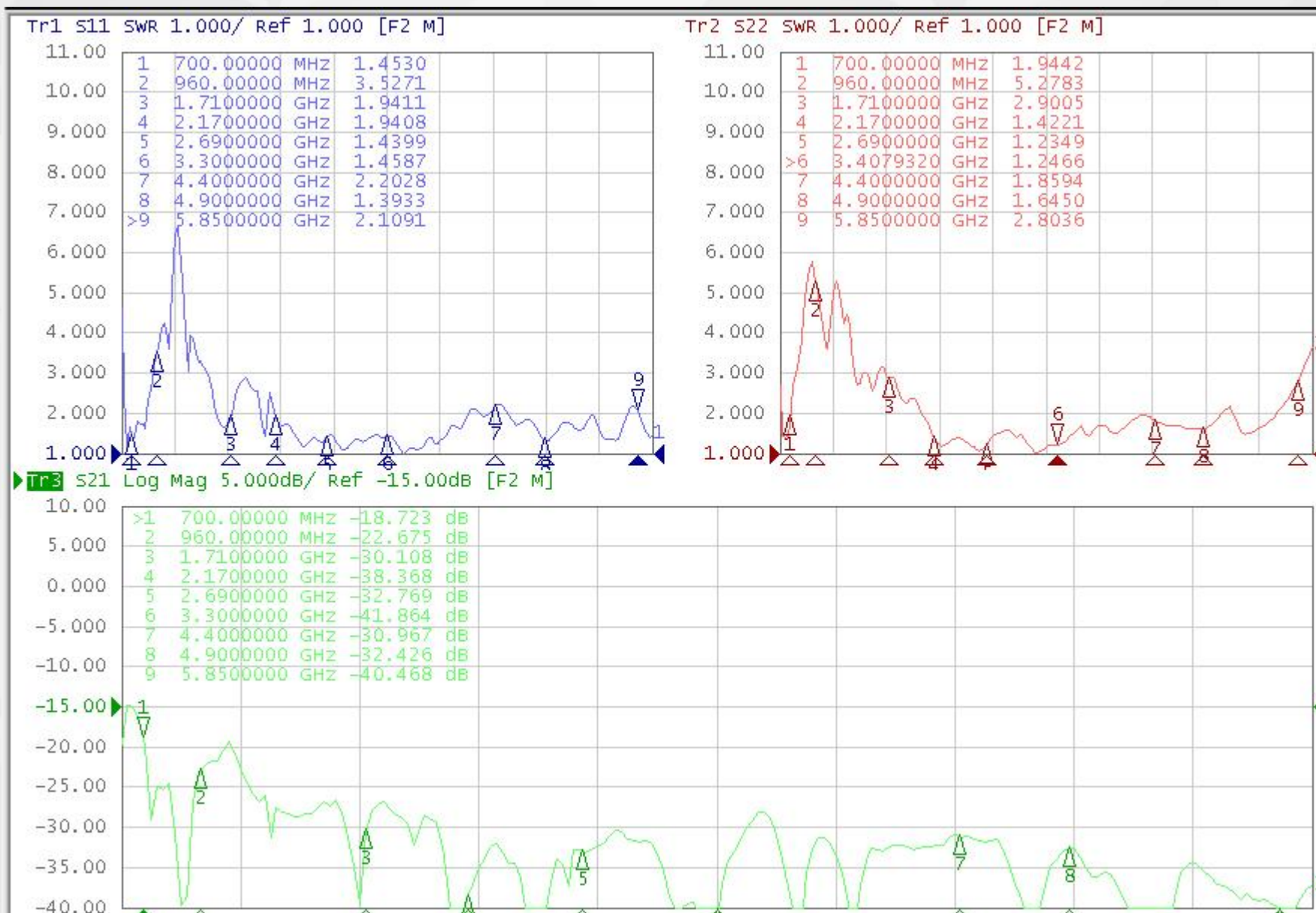
Combined-Axes System

Comment: E1 plane means XZ section, E2 plane means YZ section, H plane means XY section.

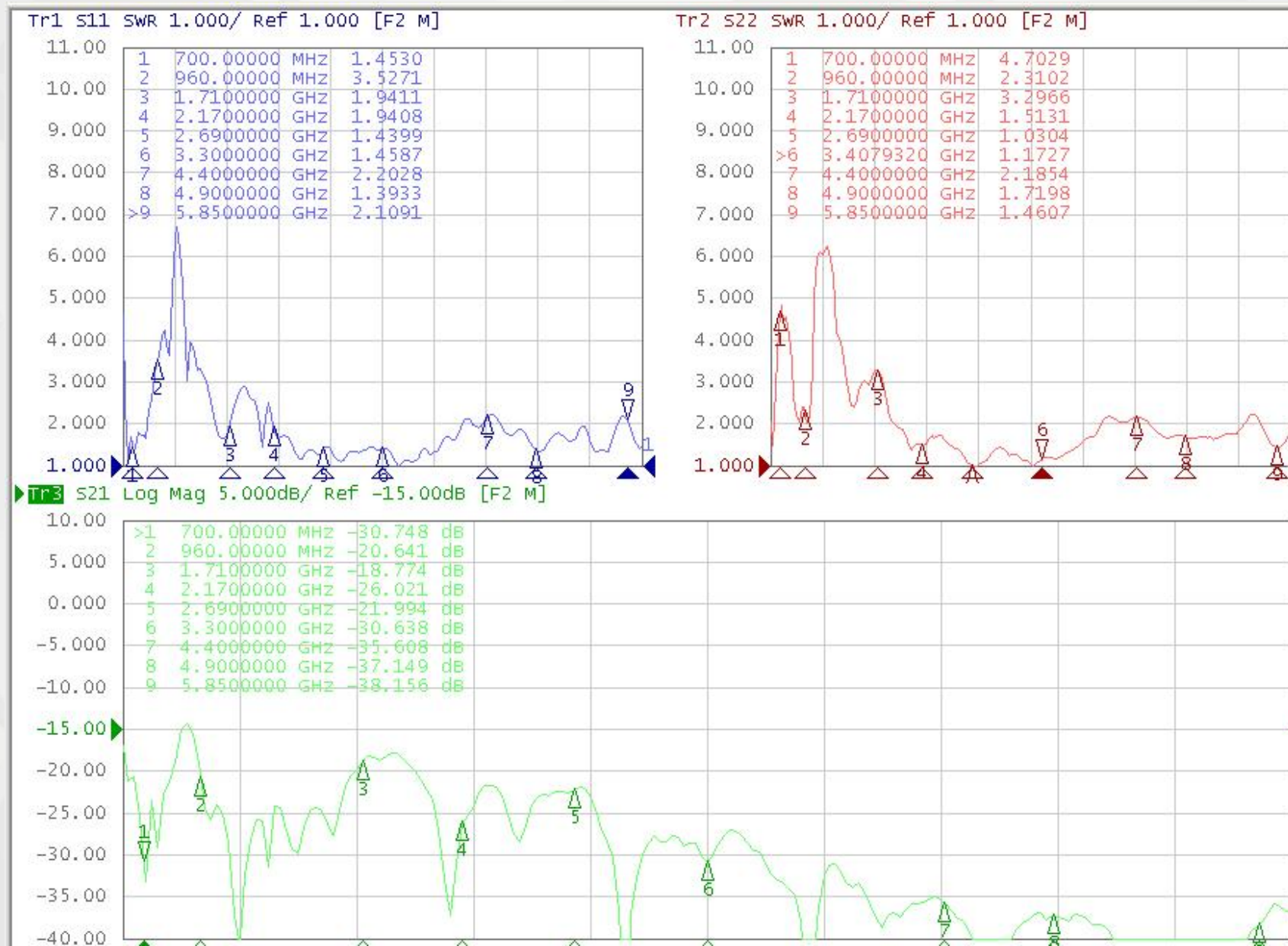
Antenna Sample Description



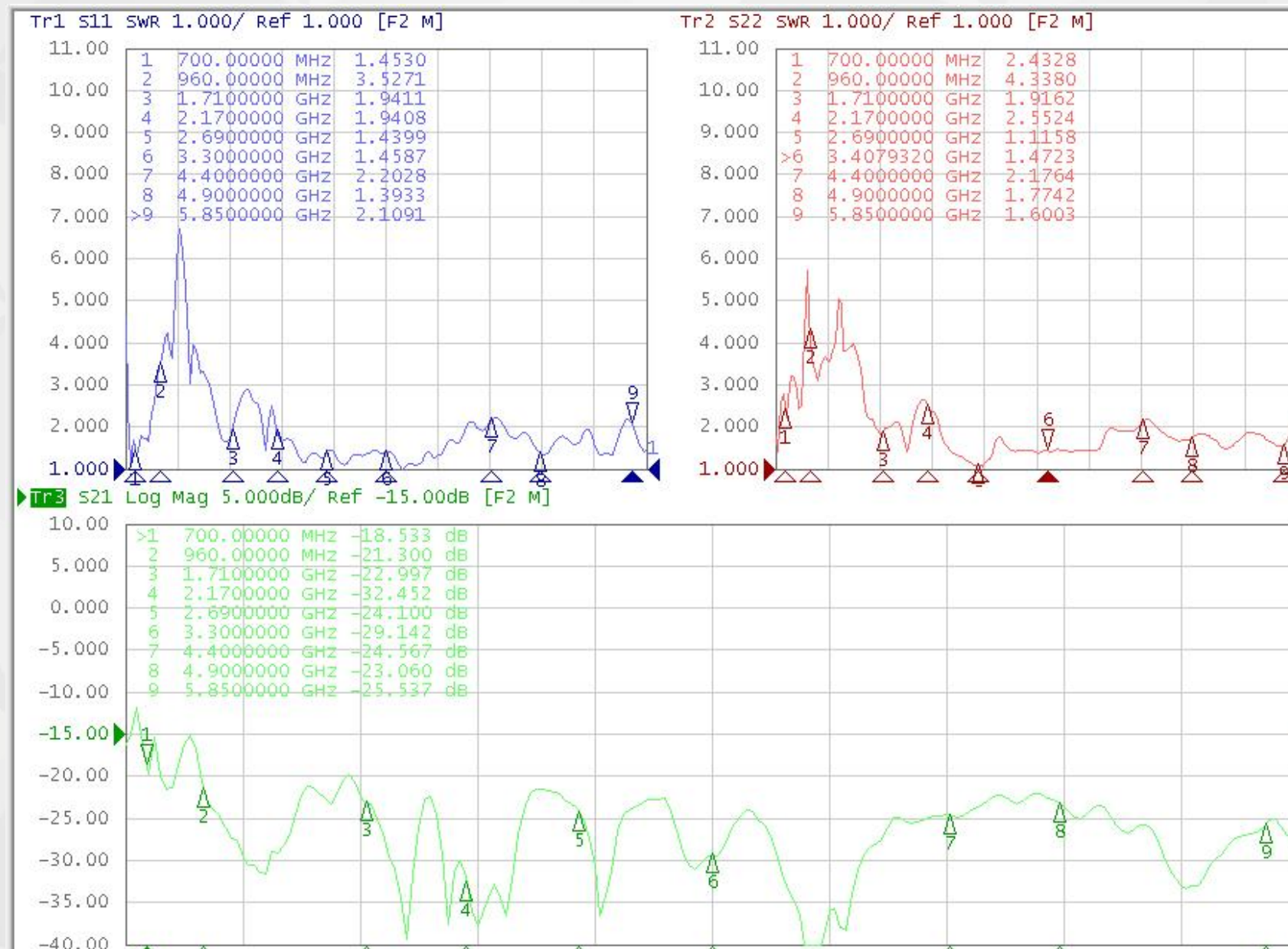
ant0/ant1隔离度

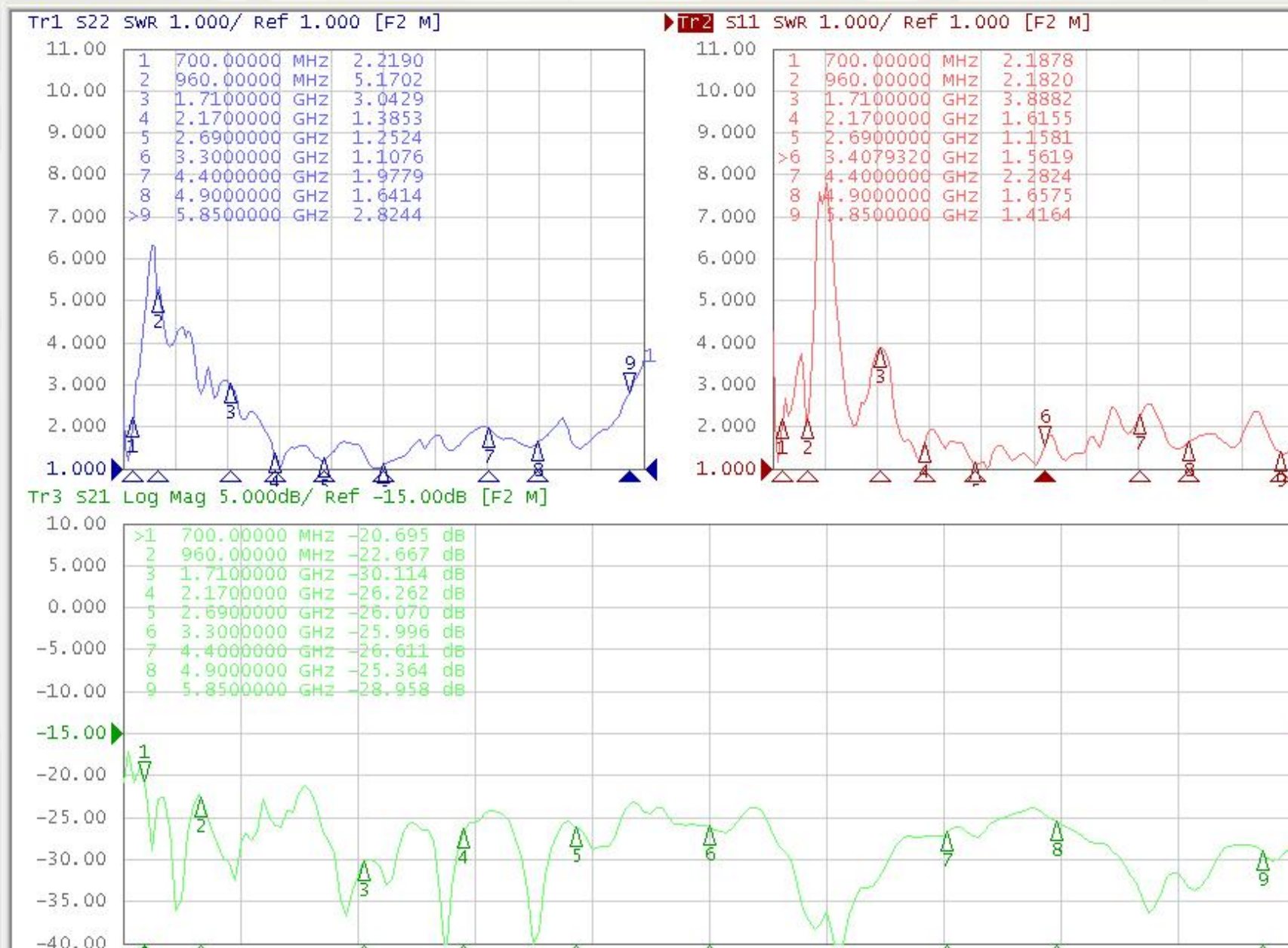


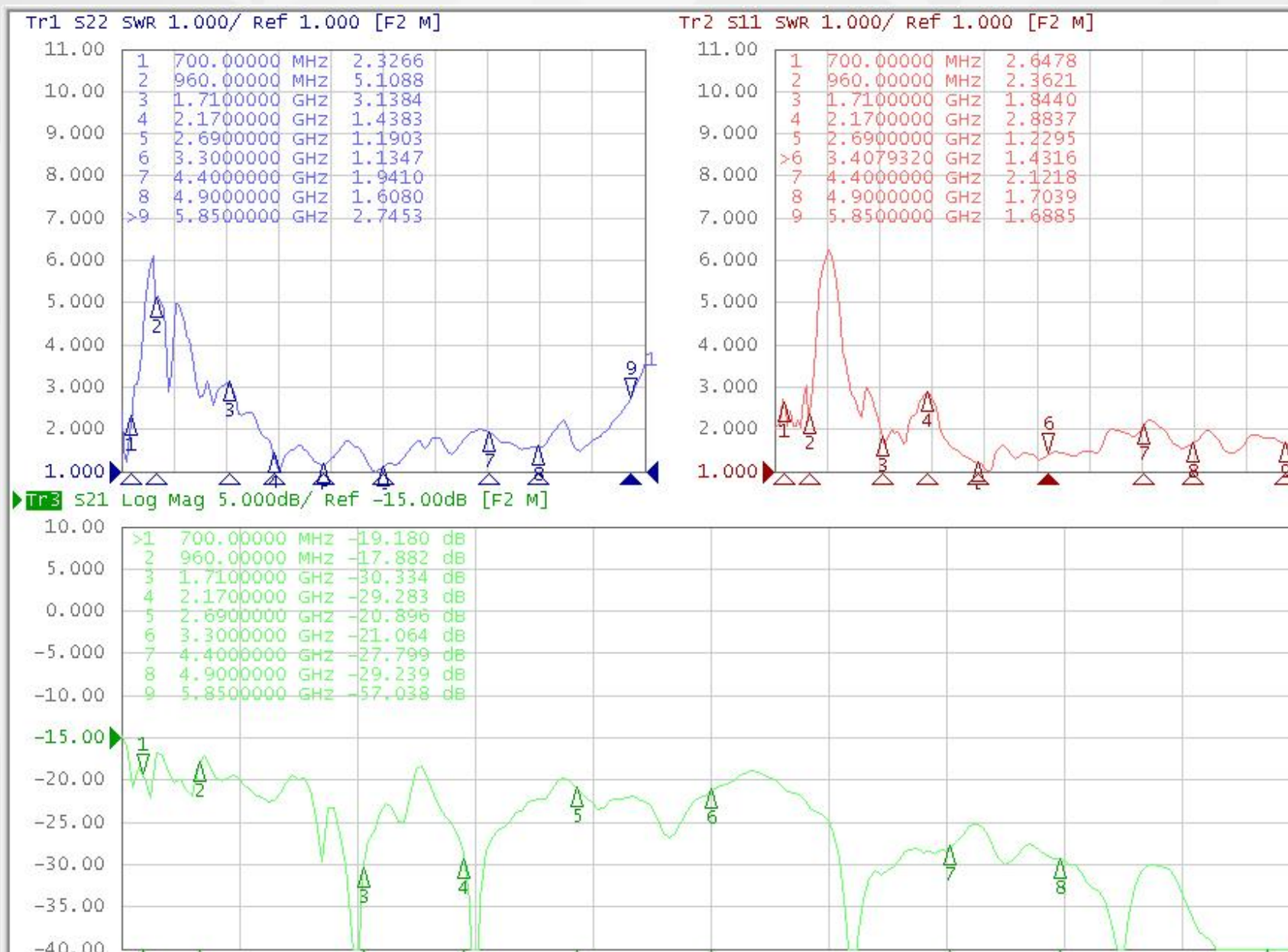
ant0/ant2隔离度

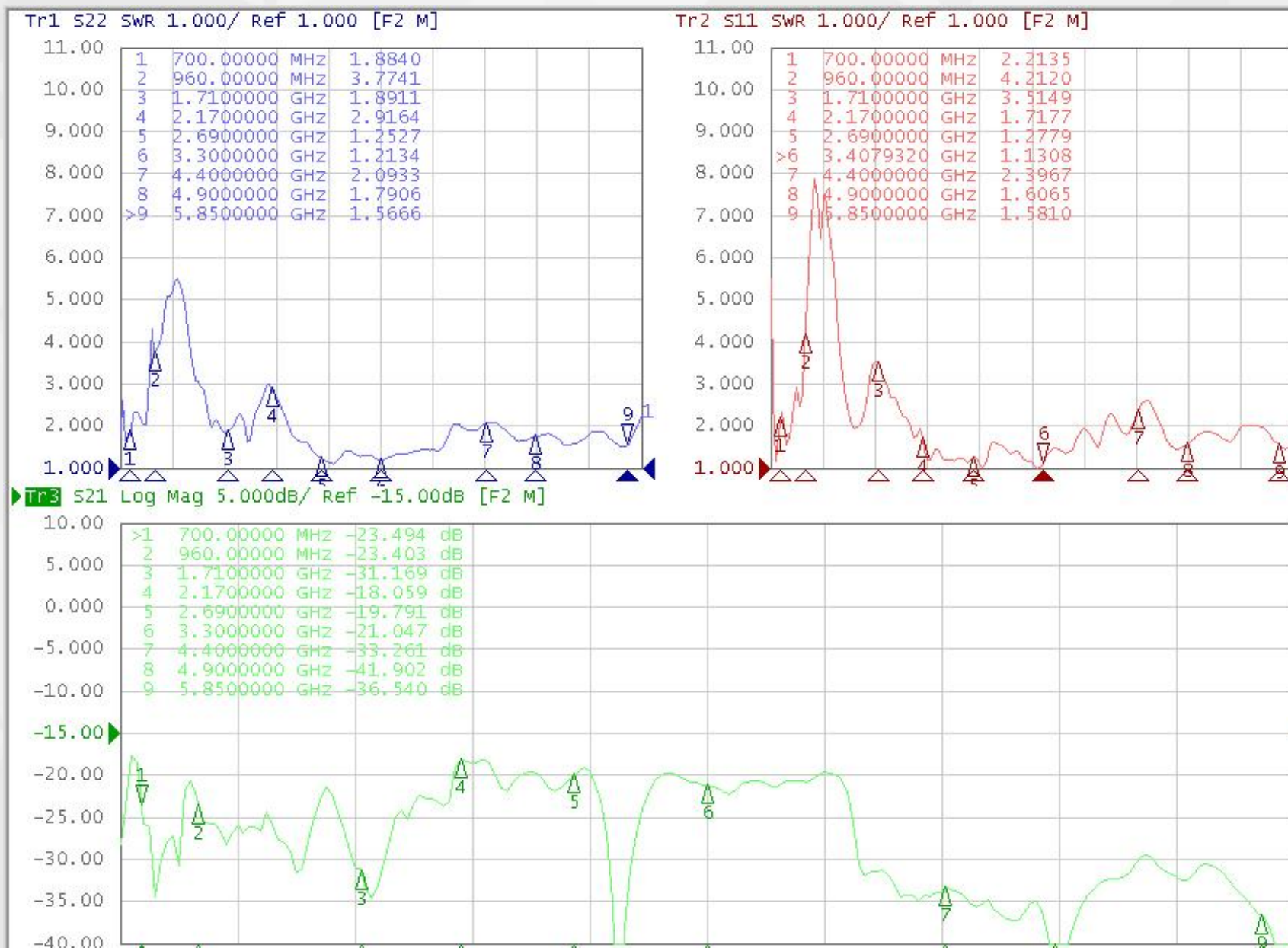


ant0/ant3隔离度











ant0.xlsx



ant1.xlsx

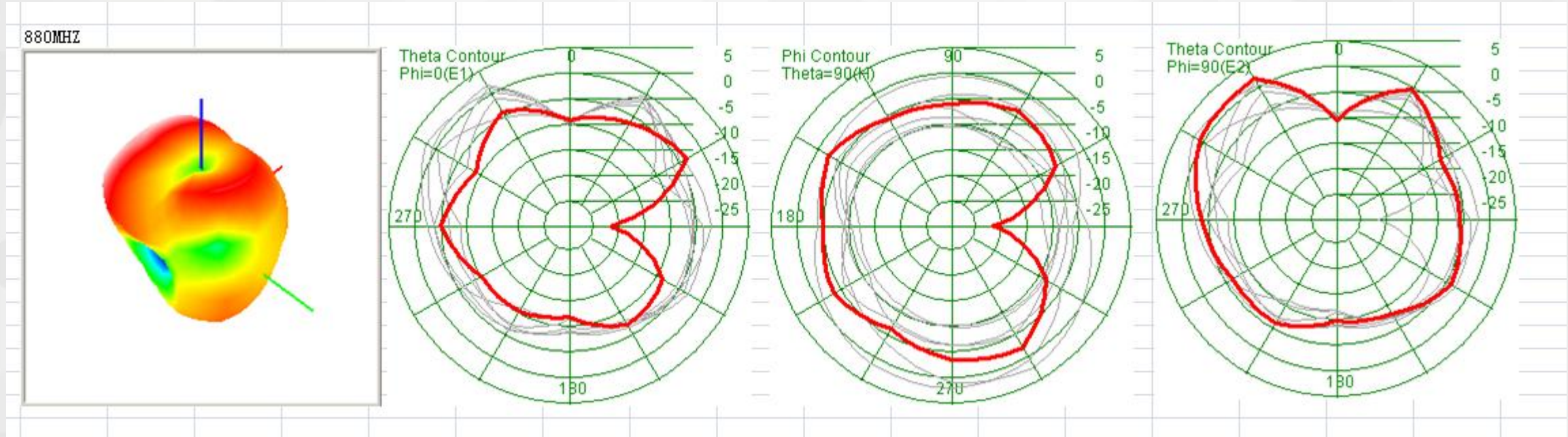


ant2.xlsx

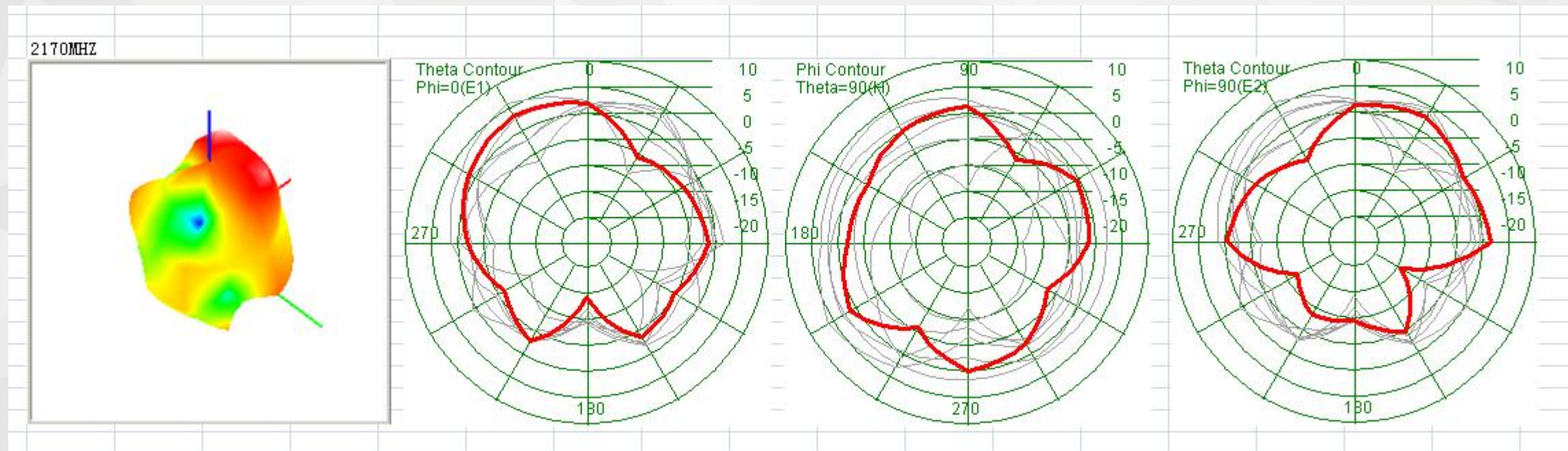


ant3.xlsx

Radiation pattern – 800MHz 0#

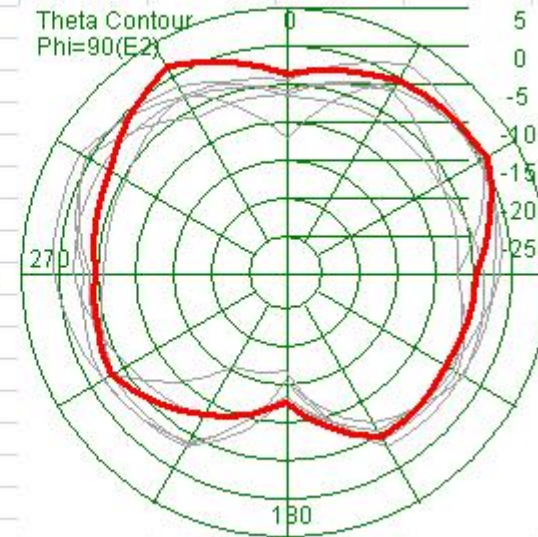
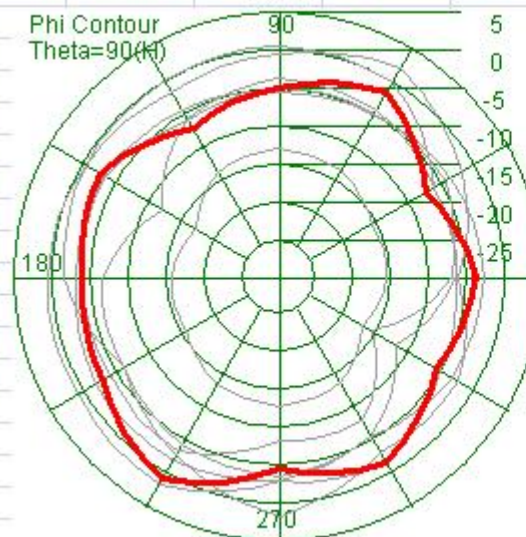
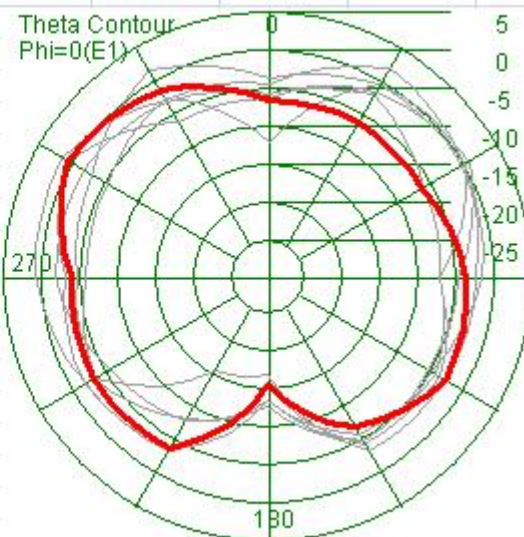
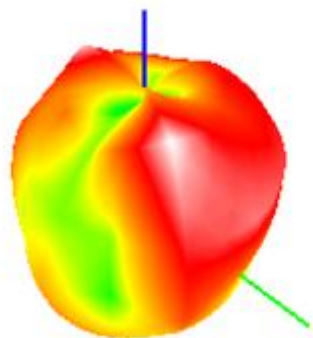


Radiation pattern – 2170MHz 0#



Radiation pattern – 3300MHz 0#

3300MHZ

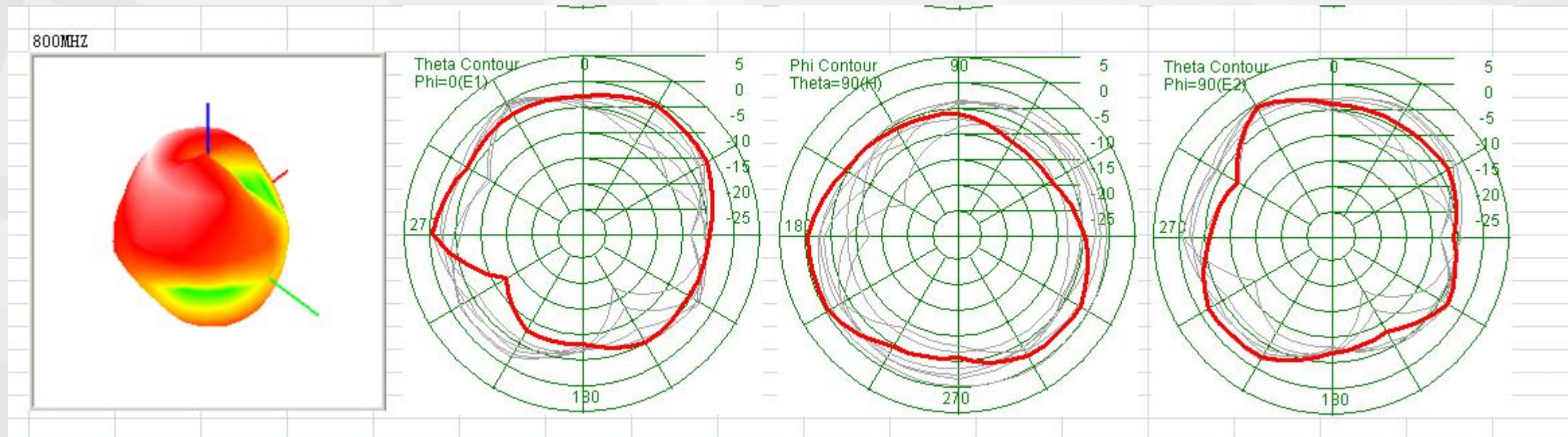


增益-0#

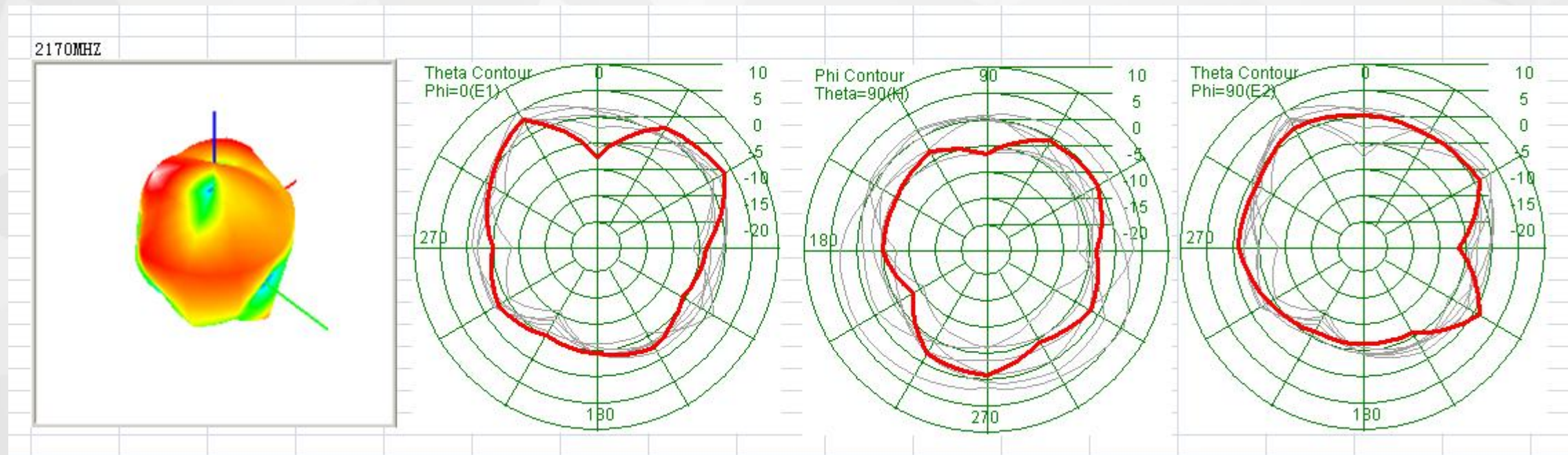
Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
700.0	3.39	4.14	84.0%
720.0	3.00	4.02	79.1%
740.0	0.54	3.89	46.3%
760.0	2.16	3.97	65.9%
780.0	2.00	3.87	65.0%
800.0	1.98	4.28	58.9%
820.0	1.68	4.97	46.9%
840.0	1.75	5.28	44.4%
860.0	2.01	5.69	42.8%
880.0	2.04	5.44	45.7%
900.0	1.18	5.00	41.5%
920.0	1.21	5.38	38.3%
940.0	2.19	6.24	39.3%
960.0	2.12	6.57	35.9%
1710.0	3.17	5.34	60.7%
1730.0	2.70	5.12	57.4%
1750.0	2.91	5.14	59.8%
1770.0	2.69	5.04	58.3%
1790.0	2.07	4.80	53.4%
1810.0	1.70	4.98	46.9%
1830.0	2.19	5.30	48.8%
1850.0	1.94	4.80	51.7%
1870.0	1.38	4.69	46.7%
1890.0	1.01	4.64	43.3%
1910.0	0.75	3.99	47.4%
1930.0	1.67	4.45	52.6%
1950.0	3.27	5.65	57.8%
1970.0	3.77	6.03	59.5%
1990.0	3.20	5.34	61.1%
2010.0	2.91	4.98	62.1%
2030.0	3.53	5.45	64.3%
2050.0	4.75	6.46	67.5%
2070.0	5.43	6.84	72.4%
2090.0	5.67	7.09	72.0%
2110.0	5.72	7.25	70.2%
2130.0	6.38	7.57	76.0%
2150.0	6.02	7.48	71.4%
2170.0	5.85	7.23	72.8%
2300.0	5.77	7.25	71.1%
2320.0	5.37	7.30	64.2%
2340.0	5.07	7.12	62.3%
2360.0	4.63	6.67	62.5%
2380.0	5.10	7.14	62.5%
2400.0	5.04	7.29	59.5%
2420.0	5.15	7.09	64.0%
2440.0	5.38	7.37	63.2%
2460.0	5.64	7.29	68.4%
2480.0	4.74	6.63	64.7%
2500.0	5.12	6.68	69.8%
2520.0	4.14	6.01	65.0%
2540.0	4.58	6.25	68.0%
2560.0	4.99	6.97	63.5%
2580.0	5.48	7.17	67.8%

Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
2600.0	5.13	6.84	67.4%
2620.0	5.00	6.80	66.2%
2640.0	4.09	6.21	61.4%
2660.0	3.07	5.66	55.0%
2680.0	3.20	5.99	52.7%
2700.0	3.12	6.15	49.8%
3300.0	1.84	4.26	57.3%
3400.0	2.31	4.90	55.1%
3500.0	3.14	4.76	68.9%
3600.0	1.81	4.51	53.8%
3700.0	0.67	3.41	53.3%
3800.0	0.59	3.38	52.6%
3900.0	-0.47	3.36	41.4%
4000.0	0.99	4.25	47.3%
4100.0	1.11	4.62	44.6%
4200.0	-0.04	3.59	43.3%
4300.0	0.70	2.50	66.0%
4400.0	-2.29	1.68	40.1%
4900.0	2.26	3.96	67.7%
5000.0	1.16	4.56	45.7%
5100.0	2.36	4.92	55.4%
5200.0	0.69	3.16	56.6%
5300.0	0.19	3.83	43.3%
5400.0	-0.17	3.92	39.0%
5500.0	0.56	3.92	46.2%
5600.0	1.57	4.72	48.4%
5700.0	-0.49	3.55	39.4%
5800.0	0.33	3.87	44.2%
5900.0	-0.19	3.62	41.6%
6000.0	0.05	4.43	36.4%

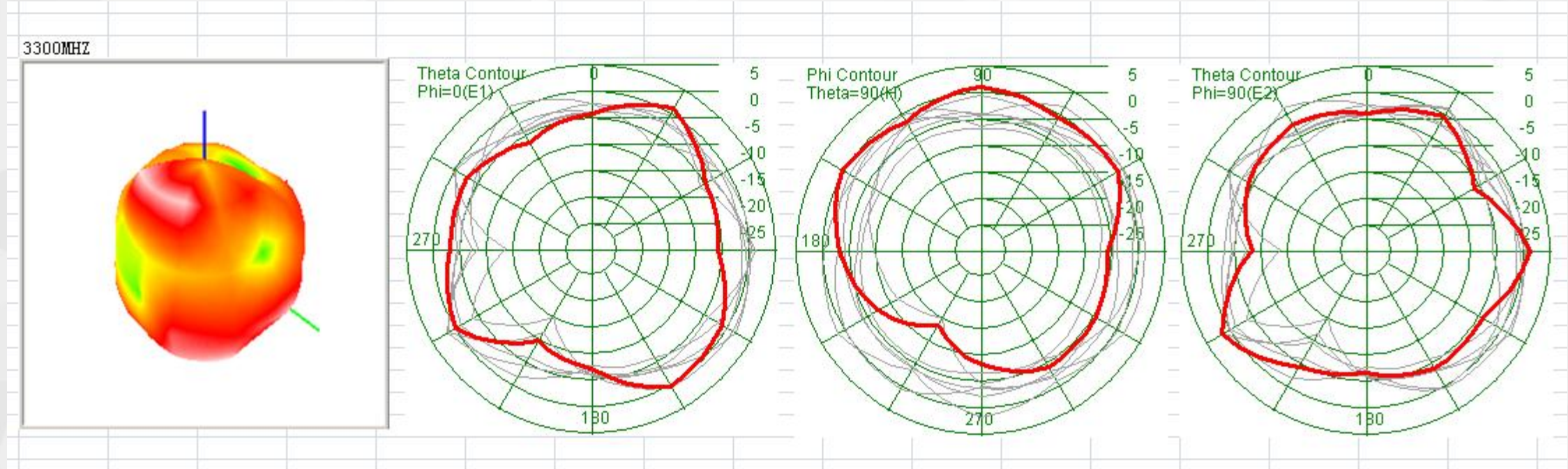
Radiation pattern – 800MHz 1#



Radiation pattern – 2170MHz 1#



Radiation pattern – 3300MHz 1#

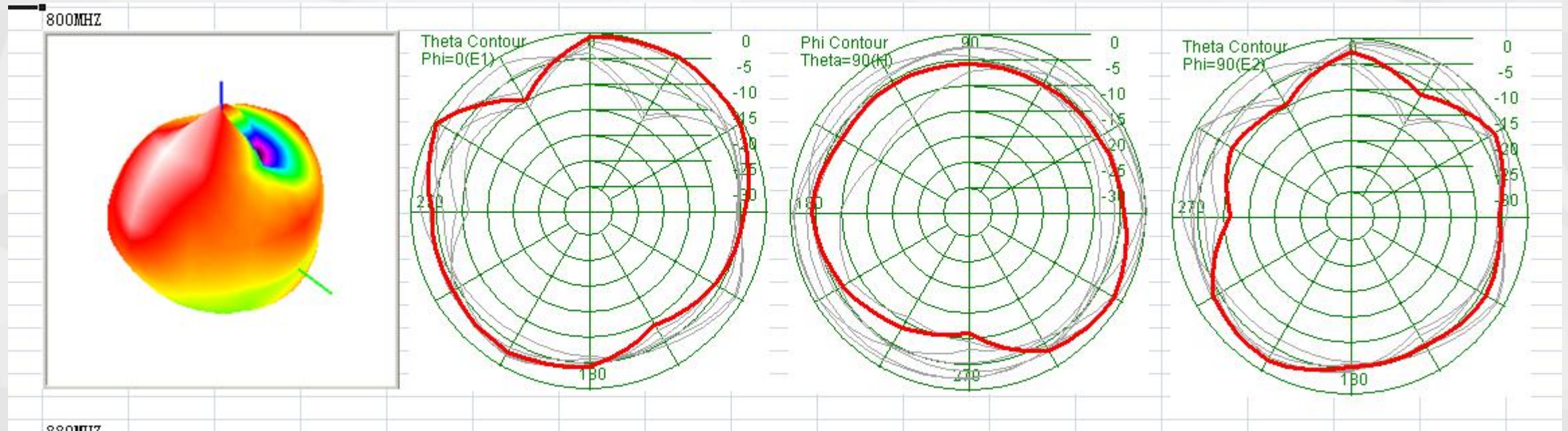


增益-1#

Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
700.0	2.55	4.04	71.0%
720.0	3.07	4.48	72.3%
740.0	2.01	4.01	63.2%
760.0	1.67	3.51	65.5%
780.0	-0.34	2.82	48.4%
800.0	0.04	3.44	45.7%
820.0	0.18	3.76	43.8%
840.0	-1.19	4.10	29.5%
860.0	0.82	5.47	34.3%
880.0	0.75	5.28	35.2%
900.0	0.38	5.18	33.1%
920.0	1.36	5.37	39.7%
940.0	1.48	5.43	40.3%
960.0	1.75	5.62	41.0%
1710.0	2.83	5.34	56.0%
1730.0	1.98	5.24	47.2%
1750.0	2.68	5.57	51.4%
1770.0	3.01	5.82	52.4%
1790.0	3.87	5.40	70.4%
1810.0	4.13	5.45	73.7%
1830.0	4.12	5.51	72.6%
1850.0	3.61	5.78	60.7%
1870.0	3.90	6.18	59.2%
1890.0	4.53	6.71	60.6%
1910.0	5.24	6.53	74.2%
1930.0	5.78	6.95	76.4%
1950.0	6.47	7.24	83.7%
1970.0	6.49	7.29	83.1%
1990.0	6.46	7.35	81.6%
2010.0	5.84	6.89	78.5%
2030.0	5.29	6.38	77.8%
2050.0	5.51	6.54	78.9%
2070.0	5.09	5.82	84.6%
2090.0	4.66	5.62	80.2%
2110.0	4.52	5.85	73.5%
2130.0	4.39	5.83	71.8%
2150.0	4.91	6.40	71.0%
2170.0	5.16	6.55	72.6%
2300.0	4.73	5.73	79.4%
2320.0	3.82	5.31	70.9%
2340.0	3.64	5.25	69.0%
2360.0	3.34	5.06	67.3%
2380.0	4.00	5.73	67.1%
2400.0	4.08	5.97	64.7%
2420.0	4.61	5.86	74.9%
2440.0	4.79	6.12	73.6%
2460.0	4.73	5.71	79.7%
2480.0	3.84	5.10	74.7%
2500.0	3.90	4.87	80.0%
2520.0	3.67	4.86	76.1%
2540.0	3.89	4.84	80.3%
2560.0	4.07	5.54	71.3%
2580.0	4.29	5.60	74.0%
2600.0	4.10	5.44	73.4%
2620.0	4.04	5.17	77.2%
2640.0	3.32	4.45	77.2%
2660.0	3.03	4.36	73.7%

Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
2680.0	3.38	4.96	69.4%
2700.0	3.33	5.14	66.0%
3300.0	1.58	3.29	67.5%
3400.0	1.66	3.90	59.7%
3500.0	1.70	3.20	70.9%
3600.0	1.08	3.42	58.3%
3700.0	0.11	3.34	47.4%
3800.0	-0.15	3.11	47.2%
3900.0	-1.75	3.21	31.9%
4000.0	0.17	3.12	50.6%
4100.0	0.27	2.96	53.8%
4200.0	0.02	2.84	52.2%
4300.0	2.27	2.69	90.9%
4400.0	0.82	1.75	80.7%
4900.0	2.64	4.21	69.7%
5000.0	2.48	4.82	58.3%
5100.0	3.06	5.07	62.9%
5200.0	1.42	4.16	53.3%
5300.0	0.36	3.18	52.3%
5400.0	2.38	4.76	57.9%
5500.0	2.64	5.27	54.6%
5600.0	1.87	4.90	49.8%
5700.0	1.00	4.24	47.4%
5800.0	0.84	3.49	54.3%
5900.0	-0.59	3.49	39.0%
6000.0	-1.97	4.26	23.8%

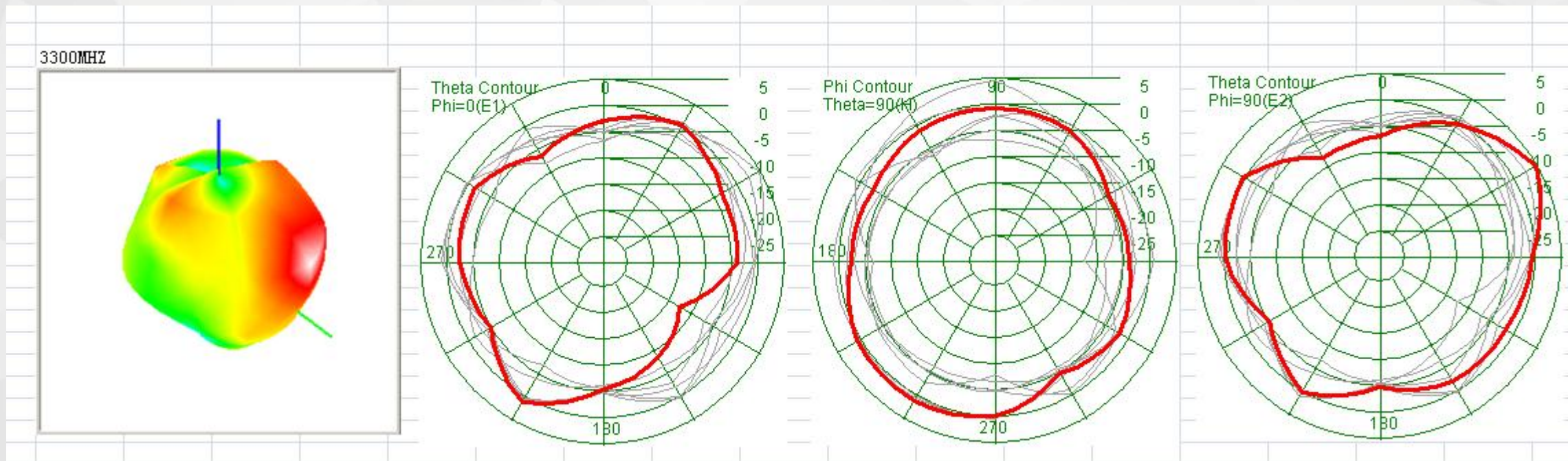
Radiation pattern – 800MHz 2#



Radiation pattern – 2170MHz 2#



Radiation pattern – 3300MHz 2#

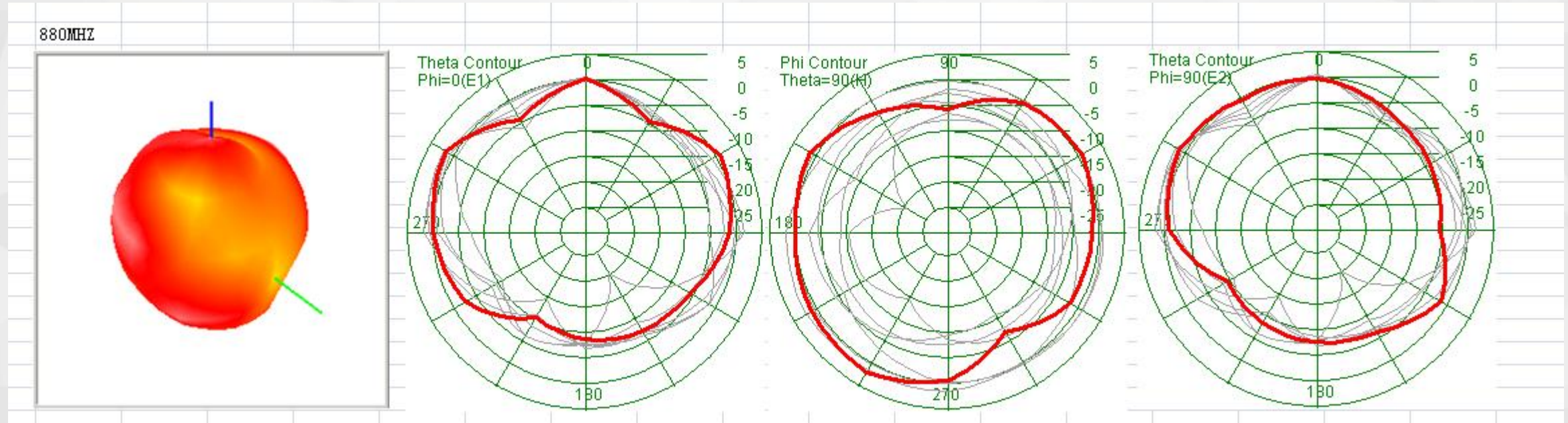


增益-2#

Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
700.0	3.09	4.62	70.2%
720.0	3.84	5.09	75.1%
740.0	2.86	5.48	54.6%
760.0	0.96	4.63	43.0%
780.0	0.13	3.83	42.7%
800.0	-0.07	3.55	43.5%
820.0	-0.19	2.92	48.9%
840.0	0.61	2.78	60.7%
860.0	2.39	3.65	74.9%
880.0	3.17	4.67	70.8%
900.0	2.22	4.75	55.9%
920.0	1.63	5.02	45.9%
940.0	2.11	5.32	47.8%
960.0	2.11	4.77	54.2%
1710.0	2.44	5.14	53.7%
1730.0	2.22	5.12	51.2%
1750.0	2.44	4.93	56.3%
1770.0	2.90	5.30	57.5%
1790.0	2.60	5.12	56.0%
1810.0	1.96	4.89	50.9%
1830.0	2.52	5.18	54.2%
1850.0	3.15	5.35	60.3%
1870.0	3.35	5.61	59.3%
1890.0	3.18	5.62	57.1%
1910.0	2.78	5.31	55.8%
1930.0	3.56	5.75	60.4%
1950.0	4.09	6.11	62.7%
1970.0	4.63	6.27	68.5%
1990.0	4.12	6.00	64.7%
2010.0	4.24	6.10	65.2%
2030.0	3.48	5.70	59.9%
2050.0	2.83	4.89	62.2%
2070.0	3.02	4.59	69.6%
2090.0	3.82	5.28	71.6%
2110.0	3.85	5.62	66.6%
2130.0	4.16	5.75	69.2%
2150.0	3.85	5.80	63.7%
2170.0	3.63	5.52	64.8%
2300.0	4.15	6.28	61.3%
2320.0	4.35	6.79	57.0%
2340.0	4.96	7.35	57.6%
2360.0	4.44	7.17	53.4%
2380.0	5.41	7.85	57.1%
2400.0	5.30	7.81	56.2%
2420.0	5.27	6.99	67.3%
2440.0	4.35	6.39	62.5%
2460.0	4.50	6.26	66.7%
2480.0	3.09	5.08	63.2%
2500.0	3.73	5.46	67.1%
2520.0	2.39	4.46	62.1%
2540.0	2.06	3.98	64.3%
2560.0	2.08	4.34	59.4%
2580.0	2.95	5.05	61.6%
2600.0	2.56	4.78	59.9%
2620.0	2.24	4.42	60.5%
2640.0	1.81	3.99	60.4%
2660.0	1.36	3.79	57.1%

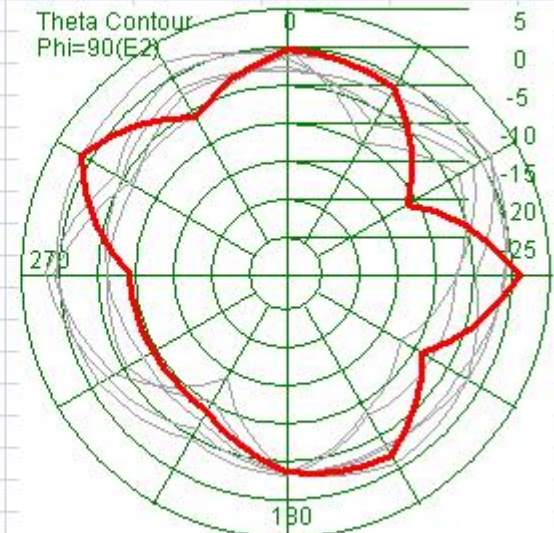
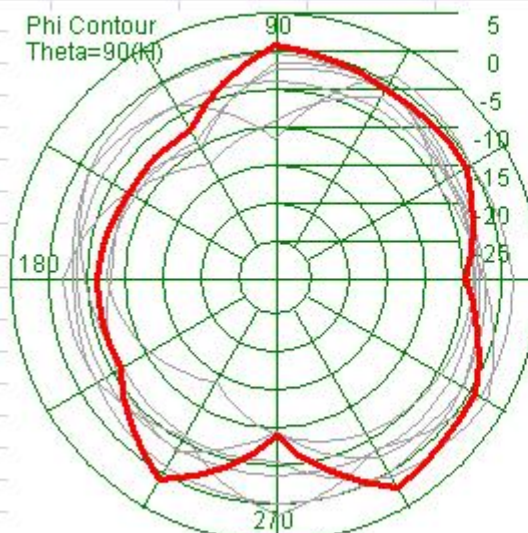
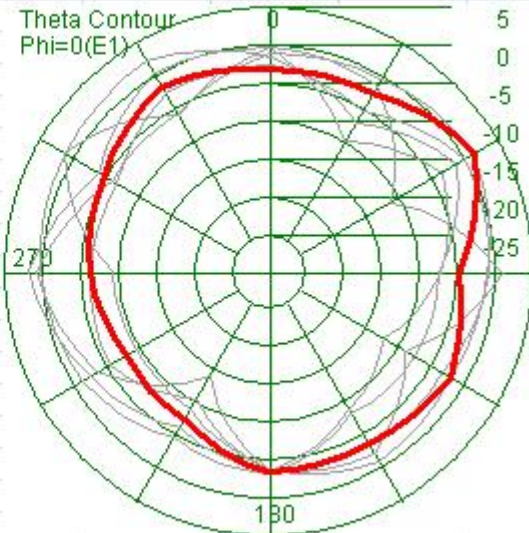
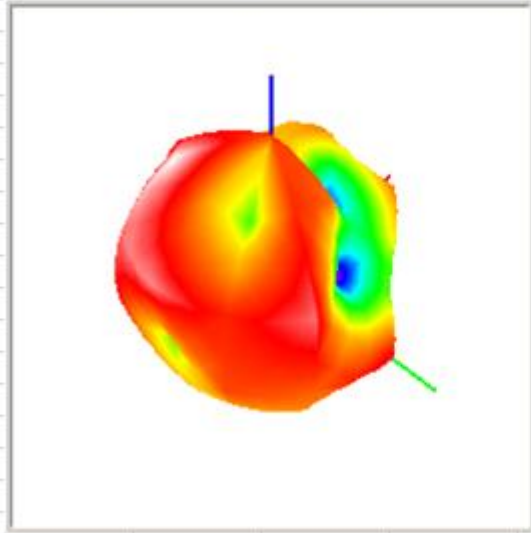
Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
2680.0	1.67	4.27	54.9%
2700.0	2.33	5.04	53.6%
3300.0	4.58	6.00	72.1%
3400.0	3.59	5.27	67.9%
3500.0	4.45	5.27	82.8%
3600.0	3.22	5.21	63.1%
3700.0	3.42	5.93	56.2%
3800.0	3.34	6.89	44.2%
3900.0	1.28	5.80	35.3%
4000.0	1.40	4.89	44.8%
4100.0	0.28	4.46	38.2%
4200.0	0.28	3.13	51.9%
4300.0	1.96	3.42	71.5%
4400.0	-0.72	3.19	40.6%
4900.0	1.71	4.10	57.6%
5000.0	2.76	4.92	60.8%
5100.0	2.10	4.30	60.2%
5200.0	2.02	3.92	64.7%
5300.0	1.57	4.57	50.1%
5400.0	1.89	4.41	56.0%
5500.0	0.55	4.65	38.9%
5600.0	0.91	5.02	38.8%
5700.0	1.56	4.95	45.8%
5800.0	2.97	5.00	62.6%
5900.0	2.96	4.96	63.2%
6000.0	2.42	6.05	43.4%

Radiation pattern – 800MHz 3#



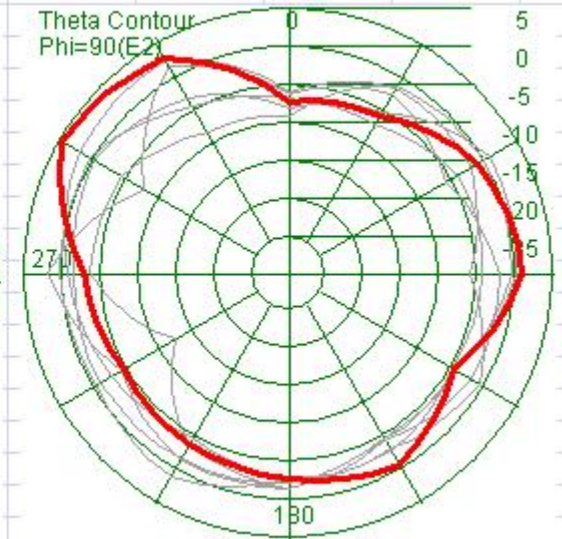
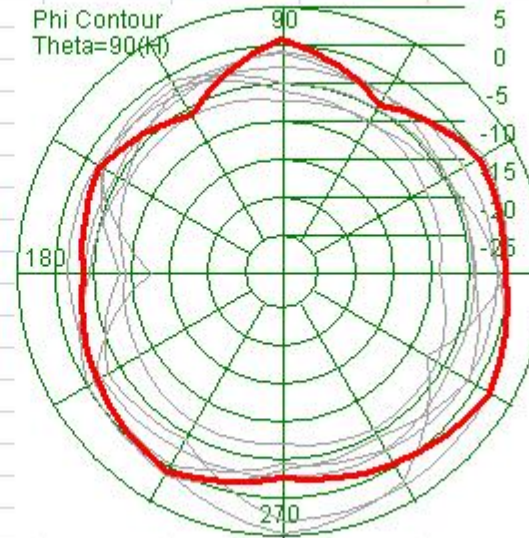
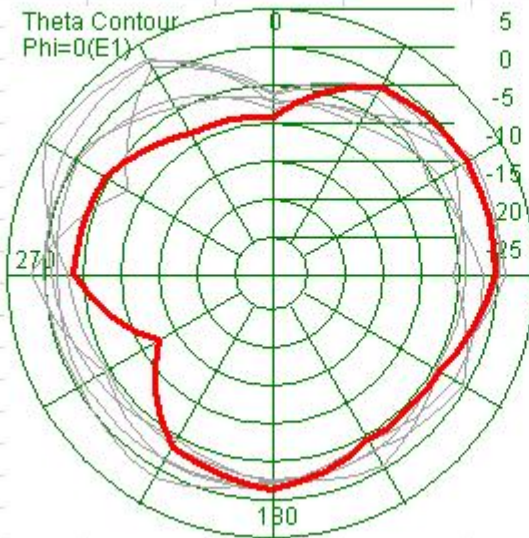
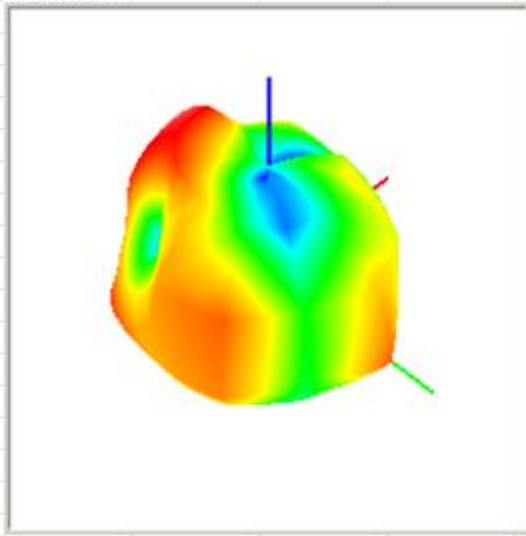
Radiation pattern – 2170MHz 3#

2170MHZ



Radiation pattern – 3300MHz 3#

3300MHZ



增益-3#

Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
700.0	0.83	4.30	45.0%
720.0	0.75	4.84	39.0%
740.0	1.75	4.72	50.4%
760.0	1.91	4.62	53.6%
780.0	0.70	3.71	50.1%
800.0	1.61	4.32	53.5%
820.0	2.55	4.52	63.6%
840.0	1.59	3.15	69.7%
860.0	2.20	3.64	71.9%
880.0	2.14	3.43	74.3%
900.0	1.10	3.78	53.9%
920.0	0.83	4.17	46.3%
940.0	1.36	4.13	52.7%
960.0	2.13	5.02	51.4%
1710.0	3.03	5.65	54.7%
1730.0	3.34	5.69	58.2%
1750.0	3.80	5.73	64.2%
1770.0	3.28	5.14	65.1%
1790.0	2.99	4.94	63.9%
1810.0	2.81	5.19	57.8%
1830.0	3.39	5.64	59.5%
1850.0	3.85	5.98	61.3%
1870.0	4.42	6.71	59.1%
1890.0	4.58	6.99	57.5%
1910.0	4.27	6.67	57.4%
1930.0	5.31	7.43	61.3%
1950.0	5.37	7.31	64.0%
1970.0	5.48	7.12	68.6%
1990.0	5.43	7.21	66.4%
2010.0	4.63	6.54	64.3%
2030.0	2.61	5.42	52.4%
2050.0	2.73	6.17	45.3%
2070.0	1.67	5.45	41.9%
2090.0	1.54	4.60	49.4%
2110.0	1.92	4.74	52.2%
2130.0	1.69	4.63	50.8%
2150.0	1.66	4.92	47.2%
2170.0	2.26	5.03	52.9%
2300.0	2.30	4.44	61.1%
2320.0	2.26	4.69	57.2%
2340.0	2.84	5.14	58.9%
2360.0	2.40	4.88	56.4%
2380.0	2.90	4.92	62.7%
2400.0	3.04	5.01	63.5%
2420.0	3.46	4.83	73.0%
2440.0	3.66	5.26	69.2%
2460.0	4.17	5.44	74.6%
2480.0	4.14	5.62	71.2%
2500.0	4.18	5.71	70.3%
2520.0	3.81	5.62	65.9%
2540.0	3.78	5.38	69.2%
2560.0	3.55	5.36	66.0%
2580.0	3.38	5.15	66.5%
2600.0	2.35	4.38	62.7%

Freq. (MHz)	Gain (dBi)	Directivity (dBi)	Efficiency (%)
2680.0	0.29	3.02	53.4%
2700.0	0.33	3.18	51.8%
3300.0	4.55	5.84	74.4%
3400.0	4.28	5.98	67.7%
3500.0	2.91	3.99	77.9%
3600.0	2.44	4.39	63.7%
3700.0	1.74	3.86	61.4%
3800.0	0.88	3.88	50.0%
3900.0	-0.65	3.65	37.2%
4000.0	1.85	5.46	43.6%
4100.0	0.53	4.25	42.5%
4200.0	0.03	2.65	54.8%
4300.0	2.25	3.66	72.3%
4400.0	0.42	4.61	38.1%
4900.0	-0.38	2.50	51.6%
5000.0	0.46	3.13	54.1%
5100.0	0.37	3.12	53.1%
5200.0	1.64	3.79	60.9%
5300.0	1.49	4.94	45.2%
5400.0	2.66	5.48	52.3%
5500.0	0.71	4.23	44.4%
5600.0	0.06	3.44	45.9%
5700.0	0.15	3.36	47.8%
5800.0	0.55	2.83	59.2%
5900.0	1.10	3.21	61.4%
6000.0	0.45	4.84	36.4%

LTE B2	18650	20.37		
	18900	19.8		
	19150	19.93	1150	-100.09
B4	20000	20.82		
	20175	20.89		
	20350	21.71	2350	-98.85
B5	20450	21.4		
	20525	20.67		
	20600	21.51	2600	-92.33
B7	20450	21.4		
	20525	20.67		
	20600	21.51		
B12	23060	18.79		
	23095	18.47		
	23130	18.01		
B13	23230	17.72		
B14	23330	18.97		
B17	23780	19.26		
	23790	18.77		
	23800	17.19		
B25	26090	20.2		
	26365	20.47		
	26640	20.03		
B26	26740	20.86		
	26865	21.09		
	26990	21.43		
B30	27710	21.78		
B66	132022	20.67		
	132322	21.41		
	132622	21.46		
B71	133172	19.02		
	133297	18.81		
	133422	18.05		
B41	39700	20.04		
	40620	21.25		
	41540	21.25		
B48	55290	20.61		
	55990	20.39		
	56690	20.29		