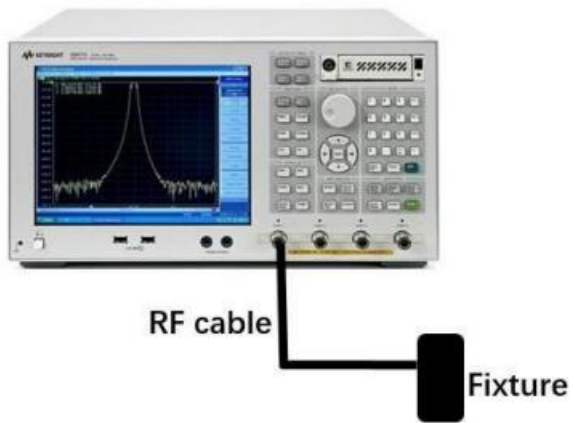
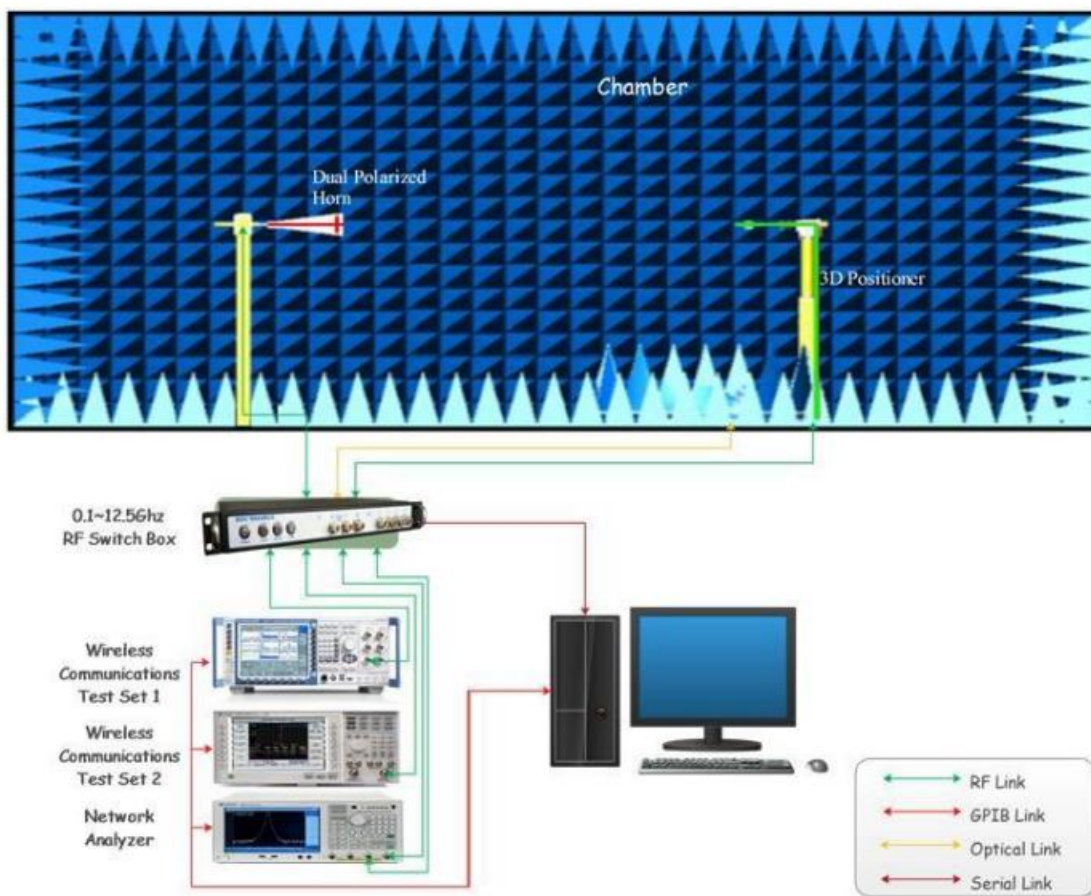


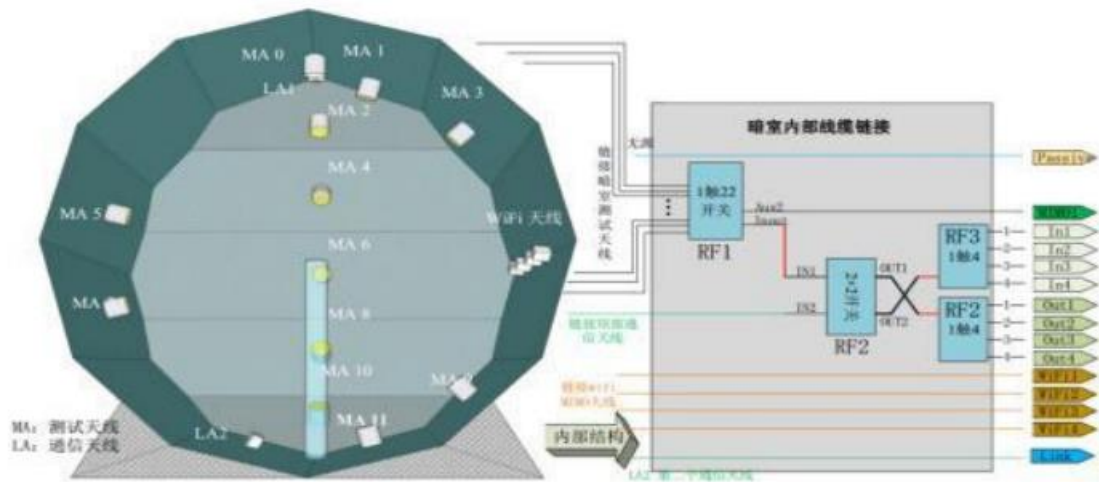
天线规格书 Antenna Spec

供应商名称 (中文全称)	深圳威尔创通讯科技有限公司 Welletronice Communication Technology Co.,Ltd
供货地址	嘉定区沪宜公路 1101 号锦和越界南翔智地 3 期 5 号楼 110 室 Room 110, Building 5, Nanxiang Zhidi Phase III, No. 1101 Huyi Road, Jiading District, Shanghai



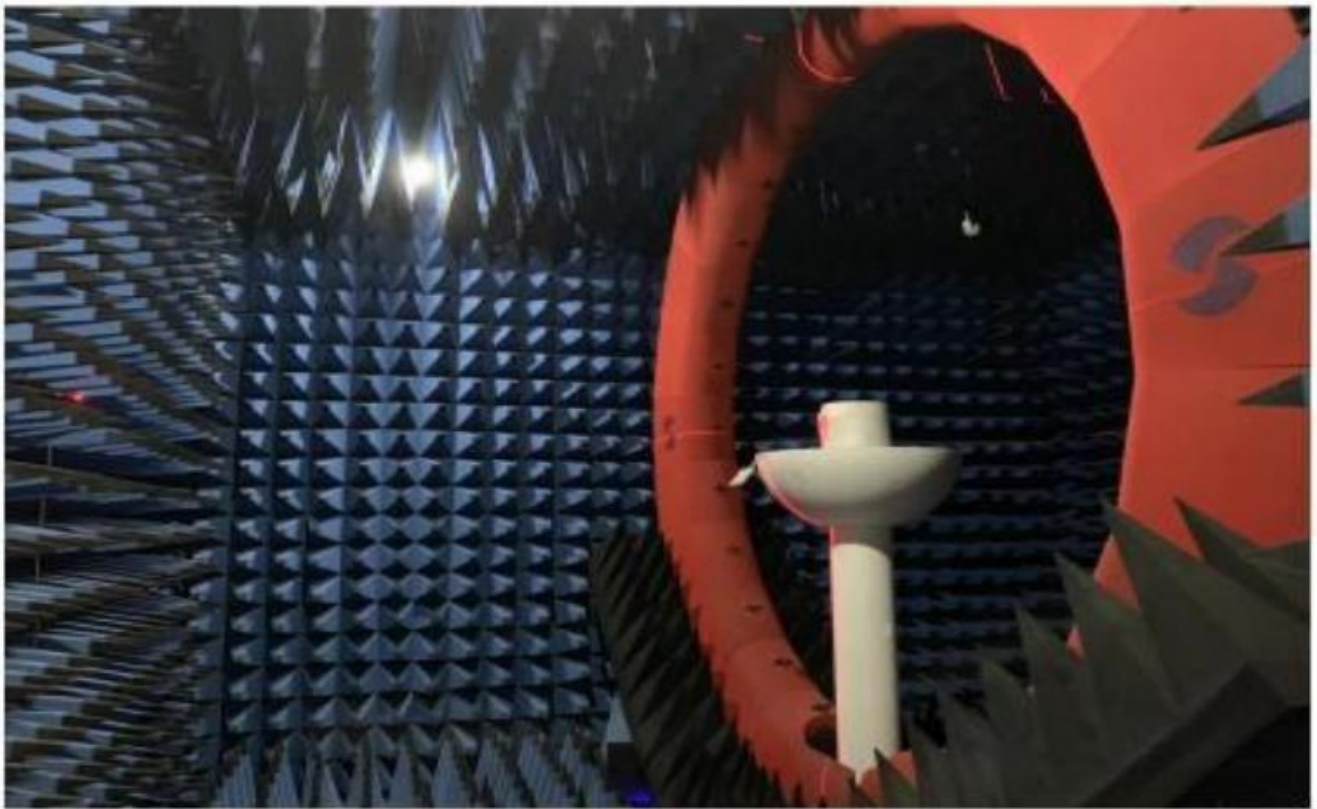
1-1.增益/效率 (Effi./Gain) &有源(Trp/Tis)测试|Effi./Gain & Trp/Tis Test





多探头测量系统

Multi-prob Measurement System



多探头微波暗室系统内部图

Multi-probe Microwave Anechoic Chamber System Internal Graph



All of Implementation antenna

MAIN-600MHz-2700MHz、3300MHz-4200MHz, DIV600MHz-2700MHz、 GBW:1575.42MHz-5800MHz o Number of antennas: (number, as well as whether they are external, internal, removable or fixed)

3 internal antennas, the position above picture1

o Brand of the antenna: (brand, unless it has no brand we will put it without brand)

Manufacturer: [Welletronice Communication Technology Co.,Ltd](#)

ANT0/ANT1/ANT2/ANT3/ANT4/ANT5/ANT6/ANT7/ANT8/ANT9/ANT10/ANT11

o Model of the antenna: [PIFA \(LDS\)](#)

o Antenna gain: (dBi):

GSM850 (ant0)	-7.18	DCS1800 (ant1)	-1.74
EGSM900 (ant0)	-7.34	DCS1800 (ant3)	-2.56
PCS1900 (ant1)	-2.07	PCS1900 (ant3)	-2.31
3G	Gain (dBi)	3G	Gain (dBi)
W1 (ant3)	-2.31	W1 (ant1)	-2.07
W2 (ant1)	-2.07	W2 (ant3)	-2.31
W4 (ant1)	-1.74	W4 (ant3)	-2.56
W5	-7.18	W8	-7.34
4G	Gain (dBi)	4G	Gain (dBi)
LTE B1 (ant1)	-2.07	LTE B1 (ant3)	-2.31
LTE B2 (ant1)	-2.07	LTE B2 (ant3)	-2.31
LTE B3 (ant1)	-1.74	LTE B3 (ant3)	-2.56
LTE B4 (ant1)	-1.74	LTE B4 (ant3)	-2.56

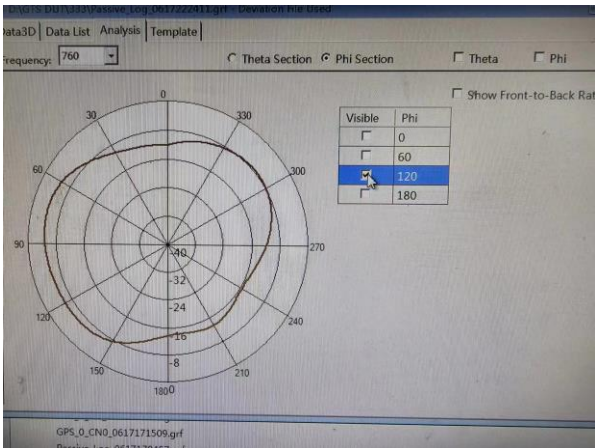
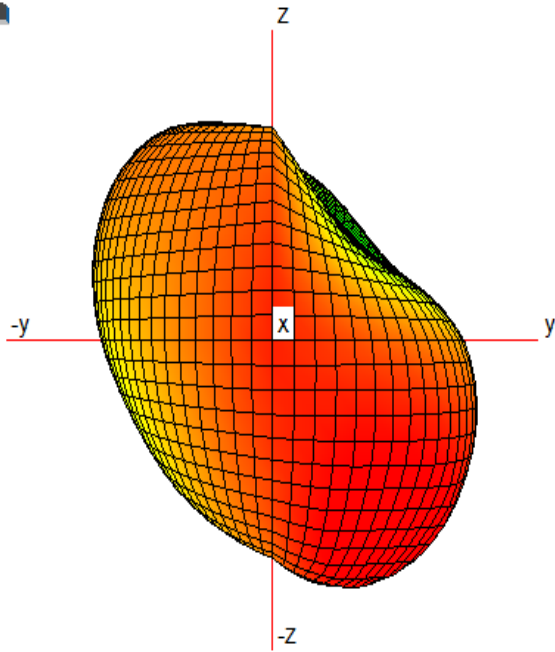
LTE B5 (ant0)	-7.18	LTE B7 (ant0)	-1.63
LTE B8 (ant0)	-7.34		
LTE B12 (ant0)	-6.61	LTE B13 (ant0)	-6.87
LTE B17 (ant0)	-6.87	LTE B20 (ant0)	-7.18
LTE B25 (ant1)	-2.07	LTE B25 (ant3)	-2.31
LTE B26 (ant0)	-7.18	LTE B28 (ant0)	-6.65
LTE B66 (ant1)	-1.74	LTE B66 (ant3)	-2.56
LTE B71 (ant0)	-6.65	LTE B38 (ant0)	-1.63
LTE B41 (ant0)	-1.63	LTE B40 (ant0)	-1.63
LTE B41 (ant3)	-2.61	LTE B41 (ant5)	-4.1
LTE B41 (ant2)	-1.97	BT	-2
GPS	-3.2	WIFI (2.4G)	-2
WIFI (5G)	-3	WIFI (6G)	-4
5G	Gain (dBi)	5G	Gain (dBi)
N1 (ant1)	-2.07	N1 (ant3)	-2.31
N2 (ant1)	-2.07	N2 (ant3)	-2.31

N25 (ant1)	-2.07	N25 (ant3)	-2.31
N3 (ant1)	-1.74	N3 (ant3)	-2.56
N66 (ant1)	-1.74	N66 (ant3)	-2.56
N7 (ant0)	-1.63	N38 (ant0)	-1.63
N40 (ant0)	-1.63		
N41 (ant0)	-1.63	N41 (ant3)	-2.61
N41 (ant2)	-1.97	N41 (ant5)	-4.1
N71 (ant0)	-6.65	N20 (ant0)	-7.18
N28 (ant0)	-6.65	N8 (ant0)	-7.34
N5 (ant0)	-7.18	N77 (ant2)	-3.4
N77 (ant4)	-4.5	N77 (ant5)	-3.2
N77 (ant6)	-6.68	N78 (ant2)	-3.4
N78 (ant4)	-4.5	N78 (ant5)	-3.2
N78 (ant6)	-6.68		
N48 (ant6)	-6.68		

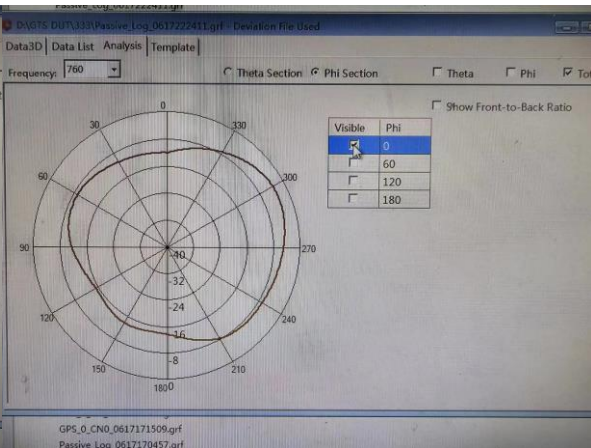
天线性能:

ANT0 Radiation characteristics of antennae Loaded in Host Platform

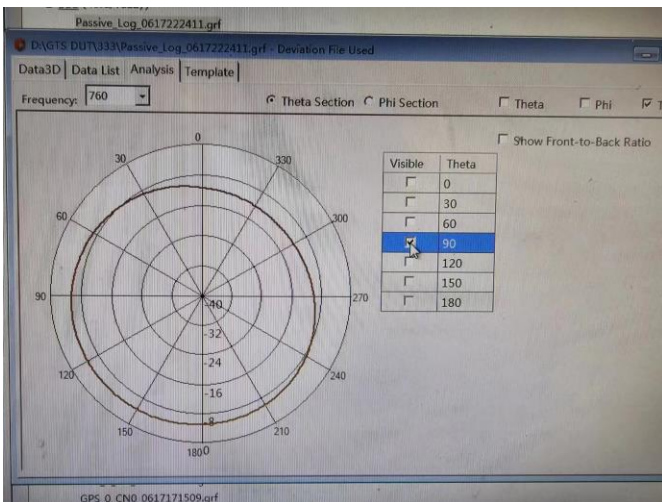
ANT0 antenna: L71/28



FREQ=760Mhz Phi=120

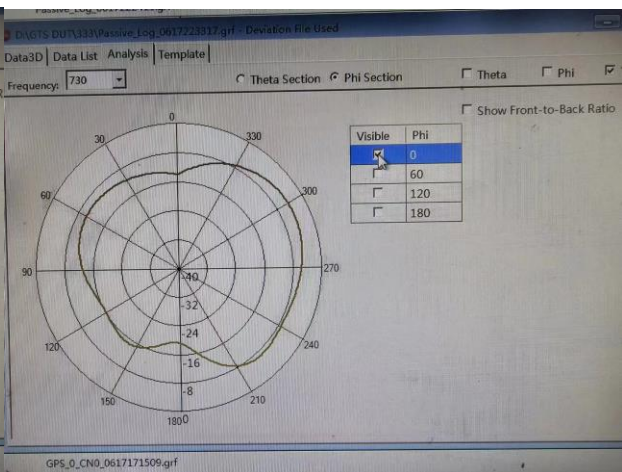
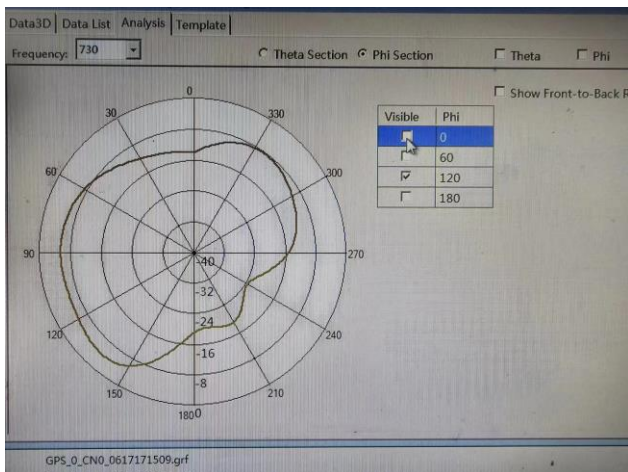
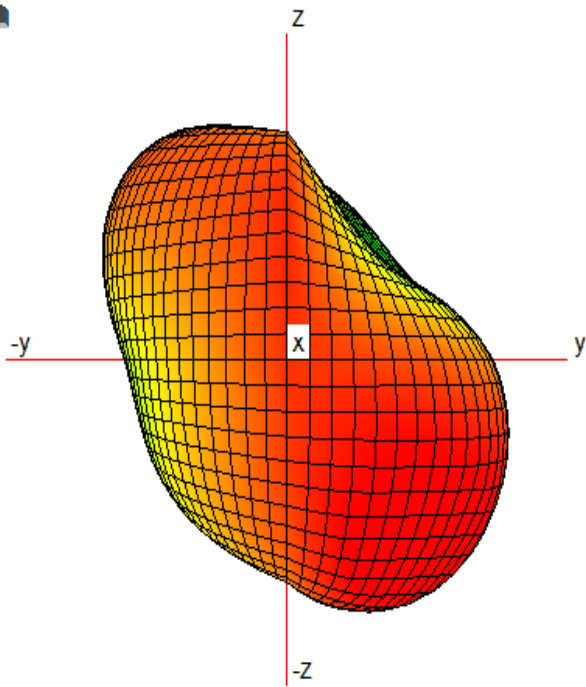


FREQ=760Mhz Phi=0



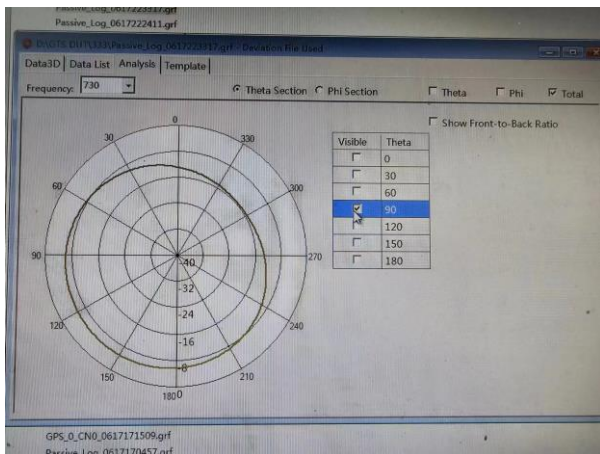
FREQ=760Mhz Theta=90

ANT0 antenna: L12



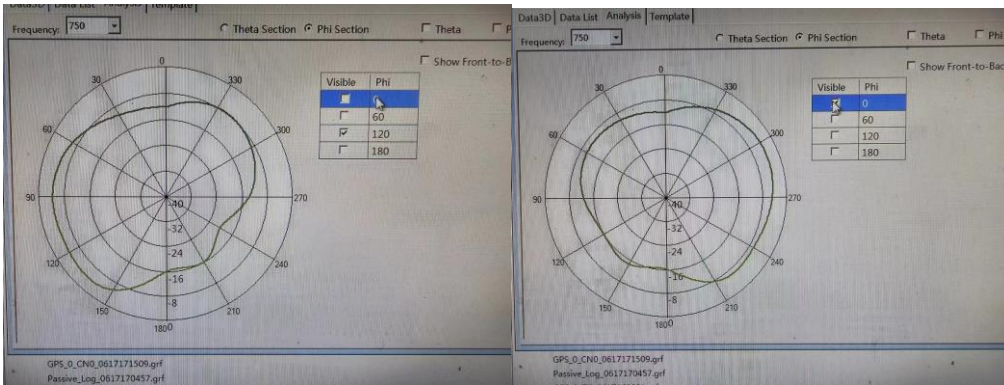
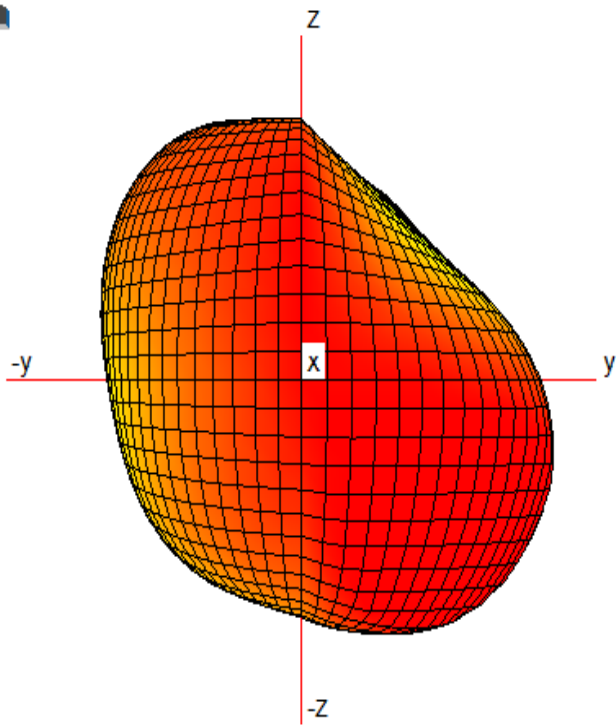
FREQ=730Mhz Phi=120

FREQ=730Mhz Phi=0



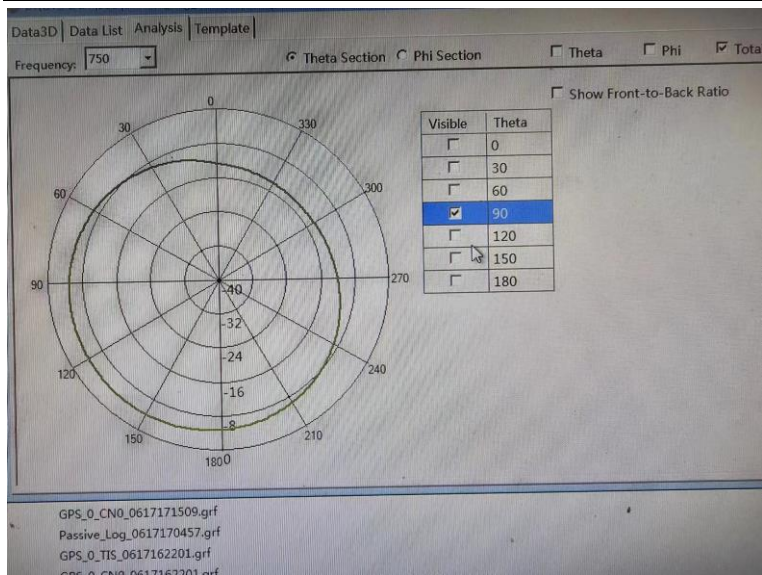
FREQ=730Mhz Theta=90

ANT0 antenna: L13/17



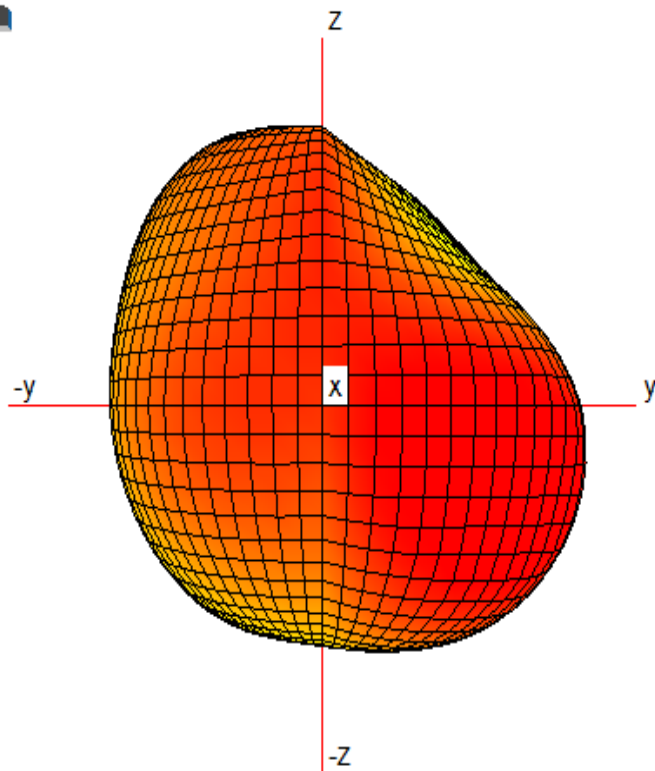
FREQ=750Mhz Phi=120

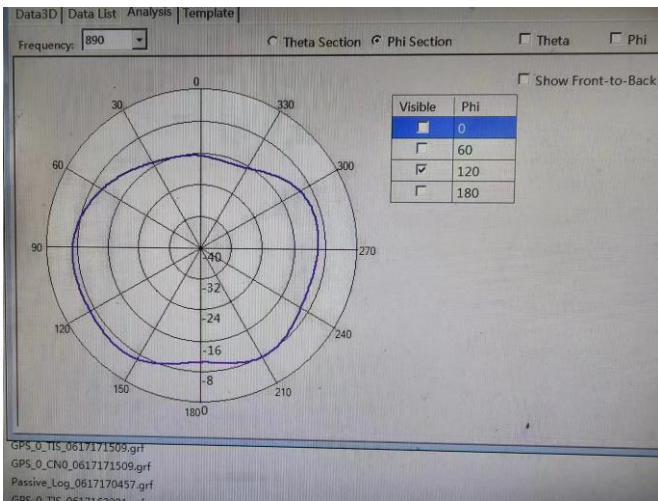
FREQ=750Mhz Phi=0



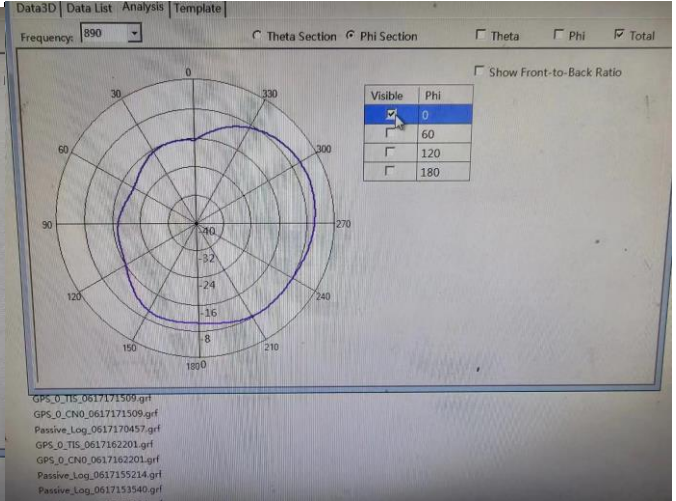
FREQ=750Mhz Theta=90

ANT0 antenna: L5/20/26

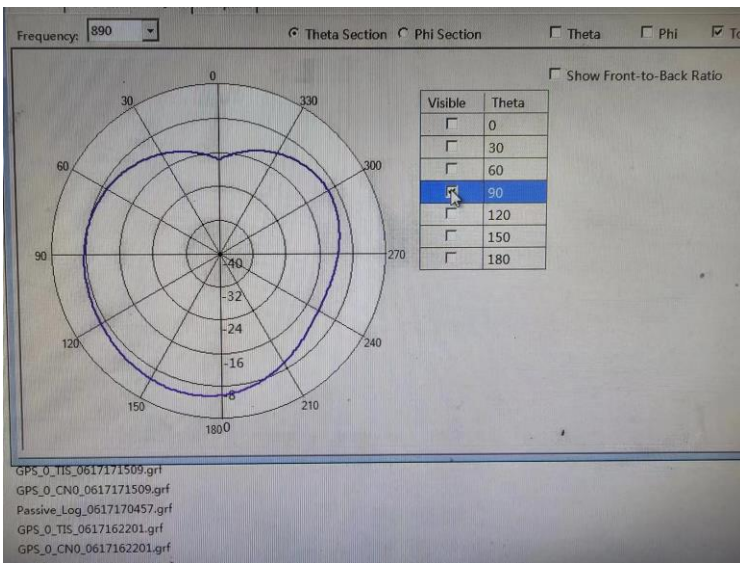




FREQ=890Mhz Phi=120

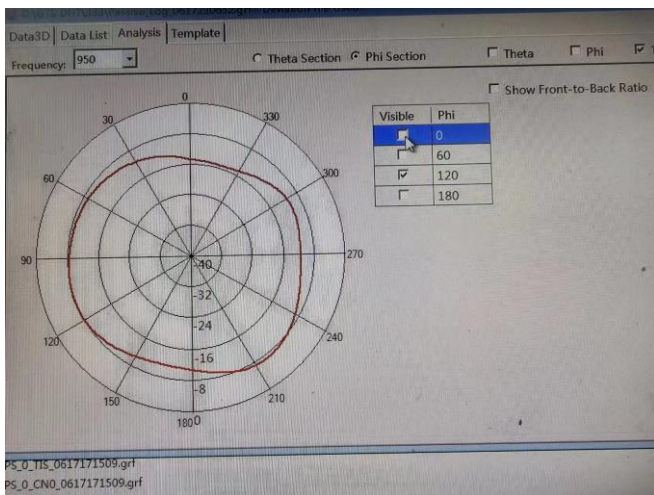
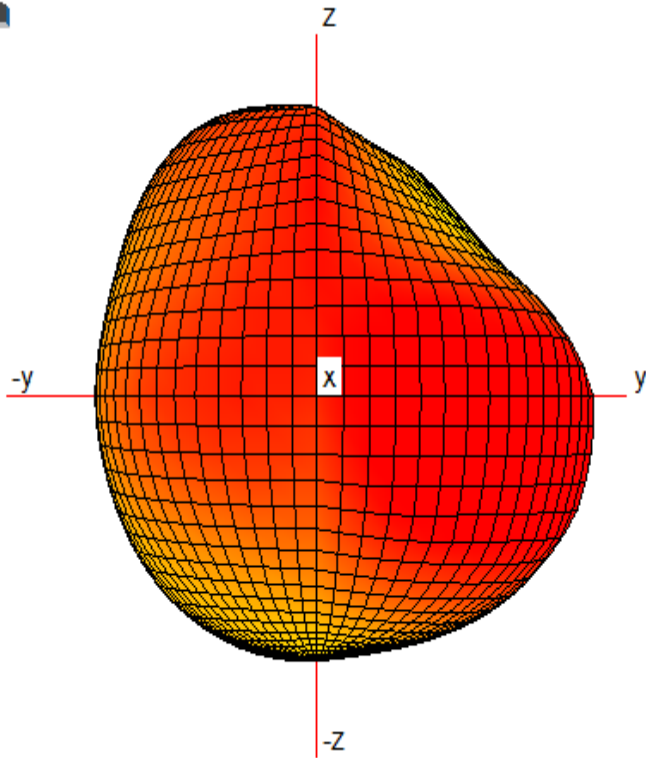


FREQ=890Mhz Phi=0

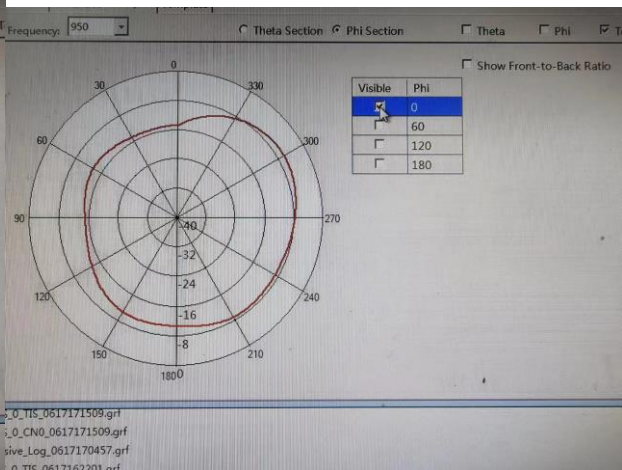


FREQ=890Mhz Theta=90

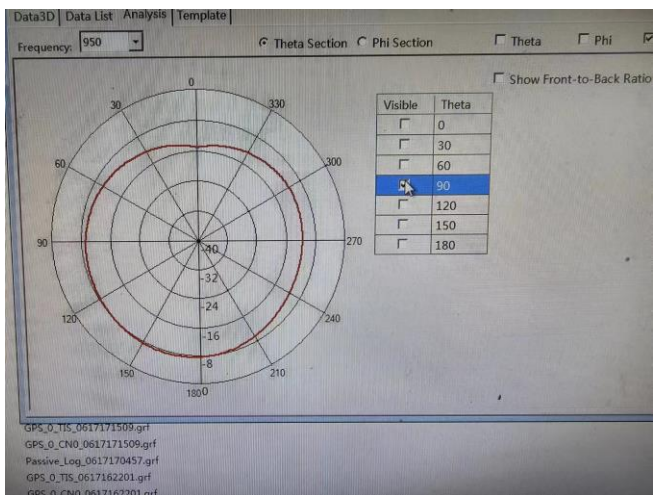
ANT0 antenna: L8



FREQ=950Mhz Phi=120

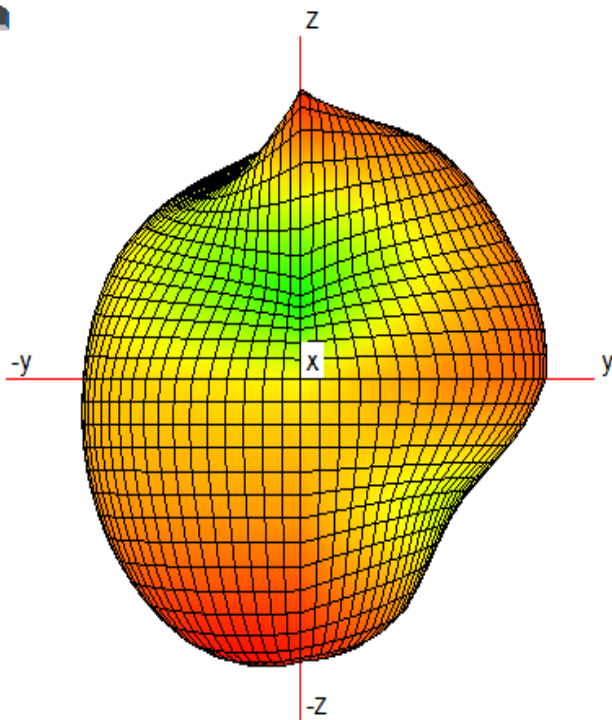


FREQ=950Mhz Phi=0

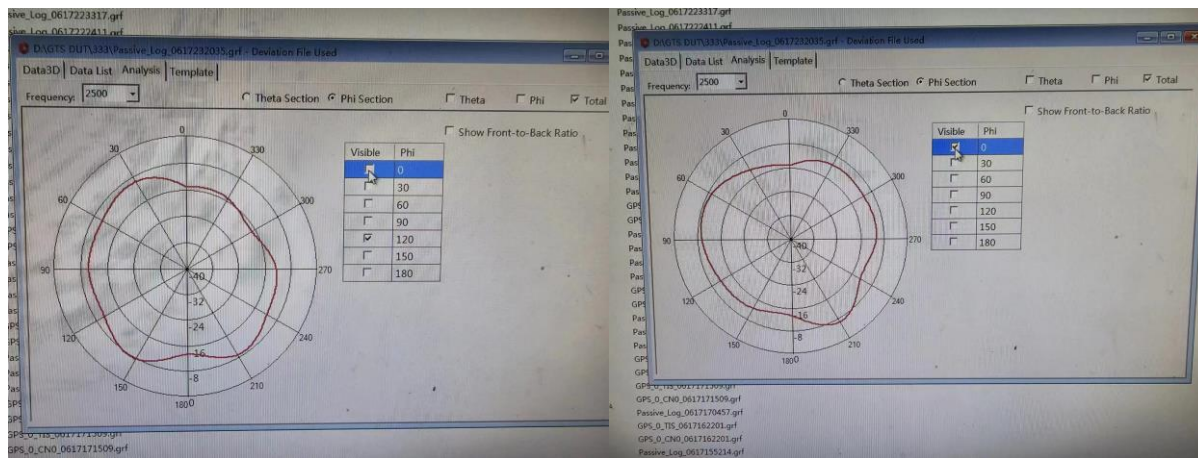


FREQ=950Mhz Theta=90

ANT0 antenna: L7/38/40/41

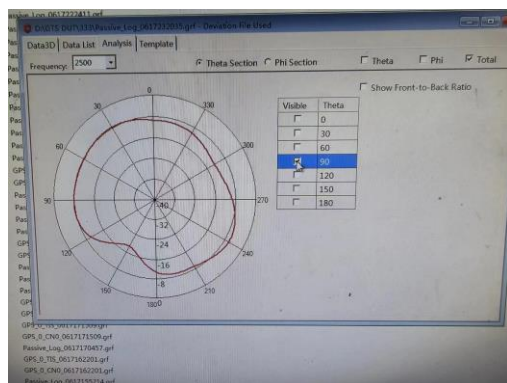


Radiation characteristics of antennae Loaded in Host Platform



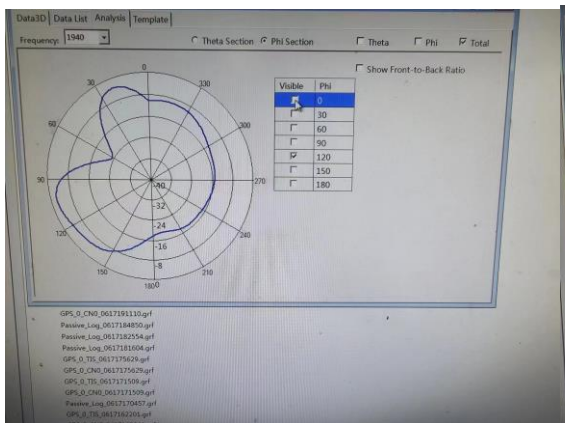
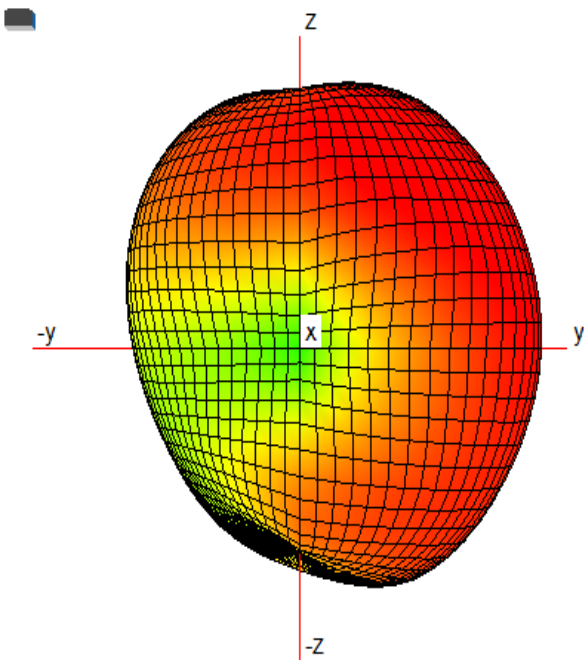
FREQ=2500Mhz Phi=120

FREQ=2500Mhz Phi=0

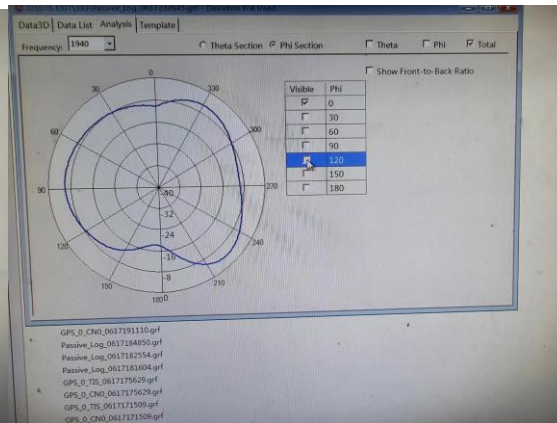


FREQ=2500Mhz Theta=90

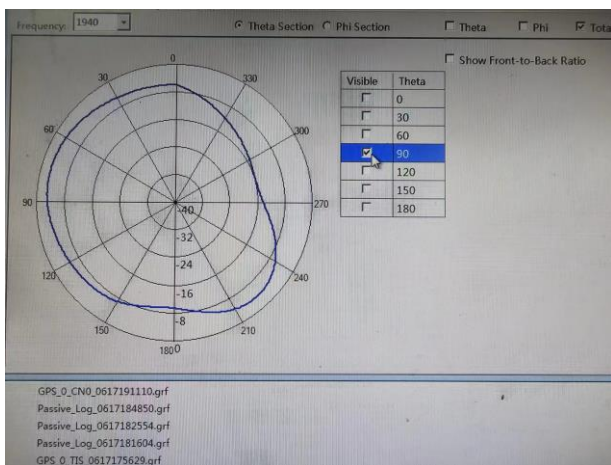
ANT1 antenna: L1/2/25



FREQ=1940Mhz Phi=120

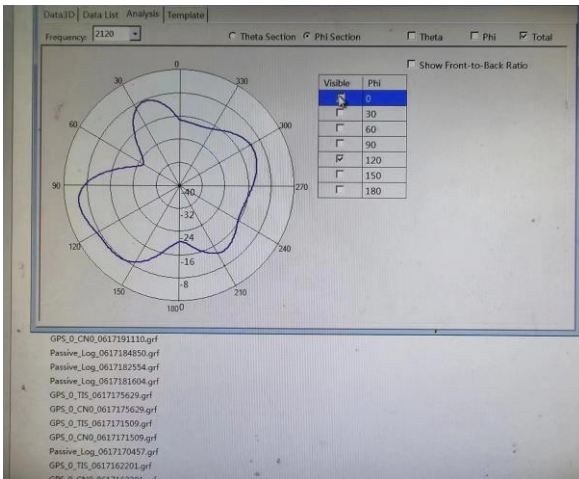
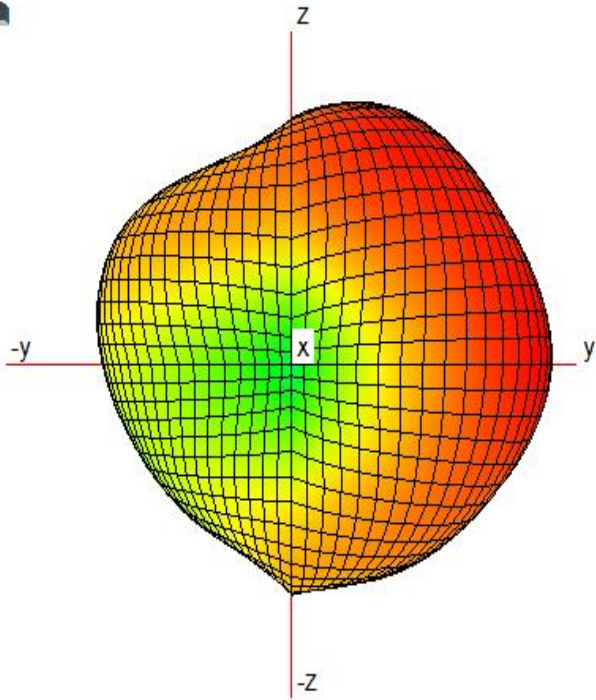


FREQ=1940Mhz Phi=0

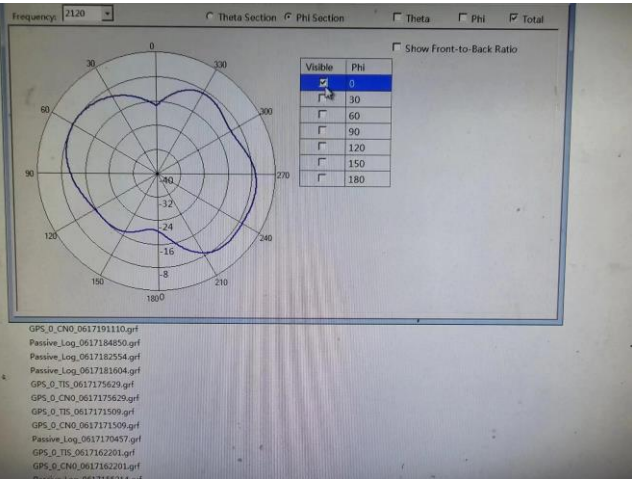


FREQ=1940Mhz Theta=90

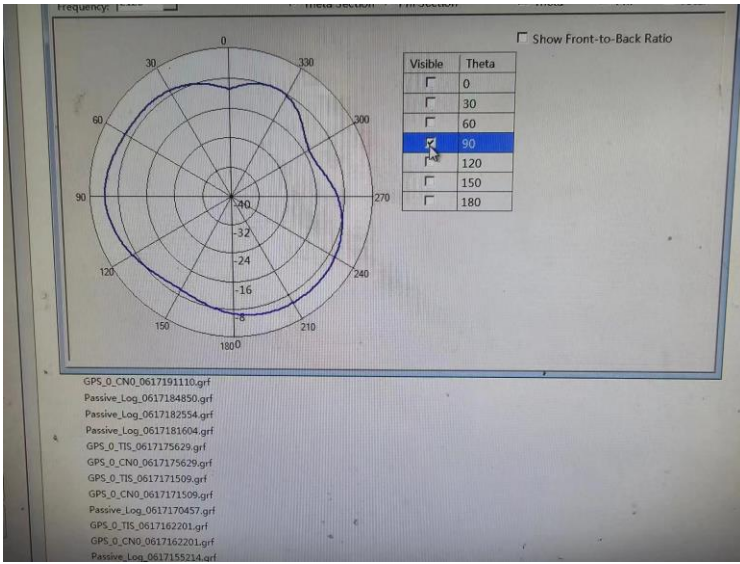
ANT1 antenna: L3/4/66



FREQ=2120Mhz Phi=120



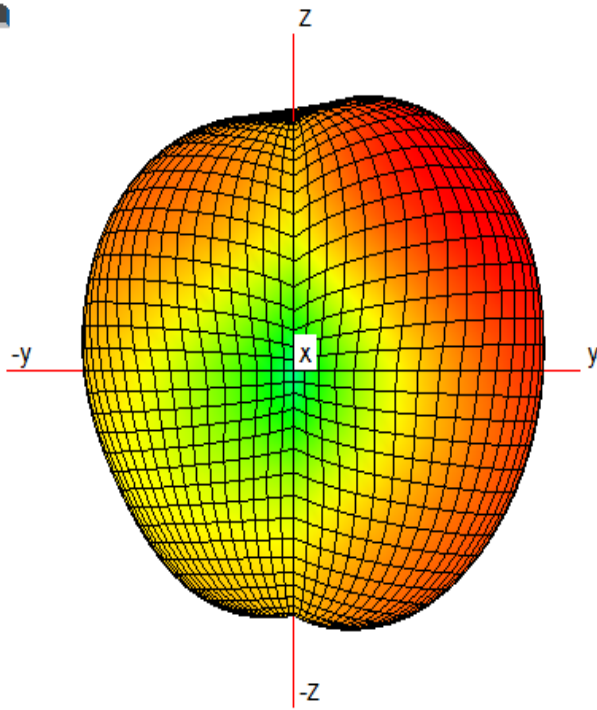
FREQ=2120Mhz Phi=0

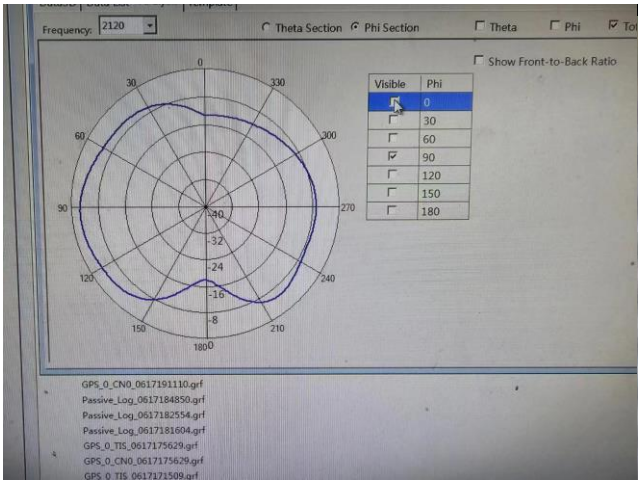


FREQ=2120Mhz Theta=90

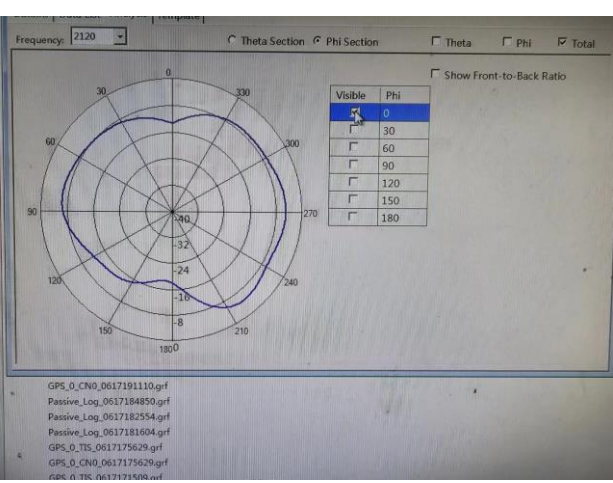
Radiation characteristics of antennae Loaded in Host Platform

ANT3 antenna: L1/2/25

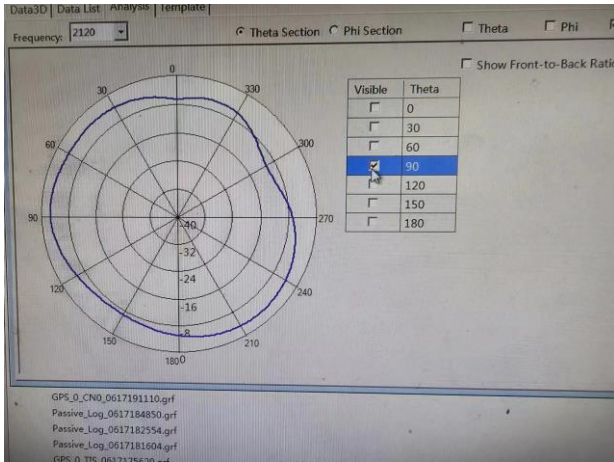




FREQ=2120Mhz Phi=120

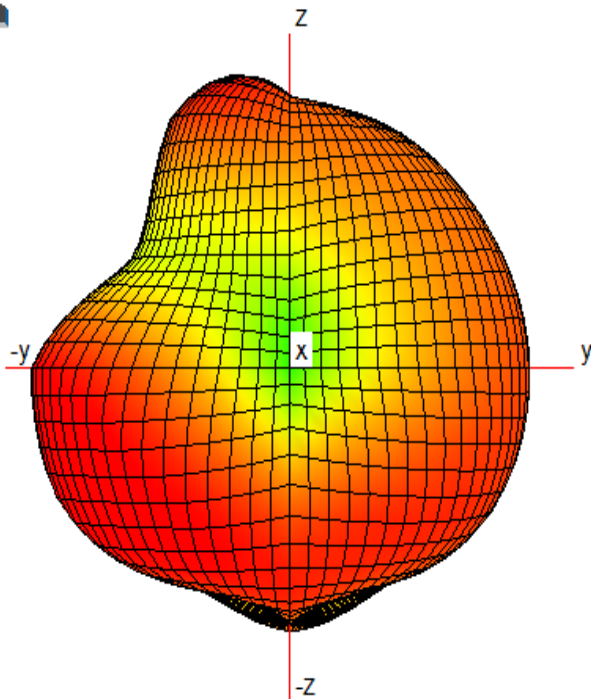


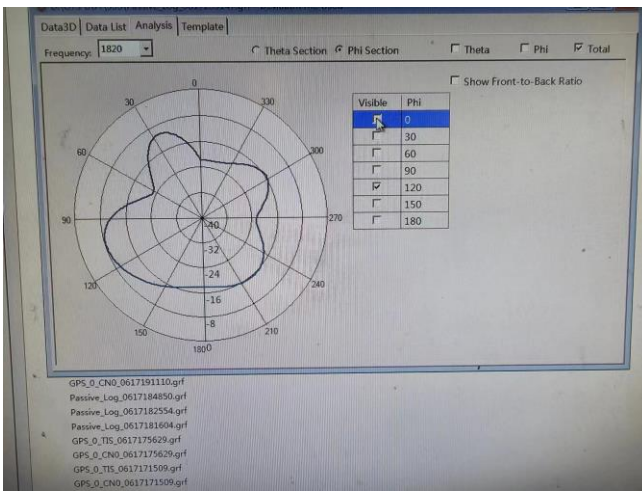
FREQ=2120Mhz Phi=0



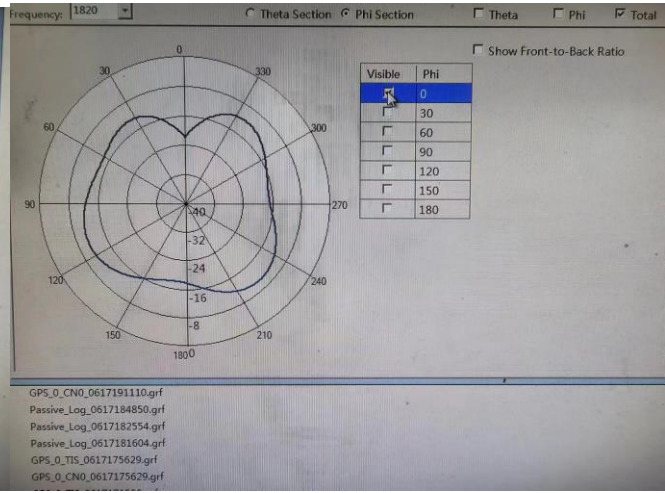
FREQ=2120Mhz Theta=90

ANT3 antenna: L3/4/66

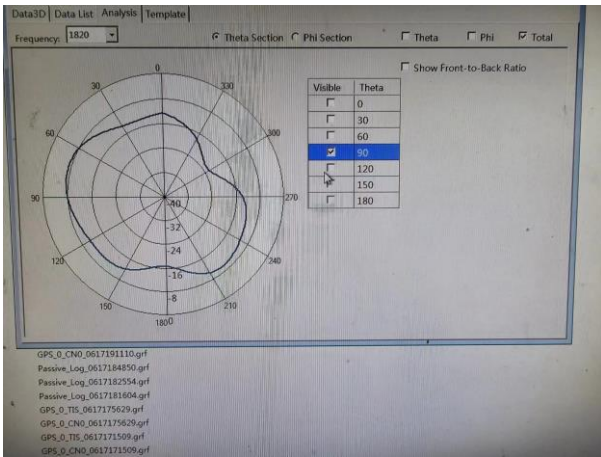




FREQ=1820Mhz Phi=120



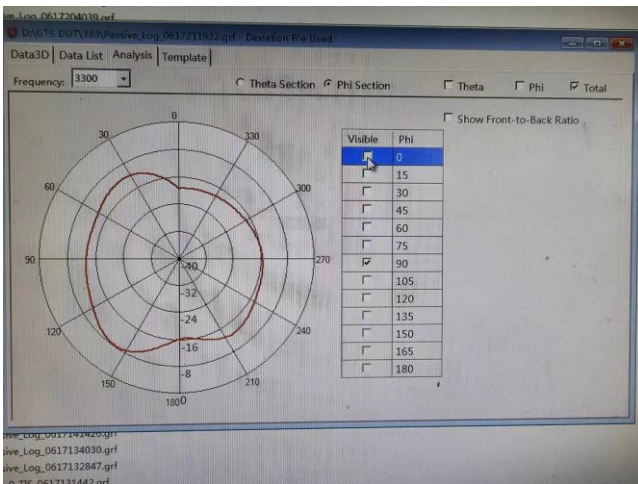
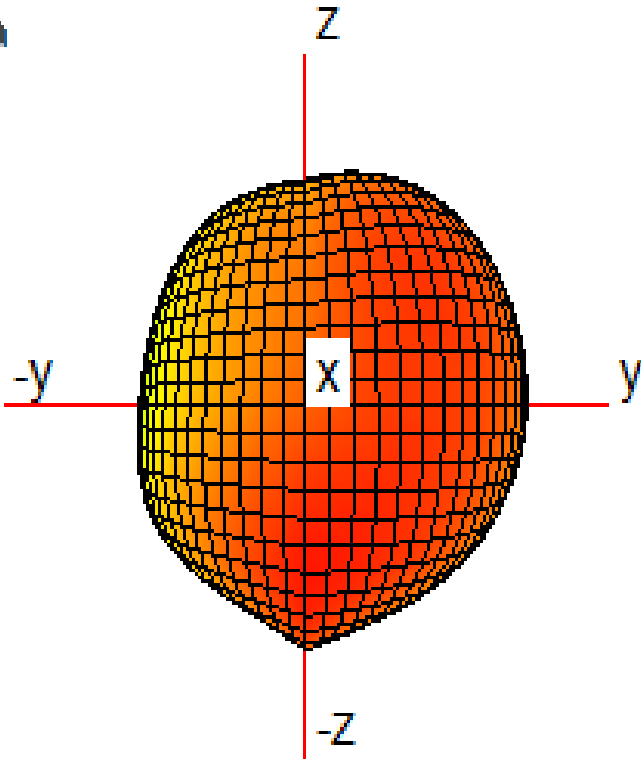
FREQ=1820Mhz Phi=0



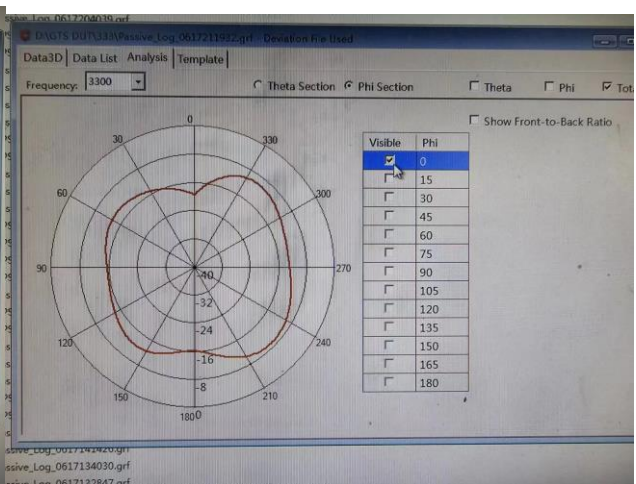
FREQ=1820Mhz Theta=90

Radiation characteristics of antennae Loaded in Host Platform

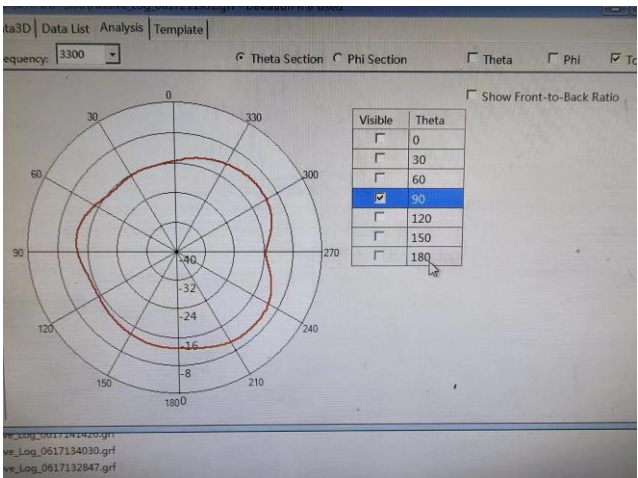
ANT6 antenna: n77/78



Freq=3300Mhz Phi=90



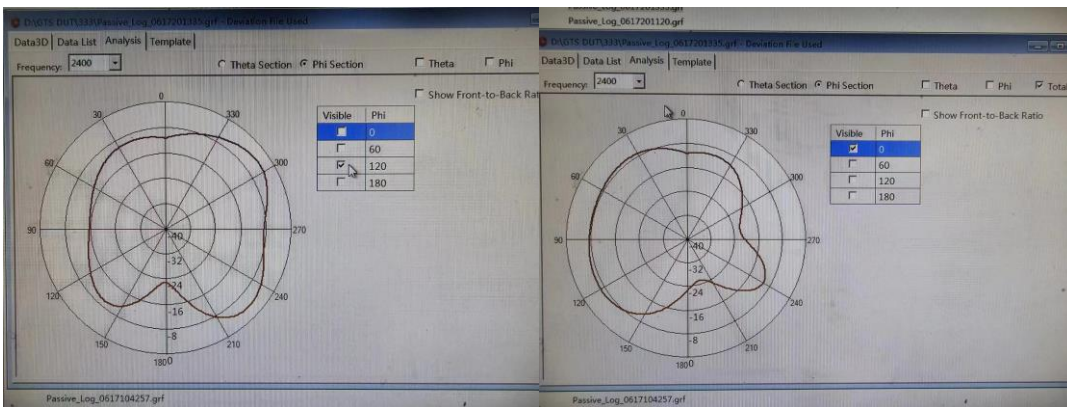
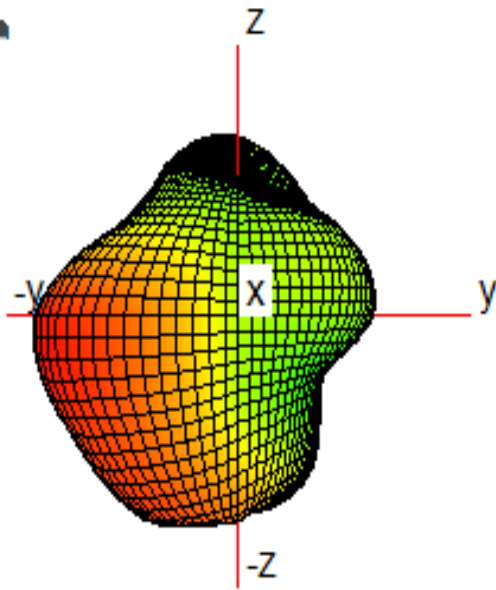
Freq=3300Mhz Phi=0



Freq=3300Mhz Thera=90

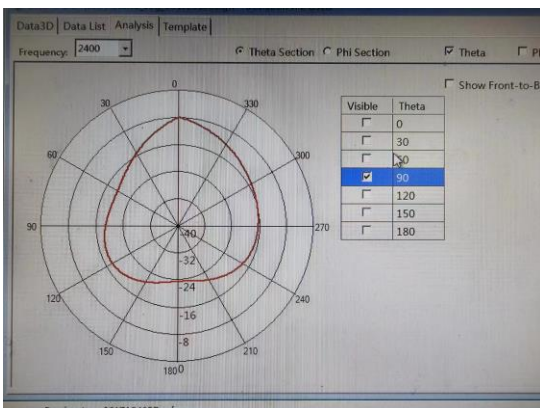
Radiation characteristics of antennae Loaded in Host Platform

Wifi 2.4G



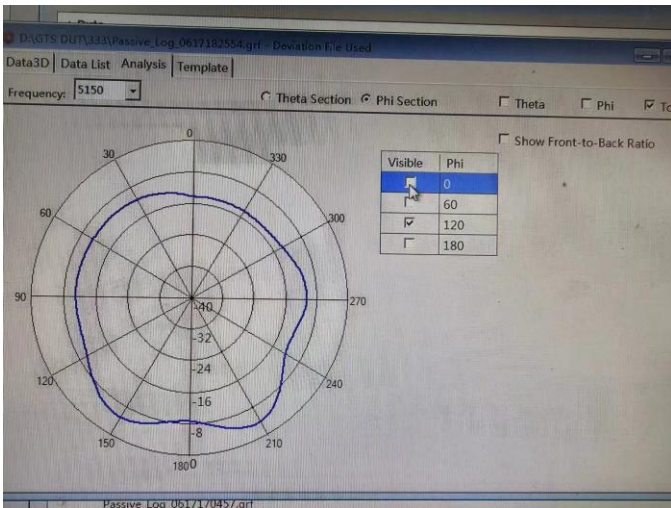
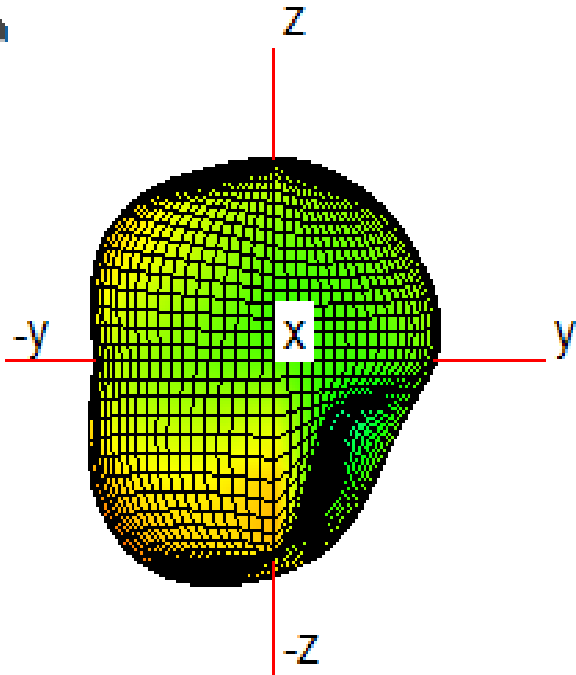
Freq=2400Mhz Phi=120

Freq=2400Mhz Phi=0

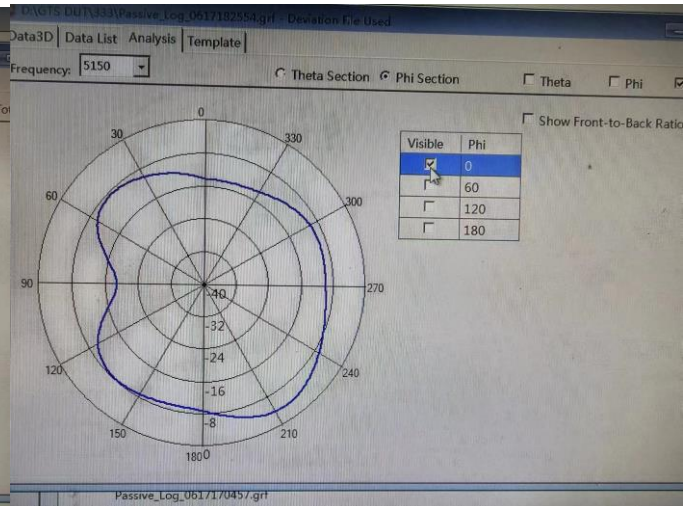


Freq=2400Mhz Thera=90

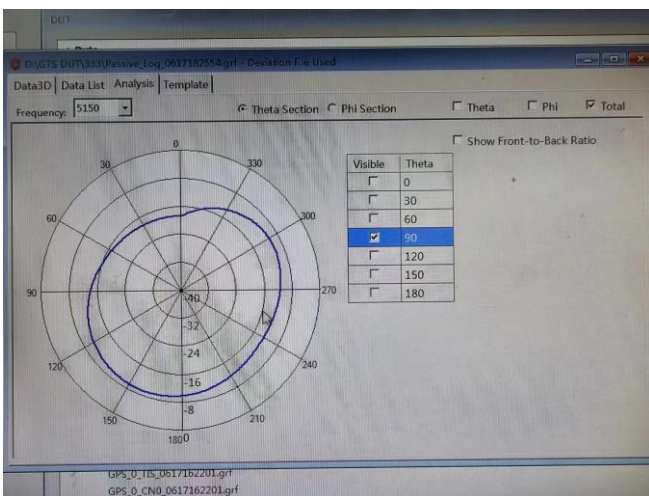
Wifi 5G



Freq=5150Mhz Phi=120

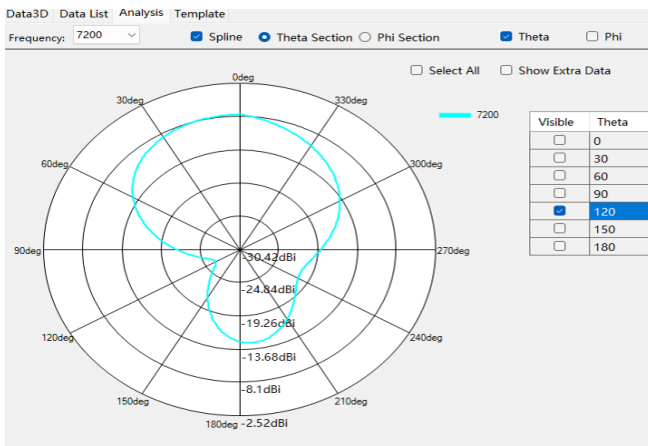
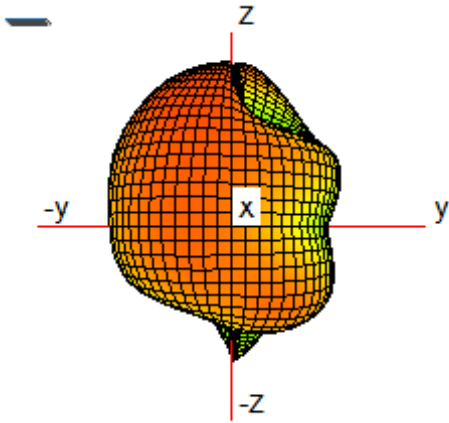


Freq=5150Mhz Phi=0

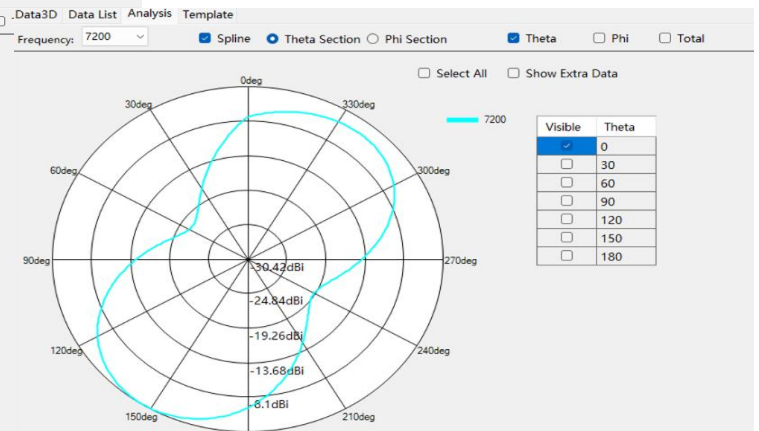


Freq=5150Mhz Thera=90

Wifi 6GHz

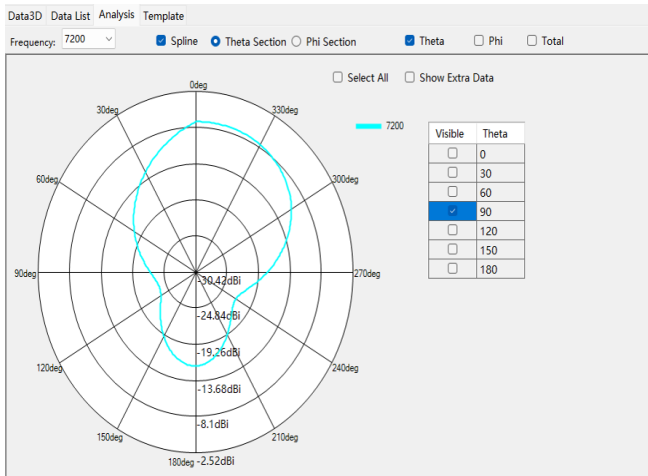


FREQ=7200Mhz Phi=120



FREQ=7200Mhz

Phi=0



FREQ7200

Phi=90

天线有源数据|Antenna TRP & TIS Data

频段	FS		BHHL		BHHR	
	TRP	TIS	TRP	TIS	TRP	TIS
GSM850	24.67	-104.05	16.55	-98.66	15.76	-97.96
	24.74	-103.48	17.25	-98.3	15.89	-98.17
	24.67	-102.24	17.72	-97.72	16.08	-97.81
900	24.6	-103.77	18.41	-100.32	16.58	-99.42
	24.76	-105.08	17.78	-102.36	16.96	-101.05
	25.15	-102.29	17.88	-101.03	17.91	-100.3
1800	25.15	-103.61	17.63	-98.54	16.53	-97.22
	24.77	-104.79	17	-99.7	16.98	-99.66
	24	-105.72	16.81	-99.7	16.81	-99.58
1900	25.52	-103.42	17.61	-98.82	16.71	-97.85
	24.84	-105.2	17.71	-100.63	16.95	-100.01
	23.67	-105.25	17.47	-99.53	17.1	-98.75
w1	17.31	-108.65	12.46	-103.64	11.86	-103.52
	17.42	-108.28	11.57	-102.86	11.93	-102.72
	17.64	-108.54	11.47	-103.69	11.65	-103.87
W2	19.07	-107.94	11.64	-102.73	11.82	-101.56
	18.65	-109.32	11.55	-104.03	11.3	-102.87
	17.51	-108.42	12.19	-103.59	11.51	-102.2
W4	18.95	-106.94	11.68	-101.87	12.21	-100.97
	18.43	-107.42	11.59	-102.69	11.43	-102.41
	17.07	-107.76	11.74	-102.72	11.46	-102.76
W5	16.34	-106.31	9.96	-101.36	8.79	-101.33
	15.97	-106	9.45	-101.4	8.66	-101.14
	16.07	-106.49	9.68	-101.19	8.94	-101.05
W8	16.18	-107.77	9.48	-102.9	8.41	-102.79
	16.17	-107.4	8.98	-104.13	9.13	-103.76
	15.85	-106.42	9.11	-103.34	9.88	-102.86

频段	FS		BHHL		BHHR	
	TRP	TIS	TRP	TIS	TRP	TIS
B1	17.36	-98.08	13.58	-91.79	12.79	-90.74
	17.4	-97.44	13.3	-92.1	12.74	-90.15
	17.63	-97.05	12.72	-92.74	12.29	-91.98
B2	18.29	-96.71	12.18	-91	11.55	-88.92
	17.99	-98.1	12.8	-92.18	11.58	-89.5
	17.38	-96.66	12.66	-91.76	11.53	-91.23
B3	18.55	-96.73	12.18	-91.04	11.53	-89.99
	18.19	-97.1	12.8	-91.5	11.47	-90.76
	17.41	-97.12	12.66	-91.76	11.51	-91.31
B4	18.86	-97.12	12.2	-91.87	11.59	-90.36
	18.78	-96.74	11.26	-91.92	11.48	-90.86
	18.42	-96.68	11.37	-92.74	11.76	-91.92
B25/10M	17.76	-96.21	11.68	-91.45	11.72	-90.1
	17.5	-96.33	12.71	-92	11.37	-90.11
	17.25	-96.82	13.74	-89.27	11.31	-89.26
B66	18.99	-96.79	12.2	-92.01	11.71	-90.23
	18.72	-96.53	11.73	-91.7	11.46	-90.59
	17.49	-96.74	11.9	-92.82	11.51	-91.99
B5	15.96	-92.36	10.22	-86.95	11.44	-85.16
	15.68	-92.84	10.25	-87.69	10.67	-87.84
	15.67	-92.83	10.34	-87.35	11.55	-87.18
B7	18.4	-96.65	11.91	-91.92	14.19	-92.06
	18.24	-96.96	11.25	-91.84	14.04	-92.13
	17.71	-95.71	11.64	-90.92	13.71	-90.9
B8	15.79	-92.57	10.07	-86.82	11.21	-85.66
	15.82	-92.9	10.16	-86.59	10.31	-86.37
	15.52	-92.69	9.78	-87.42	10.1	-88.12
B12 (5M)	15.05	-91.31	10.07	-85.03	9.44	-85.92
	15.85	-91.69	10.31	-85.17	9.81	-86.04
	15	-92.7	10.28	-86.01	9.89	-86.71
B13	16.49	-91.68	10.7	-85.92	11.33	-86.03
B17	15.87	-92.61	11.31	-86.98	10.82	-87.25
	16.02	-92.65	11.36	-86.82	10.92	-87.38
	16.05	-92.32	11.27	-84.21	10.85	-84.1
B20	16.04	-92.76	10.51	-89.82	10.8	-87.66
	15.86	-92.89	10.62	-88.94	11.13	-88.12
	15.58	-93.64	9.97	-88	10.68	-87.73
B71	14.69	-92.17	9.97	-85.57	9.3	-85.65
	15.86	-93	10.5	-86.1	10.07	-85.58
	16.76	-92.8	11.08	-87.62	10.72	-86.52
b38	17.57	-95.09	12.36	-90.8	13.47	-90.44
	17.29	-94.92	12.1	-91.77	13.22	-90.56
	17.29	-94.75	15.13	-89.89	13.27	-90.18
b40	16.53	-93.74	12.47	-88.52	12.16	-89.95
	17.02	-93.62	12.85	-87.84	12.83	-89.79
	16.9	-94.21	12.38	-90.15	12.47	-89.55
b41	19.69	-94.17	12.26	-89.43	15.46	-89.39
	19.27	-94	11.82	-90.44	15.24	-90.52
	18.57	-94.25	11.95	-87.94	14.15	-88.3

Band	FS		BHHL		BHHR	
	TRP	TIS	TRP	TIS	TRP	TIS
N1 10M	17.62	-98.6	13.33	-93.93	12.47	-94.39
	17.76	-98.2	13.42	-93.45	12.51	-94.11
	17.99	-97.17	13.09	-92.81	12.63	-93.55
N2 10M	18.74	-97.55	<u>12.32</u>	-91.83	12.66	-91.84
	18.31	-99.19	12.69	-92.95	12.94	-93.68
	17.65	-96.08	13.22	-92.17	12.34	-92.12
N3 10M	18.88	-97.59	13.03	-91.53	12.43	-91.59
	18.61	-98.97	12.21	-92.88	12.89	-93.61
	17.3	-96.74	12.83	-92.59	12.53	-93.07
N5 10M	16.63	-95.54	9.98	-90.69	8.35	-90.21
	16.47	-95.23	9.6	-90.53	8.55	-90.32
	16.43	-92.65	9.27	-90.02	8.63	-89.94
N7 10M	18.3	-97.78	13.04	-93.45	12.41	-93.15
	18.27	-98.13	13.13	-93.85	12.4	-93.65
	17.84	-96.23	12.92	-92.12	12.58	-92.73
N8 10M	16.2	-94.22	9.62	-90.29	9.26	-90.04
	16.37	-94.82	9.16	-90.36	9.23	-89.95
	16.62	-92.87	9.01	-89.34	9.9	-88.91
N20 10M	15.88	-95.84	9.8	-90.23	9.21	-89.05
	15.62	-96.49	9.43	-90.48	9.09	-89.48
	15.63	-93.75	8.57	-90.64	9.52	-89.22
N28 10M	16.31	-92.77	8.73	-88.1	8.59	-87.55
	16.52	-92.62	8.94	-88.15	8.34	-87.75
	16.39	-92.51	9.06	-89.52	8.01	-88.35
N38 20M	17.39	-92.77	13.49	-88.1	11.42	-87.55
	17.15	-92.62	13.61	-88.15	11.84	-87.75
	17.09	-91.31	13.33	-87	11.43	-87.69
N40 20M	17.09	-91.84	13.86	-87.92	13.54	-87.63
	17.78	-91.25	13.35	-86.98	13.07	-86.91
	17.33	-91.58	14.36	-88.11	13.16	-87.4
N41 100M	20.43	-83.42	15.68	-79.18	15.93	-78.78
	19.48	-84.44	15.4	-79.93	14.75	-79.39
	19.14	-86.01	15.13	-80.37	14.33	-79.39
N66 10M	17.17	-98.23	13.2	-94.54	11.81	-94.63
	17.28	-98.2	12.92	-94.08	11.58	-94.24
	17.58	-97.77	12.54	-93.69	11.93	-93.7
N71 10M	14.56	-92.97	8.44	-88.01	6.69	-87.08
	15.37	-94.04	8.55	-88.89	6.7	-87.82
	16.16	-94.32	8.58	-88.74	7.47	-87.53
N77 100M	17.85	-83.71	13.38	-79.66	12.57	-80.10
	18.56	-83.64	14.07	-80.78	13.86	-81.37
	17.26	-85.00	15.55	-80.06	15.76	-80.71
N78 100M	17.91	-84.29	15.65	-79.61	15.96	-80.03
	18.96	-85.62	17.01	-80.87	17.66	-81.37
	18.71	-85.48	17.05	-80.57	16.91	-81.13

WIFI	CH	FS		BHHR		BHHL	
		TRP	TIS	TRP	TIS	TRP	TIS
11B	1	13.83	-83.95	10.14	-78.71	10.18	-78.39
	6	12.96	-83.67	9.44	-80.4	9.61	-80.38
	11	12.8	-83.6	9.36	-79.57	9.38	-79.88
11G	1	12.59	-70.28	7.87	-66.51	6.72	-64.42
	6	12.44	-70.16	8.23	-65.58	6.7	-63.73
	11	11.72	-70.19	7.42	-65.98	5.82	-64.58
11N	1	10.72	-67.28	6.05	-62.49	5.55	-62.36
	6	10.85	-67.17	6.38	-62.01	5.94	-62.24
	11	9.95	-67.16	5.82	-62.49	5.75	-62.07
11A	36	10.02	-85.62	8.77	-84.96	9.56	-84.88
	64	11.74	-86.22	9.83	-86.12	9.62	-86.18
	165	9.98	-86.42	9.93	-85.13	10.21	-85.62
5G 11ac 20M	36	10.02	-57.58	6.1	-56.48	7.52	-55.34
	56	7.11	-57.86	7.08	-56.53	8.1	-56.77
	165	9.46	-57.95	7.9	-56.45	9.46	-56.47