

800MHz to 18GHz Double Ridged Broadband Waveguide Horn Antenna



**Applications:**

- 800 MHz to 18GHz
- 6061 Aluminum metal alloy
- Stainless Steel N-female
- Taiwan Design, Made in Taiwan

**Features:**

- High Power 500W (Peak) 300W (C.W)
- DC Short lighting protection
- Low VSWR
- Uniform Gain
- Consolidated performance data base

Model: HA-08M18G-NF

LxWxH: 203x246x147mm

Connector: N-Female

Styling: Horn

Gain: 3dbi-18 dBi

-3db Beamwidth: Hor.37 deg - Ver. 48 deg

N.W.: 1.3 KG

Frequency: 800MHz - 18GHz

Polarization: Vertical or Horizontal

Max Power: 500W (peak)

**Electrical Specifications**

Frequency Range	800MHz - 18000MHz
V.S.W. R	2.0 :1 (avg)
Antenna Type	Horn
Radiation	Directional
Gain	3-18 dBi
Antenna Factor	23- 45 dB/m
Polarization	Vertical or Horizontal
Maximum Power	500 Watts
Vertical Beamwidth	48 Deg
Horizontal Beamwidth	37 Deg
Impedance	50 Ohm
FBR	10-34 dB
Antenna Design	Double-Ridged
Connector	N-Female

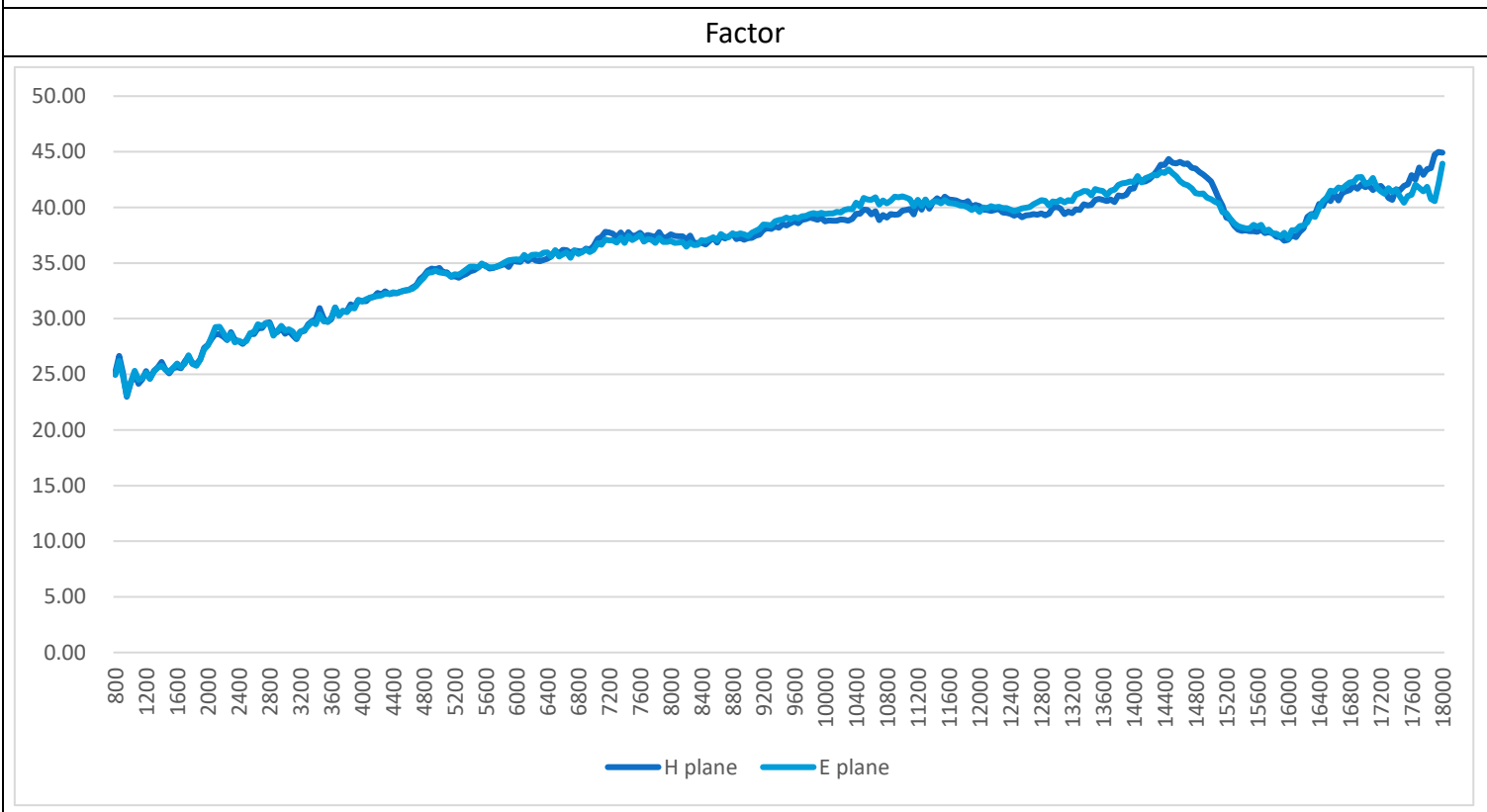
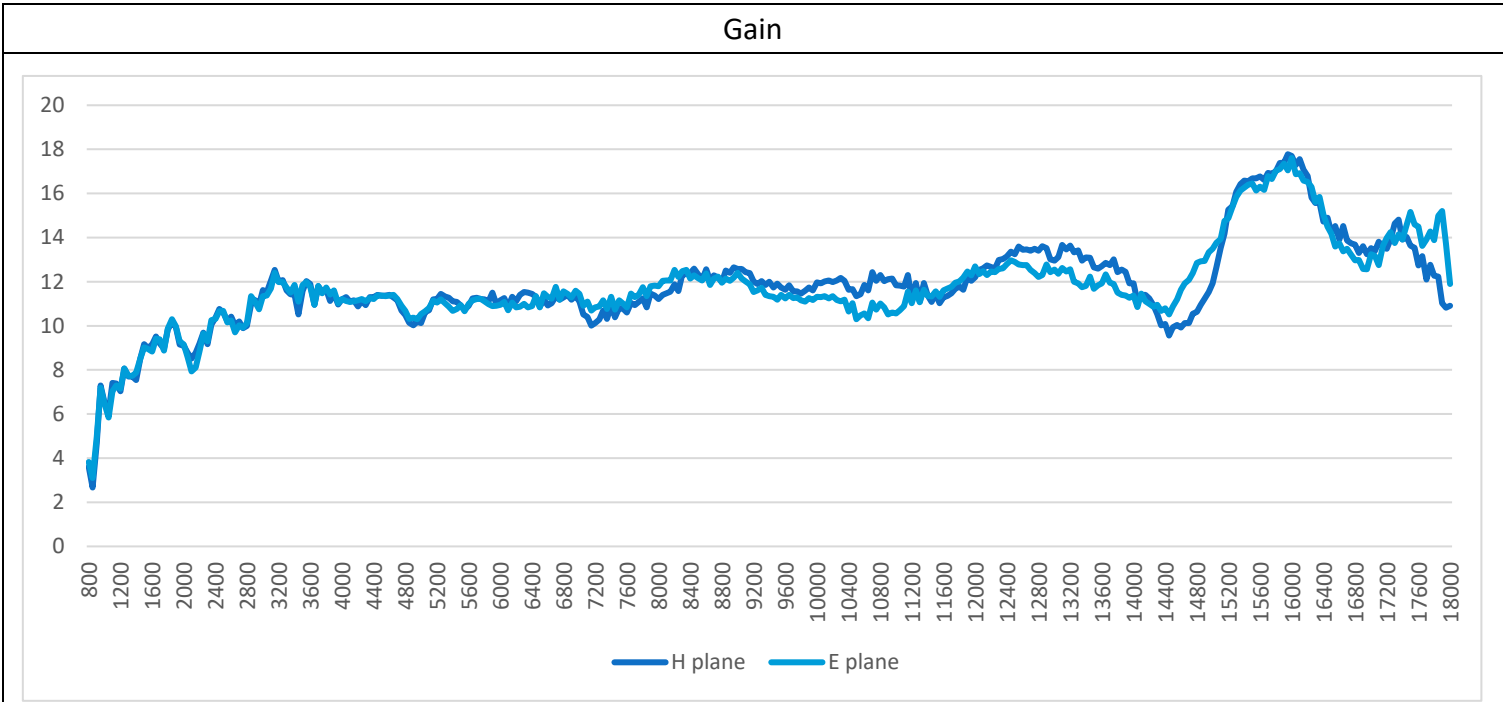
**Mechanical Specifications**

Dimension	203x246x147 mm
Antenna Weight (G.W)	1300 g
Accessories	1 x L Type Aluminum bracket 1 x M8 socket head cap screws 8 x M5 socket head cap screws
Application	Indoor
Parts Material	Aluminum
L Mount Style	M6 or 1/4 in
Mount Style	22mm / Long 150mm
Indexing Ring Mounting	22mm Tube
Storage Temperature	-20 to +80
Operating Temperature	-10 to +60
Operating Humidity	10%~70% non-condensing
Storage Humidity	5%~50% non-condensing
Safety, Emission and other	RoHS, WEEE, CE, FCC



1MHz to 70GHz Antenna R&D. Manufacturing. OEM. ODM  
Meet Various International Standards  
High-Quality Made in Taiwan Antenna Products

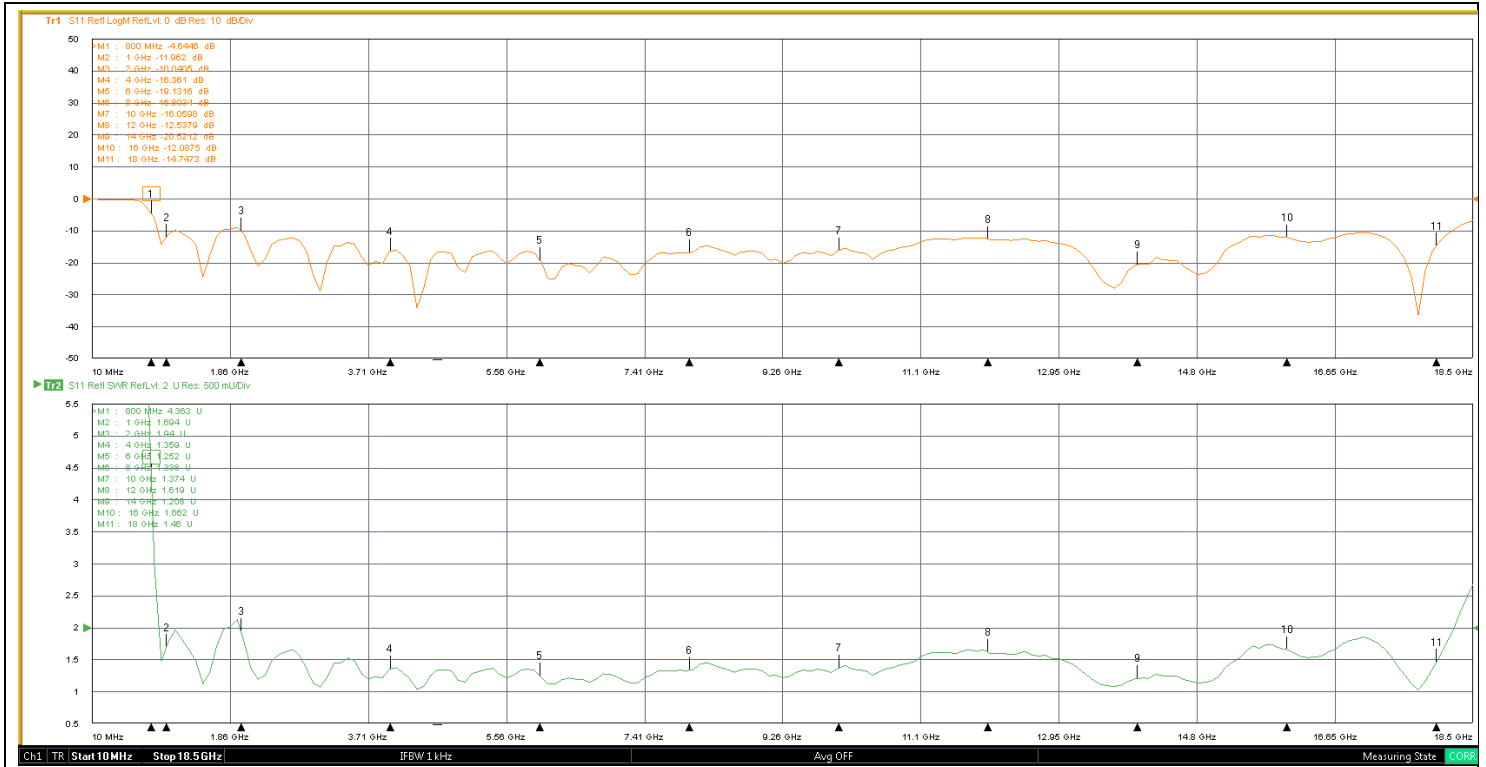
## Antenna Gain



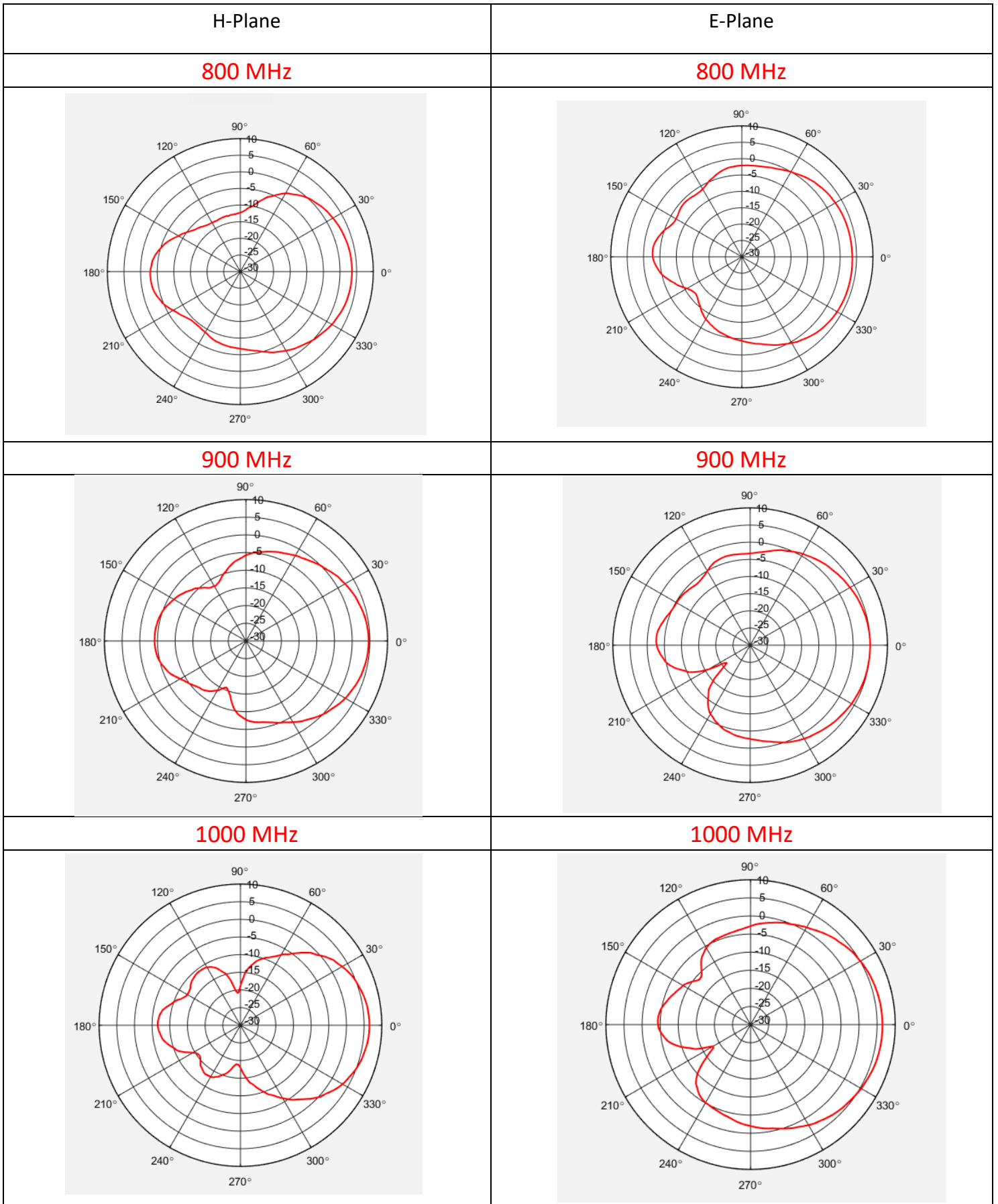
## Antenna VSWR and Return loss

Test Equipment	Anritsu MS4644A 10Mhz-40Ghz
Test Equipment Cable	Agilent 60cm SMA Female to SMA Female
RF connector Adapter	Agilent SMA-Female to N-Male DC~18GHz
Correction	85052D-DC-26.5GHz
Test Model	HA-08M18G-NF
Test Port	S11

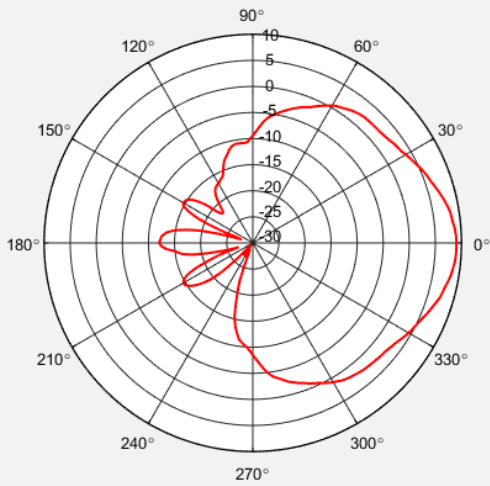
### Return Loss & VSWR



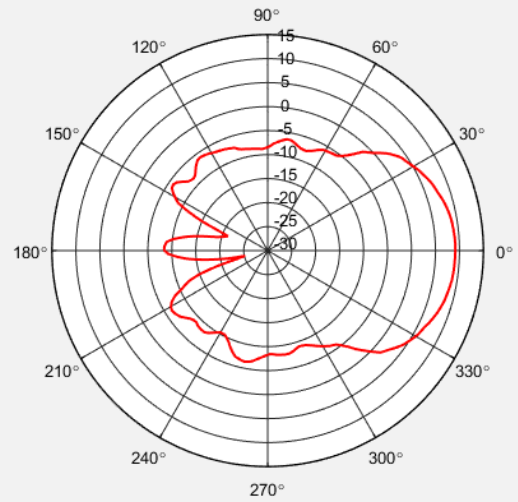
Antenna Pattern



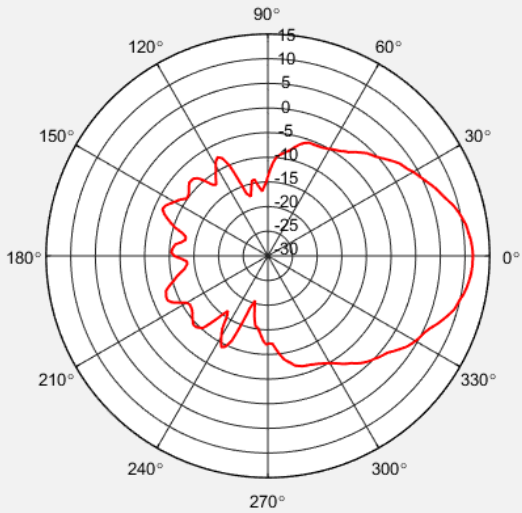
2000 MHz



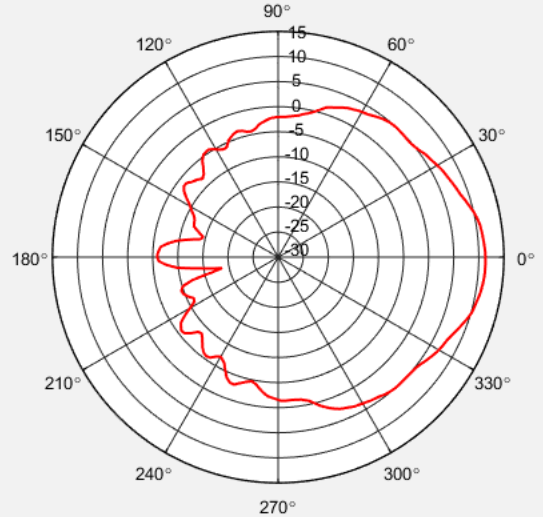
2000 MHz



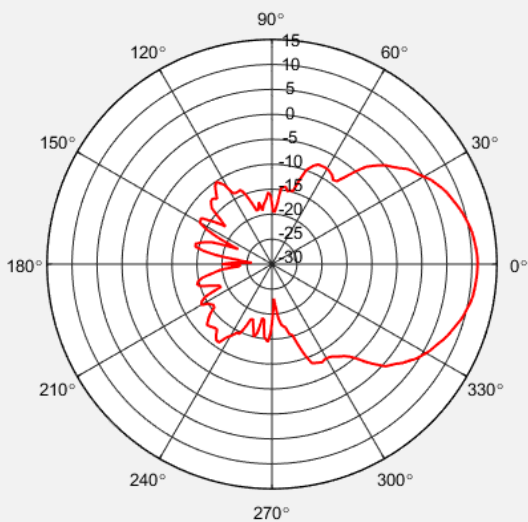
3000 MHz



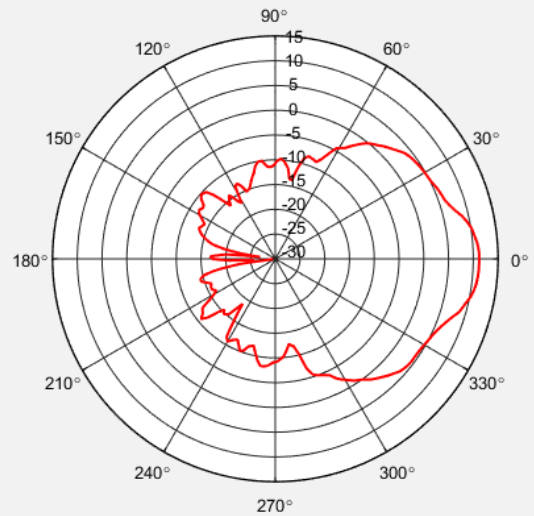
3000 MHz



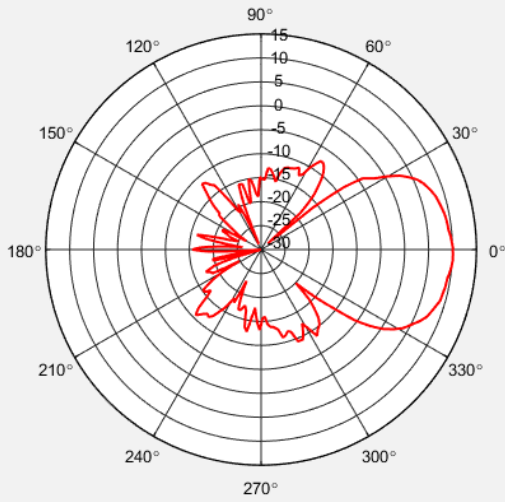
4000 MHz



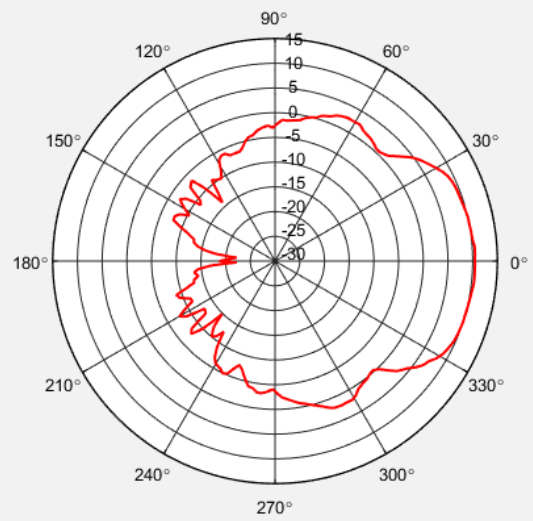
4000 MHz



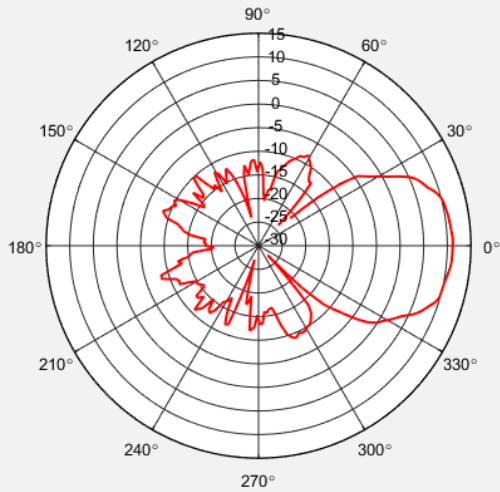
5000 MHz



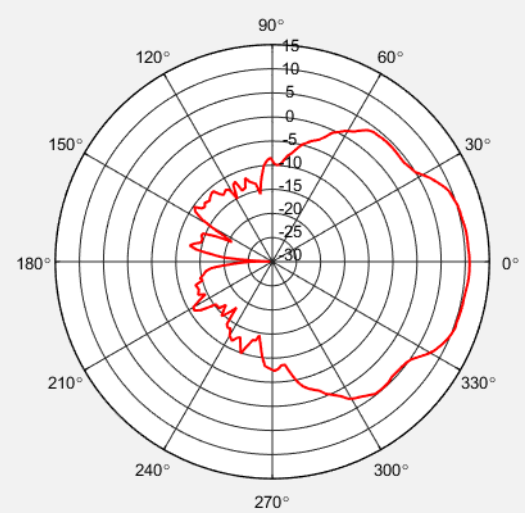
5000 MHz



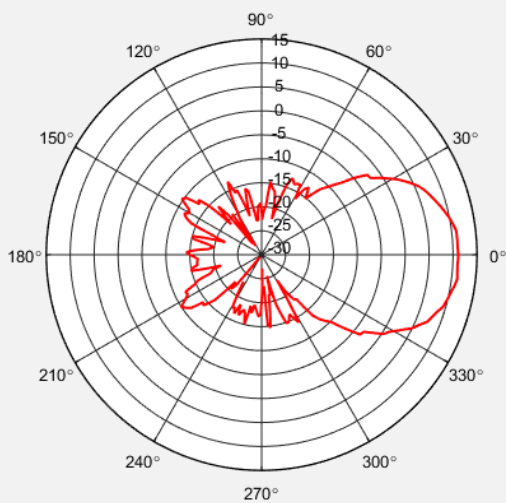
6000 MHz



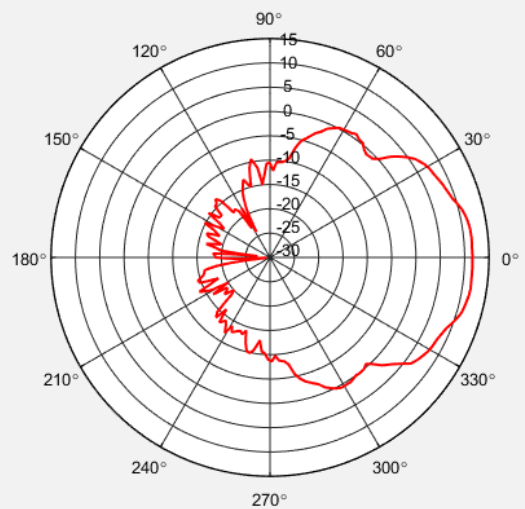
6000 MHz



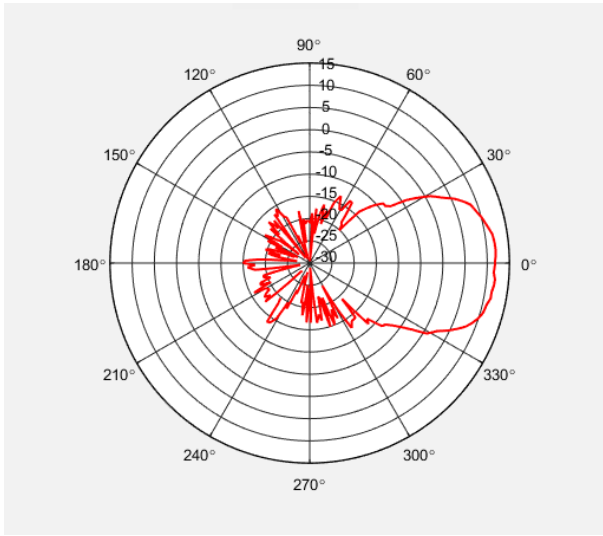
8000MHz



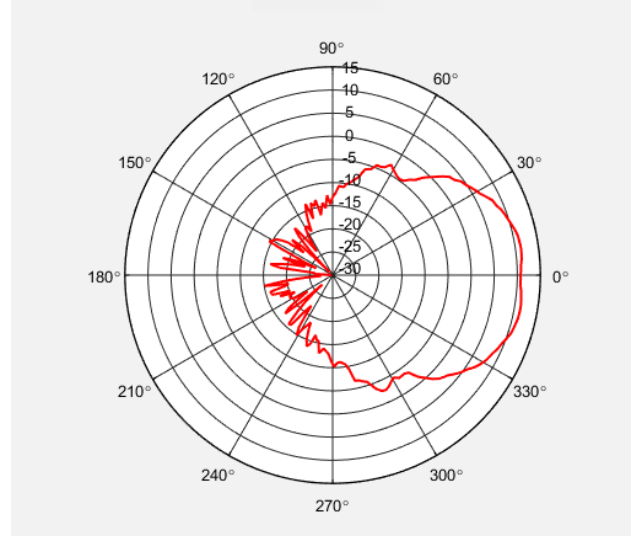
8000MHz



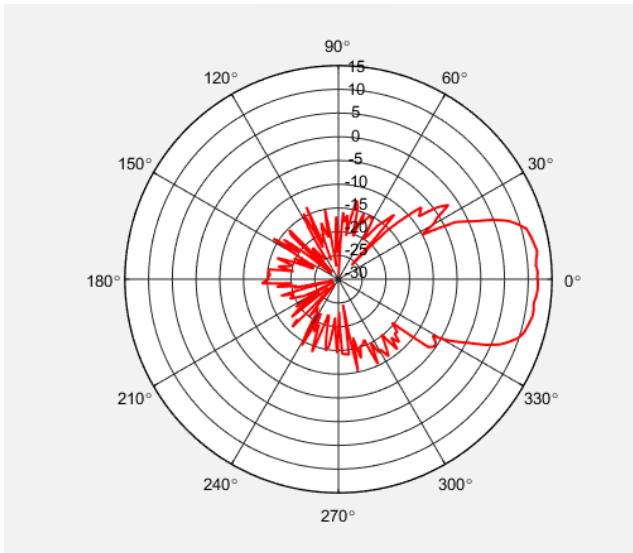
10000 MHz



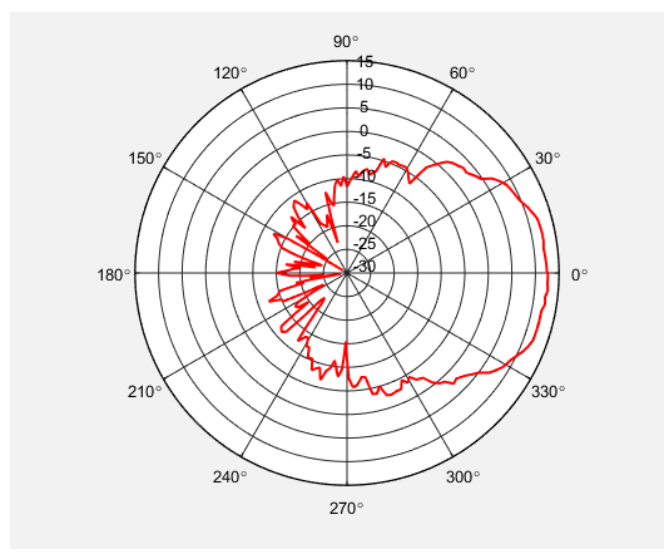
10000 MHz



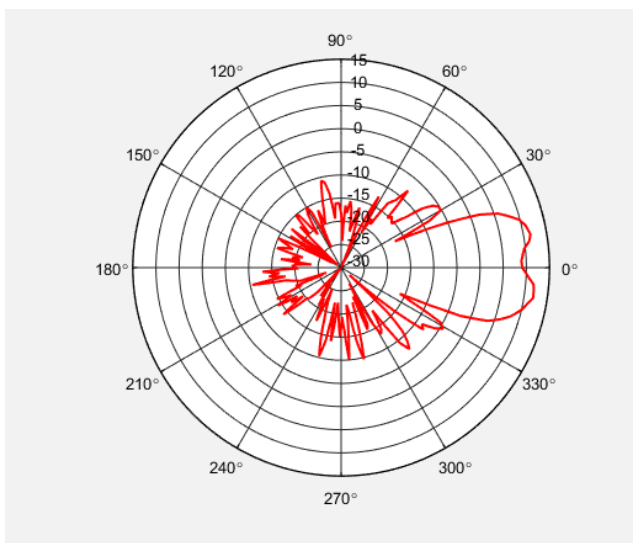
12000 MHz



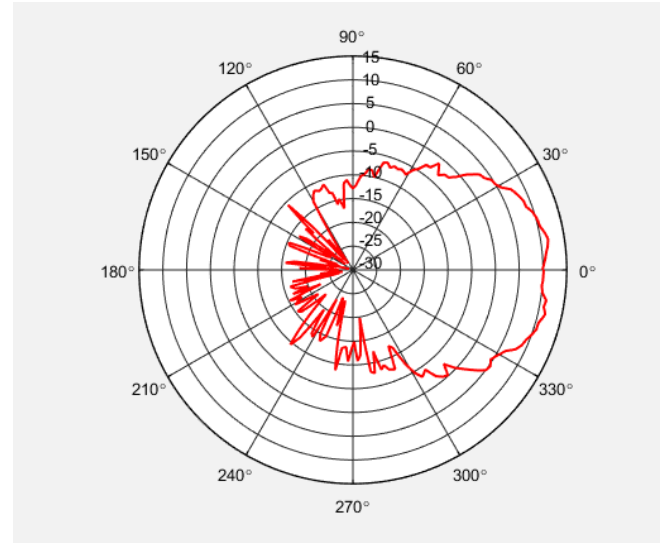
12000 MHz



14000MHz

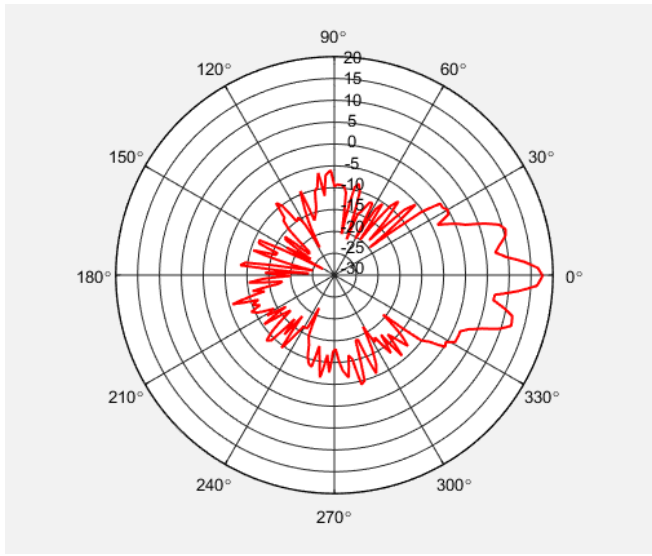


14000MHz

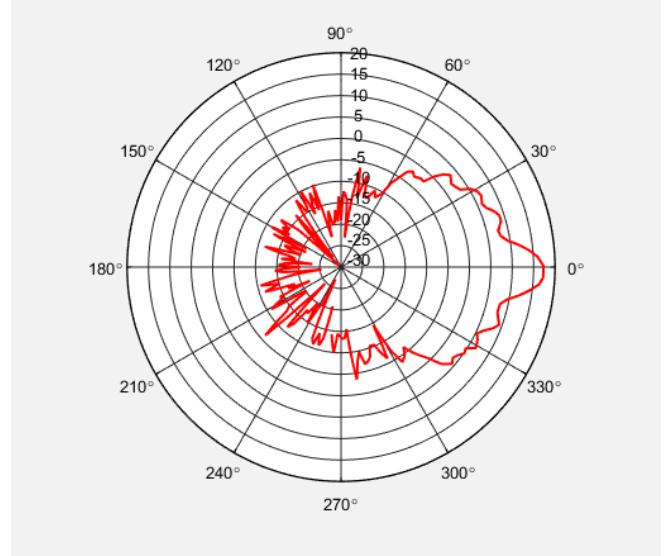




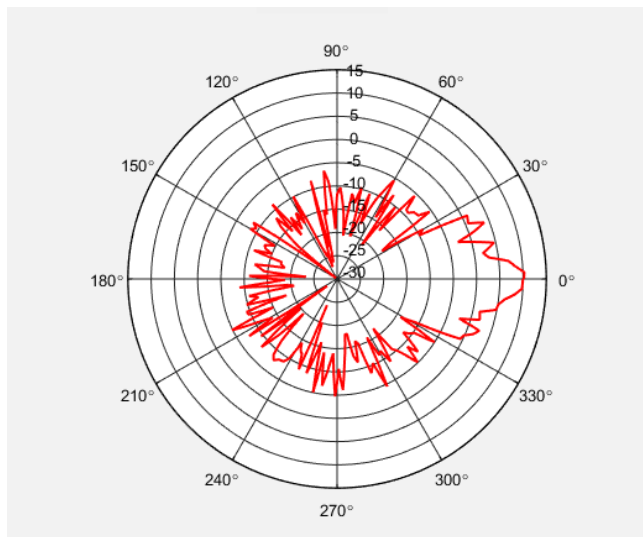
16000 MHz



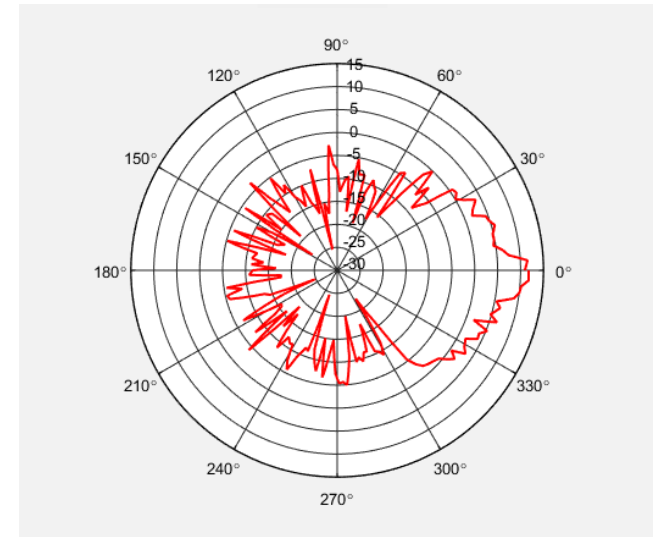
16000 MHz



18000 MHz



18000 MHz



## Antenna Gain

	H plane	E plane	H plane	E plane
Freq (MHz)	Gain (3M)	Gain (3M)	Factor (3M)	Factor (3M)
800	3.61	3.83	25.18	24.96
850	2.67	3.1	26.64	26.21
900	4.68	4.97	25.13	24.84
950	7.29	7.19	22.99	23.09
1000	6.52	6.48	24.20	24.24
1050	6.08	5.84	25.07	25.31
1100	7.41	7.03	24.14	24.52
1150	7.39	7.29	24.55	24.65
1200	7.03	7.15	25.28	25.16
1250	8.06	8.06	24.60	24.60
1300	7.7	7.73	25.30	25.27
1350	7.7	7.73	25.63	25.60
1400	7.54	7.88	26.11	25.77
1450	8.51	8.52	25.44	25.43
1500	9.17	9.02	25.08	25.23
1550	8.99	8.95	25.54	25.58
1600	9.16	8.83	25.65	25.98
1650	9.52	9.42	25.55	25.65
1700	9.2	9.38	26.13	25.95
1750	8.97	8.88	26.61	26.70
1800	9.84	9.88	25.99	25.95
1850	10.15	10.3	25.92	25.77
1900	9.95	9.98	26.35	26.32
1950	9.15	9.3	27.37	27.22
2000	9.09	9.15	27.65	27.59
2050	8.78	8.57	28.18	28.39
2100	8.51	7.93	28.66	29.24
2150	8.77	8.11	28.60	29.26
2200	9.19	8.85	28.38	28.72
2250	9.69	9.64	28.08	28.13
2300	9.17	9.3	28.79	28.66
2350	10.05	10.26	28.09	27.88
2400	10.37	10.31	27.96	28.02
2450	10.77	10.67	27.74	27.84

2500	10.6	10.68	28.08	28.00
2550	10.21	10.15	28.64	28.70
2600	10.41	10.24	28.61	28.78
2650	10.02	9.7	29.17	29.49
2700	10.2	10.02	29.15	29.33
2750	9.9	9.92	29.61	29.59
2800	10	10.11	29.67	29.56
2850	10.97	11.35	28.85	28.47
2900	11.17	11.1	28.80	28.87
2950	10.95	10.75	29.17	29.37
3000	11.62	11.34	28.65	28.93
3050	11.52	11.38	28.89	29.03
3100	12.04	11.7	28.51	28.85
3150	12.54	12.41	28.15	28.28
3200	12.01	11.99	28.82	28.84
3250	12.07	11.98	28.89	28.98
3300	11.6	11.74	29.49	29.35
3350	11.43	11.51	29.79	29.71
3400	11.4	11.86	29.95	29.49
3450	10.52	11.1	30.96	30.38
3500	11.58	11.86	30.02	29.74
3550	12.03	11.98	29.70	29.75
3600	11.9	11.76	29.95	30.09
3650	10.96	10.96	31.01	31.01
3700	11.79	11.81	30.30	30.28
3750	11.56	11.47	30.64	30.73
3800	11.64	11.74	30.68	30.58
3850	11.13	11.42	31.30	31.01
3900	11.47	11.61	31.07	30.93
3950	10.97	11.02	31.69	31.64
4000	11.2	11.22	31.56	31.54
4050	11.3	11.13	31.57	31.74
4100	11.1	11.08	31.88	31.90
4150	11.15	11.12	31.93	31.96
4200	10.88	11.16	32.31	32.03
4250	11.13	11.21	32.16	32.08
4300	10.94	11.12	32.45	32.27
4400	11.3	11.22	32.29	32.37

4450	11.4	11.38	32.29	32.31
4500	11.36	11.37	32.43	32.42
4550	11.37	11.35	32.51	32.53
4600	11.4	11.38	32.58	32.60
4650	11.28	11.4	32.79	32.67
4700	11.16	11.21	33.01	32.96
4750	10.69	10.91	33.57	33.35
4800	10.49	10.68	33.86	33.67
4850	10.14	10.31	34.30	34.13
4900	10.03	10.37	34.50	34.16
4950	10.19	10.3	34.43	34.32
5000	10.13	10.53	34.57	34.17
5050	10.62	10.67	34.17	34.12
5100	10.7	10.81	34.17	34.06
5150	11.2	11.14	33.76	33.82
5200	11.22	11.05	33.82	33.99
5250	11.44	11.2	33.69	33.93
5300	11.33	11.03	33.88	34.18
5350	11.27	10.87	34.02	34.42
5400	11.12	10.68	34.25	34.69
5450	11.08	10.77	34.37	34.68
5500	10.93	10.94	34.60	34.59
5550	10.74	10.66	34.87	34.95
5600	10.91	10.99	34.78	34.70
5650	11.25	11.15	34.51	34.61
5700	11.27	11.22	34.57	34.62
5750	11.21	11.23	34.71	34.69
5800	11.2	11.12	34.79	34.87
5850	11.12	10.98	34.95	35.09
5900	11.5	10.9	34.64	35.24
5950	11	10.91	35.21	35.30
6000	11.16	10.95	35.13	35.34
6050	11.26	11.08	35.10	35.28
6100	10.87	10.71	35.56	35.72
6150	11.31	11.06	35.19	35.44
6200	11.11	10.83	35.46	35.74
6250	11.41	10.87	35.23	35.77
6300	11.54	11	35.17	35.71

6350	11.51	10.84	35.27	35.94
6400	11.45	10.9	35.40	35.95
6450	11.32	11.34	35.59	35.57
6500	10.87	10.83	36.11	36.15
6550	11.19	11.47	35.86	35.58
6600	10.93	11.32	36.18	35.79
6650	11.02	11.23	36.16	35.95
6700	11.33	11.77	35.91	35.47
6750	11.18	11.19	36.13	36.12
6800	11.29	11.56	36.08	35.81
6850	11.41	11.45	36.03	35.99
6900	11.19	11.29	36.31	36.21
6950	11.36	11.59	36.20	35.97
7000	11.1	11.44	36.53	36.19
7050	10.52	10.91	37.17	36.78
7100	10.4	11.1	37.35	36.65
7150	10.01	10.69	37.80	37.12
7200	10.12	10.84	37.75	37.03
7250	10.28	10.88	37.65	37.05
7300	10.69	11.16	37.30	36.83
7350	10.31	10.76	37.74	37.29
7400	10.93	11.31	37.18	36.80
7450	10.38	10.74	37.79	37.43
7500	10.81	11.15	37.41	37.07
7550	10.78	11.01	37.50	37.27
7600	10.61	10.83	37.73	37.51
7650	11.04	11.46	37.36	36.94
7700	10.94	11.3	37.51	37.15
7750	11.08	11.41	37.43	37.10
7800	11.25	11.75	37.32	36.82
7850	10.83	11.34	37.79	37.28
7900	11.46	11.79	37.22	36.89
7950	11.37	11.83	37.36	36.90
8000	11.21	11.79	37.58	37.00
8050	11.41	12.04	37.43	36.80
8100	11.47	12.05	37.42	36.84
8150	11.55	12.05	37.40	36.90
8200	11.88	12.53	37.12	36.47

8250	11.58	12.21	37.47	36.84
8300	12.32	12.48	36.78	36.62
8350	12.35	12.53	36.81	36.63
8400	12.39	12.15	36.82	37.06
8450	12.59	12.29	36.67	36.97
8500	12.33	12.16	36.98	37.15
8550	12.08	12.06	37.28	37.30
8600	12.57	12.38	36.84	37.03
8650	12.06	11.86	37.40	37.60
8700	12.29	12.15	37.22	37.36
8750	12.19	12.23	37.37	37.33
8800	11.99	11.95	37.62	37.66
8850	12.51	12.14	37.15	37.52
8900	12.41	12.04	37.30	37.67
8950	12.65	12.18	37.11	37.58
9000	12.58	12.41	37.23	37.40
9050	12.58	12.14	37.28	37.72
9100	12.43	12.01	37.47	37.89
9150	12.39	11.88	37.56	38.07
9200	12.01	11.53	37.99	38.47
9250	11.9	11.61	38.15	38.44
9300	12.02	11.72	38.07	38.37
9350	11.85	11.4	38.29	38.74
9400	12	11.34	38.19	38.85
9450	11.74	11.31	38.49	38.92
9500	11.91	11.18	38.37	39.10
9550	11.74	11.4	38.58	38.92
9600	11.63	11.24	38.74	39.13
9650	11.84	11.41	38.57	39.00
9700	11.57	11.26	38.89	39.20
9750	11.57	11.28	38.93	39.22
9800	11.46	11.16	39.09	39.39
9850	11.59	11.1	39.00	39.49
9900	11.74	11.26	38.90	39.38
9950	11.61	11.17	39.07	39.51
10000	11.97	11.31	38.75	39.41
10050	11.93	11.3	38.84	39.47
10100	12.01	11.34	38.80	39.47

10150	12.06	11.25	38.79	39.60
10200	11.98	11.35	38.92	39.55
10250	12.05	11.17	38.89	39.77
10300	12.17	11.11	38.81	39.87
10350	12.04	11.19	38.98	39.83
10400	11.63	10.65	39.43	40.41
10450	11.67	11.03	39.44	40.08
10500	11.35	10.3	39.80	40.85
10550	11.43	10.48	39.76	40.71
10600	11.85	10.56	39.38	40.67
10650	11.61	10.35	39.66	40.92
10700	12.44	11.05	38.87	40.26
10750	12.04	10.74	39.31	40.61
10800	12.31	11.01	39.08	40.38
10850	12.03	10.83	39.40	40.60
10900	12.12	10.52	39.35	40.95
10950	12.15	10.61	39.36	40.90
11000	11.84	10.56	39.71	40.99
11050	11.82	10.7	39.77	40.89
11100	11.78	10.89	39.85	40.74
11150	12.3	11.55	39.37	40.12
11200	11.25	11.02	40.46	40.69
11250	11.94	11.61	39.81	40.14
11300	11.1	11.07	40.68	40.71
11350	11.94	11.64	39.88	40.18
11400	11.38	11.36	40.48	40.50
11450	11.09	11.33	40.81	40.57
11500	11.44	11.56	40.50	40.38
11550	11.02	11.31	40.95	40.66
11600	11.29	11.61	40.72	40.40
11650	11.36	11.69	40.69	40.36
11700	11.47	11.77	40.62	40.32
11750	11.68	11.95	40.44	40.17
11800	11.78	12.01	40.38	40.15
11850	11.64	12.19	40.56	40.01
11900	12.21	12.46	40.02	39.77
11950	12.04	12.29	40.23	39.98
12000	12.2	12.7	40.11	39.61

12050	12.53	12.35	39.81	39.99
12100	12.61	12.47	39.77	39.91
12150	12.74	12.31	39.67	40.10
12200	12.67	12.46	39.78	39.99
12250	12.6	12.44	39.89	40.05
12300	12.98	12.58	39.54	39.94
12350	13.03	12.61	39.53	39.95
12400	13.15	12.8	39.44	39.79
12450	13.36	12.97	39.27	39.66
12500	13.25	12.9	39.41	39.76
12550	13.59	12.78	39.11	39.92
12600	13.45	12.75	39.28	39.98
12650	13.46	12.75	39.31	40.02
12700	13.4	12.53	39.40	40.27
12750	13.49	12.39	39.34	40.44
12800	13.4	12.22	39.47	40.65
12850	13.61	12.31	39.29	40.59
12900	13.52	12.78	39.42	40.16
12950	13.01	12.44	39.96	40.53
13000	12.95	12.55	40.05	40.45
13050	13.11	12.36	39.93	40.68
13100	13.66	12.62	39.41	40.45
13150	13.46	12.46	39.64	40.64
13200	13.64	12.57	39.49	40.56
13250	13.33	12	39.84	41.17
13300	13.42	11.92	39.78	41.28
13350	12.96	11.75	40.27	41.48
13400	13.1	11.81	40.17	41.46
13450	13.08	12.23	40.22	41.07
13500	12.65	11.68	40.68	41.65
13550	12.59	11.84	40.77	41.52
13600	12.71	11.92	40.68	41.47
13650	12.86	12.33	40.57	41.10
13700	12.75	11.95	40.71	41.51
13750	13.02	11.9	40.47	41.59
13800	12.44	11.5	41.08	42.02
13850	12.55	11.4	41.00	42.15
13900	12.45	11.37	41.13	42.21



13950	11.93	11.27	41.68	42.34
14000	11.93	11.38	41.72	42.27
14050	11.11	10.85	42.57	42.83
14100	11.4	11.46	42.31	42.25
14150	11.4	11.12	42.34	42.62
14200	11.24	11	42.53	42.77
14250	10.94	10.87	42.86	42.93
14300	10.53	10.96	43.30	42.87
14350	10.02	10.68	43.84	43.18
14400	10.08	10.8	43.81	43.09
14450	9.56	10.52	44.36	43.40
14500	9.93	10.88	44.02	43.07
14550	10.04	11.2	43.94	42.78
14600	9.92	11.64	44.09	42.37
14650	10.13	11.93	43.91	42.11
14700	10.12	12.09	43.95	41.98
14750	10.54	12.39	43.56	41.71
14800	10.63	12.85	43.50	41.28
14850	10.96	12.93	43.20	41.23
14900	11.23	12.94	42.96	41.25
14950	11.53	13.34	42.69	40.88
15000	11.92	13.5	42.33	40.75
15050	12.67	13.77	41.60	40.50
15100	13.52	13.93	40.78	40.37
15150	14.18	14.75	40.15	39.58
15200	15.27	14.87	39.09	39.49
15250	15.43	15.39	38.96	39.00
15300	16.08	15.85	38.34	38.57
15350	16.43	16.14	38.02	38.31
15400	16.58	16.27	37.89	38.20
15450	16.56	16.39	37.94	38.11
15500	16.68	16.45	37.85	38.08
15550	16.69	16.13	37.87	38.43
15600	16.77	16.31	37.82	38.28
15650	16.61	16.17	38.00	38.44
15700	16.94	16.79	37.70	37.85
15750	16.89	16.65	37.78	38.02
15800	17.02	17.03	37.68	37.67

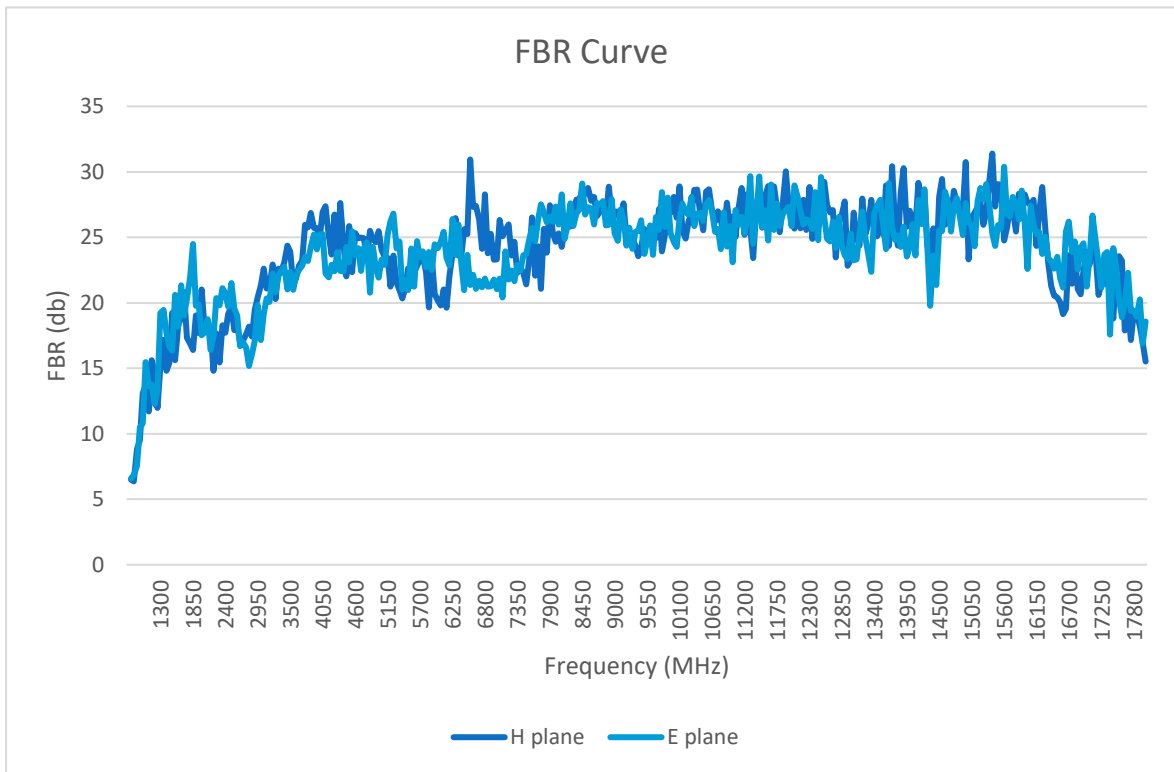
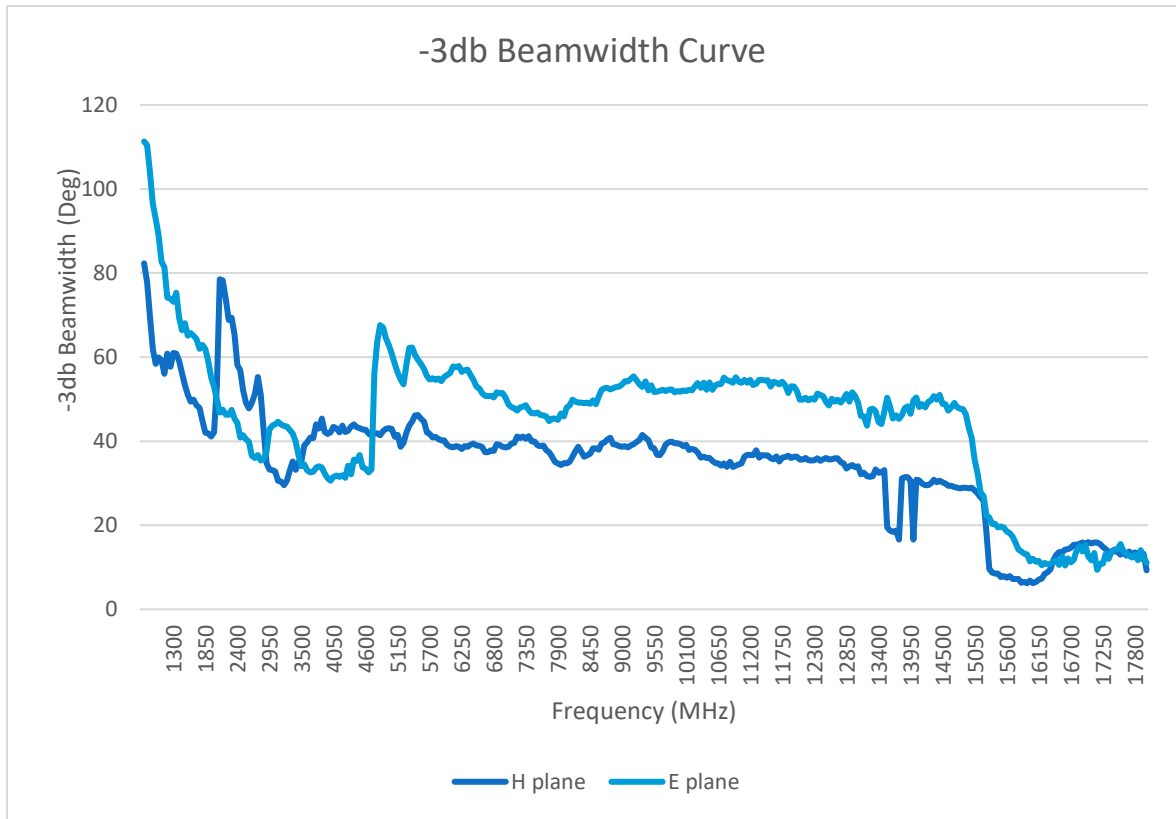
15850	17.38	17.1	37.34	37.62
15900	17.39	17.36	37.36	37.39
15950	17.78	17.05	37.00	37.73
16000	17.7	17.61	37.11	37.20
16050	17.3	16.87	37.53	37.96
16100	17.55	16.92	37.31	37.94
16150	17.08	16.58	37.81	38.31
16200	16.79	16.53	38.12	38.38
16250	15.81	16.29	39.13	38.65
16300	15.57	15.61	39.40	39.36
16350	15.58	15.84	39.41	39.15
16400	14.72	15.04	40.30	39.98
16450	14.9	14.49	40.15	40.56
16500	14.22	14.18	40.85	40.89
16550	14.52	13.59	40.58	41.51
16600	13.91	13.74	41.22	41.39
16650	14.53	13.37	40.62	41.78
16700	13.87	13.5	41.31	41.68
16750	13.74	13.22	41.46	41.98
16800	13.68	12.97	41.55	42.26
16850	13.31	12.99	41.95	42.27
16900	13.61	12.58	41.67	42.70
16950	13.24	12.57	42.07	42.74
17000	13.52	13.24	41.81	42.09
17050	13.39	13.17	41.97	42.19
17100	13.81	12.75	41.57	42.63
17150	13.57	13.63	41.84	41.78
17200	13.5	13.98	41.93	41.45
17250	13.93	14.25	41.53	41.21
17300	14.64	13.76	40.84	41.72
17350	14.82	14.15	40.69	41.36
17400	13.92	13.92	41.61	41.61
17450	14.03	14.57	41.53	40.99
17500	13.64	15.16	41.94	40.42
17550	13.53	14.6	42.08	41.01
17600	12.74	14.5	42.89	41.13
17650	13.16	13.62	42.50	42.04
17700	12.1	13.92	43.58	41.76

17750	12.77	14.27	42.94	41.44
17800	12.28	13.88	43.45	41.85
17850	12.23	14.99	43.53	40.77
17900	11.03	15.2	44.75	40.58
17950	10.82	13.72	44.98	42.08
18000	10.91	11.9	44.92	43.93

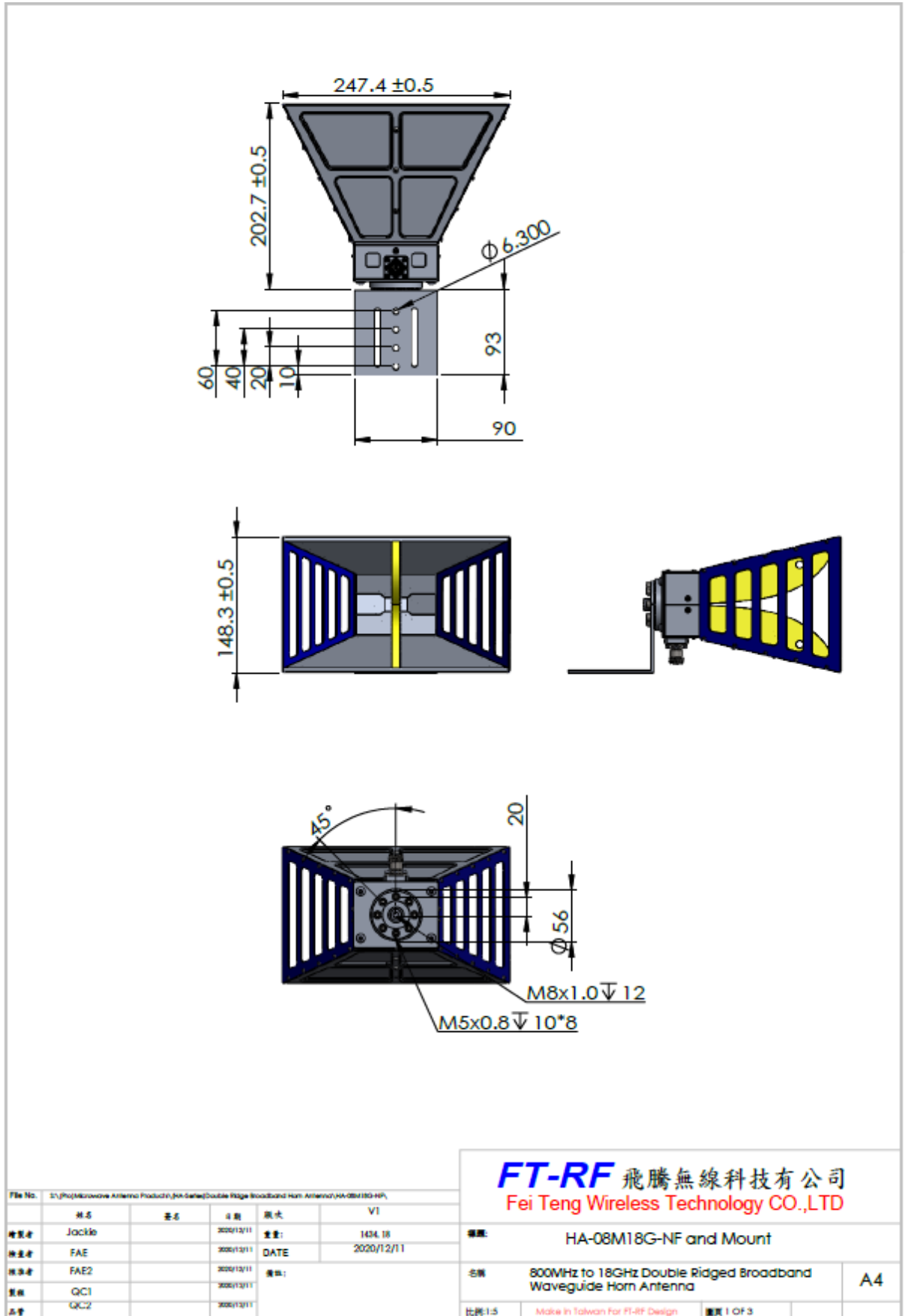
## Antenna -3db Beamwidth and FBR Curve

Frequency (MHz)	-3db Beamwidth H-Plane (Deg)	-3db Beamwidth E-Plane (Deg)	FBR H-Plane (db)	FBR E-Plane (db)
800	82.3	111.3	6.5	6.59
1400	59.1	69.4	14.81	17.69
2050	53.2	49.9	17.78	17.78
2700	51.3	36	17.11	17
3550	39	34.5	21.35	20.99
4000	42.1	30.6	25	25.22
4650	41.8	32.6	24.94	24.18
5300	42	58.2	21.54	24.15
5950	40.2	55.3	20.67	24.46
6600	38.6	51.4	27.33	22.14
7250	40.7	48	23.61	22.46
7900	34.7	45.1	27.45	26.56
8550	38.3	48.8	28.76	27.3
9200	39.3	55.4	24.94	24.37
9850	39.9	52.3	25.16	25.79
10500	36	54	25.55	26.25
11150	36.8	53.9	28.78	26.56
11800	36.2	53.2	25.39	25.85
12450	35.7	50.7	25.67	24.79
13100	32.1	46	25.01	23.31
13750	16.6	45.3	26.04	24.8
14400	30.2	49.9	25.68	23.6
15050	28.3	35.6	26.45	25.88
15700	7.2	17.3	27.28	26.6
16300	8.8	10.7	25.55	25.05
17000	16	12.6	23.89	21.23
17650	12.8	13.4	17.88	19.95


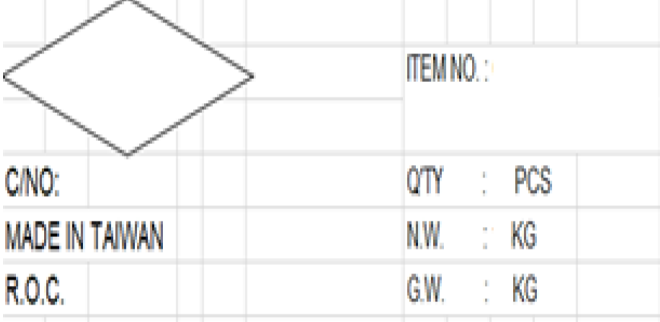
18000	9.3	11.1	15.51	18.57
AVG	36.85	47.68	24.21	23.89



Antenna Dimension



## Packing List & Label List

<b>FT-RF's P/N: HA-08M18G-NF</b>	<b>Customer's P/N:</b> Please inform us when you make an order		
	<b>Carton quantity</b>	1 pcs	
	<b>Accessories</b>	L Type Aluminum bracket	1 pcs
		M8 socket head cap screws	1 pcs
		M5 socket head cap screws	8 pcs
	<b>Carton dimension</b>	310x210x280mm	
	<b>N. W</b>	1.3	KG
<b>G. W</b>	2.0	KG	
<b>Carton Label (100x150mm)</b>	<b>Antenna Label (10x30mm)</b>		
	<b>HA-08M18G-NF</b>		
<b>Custom carton Label</b>	<b>Custom Antenna Label</b>		
<b>** Following the customer requirements. Please inform us when you make an order</b>	<b>** Following the customer requirements. Please inform us when you make an order</b>		

## RoHs and WEEE Status (RoHs and WEEE Compliance)

Certificate of Compliance

Date:

To: Whom It May Concern

FT-RF hereby certifies that product:

Model	Product
HA-08M18G-NF	800MHz to 18GHz Double Ridged Broadband Waveguide Horn Antenna

Is in conformance with the requirements of the European RoHS Directive 2011/65/EU and the European WEEE Directive 2012/19/EU, all materials referenced therein are in concentrations below the maximum allowable levels specified. Products manufactured by FT-RF bear the CE marking and have FCC certificate. FT-RF has been assessed and found to be in accordance with the requirements of ISO 14001:2015 and ISO 9001:2015 standards, scope of Design and Manufacture of Antenna.

Our statements in this letter regarding RoHS and WEEE compliance do not extend to, or apply to any product subjected to unintended contamination, misuse, neglect, accident, improper installation, or to use in violation of instructions furnished by FT-RF.

Sincerely,

FT-RF (Fei Teng Wireless Technology CO., LTD)

The information contained in this letter is being provided for informational purposes only and to clarify certain information concerning FT-RF products. Nothing provided in this letter is:

- (1) a representation, warranty, or agreement to indemnification by FT-RF.
- (2) a statement which may form the basis of reliance by FT-RF,
- (3) a modification of any of the terms and conditions of sale agreed to in writing between FT-RF and its customers with respect to any FT-RF products, whether previously sold or to be sold in the future.