

## 18GHz to 40GHz Double Ridged Broadband Waveguide Horn Antenna



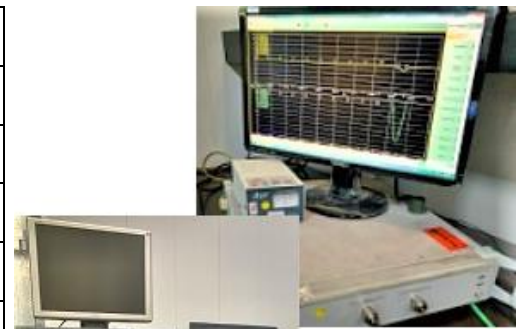
<b>Applications:</b> <ul style="list-style-type: none"> <li>● 18 GHz to 40 GHz</li> <li>● 6061 Aluminum metal alloy</li> <li>● Stainless Steel 2.92mm-female</li> <li>● Taiwan Design, Made in Taiwan</li> </ul>		<b>Features:</b> <ul style="list-style-type: none"> <li>● High Power 300W (Peak) 150 (CW)</li> <li>● DC Short lighting protection</li> <li>● Low VSWR</li> <li>● Uniform Gain</li> <li>● Consolidated performance data base</li> </ul>	
Model:	HA-1840GA1-NF	-3db Beamwidth:	Horz.24 Deg Vert.38 Deg
LxWxH:	74x55x38mm	N.W.:	90G
Connector:	2.92mm-Female	Frequency:	18-40GHz
Styling:	Double Ridged Horn	Polarization:	Vertical or Horizontal
Gain:	13dbi-16dBi	Max Power:	300W (Peak)

**Electrical Specifications**

Frequency Range	18GHz - 40GHz
1GHz - 18GHz V.S.W. R	2.5 :1 (Avg)
Antenna Type	Horn
Radiation	Directional
Gain	13-16 dBi
Antenna Factor	40 – 50 dB/m
Polarization	Vertical or Horizontal
Maximum Power	300 Watts
Vertical Beamwidth	24 Deg
Horizontal Beamwidth	28 Deg
Impedance	50 Ohm
FBR	24 db
Antenna Design	Double-Ridged
Connector	2.92mm-Female

**Mechanical Specifications**

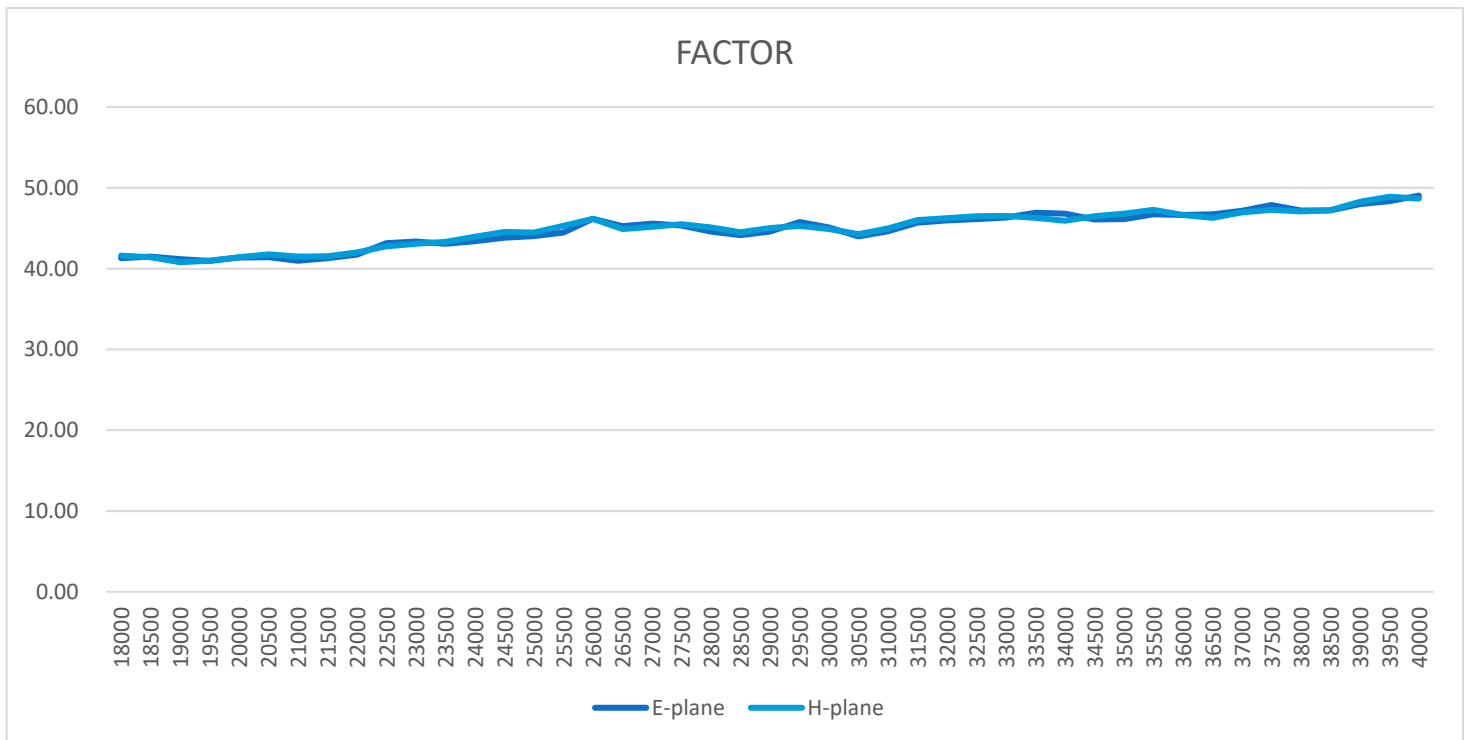
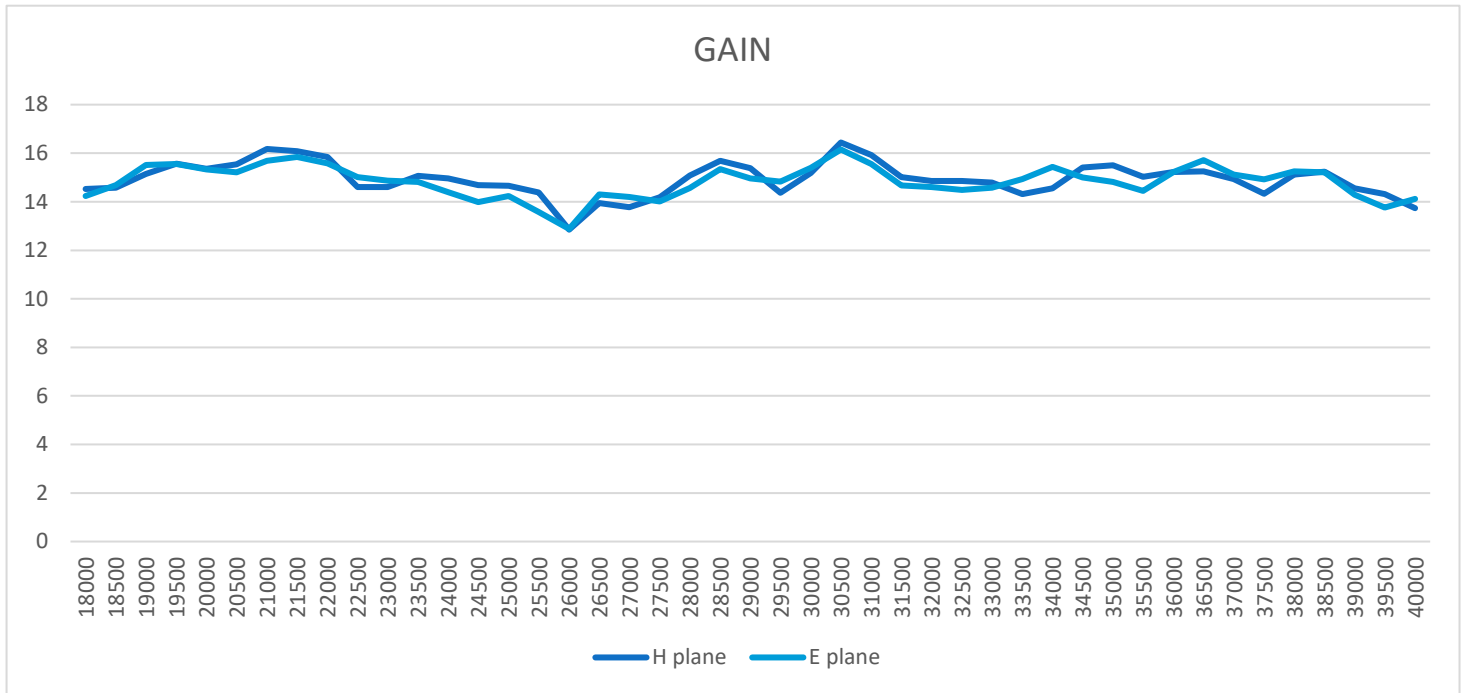
Dimension	74x55x38 mm
Antenna Weight (N.W)	90 g
Accessories	1 x Small L Type Aluminum bracket 8 x M2.5x0.4xL5 socket head cap screws
Application	Indoor
Parts Material	Aluminum
L Mount Style	M4 or 4mm
Mounting	L Type Aluminum
Mount Style	Antenna Mounting M2.5mm
Storage Temperature	-20 to +80
Operating 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



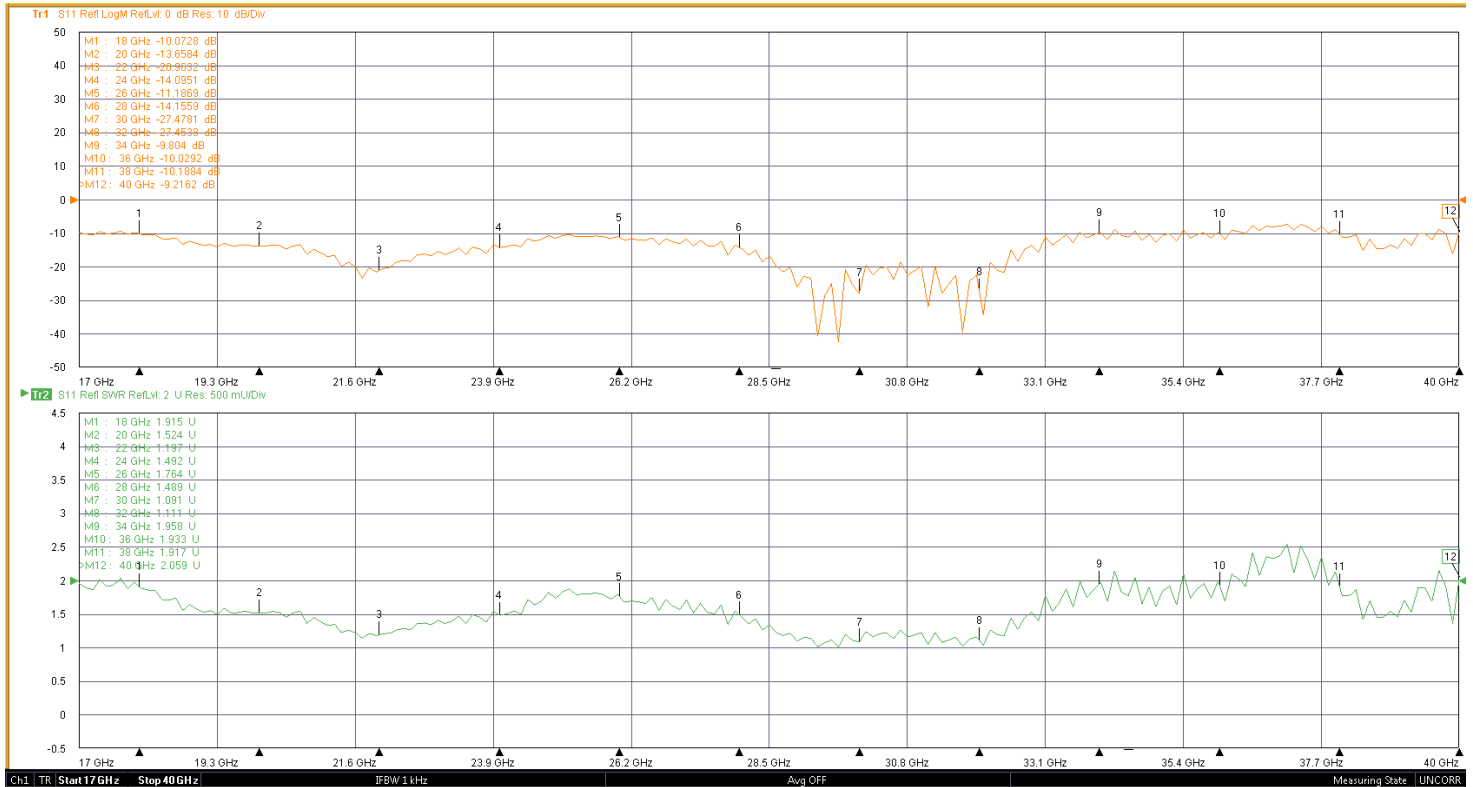
# Antenna Gain



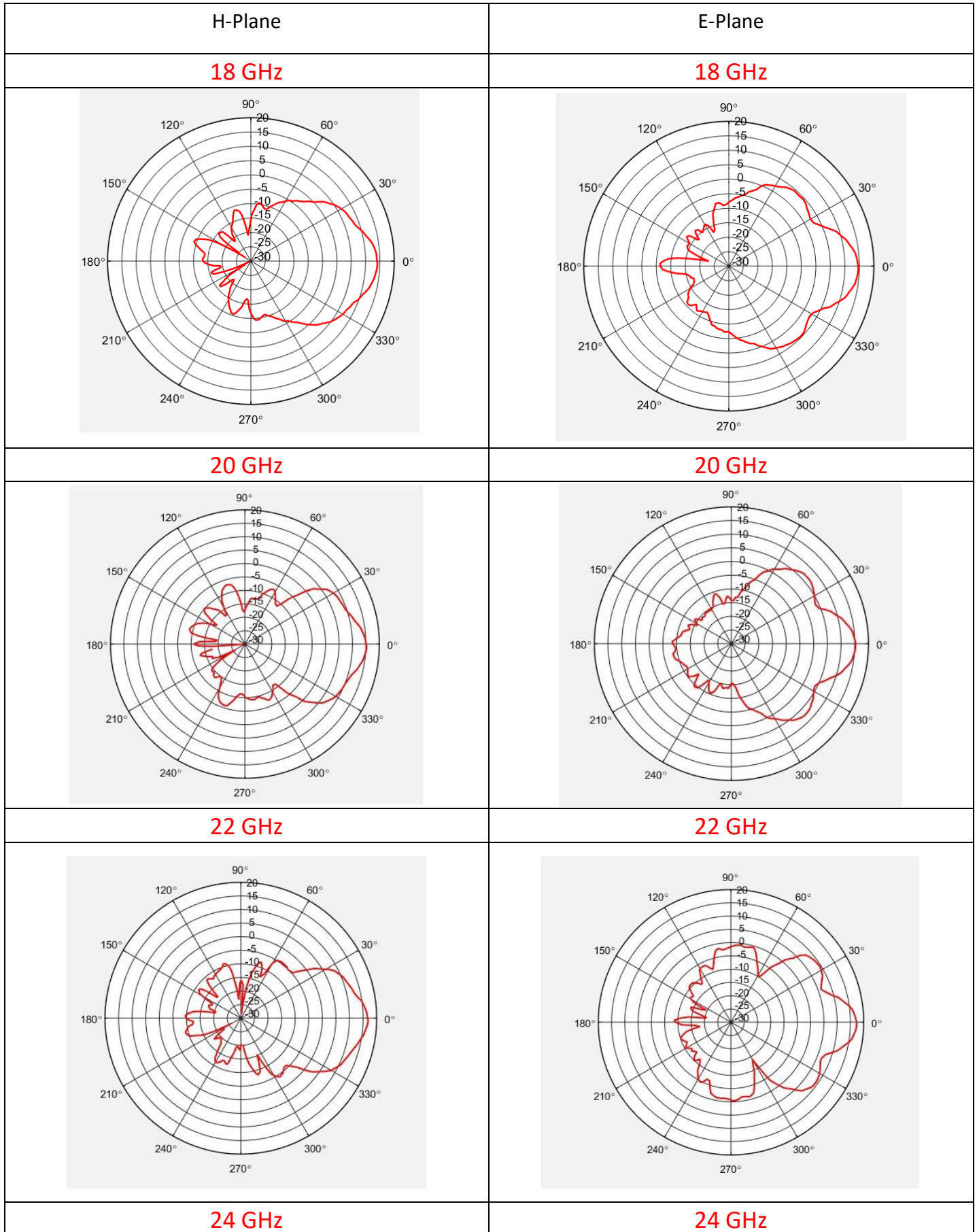
## Antenna VSWR and Return loss

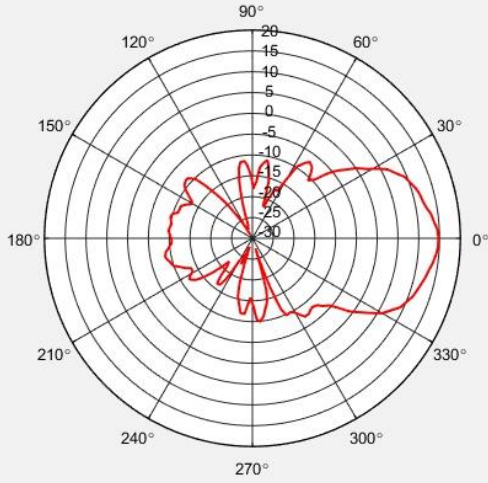
Test Equipment	Anritsu MS4632A 10Mhz-40Ghz
Test Equipment Cable	100cm 2.92 Male to 2.92 Female
RF connector Adapter	N/A
Correction	3652A-DC-40Ghz
Test Model	HA-1840GA1-KF
Test Port	S11

### Return Loss & VSWR

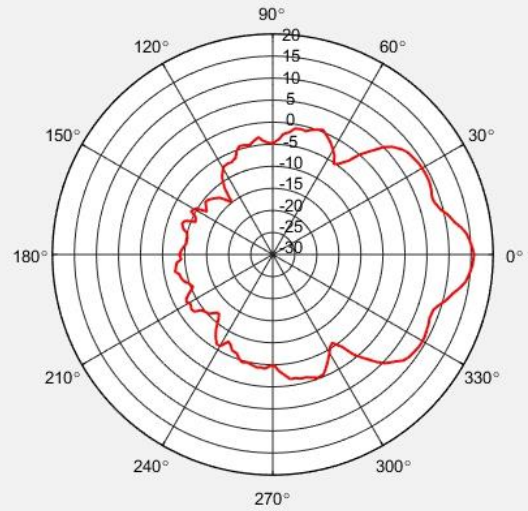


Antenna Pattern

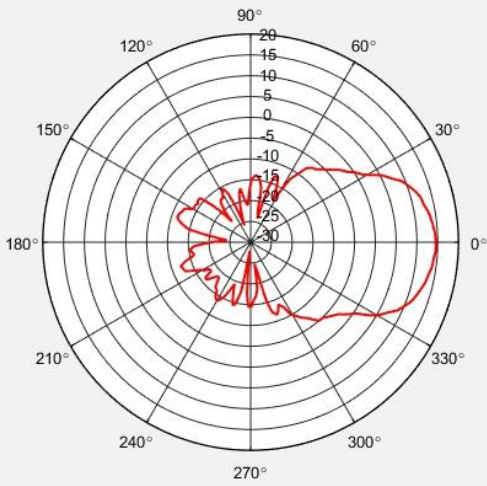




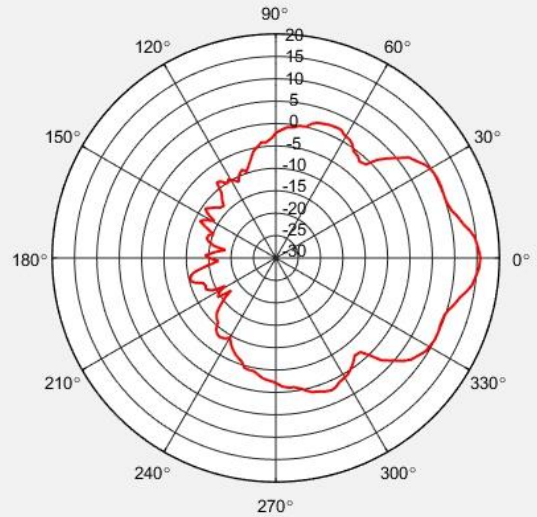
26 GHz



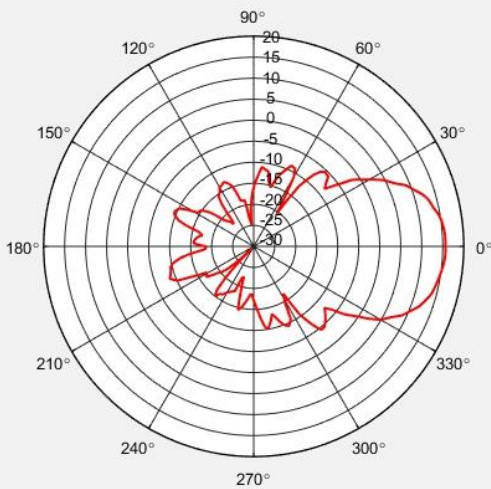
26 GHz



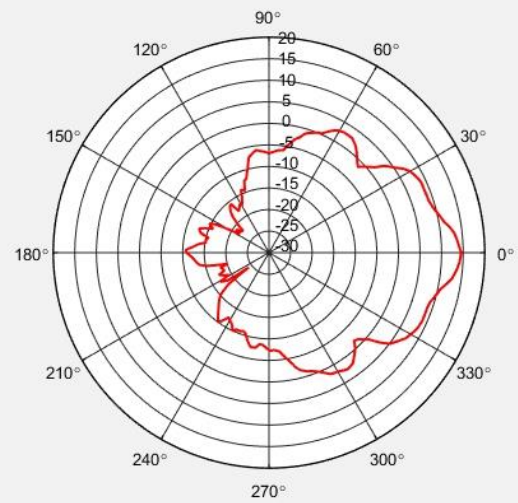
28 GHz



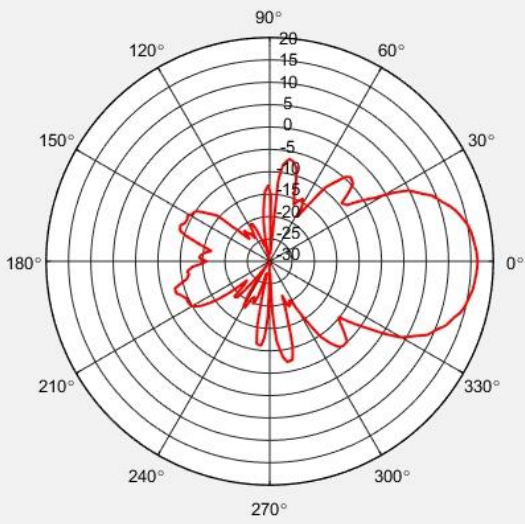
28 GHz



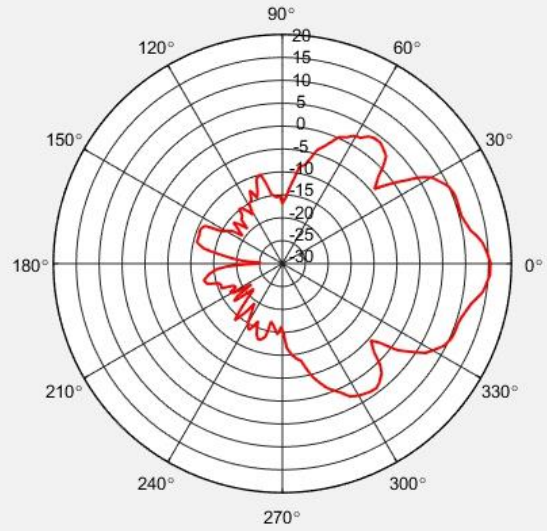
30 GHz



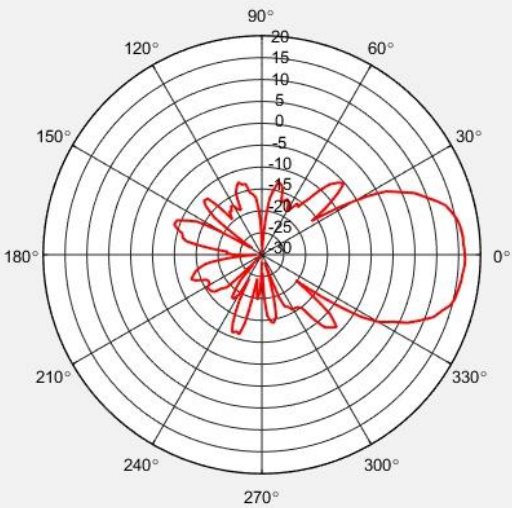
30 GHz



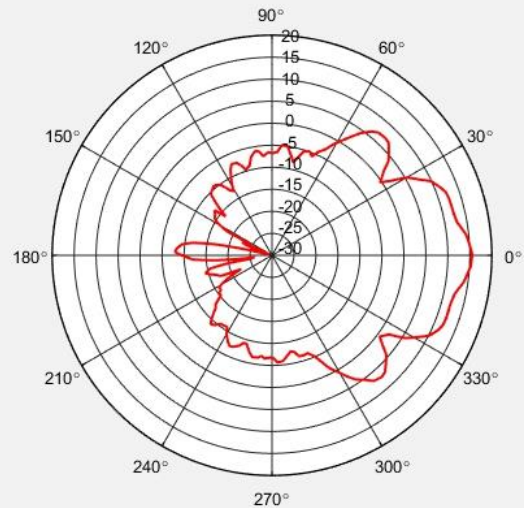
32 GHz



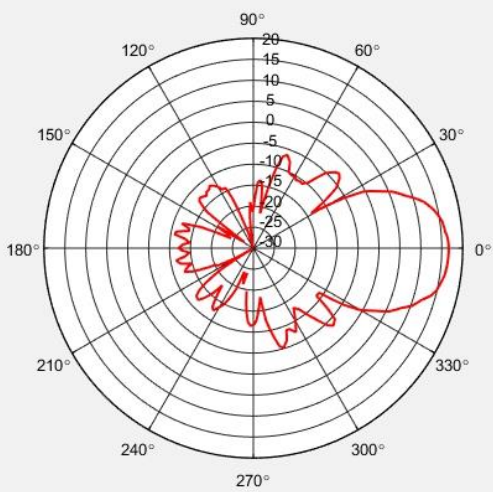
32 GHz



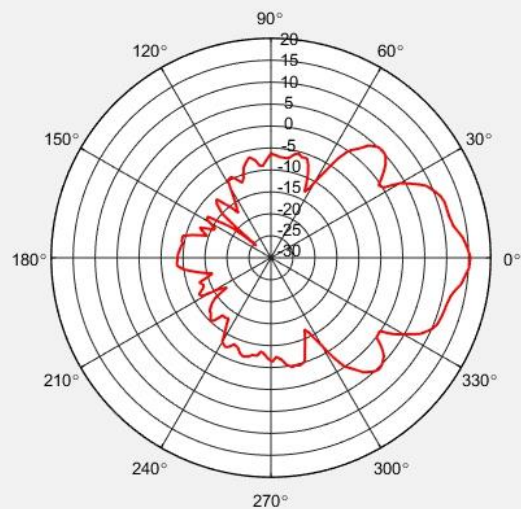
34 GHz



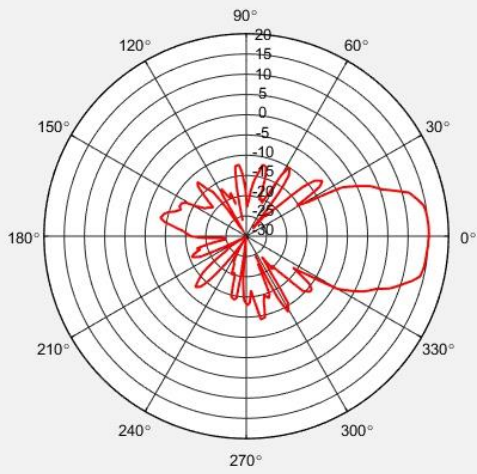
34 GHz



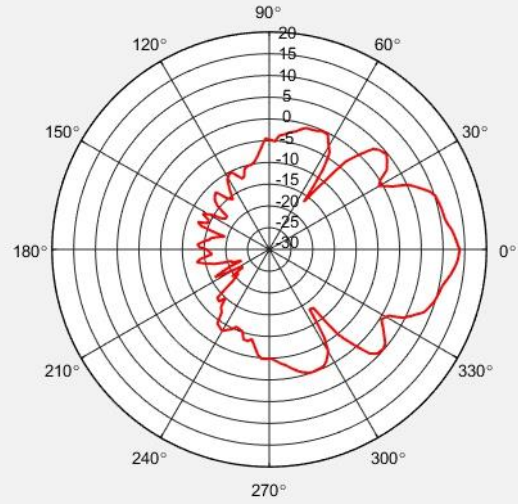
36 GHz



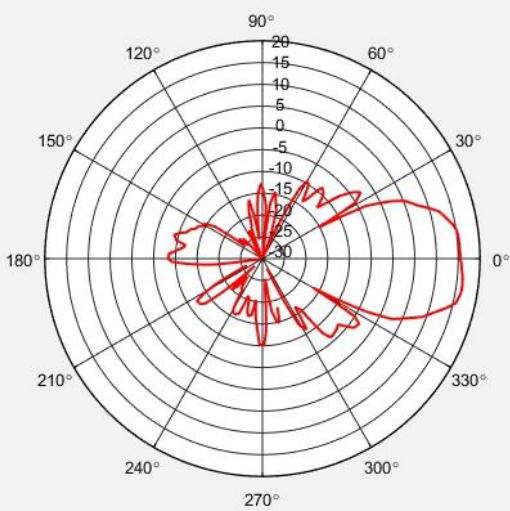
36 GHz



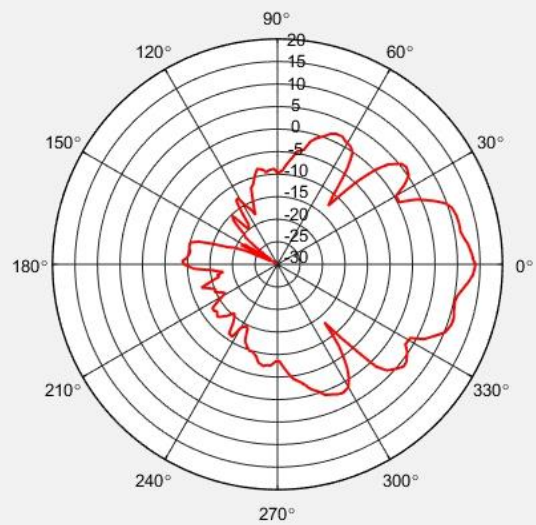
38 GHz



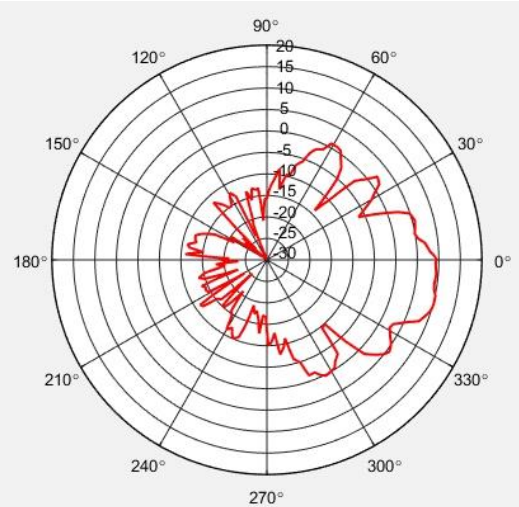
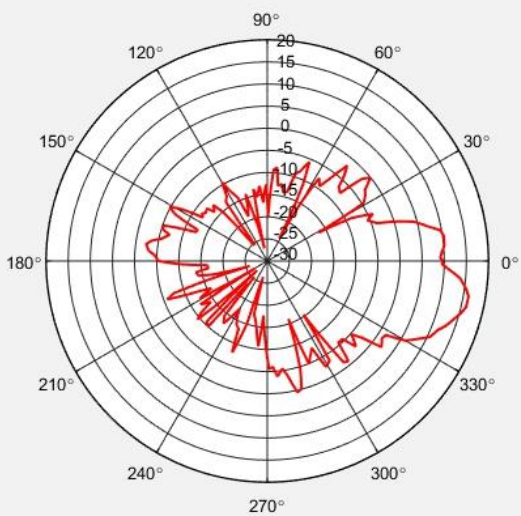
38 GHz



40 GHz



40 GHz





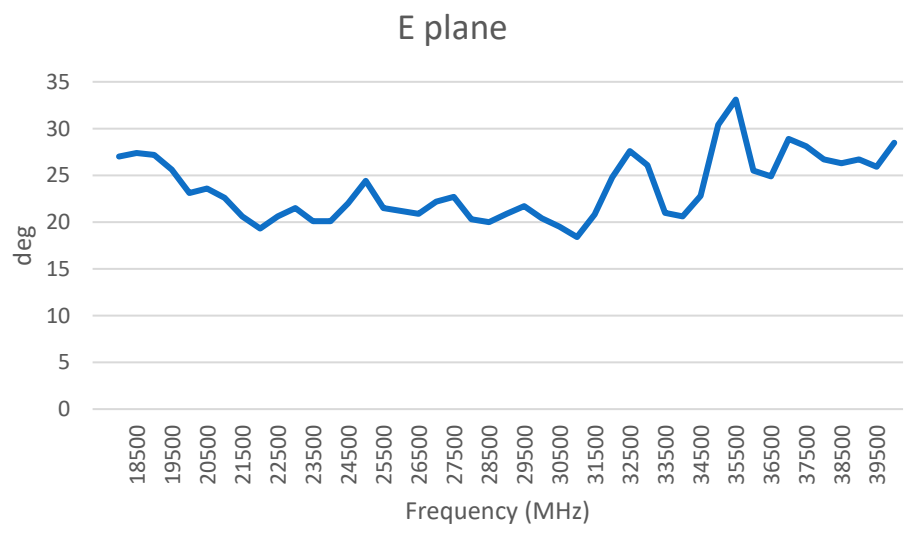
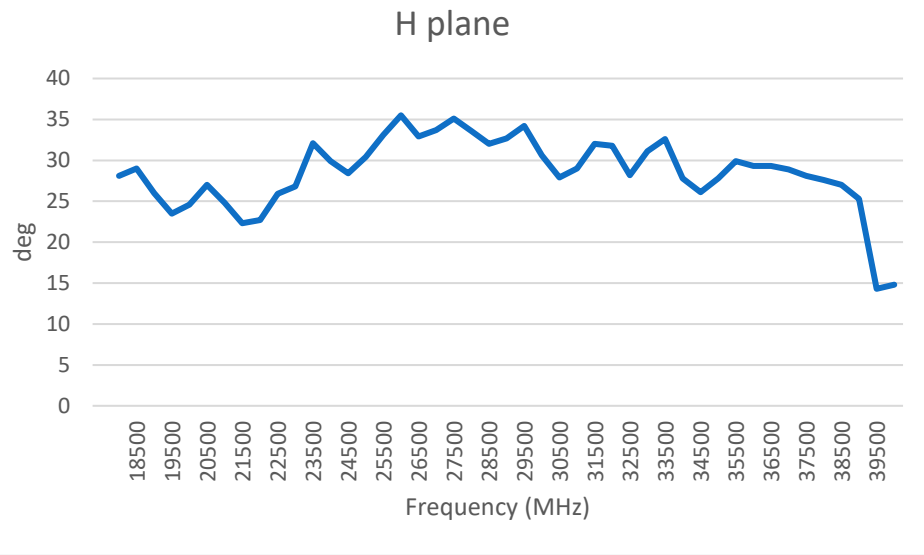
## Antenna Gain Data

	H plane	E plane	H plane	E plane
Freq (GHz)	Gain (1M)	Gain (1M)	Factor (1M)	Factor (1M)
18	14.53	14.23	41.30	41.30
18.5	14.58	14.68	41.49	41.49
19	15.14	15.51	41.16	41.16
19.5	15.57	15.56	40.95	40.95
20	15.36	15.33	41.38	41.38
20.5	15.54	15.21	41.42	41.42
21	16.18	15.69	40.99	40.99
21.5	16.08	15.85	41.29	41.29
22	15.84	15.58	41.73	41.73
22.5	14.61	15.01	43.16	43.16
23	14.61	14.87	43.35	43.35
23.5	15.07	14.82	43.07	43.07
24	14.96	14.39	43.37	43.37
24.5	14.69	13.98	43.82	43.82
25	14.66	14.24	44.02	44.02
25.5	14.38	13.57	44.47	44.47
26	12.85	12.88	46.17	46.17
26.5	13.94	14.3	45.25	45.25
27	13.77	14.19	45.58	45.58
27.5	14.18	14.01	45.33	45.33
28	15.08	14.57	44.59	44.59
28.5	15.68	15.34	44.14	44.14
29	15.38	14.96	44.59	44.59
29.5	14.37	14.83	45.75	45.75
30	15.19	15.39	45.08	45.08
30.5	16.44	16.15	43.97	43.97
31	15.93	15.56	44.62	44.62
31.5	15.02	14.67	45.67	45.67
32	14.85	14.6	45.98	45.98
32.5	14.86	14.48	46.10	46.10
33	14.79	14.58	46.30	46.30
33.5	14.31	14.93	46.91	46.91
34	14.55	15.44	46.80	46.80
34.5	15.41	15	46.07	46.07
35	15.5	14.81	46.10	46.10

35.5	15.03	14.45	46.70	46.70
36	15.22	15.22	46.63	46.63
36.5	15.25	15.71	46.72	46.72
37	14.93	15.12	47.16	47.16
37.5	14.33	14.92	47.87	47.87
38	15.12	15.25	47.20	47.20
38.5	15.24	15.21	47.19	47.19
39	14.55	14.29	47.99	47.99
39.5	14.31	13.76	48.35	48.35
40	13.73	14.12	49.03	49.03

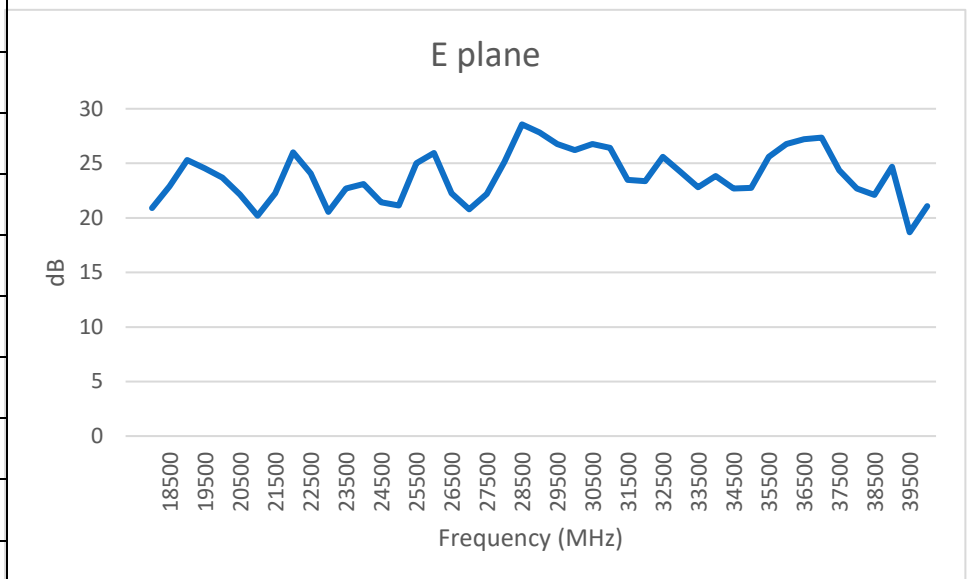
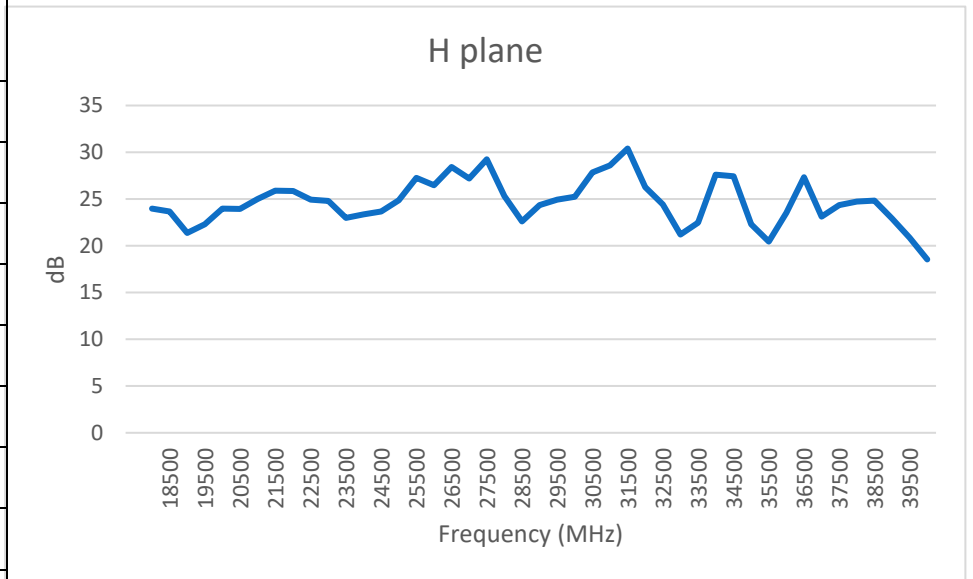
## Antenna -3dB Beamwidth Curve

Frequency (MHz)	H-Plane (deg)	E-plane (deg)
18000	28.1	27
18500	29	27.4
19500	23.5	25.6
20500	27	23.6
21500	22.3	20.6
22500	25.9	20.6
23500	32.1	20.1
24500	28.4	22
25500	33.1	21.5
26500	32.9	20.9
27500	35.1	22.7
28500	32	20
29500	34.2	21.7
30500	36.6	19.5
31500	32	20.8
32500	28.2	27.6
33500	32.6	21
34500	26.1	22.8
35500	29.9	33.1
36500	29.3	24.9
37500	28.1	28.1
38500	27	26.3
39500	14.3	25.9
40000	14.8	28.5

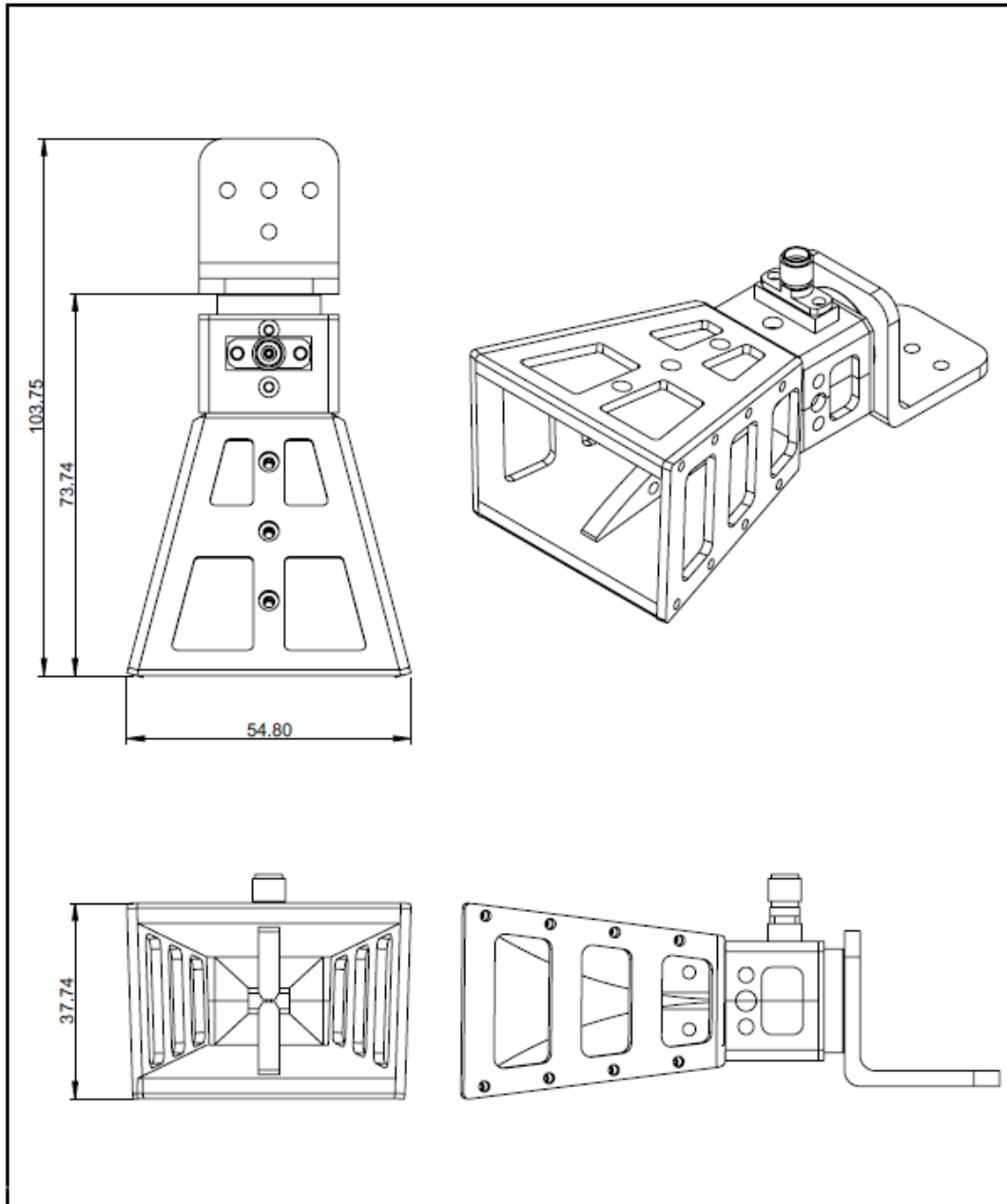


## Antenna FBR Curve

Frequency (MHz)	H-Plane (db)	E-plane (db)
18000	23.97	20.91
18500	23.67	22.9
19500	22.31	24.55
20500	23.94	22.12
21500	25.9	22.24
22500	24.92	24.06
23500	22.97	22.7
24500	23.68	21.44
25500	27.26	25
26500	28.42	22.26
27500	29.23	22.19
28500	22.62	28.57
29500	24.93	26.77
30500	27.83	26.77
31500	30.4	23.49
32500	24.41	25.61
33500	22.47	22.82
34500	27.42	22.7
35500	20.46	25.61
36500	27.32	27.22
37500	24.34	24.36
38500	24.84	22.09
39500	20.85	18.68
40000	18.54	21.09


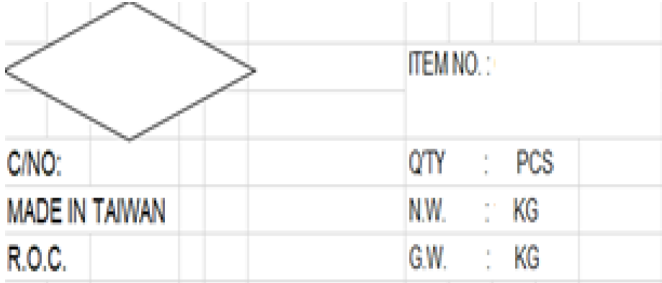


# Antenna Dimensions



DRAWN		NAME	DATE	MATERIAL	EDGE		CO.1		飛騰無線科技有限公司 Fei Teng Wireless Technology CO.,LTD				
CONFIRM			2021/4/15	WEIGHT (g)			EDITION						
APPROVED		Jackie	2021/4/15	PRODUCTION METHODS					TITLE				
PROCESS		XinYing	2021/4/15	SUPPLIER					HA-1840GA1-KF				
QA			2021/4/15	FINISH MANUFACTURER					PART NO.				
PACKAGE DELIVERY NOTE				FINISH				DEPARTMENT					
EDITION	DATE	MODIFY CONTENT		EDITION	DATE	MODIFY CONTENT		SHIPPING NOTE		POSITION			
V1								TEL		DATE			
V2								03-5882899		2021/4/15			
								FAX		DATE			
								03-5882879		2021/4/15			
File No. S:\(Pj)\Microwave Antenna Product\HA-Series\Double Ridge Broadband Horn Antenna\HA-1840GA1-KF\										SHEET 2 OF 3		SCALE: 1:1	A4

## Packing List & Label List

<b>FT-RF's P/N: HA-1840GA1-KF</b>	<b>Customer's P/N:</b> Please inform us when you make an order			
	<b>Carton quantity</b>	1 pcs		
	<b>Accessories</b>	Small L Type Aluminum bracket	1 pcs	
		M2.5x0.4xL5 socket head cap screws	8 pcs	
	<b>Carton dimension</b>	182x137x200 mm		
	<b>N. W</b>	0.09	KG	
	<b>G. W</b>	0.2	KG	
<b>Carton Label (100x150mm)</b>	<b>Antenna Label (10x30mm)</b>			
	HA-1840GA1-KF			
<b>Custom carton Label</b>	<b>Custom Antenna Label</b>			
** Following the customer requirements. Please inform us when you make an order	** Following the customer requirements. Please inform us when you make an order			

## 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-1840GA1-KF	18GHz to 40GHz 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.