

Wide Band Dual-Polarization Horn Antenna 4 - 18GHz



Note: Photo is for illustration purposes only.
Please refer to the outline drawing.

Features

- High power operation up to 100W CW
- Wide bandwidth, flat frequency response
- Customized unit is available upon request

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

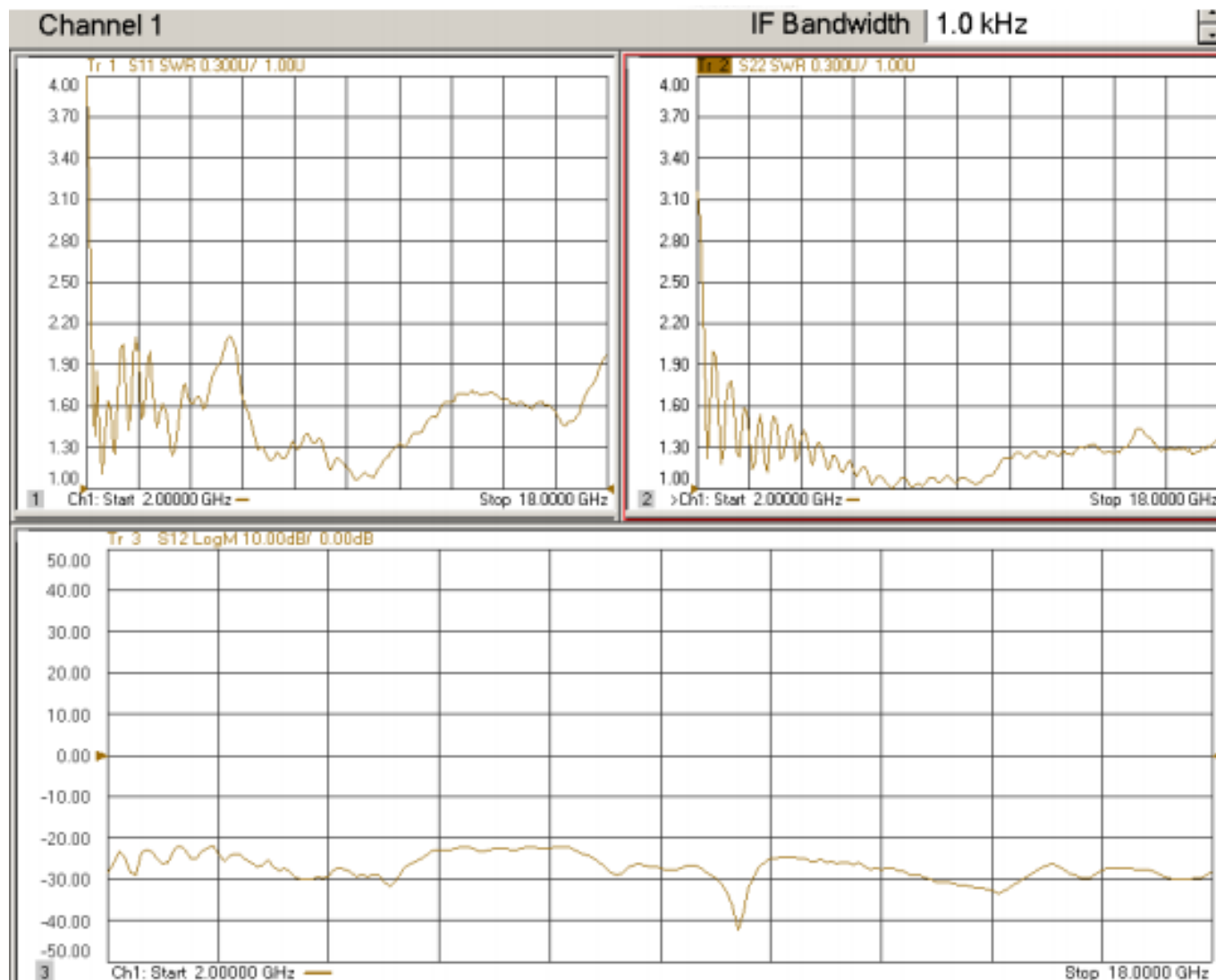
Electrical Specifications, $T_A=25^\circ\text{C}$

Parameter	Min.	Typ.	Max.	Units
Frequency Range	4-18			GHz
Antenna Gain		20		dB
VSWR			3.0	:1
Power Handling (CW)			100	W
Impedance	50			Ω
Weight	23.38			Ounces
Connector Type	SMA-Female			
Material	Aluminum			

Environmental Specifications and Test Standards

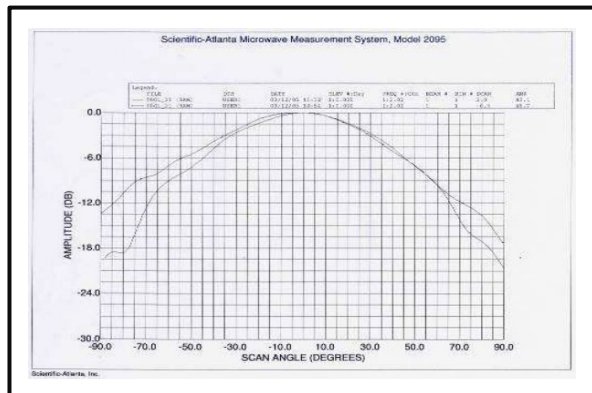
Parameter	Description
Operational Temperature	-55°C~+85°C (Case Temperature)
Storage Temperature	-55°C~+100°C
Thermal Shock	-55°C → +85°C (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883 (For Hermetically Sealed Units)

Typical Performance Plots (After narrow tuning for 4-18GHz)

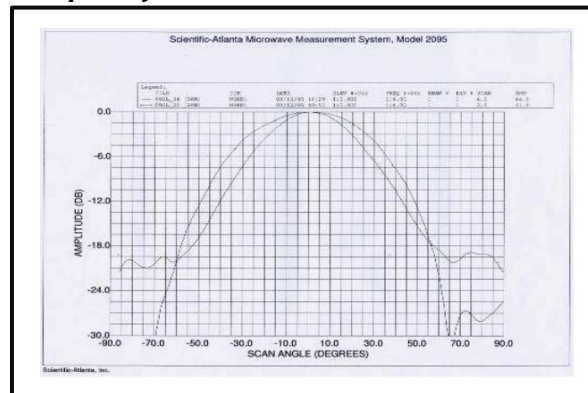


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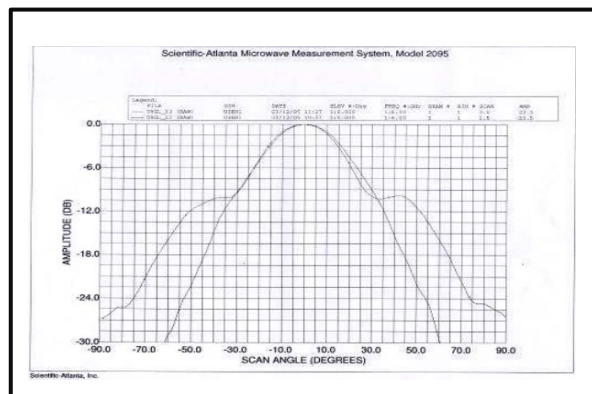
Frequency 2GHz Horizontal and Vertical Plane



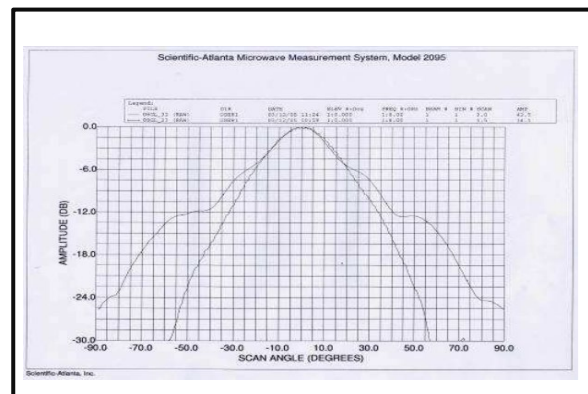
Frequency 4GHz Horizontal and Vertical Plane



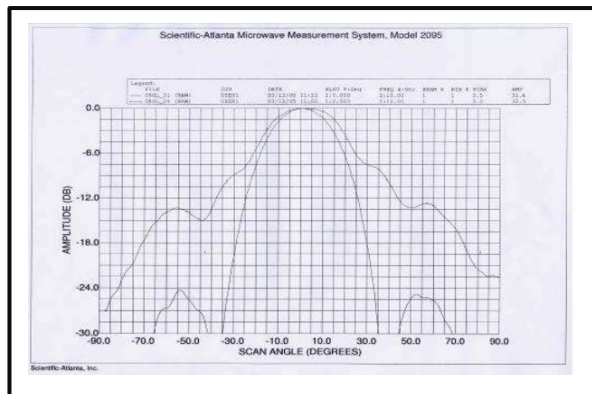
Frequency 6GHz Horizontal and Vertical Plane



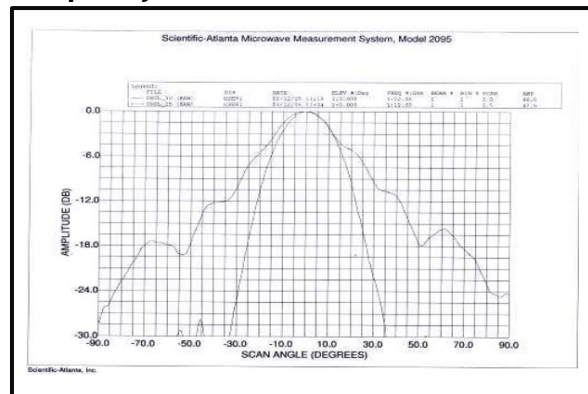
Frequency 8GHz Horizontal and Vertical Plane



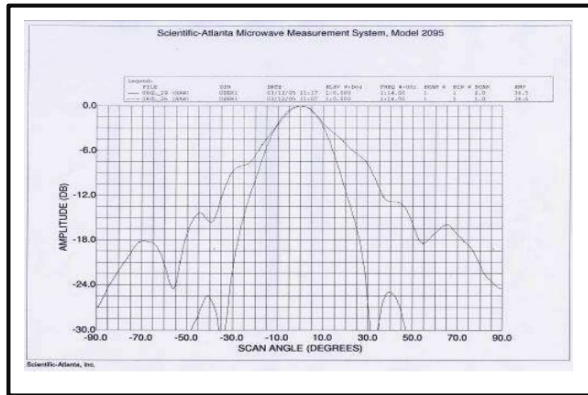
Frequency 10GHz Horizontal and Vertical Plane



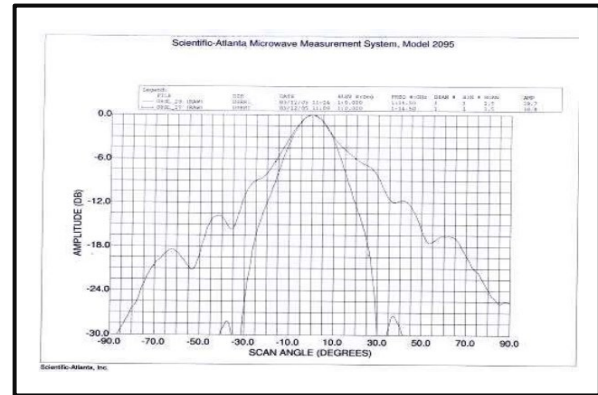
Frequency 12GHz Horizontal and Vertical Plane



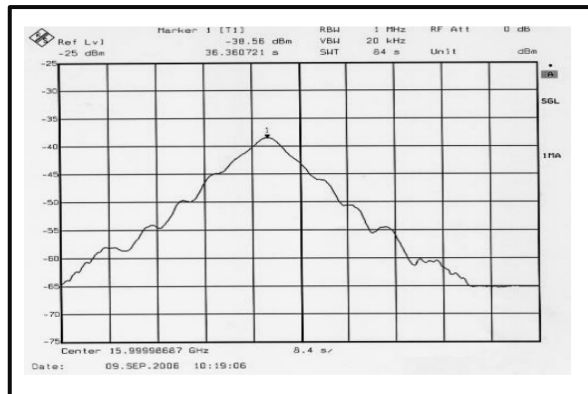
Frequency 14GHz Horizontal and Vertical Plane



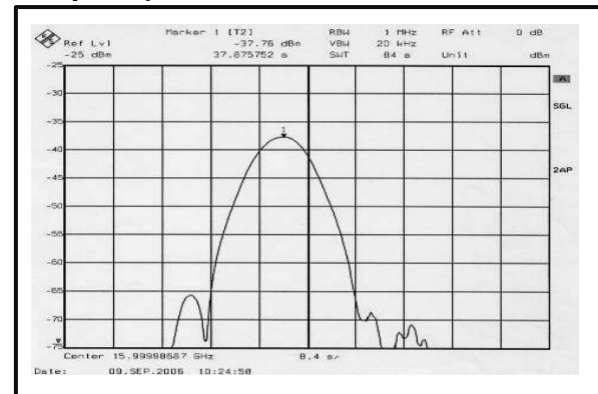
Frequency 14.5GHz Horizontal and Vertical Plane



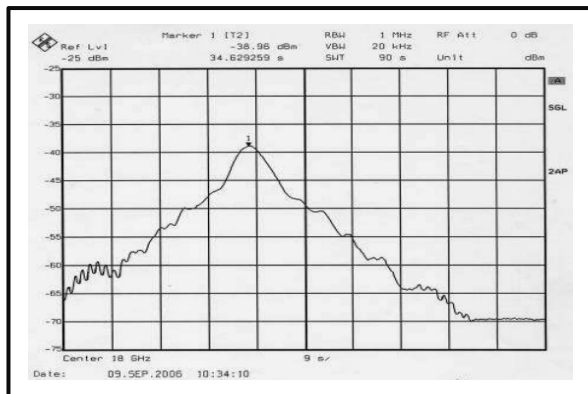
Frequency 16GHz Horizontal Plane



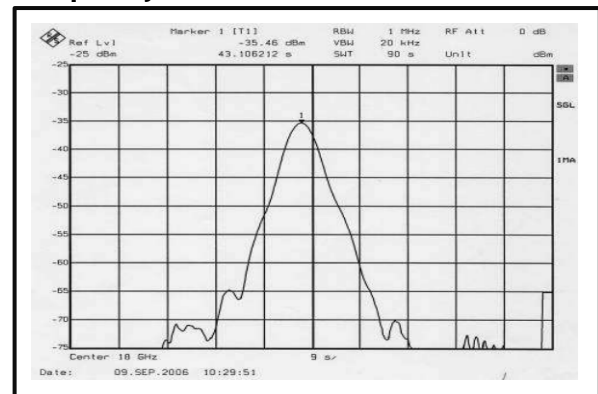
Frequency 16GHz Vertical Plane

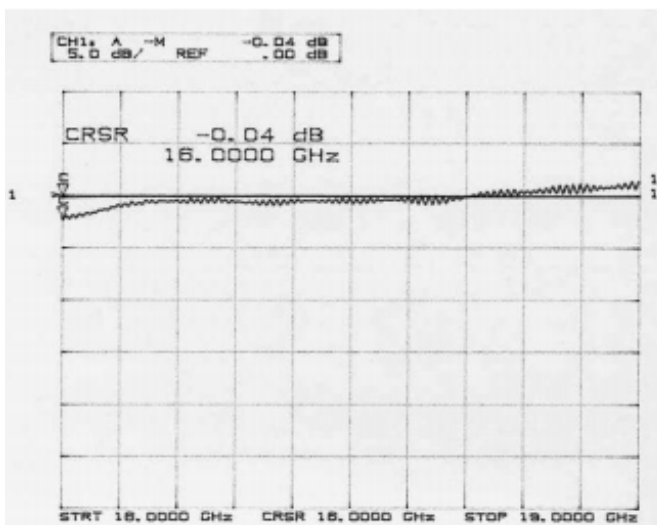
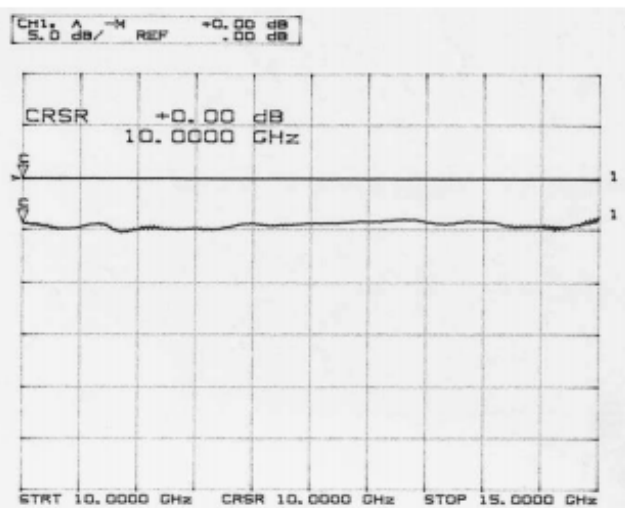
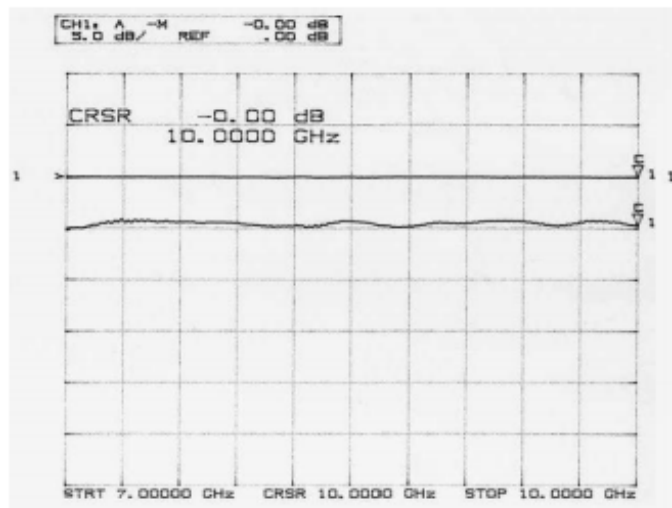
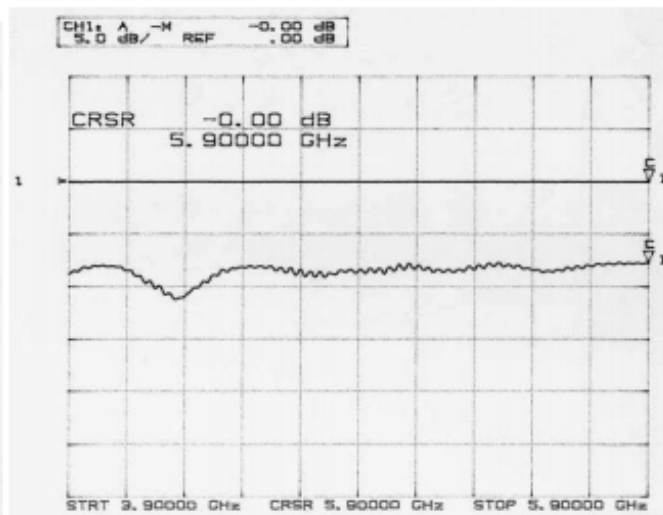
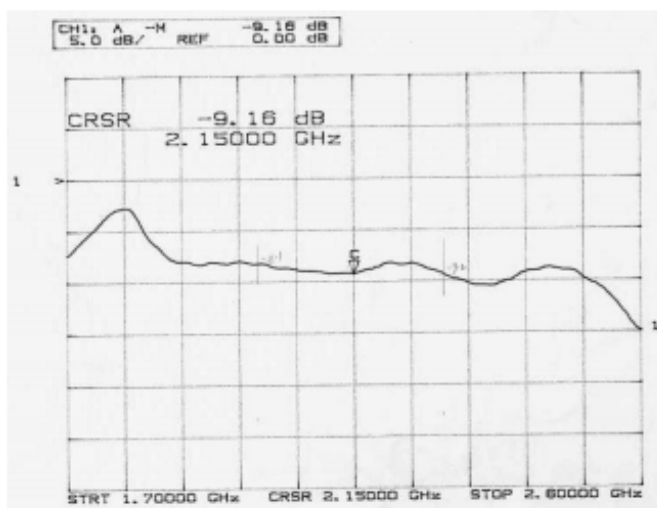


Frequency 18GHz Horizontal Plane



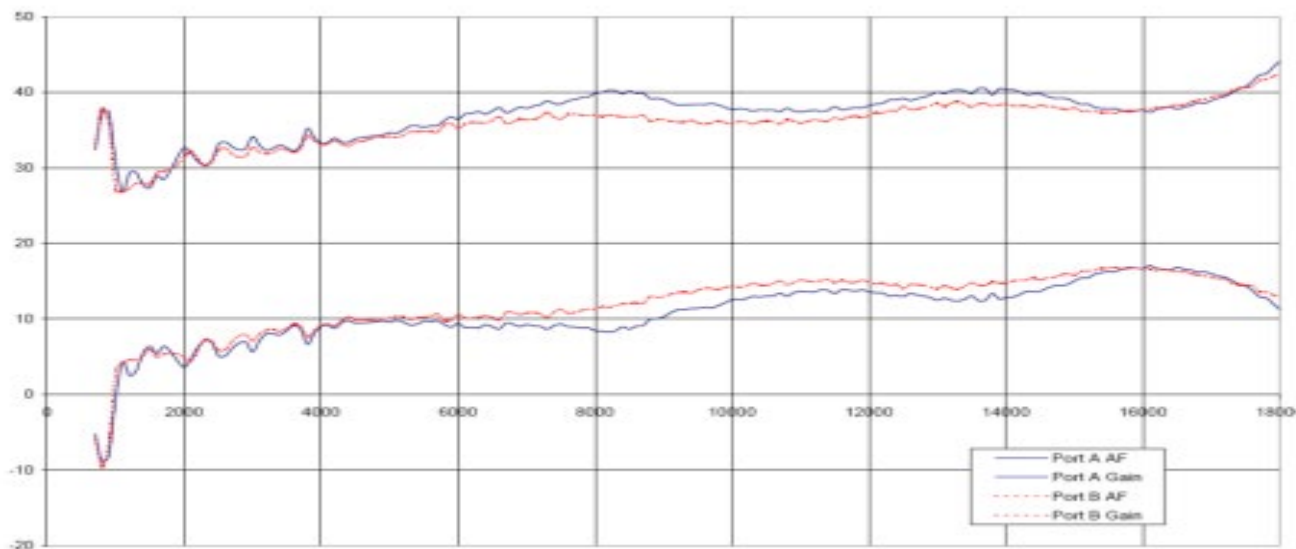
Frequency 18GHz Vertical Plane



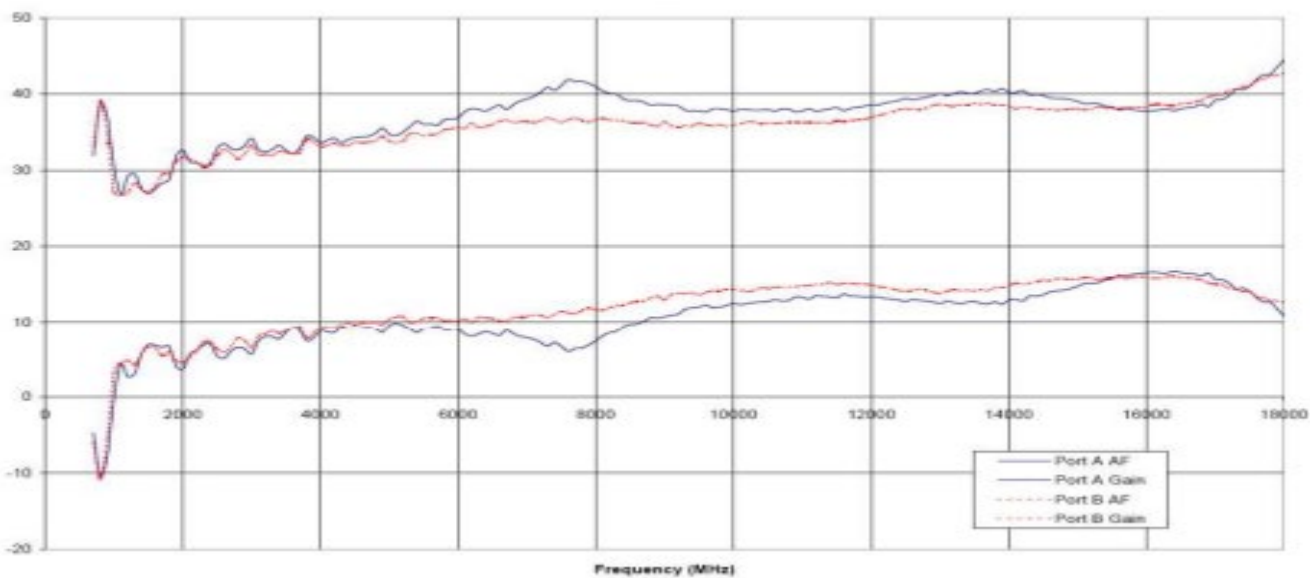


Frequency (GHz)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1st Port Reflection Ratio (db)	-4.3	-11.3	-15.5	-22.5	-20.3	-15.8	-11.9	-10.1	-10.5	-9.4	-7.8	-7.9	-10.7	-12.0	-13.8	-9.8	-11.3	-10.5
2nd Port Reflection Ratio (db)	-1.9	-16.5	-11.7	-15.2	-15.9	-13.4	-16.3	-20.7	-12.4	-7.8	-9.1	-6.4	-7.8	-9.8	-23.2	-21.5	-17.6	-4.9
Gain (dB)	7.46	8.44	10.02	12.88	12.99	13.81	13.9	15.28	17.23	15.87	21.97	22.22	23.23	23.77	24.02	24.69	22.61	20.88

Horizontal Antenna Data
Quad Ridge Horn



Vertical Antenna Data
Quad Ridge Horn



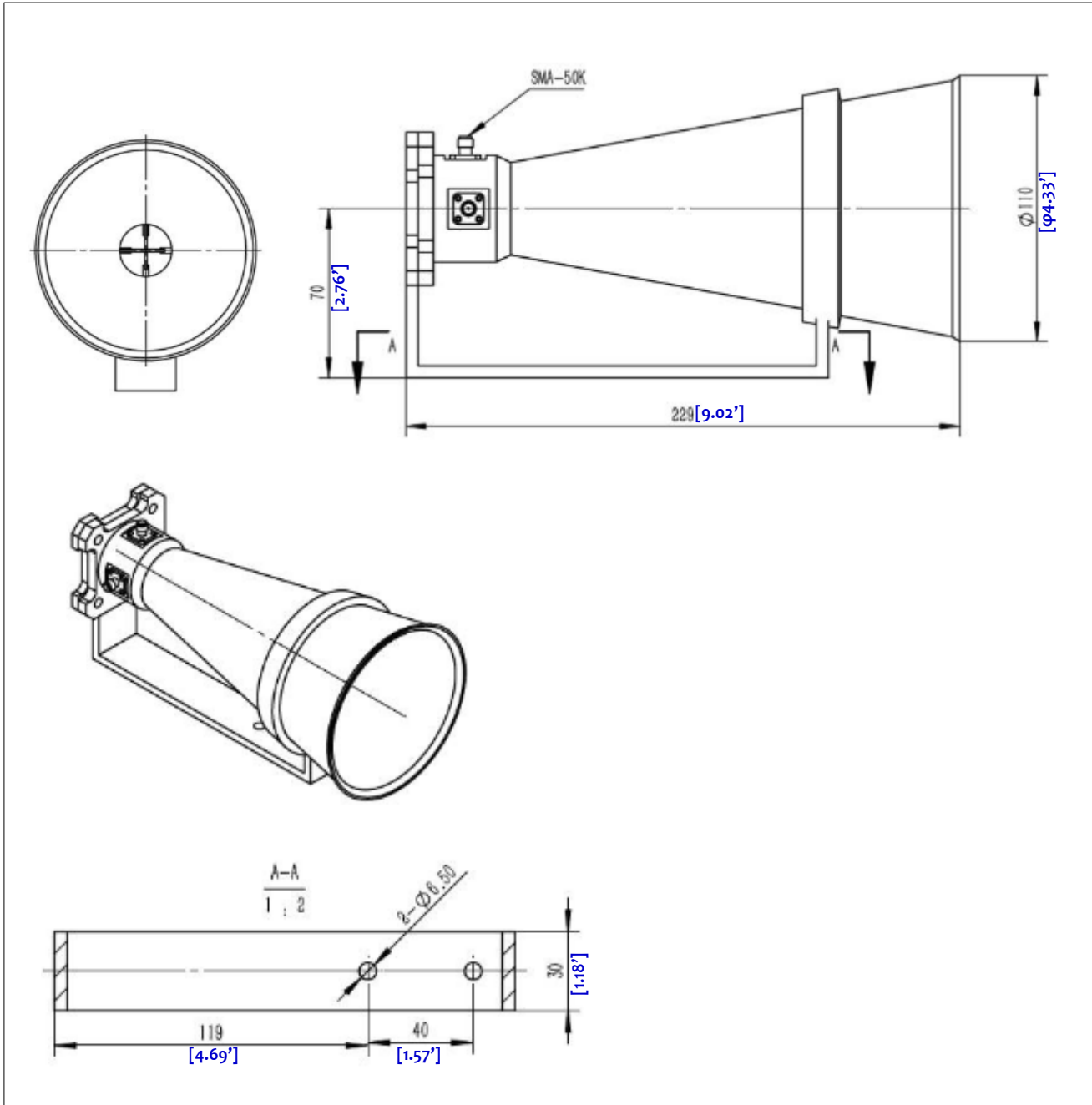
f (GHz)	G ₀ (dB)	ΔG(dB)	G(dB)
2.0	16.73	8.15	8.58
2.3	17.63	9.2	8.43
3.9	18.8	8.6	10.2
4.9	20.28	8.47	11.81
5.9	21.05	7.64	13.41
7.0	19.65	5.01	14.64
8.5	20.57	4.33	16.24
10.0	21.2	4.58	16.62
12.5	22.31	4.29	18.02
15.0	22.84	3.71	19.13
17.0	18.65	0.71	17.94
18.0	19	0.34	18.66

Note:

- $G = G_0 - \Delta G$
- G=4~18GHz Gain of Polarization Horn
- G₀= the standard gain of the polarization horn
- $\Delta G = P_1 - P_2$
- P₁= the receiving power level of standard horn
- P₂= the receiving power level of 4~18GHz Polarization Horn

Outline Drawing:

All Dimensions in mm [inches]



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