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Product Number: NB040A-13B1IX-038

Product Name: 2.4G FPC Antenna



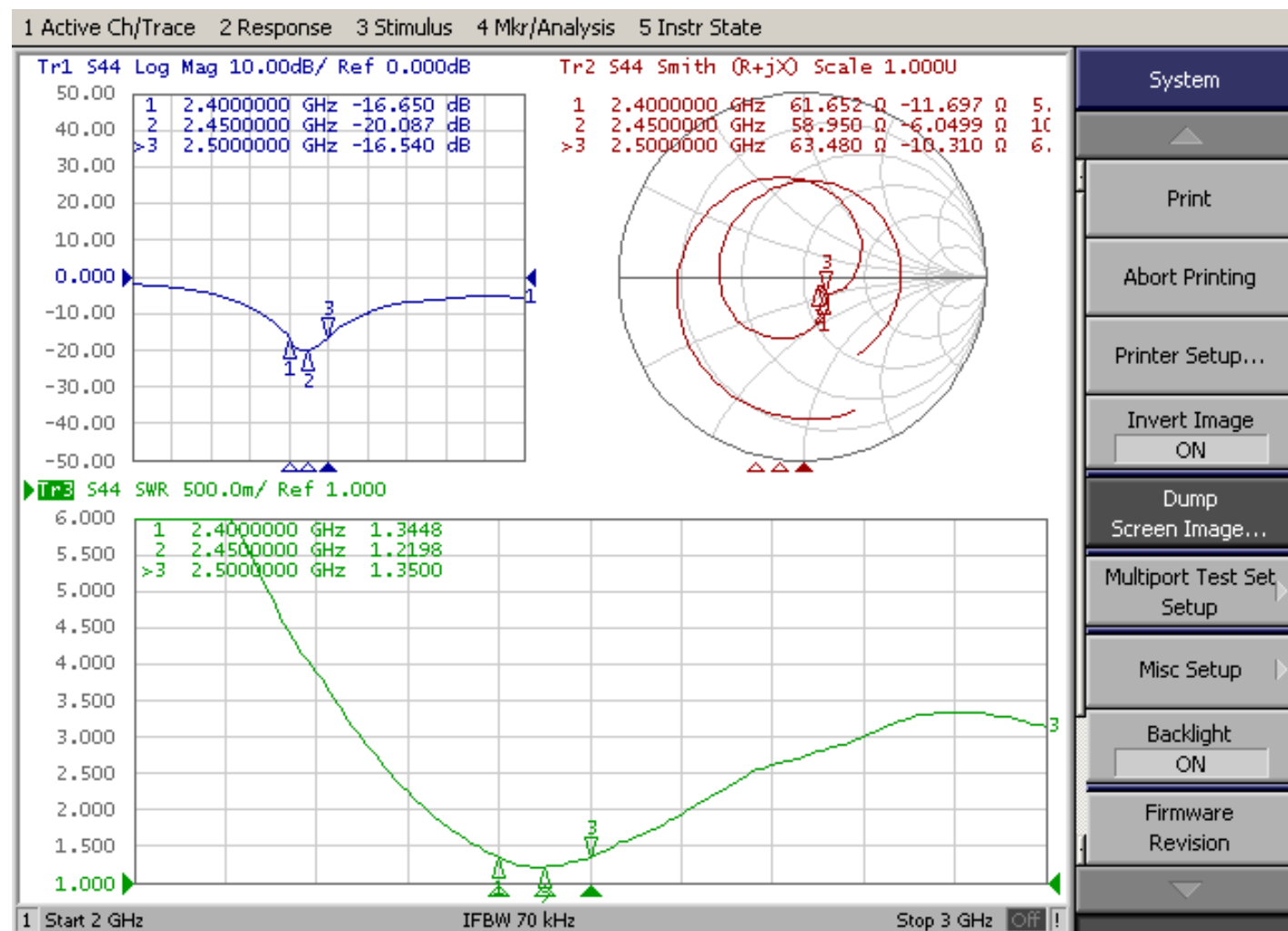
1. Specification

Sample Photo	
A. Electrical Characteristics	
Frequency	2300 ~ 2500 MHz
S.W.R.	≤ 2.0
Antenna Gain	3.21 dBi
Efficiency	$\geq 85\%$
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	FPCB
Cable Type	O.D. 1.13 mm // 38 mm
Connector Type	Mini Connector
Pull Test	$\geq 1.0\text{Kg}$
C. Environmental	
Operation Temperature	- 40 °C ~ + 85 °C
Storage Temperature	- 40 °C ~ + 85 °C

2. Characteristics and Reliability Test

Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	MIL-STD-202G, 201A Amplitude: 0.03 inch (0.76mm); Freq: 10 to 55 Hz 3 directions; 2 hours for each direction	1. No Visual Damage 2. Frequency Tol. ≤ 5%
M2	Random Drop	Height: 1.5 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol. ≤ 5%
M3	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M4	Terminal-Pull Test	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol. ≤ 5%
M5	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	MIL-STD-202G, 101E, cond. B Temp: 35°C; RH: ≥ 95%; NaCl solution: ≥ 5%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%
E2	Humidity	MIL-STD-202G, 103B, cond. B Temp: 40°C; RH: ≥ 95%; Time: 48 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%
E3	Thermal Shock	1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%
E4	Life (High Temp.)	MIL-STD-202G, 108A, cond. A Temp: 85°C; Time: 96 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%
R1	RoHS	With Reference to IEC 62321:2008 with flow chart	Directive RoHS 2002/95/EC
R2	PFOS	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC
R3	PFOA	With Reference to USA EPA 3540C:1996 by LC/MS	Directive RoHS 2006/122/EC

3. Antenna - S Parameter Test Data



4. Antenna - Radiation Pattern Test Data

Testing Equipment Specification:

Antenna Anechoic Chamber Dimension: 8 x 4 x 4 m

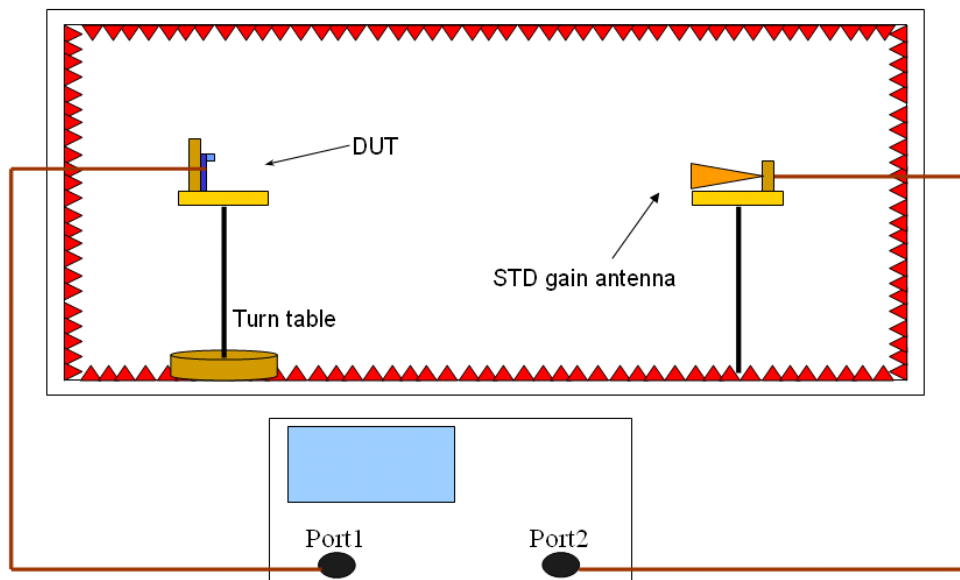
Quiet Zone: 600mm @ 1 GHz

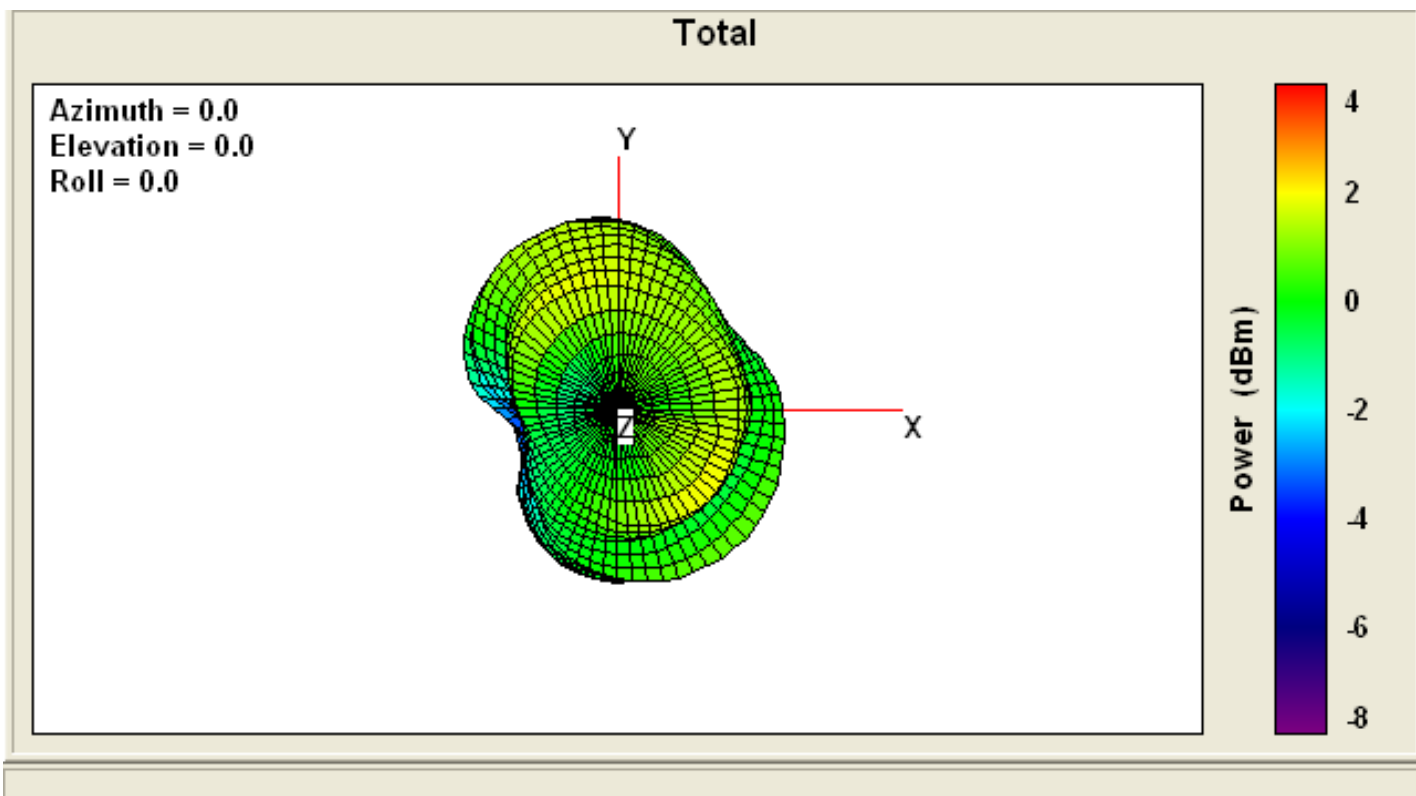
Isolation: >100dB @ 1 MHz ~ 10 GHz

Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

Double Ridged Horn Antenna





Total	Point Values	Ant. Port Input Pwr. (dBm)	Tot. Rad. Pwr. (dBm)	Peak EIRP (dBm)	Directivity (dBi)	Efficiency (dB)	Efficiency (%)	Gain (dBi)
	Frequency (MHz)							
	2400	0	-0.682913	2.40812	3.09104	-0.682913	85.4493	2.40812
	2420	0	-0.619927	2.47048	3.0904	-0.619927	86.6977	2.47048
	2440	0	-0.778791	2.39906	3.17785	-0.778791	83.5836	2.39906
	2460	0	-0.583649	2.76481	3.34845	-0.583649	87.4249	2.76481
	2480	0	-0.47355	3.10355	3.5771	-0.47355	89.6695	3.10355
	2500	0	-0.509617	3.2066	3.71622	-0.509617	88.928	3.2066

5. Mechanical Drawing

