



**Index:**


- 1. Specification / Page 2**
- 2. Characteristics and Reliability Test / Page 3**
- 3. Antenna - S Parameter Test Data / Page 4**
- 4. Antenna - Radiation Pattern Test Data / Page 5**
- 5. Mechanical Drawing / Page 6**

Product Number: DS0470-5001NM

Product Name: 470MHz Antenna



## 1. Specification

Sample Photo	
 A photograph of a black, cylindrical antenna with a silver-colored metal connector at one end. The antenna is positioned diagonally against a light gray background.	
A. Electrical Characteristics	
Frequency	470 MHz
S.W.R.	$\leq 2.0$
Antenna Gain	6 dBi
Polarization	Linear
Impedance	50 Ohm
B. Material & Mechanical Characteristics	
Material of Radiator	Cu
Material of Plastic	Body: Glass Fiber
Cable Type	RG 141
Connector Type	N Male
Connector Pull Test	$\geq 5$ Kg
Connector Torque Test	/
C. Environmental	
Operation Temperature	- 40 °C ~ + 80 °C
Storage Temperature	- 40 °C ~ + 80 °C

Product Number: DS0470-5001NM

Product Name: 470MHz Antenna



## 2. Characteristics and Reliability Test

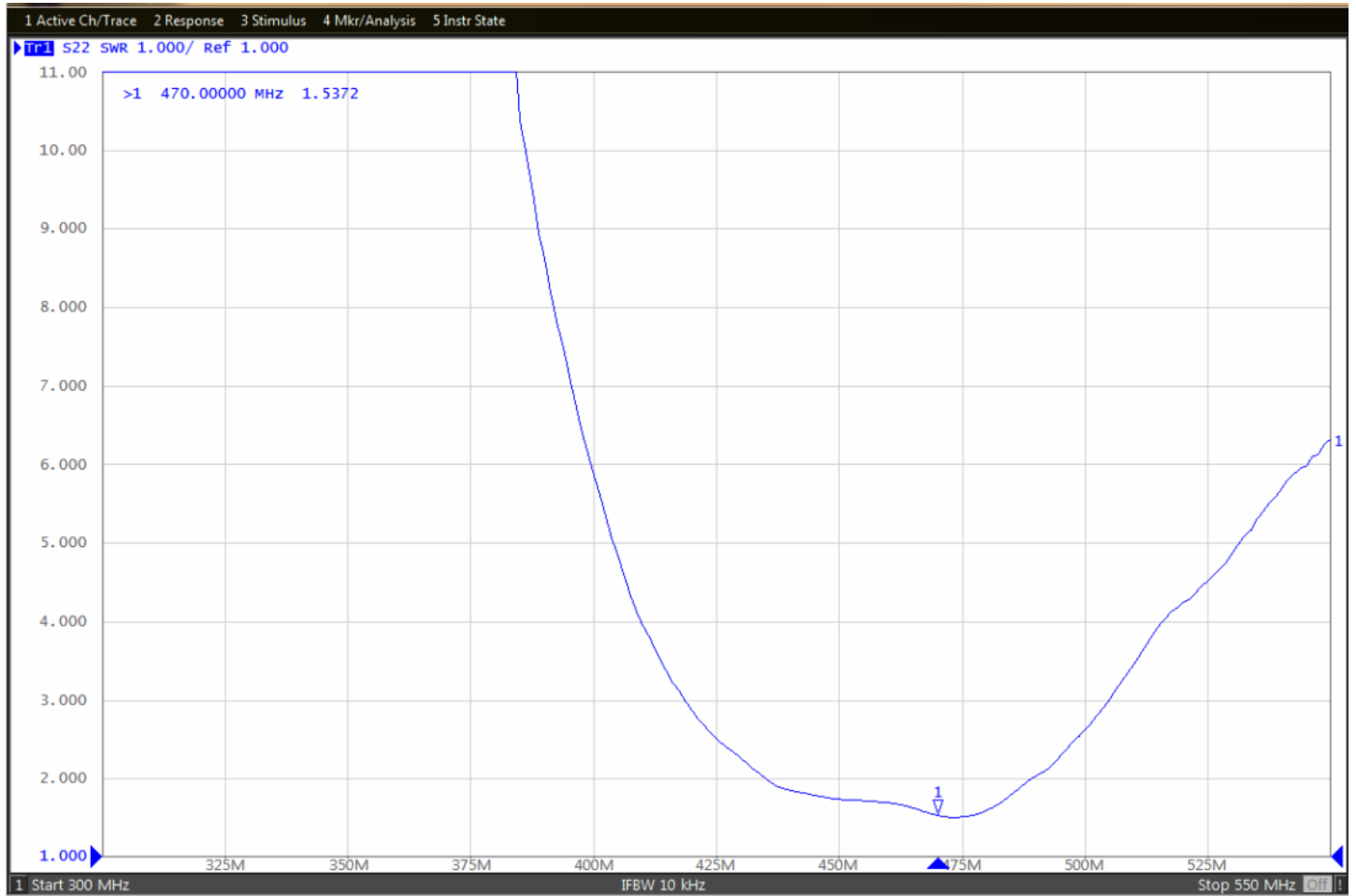
Test Items		Test Condition and Procedure	Requirements
C1	S.W.R.	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	MIL-STD-202G, 201A Amplitude: 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	Terminal-Torque Test	MIL-STD-202G, 211A, cond. E Holding with individual specification; applied clockwise and counterclockwise to the axis of terminal	1. Directive DUT specification 2. Frequency Tol.<= 5%
M6	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

Product Number: DS0470-5001NM

Product Name: 470MHz Antenna



### 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

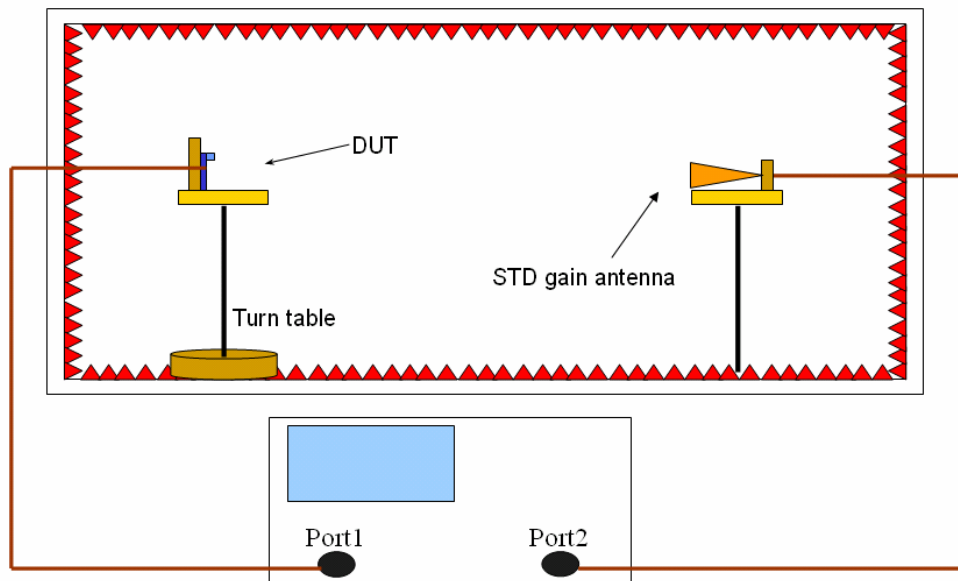
Quiet Zone: 600mm @1 GHz

Isolation: >100dB @ 1 MHz ~ 10 GHz

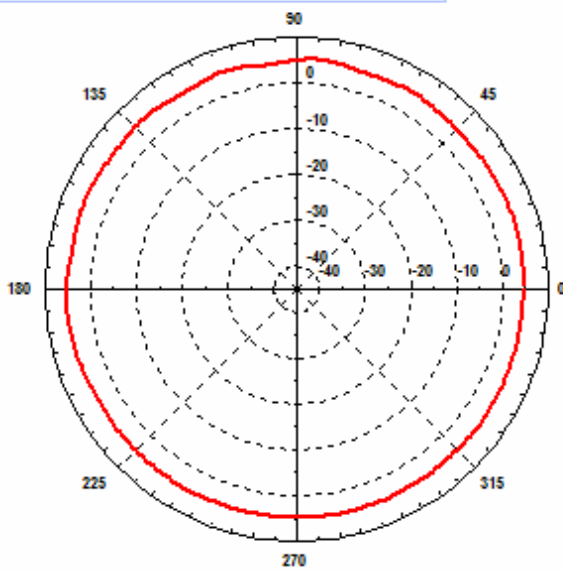
Testing Equipment: Agilent 5071B

Received Antenna: 0.7 ~ 6.0 GHz for Gain Calibration

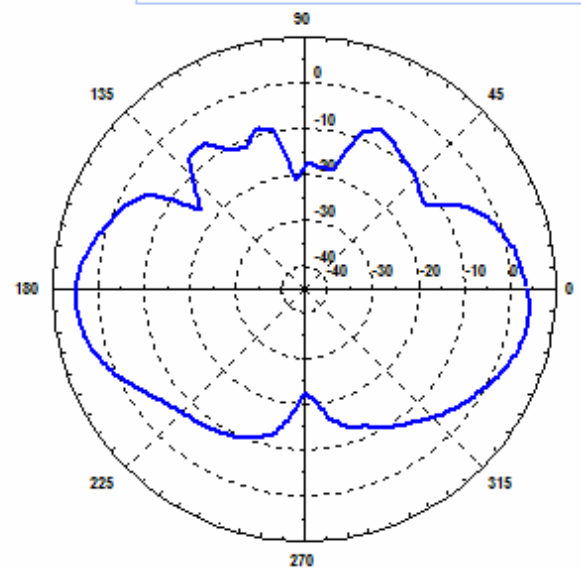
Double Ridged Horn Antenna



H-Plane Radiation Pattern

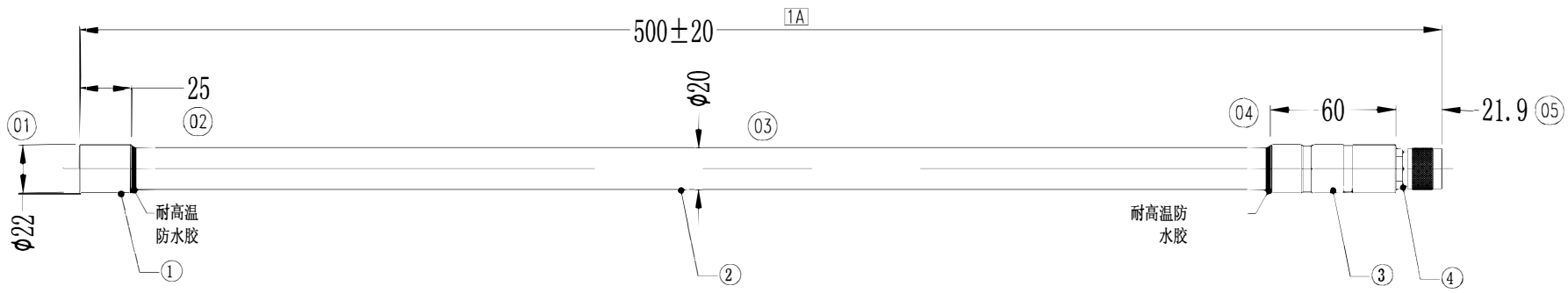


E-Plane Radiation Pattern



#### 5. Mechanical Drawing See attached files

SIGN	DATE	DESCRIPTION	APPROVER
△			
○			
◇			




NOTES:

- MATERIAL AND FINISH: SEE ITEM BLOCK;
- ELECTRICAL SPECIFICATION:
  - NORMAL IMPEDANCE: 50Ω;
  - FREQUENCY RANGE: 470MHz;
  - RETURN LOSS: -10dBi Max.;
  - VSWR: 2.0 Max.;
  - PEAK GAIN: 6dBi;
- "(A)" MEANS IMPORTANCE DIMENSION.

## 深圳市瑞科慧联科技有限公司

Tel: 86-0755-86108311  
Fax: 0755-86152201

TITLE: 470MHz Antenna			
PART NO.: DS0470-5001NM		DWG NAME: DS0470-5001NM.DWG	
APPROVED BY	CHECKED BY	DESIGNED BY	 Tolerance X.X ±0.30 X.XX ±0.10 X° ±3°
jeff 2018-03-05	leon 2018-03-05	YD 2018-03-05	
UNITS: mm SCALE: 1/1 REVISION: A			

4	接头	N公头公针接RG14线	1	N/A
3	大套筒	铝材表面镀镍φ22*60mm	1	N/A
2	玻璃钢管	玻璃钢管φ20*500MM表面黑色	1	N/A
1	小套筒	铝材表面镀镍φ22*25mm	1	N/A
项目	零件名称	规格描述	数量	备注