



2.4 GHz External Antenna with Cable Connector

AT2.4G-09082-2.0BT

AT2.4G-09082-2.0BTH

Datasheet

1. Product Information

1.1 Product Description

This specification covers the external antenna for Wi-Fi and Bluetooth.

2. Part NO. : AT2.4G-09082-2.0BT

AT2.4G-09082-2.0BTH (Antenna + Grommet Holder)

3. Electrical Characteristics

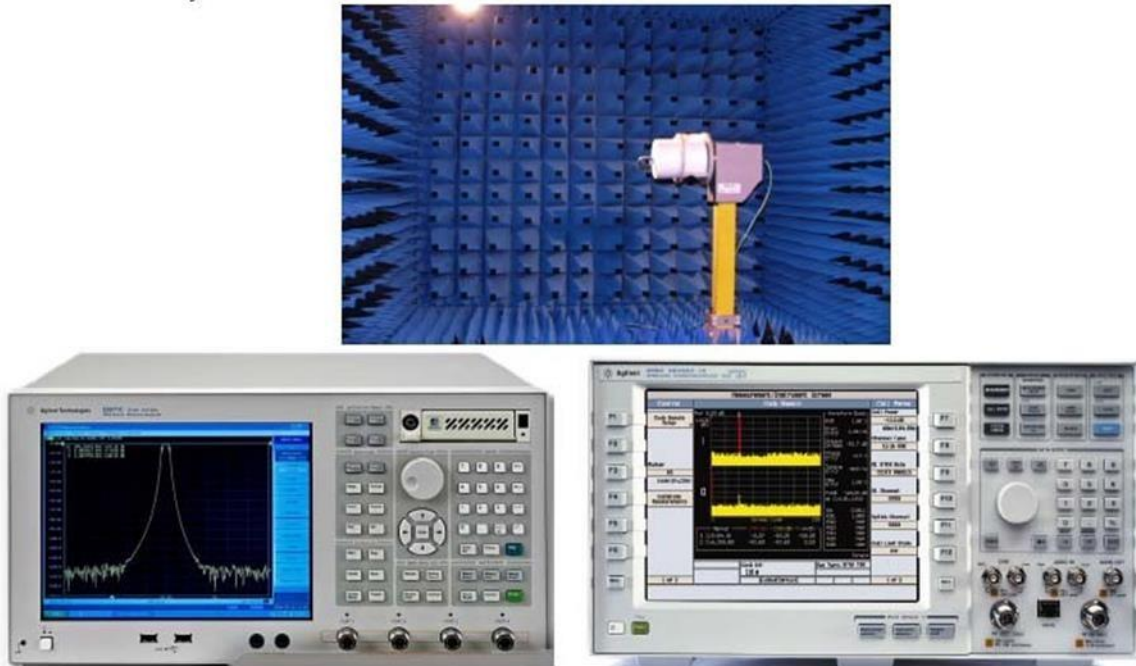
Characteristics	SPEC
Work Frequency	2450 ± 50 MHz
Impedance	50 Ohm Nominal
V.S.W.R	1.92 : 1 Max
Return Loss	-10 dB Max
Radiation	Omni-directional
Gain (Peak)	2.0 dBi
Cable Loss	2.3 dB / m Max @ 2450 MHz
Polarization	Linear, Vertical
Admitted Power	1 W
Antenna Material	TPE / PC / Cu
Cable Type	RG-113
Connector	IPEX MHF1
Operating Temp.	-10 ~ +60 °C
Storage Temp.	-10 ~ +70 °C

4. The Equipment of Active Test

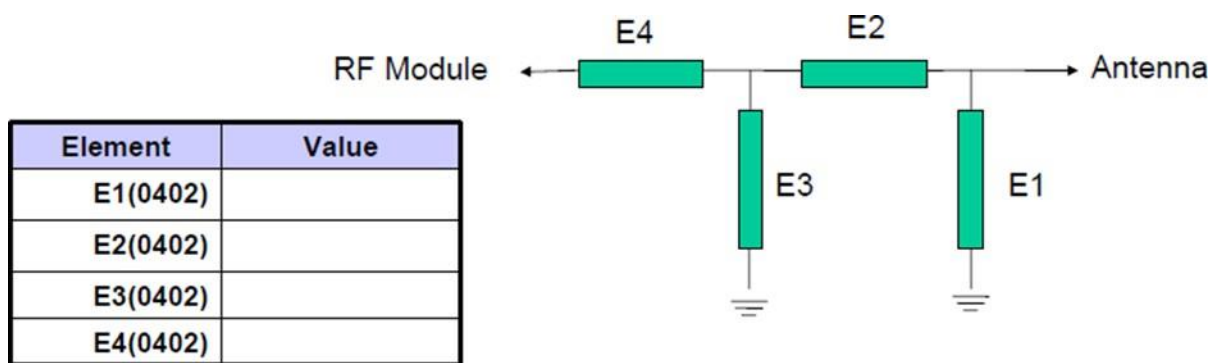
4.1 Anechoic Chamber 6x3x3 m (3D)

4.2 AGILENT 8960 5515C

4.3 Network Analyzer-AGILENT ENA5071C



5. Matching Circuits

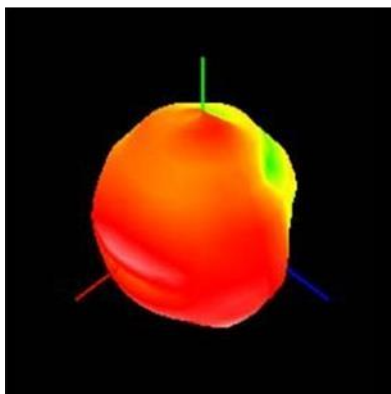


6. WIFI Antenna

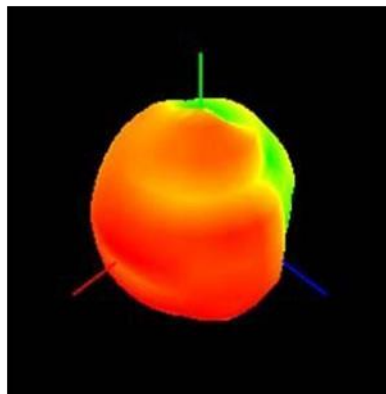


7. 3D Radiation Pattern

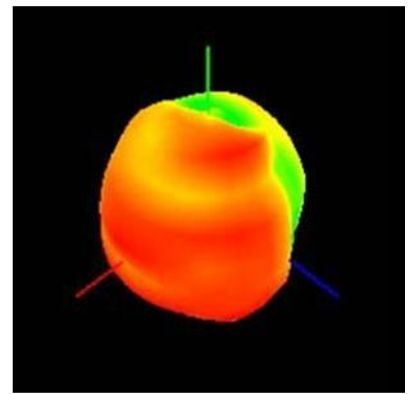
2.4G



2.45G



2.5G



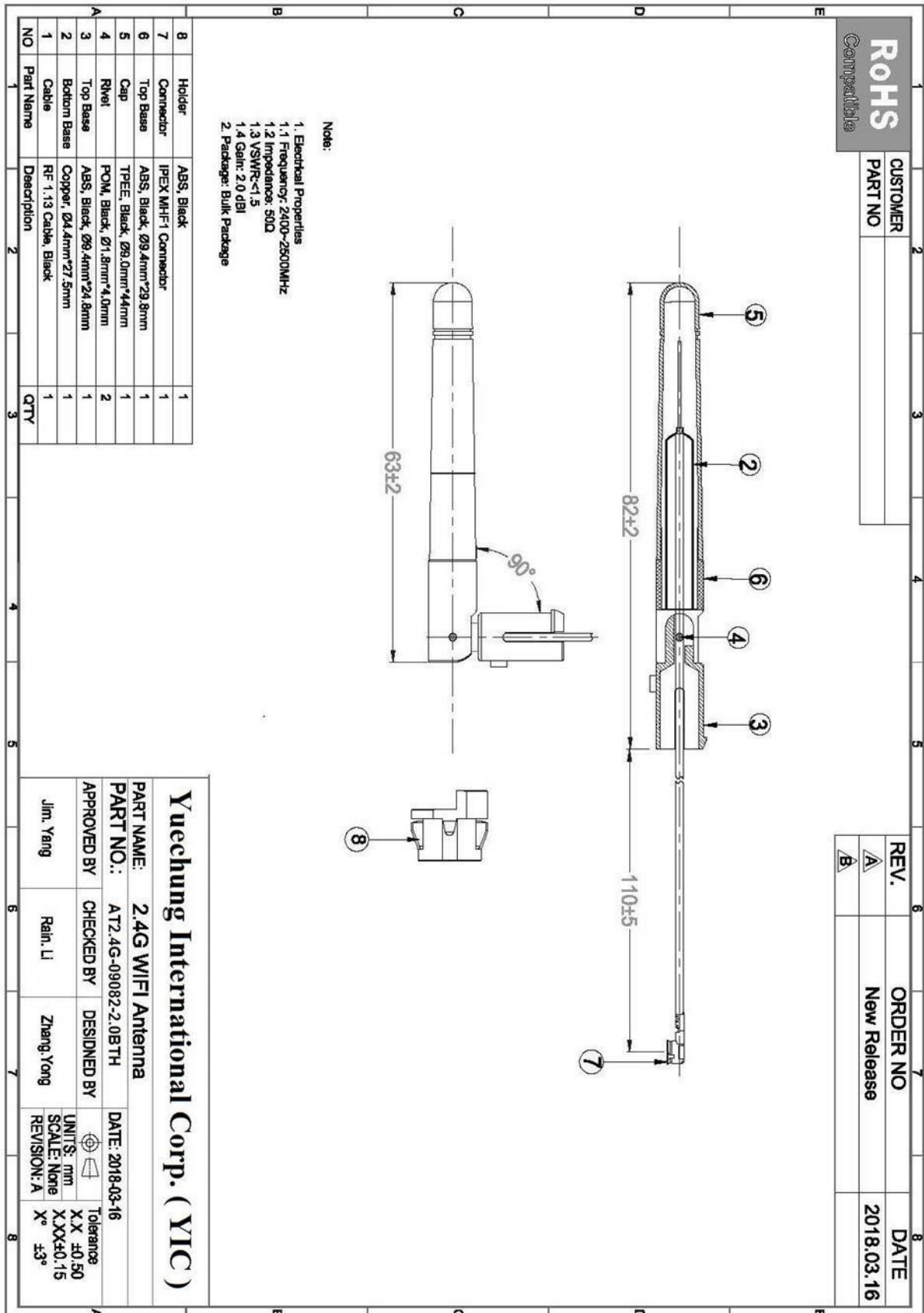
8. WIFI Antenna Test data

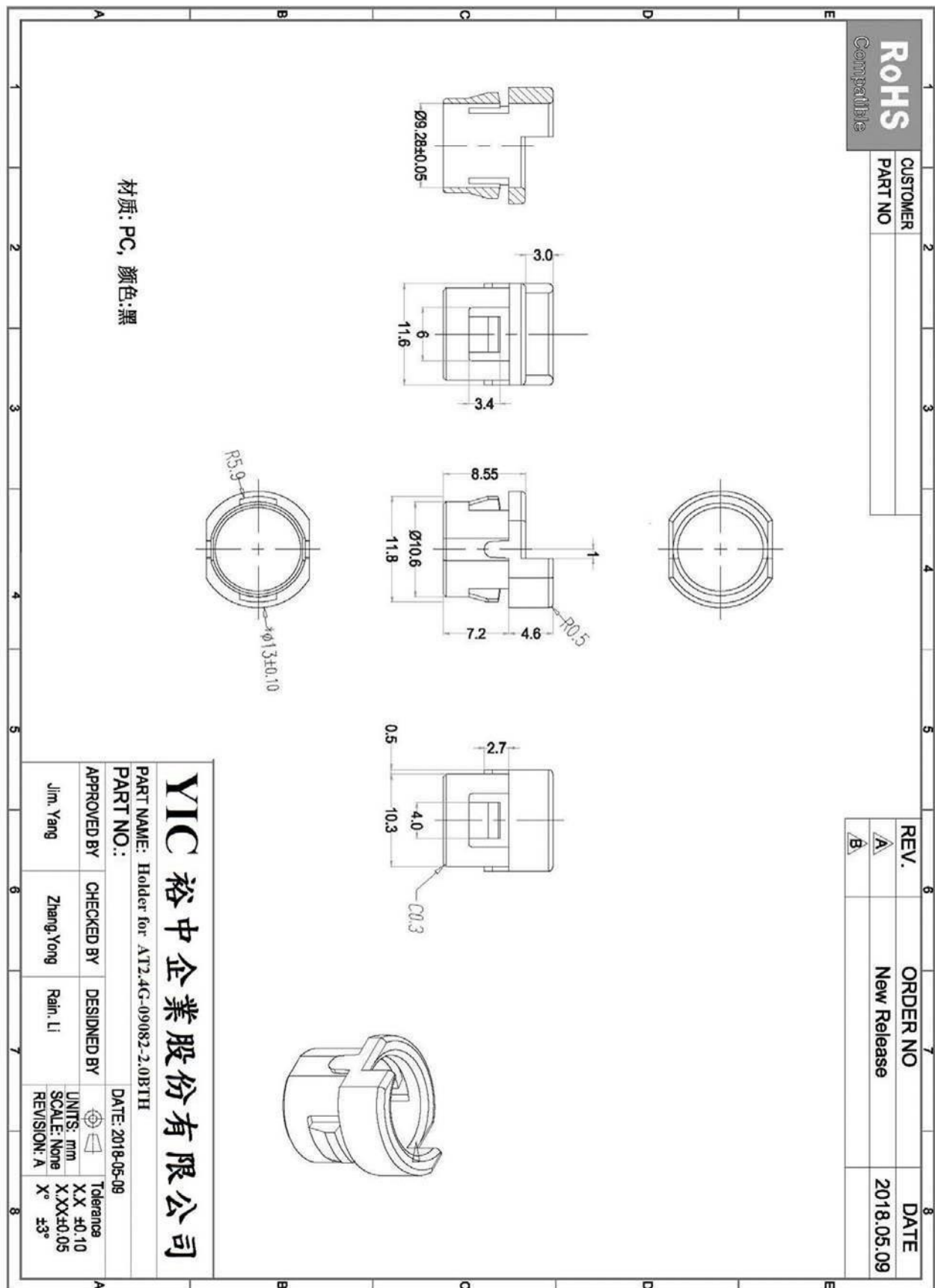
Spectrum	WIFI
Frequency point(MHz)	2450
R.L(dB)	-11.2
VSWR	1.76

9. Gain/Efficiency

Freq. (MHz)	Gain (dBi)	Efficiency (%)
2400	1.05	55.8%
2410	0.70	52.7%
2420	0.82	53.2%
2430	0.85	52.0%
2440	1.36	56.8%
2450	1.63	58.7%
2460	1.95	60.9%
2470	1.68	55.9%
2480	1.63	55.3%
2490	1.30	51.4%
2500	1.17	50.8%

10. Mechanical Drawing





11. 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	<ol style="list-style-type: none"> No Visual Damage Frequency Tol.<= 5%
M2	Random Drop	Height: 1.5 Meter; 3 directions; 1 time for each direction	<ol style="list-style-type: none"> No parts separated Frequency Tol.<= 5%
M3	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10°C; Duration: 5 seconds	<ol style="list-style-type: none"> Mounted on PCB No Visual Damage
M4	Terminal-Pull Test	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	<ol style="list-style-type: none"> Directive DUT specification 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	<ol style="list-style-type: none"> Directive DUT specification 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 <ol style="list-style-type: none"> No Visual Damage Frequency Tol.<= 5%
E2	Humidity	MIL-STD-202G, 103B, cond. B Temp: 40°C; RH: >= 95%; Time: 48 hours	After 2 Hours Recovery <ol style="list-style-type: none"> No Visual Damage Frequency Tol.<= 5%
E3	Thermal Shock	1 Cycle: - 40°C (30 minutes) to + 80°C (30 minutes) Cycles: 24	After 2 Hours Recovery <ol style="list-style-type: none"> No Visual Damage 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