



Antenna Specification



Product Number: 3101504960

Product Name: Antenna

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<http://www.tp-link.com>

Product Number: 3101504960

Product Name: Antenna

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Specification For Approval

Date: _____

File No. : _____

Version: 1.0

Customer: _____ / _____

Customer P/N : _____ / _____

TP-LINK P/N: 3101504960

Description: Antenna|2.4-2.5GHz|2.0dBi|LP|Omni|2W|Weld|55mm|D1.13mm| 羽 翼
-277|TP-LINK|X1040-RW055REV1.0|黑色/ABS-HB/纹面+logo 光面|否|灰
色线/3101504180 改线长线径改焊线/自制件]

TP-LINK Checked By:
Customer Approved By:

TP-LINK®

TP-LINK TECHNOLOGIES CO., LTD.

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[http:// www.tp-link.com](http://www.tp-link.com)

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I. Specification

Sample Photo**A. Electrical Characteristics**

Frequency	2400~2500MHz
Impedance	50 Ohm
S.W.R.	<= 2.0
Antenna Type	Dipole
Antenna Gain	2.0dBi
Max Input Power	2 W
Polarization	Linear
Radiation pattern	Omni-Directional

B. Material & Mechanical Characteristics

Material of Radiator	Cu
Material of Plastic	Body: ABS-HB Holder: PC、ABS
Cable Type	O.D. 1.13mm (gray)
Connector Type	Weld
Connector Pull Test	3Kg

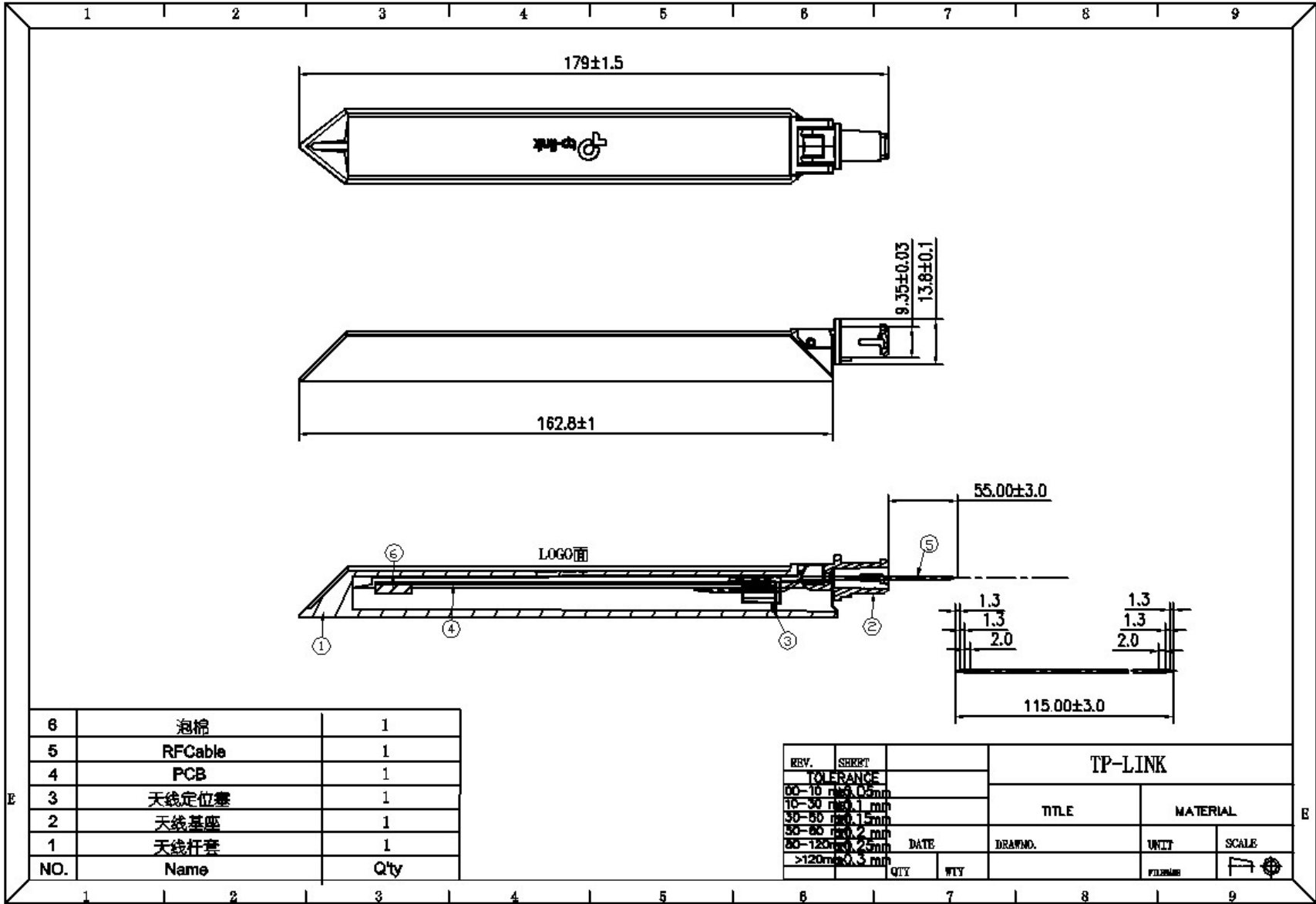
C. Environmental

Operation Temperature	- 40℃ ~ + 60℃
Storage Temperature	- 40℃ ~ + 60℃

II. 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, 201 A 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	Drop Test	Combine DUT with router; Height: 0.6 Meter; 1 direction; 3 times for the direction	1. No parts separated 2. Frequency Tol. ≤ 5%
M4	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10 °C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M5	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%
M6	Bend Test	3 angles: 0° ,45° ,90° .100 times for each angle	1. No Visual Damage 2. No Obvious shake
M7	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	SE-GS-90T Temp: 35°C; RH: 93%±3%; NaCl solution proportion: 1.026 ~ 1.041; Time: 12 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%
E2	Thermal Shock	1 Cycle: -40°C (30 minutes) to +60°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%
E3	Life (HighTemp.)	MIL-STD-202G, 108A, cond. A Temp: 70°C; Time: 8 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%

III. Mechanical Drawing and Material Description



Product Number: 3101504960

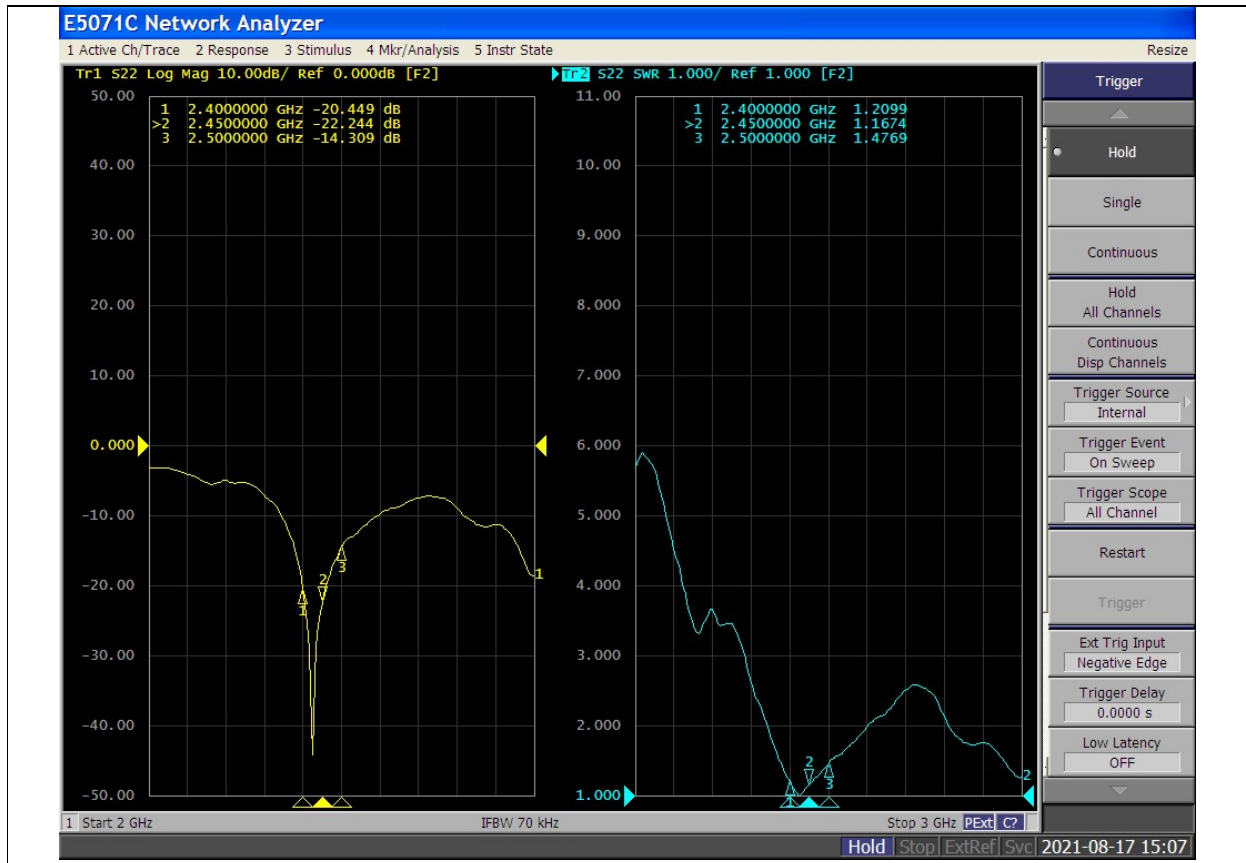
Product Name: Antenna



IV. RoHS Test Report

N O .	Product Model	Constit uents	Material	Test Result for RoHS-corresponding Substance						PFOS	Halogen				Series No.	Date	Title	Test Agent			
				Cd	Pb	Hg	Cr(VI)	PBB s	PBD Es	PFOS	F	Cl	Br	I							
1	3120500036	Cable	FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		N.D	N.D	N.D	N.D	RLSHD000593720060	2011/04/25	Jacket	上海 SGS			
			FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D		N.D	N.D	N.D	Insulation			上海 SGS				
			Wire-TC	N.D.	N.D.	N.D.	N.D.							Outner conductor			CTI				
			Wire-TC	N.D.	N.D.	N.D.	N.D.							Inner conductor			CTI				
2	6142504929	杆套	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.							SHAEC1200148411	2012/01/09	上海 ABS	上海 SGS		
3	6142504930	基座	PC		N.D.		N.D.									N.D.	N.D.	GZ1106084755	2011/07/05	PC S-2000VR	广州 SGS
4	6142504931	定位塞	HDPE		N.D.		N.D.									N.D.	N.D.	SHAEC1109428201	2011/06/27	HDPE	上海 SGS
5	6410500526	Foam	EVA	N.D.	17	N.D.	N.D.	N.D.	N.D.									CANEC1103057901	2011/08/11	EVA	广州 SGS
6	2051500805	PCB	CEM-1+CU	N.D.	5	N.D.		N.D.	N.D.					CANEC1411243502	2014/07/18	KB-6160	SGS				

V. Antenna – S Parameter Test Data



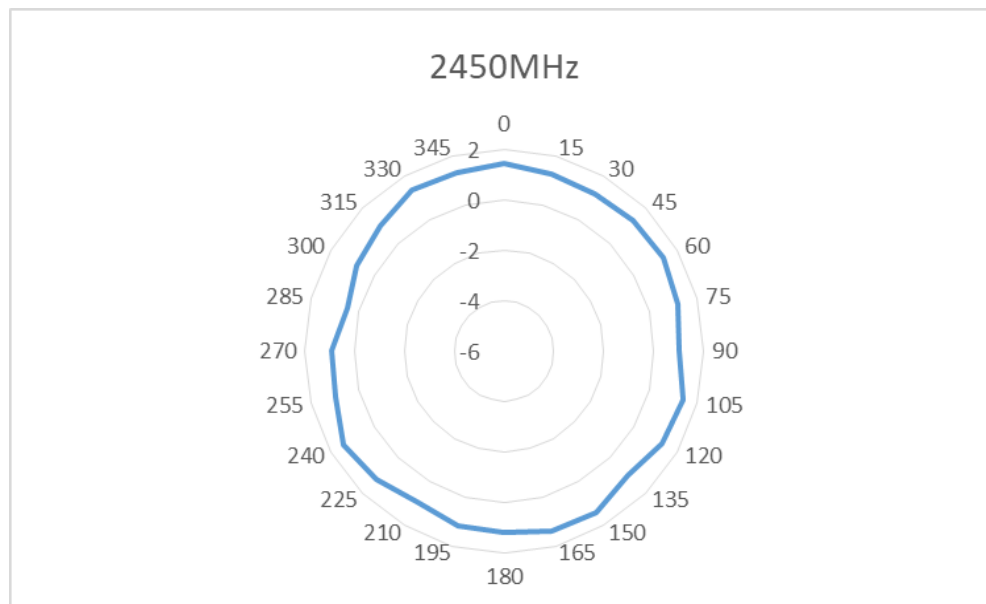
VI. Antenna – Radiation Pattern Test Data

Testing Equipment Specification	
Microwave Chamber	ETS
Testing Equipment	Agilent 5071B

PeakGain:

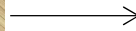
Freq	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain	1.92	1.87	1.85	1.92	1.96	1.97	1.86	1.92	1.81	1.74	1.74

Theta=90°

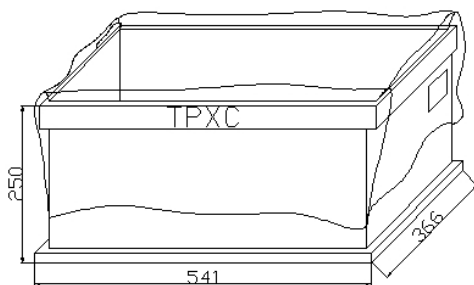


VII. Packing Drawing

i . Put ANT into Plastic Tray (400PCS/BOX) (仅作装箱说明)



ii. Packing



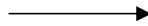
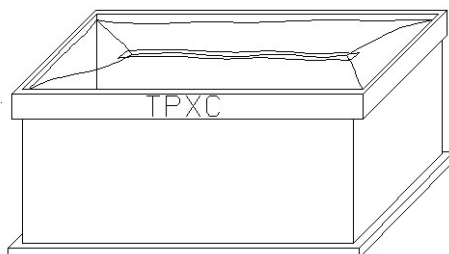
Label



MO:		P/N:		
Specification:				
Quantity:	(PCS)	G.W:	(Kg)	
Date:				
Manufacturer:	Cable manufacturing department			

4Tray, 400PCS/Box

iii.Sealing





Antenna Specification



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Product Name: Antenna

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Specification For Approval

Date: _____

File No. : _____

Version: 1.0

Customer: _____ / _____

Customer P/N : _____ / _____

TP-LINK P/N: 3101504961

Description: Antenna|2.4-2.5GHz|2.0dBi|LP|Omni|2W|Weld|100mm|D1.37mm| 羽 翼
-277|TP-LINK|X1040-RW100REV1.0|黑色/ABS-HB/纹面+logo 光面|否|灰
色线/3101504180 改线长改焊线/自制件]

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I. Specification

Sample Photo**A. Electrical Characteristics**

Frequency	2400~2500MHz
Impedance	50 Ohm
S.W.R.	<= 2.0
Antenna Type	Dipole
Antenna Gain	2.0dBi
Max Input Power	2 W
Polarization	Linear
Radiation pattern	Omni-Directional

B. Material & Mechanical Characteristics

Material of Radiator	Cu
Material of Plastic	Body: ABS-HB Holder: PC、ABS
Cable Type	O.D. 1.37mm (gray)
Connector Type	Weld
Connector Pull Test	3Kg

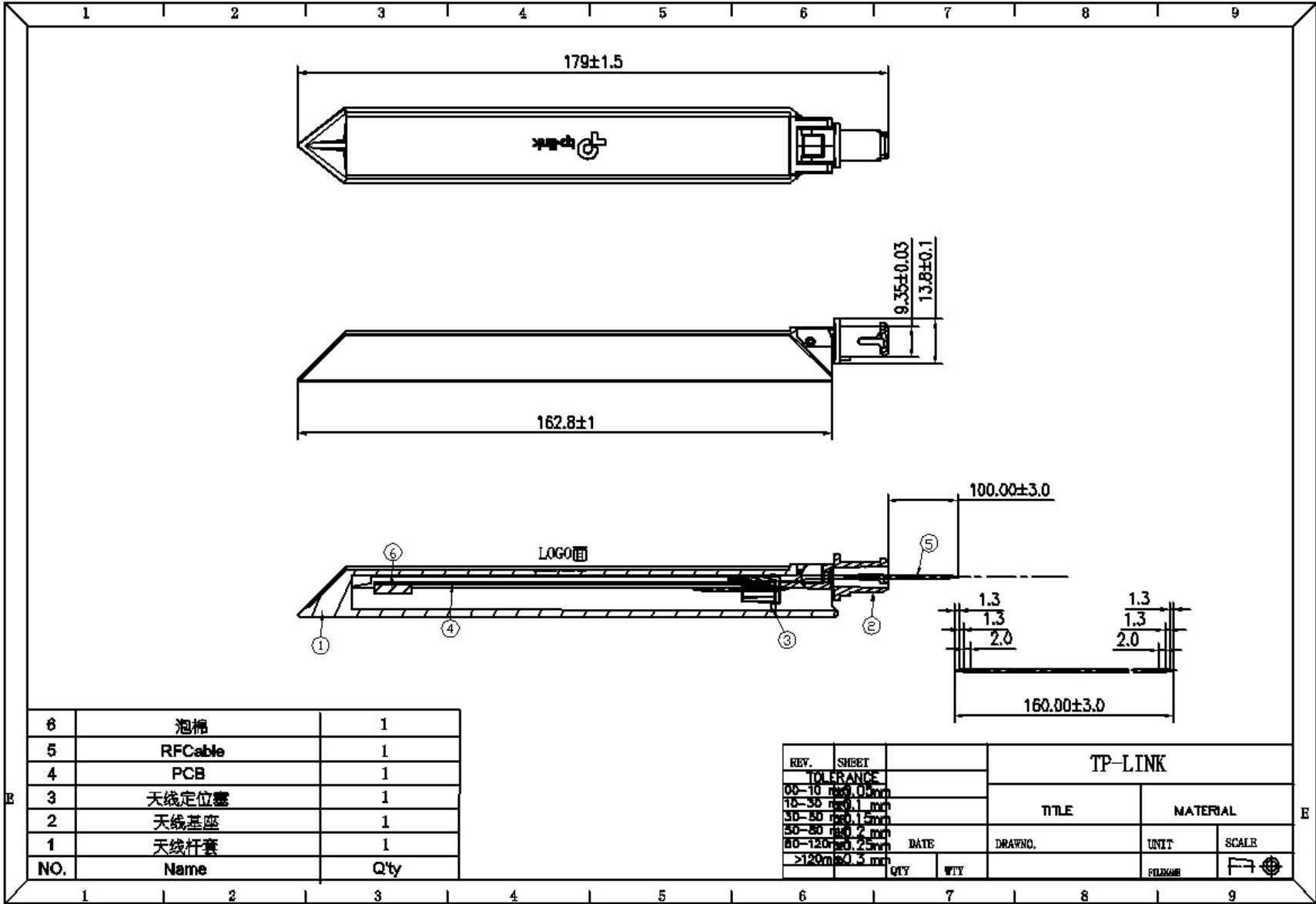
C. Environmental

Operation Temperature	- 40℃ ~ + 60℃
Storage Temperature	- 40℃ ~ + 60℃

II. 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, 201 A 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	Drop Test	Combine DUT with router; Height: 0.6 Meter; 1 direction; 3 times for the direction	1. No parts separated 2. Frequency Tol. ≤ 5%
M4	Solderability	MIL-STD-202G, 210F, cond. A Solder iron: 350±10 °C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
M5	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%
M6	Bend Test	3 angles: 0° ,45° ,90° .100 times for each angle	1. No Visual Damage 2. No Obvious shake
M7	Dimension	Inspection of dimension, color, material, package, surface process	Directive DUT specification
E1	Salt Spray	SE-GS-90T Temp: 35°C; RH: 93%±3%; NaCl solution proportion: 1.026 ~ 1.041; Time: 12 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%
E2	Thermal Shock	1 Cycle: -40°C (30 minutes) to +60°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%
E3	Life (HighTemp.)	MIL-STD-202G, 108A, cond. A Temp: 70°C; Time: 8 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%

III. Mechanical Drawing and Material Description



Product Number: 3101504961

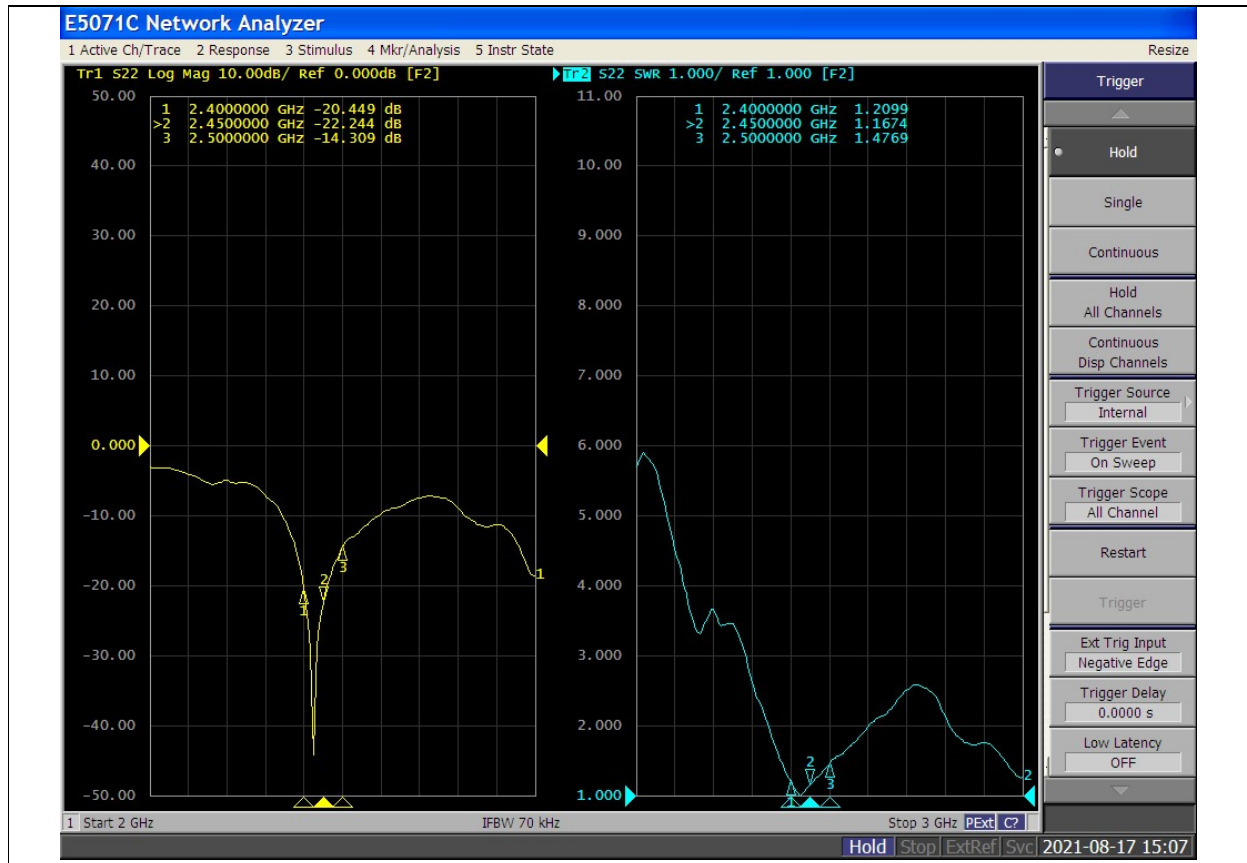
Product Name: Antenna



IV. RoHS Test Report

N O .	Product Model	Constit uents	Material	Test Result for RoHS-corresponding Substance						PFOS	Halogen				Series No.	Date	Title	Test Agent			
				Cd	Pb	Hg	Cr(VI)	PBB s	PBD Es	PFOS	F	Cl	Br	I							
1	3120500195	Cable	FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		N.D	N.D	N.D	N.D	RLSHD000593720060	2011/04/25	Jacket	上海 SGS			
			FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D		N.D	N.D	N.D	Insulation			上海 SGS				
			Wire-TC	N.D.	N.D.	N.D.	N.D.							Outner conductor			CTI				
			Wire-TC	N.D.	N.D.	N.D.	N.D.							Inner conductor			CTI				
2	6142504929	杆套	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.						SHAEC1200148411	2012/01/09	上海 ABS	上海 SGS			
3	6142504930	基座	PC		N.D.		N.D.									N.D.	N.D.	GZ1106084755	2011/07/05	PC S-2000VR	广州 SGS
4	6142504931	定位塞	HDPE		N.D.		N.D.									N.D.	N.D.	SHAEC1109428201	2011/06/27	HDPE	上海 SGS
5	6410500526	Foam	EVA	N.D.	17	N.D.	N.D.	N.D.	N.D.									CANEC1103057901	2011/08/11	EVA	广州 SGS
6	2051500805	PCB	CEM-1+CU	N.D.	5	N.D.		N.D.	N.D.						CANEC1411243502	2014/07/18	KB-6160	SGS			

V. Antenna – S Parameter Test Data



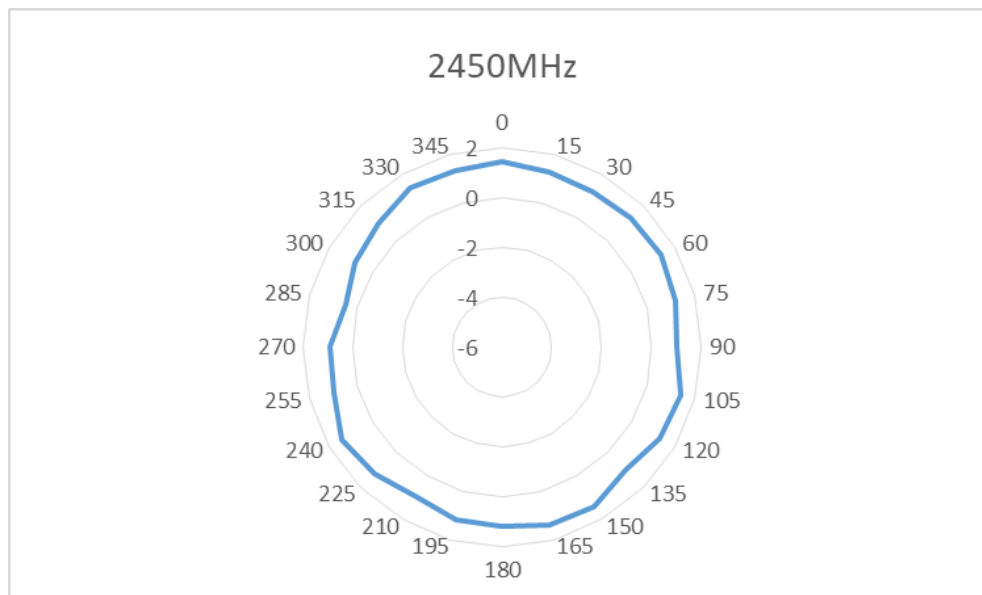
VI. Antenna – Radiation Pattern Test Data

Testing Equipment Specification	
Microwave Chamber	ETS
Testing Equipment	Agilent 5071B

PeakGain:

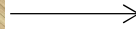
Freq	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain	1.92	1.87	1.85	1.92	1.96	1.97	1.86	1.92	1.81	1.74	1.74

Theta=90°

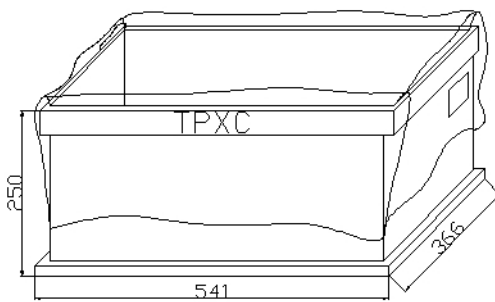


VII. Packing Drawing

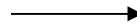
i . Put ANT into Plastic Tray (400PCS/BOX) (仅作装箱说明)



ii. Packing



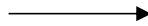
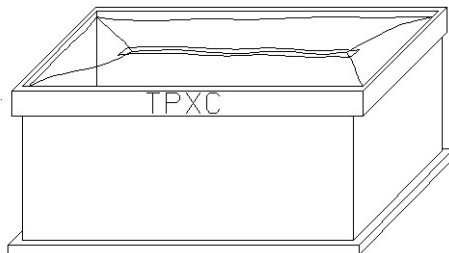
Label



MO:		P/N:		ROHS
Specification:				
Quantity:	(PCS)	G.W:	(Kg)	
Date:				
Manufacturer:	Cable manufacturing department			

4Tray, 400PCS/Box

iii.Sealing





Antenna Specification



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Product Name: Antenna

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Specification For Approval

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Description: Antenna|2.4-2.5GHz|2.0dBi|LP|Omni|2W|Weld|230mm|D1.37mm| 羽 翼
-277|TP-LINK|X1040-RW230REV1.0|黑色/ABS-HB/纹面+logo 光面|否|灰
色线/3101504180 改线长改焊线/自制件]

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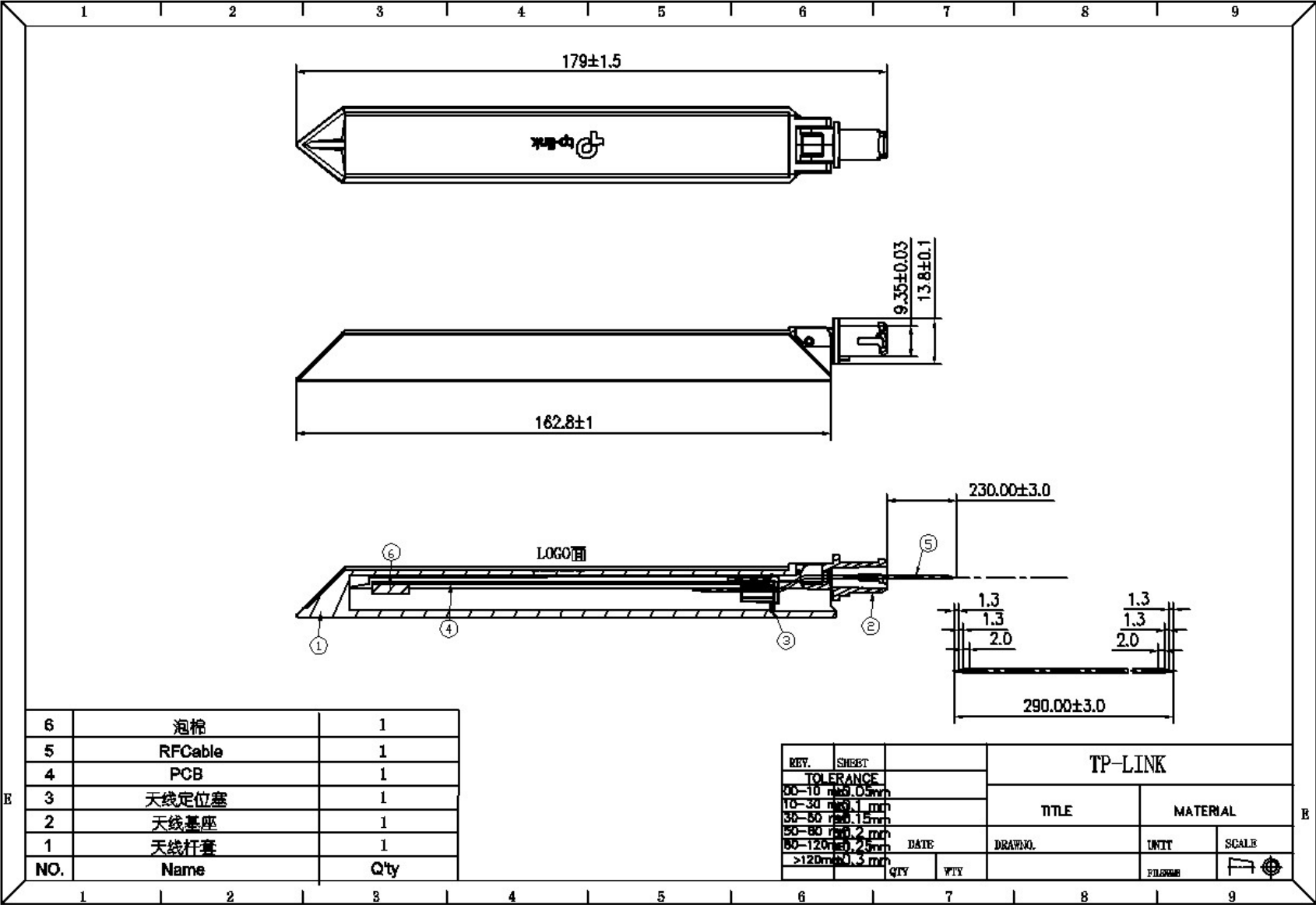
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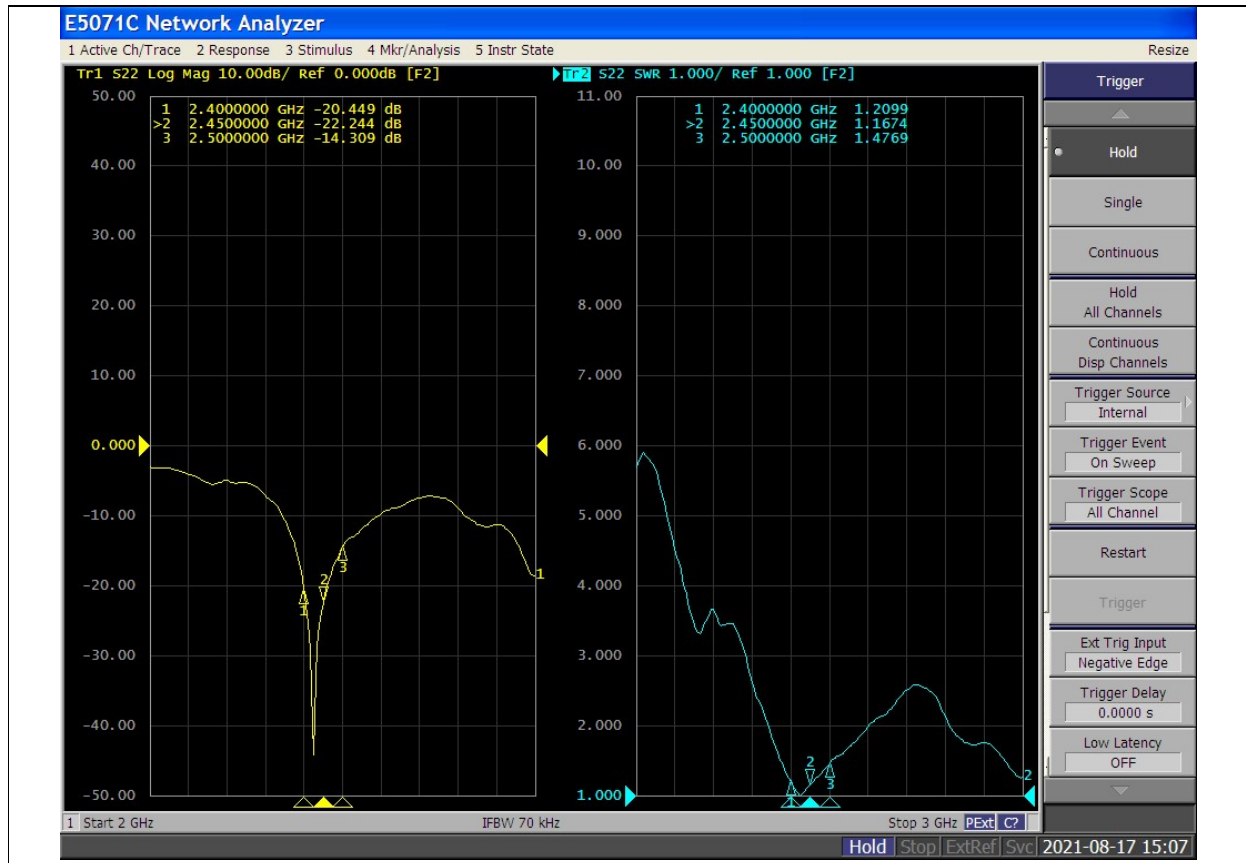
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1	3120500195	Cable	FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		N.D	N.D	N.D	N.D	RLSHD000593720060	2011/04/25	Jacket	上海 SGS			
			FEP	N.D.	N.D.	N.D.	N.D.	N.D.	N.D		N.D	N.D	N.D	Insulation			上海 SGS				
			Wire-TC	N.D.	N.D.	N.D.	N.D.							Outner conductor			CTI				
			Wire-TC	N.D.	N.D.	N.D.	N.D.							Inner conductor			CTI				
2	6142504929	杆套	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.							SHAEC1200148411	2012/01/09	上海 ABS	上海 SGS		
3	6142504930	基座	PC		N.D.		N.D.									N.D.	N.D.	GZ1106084755	2011/07/05	PC S-2000VR	广州 SGS
4	6142504931	定位塞	HDPE		N.D.		N.D.									N.D.	N.D.	SHAEC1109428201	2011/06/27	HDPE	上海 SGS
5	6410500526	Foam	EVA	N.D.	17	N.D.	N.D.	N.D.	N.D.									CANEC1103057901	2011/08/11	EVA	广州 SGS
6	2051500805	PCB	CEM-1+CU	N.D.	5	N.D.		N.D.	N.D.					CANEC1411243502	2014/07/18	KB-6160	SGS				

V. Antenna – S Parameter Test Data



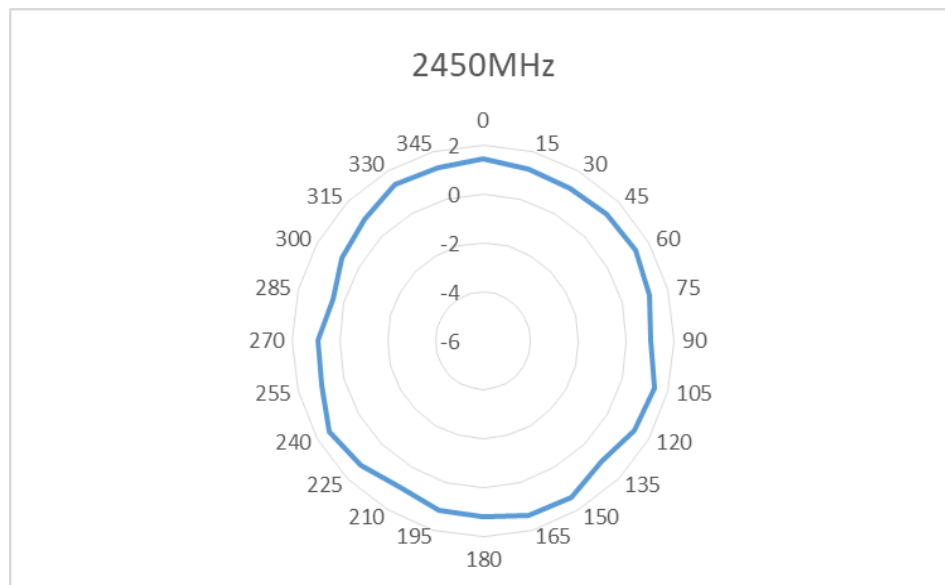
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Testing Equipment Specification	
Microwave Chamber	ETS
Testing Equipment	Agilent 5071B

PeakGain:

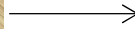
Freq	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain	1.92	1.87	1.85	1.92	1.96	1.97	1.86	1.92	1.81	1.74	1.74

Theta=90°

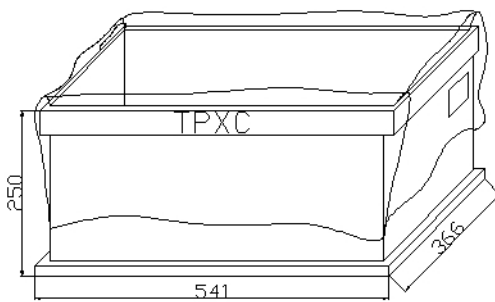


VII. Packing Drawing

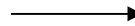
i . Put ANT into Plastic Tray (400PCS/BOX) (仅作装箱说明)



ii. Packing



Label



MO:		P/N:		ROHS
Specification:				
Quantity:	(PCS)	G.W:	(Kg)	
Date:				
Manufacturer:	Cable manufacturing department			

4Tray, 400PCS/Box

iii.Sealing

