

**TP-LINK®**

# Antenna Specification



Product Number: 3101502753

Product Name: Antenna

**TP-LINK®**

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## Specification For Approval

Date: \_\_\_\_\_

File No. : \_\_\_\_\_

Version: 1.0

Customer: \_\_\_\_\_ / \_\_\_\_\_

Customer P/N : \_\_\_\_\_ / \_\_\_\_\_

TP-LINK P/N: 3101502753

Description: Antenna|2.4-2.5GHz|1.97dBi|LP|Omni|2W|I-PEX|170mm|D1.37mm|DECO

X20|无|X1030-WI170REV1.0|绿色|[DECO X20 机型使用/自制件]

<b>TP-LINK Checked By:</b>
<b>Customer Approved By:</b>

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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	1.97dBi
Max Input Power	2 W
Polarization	Linear
Radiation pattern	Omni-Directional

### B. Material & Mechanical Characteristics

Material of Radiator	Cu
Cable Type	O.D. 1.37mm
Connector Type	I-PEX
Connector Pull Test	3Kg

### C. Environmental

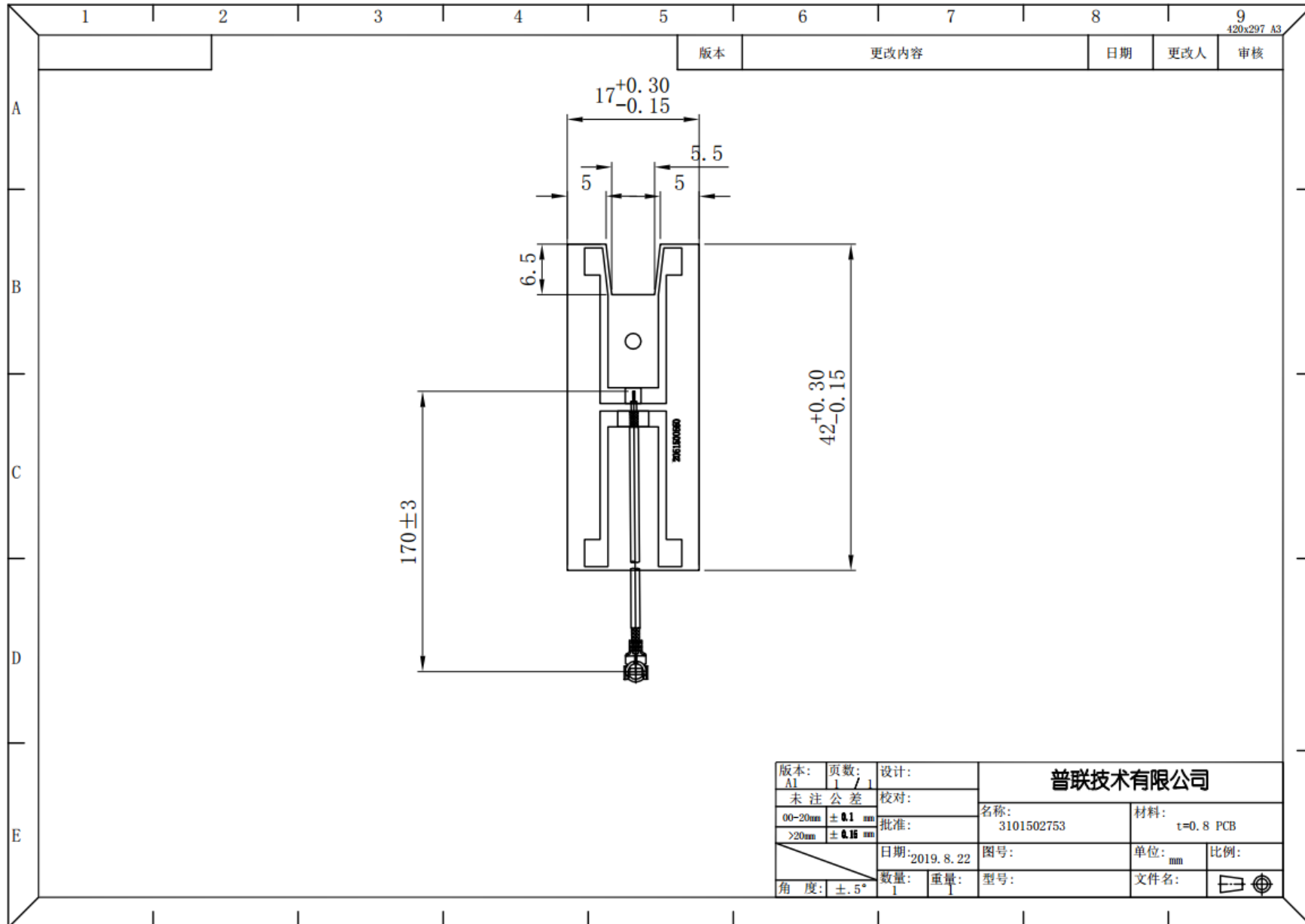
Operation Temperature	- 40°C ~ + 65°C
Storage Temperature	- 40°C ~ + 70°C

## II. Characteristics and Reliability Test

Test Items	Test Condition and Procedure	Requirements
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<b>C1</b>	<b>S.W.R.</b>	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
<b>C2</b>	<b>Antenna Gain</b>	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
<b>M1</b>	<b>Vibration</b>	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%
<b>M2</b>	<b>Random Drop</b>	Height: 1.5 Meter; 3 directions; 1 time for each direction	1. No parts separated 2. Frequency Tol.<=5%
<b>M3</b>	<b>Drop Test</b>	Combine DUT with router; Height: 0.6 Meter; 1 direction; 3 times for the direction	1. No parts separated 2. Frequency Tol.<=5%
<b>M4</b>	<b>Solderability</b>	MIL-STD-202G, 210F, cond. A Solder iron: 350+- 10°C; Duration: 5 seconds	1. Mounted on PCB 2. No Visual Damage
<b>M5</b>	<b>Terminal- Pull Test</b>	MIL-STD-202G, 211A, cond. A Holding with individual specification; force applied to axis of terminal	1. Directive DUT specification 2. Frequency Tol.<=5%
<b>M6</b>	<b>Bend Test</b>	3 angles: 0° ,45° ,90° .100 times for each angle	1. No Visual Damage 2. No Obvious shake
<b>M7</b>	<b>Dimension</b>	Inspection of dimension, color, material, package, surface process	Directive DUT specification
<b>E1</b>	<b>Salt Spray</b>	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%
<b>E2</b>	<b>Thermal Shock</b>	1Cycle: -40°C (30 minutes) to +70°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol.<=5%
<b>E3</b>	<b>Life (HighTemp.)</b>	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

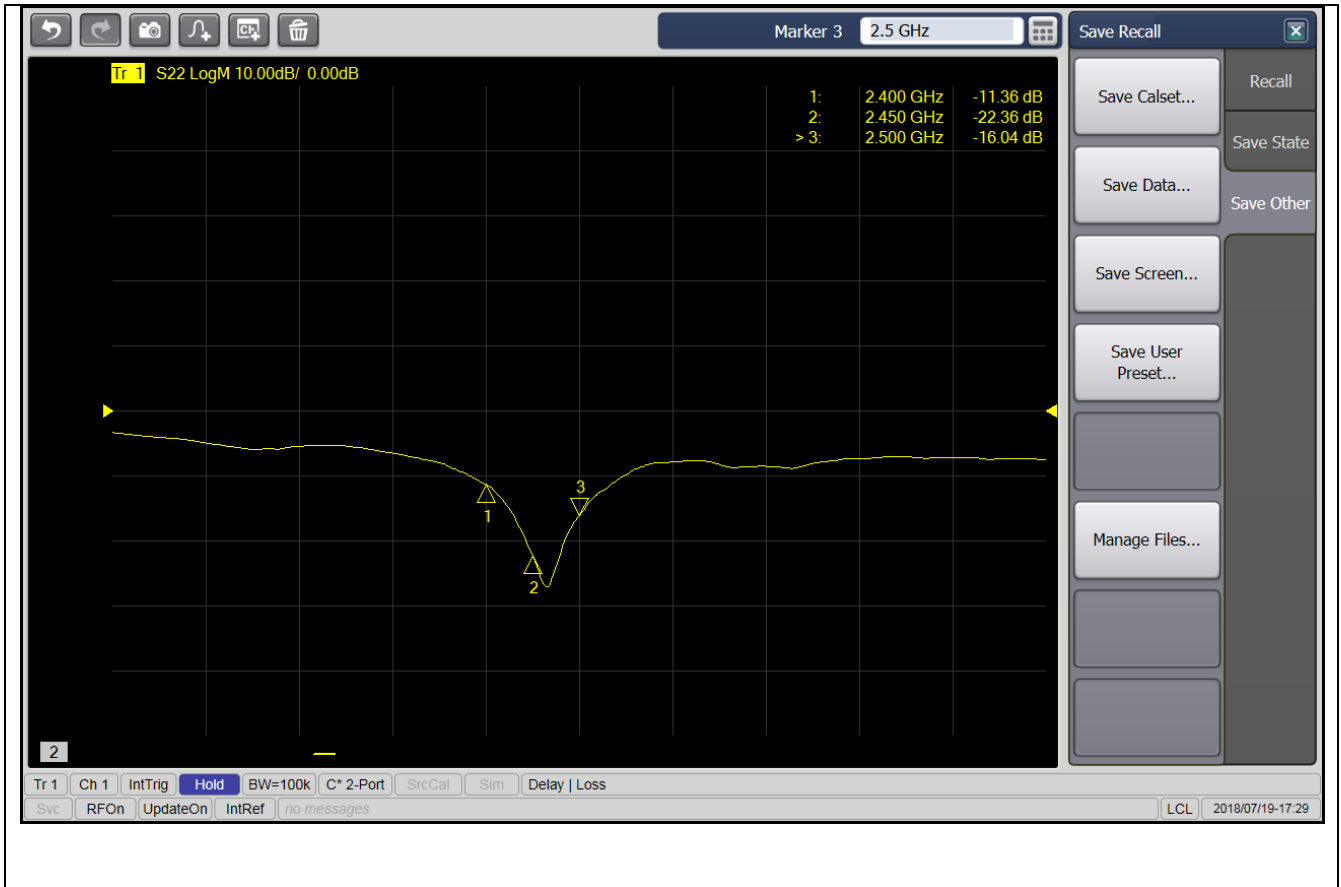


**IV. RoHS Test Report**

NO.	Product Model	Constituents	Material	Test Result for RoHS-corresponding Substance						PFOS	Halogen				Series No.	Date	Title	Test Agent
				Cd	Pb	Hg	Cr(VI)	PBBs	PBDEs	PFOS	F	Cl	Br	I				
1	2051500560	PCB	FR-4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.					SHAEC1200879510	2014/02/12	板材	SGS
			RS-2000 BGL	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		135	256	N.D.	N.D.	RSH03G002208001C	2014/04/24	防焊油墨	CTI
			2M-400WF	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		148	124	N.D.	N.D.	CE/2014/80454	2014/08/12	文字油墨	SGS
			OSP F-005	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.						CANEC1404310001	2014/04/08	OSP 药水	CTI
2	3110500018	RFConnector	Gold plating	N.D.	N.D.	N.D.	Negative			Negative					CE/2015/32675	2015/03/10	Plug Housing	SGS
			PBT	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	Negative	1110	N.D.	N.D.	N.D.	CE/2014/B2826	2014/11/18	Plug Housing	SGS
			Phosphor Bronze	N.D.	N.D.	N.D.	Negative			Negative					CE/2015/30055	2015/03/02	Plug Housing	SGS
7	3120500035	Cable	Inner conductor	N.D.	46.	N.D.	Negative	N.D.	N.D.	N.D.					SHAEC1507036516	2015/4/28	Cable	SGS 上海
			Insulation	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	>100000	N.D.	N.D.	N.D.	SHAEC1500664111	2015/1/21	Cable	SGS 上海
			Outer conductor	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	CANEC1420243205	2014/12/11	Cable	广州SGS
			mesh	N.D.	N.D.	N.D.	Negative	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ECL03G00367502E	2014/12/15	Cable	CTI
			jacket	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	>100000	N.D.	N.D.	N.D.	SHAEC1500664109	2015/1/21	Cable
			FEP color Masterbatch(black)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		>100000	N.D.	N.D.	N.D.	SHAEC1503900602	2015/03/18	Cable	SGS 上海



## V. Antenna – S Parameter Test Data

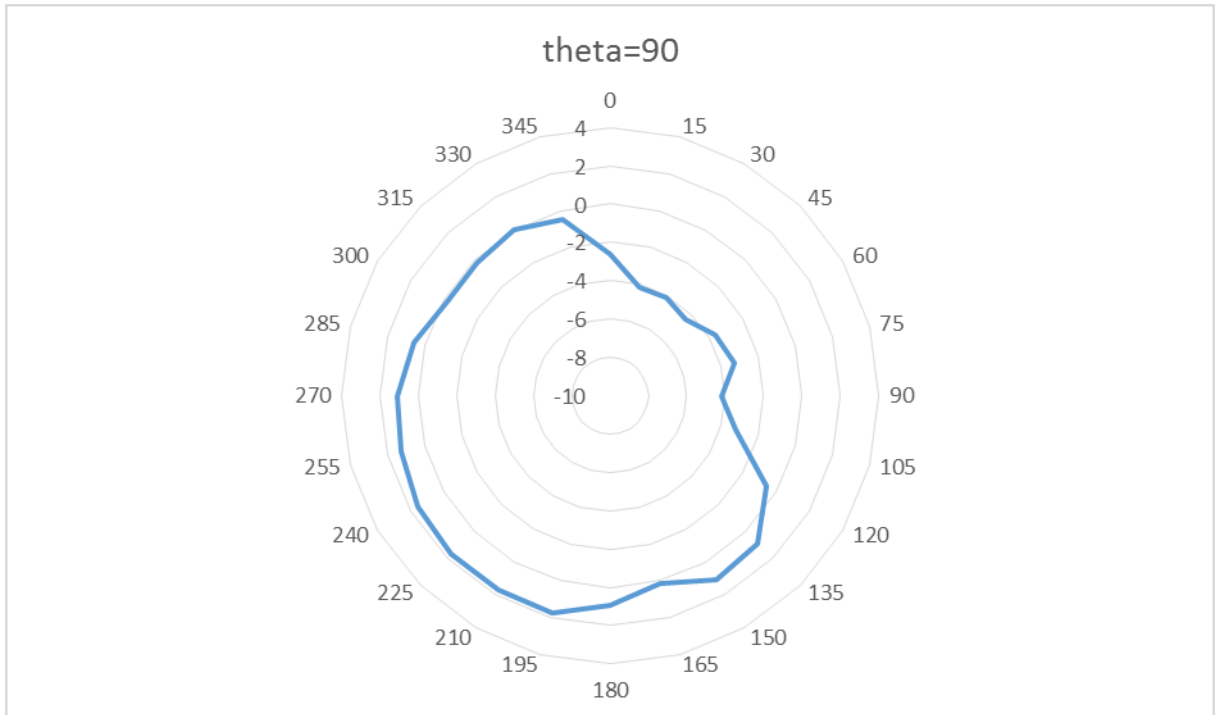


## VI. Antenna – Radiation Pattern Test Data

Testing Equipment Specification	
Microwave Chamber	Satimo SG24-S
Testing Equipment	Agilent 5071B

Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	1.85	1.88	1.87	1.89	1.92	1.95	1.97	1.93	1.85	1.78	1.79

Theta=90°



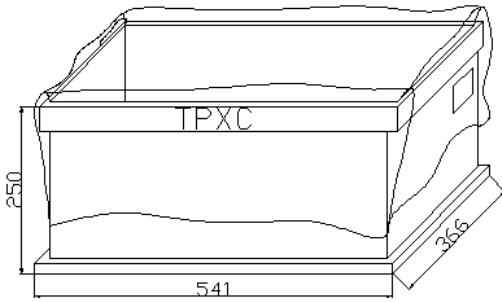
## VII. Packing Drawing

### i . Put ANT into Plastic Tray (仅作装箱说明)




100PCS/bag

### ii. Packing



4000PCS/Box

Label

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

### iii. Sealing

