



Antenna Specification



Product Number: 3101504160

Product Name: Antenna

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Product Number: 3101504160

Product Name: Antenna

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Specification For Approval

Date: _____

File No. : _____

Version: 1.0

Customer: _____ / _____

Customer P/N : _____ / _____

TP-LINK P/N: 3101504160

Description:

Antenna|2.4-2.5GHz&5.15-5.85GHz|1.97dBi&0.97dBi|LP|Omni|2W|I-PEX|1
45mm|D1.37mm|Deco XE75|无|X3047-WI145REV1.0|绿色|否|自制件
/3101504021 修改线长]

TP-LINK Checked By:
Customer Approved By:

TP-LINK®

TP-LINK TECHNOLOGIES CO., LTD.

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Central Zone, Science&Technology Park,
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TEL: + 86 755 26612350

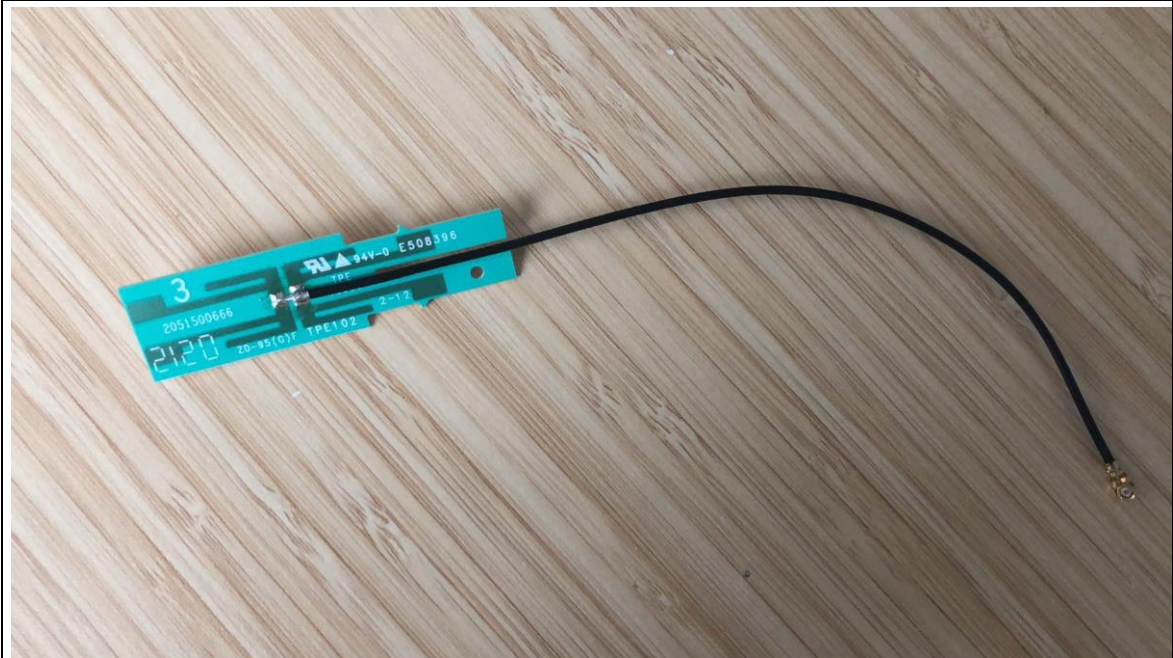
+ 86 755 26504400

http:// www.tp-link.com

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I. Specification

Sample Photo**A. Electrical Characteristics**

Frequency	2400 ~ 2500MHz&5150 ~ 5850MHz
Impedance	50 Ohm
S.W.R.	≤ 2.0
Antenna Type	Dipole
Antenna Gain	1.97dBi & 0.97dBi
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 (Black)
Connector Type	I-PEX
Connector Pull Test	3Kg

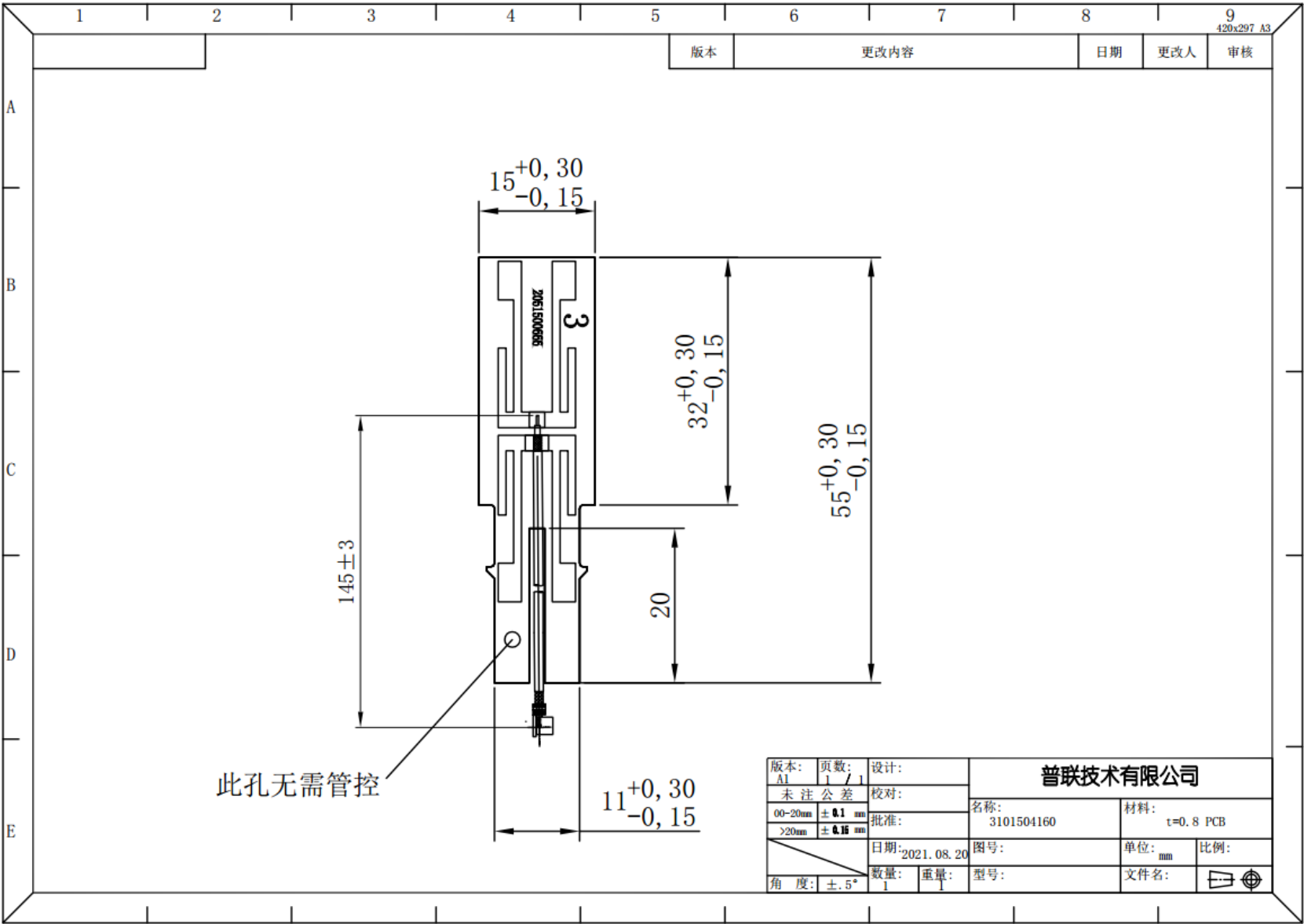
C. Environmental

Operation Temperature	- 40℃ ~ + 65℃
Storage Temperature	- 40℃ ~ + 70℃

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℃; 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℃; 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℃ (30 minutes) to +70℃ (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℃; Time: 8 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%

III. Mechanical Drawing and Material Description



Product Number: 3101504160

Product Name: Antenna



IV. RoHS Test Report

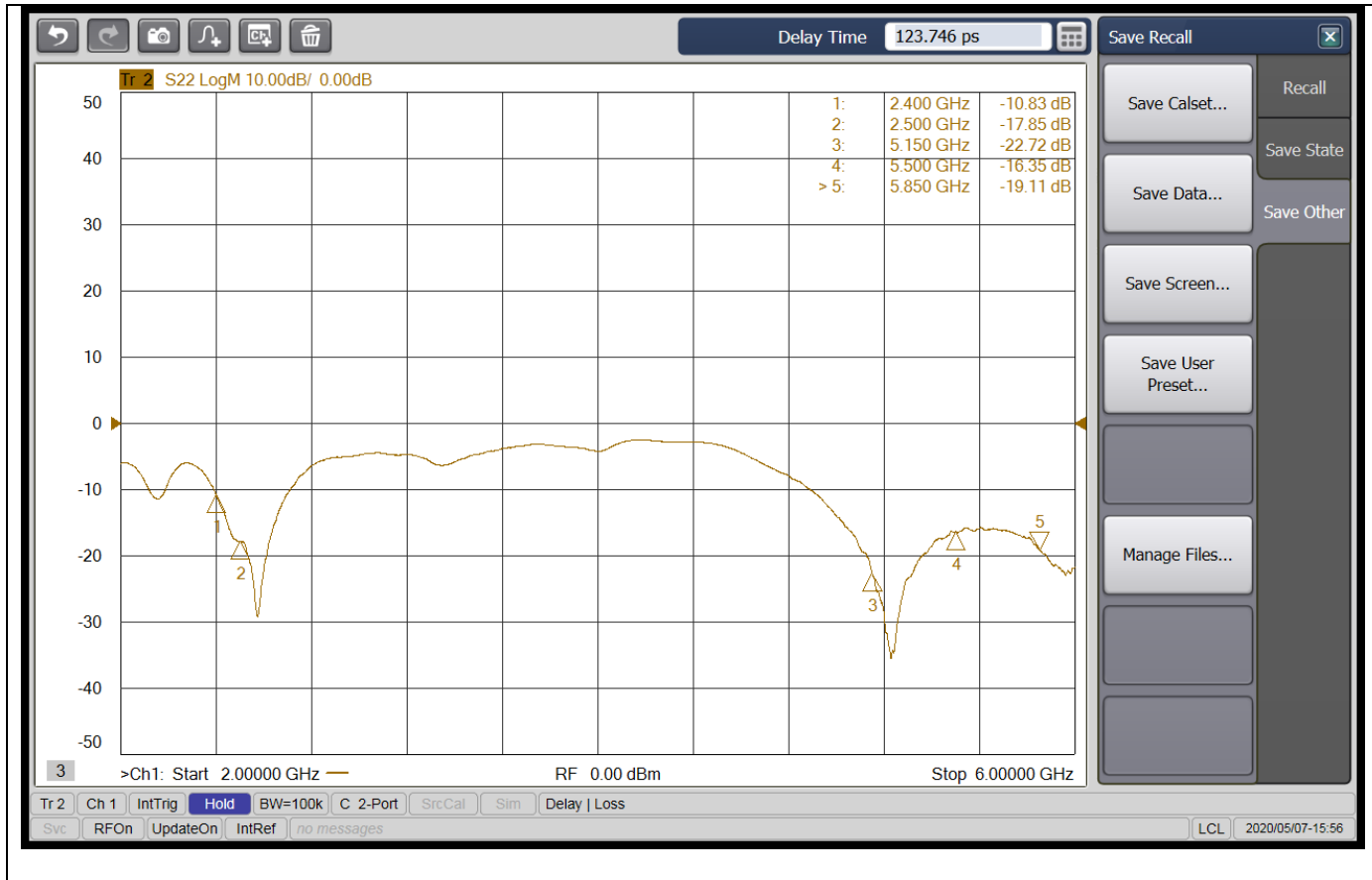
N O .	Product Model	Constit uents	Material	Test Result for RoHS-corresponding Substance						PFOS	Halogen				Series No.	Date	Title	Test Agent
				Cd	Pb	Hg	Cr(VI)	PBB s	PBD Es	PFOS	F	Cl	Br	I				
1	2051500666	PCB	FR-4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.					SHAEC1200879510	2014/02/12	板材	SGS
			RS-2000 BGL	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-400W F	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	RFConn ec tor	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.	>100000	N.D.	N.D.	N.D.	SHAEC1500664109	2015/1/21	Cable	SGS 上海
			FEP color Masterbat ch(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

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V. Antenna – S Parameter Test Data

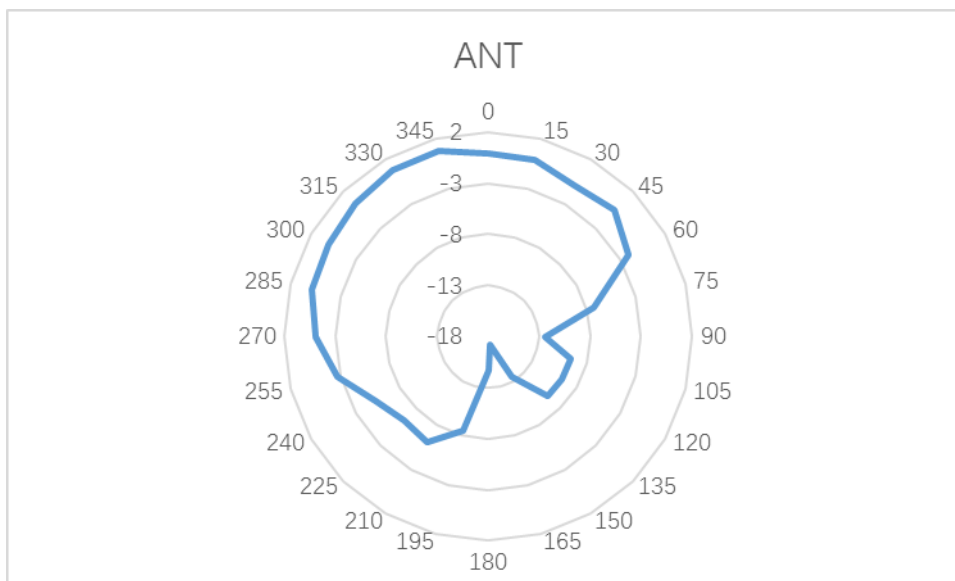


VI. Antenna – Radiation Pattern Test Data

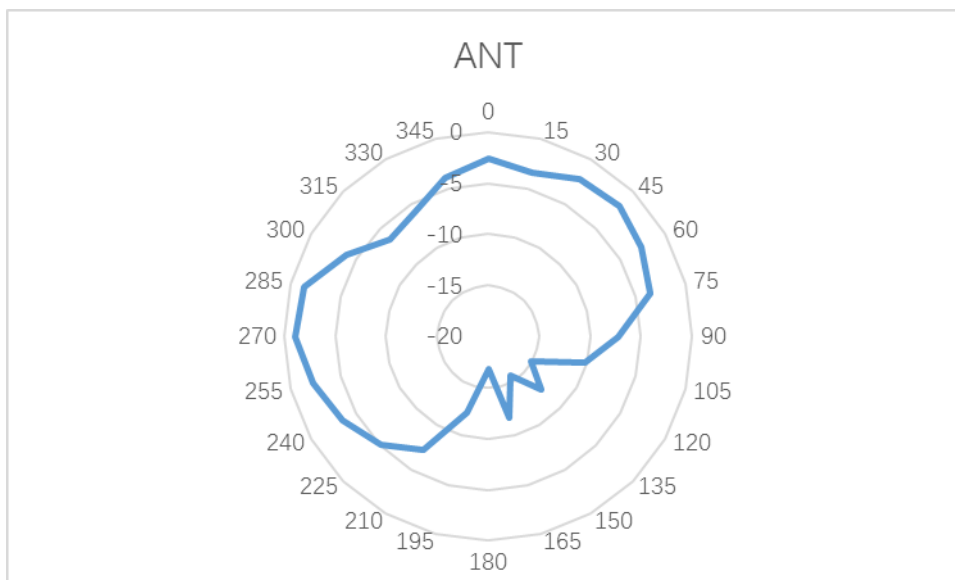
Testing Equipment Specification	
Microwave Chamber	Satimo SG24-S
Testing Equipment	Agilent 5071B

Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	1.91	1.96	1.97	1.93	1.89	1.94	1.95	1.95	1.97	1.83	1.90
Freq. (MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650
Peak Gain (dBi)	0.79	0.87	0.93	0.83	0.90	0.89	0.92	0.97	0.95	0.89	0.95
Freq. (MHz)	5700	5750	5800	5850							
Peak Gain (dBi)	0.92	0.93	0.91	0.89							

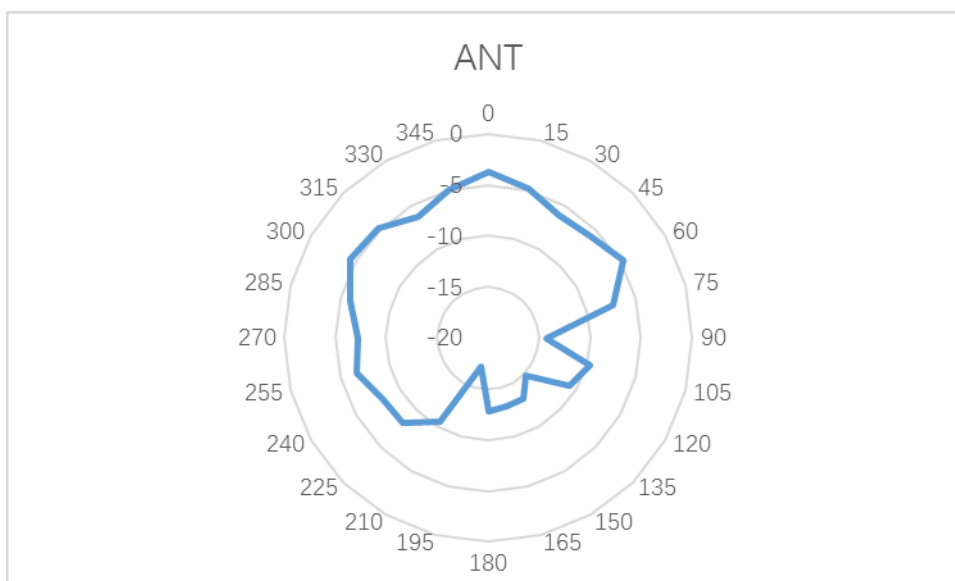
2.45GHz



5200MHz



5750MHz



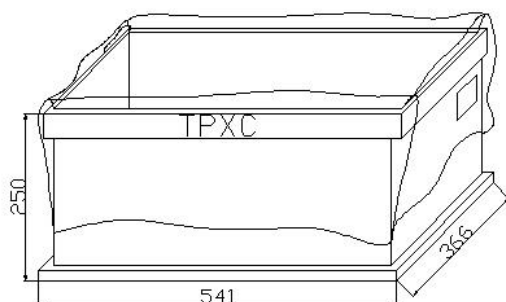
VII. Packing Drawing

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



200PCS/bag

ii. Packing

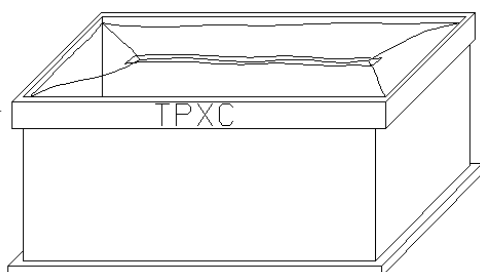


2000PCS/Box

Label

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

iii.Sealing



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Antenna Specification



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TP-LINK P/N: 3101504161

Description:

Antenna|2.4-2.5GHz&5.15-5.85GHz|1.97dBi&0.97dBi|LP|Omni|2W|I-PEX|1
05mm|D1.13mm|Deco XE75|无|X3044-WI105REV1.0|绿色|否|自制件/端子
朝向需管控/3101504022 更改线长]

TP-LINK Checked By:
Customer Approved By:

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TP-LINK TECHNOLOGIES CO., LTD.

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TEL: + 86 755 26612350

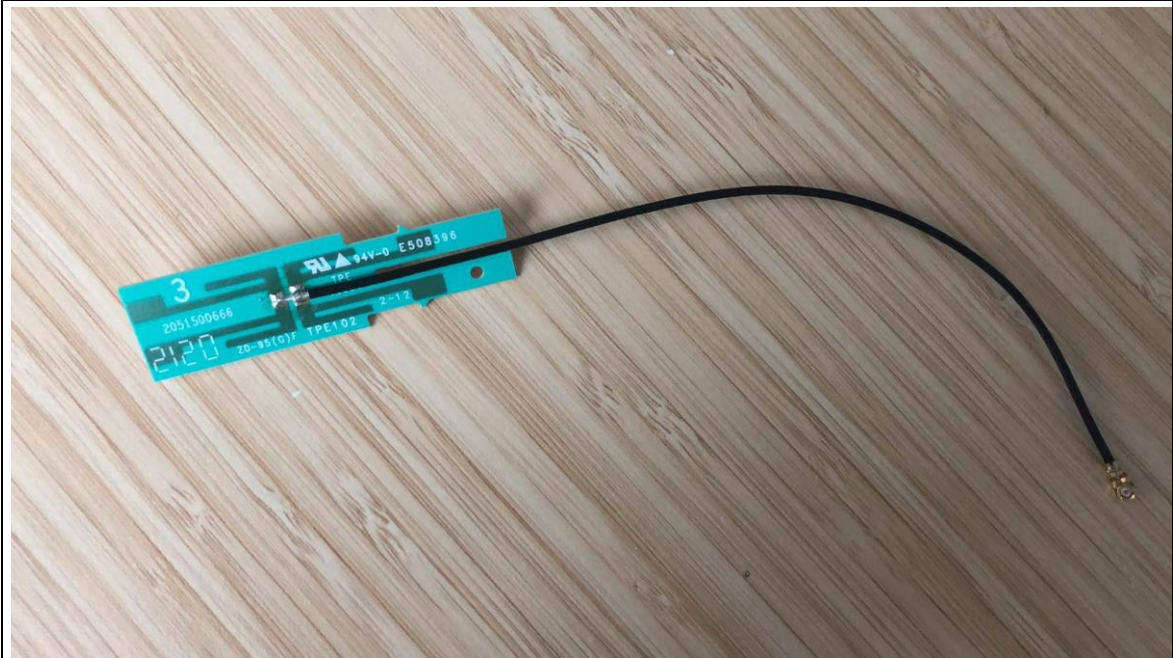
+ 86 755 26504400

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I. Specification

Sample Photo**A. Electrical Characteristics**

Frequency	2400 ~ 2500MHz&5150 ~ 5850MHz
Impedance	50 Ohm
S.W.R.	≤ 2.0
Antenna Type	Dipole
Antenna Gain	1.97dBi & 0.97dBi
Max Input Power	2 W
Polarization	Linear
Radiation pattern	Omni-Directional

B. Material & Mechanical Characteristics

Material of Radiator	Cu
Cable Type	O.D. 1.13mm (Black)
Connector Type	I-PEX
Connector Pull Test	3Kg

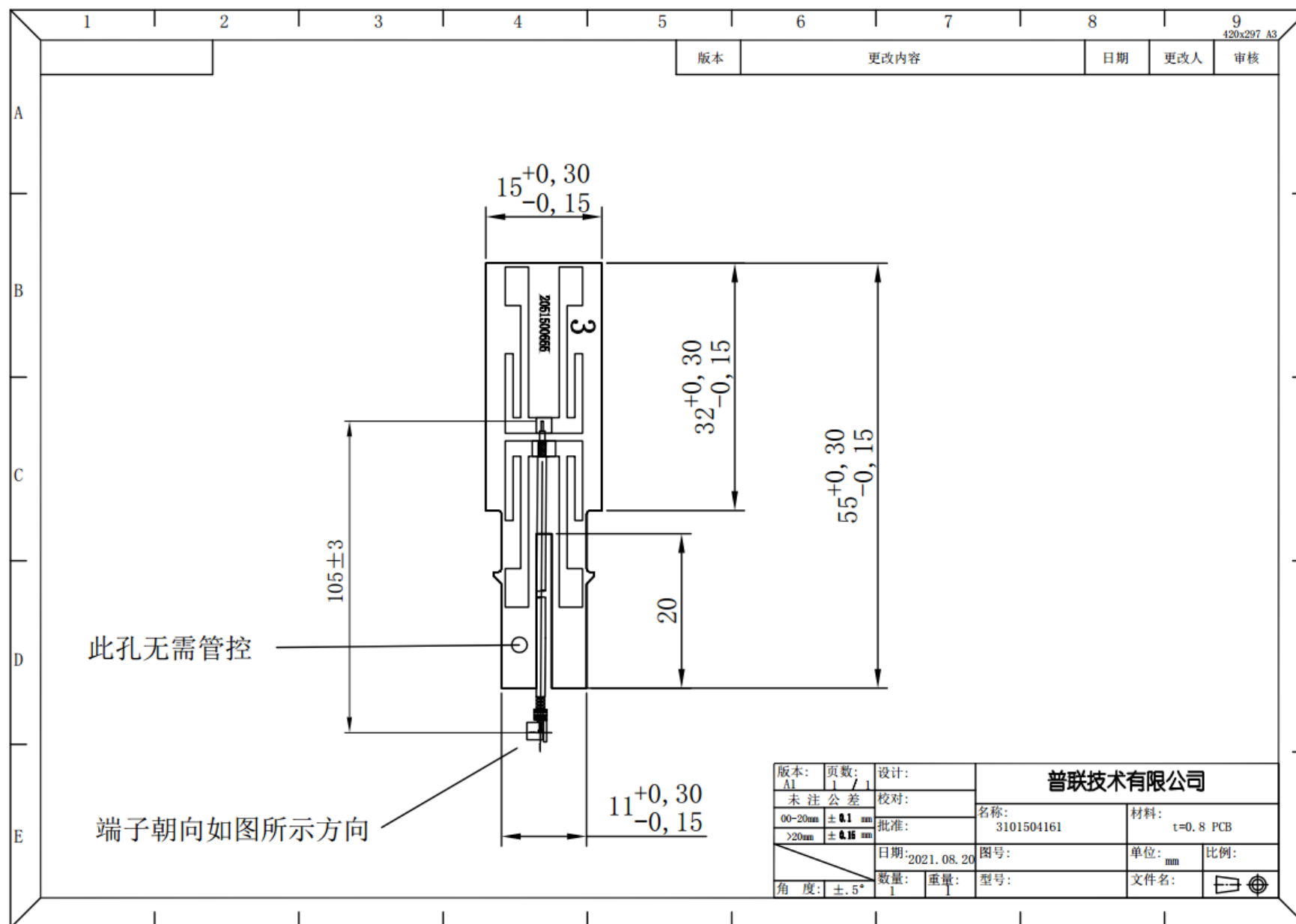
C. Environmental

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

II. Characteristics and Reliability Test

Test Items		Test Condition and Procedure	Requirements
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℃; 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℃; 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℃ (30 minutes) to +70℃ (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℃; Time: 8 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%

III. Mechanical Drawing and Material Description



Product Number: 3101504161

Product Name: Antenna



IV. RoHS Test Report

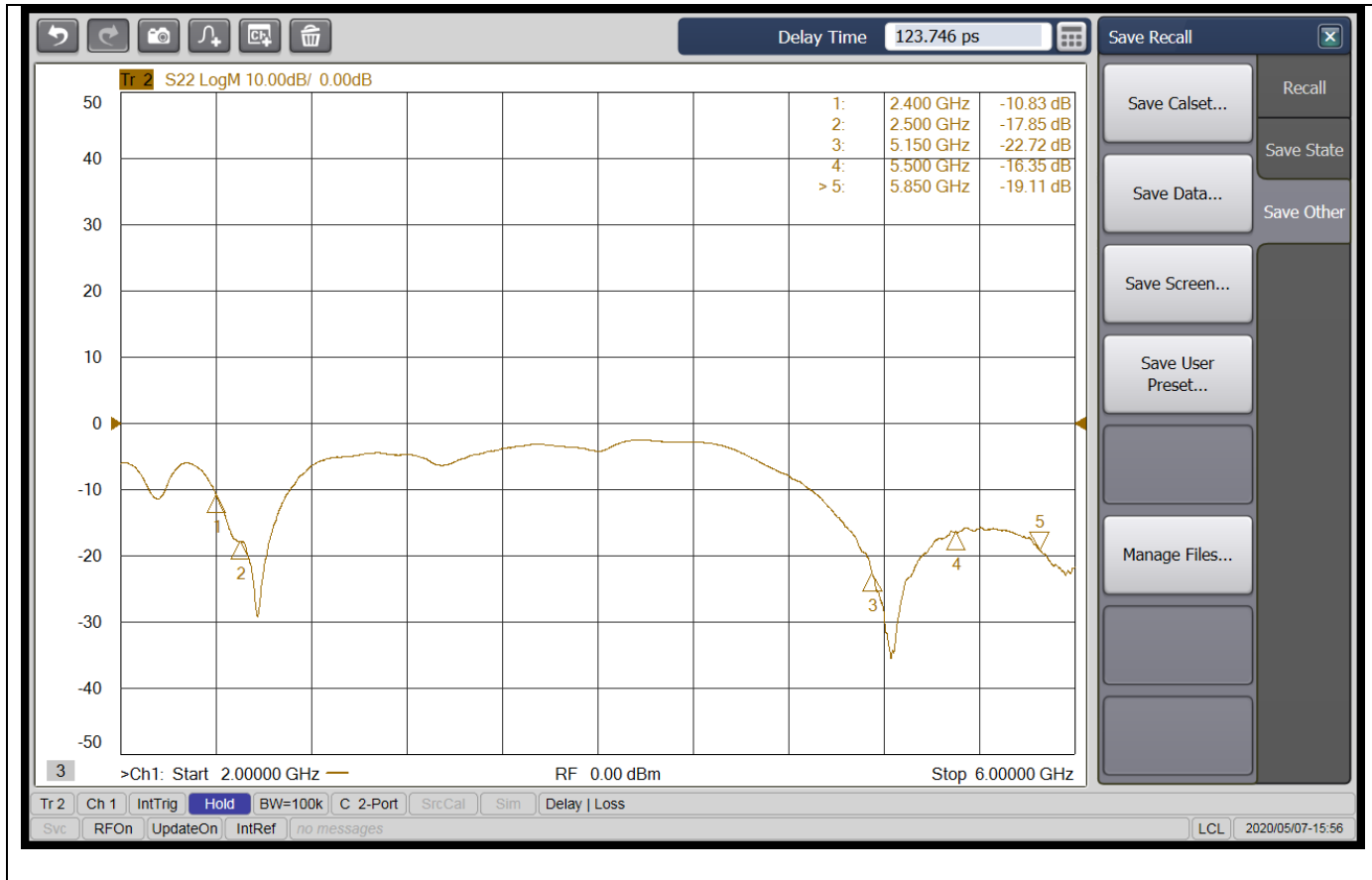
N O .	Product Model	Constit uents	Material	Test Result for RoHS-corresponding Substance						PFOS	Halogen				Series No.	Date	Title	Test Agent
				Cd	Pb	Hg	Cr(VI)	PBB s	PBD Es	PFOS	F	Cl	Br	I				
1	2051500666	PCB	FR-4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.					SHAEC1200879510	2014/02/12	板材	SGS
			RS-2000 BGL	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-400W F	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	RFConn ec tor	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.	>100000	N.D.	N.D.	N.D.	SHAEC1500664109	2015/1/21	Cable	SGS 上海
			FEP color Masterbat ch(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

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Product Name: Antenna

V. Antenna – S Parameter Test Data

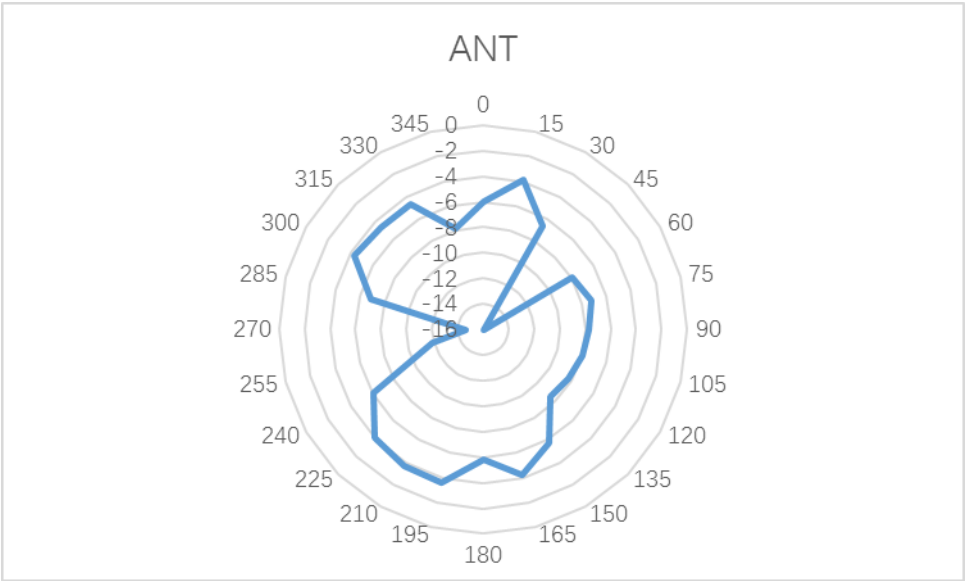


VI. Antenna – Radiation Pattern Test Data

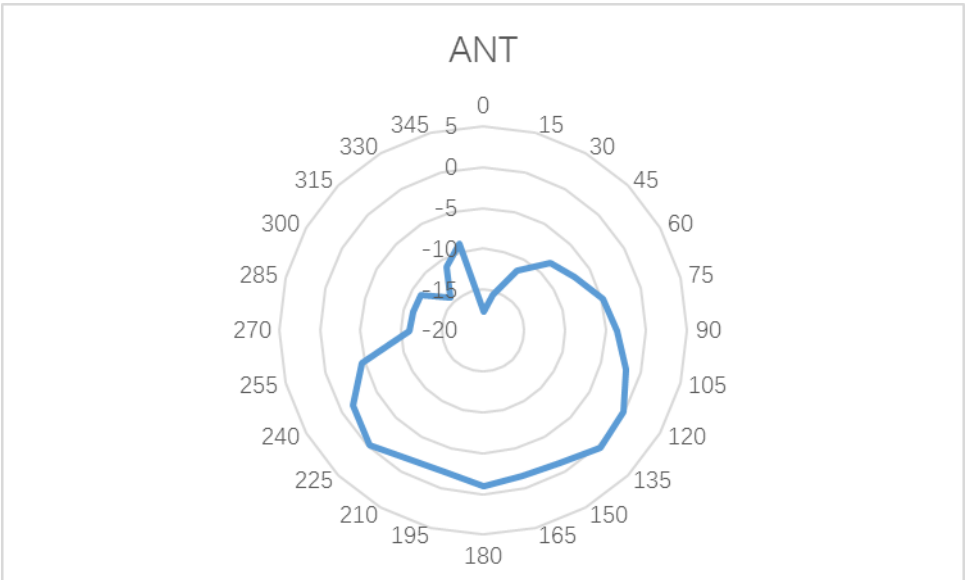
Testing Equipment Specification	
Microwave Chamber	Satimo SG24-S
Testing Equipment	Agilent 5071B

Freq. (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Peak Gain (dBi)	1.93	1.96	1.97	1.95	1.92	1.89	1.97	1.85	1.94	1.95	1.90
Freq. (MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650
Peak Gain (dBi)	0.89	0.91	0.94	0.94	0.93	0.89	0.97	0.91	0.94	0.90	0.89
Freq. (MHz)	5700	5750	5800	5850							
Peak Gain (dBi)	0.94	0.89	0.82	0.80							

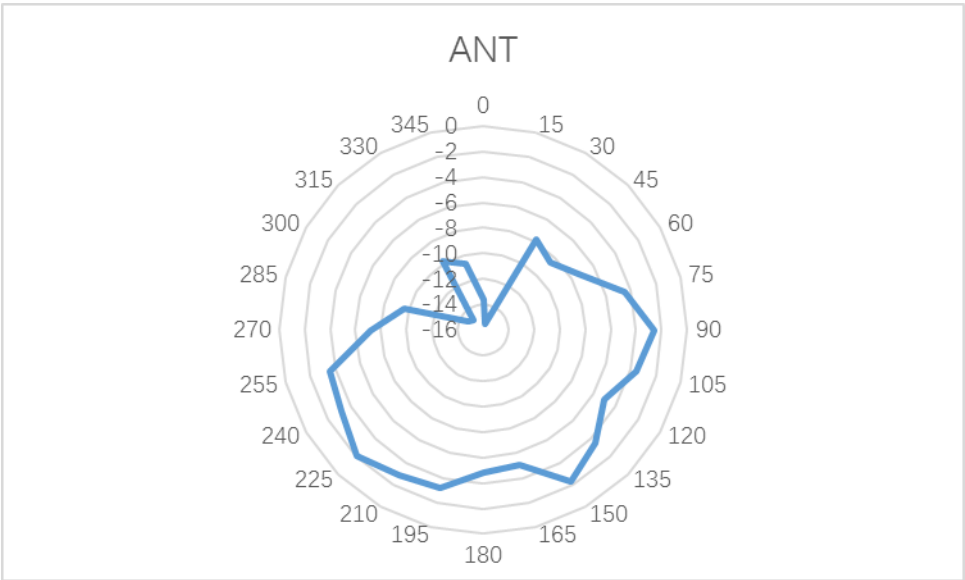
2.45GHz



5200MHz



5750MHz



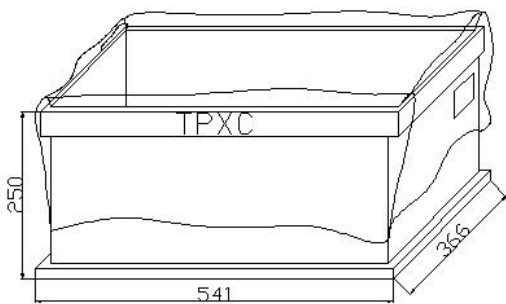
VII. Packing Drawing

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



200PCS/bag

ii. Packing

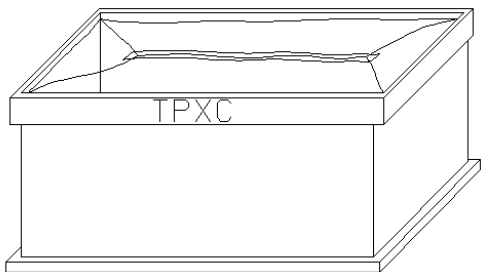


2000PCS/Box

Label

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

iii.Sealing



Product Number: 3101504515

Product Name: Antenna

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Antenna Specification



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Specification for Approval

Date: _____

File No.: _____

Version: 1.0

Customer: _____ / _____

Customer P/N: _____ / _____

TP-LINK P/N: 3101504515

Description:

Antenna|5.5-5.85GHz|1.62dBi|LP|Omni|2W|I-PEX|70mm|D1.13mm|Deco X75|无
|X2070-WI070REV1.0|绿色|否|自制件/PTFE 材质|

TP-LINK Checked By:

Customer Approved By:

TP-LINK®

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Nanshan, Shenzhen, P. R. China

TEL: + 86 755 26612350

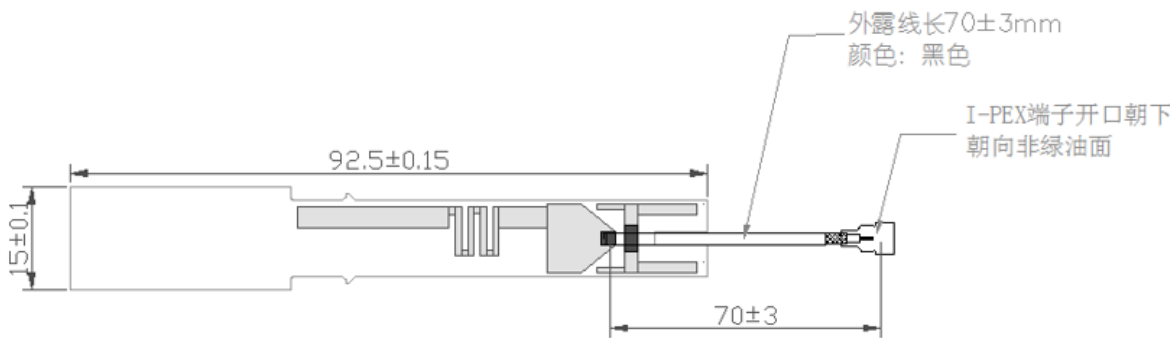
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6.	Packing Drawing	8

1. Specification

Sample Photo	
 Technical drawing of the antenna showing dimensions and assembly details. The drawing includes the following dimensions and labels: - Overall length: 92.5 ± 0.15 mm - Width: 15 ± 0.1 mm - Exposed cable length: 70 ± 3 mm - Label: 外露线长70 ± 3mm 颜色: 黑色 (Exposed cable length 70 ± 3 mm, color: black) - Label: I-PEX端子开口朝下 朝向非绿油面 (I-PEX terminal opening facing down, towards the non-green oil surface)	
A. Electrical Characteristics	
Frequency	5.5~5.85GHz
Impedance	50 Ohm
VSWR	≤ 2.0
Antenna Gain	1.62dBi@5.5~5.85GHz
Max Input Power	≤ 2 W
Polarization	Linear
Radiation pattern	Omni-Directional
B. Material & Mechanical Characteristics	
Material of Radiator	PCB(PTFE+Cu)
Cable Type	O.D. 1.13mm (Black)
Connector Type	I-PEX
Connector Pull Test	1.5 kg
C. Environmental Characteristics	
Operation Temperature	-10°C ~ +60°C
Storage Temperature	-40°C ~ +70°C

2. Characteristics and Reliability Test

Test Items	Test Condition and Procedure	Requirements
------------	------------------------------	--------------

Product Number: 3101504515

Product Name: Antenna

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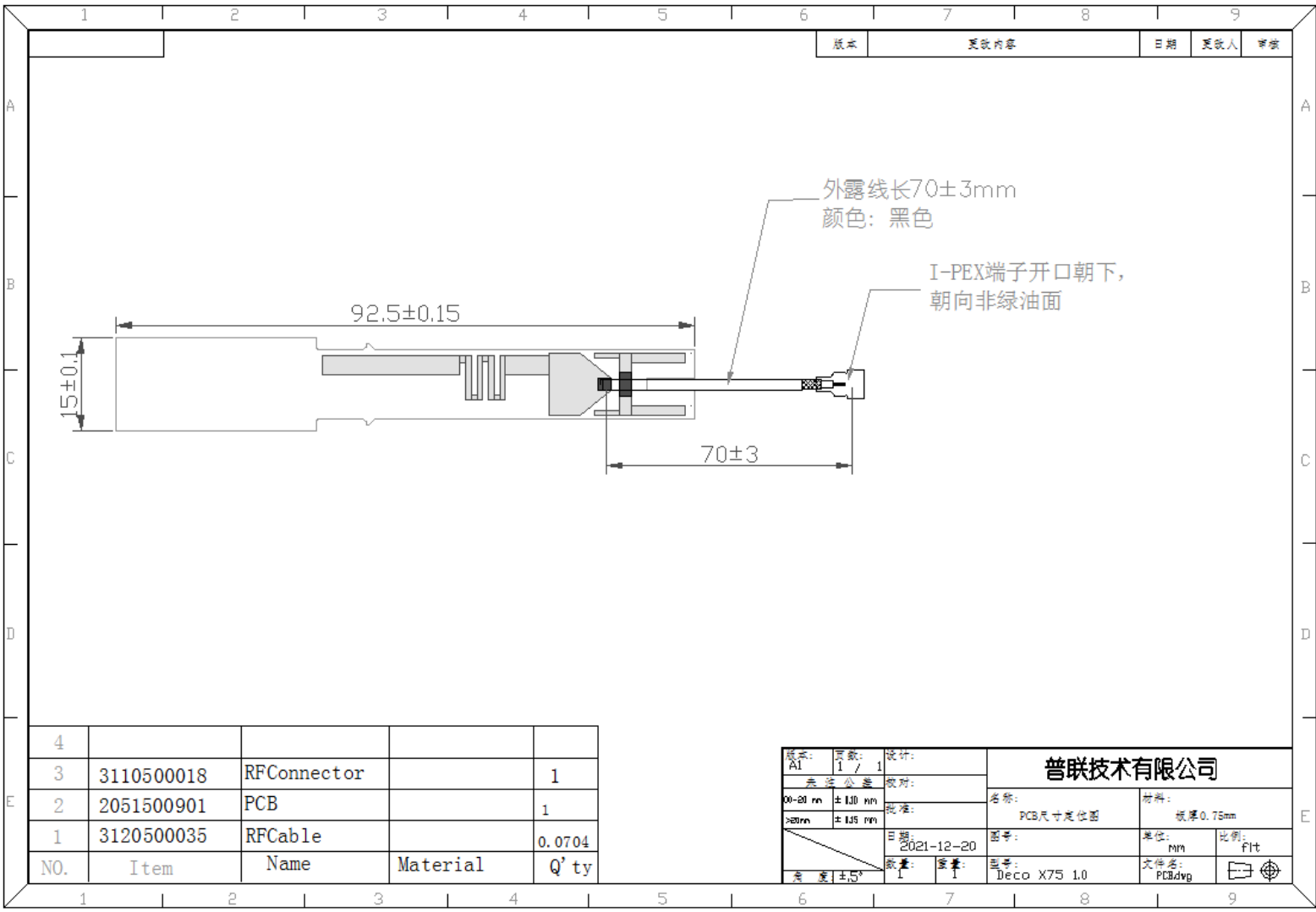
C1	VSWR	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
M1	Vibration	MIL-STD-202G, 201 A Amplitude: 0.03 inch (0.76mm); Freq.: 10 to 55 Hz 3 directions; 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	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	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: -20°C (30 minutes) to +70°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%
E3	Life (High Temp.)	MIL-STD-202G, 108A, cond. A Temp: 70°C; Time: 8 hours	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. ≤ 5%

Product Number: 3101504515

Product Name: Antenna



3. Mechanical Drawing and Material Description



注: IPEX 朝向需管控, 开口朝下, 朝向非绿油面

Product Number: 3101504515

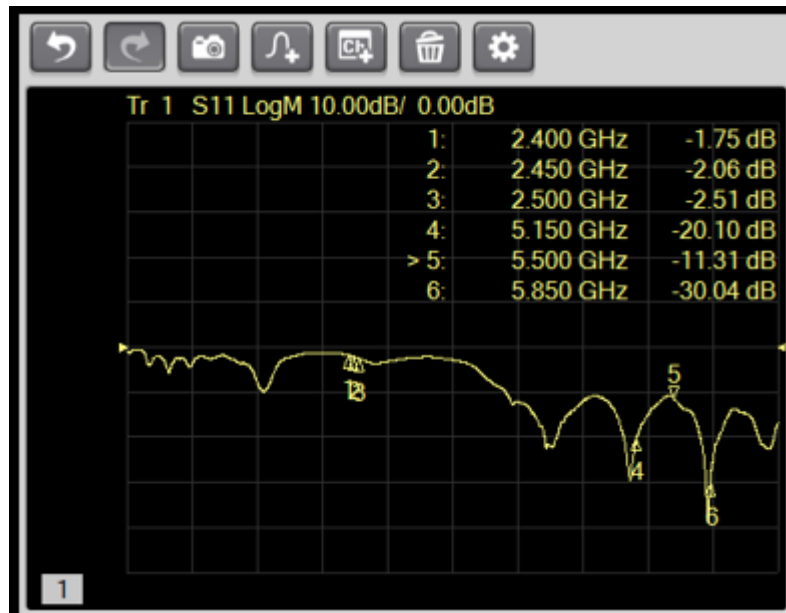
Product Name: Antenna



4. 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	3120500035	Cable	Skin	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		374000	N.D	N.D	N.D	RLSHD000593720060	2011/04/25	Cable	CTI	
			Isolated layer	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		372000	N.D	N.D	N.D	RLSHD000593720060	2011/04/25	Cable	CTI	
			Mesh	N.D.	N.D.	N.D.	Negative							RLSHD000593720060	2011/04/25	Cable	CTI		
			Center Yarn	N.D.	N.D.	N.D.	Negative							RLSHD000593720060	2011/04/25	Cable	CTI		
3	2051500901	PCB	CEM-1	N.D.	5	N.D.	N.D.	N.D.	N.D.		50mg/kg	50mg/kg	50mg/kg	50mg/kg	NO.CANEC1512596206	2015/08/03	Sub	广州 SGS	
4	3110500018	RFConn ec tor	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	

5. Antenna S-Parameters Measurement Data



以上 S 参数为天线配合 Deco X75(2-pack)(US) 1.0 整机的测试数据。

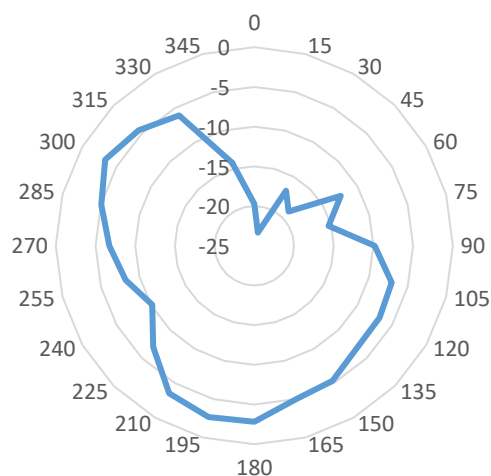
6. Antenna Radiation Pattern Measurement Data

Measurement Equipment Specification	
Microwave Chamber	ETS AMS-8923
Vector Network Analyzer	Agilent E5071C

5150~5850MHz

Freq. (GHz)	5.50	5.55	5.60	5.65	5.70	5.75	5.80	5.85
Ant Effi. (%)	73.10	73.10	75.69	75.83	77.56	79.35	81.96	82.82
Ant Gain (dBi)	0.41	0.06	0.38	0.49	0.96	1.11	1.43	1.62

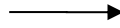
$\theta=90^\circ$ Radiation Pattern at 5.75GHz



以上方向图测试结果为天线配合 Deco X75(2-pack)(US) 1.0 整机的测试数据。

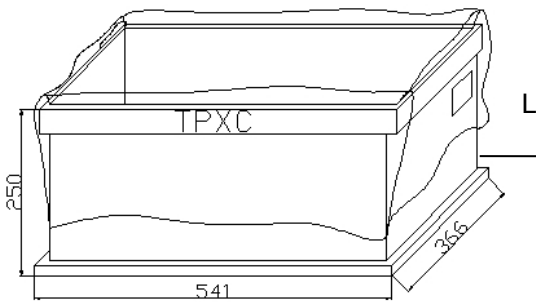
7. Packing Drawing

i. Put Antennas into Plastic Tray (仅用作装箱说明)



100PCS/Package

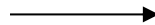
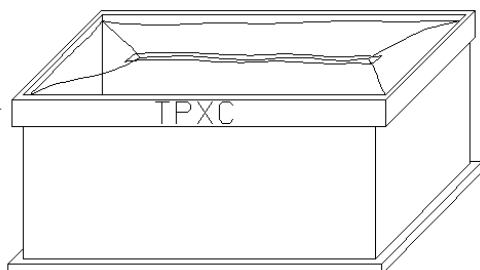
ii. Packing



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

20Bags, 2000PCS/Box

iii. Sealing



Product Number: 3101504518

Product Name: Antenna

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Antenna Specification



Product Number: 3101504518

Product Name: Antenna

TP-LINK®

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

Product Number: 3101504518

Product Name: Antenna

TP-LINK®

Specification for Approval

Date: _____

File No.: _____

Version: 1.0

Customer: _____ / _____

Customer P/N: _____ / _____

TP-LINK P/N: 3101504518

Description:

Antenna|5.5-5.85GHz|2.54dBi|LP|Omni|2W|I-PEX|145mm|D1.37mm|Deco X75|无
|X2070-WI145REV1.0|绿色|否|自制件/PTFE 材质|

TP-LINK Checked By:

Customer Approved By:

TP-LINK®

TP-LINK TECHNOLOGIES CO., LTD.

South Building, No.5 Keyuan Road,
Central Zone, Science & Technology Park,
Nanshan, Shenzhen, P. R. China

TEL: + 86 755 26612350

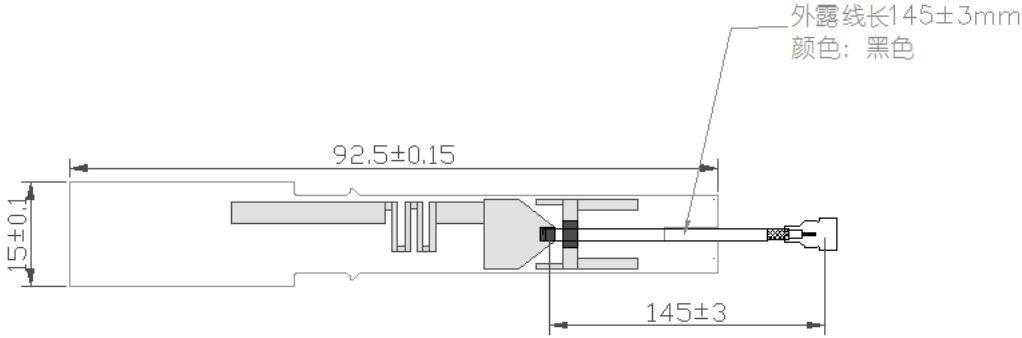
+ 86 755 26504400

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

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4.	Antenna S-Parameters Measurement Data	6
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1. Specification

Sample Photo	
 外露线长145±3mm 颜色: 黑色	
A. Electrical Characteristics	
Frequency	5.5~5.85GHz
Impedance	50 Ohm
VSWR	≤ 2.0
Antenna Gain	2.54dBi@5.5~5.85GHz
Max Input Power	≤ 2W
Polarization	Linear
Radiation pattern	Omni-Directional
B. Material & Mechanical Characteristics	
Material of Radiator	PCB(PTFE+Cu)
Cable Type	O.D. 1.37mm (Black)
Connector Type	I-PEX
Connector Pull Test	1.5 kg
C. Environmental Characteristics	
Operation Temperature	-10°C ~ +60°C
Storage Temperature	-40°C ~ +70°C

2. Characteristics and Reliability Test

Test Items	Test Condition and Procedure	Requirements
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Product Number: 3101504518

Product Name: Antenna

TP-LINK®

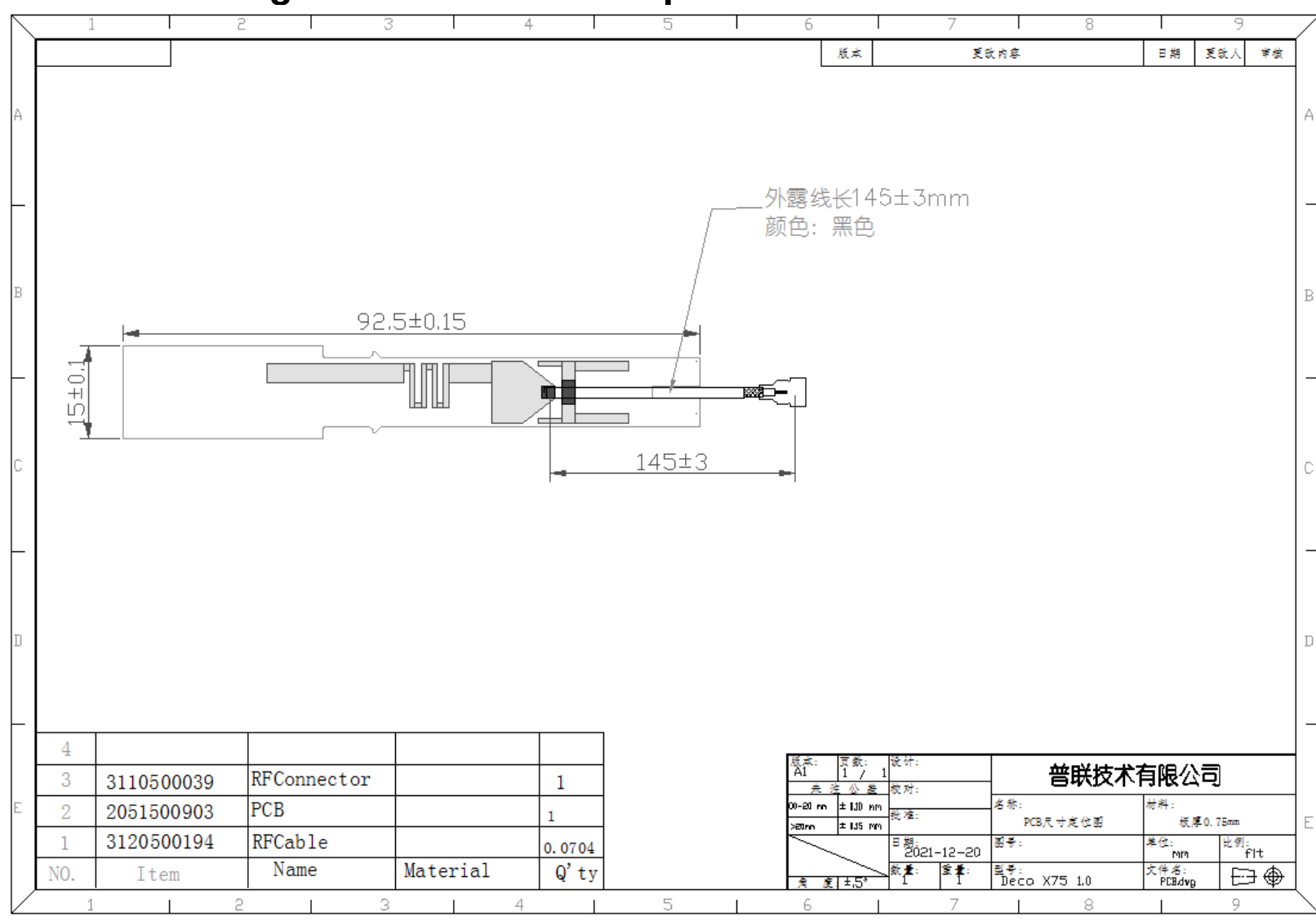
C1	VSWR	Set DUT on Network Analyzer; make individual calibration to test	Directive DUT specification
C2	Antenna Gain	Set DUT on Antenna Chamber; make individual calibration to test	Directive DUT specification
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E2	Thermal Shock	1 Cycle: -20°C (30 minutes) to +70°C (30 minutes) Cycles: 24	After 2 Hours Recovery 1. No Visual Damage 2. Frequency Tol. <=5%
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Product Number: 3101504518

Product Name: Antenna

TP-LINK®

3. Mechanical Drawing and Material Description



Product Number: 3101504518

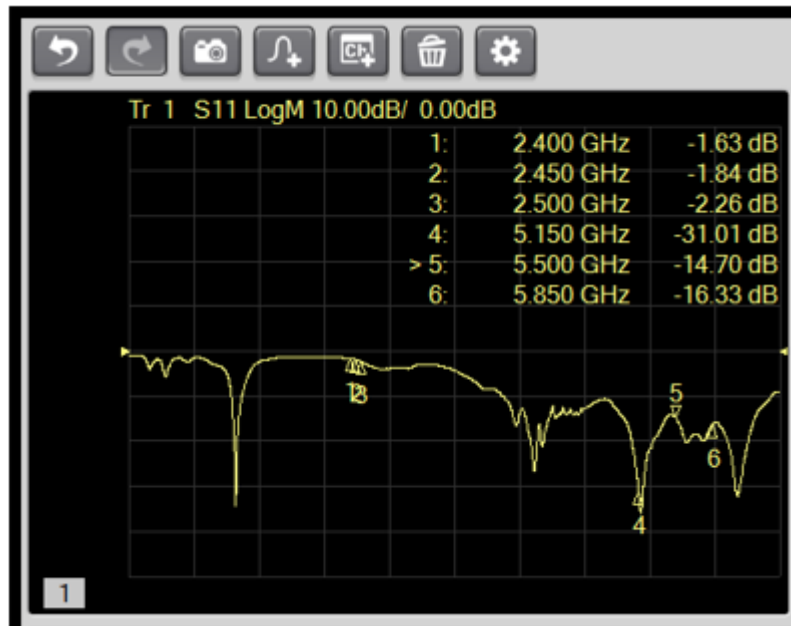
Product Name: Antenna

TP-LINK®

4. 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	3120500194	Cable	Skin	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.		374000	N.D	N.D	N.D	RLSHD000593720060	2011/04/25	Cable	CTI
			Isolated layer	N.D.	N.D.	N.D.	N.D.	N.D.	372000		N.D	N.D	N.D	RLSHD000593720060	2011/04/25	Cable	CTI	
			Mesh	N.D.	N.D.	N.D.	Negative		RLSHD000593720060		2011/04/25	Cable	CTI					
			Center Yarn	N.D.	N.D.	N.D.	Negative							RLSHD000593720060	2011/04/25	Cable	CTI	
2	2051500903	PCB	CEM-1	N.D.	5	N.D.	N.D.	N.D.	N.D.		50mg/kg	50m g/kg	50m g/kg	50mg/ kg	NO.CANEC1512596206	2015/08/03	Sub	广州 SGS
3	3110500039	RFConn ec tor	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

5. Antenna S-Parameters Measurement Data



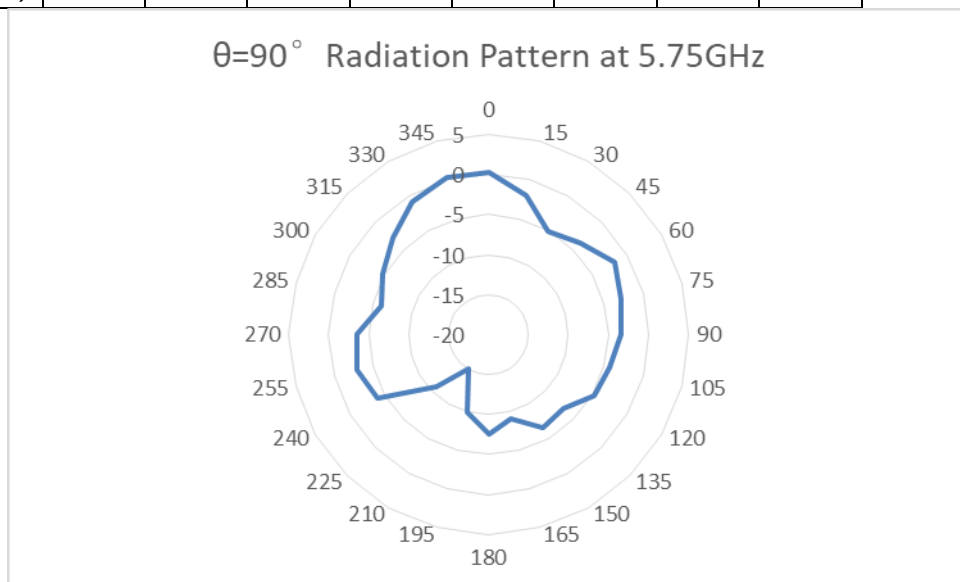
以上 S 参数为天线配合 Deco X75(2-pack)(US) 1.0 整机的测试数据。

6. Antenna Radiation Pattern Measurement Data

Measurement Equipment Specification	
Microwave Chamber	ETS AMS-8923
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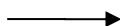
Freq. (GHz)	5.50	5.55	5.60	5.65	5.70	5.75	5.80	5.85
Ant Effi. (%)	23.81	25.86	29.49	32.25	36.31	38.58	35.70	31.88
Ant Gain (dBi)	0.61	0.67	0.95	1.54	2.14	2.54	2.25	1.61



以上方向图测试结果为天线配合 Deco X75(2-pack)(US) 1.0 整机的测试数据。

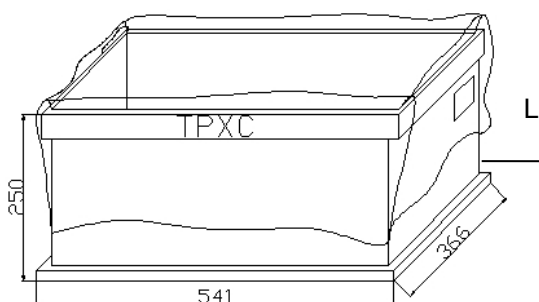
7. Packing Drawing

i. Put Antennas into Plastic Tray (仅用作装箱说明)



100PCS/Package

ii. Packing



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

20Bags, 2000PCS/Box

iii. Sealing

