



Antenna Specification



Product Number: 3101504943

Product Name: Antenna

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Product Number: 3101504943

Product Name: Antenna

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Specification For Approval

Date: _____

File No. : _____

Version: 1.0

Customer: _____ / _____

Customer P/N : _____ / _____

TP-LINK P/N: 3101504943

Description: Antenna|2.4-2.5GHz&5.15-5.85GHz|1.0dBi&1.0dBi|LP|Omni|2W|I-PEX|100

mm|D1.37mm|无|无|I3030-JI100Rev1.0sp1|无|不防水|内置贴壳天线/用于
PX50 机型/自制件/灰色线]

TP-LINK Checked By:
Customer Approved By:

TP-LINK®

TP-LINK TECHNOLOGIES CO., LTD.

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

TEL: + 86 755 26612350

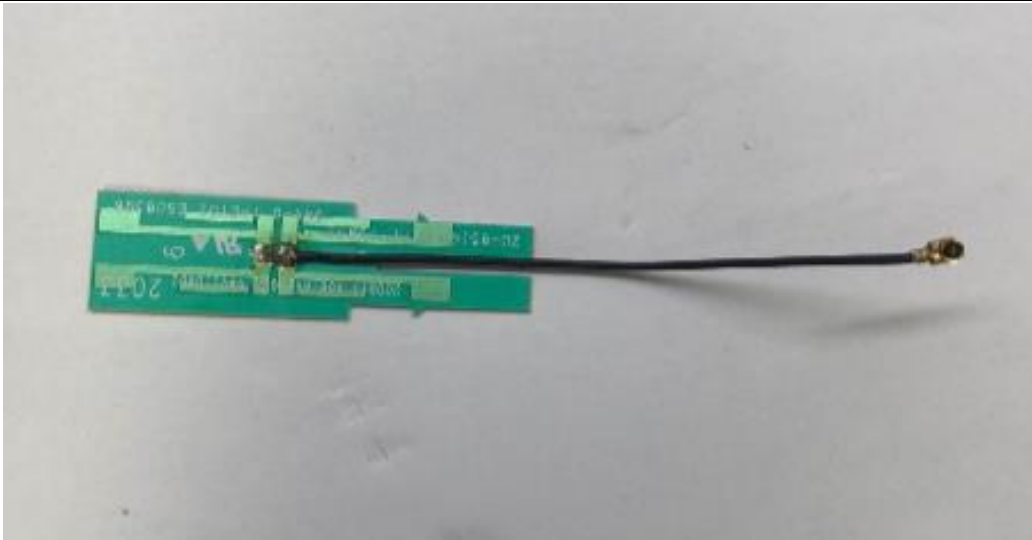
+ 86 755 26504400

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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	1.0dBi@2.4-2.5GHz&1.0dBi@5.15-5.85GHz
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 (Grey)
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;	Directive DUT specification

Product Number: 3101504943

Product Name: Antenna

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		make individual calibration to test	
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	1Cycle: -40°C (30 minutes) to +70°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: 3101504943

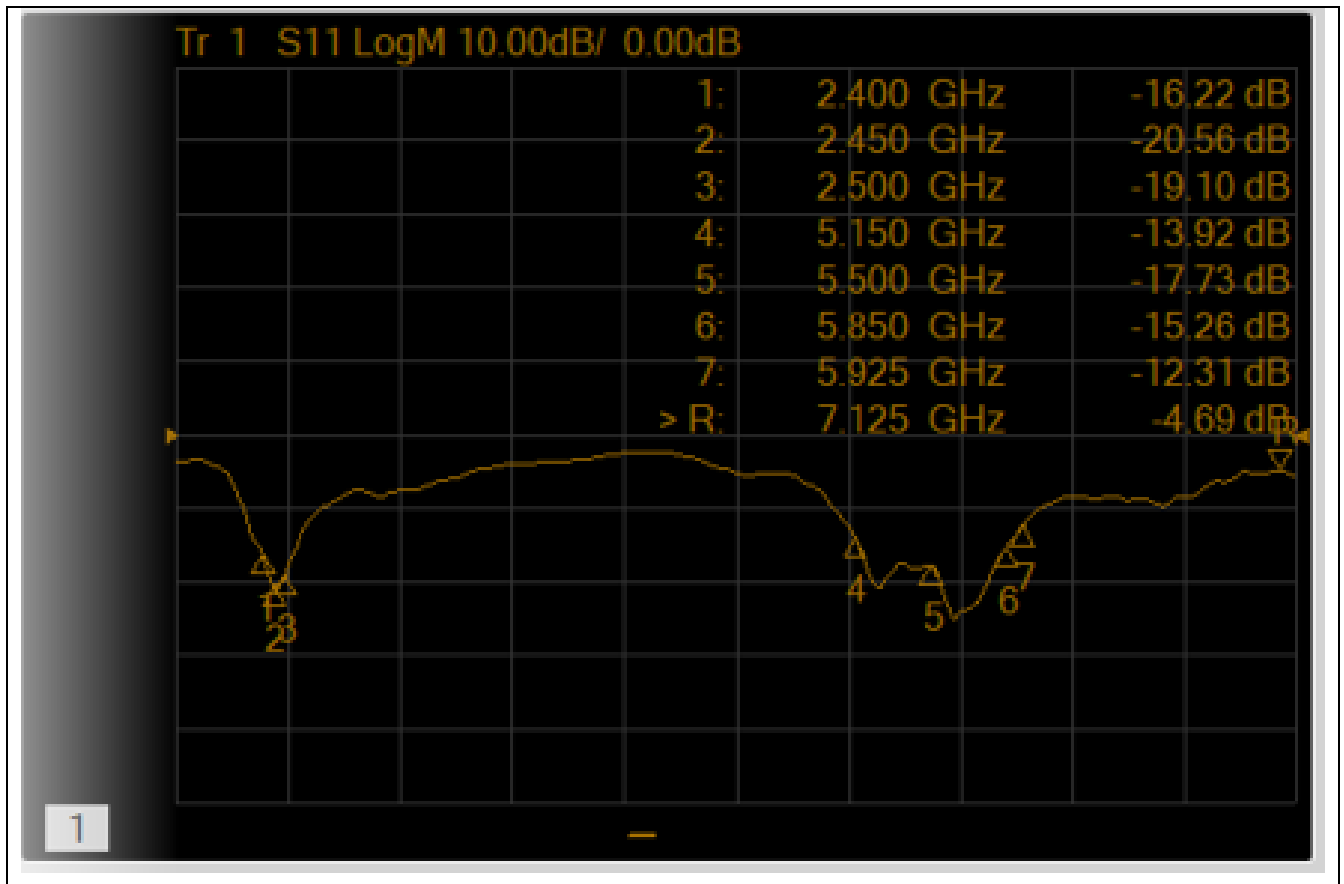
Product Name: Antenna



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	205150032	PCB	PTFE	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.		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.		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	6141501507	Body1	TPEE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.						CE/2014/C1826	2014/12/09	杆套	SGS
3	6141501029	Hinge Pin	PA+GF	16	N.D.	N.D.	N.D.	N.D.	N.D.						RLSZ001282400001	2012/05/17	PA66-G30	CTI
4	6142503361	Body2	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.						SHAEC1200148411	2012/01/09	ABS	上海 SGS
5	6141501809	Body3	PC		N.D.		N.D.				N.D.	N.D.		GZ1106084755	2011.07.05	PC S-2000VR	广州 SGS	
6	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.	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	3120500194	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

V. Antenna – S Parameter Test Data

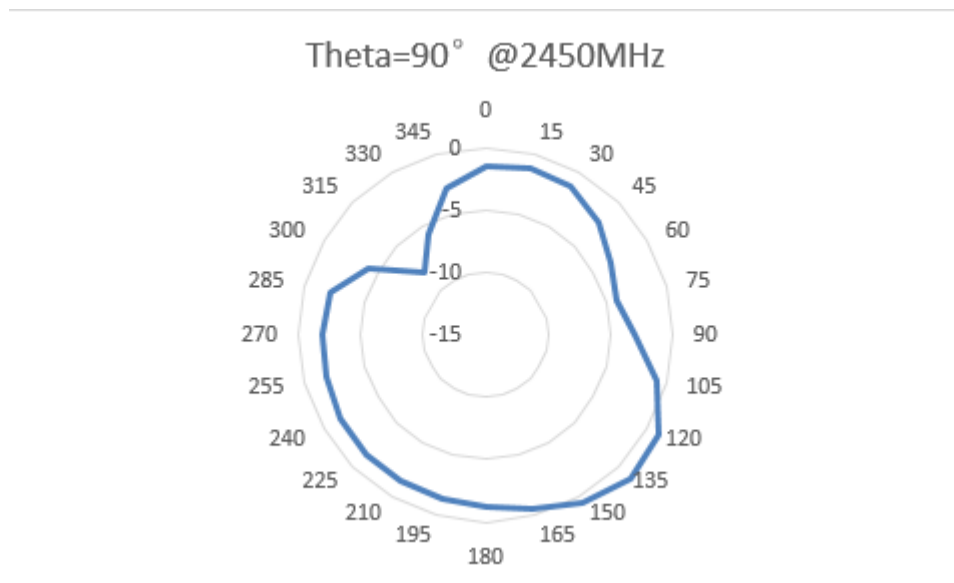


VI. Antenna – Radiation Pattern Test Data

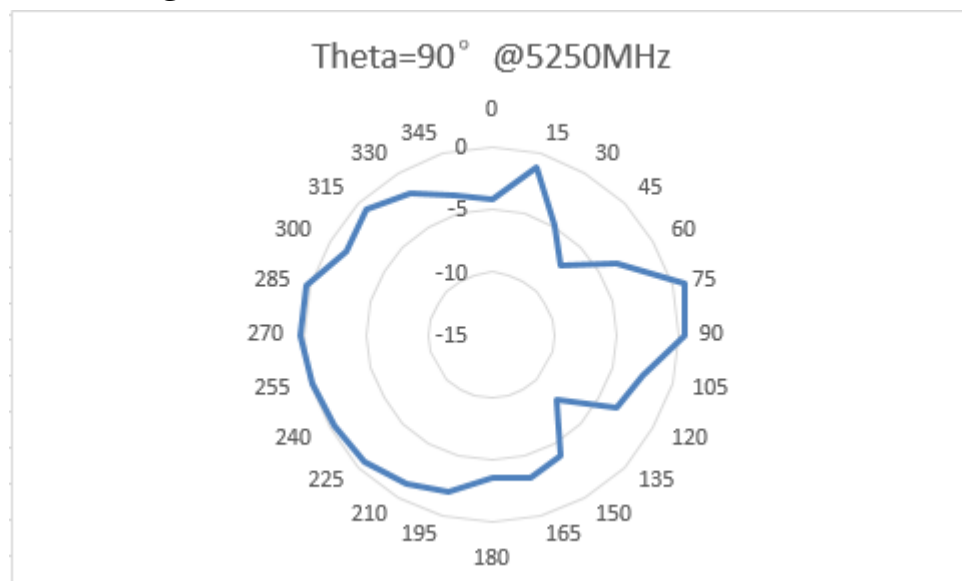
Testing Equipment Specification	
Microwave Chamber	Satimo SG24-S
Testing Equipment	Agilent 5071B

Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain(dBi)	0.61	0.74	0.84	0.79	0.02	1.00	0.56	0.36	0.84	0.20	0.31
Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650
Gain(dBi)	0.38	0.49	0.50	0.27	0.65	0.81	0.73	1.00	0.55	0.60	0.47
Freq(MHz)	5700	5750	5800								
Gain(dBi)	0.48	0.98	0.35								

Theta=90° @2450MHz



Theta=90° @5250MHz

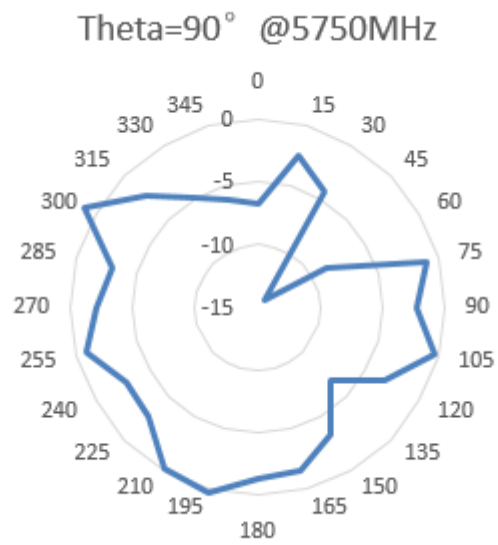


Theta=90° @5750MHz

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Product Name: Antenna

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VII. Packing Drawing

i . Put ANT into Plastic Tray (800PCS/ BPX) (仅作装箱说明)



200PCS/bag

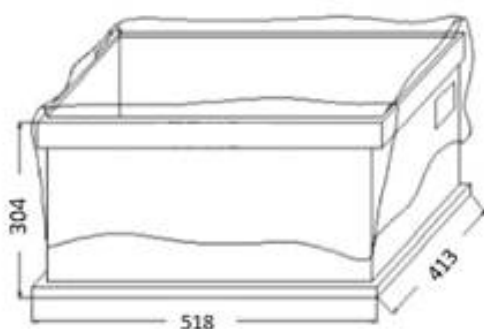
ii. Packing



10Bags, 2000PCS/Box

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

iii.Sealing





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Specification For Approval

Date: _____

File No. : _____

Version: 1.0

Customer: _____ / _____

Customer P/N : _____ / _____

TP-LINK P/N: 3101504944

Description: Antenna|2.4-2.5GHz&5.15-5.85GHz|1.0dBi&1.0dBi|LP|Omni|2W|I-PEX|160

mm|D1.37mm|无|无|I3030-JI160Rev1.0sp1|无|不防水|内置贴壳天线/用于
PX50 机型/自制件/黑色线]

TP-LINK Checked By:
Customer Approved By:

TP-LINK®

TP-LINK TECHNOLOGIES CO., LTD.

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

TEL: + 86 755 26612350

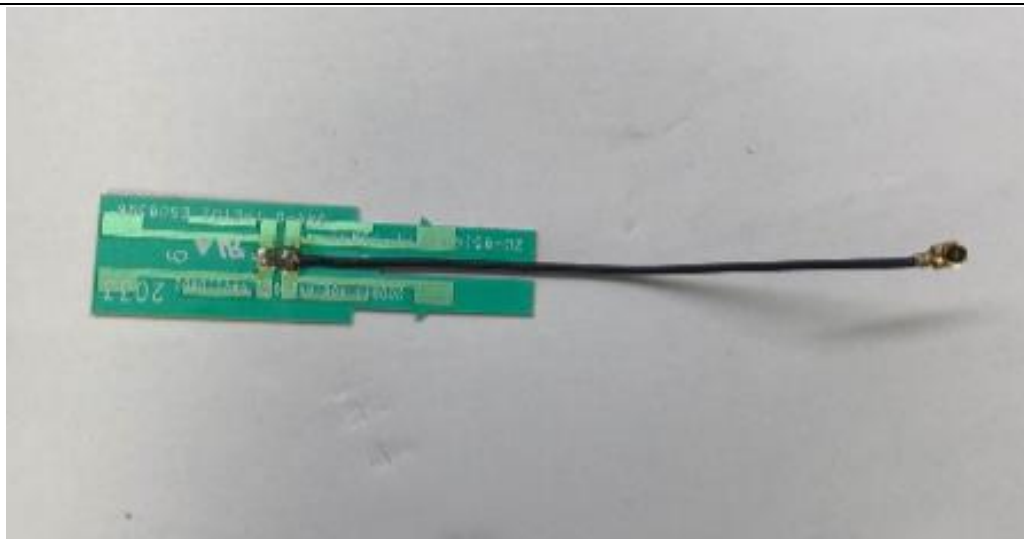
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I. Specification

Sample Photo**A. Electrical Characteristics**

Frequency	2400~2500MHz&5150~5850MHz
Impedance	50 Ohm
S.W.R.	≤ 2.0
Antenna Type	Dipole
Antenna Gain	1.0dBi@2.4-2.5GHz&1.0dBi@5.15-5.85GHz
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°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;	Directive DUT specification

Product Number: 3101504944

Product Name: Antenna

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		make individual calibration to test	
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	1Cycle: -40°C (30 minutes) to +70°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: 3101504944

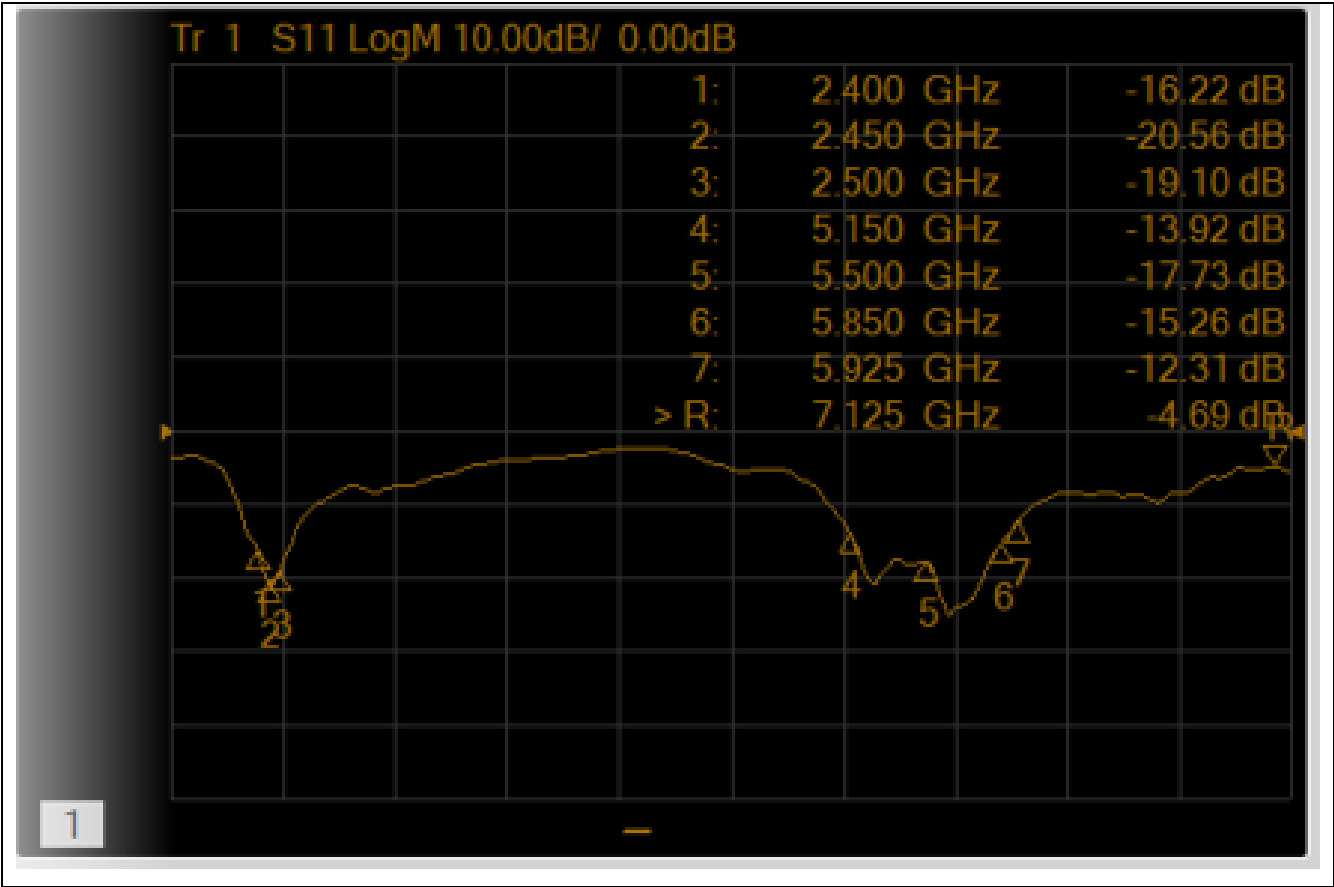
Product Name: Antenna



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	205150032	PCB	PTFE	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.		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.		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	6141501507	Body1	TPEE	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.						CE/2014/C1826	2014/12/09	杆套	SGS
3	6141501029	Hinge Pin	PA+GF	16	N.D.	N.D.	N.D.	N.D.	N.D.						RLSZ001282400001	2012/05/17	PA66-G30	CTI
4	6142503361	Body2	ABS	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.						SHAEC1200148411	2012/01/09	ABS	上海 SGS
5	6141501809	Body3	PC		N.D.		N.D.				N.D.	N.D.		GZ1106084755	2011.07.05	PC S-2000VR	广州 SGS	
6	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.	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	3120500194	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

V. Antenna – S Parameter Test Data

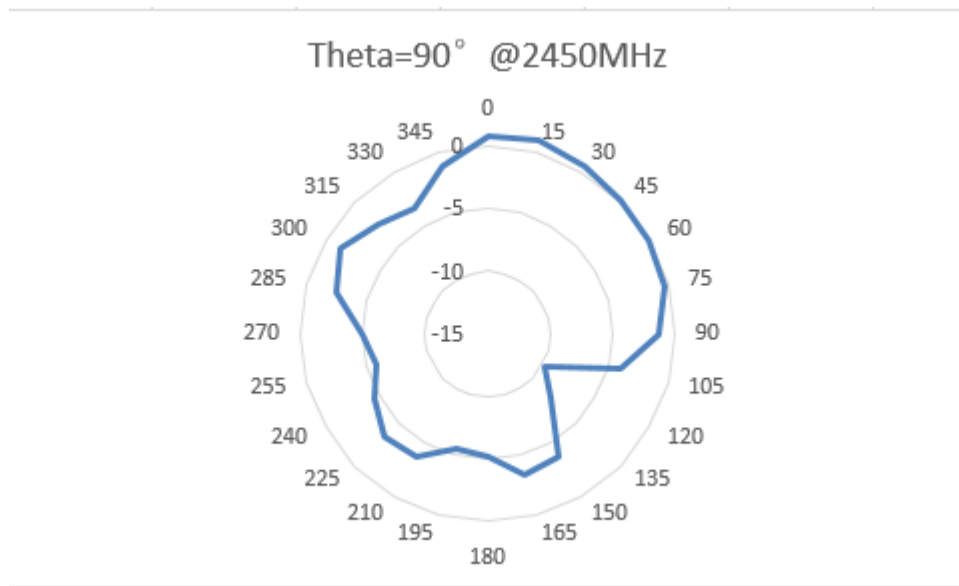


VI. Antenna – Radiation Pattern Test Data

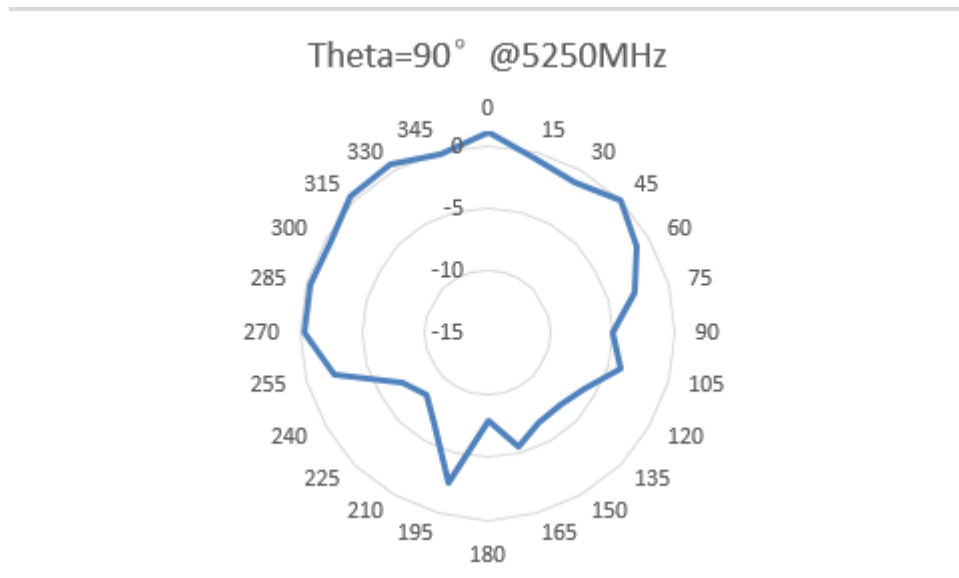
Testing Equipment Specification	
Microwave Chamber	Satimo SG24-S
Testing Equipment	Agilent 5071B

Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Gain(dBi)	0.78	0.94	0.48	0.46	0.25	1.00	0.89	0.56	0.73	0.29	0.68
Freq(MHz)	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650
Gain(dBi)	0.78	0.56	0.97	0.35	0.36	0.96	0.74	1.00	0.86	0.37	0.93
Freq(MHz)	5700	5750	5800								
Gain(dBi)	0.34	0.84	0.58								

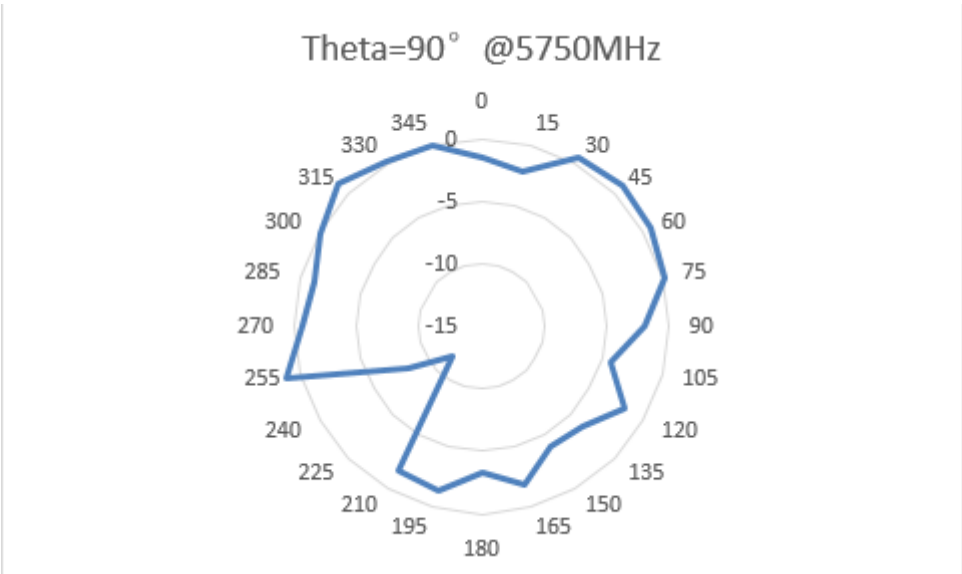
Theta=90° @2450MHz



Theta=90° @5250MHz



Theta=90° @5750MHz



VII. Packing Drawing

i . Put ANT into Plastic Tray （800PCS/ BPX）（仅作装箱说明）



200PCS/bag

ii. Packing



10Bags, 2000PCS/Box

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

iii.Sealing

