

Development Case No.: Y201609270220

Date: Nov. 16, 2016

Version: A0

Specifications For Approval

Customer: YeelinkProject: G Light

B&T Part No.: _____

Description: 2.4G built-in antenna (PCB $33.49 \times 15.39 \times 1$)
- pure white 1.13 cable-terminal, L = 100 mm

Factory Seal and Signature:

Prepared by	Reviewed by	Approved by
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Customer Approval Seal and Signature:

Checked by	Reviewed by	Approved by

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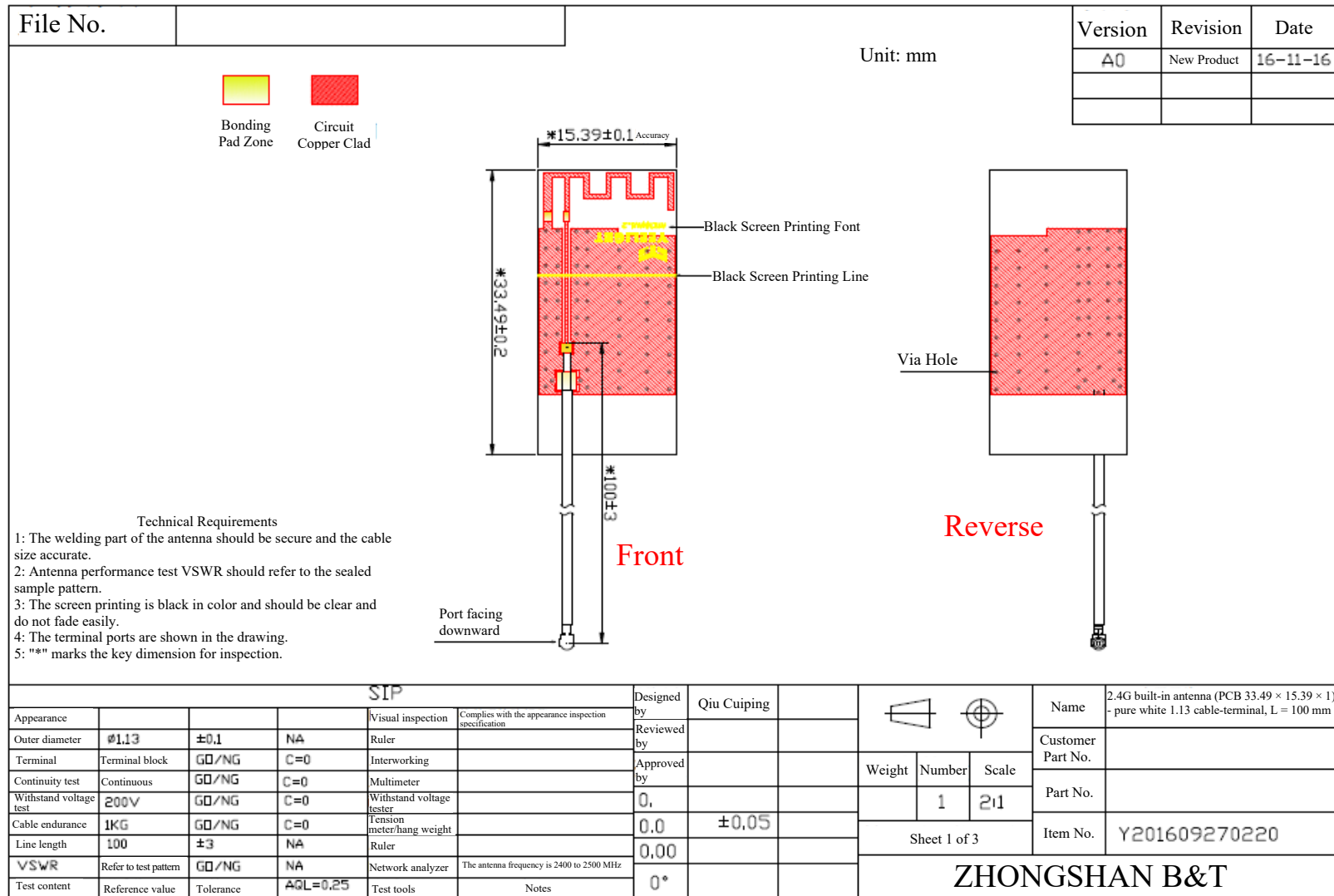
Document Preparation/Revision/Abolition Log

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3. Product Drawing

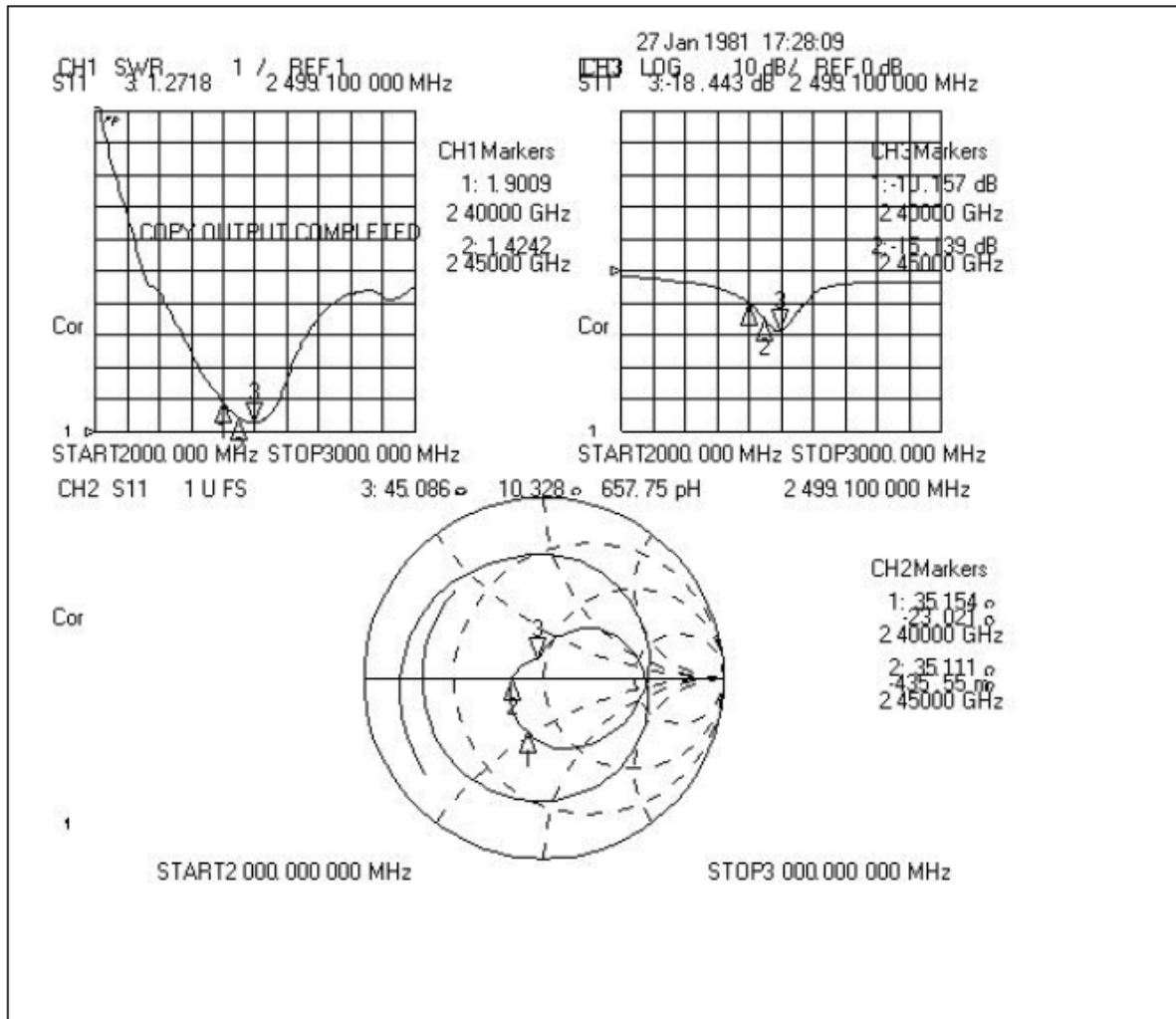


4. Performance Parameters

Electrical Parameters	
Frequency Range	2400 to 2500 MHz
Input Impedance	50 Ω
Standing Wave Ratio	Refer to engineering sealed sample
Maximum Gain	2.0 dBi
Power Capacity	1 w
Withstand Voltage Test	200 V
Continuity test	Continuous
Polarization Mode	Vertical
Radiation Direction	Omni-directional
Joint Type	Terminal
Mechanical Parameters	
Visible Line Length	100 $\pm$ 3 mm
Endurance	1 kg
Coaxial Cable	Pure white 1.13 cable
Salt Spray Test	24 H
Environmental Parameters	
Operating Temperature	-30°C to 65°C
Storage Temperature	-30°C to 75°C

5. Electrical Performance Test Report

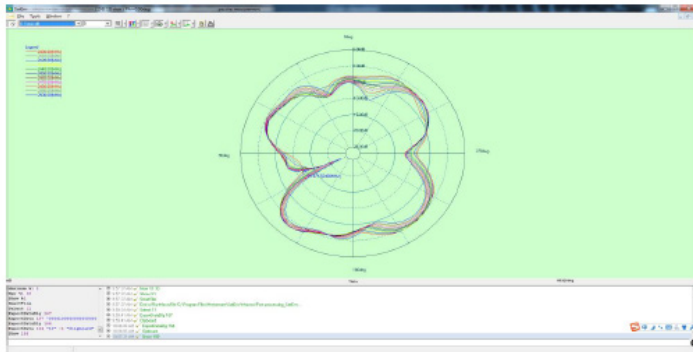
S11 Parameter



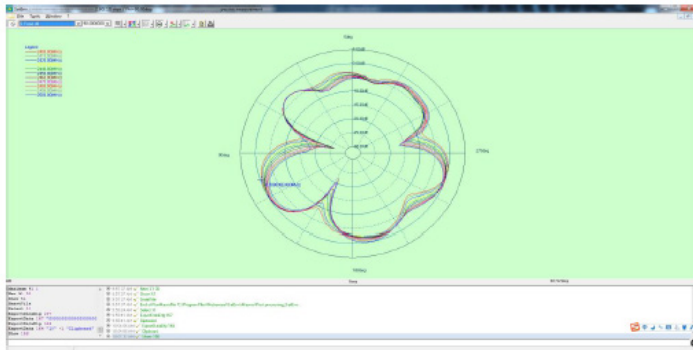
Wi-Fi Efficiency and Gain Data

Freq (Mhz)	Wi-Fi antenna	
	Gain (dBi)	Efficiency (%)
2400	1.79	51%
2410	1.84	50%
2420	1.77	50%
2430	1.98	50%
2440	1.95	49%
2450	2.0	48%
2460	1.97	48%
2470	1.75	46%
2480	1.56	45%
2490	1.39	45%
2500	1.37	43%

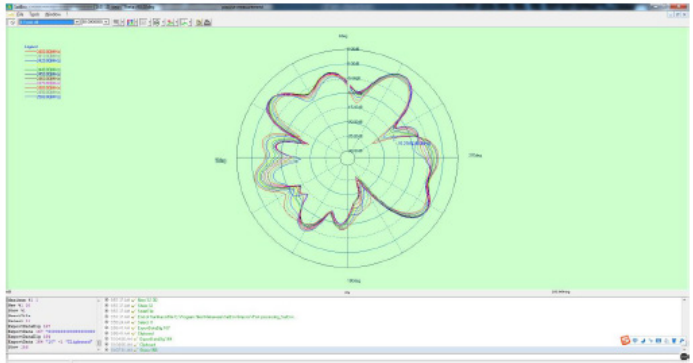
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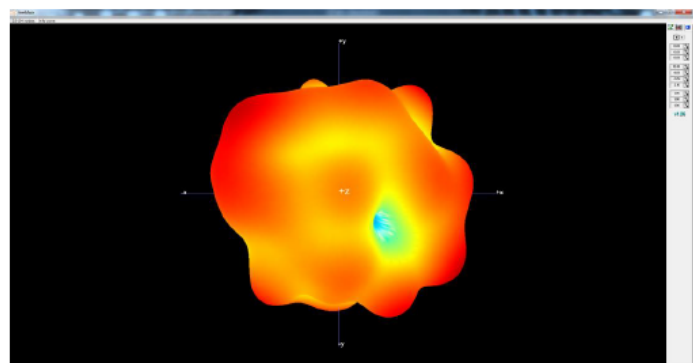
E2



E3



3D



6. Reliability Test Report

6.1. Endurance

Test/Test Item	Endurance					Inspection Sheet No.
Product Name/ Specification	2.4G built-in antenna (PCB 33.49 × 15.39 × 1) - pure white 1.13 cable-terminal, L = 100 mm					Number of test pieces: 5
Submission date: Nov. 14, 2016					Completion date: Nov. 15, 2016	
Test/Inspection Equipment:						
1. Tension tester						
Test/Inspection Conditions:						
1. Temperature: 18-25°C						
2. Humidity ≤ 70% RH						
Test/Inspection Results: Qualified						
Item Conditions	Endurance between terminal and cable ≥ 1 kgf					
Test Times	1	2	3	4	5	
Test Results	1.1	1.15	1.1	1.0	1.2	
Notes:						
Test/Inspection Judgment: ☒ Qualified ☐ Unqualified ☐ No judgment						
Tested by: Jiang Ting			Reviewed by: Zhou Quan			

6.2. Constant Temperature and Humidity Test

Test/Test Item	Constant Temperature and Humidity Test		Inspection Sheet No.	
Product Name/ Specification	2.4G built-in antenna (PCB 33.49 × 15.39 × 1) - pure white 1.13 cable-terminal, L = 100 mm		Number of test pieces: 5	
Submission date: Nov. 14, 2016			Completion date: Nov. 15, 2016	
Test/Inspection Equipment: 1. Programmable constant temperature and humidity experimental box 2. 8753ES network analyzer				
Test/Inspection Conditions: 1. Test at room temperature of 25°C and humidity of 65% 2. +80°85 ~ 90%RH 2 hours a cycle, a total of 24 hours;				
Test Results				
Judgment Standard: 1. The metal surface cladding should have no peeling, cracks, wrinkles, separation, etc.; Non-metallic parts should have no discoloration, cracking, deformation, degumming, and other conditions; 2. Electrical test meets standard requirements: voltage standing wave ratio test is qualified				
Inspection Item	Before the Test	After the Test	Defect Description	Judgment
Appearance	No discoloration, cracking, deformation, or debonding	No discoloration, cracking, deformation, or debonding	None	Qualified
Electrical Performance	Antenna voltage standing wave ratio test is qualified	Antenna voltage standing wave ratio test is qualified	None	Qualified
Test/Inspection Judgment: ☒ Qualified ☐ Unqualified ☐ No judgment				
Tested by: Jiang Ting		Reviewed by: Zhou Quan		

6.3. High- and Low-Temperature Shock

Test/Test Item	High- and Low-Temperature Shock		Inspection Sheet No.	
Product Name/ Specification	2.4G built-in antenna (PCB 33.49 × 15.39 × 1) - pure white 1.13 cable-terminal, L = 100 mm		Number of test pieces: 5	
Submission date: Nov. 14, 2016			Completion date: Nov. 15, 2016	
Test/Inspection Equipment: 1. High and low temperature alternating humid heat box 2. 8753ES network analyzer				
Test/Inspection Conditions: -40°C (2H) -- interval 80°C (2H), 6 cycles, a total of 24 hours				
Test Results				
Judgment Standard: 1. The metal surface cladding should have no peeling, cracks, wrinkles, separation, etc.; Non-metallic parts should have no discoloration, cracking, deformation, degumming, and other conditions; 2. Electrical test meets standards – voltage standing wave ratio test is qualified.				
Inspection Item	Before the Test	After the Test	Defect Description	Judgment
Appearance	No discoloration, cracking, deformation, or debonding	No discoloration, cracking, deformation, or debonding	None	Qualified
Electrical Performance	Antenna voltage standing wave ratio test is qualified	Antenna voltage standing wave ratio test is qualified	None	Qualified
Test/Inspection Judgment: ☒ Qualified ☐ Unqualified ☐ No judgment				
Tested by: Jiang Ting		Reviewed by: Zhou Quan		

6.4. Salt Spray Test

Test/Test Item	Salt Spray Test		Inspection Sheet No.
Product Name/ Specification	2.4G built-in antenna (PCB $33.49 \times 15.39 \times 1$) - pure white 1.13 cable-terminal, L = 100 mm		Number of testpieces: 5
Submission date: Nov. 14, 2016			Completion date: Nov. 15, 2016
Test/Inspection Equipment: 1. HL-60-SS salt spray tester			
Test/Inspection Conditions: 1. The temperature in the salt spray box is $35 \pm 2^\circ\text{C}$; the temperature in the laboratory is 22 to 30°C 2. The sedimentation rate of salt spray is 1-2 ml/h per 80 cm^2 after 24-hour spray, the concentration of sodium chloride is $50 \pm 10\text{ g/L}$, and the PH value is 6.5/7.2			
Test/Inspection Results: Qualified			
Sample No.		Evaluation Grade	Defect Description
1		Qualified	
2		Qualified	
3		Qualified	
4		Qualified	
5		Qualified	
Test/Inspection Judgment: ☒ Qualified ☐ Unqualified ☐ No judgment			
Tested by: Jiang Ting		Reviewed by: Zhou Quan	

7. Material Composition and Harmful Substances Table

Item	Specification	Material	RoHS Test Results (PPM)						ICP Test No.	Test Time
			Cd	Pb	Hg	Cr+6	PBB	PBDE		
1	1.13 cable	FEP	ND	ND	ND	ND	ND	ND	NGBML1505118901	Jan. 8, 2016
		Tinned copper wire	ND	ND	ND	Negative	/	/	SCL011013410004	Mar. 9, 2016
2	Terminal	PBT	2.97	ND	ND	ND	ND	ND	CE201690477	Sept. 7, 2016
		Phosphor bronze	/	/	/	/	/	/	SHAEC1602887006	Feb. 25, 2016
		Gold	ND	ND	ND	Negative	ND	ND	ECL011033858004E	Jun. 14, 2016
3	PCB board	FR-4	ND	9	ND	ND	ND	ND	SHAEC1600081702	Jan. 8, 2016

PACKAGING CRITERION

PACKING CRITERION

Part No.:
Product Specification: 2.4G built-in antenna (PCB 33.49 × 15.39 × 1) - pure white 1.13 cable-terminal, L = 100 mm

I. Label Requirements

The internal label is about 10 cm long and 6 cm wide

Buyer	*****		
Supplier	ZHONGSHAN B&T TECHNOLOGY Co., Ltd.		
Purchase Order No.	*****		
Material Code	*****		
Product Specification	*****	Inspector	**
Quantity/Unit	****	Date of Production	****.*.*
Notes	*****		

The external label is about 10 cm long and 6 cm wide

Buyer	*****		
Supplier	ZHONGSHAN B&T TECHNOLOGY Co., Ltd.		
Purchase Order No.	*****		
Material Code	*****		
Product Specification	*****	Inspector	**
Quantity/Unit	****	Date of Production	****.*.*
Notes	*****		

II. Packaging Requirements

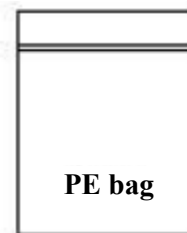
Job Description:

1. Inner packaging:

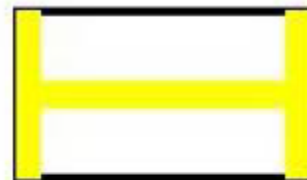
Product: 20 pieces per packet

2. Outer packaging:

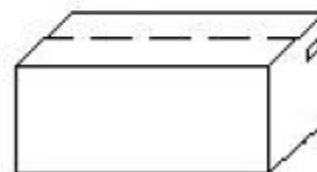
2000 pieces per carton



PE bag



Carton



Notes:

1. Confirm whether to add partitions or PE foams;
2. Label attachment, such as ROHS labels.