

Project :Y201808140910/2

Date. 2018.10.18

REV: A0

Antenna SPEC

Customer name: _____

Customer project: POLO

Customer P/N: _____

B&T P/N: AG-041533-1665

Spec.: 2.4 / 5.8G internal antenna (FPC 38.4×9.5) -Gray1.13 wire-terminal,
L=190mm

Manufacturer Name: Ai-Thinker

Address: Room408-410, Building C, Huafeng Intelligence Innovation Port,
Gushu, Xixiang, Baoan District,
Shenzhen,518126, China

Sealed by corporation:

compilation	ver if y	approval
Huangfeihui	Liulihua	Liulihua

Sealed by customer:

check	verify	approval

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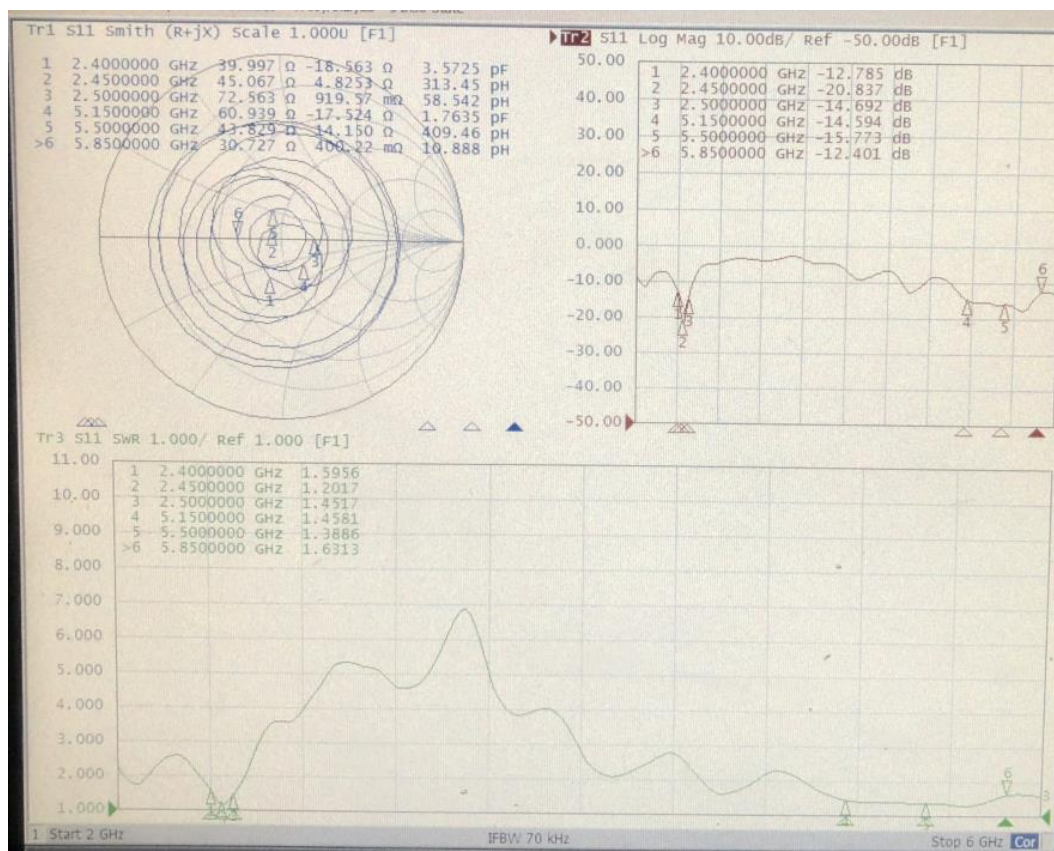
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Electrical Parameter		
Freq Range		2400~2500MHz/5150~5850MHz
Characteristic Impedance		50 Ω
VSWR		sample of reference project
Gain	2.4G	2.85dBi
	5.8G	5.76dBi
The Max input power		<10w
Polarization mode		Polar linearization
Radiation mode		Omni directional
Connector style		terminal
Mechanics Properties		
Length		190 $\pm$ 3mm
Maintain the force		$\geq$ 1Kgf
Coaxial cable		Gray1.13 wire
Salt spray test		24H
Environment parameter		
Operating Temp		-20 $^{\circ}$ C~40 $^{\circ}$ C

5、Electrical test report

S11 Parameter



Gain & efficiency

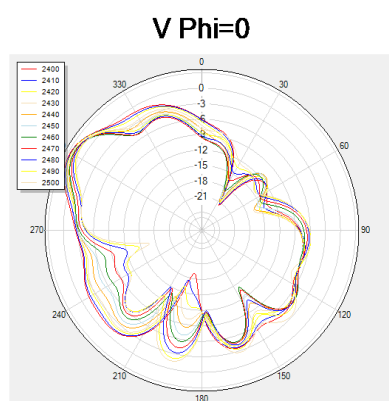
Peak gain	Peak gain	Efficiency
2.4	2.77	55%
2.41	2.71	55%
2.42	2.76	54%
2.43	2.65	54%

2.44	2.58	54%
2.45	2.56	53%
2.46	2.68	53%
2.47	2.8	53%
2.48	2.85	52%
2.49	2.81	51%
2.50	2.81	51%
Frequency (GHz)	Peak gain	Efficiency
5	5.08	50%
5.1	5.76	54%
5.1	5.65	53%
5.1	5.02	51%
5.4	4.42	50%
5.5	5.17	51%
5.6	4.29	54%
5.7	4.79	51%
5.8	4.97	52%
5.9	5.54	53%
6	4.48	50%

Direction diagram

2.4G

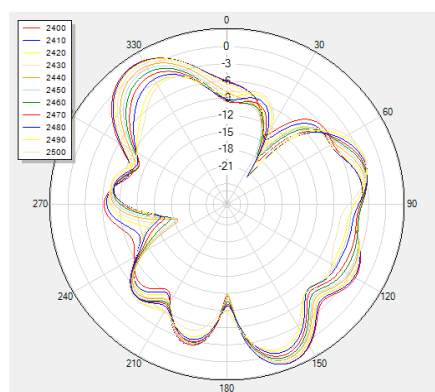
E1



H

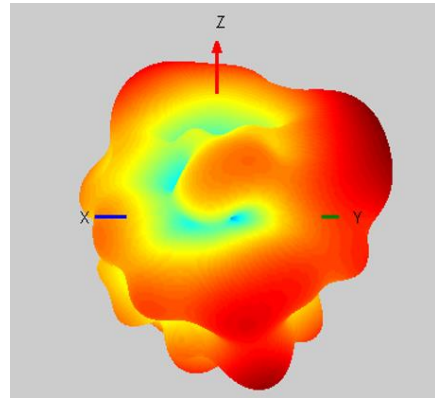
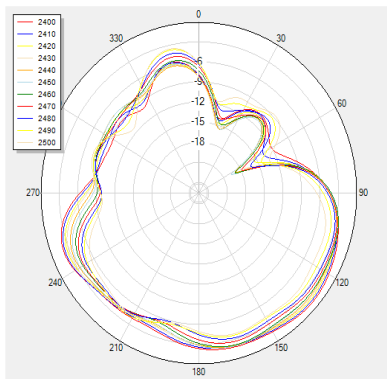
E2

V Phi=90



3D

H Theta=90

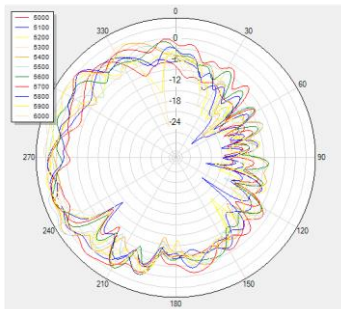


5.8G

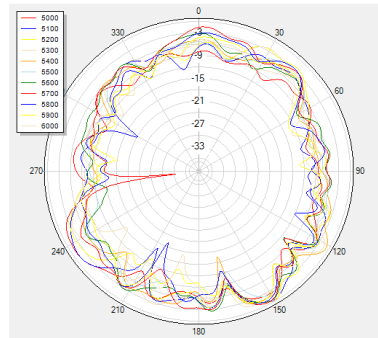
E1

E2

V Phi=0



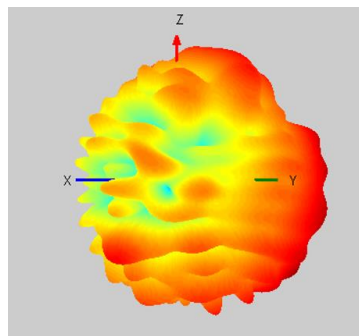
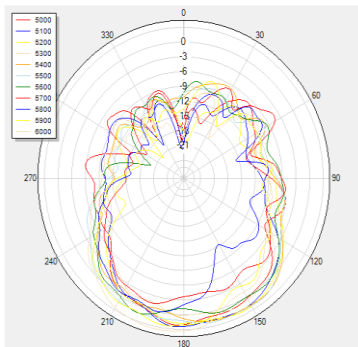
V Phi=90



H

3D

H Theta=90



6、Reliability test report

6. 1. Sustaining power

Test Item:	Retention		Sheet No.:		
Product name / specification	2.4 / 5.8G internal antenna (FPC 38.4×9.5) -Gray1.13 wire-terminal, L=190mm		Test number : 5PCS		
Submission date: 2018-08-20			Finish date: 2018-08-21		
Test requipment 1. Tensile tester					
Test conditions: 1. Temperature: 18-25℃ 2. Humidity≤65%RH					
Test Result: PASS					
Item condition	Maintain the force between the terminal and cables ≥1.0kgf				
test No.	1	2	3	4	5
test result	1.01	1.03	1.1	1.05	1.12
P.S.:					
Results judgement: ☒ OK ☐ NG ☐ Don't make decision					
Tester: Tanlilin Verify: Jianghongying					

6. 2. Constant temperature and humidity test

Test Item	Constant temperature and humidity test		Sheet No.																
Product name / specification	2.4 / 5.8G internal antenna (FPC 38.4 × 9.5) -Gray1.13 wire-terminal, L=190mm		Test number : 5PCS																
Submission date: 2018-08-20			Finish date: 2018-08-21																
Test requipment : 1. Constant temperature and humidity test chamber 2. 8753ES Network Analyzer																			
Test condition : 1. The test under constant temperature -30℃ for 12 h 2. 12 h +65℃ 65~70%RH test, a total of 24 hours.																			
Test Result																			
Decision criteria: 1, metal surface coating should be no peeling, cracks wrinkling, separation, etc.; Non-metallic parts should not happen discoloration, craze, deformation, as well as the degumming; 2, electrical test standard requirements: voltage standing wave ratio test qualified																			
<table border="1"> <thead> <tr> <th>Test Item</th> <th>Before the test</th> <th>After the test</th> <th>Result description</th> <th>Judging result</th> </tr> </thead> <tbody> <tr> <td>Appearance</td> <td>No color deviation , deformed & disconnect</td> <td>No color deviation , deformed & disconnect</td> <td>Have no any defects</td> <td>Pass</td> </tr> <tr> <td>Electrical</td> <td>VSWR Pass the test</td> <td>VSWR Pass the test</td> <td>Have no any defects</td> <td>Pass</td> </tr> </tbody> </table>					Test Item	Before the test	After the test	Result description	Judging result	Appearance	No color deviation , deformed & disconnect	No color deviation , deformed & disconnect	Have no any defects	Pass	Electrical	VSWR Pass the test	VSWR Pass the test	Have no any defects	Pass
Test Item	Before the test	After the test	Result description	Judging result															
Appearance	No color deviation , deformed & disconnect	No color deviation , deformed & disconnect	Have no any defects	Pass															
Electrical	VSWR Pass the test	VSWR Pass the test	Have no any defects	Pass															
Results judgement: ☒ OK ☐ NG ☐ Don't make decision																			
Tester: Tanlilin Verify: Jianghongying																			

6. 3. High & low temperature thermal shock test

Test Item	thermal shock test		Sheet No.																
Product name / specification	2.4 / 5.8G internal antenna (FPC 38.4×9.5) -Gray1.13 wire-terminal, L=190mm		Test number : 5PCS																
Submission date: 2018-08-20			Finish date: 2018-08-21																
Test requirement: 1.Constant temperature and humidity test chamber 2. 8753ES Network Analyzer																			
Test conditions: -40℃ (2H) -- 80℃ (2H) , 6cycles, total:24 hours																			
Test Result																			
Judging standard: 1、 The connector's surface have no plating peel off, wrinkle and broken ;The plastic parts have no discoloration , warp and break off; 2、 Electrical Properties: VSWR Pass the test																			
<table border="1"> <thead> <tr> <th>Test Item</th> <th>Before the test</th> <th>After the test</th> <th>Result description</th> <th>Judging result</th> </tr> </thead> <tbody> <tr> <td>Appearance</td> <td>No discoloration , cracking , warp and break off</td> <td>No discoloration , cracking , warp and break off</td> <td>Have no any defects</td> <td>Pass</td> </tr> <tr> <td>Electrical</td> <td>VSWR Pass the test</td> <td>VSWR Pass the test</td> <td>Have no any defects</td> <td>Pass</td> </tr> </tbody> </table>					Test Item	Before the test	After the test	Result description	Judging result	Appearance	No discoloration , cracking , warp and break off	No discoloration , cracking , warp and break off	Have no any defects	Pass	Electrical	VSWR Pass the test	VSWR Pass the test	Have no any defects	Pass
Test Item	Before the test	After the test	Result description	Judging result															
Appearance	No discoloration , cracking , warp and break off	No discoloration , cracking , warp and break off	Have no any defects	Pass															
Electrical	VSWR Pass the test	VSWR Pass the test	Have no any defects	Pass															
Results judgement: ☒ OK ☐ NG ☐ Don't make decision																			
Tester: Tanlilin Verify: Jianghongying																			

6. 4. Salt spray test

Test Item	Salt spray test	Sheet No.																		
Product name / specification	2.4 / 5.8G internal antenna (FPC 38.4×9.5) -Gray1.13 wire-terminal, L=190mm	Test number : 5PCS																		
Submission date: 2018-08-20		Finish date: 2018-08-21																		
Test requirement: HL-60-SS Salt spray tester																				
Test / inspection conditions : 1. the temperature of the salt fog box is 35 + / - 2 DEG C and the temperature of the test room is 22~30 2 the speed of salt spray deposition was 1-2ML/h sodium chloride concentration was + 10g/L per 80cm area after 24H spraying, pH value was 6.5/7.2																				
Test Result: PASS <table border="1"> <thead> <tr> <th>Sample No.</th> <th>Result description</th> <th>Judging result</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Have no any defects</td> <td>Pass</td> </tr> <tr> <td>2</td> <td>Have no any defects</td> <td>Pass</td> </tr> <tr> <td>3</td> <td>Have no any defects</td> <td>Pass</td> </tr> <tr> <td>4</td> <td>Have no any defects</td> <td>Pass</td> </tr> <tr> <td>5</td> <td>Have no any defects</td> <td>Pass</td> </tr> </tbody> </table>			Sample No.	Result description	Judging result	1	Have no any defects	Pass	2	Have no any defects	Pass	3	Have no any defects	Pass	4	Have no any defects	Pass	5	Have no any defects	Pass
Sample No.	Result description	Judging result																		
1	Have no any defects	Pass																		
2	Have no any defects	Pass																		
3	Have no any defects	Pass																		
4	Have no any defects	Pass																		
5	Have no any defects	Pass																		
Results judgement: ☒ OK ☐ NG ☐ Don't make decision																				
Tester: Tanlilin Verify: Jianghongying																				

7、Table of Materials and Hazardous Substances

Items are	specifications	The material	RoHS The inspection results (PPM)						ICP Test number	Detection time
			Cd	Pb	Hg	Cr+6	PBB	PBDE		
1	1.13 line	FEP	ND	ND	ND	ND	ND	ND	SHAEC1800689313	18.01.16
		Tin plated copper wire	ND	ND	ND	ND	ND	ND	ECL01K005088003E	18.01.27
2	FPC	PI	ND	ND	ND	ND	ND	ND	SHAEC1803780704	18.03.06
3	terminal	PBT	ND	ND	ND	ND	ND	ND	CE2017C3388	17.12.27
		Phosphor bronze	ND	16	ND	ND	/	/	CANEC1803231716	18.03.05

PACKING CRITERION

P/N: AG-041533-1665

Spec.: 2.4 / 5.8G internal antenna (FPC 38.4×9.5) -Gray1.13 wire-terminal, L=190mm

一、contents of label(according to the customer's name, refer to the corresponding finished product label production requirements. If there is no requirement, it will follow the ordinary label requirements.)

Label for PE bag/ carton, L:10cm;W:6cm

buyer	*****		
vender	ZHONGSHAN B&T TECHNOLOGY Co., Ltd		
Purchase No	*****		
Material No.	*****		
Part name	*****	QC	**
Q'ty/Unit	*****	Manufacture date	****.***
Trace code	*****	Running water number	*****

Label for PE bag/ carton, L:10cm;W:6cm

buyer	*****		
vender	ZHONGSHAN B&T TECHNOLOGY Co., Ltd		
Purchase No	*****		
Material No.	*****		
Part name	*****	QC	**
Q'ty/Unit	*****	Manufacture date	****.***
Trace code	*****	Running water number	*****

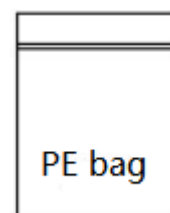
二、Packing requirement

Operating description:

1. inner packing:

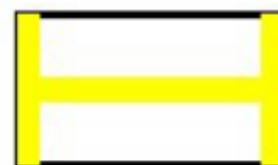
50 PCS/ small bag,

200 PCS/ big bag

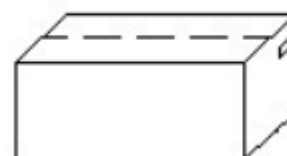


2. outer packing:

Quantity according to actual packing PCS/carton



Carton



Notice:

