

Project No: SG201807090700/2

Date: 2021.07.03

Rev: A1

Antenna SPEC

Customer: Seed

Part No: _____

B&T P/N: AG-010518-1014

Spec: 915MHz external black 195 folding antenna -SMA-J

Sealed by corporation:

compilation	verify	approval
Huangfeihui	He Xing	Yilinyu

Sealed by customer:

check	verify	approval

Contact information of B&T:

Contact person for sales : Longmingguo	MB:18576042661	E-mail: longmg@tech-now.com
Contact person for technical: He Xing	MB:15915343738	E-mail: hex@tech-now.com
Contact person for Quality: Onyangdexiang	MB:15819972972	E-mail: ouyangdx@tech-now.com

Document making / revising / abolishing resume

[illegible]

Contents

1、 Cover·····	1
2、 Index of specification·····	3
3、 Product drawing·····	4
4、 Electrical& mechanics Parameter·····	5
5、 Electrical test report·····	6
6、 Reliability test report·····	7-10
6.1 Retention test·····	7
6.2 Constant temperature and humidity test·····	8
6.3 High & low temperature thermal shock test·····	9
6.4 Salt spray test·····	10
7、 Packing Specification·····	11

3、Product drawing

Document No.	B&T-WI-C-PE-4641-1			REV.	Revise	Date
				A0	New Product	18-08-22

Unit: mm

Technical requirements:

- 1: the frequency band of the antenna is 915MHz and the color is black.
- 2: antenna voltage standing wave ratio is sample of reference project
- 3: the antenna can be folded at 90 degrees.
- 4: the appearance shall be free of stains.
5. Smooth welding spot, no short circuit, no virtual welding.
6. Shell laser lettering "915MHz", sample of reference project.
7. Products must meet the requirements of ROHS.

Designer	Huangfeihui	Name	915MHz external black 195 folding antenna -SMA-J		
Verify		Customer P/N			
Approval		Part No.	AG-010518-1014		
0.		Project No.	SG201807090700/2		
0.0		Weight	1	Quantity	1:1
0.00		Scale	Page 1 of 1		
0°		<div style="text-align: center;"> <p>中山市博安通通信技术有限公司</p> <p>ZHONGSHAN B&T TECHNOLOGY HOLDINGS Co.,Ltd</p> </div>			

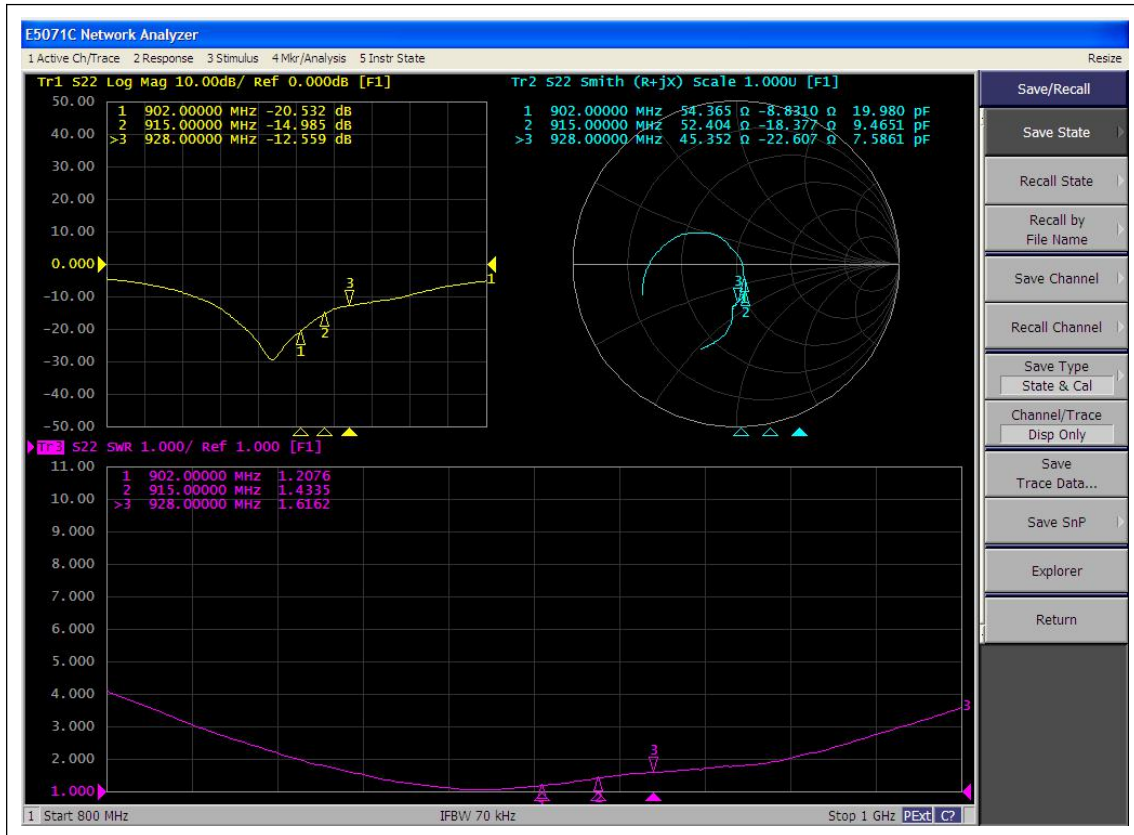
Appearance Retention	3KG	GD/NG	C=0	visual	Force Device	Following appearance specification
Length of the antenna	195	±3	NA	Caliper	Shell, black	
VSWR	single of reference project	MAX	NA	Network Analyzer	Frequency range:915MHz	
Antenna drive	smooth	GD/NG	NA	versatile	Stable stop at three rotary clamps	
SMA-J	1/4-36	GD/NG	C=0	linked with SMA-K	The enter pin should be aligned horizontally	
Test Item	Standard	Tolerance	AQL=0.25	Test tools	Note	

4、Properties ¶meter

Electrical Parameter	
Freq Range	902-928MHz
Characteristic Impedance	50 Ω
VSWR	sample of reference project
Max Gain	2.6dBi
The Max input power	<10w
On and off the test	pathways
Polarization mode	Linear polarization
Radiation mode	Omni directional
Connector style	SMA-J/Male pin
Mechanics Properties	
Length	195 \pm 3mm
Sustaining power	\geq 3KG
Insertion force	/
Coaxial cable	RG178线
Salt spray test	24H
Environment parameter	
Operating Temp	-30 $^{\circ}$ C~65 $^{\circ}$ C

5、Electrical test report

S11 Parameter



VSWR

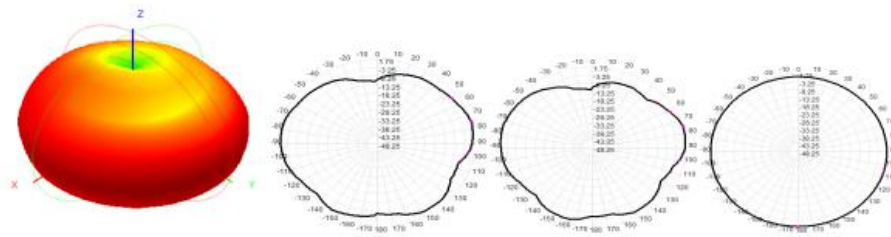
Freq/MHz	902	915	928
VSWR	1.20	1.43	1.61

Gain and Efficiency

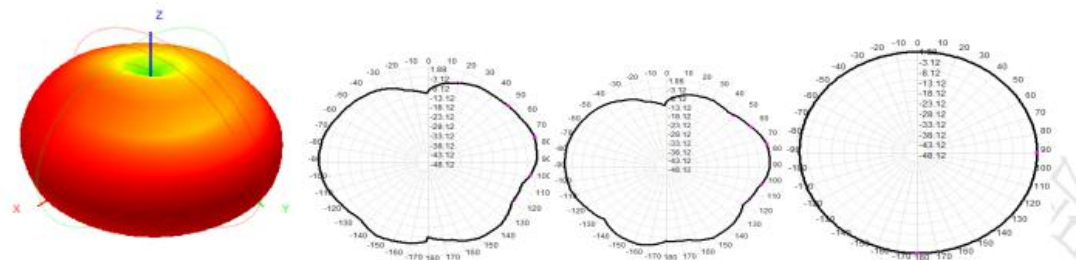
频率/MHz	902.0	903.0	905.0	907.0	909.0	911.0	913.0	915.0
增益/dBi	2.27	2.28	2.32	2.44	2.46	2.48	2.59	2.61
效率/%	69.67	69.28	70.65	71.84	72.89	73.88	74.84	75.73
频率/MHz	917.0	919.0	921.0	923.0	925.0	927.0	928.0	
增益/dBi	2.63	2.55	2.56	2.54	2.47	2.37	2.26	
效率/%	74.49	73.35	72.99	72.00	71.27	71.09	70.39	

Direction diagram

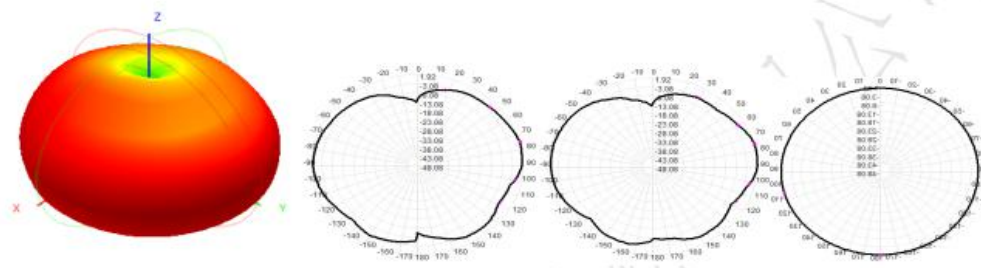
902MHz



915MHz



928MHz



6、Reliability test report

6. 1. Sustaining power

Test Item:	Retention		Sheet No.:		
Product name / specification	915MHz external black 195 folding antenna -SMA-J		Test number : 5PCS		
Submission date: 2019-11-05			Finish date: 2019-11-06		
Test requipment 1. Tensile tester					
Test conditions: 1. Temperature: 18-25℃ 2. Humidity≤70%RH					
Test Result: PASS					
Item condition	The holding force between the connector and the fold≥3kgf				
test No.	1	2	3	4	5
test result	3. 1	3. 15	3. 12	3. 1	3. 18
P.S.:					
Results judgement: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG <input type="checkbox"/> Don't make decision					
Tester: Zhouminhua Verify: Jianghongying					

6. 2. Constant temperature and humidity test

Test Item	Constant temperature and humidity test		Sheet No.																
Product name / specification	915MHz external black 195 folding antenna -SMA-J		Test number : 5PCS																
Submission date: 2019-11-05			Finish date: 2019-11-06																
Test equipment : 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℃ 85~90%RH test, a total of 24 hours.																			
<h3>Test Result</h3>																			
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: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG <input type="checkbox"/> Don't make decision																			
Tester: Zhouminhua Verify: Jianghongying																			

6. 3. High & low temperature thermal shock test

Test Item	thermal shock test		Sheet No.																
Product name / specification	915MHz external black 195 folding antenna -SMA-J		Test number : 5PCS																
Submission date: 2019-11-05			Finish date: 2019-11-06																
Test requirement: 1.Constant temperature and humidity test chamber 2. 8753ES Network Analyzer																			
Test conditions: -40℃ (2H) -- 80℃ (2H) , 6cycles, total:24 hours																			
<h2>Test Result</h2>																			
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: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG <input type="checkbox"/> Don't make decision																			
Tester: Zhouminhua Verify: Jianghongying																			

6. 4. Salt spray test

Test Item	Salt spray test	Sheet No.																		
Product name / specification	915MHz external black 195 folding antenna -SMA-J	Test number : 5PCS																		
Submission date: 2019-11-05		Finish date: 2019-11-06																		
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																				
<p>Test Result: PASS</p> <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: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NG <input type="checkbox"/> Don't make decision																				
Tester: Zhouminhua Verify: Jianghongying																				

PACKING CRITERION

P/N: AG-010518-1014

Spec.: 915MHz external black 195 folding antenna -SMA-J

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

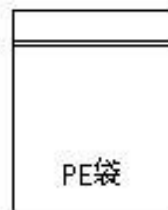
buyer	*****		
vender	ZHONGSHAN B&T TECHNOLOGY Co., Ltd		
Purchase No	*****		
Material No.	*****		
Part name	*****	QC	**
Q'ty/Unit	*****	Manufacture date	****.*.*
Trace code	*****	Running water number	*****

2、Packing requirements

Job description:

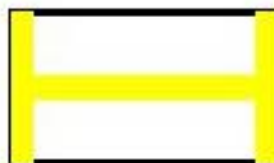
① The inner packing:

50 PCS/bag

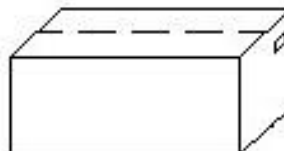


② outer packing:

600 PCS/carton



纸箱



Notice: