



深圳市信维通信股份有限公司

SHENZHEN SUNWAY COMMUNICATION CO.,LTD

B858 3-in-1 (BWG) Antenna

Approval Sheet

Antenna name	B858 3-in-1 (BWG) antenna	Frequency	2400MHZ-2500MHZ 5150MHZ-5850MHZ
Batch No.	144-00046	Version	A4
Color	Black	Date	2023-2-27
Structure confirmation	谢清林	RF confirmation	唐毅
QC confirmation	马德文	Approval	李勇
客户确认:			

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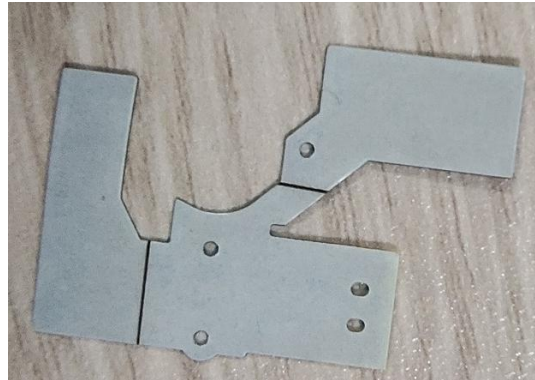
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1. Specifications

This report mainly provides the status of various electrical and structural performance parameters of the cellular B858 3-in-1 (BWG) antenna.

Figure 1 shows the antenna designed by SUNWAY.



FPC (Figure 1)

1.1 Antenna Description



Note that the above figures show the wire routing and feed point, respectively.

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Antenna Matching:

No matching for 3-in-1 antenna. (0Ω)

2 Antenna Test

2.1 Connection Test

S11 The test setup is connected as follows : AgilentE5071B Vector network analyzer(VNA) →

Connection line → Test fixture

2.1.1 S11

The obtained S11 results from the test is shown in Figure 2.

S-Parameters:

Wifi

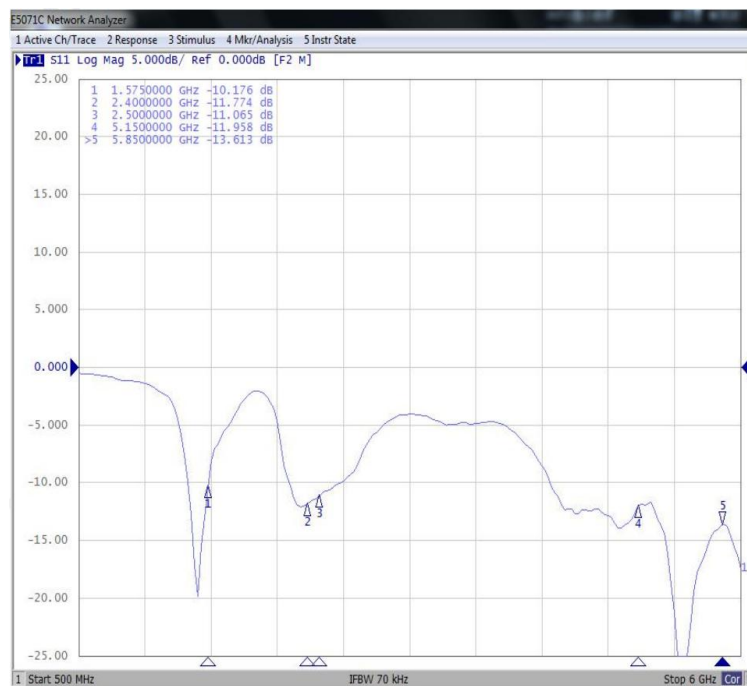


图 2

2.2 Gain and Efficiency Test

2.2.1 Test site

SUNWAY Anechoic chamber: The test frequency range is 700Hz-6GHz, the electrostatic zone range is 50cm circumference, and the reflectivity is less than -50 dB.

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2.2.2 Test Equipment

Agilent E5071B Vector network analyzer、standard horn antenna、American ETS AMS8500 antenna test system, etc.

2.2.3 Test Data

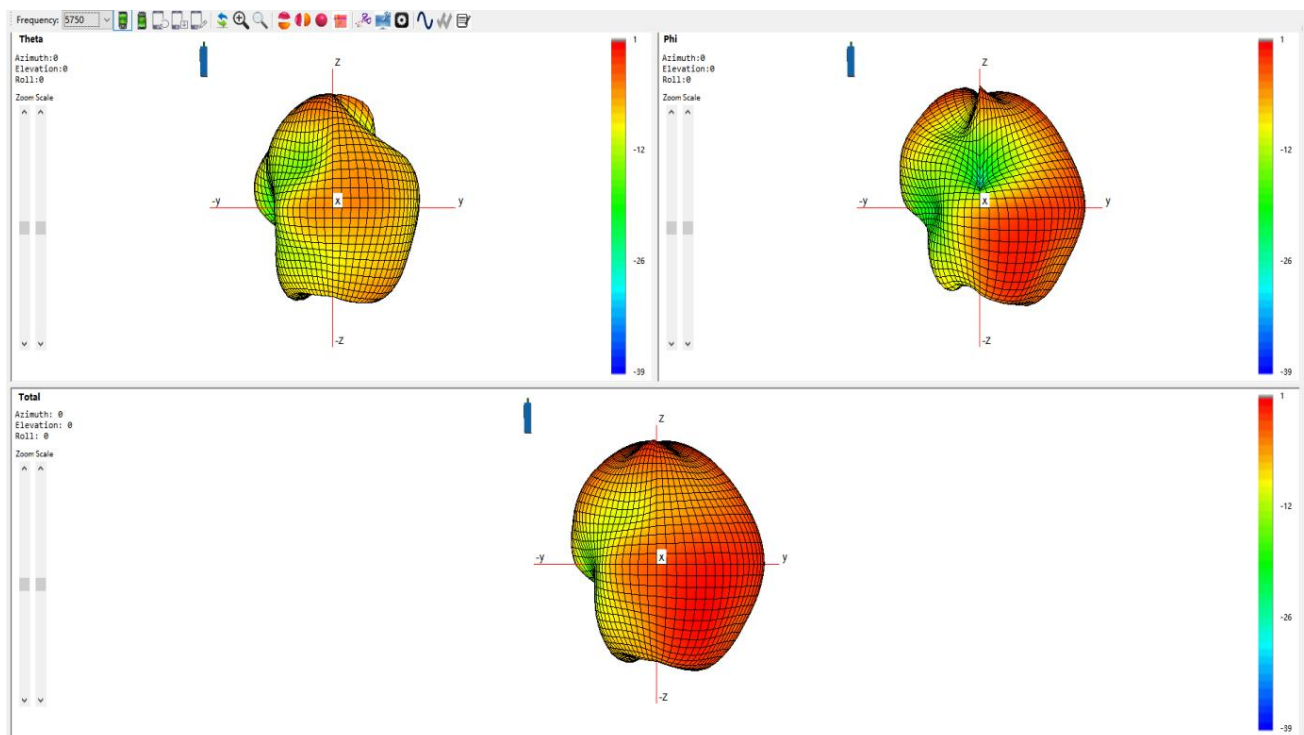
2.4WIFI&5.8WIFI:

Freq(MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Eff(dB)	-5.38	-5.37	-5.31	5.24	5.24	5.22	5.16	-5.12	-5.14	-5.07	-5.05
Gain(dBi)	-3.18	-3.03	-2.98	-3.06	-2.91	-2.87	-2.81	-2.73	-2.71	-2.67	-2.63

Freq(MHz)	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600
Eff(dB)	-5.82	-5.8	-5.85	-5.69	-5.5	-5.43	-5.28	-5.23	-5.22	-4.95	-4.91
Gain(dBi)	0.36	0.51	0.46	-0.04	-0.89	-1.75	-2.52	-3.28	-2.61	-1.51	-0.98

Freq(MHz)	5650	5700	5750	5800	5850	5900					
Eff(dB)	-4.63	-4.46	-4.35	-4.54	-4.14	-4.06					
Gain(dBi)	-0.45	-0.11	0.54	0.77	1.14	0.62					

3D for 5750GHz



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2.3 Power (TRP) 、Sensitivity (TIS) Test

2.3.1 Test site

SUNWAY Anechoic chamber: The test frequency range is 700Hz-6GHz, the electrostatic zone range is 50cm circumference, and the reflectivity is less than -50 dB.

2.3.2 Test Equipment

Agilent E5071B Vector network analyzer、standard horn antenna、American ETS AMS8500 antenna test system, etc.

2.3.3 Test results

The tested values related to the power and sensitivity in the microwave anechoic chamber are shown in the following table 4.1:

Table 4.1

WIFI (Free Space)			
Frequency band	Channel	TRP (dBm)	TIS (dBm)
802.11b	1	13.57	-80.69
	6	14.5	-80.65
	11	13.93	-80.42
802.11A	36	13.83	-70.73
	149	13.92	-71.03
	165	13.88	-70.6

3 Conclusion

This antenna is designed based on the prototype provided by the customer, and the electrical parameters and structural performance have reached the technical level.

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5. Dimension Report

 深圳市信维通信股份有限公司 SHENZHEN SUNWAY COMMUNICATION CO.,LTD 尺寸检测报告 Dimension Inspection Report																													
项目编号 Project NO.		SFW04-B1		零件编号 Part NO.		/		零件名称 Part Name		SFW04-B1-BWG-FPC-ANT				零件数量 Quantity		3		FAI 尺寸数				CPK 尺寸数		10		NG 尺寸数		0	
检测类型 Test type		制样测量		生产班次 Shift		A班		料号 Part NO		1100012244				图纸版本 Drawing rev		A2		测量员 Inspect.		李海松		审核 Check.		余小霞		日期 Date		2022-12-8	
SPC No.	FAI No.	标称值 Nominal	正公差 Usl Tol	负公差 Lsl Tol	上限 Upper	下 限 Lower	实测值 Measurement value			判定 Judge	量具 Gauge	最大值 MAX.	最小值 MIN.	平均值 Mean	% Tolerance		标准差 Std Dev	CP	CPK	备注 Remark									
							1	2	3							Upper	Lower												
3		21.72	0.1	-0.1	21.82	21.62	21.692	21.64	21.661	OK	OMM	21.692	21.64	21.664	0%	80%	0.026	1.274	0.565										
4		24.28	0.1	-0.1	24.38	24.18	24.27	24.262	24.26	OK	OMM	24.27	24.26	24.264	0%	20%	0.005	6.299	5.292										
5		31.1	0.1	-0.1	31.2	31	31.11	31.126	31.128	OK	OMM	31.128	31.11	31.121	28%	0%	0.010	3.379	2.658										
15.1		3.5	0.3	-0.3	3.8	3.2	3.558	3.548	3.578	OK	OMM	3.578	3.548	3.561	26%	0%	0.015	6.547	5.208										
15.2		3.5	0.3	-0.3	3.8	3.2	3.589	3.556	3.561	OK	OMM	3.589	3.556	3.569	30%	0%	0.018	5.622	4.336										
15.3		3.5	0.3	-0.3	3.8	3.2	3.547	3.573	3.573	OK	OMM	3.573	3.547	3.564	24%	0%	0.015	6.662	5.233										
16		2.35	0.05	-0.05	2.4	2.3	2.335	2.343	2.342	OK	OMM	2.343	2.335	2.340	0%	30%	0.004	3.824	3.059										
17		2.35	0.05	-0.05	2.4	2.3	2.333	2.338	2.343	OK	OMM	2.343	2.333	2.338	0%	34%	0.005	3.333	2.533										
18		2.28	0.05	-0.05	2.33	2.23	2.264	2.272	2.266	OK	OMM	2.272	2.264	2.267	0%	32%	0.004	4.003	2.989										
7		0.12	0.03	-0.03	0.15	0.09	0.1	0.099	0.097	OK	HG	0.1	0.097	0.099	0%	77%	0.002	6.547	1.891										

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7 Reliability Test Report

Reliability Test Report

可靠性测试报告

PROJECT NO (项目编号):	SFW04-B1
Sunway P/N (信维料号):	144-00046
Applicant (申请人):	向晓霞
Batch number (批号):	220921
Quantity (数量):	3PCS
Date of Receipt (收件日期):	2022-9-24
Date of Testing (测试日期):	2022-9-24~2022-9-25
Testing Environment (测试环境):	Temp: 24°C R.H.: 51% +
Specification Rev (规格版本):	220923007-003

Shenzhen Sunway Communication Co., Ltd

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A. Testing Item& Equipment &Result

Group No	Test Item	Equipment Name	Equipment Model	Testing Result
1	Salt spray test	Salt spray testing machine	QC-60	OK

B. Testing Method of Inspection

No.	Test Item	Test Conditions	Judgment Method
1	Salt spray test	The product is placed in the salt spray test chamber, test conditions: NaCl solution concentration: $5 \pm 1\%$; Spray volume: 1.25ml/80 cm ² /hr; Spray time :24hours Pressure barrel temperature: 47°C; Test chamber temperature: $35 \pm 2^\circ\text{C}$	Check the appearance for corrosion, peeling, bubbles, and other abnormalities.

C. Result:

D. Group 1 Salt spray test

TEST Condition :

NaCl solution concentration: $5 \pm 1\%$; Spray volume: 1.25ml/80 cm²/hr; Spray time :24hoursPressure barrel temperature: 47°C; Test chamber temperature: $35 \pm 2^\circ\text{C}$

Result : 试验后 OK。

Tester : 李容

Approver : 杨江林

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