TEST REPORT

Product Name:	Outdoor electric heating equipment
Trademark:	N/A
Model Number:	WS-GF0126 WS-G0120C, WS-GA0340B, WS-GA680A, WS-GA800A, WS-GA840A, WS-GA850A, WS-GA860A, WS-GA690A, WS-SE220L, WS-SE330LA, WS-SE336L, WS-SE360, WS-SE380, WS-X04AF, WS-X01D, WS-Y06AF, WS-Y01A, WS-W01A, WS-N002, WS-N003, WS-WN100, WS-WB100, WS-WB200, WS-WB300
Prepared For:	Wuxi Warmspace Technology Co.,Ltd
Address:	Flat804, Block 3 No.2018, Lihu Avenue, Binhu District, Wuxi, Jiangsu Province, P.R. China
Manufacturer:	Wuxi Warmspace Technology Co.,Ltd
Address:	Flat804, Block 3 No.2018, Lihu Avenue, Binhu District, Wuxi, Jiangsu Province, P.R. China
Prepared By:	Shenzhen BCTC Testing Co., Ltd.
Address:	BCTC Building & 1-2F, East of B Building, Pengzhou Industrial, Fuyuan 1st Road, Qiaotou Community, Fuyong Street, Bao'an District, Shenzhen, China
Sample Received Date:	Apr. 01, 2019
Sample tested Date:	Apr. 01, 2019 to Apr. 02, 2019
Issue Date:	Apr. 03, 2019
Report No.:	BCTC-FY190301636E
Test Standards	47 CFR FCC Part 15 Subpart B
Test Results	PASS

Compiled by:	Reviewed by:	Approved by:
Kelsey Tan	Eric Yang	Zero Zhou/Manager

The test report is effective only with both signature and specialized stamp.This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full.The tested sample(s) and the sample information are provided by the client.

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(Note: N/A means not applicable)

1. VERSION

Report No.	Issue Date	Description	Approved
BCTC-FY190301636E	Apr. 03, 2019	Original	Valid

2. TEST SUMMARY

The Product has been tested according to the following specifications:

Standard	Test Item	Test result
FCC 15.107	Conducted Emission	N/A*
FCC 15.109	Radiated Emission	Pass

Remark *: The Product is powered by DC 3.7V .

3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Value (dB)
Radiated Emission(30MHz~1GHz)	4.80

4. PRODUCT INFORMATION AND TEST SETUP

4.1 Product Information

Ratings: DC 3.7V*2 2000mAh

Model differences: All models are identical except for the appearance color and model name, the test model is WS-GF0126 and the test results are applicable to other tests.

Cable of Product

No.	Cable Type	Quantity	Provider	Length (m)	Specification	Note
1	--	--	Applicant	---	Shielded	--
2	--	--	BCTC	--	Unshielded	--

4.2 Test Setup Configuration

See test photographs attached in EUT TEST SETUP PHOTOGRAPHS for the actual connections between Product and support equipment.

4.3 Support Equipment

No	Device Type	Brand	Model	Series No.	Data	Power Cord
1.	---	---	---	---	---	---

Notes:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

4.4 Test Mode

Test item	Test Mode	Test Voltage
Radiated mission(30MHz-1GHz) Class B	Working	DC 3.7V
All test mode were tested and passed, only Radiated Emissions shows (*) is the worst case mode which were recorded in this report.		

5. TEST FACILITY AND TEST INSTRUMENT USED

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at BCTC Building & 1-2F, East of B Building, Pengzhou Industrial, Fuyuan 1st Road, Qiaotou Community, Fuyong Street, Bao'an District, Shenzhen, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

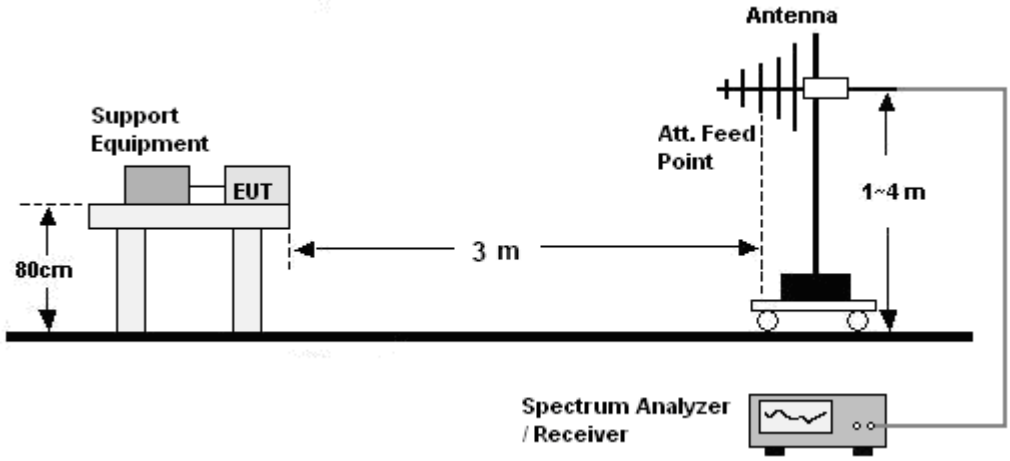
5.2 Test Instrument Used

Radiated emissions Test (966 chamber)					
Equipment	**Manufacturer**	**Model#**	**Serial#**	**Last Cal.**	**Next Cal.**
966 chamber	ChengYu	966 Room	966	Mar. 03, 2018	Mar. 02, 2023
Receiver	R&S	ESR	102075	Jun. 20, 2018	Jun.19, 2019
Receiver	R&S	ESRP	101154	Jun. 20, 2018	Jun.19, 2019
Amplifier	Schwarzbeck	BBV9718	9718-309	Jun. 20, 2018	Jun.19, 2019
Amplifier	Schwarzbeck	BBV9744	9744-0037	Jun. 20, 2018	Jun.19, 2019
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	VULB9163-942	Jun. 23, 2018	Jun.22, 2019
Horn Antenna	SCHWARZBECK	BBHA9120D	1541	Jun. 23, 2018	Jun.22, 2021
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

6. RADIATION EMISSION TEST

6.1 Block Diagram Of Test Setup

30MHz ~ 1GHz:



6.2 Limit

Limits for Class B devices

Frequency (MHz)	limits at 3m dB(μV/m)		
	QP Detector	PK Detector	AV Detector
30-88	40.0	--	--
88-216	43.5	--	--
216-960	46.0	--	--
960 to 1000	54.0	--	--
Above 1000	--	74.0	54.0

Note: The lower limit shall apply at the transition frequencies.

6.3 Test Procedure

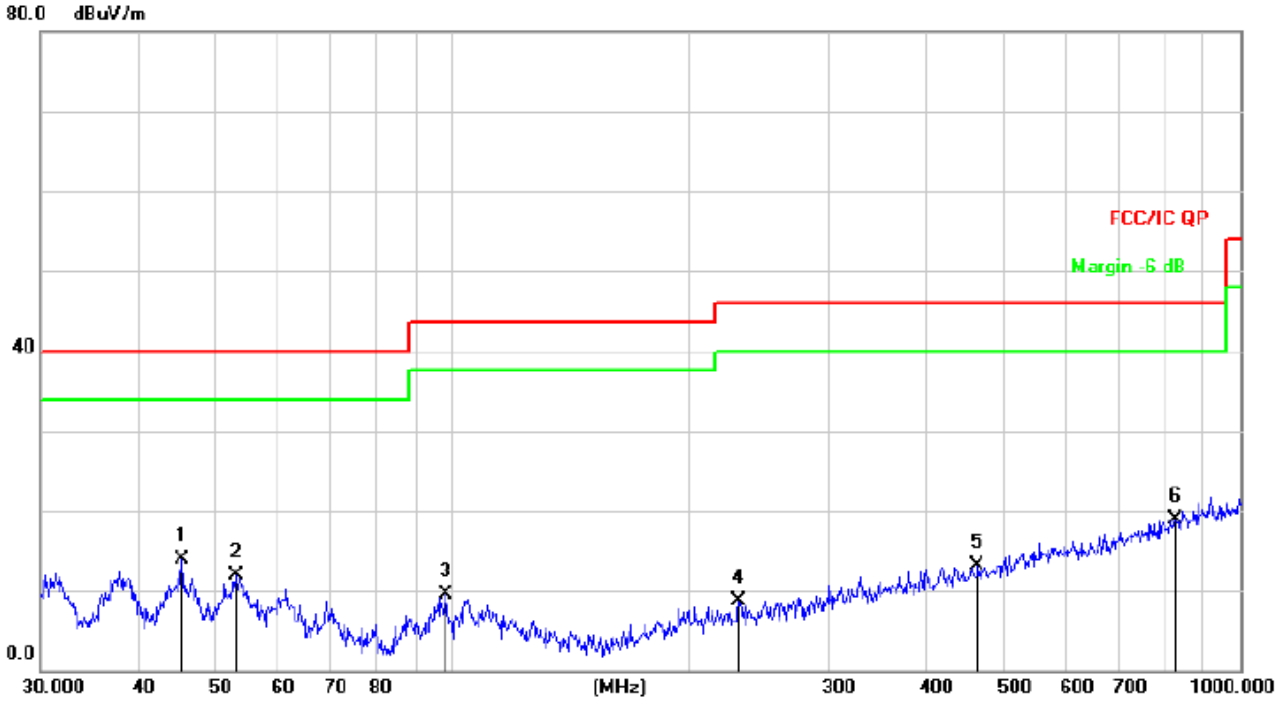
30MHz ~ 1GHz:

a. The Product was placed on the nonconductive turntable 0.8 m above the ground at a chamber.
b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
c. For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

Remark:
The highest frequency of the internal sources of the EUT is less than 108 MHz, so the measurement shall only be made up to 1 GHz.

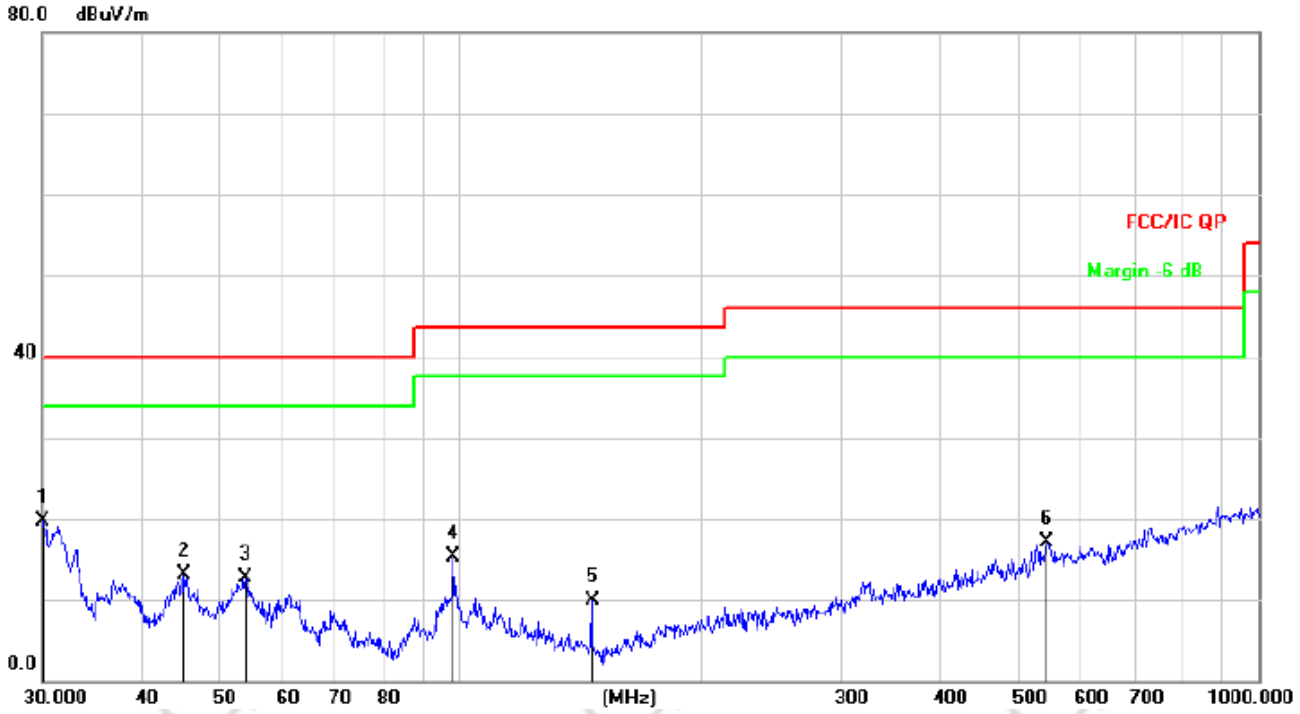
6.4 Test Result

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Horizontal
Test Voltage :	DC 3.7V	Test Mode:	Working



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1	*	45.3755	29.04	-15.11	13.93	40.00	-26.07	QP			
2		53.1313	27.10	-15.18	11.92	40.00	-28.08	QP			
3		98.1419	26.04	-16.62	9.42	43.50	-34.08	QP			
4		230.9068	24.37	-15.59	8.78	46.00	-37.22	QP			
5		463.9696	22.69	-9.68	13.01	46.00	-32.99	QP			
6		827.4934	22.01	-3.02	18.99	46.00	-27.01	QP			

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101kPa	Phase :	Vertical
Test Voltage :	DC 3.7V	Test Mode:	Working



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector	cm	degree	Comment
1	*	30.0000	37.03	-17.28	19.75	40.00	-20.25	QP			
2		45.0583	28.20	-15.13	13.07	40.00	-26.93	QP			
3		53.8818	27.98	-15.26	12.72	40.00	-27.28	QP			
4		98.1419	31.92	-16.62	15.30	43.50	-28.20	QP			
5		146.3735	29.26	-19.27	9.99	43.50	-33.51	QP			
6		543.2742	25.00	-7.85	17.15	46.00	-28.85	QP			

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.

7. EUT PHOTOGRAPHS

EUT Photo 1

EUT Photo 2

EUT Photo 3


温馨尔
户外电热产品系列专用
锂离子电池组
WS-B2000DC
电池型号：103555AP 标称电压：3.7V
标准容量：2000mAh 执行标准:GB/T 18287-2000
△警告
• 请使用配套的转灯充电器充电。
• 请勿将电池投入火中和水中。
• 请勿拆卸，刺穿、短路和碾压电池。
www.warm-space.com

8. EUT TEST SETUP PHOTOGRAPHS

Radiated emission

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