



# FCC TEST REPORT

For  
BPlus series

Model No.: BPlus-300W, BPlus-600W, BPlus-1000W, BPlus-2000W,  
BPlus-3000W, BPlus-5000W

Applicant : Zhejiang BOU New Energy Technology Co.,LTD.  
Haichao Road, Houyan Village,Wengyang Street, Yueqing, Wenzhou

Manufacturer : Zhejiang BOU New Energy Technology Co.,LTD.  
Haichao Road, Houyan Village,Wengyang Street, Yueqing, Wenzhou

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Report Number : ATT20081200330F

Issued Date : August 17, 2020

Date of Report : August 17, 2020

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## 2 Version

Version No.	Date	Description
00	August 17, 2020	Original

Prepared By: Nico Liang  
(Nico Liang)

Date: August 17, 2020

Check By:   
(Joseph Yang)

Date: August 17, 2020



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#### 4 Test Summary

Test Item	Test Requirement	Test Method	Class / Severity	Result
Conducted Emission	FCC Part15.107	ANSI C63.4	Class B	PASS
Radiated Emissions #	FCC Part15.109	ANSI C63.4	Class B	PASS

Remark:

1. Pass: The EUT complies with the essential requirements in the standard.
2. # Refer to FCC Part 15.33 (b)(1) conditional testing procedure :

The highest frequency generated or used in the EUT	Test frequency range of Radiated emission
<108MHz	30MHz ~ 1GHz
108MHz ~ 500MHz	30MHz ~ 2GHz
500MHz ~ 1GHz	30MHz ~ 5GHz
>1GHz	30MHz ~ 5th harmonic of the highest frequency or 40 GHz, whichever is lower.



Shenzhen An-Teng Testing Service Co., Ltd  
Report No.: ATT20081200330F

## 5 General Information

### 5.1 General Description of EUT

Product Name:	BPlus series
Model No.:	BPlus-1000W
Sample(s) Status	Normal sample
Power supply:	Input: 12VDC, 1000W Output: 230VAC, 4.3A

### 5.2 Test mode and Test voltage

<b>Test mode:</b>	
Charging mode	Keep the EUT in Charging mode (Worse case)
Playing mode	Keep the EUT in Playing mode
<b>Test voltage</b>	
AC 230V	



### 5.3 Description of Support Units

Manufacturer	Description	Model	Serial Number
N/A	N/A	N/A	N/A

### 5.4 Deviation from Standards

None.

### 5.5 Abnormalities from Standard Conditions

None.

### 5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC —Registration No.: 381383**  
Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383, January 08, 2018.
- **Industry Canada (IC) —Registration No.: 9079A-2**  
The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A-2, August 15, 2016.

### 5.7 Test Location

All tests were performed at:

Shenzhen An-Teng Testing Service Co., Ltd.  
Room 402-405, Floor 4th, Building C, Yuxing Technology  
Industrial Park, Xixiang Street, Bao'an District, Shenzhen,  
Guangdong, China  
Tel: +86 755 27724522  
Fax: +86 755 27724533



## 6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 03 2020	July. 02 2021
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 27 2020	June. 26 2021
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 27 2020	June. 26 2021
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 27 2020	June. 26 2021
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 27 2020	June. 26 2021
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 27 2020	June. 26 2021
9	Coaxial Cable	GTS	N/A	GTS211	June. 27 2020	June. 26 2021
10	Coaxial cable	GTS	N/A	GTS210	June. 27 2020	June. 26 2021
11	Coaxial Cable	GTS	N/A	GTS212	June. 27 2020	June. 26 2021
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 27 2020	June. 26 2021
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 27 2020	June. 26 2021
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 27 2020	June. 26 2021
15	Band filter	Amindeon	82346	GTS219	June. 27 2020	June. 26 2021
16	Power Meter	Anritsu	ML2495A	GTS540	June. 27 2020	June. 26 2021
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 27 2020	June. 26 2021
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 27 2020	June. 26 2021
19	Splitter	Agilent	11636B	GTS237	June. 27 2020	June. 26 2021
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 27 2020	June. 26 2021



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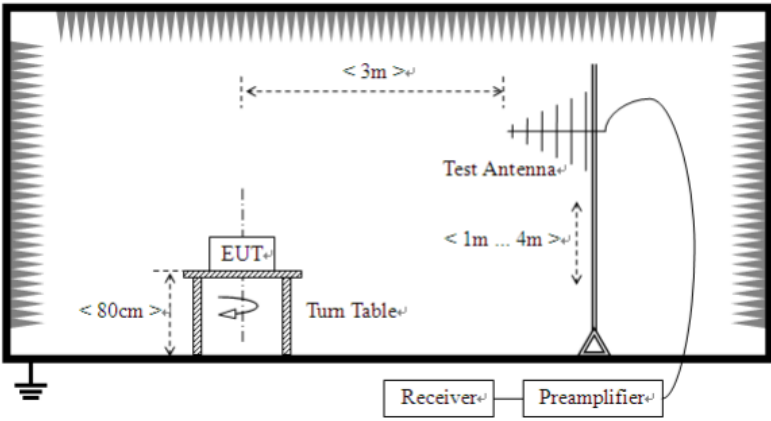
<b>Conducted Emission</b>						
<b>Item</b>	<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Inventory No.</b>	<b>Cal.Date (mm-dd-yy)</b>	<b>Cal.Due date (mm-dd-yy)</b>
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.16 2020	May.15 2021
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 27 2020	June. 26 2021
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 27 2020	June. 26 2021
4	Artificial Mains Network	SCHWARZBECK MESS	NSLK8127	GTS226	June. 27 2020	June. 26 2021
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 27 2020	June. 26 2021
8	Absorbing clamp	Elektronik-Feinmechanik	MDS21	GTS229	June. 27 2020	June. 26 2021

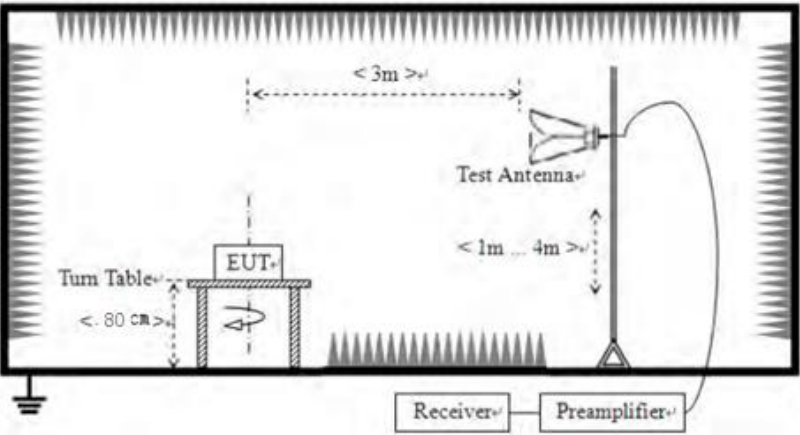
<b>General used equipment:</b>						
<b>Item</b>	<b>Test Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Inventory No.</b>	<b>Cal.Date (mm-dd-yy)</b>	<b>Cal.Due date (mm-dd-yy)</b>
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 27 2020	June. 26 2021
2	Barometer	ChangChun	DYM3	GTS255	June. 27 2020	June. 26 2021



## 7 Test Results and Measurement Data

### 7.1 Radiated Emission

Test Requirement:	FCC Part15 B Section 15.109				
Test Method:	ANSI C63.4:2014				
Test Frequency Range:	30MHz to 6000MHz				
Test site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Peak		1MHz	10Hz	Average Value	
Limit:	Frequency	Limit (dBuV/m @3m)		Remark	
	30MHz-88MHz	40.00		Quasi-peak Value	
	88MHz-216MHz	43.50		Quasi-peak Value	
	216MHz-960MHz	46.00		Quasi-peak Value	
	960MHz-1GHz	54.00		Quasi-peak Value	
	Above 1GHz	54.00		Average Value	
74.00		Peak Value			
Test setup:	<p>Below 1GHz</p> 				

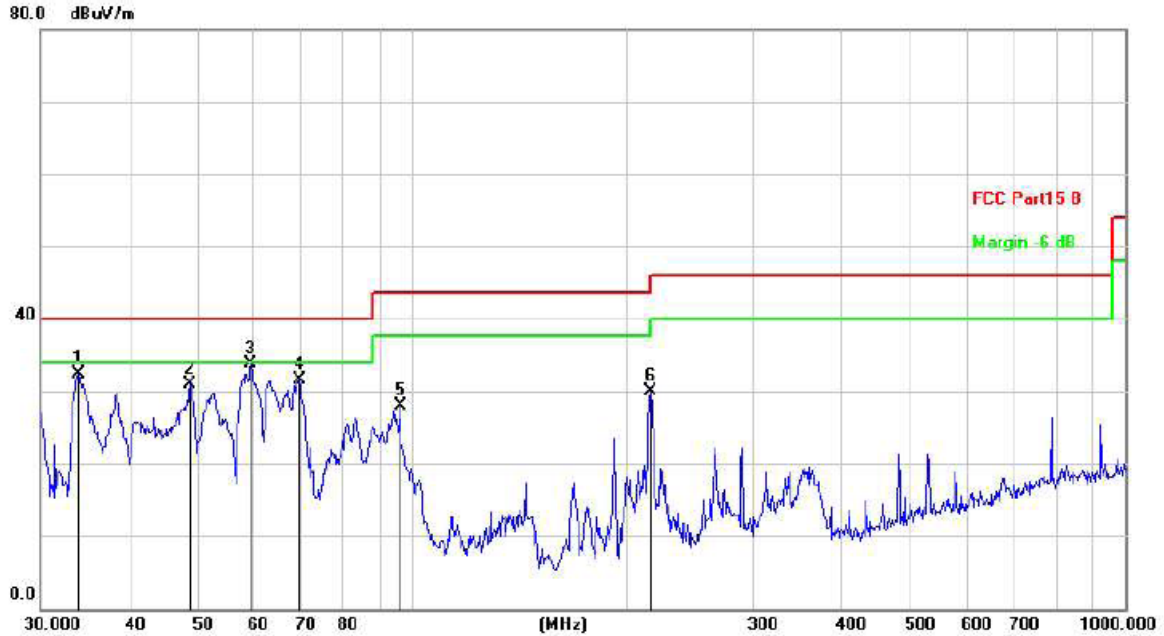
	
<p>Test Procedure:</p>	<ol style="list-style-type: none"> <li>1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</li> </ol>
<p>Test environment:</p>	<p>Temp.: 25 °C Humid.: 52% Press.: 1 012mbar</p>
<p>Measurement Record:</p>	<p>Uncertainty: ± 4.50dB</p>
<p>Test Instruments:</p>	<p>Refer to section 6 for details</p>
<p>Test mode:</p>	<p>Refer to section 5.2 for details, only show the worst case.</p>
<p>Test results:</p>	<p>Pass</p>

**Measurement Data**



**Below 1GHz**

Test mode:	Working	Antenna Polarity:	Horizontal
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No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		33.9174	50.60	-18.35	32.25	40.00	-7.75	QP
2		48.6719	49.39	-18.42	30.97	40.00	-9.03	QP
3	*	59.2325	52.50	-18.73	33.77	40.00	-6.23	QP
4		69.3568	51.33	-19.85	31.48	40.00	-8.52	QP
5		96.0986	48.65	-20.82	27.83	43.50	-15.67	QP
6		216.0240	49.51	-19.55	29.96	46.00	-16.04	QP



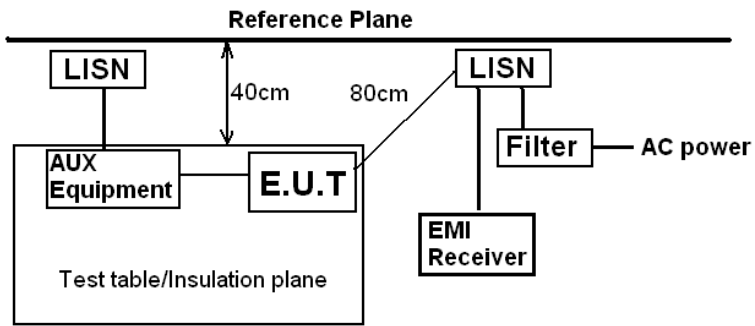
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Test mode:	Working	Antenna Polarity:	Vertical
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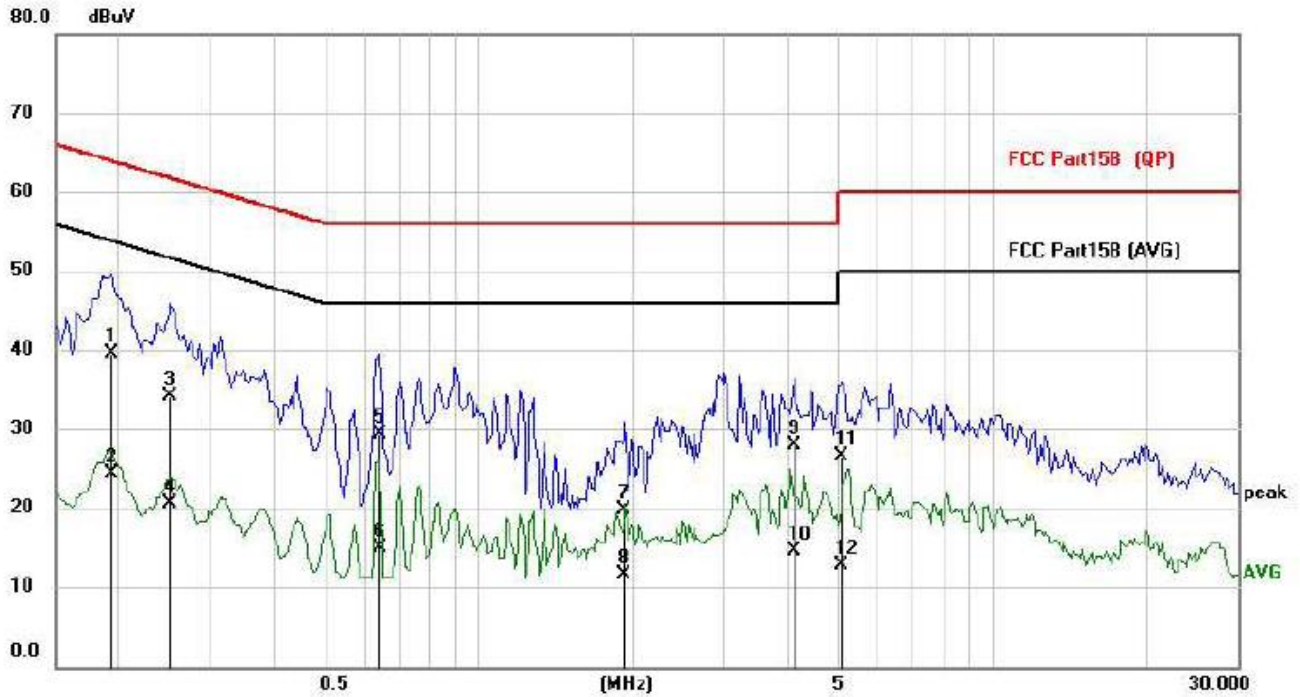
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Detector
1		33.4449	39.67	-18.38	21.29	40.00	-18.71	QP
2		58.2030	41.17	-18.70	22.47	40.00	-17.53	QP
3		69.8450	46.11	-19.91	26.20	40.00	-13.80	QP
4		96.0986	44.53	-20.82	23.71	43.50	-19.79	QP
5	*	216.7828	53.60	-19.52	34.08	46.00	-11.92	QP
6		289.0021	49.34	-18.94	30.40	46.00	-15.60	QP

## 7.2 Conducted Emissions

Test Requirement:	FCC Part15 B Section 15.107														
Test Method:	ANSI C63.4:2014														
Test Frequency Range:	150kHz to 30MHz														
Class / Severity:	Class B														
Receiver setup:	RBW=9kHz, VBW=30kHz														
Limit:	<table border="1"> <thead> <tr> <th rowspan="2">Frequency range (MHz)</th> <th colspan="2">Limit (dB<math>\mu</math>V)</th> </tr> <tr> <th>Quasi-peak</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>0.15-0.5</td> <td>66 to 56*</td> <td>56 to 46*</td> </tr> <tr> <td>0.5-5</td> <td>56</td> <td>46</td> </tr> <tr> <td>0.5-30</td> <td>60</td> <td>50</td> </tr> </tbody> </table>	Frequency range (MHz)	Limit (dB $\mu$ V)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	0.5-30	60	50
Frequency range (MHz)	Limit (dB $\mu$ V)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
0.5-30	60	50													
Test setup:	 <p><i>Remark:</i> E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m</p>														
Test procedure	<ol style="list-style-type: none"> <li>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment.</li> <li>2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs).</li> <li>3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.</li> </ol>														
Test environment:	Temp.: 25 °C    Humid.: 52%    Press.: 1 012mbar														
Test Instruments:	Refer to section 6 for details														
Test mode:	Refer to section 5.2 for details, only show the worst case.														
Test results:	Pass														



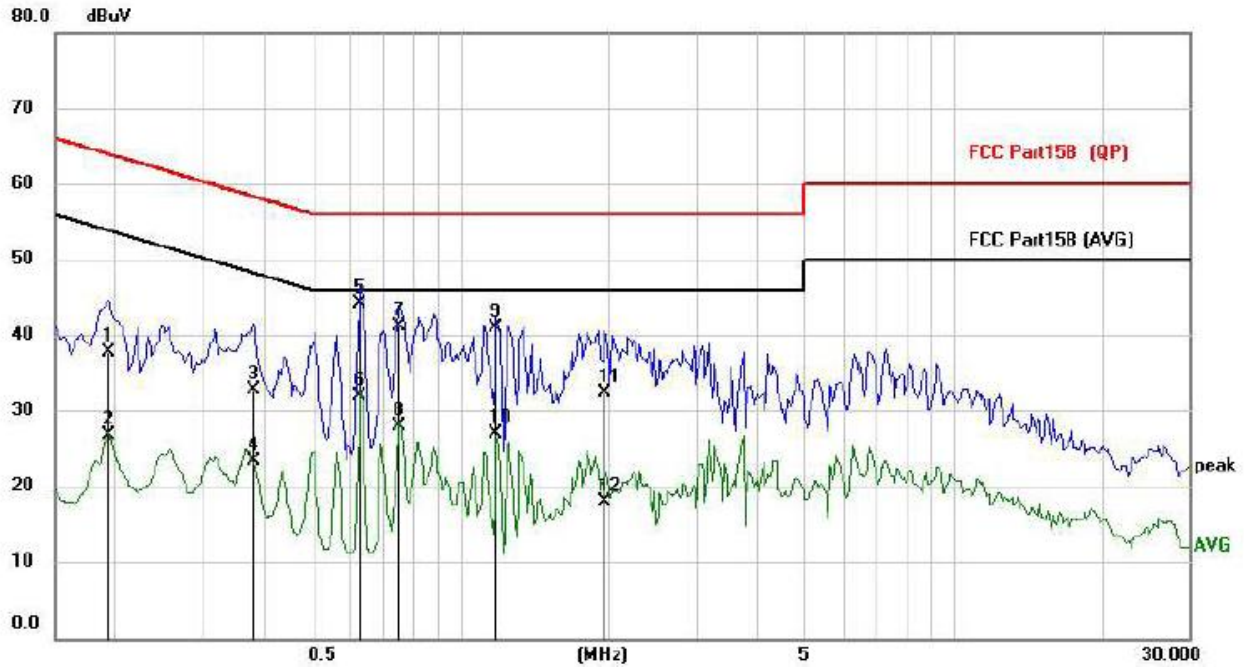
Test mode:	Working	Antenna Polarity:	Vertical
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No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1	*	0.1929	28.57	10.92	39.49	63.91	-24.42	QP
2		0.1929	13.45	10.92	24.37	53.91	-29.54	AVG
3		0.2514	23.26	10.92	34.18	61.71	-27.53	QP
4		0.2514	9.58	10.92	20.50	51.71	-31.21	AVG
5		0.6414	18.46	10.92	29.38	56.00	-26.62	QP
6		0.6414	4.04	10.92	14.96	46.00	-31.04	AVG
7		1.9206	8.68	10.96	19.64	56.00	-36.36	QP
8		1.9206	0.49	10.96	11.45	46.00	-34.55	AVG
9		4.0959	16.85	11.06	27.91	56.00	-28.09	QP
10		4.0959	3.45	11.06	14.51	46.00	-31.49	AVG
11		5.1020	15.38	11.10	26.48	60.00	-33.52	QP
12		5.1020	1.54	11.10	12.64	50.00	-37.36	AVG




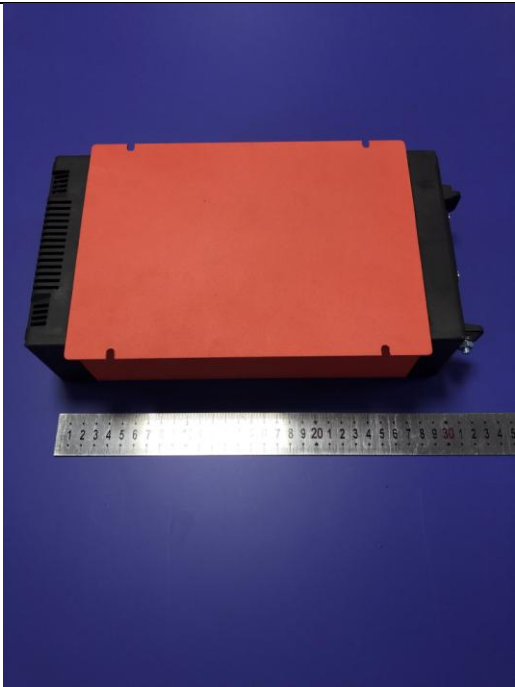
Test mode:	Working	Antenna Polarity:	Vertical
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No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1929	26.78	10.92	37.70	63.91	-26.21	QP
2		0.1929	15.72	10.92	26.64	53.91	-27.27	AVG
3		0.3800	21.69	10.92	32.61	58.28	-25.67	QP
4		0.3800	12.37	10.92	23.29	48.28	-24.99	AVG
5	*	0.6258	33.11	10.92	44.03	56.00	-11.97	QP
6		0.6258	20.92	10.92	31.84	46.00	-14.16	AVG
7		0.7506	30.25	10.92	41.17	56.00	-14.83	QP
8		0.7506	17.08	10.92	28.00	46.00	-18.00	AVG
9		1.1835	30.00	10.92	40.92	56.00	-15.08	QP
10		1.1835	15.89	10.92	26.81	46.00	-19.19	AVG
11		1.9674	21.27	10.96	32.23	56.00	-23.77	QP
12		1.9674	6.88	10.96	17.84	46.00	-28.16	AVG


## 8 EUT PHOTOGRAPHS

<p>Photo 1</p> <p>View:</p> <p><input checked="" type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
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<p>Photo 2</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input checked="" type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
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<p>Photo 3</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input checked="" type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input type="checkbox"/> Internal</p>	
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<p>Photo 4</p> <p>View:</p> <p><input type="checkbox"/> Front</p> <p><input type="checkbox"/> Rear</p> <p><input type="checkbox"/> Right side</p> <p><input type="checkbox"/> Left side</p> <p><input type="checkbox"/> Top</p> <p><input type="checkbox"/> Bottom</p> <p><input checked="" type="checkbox"/> Internal</p>	
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-----End-----