

# FCC Part 15B Test Report

**Application No.** : TB161114348  
**Applicant** : BRANDO TECHNOLOGY CO., LTD.  
**Equipment Under Test (EUT)**  
EUT Name : Charger rack  
Model No. : BO-CR-30  
Series Model No. : N/A  
Brand Name : BRANDO  
**Receipt Date** : 2016-11-24  
**Test Date** : 2016-11-24 to 2016-11-28  
**Issue Date** : 2016-11-28  
**Standards** : FCC Part 15:2015 Subpart B Class A  
**Conclusions** : **PASS**

In the configuration tested, the EUT complied with the standards specified above  
The EUT technically complies with the FCC requirements

**Test/Witness Engineer** :



**Approved & Authorized** :

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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## 1. General Information

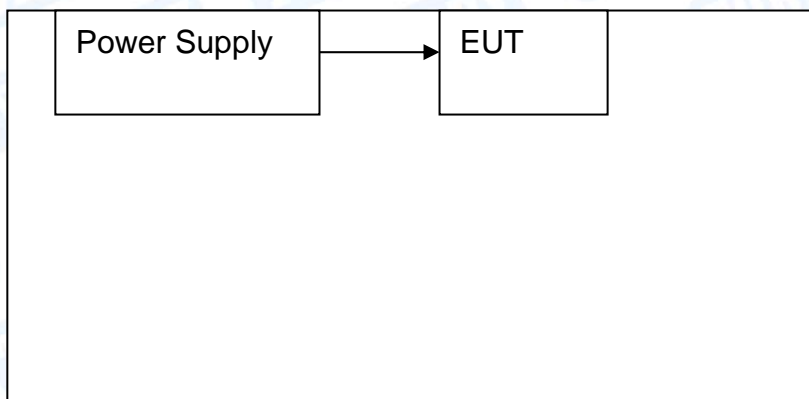
### 1.1 Client Information

Applicant	:	BRANDO TECHNOLOGY CO., LTD.
Address	:	3rd, 22-6 Bldg, Yuan Xin Road, Tong Le Community, Long Gang District, Shen Zhen City, China.
Manufacturer	:	BRANDO TECHNOLOGY CO., LTD.
Address	:	3rd, 22-6 Bldg, Yuan Xin Road, Tong Le Community, Long Gang District, Shen Zhen City, China.

### 1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Charger rack
Model No.	:	BO-CR-30
Series Model No.	:	N/A
Brand Name	:	BRANDO
Power Supply	:	Input: 100-240V 50/60Hz 62.5A 750W Output: 12V 2A
Remark:	/	

### 1.3 Block Diagram Showing The Configuration of System Tested



### 1.4 Description of Support Units

The EUT has been tested as an independent unit.

## 1.5 Test standards

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.107, 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

## 1.6 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

### **FCC List No.: (811562)**

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

### **IC Registration No.: (11950A-1)**

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

## 1.7 Equipment Used Test

<b>Conducted Emission Test</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Last Cal.</b>	<b>Cal.Due Date</b>
EMI Test Receiver	Rohde & Schwarz	ESCI	100321	Jul. 22, 2016	Jul. 21, 2017
RF Switching Unit	Compliance Direction Systems Inc	RSU-A4	34403	Jul. 22, 2016	Jul. 21, 2017
AMN	SCHWARZBECK	NNBL 8226-2	8226-2/164	Jul. 22, 2016	Jul. 21, 2017
LISN	Rohde & Schwarz	ENV216	101131	Jul. 22, 2016	Jul. 21, 2017
<b>Radiation Emission Test</b>					
<b>Equipment</b>	<b>Manufacturer</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Last Cal.</b>	<b>Cal.Due Date</b>
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 22, 2016	Jul. 21, 2017
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 22, 2016	Jul. 21, 2017
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 20, 2016	Mar. 19, 2017
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 19, 2016	Mar. 18, 2017
Pre-amplifier	Sonoma	310N	185903	Mar. 20, 2016	Mar. 19, 2017
Pre-amplifier	HP	8447B	3008A00849	Mar. 26, 2016	Mar. 25, 2017
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 26, 2016	Mar. 25, 2017
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A

## 2. Test Summary

Test Items	Test Requirement	Test Method	Result
Conducted Emission	FCC Part 15:2015 Subpart B Class A 15.107	ANSI C63.4	Pass
Radiated Emission	FCC Part 15:2015 Subpart B Class A 15.109	ANSI C63.4	Pass

**Note:**  
(1) N/A is an abbreviation for Not Applicable.  
(2) The equipment is a Class A digital device, and it is marketed for use in a commercial, industrial or business environment. More details please read the user manual of the equipment.



The cables shall be insulated (by up to 15 cm) from the horizontal ground reference plane, and shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

### 3.4 Test Condition

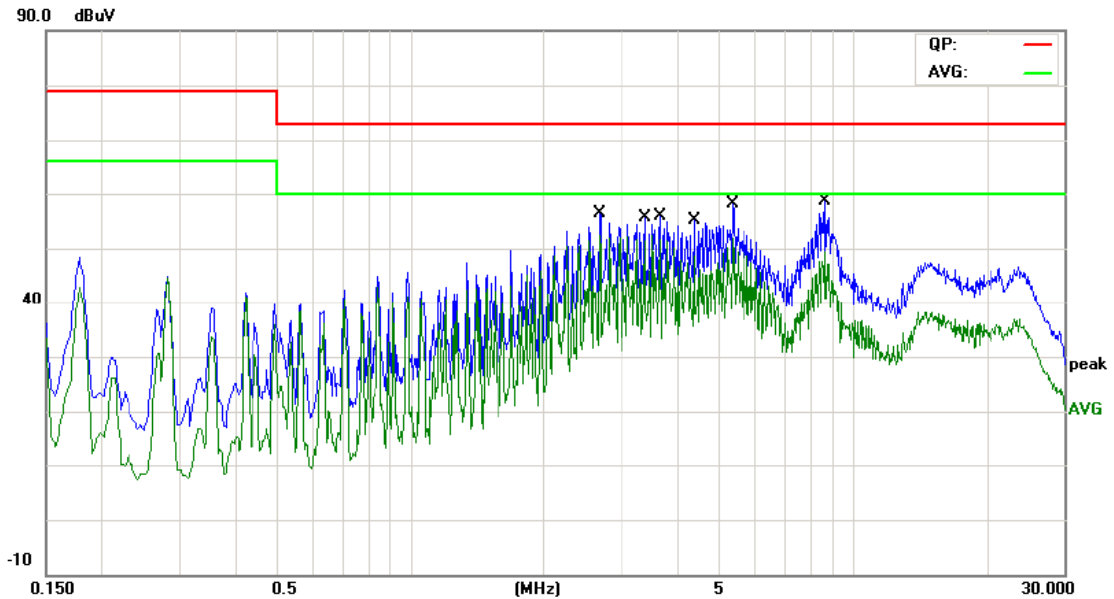
Temperature	:	25 °C
Relative Humidity	:	48 %
Pressure	:	1010 hPa
Test Power	:	AC 120V/60Hz

### 3.5 Test Data

Please refer to the following pages.



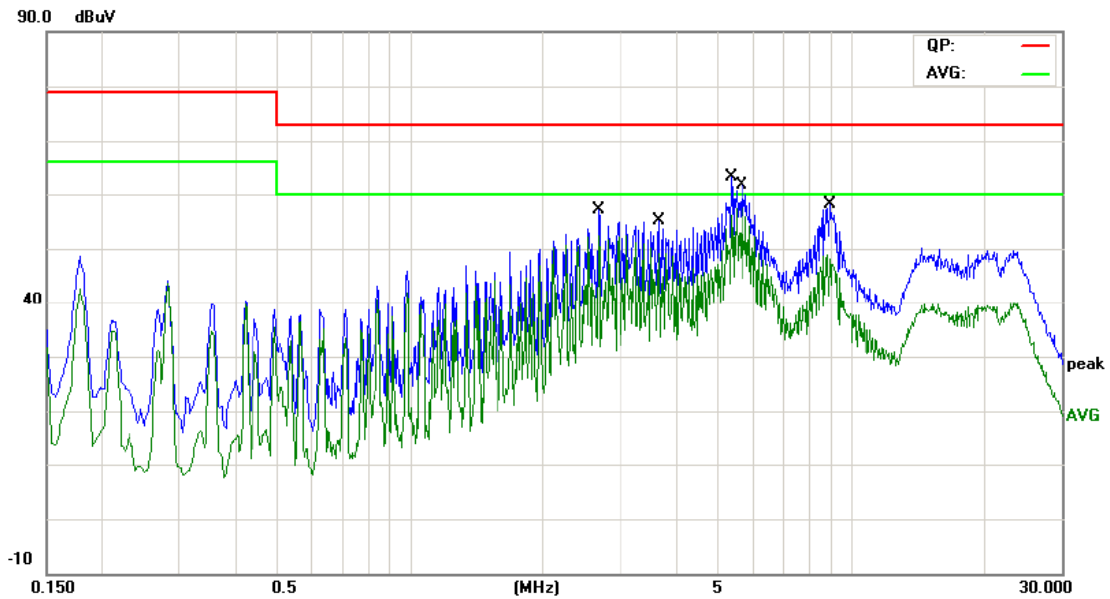
<b>EUT:</b>	Charger rack	<b>Model Name :</b>	BO-CR-30
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60 Hz		
<b>Terminal:</b>	Line		
<b>Test Mode:</b>	Normal Mode		
<b>Remark:</b>	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2.6780	46.94	10.04	56.98	73.00	-16.02	QP
2	*	2.6780	43.59	10.04	53.63	60.00	-6.37	AVG
3		3.3860	44.45	10.01	54.46	73.00	-18.54	QP
4		3.3860	42.53	10.01	52.54	60.00	-7.46	AVG
5		3.6660	44.24	10.00	54.24	73.00	-18.76	QP
6		3.6660	41.50	10.00	51.50	60.00	-8.50	AVG
7		4.3700	42.67	9.98	52.65	73.00	-20.35	QP
8		4.3700	38.55	9.98	48.53	60.00	-11.47	AVG
9		5.3580	42.84	9.98	52.82	73.00	-20.18	QP
10		5.3580	38.95	9.98	48.93	60.00	-11.07	AVG
11		8.6660	42.77	10.12	52.89	73.00	-20.11	QP
12		8.6660	37.67	10.12	47.79	60.00	-12.21	AVG

**Emission Level= Read Level+ Correct Factor**

<b>EUT:</b>	Charger rack	<b>Model Name :</b>	BO-CR-30
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60 Hz		
<b>Terminal:</b>	Neutral		
<b>Test Mode:</b>	Normal Mode		
<b>Remark:</b>	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		2.6780	47.22	10.06	57.28	73.00	-15.72	QP
2		2.6780	44.38	10.06	54.44	60.00	-5.56	AVG
3		3.6660	43.54	10.06	53.60	73.00	-19.40	QP
4		3.6660	43.95	10.06	54.01	73.00	-18.99	QP
5		3.6660	41.07	10.06	51.13	60.00	-8.87	AVG
6		3.6660	40.74	10.06	50.80	60.00	-9.20	AVG
7		5.3580	49.24	10.06	59.30	73.00	-13.70	QP
8	*	5.3580	45.05	10.06	55.11	60.00	-4.89	AVG
9		5.6380	46.13	10.06	56.19	73.00	-16.81	QP
10		5.6380	43.67	10.06	53.73	60.00	-6.27	AVG
11		8.9500	41.36	10.13	51.49	73.00	-21.51	QP
12		8.9500	37.99	10.13	48.12	60.00	-11.88	AVG

**Emission Level= Read Level+ Correct Factor**

## 4. Radiated Emission Test

### 4.1 Test Standard and Limit

#### 4.1.1 Test Standard

FCC Part 15 B: 2015; 15.109

#### 4.1.2 Test Limit

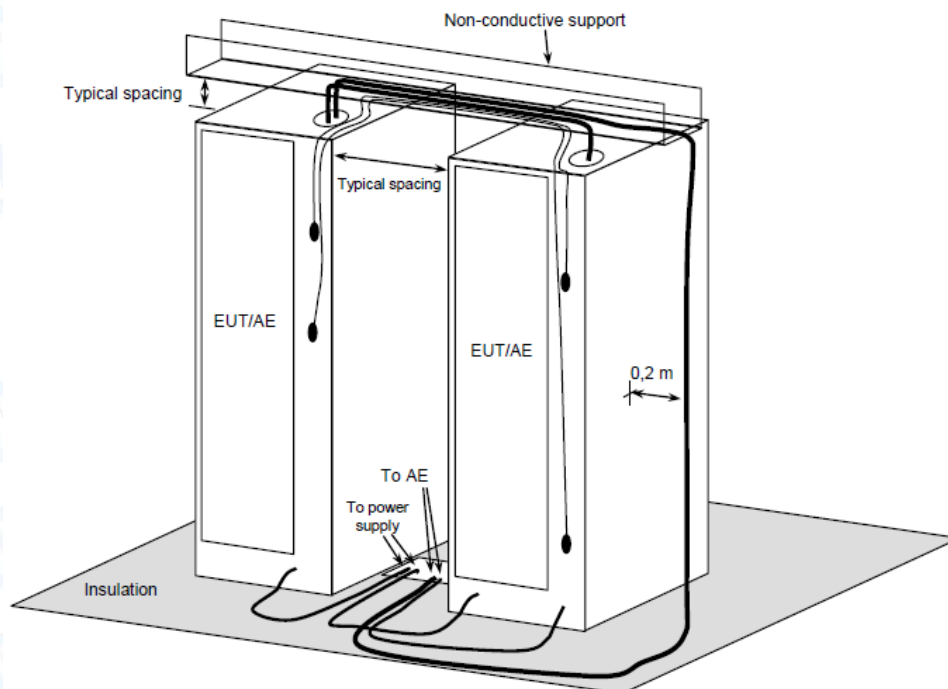
Radiated Emission Test Limit (Class A)

Frequency MHz	Field Strengths Limits dB(μV/m)
30 ~ 88	49.0
88 ~ 216	53.5
216 ~ 960	56.5
960 ~ 1000	59.5

\* The lower limit shall apply at the transition frequency.

\* The test distance is 3m.

### 4.2 Test Setup



### 4.3 Test Procedure

The EUT was placed on the top of a rotating table which is 0.15 meters above the ground. EUT is set 3.0 meters away from the receiving antenna that mounted on a antenna tower. The table was rotated 360 degrees to determine the position of the highest radiation, the

antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

Measurements shall be made with a quasi-peak measuring receiver in the frequency range 30MHz to 1000MHz. If the Peak Mode measured value compliance with and lower than quasi-peak mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.

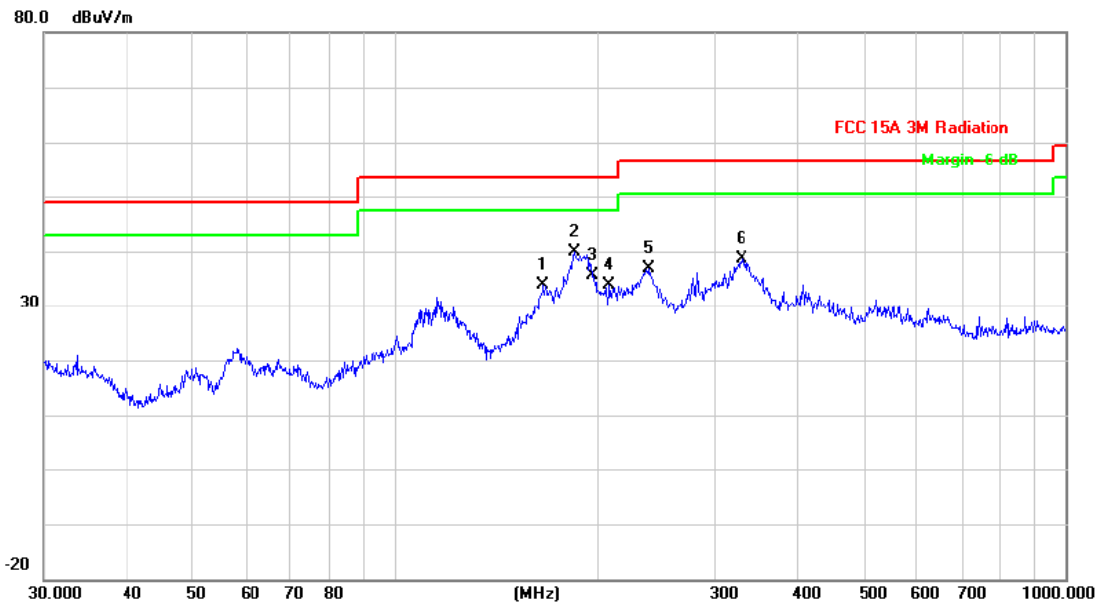
#### 4.4 Test Condition

Temperature	:	25 °C
Relative Humidity	:	48 %
Pressure	:	1010 hPa
Test Power	:	AC 120V/60Hz

#### 4.5 Test Data

Please refer to the following pages.

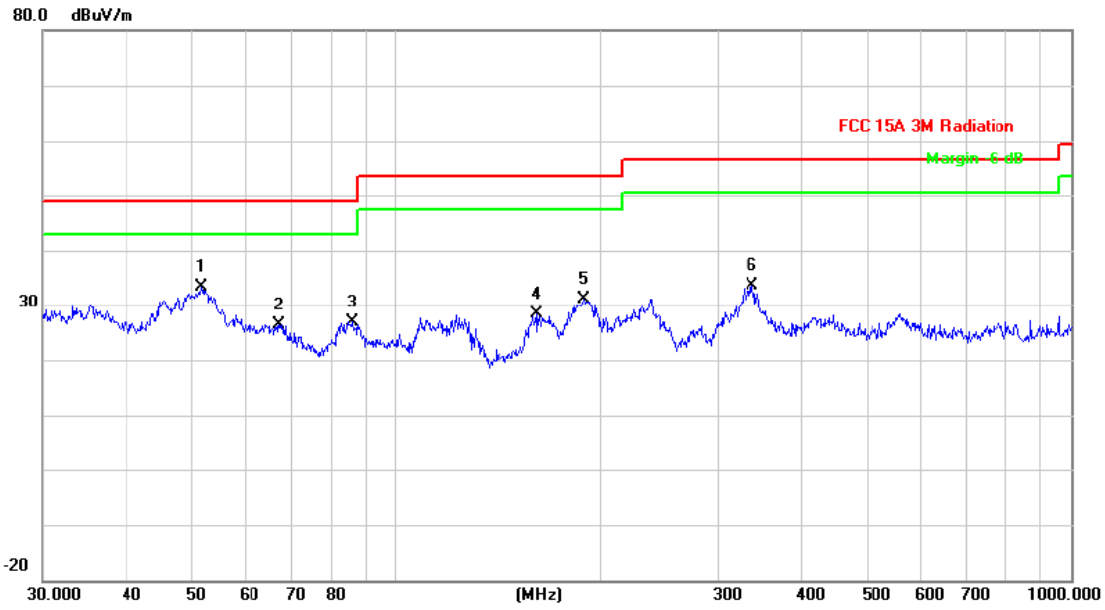
<b>EUT:</b>	Charger rack	<b>Model Name :</b>	BO-CR-30
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60 Hz		
<b>Ant. Pol.</b>	Horizontal		
<b>Test Mode:</b>	Normal Mode		
<b>Remark:</b>			



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		166.6514	54.53	-20.70	33.83	53.50	-19.67	peak
2	*	185.1379	60.30	-20.40	39.90	53.50	-13.60	peak
3		197.2001	55.74	-20.15	35.59	53.50	-17.91	peak
4		208.5803	53.46	-19.62	33.84	53.50	-19.66	peak
5		239.9874	54.97	-18.18	36.79	56.50	-19.71	peak
6		329.0390	54.09	-15.45	38.64	56.50	-17.86	peak

**Emission Level= Read Level+ Correct Factor**

<b>EUT:</b>	Charger rack	<b>Model Name :</b>	BO-CR-30
<b>Temperature:</b>	25 °C	<b>Relative Humidity:</b>	55%
<b>Test Voltage:</b>	AC 120V/60 Hz		
<b>Ant. Pol.</b>	Vertical		
<b>Test Mode:</b>	Normal Mode		
<b>Remark:</b>			



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	51.4807	57.90	-24.51	33.39	49.00	-15.61	peak
2		67.2022	50.42	-23.95	26.47	49.00	-22.53	peak
3		85.8984	49.93	-22.99	26.94	49.00	-22.06	peak
4		161.4742	48.81	-20.38	28.43	53.50	-25.07	peak
5		189.7385	51.69	-20.54	31.15	53.50	-22.35	peak
6		337.2155	48.49	-14.94	33.55	56.50	-22.95	peak

**Emission Level= Read Level+ Correct Factor**

## 5. Photographs - Constructional Details

Photo 1 Appearance of EUT



Photo 2 Appearance of EUT



Photo 3 Appearance of EUT



Photo 4 Appearance of EUT





## 6. Photographs – Test Setup

Photo 1 Conducted Emission Test Setup



Photo 2 Radiated Emission Test Setup



-----END OF REPORT-----