



# FCC ID TEST REPORT

Prepared for.....:	Shenzhen Leaderway Technology Co.,Ltd
Address.....:	7F, Yongqi Science and Technology Building, Yintian Industrial Park, Xixiang, Baoan, Shenzhen, China
Equipment Under Test(E.U.T.):	Bluetooth speakers
Model.....:	LW-B80
FCC ID.....:	2AET9LW-B80
Applicable Standards.....:	FCC CFR Title 47 Part 15 Subpart B
Test Date.....:	15 May 2015 to 28 May 2015
Issued Date.....:	28 May 2015
Report Number.....:	POCE15051435WRF-1
Test Engineer.....:	<i>Bill Jiang</i>
Reviewed By.....:	<i>Michael Mo</i>
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*The results detailed in this test report relate only to the specific sample(s) tested. It is the Application's responsibility to ensure that all production units are manufactured with equivalent EMC characteristics. This report is not to be reproduced except in full, without written approval from Shenzhen POCE Technology Co., Ltd..*

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## 1.0 General Information

### 1.1 Client Details

Applicant:	Shenzhen Leaderway Technology Co.,Ltd
Address:	7F, Yongqi Science and Technology Building, Yintian Industrial Park, Xixiang, Baoan, Shenzhen, China
Manufacturer:	Shenzhen Leaderway Technology Co.,Ltd
Address:	7F, Yongqi Science and Technology Building, Yintian Industrial Park, Xixiang, Baoan, Shenzhen, China

### 1.2 Test Lab Details

Name :	Shenzhen POCE Technology Co.,Ltd.
Address:	Room 502, Bldg. 1, Xinghua Garden, Baoan Road Xixiang, Baoan District, Shenzhen, China
Telephone:	86-755-29113252
Fax:	86-755-29113135

Site Listed with Federal Communication Commission

Registration Number: 222278

For 3m chamber

### 1.3 Description of E.U.T.

Product:	Bluetooth speakers
Model No.:	LW-B80
Additional Model No.	51801, 51802, 51803, 51804
Brand Name:	N/A
Power supply:	DC 5V from USB port of PC by AC 120V/60Hz.

### 1.4 AE used during the test

Equipment type	Model	Manufacturer	FCC Approval	Remark
PC	VOSTRO 3900	DELL	DoC	N.A.
Monitor	E1914Hc	DELL	DoC	N.A.
Keyboard	KB212-B	DELL	DoC	Shielding/1.5m
Mouse	MS111-L	DELL	DoC	Shielding/1.5m
Printer	P1108	HP	DoC	USB LINE: Shielding/1.5m

## 2.0 Test Summary

Section in CFR 47	Test Item	Result
15.107(a)	AC Power Line Conducted Emission	Complies
15.109	Radiated Emission	Complies

## 3.0 E.U.T. Modification

No modification by Shenzhen POCE Technology Co., Ltd.

## 4.0 Measurement Uncertainty

(95% confidence levels, k=2)

No.	Item	MU
1.	Radio Frequency	$\pm 1 \times 10^{-9}$
2.	Temperature	$\pm 0.1^\circ\text{C}$
3.	Humidity	$\pm 1.0\%$
4.	RF power, conducted	$\pm 0.34\text{dB}$
5.	Spurious emissions, conducted	$\pm 2.72\text{dB}$
6.	All emissions, radiated	$\pm 3.84\text{dB}$

**5.0 Power Line Conducted Emission Test**

**5.1 Test Equipment**

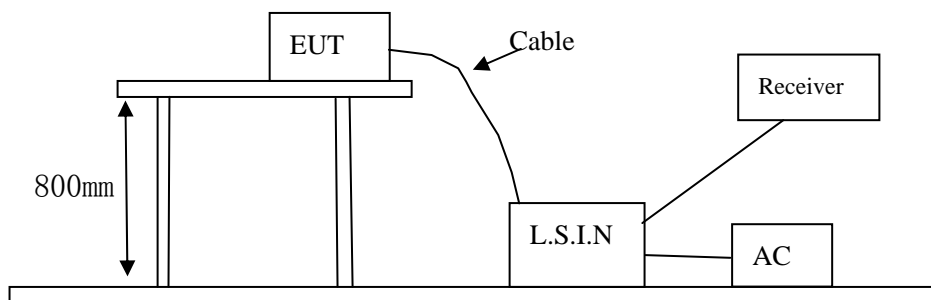
Instrument Type	Model	Serial No.	Manufacturer	Date of Cal.	Due Date
EMI Test Receiver	ESCI	1166.590.03	R&S	Nov. 09, 2014	Nov. 08, 2015
LISN	ESH3-Z5	831.5518.52	R&S	Nov. 09, 2014	Nov. 08, 2015

**5.2 Test Method and test Procedure**

The E.U.T. was tested according to ANSI C63.4-2009. The Frequency spectrum From 0.15MHz to 30MHz was investigated.

Test Voltage: 120V~, 60Hz

**5.3 Block diagram of Test setup**



**5.4 E.U.T. Operating Condition**

Operating condition is according to ANSI C63.4 -2009

- 1) Setup the E.U.T. and simulators as shown on the following
- 2) Enable AF signal and confirm E.U.T. active to normal condition

**5.5 Power line conducted Emission Limit according to Paragraph 15.107**

Frequency(MHz)	Class A Limits (dB $\mu$ V)		Class B Limits (dB $\mu$ V)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ~ 0.50	79.0	66.0	66.0~56.0*	56.0~46.0*
0.50 ~ 5.00	73.0	60.0	56.0	46.0
5.00 ~ 30.00	73.0	60.0	60.0	50.0

- Notes: 1) \*Decreasing linearly with logarithm of frequency.  
 2) The tighter limit shall apply at the transition frequencies

**5.6 Test specification**

Environmental conditions: Temperature: 25° C Humidity: 50% Atmospheric pressure: 103kPa

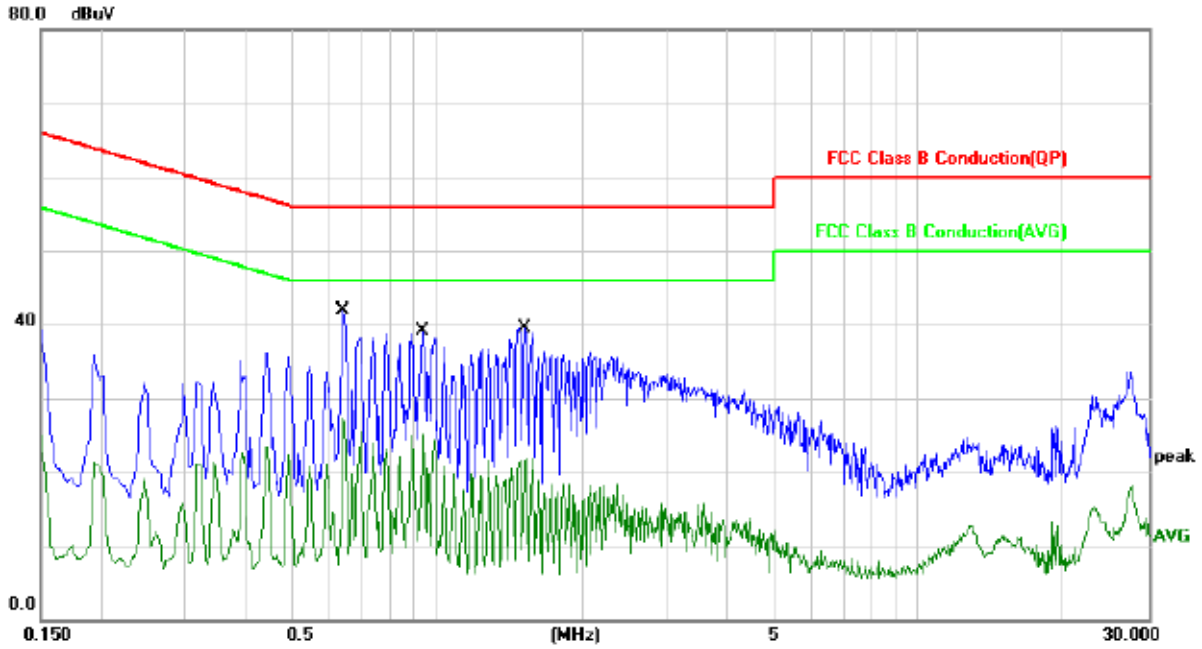
**5.7 Test Result**

Pass.

Conducted Emission on Line Terminal of the power line (150kHz to 30MHz)

E.U.T. Description:	Bluetooth speakers
Operation Mode:	Data transfer
Tested By:	Bill
Test Date:	16 May 2015

Start Frequency	Stop Frequency	Step	IF BW	Detector	Final M-Time
0.15MHz	30MHz	4.5KHz	10KHz	QP+AV	1s

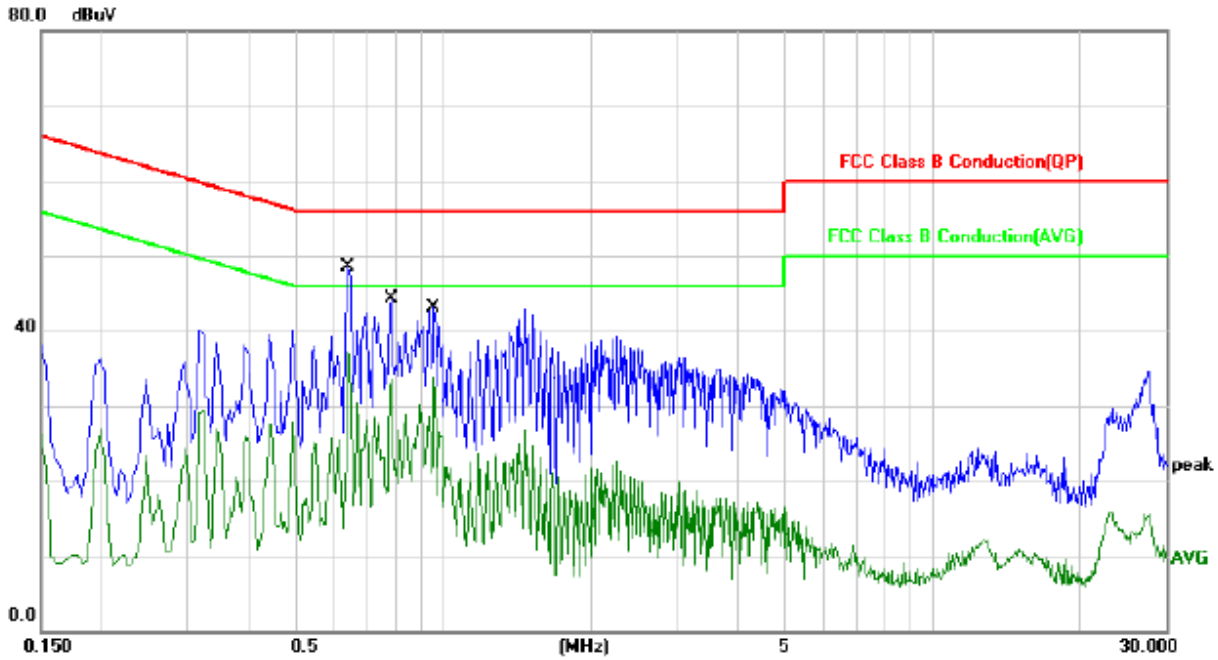


Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Line		Neutral		Quasi-peak	Average
	Quasi-peak	Average	Quasi-peak	Average		
0.6328	35.38	27.52	--	--	56.00	46.00
0.9292	34.80	20.29	--	--	56.00	46.00
1.5320	37.67	22.53	--	--	56.00	46.00
			--	--		
			--	--		

Conducted Emission on Neutral Terminal of the power line (150kHz to 30MHz)

E.U.T. Description:	Bluetooth speakers
Operation Mode:	Data transfer
Tested By:	Bill
Test Date:	16 May 2015

Start Frequency	Stop Frequency	Step	IF BW	Detector	Final M-Time
0.15MHz	30MHz	4.5KHz	10KHz	QP+AV	1s



Frequency (MHz)	Reading(dB µ V)				Limit (dB µ V)	
	Live		Neutral		Quasi-peak	Average
	Quasi-peak	Average	Quasi-peak	Average		
0.6413	--	--	45.86	34.53	56.00	46.00
0.7817	--	--	41.92	32.53	56.00	46.00
0.9506	--	--	36.61	23.66	56.00	46.00
--	--	--	--	--	--	--
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## 6.0 Radiated emissions Measurement

### 6.1 Test Equipment

Instrument Type	Model	Serial No.	Manufacturer	Date of Cal.	Due Date
ESPI Test Receiver	ESPI 3	100379	ROHDE&SCHWARZ	Nov. 09, 2014	Nov. 08, 2015
Spectrum Analyzer	FSEM	848597/001	ROHDE&SCHWARZ	Nov. 09, 2014	Nov. 08, 2015
Pre-amplifier	8447D	83153007374	Agilent	Aug. 20, 2014	Aug. 19, 2015
Ultra Broadband ANT	HL562	100157	ROHDE&SCHWARZ	Aug. 20, 2014	Aug. 19, 2015

### 6.2 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

Frequencies in restricted band are complied to limit on Paragraph 15.109.

Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note: 1) RF Voltage (dBuV) = 20 log RF Voltage (uV)

2) In the Above Table, the tighter limit applies at the band edges.

3) Distance refers to the distance in meters between the measuring instrument antenna and the E.U.T.

4) This is a handheld device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

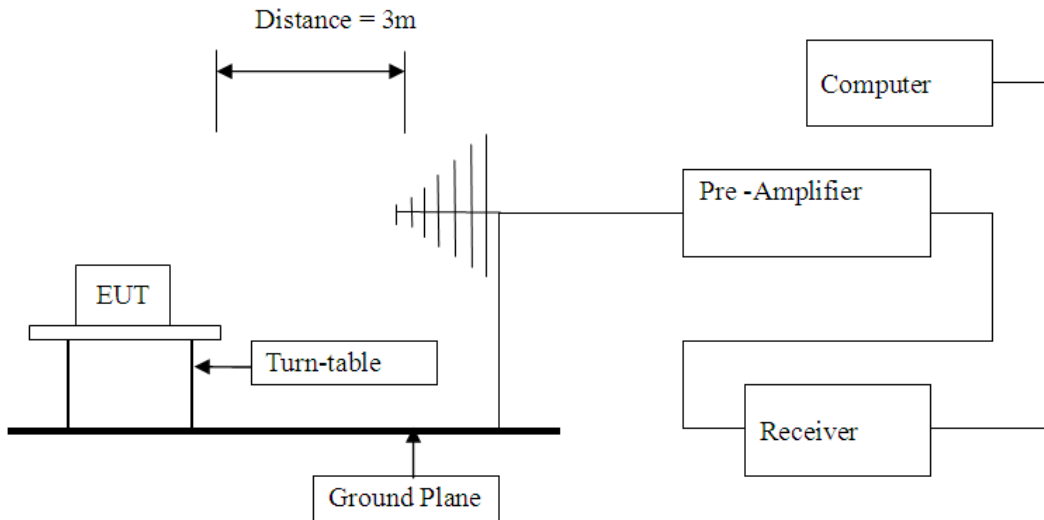
5) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula  $Ld1 = Ld2 * (d2/d1)$

### 6.3 E.U.T. Operating Condition

Operating condition is according to ANSI C63.4 -2009



### 6.4 Block diagram of Test setup



### 6.5 Test Method and test Procedure

- 1) The E.U.T. was tested according to ANSI C63.4 –2009.
- 2) The E.U.T., peripherals were put on the turntable which table size is 1 m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.4-2009.
- 3) The frequency spectrum from 30 MHz to 1 GHz was investigated. All readings from 30 MHz to 1 GHz quasi-peak values with a resolution bandwidth of 120 kHz. Measurements were made at 3 meters.
- 4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- 5) The antenna polarization: Vertical polarization and Horizontal polarization.

### 6.6 Test specification

Environmental conditions: Temperature 22° C Humidity: 51% Atmospheric pressure: 103kPa

### 6.7 Test result

Radiated Emission (30MHz-1000MHz)

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp (dB)	Final Level (dBuV/m)	Limit (dBuV/m)	Antenna Polarity
43.9485	39.56	13.22	0.35	26.68	26.45	40.00	Horizontal
94.3674	35.94	14.86	0.51	26.72	24.59	43.50	Horizontal
120.0588	37.63	15.24	0.58	26.81	26.64	43.50	Horizontal
242.6247	33.37	16.82	0.84	26.91	24.12	46.00	Horizontal
860.8552	40.67	19.67	1.76	26.75	35.35	46.00	Horizontal
43.4658	39.51	13.94	0.42	26.82	27.05	40.00	Vertical
102.7155	42.61	14.86	0.59	26.91	31.15	43.50	Vertical
240.0213	42.97	16.64	0.78	26.34	34.05	46.00	Vertical
600.2629	45.64	18.59	0.96	26.75	38.44	46.00	Vertical
871.7415	49.30	19.34	1.45	26.81	43.28	46.00	Vertical

Remark:

1) Final Level= Read Level+Antenna Factor+Cable Loss-Preamp

\*\*\*\*\*END OF REPORT\*\*\*\*\*