Lab Code: 200707-0

FCC PART 15B, CLASS B

TEST REPORT

For

LiveFree Emergency Response, Inc.

3780 Woodhaven Lane, Idaho Falls, Idaho83404, United States

FCC ID: XTX-100

Report Type:	**Product Type:**
Original Report	EZ CARE

Test Engineer:	Henry Ding
Report Number:	RSZ130116002-00
Report Date:	2013-01-25
Reviewed By:	Alvin Huang RF Leader
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

TABLE OF CONTENTS

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *LiveFree Emergency Response, Inc.*'s product, model number: *EZ C (FCC ID: XTX-100)* or the "EUT" in this report was a *EZ CARE*, which was measured approximately: 10.8 mm (L) x 48 mm (W) x 14.5 mm (H), rated input voltage: battery 3.0V or DC 5V AC/DC power. The perating frequency is 315 MHz.

** All measurement and test data in this report was gathered from production sample serial number: 1301075 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2013-01-16.*

Objective

This test report is prepared on behalf of *LiveFree Emergency Response, Inc.* in accordance with Part 2-Subpart J, Part 15-Subparts A and B of the Federal Communication Commissions rules.

The objective of the manufacturer is to determine the compliance of the EUT with FCC Part 15 B.

Related Submittal(s)/Grant(s)

Submitted with the part of a system with FCC ID: XTX-EZP and XTX-EZW

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2007070.htm.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a manufacturer testing fashion.

Test mode: Receiving and talking (receiving remote control signal and talking with another phone through PSTN network)

EUT Exercise Software

N/A

Equipment Modifications

No modification was made to the EUT tested.

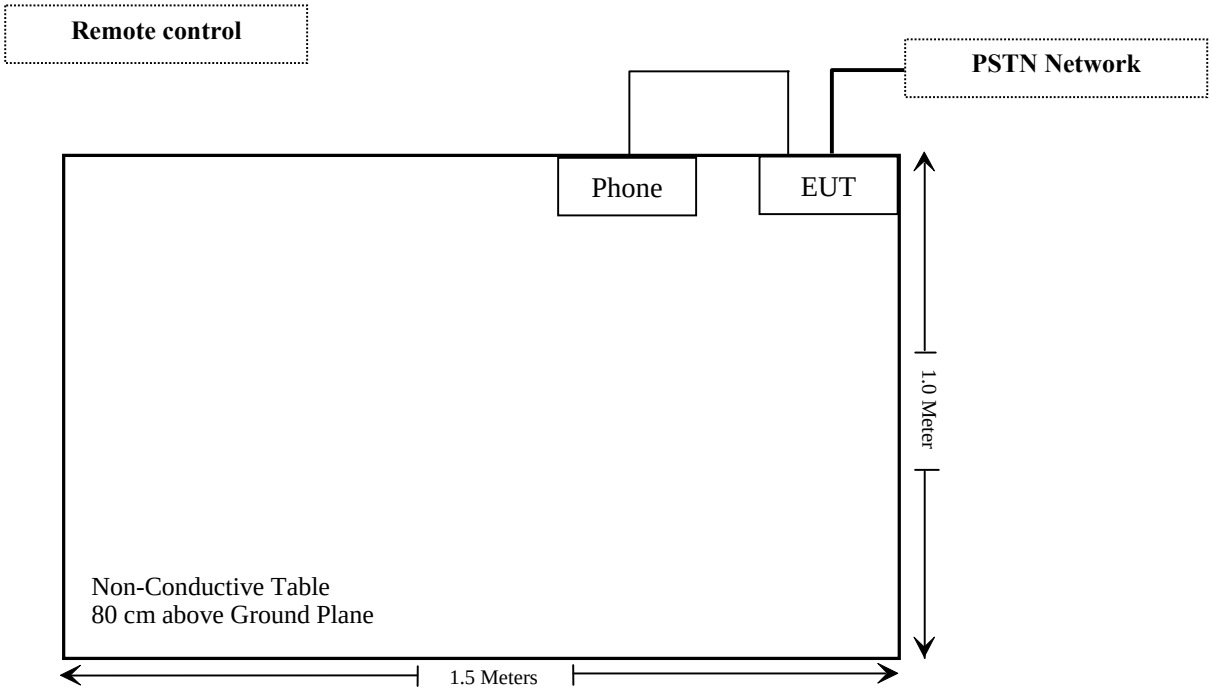
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DONGGUAN CITY YINGJU	SWICHING POWER SUPPLY	YJS003A-0500200U	N/A
LiveFree	Remote control	EZW	N/A
Geemarc	TelePhone	SERENITIES	N/A

External I/O Cable

Cable Description	Length (m)	From	To
Un-shielding Detachable DC Power Cable	1.5	EUT	Adapter
Un-shielding Detectable RJ11 Cable	2.5	EUT	PSTN
Un-shielding Detectable RJ11 Cable	2.0	EUT	Phone

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

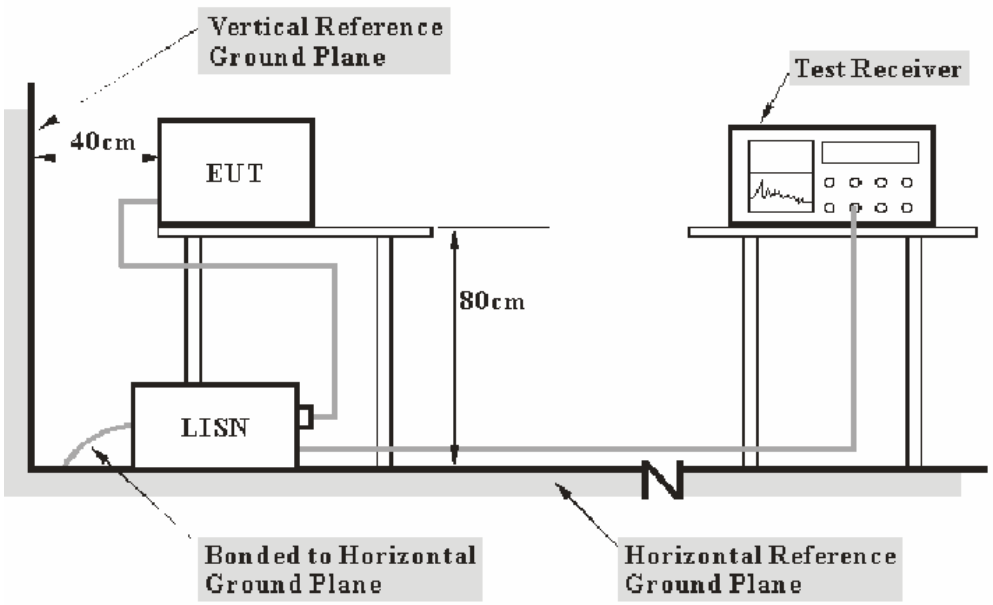
FCC Rules	Description of Test	Results
§15.107	AC Line Conducted Emissions	Compliance
§15.109	Radiated Spurious Emissions	Compliance

FCC §15.107 – AC LINE CONDUCTED EMISSIONS

Applicable Standard

According to FCC§15.107

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The measurement procedure of EUT setup is according with per ANSI C63.4-2009. The related limit was specified in FCC Part 15.107 Class B.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	100176	2012-11-24	2013-11-23
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2012-08-22	2013-08-21
Rohde & Schwarz	Pulse limiter	ESH3Z2	DE25985	2012-07-08	2013-07-07
BACL	CE Test software	BACL-CE	V1.0	-	-

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Pulse Limiter Attenuation. The basic equation is as follows:

Correction Factor = LISN VDF + Cable Loss + Pulse Limiter Attenuation

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.107, with the worst margin reading of:

20.63 dB at **0.510 MHz** in the **Line** conducted mode

Test Data

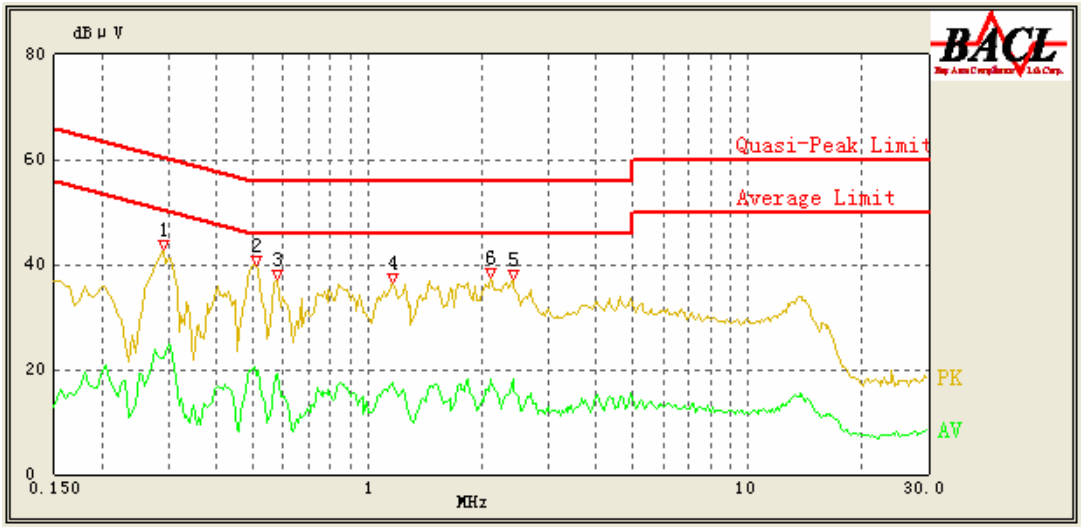
Environmental Conditions

Temperature:	25℃
Relative Humidity:	55 %
ATM Pressure:	100.0 kPa

The testing was performed by Henry Ding on 2013-01-24.

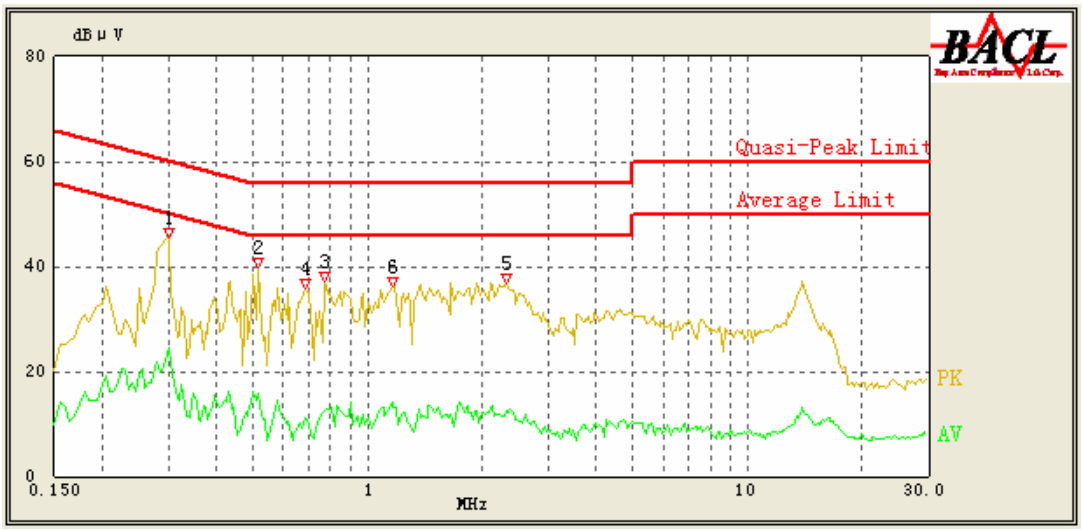
EUT Operation Mode: Receiving and Talking

AC 120V/60 Hz, Line



Frequency (MHz)	Corrected Amplitude (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/Ave./QP)
0.510	35.37	10.20	56.00	20.63	QP
0.580	33.31	10.20	56.00	22.69	QP
1.170	32.98	10.20	56.00	23.02	QP
2.120	32.76	10.20	56.00	23.24	QP
2.410	32.36	10.20	56.00	23.64	QP
0.290	38.13	10.18	62.00	23.87	QP
0.580	19.09	10.20	46.00	26.91	Ave.
0.510	18.75	10.20	46.00	27.25	Ave.
2.420	18.30	10.20	46.00	27.70	Ave.
2.105	18.02	10.20	46.00	27.98	Ave.
1.170	16.92	10.20	46.00	29.08	Ave.
0.290	22.19	10.18	52.00	29.81	Ave.

AC 120V/60 Hz, Neutral



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
0.300	37.82	10.10	61.71	23.89	QP
0.515	31.50	10.20	56.00	24.50	QP
0.775	30.17	10.20	56.00	25.83	QP
1.160	29.95	10.20	56.00	26.05	QP
0.300	24.56	10.10	51.71	27.15	Ave.
2.310	28.78	10.20	56.00	27.22	QP
0.685	28.34	10.20	56.00	27.66	QP
0.515	15.83	10.20	46.00	30.17	Ave.
1.160	14.17	10.20	46.00	31.83	Ave.
2.325	12.51	10.20	46.00	33.49	Ave.
0.775	12.37	10.20	46.00	33.63	Ave.
0.685	11.02	10.20	46.00	34.98	Ave.

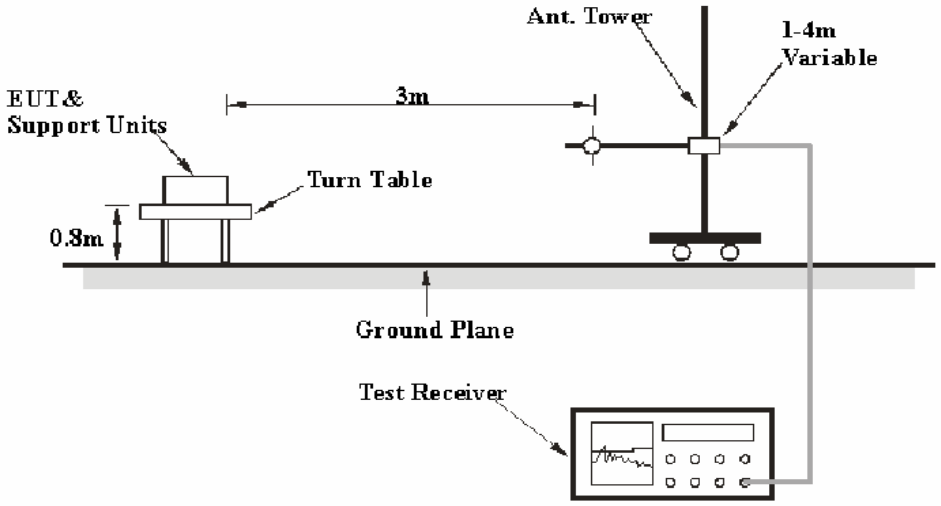
Note:
1) Correction Factor =LISN/ISN VDF (Voltage Division Factor) + Cable Loss + Pulse Limiter Attenuation
The corrected factor has been input into the transducer of the test software.
2) Corrected Amplitude = Reading + Correction Factor
3) Margin = Limit – Corrected Amplitude

FCC §15.109 - RADIATED SPURIOUS EMISSIONS

Applicable Standard

FCC §15.109

EUT Setup



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part 15.109 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10cm.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 2000 MHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	100 kHz	300 kHz	120kHz	QP
1000 MHz -2000 MHz	1 MHz	3 MHz	-	Peak
1000 MHz -2000 MHz	1 MHz	10 Hz	-	Average

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz -1 GHz, and peak & average detection mode for 1 GHz – 2 GHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447E	1937A01046	2012-11-24	2013-11-23
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2012-08-08	2013-08-07
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2014-11-27
SUPER ULTRA	Amplifier	ZVA-213+	N/A	2012-11-24	2013-11-23
Sunol Sciences	Horn Antenna	DRH-118	A052304	2011-12-01	2014-11-30
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2012-11-24	2013-11-23

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Factor = Antenna Factor + Cable Loss- Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the data in the following table, the EUT complied with the FCC §15.109 Class B, with the worst margin reading of:

12.4 dB at **499.73775 MHz** in the **Vertical** polarization for adapter power supply

Test Data

Environmental Conditions

Temperature:	25℃
Relative Humidity:	55 %
ATM Pressure:	100.0 kPa

The testing was performed by Henry Ding on 2013-01-24.

EUT Operation Mode: Receiving and Talking

1) Battery power supply:

30MHz -2000MHz

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna height (cm)	Antenna Polarity	Turntable position (degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
313.127850	25.9	139.0	V	179.0	-13.8	46.0	20.1
32.102800	14.3	107.0	V	49.0	-8.5	40.0	25.7
36.011600	13.3	138.0	V	337.0	-11.5	40.0	26.7

2) Adapter power supply:

30MHz -2000MHz

Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna height (cm)	Antenna Polarity	Turntable position (degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
449.737750	33.6	104.0	V	254.0	-9.1	46.0	12.4
30.479500	20.7	228.0	V	118.0	-5.7	40.0	19.3
179.103500	23.2	104.0	V	315.0	-15.3	43.5	20.3

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