FCC PART 15.229

TEST REPORT

For

JAZWARES INC

1067 Shotgun Road, Sunrise, FL 33326, USA

FCC ID: YNIJAZWARES16106

Report Type:	Product Type:
Original Report	Walkie Talkie

Test Engineer:	Rocky Kang
Report Number:	RSZ130428832-00
Report Date:	2013-05-14
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

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The *JAZWARES INC's* product, model number: *16106 (FCC ID: YNIJAZWARES16106)* the "EUT" in this report is a *Walkie Talkie*, the EUT is measured approximately: 20.7 cm (L) x 7.0 cm (W) x 6.8 cm (H), rated with input voltage: DC 9V battery.

Note: The product Walkie Talkie, series model 13510, 17305, 16106, 13310 and 14555, they share the same PCB and schematics, the differences among them are color and appearance, which was explained in the attached declaration letter. And the model 16106 was selected to test.

** All measurement and test data in this report was gathered from production sample serial number: 13042801 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2013-04-28.*

Objective

This Type approval report is prepared on behalf of *JAZWARES INC* in accordance with Part 2, Subpart J, and Part 15, Subparts A, B and C of the Federal Communication Commissions rules.

The objective is to determine the compliance of the EUT with FCC rules, sec 15.203, 15.205, 15.209 and 15.229.

Related Submittal(s)/Grant(s)

No Related Submittals.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2009, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Lab Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

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.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical fashion (as normally used by a typical user).

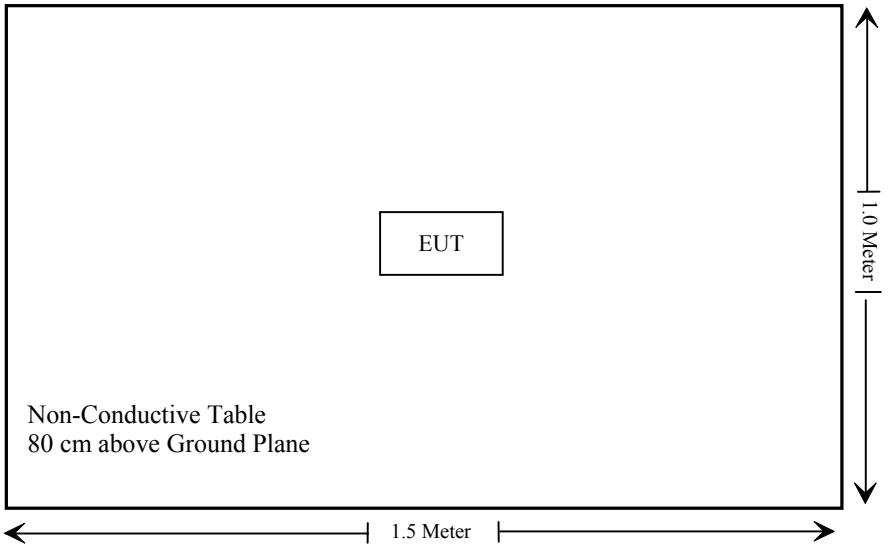
EUT Exercise Software

No exercise software was used.

Equipment Modifications

No modification on the EUT.

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliance
§15.207	AC Line Conducted Emission	Not Applicable
§15.229 §15.209 §15.205	Radiated Emission Test	Compliance
§15.229(d)	Frequency Stability	Compliance
§15.215(c)	20dB Emission Bandwidth Testing	Compliance

Note: Not Applicable - EUT is battery operation only.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

Antenna Connected Construction

The EUT has a molopole antenna arrangement, which was permanently attached, fulfill the requirement of this section. Please refer to the internal photos.

FCC §15.229, §15.205 & §15.209 - RADIATED EMISSIONS TEST

Applicable Standard

As per FCC Part 15.229

(a) Unless operating pursuant to the provisions in § 15.231, the field strength of any emissions within this band shall not exceed 1,000 microvolts/meter at 3 meters.

(b) As an alternative to the limit in paragraph (a) of this section, perimeter protection systems may demonstrate compliance with the following: the field strength of any emissions within this band shall not exceed 500 microvolts/meter at 3 meters, as determined using measurement instrumentations employing an average detector. The provisions in § 15.35 for limiting peak emissions apply where compliance of these devices is demonstrated under this alternative emission limit.

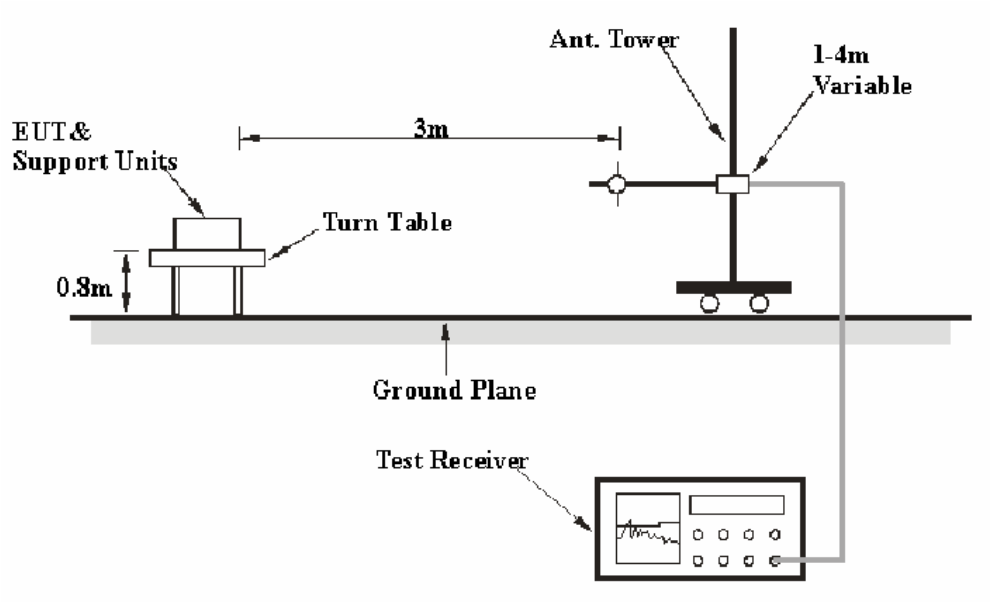
(c) The field strength of any emissions appearing outside of this band shall not exceed the general radiated emission limits in § 15.209

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

Based on CISPR 16-4-4, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is 4.0 dB.(k=2, 95% level of confidence), and the uncertainty will not be taken into consideration for all the test data recorded in the report.

EUT Setup



The radiated emission tests were performed in the 3-meter chamber a test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC Part Subpart C limits.

EMI Test Receiver Setup

According to FCC Rules, 47 CFR 15.33, the EUT emissions were investigated up to 1000 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
30MHz – 1000 MHz	100 kHz	300 kHz	120kHz	QP

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 Amplitude = Meter Reading + 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 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2012-08-08	2013-08-07
HP	Amplifier	8447E	1937A01046	2012-11-24	2013-11-23
Sunol Sciences	Bi-log Antenna	JB1	A040904-2	2011-11-28	2014-11-27

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

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209 with the worst margin reading of:

2.76 dB at **40.685 MHz** in the **Vertical** polarization

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	50 %
ATM Pressure:	100.0 kPa

The testing was performed by Rocky Kang on 2013-05-10.

Test mode: Transmitting

1) Field Strength of Radiated Emissions (Fundamental)

Frequency (MHz)	Emissions (dBuV/m)	H/V	Limits (dBuV/m)	Detector (PK/QP/Ave)	Margin (dB)
40.685	57.24	V	60	Ave.	2.76
40.685	63.27	V	80	PK	16.73
40.685	34.22	H	60	Ave.	25.78
40.685	40.43	H	80	PK	39.57

2) Spurious Emission, up to 1000MHz:

Frequency (MHz)	Reading (dBµV)	Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBµV/m)	FCC Part 15.229	
			Height (m)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
81.368	44.26	213	1.3	V	-19.76	24.5	40	15.5
81.368	44.06	68	1.5	H	-19.76	24.3	40	15.7
162.74	32.75	84	1.5	V	-14.05	18.7	43.5	24.8
162.74	32.35	174	1.4	H	-14.05	18.3	43.5	25.2
122.041	30.43	174	1.4	V	-13.03	17.4	43.5	26.1
122.041	30.13	113	1.1	H	-13.03	17.1	43.5	26.4
203.474	27.8	111	1.1	V	-12.7	15.1	43.5	28.4
203.474	27.4	111	1.1	H	-12.7	14.7	43.5	28.8

Note:
Corrected Amplitude = Corrected Factor + Reading
Corrected Factor=Antenna factor (RX) + Cable loss – Amplifier Factor
Margin = Limit – Corr. Amplitude

FCC §15.229(d) - FREQUENCY STABILITY

Applicable Standard

The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test worked with a new battery, and rod antenna was connected to a spectrum analyzer. The EUT was placed inside the temperature chamber.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Spectrum Analyzer.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2012-08-08	2013-08-07
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2012-11-02	2013-11-01

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

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	50 %
ATM Pressure:	100.0 kPa

The testing was performed by Rocky Kang on 2013-05-10.

Test Mode: Transmitting

Test Result: Pass

Power Supply	Temperature (℃)	Measured Frequency (MHz)	Frequency Error	Part 15.229 Limit
DC 9V	-20	40.6845	-0.0012%	±0.01%
	-10	40.6844	-0.0015%	±0.01%
	0	40.6847	-0.0007%	±0.01%
	10	40.6846	-0.0009%	±0.01%
	20	40.6849	-0.0002%	±0.01%
	30	40.6848	-0.0005%	±0.01%
	40	40.6847	-0.0007%	±0.01%
	50	40.6846	-0.0009%	±0.01%

Note: Centre frequency is 40.685 MHz

FCC §15.215(c) - 20 dB EMISSION BANDWIDTH TESTING

Requirement

Per FCC §15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2012-08-08	2013-08-07
HP	Amplifier	8447E	1937A01046	2012-11-24	2013-11-23
Sunol Sciences	Bilog Antenna	JB1	A040904-2	2011-11-28	2014-11-27

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

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

Test Data

Environmental Conditions

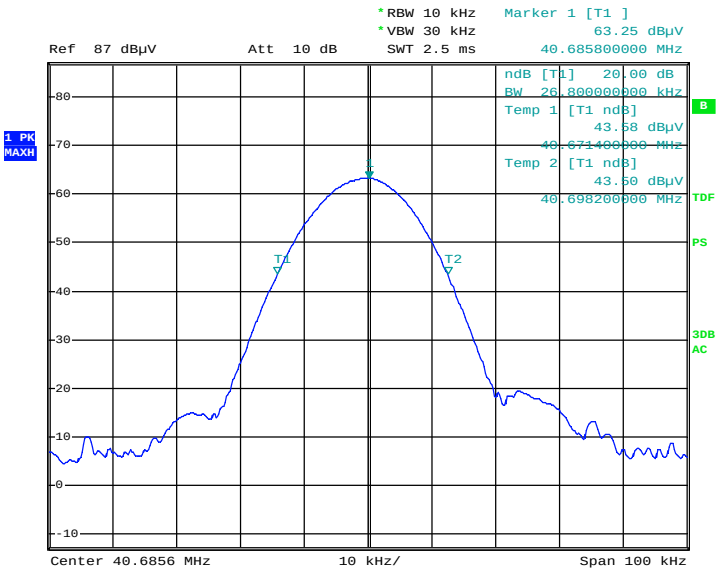
Temperature:	25 ℃
Relative Humidity:	50 %
ATM Pressure:	100.0 kPa

The testing was performed by Rocky Kang on 2013-05-10.

Test Mode: Transmitting

Test Result: Pass

20 dB Emission Bandwidth



EUT

Date: 10.MAY.2013 12:16:56

PRODUCT SIMILARITY DECLARATION LETTER

Jazwares Inc
1067 Shotgun Road Sunrise ,Florida 33326
Tel: 19548450800 Fax: 19548450801

DECLARATION OF SIMILARITY

To:
Bay Area Compliance Laboratories Corp. (ShenZhen)
6/F, the 3rd Phase of Wan Li Industrial Building, Shihua Road,
FuTian Free Trade Zone, Shenzhen, Guangdong, P.R.China

Dear Sir or Madam:

We,Jazwares Inc hereby declare that our product: Walkie Talkie,here total five models, They are 13510&17305&16106&13310&14555, 16106 was chosen as the main test model , the other four models are additional models . The additional models and main test models have the same PCB and Schematics ,just the color and appearance are different .

Please contact me should there be need for any additional clarification or information.

Best Regards,

Sincerely,

Signature: Vincent Yang
Vincent Yang

VP of P/D
2013-5-14

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