



Compliance Testing, LLC
Previously Flom Test Lab
EMI, EMC, RF Testing Experts Since 1963

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Test Report

Prepared for: AGOG Products LLC

Model: JuteJack Guitar

Description: FM WirelessTransmitter Electric Guitars

To

FCC Part 15.239

Date of Issue: October 17, 2011

On the behalf of the applicant:

AGOG Products LLC
12232 Distribution Place
Beltaville, MD 20705

Attention of:

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Project No: p11a0002

John Erhard
Project Test Engineer

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Test Report Revision History

Revision	Date	Revised By	Reason for Revision
1.0	October 17, 2011	John Erhard	Original Document
2.0	November 23, 2011	John Erhard	Update audio conditions and correct a typographical error.



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ILAC / A2LA

Compliance Testing, LLC, has been accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF Communiqué dated January 2009)

The tests results contained within this test report all fall within our scope of accreditation, unless noted in the table below.

Please refer to <http://www.compliancetesting.com/labscope.html> for current scope of accreditation.

Testing Certificate Number: **2152.01**



FCC OATS Reg, #933597

IC Reg. #2044A-1

Non-accredited tests contained in this report:

N/A



The applicant has been cautioned as to the following

15.21: Information to User

The user's manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a): Special Accessories

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator the responsible part may employ other methods of ensuring that the special accessories are provided to the consumer, without an additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.



Test Results Summary

Specification	Test Name	Pass, Fail, N/A	Comments
15.239(a)	Occupied Bandwidth	Pass	
15.239(b)	Field Strength Within the Band	Pass	
15.239(c)	99% Occupied Bandwidth	Pass	
15.207	AC Powerline Conducted Emissions	N/A	The EUT does not connect to the AC Mains

EUT Description

Model: JuteJack Guitar

Description: FM Transmitter for operation as a wireless guitar to FM radio

Firmware: N/A

Software: N/A

EUT Operation during Tests

Normal operation with the FM audio input was stimulated with a swept frequency ranging from 100 Hz to 20 kHz.



Occupied Bandwidth

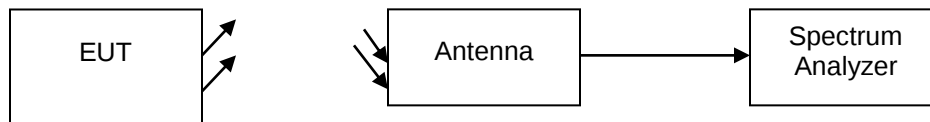
Name of Test: Occupied Bandwidth
Specification: 15.239(a)
Test Equipment Utilized: i00267, i00331

Engineer: John Erhard
Test Date: 10/17/2011

Test Procedure

The EUT was tested in an anechoic chamber at a distance of 3 meter from the receiving antenna. A spectrum analyzer was used to verify that the EUT met the requirements for Occupied Bandwidth. The antenna correction factor and cable losses were input in to the spectrum analyzer as user correction factors to ensure accurate measurements. An anechoic chamber was utilized as the EUT operates in the commercial FM band and the strength of the ambients was significantly greater than that of the EUT making it impossible to take measurements.

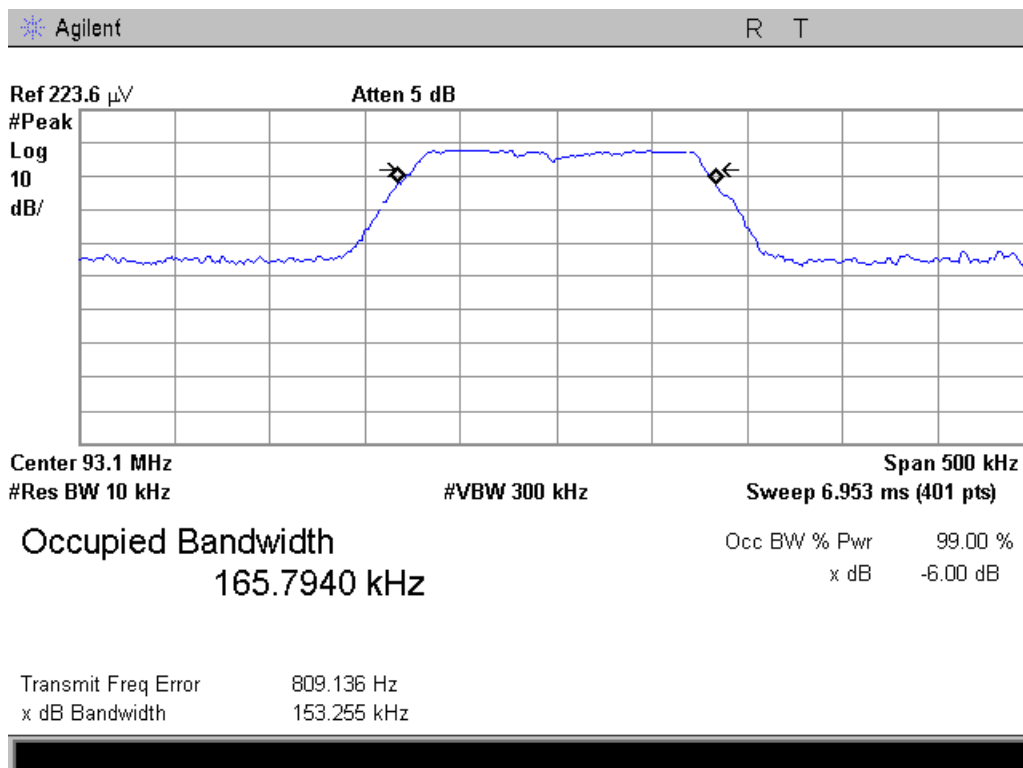
Test Setup



Occupied Bandwidth Summary

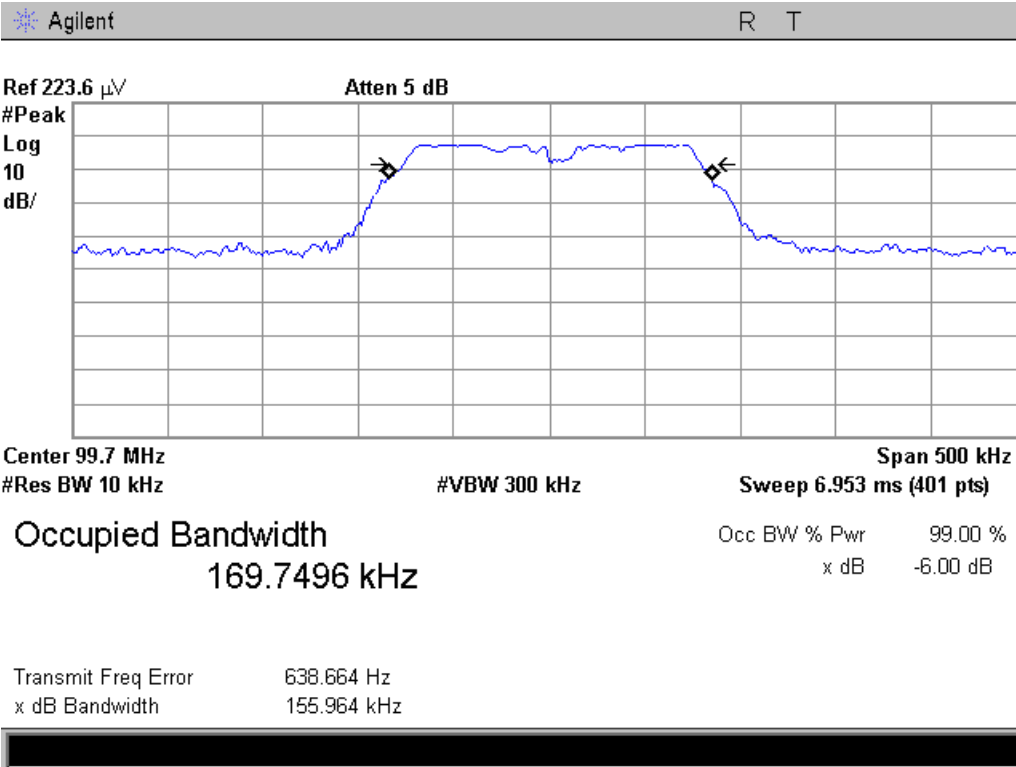
Tuned Freq (MHz)	Measured Value (kHz)	Limit (kHz)	Result
93.1	165.79	200	Pass
99.7	169.75	200	Pass
107.5	168.56	200	Pass

Occupied Bandwidth 93.1 MHz

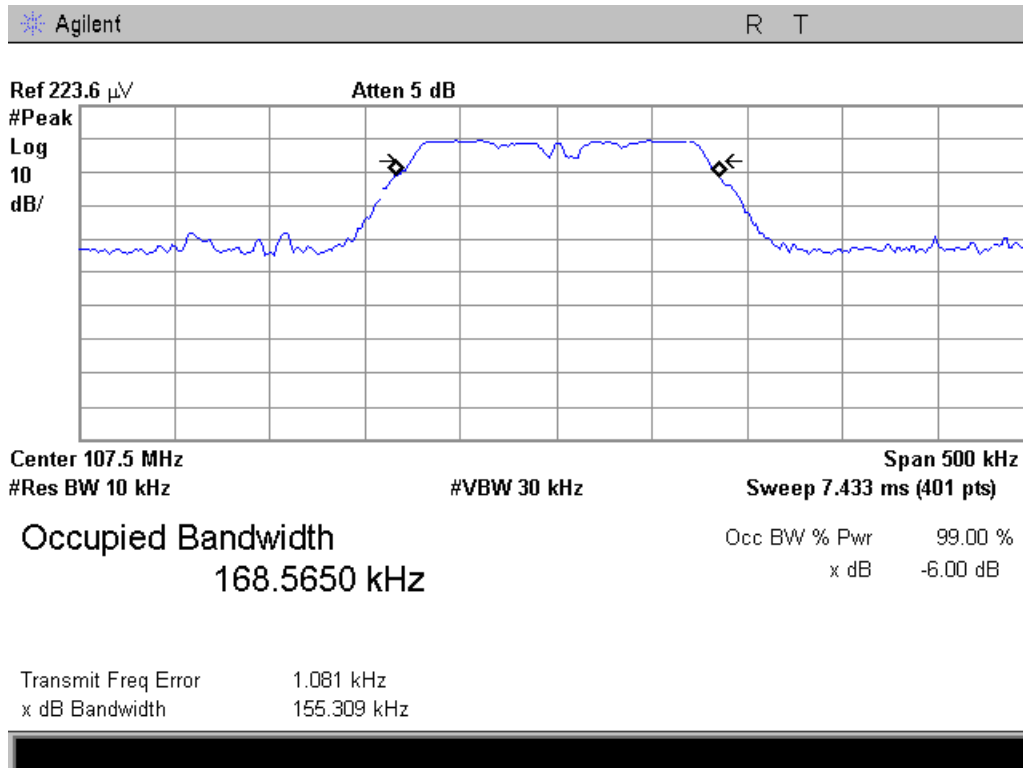




Occupied Bandwidth 99.7 MHz



Occupied Bandwidth 107.5 MHz





Field Strength Within The band

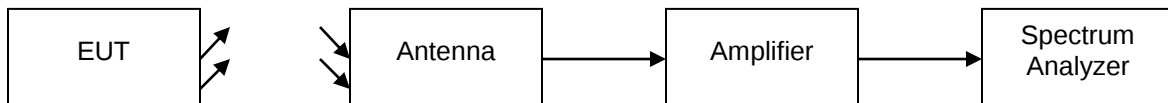
Name of Test: Field Strength Within the Band
Specification: 15.239(b)
Test Equipment Utilized: i00267, i00331

Engineer: John Erhard
Test Date: 10/17/2011

Test Procedure

The EUT was tested in an anechoic chamber at a distance of 3 meter from the receiving antenna. A spectrum analyzer was used to verify that the EUT met the requirements for Fundamental Field Strength. The antenna correction factor and cable losses were input in to the spectrum analyzer as user correction factors to ensure accurate measurements. An anechoic chamber was utilized as the EUT operates in the commercial FM band and the strength of the ambients was significantly greater than that of the EUT making it impossible to take measurements.

Test Setup



Fundamental Field Strength

Tuned Freq (MHz)	Peak Measured Level (uV/m)	Peak Limit (uV/m)	Result
93.1	57.81	2500	Pass
99.7	53.30	2500	Pass
107.5	68.07	2500	Pass

Tuned Freq (MHz)	Avg Measured Level (uV/m)	Avg Limit (uV/m)	Result
93.1	55.67	250	Pass
99.7	51.34	250	Pass
107.5	65.71	250	Pass



Field Strength Outside the Band

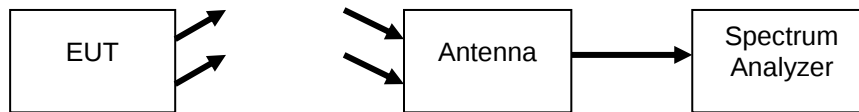
Name of Test: Field Strength Outside the Band
Specification: 15.239(c)
Test Equipment Utilized: i00033, i00267

Engineer: John Erhard
Test Date: 10/17/2011

Test Procedure

The EUT was tested in an Open Area Test Site (OATS) set 3m from the receiving antenna. A spectrum analyzer was used to verify that the EUT met the requirements for Radiated Emissions. The EUT was tested by rotating it 360 with the antennas in both the vertical and horizontal orientation while raised from 1 to 4 meters to ensuring the signal levels were maximized. All emissions from 30 MHz to 1 GHz were examined.

Test Setup



Settings

RBW = 120 KHz

VBW = 300 KHz

Detector – Quasi Peak

Sample Calculations

Corrected Value = Measured Value + Correction factor

Correction factor = ACF + Cable loss

Radiated Emissions

Emission Freq (MHz)	Measured Value (dBuV/m)	Correction Factor (dB)	Corrected Value (dBuV/m)	Limit (dBuV/m)	Margin (dB)
37.207	7.780	16.360	24.140	40.000	-15.860
229.350	5.750	12.192	17.942	46.000	-28.058
389.300	13.180	17.654	30.834	46.000	-15.166
556.150	7.070	21.563	28.633	46.000	-17.367
710.200	5.170	23.241	28.411	46.000	-17.589
925.400	5.490	26.536	32.026	46.000	-13.974



Test Equipment Utilized

Description	MFG	Model Number	CT Asset #	Last Cal Date	Cal Due Date
Spectrum Analyzer	HP	8546A	i00033	10/3/2010	10/3/2011
Bilog Antenna	Schaffner	CBL6111C	i00267	11/21/2009	11/21/2011
Spectrum Analyzer	Agilent	E4407B	i00331	5/24/2011	5/24/2012

In addition to the above listed equipment standard RF connectors and cables were utilized in the testing of the described equipment. Prior to testing these components were tested to verify proper operation

END OF TEST REPORT