FCC TEST REPORT

Product	:	Tour Guide System
Trade mark	:	QUIETVOX
Model/Type reference	:	QV-7T Series
Serial Number	:	N/A
Ratings	:	DC 3V
FCC ID	:	OFHQV-7T-RX
Report Number	:	EESZE06210019-3
Date	:	Jul. 20, 2012
Regulations	:	See below

Test Standards	Results
☒ 47 CFR FCC Part 15 Subpart B:2011	PASS

Prepared for:

QUIETVOX AG

Sagereistrasse 20 CH-8152 Glattbrugg Switzerland

Prepared by:

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Tested by: Reviewed by:

Approved by: Jimmy Li Date: Jul. 20, 2012

Lab manager

Check No.: 30001891

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(Note: N/A means not applicable)

1. GENERAL INFORMATION

Applicant:	QUIETVOX AG Sagereistrasse 20 CH-8152 Glattbrugg Switzerland
Manufacturer:	QUIITVOX Suite 2116, Block C, Huang Du plaza 3008, Yitian Road, Fu Tian District, Shenzhen
Equipment Authorization:	Certification
FCC ID:	OFHQV-7T-RX
Operating frequency:	925.025MHz – 926.975MHz
Product:	Tour Guide System
Trade mark:	QUIETVOX
Model/Type reference:	QV-7T Series
Serial Number:	N/A
Report Number:	EESZE06210019-3
Sample tested Date:	Jun. 25, 2012 to Jul. 20, 2012

2. TEST SUMMARY

The Product has been tested according to the following specifications:

Standard	Test Item	Test
FCC 15.107	Conducted Emission	N/A*
FCC 15.109	Radiated Emission	Yes

*: The power supply of EUT is by DC 3V.

3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Test item	Value (dB)
Radiated disturbance (30MHz to 1GHz)	4.5
Radiated disturbance (1GHz to 6GHz)	4.8

4. PRODUCT INFORMATION AND TEST SETUP

4.1. PRODUCT INFORMATION

Ratings: DC 3V

4.2. TEST SETUP CONFIGURATION

See test photographs attached in Appendix 1 for the actual connections between Product and support equipment.

4.3. SUPPORT EQUIPMENT

No.	Device Type	Brand	Model	Series No.	Data Cable	Power Cord
1.	---	---	---	---	---	---

Notes:
1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

5. FACILITIES AND ACCREDITATIONS

5.1. TEST FACILITY

All test facilities used to collect the test data are located at Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4-2003, CISPR 16-1-1 and other equivalent standards.

5.2. TEST EQUIPMENT LIST

Instrumentation: The following list contains equipments used at CTI for testing.
The calibrations of the measuring instruments, including any accessories that may effect such calibration, are checked frequently to assure their accuracy. Adjustments are made and correction factors applied in accordance with instructions contained in the manual for the measuring instrument.

Equipment used during the tests:

3M Semi-anechoic Chamber - Radiated Emission Test				
Equipment	**Manufacturer**	**Model**	**Serial No.**	**Due Date**
3M Chamber & Accessory Equipment	ETS-LINDGREN	FACT-3	3510	07/09/2013
Spectrum Analyzer	Agilent	E4440A	MY46185649	03/07/2013
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	401	07/06/2013
Multi device Controller	ETS-LINGREN	2090	00057230	N/A
Horn Antenna	ETS-LINGREN	3117	00057407	07/06/2013
Microwave Preamplifier	Agilent	8449B	3008A02425	03/29/2013

6. SYSTEM TEST CONFIGURATION

6.1. JUSTIFICATION

The system was configured for testing in a typical fashion (as a customer would normally use it), The Product was placed on a turn table, which enabled the engineer to maximize emissions through its placement as outlined in ANSI C63.4 (2003).

The Product was powered by DC 3V during test.

For maximizing emissions, the Product was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. The rear of unit shall be flushed with the rear of the table.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

6.2. PRODUCT EXERCISING SOFTWARE

No Software was used during testing.

7. RADIATED EMISSION TEST

7.1. LIMITS

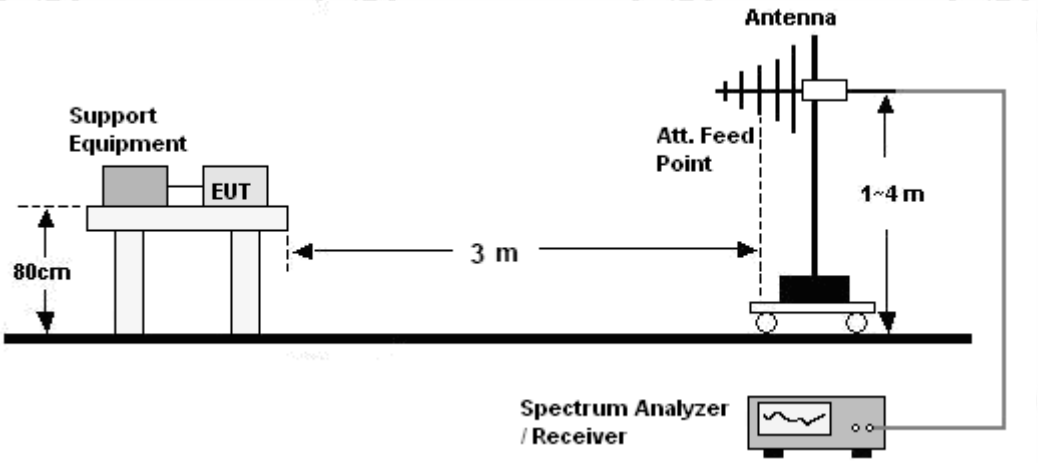
Limits for Class B digital devices

Frequency (MHz)	limits at 3m dB(μV/m)
30-88	40.0
88-216	43.5
216-960	46.0
Above 960	54.0

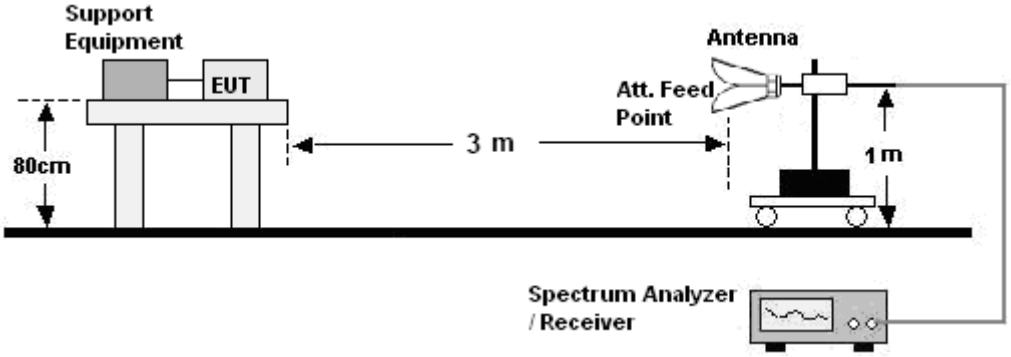
NOTE: 1. The lower limit shall apply at the transition frequency.
2. The limits shown above are based on measuring equipment employing a CISPR quasi-peak detector function for frequencies below or equal to 1000MHz.
3. The limits shown above are based on measuring equipment employing an average detector function for frequencies above 1000MHz.

7.2. BLOCK DIAGRAM OF TEST SETUP

30MHz ~ 1GHz:



Above 1GHz:



7.3. PROCEDURE OF RADIATED EMISSION TEST

30MHz ~ 1GHz:

a. The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.

b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.

c. For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

Above 1GHz:

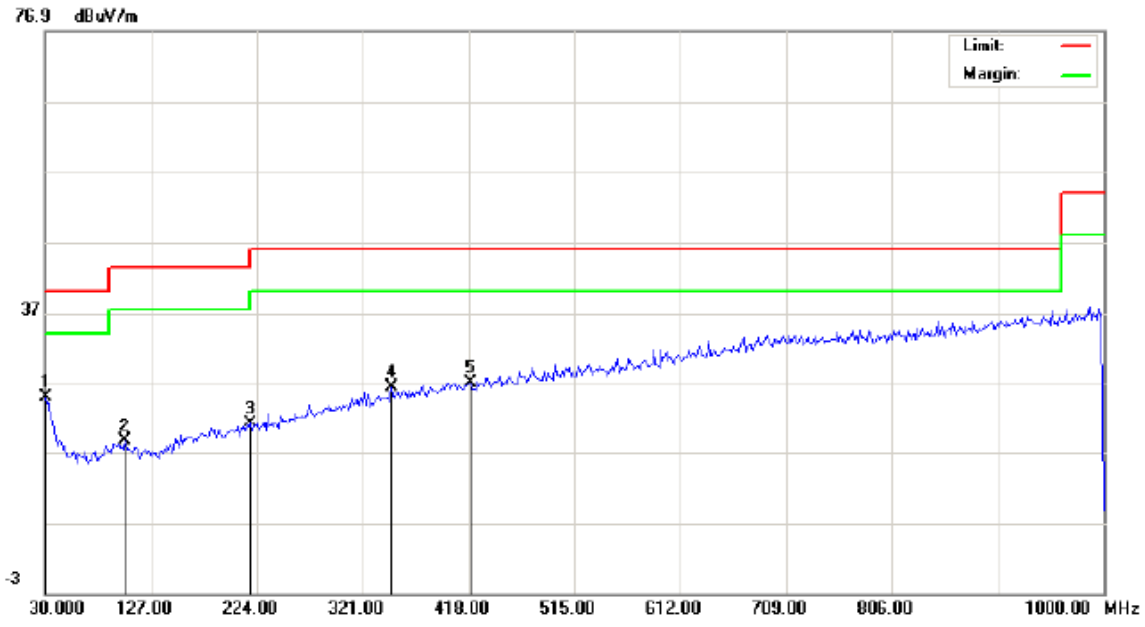
a. The Product was placed on the non-conductive turntable 0.8m above the ground at a chamber.

b. Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.

c. For each frequency whose maximum record was higher or close to limit, measure its AV value: rotate the turntable from 0 to 360 degrees to find the degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to AV value and specified bandwidth with Maximum Hold Mode, and record the maximum value.

7.4. WORST CASE TEST GRAPHS AND TEST DATA

The test data of low channel, middle channel and high channel are almost same, and the data of low channel are chosen as representative in below:

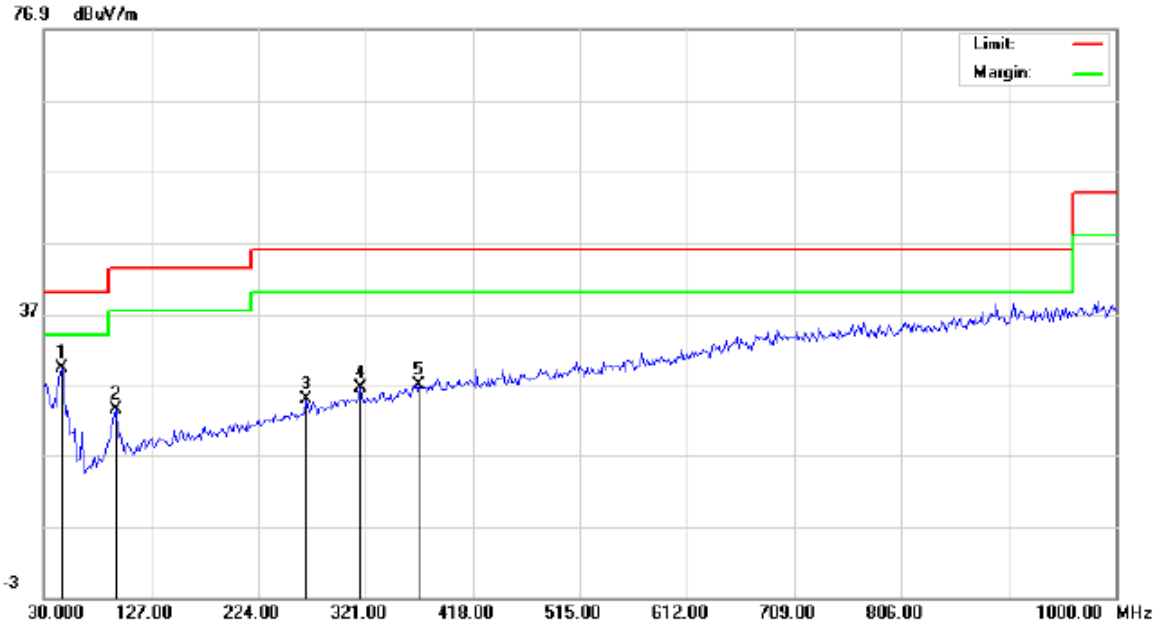


Site site #1
Limit: FCC PART15 B
EUT: Tour Guide System
M/N: QV-7T Series
Mode: RX
Note:

Polarization: *Horizontal*
Power: DC 3V

Temperature: 23
Humidity: 55 %

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	30.0000	7.34			17.63	24.97			40.00		-15.03		P	
2	102.7500	8.30			10.24	18.54			43.50		-24.96		P	
3	217.5333	8.71			12.54	21.25			46.00		-24.75		P	
4	346.8667	9.41			17.03	26.44			46.00		-19.56		P	
5	419.6167	8.27			18.69	26.96			46.00		-19.04		P	



Site site #1 Polarization: *Vertical* Temperature: 25

Limit: FCC PART15 B Power: DC 3V Humidity: 56 %

EUT: Tour Guide System

M/N: QV-7T Series

Mode: RX

Note:

No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV/m)			Limit (dBuV/m)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	46.1667	18.05			11.43	29.48			40.00		-10.52		P	
2	94.6667	13.64			10.06	23.70			43.50		-19.80		P	
3	267.6500	9.46			15.60	25.06			46.00		-20.94		P	
4	316.1500	9.40			17.25	26.65			46.00		-19.35		P	
5	369.5000	8.51			18.50	27.01			46.00		-18.99		P	

Remark: The test data above 1GHz are very low, and they are under the background emissions, so they are not recorded in test report.

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

TEST SETUP OF RADIATED EMISSION (30MHz～1GHz)

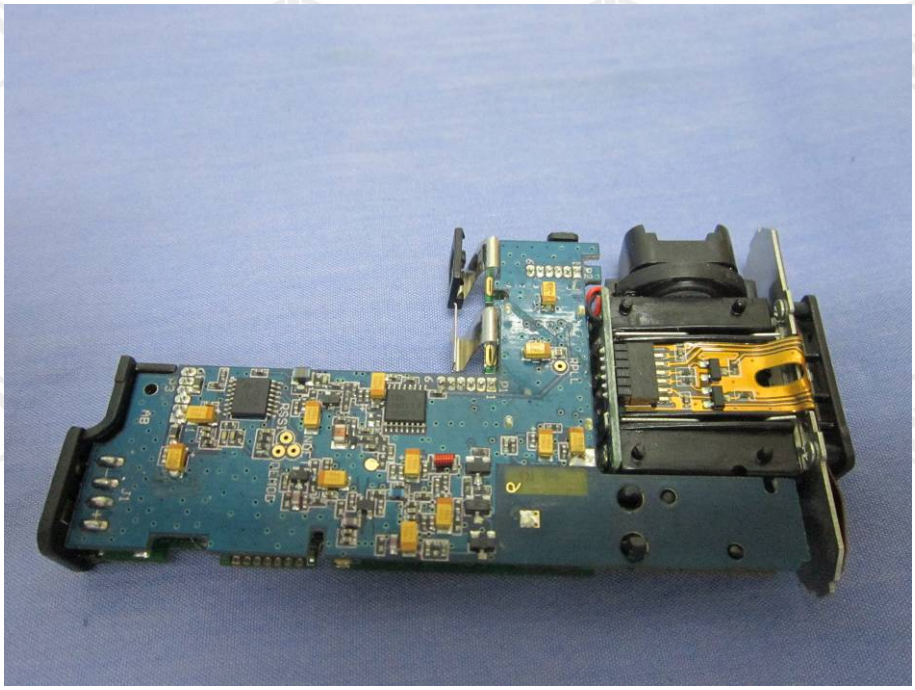
TEST SETUP OF RADIATED EMISSION (Above1GHz)

APPENDIX 2 PHOTOGRAPHS OF EUT

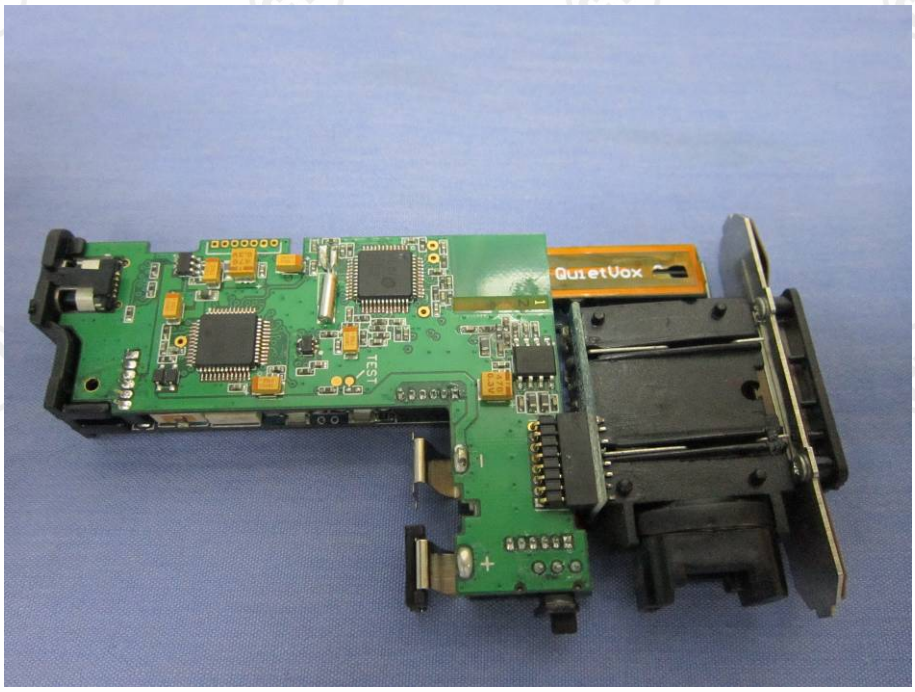
View of external EUT-1

View of external EUT-2

View of internal EUT-1



View of internal EUT-2



View of internal EUT-3

*** End of report ***