



FCC PART 90 TEST REPORT

For

Shenzhen HQT Science&Technology Co., Ltd.

5/F, East of Building M-8, Central Zone, Hi-tech Industrial Park, Nanshan District, Shenzhen, China

FCC ID: P6NTH-8000V

Report Type: **Product Type:** Original Report Two-way radio Jimmy Xiao **Test Engineer:** Jimmy Xiao **Report Number:** RSZ120917551-00 **Report Date:** 2012-09-25 Sula Huang Sola Hugo **Reviewed By:** RF Engineer **Test Laboratory:** 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

Note: This test report is prepared for the customer shown above and for the equipment described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP*, or any agency of the Federal Government.

* This report may contain data that are not covered by the NVLAP accreditation and shall be marked with an asterisk "*\pm"

TABLE OF CONTENTS

GENERAL INFORMATION	4
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)	4
Objective	
RELATED SUBMITTAL(S)/GRANT(S)	
TEST METHODOLOGY	
SYSTEM TEST CONFIGURATION	
DESCRIPTION OF TEST CONFIGURATION	
BLOCK DIAGRAM OF TEST SETUP	
SUMMARY OF TEST RESULTS	
FCC §1.1307(b) & §2.1093 - RF EXPOSURE	
APPLICABLE STANDARD	
FCC §2.1046 & §90.205- RF OUTPUT POWER	9
APPLICABLE STANDARD	
TEST PROCEDURE	
TEST EQUIPMENT LIST AND DETAILS	
TEST DATA	
FCC §2.1047 & §90.207 - MODULATION CHARACTERISTIC	
APPLICABLE STANDARD	
TEST PROCEDURE	
TEST EQUIPMENT LIST AND DETAILS	
FCC §2.1049, §90.209 & §90.210 – OCCUPIED BANDWIDTH & EMISSION MASK	
APPLICABLE STANDARD	
TEST PROCEDURE TEST EQUIPMENT LIST AND DETAILS	
TEST DATA	
FCC §2.1051 & §90.210 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS	
APPLICABLE STANDARD	
TEST PROCEDURE	
TEST EQUIPMENT LIST AND DETAILS	
TEST DATA	21
FCC §2.1053 & §90.210 - RADIATED SPURIOUS EMISSIONS	23
APPLICABLE STANDARD	23
TEST PROCEDURE	
TEST EQUIPMENT LIST AND DETAILS	
TEST DATA	
FCC §2.1055 & §90.213- FREQUENCY STABILITY	
APPLICABLE STANDARD	
TEST PROCEDURE TEST EQUIPMENT LIST AND DETAILS	
TEST DATA	

FCC §90.214 - TRANSIENT FREQUENCY BEHAVIOR	27
APPLICABLE STANDARD	27
TEST EQUIPMENT LIST AND DETAILS.	27
TEST PROCEDURE	
TEST DATA	27

FCC Part 90 Page 3 of 29

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The Shenzhen HQT Science & Technology Co., Ltd.'s product, model number: TH-8000 (FCC ID: P6NTH-8000V) (the "EUT") in this report is a Two-way Radio, which was measured approximately: 12.0 cm (H) x 5.5 cm (W) x 3.4 cm (D), rated input voltage: DC 7.4 V Li-poly rechageable battery.

Report No.: RSZ120917551-00

Technical specifications:

Frequency range: 136-174 MHz

Output power: 1.062 W (Low); 4.518 W (High) (Conducted power)

Modulation: FM

Frequency spacing: 12.5 kHz

* All measurement and test data in this report was gathered from production sample serial number: 1209039 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2012-09-17.

Objective

This test report is prepared on behalf of *Shenzhen HQT Science&Technology Co., Ltd.* in accordance with Part 2, and Part 90 of the Federal Communication Commissions rules.

Related Submittal(s)/Grant(s)

No Related Submittal(s)/Grant(s)

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of federal Regulations Title 47 Part 2, Sub-part J as well as the following individual parts:

Part 90 – Private Land Mobile Radio Service

Applicable Standards: TIA 603-D and ANSI 63.4-2009.

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

FCC Part 90 Page 4 of 29

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.

Report No.: RSZ120917551-00

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.

FCC Part 90 Page 5 of 29

SYSTEM TEST CONFIGURATION

Description of Test Configuration

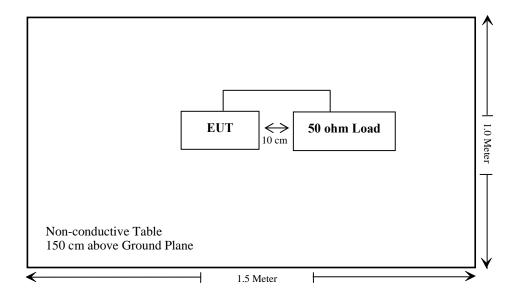
The system was configured for testing in a test mode which has been done in the factory.

Report No.: RSZ120917551-00

Equipment Modifications

No Equipment Modifications.

Block Diagram of Test Setup



FCC Part 90 Page 6 of 29

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§1.1307 (b); §2.1093	RF Exposure	Compliance
§2.1046; §90.205	RF Output Power	Compliance
§2.1047; §90.207	Modulation Characteristic	Compliance
\$2.1049; \$90.209; \$90.210	Authorized Bandwidth & Emission Mask	Compliance
§2.1051; §90.210	Spurious Emission at Antenna Terminal	Compliance
§2.1053; §90.210	Spurious Radiated Emissions	Compliance
§2.1055; §90.213	Frequency Stability	Compliance
§90.214	Transient Frequency Behavior	Compliance

Report No.: RSZ120917551-00

Note: The uncertainty of any RF tests which use conducted method measurement is 0.96 dB.

The uncertainty of any radiation emissions measurement is 4.0 dB.

FCC Part 90 Page 7 of 29

FCC §1.1307(b) & §2.1093 - RF EXPOSURE

Applicable Standard

According to FCC §1.1307(b) and §2.1093, protable device operates Part 90 should be subjected to rountine environmental evaluation for RF exposure prior or equipment authorization or use.

Report No.: RSZ120917551-00

Result: Compliance.

Please refer to SAR Report Number: R12092413-SAR

FCC Part 90 Page 8 of 29

FCC §2.1046 & §90.205- RF OUTPUT POWER

Applicable Standard

FCC §2.1046 and §90.205.

Test Procedure

Conducted RF Output Power:

TIA-603-D section 2.2.1

Radiated method:

TIA 603-D section 2.2.17

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

Report No.: RSZ120917551-00

Spectrum Analyzer setting:

 RBW
 Video B/W

 100 kHz
 300 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2011-11-24	2012-11-23
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2012-11-27
HP	Synthesized Sweeper	8341B	2624A00116	2012-04-11	2013-04-10
COM POWER	Dipole Antenna	AD-100	041000	2012-06-06	2013-06-05

^{*} Statement of Traceability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Institute of Metrology (NIM)

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56%
ATM Pressure:	100.1 kPa

The testing was performed by Jimmy Xiao on 2012-09-20.

FCC Part 90 Page 9 of 29

Test Mode: Transmitting

Test Result: Compliance. Please refer to following table

Conducted Power:

Channel separation (kHz)	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Power level
	136.5	30.57	1.140	Low
	136.5	36.22	4.188	High
12.5	155.0	30.26	1.062	Low
12.3	155.0	36.24	4.207	High
	173.5	30.57	1.140	Low
	173.5	36.55	4.518	High

Report No.: RSZ120917551-00

ERP:

	Receiver	TurnTable	Rx An	itenna		Substitute	ed	Absolute	Absolute
Frequency (MHz)	Reading (dBµV)	Reading Angle	Height (m)	Polar (H/V)	SG Level (dBm)	Cable Loss (dB)	Antenna Gain (dB)	Level (dBm)	Level (W)
			Chann	el separat	ion: 12.5	kHz			
			13	6.5 MHz-	Low powe	er			
136.5	106.22	35	1.5	V	24.2	0.26	0	23.94	0.248
			15	5.0 MHz-	Low powe	er		_	
155.0	114.91	132	1.6	V	30.9	0.27	0	30.63	1.156
			173	3.5 MHz-I	Low power	r			
173.5	107.62	147	1.6	V	22.6	0.28	0	22.34	0.171
			136	5.5 MHz-I	ligh powe	r			
136.5	110.58	226	1.6	V	28.6	0.26	0	28.34	0.682
155.0 MHz-High power									
155.0	117.25	321	1.5	V	33.3	0.27	0	33.03	2.009
173.5 MHz-High power									
173.5	112.87	178	1.7	V	27.9	0.28	0	27.62	0.578

FCC Part 90 Page 10 of 29

FCC §2.1047 & §90.207 - MODULATION CHARACTERISTIC

Applicable Standard

FCC§2.1047 & §90.207:

(a) Equipment which utilizes voice modulated communication shall show the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz. for equipment which is required to have a low pass filter, the frequency response of the filter, or all of the circuitry installed between the modulation limited and the modulated stage shall be supplied.

Report No.: RSZ120917551-00

(b) Equipment which employs modulation limiting, a curve showing the percentage of modulation versus the modulation input voltage shall be supplied.

Test Procedure

Test Method: TIA/EIA-603 2.2.3

Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Due Date
HP	RF Communications Test Set	HP8920A	3438A05201	2012-06-14	2013-06-13

^{*} Statement of Traceability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Institute of Metrology (NIM)

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56%
ATM Pressure:	100.1 kPa

The testing was performed by Jimmy Xiao on 2012-09-21.

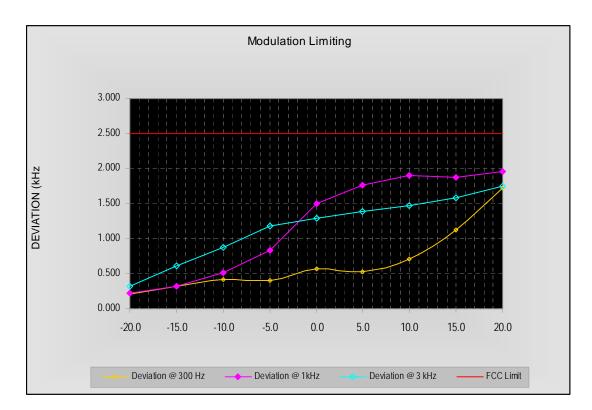
Test Mode: Transmitting

FCC Part 90 Page 11 of 29

MODULATION LIMITING

Carrier Frequency: 155 MHz-Low Power, Channel Separation = 12.5 kHz

Audio Input	Freq	Frequency Deviation (kHz)			
Level [dBm]	@ 300 Hz	@ 1kHz	@ 3 kHz	FCC Limit [kHz]	
20.0	1.721	1.954	1.745	2.5	
15.0	1.124	1.873	1.589	2.5	
10.0	0.712	1.897	1.468	2.5	
5.0	0.532	1.765	1.385	2.5	
0.0	0.565	1.500	1.298	2.5	
-5.0	0.398	0.834	1.185	2.5	
-10.0	0.421	0.515	0.876	2.5	
-15.0	0.321	0.323	0.612	2.5	
-20.0	0.215	0.224	0.326	2.5	

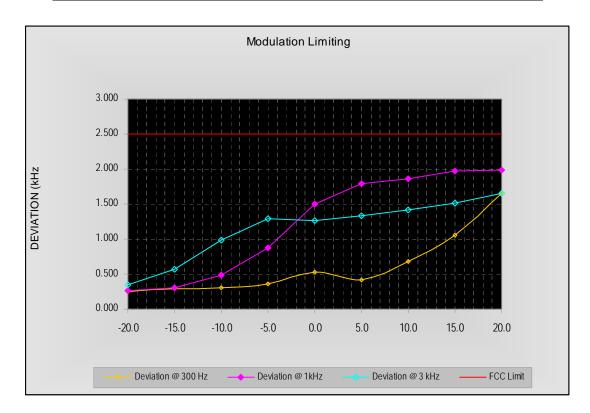


FCC Part 90 Page 12 of 29

MODULATION LIMITING

Carrier Frequency: 155 MHz-High Power, Channel Separation = 12.5 kHz

Audio Input	Freq	Frequency Deviation (kHz)			
Level [dBm]	@ 300 Hz	@ 1kHz	@ 3 kHz	FCC Limit [kHz]	
20.0	1.648	1.988	1.653	2.5	
15.0	1.054	1.973	1.512	2.5	
10.0	0.679	1.858	1.423	2.5	
5.0	0.418	1.797	1.335	2.5	
0.0	0.534	1.500	1.258	2.5	
-5.0	0.364	0.878	1.285	2.5	
-10.0	0.305	0.492	0.982	2.5	
-15.0	0.287	0.305	0.570	2.5	
-20.0	0.244	0.258	0.344	2.5	

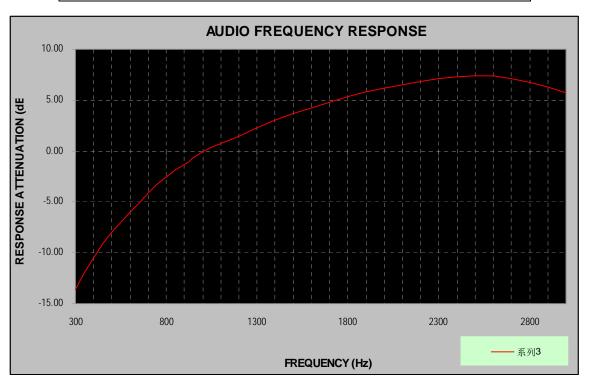


FCC Part 90 Page 13 of 29

Audio Frequency Response

Carrier Frequency: 155 MHz-Low Power, Channel Separation = 12.5 kHz

Audio Frequency (Hz)	Response Attenuation (dB)
300	-13.64
400	-10.57
500	-8.05
600	-5.99
700	-4.12
800	-2.55
900	-1.33
1000	0.00
1200	1.47
1400	2.98
1600	4.23
1800	5.34
2000	6.22
2200	6.84
2400	7.32
2600	7.37
2800	6.79
3000	5.73

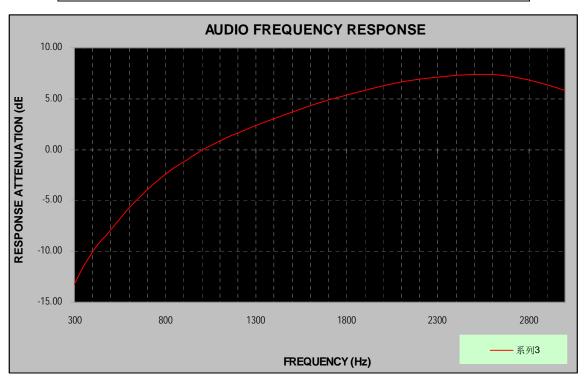


FCC Part 90 Page 14 of 29

Audio Frequency Response

Carrier Frequency: 155 MHz-High Power, Channel Separation = 12.5 kHz

Audio Frequency (Hz)	Response Attenuation (dB)
300	-13.23
400	-10.06
500	-7.92
600	-5.71
700	-3.90
800	-2.50
900	-1.27
1000	0.00
1200	1.64
1400	3.07
1600	4.35
1800	5.40
2000	6.29
2200	6.95
2400	7.34
2600	7.39
2800	6.87
3000	5.78



FCC Part 90 Page 15 of 29

FCC §2.1049, §90.209 & §90.210 – OCCUPIED BANDWIDTH & EMISSION MASK

Report No.: RSZ120917551-00

Applicable Standard

FCC §2.1049, §90.209 and §90.210

Emission Mask D—12.5 kHz channel bandwidth equipment. For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

- 1) For any frequency removed from the center of the authorized bandwidth f_0 to 5.625 kHz removed from f_0 , 0dB.
- 2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5.625 kHz but no more than 12.5 kHz, at least 7.27 (f_d –2.88 kHz) dB.
- 3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5 kHz at least:

(50+10logP) dB

Emission Mask B. For transmitters that are equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

- 1) For any frequency removed from the center of the assigned channel by more than 50 percent up to and including 100 percent of the authorized bandwidth, at least 25 dB.
- 2) On any frequency removed from the center of the assigned channel by more than 100 percent up to and including 250 percent, at least 35 dB.
- 3) On any frequency removed from the center of the assigned channel by more than 250 percent at least:

(43+10logP) dB

The resolution bandwidth was 300 Hz or greater for measuring up to 250 kHz from the edge of the authorized frequency segment, and 30 kHz or greater for measuring more than 250 kHz from the authorized frequency segment.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 300 Hz and the spectrum was recorded in the frequency band ± 35 kHz from the carrier frequency.

FCC Part 90 Page 16 of 29

Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2011-11-24	2012-11-23
НР	RF Communications Test Set	HP8920A	3438A05201	2012-06-14	2013-06-13

Report No.: RSZ120917551-00

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56%
ATM Pressure:	100.1 kPa

The testing was performed by Jimmy Xiao on 2012-09-21.

Test Result: Compliance. Please refer to the following table and plots.

Frequency	99% Occupied Bandwidth	26 dB Bandwidth	Power level	
(MHz)	(kHz)	(kHz)		
155.0	5.31	10.12	High	

FCC Part 90 Page 17 of 29

^{*} Statement of Traceability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Institute of Metrology (NIM)

Emission Designator:

Bn=2M + 2DK

Where M = 3 kHz, D = 1.99 kHz, K = 1

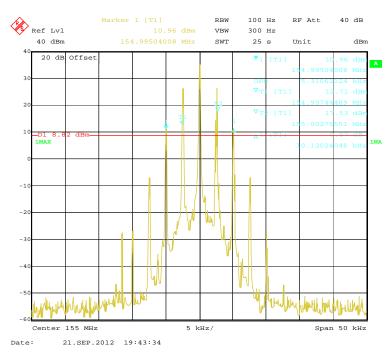
Bn = 2*3 + 2*1.99 = 9.98 kHz

Type of emission: 9K9F3E

Please refer to the emission mask hereinafter plots.

99% Occupied Bandwidth & 26 dB Bandwidth (155 MHz)-High Power

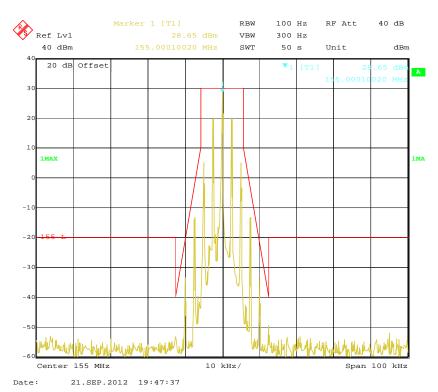
Report No.: RSZ120917551-00



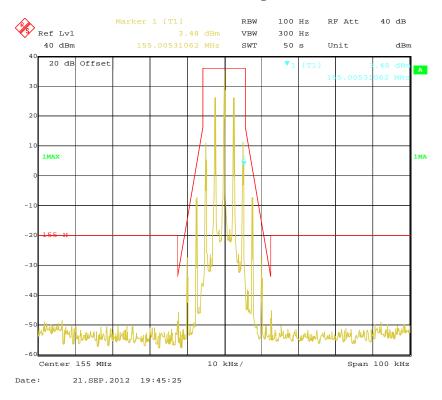
FCC Part 90 Page 18 of 29

Emission Mask D -Low Power

Report No.: RSZ120917551-00



Emission Mask D - High Power



FCC Part 90 Page 19 of 29

FCC §2.1051 & §90.210 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standard

Emission Mask D—12.5 kHz channel bandwidth equipment. For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

Report No.: RSZ120917551-00

- 1) For any frequency removed from the center of the authorized bandwidth f_0 to 5.625 kHz removed from f_0 , 0 dB.
- 2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5.625 kHz but no more than 12.5 kHz, at least 7.27 (f_d –2.88 kHz) dB.
- 3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5 kHz at least:

(50+10logP) dB

Emission Mask B. For transmitters that are equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

- 1) For any frequency removed from the center of the assigned channel by more than 50 percent up to and including 100 percent of the authorized bandwidth, at least 25 dB.
- 2) On any frequency removed from the center of the assigned channel by more than 100 percent up to and including 250 percent, at least 35 dB.
- 3) On any frequency removed from the center of the assigned channel by more than 250 percent at least:

(43+10logP) dB

The resolution bandwidth was 300 Hz or greater for measuring up to 250 kHz from the edge of the authorized frequency segment, and 30 kHz or greater for measuring more than 250 kHz from the authorized frequency segment.

Test Procedure

The RF output of the EUT was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 1MHz. Sufficient scans were taken to show any out of band emissions up to 10^{th} harmonic.

FCC Part 90 Page 20 of 29

Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2011-11-24	2012-11-23

Report No.: RSZ120917551-00

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56%
ATM Pressure:	100.1 kPa

The testing was performed by Jimmy Xiao on 2012-08-19 and 2012-08-29.

Test Mode: Transmitting

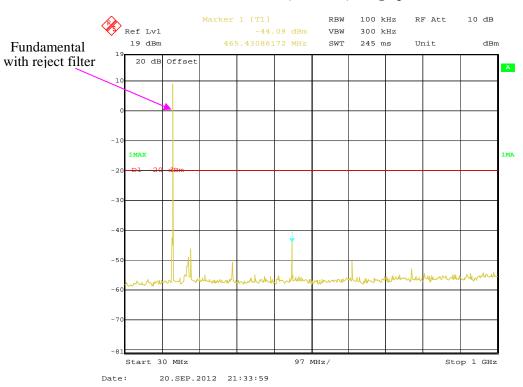
Please refer to the following plots.

FCC Part 90 Page 21 of 29

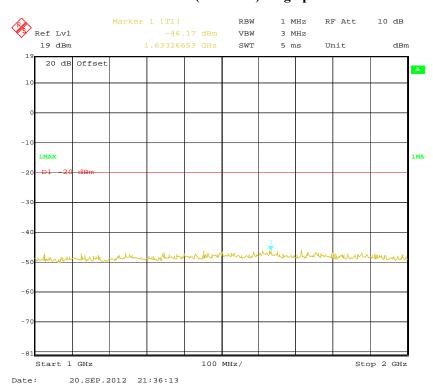
^{*} Statement of Traceability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Institute of Metrology (NIM)

30 MHz - 1 GHz(155 MHz) - High power

Report No.: RSZ120917551-00



1 GHz - 2 GHz (155 MHz)- High power



FCC Part 90 Page 22 of 29

FCC §2.1053 & §90.210 - RADIATED SPURIOUS EMISSIONS

Applicable Standard

FCC §2.1053 and §90.210

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.

Report No.: RSZ120917551-00

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 1g (TXpwr in Watts/0.001)-the absolute level

Spurious attenuation limit in $dB = 43+10 \ Log_{10}$ (power out in Watts) Spurious attenuation limit in $dB = 50+10 \ Log_{10}$ (power out in Watts) for EUT with a 12.5 kHz channel bandwidth.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Horn Antenna	DRH-118	A052304	2011-12-01	2012-11-30
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2012-11-26
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2011-11-24	2012-11-23
Mini-Circuits	Amplifier	ZVA-213+	N/A	2011-11-24	2012-11-23
НР	Signal Generator	HP8657A	2849U00982	2011-10-21	2012-10-20
НР	Amplifier	8447E	1937A01057	2011-11-24	2012-11-23
НР	Synthesized Sweeper	8341B	2624A00116	2012-04-11	2013-04-10
COM POWER	Dipole Antenna	AD-100	041000	N/A	N/A
A.H. System	Horn Antenna	SAS-200/571	135	2012-02-11	2013-02-10

^{*} Statement of Traceability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Institute of Metrology (NIM)

FCC Part 90 Page 23 of 29

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Jimmy Xiao on 2012-09-22.

Test Mode: Transmitting

30 MHz to 10th harmonic of the fundamental frequency

	Receiver	TurnTable	Rx An	Rx Antenna		Substituted Absorption		Absolute	FCC I	Part 90
Frequency (MHz)	Reading (dBµV)	Angle Degree	Height (m)	Polar (H/V)	SG Level (dBm)	Cable loss (dB)	Antenna Gain (dB)	Level (dBm)	Limit (dBm)	Margin (dB)
	Channel separation: 12.5 kHz Channel (155 MHz)-High power									
1240	37.96	224	1.6	V	-61.8	0.84	8.50	-54.14	-20	34.14
310	40.56	240	2.1	V	-55.7	0.28	0	-55.98	-20	35.98
1240	31.73	83	1.8	Н	-66.7	0.84	8.50	-59.04	-20	39.04
465	32.88	330	1.6	V	-63.5	0.42	0	-63.92	-20	43.92
620	32.14	78	1.3	V	-64.2	0.53	0	-64.73	-20	44.73
310	31.16	150	1.5	Н	-65.2	0.28	0	-65.48	-20	45.48
465	28.30	310	1.8	Н	-69.1	0.42	0	-69.52	-20	49.52
620	24.86	140	1.4	Н	-72.8	0.53	0	-73.33	-20	53.33

Report No.: RSZ120917551-00

Note:

Absolute Level = SG Level - Cable loss + Antenna Gain

Margin = Limit - Corr. Amplitude

FCC Part 90 Page 24 of 29

FCC §2.1055 & §90.213- FREQUENCY STABILITY

Applicable Standard

FCC §2.1055 & §90.213

Test Procedure

Frequency Stability vs. Temperature:

The EUT was placed inside the temperature chamber. The Power leads and RF output cable exited the chamber through an opening made for the purpose.

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

Report No.: RSZ120917551-00

The frequency stability shall be measured with variation of primary supply voltage as follows:

- (1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
- (2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.

Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Due Date
Hewlett-Packard	Frequency Counter	5342A	2317A08289	2012-04-15	2013-04-14
ESPEC	Temperature & Humidity Chamber	EL-10KA	09107726	2011-11-24	2012-11-23

^{*} Statement of Traceability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Institute of Metrology (NIM)

Test Data

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Jimmy Xiao on 2012-09-21.

Test Mode: Transmitting

FCC Part 90 Page 25 of 29

For Narrow Band:

Reference Frequency: 155 MHz, channel Separation :12.5 kHz							
Test Env	ironment	Frequency Measure with Time Elapsed					
Temperature (°C)	Power Supplied (V _{DC})	Measured Frequency (MHz)	Frequency Error (ppm)	Limit (ppm)			
	Frequency Stabi	lity versus Temperatu	ıre				
50	7.4	154.999968	0.206	5			
40	7.4	154.999929	0.458	5			
30	7.4	154.999932	0.439	5			
20	7.4	154.999948	0.335	5			
10	7.4	154.999950	0.323	5			
0	7.4	154.999971	0.187	5			
-10	7.4	154.999936	0.413	5			
-20	7.4	154.999946	0.348	5			
-30	7.4	154.999938	0.400	5			
	Frequency Stability versus Voltage						
20	6.3	154.999912	0.568	5			

Report No.: RSZ120917551-00

Note: the battery operation end point is 6.3V which specified by manufacturer.

FCC Part 90 Page 26 of 29

FCC §90.214 - TRANSIENT FREQUENCY BEHAVIOR

Applicable Standard

Regulations: FCC §90.214

Test method: ANSI/TIA-603-D 2010, section 2.2.19.2

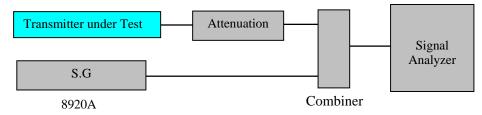
Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Due Date
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2011-11-24	2012-11-23
НР	RF Communications Test Set	HP8920A	3438A05201	2012-06-14	2013-06-13

Report No.: RSZ120917551-00

Test Procedure

TIA-603-D 2.2.19.2



Test Data

Environmental Conditions

Temperature:	25 ℃	
Relative Humidity:	56%	
ATM Pressure:	100.1 kPa	

The testing was performed by Jimmy Xiao on 2012-09-21.

Operation Frequency (MHz)	Channel Separation (kHz)	Time Period (ms)	Maximum frequency difference (kHz)	Result	
	12.5	$<5(t_1)$	\pm 12.5 kHz		
155.0		$<20(t_2)$	$\pm 6.25 \text{ kHz}$	Pass	
		$<5(t_3)$	\pm 12.5 kHz		

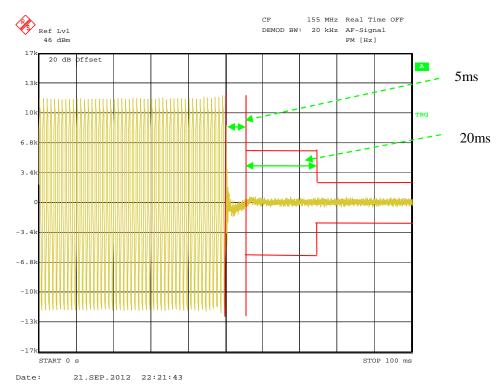
Please refer to the following plots.

FCC Part 90 Page 27 of 29

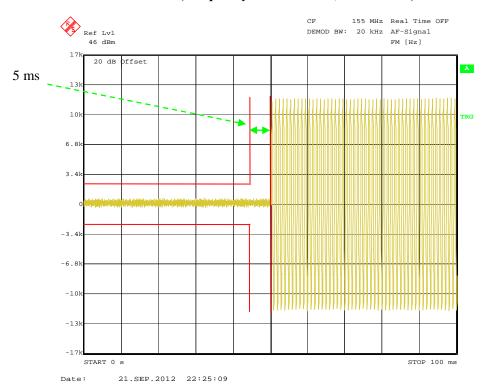
^{*} Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Turn on (Frequency at 155.0 MHz, Low Power)

Report No.: RSZ120917551-00



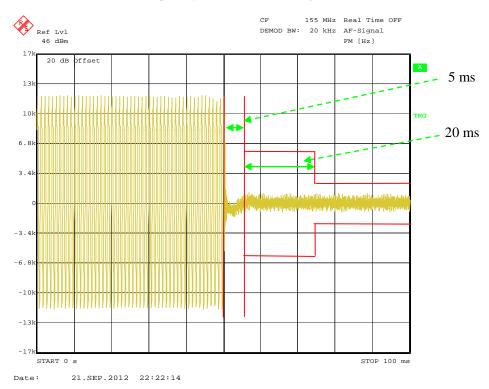
Turn off (Frequency at 155.0 MHz, Low Power)



FCC Part 90 Page 28 of 29

Turn on (Frequency at 155.0 MHz, High Power)

Report No.: RSZ120917551-00



Turn off (Frequency at 155.0 MHz, High Power)



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

FCC Part 90 Page 29 of 29