



FCC PART 90
TEST REPORT

For

SHENZHEN COVALUE COMMUNICATIONS CO., LTD.

2/F., Bldg. 24, XiLi Industrial Park, No.119 Xinguang Rd, Xili, Nanshan,
Shenzhen, Guangdong, China

FCC ID: Y4GCU500-2

Report Type: Original Report	Product Type: Two Way Radio
Test Engineer: Gardon Zhang	
Report Number: R1DG120910001-00	
Report Date: 2012-11-27	
Reviewed By: EMC Engineer	
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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 "□"

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *SHENZHEN COVALUE COMMUNICATIONS CO., LTD.*'s product, model number: *CU500-2 (FCC ID: Y4GCU500-2)* or the "EUT" in this report is a *Two Way Radio*, which was measured approximately: 97.5 mm (L) x 53.5 mm (W) x 31 mm (H), rated input voltage: DC 7.4 V Li-ion battery.

Technical specifications:

Frequency range: 400 ~ 470 MHz
Output power: 4.634 W (High); 0.528 W (Low) (Conducted power)
Modulation: FM
Frequency spacing: 12.5 kHz

Note: the series product, model CU500-2 and CU510-2 are electrically identical, the difference between them please refer to the attached declaration letter. The model CU500-2 was selected to test, which was stated and guaranteed by the applicant.

** All measurement and test data in this report was gathered from production sample serial number: 910001 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2012-09-10.*

Objective

This test report is prepared on behalf of *SHENZHEN COVALUE COMMUNICATIONS 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.

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 test mode which has been done in the factory.

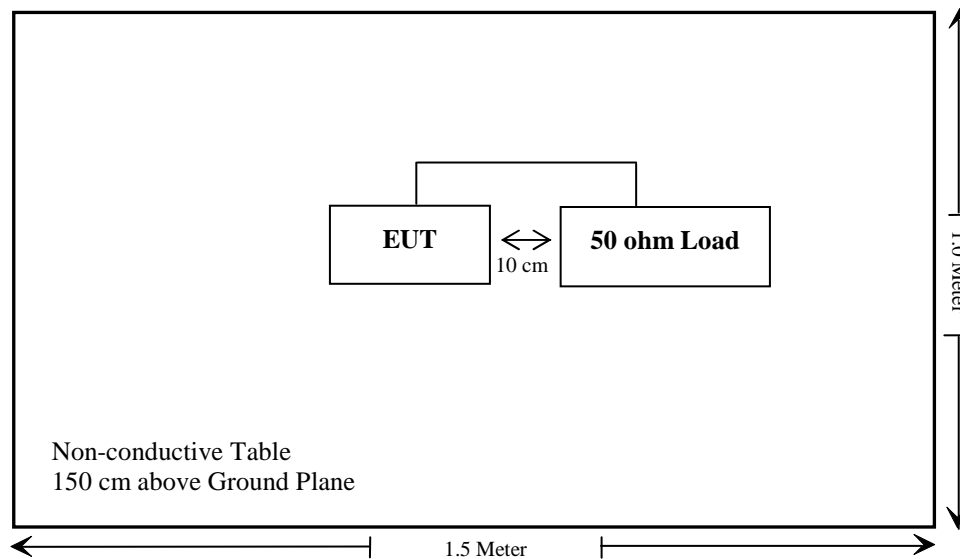
EUT Exercise software

FC200 1.02.36 provided by the manufacture.

Equipment Modifications

No modification was made to the EUT tested.

Block Diagram of Test Setup



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

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 §1.1307(b) & §2.1093 - RF EXPOSURE

Applicable Standard

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

Result: Compliance.

Please refer to SAR Report Number: R1DG120910001-20A

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

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

Spectrum Analyzer setting:

<u>RBW</u>	<u>Video B/W</u>
100 kHz	300 kHz

Radiated Power Output (ERP)

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

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 teeth 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 ERP were measured by the substitution.

Absolute level=substituted level +Antenna gain-Cable Loss

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	2012-05-17	2013-05-16
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 °C
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Gardon Zhang on 2012-09-14.

Test Mode: Transmitting

Test Result: Compliance. Please refer to following table and plot.

Conducted Power:

Frequency Spacing (kHz)	Frequency (MHz)	Output Power (dBm)	Output Power (Watt)	Emission power
12.5	400.0125	36.51	4.477	High
	421.0125	36.45	4.416	
	435.0125	36.43	4.395	
	450.0125	36.66	4.634	
	460.0125	36.61	4.581	
	469.9875	36.64	4.613	
12.5	400.0125	33.28	2.128	Middle
	421.0125	33.35	2.163	
	435.0125	33.60	2.291	
	450.0125	33.75	2.371	
	460.0125	33.49	2.234	
	469.9875	33.62	2.301	
12.5	400.0125	27.23	0.528	Low
	421.0125	27.16	0.520	
	435.0125	27.31	0.538	
	450.0125	27.56	0.570	
	460.0125	27.44	0.555	
	469.9875	27.56	0.570	

ERP: (High Power)

Indicated		Table	Test Antenna		Substituted			Antenna Gain Correction	Cable Loss (dB)	Absolute Level (dBm)
Frequency (MHz)	S.A. Reading (dB μ V)	Angle Degree	Height (m)	Polar (H/V)	Frequency (MHz)	Level (dBm)	Ant. Polar (H/V)			
400.0125	133.31	128	1.8	V	400.0125	36.3	V	0	0.44	35.86
400.0125	117.38	246	1.9	H	400.0125	20.4	H	0	0.44	19.96
421.0125	133.25	125	1.5	V	421.0125	36.1	V	0	0.44	35.66
421.0125	116.78	154	1.5	H	421.0125	19.8	H	0	0.44	19.36
435.0125	132.97	136	1.6	V	435.0125	35.9	V	0	0.44	35.46
435.0125	116.25	125	1.5	H	435.0125	19.4	H	0	0.44	18.96
450.0125	133.32	18	1.8	V	450.0125	36.3	V	0	0.47	35.83
450.0125	120.51	232	1.4	H	450.0125	23.5	H	0	0.47	23.03
460.0125	132.78	57	1.5	V	460.0125	35.8	V	0	0.47	35.33
460.0125	116.86	46	1.5	H	460.0125	19.8	H	0	0.47	19.33
469.9875	133.48	19	1.9	V	469.9875	36.5	V	0	0.49	36.01
469.9875	118.23	132	1.8	H	469.9875	21.2	H	0	0.49	20.71

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.
- (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	8920A	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

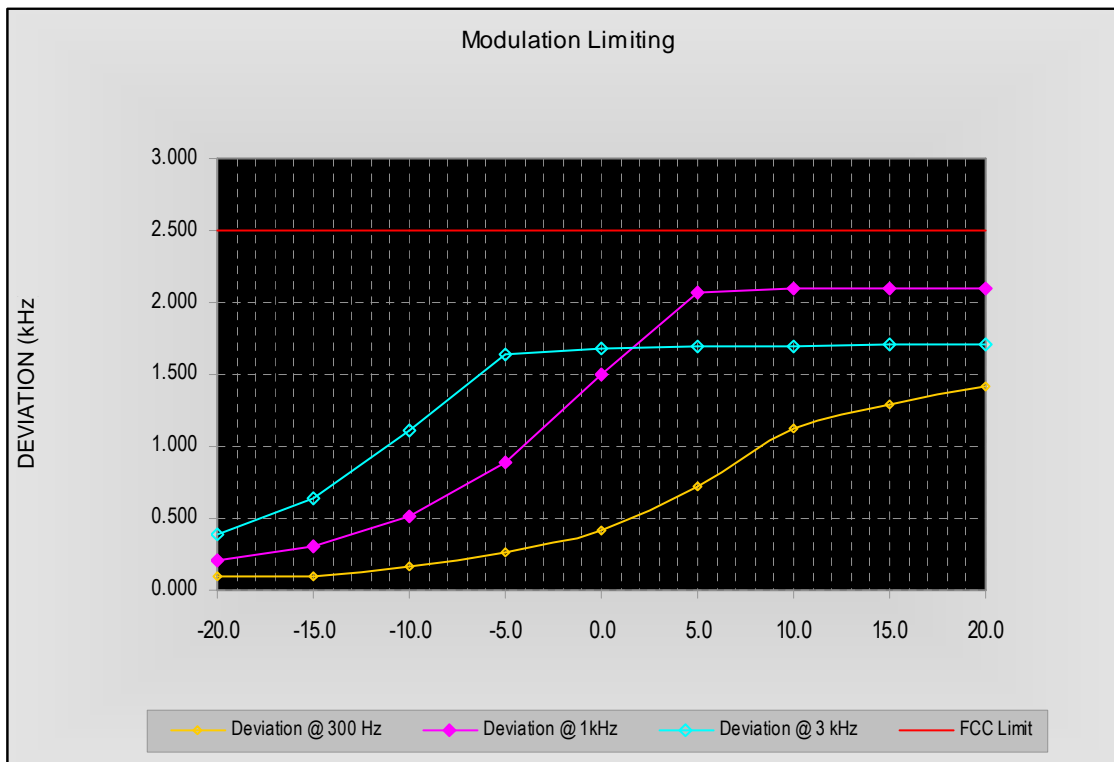
The testing was performed by Gardon Zhang on 2012-09-14.

Test Mode: Transmitting

MODULATION LIMITING

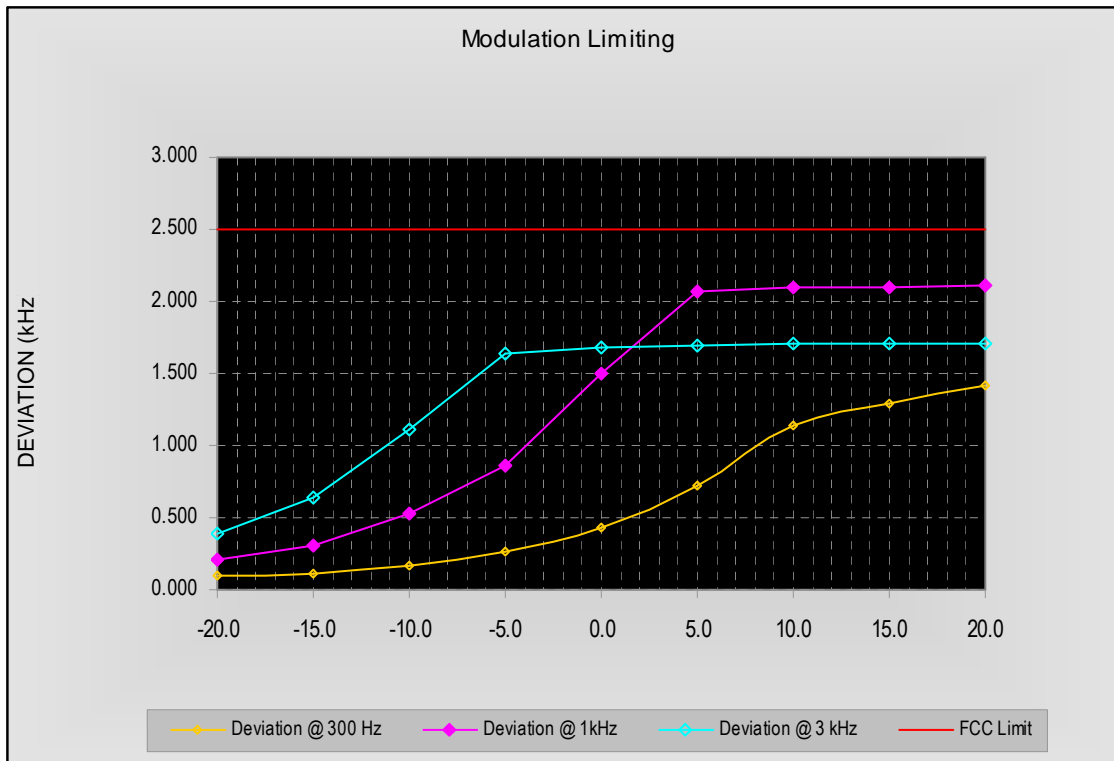
High Power, Carrier Frequency: 450.0125 MHz, Channel Spacing=12.5 kHz

Audio Input Level [dB]	Frequency Deviation (kHz)			FCC Limit [kHz]
	@ 300 Hz	@ 1kHz	@ 3 kHz	
20.0	1.414	2.102	1.712	2.5
15.0	1.293	2.100	1.704	2.5
10.0	1.123	2.098	1.701	2.5
5.0	0.719	2.071	1.698	2.5
0.0	0.423	1.500	1.682	2.5
-5.0	0.261	0.884	1.633	2.5
-10.0	0.163	0.514	1.112	2.5
-15.0	0.102	0.301	0.640	2.5
-20.0	0.093	0.202	0.393	2.5



Low Power, Carrier Frequency: 450.0125 MHz, Channel Spacing= 12.5 kHz

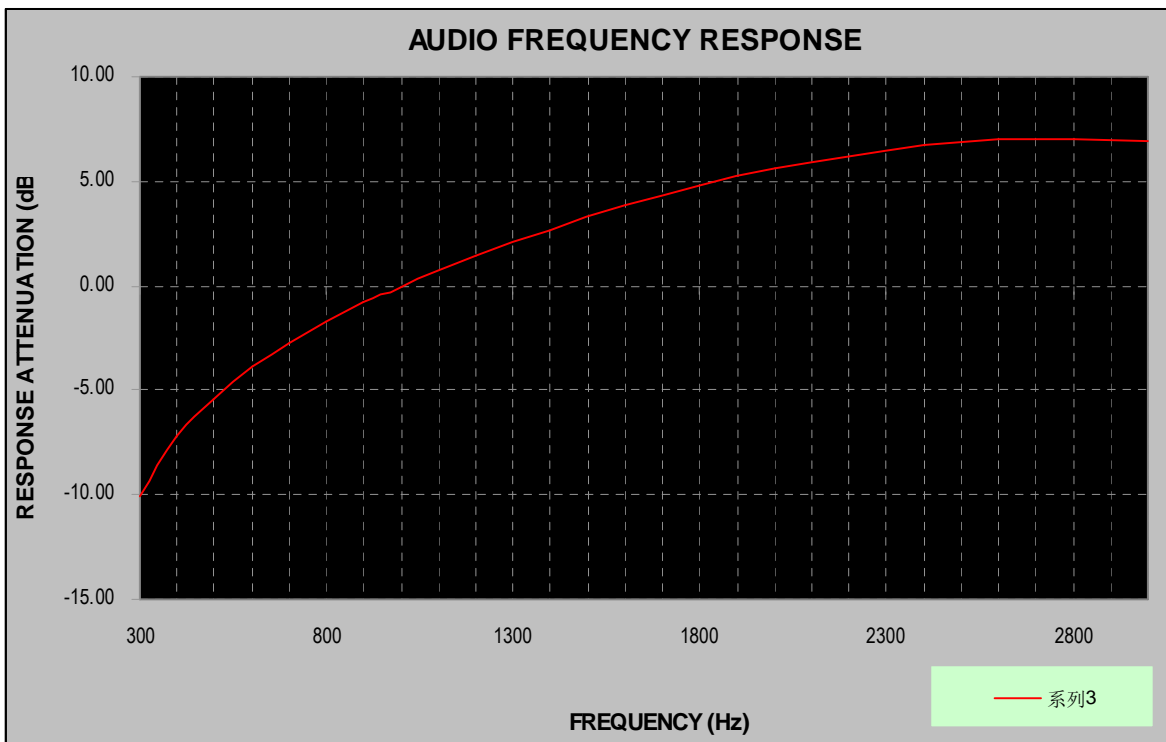
Audio Input Level [dB]	Frequency Deviation (kHz)			Limit [kHz]
	@ 300 Hz	@ 1kHz	@ 3 kHz	
20.0	1.420	2.105	1.714	2.5
15.0	1.290	2.102	1.707	2.5
10.0	1.132	2.096	1.704	2.5
5.0	0.724	2.070	1.695	2.5
0.0	0.425	1.500	1.679	2.5
-5.0	0.268	0.868	1.635	2.5
-10.0	0.167	0.522	1.115	2.5
-15.0	0.108	0.309	0.643	2.5
-20.0	0.095	0.205	0.391	2.5



Audio Frequency Response

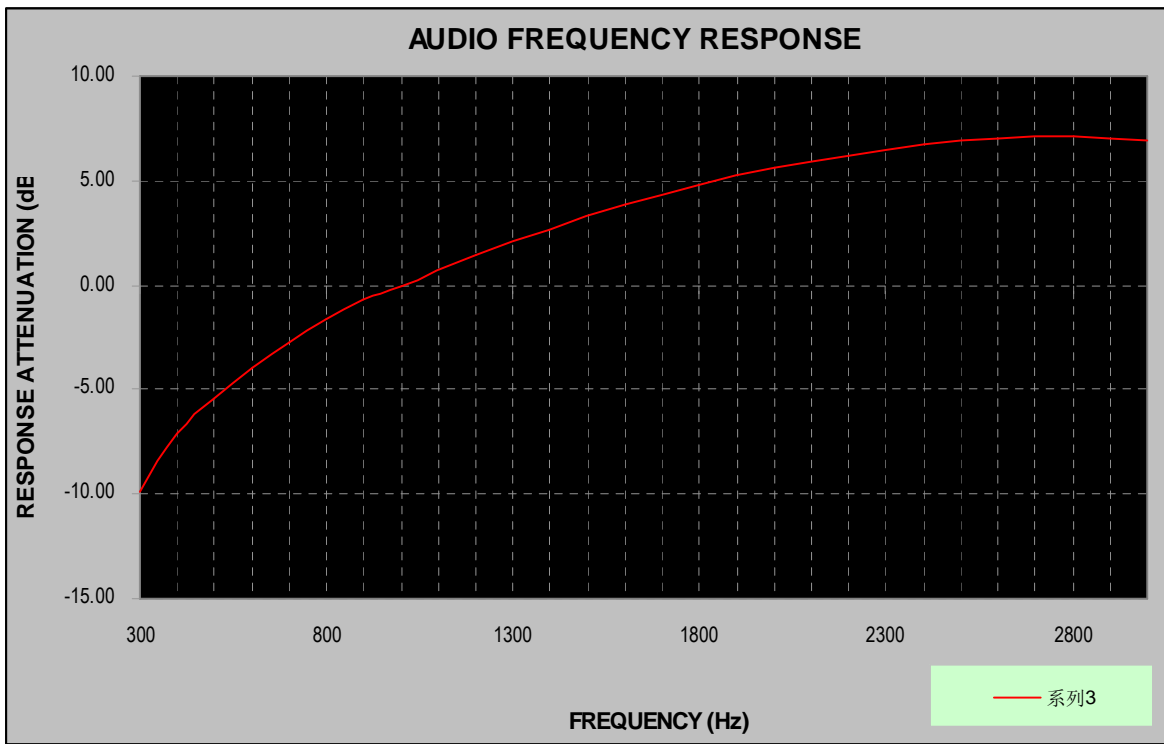
High Power,Carrier Frequency: 450.0125 MHz, Channel Spacing=12.5 kHz

Audio Frequency (Hz)	Response Attenuation (dB)
300	-10.06
400	-7.21
500	-5.45
600	-3.85
700	-2.69
800	-1.68
900	-0.76
1000	0.00
1200	1.41
1400	2.67
1600	3.88
1800	4.79
2000	5.59
2200	6.20
2400	6.75
2600	7.03
2800	7.04
3000	6.90



Low Power, Carrier Frequency: 450.0125 MHz, Channel Spacing= 12.5 kHz

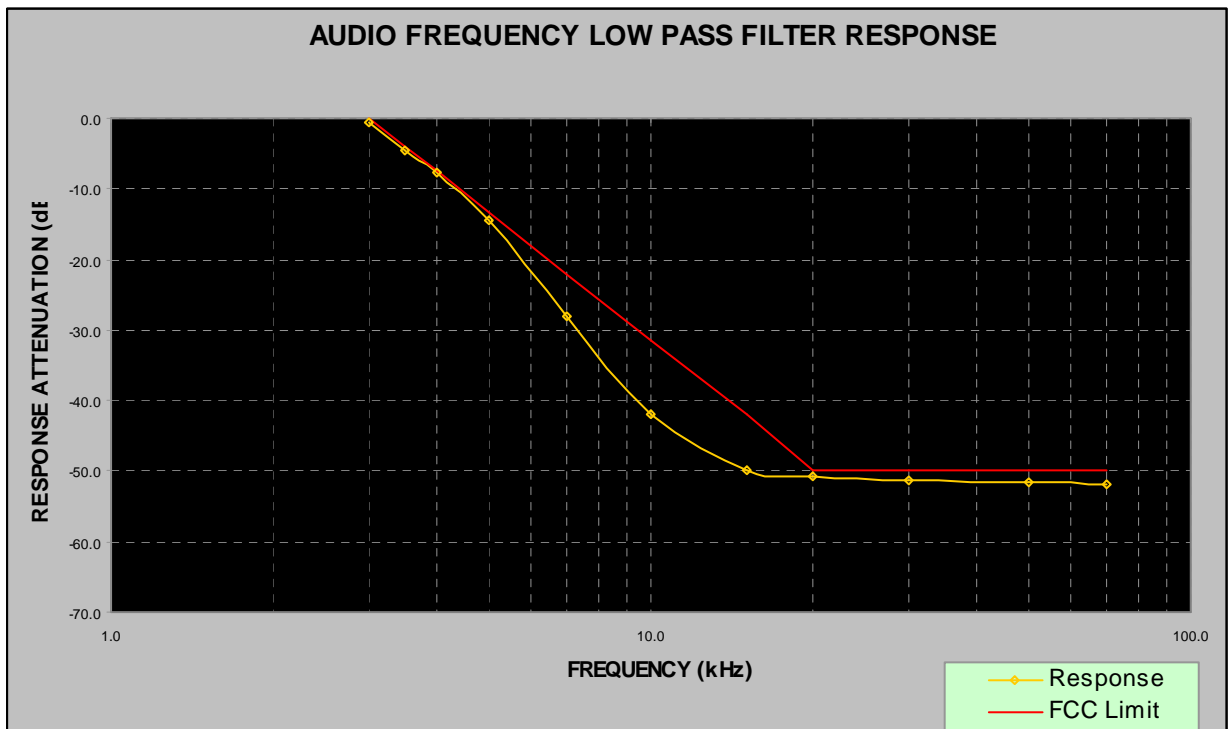
Audio Frequency (Hz)	Response Attenuation (dB)
300	-9.90
400	-7.09
500	-5.38
600	-3.90
700	-2.71
800	-1.64
900	-0.67
1000	0.00
1200	1.45
1400	2.65
1600	3.86
1800	4.84
2000	5.63
2200	6.23
2400	6.79
2600	7.07
2800	7.08
3000	6.91



Audio Frequency Low Pass Filter Response

Carrier Frequency: 450.0125 MHz, Channel Spacing= 12.5 kHz

Audio Frequency (kHz)	Response Attenuation (dB)	FCC Limit (dB)
3.0	-0.6	0.0
3.5	-4.5	-4.0
4.0	-7.7	-7.5
5.0	-14.5	-13.3
7.0	-28.0	-22.1
10.0	-42.0	-31.4
15.0	-49.8	-42.0
20.0	-50.6	-50.0
30.0	-51.2	-50.0
50.0	-51.5	-50.0
70.0	-52.0	-50.0



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

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:

$$50+10\log P=50+10 \log (4.634) = 56.66 \text{ dB}$$

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:

$$43+10\log P$$

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
HP	RF Communications Test Set	8920A	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 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 100 Hz and the spectrum was recorded in the frequency band ± 50 kHz from the carrier frequency.

Test Data

Environmental Conditions

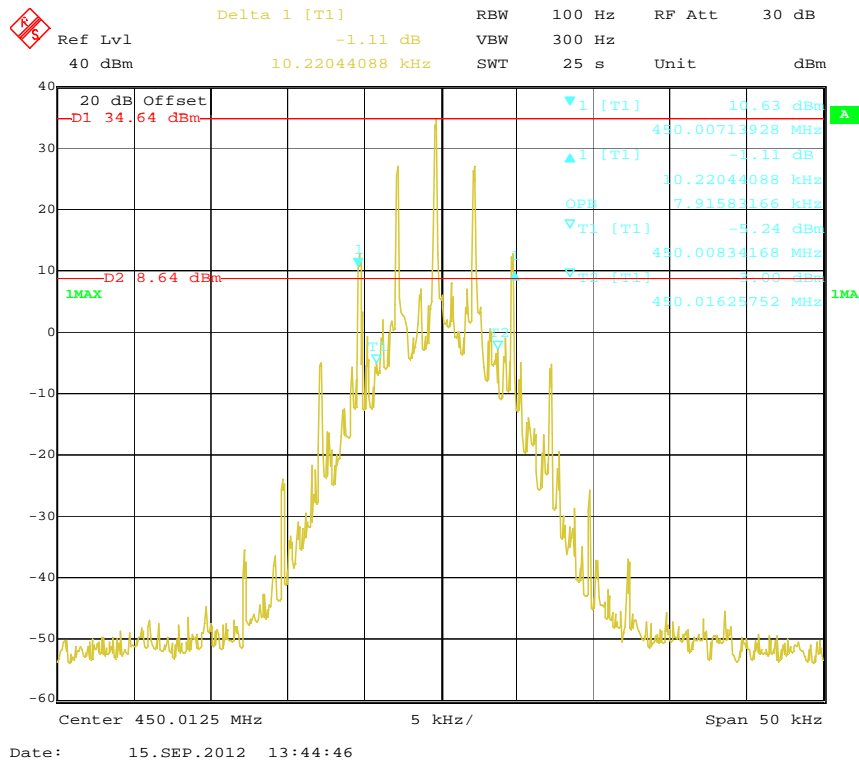
Temperature:	23-25 °C
Relative Humidity:	51-56 %
ATM Pressure:	100.1 kPa

The testing was performed by Gardon Zhang on 2012-09-15 and 2012-11-23.

Result: Compliance. Please refer to the following table and plot.

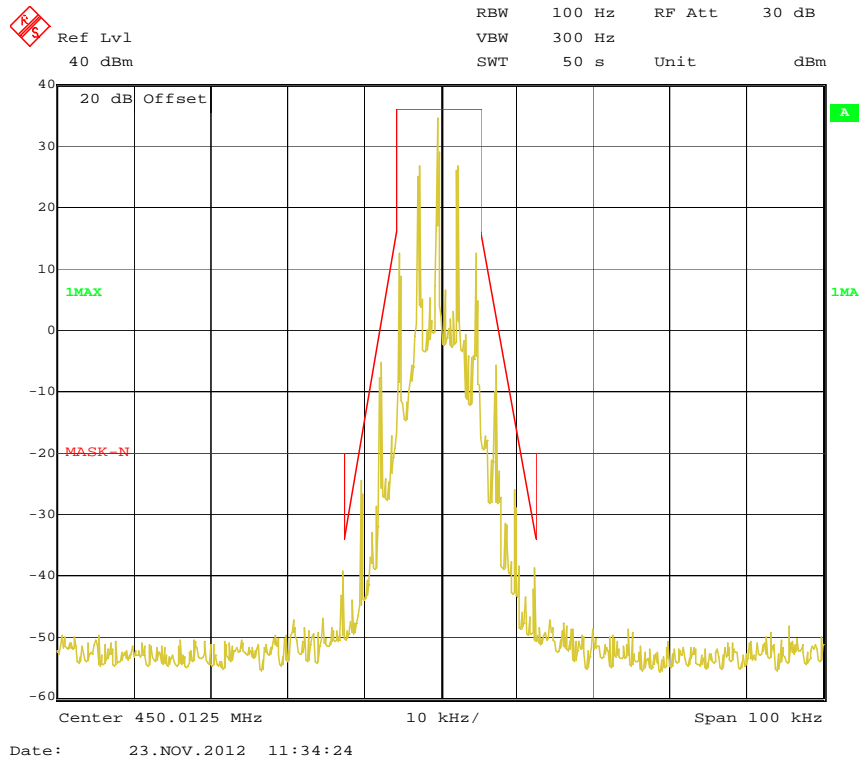
99% Occupied Bandwidth (kHz)	26 dB Bandwidth (kHz)
7.92	10.22

Occupied Bandwidth

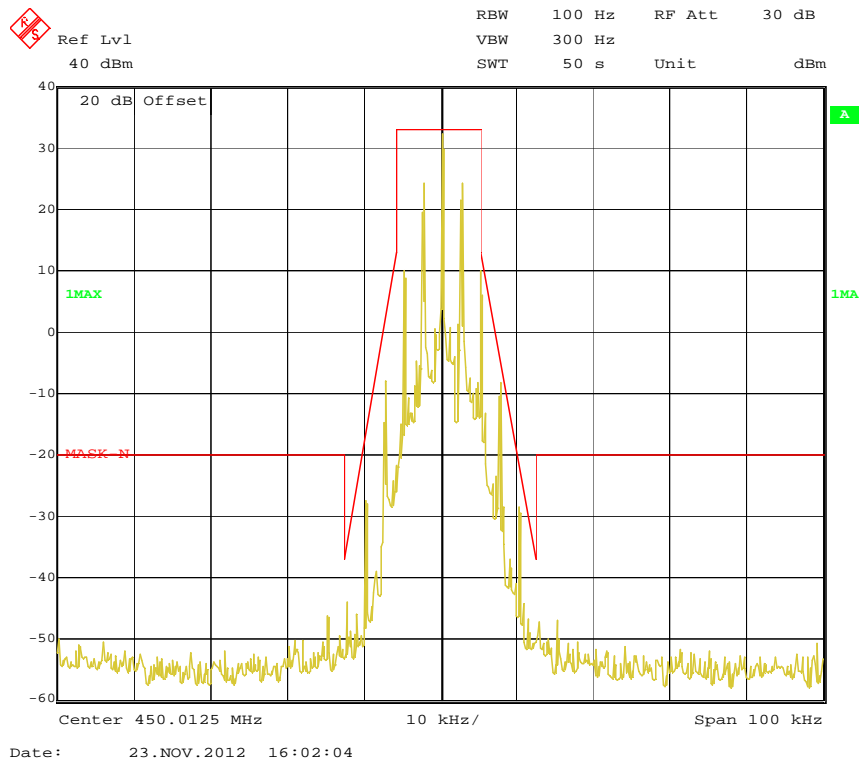


Please refer to the emission mask hereinafter plots.

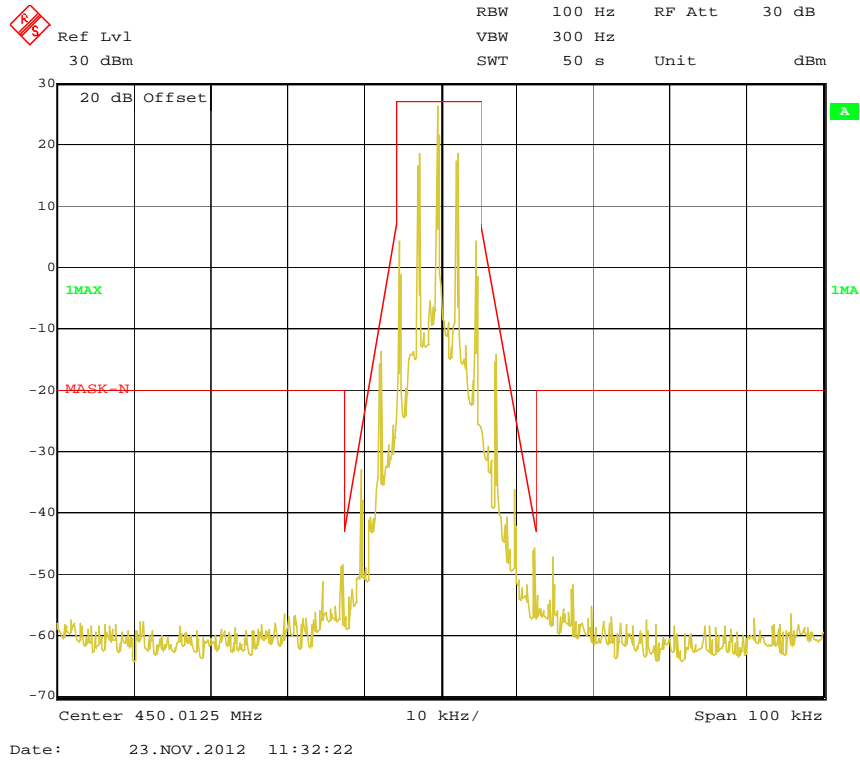
Emission Mask – 450.0125 MHz (High Power)



Emission Mask – 450.0125 MHz (Middle Power)



Emission Mask – 450.0125 MHz (Low Power)



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:

- 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:

$$50 + 10 \log P = 50 + 10 \log (P) \text{ dB}$$

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:

$$43 + 10 \log P = 43 + 10 \log (P) \text{ dB}$$

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 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

* 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 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 10th harmonic.

Test Data

Environmental Conditions

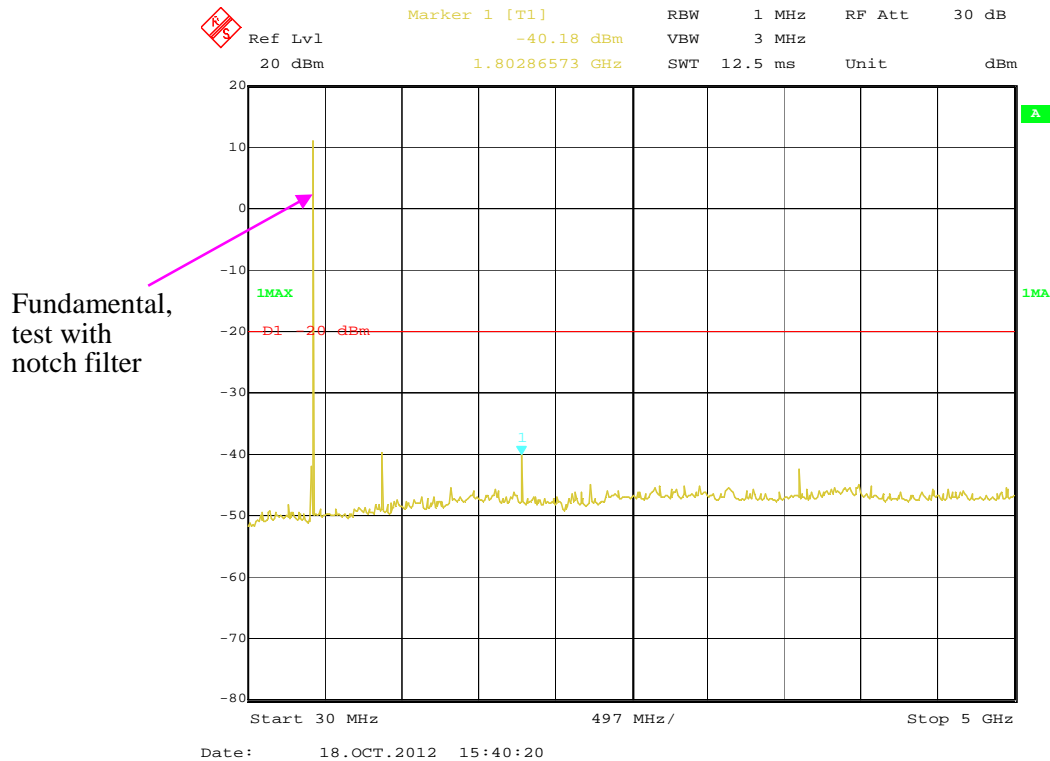
Temperature:	25 °C
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Gardon Zhang on 2012-10-18.

Test Mode: Transmitting (High power)

Please refer to the following plots.

Frequency: 450.0125MHz, Channel spacing: 12.5 kHz



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.

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 teeth 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 lg (TXpwr in Watts/0.001)-the absolute level

Spurious attenuation limit in dB = 43 + 10 Log₁₀ (power out in Watts)

Spurious attenuation limit in dB = 50 + 10 Log₁₀ (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	2012-11-27
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2011-11-24	2012-11-23
Mini-Circuits	Amplifier	ZVA-213+	N/A	2011-12-24	2012-12-23
Hewlett-Packard	Signal Generator	8657A	3217A04699	2011-12-19	2012-12-18
HP	Amplifier	8447E	1937A01046	2011-11-24	2012-11-23
HP	Synthesized Sweeper	8341B	2624A00116	2012-05-17	2013-05-16
COM POWER	Dipole Antenna	AD-100	041000	2012-06-06	2013-06-05
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)

Test Data**Environmental Conditions**

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

The testing was performed by Gardon Zhang on 2012-10-19.

Test Mode: Transmitting (High Power)

30 MHz to 10th harmonic of the fundamental frequency:

Frequency (MHz)	Receiver Reading (dBμV)	TurnTable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	FCC Part 90	
			Height (m)	Polar (H/V)	SG Level (dBm)	Cable loss (dB)	Antenna Gain (dB)		Limit (dBm)	Margin (dB)
Frequency:450.0125MHz, Channel spacing:12.5 kHz										
3150.1	47.53	183	1.9	V	-44.2	1.84	10.8	-35.24	-20	15.24
3150.1	47.26	181	1.6	H	-45.0	1.84	10.8	-36.04	-20	16.04
2700.1	45.69	166	1.6	V	-50.3	1.58	10.8	-41.08	-20	21.08
2700.1	44.18	168	1.8	H	-55.2	1.58	10.8	-45.98	-20	25.98
900.0	41.62	18	1.8	V	-55.4	0.70	0	-56.10	-20	36.10
900.0	40.27	232	1.4	H	-56.7	0.70	0	-57.40	-20	37.40

Note:

Absolute Level = SG Level - Cable loss + Antenna Gain

Margin = Limit - Corr. Amplitude

FCC §2.1055 & §90.213- FREQUENCY STABILITY

Applicable Standard

FCC §2.1055 & §90.213

Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Due Date
Hewlett-Packard	Frequency Counter	5343A	2232A00827	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:	20 °C
Relative Humidity:	56 %
ATM Pressure:	100.1 kPa

The testing was performed by Gardon Zhang on 2012-10-16.

Test Mode: Transmitting

Reference Frequency: 450.0125 MHz, Channel spacing: 12.5 kHz				
Test Environment		Frequency Measure with Time Elapsed		
Temperature (°C)	Power Supplied (V _{DC})	MCF (MHz)	Frequency Error (ppm)	Limit (ppm)
Frequency Stability versus Input Temperature				
50	7.4	450.0124923	-0.017	2.5
40	7.4	450.0124832	-0.037	2.5
30	7.4	450.0124798	-0.045	2.5
20	7.4	450.0124849	-0.034	2.5
10	7.4	450.0124885	-0.026	2.5
0	7.4	450.0124827	-0.038	2.5
-10	7.4	450.0124767	-0.052	2.5
-20	7.4	450.0124942	-0.013	2.5
-30	7.4	450.0124906	-0.021	2.5
Frequency Stability versus Input Voltage				
20	7.0	450.0124915	-0.019	2.5
20	5.9	450.0124877	-0.027	2.5

Note: the operating end point voltage is 5.9 V

FCC §90.214 - TRANSIENT FREQUENCY BEHAVIOR

Applicable Standard

Regulations: FCC §90.214

Test method: ANSI/TIA-603-D 2010, section 2.2.19.3

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
HP	RF Communications Test Set	8920A	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

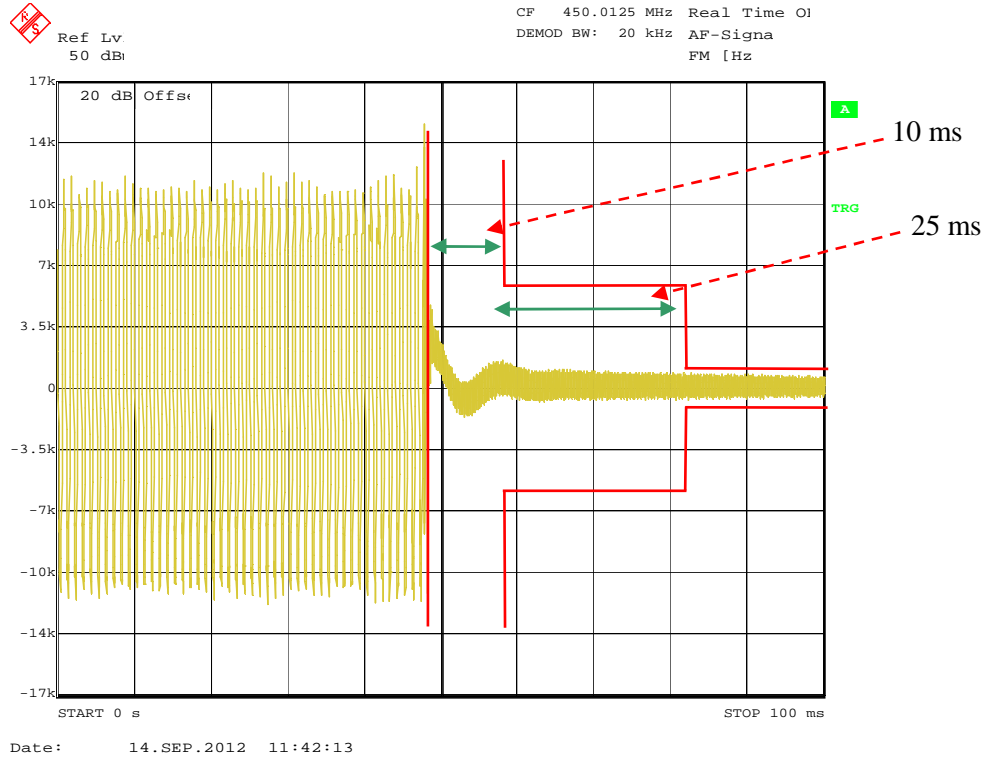
The testing was performed by Gardon Zhang on 2012-09-14.

Test Mode: Transmitting

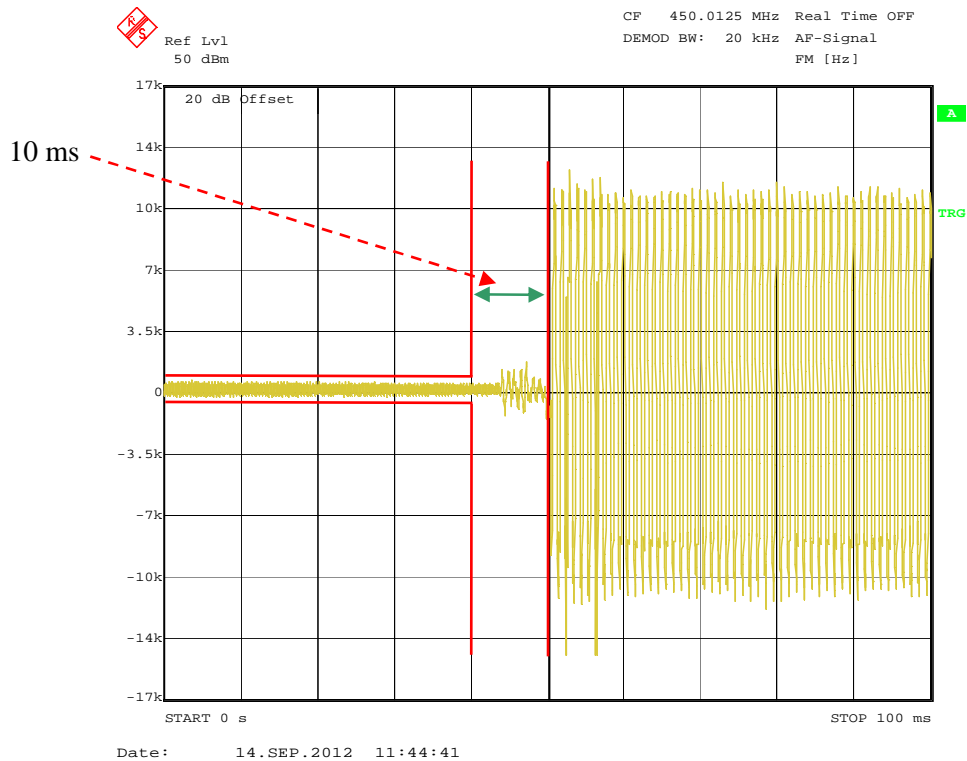
Please refer to the following table and plots:

Channel Spacing (kHz)	Transient Period (ms)	Transient Frequency	Result
12.5	<10 (t ₁)	+/-12.5 kHz	Pass
	<25 (t ₂)	+/-6.25 kHz	
	<10 (t ₃)	+/-12.5 kHz	

Turn on (Frequency at 450.0125 MHz)



Turn off (Frequency at 450.0125 MHz)



DECLARATION LETTER

COVALUE

SHENZHEN COVALUE COMMUNICATIONS CO., LTD.

Add: 2/F., Bldg. 24, XiLi Industrial Park, No.119 Xinguang Rd, Xili, Nanshan, Shenzhen, China

Tel: 0755-86345789

Fax: 0755-86345790

DECLARATION OF SIMILARITY

September 17, 2012

To:

Bay Area Compliance Laboratories Corp.

1274 Anvilwood Avenue

Sunnyvale, CA 94089

Dear Sir or Madam:

We, SHENZHEN COVALUE COMMUNICATIONS CO., LTD., hereby declare that product:Two way radio,model:CU510-2 is electrically identical with the same electromagnetic emissions and electromagnetic compatibility characteristics as model name:CU500-2 that was tested by BACL, the results of which are featured in BACL project:

R1DG120910001

A description of the differences between the tested model and those that are declared similar areas follows:

Models:CU500-2 and CU510-2 just have different appearance.

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

Best Regards,

Shu, Chengtao

Research & Development Department Manager



Attachment :



Picture 1 : CU500-2



Picture 1 : CU510-2

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