



# FCC PART 90 TYPE APPROVAL EMI MEASUREMENT AND TEST REPORT

For

# Shenzhen Wisetone Science & Technology Co., Ltd

New Industrial Zone, Dabutou, Songyuan, Guanlan, Bao'an District, Shenzhen, China

FCC ID: U7BWXTXT600PLUS

This Report Concerns: Equipment Type:

Original Report UHF Transceiver

Test Engineer: William Chan William . Chan .

**Report No.:** RSZ07031301

**Test Date:** 2007-03-16 to 2007-03-31

**Report Date:** 2007-04-02

**Reviewed By:** EMC Manager: Boni Baniqued

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**Note:** This test report is for the customer shown above and their specific product only. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratory Corp. (Shenzhen). This report **must not** be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the Federal Government.

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#### **GENERAL INFORMATION**

#### **Product Description for Equipment under the Test (EUT)**

The Shenzhen Wisetone Science & Technology Co., Ltd's product, model number: XT-600PLUS(4) or the "EUT" as referred to in this report is a Transceiver. The EUT is measured approximately 5.5 cm L x 5.0 cmW x 25.0 cmH, rated input voltage: DC 7.4 V battery.

\* The test data gathered are from production sample, serial number: 0703019, Provided by the manufacturer, we received the EUT on 2007-03-13.

# **Objective**

This Type approval report is prepared on behalf of *Shenzhen Wisetone 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).

#### **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-C and ANSI 63.4-2003.

All emissions measurement was performed and Bay Area Compliance Laboratory 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 Laboratory Corp. (Shenzhen) to collect test data is located in 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 Laboratory 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 November 04, 2004. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

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 Laboratory Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0). The current scope of accreditations can be found at <a href="http://ts.nist.gov/ts/htdocs/210/214/scopes/2007070.htm">http://ts.nist.gov/ts/htdocs/210/214/scopes/2007070.htm</a>.

# **SYSTEM TEST CONFIGURATION**

# **Description of Test Configuration**

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

# **Equipment Modifications**

Bay Area Compliance Laboratory Corp. (Shenzhen) has not done any modification on the EUT.

# **Configuration of Test Setup**

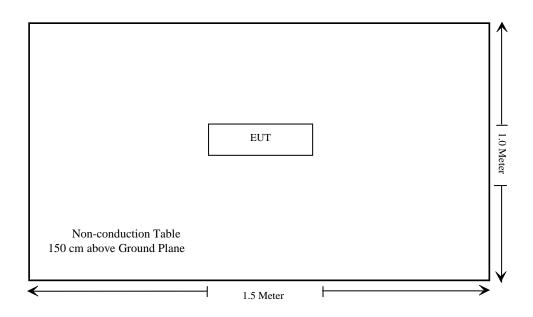






Lie Side Stand

# **Block Diagram of Test Setup**



# **SUMMARY OF TEST RESULTS**

Fcc Rules	Description Of Test	Result
§1.1310 §2.1093	RF Exposure	Compliant
§2.1046	Conducted Output Power	Compliant
\$2.1046, \$90.205	Radiated Output Power	Compliant
§2.1047 §90.207	Modulation Characteristic	Compliant
§2.1049, §90.209	Occupied Bandwidth	Compliant
§2.1051 §90.210	Spurious Emission at Antenna Terminal	Compliant
§ 2.1053 § 90.210	Spurious Radiated Emissions	Compliant
\$ 2.1055 \$ 90.213	Frequency stability	Compliant
§ 90.214	Transient Frequency Behavior	Compliant

# §1.1310 §2.1093 - RF EXPOSURE

# **Standard Applicable**

According to § 1.1310, systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to FCC Exclusion list, In the following table,  $f_{GHz}$  is mid-band frequency in GHz, and d is the distance to a person'sbody, excluding hands, wrists, feet, and ankles.

Exposure category	low threshold	high threshold
general population	$(60/f_{GHz})$ mW, $d < 2.5$ cm $(120/f_{GHz})$ mW, $d \ge 2.5$ cm	$(900/f_{\text{GHz}}) \text{ mW}, d < 20 \text{ cm}$
occupational	$(375/f_{GHz})$ mW, $d < 2.5$ cm $(900/f_{GHz})$ mW, $d \ge 2.5$ cm	$(2250/f_{\text{GHz}}) \text{ mW}, d < 20 \text{ cm}$

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

#### **Result:**

This is a portable device and the Max peak output power is 3881 mW < 3896 mW = (900/0.462 GHz) mW\*2, according to exclusion list, it is below low threshold.

This device can not be body-worn operation, only face-held allowed, the minimum distance from person should be at least 2.5 cm, in this case, SAR measurement is not required. Please refer to the user's manual.

# §2.1046 - CONDUCTED OUTPUT POWER

## **Applicable Standard**

According to FCC §2.1046, and §90.205.

# **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2006-09-29	2007-09-29

FCC ID: U7BWXTXT600PLUS

#### **Test Procedure**

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

Spectrum Analyzer Setting:

R B/W Video B/W 100 kHz 300 kHz

#### **Test Data**

#### **Environmental Conditions**

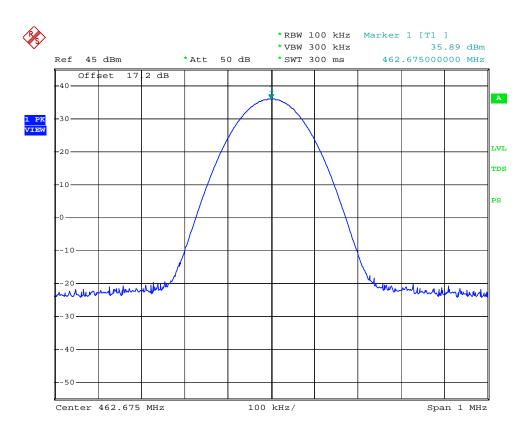
Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	1005mbar

The testing was performed by William Chan on 2007-03-16.

Test Result: Pass

Channel Spacing	Frequency	Output Power (dBm)	Output Power	
(kHz)	(MHz)		(Watts)	
25	462.6750	35.89	3.881	

<sup>\*</sup> Statement of Tractability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed per the NVLAP requirements, traceable to NIST.



Wisetone Transceiver M/N: XT-600PLUS(4) Conducted output

power

Date: 16.MAR.2007 19:16:41

# **§2.1046 and §90.205 – RADIATED OUTPUT POWER**

# **Applicable Standard**

According to FCC §2.1046, and §90.205.

#### **Test Equipment List and Details**

Manufacturer	Description Model		Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Horn Antenna	DRH-118	A052604	2006-07-20	2007-07-20
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2006-08-14	2007-08-14
Sunol Sciences	Bilog Antenna	JB1	A040904-2	2006-08-14	2007-08-14
Agilent	Spectrum Analyzer	8564E	3943A01781	2006-11-22	2007-11-22
HP	Signal Generator	HP8657A	2849U00982	2006-09-29	2007-09-29
Giga-tronics	Signal Generator	1026	270801	2006-09-29	2007-09-29
A.H. System	Horn Antenna	SAS-200/571	135	2006-05-17	2007-05-17

<sup>\*</sup> Statement of Traceability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

#### **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 ERP were measured by the substitution.

Absolute level = substituted level + Antenna gain - Cable Loss

# **Test Data**

# **Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	1005mbar

The testing was performed by William Chan on 2007-03-16.

# **Test Result:**

Indica	ited	Table	Test Ar	tenna	Sub	stituted					Part 90
Frequency	Meter Reading	Angle	Height	Polar	Frequency	Level	Polar	Antenna Gain Correction	Cable Loss (dB)		olute vel
(MHz)	(dBµV)	Degree	(m)	H/V	(MHz)	(dBm)	H/V		(ub)	dBm	W
	Channel 3										
462.6750	107.58	0	1.60	V	462.6750	39.7	V	0	3.86	35.84	3.837
462.6750	93.77	0	1.60	Н	462.6750	26.8	Н	0	3.86	22.94	0.197

# §2.1047 and §90.207 - MODULATION CHARACTERISTIC

## **Applicable Standard**

§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.

FCC ID: U7BWXTXT600PLUS

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

## **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Modulation Analyzer	8901B	3438A05208	2007-03-01	2008-03-01
NANYAN	Audio Generator	NY2201	019829	2006-12-23	2007-12-23

<sup>\*</sup> Statement of Traceability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

#### **Test Procedure**

Test Method: TIA-603-C 2.2.3

#### **Test Data**

#### **Environmental Conditions**

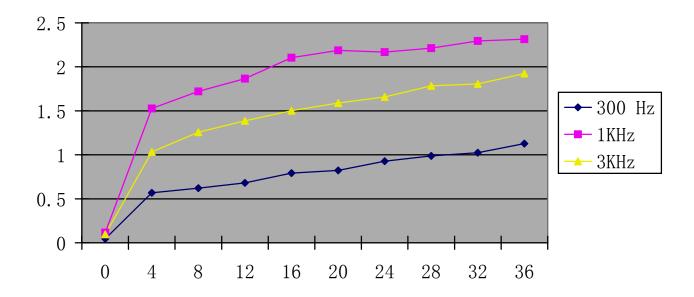
Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	1005mbar

The testing was performed by William Chan on 2007-03-16.

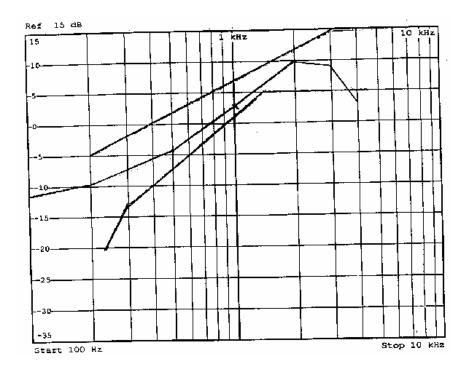
Test Result: Pass

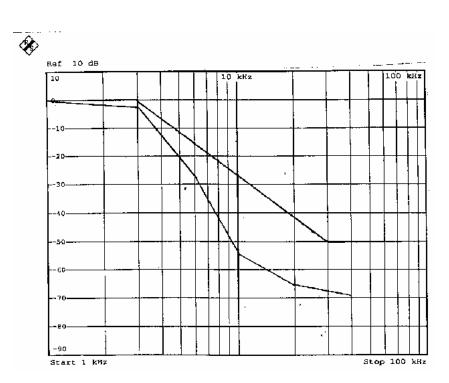
For 25 kHz Channel Bandwidth:

Audio Input (mV)	300Hz Deviation (kHz)	1kHz Deviation (kHz)	3kHz Deviation (kHz)
0.0	0. 045	0. 117	0.096
4.0	0.568	1. 526	1.033
8.0	0.621	1.722	1. 256
12. 0	0.681	1.867	1. 387
16. 0	0. 792	2. 104	1. 502
20. 0	0.823	2. 187	1. 589
24. 0	0. 928	2. 168	1.658
28. 0	0. 987	2. 214	1. 785
32. 0	1.024	2. 295	1.806
36. 0	1. 127	2. 314	1. 925



# Audio Low Filter Characteristic:





# §2.1049 and § 90.209 – OCCUPIED BANDWIDTH

#### **Applicable Standard**

§2.1049, §90.209 and §90.210

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:

 $43+10\log P=43+10\log (3.837)=48.84dB$ 

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

#### **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2006-09-29	2007-09-29
HP	Modulation Analyzer	8901B	3438A05208	2007-03-01	2008-03-01
NANYAN	Audio Generator	NY2201	019829	2006-12-23	2007-12-23

<sup>\*</sup> **Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

#### **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  $\pm 50$  KHz from the carrier frequency.

# **Test Data**

#### **Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	1005mbar

The testing was performed by William Chan on 2007-03-31.

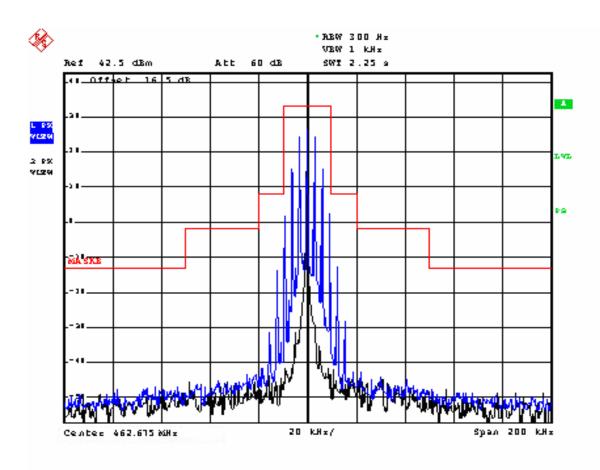
Emission Designator:

For 25.0KHz Channel Spacing: 2M+2D = 2x3+2x5.0 = 16K0F3E

#### **Test Result:**

Please refer to the hereinafter plot.

# Emission Mask B for 25 kHz Channel Bandwidth



Emission mask

# §2.1051 and §90.210 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

FCC ID: U7BWXTXT600PLUS

## **Applicable Standard**

§2.1051and §90.210 (25 kHz bandwidth and 20 kHz bandwith)

On any frequency removed from the center of the assigned channel by more than 250 percent at least:

 $43+10\log P = 43+10\log (3.837) = 48.84dB$ 

#### **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2006-09-29	2007-09-29
Agilent	Spectrum Analyzer	8564E	3943A01781	2006-11-22	2007-11-22

<sup>\*</sup> Statement of Traceability: Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

#### **Test Procedure**

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz. Sufficient scans were taken to show any out of band emissions up to 10<sup>th</sup> harmonic.

#### **Test Data**

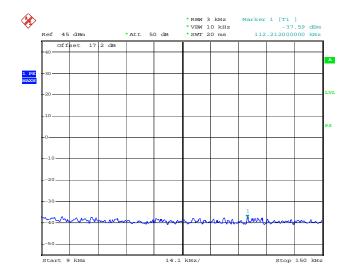
#### **Environmental Conditions**

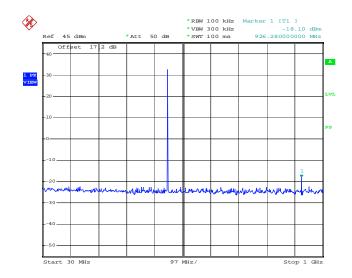
Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	1005mbar

The testing was performed by William Chan on 2007-03-30.

Test Result: Pass

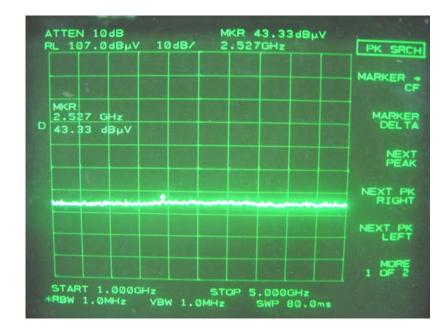
#### For 25 kHz Channel bandwidth:





 $\tt XT-6000PLUS$  (4) Spurious at the antenna (9KHz - 150KHz) Date: 30.MAR.2007 23:55:18

XT-6000PLUS (4) Spurious at the antenna (30MHz - 1GHz) Date: 30.MAR.2007 23:50:32



# §2.1053 and §90.210 - RADIATED SPURIOUS EMISSIONS

## **Applicable Standard**

§2.1053 and §90.210

#### **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Horn Antenna	DRH-118	A052604	2006-07-20	2007-07-20
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2006-08-14	2007-08-14
Sunol Sciences	Bilog Antenna	JB1	A040904-2	2006-08-14	2007-08-14
Agilent	Spectrum Analyzer	8564E	3943A01781	2006-11-22	2007-11-22
HP	Signal Generator	HP8657A	2849U00982	2006-09-29	2007-09-29
Giga-tronics	Signal Generator	1026	270801	2006-09-29	2007-09-29
A.H. System	Horn Antenna	SAS-200/571	135	2006-05-17	2007-05-17

<sup>\*</sup> **Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

#### **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 1g (TXpwr in Watts/0.001)-the absolute level

Spurious attenuation limit in dB = $43+10 \text{ Log}_{10}$  (power out in Watts)

#### **Test Results Summary**

Transmitting in Low Channel (CH1): 24.49 dB at 1387.65 MHz Transmitting in Middle Channel (CH8): 19.43 dB at 1402.86 MHz Transmitting in High Channel (CH16): 24.31 dB at 2770.05 MHz

# **Test Data**

# **Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	1005mbar

The testing was performed by William Chan on 2007-03-16.

Indica	nted	Table	Test Ar	ntenna	Subs	stituted		Antenna Gain	Cable	Absolute	FCC	Part 90
Frequency (MHz)	Meter Reading (dBuV)	Angle Degree	Height (m)	Polar H/V	Frequency (MHz)	Level (dBm)	Polar H/V	Correction (dBi)	Loss (dB)	Level (dBm)	Limit (dBm)	Margin (dB)
				Trans	smitting in	Low C	hanne	el (CH1)				
1387.65	68.16	180	1.0	V	1387.65	-43.2	V	6.2	0.49	-37.49	-13	24.49
925.18	35.02	210	1.0	V	925.18	-32.0	V	0	7.25	-39.25	-13	26.25
2312.85	59.65	150	1.0	V	2312.85	-50.4	V	7.0	0.37	-43.77	-13	30.77
1850.73	61.71	45	1.2	V	1850.73	-50.3	V	6.1	0.39	-44.59	-13	31.59
925.18	30.41	125	1.0	Η	925.18	-38.1	Н	0	7.25	-45.35	-13	32.35
1387.65	62.63	180	1.0	Τ	1387.65	-51.1	Η	6.2	0.49	-45.39	-13	32.39
2312.85	55.88	165	1.0	Ι	2312.85	-53.7	Η	7.0	0.37	-47.07	-13	34.07
2775.45	51.46	321	1.0	Τ	2775.45	-54.3	I	7.0	0.38	-47.68	-13	34.68
2775.45	52.67	285	1.0	V	2775.45	-55.2	V	7.0	0.38	-48.58	-13	35.58
1850.73	53.74	45	1.2	Η	1850.73	-59.6	Н	6.1	0.39	-53.89	-13	40.89

Indica	nted	Table	Test Ar	ntenna	Subs	stituted		Antenna Gain	Cable	Absolute	FCC	Part 90
Frequency (MHz)	Meter Reading (dBuV)	Angle Degree	Height (m)	Polar H/V	Frequency (MHz)	Level (dBm)	Polar H/V	Correction (dBi)	Loss (dB)	Level (dBm)	Limit (dBm)	Margin (dB)
				Trans	smitting in N	Middle (	Chann	el (CH8)				
1402.86	70.01	146	1.0	V	1402.86	-38.6	V	6.5	0.33	-32.43	-13	19.43
935.25	37.34	280	1.0	V	935.25	-28.6	V	0	7.62	-36.22	-13	23.22
1402.86	65.39	254	1.0	Η	1402.86	-48.6	Н	6.5	0.33	-42.43	-13	29.43
2805.82	54.07	204	1.6	Ι	2805.82	-51.3	Η	7.0	0.38	-44.68	-13	31.68
935.25	28.15	354	1.0	Н	935.25	-40.1	Н	0	7.62	-47.72	-13	34.72
2338.15	56.11	268	1.5	V	2338.15	-55.6	V	7.0	0.32	-48.92	-13	35.92
1870.55	56.09	104	1.0	V	1870.55	-55.3	V	6.1	0.43	-49.63	-13	36.63
2805.82	57.24	158	1.6	V	2805.82	-56.7	V	7.0	0.38	-50.08	-13	37.08
2338.15	50.19	109	1.2	Η	2338.15	-58.4	Н	7.0	0.32	-51.72	-13	38.72
1870.55	52.15	128	1.0	Н	1870.55	-60.2	Н	6.1	0.43	-54.53	-13	41.53

Indica	nted	Table	Test Ar	ntenna	Subs	stituted		Antenna Gain	Cable	Absolute	FCC	Part 90
Frequency (MHz)	Meter Reading (dBuV)	Angle Degree	Height (m)	Polar H/V	Frequency (MHz)	Level (dBm)	Polar H/V	Correction (dBi)	Loss (dB)	Level (dBm)	Limit (dBm)	Margin (dB)
				Tran	smitting in	High Ch	nannel	(CH16)				
2770.05	64.04	146	1.3	Н	2770.05	-44.2	Н	7.4	0.51	-37.31	-13	24.31
1385.05	63.80	68	1.6	٧	1385.05	-44.3	V	6.5	0.33	-38.13	-13	25.13
2770.05	61.38	168	1.5	٧	2770.05	-45.4	V	7.4	0.51	-38.51	-13	25.51
923.35	36.36	168	1.5	>	923.35	-31.5	V	0	7.92	-39.42	-13	26.42
2308.35	57.5	254	1.5	Н	2308.35	-52.3	I	7.5	0.33	-45.13	-13	32.13
2308.35	52.28	230	1.6	V	2308.35	-55.6	V	7.5	0.33	-48.43	-13	35.43
923.35	29.26	205	1.4	Н	923.35	-40.8	Н	0	7.92	-48.72	-13	35.72
1846.70	56.58	256	1.5	V	1846.70	-54.9	V	6.1	0.43	-49.23	-13	36.23
1385.05	57.83	58	1.5	Η	1385.05	-60.2	Н	6.5	0.33	-54.03	-13	41.03
1846.70	54.97	48	1.5	Н	1846.70	-61.0	Н	6.1	0.43	-55.33	-13	42.33

# §2.1055 (d) and §90.213- FREQUENCY STABILITY

## **Applicable Standard**

§2.1055 (d)

§90.213

For output power > 2 watts, the limit is 5.0ppm.

# **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date	
WUHUAN	Temperature & Humidity Chamber	HTP205	20021115	2007-01-02	2008-01-02	
Hewlett-Packard	Frequency Counter	5342A	2317A08289	2007-03-01	2008-03-01	

FCC ID: U7BWXTXT600PLUS

#### **Test Procedure**

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a f Spectrum Analyzer via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC 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.

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.

#### **Test Data**

#### **Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	1005mbar

The testing was performed by William Chan on 2007-03-16.

**Test Result:** Pass

<sup>\*</sup> **Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Frequency Stability versus Temperature:

Reference Frequency: 462.6750 MHz, Limit: ±5 ppm				
<b>Environment Temperature</b>	Power Supplied	Frequency Measure with Time Elapsed		
(°C)	(VDC)	MCF (MHz)	Error (ppm)	
50	7.4	462.67581	+1.75	
40	7.4	462.67568	+1.46	
30	7.4	462.67551	+1.10	
20	7.4	462.67482	+0.61	
10	7.4	462.67461	+0.84	
0	7.4	462.67432	-1.46	
-10	7.4	462.67429	-1.53	
-20	7.4	462.67418	-1.77	
-30	7.4	462.67402	-2.11	

Frequency Stability versus Input Voltage:

Reference Frequency: 462.6750 MHz, Limit: ±5 ppm				
Power Supplied	Frequency Measure with Time Elapsed			
(VDC)	Frequency (MHz)	Error (ppm)		
6.3	462.67425	-1.62		

# §90.214 - TRANSIENT FREQUENCY BEHAVIOR

# **Applicable Standard**

§90.214

# **Test Equipment List and Details**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
TEKTRONIX	Digital Phosphor Oscilloscope	TDS 7104	B020518	2007-03-01	2008-03-01
HP	Modulation Analyzer	8901B	3438A05208	2007-03-01	2008-03-01
HP	Signal Generator	HP8657A	2849U00982	2006-09-29	2007-09-29

FCC ID: U7BWXTXT600PLUS

#### **Test Procedure**

TIA-603-C 2.2.19

# **Test Data**

#### **Environmental Conditions**

Temperature:	25 ° C
Relative Humidity:	50%
ATM Pressure:	1005mbar

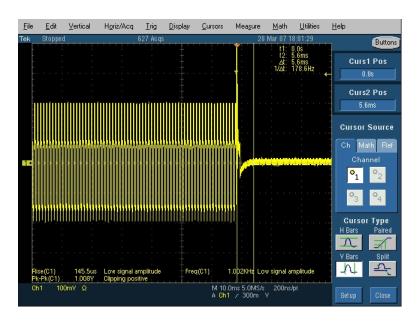
The testing was performed by William Chan on 2007-03-28.

**Test Result:** Pass

Operation Frequency (MHz)	Channel Separation (kHz)	Transient Period (ms)	Transient Frequency	Result
462.6750	25	<10	+/-25.0 kHz	
		<25	+/-12.5 kHz	Pass
		<10	+/-25.0kHz	

<sup>\*</sup> **Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

#### Turn on



#### Turn off

