FCC PART 90

MEASUREMENT AND TEST REPORT

FOR

FUJIAN QUANZHOU BEIFENG TELECOM SYSTEMS CO., LTD.

Puren Industrial Area, Beimen Quanzhou, Fujian, China

FCC ID: UUTBF620001

Report Concerns: Original Report	**Equipment Type:** Two-way Radio

Model: BF-6200

Report No.: STR07028067I

Test/Witness Engineer: Innaz Lee

Test Date: 2007-03-12

Prepared By:

Shenzhen SEM.Test Compliance Service Co., Ltd.
Room 609-610, Baotong Building, Baomin 1st Road, Baoan District, Shenzhen, Guangdong, P.R.C. (518133)

Approved & Authorized By:

Jandy So / PSQ Manager

Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by SEM.Test Compliance Service Co., Ltd.

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	Fujian Quanzhou Beifeng Telecom Systems Co., Ltd.
Address of applicant:	Puren Industrial Area, Beimen Quanzhou, Fujian, China
Manufacturer:	Fujian Quanzhou Beifeng Telecom Systems Co., Ltd.
Address of manufacturer:	Puren Industrial Area, Beimen Quanzhou, Fujian, China

General Description of E.U.T

Items	Description
EUT Description:	Two-way Radio
Trade Name:	BFDX
Model No.:	BF-6200
Rated Voltage:	DC 7.2V Battery
Conducted Output Power:	3.18W/1.03W (High/Low Power)
Frequency Range:	Low frequency range 406.125-407.350MHz Middle frequency range from 440.125-441.350MHz High frequency range from 468.125-469.400MHz
Channel Spacing:	25kHz (Wideband design only)
Size:	10.5X5.0X3.2 cm
Antenna Length:	15.0 cm
For more information refer to the circuit diagram form and the user's manual.	

Note: The test data gathered are from a production sample, provided by the manufacturer, which the conducted output power is 3.18W/1.03 (High/Low Power)

1.2 Test Standards

The following report of is prepared on behalf of Fujian Quanzhou Beifeng Telecom Systems Co., Ltd. in accordance with Part 90, and Part 2 of the Federal Communication Commissions rules.

The objective is to determine compliance with the Part 90, and Part 2 of the Federal Communication Commissions rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Related Submittal(s)/Grant(s)

No Related Submittal(s).

1.4 Test Methodology

Measurements contained in this report were also conducted with TIA EIA 137-A, TIA EIA 98-C, TIA/EIA Standard 603, Telecommunications Industry Association Land Mobile FM or PM Communications Equipment Measurement and Performance Standards and ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted with Low Channel, Middle Channel and High Channel which High and Low power level on 25kHz Wideband specifications since EUT is designed with 25kHz channel bandwidth only. For more detail refere to the Operating Instructions.

1.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:
United States of American Federal Communications Commission (**FCC**), and the registration number is **274801**.
Industry Canada (**IC**), and the registration number is **IC4174**.
All measurement required was performed at laboratory of Shenzhen Academy of Metrology and Quality Inspection, Bldg. of Metrology & Quality Inspection, Longzhu Road, Nanshan District, Shenzhen, Guangdong, China.

1.6 EUT Exercise Software

The EUT exercise program used during the testing was designed to exercise the system components.

1.7 Accessories Equipment List and Details

Manufacturer	Description	Model	Serial Number
MEILI	Audio Generator	MFG-3005	200612187

1.8 EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Cord/Without Cord
N/A	N/A	N/A	N/A

2. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§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
§1.1307 §2.1093	RF Exposure	Compliant

3. §2.1046-CONDUCTED OUTPUT POWER

3.1 Standard Applicable

According to FCC §2.1046, and §90.205, maximum ERP is dependent upon the station's antenna HAAT and required service area.

3.2 Test Equipment List and Detail

Manufacturer	Description	Model	Serial Number	Cal. Date	Due. Date
Agilent	Spectrum Analyzer	E4402B	US41192821	2006-06-30	2007-06-29
Atten	Attenuator	DC-4GHz	ATS100-4-20	2006-06-30	2007-06-29
VICTOR	Multimeter	VC9801A	98965350	2006-06-30	2007-06-29
FLUKE	Multimeter	15B	91280239	2006-06-30	2007-06-29

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

3.3 Test Procedure

1. The maximum peak output power was measured with a Spectrum Analyzer connected to the antenna terminal while EUT was operating in unmodulated situation.

2. Power was supplied to the battery input connector a power supply. The power supply was set for +7.2VDC. The Spectrum Analyzer was connected at antenna terminal to measure RF power of the carrier.

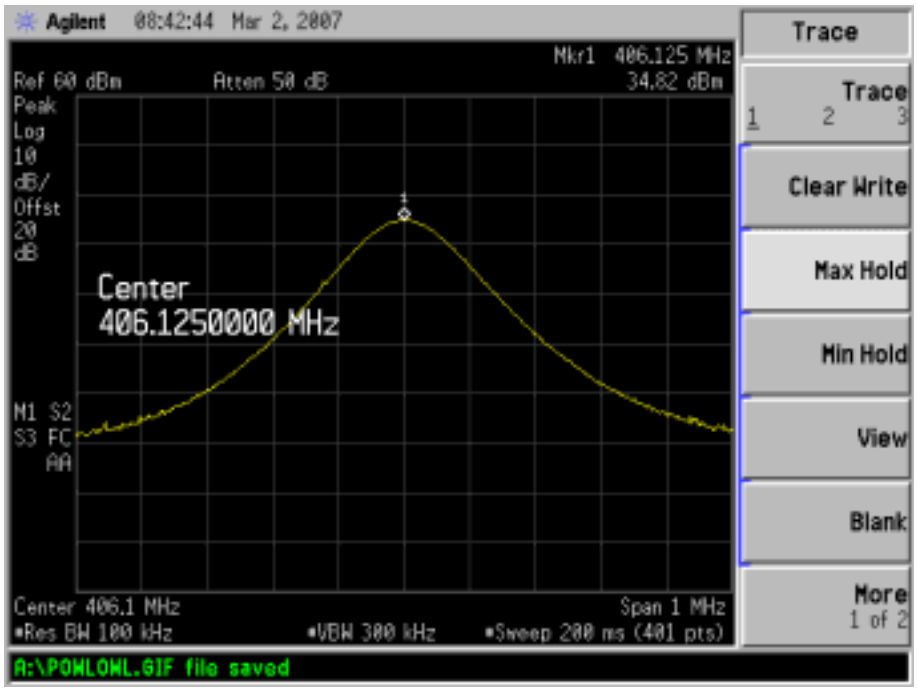
3. A Multimeter was connected in series with Q14 of FINAL AMP to measure the current of Q14, the RF amplifier device. A Multimeter was used to measure Q14 supply voltage.

3.4 Test Result/Plots

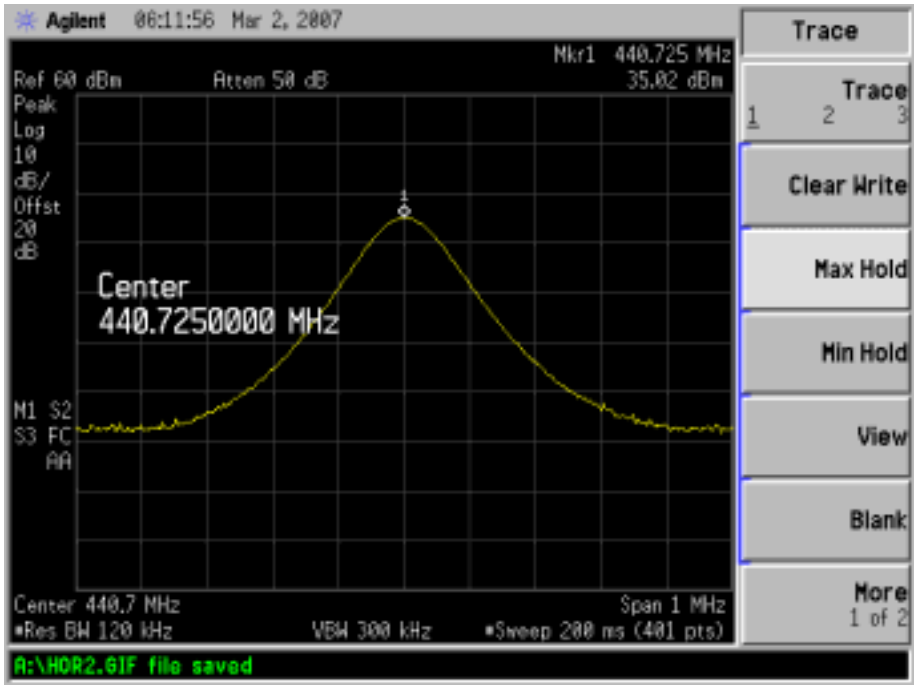
Power Setting	Channel	Frequency (MHz)	Collected Voltage (VDC)	Collected Current (A)	Output Power (dBm)	Output Power (W)
High Mode	Low CH	406.125	7.2	0.42	34.82	3.03
High Mode	Middle CH	440.725	7.2	0.44	35.02	3.18
High Mode	High CH	469.400	7.2	0.36	34.08	2.56
Low Mode	Low CH	406.125	7.2	0.12	29.32	0.86
Low Mode	Middle CH	440.725	7.2	0.12	29.33	0.86
Low Mode	High CH	469.400	7.2	0.14	30.13	1.03

Power Setting High Mode

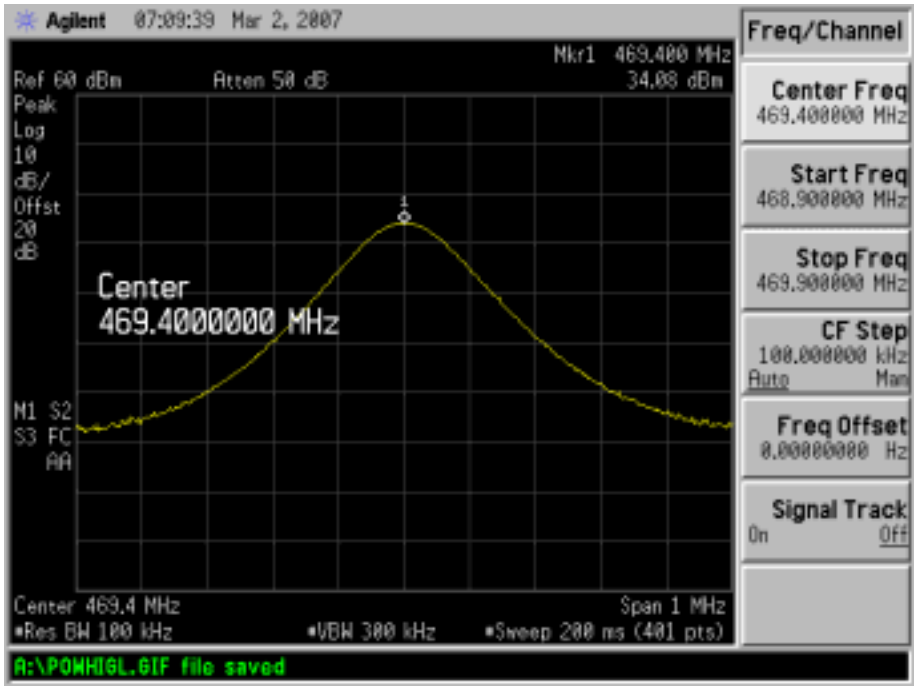
Low CH:



Middle CH:

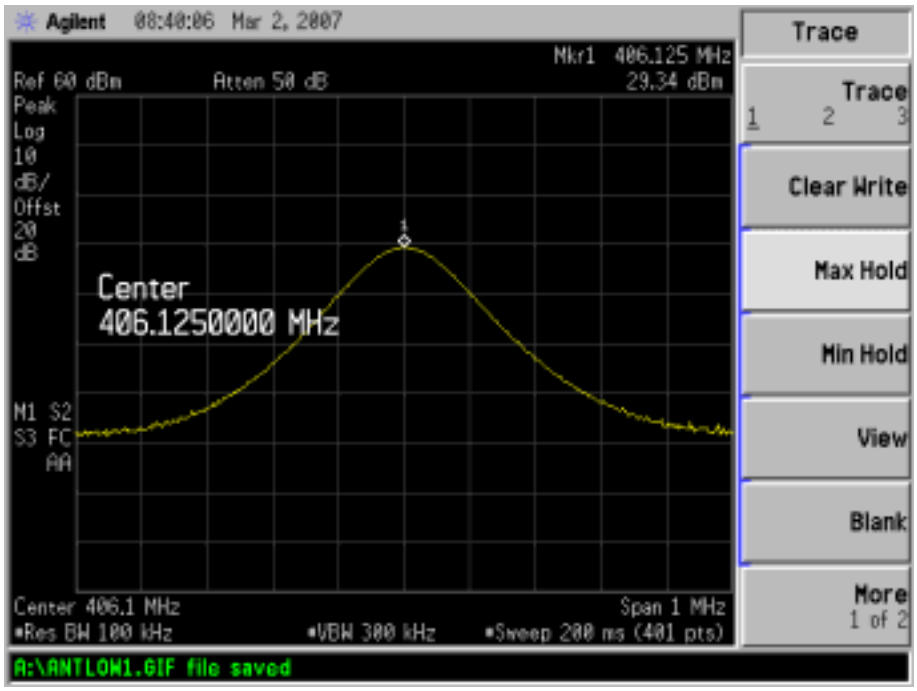


High CH:

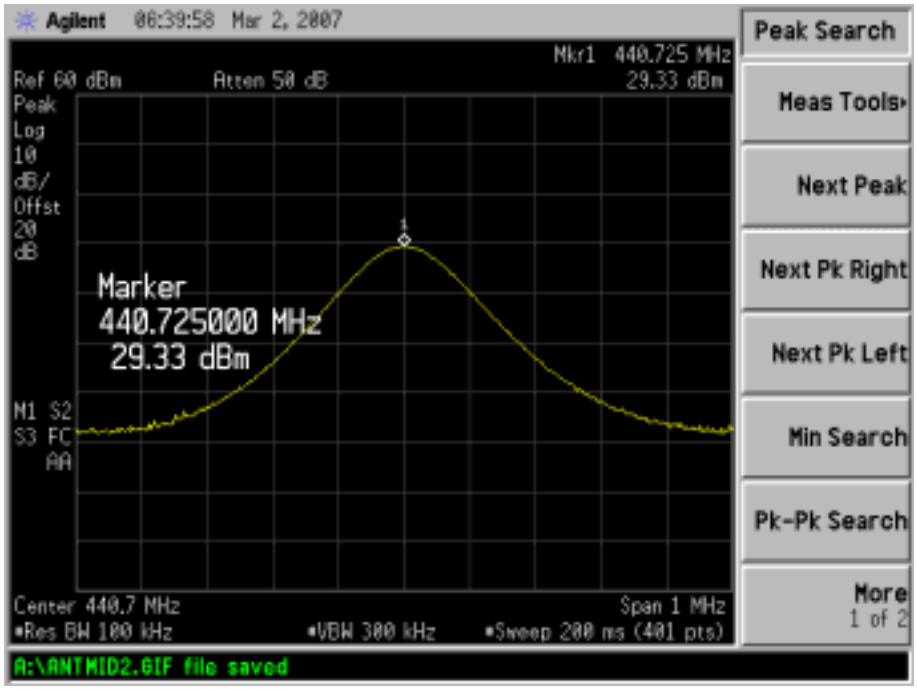


Power Setting Low Mode

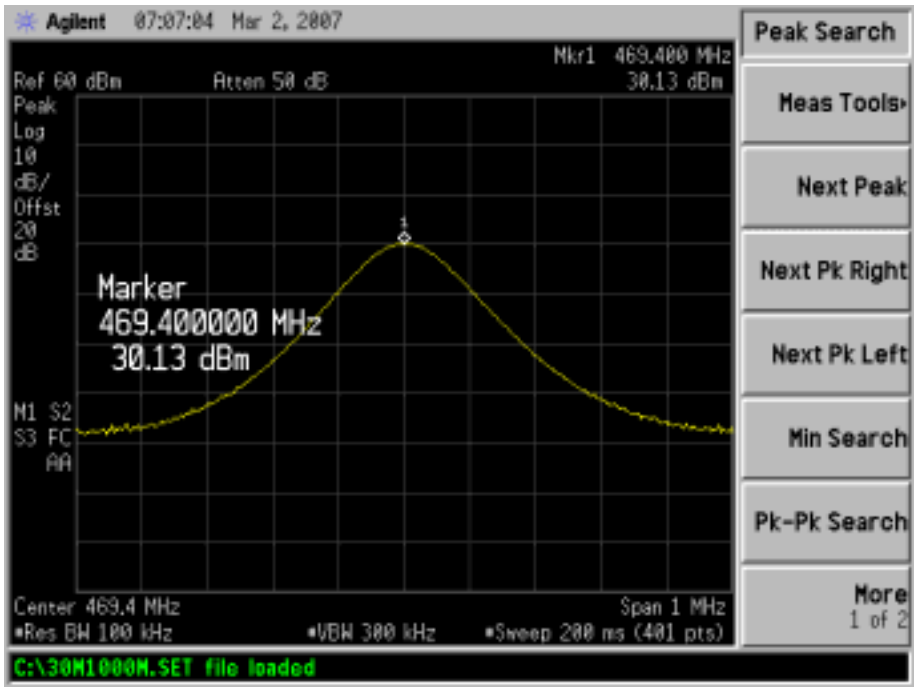
Low CH:



Middle CH:



High CH:



4. §2.1046, and §90.205-RADIATED OUTPUT POWER (E.I.R.P.)

4.1 Standard Applicable

According to FCC §2.1046, and §90.205, maximum ERP is dependent upon the station's antenna HAAT and required service area.

4.2 Test Equipment List and Detail

Manufacturer	Description	Model	Serial Number	Cal. Date	Due. Date
Rohde & Schwarz	EMI Test Receiver	ESI26	830245/009	2007-1-26	2008-1-25
ETS	Multi_Device Controller	2090	57230	2007-1-26	2008-1-25
Antenna	Schwarzbeck	VUBA9117	115	2006-1-24	2009-1-25
3m chamber	Albatross Projects	9X6X6	----	2006-1-24	2008-1-25
Rohde & Schwarz	Horn Antenna	HF906	100014	2007-1-26	2008-1-25
Signal Generator	Rohde & Schwarz	SMR20	100047	2007-1-24	2008-1-25
Dipole Antenna	Schwarzbeck	H00009170	9136	2007-1-24	2008-1-25

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

4.3 Test Procedure

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

2. 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.

3. 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.

4. Corrected Level = SG Level + Antenna Gain – Cable Loss

4.4 Test Result

Frequency	SG Reading	Height	Table	Polar	Cable loss	Antenna Gain	Corrected Ampl.	FCC Part 90
MHz	dBm	Meter	Degree	H / V	dB	dB	dBm	W
Low Channel (High power mode)								
406.125	35.14	1.4	226	H	2.0	0	33.14	2.06
406.125	37.48	1.5	182	V	2.0	0	35.48	3.53
Middle Channel (High power mode)								
440.725	35.85	1.4	220	H	2.2	0	33.65	2.32
440.725	38.01	1.5	190	V	2.2	0	35.81	3.81
High Channel (High power mode)								
469.400	35.32	1.5	232	H	2.3	0	33.02	2.00
469.400	37.10	1.6	185	V	2.3	0	34.80	3.02
Low Channel (Low power mode)								
406.125	29.60	1.4	225	H	2.0	0	27.60	0.58
406.125	31.91	1.5	186	V	2.0	0	29.91	0.98
Middle Channel (Low power mode)								
440.725	32.06	1.4	220	H	2.2	0	29.86	0.97
440.725	32.21	1.5	192	V	2.2	0	30.01	1.00
High Channel (Low power mode)								
469.400	32.05	1.5	231	H	2.3	0	29.75	0.94
469.400	33.32	1.6	180	V	2.3	0	31.02	1.26

5. §2.1047, and §90.207-MODULATION CHARACTERISTICS

5.1 Standard Applicable

According to 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.

5.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Modulation Analyzer	Rohde & Schwarz	FAM 54	334.2015.54	2006-06-30	2007-06-29
Attenuator	Atten	DC-4GHz	ATS100-4-20	2006-06-30	2007-06-29
Audio Generator	MEILI	MFG-3005	200612187	2006-06-30	2007-06-29

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

5.3 Test Procedure

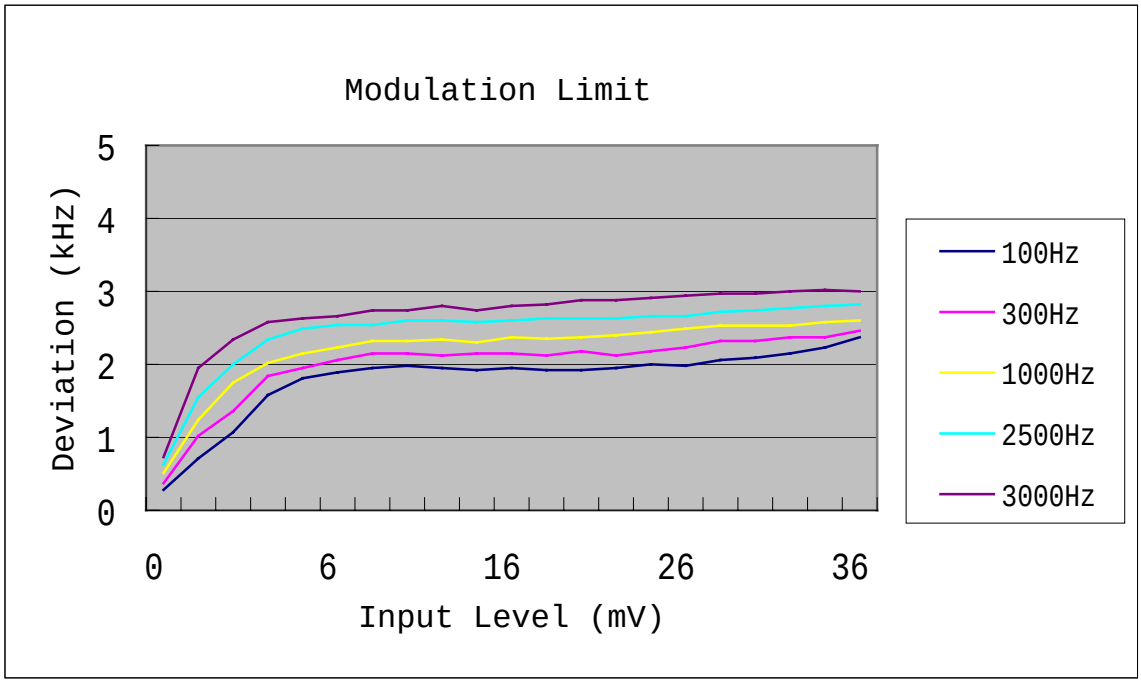
Test is carried out under the procedure of TIA/EIA-603 §2.2.3.

5.4 Environmental Conditions

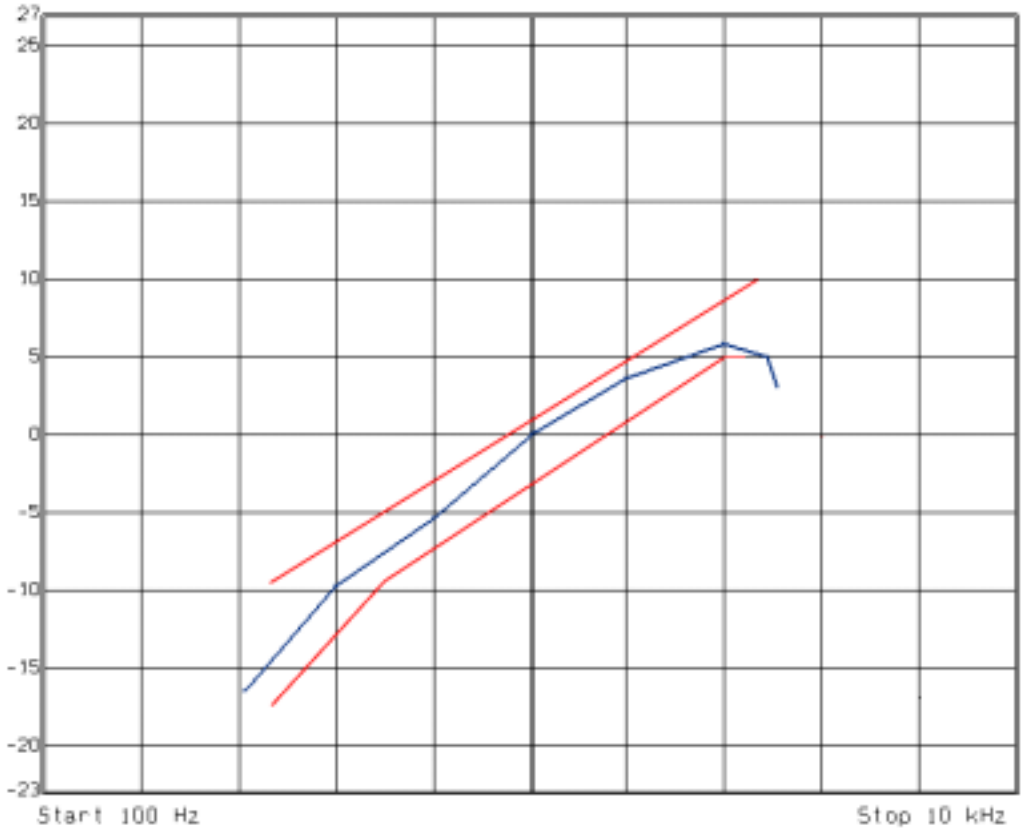
Temperature:	21° C
Relative Humidity:	50%
ATM Pressure:	1005mbar

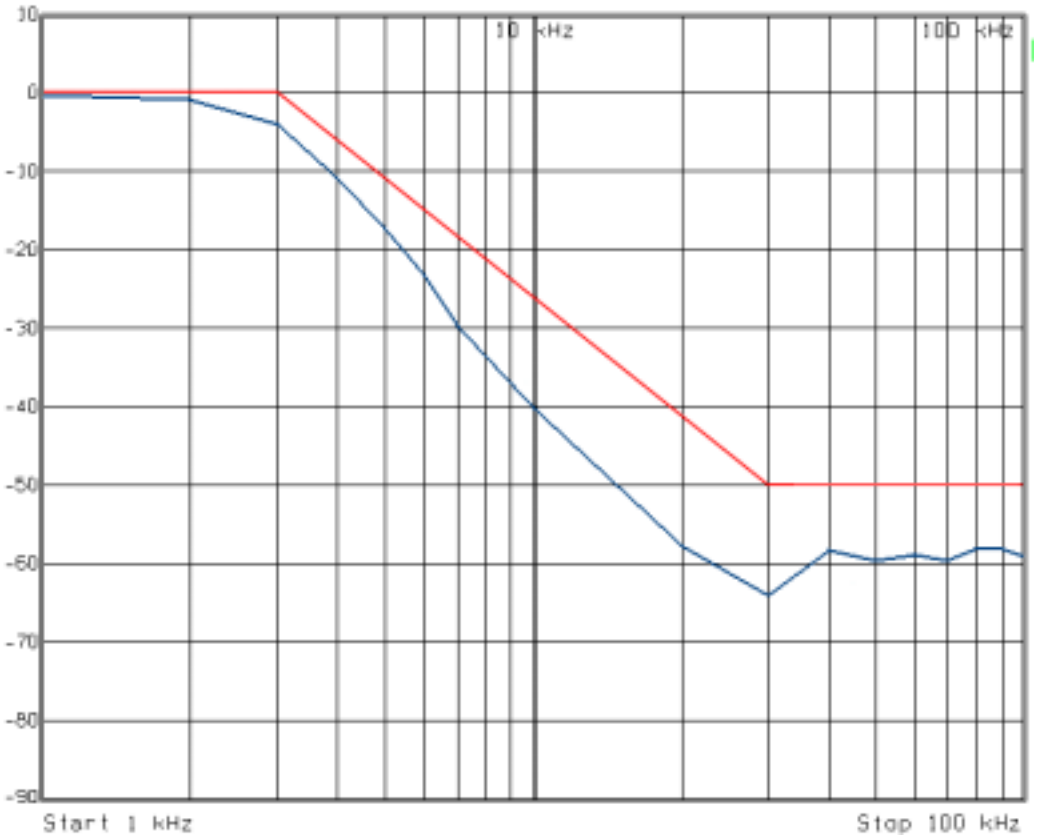
5.5 Test Results/Plots

Audio Input(mV)	100Hz Deviation(kHz)	300Hz Deviation(kHz)	1kHz Deviation(kHz)	3kHz Deviation(kHz)	5kHz Deviation(kHz)
0	0.28	0.37	0.51	0.63	0.73
1	0.71	1.02	1.24	1.55	1.95
2	1.07	1.36	1.75	2	2.34
3	1.58	1.84	2.02	2.34	2.58
4	1.81	1.95	2.15	2.49	2.63
6	1.89	2.06	2.23	2.54	2.66
8	1.95	2.15	2.32	2.54	2.74
10	1.98	2.15	2.32	2.6	2.74
12	1.95	2.12	2.34	2.6	2.8
14	1.92	2.15	2.3	2.58	2.74
16	1.95	2.15	2.37	2.6	2.8
18	1.92	2.12	2.35	2.63	2.82
20	1.92	2.18	2.37	2.63	2.88
22	1.95	2.12	2.4	2.63	2.88
24	2	2.18	2.44	2.66	2.91
26	1.98	2.23	2.49	2.66	2.94
28	2.06	2.32	2.53	2.72	2.97
30	2.09	2.32	2.53	2.74	2.97
32	2.15	2.37	2.53	2.77	3
34	2.23	2.37	2.58	2.8	3.02
36	2.37	2.46	2.6	2.82	3



Audio Low Pass Filter Characteristic Curve





6. §2.1049 and §90.209 - OCCUPIED BANDWIDTH OF EMISSION

6.1 Standard Applicable

According to FCC §2.1049, §90.209 and §90.210, the necessary attenuation requirements need to meet as the following:
Emission Mask B For 25kHz bandwidth:

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.

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.

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

43+10logP=43+10log(3.02)=47.80dB

6.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Agilent	Spectrum Analyzer	E4402B	US41192821	2006-06-30	2007-06-29
Atten	Attenuator	DC-4GHz	ATS100-4-20	2006-06-30	2007-06-29
Audio Generator	MEILI	MFG-3005	200612187	2006-06-30	2007-06-29

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

6.3 Test Procedure

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

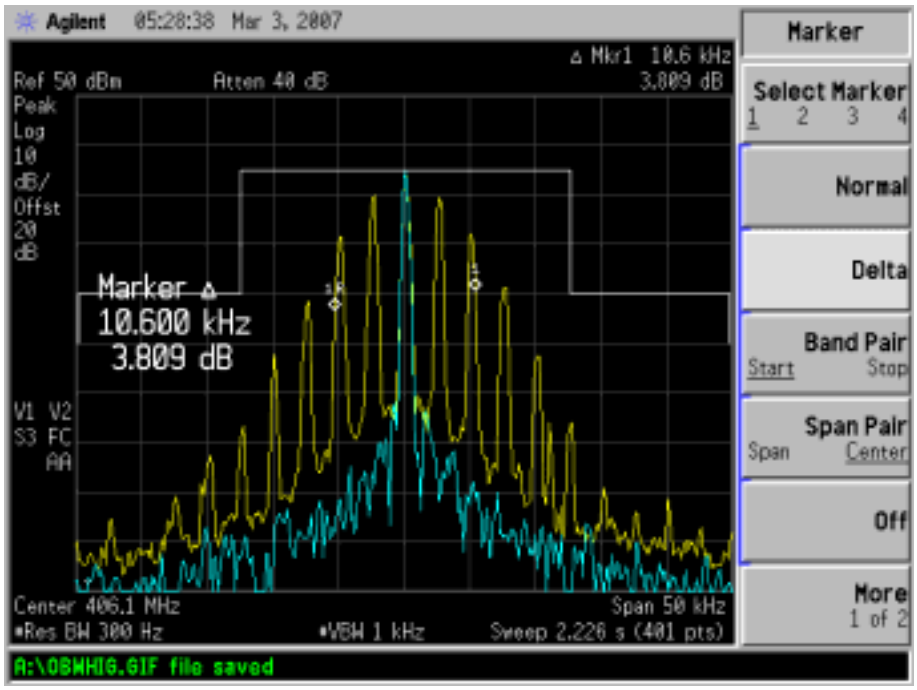
2. The signal is modulated with 2.5kHz audio signal as necessary levels.

3. The resolution bandwidth of the spectrum analyzer was set at 300 Hz and video bandwidth was set to 1kHz. Then the mask plots was reported.

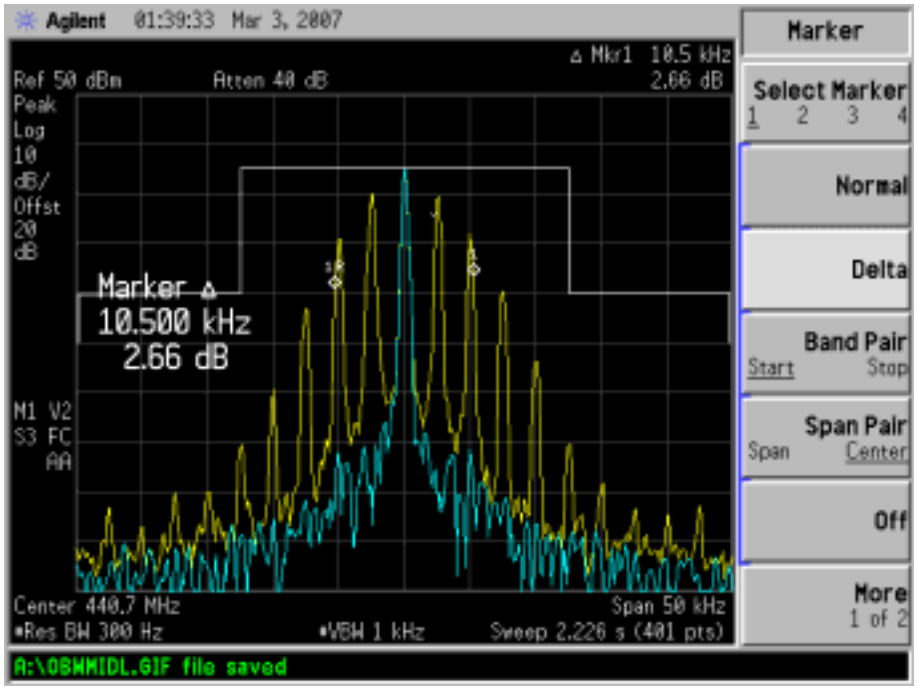
6.4 Test Results/Masks

The occupied Bandwidth Emission of all fall in the Mask, full fit the requirements of the standards.

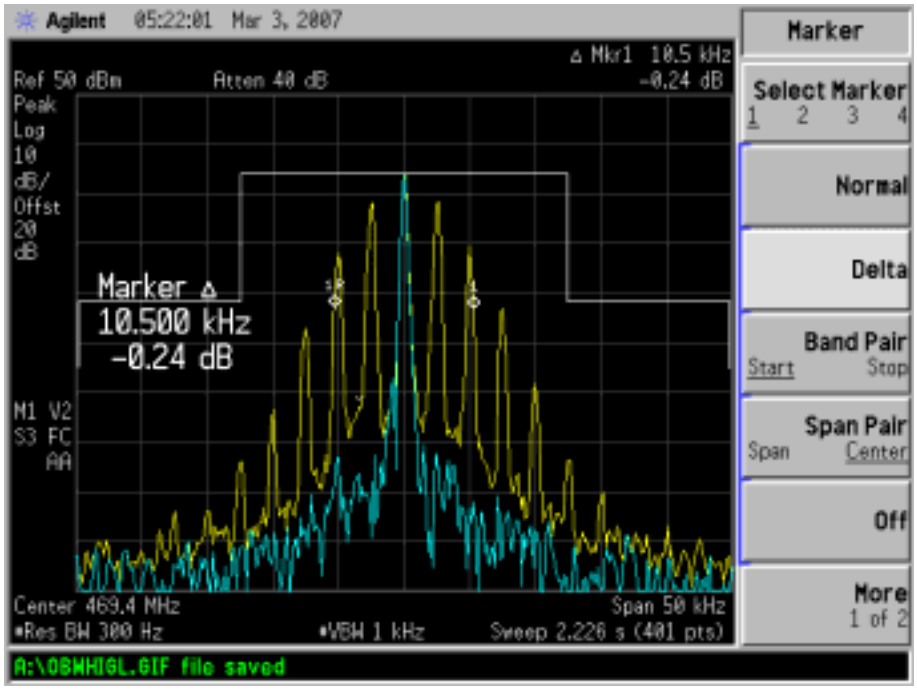
Power Setting High Mode
Low Channel:



Middle Channel:

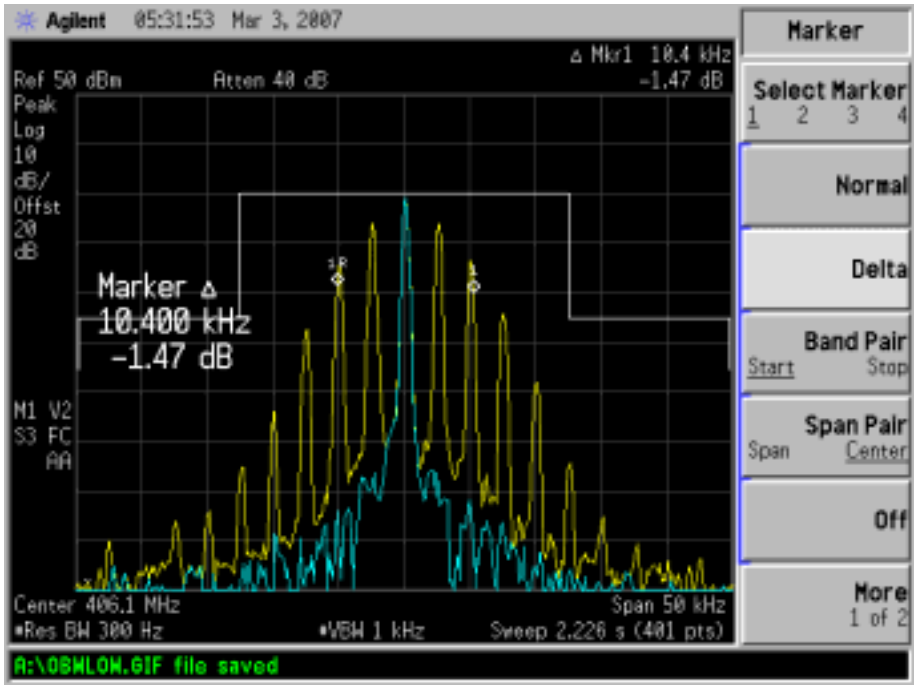


High Channel:

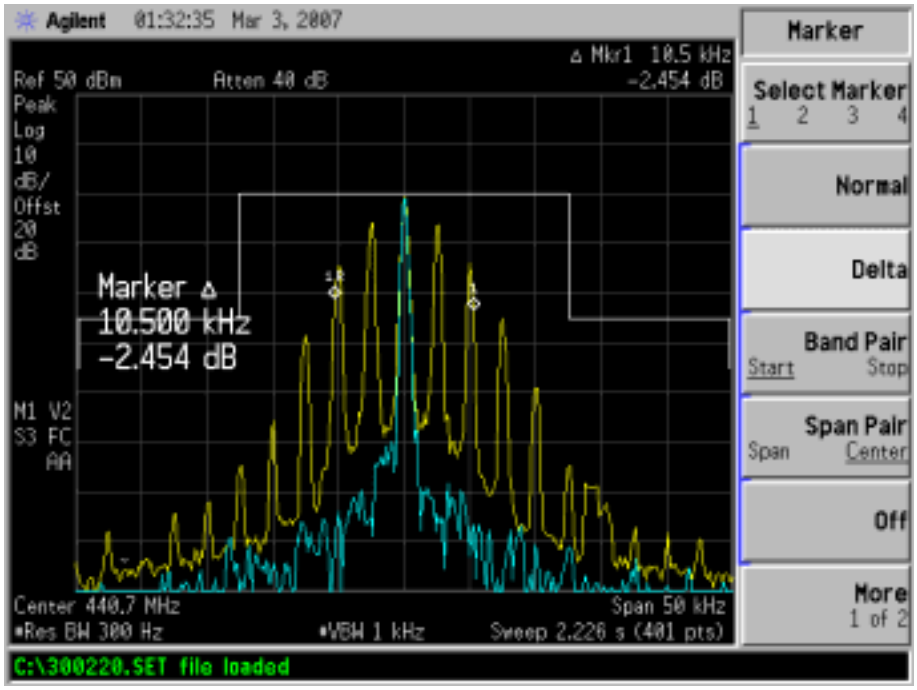


Power Setting Low Mode

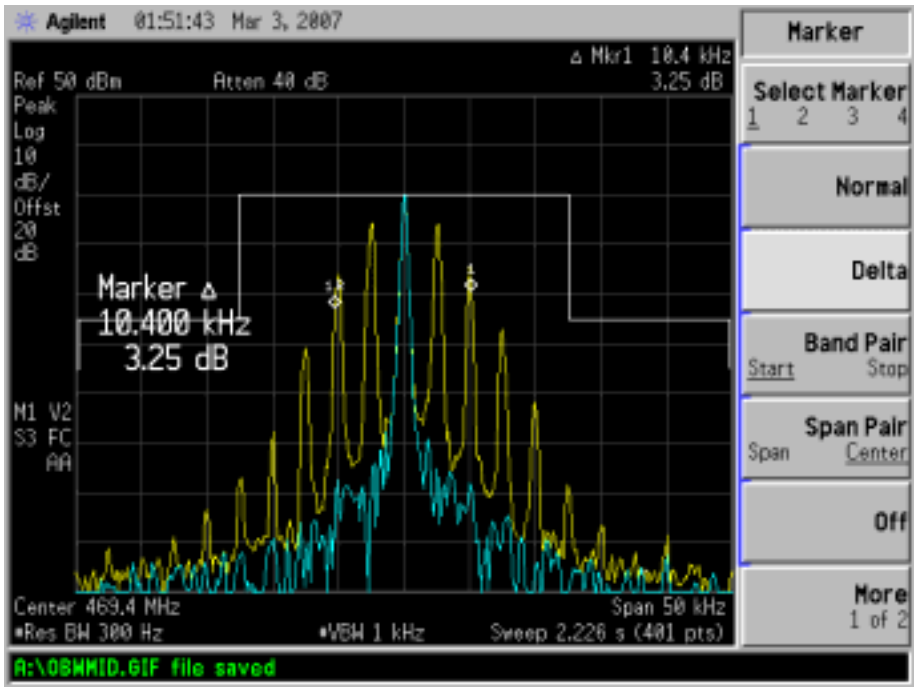
Low Channel:



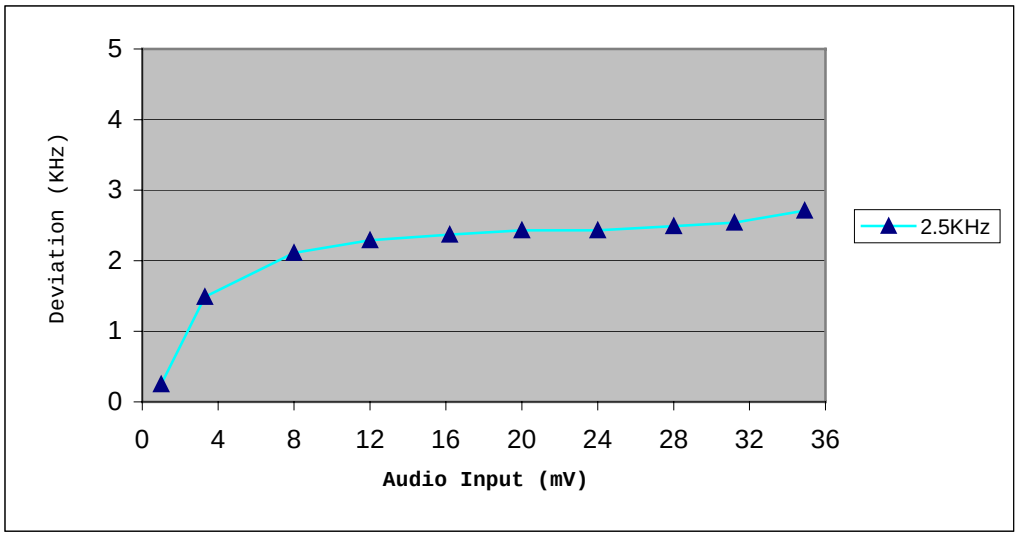
Middle Channel:



High Channel:



Deviation Vs Audio Level with the wore case (High Channel)



7. 2.1053 and §90.210- RADIATED SPURIOUS EMISSION

7.1 Measurement Uncertainty

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement is ±3.0 dB.

7.2 Standard Applicable

According to FCC §2.1053, measurements shall be made to detect spurious emission that may be radiated directly from the cabinet, control circuits, power leads, or intermediated circuit elements under normal condition of installation and operation. Information submitted shall include the relative radiated power of spurious emission with reference to the rated power output of the transmitter, assuming all emissions are radiated from a halfwave dipole antenna.
According to FCC §90.210, the necessary attenuation requirements need to meet as the following:

Emission Mask B For 25kHz bandwidth:

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

43+10logP=43+10log(3.02)=47.80dB

7.3 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date	Due. Date
Rohde & Schwarz	EMI Test Receiver	ESI26	830245/009	2007-1-26	2008-1-25
ETS	Multi_Device Controller	2090	57230	2007-1-26	2008-1-25
Antenna	Schwarzbeck	VUBA9117	115	2006-1-24	2009-1-25
3m chamber	Albatross Projects	9X6X6	----	2006-1-24	2008-1-25
Rohde & Schwarz	Horn Antenna	HF906	100014	2007-1-26	2008-1-25
Signal Generator	Rohde & Schwarz	SMR20	100047	2007-1-24	2008-1-25
Dipole Antenna	Schwarzbeck	H00009170	9136	2007-1-24	2008-1-25

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

7.4 Test Procedure

The setup of EUT is according with per TIA/EIA Standard 603 and ANSI C63.4-2003 measurement procedure.

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 attenuation limit in dB =43+10 Log_{10} (power out in Watts)

7.5 Environmental Conditions

Temperature:	20° C
Relative Humidity:	53%
ATM Pressure:	1019 mbar

7.6 Summary of Test Results/Plots

According to the data below, the FCC Part 90 standards, and had the worst margin of:

-23.10 dB at **1218.38 MHz** in the **Vertical of Low Channel** polarization, **30 MHz to 5 GHz, 3Meters.**

Frequency	SG Reading	Height	Polar	Cable loss	Antenna Gain	Corrected Ampl.	FCC Part 90 Limit	FCC Part 90 Margin
MHz	dBm	Meter	H / V	dB	dB	dBm	dBm	dB
Low Channel, 1-5GHz								
1218.38	-40.1	1.6	V	3.6	7.6	-36.1	-13	-23.1
812.25	-37.1	1.6	V	3.2	0	-40.3	-13	-27.3
1624.50	-47.2	1.6	V	3.2	8.8	-41.6	-13	-28.6
1218.38	-46.1	1.4	H	3.6	7.6	-42.1	-13	-29.1
812.25	-41.0	1.6	H	3.6	0	-44.6	-13	-31.6
1624.50	-52.7	1.4	H	3.6	8.8	-47.5	-13	-34.5
Middle Channel, 1-5GHz								
881.45	-34.6	1.4	V	3.2	0	-37.8	-13	-24.8
1322.18	-42.6	1.5	V	3.6	7.6	-38.6	-13	-25.6
1762.9	-47.9	1.4	V	3.2	8.8	-42.3	-13	-29.3
881.45	-39.6	1.5	H	3.6	0	-43.2	-13	-30.2
1322.18	-49.7	1.6	H	3.6	7.6	-45.7	-13	-32.7
1762.9	-55.1	1.6	H	3.6	8.8	-49.9	-13	-36.9
High Channel, 1-5GHz								
938.80	-35.0	1.5	V	3.2	0	-38.2	-13	-25.2
1408.2	-46.1	1.6	V	3.2	7.6	-42.1	-13	-29.1
1877.6	-48.4	1.6	V	3.6	8.8	-42.8	-13	-29.8
938.80	-42.0	1.4	H	3.6	0	-45.6	-13	-32.6
1408.2	-54.3	1.4	H	3.6	7.6	-50.3	-13	-37.3
1877.6	-55.8	1.6	H	3.6	8.8	-50.6	-13	-37.6

Note: Testing is carried out with frequency rang 30MHz to the tenth harmonics which worse case is high power setting mode. Emissions undetected below the base noise are not reported.

8. §2.1051 and §90.210-SPURIOUS EMISSIONS AT ANTENNA TERMINALS

8.1 Standard Applicable

According to §2.1051and §90.210 (For 25kHz bandwidth)

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

43+10logP=43+10log(3.81)=48.80dB

8.2 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date	Due. Date
Agilent	Spectrum Analyzer	E4402B	US41192821	2006-06-30	2007-06-29
Rohde & Schwarz	EMI Test Receiver	ESI26	830245/009	2007-1-26	2008-1-25
ETS	50 ohm Coaxial Cable	SUCOFLEX 104	25498514	2007-1-26	2008-1-25

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

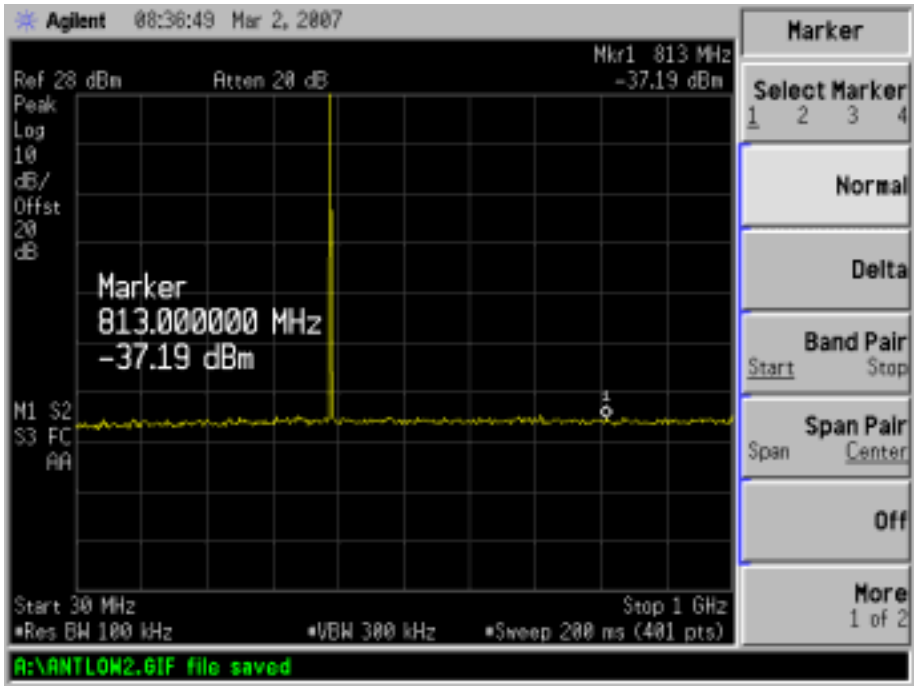
8.3 Test Procedure

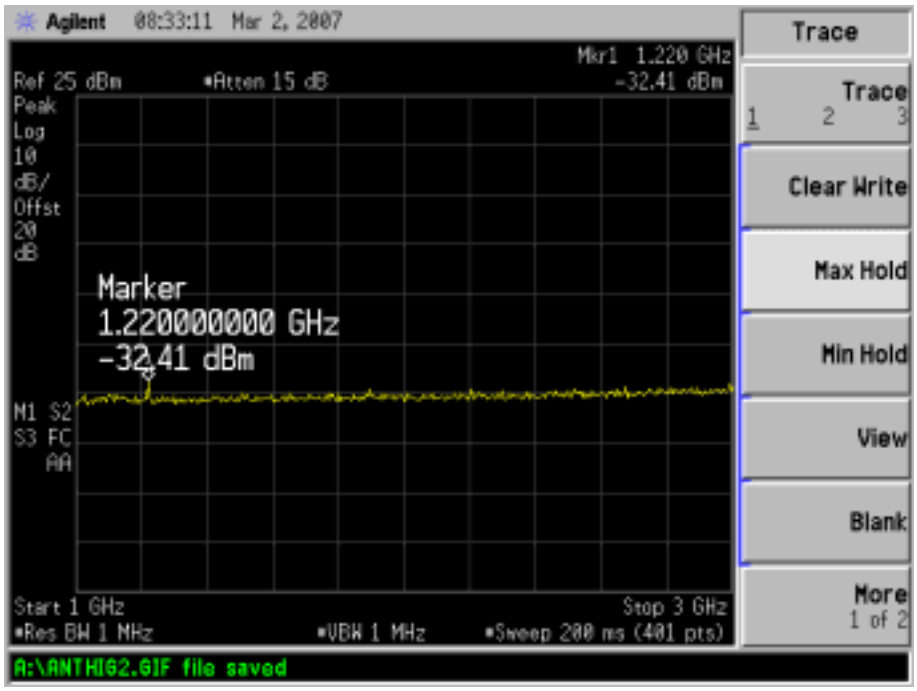
Connect a suitable artificial antenna properly, set the Low, Middle and High Transmitting Channel, observed the spurious emissions from antenna port, and then mark the higher-level emission for comparing with the rules. Emission of low power setting is lower then the high power setting, worse case of high power setting is showed only.

8.4 Summary of Test Results/Plots

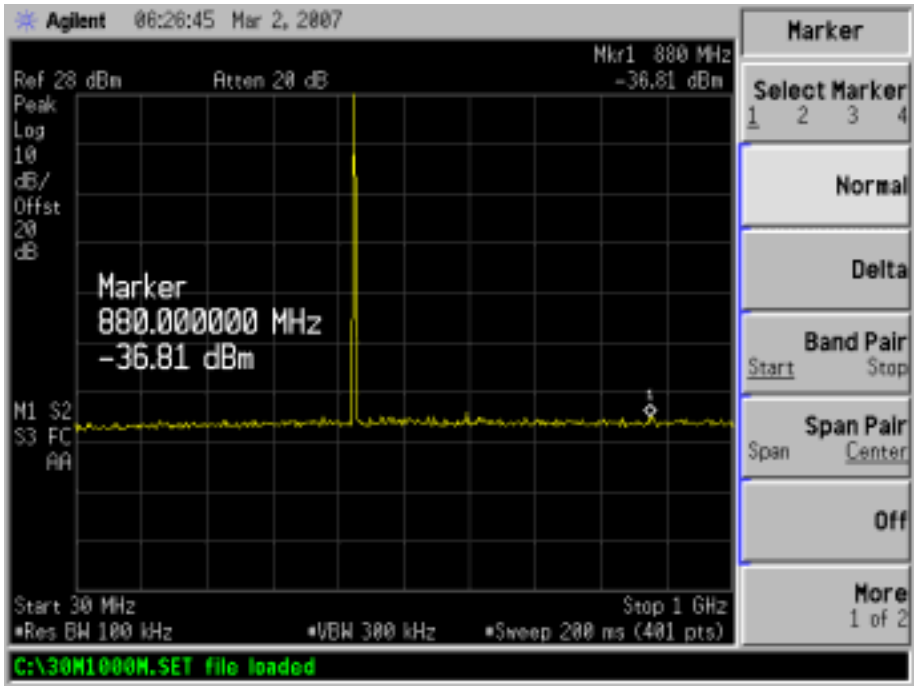
Refer to the attached plots.

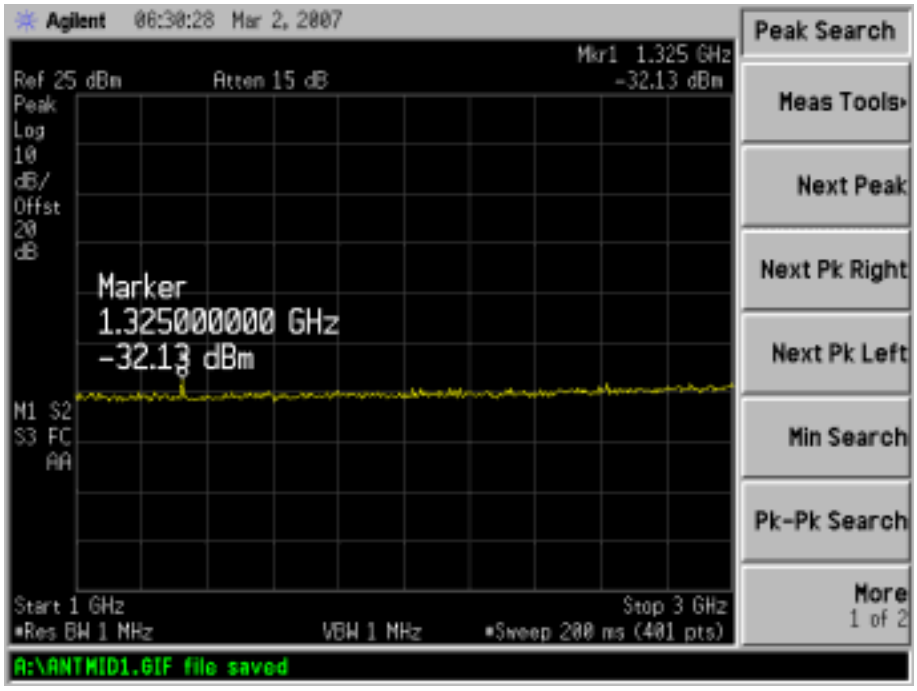
Lowest Channel:



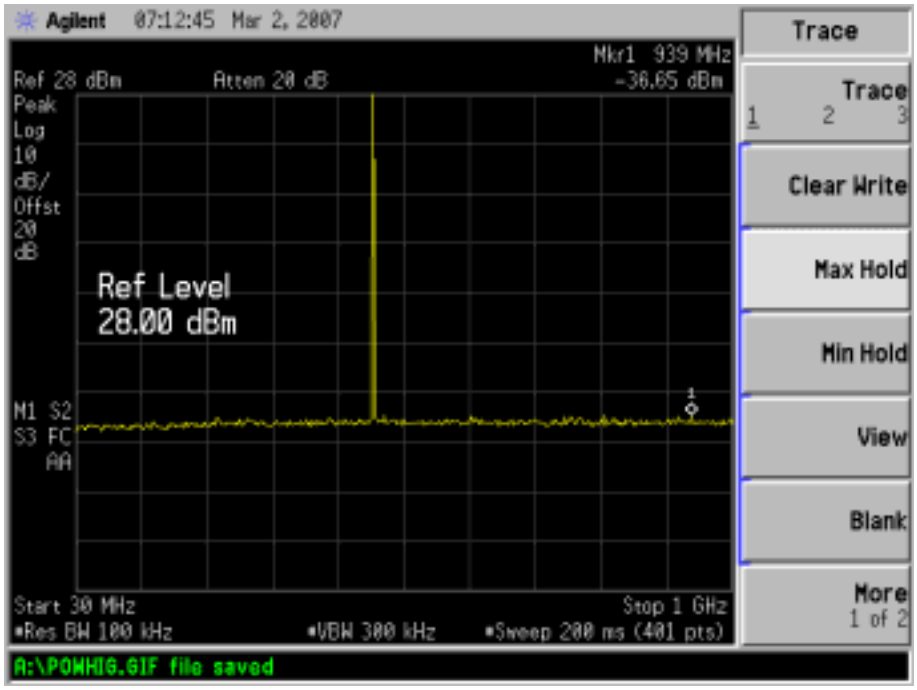


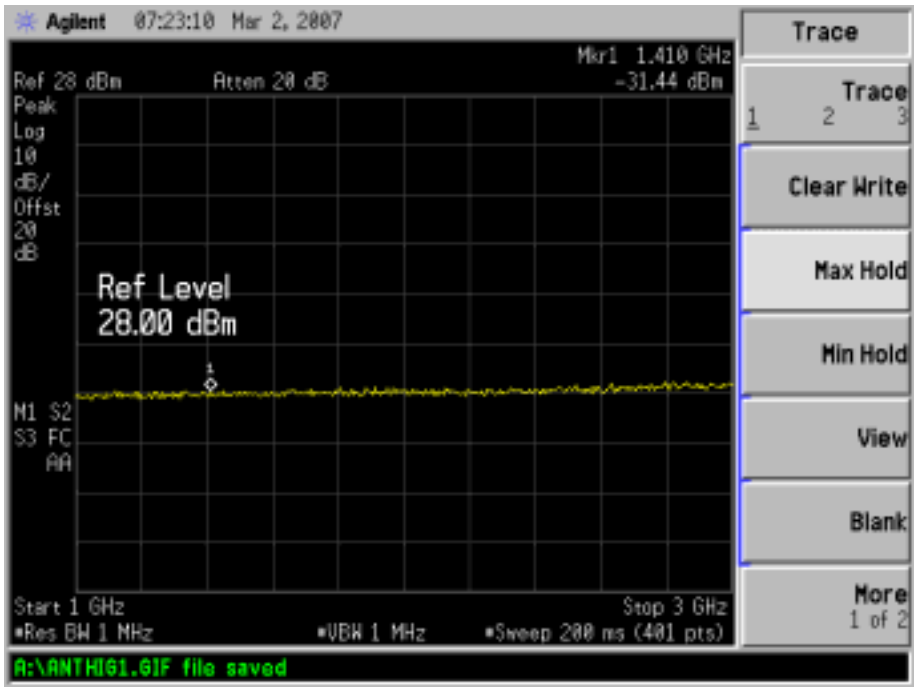
Middle Channel:





Highest Channel:





Note: Emissions up to 5th harmonics is close to the base noise, checking through radiated strength fields. There is no peak detected when EUT is operating in Standby mode.

9. §2.1055 (d) and §90.213- FREQUENCY STABILITY

9.1 Standard Applicable

According to FCC §2.1055 (d) and §90.213. The frequency stability limit for the Mobile station is 5.0ppm.

9.2 Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Cal. Date	Due. Date
Agilent	Spectrum Analyzer	E4402B	US41192821	2006-06-30	2007-06-29
Atten	Attenuator	DC-4GHz	ATS100-4-20	2006-06-30	2007-06-29
GONGWEN	Moisture Test Chamber	GDS-150	SEMT-0013	2006-06-30	2007-06-29

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

9.3 Test Procedure

1. Setup the configuration of the ambient temperature form -30ºC to 50ºC with sufficient time. And measure the different power of the EUT with an artificial power from highest to end point voltage.

2. Active the Analyzer frequency counter option, center frequency to the right frequency needs to be measured.

9.4 Test Results/Plots

Test Conditions		PPM Error		
		Low CH (406.125MHz)	Middle CH (440.725MHz)	High CH (469.400MHz)
T_{nom}(22°C)	V_{nom}(7.20V)	0.89	1.03	1.06
T_{min}(-30°C)	V_{min}(7.21V)	0.94	1.08	1.16
	V_{max}(6.16V)	0.96	1.06	1.16
T_{max}(+50°)	V_{min}(7.21V)	0.98	1.13	1.21
	V_{max}(6.16V)	0.96	1.16	1.18
Max. frequency error (ppm)		0.98	1.16	1.21
Limit		5.0ppm		
End Point		DC 6.38V		

10. §90.214-TRANSIENT FREQUENCY BEHAVIOR

10.1 Standard Applicable

According to FCC §90.214, Transmitters designed to operate in the 150–174 MHz and 421–512 MHz frequency bands must maintain transient frequencies within the maximum frequency difference limits during the time intervals indicated:

Transient Frequency Behavior for Equipment Designed to Operate on 25 kHz Channels:

t1	±25.0 kHz	5.0 ms	10.0 ms
t2.....	±12.5 kHz	20.0 ms	25.0 ms
t3…….....	±25.0 kHz	5.0 ms	10.0 ms

10.2 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Modulation Analyzer	Rohde & Schwarz	FAM 54	334.2015.54	2006-06-30	2007-06-29
Attenuator	Atten	DC-4GHz	ATS100-4-20	2006-06-30	2007-06-29
Audio Generator	MEILI	MFG-3005	200612187	2006-06-30	2007-06-29
Signal Generator	Rohde & Schwarz	SMR20	100047	2006-1-24	2007-1-25
Oscilloscope	Agilent	DSO3102A	CN45002725	2006-1-24	2007-1-25
Spectrum Analyzer	Agilent	E4402B	US41192821	2006-06-30	2007-06-29

Statement of Traceability: All calibrations have been performed per the NVLAP requirements traceable to the NIST.

10.3 Test Procedure

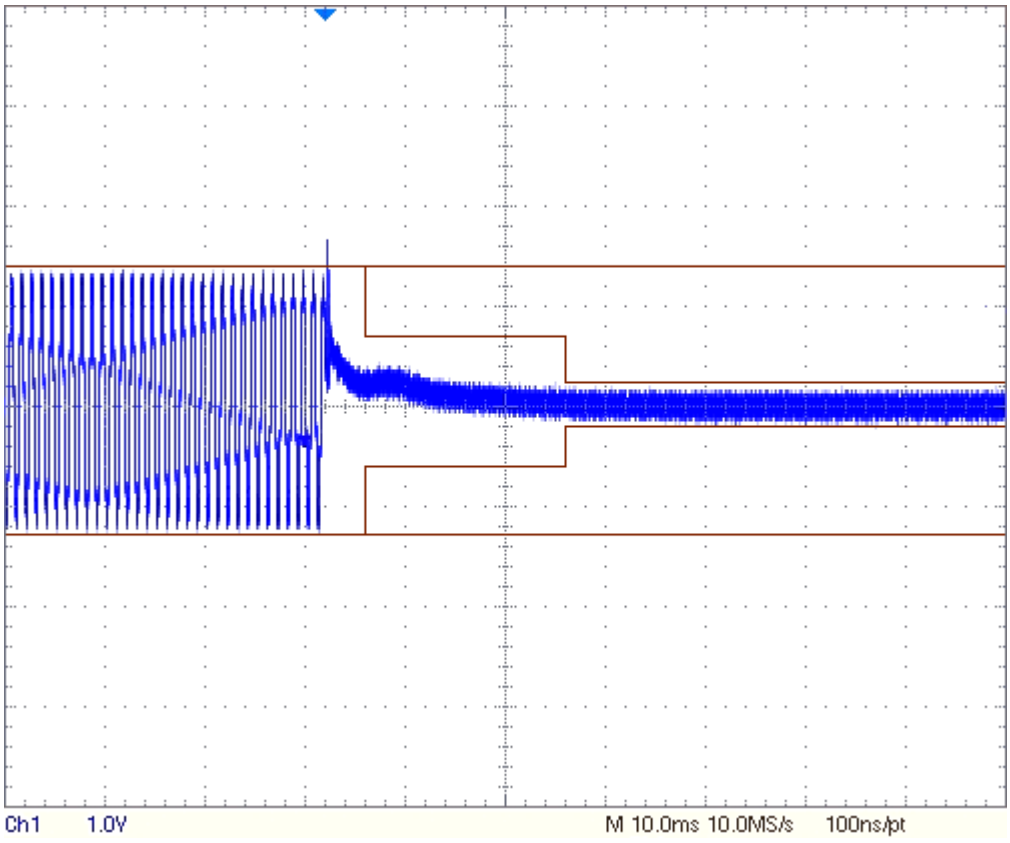
Test is carried under TIA/EIA-603 §2.2.19

10.4 Test Results/Plots

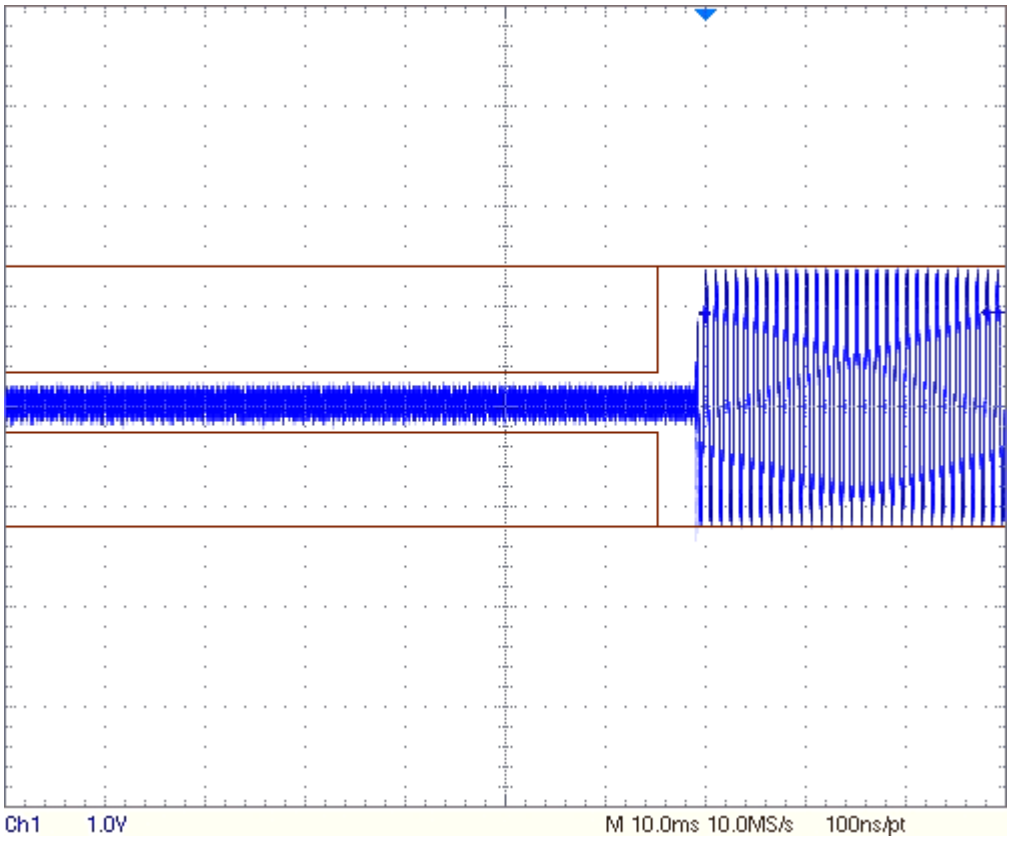
For wideband channel separation=25KHz only. Worse case as below.

Operation Frequency (MHz)	Channel Separation (kHz)	Transient Period (ms)	Transient Frequency
440.725	25	<10	+/-25.0 kHz
		<25	+/-12.5 kHz
		<10	+/-25.0kHz

TRANSIENT FREQUENCY BEHAVIOR-On



TRANSIENT FREQUENCY BEHAVIOR-Off



11. §1.1307 and §2.1093-RF EXPOSURE EVULATION

11.1 Standard Applicable

According to §1.1307(b)(1), 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. Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation.

According to FCC Exclusion list, In the following table, fGHz 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, $d \geq 2.5$ cm	$(900/f_{GHz})$ mW, $d < 20$ cm
occupational	$(375/f_{GHz})$ mW, $d < 2.5$ cm $(900/f_{GHz})$ mW, $d \geq 2.5$ cm	$(2250/f_{GHz})$ mW, $d < 20$ cm

11.2 Measurement Result:

This is an Occupational device and the max effective radiated power is
3.81 < (900/0.440725GHz) mW/50%Dutycycle = 4.08W

The SAR measurement is not necessary.