Engineering and Testing for EMC and Safety Compliance

Accredited under A2LA Certificate # 2653.01

FCC & IC Certification
Test Report

M/A-COM, Inc.
221 Jefferson Ridge Parkway
Lynchburg, VA 24501
Phone: 434-455-9527
Daryl Popowitch
E-Mail: popowitda@tycoelectronics.com

Model: OpenSky 800 MHz Base Station

FCC ID: BV8MBS800B075
IC: 3670A-MBS800B

May 14, 2008

Standards Referenced for this Report	
Part 2: 2007	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
Part 90: 2007	Private Land Mobile Radio Services
ANSI TIA-603-C-2004	Land Portable FM or PM Communications Equipment - Measurement and Performance Standards
ANSI TIA/EIA–102.CAAA; 2004	Digital C4FM/CQPSK Transceiver Measurement Methods
RSS-119: Issue 9 June 2007	Land Mobile and Fixed Radio Transmitters and Receivers Operating in the Frequency Range 27.41-960 MHz

Frequency Range (MHz)	Rated Output Power (W) Conducted	Frequency Tolerance (ppm)	Emission Designator
854-869	40	0.1	13K1F9W
851-869	75	1.0	12K1F9W
866-869	75	1.0	11K0F9W

Report Prepared By: Daniel Baltzell, Test Engineer

Report Number: 2008072

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1 General Information

This Certification Report is prepared on behalf of **M/A-COM, Inc**. in accordance with the Federal Communications Commission and Industry Canada. The Equipment Under Test (EUT) was the **OpenSky 800 MHz Base Station; FCC ID: BV8MBS800B075; IC: 3670A-MBS800B**. The test results reported in this document relate only to the item that was tested.

All measurements contained in this application were conducted in accordance with the applicable FCC Rules and Regulations in CFR 47. Calibration checks are performed regularly on the instruments, and all accessories including high pass filter, coaxial attenuator, preamplifier and cables.

1.1 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located on the parking lot of Rhein Tech Laboratories, Inc. 360 Herndon Parkway, Suite 1400, Herndon, Virginia 20170. This site has been fully described in a report submitted to and approved by the Federal Communications Commission to perform AC line conducted and radiated emissions testing.

1.2 Related Submittal(s)/Grant(s)

This is an original certification report for FCC ID: BV8MBS800B075; IC: 3670A-MBS800B.

1.3 Test System Details

The base station, consisting of a digital controller/transceiver and high power amplifier, were controlled via a laptop during testing to exercise the various modulations and power levels. The power supply is not part of base station; the power source is supplied by the customer.

1.4 Grant Notes

Output power is continuously variable from 15 W to 75 W. The antenna(s) used for this transmitter must be fixed-mounted on outdoor permanent structures. RF exposure compliance is addressed at the time of licensing, as required by the responsible FCC Bureau(s), including antenna co-location requirements of §1.1307(b)(3).

Conducted power shown is rated power. Actual measured conducted power is shown in the test report.

2 Tested System Details

The test sample was received on November 29, 2007. Listed below are the identifiers and descriptions of all equipment, cables, and internal devices used with the EUT for this test, as applicable.

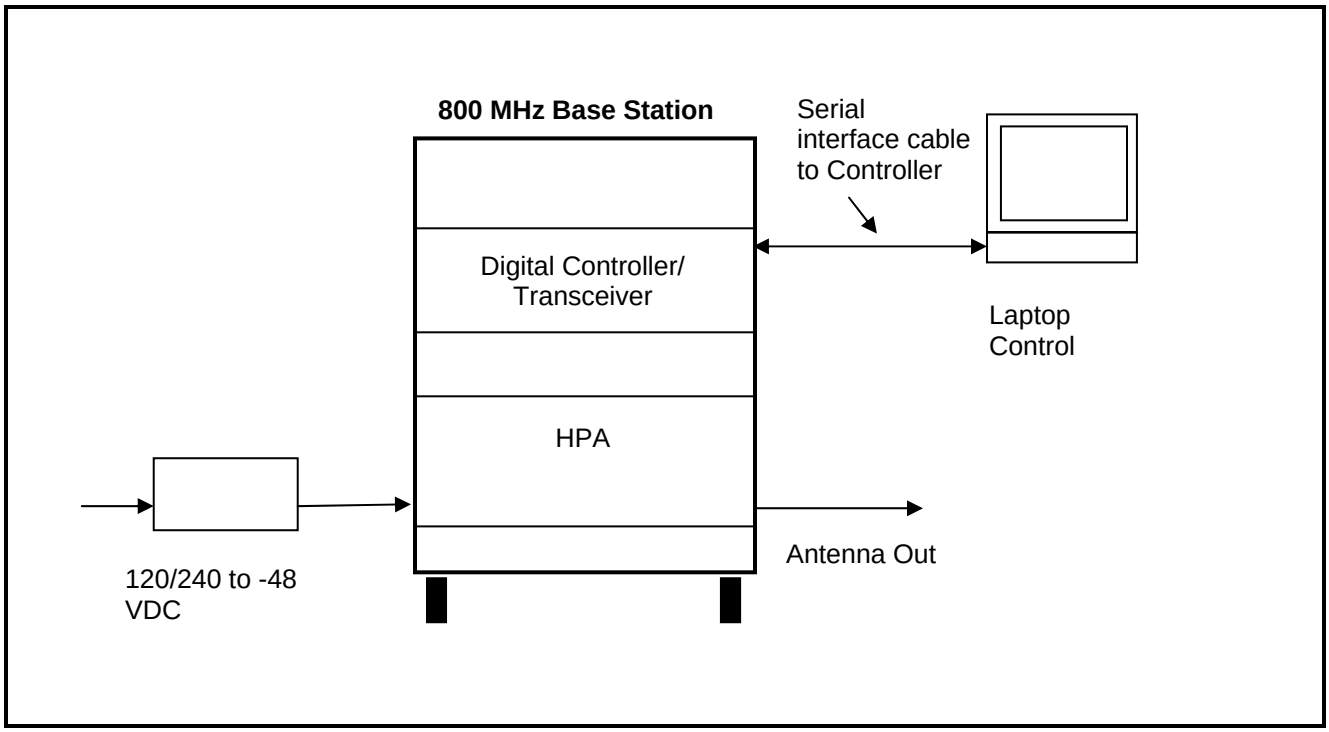
Table 2-1: Equipment Under Test (EUT)

Part	Manufacturer	Model	P/N	S/N	FCC ID	RTL Bar Code
Base Station (combination of items below)	M/A-COM, Inc.	OpenSky 800 MHz Base Station	MASK-8MDX, MASK-8MHX	N/A	BV8MBS800 B075	17363
Digital Controller/Transceiver	M/A-COM, Inc.	OpenSky 800 MHz DCX	EA-009221-002	A400D5000044	N/A	18467
High Power Amplifier	M/A-COM, Inc.	OpenSky 800 MHz HPA	AM42-0053	AM42-0053002109	N/A	18468

Table 2-2: Support Equipment

Part	Manufacturer	Model	PN/SN	FCC ID	RTL Bar Code
Power Supply	MW	SE-600-48	CA4429177	N/A	N/A
Notebook Computer	Dell	Latitude	0008206D-12800-9AK-0353	N/A	18262
Serial interface cable	N/A	DB-9	N/A	N/A	N/A

Figure 2-1: Configuration of Tested System



3 FCC Rules and Regulations Part 2 §2.1033(c)(8) Voltages and Currents Through The Final Amplifying Stage

Nominal DC Voltage: 24 VDC
Current: 10 Amps

4 FCC Rules and Regulations Part 2 §2.1046(a); RSS-119 5.4: RF Power Output: Conducted

4.1 Test Procedure

ANSI/TIA/EIA-603-2002, Section 2.2.1.

The EUT was connected to a coaxial attenuator having a 50 Ω load impedance.

4.2 Test Data

Table 4-1: RF Power Output (High Power): Carrier Output Power

Channel	Frequency (MHz)	RF Power Measured (dBm)*	RF Power Measured (Watt)*	Power Setting
1	851.0125	48.76	75.2	48.7
300	858.4875	48.76	75.2	48.7
600	865.9875	48.75	75.0	48.7
601	866.0125	48.76	75.2	48.7
715	867.5125	48.75	75.0	48.7
830	868.9875	48.70	74.1	48.71
Channel	**Frequency (MHz)**	**RF Power Measured (dBm)***	**RF Power Measured (Watt)***	**Power Setting**
121	854.0125	46.08	40.6	46.0
420	861.4875	46.12	40.9	46.11
830	868.9875	46.09	40.6	46.11

* Measurement accuracy: +/- .02 dB (logarithmic mode)

Table 4-2: RF Power Output (Rated Power)

Rated Power (W)
75 and 40

Table 4-3: Test Equipment for Testing RF Power Output – Conducted

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
901184/901356	Agilent Technologies	E4416A/E9323A	Power Meter/ Sensor	GB41050573/ 31764-261	10/24/08
901291	Pasternack	PE7031-20	20 dB Attenuator	N/A	4/18/09
901138	Weinschel	48-40-34	40 dB Attenuator	BK5883	1/13/09

Test Personnel:

Daniel W. Baltzell		April 19, 2008
Test Engineer	Signature	Date Of Test

5 FCC Rules and Regulations Part 2 §2.1051; RSS-119 5.8: Spurious Emissions at Antenna Terminals

5.1 Test Procedure

ANSI/TIA/EIA-603-2002, Section 2.2.13.

The transmitter is terminated with a 50 Ω load and interfaced with a cable, notch filter, and spectrum analyzer. The level shown (dBc) has been corrected with the notch insertion loss and cable loss added.

Device with digital modulation: Modulated to its maximum extent using a pseudo random data sequence – 19,200 bps.

5.2 Test Data

Frequency range of measurement per Part 2.1057: 9 kHz to 10 x Fc.

Limits: Mask B (dBm): P(dBm) – (43+10xLOG P(W))

The worst case (unwanted emissions) channels are shown. Per 2.1051, the magnitude of emissions attenuated more than 20 dB below the FCC limit need not be recorded.

Table 5-1: Conducted Spurious; 851.0125 MHz; Channel 1

Measured Power: 48.8 dBm; 75.2 W
Limit = 61.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBm)	Insertion Loss (dB)	Corrected Level (dBc)	Margin (dB)
1702.0250	-36.4	9.8	75.4	-13.6
2553.0375	-36.8	15.0	70.6	-8.8
3404.0500	-60.8	9.7	99.9	-38.1
4255.0625	-59.1	11.7	96.2	-34.4
5106.0750	-68.7	10.7	106.8	-45.0
5957.0875	-59.0	14.1	93.7	-31.9
6808.1000	-96.9	19.8	125.9	-64.1
7659.1125	-76.6	12.5	112.9	-51.1
8510.1250	-75.1	17.5	106.4	-44.6

Table 5-2: Conducted Spurious; 858.4875MHz; Channel 300

Measured Power: 48.8 dBm; 75.2 W
Limit = 61.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBm)	Insertion Loss (dB)	Corrected Level (dBc)	Margin (dB)
1716.9750	-36.0	9.8	75.0	-13.2
2575.4625	-37.5	14.5	71.8	-10.0
3433.9500	-59.2	9.4	98.6	-36.8
4292.4375	-64.2	11.1	101.9	-40.1
5150.9250	-65.6	10.8	103.6	-41.8
6009.4125	-62.1	14.9	96.0	-34.2
6867.9000	-88.8	18.5	119.1	-57.3
7726.3875	-79.1	12.8	115.1	-53.3
8584.8750	-73.4	16.7	105.5	-43.7

Table 5-3: Conducted Spurious; 865.9875 MHz; Channel 600

Measured Power: 48.8 dBm; 75.0 W
Limit = 61.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBm)	Insertion Loss (dB)	Corrected Level (dBc)	Margin (dB)
1731.9750	-36.3	10.8	74.3	-12.5
2597.9625	-41.1	14.2	75.7	-13.9
3463.9500	-55.7	10.3	94.2	-32.4
4329.9375	-68.9	11.8	105.9	-44.1
5195.9250	-68.5	10.9	106.4	-44.6
6061.9125	-65.5	11.2	103.1	-41.3
6927.9000	-87.8	14.5	122.1	-60.3
7793.8875	-84.7	12.6	120.9	-59.1
8659.8750	-97.1	19.7	126.2	-64.4

Table 5-4: Conducted Spurious; 866.0125 MHz; Channel 601

Measured Power: 48.8 dBm; 75.2 W
Limit = 61.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBm)	Insertion Loss (dB)	Corrected Level (dBc)	Margin (dB)
1732.0250	-37.8	11.0	75.6	-13.8
2598.0375	-41.0	14.3	75.5	-13.7
3464.0500	-60.5	10.4	98.9	-37.1
4330.0625	-68.9	11.9	105.8	-44.0
5196.0750	-69.7	10.9	107.6	-45.8
6062.0875	-66.2	11.2	103.8	-42.0
6928.1000	-87.3	14.6	121.5	-59.7
7794.1125	-84.7	12.6	120.9	-59.1
8660.1250	-90.6	19.7	119.7	-57.9

Table 5-5: Conducted Spurious; 867.5125 MHz; Channel 715

Measured Power: 48.8 dBm; 75.0 W
Limit = 61.8 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBm)	Insertion Loss (dB)	Corrected Level (dBc)	Margin (dB)
1735.0250	-36.6	11.2	74.2	-12.4
2602.5375	-42.3	14.5	76.6	-14.8
3470.0500	-60.3	10.2	98.9	-37.1
4337.5625	-67.0	12.3	103.5	-41.7
5205.0750	-68.7	10.8	106.7	-44.9
6072.5875	-66.9	11.1	104.6	-42.8
6940.1000	-89.2	14.1	123.9	-62.1
7807.6125	-84.6	12.2	121.2	-59.4
8675.1250	-101.4	20.4	129.8	-68.0

Table 5-6: Conducted Spurious; 868.9875 MHz; Channel 830

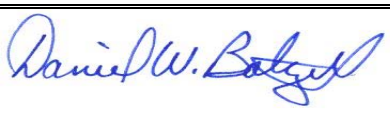
Measured Power: 48.7 dBm; 74.1 W
Limit = 61.7 dBc

Frequency (MHz)	Spectrum Analyzer Level (dBm)	Insertion Loss (dB)	Corrected Level (dBc)	Margin (dB)
1737.9750	-37.5	11.4	74.8	-13.1
2606.9625	-41.7	14.3	76.1	-14.4
3475.9500	-60.2	9.8	99.1	-37.4
4344.9375	-65.0	12.5	101.2	-39.5
5213.9250	-67.9	10.6	106.0	-44.3
6082.9125	-66.0	11.0	103.7	-42.0
6951.9000	-87.7	13.8	122.6	-60.9
7820.8875	-85.1	11.6	122.2	-60.5
8689.8750	-99.9	21.1	127.5	-65.8

Table 5-7: Test Equipment for Testing Conducted Spurious Emissions

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
901215	Hewlett Packard	8596EM	EMC Analyzer (9 kHz-12.8 GHz)	3826A00144	10/17/08
901132	Par Electronics	UHF SN (806-902)	UHF Notch Filter	N/A	02/1/09
901238	Insulated Wire, Inc.	NPS-4808-360-NPS	RF cable, 3'	01212002	4/19/09
900948	Aeroflex/Weinschel	47-10-43	10 dB Attenuator	BM1487	12/2/08
900928	Hewlett Packard	83752A	Synthesized Sweeper, (0.01-20 GHz)	3610A00866	12/7/08
901424	Insulated Wire Inc.	KPS-1503-360-KPS	RF cable 36"	NA	10/08/08

Test Personnel:

Daniel W. Baltzell		April 19, 2008
Test Engineer	Signature	Date Of Test

6 FCC Rules and Regulations Part 2 §2.1049(c)(1); RSS-119 5.8: Occupied Bandwidth

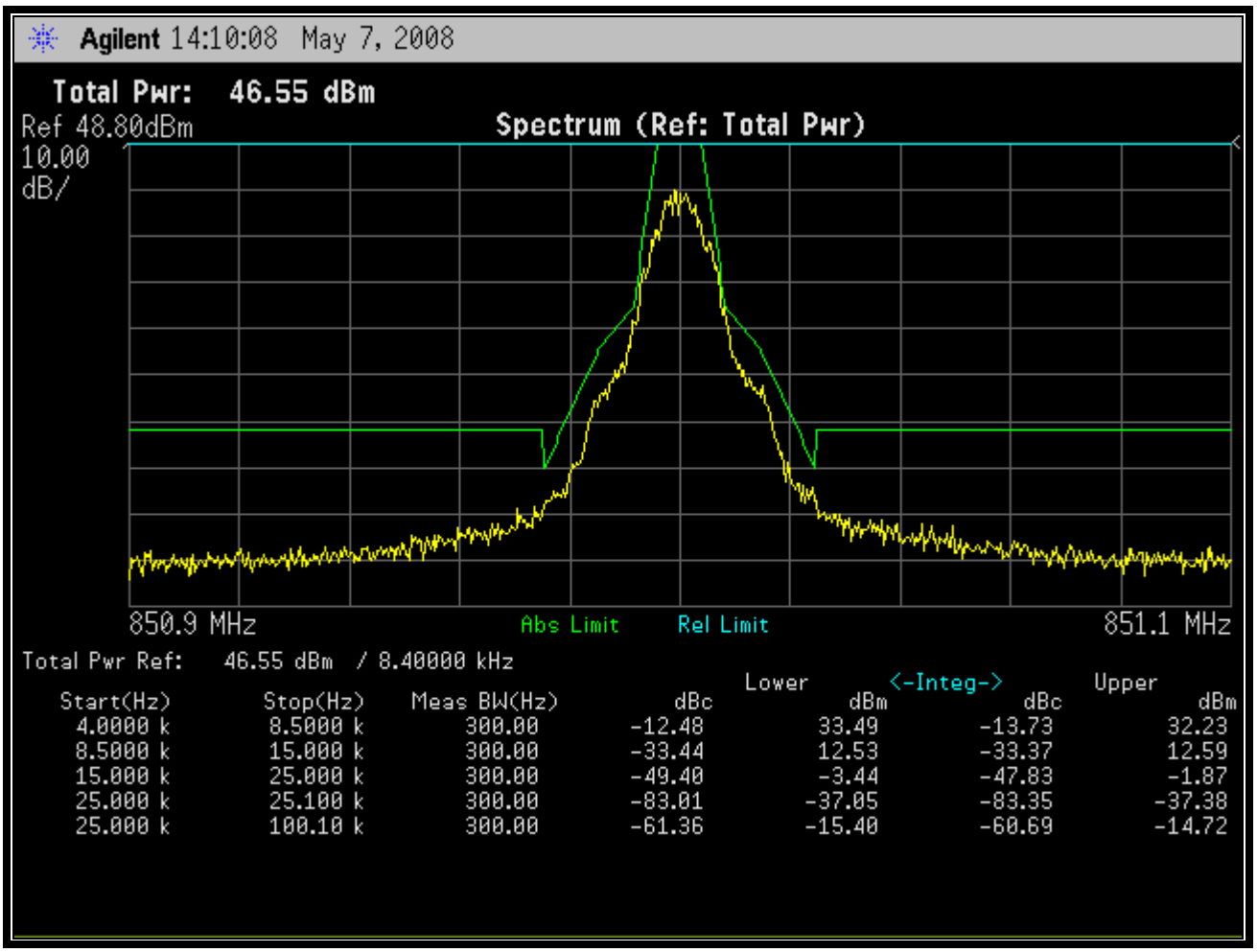
6.1 Test Procedure

Device with digital modulation: Modulated to its maximum extent using a pseudo random data sequence – 19,200 bps.

ANSI/TIA/EIA-603-2002, Section 2.2.11.

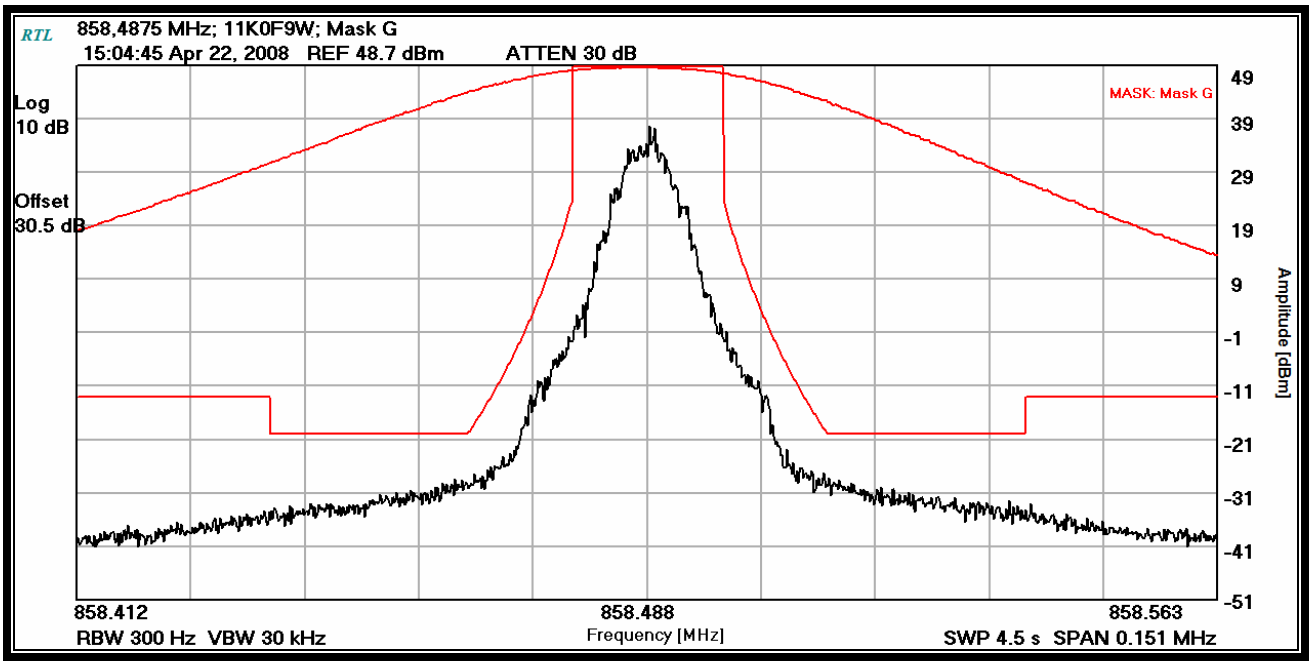
6.2 Test Data

Plot 6-1: Occupied Bandwidth; 12K1F9W; 851.0125 MHz; Mask H

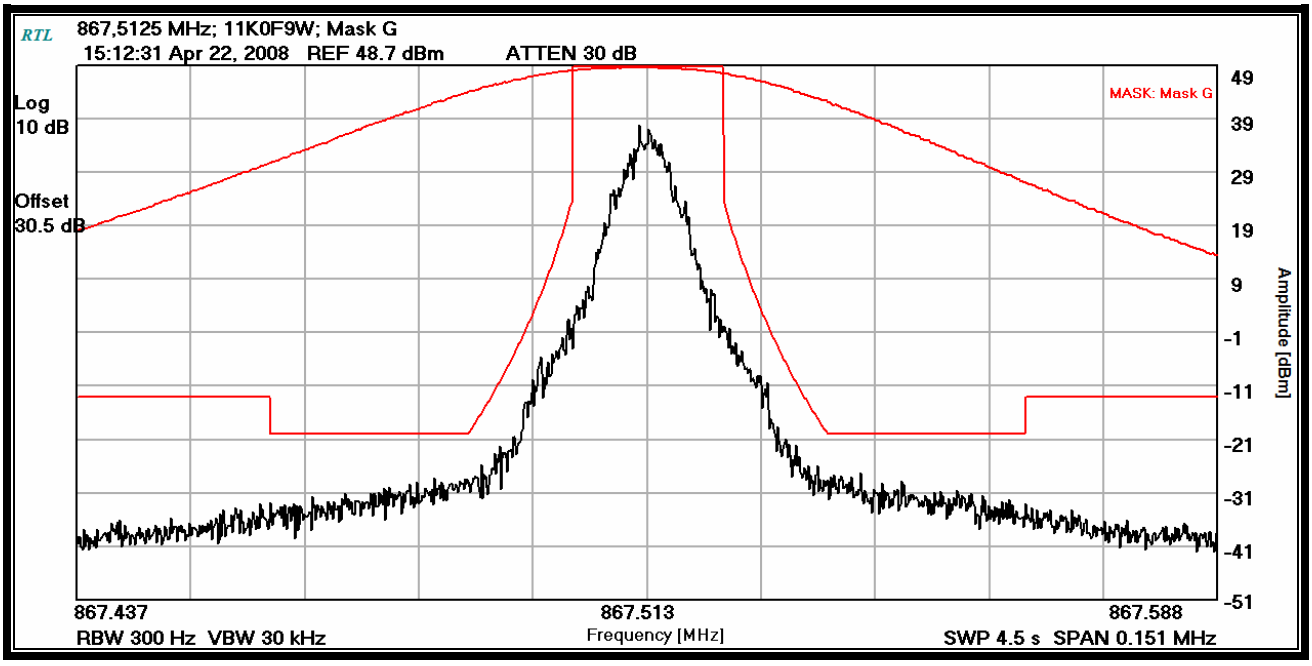


			Lower		<-Integ->		Upper
Start(Hz)	Stop(Hz)	Meas BW(Hz)	dBc	dBm	dBc	dBm	dBm
4.0000 k	8.5000 k	300.00	-12.48	33.49	-13.73	32.23	
8.5000 k	15.000 k	300.00	-33.44	12.53	-33.37	12.59	
15.000 k	25.000 k	300.00	-49.40	-3.44	-47.83	-1.87	
25.000 k	25.100 k	300.00	-83.01	-37.05	-83.35	-37.38	
25.000 k	100.10 k	300.00	-61.36	-15.40	-60.69	-14.72	

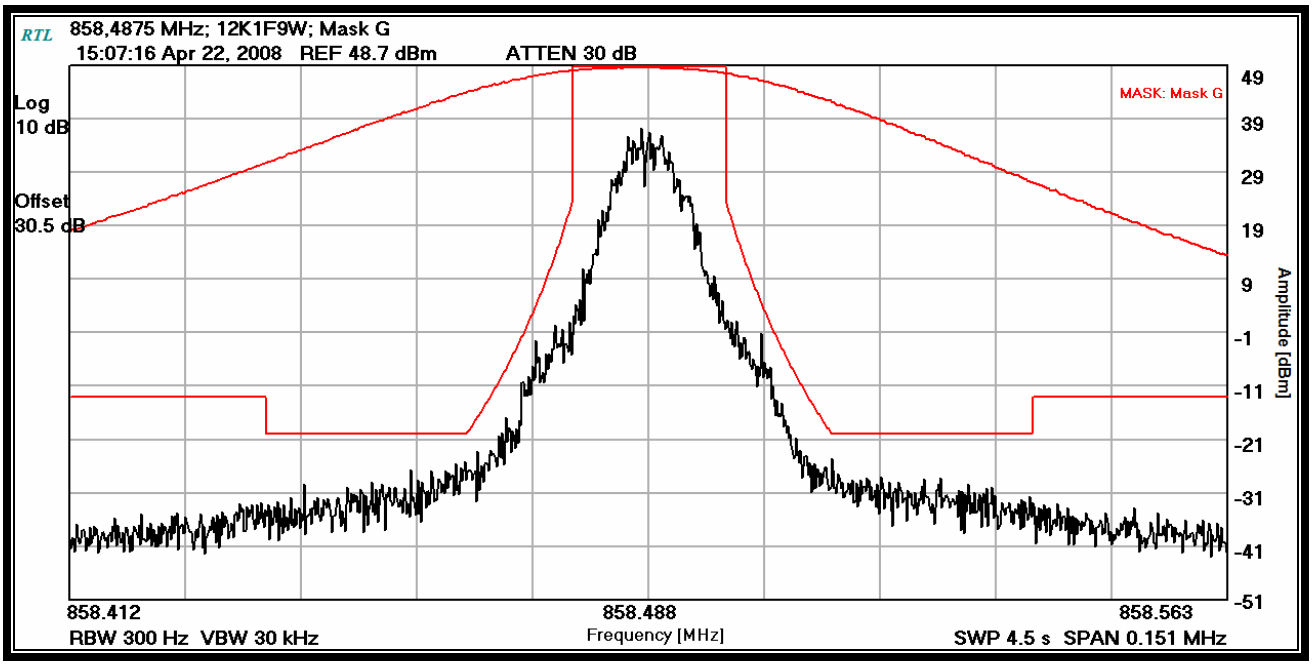
Plot 6-2: Occupied Bandwidth; 11K0F9W; 858.4875 MHz; Mask G



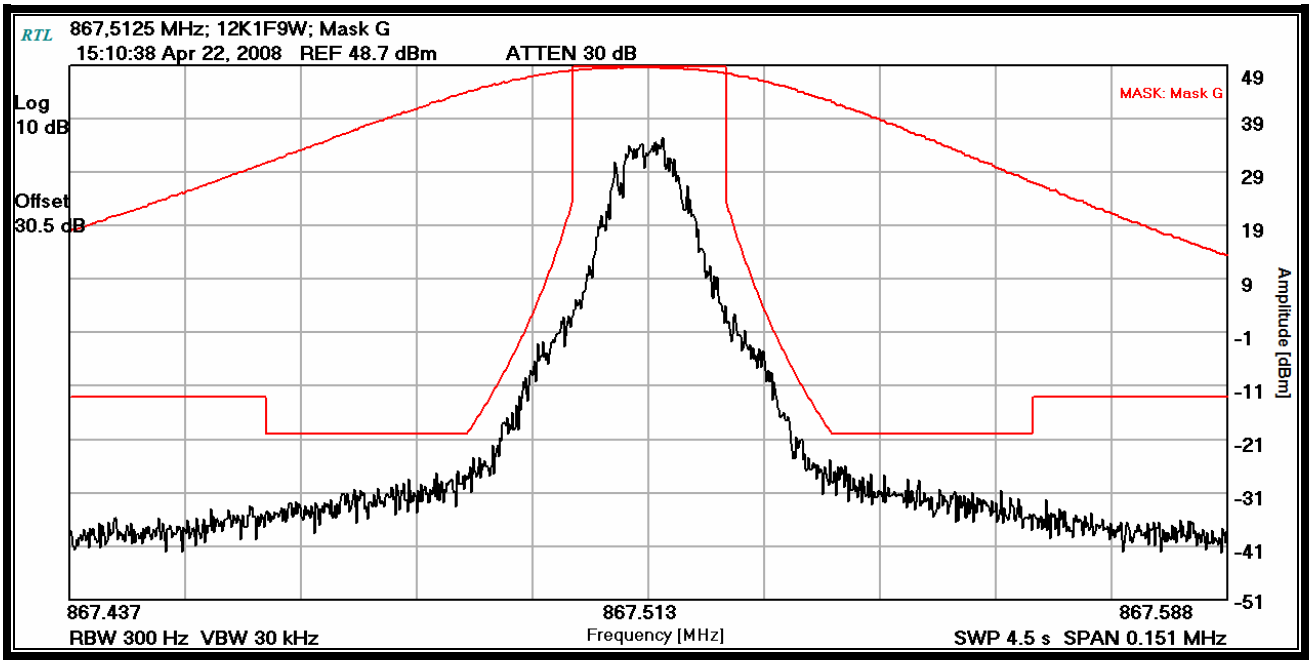
Plot 6-3: Occupied Bandwidth; 11K0F9W; 867.5125 MHz; Mask G



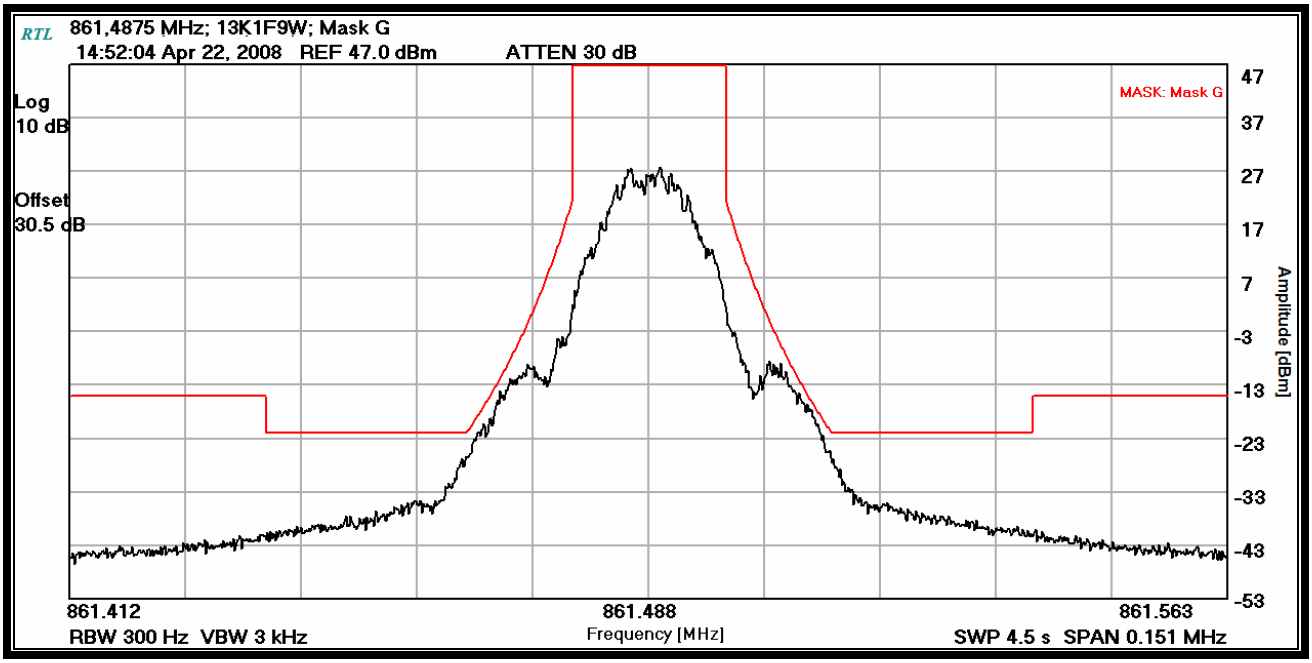
Plot 6-4: Occupied Bandwidth; 12K1F9W; 858.4875 MHz; Mask G



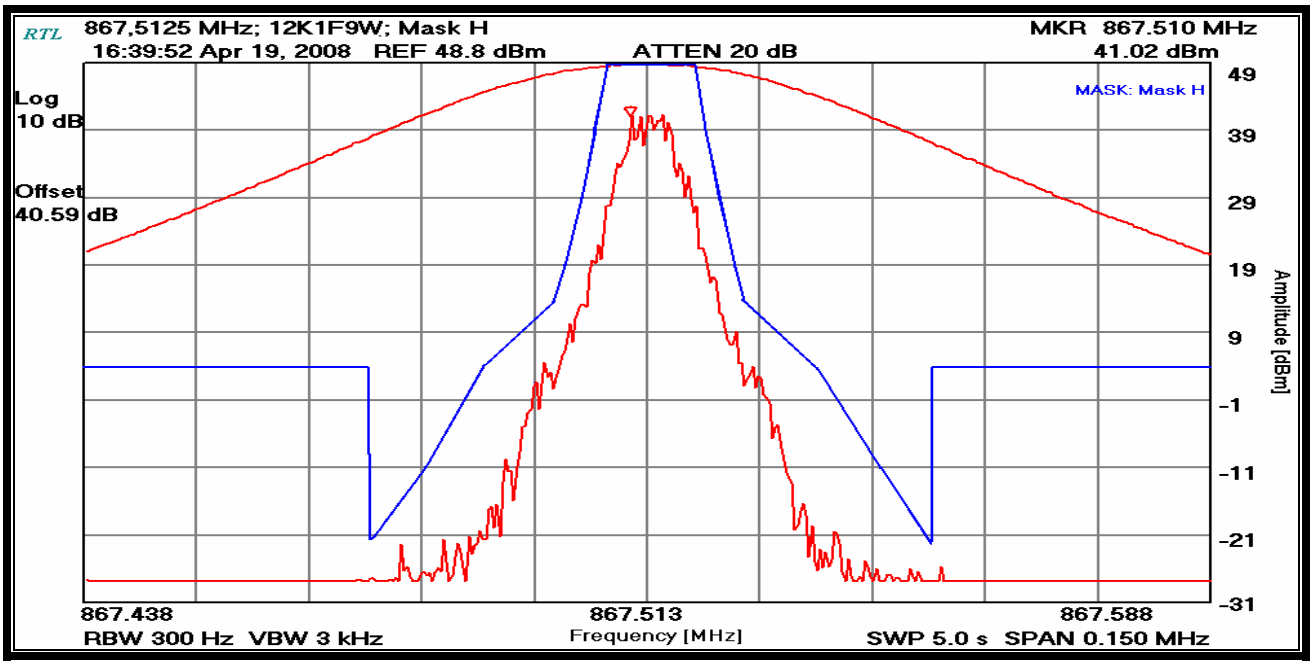
Plot 6-5: Occupied Bandwidth; 12K1F9W; 867.5125 MHz; Mask G



Plot 6-6: Occupied Bandwidth; 13K1F9W; 861.4875 MHz; Mask G



Plot 6-7: Occupied Bandwidth; 12K1F9W; 867.5125 MHz; Mask H



Plot 6-8: Occupied Bandwidth; 11K0F9W; 851.0125 MHz; Mask H

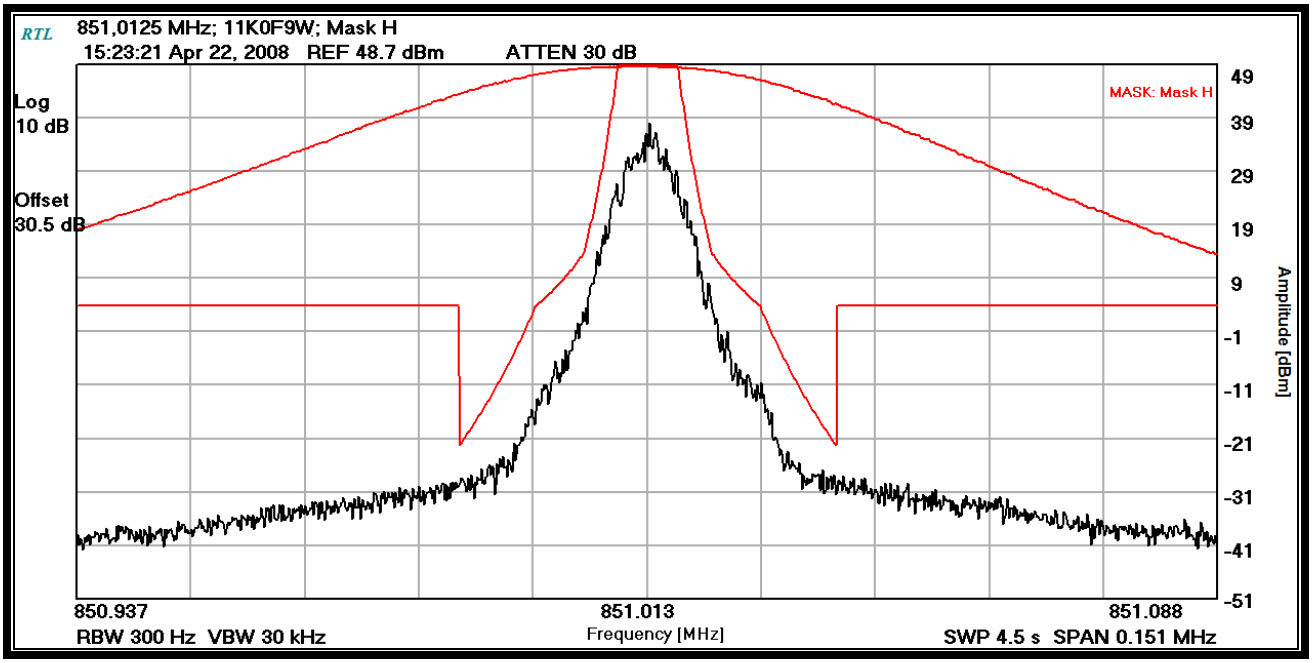
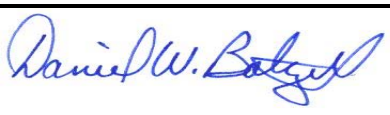


Table 6-1: Test Equipment for Testing Occupied Bandwidth

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
900931	Hewlett Packard	8566B	Spectrum Analyzer	3138A07771	5/22/08
900948	Aeroflex/Weinschel	47-10-43	10 dB Attenuator	BM1487	12/2/08
901424	Insulated Wire Inc.	KPS-1503-360-KPS	RF cable 36"	NA	10/08/08
900957	Weinschel Corp	68-20-43	100W Attenuator 20 dB	LT394	1/13/09

Test Personnel:

Daniel Baltzell		April 19 & 22, and May 7, 2008
Test Engineer	Signature	Dates of Tests

7 FCC Rules and Regulations Part 90 §90.213 and Part 2 §2.1055: Frequency Stability

7.1 Test Procedure

ANSI TIA-603-C-2004, section 2.2.2.

The carrier frequency stability is the ability of the transmitter to maintain an assigned carrier frequency.

The EUT was evaluated over the temperature range -30°C to +60°C.

The temperature was initially set to -30°C and an hour elapsed for stabilization of the EUT. The frequency stability was measured within one minute after application of primary power to the transmitter. The temperature was raised at intervals of 10°C through the range. A ½ hour period was observed to stabilize the EUT at each measurement step, and the frequency stability was measured within one minute after application of primary power to the transmitter. Additionally, the power supply voltage of the EUT was varied +/-15% of nominal value.

The worst-case test data are shown below in Table 7-1 and Table 7-3.

7.2 Test Data

7.2.1 CFR 47 Part 90.213 Requirements

For base stations: 851-854 MHz band: 1.0 ppm 854-869 MHz band: 1.5 ppm

7.2.2 Frequency Stability/Temperature Variation

Plot 7-1: Temperature Frequency Stability

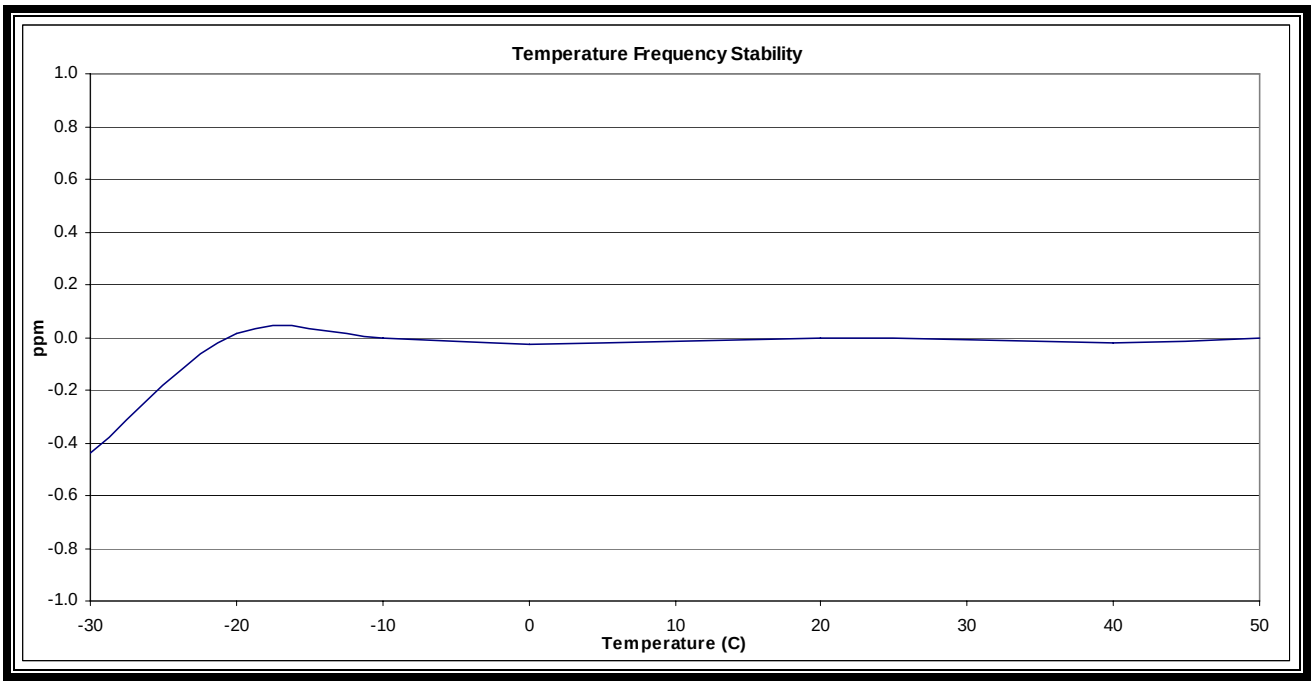


Table 7-1: Frequency Stability/Temperature Variation – 865.9875 MHz

Temperature °C	Measured Frequency (MHz)	ppm
-30	865.987120	-0.44
-20	865.987512	0.01
-10	865.987500	0.00
0	865.987475	-0.03
10	865.987485	-0.02
20	865.987500	0.00
30	865.987490	-0.01
40	865.987480	-0.02
50	865.987500	0.00

7.2.3 Frequency Stability/Voltage Variation

Plot 7-2: Voltage Frequency Stability – 865.9875 MHz Channel

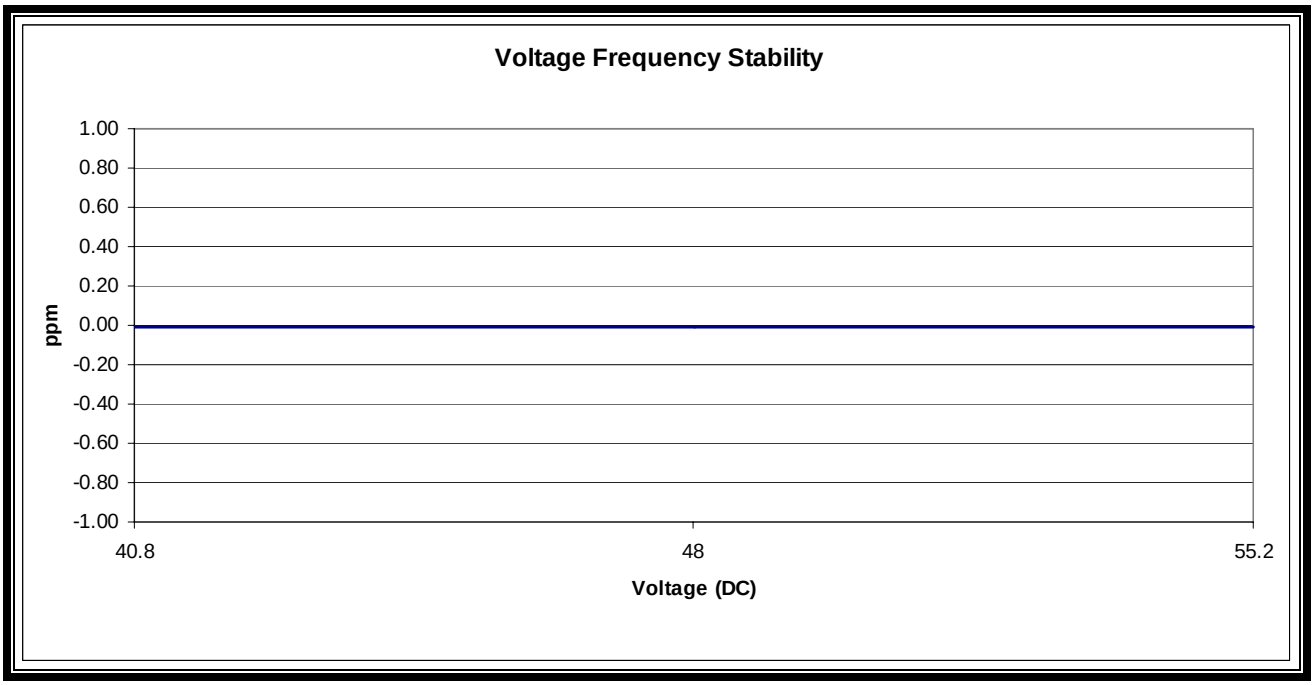


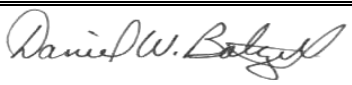
Table 7-2: Frequency Stability/Voltage Variation – 865.9875 MHz

Voltage (VDC)	Measured Frequency (MHz)	ppm
40.8	865.98749	-0.01
48.0	865.98749	-0.01
55.2	865.98749	-0.01

Table 7-3: Test Equipment for Testing Frequency Stability

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
900824	Hewlett Packard	8591E	RF Spectrum Analyzer (9 KHz-1.8 GHz)	3710A06135	2/4/09
901138	Weinschel Corp.	48-40-34 DC-18GHz	Attenuator, 100W 40dB	BK5883	1/13/09
901350	Meterman	33XR	Digital Multimeter	040402802	12/05/08
900946	Tenney Engineering, Inc.	TH65	Temperature Chamber with Humidity	11380	4/17/09

Test Personnel:

Daniel W. Baltzell		April 20, 2008
Test Engineer	Signature	Date Of Test

8 FCC Rules and Regulations Part 90 §90.543(c) and Part 2 §2.1053(a); RSS-119 5.8: Field Strength of Spurious Radiation

8.1 Test Procedure

ANSI/TIA/EIA-603-2002, Section 2.2.12.

Device with digital modulation: Modulated to its maximum extent using a pseudo random data sequence – 19,200 bps.

The spurious emissions levels were measured and the device under test was replaced by a substitution antenna connected to a signal generator. This signal generator level was then corrected by subtracting the cable loss from the substitution antenna to the signal generator, and the gain of the antenna was further corrected to a half wave dipole.

8.2 Test Data

8.2.1 CFR 47 Part 90.210 Requirements

The worst-case emissions test data are shown.

Table 8-1: Field Strength of Spurious Radiation Channel 300 – 858.4875 MHz; Wideband; High Power

Limit = 43 + 10 Log P = 61.8 dBc; Conducted Power = 48.8 dBm = 75 W

Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Polarity	Signal Generator Level (dBm)	Cable Loss* (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
1716.9750	31.3	H	-62.9	7.9	5.4	114.2	-52.4
1716.9750	24.8	V	-68.5	7.9	5.4	119.8	-58.0
2575.4625	14.3	H	-78.9	9.7	7.2	130.2	-68.4
2575.4625	13.2	V	-76.5	9.7	7.2	127.8	-66.0
3433.9500	14.6	H	-76.3	11.2	7.5	128.8	-67.0
3433.9500	15.4	V	-74.1	11.2	7.5	126.6	-64.8
4292.4375	16.2	H	-70.2	12.6	8.0	123.6	-61.8
4292.4375	19.1	V	-66.4	12.6	8.0	119.8	-58.0
5150.9250	13.0	H	-72.6	13.3	8.3	126.4	-64.6
5150.9250	13.1	V	-72.0	13.3	8.3	125.8	-64.0
6009.4125	15.2	H	-68.8	14.2	8.9	122.9	-61.1
6009.4125	15.6	V	-68.2	14.2	8.9	122.3	-60.5
6867.9000	13.6	H	-69.0	15.0	9.3	123.5	-61.7
6867.9000	14.5	V	-68.0	15.0	9.3	122.5	-60.7
7726.3875	14.7	H	-65.1	15.1	8.8	120.2	-58.4
7726.3875	14.7	V	-64.7	15.1	8.8	119.8	-58.0
8584.8750	14.1	H	-60.0	16.0	9.0	115.8	-54.0
8584.8750	14.2	V	-59.8	16.0	9.0	115.6	-53.8

*This insertion loss corresponds to the cable connecting the RF Signal Generator to the ½ wave dipole antenna.

Table 8-2: Field Strength of Spurious Radiation Channel 715 – 867.5125 MHz; Wideband; High Power

Limit = 43 + 10 Log P = 61.8 dBc; Conducted Power = 48.8 dBm = 75 W

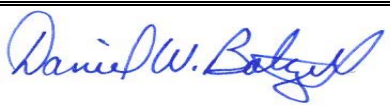
Frequency (MHz)	Spectrum Analyzer Level (dBuV)	Polarity	Signal Generator Level (dBm)	Cable Loss* (dB)	Antenna Gain (dBd)	Corrected Signal Generator Level (dBc)	Margin (dB)
1735.0250	35.2	H	-59.0	8.0	5.5	110.3	-48.5
1735.0250	33.1	V	-60.2	8.0	5.5	111.5	-49.7
2602.5375	17.6	H	-74.8	9.7	7.2	126.1	-64.3
2602.5375	18.3	V	-73.4	9.7	7.2	124.7	-62.9
3470.0500	13.2	H	-77.2	8.4	7.5	126.9	-65.1
3470.0500	14.0	V	-76.1	8.4	7.5	125.8	-64.0
4337.5625	15.1	H	-69.3	12.7	8.1	122.7	-60.9
4337.5625	17.4	V	-68.2	12.7	8.1	121.6	-59.8
5205.0750	13.0	V	-72.6	13.4	8.3	126.5	-64.7
5205.0750	12.3	H	-72.9	13.4	8.3	126.8	-65.0
6072.5875	18.3	V	-65.6	14.6	8.9	120.1	-58.3
6072.5875	17.1	H	-66.7	14.6	8.9	121.2	-59.4
6940.1000	14.8	V	-67.1	15.3	9.3	121.9	-60.1
6940.1000	14.3	H	-67.7	15.3	9.3	122.5	-60.7
7807.6125	14.3	V	-64.9	15.5	8.8	120.4	-58.6
7807.6125	14.8	H	-64.0	15.5	8.8	119.5	-57.7
8675.1250	15.0	V	-59.0	15.8	9.1	114.5	-52.7
8675.1250	15.0	H	-58.9	15.8	9.1	114.4	-52.6

*This insertion loss corresponds to the cable connecting the RF Signal Generator to the ½ wave dipole antenna.

Table 8-3: Test Equipment for Testing Field Strength of Spurious Radiation

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due
901053	Schaffner-Chase	CBL6112	Antenna (25 MHz–2 GHz)	2648	12/20/08
900814	Electro-Metrics	EM-6961 (RGA-60)	Double Ridge Guide Antenna (1-18 GHz)	2310	3/30/09
901365	MITEQ	JS4-00102600-41-5P	Amplifier, 0.1-26 GHz, 30dB gain	N/A	10/8/08
901215	Hewlett Packard	8596EM	Spectrum Analyzer (9 kHz-12.8 GHz)	3826A00144	10/17/08
900928	Hewlett Packard	HP 83752A	Synthesized Sweeper (.01-20 GHz)	3610A00866	12/7/08
901424	Insulated Wire Inc.	KPS-1503-360-KPS	RF cable 36"	NA	10/5/08
901425	Insulated Wire, Inc.	KPS-1503-2400-KPS	RF cable, 20'	NA	10/5/08
901426	Insulated Wire Inc.	KPS-1503-3600-KPS	RF cable, 30'	NA	10/5/08
900772	EMCO	3161-02	Horn Antenna (2-4 GHz)	9804-1044	6/14/10
900321	EMCO	3161-03	Horn Antenna (4.0-8.2 GHz)	9508-1020	6/14/10
900323	EMCO	3160-07	Horn Antenna (8.2-12.4 GHz)	9605-1054	6/14/10

Test Personnel:

Daniel W. Baltzell		April 25, 2008
Test Engineer	Signature	Date Of Test

9 FCC Rules and Regulations Part 2 §2.202: Necessary Bandwidth and Emission Bandwidth

Type of Emission: F9W

FCC Mask 90.210(h):
Type of Emission: F9W
Digital Voice and Data: 19,200 BPS

Calculation:

$B(n) = (R/Log_2S + 2KD)$

where

R = 19.2 kilobits per second [raw data rate]
S = 4 [4-level FSK]
D = 3.1 kHz [FM Deviation]
K = 0.234, [K is best quadratic fit to occupied BW measurements; K = (-0.256*d*d + 1.066*d - 0.576), where d = normalized deviation factor of 1.0]

B(n) = 11,050 or 11K0
FCC Emission Designator: 11K0F9W

FCC Mask 90.210(g):
Type of Emission: F9W
Digital Voice and Data: 19,200 BPS

Calculation:

$B(n) = (R/Log_2S + 2KD)$

where

R = 19.2 kilobits per second [raw data rate]
S = 4 [4-level FSK]
D = 3.75 kHz [FM Deviation]
K = 0.33 4, [K is best quadratic fit to occupied BW measurements; K = (-0.256*d*d + 1.066*d - 0.576), where d = normalized deviation factor of 1.2]

B(n) = 12,100 or 12K1
FCC Emission Designator: 12K1F9W

FCC Mask 90.210(g):
Type of Emission: F9W
Digital Voice and Data: 19,200 BPS

Calculation:

$B(n) = (R/Log_2S + 2KD)$

where
R = 19.2 kilobits per second [raw data rate]
S = 4 [4-level FSK]
D = 4.2 KHz [FM Deviation]
K = 0.415, [K is best quadratic fit to occupied BW measurements; K = (-0.256*d*d + 1.066*d - 0.576), where d = normalized deviation factor of 1.4

B(n) = 13,100 or 13K1
FCC Emission Designator: 13K1F9W

10 Conclusion

The data in this measurement report shows that the **M/A-COM, Inc**. Model **OpenSky 800 MHz Base Station Radio; FCC ID: BV8MBS800B075; IC: 3670A-MBS800B,** complies with the applicable requirements of Parts 90 and 2 of the FCC Rules and IC RSS-119.