



M. Flom Associates, Inc. - Global Compliance Center

3356 North San Marcos Place, Suite 107, Chandler, Arizona 85225-7176

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Transmitter Certification

of

FCC ID: BYMBS850

Model: BS850

to

Federal Communications Commission

Rule Part 74H, Confidentiality

Date of report: August 18, 2003

On the Behalf of the Applicant:

HM Electronics, Inc.

At the Request of:

P.O. Part of 20213

HM Electronics, Inc.
14110 Stowe Drive
Poway, CA 92064

Attention of:

(858) 535-6000 Corporate
Tom Riches, Engineering Services manager
(858) 535-6098; FAX: -9019
email: triches@hme.com

Supervised by:

A handwritten signature in black ink that reads 'Morton Flom, P. Eng.' The signature is written in a cursive style with a horizontal line underneath.

Morton Flom, P. Eng.

List of Exhibits

(FCC **Certification** (Transmitters) - Revised 9/28/98)

Applicant: HM Electronics, Inc.

FCC ID: BYMBS850

By Applicant:

- | | |
|---|---|
| 1. Letter of Authorization | x |
| 2. Identification Drawings, 2.1033(c)(11) | |
| <u>x</u> Label | |
| <u>x</u> Location of Label | |
| <u>x</u> Compliance Statement | |
| <u>x</u> Location of Compliance Statement | |
| 3. Photographs, 2.1033(c)(12) | x |
| 4. Documentation: 2.1033(c) | |
| (3) User Manual | x |
| (9) Tune Up Info | x |
| (10) Schematic Diagram | x |
| (10) Circuit Description | x |
| Block Diagram | x |
| Parts List | x |
| Active Devices | x |
| 5. Part 90.203(e) & (g) Attestation | |

By M.F.A. Inc.:

- A. Testimonial & Statement of Certification
- B. Statement of Qualifications

The Applicant has been cautioned as to the following:**15.21 Information to the User.**

The users manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) Special Accessories.

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.


Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

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Required information per ISO/IEC Guide 25-1990, paragraph 13.2:

- a) **Test Report**
- b) Laboratory: M. Flom Associates, Inc.
(FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107
(Canada: IC 2044) Chandler, AZ 85225
- c) Report Number: d0380027
- d) Client: HM Electronics, Inc.
14110 Stowe Drive
Poway, CA 92064
- e) Identification: FCC ID: BYMBS850
EUT Description: Base Station
- f) EUT Condition: Not required unless specified in individual tests.
- g) Report Date: August 18, 2003
EUT Received: July 14, 2003
- h, j, k): As indicated in individual tests.
- i) Sampling method: No sampling procedure used.
- l) Uncertainty: In accordance with MFA internal quality manual.
- m) Supervised by: 
Morton Flom, P. Eng.
- n) Results: The results presented in this report relate only to the item tested.
- o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

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List of General Information Required for Certification

In Accordance with FCC Rules and Regulations,
Volume II, Part 2 and to

74H

Sub-part 2.1033

(c)(1): **Name and Address of Applicant:**

HM Electronics, Inc.
14110 Stowe Drive
Poway, CA 92064

Manufacturer:

Applicant

(c)(2): **FCC ID:** BYMBS850

Model Number: BS850

(c)(3): **Instruction Manual(s):**

Please see attached exhibits

(c)(4): **Type of Emission:** 190KF9W

(c)(5): **Frequency Range, MHz:** 470 to 608
614 to 740

(c)(6): **Power Rating, Watts:** 0.25
 Switchable Variable N/A

(c)(7): **Maximum Power Rating, Watts:** 250 mW

DUT Results: Passes Fails

M. Flom Associates, Inc. is accredited by the American Association for Laboratory Accreditation (A2LA) as shown in the scope below.



THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

M. FLOM ASSOCIATES, INC.
Chandler, AZ

for technical competence in the field of

Electrical (EMC) Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration Laboratories" and any additional program requirements in the identified field of testing. Testing and calibration laboratories that comply with this International Standard also operate in accordance with ISO 9001 or ISO 9002.

Presented this 2nd day of March, 2001.

Peter Abjoe
President
For the Accreditation Council
Certificate Number 1008.01
Valid to December 31, 2002

For tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical (EMC) Scope of Accreditation



American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC 17025:1999

M. FLOM ASSOCIATES, INC.
Electronic Testing Laboratory
3336 North San Marcos Place, Suite 107
Chandler, AZ 85225
Master File # Phone: 480-928-5108

ELECTRICAL (EMC)

Valid to: December 31, 2002 Certificate Number: 1008.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electromagnetic compatibility tests:

Tests	Standards
RF Disturbance	FCC Part 15 (Subparts B and C) using ANSI C63.4-2000, CISPR 11, CISPR 13, CISPR 14, CISPR 22, EN 55011, EN 55013, EN 55014, EN 55022, EN 55024, EN 55031-1, EN 55031-2, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-7, IEC61000-4-8, IEC61000-4-9, IEC61000-4-11
Harmonic Current	EN 61000-3-2
Fluctuation and Flicker	EN 61000-3-3
RF Immunity	EN 55022-1, EN55022-2, EN55024, IEC61000-4-11
Electrostatic Discharge (ESD)	EN 61000-4-2
Radiated Susceptibility	EN 61000-4-3, IEC 61000-4-3, IEC 61000-4-3, IEC 61000-4-3
EFT	EN 61000-4-4, IEC 61000-4-4, IEC 61000-4-4
Surge	EN 61000-4-5, IEC 61000-4-5, IEC 61000-4-5, IEC 61000-4-5
Voltage Dip, Short Interruptions, and Line Voltage Variations	EN 61000-4-11
47 CFR (FCC)	Parts 2, 18, 21, 22, 23, 24, 25, 26, 27, 74, 88, 87, 96, 95, 97, 101 (including SAR Testing)
Power Frequency Magnetic Field Immunity	EN 61000-4-8
Immunity to Conducted Disturbance	EN 61000-4-6

(A2LA Cert. No. 100801080102)

530 Rockledge Pike, Suite 350 • Frederick, MD 21704-8373 • Phone: 301-644-3200 • Fax: 301-642-2974

Page 1 of 1

"This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this report have been determined in accordance with the laboratory's terms of accreditation unless stated otherwise in the report."

Should this report contain any data for tests for which we are not accredited, or which have been undertaken by a subcontractor that is not A2LA accredited, such data would not be covered by this laboratory's A2LA accreditation.

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Subpart 2.1033 (continued)

(c)(8): Voltages & currents in all elements in final RF stage, including final transistor or solid-state device:

Collector Current, A	=	per manual
Collector Voltage, Vdc	=	per manual
Supply Voltage, Vac	=	115

(c)(9): **Tune-Up Procedure:**

Please see attached exhibits

(c)(10): **Circuit Diagram/Circuit Description:**

Including description of circuitry & devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation and limiting power.

Please see attached exhibits

(c)(11): **Label Information:**

Please see attached exhibits

(c)(12): **Photographs:**

Please see attached exhibits

(c)(13): **Digital Modulation Description:**

Attached Exhibits
 N/A

(c)(14): **Test and Measurement Data:**

Follows

Page Number

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Sub-part

2.1033(c)(14):**Test and Measurement Data**

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2, Sub-part J, Sections 2.947, 2.1033(c), 2.1041, 2.1046, 2.1047, 2.1079, 2.1051, 2.1053, 2.1055, 2.1057 and the following individual Parts:

- 21 – Domestic Public Fixed Radio Services
- 22 – Public Mobile Services
- 22 Subpart H - Cellular Radiotelephone Service
- 22.901(d) - Alternative technologies and auxiliary services
- 23 – International Fixed Public Radiocommunication services
- 24 – Personal Communications Services
- 74 Subpart H - Low Power Auxiliary Stations
- 80 – Stations in the Maritime Services
- 80 Subpart E - General Technical Standards
- 80 Subpart F - Equipment Authorization for Compulsory Ships
- 80 Subpart K - Private Coast Stations and Marine Utility Stations
- 80 Subpart S - Compulsory Radiotelephone Installations for Small Passenger Boats
- 80 Subpart T - Radiotelephone Installation Required for Vessels on the Great Lakes
- 80 Subpart U - Radiotelephone Installations Required by the Bridge-to-Bridge Act
- 80 Subpart V - Emergency Position Indicating Radio Beacons (EPIRB'S)
- 80 Subpart W - Global Maritime Distress and Safety System (GMDSS)
- 80 Subpart X - Voluntary Radio Installations
- 87 – Aviation Services
- 90 – Private Land Mobile Radio Services
- 94 – Private Operational-Fixed Microwave Service
- 95 Subpart A - General Mobile Radio Service (GMRS)
- 95 Subpart C - Radio Control (R/C) Radio Service
- 95 Subpart D - Citizens Band (CB) Radio Service
- 95 Subpart E - Family Radio Service
- 95 Subpart F - Interactive Video and Data Service (IVDS)
- 97 - Amateur Radio Service
- 101 – Fixed Microwave Services

**Standard Test Conditions
and
Engineering Practices**

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI C63.4-1992/2000 Draft, section 6.1.9, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

Measurement results, unless otherwise noted, are worst-case measurements.

Page Number 7 of 23.
Name of Test: Carrier Output Power (Conducted)
Specification: 47 CFR 2.1046(a)
Guide: ANSI/TIA/EIA-603-1992, Paragraph 2.2.1
Test Equipment: As per attached page

Measurement Procedure

1. The EUT was connected to a resistive coaxial attenuator of normal load impedance, and the unmodulated output power was measured by means of an RF Power Meter.
2. Measurement accuracy is $\pm 3\%$.

Measurement Results
(Worst case)

Frequency of Carrier, MHz = 515.0
Ambient Temperature = $23^{\circ}\text{C} \pm 3$

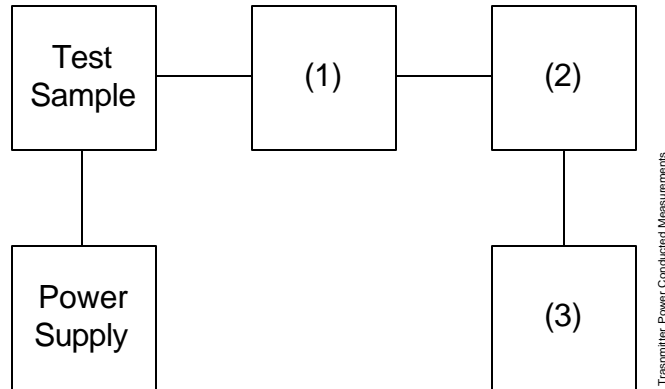
Power Setting	RF Power, Watts
High	0.25



Performed by: David Lee

Transmitter Power Conducted Measurements

Test A. RF Power Output
 Test B. Frequency Stability



Asset (as applicable)	Description	s/n
(1) Coaxial Attenuator		
i00122	Narda 766-10	7802
i00123	Narda 766-10	7802A
i00069	Bird 8329 (30 dB)	1006
i00113	Sierra 661A-3D	1059
(2) Power Meters		
i00014	HP 435A	1733A05836
i00039	HP 436A	2709A26776
i00020	HP 8901A Power Mode	2105A01087
(3) Frequency Counter		
i00042	HP 5383A	1628A00959
i00019	HP 5334B	2704A00347
i00020	HP 8901A Frequency Mode	2105A01087

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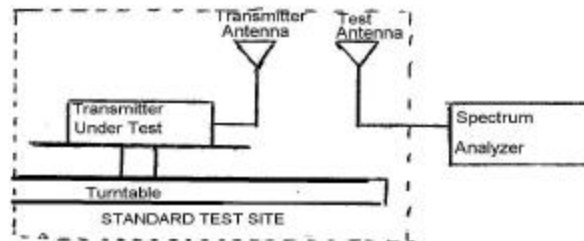
Name of Test: ERP Carrier Power (Radiated)

Specification: TIA/EIA 603A (Substitution Method)

2.2.17.1 Definition: The average radiated power of a licensed device is the equivalent power required, when delivered to a half-wave dipole or horn antenna, to produce at a distant point the same average received power as produced by the licensed device.

2.2.17.2 Method of Measurement:

a) Connect the equipment as illustrated. Place the transmitter to be tested on the turntable in the standard test site.



b) Raise and lower the test antenna from 1m to 6 m with the transmitter facing the antenna and record the highest received signal in dB as LVL.

c) Repeat step b) for seven additional readings at 45° interval positions of the turntable.

d) Replace the transmitter under test with a half-wave or horn vertically polarized antenna. The center of the antenna should be at the same location as the transmitter under test. Connect the antenna to a signal generator with a known output power and record the path loss in dB or LOSS.

e) Calculate the average radiated output power from the readings in step c) and d) by the following:

$$\text{average radiated power} = 10 \log_{10} S 10(LVL - LOSS)/10 \text{ (dBm)}$$

Results

	506.000 MHz		515.000 MHz		524.000 MHz	
	LVL, dbm	Path Loss, db	LVL, dbm	Path Loss, db	LVL, dbm	Path Loss, db
0°	20.2	-2.0	19.6	-2.3	22.4	-2.8
45°	24.7	-2.0	22.8	-2.3	23.0	-2.8
90°	23.3	-2.0	21.0	-2.3	24.3	-2.8
135°	22.5	-2.0	23.1	-2.3	23.6	-2.8
180°	20.5	-2.0	24.3	-2.3	24.3	-2.8
225°	23.8	-2.0	24.8	-2.3	25.1	-2.8
270°	21.5	-2.0	23.6	-2.3	22.4	-2.8
315°	23.8	-2.0	22.6	-2.3	21.7	-2.8
Av. Radiated Power:		20.54 dbm	20.43 dbm	20.55 dbm		

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Name of Test: Field Strength of Spurious Radiation

Specification: 47 CFR 2.1053(a)

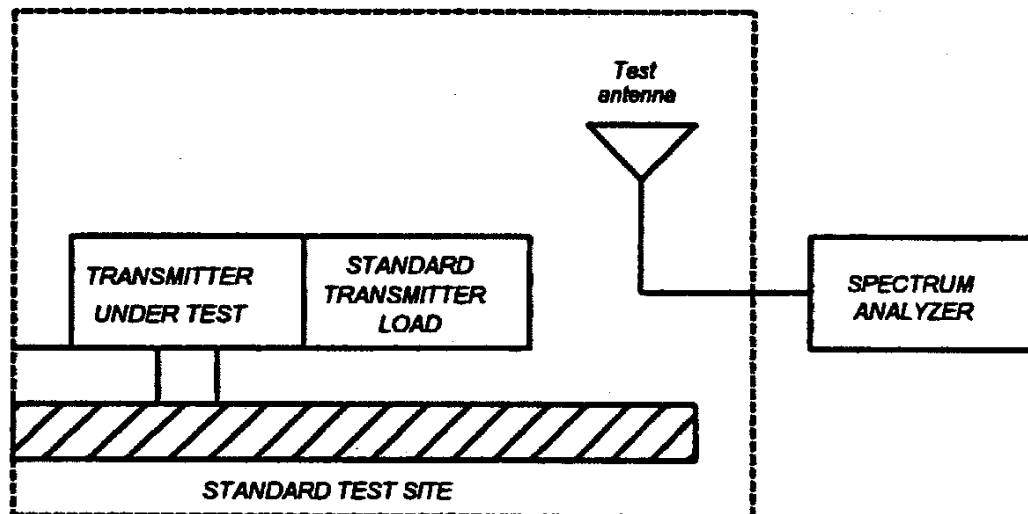
Guide: ANSI/TIA/EIA-603-1992/2001, Paragraph 1.2.12 and Table 16, 47 CFR 22.917

Measurement Procedure

1.2.12.1 Definition: Radiated spurious emissions are emissions from the equipment when transmitting into a non-radiating load on a frequency or frequencies which are outside an occupied band sufficient to ensure transmission of information of required quality for the class of communications desired.

1.2.12.2 Method of Measurement

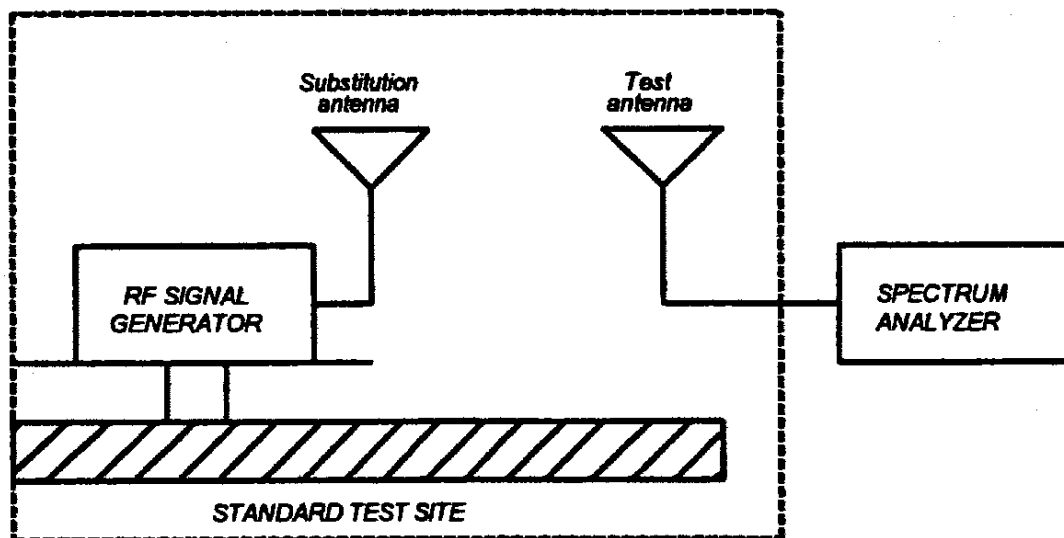
- A) Connect the equipment as illustrated
- B) Adjust the spectrum analyzer for the following settings:
 - 1) Resolution Bandwidth 100 kHz (<1 GHz), 1 MHz (> 1GHz).
 - 2) Video Bandwidth = 3 times Resolution Bandwidth, or 30 kHz (22.917)
 - 3) Sweep Speed ≤ 2000 Hz/second
 - 4) Detector Mode = Mean or Average Power
- C) Place the transmitter to be tested on the turntable in the standard test site. The transmitter is transmitting into a non-radiating load which is placed on the turntable. The RF cable to this load should be of minimum length.



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Name of Test: Field Strength of Spurious Radiation (Cont.)

- D) For each spurious measurement the test antenna should be adjusted to the correct length for the frequency involved. This length may be determined from a calibration ruler supplied with the equipment. Measurements shall be made from the lowest radio frequency generated in the equipment to the tenth harmonic of the carrier, except for the region close to the carrier equal to \pm the test bandwidth (see section 1.3.4.4).
- E) For each spurious frequency, raise and lower the test antenna from 1 m to 4 m to obtain a maximum reading on the spectrum analyzer with the test antenna at horizontal polarity. Repeat this procedure to obtain the highest possible reading. Record this maximum reading.
- F) Repeat step E) for each spurious frequency with the test antenna polarized vertically.



- G) Reconnect the equipment as illustrated.
- H) Keep the spectrum analyzer adjusted as in step B).
- I) Remove the transmitter and replace it with a substitution antenna (the antenna should be half-wavelength for each frequency involved). The center of the substitution antenna should be approximately at the same location as the center of the transmitter. At lower frequencies, where the substitution antenna is very long, this will be impossible to achieve when the antenna is polarized vertically. In such case the lower end of the antenna should be 0.3 m above the ground.

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Name of Test: Field Strength of Spurious Radiation (Cont.)

- J) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.
- K) Repeat step J) with both antennas vertically polarized for each spurious frequency.
- L) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps J) and K) by the power loss in the cable between the generator and the antenna and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna.
- M) The levels recorded in step L) are absolute levels of radiated spurious emissions in dBm. The radiated spurious emissions in dB can be calculated by the following:

Radiated spurious emissions dB =
 $10\log_{10}(\text{TX power in watts}/0.001) - \text{the levels in step l)}$

NOTE: It is permissible that other antennas provided can be referenced to a dipole.

Test Equipment:

Asset (as applicable)	Description	s/n	Cycle	Last Cal
Transducer				
i00088	EMCO 3109-B 25MHz-300MHz	2336	12 mo.	Sep-02
i00065	EMCO 3301-B Active Monopole	2635	12 mo.	Sep-02
i00089	April 2001 200MHz-1GHz	001500	12 mo.	Sep-02
i00103	EMCO 3115 1GHz-18GHz	9208-3925	12 mo.	Sep-02
Amplifier				
i00028	HP 8449A	2749A00121	12 mo.	Mar-03
Spectrum Analyzer				
i00029	HP 8563E	3213A00104	12 mo.	Jan-03
i00033	HP 85462A	3625A00357	12 mo.	Jan-03
i00048	HP 8566B	2511AD1467	6 mo.	Jul-03

Microphone, Antenna Port, and Cabling

Microphone Yes/No Y Cable Length N/A Meters
 Antenna Port Terminated Yes/No Y Load N/A Antenna Gain 0 dBd
 All Ports Terminated by Load Y Peripheral No

Page Number 13 of 23.

Name of Test: Field Strength of Spurious Radiation

g0370008: 2003-Jul-16 Wed 14:55:00

STATE: 2:High Power

Ambient Temperature: 23°C ±3

Frequency Tuned, MHz	Frequency Emission, MHz	ERP, dBm	ERP, dbc
515.000000	1030.052500	-43.9	≤ -65.3
515.000000	1544.982500	-41.3	≤ -65.3
515.000000	2060.030000	-53.6	≤ -65.3
515.000000	2575.040000	-48.8	≤ -65.3
515.000000	3089.943333	-55.1	≤ -65.3
515.000000	3605.058333	-59.7	≤ -65.3
515.000000	4119.945000	-56.5	≤ -65.3
515.000000	4634.973333	-57.7	≤ -65.3
515.000000	5149.976667	-56.2	≤ -65.3

Page Number 14 of 23.

Name of Test: Emission Masks (Occupied Bandwidth)

Specification: 47 CFR 2.1049(c)(1)

Guide: ANSI/TIA/EIA-603-1992, Paragraph 2.2.11

Test Equipment: As per previous page

Measurement Procedure

1. The EUT and test equipment were set up as shown on the following page, with the Spectrum Analyzer connected.
2. For EUTs supporting audio modulation, the audio signal generator was adjusted to the frequency of maximum response and with output level set for $\pm 2.5/\pm 1.25$ kHz deviation (or 50% modulation). With level constant, the signal level was increased 16 dB.
3. For EUTs supporting digital modulation, the digital modulation mode was operated to its maximum extent.
4. The Occupied Bandwidth was measured with the Spectrum Analyzer controls set as shown on the test results.
5. Measurement Results: Attached

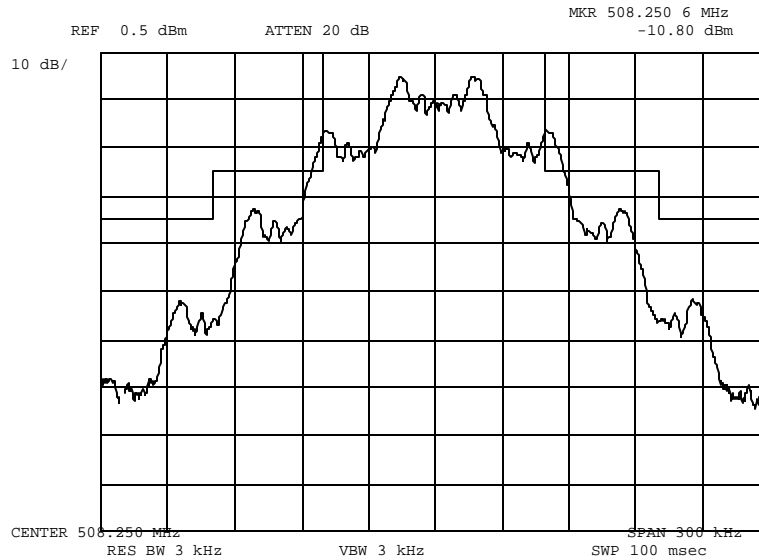
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Name of Test: Emission Masks (Occupied Bandwidth)

g0370028: 2003-Jul-18 Fri 15:29:00

State: 2: High Power

Ambient Temperature: 23°C ±3



Power:
Modulation:

HIGH
VOICE: 2500 Hz SINE WAVE
MASK: Wireless Mic, 74.861

Standard Mask stored
based on 100 kHz b/w
Max allowed b/w 200kHz

Performed by:

David Lee

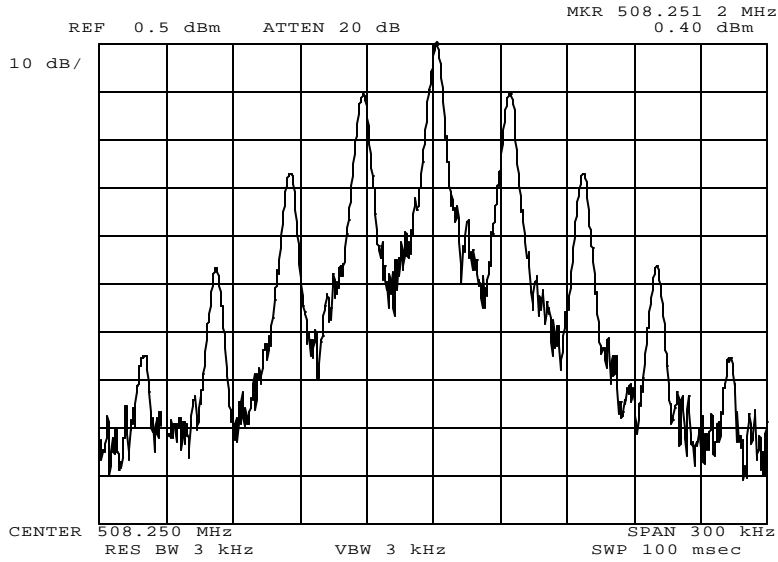
Page Number 16 of 23.

Name of Test: Emission Masks (Occupied Bandwidth)

g0370028: 2003-Jul-18 Fri 15:21:00

State: 2: High Power

Ambient Temperature: 23°C ±3



Power:
Modulation:

HIGH
NONE

Performed by:

David Lee

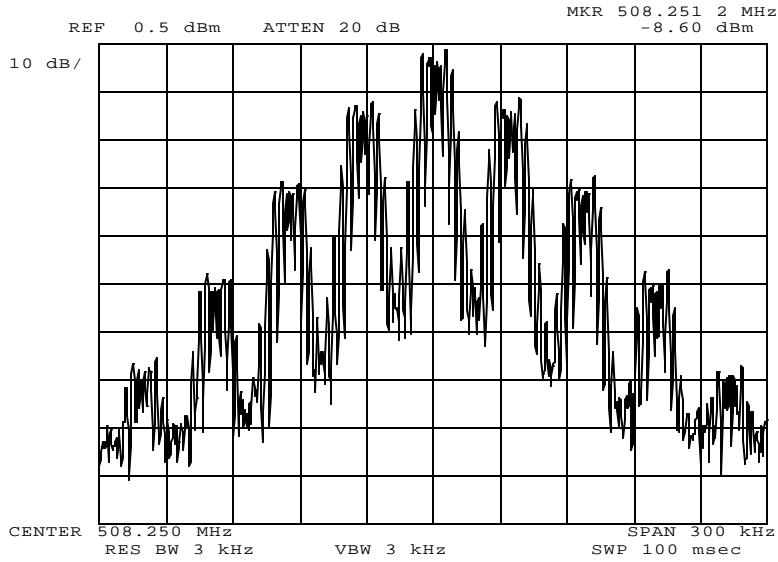
Page Number 17 of 23.

Name of Test: Emission Masks (Occupied Bandwidth)

g0370028: 2003-Jul-18 Fri 15:24:00

State: 2:High Power

Ambient Temperature: 23°C ±3



Power:
Modulation:

HIGH
1000 Hz 50% Deviation

Performed by:

David Lee

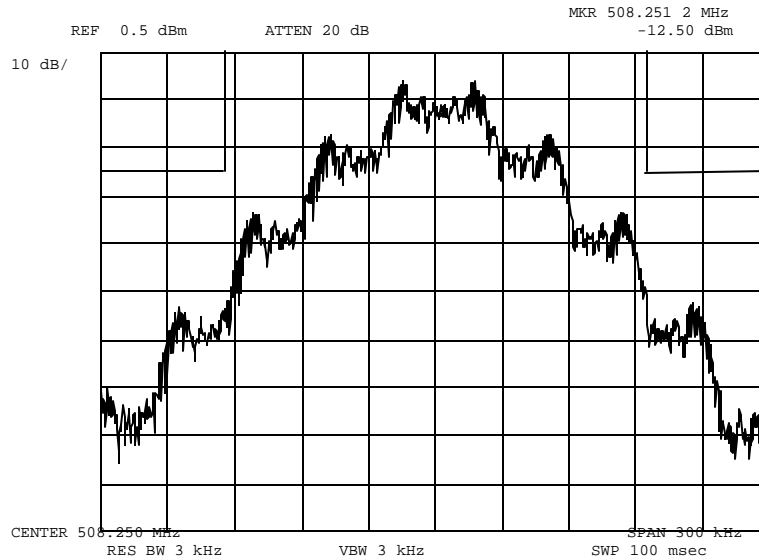
Page Number 18 of 23.

Name of Test: Emission Masks (Occupied Bandwidth)

g0370028: 2003-Jul-18 Fri 15:25:00

State: 2: High Power

Ambient Temperature: 23°C ±3



Power:

HIGH

Modulation:

2500 Hz +16 dB

Mask based on 74.861(c)(6)
50% of authorized b/w 0dB
50-100% of authorized b/w 25 dB
100-250% of authorized b/w 35 dB
then $43 + 10\log_{10}(P)$
Assume b/w 190 kHz as per manual

Performed by:

David Lee

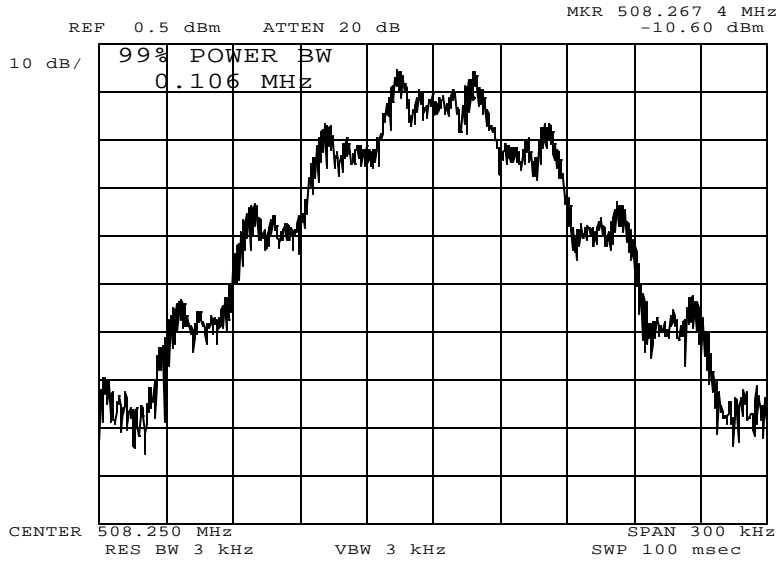
Page Number 19 of 23.

Name of Test: Emission Masks (Occupied Bandwidth)

g0370028: 2003-Jul-18 Fri 15:25:00

State: 2:High Power

Ambient Temperature: 23°C ±3



Power:

HIGH

Modulation:

2500 kHz +16 dB

Performed by:

David Lee

Page Number 20 of 23.

Name of Test: Frequency Stability (Temperature Variation)

Specification: 47 CFR 2.1055(a)(1)

Guide: ANSI/TIA/EIA-603-1992, Paragraph 2.2.2

Test Conditions: As Indicated

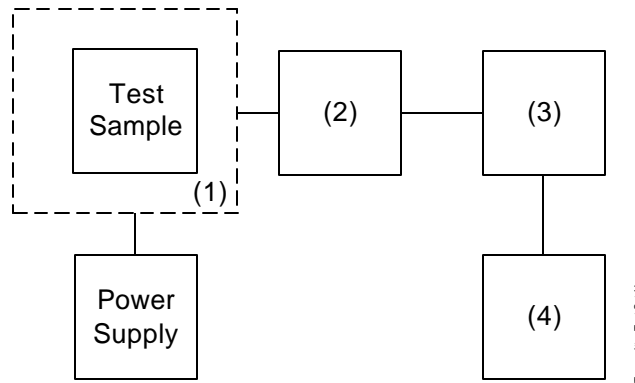
Test Equipment: As per previous page

Measurement Procedure

1. The EUT and test equipment were set up as shown on the following page.
2. With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.
3. With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
4. The temperature tests were performed for the worst case.
5. Measurement Results: Attached

Transmitter Test Set-Up

- Test A. Operational Stability
- Test B. Carrier Frequency Stability
- Test C. Operational Performance Stability
- Test D. Humidity
- Test E. Vibration
- Test F. Environmental Temperature
- Test G. Frequency Stability: Temperature Variation
- Test H. Frequency Stability: Voltage Variation



Asset	Description	s/n
(1) Temperature, Humidity, Vibration		
i00027	Tenney Temp. Chamber	9083-765-234
i00	Weber Humidity Chamber	
i00	L.A.B. RVH 18-100	
(2) Coaxial Attenuator		
i00122	NARDA 766-10	7802
i00123	NARDA 766-10	7802A
i00113	SIERRA 661A-3D	1059
i00069	BIRD 8329 (30 dB)	10066
(3) RF Power		
i00014	HP 435A Power Meter	1733A05839
i00039	HP 436A Power Meter	2709A26776
i00020	HP 8901A Power Mode	2105A01087
(4) Frequency Counter		
i00042	HP 5383A	1628A00959
i00019	HP 5334B	2704A00347
i00020	HP 8901A	2105A01087

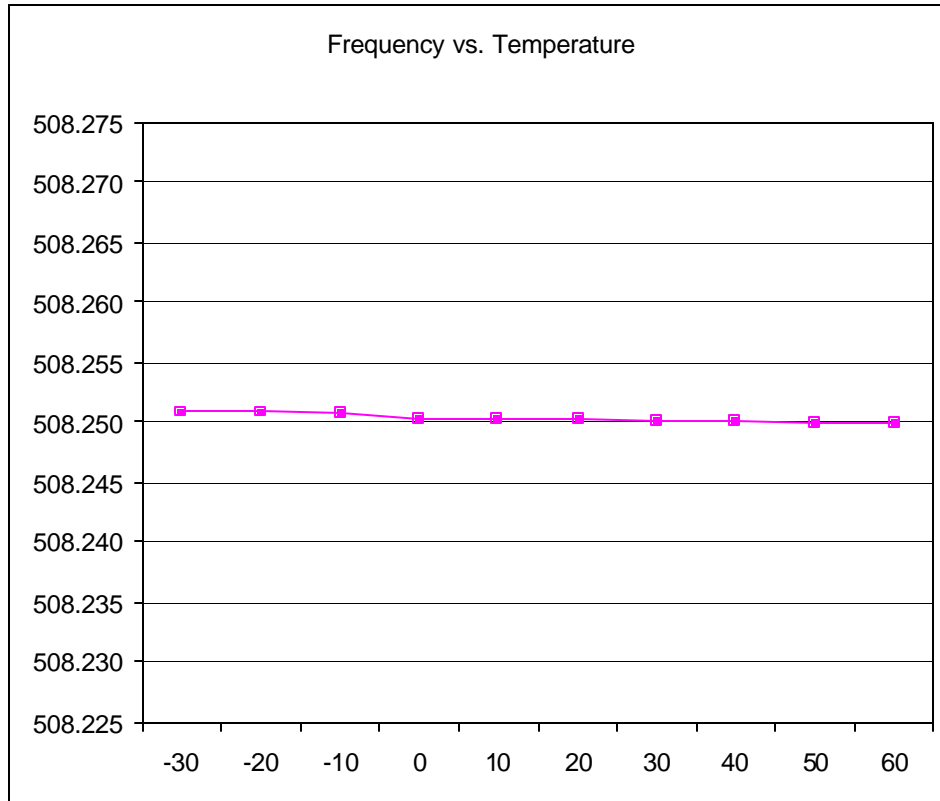
Page Number 22 of 23.

Name of Test: Frequency Stability (Temperature Variation)

g0370076: 2003-Jul-21 Mon 14:07:07

State: 0:General

Ambient Temperature: 23°C ±3



Performed by:

David Lee

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Name of Test: Necessary Bandwidth and Emission Bandwidth

Specification: 47 CFR 2.202(g)

Modulation = 190KF34

Measured

A handwritten signature in black ink, appearing to read 'David Lee', with a horizontal line underneath.

Performed by:

David Lee

END OF TEST REPORT

**Testimonial
and
Statement of Certification**

This is to Certify:

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.
2. **That** the technical data supplied with the application was taken under my direction and supervision.
3. **That** the data was obtained on representative units, randomly selected.
4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.

Certifying Engineer:



Morton Flom, P. Eng.