

# MFA Report Tracker

For MFA internal use only

Please keep this page with the report in out files.

Applicant:	HM Electronics, Inc.
Model:	BS850
FCC ID:	BYMBS850

Formulaire:	L:\Project\Formulaire\FCC.MPE.rtf
Last Modified:	2000-Oct-17
Purpose:	Environmental Assessment (MPE)
MFA Project ID:	p0370003
Client ID:	HMELECTRONICS
MFA Document ID:	d0380067
Date:	August 27, 2003
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**MFA** **M. Flom Associates, Inc. - Global Compliance Center**  
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Date: August 27, 2003

Applicant: 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

Equipment: BS850  
FCC ID: BYMBS850  
P.O. Number: Part of 20213  
FCC Rules: Radiofrequency Radiation Exposure Limits  
47 CFR 1.1310  
MPE - Mobiles \_\_\_\_\_ Fixed Based Station  x

Gentlemen:

Enclosed please find your copy of the Calculated Test Data Report, the whole for Environmental Assessment (MPE) of the referenced equipment as shown.

Should you need any clarification, just fax or phone. Thank you again for this order - it has been a pleasure to be of service.

Sincerely yours,



Morton Flom, P. Eng.

enclosure(s)  
MF/cva

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## Environmental Assessment

for

**Mobiles/Fixed Base Station**

for

**FCC ID:** FCC ID: BYMBS850  
**Model:**BS850

to

**Federal Communications Commission**

**47 Cfr 1.1310 (MPE)**  
Radiofrequency Radiation Exposure Limits

**Date Of Report:** August 27, 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:




Morton Flom, P. Eng.

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

- a) **Test Report (Supplemental)**
- 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: d0380067
- d) Client: HM Electronics, Inc.  
14110 Stowe Drive  
Poway, CA 92064
- e) Identification: BS850  
Description: FCC ID: BYMBS850  
Base Station Transceiver
- f) EUT Condition: Not required unless specified in individual tests.
- g) Report Date: August 27, 2003  
EUT Received: 2003-Jul-14
- 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.

**Identification of the Equipment Under Test (EUT)**

**Name and Address of Applicant:**

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

**Manufacturer:**

Applicant

**FCC ID:** BYMBS850

**Model Number:** BS850

**Description:** Base Station Transceiver

**Type of Emission:** 190KF9W

**Frequency Range, MHz:** 470 to 608  
 614 to 740

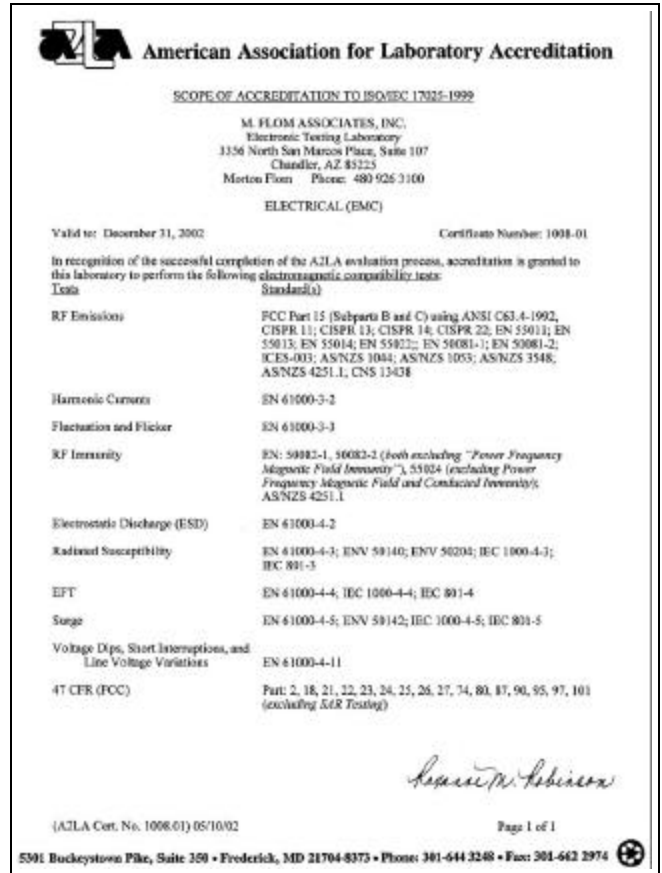
**Power Rating, Watts:** 0.250  
 Switchable       Variable       N/A

**Modulation:**  
 AMPS  
 TDMA  
 CDMA  
 OTHER

**Antenna:**  
 Helical  
 Monopole  
 Whip  
 Other

**Note:** For RF Safety test antenna gain taken at the upper range of expected gain (i.e. 0 dBd) and RF Power set to highest nominal power across all channels.

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



"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 covered by this laboratory's A2LA accreditation.

**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, 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 5 of 5.  
**Name of Test:** Environmental Assessment  
**Specification:** FCC: 47 CFR 1.1310  
**Measurement Guide:** ANSI/IEEE C95.1 1992

**Calculation of MPE**

**Frequency** = 508.250 MHz

**R.F. Power Output** = 0.250 Watts

**Limit** = 0.338 mw/cm<sup>2</sup>

**Minimum Safe Distance, Rm** =  $[0.25/(12.56 \times 0.3388)]^{1/2}$   
= 0.2424 meter  
= 24.24 cm

Supervised By:



Morton Flom, P. Eng.

**(The following will be placed in the Instruction Manual)**

**Mandatory Safety Instructions to Installers & Users**

Use only manufacturer or dealer supplied antenna.

**Antenna Minimum Safe Distance:** 24.24 cm at 100% duty cycle.

Antenna Gain: zero dBd referenced to a dipole.

The Federal Communications Commission has adopted a safety standard for human exposure to RF (Radio Frequency) energy which is below the OSHA (Occupational Safety and Health Act) limits.

**Antenna Mounting:** The antenna supplied by the manufacturer or radio dealer must not be mounted at a location such that during radio transmission, any person or persons can come closer than the above indicated minimum safe distance to the antenna i.e. 24.24 cm at 100% duty cycle.

To comply with current FCC RF Exposure limits, the antenna must be installed at or exceeding the minimum safe distance shown above, and in accordance with the requirements of the antenna manufacturer or supplier.

**Base Station Installation:** The antenna should be fixed-mounted on an outdoor permanent structure. RF Exposure compliance must be addressed at the time of installation.

**Antenna Substitution:** Do not substitute any antenna for the one supplied or recommended by the manufacturer or radio dealer. You may be exposing person or persons to excess radio frequency radiation. You may contact your radio dealer or the manufacturer for further instructions.

**Warning:** Maintain a separation distance from the antenna to a person(s) of at least 24.24 cm at 100% duty cycle.

You, as the qualified end-user of this radio device must control the exposure conditions of bystanders to ensure the minimum separation distance (above) is maintained between the antenna and nearby persons for satisfying RF Exposure compliance. The operation of this transmitter must satisfy the requirements of Occupational/Controlled Exposure Environment, for work-related use. Transmit only when person(s) are at least the minimum distance from the properly installed, externally mounted antenna.

**Testimonial  
and  
Statement of Certification**

**This is to certify that:**

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.