

Measurement Report

Product.....: **IGNITION MODULE W/BUILT-IN RF RECEIVER**
Applicant.....: **AMERICAN FLAME, INC.**
FCC ID.....: **S3TAF4000RX**
Trade Name.....: **SKYTECH**
Model No......: **AF4000 MOD , DEX-MOD**
Report No......: **MLT0411P15002A1**
Issue Date.....: **March 07, 2005**

Test By

Max Light Technology Co.,Ltd.

**Room 5, 8F, No.125, Section 3 Roosevelt Road,
Taipei, Taiwan., R.O.C.**

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**The test report consists of 15 pages in total. It may be duplicated
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except in full, without the written approval of our laboratory.**



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VERIFICATION

We here by verify that :

The test data, data evaluation, test procedures and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4:2001. All test were conducted by **MLT(Max Light Technology Co.,Ltd) Room 5, 8F, No.125, Section 3 Roosevelt Road, Taipei, Taiwan, R.O.C** Also, we attest to the accuracy of each.

We further submit that the energy emitted by the sample EUT tested as described in the report is in compliance with Class B radiated and conducted emission limit of FCC Rules Part 15 Subpart B.

EUT : IGNITION MODULE W/BUILT-IN RF RECEIVER

Applicant : AMERICAN FLAME, INC.
9230 Conservation Way, Fort. Wayne,
IN 46809, U.S.A

Manufacturer : FEGO Precision Industrial Co. Ltd
947 LIN SEN RD., WU-FENG SHIANG
TAICHUNG HSIEN R.O.C.

Model No : AF4000 MOD , DEX-MOD

FCC ID : S3TAF4000RX

Prepared by : *Country Huang* **Approved by :** *Roger Chen*
Country Huang **Roger Chen**



I. GENERAL

1.1 Introduction

The following measurement report is submitted on behalf of AMERICAN FLAME, INC.. In support of a Class B Device verification in accordance with Part 2 Subpart J and Part 15 Subpart A And B of the Commission's and Regulations.

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Model No : AF4000 MOD , DEX-MOD

FCC ID : S3TAF4000RX

Power Type : Power By Battery X4 (Size AA)

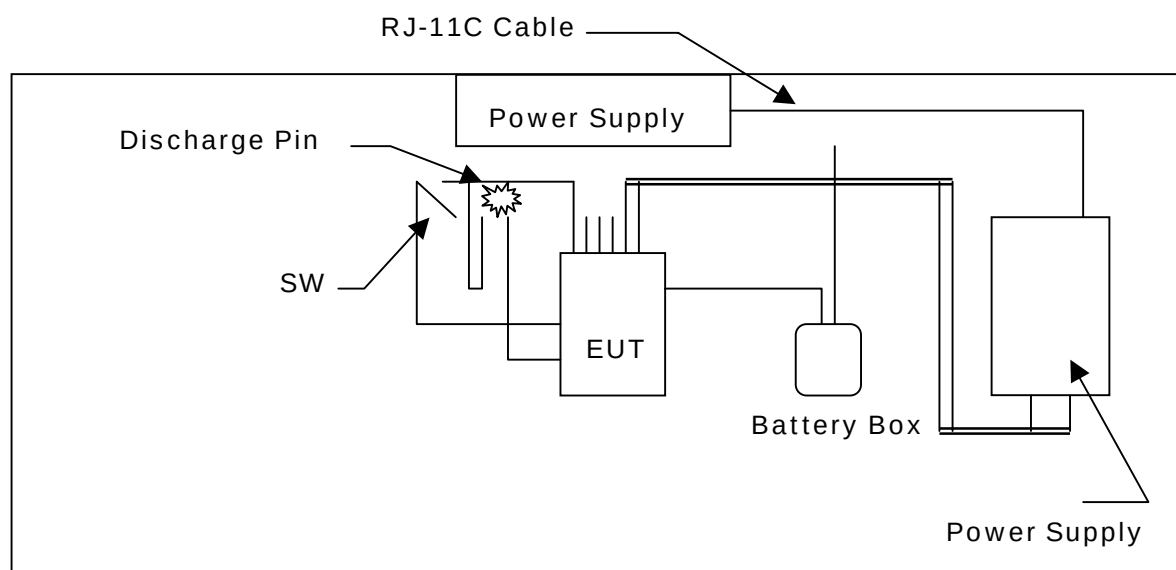
During testing the EUT was operated at Testing mode for each emission measured. This was done in order to ensure that maximum emission levels were attained.

1.2 Description of Support Equipment

In order to construct the minimum system which required by the ANSI C63.4:2001, following equipments were used as the support units.

The IGNITION MODULE W/BUILT-IN RF RECEIVER itself forms a system. No support equipment is required for its normal operation.

1.3 Configuration of System Under Test



During testing the EUT (Single Line IGNITION MODULE W/BUILT-IN RF RECEIVER)'s IPI Port's Black cable was connected to SW and discharge pin, the other IPI Port's cable were connected to LED. The power port was connected to output of power supply and aux port was connected to battery box .



1.4 Test Procedure

All measurements contained in this report were performed according to the techniques described in Measurement procedure ANSI C63.4-1992 "Measurement of unIntentional Radiators."

1.5 General Test Condition

The conditions under which the EUT operates were varied to determine their effect on the equipment's emission characteristics. The final configuration of the test system and the mode of operation used during these tests were chosen as that which produced the highest emission levels. However, only those conditions which the EUT was considered likely to encounter in normal use were investigated.

The system's radiated and conducted emissions were investigated while the EUT keep answering an incoming call form PSTN simulator to simulate the actual situation that a user will typically installed. The system's physical layout and cabling was randomly arranged to ensure that maximum emission levels were attained.



II. Conducted Emissions Requirements

The EUT operates solely by the battery. According to the rule of Section 15.207(c), the EUT exempt to the power line conducted test.



III. Radiated Emissions Requirements

3.1 General & Setup :

Prior to open-field testing, the EUT was placed in a shielded enclosure and scanned at a close distance to determine its emission characteristics. The physical arrangement of the EUT was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude, directivity, and frequency. The exact system configuration which produced the highest emissions was noted so it could be reproduced later during the open-field tests. This was done to ensure that the final measurements would demonstrate the worst-case interference potential of the EUT. Final radiation measurements were made on a 10-meter, open-field test site. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter. The spectrum was examined from 30 MHz to 1000 MHz using an Hewlett Packard 8591EM Spectrum Analyzer, EMC0 Biconical Antenna (Model 3142) for 30-1000MHz. At each frequency, the EUT was rotated 360 degrees, and the antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization. Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. No post-detector video filters were used in the test. The spectrum analyzer's 6 dB bandwidth was set to 120 KHz, and the analyzer was operated in the quasi-peak detection mode. The highest emission amplitudes relative to the appropriate limit were measured and recorded in paragraph 3.6.

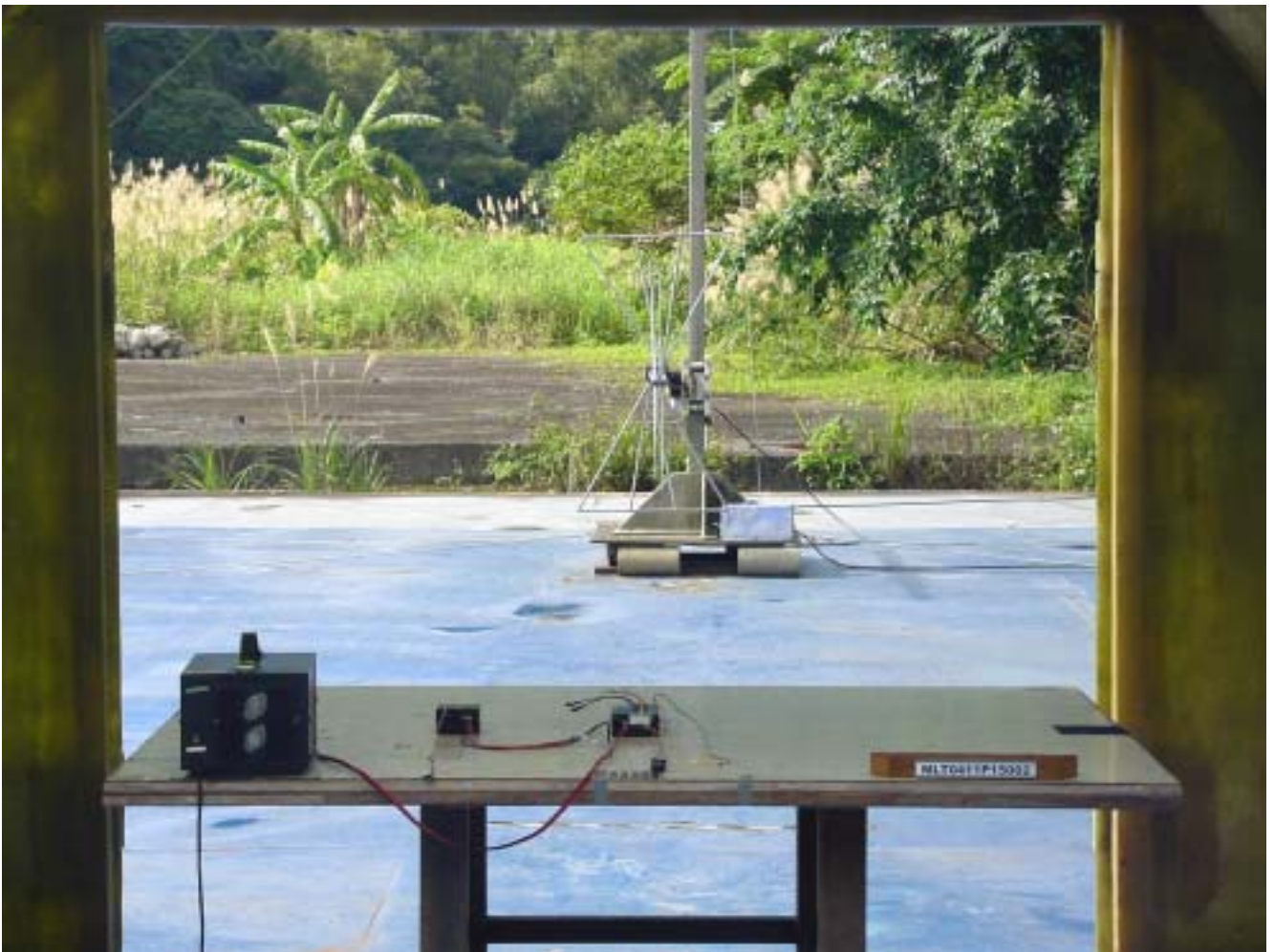
3.2 Test Equipment List:

- A. HP 8591EM 9KHz-1.8GHz Spectrum Analyzer (S/N:73412A00230)**
- B. HP 8447D Pre Amplifier (S/N:2944A08954)**
- C. EMC0 3142 Biconilog Antenna (S/N:1184)**
- D. R&S ESVP Test Receiver (S/N:881121/010)**

3.3 Test Configuration:



Front View of The Test Configuration



Rear View of The Test Configuration



3.4 Test condition:

EUT tested in accordance with the specifications given by the manufacturer , and exercised in the most unfavorable manner.

3.5 Radiated Emissions Limits:

<i>Frequency range (MHz)</i>	<i>Quasi-peak(dBuV)</i>
30 to 230	30
230 to 100	37

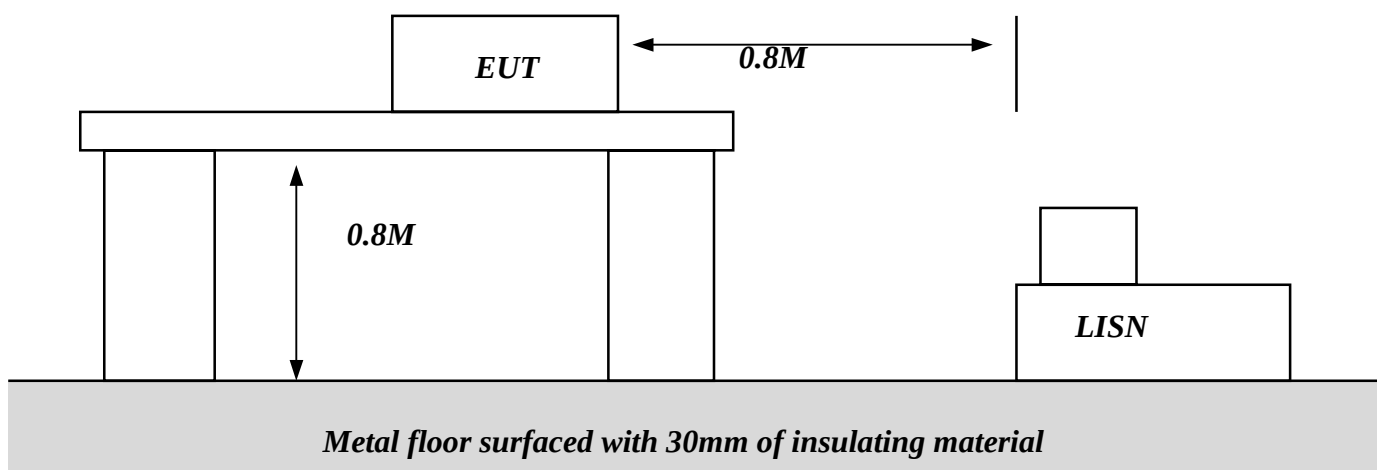
3.6 Test condition:

A. Testing Room : Temperature 21°C Humidity 53%RH

B. Testing Site : Temperature 24°C Humidity 66%RH

Appendix I- EUT Test SETUP

MEASUREMENT OF POWER LINE CONDUCTED RFI VOLTAGE



Appendix I- EUT Test SETUP

MEASUREMENT OF RADIATED EMISSION

