

Measurement Report

Product : **Receiver**
Applicant : **Skytech II, Inc.**
FCC ID : **K9LAF-4000PEWM**
Trade Name : **SKYTECH II**
Model No. : **AF-4000PEWM**
Report No. : **MLT0603P15001**
Issue Date : **March 14, 2006**

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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CERIFICATION

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: 2003. 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 : Receiver

**Applicant : Skytech II, Inc.
9230 Conservation Way, Ft.
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 : AF-4000PEWM

FCC ID : K9LAF-4000PEWM

**Prepared by : Jesse Tien Approved by : Roger Chen
Jesse Tien *Roger Chen***



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I. GENERAL

1.1 Introduction

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

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: 2003.

ANSI STANDARD C63.4- 2003 SUPER REGENERATIVE RECEIVER:

A signal generator was set to the unit under test operating frequency. An un-modulated continuous wave (CW) signal was radiated at the super-regenerative receiver operating frequency to cohere the characteristic broadband emissions from the receiver.

EUT : Receiver

**Applicant : Skytech II, Inc.
9230 Conservation Way, Ft.
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 : AF-4000PEWM

FCC ID : K9LAF-4000PEWM

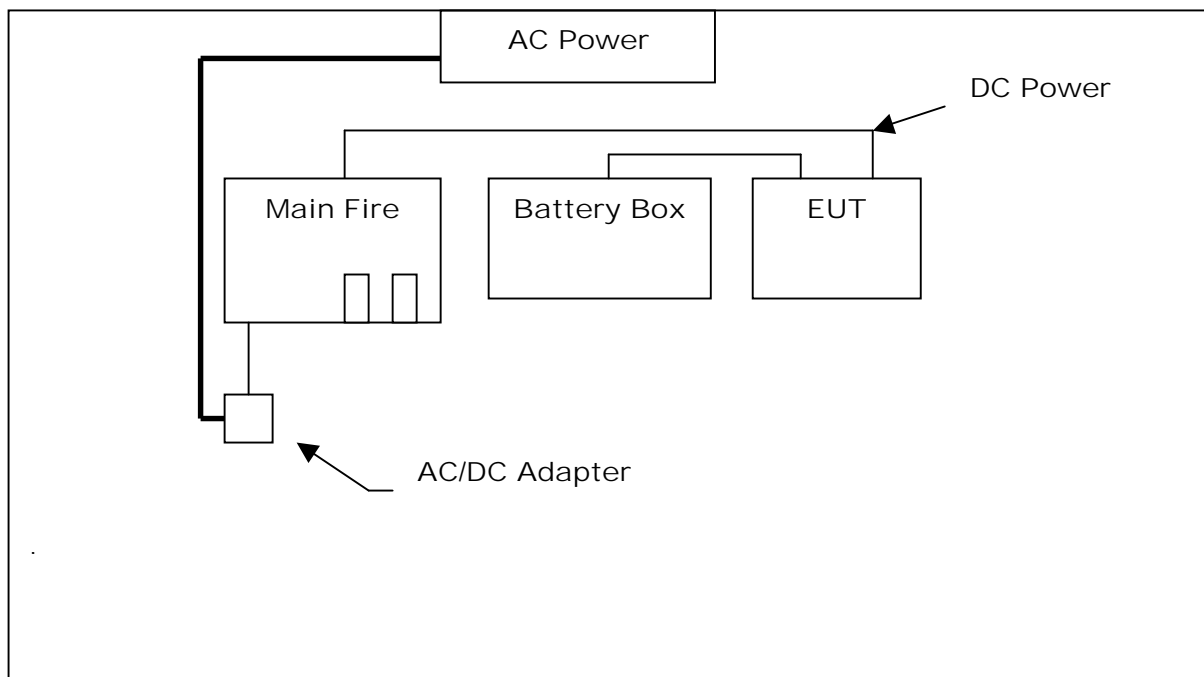
Power Type : Power By DC 6V or Battery (6Vdc)

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: 2003, following equipments were used as the support units.

1.3 Configuration of System Under Test



During testing the EUT (Receiver)'s one cable was connected to main fire, the other Port's cable was connected to battery box circuit. When the EUT was "ON", the main fire was continuing operating.



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1.4 Test Procedure

All measurements contained in this report were performed according to the techniques described in Measurement procedure ANSI C63.4-2003 "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 operating ON and OFF mode by receiving signals from transmitter. The system's physical layout and cabling was randomly arranged to ensure that maximum emission levels were attained.



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II. Conducted Emissions Requirements

The EUT operates solely by DC power or 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 3-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, EMCO 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:

Item	Mfr/Brand	Instruments	Serial No.	Model/Type No.	Calibrated Date	Next Cali. Date
1.	HP	Spectrum Analyzer	73412A00110	8591EM	2006/01/17	2007/01/17
2.	HP	Pre Amplifier	2944A08954	8447D	2005/04/14	2006/04/14
3.	HP	Pre Amplifier	3113A05475	8447F	2006/01/10	2007/01/10
4.	R&S	EMI Receiver	881121/010	354.3000.52	2005/12/10	2006/12/10
5.	EMCO	Biconilog Antenna	1184	3142	2006/02/03	2007/02/03

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/m)</i>
30 to 88	40
88 to 216	43.5
216 to 960	46
<i>Frequency range (MHz)</i>	<i>Average (dBuV/m)</i>
960 to 1610	54
Above 1610	60

3.6 Test condition:

- A. Testing Room : Temperature 20 Humidity 55%RH**
B. Testing Site : Temperature 21 Humidity 64%RH

3.7 Measurement Data Of Radiated Emissions:

3.7.1 Open Field Radiated Emissions (HORIZONTAL)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation , etc. are recorded on the following

Applicant : Skytech II, Inc.
Model No : AF-4000PEWM
EUT : Receiver
Test Mode : Received Mode
Test Date : 03/13/2006

Radiated Emissions (HORIZONTAL)					
Frequency (MHz)	Amplitude (dBuV/m)	Ant. (m)	Table (Degree)	Limits(Class B) (dBuV/m)	Margin (dB)
50.35	19.55	1.5	190	40	-20.45
119.80	19.72	1.5	130	43.5	-23.78
138.20	21.40	1.2	250	43.5	-22.10
200.00	22.65	1.1	240	43.5	-20.85
259.90	25.37	1	210	46	-20.63
275.50	26.76	1.1	180	46	-19.24
305.90	25.90	1	190	46	-20.10
342.20	24.59	1.5	110	46	-21.41
479.80	22.51	2	150	46	-23.49
519.90	23.92	1.9	110	46	-22.08
645.00	22.79	1.7	210	46	-23.21

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter (30-1000MHz)
 3. Height of table for EUT placed: 0.8 Meter.
 4. ANT= Antenna height.
 5. Amplitude= Reading Amplitude -Amplifier gain+ Cable loss +Antenna factor
(Auto calculate in spectrum analyzer)
 6. The worst case test data recorded in the tables

3.7.2 Open Field Radiated Emissions (VERTICAL)

The highest peak values of radiated emissions from the EUT at various antenna heights, antenna polarization, EUT orientation , etc. are recorded on the following.

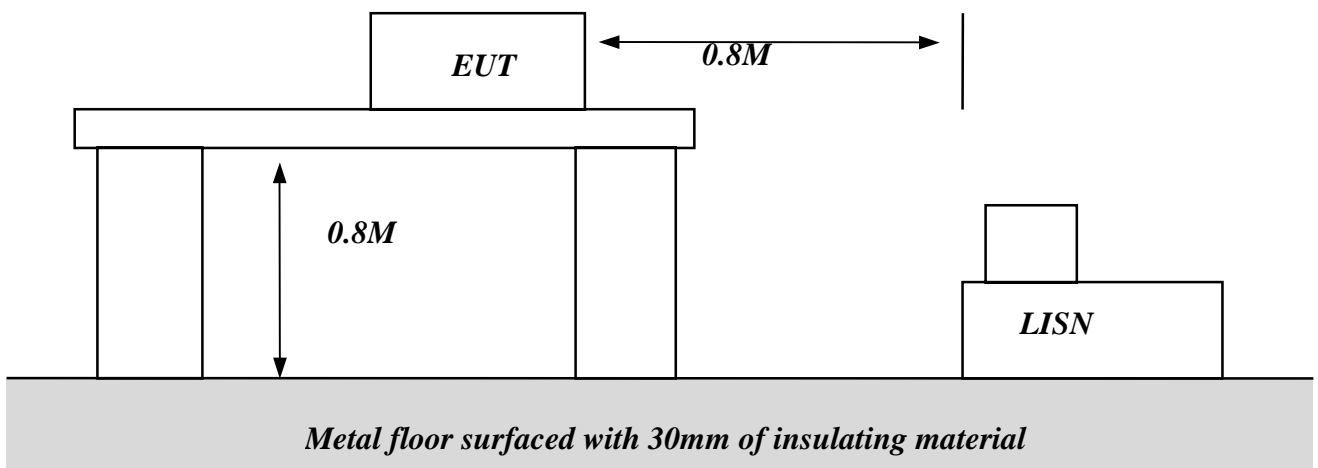
Applicant : Skytech II, Inc.
Model No : AF-4000PEWM
EUT : Receiver
Test Mode : Received Mode
Test Date : 03/13/2006

Radiated Emissions (VERTICAL)					
Frequency (MHz)	Amplitude (dBuV/m)	Ant. (m)	Table (Degree)	Limits(Class B) (dBuV/m)	Margin (dB)
37.14	22.90	1.5	120	40	-17.10
92.88	24.48	1.8	180	43.5	-19.02
116.30	23.47	2.1	290	43.5	-20.03
138.48	24.64	1.6	270	43.5	-18.86
171.45	23.57	1.7	110	43.5	-19.93
235.50	27.01	2.5	260	46	-18.99
266.76	30.01	1	150	46	-15.99
305.40	28.33	1.2	190	46	-17.67
641.00	26.52	2.5	220	46	-19.48
722.30	26.55	2.8	210	46	-19.45
895.50	25.98	1.7	180	46	-20.02

- Notes :**
1. Margin= Amplitude - Limits
 2. Distance of Measurement : 3 Meter (30-1000MHz)
 3. Height of table for EUT placed: 0.8 Meter.
 4. ANT= Antenna height.
 5. Amplitude= Reading Amplitude -Amplifier gain+ Cable loss +Antenna factor
(Auto calculate in spectrum analyzer)
 6. The worst case test data recorded in the tables

Appendix I- EUT Test SETUP

MEASUREMENT OF POWER LINE CONDUCTED RFI VOLTAGE



Appendix I- EUT Test SETUP

MEASUREMENT OF RADIATED EMISSION

