# MEASUREMENT REPORT

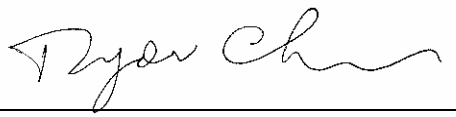
**(ICES-003: 2004 / ANSI C63.4-2003)**

Testing Laboratory
1288

| | | |
|---|---|---|
| Product | : | Receiver |
| Trade Name | : | SKYTECH II |
| Model No. | : | RCAF-1030 RX / RCAF-1030TH RX |
| Applicant | : | Skytech II, Inc. |
| Applicant Address | : | 9230 Conservation Way,Ft. Wayne, IN 46809, U.S.A. |

| | |
|---|---|
| **Report Number** | MLT0707CS03001 |
| **Applicant** | Skytech II, Inc. |
| **Product** | Receiver |
| **Sample Received Date** | 2007/07/20 |

| | |
|---|---|
| **Report Prepared By** | Jesse Tien |
| **Signature** |  |
| **Date Prepared** | 2007/07/23 ~ 2007/08/28 |

| | |
|---|---|
| **Report Authorized By** | Roger Chen |
| **Signature** |  |
| **Date Authorized** | 2007/09/07 |

Test By

Max Light Technology Co., Ltd.
Room 5, 8F, No.125, Section 3 Roosevelt Road,
Taipei, Taiwan., R.O.C.
Office : Tel: 886-2-2363-2447 Fax: 886-2-2363-2597
Lab. : Tel: 886-2-2663-3486 Fax: 886-2-2663-3582

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# CERTIFICATION

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 radiated and conducted emission limit of ICES-003: 2004.

| | |
|---|---|
| **Applicant Name** | Skytech II, Inc. |
| **Applicant Address** | 9230 Conservation Way,Ft. Wayne,IN 46809,U.S.A. |
| **Manufacturer Name** | FEGO Precision Industrial Co.,Ltd |
| **Manufacturer Address** | 947 LIN SEN RD., WU-FENG SHIANG TAICHUNG HSIEN R.O.C. |

| | |
|---|---|
| **Equipment** | Receiver |
| **Model No** | RCAF-1030 RX / RCAF-1030TH RX |
| **IC** | 2439A-1030THRX |

| | |
|---|---|
| **Report Prepared By** | Jesse Tien |
| **Signature** |  |

| | |
|---|---|
| **Report Authorized By** | Roger Chen |
| **Signature** |  |

# I. GENERAL

## 1.1 Introduction

The following measurement report is submitted on behalf of Skytech II, Inc. In support of a Class B Digital Device certification in accordance with ICES-003: 2004 of the Commission's and Regulations.

## 1.2 Customer Details

| | |
|---|---|
| **Applicant Name** | Skytech II, Inc. |
| **Applicant Address** | 9230 Conservation Way,Ft. Wayne,IN 46809,U.S.A. |
| **Manufacturer Name** | FEGO Precision Industrial Co., Ltd. |
| **Manufacturer Address** | 947 LIN SEN RD., WU-FENG SHIANG TAICHUNG HSIEN R.O.C. |

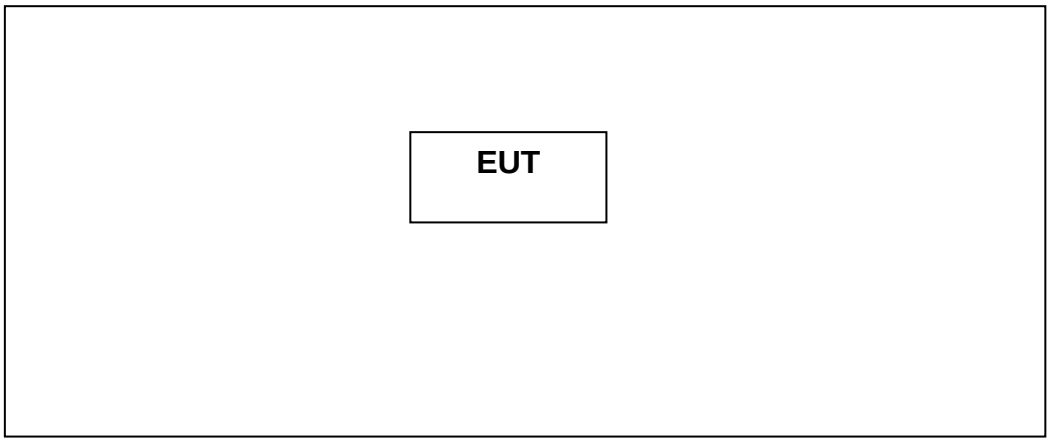
## 1.3 Technical data of EUT

| | |
|---|---|
| **Equipment** | Receiver |
| **Model No** | RCAF-1030 RX / RCAF-1030TH RX |
| **IC** | 2439A-1030THRX |
| **Power Type** | Powered by 6V Battery (AA Size 1.5V X 4). |

## 1.4 Description of Support Equipment

The EUT itself forms a system. No support equipment is required for its normal operation.

## 1.5 Configuration of System Under Test




## 1.6 Test Procedure

All measurements contained in this report were performed according to the techniques described in Measurement procedure ANSI C63.4: 2003 "Measurement of Intentional Radiators."

## 1.7 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.

# II. Conducted Emissions Requirements

The EUT operates solely by the battery. According to the rule, 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 Biconilog Antenna (Model 3142C ) 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 3.3.

## 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 | 2007/03/28 | 2008/03/28 |
| 2. | HP | Pre Amplifier | 2944A08954 | 8447D | 2007/03/28 | 2008/03/28 |
| 3. | HP | Pre Amplifier | 3113A05475 | 8447F | 2007/03/28 | 2008/03/28 |
| 4. | EMCO | Biconilog Antenna | 00044568 | 3142C | 2007/07/27 | 2008/07/27 |
| 5. | Agilent | Spectrum Analyzer | US44300422 | E4446A | 2007/04/23 | 2008/04/23 |
| 6. | HP | Pre Amplifier | 3008A01463 | 8449B | 2007/03/22 | 2008/03/22 |
| 7. | EMCO | Horn Antenna | 6492 | 3115 | 2007/06/21 | 2008/06/21 |
| 8. | EMCO | Biconilog Antenna | 00059739 | 3142C | 2006/11/01 | 2007/11/01 |

## 3.3 Measurement Data Of Radiated Emissions:

3.3.1 Open Field Radiated Emissions

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

Test Mode : Standby

| Radiated Emissions (HORIZONTAL) | | | | | |
|---|---|---|---|---|---|
| **Frequency (MHz)** | **Amplitude (dBuV/m)** | **Ant. (m)** | **Table (Degree)** | **Limits(Class B) (dBuV/m)** | **Margin (dB)** |
| 40.26 | 26.81 | 2 | 280 | 40 | -13.19 |
| 47.82 | 28.81 | 2.5 | 130 | 40 | -11.19 |
| 55.11 | 28.70 | 1.5 | 300 | 40 | -11.30 |
| 71.85 | 29.14 | 1.5 | 210 | 40 | -10.86 |
| 132.60 | 28.10 | 1 | 270 | 43.5 | -15.40 |
| 163.65 | 28.34 | 1.5 | 220 | 43.5 | -15.16 |
| 309.10 | 35.29 | 1 | 240 | 46 | -10.71 |
| 482.00 | 38.57 | 1 | 260 | 46 | -7.43 |
| 519.10 | 39.02 | 1.5 | 110 | 46 | -6.98 |
| 645.10 | 40.56 | 1 | 350 | 46 | -5.44 |
| 874.70 | 38.90 | 1 | 160 | 46 | -7.10 |

**Notes :** 1.Margin= Amplitude - Limits
2.Distance of Measurement : 3 Meter (30-1000MHz)
3.Height of table for EUT placed: 0.8 Meter.
4.Amplitude= Reading Amplitude –Amplifier gain+ Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)

3.3.2 Open Field Radiated Emissions

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

Test Mode : Standby

| Radiated Emissions (VERTICAL) | | | | | |
|---|---|---|---|---|---|
| **Frequency (MHz)** | **Amplitude (dBuV/m)** | **Ant. (m)** | **Table (Degree)** | **Limits(Class B) (dBuV/m)** | **Margin (dB)** |
| 30.00 | 34.13 | 1 | 180 | 40 | -5.87 |
| 40.26 | 34.51 | 1 | 200 | 40 | -5.49 |
| 49.71 | 28.68 | 1 | 300 | 40 | -11.32 |
| 55.11 | 28.99 | 1 | 140 | 40 | -11.01 |
| 73.47 | 28.39 | 1 | 280 | 40 | -11.61 |
| 78.87 | 29.73 | 1 | 310 | 40 | -10.27 |
| 146.91 | 28.79 | 2 | 250 | 43.5 | -14.71 |
| 513.50 | 37.78 | 1.5 | 290 | 46 | -8.22 |
| 641.60 | 39.77 | 1.5 | 130 | 46 | -6.23 |
| 778.80 | 38.26 | 1 | 190 | 46 | -7.74 |
| 925.10 | 38.48 | 1 | 270 | 46 | -7.52 |

**Notes :** 1.Margin= Amplitude - Limits

2.Distance of Measurement : 3 Meter (30-1000MHz)

3.Height of table for EUT placed: 0.8 Meter.

4.Amplitude= Reading Amplitude –Amplifier gain+ Cable loss + Antenna factor
(Auto calculate in spectrum analyzer)

# Appendix I- EUT Test SETUP

## MEASUREMENT OF RADIATED EMISSION