Jiadianbao Electrical Products (Shenzhen) Co. Ltd.

Application
For
Certification
(FCC ID: MMIG8506ES)

RF Lighting Equipment

WO# 0201264
CKL/sl
February 11, 2002

LIST OF EXHIBITS

MEASUREMENT/TECHNICAL REPORT

Jiadianbao Electrical Products (Shenzhen) Co. Ltd.
- MODEL: Go-Gro G8506ES
Catalina CAT7ES
FCC ID: MMIG8506ES

February 11, 2002

This report concerns (check one:) Original Grant X Class II Change _____

Equipment Type: RF Lighting Equipment

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes ___ No X

If yes, defer until: _____ date

Company Name agrees to notify the Commission by: _____ date

of the intended date of announcement of the product so that the grant can be issued on that date.

Report prepared by:

C. K. Lam
Intertek Testing Services
2/F., Garment Center,
576, Castle Peak Road,
HONG KONG
Phone: 852-2713-8512
Fax: 852-2742-6487

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List of attached file

Exhibit type	File Description	filename
Test Report	Test Report	report.doc
Operation Description	Technical Description	descri.pdf
Test Setup Photo	Radiated Emission	Rconfig photos.doc
Test Setup Photo	Conducted Emission	config photos.doc
Test Report	Conducted Emission Test Result	conduct.pdf
External Photo	External Photo	external photos.doc
Internal Photo	Internal Photo	internal photos.doc
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf

EXHIBIT 1

GENERAL DESCRIPTION

1.0 General Description

1.1 Product Description

The equipment under test (EUT) is a RF lighting consisting of an electronic ballast and 32W fluorescent tube. The EUT is operated at 26kHz and powered by 120V, 60Hz.

The model CAT7ES is the same as the model G8506ES in hardware aspect. The difference in model numbers show the difference in brand name. The model number and its brand name shows as following :

Model : G8506ES	Brand Name : Go-Gro
Model : CAT7ES	Brand Name : Catalina

For electronic filing, the brief circuit description is saved with filename: descri.pdf

1.2 Related Submittal(s) Grants

This is a single application for certification of a RF lighting equipment.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in MP-5. All measurements were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine worst case modes. For each scan, the procedure for maximizing emissions in Appendices D and E were followed. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section"** of this Application.

1.4 Test Facility

The open area test site and conducted measurement facility used to collect the emission data is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. This test facility and site measurement data have been fully placed on file with the FCC.

EXHIBIT 2

SYSTEM TEST CONFIGURATION

2.0 System Test Configuration

2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in MP-5.

The EUT was powered from 120V 60Hz.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The unit was operated standalone and placed in the center of the turntable.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was placed on turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

2.2 EUT Exercising Software

There was no special software to exercise the device. Once the EUT is turned on, it emits the RF noise.

2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

2.4 Equipment Modification

Any modifications installed previous to testing by Jiadianbao Electrical Products (Shenzhen) Co. Ltd. will be incorporated in each production model sold/leased in the United States.

No modifications were installed by Intertek Testing Services.

2.5 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

2.6 Support Equipment List and Description

This product was tested in a standalone configuration.

All the items listed under section 2.0 of this report are

Confirmed by:

C. K. Lam
Technical Manager
Intertek Testing Services Hong Kong Ltd.
Agent for Jiadianbao Electrical Products (Shenzhen) Co. Ltd.

_____ Signature

February 11, 2002 Date

EXHIBIT 3

EMISSION RESULTS

3.0 **Emission Results**

Data is included worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

3.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD + AV

where FS = Field Strength in dBµV/m
RA = Receiver Amplitude (including preamplifier) in dBµV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
PD = Pulse Desensitization in dB
AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD + AV

3.1 Field Strength Calculation (cont'd)

Example

Assume a receiver reading of 62.0 dBμV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB, and the resultant average factor was -10 dB. The net field strength for comparison to the appropriate emission limit is 32 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 62.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0 dB

AV = -10 dB

FS = 62 + 7.4 + 1.6 - 29 + 0 + (-10) = 32 dBμV/m

Level in mV/m = Common Antilogarithm [(32 dBμV/m)/20] = 39.8 μV/m

3.2 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
at
50.196 MHz

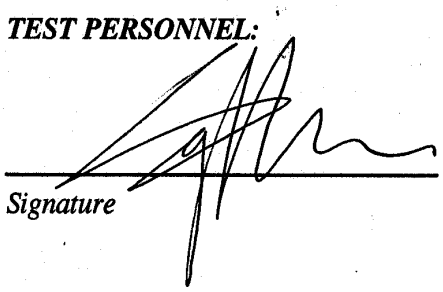
For electronic filing, the worst case radiated emission configuration photograph is saved with filename: Rconfig photos.doc.

3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgement: Passed by 15.5 dB

TEST PERSONNEL:



Signature

Sylvia Tam, Compliance Engineer
Typed/Printed Name

February 11, 2002
Date

Company: Jiadianbao Electrical Products (Shenzhen) Co. Ltd. Date of Test: January 31, 2002
Model: Go-Gro G8506ES

Table 1

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBµV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBµV/m)	Calculated Net at 30m (dBµV/m)	Limit at 30m (dBµV/m)	Margin (dB)
H	34.803	29.6	11.6	16	22.6	2.6	20.0	-17.4
H	38.139	31.0	11.2	16	23.1	3.1	20.0	-16.9
H	42.713	30.3	11.7	16	23.0	3.0	20.0	-17.0
H	46.536	31.3	11.9	16	23.6	3.6	20.0	-16.4
H	50.196	33.3	11.7	16	24.5	4.5	20.0	-15.5
H	55.039	32.2	11.0	16	23.6	3.6	20.0	-16.4

Notes: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

Test Engineer: Sylvia Tam

3.4 Line Conducted Configuration Photograph

Worst Case Line-Conducted Configuration
at
0.455 MHz

For electronic filing, the worst case line-conducted configuration photograph are saved with filename: config photos.doc.

3.5 Line Conducted Emission Configuration Data

For electronic filing, the graph and data table of the worst case conducted emission is saved with filename: conducted.pdf.

Judgement: Passed by 9.2 dB

TEST PERSONNEL:

Sylvia Tam, Compliance Engineer
Typed/Printed Name

February 11, 2002
Date

EXHIBIT 4

EQUIPMENT PHOTOGRAPHS

4.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.doc and internal photos.doc.

EXHIBIT 5

PRODUCT LABELLING

5.0 **Product Labelling**

For electronic filing, the FCC ID label artwork and the label location are saved with filename: label.pdf

EXHIBIT 6

TECHNICAL SPECIFICATIONS

6.0 **Technical Specifications**

For electronic filing, the block diagram and schematics of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

EXHIBIT 7

INSTRUCTION MANUAL

7.0 Instruction Manual

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf

This manual will be provided to the end-user with each unit sold/leased in the United States.