EMC COMPLIANCE MANAGEMENT GROUP

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Competent Body Approval #: 14082
NVLAP Lab code: 200068-0

EMI TEST REPORT

On Models: 2U

1. Twin (circle style, E14 screw tube) 7W, 9W, 11W
   Twin (circle style, E27 screw tube) 7W, 9W, 11W
   Twin (square style, E27 screw tube) 7W, 9W, 11W
2. Candlex (E14 screw tube) 3W, 5W, 7W, 9W
   Candlex (E27 screw tube) 3W, 5W, 7W, 9W, 11W
3. Classic (E14 screw tube) 7W, 9W, 11W
   Classic (E27 screw tube) 5W, 7W, 9W, 11W
4. Reflector (E14 screw tube) 3W
   Reflector (E27 screw tube) 5W, 7W, 9W

Prepared for Primex Industries Limited

According to
FCC Part 18 Consumer ISM Device

FCC ID #: *OTZ-90311*

Prepared by: *Arcelia Maldonado*

QC Manager: *William F. Scherer*

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ADMINISTRATIVE DATA

Test Sample	*: Compact Fluorescent Lamp*
Model Numbers	*: 2U* *1. Twin (circle style, E14 screw tube) 7W, 9W, 11W* *Twin (circle style, E27 screw tube) 7W, 9W, 11W* *Twin (square style, E27 screw tube) 7W, 9W, 11W* *2. Candlex (E14 screw tube) 3W, 5W, 7W, 9W* *Candlex (E27 screw tube) 3W, 5W, 7W, 9W, 11W* *3. Classic (E14 screw tube) 7W, 9W, 11W* *Classic (E27 screw tube) 5W, 7W, 9W, 11W* *4. Reflector (E14 screw tube) 3W* *Reflector (E27 screw tube) 5W, 7W, 9W*
Part Number	*: N/A*
Applicant	*: Primex Industries Limited* *31 Lok Yip Road, Level 606* *Fanling, NT Hong Kong*
Manufacturer	*: Primex Lighting (SZ) Co., Ltd.*
Telephone	*: (852) 2311-2266*
Fax	*: (852) 2311-0879*

EUT Description

Primex Industries Limited models 2U 1. Twin (circle style, E14 screw tube) 7W, 9W, 11W Twin (circle style, E27 screw tube) 7W, 9W, 11W Twin (square style, E27 screw tube) 7W, 9W, 11W 2. Candlex (E14 screw tube) 3W, 5W, 7W, 9W Candlex (E27 screw tube) 3W, 5W, 7W, 9W, 11W 3. Classic (E14 screw tube) 7W, 9W, 11W Classic (E27 screw tube) 5W, 7W, 9W, 11W 4. Reflector (E14 screw tube) 3W Reflector (E27 screw tube) 5W, 7W, 9W (referred to as the EUT in this report) are compact fluorescent lamps. Testing was conducted on the 11W, since it consummates the most power and all the circuitry are the same. The only difference on all the other models is the size and the shapes.

Test Summary

The Electromagnetic Compatibility requirements on Models 2U 1. Twin (circle style, E14 screw tube) 7W, 9W, 11W Twin (circle style, E27 screw tube) 7W, 9W, 11W Twin (square style, E27 screw tube) 7W, 9W, 11W 2. Candlex (E14 screw tube) 3W, 5W, 7W, 9W Candlex (E27 screw tube) 3W, 5W, 7W, 9W, 11W 3. Classic (E14 screw tube) 7W, 9W, 11W Classic (E27 screw tube) 5W, 7W, 9W, 11W 4. Reflector (E14 screw tube) 3W Reflector (E27 screw tube) 5W, 7W, 9W for this test are stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment Under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

Emission Tests			
Specifications	***Description & Test Results***	***Test Point***	***Remark***
CFR 47 Part 18.307(c)	*Conducted Emissions Test - Passed by 18.25 dB of QP.*	*Enclosure*	*Attachment 1*
CFR 47 Part 18.305(c)	*Radiated Emissions Test - No significant emissions found.*	*Enclosure*	*Attachment 2*

Test Location

EMC Compliance Management Group is located at 670 National Ave., Mountain View, CA 94043, USA.

Accreditation Bodies

EMC Compliance Management Group is a fully accredited Test Laboratory for ITE, ISM and Telecommunications Products.

Laboratory Assessment #: *14082, Approved by Assessment Services, A U. K. Competent Body, as meeting the requirements of EN45001and ISO Guide 25.*

In compliance with the site registration requirements of Section 2.948 of the FCC Rules to perform EMI measurements for the general public.

Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code # 200068-0.

Registered in accordance with Japanese VCCI Regulations.

Product Labeling

LUXLITE®

Ref: LUXLITE-91221-21

21 December 1999

Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
Columbia, MD 21046
USA

Gentlemen

This is to certify that the label shown above will be the production label to be used on production units of model

(1) 2U, Classic, Candlex – 3W, 5W, 7W, 9W, 11W FCC ID number: OTZ-90311

Sample Label

FCC ID: OTZ-90311

Thank you for your attention.

Sincerely yours
PRIMEX INDUSTRIES LTD

FION CHIU
Manager

PRIMEX INDUSTRIES LIMITED
(ISO 9001 Certified Co. of Primex Group)
31 Lok Yip Road, Level 606
Fanling, Hong Kong
Tel: (852) 2311-2266
Fax: (852) 2311-0879
E-mail: luxlite@luxlite.com

System Test Justification

Testing was conducted on the 11W, since it consumes the most power and all the circuitry are the same. The only difference on all the other models is the size and the shapes.

Equipment Modification

Any modifications installed previous to testing by Primex Industries Limited will be incorporated in each production model sold or leased in United States.

No modifications were installed by EMC Compliance Management Group.

Test System Details

EUT	
Model Numbers:	**2U** **1. Twin (circle style, E14 screw tube) 7W, 9W, 11W Twin (circle style, E27 screw tube) 7W, 9W, 11W Twin (square style, E27 screw tube) 7W, 9W, 11W 2. Candlex (E14 screw tube) 3W, 5W, 7W, 9W Candlex (E27 screw tube) 3W, 5W, 7W, 9W, 11W 3. Classic (E14 screw tube) 7W, 9W, 11W Classic (E27 screw tube) 5W, 7W, 9W, 11W 4. Reflector (E14 screw tube) 3W Reflector (E27 screw tube) 5W, 7W, 9W**
Description:	**Compact Fluorescent Lamps**
Manufacturer:	**Primex Industries Limited**

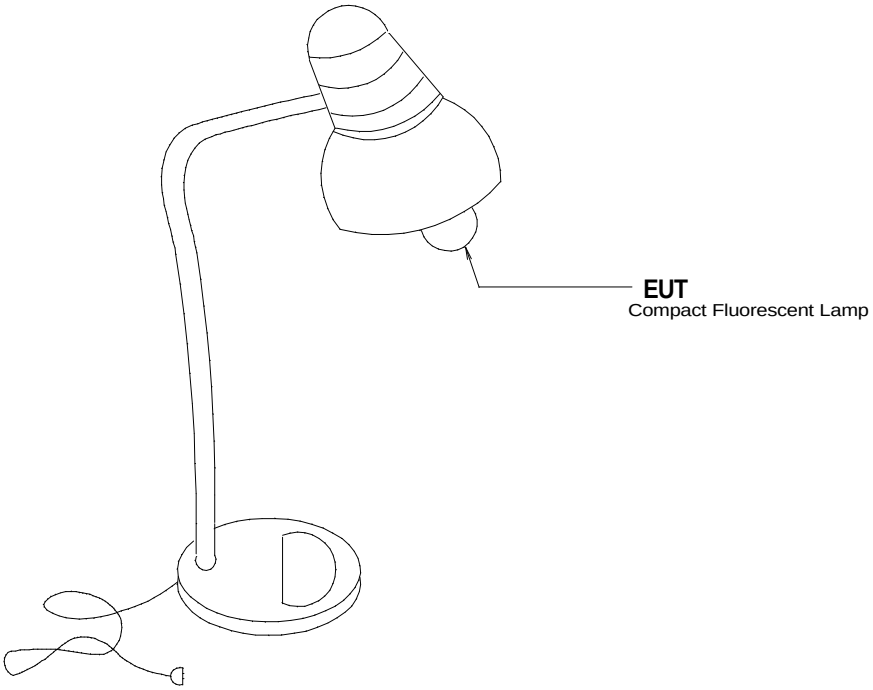
Support Equipment

Description	Model Number	Serial Number	Manufacturer	Cable Description
Lamp	2030	993927	N/A	Power Cord

Cable Description

From	To	Length (Meters)	Shielded (Y/N)	Ferrite Loaded (Y/N)
Lamp	AC	0.5	N	N

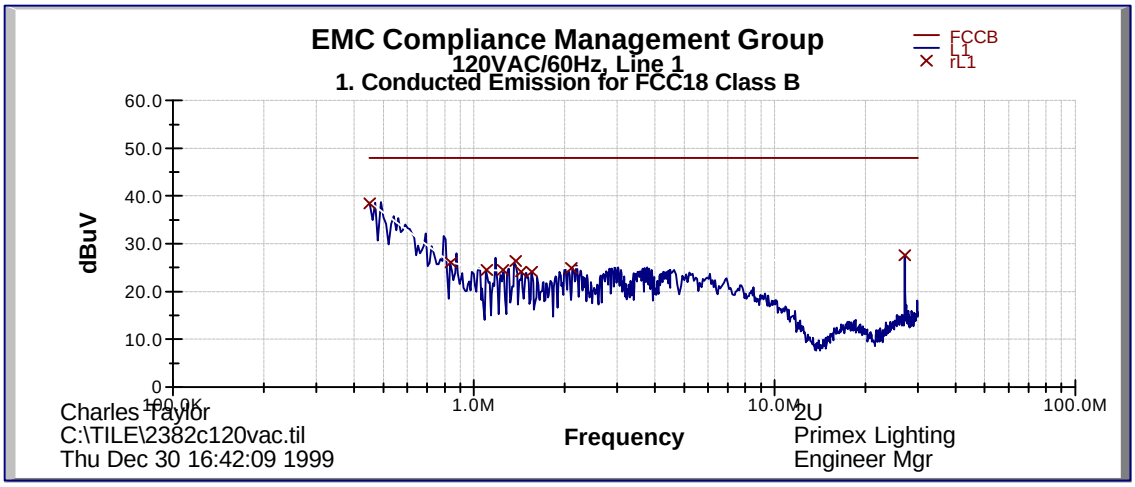
Configuration of Tested System

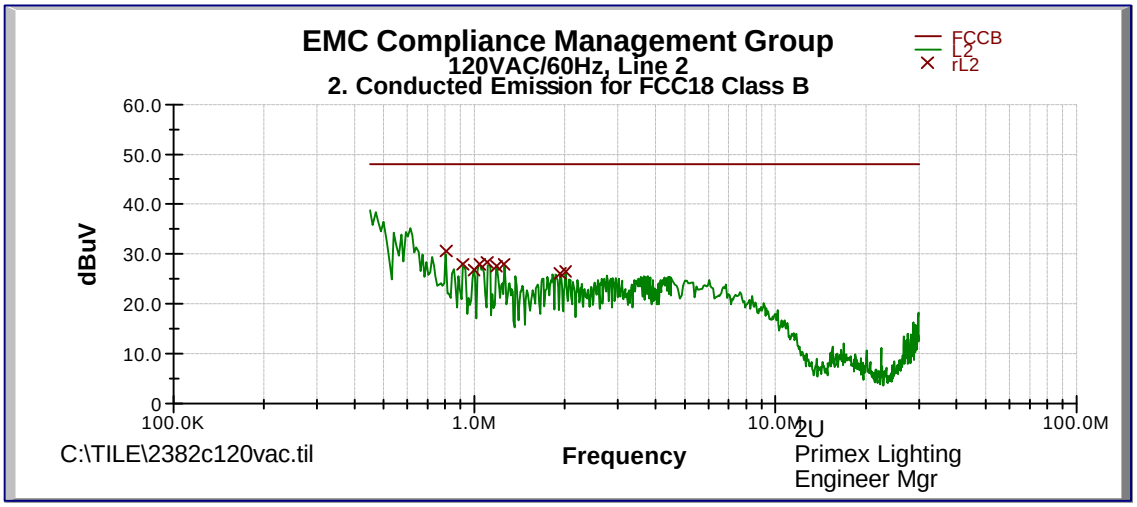


ATTACHMENT 1 - CONDUCTED EMISSION TEST RESULTS (202-C-01)

CLIENT:	Primex Industries Limited	**TEST REFERENCE:**	FCC Part 18.307(c) Consumer ISM Device
EUT MODEL:	2U	**PRODUCT:**	Compact Fluorescent Lamps
SERIAL NO.:	N/A	**EUT DESIGNATION:**	Residential
TEMPERATURE:	20°C	**HUMIDITY:**	45%
ATM PRESSURE:	1017 Mbar	**GROUNDING:**	Through AC Power Cord
TESTED BY:	Charles Taylor	**DATE OF TEST:**	1999 Dec 30

SETUP METHOD:	ANSI C63.4 - 1992, CISPR 16-1:1993
TEST PROCEDURE:	The EUT was set up according to the guideline of ANSI C63.4 for conducted emissions. The measurement was using a LISN probe on each line and an EMI receiver peak scan was made at the frequency measurement range. The six highest significant peaks were then marked, and these signals were then quasi-peaked and averaged. The frequency range investigated was from 450KHz to 30MHz.
TESTED RANGE:	450kHz to 30MHz
TEST VOLTAGE:	120VAC / 60Hz
RESULTS:	The EUT meet the requirements of test reference for Conducted Emissions on line 1 by 18.25 dB of Quasi-Peak detector. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by EMC Compliance Management Group test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB





Line	Frequency [MHz]	Corrected QP Reading [dB(µV)]	Delta QP [dB]	Limit [dB(µV)/m]
L1	0.452	30.14	-18.25	48.0
L1	1.366	23.42	-22.83	48.0
L1	2.116	22.22	-24.79	48.0
L2	1.107	27.35	-20.65	48.0
L2	1.181	26.30	-21.70	48.0
L2	0.997	25.91	-22.09	48.0
Note: All reading are using a bandwidth of 9 kHz, with a 30 ms sweep time. A video filter was not used.				

Test Equipment	Manufacturer/ Model	Serial No.	Last Cal.	Cal. Due Date
EMI Receiver	HP 85462A	3650A00363	05/21/99	05/21/00
RF Filter	HP 85460A	3704A00349	05/21/99	05/21/00
LISN	EMCO	109804	10/14/99	10/14/00
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).				

SIGNED: _____ **REVIEWED:** _____

ATTACHMENT 2 - RADIATED EMISSION TEST RESULTS (204-R-01)

CLIENT:	Primex Industries Limited	**TEST REFERENCE:**	FCC Part 18.305(c) Consumer ISM Device
EUT MODEL:	2U	**PRODUCT:**	Compact Fluorescent Lamps
SERIAL NO.:	N/A	**EUT DESIGNATION:**	Residential
TEMPERATURE:	22°C	**HUMIDITY:**	45%
ATM PRESSURE:	1017 Mbar	**GROUNDING:**	Through AC Power Cord
TESTED BY:	Charles Taylor	**DATE OF TEST:**	1999 Dec 30

SETUP METHOD:	ANSI C63.4:1992, CISPR 16-1:1993
TEST PROCEDURE:	The EUT was set up according to the guidelines of ANSI C63.4:1992 for radiated emissions. An EMI receiver peak scan was made at the frequency measurement range (pre-scan) in an Anechoic chamber. Signal discrimination was then performed and the significant peaks marked. These peaks were then quasi-peaked from 30 MHz to 1GHz at OATs. The following data lists the significant emission frequencies, measured levels, correction factors (including cable and antenna correction factors), and the corrected readings against the limits. Explanation of the Correction Factor is given as follows: FS= RA + AF + CF - AG Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain
TESTED RANGE:	30MHz to 1,000MHz on Quasi-peak
TEST VOLTAGE:	120VAC / 60Hz
RESULTS:	The EUT meet the requirements of test reference for Radiated Emissions on vertical and horizontal polarization. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modification installed by EMC Compliance Management Group test personnel.
M. UNCERTAINTY:	Freq. $\pm$ 2x10^{-7} x Center Freq., Amp $\pm$ 2.6 dB

30 MHz – 1GHz					
Frequency [MHz]	**Antenna Polarization [V/H]**	**Corrected Reading [dBµV/m]**	**Delta, QP [dB]**	**3 Meters Limits [dBµV/m]**	**Correction Factors [dB/m]**
Set-up/Configuration: ANSI C63.4:1992					
Comments: NO EMISSION FOUND BETWEEN 30MHz – 1GHz					
Note: All readings are quasi-peak unless stated otherwise, using a QPA bandwidth of 120kHz, with a 30 ms sweep time. A video filter was not used.					

Test Equipment	Manufacturer/ Model	Serial No.	Last Cal.	Cal. Due Date
EMI Receiver	HP 85462A	3650A00363	05/21/99	05/21/00
RF Filter	HP 85460A	3704A00349	05/21/99	05/21/00
Antenna	CHASE CBL6112A	2274	11/15/99	11/15/00
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).				

SIGNED: _____ **REVIEWED:** _____