

EMC TEST REPORT
for
SMART-GROUP (Dongguan Shima Electronics Co., Ltd.)

Lighting & Dimming Controls
Model No: SB-DIM2c6A-DN, SB-DIM4c3A-DN, SB-DIM6c2A-DN,
SB-DIM8c1A-DN, SB-DIM1c10A-DN, SB-Zmix20-DN, SB-CC25x1-WL

Prepared for : SMART-GROUP (Dongguan Shima Electronics Co., Ltd.)
Address : No.135, Huancheng Road, Mawu Village, QiaoLi Management
Community, Changping Town, Dongguan City, Guangdong
Province, China

Prepared By : Anbotek Compliance Laboratory Limited
Address : 1/F, 1/Building, SEC Industrial Park, No.4 Qianhai Road,
Nanshan District, Shenzhen, 518054, China
Tel: (86) 755-26066544
Fax: (86) 755-26014772

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APPENDIX II (CE Label) (1 page)

TEST REPORT VERIFICATION

Applicant : SMART-GROUP (Dongguan Shima Electronics Co., Ltd.)
 Manufacturer : SMART-GROUP (Dongguan Shima Electronics Co., Ltd.)
 EUT : Lighting & Dimming Controls
 (A) Model No.: SB-DIM2c6A-DN, SB-DIM4c3A-DN, SB-DIM6c2A-DN,
 SB-DIM8c1A-DN, SB-DIM1c10A-DN, SB-Zmix20-DN,
 SB-CC25x1-WL
 (B) Serial No.: N.A.

(C) Trade Mark: 

SMART-BUS/ PREUSSEN/ S-MESH

(D) Rating: 110-260V~, 50Hz, 10Amax

Measurement Procedure Used:

EN 55015: 2006+A1: 2007+A2: 2009;

EN 61000-3-2: 2006+A1: 2009+A2: 2009;

EN 61000-3-3: 2008;

EN 61547: 2009;

(IEC 61000-4-2: 2008; IEC 61000-4-3: 2010; IEC 61000-4-4: 2011;

IEC 61000-4-5: 2005; IEC 61000-4-6: 2008; IEC 61000-4-11: 2004)

The device described above is tested by Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Anbotek Compliance Laboratory Limited is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the EN55015, EN61000-3-2, EN61000-3-3 and EN61547 requirements. The Project in IEC 61000-4-3 was tested in Shenshen EMTEK Co., Ltd.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Anbotek Compliance Laboratory Limited

Date of Test : Aug. 15~17, 2011

Prepared by : Barak Ban
 (Engineer/ Barak Ban)

Reviewer : Candy Pan
 (Project Manager/ Candy Pan)

Approved & Authorized Signer : Tom. Chen
 (Manager/ Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	: Lighting & Dimming Controls
Model Number	: SB-DIM2c6A-DN, SB-DIM4c3A-DN, SB-DIM6c2A-DN, SB-DIM8c1A-DN, SB-DIM1c10A-DN, SB-Zmix20-DN, SB-CC25x1-WL (Note: All samples are the same except the model number & Output of appliances, so we prepare “SB-DIM2c6A-DN” for EMC test only.)
Test Power Supply	: 230V~, 50Hz
Applicant Address	: SMART-GROUP (Dongguan Shima Electronics Co., Ltd.) No.135, Huancheng Road, Mawu Village, QiaoLi Management Community, Changping Town, Dongguan City, Guangdong Province, China
Manufacturer Address	: SMART-GROUP (Dongguan Shima Electronics Co., Ltd.) No.135, Huancheng Road, Mawu Village, QiaoLi Management Community, Changping Town, Dongguan City, Guangdong Province, China
Date of receipt	: Aug. 15, 2011
Date of Test	: Aug. 15~17, 2011

1.2. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 752021

Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, August 20, 2010.

IC-Registration No.: 8058A-1

Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A-1, August 30, 2010.

CNAS – LAB Code: L3503

Anbotek Compliance Laboratory Limited., Laboratory has been assessed and in compliance with CNAS/CL01: 2006 accreditation criteria for testing laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing Laboratories.

Test Location

All Emissions tests were performed

Anbotek Compliance Laboratory Limited. At 1/F, 1/Building, SEC Industrial Park, No.4 Qianhai Road, Nanshan District, Shenzhen, 518054, China

1.3. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 4.3dB
Conduction Uncertainty	:	Uc = 3.4dB
Magnetic Uncertainty	:	Um = 3.3dB

1.4. Test Summary

For the EUT described above. The standards used were EN 55015 for Emissions & EN 61547 for Immunity.

Table 1 : Tests Carried Out Under EN 55015: 2006+A1: 2007+A2: 2009

Standard	Test Items	Status
EN 55015: 2006+A1: 2007+A2: 2009	Power Line Conducted Emission Test (9KHz To 30MHz)	√
EN 55015: 2006+A1: 2007+A2: 2009	Radiated Emission Test (30MHz To 300MHz)	√
EN 55015: 2006+A1: 2007+A2: 2009	Magnetic Radiated emission Test (9KHz To 30MHz)	√

Table 2 : Tests Carried Out Under EN 61000-3-2: 2006+A1: 2009+A2: 2009 / EN 61000-3-3: 2008

Standard	Test Items	Status
EN 61000-3-2: 2006+A1: 2009 +A2: 2009	Harmonic Current Test	√
EN 61000-3-3: 2008	Voltage Fluctuations and Flicker Test	√

Table 3 : Tests Carried Out Under EN 61547: 2009

Standard	Test Items	Status
EN 61547: 2009	Electrostatic Discharge immunity Test	√
EN 61547: 2009	RF Field Strength susceptibility Test	√
EN 61547: 2009	Electrical Fast Transient/Burst Immunity Test	√
EN 61547: 2009	Surge Immunity Test	√
EN 61547: 2009	Injected Currents Susceptibility Test	√
EN 61547: 2009	Voltage Dips and Interruptions Test	√

- √ Indicates that the test is applicable
 x Indicates that the test is not applicable

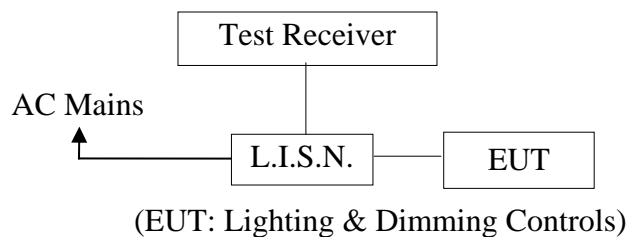
2. POWER LINE CONDUCTED EMISSION TEST

2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2010	1 Year
2.	LISN	SchwarzBeck	NSLK 8126	8126377	May 19, 2011	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 19, 2011	1 Year
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A

2.2. Block Diagram of Test Setup



2.3. Measuring Standard

EN 55015: 2006+A1: 2007+A2: 2009

2.4. Power Line Conducted Emission Limits

Frequency	At mains terminals (dB μ V)	
	Quasi-peak Level	Average Level
9KHz ~ 50KHz	110	--
50KHz ~ 150KHz	90 ~ 80*	--
150KHz ~ 0.5MHz	66 ~ 56*	56 ~ 46*
0.5MHz ~ 5.0MHz	56	46
5.0MHz ~ 30MHz	60	50

1. At the transition frequency the lower limit applies.
2. * decreasing linearly with logarithm of the frequency.

2.5. EUT Configuration on Measurement

The following equipments are installed on Conducted Emission Measurement to meet EN 55015 requirements and operating in a manner which tends to maximize its emission characteristics in a normal application.

2.5.1 Lighting & Dimming Controls

EUT : Lighting & Dimming Controls
Model Number : SB-DIM2c6A-DN
Serial Number : N.A.
Applicant : SMART-GROUP (Dongguan Shima Electronics Co., Ltd.)

2.6. Operating Condition of EUT

2.6.1. Setup the EUT as shown in Section 2.2.

2.6.2. Turn on the power of all equipments.

2.6.3. Let the EUT work in test mode (On) and measure it.

2.7. Test Procedure

The EUT is put on the table which is 0.8 meter high above the ground and connected to the AC mains through a Line Impedance Stabilization Network (L.I.S.N.). This provided a 50ohm coupling impedance for the tested equipments. Both sides of AC line are checked to find out the maximum conducted emission according to the EN 55015 regulations during conducted emission measurement. And the voltage probe had been used for the load terminals measurement according to the EN 55015 standard.

The bandwidth of the test receiver (R&S ESCI) is set at 200Hz in 9K~150KHz range and 9KHz in 150K~30MHz range.

The frequency range from 9KHz to 30MHz is checked.

All the test results are listed in Section 2.8.

2.8. Measuring Results

PASS.

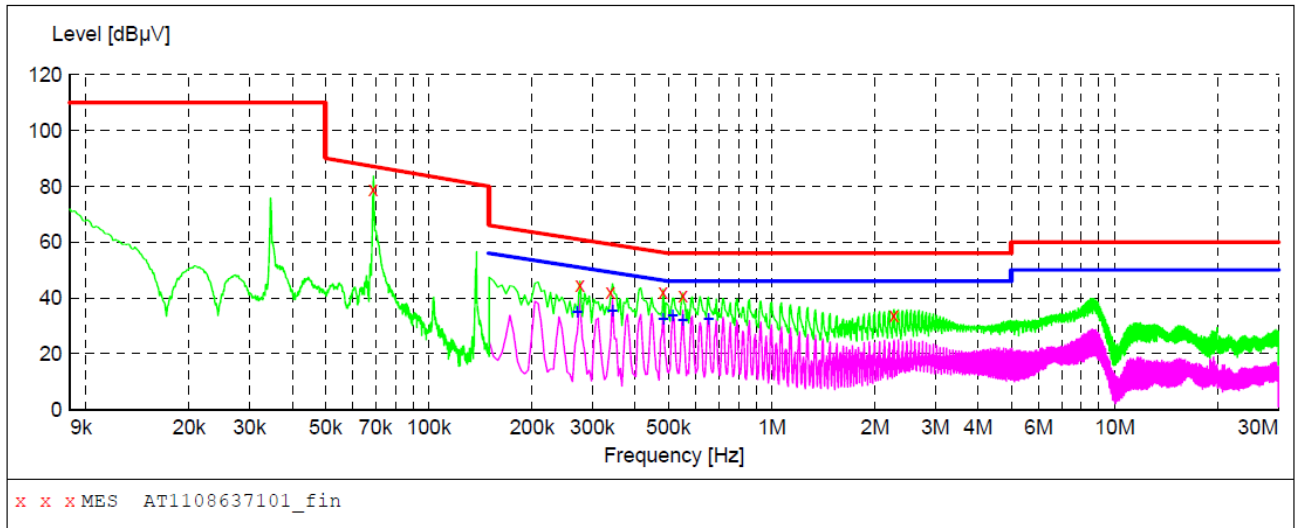
The frequency range 9KHz to 30MHz is investigated.

The test curves are shown in the following pages.

CONDUCTED EMISSION TEST DATA

EUT: Lighting & Dimming Controls M/N: SB-DIM2c6A-DN
 Operating Condition: On
 Test Site: 1# Shielded Room
 Operator: Barak Ban
 Test Specification: 230V~, 50Hz
 Comment: L
 Tem:22.2°C Hum:60%

SCAN TABLE: "Voltage (9K~30M) FIN"
 Short Description: 9K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1108637101_fin"

8/15/2011 4:39PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.068800	79.10	10.2	87	8.0	QP	L1	GND
0.276000	44.70	10.2	61	16.2	QP	L1	GND
0.339000	42.10	10.2	59	17.1	QP	L1	GND
0.483000	42.10	10.2	56	14.2	QP	L1	GND
0.550500	41.00	10.2	56	15.0	QP	L1	GND
2.269500	33.70	10.4	56	22.3	QP	L1	GND

MEASUREMENT RESULT: "AT1108637101_fin2"

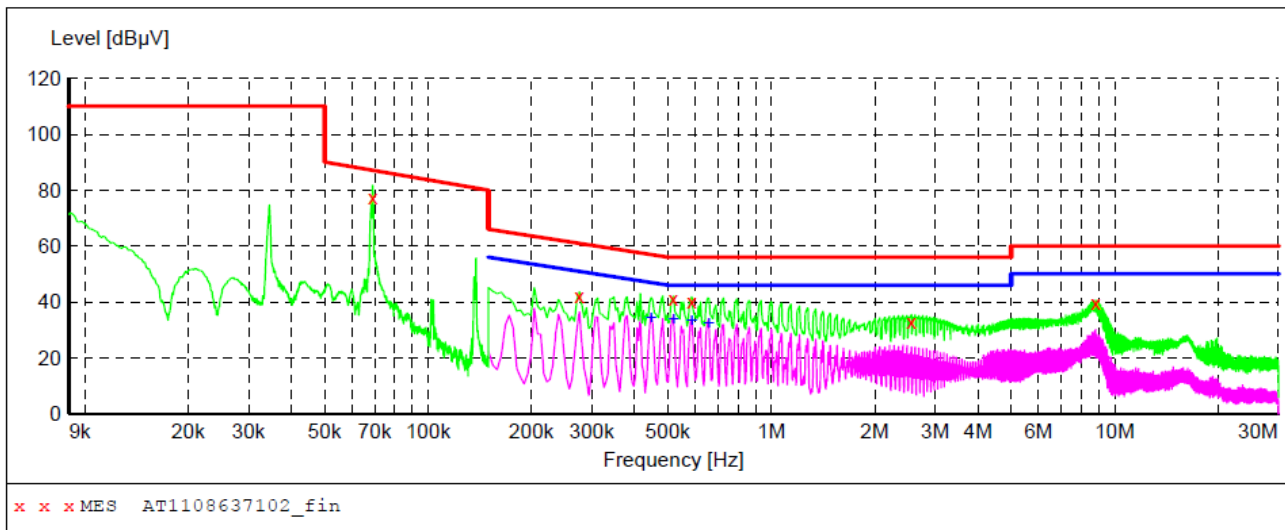
8/15/2012 4:39PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.271500	35.00	10.2	51	16.1	AV	L1	GND
0.343500	35.60	10.2	49	13.5	AV	L1	GND
0.483000	32.40	10.2	46	13.9	AV	L1	GND
0.514500	33.70	10.2	46	12.3	AV	L1	GND
0.550500	32.20	10.2	46	13.8	AV	L1	GND
0.654000	32.50	10.2	46	13.5	AV	L1	GND

CONDUCTED EMISSION TEST DATA

EUT: Lighting & Dimming Controls M/N: SB-DIM2c6A-DN
 Operating Condition: On
 Test Site: 1# Shielded Room
 Operator: Barak Ban
 Test Specification: 230V~, 50Hz
 Comment: N
 Tem:22.2°C Hum:60%

SCAN TABLE: "Voltage (9K~30M) FIN"
 Short Description: 9K-30M Disturbance Voltages



MEASUREMENT RESULT: "AT1108637102_fin"

8/15/2011 4:45PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.069200	77.60	10.2	87	9.4	QP	N	GND
0.276000	42.00	10.2	61	18.9	QP	N	GND
0.519000	41.00	10.2	56	15.0	QP	N	GND
0.586500	40.20	10.2	56	15.8	QP	N	GND
2.557500	33.00	10.4	56	23.0	QP	N	GND
8.808000	39.90	10.6	60	20.1	QP	N	GND

MEASUREMENT RESULT: "AT1108637102_fin2"

8/15/2011 4:45PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.447000	34.40	10.2	47	12.5	AV	N	GND
0.519000	34.00	10.2	46	12.0	AV	N	GND
0.586500	33.20	10.2	46	12.8	AV	N	GND
0.658500	32.50	10.2	46	13.5	AV	N	GND

3. RADIATED EMISSION TEST

3.1. Test Equipment

The following test equipments are used during radiated emission measurement:

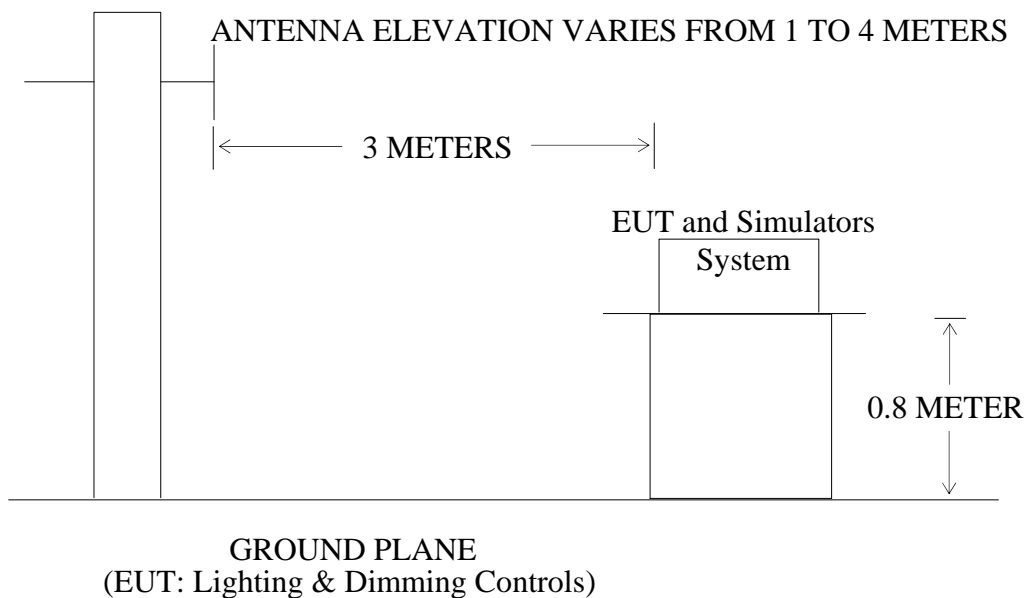
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2010	1 Year
2.	Trilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	May 17, 2011	1 Year
3.	Pre-amplifier	Compliance Direction	PAP-0203	22008	May 19, 2011	1 Year
4.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A

3.2. Block Diagram of Test

3.2.1. Block diagram of connection between the EUT and simulators



3.2.2. Block diagram of test setup in chamber



3.3. Measuring Standard

EN 55015: 2006+A1: 2007+A2: 2009;
Radiated Emission Limits

All emanations from an EN 55015 device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMIT
(MHz)	(Meters)	(dB μ V/m)
30 ~ 230	3	40
230 ~ 300	3	47

- Note: (1) The smaller limit shall apply at the combination point between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the EUT.

3.4. EUT Configuration on Test

The EN 55015 regulations test method must be used to find the maximum emission during radiated emission measurement.

3.4.1.

EUT : Lighting & Dimming Controls
Model Number : SB-DIM2c6A-DN
Serial Number : N/A
Applicant : SMART-GROUP (Dongguan Shima Electronics Co., Ltd.)

3.5. Operating Condition of EUT

3.5.1. Turn on the power.

3.5.2. After that, let the EUT work in test mode (On) and measure it.

3.6. Test Procedure

The EUT is placed on a turn table which is 0.8 meter high above the ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on an antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Bilog antenna is used as a receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

The bandwidth of the Receiver (ESCI) is set at 120kHz.

The EUT is tested in Chamber.

The test results are listed in Section 3.7.

3.7. Measuring Results

PASS.

The frequency range from 30MHz to 300MHz is investigated.
The test curves are shown in the following pages.



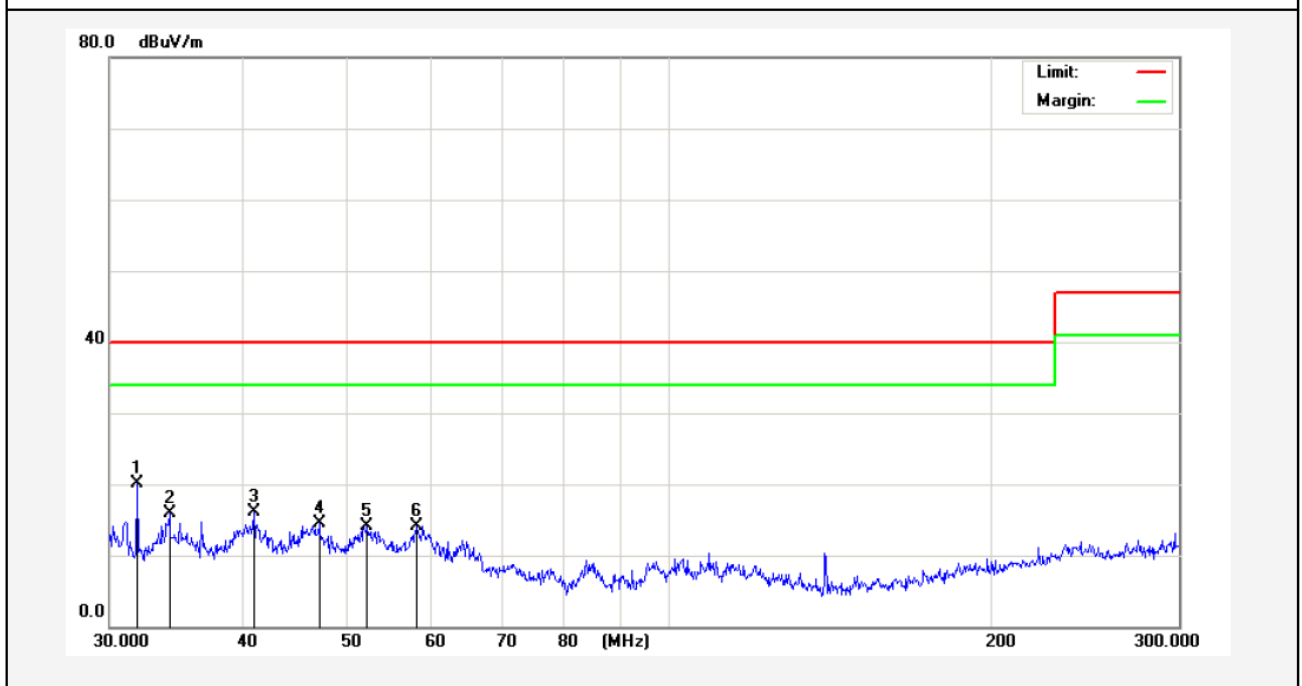
Anbotek Compliance Laboratory Limited

1/F, 1 /Building, SEC Industrial Park, No. 4 Qianhai Road
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066544
Fax: (86)755-26014772
Http://www.anbotek.com

Job No.:	AT1108637E	Polarziation:	Horizontal
Standard:	(RE)EN55015_3m	Power Source:	230V~, 50Hz
Test item:	Radiation Test	Date:	2011/08/15
Temp.(C)/Hum.(%RH):	24.3(C)/55%RH	Time:	10:05:29
EUT:	Lighting & Dimming Controls	Test By:	Barak Ban
Model:	SB-DIM2c6A-DN	Distance:	3m

Note: On



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	31.8509	46.47	-26.28	20.19	40.00	-19.81	peak			
2	34.1288	42.11	-26.22	15.89	40.00	-24.11	peak			
3	40.9375	40.86	-24.82	16.04	40.00	-23.96	peak			
4	47.1109	39.29	-24.81	14.48	40.00	-25.52	peak			
5	52.2542	39.05	-25.01	14.04	40.00	-25.96	peak			
6	58.0927	39.34	-25.31	14.03	40.00	-25.97	peak			



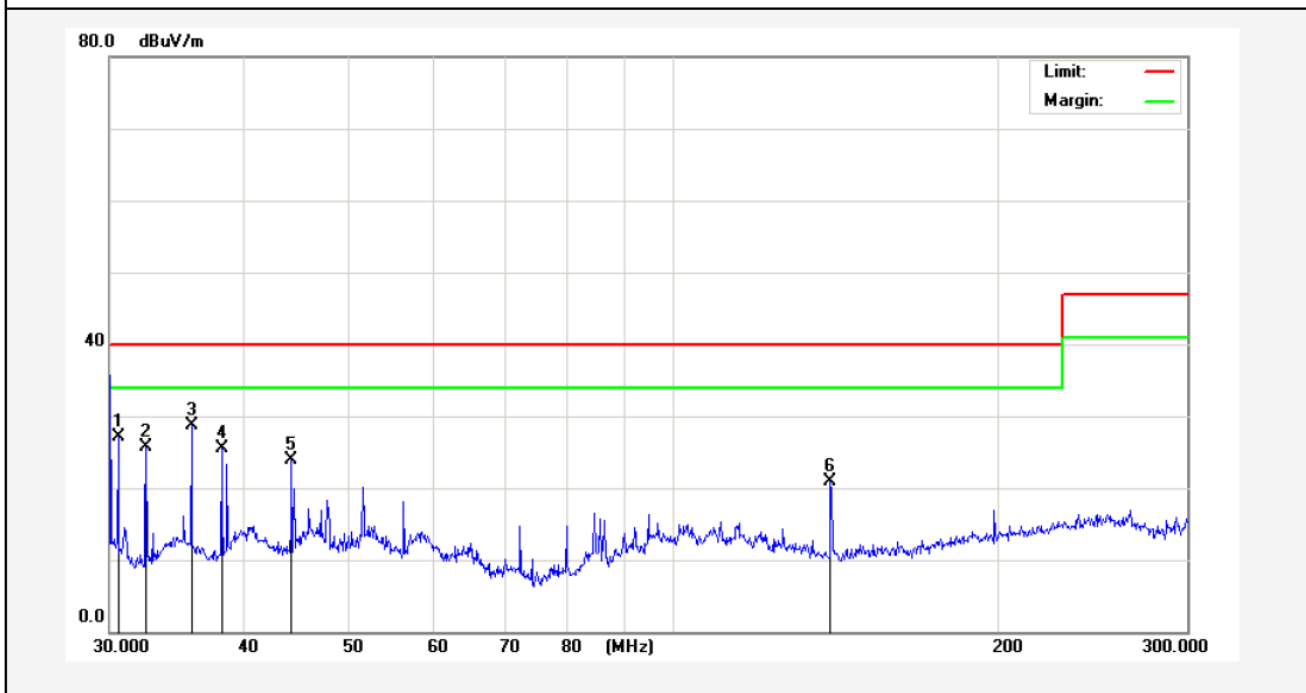
Anbotek Compliance Laboratory Limited

1/F, 1 /Building, SEC Industrial Park, No. 4 Qianhai Road
Nanshan District, Shenzhen, 518054, China

Tel: (86)755-26066544
Fax: (86)755-26014772
Http://www.anbotek.com

Job No.:	AT1108637E	Polarziation:	Vertical
Standard:	(RE)EN55015_3m	Power Source:	230V~, 50Hz
Test item:	Radiation Test	Date:	2011/08/15
Temp.(C)/Hum.(%RH):	24.3(C)/55%RH	Time:	10:01:03
EUT:	Lighting & Dimming Controls	Test By:	Barak Ban
Model:	SB-DIM2c6A-DN	Distance:	3m

Note: On



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	30.5577	53.46	-26.30	27.16	40.00	-12.84	peak			
2	32.4430	51.90	-26.26	25.64	40.00	-14.36	peak			
3	35.7373	54.79	-26.00	28.79	40.00	-11.21	peak			
4	38.1172	50.83	-25.35	25.48	40.00	-14.52	peak			
5	44.2712	48.69	-24.75	23.94	40.00	-16.06	peak			
6	139.9978	48.08	-27.14	20.94	40.00	-19.06	peak			

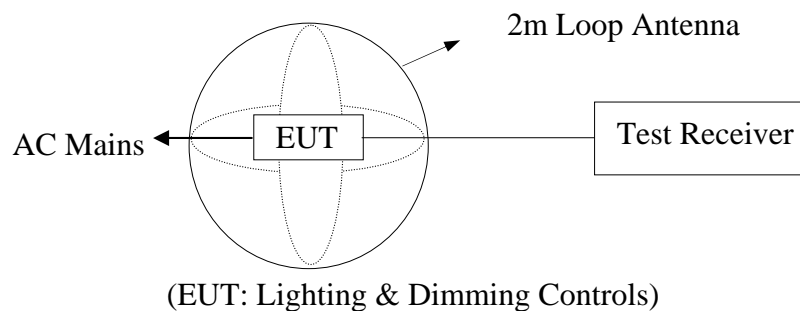
4. MAGNETIC RADIATED EMISSION TEST

4.1. Test Equipment

The following test equipments are used during the Magnetic Radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Nov. 12, 2010	1 Year
2.	Triple-Loop Antenna(2M)	EVERFINE	LLA-2	905003	May 19, 2011	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 19, 2011	1 Year
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A

4.2. Block Diagram of Test Setup



4.3. Magnetic Field Emission Measurement Standard and Limits

4.3.1. Measuring Standard

EN 55015: 2006+A1: 2007+A2: 2009

4.3.2. Measuring Limits

Frequency	Limits for loop diameter (dB μ A)
	2m
9KHz ~ 70KHz	88
70KHz ~ 150KHz	88 ~ 58*
150KHz ~ 2.2MHz	58 ~ 26*
2.2MHz ~ 3.0MHz	58
3.0MHz ~ 30MHz	22

1. At the transition frequency the lower limit applies.
2. * decreasing linearly with logarithm of the frequency.

4.4. EUT Configuration on Measurement

The configuration of the EUT is same as Section 2.5.1.

4.5. Operating Condition of EUT

4.5.1. Setup the EUT as shown in Section 4.2.

4.5.2. Turn on the power of all equipments.

4.5.3. Let the EUT work in test mode (On) and measure it.

4.6. Test Procedure

The EUT is placed on a wood table in the center of a loop antenna. The induced current in the loop antenna is measured by means of a current probe and the test receiver. Three field components are checked by means of a coaxial switch.

The frequency range from 9KHz to 30MHz is investigated. The receiver is measured with the quasi-peak detector. For frequency band 9KHz to 150KHz, the bandwidth of the test receiver (ESCI) is set at 200Hz. For frequency band 150KHz to 30MHz, the bandwidth is set at 9KHz.

All the test results are listed in Section 4.7.

4.7. Measuring Results

PASS.

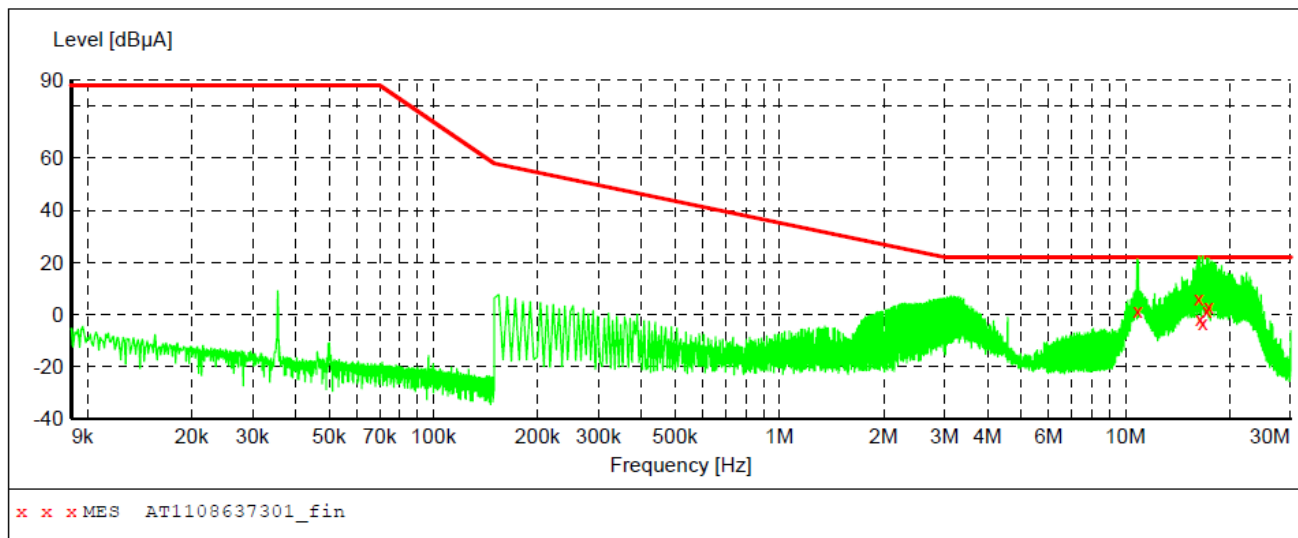
The frequency range from 9KHz to 30MHz is investigated.

The test curves are shown in the following pages.

MAGNETIC RADIATED EMISSION TEST

EUT: Lighting & Dimming Controls M/N: SB-DIM2c6A-DN
 Operating Condition: On
 Test Site: 1# Shielded Room
 Operator: Barak Ban
 Test Specification: 230V~, 50Hz
 Comment: X
 Tem:22.2°C Hum:59%

SCAN TABLE: "Magn (9K-30M) FIN"
 Short Description: 9K~30M Magn. Field



MEASUREMENT RESULT: "AT1108637301_fin"

8/15/2011 9:18AM

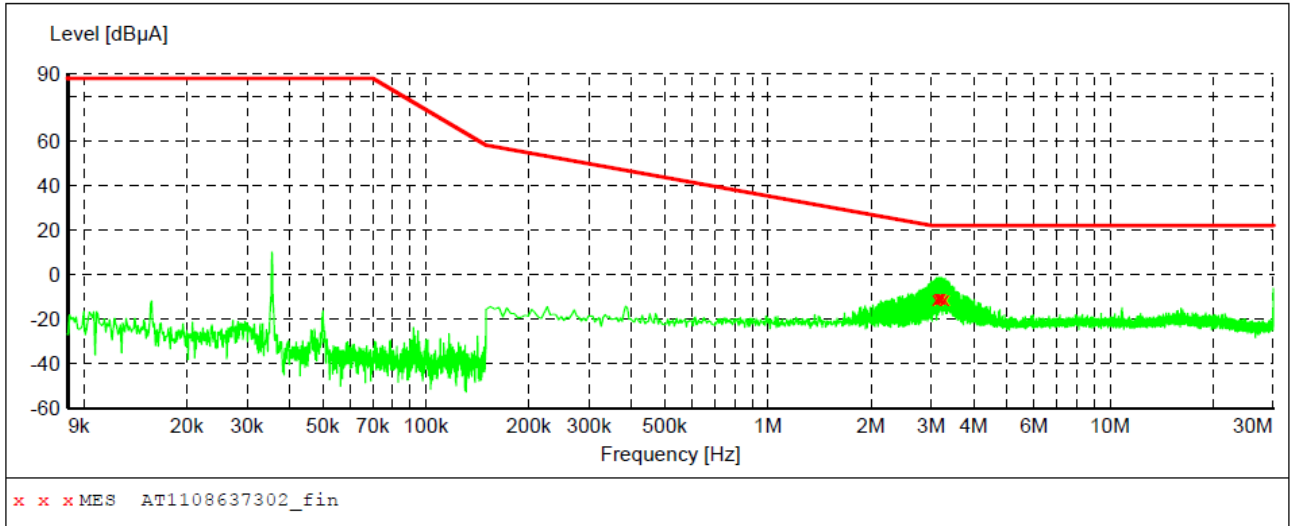
Frequency MHz	Level dBµA	Transd dB	Limit dBµA	Margin dB	Det.	Loop	Azimuth deg
10.846500	1.30	-14.0	22	20.7	QP	X	0.00
16.305000	6.10	-13.3	22	15.9	QP	X	0.00
16.453500	-1.70	-13.3	22	23.7	QP	X	0.00
16.732500	-3.30	-13.4	22	25.3	QP	X	0.00
17.223000	1.40	-13.5	22	20.6	QP	X	0.00
17.416500	2.80	-13.5	22	19.2	QP	X	0.00

MAGNETIC RADIATED EMISSION TEST

EUT: Lighting & Dimming Controls M/N: SB-DIM2c6A-DN
 Operating Condition: On
 Test Site: 1# Shielded Room
 Operator: Barak Ban
 Test Specification: 230V~, 50Hz
 Comment: Y
 Tem:22.2°C Hum:59%

SCAN TABLE: "Macn (9K-30M) FIN"

Short Description: 9K~30M Magn. Field



MEASUREMENT RESULT: "AT1108637302_fin"

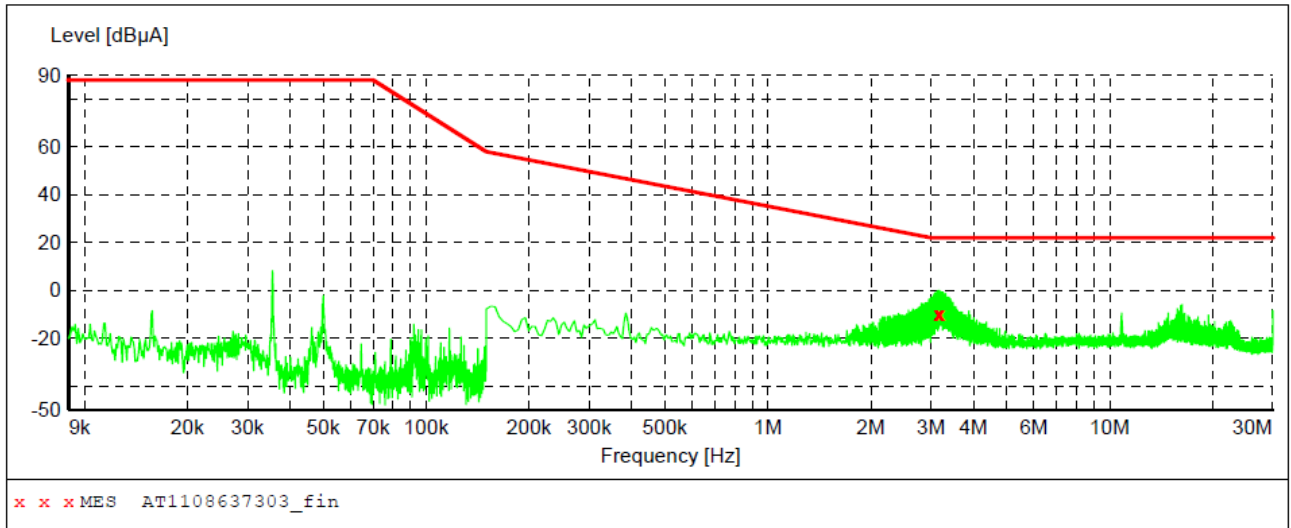
8/15/2011 9:23AM

Frequency MHz	Level dBµA	Transd dB	Limit dBµA	Margin dB	Det.	Loop	Azimuth deg
3.115500	-10.90	-15.6	22	32.9	QP	Y	0.00
3.156000	-10.30	-15.6	22	32.3	QP	Y	0.00
3.160500	-10.40	-15.6	22	32.4	QP	Y	0.00
3.192000	-10.30	-15.6	22	32.3	QP	Y	0.00
3.219000	-10.40	-15.6	22	32.4	QP	Y	0.00
3.291000	-10.90	-15.6	22	32.9	QP	Y	0.00

MAGNETIC RADIATED EMISSION TEST

EUT: Lighting & Dimming Controls M/N: SB-DIM2c6A-DN
 Operating Condition: On
 Test Site: 1# Shielded Room
 Operator: Barak Ban
 Test Specification: 230V~, 50Hz
 Comment: Z
 Tem:22.2°C Hum:59%

SCAN TABLE: "Magn (9K-30M) FIN"
 Short Description: 9K~30M Magn. Field



MEASUREMENT RESULT: "AT1108637303_fin"

8/15/2011 9:28AM

Frequency MHz	Level dBµA	Transd dB	Limit dBµA	Margin dB	Det.	Loop	Azimuth deg
3.151500	-9.70	-15.6	22	31.7	QP	Z	0.00
3.160500	-9.70	-15.6	22	31.7	QP	Z	0.00
3.169500	-9.80	-15.6	22	31.8	QP	Z	0.00
3.174000	-9.90	-15.6	22	31.9	QP	Z	0.00
3.187500	-9.70	-15.6	22	31.7	QP	Z	0.00
3.192000	-9.80	-15.6	22	31.8	QP	Z	0.00

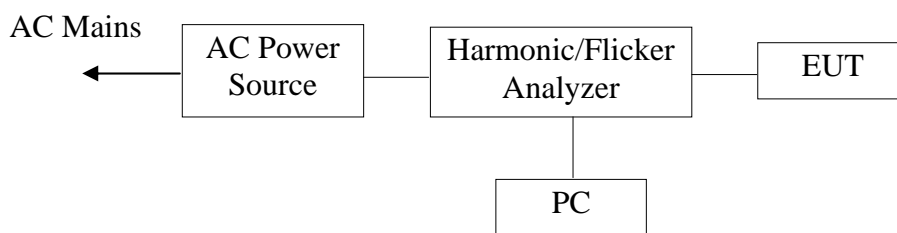
5. HARMONIC CURRENT EMISSION TEST

5.1. Test Equipment

The following test equipments are used during harmonic current emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Programmable AC Power source	SOPH POWER	PAG-1050	630250	May 26, 2011	1 Year
2.	Harmonic and Flicker Analyzer	LAPLACE	AC2000A	272629	May 26, 2011	1 Year
3.	Harmonic and Flicker Test Software AC 2000A	LAPLACE	N/A	N/A	N/A	N/A

5.2. Block Diagram of Test Setup



(EUT: Lighting & Dimming Controls)

5.3. Measuring Standard

EN 61000-3-2: 2006+A1: 2009+A2: 2009 Class C

5.4. Operating Condition of EUT

Same as Section 2.6 except the test setup replaced by Section 5.2.

5.5. Measuring Results

PASS

The test dates are shown in the following pages.

Harmonic Current Test Result Summary (Run time)

HA-PC Link Plus. Software v2.02. Firmware v2.81

Report Number : 201108697E

Tested On : Aug. 16, 2011 15:08 for 600 Seconds.

Equipment Under Test : Lighting & Dimming Controls

Serial Number : AT1108637E

Tested by : Barak Ban

Supply Voltage : 229.3 Vrms 325.4 Vpk Frequency : 49.99 to 50.04 Hz

Supply Meets EN Requirements

Load Power : 100.130 W 100.84 VA Power Factor 0.993

Load Current : 439.8 to 440.0 mArms 629.0 to 633.3 mApk Crest Factor: 1.431

Measurement Standard : EN61000-4-7:2002

Limits Applied : EN61000-3-2 Class C Limits >25W for 0.437A at 0.993 PF.

Harmonic Number	Limit Current mA	Average (filtered) mA	% Limit	max. Value (Filtered)	% Limit	Assessment
Fundamental :		437.2				
2 :	8.7	0.9	10.3	0.8	9.2	Pass
3 :	130.2	24.5	18.8	24.5	18.8	Pass
4 :	-	0.2	-	0.2	-	-
5 :	43.7	22.1	50.6	22.2	50.8	Pass
6 :	-	0.1	-	0.0	-	-
7 :	30.6	19.7	64.4	19.7	64.4	Pass
8 :	-	0.3	-	0.3	-	-
9 :	21.9	16.1	73.5	16.0	73.1	Pass
10 :	-	0.3	-	0.3	-	-
11 :	13.1	12.5	95.4	12.5	95.4	Pass
12 :	-	0.3	-	0.2	-	-
13 :	13.1	9.4	71.8	9.4	71.8	Pass
14 :	-	0.1	-	0.1	-	-
15 :	13.1	7.2	55.0	7.1	54.2	Pass
16 :	-	0.0	-	0.0	-	-
17 :	13.1	5.7	43.5	5.7	43.5	Pass
18 :	-	0.1	-	0.0	-	-
19 :	13.1	5.3	40.5	5.3	40.5	Pass
20 :	-	0.1	-	0.1	-	-
21 :	13.1	5.2	39.7	5.2	39.7	Pass
22 :	-	0.1	-	0.0	-	-
23 :	13.1	5.2	39.7	5.2	39.7	Pass
24 :	-	0.1	-	0.0	-	-
25 :	13.1	4.8	36.6	4.8	36.6	Pass
26 :	-	0.1	-	0.0	-	-
27 :	13.1	4.3	32.8	4.3	32.8	Pass
28 :	-	0.1	-	0.0	-	-
29 :	13.1	3.8	29.0	3.7	28.2	Pass
30 :	-	0.1	-	0.0	-	-
31 :	13.1	3.3	25.2	3.3	25.2	Pass
32 :	-	0.1	-	0.0	-	-
33 :	13.1	3.1	23.7	3.1	23.7	Pass
34 :	-	0.1	-	0.0	-	-
35 :	13.1	3.1	23.7	3.1	23.7	Pass
36 :	-	0.0	-	0.0	-	-
37 :	13.1	3.1	23.7	3.0	22.9	Pass
38 :	-	0.0	-	0.0	-	-
39 :	13.1	3.0	22.9	3.0	22.9	Pass
40 :	-	0.0	-	0.0	-	-
21 - 39 :	41.5	12.6	30.4	12.6	30.4	-

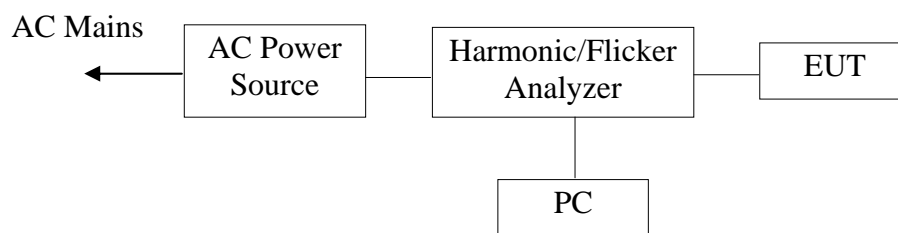
6. VOLTAGE FLUCTUATIONS & FLICKER TEST

6.1. Test Equipment

The following test equipments are used during the voltage fluctuations and flicker measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Programmable AC Power source	SOPH POWER	PAG-1050	630250	May 26, 2011	1 Year
2.	Harmonic and Flicker Analyzer	LAPLACE	AC2000A	272629	May 26, 2011	1 Year
3.	Harmonic and Flicker Test Software AC 2000A	LAPLACE	N/A	N/A	N/A	N/A

6.2. Block Diagram of Test Setup



(EUT: Lighting & Dimming Controls)

6.3. Measuring Standard

EN 61000-3-3: 2008

6.4. Operating Condition of EUT

Same as Section 2.6 except the test setup replaced by Section 6.2.

6.5. Measuring Results

PASS.

The test curves are shown in the following pages.

Flicker Test Summary per EN/IEC61000-3-3 (Run time)

Report Number : 201108697E
 Tested On : Aug. 16, 2011 15:22 for 600 Seconds.
 Equipment Under Test : Lighting & Dimming Controls
 Serial Number : AT1108637E
 Tested by : Barak Ban

Supply Voltage : 229.1 to 229.3 Vrms 325.4 Vpk Frequency : 49.96 to 50.05 Hz
 Load Current : 433.3 to 440.3 mArms 629.2 to 642.2 mApk Crest Factor: 1.430

Test Method: EN61000-3-3:2008

Voltage Variations :

Highest Level: -0.18%
 Lowest Level: -0.53%
 d(max): 0.35% PASS

Highest d(t) of 500ms: 0.00% PASS
 Present d(t) over 3.33%: 0.00 Seconds
 Longest d(t) over 3.33%: 0.00 Seconds

Highest Steady State: -0.36%
 Lowest Steady State: -0.36%

Max d(c) Between Adjacent: 0.00% PASS
 Max d(c) Between Any: 0.00%

Short Term Flicker Pst: 0.16 PASS

Flicker Results :

Pst Classifier	Plt Calculation		
Duration	Flicker	Interval	Pst
0.1%	0.70		
0.7%	0.06		
1.0%	0.02		
1.5%	0.02		
2.2%	0.01		
3%	0.00		
4%	0.00		
6%	0.00		
8%	0.00		
10%	0.00		
13%	0.00		
17%	0.00		
30%	0.00		
50%	0.00		
80%	0.00		

7. ELECTROSTATIC DISCHARGE IMMUNITY TEST

7.1. Test Equipment

The following test equipments are used during the Electrostatic Discharge measurement:

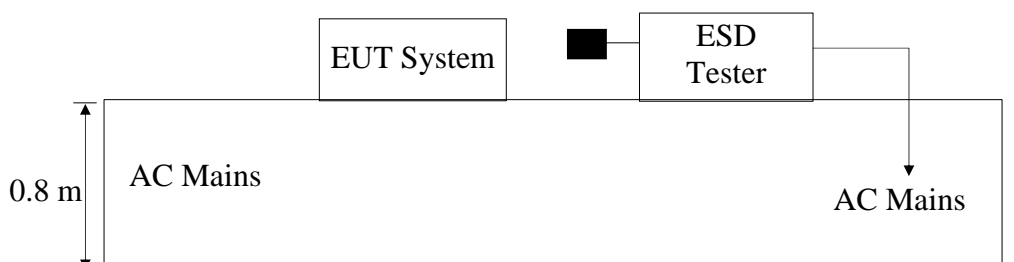
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	ESD Simulators	KIKUSUI	KES4021	LJ003477	May 25, 2011	1 Year

7.2. Block Diagram of Test Setup

7.2.1. Block diagram of connection between the EUT and simulators



7.2.2. Test Setup Diagram



7.3. Measuring Standard

EN 61547: 2009

IEC 61000-4-2: 2008

Severity Level: 3 / Air Discharge: $\pm 8\text{kV}$, Level: 2 / Contact Discharge: $\pm 4\text{kV}$

7.4. Severity Levels and Performance Criterion

7.4.1. Severity level

Level	Test Voltage Contact Discharge (kV)	Test Voltage Air Discharge (kV)
1.	± 2	± 2
2.	± 4	± 4
3.	± 6	± 8
4.	± 8	± 15

X	Special	Special
---	---------	---------

7.4.2. Performance criterion: **B**

7.5. EUT Configuration

The configuration of EUT are listed in Section 2.5.1.

7.6. Operating Condition of EUT

7.6.1. Setup the EUT and simulators as shown in Section 7.2.

7.6.2. Turn on the power, Let the EUT work in test mode (On) and test it.

7.7. Test Procedure

7.7.1. Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed

7.7.2. Contact Discharge:

All the procedure shall be same as Section 7.7.1. except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

7.7.3. Indirect discharge for horizontal coupling plane

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

7.7.4. Indirect discharge for vertical coupling plane

At least 20 single discharge shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

7.8. Measuring Results

PASS.

Please refer to the following page.

Electrostatic Discharge Test Results

Anbotek Compliance Laboratory Limited

Applicant : SMART-GROUP (Dongguan Shima Electronics Co., Ltd.)	Test Date : Aug. 16, 2011	
EUT : Lighting & Dimming Controls	Temperature : 24°C	
M/N : SB-DIM2c6A-DN	Humidity : 53%	
Power Supply : 230V~, 50Hz	Test Engineer : Barak Ban	
Test Mode : On		
Air Discharge: $\pm 8\text{kV}$		
Contact Discharge: $\pm 4\text{kV}$ # For each point positive 10 times and negative 10 times discharge		
Location	Kind A-Air Discharge C-Contact Discharge	Result
Slot of the EUT 6 points	A	PASS
Function Keys 6 points	A	PASS
Others 6 points	A	PASS
HCP 4 points	C	PASS
VCP of the front 4 points	C	PASS
VCP of the rear 4 points	C	PASS
VCP of the left 4 points	C	PASS
VCP of the right 4 points	C	PASS
<p>Note: Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).</p>		

8. RF FIELD STRENGTH SUSCEPTIBILITY TEST

8.1. Test Equipment

The following test equipments are used during the R/S (Shenzhen EMTEK) measurement:

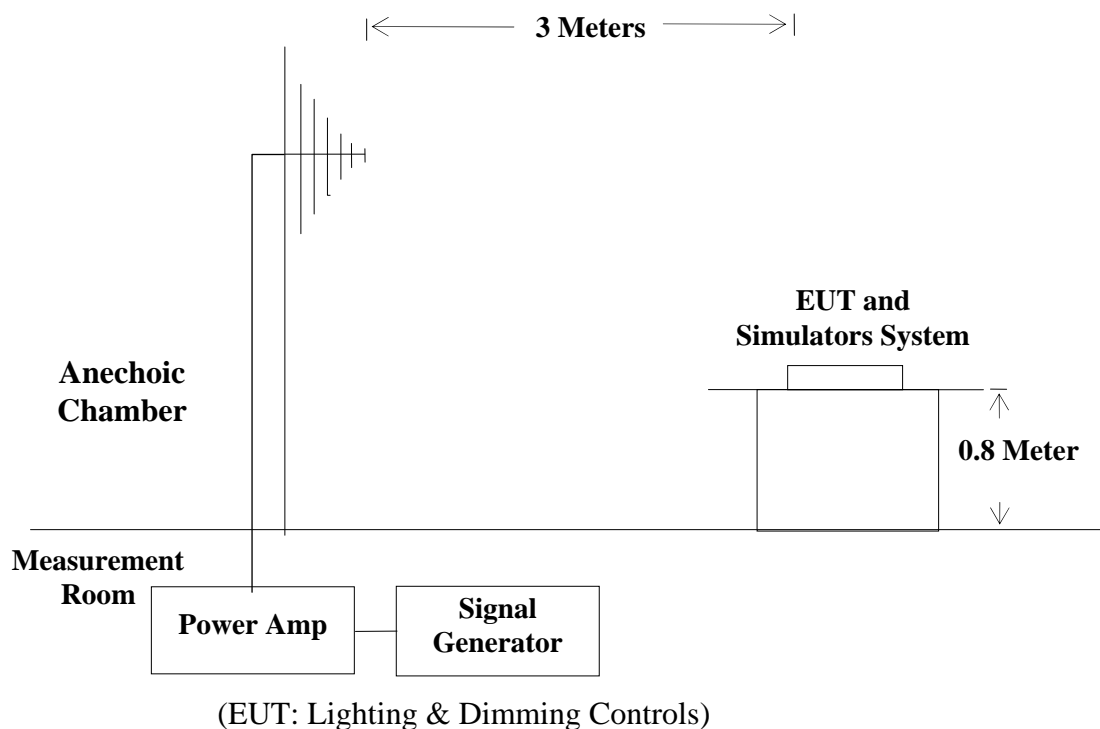
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	RF Power Meter, Dual Channel	BOONTON	4232A	10539	May 29, 2011	1 year
2.	50ohm Diode Power Sensor	BOONTON	51011EMC	34236/34238	May 29, 2011	1 year
3.	Broad-Band Horn Antenna	SCHWARZBECK	BBHA9120 L3F	332	May 29, 2011	1 year
4.	Power Amplifier	PRANA	AP32MT215	N/A	May 29, 2011	1 year
5.	Power Amplifier	MILMEGA	AS0102-55	N/A	May 29, 2011	1 year
6.	Signal Generator	AEROFLEX	2023B	N/A	May 29, 2011	1 year
7.	Field Strength Meter	HOLADAY	HI-6005	N/A	May 29, 2011	1 year
8.	RS232 Fiber Optic Modem	HOLADAY	HI-4413P	N/A	May 29, 2011	1 year
9.	Log.-Per. Antenna	SCHWARZBECK	VULP 9118E	N/A	May 29, 2011	1 year

8.2. Block Diagram of Test Setup

8.2.1. Block Diagram of the EUT and the simulators



8.2.2. R/S Test Setup



8.3. Measuring Standard

EN 61547: 2009
(IEC 61000-4-3: 2010, Severity Level: 2, 3V/m)

8.4. Severity Levels and Performance Criterion

8.4.1. Severity level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X	Special

8.4.2. Performance criterion: A

8.5. EUT Configuration

The configuration of EUT are listed in Section 2.5.1.

8.6. Operating Condition of EUT

8.6.1. Setup the EUT and simulators as shown in Section 8.2.

8.6.2. Turn on the power, Let the EUT work in test mode (On) and test it.

8.7. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. EUT is set 3 meter away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarization of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD camera is used to monitor EUT screen. All the scanning conditions are as follow:

Condition of Test	Remarks
1. Fielded Strength	3 V/m (Severity Level 2)
2. Radiated Signal	Unmodulated
3. Scanning Frequency	80 - 1000 MHz
4. Dwell time of radiated	0.0015 decade/s
5. Waiting Time	1 Sec.

8.8. Measuring Results

PASS.

Please refer to the following page.

RF Field Strength Susceptibility Test Results

Anbotek Compliance Laboratory Limited

Applicant: SMART-GROUP (Dongguan Shima Electronics Co., Ltd.) EUT : Lighting & Dimming Controls M/N : SB-DIM2c6A-DN Field Strength : 3V/m Power Supply : 230V~, 50Hz Test Engineer : Barak Ban		Test Date: Aug. 16, 2011 Temperature : 25°C Humidity : 55% Criterion : A Frequency Range : 80 MHz to 1000 MHz	
Modulation : <input checked="" type="checkbox"/> AM 1 KHz 80% <input type="checkbox"/> Pulse <input type="checkbox"/> none			
Test Mode : On			
Steps 1 %		Frequency Rang: 80-1000MHz	
	Horizontal		Vertical
Front	PASS		PASS
Right	PASS		PASS
Rear	PASS		PASS
Left	PASS		PASS
Note: The Project was tested in Shenshen EMTEK Co., Ltd.			

9. ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST

9.1. Test Equipment

The following test equipments are used during the Electrical Fast Transient /Burst Immunity measurement:

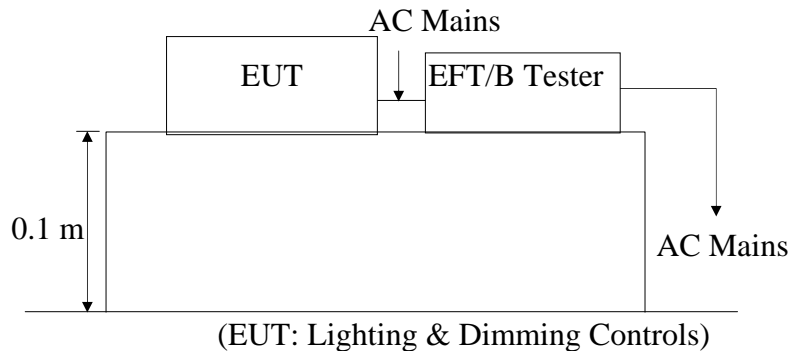
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EFT Generator	EMPEK	EFT-4040B	0430928N	May 19, 2011	1 Year

9.2. Block Diagram of Test Setup

9.2.1. Block Diagram of the EUT



9.2.2. Block Diagram of the AC Mains



9.3. Measuring Standard

EN 61547: 2009

IEC 61000-4-4: 2011

Severity Level, Level 2: 1.0kV

9.4. Severity Levels and Performance Criterion

9.4.1. Severity level

Open Circuit Output Test Voltage $\pm 10\%$		
Level	On Power Supply Lines	On I/O (Input/Output) Signal data and control lines
1.	0.50 kV	0.25 kV
2.	1.00 kV	0.50 kV
3.	2.00 kV	1.00 kV
4.	4.00 kV	2.00 kV
X	Special	Special

9.4.2. Performance criterion: **B**

9.5. EUT Configuration

The configuration of EUT are listed in Section 2.5.1.

9.6. Operating Condition of EUT

9.6.1. Setup the EUT as shown in Section 9.2.

9.6.2. Turn on the power of all equipments.

9.6.3. Let the EUT work in test mode (On) and measure it.

9.7. Test Procedure

The EUT is put on the table which is 0.1 meter high above the ground. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

9.7.1. For input and output AC power ports:

The EUT is connected to the power mains by using a coupling device which couples the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test is 2 mins.

9.7.2. For signal lines and control lines ports:

It's unnecessary to test.

9.7.3. For DC output line ports:

It's unnecessary to test.

9.8. Measuring Results

PASS.

Please refer to the following page.

Electrical Fast Transient/Burst Test Results

Anbotek Compliance Laboratory Limited

Applicant.....:	SMART-GROUP (Dongguan Shima Electronics Co., Ltd.)	
EUT.....:	Lighting & Dimming Controls	M/N : SB-DIM2c6A-DN
Power Supply.....:	230V~, 50Hz	critierion: B
Ambient Condition...:	25°C / 56% RH	

Operation Mode: On	Test Data: Aug. 16, 2011
--------------------	--------------------------

Inject Line : AC Mains	Inject Method: Direct	Inject Time(s): 120
------------------------	-----------------------	---------------------

Line	Test Voltage	Result(+)	Result(-)
L	1.0kV	PASS	PASS
N	1.0kV	PASS	PASS
PE			
L ∙ N	1.0kV	PASS	PASS
L ∙ PE			
N ∙ PE			
L ∙ N ∙ PE			
Signal Line			
DC output Line			

Note :

Remark:

10. SURGE IMMUNITY TEST

10.1. Test Equipment

The following test equipments are used during the Surge Immunity measurement:

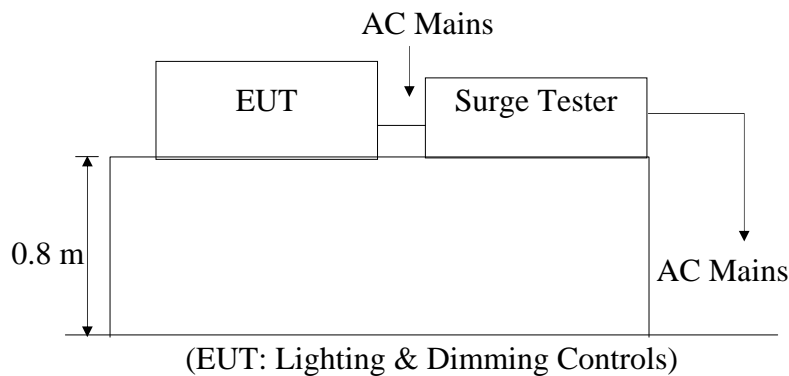
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	6kV Surge Generator	EMPEK	LSG-5060G	06010017N	Jul. 01, 2011	1 Year

10.2. Block Diagram of Test Setup

10.2.1. Block Diagram of the EUT



10.2.2. Surge Test Setup



10.3. Measuring Standard

EN61547: 2009

(IEC61000-4-5: 2005, Severity Level: Level 1, Line to Line: 1.0kV)

10.4. Severity Levels and Performance Criterion

10.4.1. Severity level

Severity Level	Open-Circuit Test Voltage kV
1	0.5
2	1.0
3	2.0
4	4.0
X	Special

10.4.2. Performance criterion: **B**

10.5. EUT Configuration

The configuration of EUT are listed in Section 2.5.1.

10.6. Operating Condition of EUT

10.6.1. Setup the EUT as shown in Section 10.2.

10.6.2. Turn on the power of all equipments.

10.6.3. Let the EUT work in test mode (On) and measure it.

10.7. Test Procedure

- 1) Set up the EUT and test generator as shown on Section 10.2.2.
- 2) For line to line coupling mode, provide a 0.5 kV 1.2/50us voltage surge (at open-circuit condition) and 8/20us current surge to EUT selected points.
- 3) At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
- 4) Different phase angles are done individually.
- 5) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

10.8. Measuring Results

PASS.

Please refer to the following page

11. INJECTED CURRENTS SUSCEPTIBILITY TEST

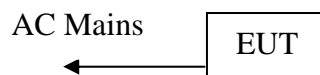
11.1. Test Equipment

The following test equipments are used during the Injected Current Susceptibility measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Conducted Immunity System	FRANKONIA	CIT-10	PI126530	May 19, 2011	1 Year
2.	CDN	FRANKONIA	CDN L-801 M2 / M3	TI126545	May 19, 2011	1 Year
3.	Electromagnetic Injection Clamp:	FRANKONIA	EM101	ST126115	May 19, 2011	1 Year
4.	Fixed Coaxial Attenuators	FRANKONIA	59-6-33	AB1261DD	May 19, 2011	1 Year

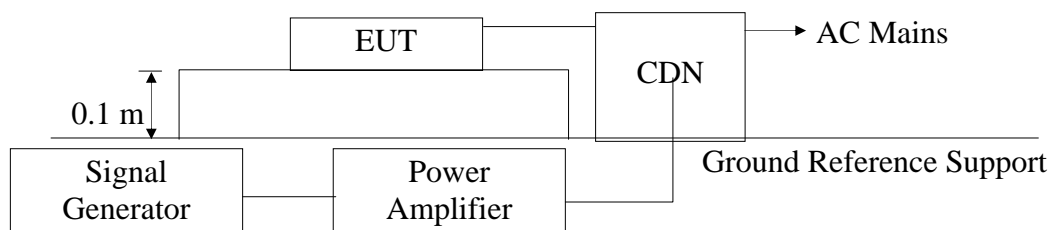
11.2. Block Diagram of Test Setup

11.2.1. Block Diagram of the EUT



(EUT: Lighting & Dimming Controls)

11.2.2. Block Diagram of AC Mains



(EUT: Lighting & Dimming Controls)

11.3. Measuring Standard

EN 61547: 2009

IEC 61000-4-6: 2008 Severity Level: 3V (rms), (0.15MHz ~80MHz)

11.4. Severity Levels and Performance Criterion

11.4.1. Severity level

Level	Field Strength V
1.	1
2.	3
3.	10
X	Special

11.4.2. Performance criterion: A

11.5. EUT Configuration

The configuration of EUT are listed in Section 2.5.1.

11.6. Operating Condition of EUT

11.6.1. Setup the EUT as shown in Section 11.2.

11.6.2. Turn on the power of all equipments.

11.6.3. Let the EUT work in test mode (On) and measure it.

11.7. Test Procedure

- 1) Set up the EUT, CDN and test generators as shown on Section 11.2.2.
- 2) Let the EUT work in test mode and measure it.
- 3) The EUT are placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).
- 4) The disturbance signal described below is injected to EUT through CDN.
- 5) The EUT operates within its operational mode(s) under intended climatic conditions after power on.
- 6) The frequency range is swept from 150KHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.
- 7) The rate of sweep shall not exceed 1.5×10^{-3} decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.
- 8) Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

11.8. Measuring Results

PASS.

Please refer to the following page.

Injected Currents Susceptibility Test Results

Anbotek Compliance Laboratory Limited

Applicant : SMART-GROUP (Dongguan Shima Electronics Co., Ltd.)		Test Date : Aug. 16, 2011		
EUT : Lighting & Dimming Controls		Temperature : 24°C		
M/N : SB-DIM2c6A-DN		Humidity : 56%		
Power Supply : 230V~, 50Hz		Test Engineer : Barak Ban		
Test Mode : On				
Frequency Range (MHz)	Injected Position	Strength (Unmodulated)	Criterion	Result
0.15 ~ 80	AC Mains	3V	A	PASS
Test Mode :				
Frequency Range (MHz)	Injected Position	Strength (Unmodulated)	Criterion	Result
Remark : 1. Modulation Signal:1KHz 80% AM				

12. VOLTAGE DIPS AND INTERRUPTIONS TEST

12.1. Test Equipment

The following test equipments are used during the Dips Immunity measurement:

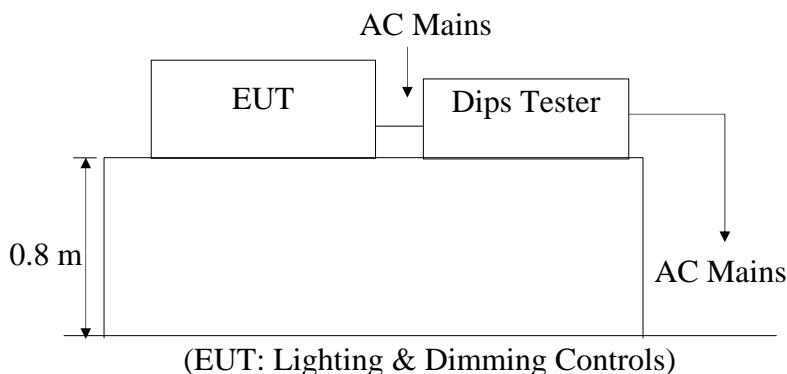
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	CYCLE SAG Simulator	PRIMA	DRP61011A	PR10106201	May 19, 2011	1 Year

12.2. Block Diagram of Test Setup

12.2.1. Block Diagram of the EUT



12.2.2. Dips Test Setup



12.3. Measuring Standard

EN 61547: 2009
IEC 61000-4-11: 2004

12.4. Severity Levels and Performance Criterion

12.4.1. Severity level

Test Level %U _T	Voltage dip and short interruptions %U _T	Duration (in period)
0	100	0.5 10
70	30	*

12.4.2. Performance criterion: **B&C**

12.5. EUT Configuration

The configuration of EUT are listed in Section 2.5.1.

12.6. Operating Condition of EUT

12.6.1. Setup the EUT as shown in Section 12.2.

12.6.2. Turn on the power of all equipments.

12.6.3. Let the EUT work in test mode (On) and measure it.

12.7. Test Procedure

- 1) Set up the EUT and test generator as shown on Section 12.2.2.
- 2) The interruptions is introduced at selected phase angles with specified duration.
- 3) Record any degradation of performance.

12.8. Measuring Results

PASS.

Please refer to the following page.

Voltage Dips and Interruptions Test Results

Anbotek Compliance Laboratory Limited

Applicant : SMART-GROUP (Dongguan Shima Electronics Co., Ltd.) EUT : Lighting & Dimming Controls M/N : SB-DIM2c6A-DN Power Supply : 230V~, 50Hz			Test Date : Aug. 16, 2011 Temperature : 25°C Humidity : 56% Test Engineer : Barak Ban	
Test Mode: On				
Test Level % U _T	Voltage Dips & Short Interruptions % U _T	Duration (in periods)	Criterion <input type="checkbox"/> A <input checked="" type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D	Result P=PASS F=Fail
70	30	10P	C	PASS
0	100	0.5P	B	PASS
Test Mode :				
Test Level % U _T	Voltage Dips & Short Interruptions % U _T	Duration (in periods)	Criterion <input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	Result P=PASS F=Fail
Remark:				

APPENDIX I (Photos of EUT)

Figure 1
The EUT-Outside View



Figure 2
The EUT-Outside View



Figure 3
The EUT-Outside View

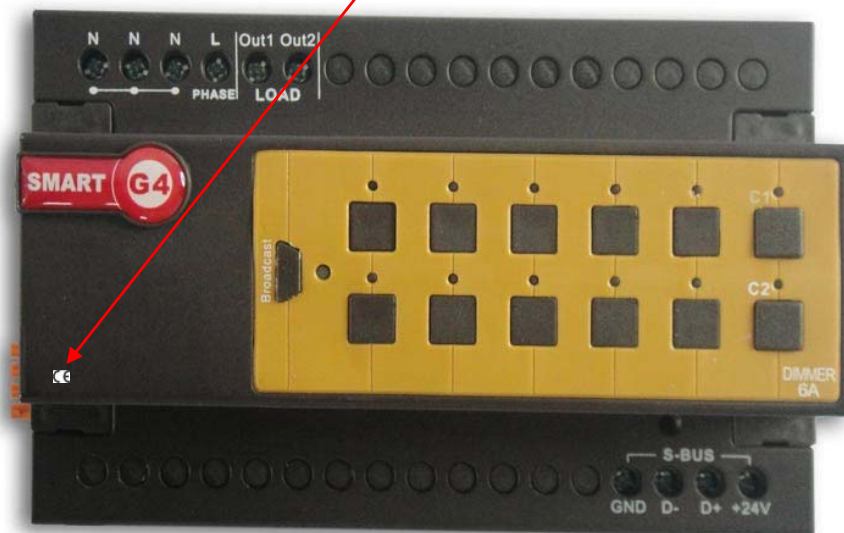


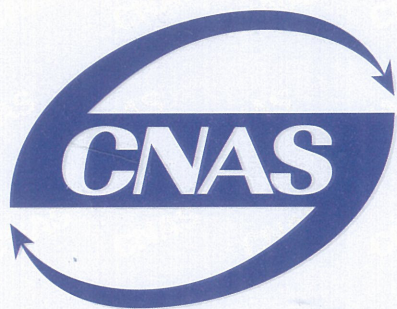
APPENDIX II (CE Label)

CE Label

1. The CE conformity marking must consist of the initials 'CE' taking the following form:
If the CE marking is reduced or enlarged, the proportions given in the above graduated drawing must be respected.
2. The CE marking must have a height of at least 5 mm except where this is not possible on account of the nature of the apparatus.
3. The CE marking must be affixed to the product or to its data plate. Additionally it must be affixed to the packaging, if any, and to the accompanying documents.
4. The CE marking must be affixed visibly, legibly and indelibly.
It must have the same height as the initials 'CE'

Proposed Label Location on EUT
EUT View/proposed CE Mark Location





中国合格评定国家认可委员会 实验室认可证书

(注册号: CNAS L3503)

兹证明:

深圳市安博技术服务有限公司

广东省深圳市南山区港湾大道东内环路南能源工业小区一栋一楼, 518054

符合 ISO/IEC 17025: 2005 《检测和校准实验室能力的通用要求》
(CNAS-CL01 《检测和校准实验室能力认可准则》) 的要求, 具备承担
本证书附件所列检测服务的能力, 予以认可。

获认可的能力范围见标有相同认可注册号的证书附件, 证书附件是
本证书组成部分。

签发日期: 2011-06-24

有效期至: 2014-06-23

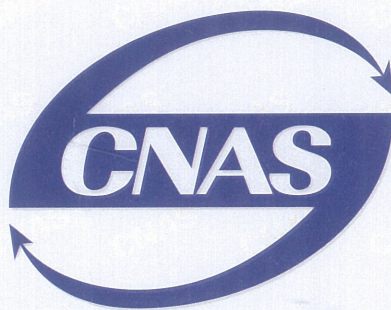
初次认可: 2008-05-19

更新日期: 2011-06-24



中国合格评定国家认可委员会授权人

中国合格评定国家认可委员会 (CNAS) 经国家认证认可监督管理委员会 (CNCA) 授权, 负责实施合格评定国家认可制度。CNAS 是国际实验室认可合作组织 (ILAC) 和亚太实验室认可合作组织 (APLAC) 的多边互认协议成员。



China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(Registration No. CNAS L3503)

Shenzhen Anbotek Compliance Laboratory Limited

1/F., Building 1, SEC Industrial Park, South of Neihuan Road &
East of Gangwan Road, Nanshan District, Shenzhen, Guangdong, China

is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence of testing.

The scope of accreditation is detailed in the attached appendices bearing the same registration number as above. The appendices form an integral part of this certificate.

Date of Issue: 2011-06-24

Date of Expiry: 2014-06-23

Date of Initial Accreditation: 2008-05-19

Date of Update: 2011-06-24

Signed on behalf of China National Accreditation Service
for Conformity Assessment

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA) and Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

FEDERAL COMMUNICATIONS COMMISSION

Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

August 20, 2010

Registration Number: 752021

Anbotek Compliance Laboratory Limited
1/F, 1 /Build, SEC Industrial Park,,
No. 4 Qianhai Road, Nanshan District,,
Shenzhen, 518054
China

Attention: Daniel zhu

Re: Measurement facility located at Nanshan District, Shenzhen, China
Anechoic chamber (3 meter)
Date of Listing: August 20, 2010

Dear Sir or Madam:

Your request for registration of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC rules. The information has, therefore, been placed on file and the name of your organization added to the list of facilities whose measurement data will be accepted in conjunction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Please note that the file must be updated for any changes made to the facility and the registration must be renewed at least every three years. Please also note that this registration does not recognize the measurement facility to perform testing for products authorized under the Declaration of Conformity (DoC) process. In order to test products subject to DoC authorization process, a measurement facility must be accredited and recognized by the FCC.

Measurement facilities that have indicated that they are available to the public to perform measurement services on a fee basis may be found on the FCC website www.fcc.gov under E-Filing, OET Equipment Authorization Electronic Filing, Test Firms.

Sincerely,

Katie Hawkins
Electronics Engineer

August 30, 2010

OUR FILE: 46405-8058

Submission No: 141927

Anbotek Compliance Laboratory Limited
1/F, 1 /Building, SEC Industrial Park
No. 4 Qianhai Road, Nanshan District, 518054
Shenzhen, China

Attention: Daniel Zhu

Dear Sir/Madame:

The Bureau has received your application for the renewal of a 3m alternative test site. Be advised that the information received was satisfactory to Industry Canada. The following number(s) is now associated to the site(s) for which registration / renewal was sought (**8058A-1**). Please reference the appropriate site number in the body of test reports containing measurements performed on the site. In addition, please keep for your records the following information;

- The company address code associated to the site(s) located at the above address is: **8058A**

Furthermore, to obtain or renew a unique site number, the applicant shall demonstrate that the site has been accredited to ANSI C63.4-2003 or later. A scope of accreditation indicating the accreditation by a recognized accreditation body to ANSI C63.4-2003 or later shall be accepted. Please indicate in a letter the previous assigned site number if applicable and the type of site (example: 3 metre OATS or 3 metre chamber). If the test facility is not accredited to ANSI C63.4-2003 or later, the test facility shall submit test data demonstrating full compliance with the ANSI standard. The Bureau will evaluate the filing to determine if recognition shall be granted.

The frequency for re-validation of the test site and the information that is required to be filed or retained by the testing party shall comply with the requirements established by the accrediting organization. However, in all cases, test site re-validation shall occur on an interval not to exceed two years. There is no fee or form associated with an OATS filing. OATS submissions are encouraged to be submitted electronically to the Bureau using the following URL;

http://strategis.ic.gc.ca/epic/internet/inceb-bhst.nsf/en/h_tt00052e.html.

If you have any questions, you may contact the Bureau by e-mail at certification.bureau@ic.gc.ca Please reference our file and submission number above for all correspondence.

Yours sincerely,



Dalwinder Gill
For: Wireless Laboratory Manager
Certification and Engineering Bureau
3701 Carling Ave., Building 94
P.O. Box 11490, Station "H"
Ottawa, Ontario K2H 8S2
Email: dalwinder.gill@ic.gc.ca
Tel. No. (613) 998-8363
Fax. No. (613) 990-4752

ATTESTATION

ATTESTATION



Product Service

This is to confirm that

Anbotek Compliance Laboratory Limited

1/F, 1/Building, SEC Industrial Park, Qianhai Road, Nanshan District, Shenzhen 518054, Guangdong, P.R.China
has been accepted by

**TÜV SÜD China Shenzhen Branch – 6th Floor, H Hall,
Century Craftwork Culture Square, No. 4001, Fuqiang
Road, Futian District, 518048, Shenzhen, P. R. China**

for cooperating in on-site witness projects according to the standards in attachment

This document states that the above named company is included in the TÜV SÜD PRODUCT SERVICE GROUP (TÜV SÜD) Listing of Recognized Laboratories and is qualified in compliance with the TÜV SÜD External Test Laboratory (ETL) program for the mutually agreed product categories and/ or standards.

As far as the testing facilities meet the relevant requirements of this program and the tests of the projects are conducted under the supervision and witness of the engineer(s) of TÜV SÜD China Shenzhen Branch, the test results can be used as a basis for a TÜV SÜD certification.

Attestation No.: SCN1069
Expiration Date: 2013-09-12

TÜV SÜD China – South Region

Robert Ostendorf
General Manager

Date of Issuance: 2012-09-12



*TÜV SÜD makes no representations or warranties, express or implied, regarding any aspect of this Laboratory's business or services or that this Laboratory's services will achieve any specific results in any TÜV SÜD investigation. TÜV SÜD does not assume or undertake to discharge any liability of this Laboratory or any other party. TÜV SÜD assumes no liability which may result directly or indirectly from assessment or Certification of this Laboratory, the conduct or a failure to conduct inspections, incorrect Certification, nonconformity or failure to discover nonconformity with Program Requirements, cancellation of this Attestation or withdrawal of this Laboratory's inclusion from any TÜV SÜD PRODUCT SERVICE GROUP Listing or Directory prior to the expiration date of this Attestation. This Laboratory bears sole responsibility for its provision of services.

**California Appliance Efficiency Program
2012 Consumer Electronics Test Laboratory Application**

This is a PDF fillable form. You may complete it on line or print it out and complete it off line. After it has been signed, you may scan and return it as an e-mail attachment to appliances@energy.state.ca.us, or return it via mail to:

Appliance Efficiency Program
2012 Consumer Electronics Lab App: <Company Name>
California Energy Commission
1516 Ninth Street, MS-25
Sacramento, CA 95814-5512

PLEASE ALSO NOTE THAT:

- Applications that have been re-typed in your own format WILL NOT be accepted.
- It is not necessary to submit both an email and a mailed application
- This application must specify the physical address of the location that will be conducting testing.
- Please allow at least four weeks before contacting us regarding your application.

Contact Person Name Daniel Zhu	Phone 1 86-755-26014771
Company / Laboratory Name Anbotek Compliance Laboratory Ltd.	Phone 2 86-755-26066365
Address 1/F,1/build, SEC Industrial Park, Qianhai Road,	Fax 86-755-26014772
(Address) NanShan District,Shenzhen, China 518054	E-mail daniel.zhu@anbotek.com
(Address)	Company Website (URL) www.anbotek.com

Appliance Type(s):	<input checked="" type="checkbox"/> Compact Audio Device
	<input checked="" type="checkbox"/> DVD Player/Recorder
	<input checked="" type="checkbox"/> Television
	<input checked="" type="checkbox"/> External Power Supply
	<input checked="" type="checkbox"/> Small Battery Charger

Test method(s):	<input checked="" type="checkbox"/> International Electrotechnical Commission (IEC) 62087:2002(E)
	<input checked="" type="checkbox"/> Electrotechnical Commission (IEC) 62301:2005 and 62087:2008(E), as directed in Section 1604(v) of the Title 20 Appliance Efficiency Regulations
	<input checked="" type="checkbox"/> US EPA "Test Method for Calculating the Energy Efficiency of Single-Voltage External AC-DC and AC-AC Power Supplies", August 11, 2004
	<input checked="" type="checkbox"/> 10 CFR 430.23(aa) - Appendix Y to Subpart B of Part 430, Uniform Test Method for Measuring the Energy Consumption of Battery Chargers

Anbotek Compliance Laboratory Ltd. _____ states:
Name of Laboratory


[Initial all appropriate paragraphs]

- Y It has conducted tests using the applicable test method specified above within the previous 12 months;
- Y It agrees to and does interpret and apply the applicable test method set forth in Section 1604 precisely as written;
- Y It has, and keeps properly calibrated and maintained, all equipment, material, and facilities necessary to apply the applicable test method precisely as written;
- Y It agrees to and does maintain copies of all test reports, and provides any such report to the Executive Director on request, for all basic models that are still in commercial production;
- Y It agrees to and does allow the Executive Director to witness any test of such an appliance on request, up to once per calendar year for each basic model; and
- Y It agrees to, and will follow, all applicable provisions of the California Energy Commission's Appliance Regulations (Section 1601 – 1608 of Title 20 of the California Code of Regulations), in carrying out all testing pursuant to this application.


I declare under penalty of perjury of the laws of the State of California, that:

All the information in this statement is true, complete, accurate, and in compliance with all applicable provisions of Sections 1601 – 1608 of Title 20 of the California Code of Regulations; and

I am authorized to make this declaration, and to file this application, on behalf of
Anbotek Compliance Laboratory Ltd.

Name of Laboratory _____
Signature:  Date: NOV 21 2011
Typed Name and Title: Daniel Zhu, General Manager

SPACE BELOW THIS LINE FOR CALIFORNIA ENERGY COMMISSION USE ONLY

The laboratory identified above is hereby approved for testing in compliance with the requirements of the <i>Appliance Efficiency Regulations</i> from the date shown until December 31, 2012.	
<u>12/6/11</u>	<u></u>
Date	PETER STRAIT, Program Lead Appliance Efficiency Compliance Program for the Executive Director



CERTIFICATE OF PARTICIPATION

Issued by

**UL CCIC on behalf of
UL**

**ANBOTEK COMPLIANCE LABORATORY LTD
1F 1 BLDG, SEC INDUSTRIAL PARK, QIANHAI RD NANSHAN DIST,
SHENZHEN GUANGDONG 518054, CHINA**

**has been assessed and found eligible to participate in
UL**

WITNESS TEST DATA PROGRAM

A handwritten signature in black ink, appearing to read 'Kenny Poon'.

Kenny Poon

**Operations Manager
UL CCIC**

Subscriber Number: 100224-608

Issued: March 13, 2012

Expire: March 12, 2013

Certificate of Qualification

for testing according to

FCC / IC / R&TTE (CE) Regulations

Issued to:

Company Name: Anbotek Compliance Laboratory Limited
Address: 1/F, 1 /Build, SEC Industrial Park
No. 4 Qianhai Road, Nanshan District
City: Shenzhen, 518054
Country: China

Teleconformity of The Netherlands, who performs assessments for Notified Body for Europe (0700), CAB for Canada IC, TCB for FCC approvals, has assessed many applications from Anbotek Compliance Laboratory Limited for Compliance with the USA FCC, CANADA IC, EUROPE R&TTE CE Rules and Regulations.

We are impressed with the quality and knowledge shown, therefore we judge that Anbotek Compliance Laboratory Limited is competent to perform and Document the relevant Tests. Particularly, for each filing Teleconformity was confident that the Equipment meets the relevant Requirements before the Authorization or Opinion was issued.

Anbotek Compliance Laboratory Limited is Qualified by the FCC as 2.948 Listed Test Firm (Site Registration Number: 752021) and by Industry Canada (O.A.T.S. Registration Number: 8058A-1) for a scope of testing covered and relevant to the application for certification sought.



Teleconformity

SERVING THE RADIO & TELECOM INDUSTRY

Rietven 31
7534NH Enschede
The Netherlands

Tel. +31 53 4785267
Fax +31 84 8362566
www.teleconformity.com

Expiry date: 2013-09-05

Agency attestation: TELECONFORMITY
Mr. M. Koop
Position: General Manager

