# Enlighted, Inc.

#### **TEST REPORT FOR**

Intelligent Light Sensor
for
Smart Networked Energy Saving Lighting Systems
Model: SU-2-00

**Tested To The Following Standards:** 

FCC Part 15 Subpart C Sections 15.207, 15.247 and RSS 210 Issue 8

Report No.: 92667-7

Date of issue: January 25, 2012



This test report bears the accreditation symbol indicating that the testing performed herein meets the test and reporting requirements of ISO/IEC 17025 under the applicable scope of EMC testing for CKC Laboratories, Inc.

We strive to create long-term, trust based relationships by providing sound, adaptive, customer first testing services. We embrace each of our customers' unique EMC challenges, not as an interruption to set processes, but rather as the reason we are in business.

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## **ADMINISTRATIVE INFORMATION**

## **Test Report Information**

REPORT PREPARED FOR: REPORT PREPARED BY:

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Representative: Po Chiu Project Number: 92667

DATE OF EQUIPMENT RECEIPT: January 10, 2012
DATE(S) OF TESTING: January 10-12, 2012

### **Report Authorization**

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the sample equipment tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.

Steve Behm

Director of Quality Assurance & Engineering Services CKC Laboratories, Inc.

Steve 2 Be



## **Test Facility Information**



Our laboratories are configured to effectively test a wide variety of product types. CKC utilizes first class test equipment, anechoic chambers, data acquisition and information services to create accurate, repeatable and affordable test results.

TEST LOCATION(S): CKC Laboratories, Inc. 1120 Fulton Place Fremont, CA 94539

# **Site Registration & Accreditation Information**

Location	CB#	Japan	Canada	FCC
Fremont	US0082	R-2160, C-2332, T-228 & G-522	3082B-1	958979



### **SUMMARY OF RESULTS**

### Standard / Specification: FCC Part 15 Subpart C 15.209, 15.247 and RSS 210 Issue 8

Description	Test Procedure/Method	Results
Voltage Variation	FCC Part 15 Subpart C Section 15.31(e)	Pass
AC Conducted Emissions	FCC Part 15 Subpart C Section 15.207 / ANSI C63.4 (2003)	Pass
-6dBc Occupied Bandwidth	FCC Part 15 Subpart C Section 15.247(a)(2) / DA 00-705	Pass
RF Power Output	FCC Part 15 Subpart C Section 15.247(b)(3) / DA 00-705	Pass
Bandedge	FCC Part 15 Subpart C Section 15.247(d) / DA 00-705 /	Pass
Radiated Spurious Emissions	FCC Part 15 Subpart C Section 15.247(d) / 15.209 / DA 00-705	Pass
Power Spectral Density	FCC Part 15 Subpart C 15.247(e) / DA 00-705	Pass
99% Bandwidth	RSS 210 Issue 8	Pass

# **Conditions During Testing**

This list is a summary of the conditions noted for or modifications made to the equipment during testing.

Summary of Conditions
None



## **EQUIPMENT UNDER TEST (EUT)**

### **EQUIPMENT UNDER TEST**

### Intelligent Light Sensor for Smart Networked Energy

**Saving Lighting Systems** 

Manuf: Enlighted, Inc. Model: SU-2-00

Serial: ASI48295 Rev C

### **PERIPHERAL DEVICES**

The EUT was tested with the following peripheral device(s):

AC Adaptor Laptop

Manuf: None Manuf: Acer

Model: AD35-0900300DU Model: Aspire 5750 Series

Serial: 2302AA Serial: LXR9702166123024B71601

### **AC Adapter**

Manuf: Delta Electronics, Inc.

Model: ADP-65VH B Serial: 679W1480GFA

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## **FCC PART 15 SUBPART C**

This report contains EMC emissions test results under United States Federal Communications Commission (FCC) 47 CFR 15C requirements for Unlicensed Radio Frequency Devices, Subpart C - Intentional Radiators.

### **15.207 AC Conducted Emissions**

### **Test Data Sheets**

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place. • Fremont, CA 94539 • (510) 249-1170

Customer: Enlighted, Inc.

Specification: 15.207 AC Mains - Average

Work Order #: 92667 Date: 1/10/2012
Test Type: Conducted Emissions Time: 1:45:53 PM

Equipment: Intelligent Light Sensor for Smart Sequence#: 7

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar Model: SU-2-00 110V 60Hz

S/N: ASI48295 Rev C

### Test Equipment:

I est Equi	F				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05300	Cable	RG214/U	3/7/2011	3/7/2013
T2	ANP05440	Cable		3/7/2011	3/7/2013
T3	ANP05258	High Pass Filter	HE9615-150K-	12/2/2010	12/2/2012
			50-720B		
T4	ANP01211	Attenuator	23-10-34	4/15/2011	4/15/2013
T5	AN00493	50uH LISN-L1 (L)	3816/NM	3/10/2011	3/10/2013
		Loss W/O European			
		Adapter			
	AN00493	50uH LISN-L(2) N	3816/NM	3/10/2011	3/10/2013
		Loss W/O European			
		Adapter			

### *Equipment Under Test* (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

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Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA

### Test Conditions / Notes:

FCC15.207B 0.15-30MHz Conducted Emissions.

Temperature: 18.6°C, Relative Humidity: 32% & Atmospheric Pressure: 102.1kPa.

EUT is in continuous transmit mode set to middle channel.

The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

Ext Attn: 0 dB

	rement Data:	Re	eading lis	ted by ma	argin.			Test Lead	d: Black		
#	Freq	Rdng	T1 T5	T2	Т3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	$dB\mu V$	dB	dB	dB	dB	Table	$dB\mu V$	dΒμV	dB	Ant
1	363.071k	29.9	+0.0 +0.8	+0.0	+0.1	+9.8	+0.0	40.6	48.7	-8.1	Black
2	593.596k	25.6	+0.0 +0.6	+0.0	+0.2	+9.9	+0.0	36.3	46.0	-9.7	Black
3	582.688k	24.9	+0.0 +0.6	+0.0	+0.2	+9.9	+0.0	35.6	46.0	-10.4	Black
4	637.228k	24.9	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	35.5	46.0	-10.5	Black
5	652.499k	24.8	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	35.4	46.0	-10.6	Black
6	564.507k	24.2	+0.0 +0.6	+0.0	+0.2	+9.9	+0.0	34.9	46.0	-11.1	Black
7	216.176k	30.1	+0.0 +1.6	+0.0	+0.1	+9.9	+0.0	41.7	53.0	-11.3	Black
8	193.632k	30.5	+0.0 +1.8	+0.0	+0.2	+9.9	+0.0	42.4	53.9	-11.5	Black
9	685.224k	23.8	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	34.4	46.0	-11.6	Black
10	681.588k	23.6	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	34.2	46.0	-11.8	Black
11	550.691k	23.0	+0.0 +0.6	+0.0	+0.2	+9.9	+0.0	33.7	46.0	-12.3	Black
12	702.677k	22.8	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	33.4	46.0	-12.6	Black
13	704.858k	22.4	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	33.0	46.0	-13.0	Black
14	708.494k	22.2	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	32.8	46.0	-13.2	Black
15	536.874k	22.2	+0.0 +0.6	+0.0	+0.1	+9.8	+0.0	32.7	46.0	-13.3	Black
16	531.056k	21.6	+0.0 +0.6	+0.0	+0.1	+9.8	+0.0	32.1	46.0	-13.9	Black
17	737.582k	21.2	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	31.8	46.0	-14.2	Black
18	740.491k	21.2	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	31.8	46.0	-14.2	Black

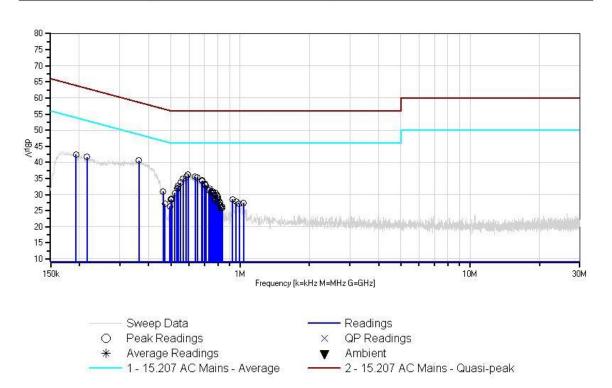


19	538.328k	21.2	+0.0 +0.6	+0.0	+0.1	+9.8	+0.0	31.7	46.0	-14.3	Black
20	733.946k	20.7	+0.0	+0.0	+0.2	+9.9	+0.0	31.3	46.0	-14.7	Black
21	760.853k	20.3	+0.5	+0.0	+0.2	+0.8	+0.0	30.8	46.0	-15.2	Dlask
21	/00.833K	20.3	$+0.0 \\ +0.5$	+0.0	+0.2	+9.8	+0.0	30.8	46.0	-13.2	Black
22	755.763k	20.2	+0.0	+0.0	+0.2	+9.8	+0.0	30.7	46.0	-15.3	Black
23	749.945k	20.0	+0.5	+0.0	+0.2	+9.8	+0.0	30.5	46.0	-15.5	Black
			+0.5								
24	765.943k	20.0	$+0.0 \\ +0.5$	+0.0	+0.2	+9.8	+0.0	30.5	46.0	-15.5	Black
25	784.851k	20.0	+0.0	+0.0	+0.2	+9.8	+0.0	30.5	46.0	-15.5	Black
23	701.051K	20.0	+0.5	10.0	10.2	17.0	10.0	30.3	10.0	13.3	Diuck
26	520.148k	20.0	+0.0	+0.0	+0.1	+9.8	+0.0	30.5	46.0	-15.5	Black
			+0.6								
27	463.426k	20.3	+0.0	+0.0	+0.1	+9.8	+0.0	30.9	46.6	-15.7	Black
			+0.7								
28	791.396k	19.3	+0.0 +0.5	+0.0	+0.2	+9.8	+0.0	29.8	46.0	-16.2	Black
29	797.941k	18.9	+0.0	+0.0	+0.2	+9.8	+0.0	29.4	46.0	-16.6	Black
			+0.5								
30	795.759k	18.4	+0.0	+0.0	+0.2	+9.8	+0.0	28.9	46.0	-17.1	Black
			+0.5								
31	501.968k	18.1	+0.0 +0.6	+0.0	+0.1	+9.8	+0.0	28.6	46.0	-17.4	Black
32	800.849k	18.1	+0.0	+0.0	+0.2	+9.8	+0.0	28.6	46.0	-17.4	Black
32	000.017K	10.1	+0.5	10.0	10.2	17.0	10.0	20.0	10.0	17.1	Diuck
33	500.513k	18.0	+0.0	+0.0	+0.1	+9.8	+0.0	28.5	46.0	-17.5	Black
			+0.6								
34	782.669k	18.0	+0.0	+0.0	+0.2	+9.8	+0.0	28.5	46.0	-17.5	Black
			+0.5								
35	928.238k	18.2	+0.0	+0.0	+0.1	+9.8	+0.0	28.5	46.0	-17.5	Black
			+0.4								
36	504.877k	17.9	+0.0	+0.0	+0.1	+9.8	+0.0	28.4	46.0	-17.6	Black
			+0.6								
37	775.397k	17.9	+0.0	+0.0	+0.2	+9.8	+0.0	28.4	46.0	-17.6	Black
20	007 20 41	17.0	+0.5	.0.0	.0.2	.0.0	.0.0	20.2	46.0	17.7	D1a -1
38	807.394k	17.8	+0.0	+0.0	+0.2	+9.8	+0.0	28.3	46.0	-17.7	Black
39	962.259k	17.4	+0.5	+0.0	+0.2	+9.8	+0.0	27.8	46.0	-18.2	Black
39	704.4J7K	1/.4	+0.0	+0.0	+0.∠	±3.0	+0.0	41.0	40.0	-10.4	DIACK
40	816.121k	17.0	+0.4	+0.0	+0.2	+9.8	+0.0	27.5	46.0	-18.5	Black
10	010.121K	17.0	+0.5	10.0	10.2	1 7.0	10.0	21.5	10.0	10.5	Diack
41	1.035M	17.0	+0.0	+0.0	+0.2	+9.8	+0.0	27.4	46.0	-18.6	Black
			+0.4								
42	804.485k	16.8	+0.0	+0.0	+0.2	+9.8	+0.0	27.3	46.0	-18.7	Black
			+0.5								
43	992.029k	16.8	+0.0	+0.0	+0.2	+9.8	+0.0	27.2	46.0	-18.8	Black
			+0.4								
44	817.575k	16.3	+0.0	+0.0	+0.2	+9.8	+0.0	26.8	46.0	-19.2	Black
			+0.5								



45	471.425k	16.5	+0.0	+0.0	+0.1	+9.8	+0.0	27.1	46.5	-19.4	Black
			+0.7								
46	495.423k	15.8	+0.0	+0.0	+0.1	+9.8	+0.0	26.3	46.1	-19.8	Black
			+0.6								
47	834.301k	15.8	+0.0	+0.0	+0.2	+9.8	+0.0	26.2	46.0	-19.8	Black
			+0.4								
48	824.120k	15.6	+0.0	+0.0	+0.2	+9.8	+0.0	26.1	46.0	-19.9	Black
			+0.5								
49	836.482k	15.4	+0.0	+0.0	+0.2	+9.8	+0.0	25.8	46.0	-20.2	Black
			+0.4								
50	820.484k	15.2	+0.0	+0.0	+0.2	+9.8	+0.0	25.7	46.0	-20.3	Black
			+0.5								

CKC Laboratories, Inc. Date: 1/10/2012 Time: 1:45:53 PM Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C 15.207 AC Mains - Average Test Lead: Black 110V 60Hz Sequence#: 7 Black





Test Location: CKC Laboratories, Inc. • 1120 Fulton Place. • Fremont, CA 94539 • (510) 249-1170

Customer: Enlighted, Inc.

Specification: 15.207 AC Mains - Average

Work Order #: 92667 Date: 1/10/2012
Test Type: Conducted Emissions Time: 1:38:16 PM

Equipment: Intelligent Light Sensor for Smart Sequence#: 6

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar Model: SU-2-00 110V 60Hz

S/N: ASI48295 Rev C

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05300	Cable	RG214/U	3/7/2011	3/7/2013
T2	ANP05440	Cable		3/7/2011	3/7/2013
T3	ANP05258	High Pass Filter	HE9615-150K-	12/2/2010	12/2/2012
			50-720B		
T4	ANP01211	Attenuator	23-10-34	4/15/2011	4/15/2013
	AN00493	50uH LISN-L1 (L)	3816/NM	3/10/2011	3/10/2013
		Loss W/O European			
		Adapter			
T5	AN00493	50uH LISN-L(2) N	3816/NM	3/10/2011	3/10/2013
		Loss W/O European			
		Adapter			

Equipment Under Test (\* = EUT):

Equipment cities 1 cst (			
Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA

### Test Conditions / Notes:

FCC15.207B 0.15-30MHz Conducted Emissions.

Temperature: 18.6°C, Relative Humidity: 32% & Atmospheric Pressure: 102.1kPa.

EUT is in continuous transmit mode set to middle channel.

The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

Ext Attn: 0 dB

Measi	Measurement Data:		Reading listed by margin.			Test Lead: White					
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5								
	MHz	$dB\mu V$	dB	dB	dB	dB	Table	dΒμV	dΒμV	dB	Ant
1	181.270k	29.2	+0.0	+0.0	+0.3	+9.9	+0.0	41.3	54.4	-13.1	White
			+1.9								
2	581.960k	19.7	+0.0	+0.0	+0.2	+9.9	+0.0	30.4	46.0	-15.6	White
			+0.6								

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3	520.148k	19.5	+0.0 +0.6	+0.0	+0.1	+9.8	+0.0	30.0	46.0	-16.0	White
4	516.512k	19.4	+0.0 +0.6	+0.0	+0.1	+9.8	+0.0	29.9	46.0	-16.1	White
5	592.868k	19.2	+0.0 +0.6	+0.0	+0.2	+9.9	+0.0	29.9	46.0	-16.1	White
6	513.603k	19.3	+0.0 +0.6	+0.0	+0.1	+9.8	+0.0	29.8	46.0	-16.2	White
7	489.605k	18.0	+0.0	+0.0	+0.1	+9.8	+0.0	28.5	46.2	-17.7	White
8	443.064k	18.3	+0.6	+0.0	+0.1	+9.8	+0.0	28.9	47.0	-18.1	White
9	675.043k	15.4	+0.7 +0.0 +0.5	+0.0	+0.2	+9.9	+0.0	26.0	46.0	-20.0	White
10	1.013M	15.4	+0.0 +0.4	+0.0	+0.2	+9.8	+0.0	25.8	46.0	-20.2	White
11	644.500k	15.1	+0.4 +0.0 +0.5	+0.0	+0.2	+9.9	+0.0	25.7	46.0	-20.3	White
12	459.063k	15.5	+0.0 +0.7	+0.0	+0.1	+9.8	+0.0	26.1	46.7	-20.6	White
13	966.512k	15.0	+0.0 +0.4	+0.0	+0.2	+9.8	+0.0	25.4	46.0	-20.6	White
14	932.490k	14.9	+0.0 +0.4	+0.0	+0.1	+9.8	+0.0	25.2	46.0	-20.8	White
15	843.755k	14.6	+0.0 +0.5	+0.0	+0.2	+9.8	+0.0	25.1	46.0	-20.9	White
16	1.188M	14.5	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	25.0	46.0	-21.0	White
17	707.040k	14.3	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	24.9	46.0	-21.1	White
18	727.402k	14.1	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	24.7	46.0	-21.3	White
19	690.314k	14.0	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	24.6	46.0	-21.4	White
20	683.769k	14.0	+0.0 +0.5	+0.0	+0.2	+9.9	+0.0	24.6	46.0	-21.4	White
21	1.081M	14.2	+0.0 +0.4	+0.0	+0.2	+9.8	+0.0	24.6	46.0	-21.4	White
22	764.489k	14.1	+0.0 +0.5	+0.0	+0.2	+9.8	+0.0	24.6	46.0	-21.4	White
23	1.826M	14.1	+0.0 +0.4	+0.1	+0.1	+9.8	+0.0	24.5	46.0	-21.5	White
24	2.510M	13.8	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	24.3	46.0	-21.7	White
25	1.405M	13.7	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	24.2	46.0	-21.8	White
26	1.234M	13.4	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	23.9	46.0	-22.1	White
27	1.456M	13.5	+0.0 +0.4	+0.1	+0.1	+9.8	+0.0	23.9	46.0	-22.1	White
28	2.451M	13.4	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	23.9	46.0	-22.1	White

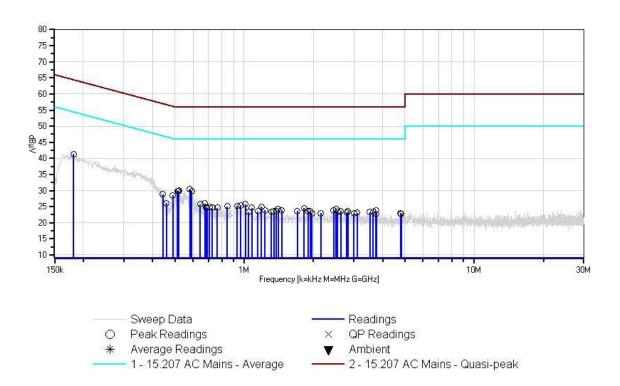
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29	3.748M	13.3	+0.1 +0.4	+0.1	+0.1	+9.8	+0.0	23.8	46.0	-22.2	White
30	1.383M	13.2	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	23.7	46.0	-22.3	White
31	1.702M	13.3	+0.0 +0.4	+0.1	+0.1	+9.8	+0.0	23.7	46.0	-22.3	White
32	1.898M	13.3	+0.0 +0.4	+0.1	+0.1	+9.8	+0.0	23.7	46.0	-22.3	White
33	1.345M	13.1	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	23.6	46.0	-22.4	White
34	1.940M	13.2	+0.0 +0.4	+0.1	+0.1	+9.8	+0.0	23.6	46.0	-22.4	White
35	2.629M	13.1	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	23.6	46.0	-22.4	White
36	1.149M	13.0	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	23.5	46.0	-22.5	White
37	2.829M	13.0	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	23.5	46.0	-22.5	White
38	1.315M	12.8	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	23.3	46.0	-22.7	White
39	1.047M 2.544M	12.9	+0.0	+0.0	+0.2	+9.8	+0.0	23.3	46.0	-22.7 -22.7	White
		12.8	+0.0 +0.4	+0.1	+0.2	+9.8	+0.0	23.3	46.0	-22.7	White
41	3.637M 3.527M	12.8	+0.1 +0.4 +0.1	+0.1	+0.1	+9.8	+0.0	23.3	46.0	-22.7	White White
43	2.799M	12.6	+0.1 +0.4 +0.0	+0.1	+0.1	+9.8	+0.0	23.1	46.0	-22.7	White
44	3.097M	12.6	+0.0 +0.0	+0.1	+0.2	+9.8	+0.0	23.1	46.0	-22.9	White
45	1.974M	12.6	+0.4	+0.1	+0.1	+9.8	+0.0	23.0	46.0	-23.0	White
46	2.157M	12.6	+0.4	+0.1	+0.1	+9.8	+0.0	23.0	46.0	-23.0	White
47	4.794M	12.4	+0.4	+0.1	+0.1	+9.9	+0.0	23.0	46.0	-23.0	White
48	2.999M	12.4	+0.5	+0.1	+0.2	+9.8	+0.0	22.9	46.0	-23.1	White
49	3.756M	12.3	+0.4	+0.1	+0.1	+9.8	+0.0	22.8	46.0	-23.2	White
50	4.815M	12.2	+0.4	+0.1	+0.1	+9.9	+0.0	22.8	46.0	-23.2	White
			+0.5								



CKC Laboratories, Inc. Date: 1/10/2012 Time: 1:38:16 PM Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.207 AC Mains - Average Test Lead: White 110V 60Hz Sequence#: 6 White





### **Test Setup Photos**





## 15.247 (a)(2) -6dBc Occupied Bandwidth

### **Test Conditions / Setup**

The EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15. The EUT is setup in typical mounting configuration.

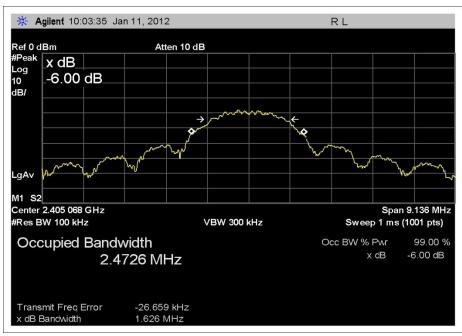
Temperature: 19.1°C, Relative Humidity: 35%

Atmospheric Pressure: 102kPa.

Engineer Name: A. Brar

	Test Equipment									
Asset/Serial #	Description	Model	Manufacturer	Cal Date	Cal Due					
AN02668	Spectrum Analyzer	E4446A	Agilent	2/23/2011	2/23/2013					
ANP05138	Cable	FSJ1P-50A-4	Andrews	3/19/2010	3/19/2012					
ANP04241	Cable	FSJ1-50A	Andrews	3/2/2010	3/2/2012					
AN02061	Horn Antenna-ANSI	DRG-118A	ARA	1/17/2011	1/17/2013					
	C63.5									

### **Test Plots**



Low Channel





Mid Channel



High Channel



### Test Setup Photos





## **15.247(b)(3) RF Power Output**

### **Test Conditions / Setup**

The EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15. The EUT is setup in typical mounting configuration.

RBW/VBW 3/8MHz Temperature: 19.1°C Relative Humidity: 35%

Atmospheric Pressure: 102kPa.

\*FCC15.31e is covered by this data as the voltage was varied to 85% and 115% of the nominal EUT voltage of 12V DC. FCC15.31m is covered by this data, three channels were tested.

Engineer Name: A. Brar

	Test Equipment									
Asset/Serial #	Description	Model	Manufacturer	Cal Date	Cal Due					
AN02668	Spectrum Analyzer	E4446A	Agilent	2/23/2011	2/23/2013					
ANP05138	Cable	FSJ1P-50A-4	Andrews	3/19/2010	3/19/2012					
ANP04241	Cable	FSJ1-50A	Andrews	3/2/2010	3/2/2012					
AN02061	Horn Antenna-ANSI	DRG-118A	ARA	1/17/2011	1/17/2013					
	C63.5									
AN03218	DC Power Supply	72-6610	Tenma	2/15/11	2/15/13					
AN02131	DMM	DMM914	Tektronix	9/9/11	9/9/13					

### **Test Data**

	Test Results									
Frequency (MHz)	Measured Power in Watts	Power Limit in Watts	Pass/Fail							
2404.50	0.0078908	1.00	Pass							
Low Channel										
2439.58	0.0039548	1.00	Pass							
Middle Channel										
2479.66	0.0057164	1.00	Pass							
High Channel										

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## Test Setup Photos





## **Bandedge**

### **Test Conditions / Setup**

The EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15. The EUT is setup in typical mounting configuration. The EUT meets the requirements at low and high channels using average detector, 10Hz VBW.

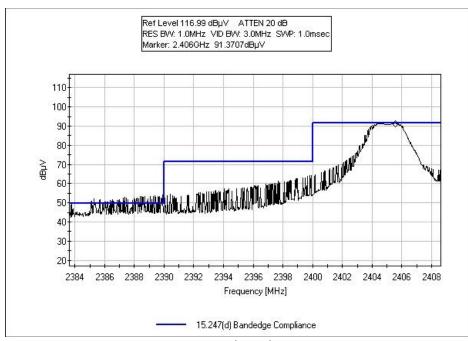
RBW/VBW 1/3MHz Temperature: 19.1°C Relative Humidity: 35%

Atmospheric Pressure: 102kPa.

Engineer Name: A. Brar

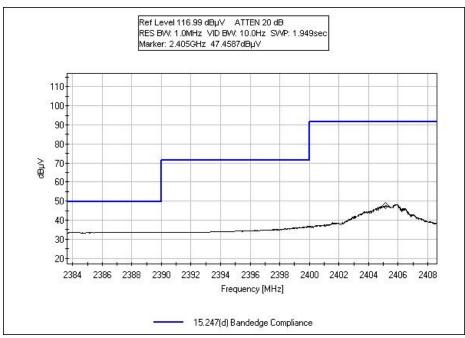
	Test Equipment									
Asset/Serial #	Description	Model	Manufacturer	Cal Date	Cal Due					
AN02668	Spectrum Analyzer	E4446A	Agilent	2/23/2011	2/23/2013					
ANP05138	Cable	FSJ1P-50A-4	Andrews	3/19/2010	3/19/2012					
ANP04241	Cable	FSJ1-50A	Andrews	3/2/2010	3/2/2012					
AN02061	Horn Antenna-ANSI	DRG-118A	ARA	1/17/2011	1/17/2013					
	C63.5									

### **Test Data**

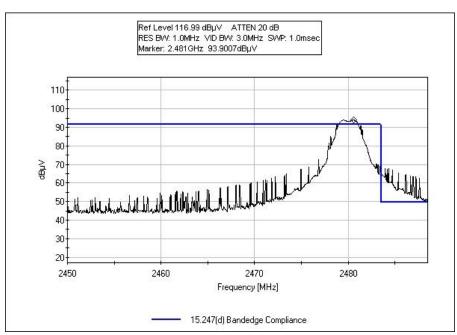


Low Channel



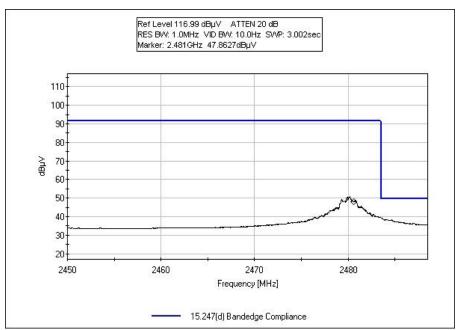


Low Channel - Average



High Channel





High Channel - Average

### **Test Setup Photos**





## 15.247(d) Radiated Spurious Emissions

### **Test Data Sheets**

Test Location: CKC Laboratories, Inc. • 1120 Fulton Place. • Fremont, CA 94539 • (510) 249-1170

Customer: Enlighted, Inc.

Specification: 15.209 Radiated Emissions

 Work Order #:
 92667
 Date:
 1/10/2012

 Test Type:
 Maximized Emissions
 Time:
 4:21:32 PM

Equipment: Intelligent Light Sensor for Smart Sequence#: 25

**Networked Energy Saving Lighting** 

Systems

Manufacturer: Enlighted, Inc. Tested By: A. Brar

Model: SU-2-00

S/N: ASI48295 Rev C

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05300	Cable	RG214/U	3/7/2011	3/7/2013
T2	ANP05440	Cable		3/7/2011	3/7/2013
Т3	AN00432	Loop Antenna	6502	3/31/2011	3/31/2013

**Equipment Under Test (\* = EUT):** 

Equipment Chact Test ( -	- DC 1):		
Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Support 2 criters.					
Function	Manufacturer	Model #	S/N		
AC Adaptor	None	AD35-0900300DU	2302AA		
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601		
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA		

#### Test Conditions / Notes:

0.09 - 30MHz Radiated Emissions

EUT set to Lo-Ch.

Temperature: 18.6°C, Relative Humidity: 32% & Atmospheric Pressure: 102.1kPa.

EUT is in continuous transmit mode.
The EUT has 16 channels, 1 through 15.
EUT is setup in typical mounting configuration.

FCC15.247 is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

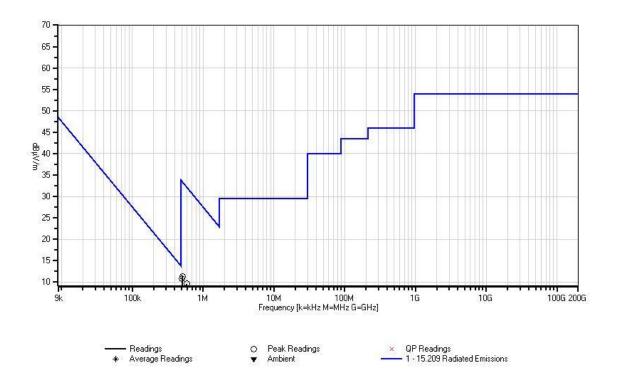
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Ext At	ttn: 0 dB										
Measur	ement Data:	Re	eading lis	ted by ma	argin.		Te	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	Т3		Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	513.782k	40.3	+0.0	+0.0	+11.1		-40.0	11.4	33.4	-22.0	Perpe
							-5				100
2	829.478k	35.4	+0.0	+0.0	+11.4		-40.0	6.8	29.2	-22.4	Paral
							-5				100
3	593.229k	38.3	+0.0	+0.0	+11.3		-40.0	9.6	32.1	-22.5	Paral
							-5				100
4	505.419k	39.8	+0.0	+0.0	+11.1		-40.0	10.9	33.5	-22.6	Paral
							-5				100
5	837.841k	35.1	+0.0	+0.0	+11.4		-40.0	6.5	29.1	-22.6	Paral
							-5				100
6	695.673k	36.6	+0.0	+0.0	+11.5		-40.0	8.1	30.7	-22.6	Perpe
							-5				100
7	714.490k	36.3	+0.0	+0.0	+11.5		-40.0	7.8	30.5	-22.7	Paral
							-5				100
8	802.299k	35.4	+0.0	+0.0	+11.4		-40.0	6.8	29.5	-22.7	Paral
							-5				100
9	620.408k	37.6	+0.0	+0.0	+11.3		-40.0	8.9	31.7	-22.8	Perpe
							-5				100
10	727.034k	36.1	+0.0	+0.0	+11.5		-40.0	7.6	30.4	-22.8	Paral
							-5				100



CKC Laboratories, Inc. Date: 1/10/2012 Time: 4:21:32 PM Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.209 Radiated Emissions Test Distance: 3 Meters Sequence#: 25 Parallel





Test Location: CKC Laboratories, Inc. • 1120 Fulton Place. • Fremont, CA 94539 • (510) 249-1170

Customer: Enlighted, Inc.

Specification: 15.209 Radiated Emissions

 Work Order #:
 92667
 Date:
 1/10/2012

 Test Type:
 Maximized Emissions
 Time:
 4:09:45 PM

Equipment: Intelligent Light Sensor for Smart Sequence#: 24

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05300	Cable	RG214/U	3/7/2011	3/7/2013
T2	ANP05440	Cable		3/7/2011	3/7/2013
Т3	AN00432	Loop Antenna	6502	3/31/2011	3/31/2013

Equipment Under Test (\* = EUT):

Fui	nction	Manufacturer	Model #	S/N
Inte	elligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Sm	art Networked Energy			
Sav	ving Lighting Systems*			

Support Devices:

Support 2 criters.			
Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

#### Test Conditions / Notes:

0.09 - 30MHz Radiated Emissions

EUT set to Mid-Ch.

Temperature: 18.6°C, Relative Humidity: 32% & Atmospheric Pressure: 102.1kPa.

EUT is in continuous transmit mode.
The EUT has 16 channels, 1 through 15.
EUT is setup in typical mounting configuration.

FCC15.247 is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

Ext Attn: 0 dB

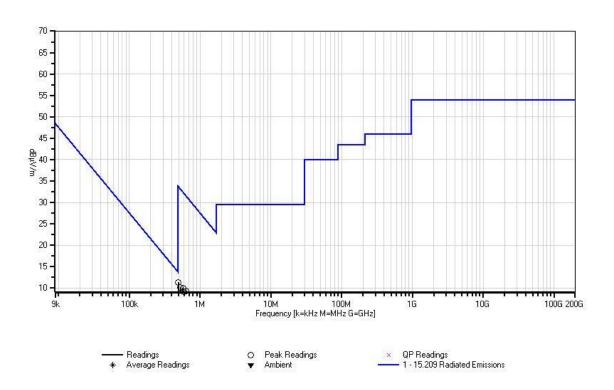
Measur	rement Data:	Re	ading list	ted by ma	argin.		Тє	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	643.406k	38.0	+0.0	+0.0	+11.4		-40.0	9.4	31.4	-22.0	Perpe
							-5				100
2	578.594k	38.7	+0.0	+0.0	+11.3		-40.0	10.0	32.3	-22.3	Perpe
							-5				100
3	672.676k	37.3	+0.0	+0.0	+11.4		-40.0	8.7	31.0	-22.3	Perpe
							-5				100
4	497.057k	40.3	+0.0	+0.0	+11.1		-40.0	11.4	33.7	-22.3	Paral
							-5				100
5	743.759k	36.2	+0.0	+0.0	+11.5		-40.0	7.7	30.2	-22.5	Perpe
							-5				100

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6	837.841k	34.9	+0.0	+0.0	+11.4	-40.0	6.3	29.1	-22.8	Paral
						-5				100
7	806.480k	35.2	+0.0	+0.0	+11.4	-40.0	6.6	29.4	-22.8	Paral
						-5				100
8	530.508k	39.0	+0.0	+0.0	+11.2	-40.0	10.2	33.1	-22.9	Perpe
						-5				100
9	706.127k	36.2	+0.0	+0.0	+11.5	-40.0	7.7	30.6	-22.9	Perpe
						-5				100
10	591.138k	37.9	+0.0	+0.0	+11.3	-40.0	9.2	32.2	-23.0	Perpe
						-5				100

CKC Laboratories, Inc. Date: 1/10/2012 Time: 4:09:45 PM Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.209 Radiated Emissions Test Distance: 3 Meters Sequence#: 24 Parallel





Test Location: CKC Laboratories, Inc. • 1120 Fulton Place. • Fremont, CA 94539 • (510) 249-1170

Customer: Enlighted, Inc.

Specification: 15.209 Radiated Emissions

 Work Order #:
 92667
 Date:
 1/10/2012

 Test Type:
 Maximized Emissions
 Time:
 4:01:28 PM

Equipment: Intelligent Light Sensor for Smart Sequence#: 23

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

-		<i>T</i>				
	ID	Asset #	Description	Model	Calibration Date	Cal Due Date
		AN02668 Spectrum Aı		E4446A	2/23/2011	2/23/2013
	T1	ANP05300	Cable	RG214/U	3/7/2011	3/7/2013
	T2	ANP05440	Cable		3/7/2011	3/7/2013
ſ	Т3	AN00432	Loop Antenna	6502	3/31/2011	3/31/2013

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Support 2 criters.				
Function	Manufacturer	Model #	S/N	
AC Adaptor	None	AD35-0900300DU	2302AA	
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601	
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA	

#### Test Conditions / Notes:

0.09 - 30MHz Radiated Emissions

EUT set to Hi-Ch.

Temperature: 18.6°C, Relative Humidity: 32% & Atmospheric Pressure: 102.1kPa.

EUT is in continuous transmit mode.
The EUT has 16 channels, 1 through 15.
EUT is setup in typical mounting configuration.

FCC15.247 is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

Ext Attn: 0 dB

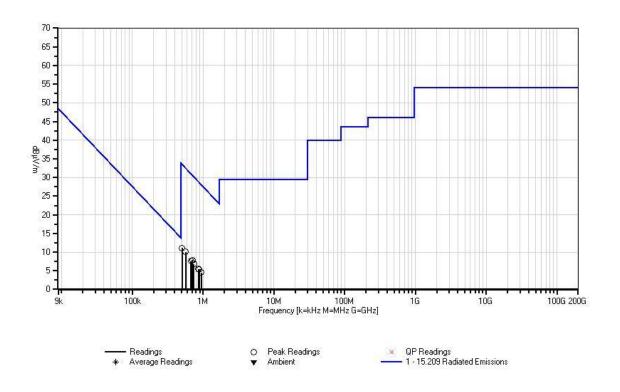
Measu	rement Data:	Re	eading lis	ted by ma	argin.		Te	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3		Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	507.510k	40.0	+0.0	+0.0	+11.1		-40.0	11.1	33.5	-22.4	Paral
							365				100
2	570.231k	38.9	+0.0	+0.0	+11.2		-40.0	10.1	32.5	-22.4	Paral
							365				100
3	706.127k	36.4	+0.0	+0.0	+11.5		-40.0	7.9	30.6	-22.7	Paral
							365				100
4	879.655k	33.9	+0.0	+0.1	+11.4		-40.0	5.4	28.7	-23.3	Paral
							365				100
5	875.474k	33.8	+0.0	+0.1	+11.4		-40.0	5.3	28.7	-23.4	Paral
							365				100

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6	739.578k	35.3	+0.0	+0.0	+11.5	-40.0	6.8	30.2	-23.4	Perpe
						364				100
7	674.766k	36.1	+0.0	+0.0	+11.5	-40.0	7.6	31.0	-23.4	Paral
						365				100
8	860.839k	34.0	+0.0	+0.1	+11.4	-40.0	5.5	28.9	-23.4	Paral
						365				100
9	946.557k	33.1	+0.0	+0.0	+11.4	-40.0	4.5	28.0	-23.5	Paral
						365				100
10	1.522M	28.1	+0.0	+0.1	+11.4	-40.0	-0.4	23.9	-24.3	Paral
						365				100

CKC Laboratories, Inc. Date: 1/10/2012 Time: 4:01:28 PM Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C 15.209 Radiated Emissions Test Distance: 3 Meters Sequence#: 23 Parallel





Test Location: CKC Laboratories, Inc. • 1120 Fulton Place. • Fremont, CA 94539 • (510) 249-1170

Customer: Enlighted, Inc.

Specification: 15.209 Radiated Emissions

Work Order #: 92667 Date: 1/10/2012
Test Type: Maximized Emissions Time: 2:07:44 PM

Equipment: Intelligent Light Sensor for Smart Sequence#: 10

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

2000 2900	Pitteritt				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05299	Cable	RG214	3/6/2011	3/6/2013
T2	ANP05300	Cable	RG214/U	3/7/2011	3/7/2013
T3	ANP05440	Cable		3/7/2011	3/7/2013
T4	AN00730	Preamp		1/31/2011	1/31/2013
T5	AN00852	Biconilog Antenna	CBL 6111C	11/16/2010	11/16/2012

**Equipment Under Test (\* = EUT):** 

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Tr			
Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

FCC15.209B 30-1000MHz Radiated Emissions.

EUT set to Lo-Ch.

Temperature: 18.6°C, Relative Humidity: 32% & Atmospheric Pressure: 102.1kPa.

EUT is in continuous transmit mode.

The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

FCC15.247 is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

Ext Attn: 0 dB

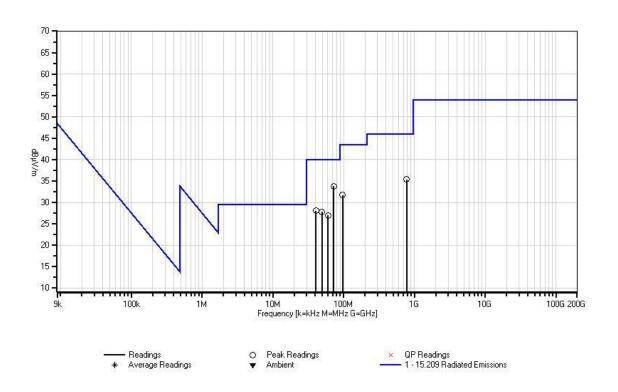
Measur	rement Data:	Re	eading list	ted by ma	ırgin.	n. Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	Т3	T4	Dist	Corr	Spec	Margin	Polar
			T5								
	MHz	$dB\mu V$	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m \\$	dB	Ant
1	72.724M	54.0	+0.0	+0.2	+0.4	-27.5	+0.0	33.8	40.0	-6.2	Vert
			+6.7				365				129
2	778.230M	38.3	+0.2	+0.9	+1.7	-27.2	+0.0	35.4	46.0	-10.6	Vert
			+21.5				365				129
3	96.909M	48.8	+0.0	+0.3	+0.5	-27.5	+0.0	31.7	43.5	-11.8	Vert
			+9.6				365				129

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4	40.914M	41.7	+0.0	+0.2	+0.3	-27.5	+0.0	28.1	40.0	-11.9	Vert
			+13.4				365				129
5	49.565M	45.6	+0.0	+0.2	+0.4	-27.5	+0.0	27.8	40.0	-12.2	Vert
			+9.1				365				129
6	60.546M	48.1	+0.0	+0.2	+0.4	-27.5	+0.0	27.0	40.0	-13.0	Vert
			+5.8				365				129

CKC Laboratories, Inc. Date: 1/10/2012 Time: 2:07:44 PM Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C 15.209 Radiated Emissions Test Distance: 3 Meters Sequence#: 10 Horiz





Test Location: CKC Laboratories, Inc. • 1120 Fulton Place. • Fremont, CA 94539 • (510) 249-1170

Customer: Enlighted, Inc.

Specification: 15.209 Radiated Emissions

Work Order #: 92667 Date: 1/10/2012
Test Type: Maximized Emissions Time: 2:54:07 PM

Equipment: Intelligent Light Sensor for Smart Sequence#: 13

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05299	Cable	RG214	3/6/2011	3/6/2013
T2	ANP05300	Cable	RG214/U	3/7/2011	3/7/2013
T3	ANP05440	Cable		3/7/2011	3/7/2013
T4	AN00730	Preamp		1/31/2011	1/31/2013
T5	AN00852	Biconilog Antenna	CBL 6111C	11/16/2010	11/16/2012

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Tr			
Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

30-1000MHz Radiated Emissions

EUT set to Mid-Ch.

Temperature: 18.6°C, Relative Humidity: 32% & Atmospheric Pressure: 102.1kPa.

EUT is in continuous transmit mode.

The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

FCC15.247 is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

Ext Attn: 0 dB

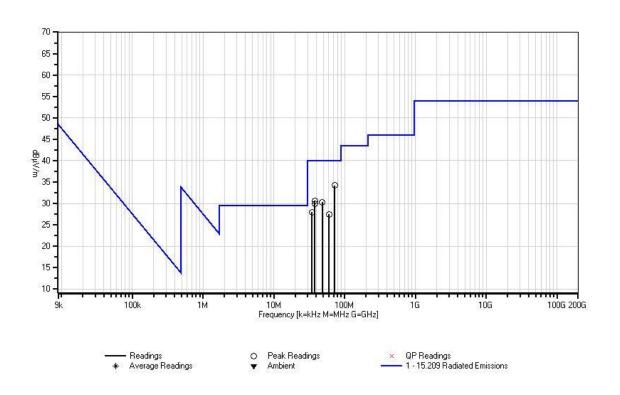
Μe	easur	ement Data:	Re	eading list	ted by ma	ırgin.	Test Distance: 3 Meters					
7	#	Freq	Rdng	T1	T2	Т3	T4	Dist	Corr	Spec	Margin	Polar
				T5								
		MHz	$dB\mu V$	dB	dB	dB	dB	Table	$dB\mu V/m \\$	$dB\mu V/m \\$	dB	Ant
	1	72.658M	54.4	+0.0	+0.2	+0.4	-27.5	+0.0	34.2	40.0	-5.8	Vert
				+6.7				-5				129
	2	38.186M	42.3	+0.0	+0.2	+0.3	-27.6	+0.0	30.6	40.0	-9.4	Vert
				+15.4				-5				129
	3	48.434M	47.6	+0.0	+0.2	+0.4	-27.5	+0.0	30.3	40.0	-9.7	Horiz
				+9.6				-5				130

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4	37.919M	41.4	+0.0	+0.2	+0.3	-27.6	+0.0	29.9	40.0	-10.1	Vert
			+15.6				-5				129
5	34.592M	36.9	+0.0	+0.2	+0.3	-27.6	+0.0	28.0	40.0	-12.0	Vert
			+18.2				-5				129
6	60.546M	48.6	+0.0	+0.2	+0.4	-27.5	+0.0	27.5	40.0	-12.5	Vert
			+5.8				-5				129

CKC Laboratories, Inc. Date: 1/10/2012 Time: 2:54:07 PM Enlighted, Inc. WO#. 92667 Model: SU-2-00 SN: ASI48295 Rev C 15.209 Radiated Emissions Test Distance: 3 Meters Sequence#: 13 Horiz





Test Location: CKC Laboratories, Inc. • 1120 Fulton Place. • Fremont, CA 94539 • (510) 249-1170

Customer: Enlighted, Inc.

Specification: 15.209 Radiated Emissions

 Work Order #:
 92667
 Date:
 1/10/2012

 Test Type:
 Maximized Emissions
 Time:
 3:20:08 PM

Equipment: Intelligent Light Sensor for Smart Sequence#: 16

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05299	Cable	RG214	3/6/2011	3/6/2013
T2	ANP05300	Cable	RG214/U	3/7/2011	3/7/2013
T3	ANP05440	Cable		3/7/2011	3/7/2013
T4	AN00730	Preamp		1/31/2011	1/31/2013
T5	AN00852	Biconilog Antenna	CBL 6111C	11/16/2010	11/16/2012

**Equipment Under Test (\* = EUT):** 

	,		The state of the s
Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Tr			
Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

30-1000MHz Radiated Emissions

EUT set to Hi-Ch.

Temperature: 18.6°C, Relative Humidity: 32% & Atmospheric Pressure: 102.1kPa.

EUT is in continuous transmit mode.

The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

FCC15.247 is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

Ext Attn: 0 dB

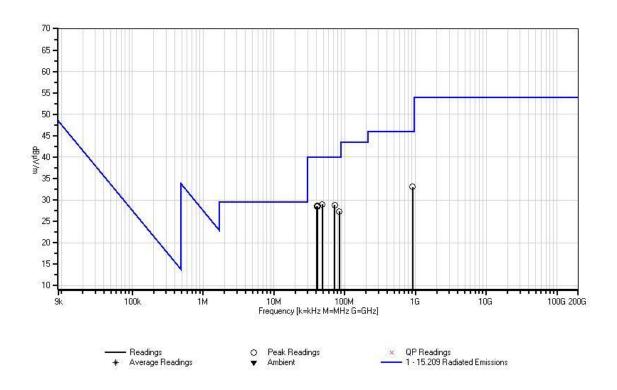
Meas	urement Data:	Re	eading lis	ted by ma	ırgin.	Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	Т3	T4	Dist	Corr	Spec	Margin	Polar
			T5								
	MHz	$dB\mu V$	dB	dB	dB	dB	Table	$dB\mu V/m \\$	$dB\mu V/m \\$	dB	Ant
	1 48.434M	46.3	+0.0	+0.2	+0.4	-27.5	+0.0	29.0	40.0	-11.0	Horiz
			+9.6				348				130
- 2	2 72.658M	49.0	+0.0	+0.2	+0.4	-27.5	+0.0	28.8	40.0	-11.2	Horiz
			+6.7				348				130
(	3 40.847M	42.2	+0.0	+0.2	+0.3	-27.5	+0.0	28.6	40.0	-11.4	Vert
			+13.4				-5				129

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4	41.513M	42.6	+0.0	+0.2	+0.3	-27.5	+0.0	28.6	40.0	-11.4	Vert
			+13.0				-5				129
5	40.515M	41.9	+0.0	+0.2	+0.3	-27.5	+0.0	28.5	40.0	-11.5	Vert
			+13.6				-5				129
6	84.171M	45.9	+0.0	+0.2	+0.5	-27.5	+0.0	27.3	40.0	-12.7	Vert
			+8.2				-5				129
7	915.167M	35.6	+0.2	+1.0	+1.9	-27.5	+0.0	33.1	46.0	-12.9	Vert
			+21.9				-5				129

CKC Laboratories, Inc. Date: 1/10/2012 Time: 3:20:08 PM Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C 15.209 Radiated Emissions Test Distance: 3 Meters Sequence#: 16 Vert





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/11/2012
Test Type: Maximized Emissions Time: 16:29:26
Equipment: Intelligent Light Sensor for Smart Sequence#: 34

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

zest zquit	Pirecite				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05138	Cable	FSJ1P-50A-4	3/19/2010	3/19/2012
T2	ANP04241	Cable	FSJ1-50A	3/2/2010	3/2/2012
Т3	AN02061	Horn Antenna-ANSI	DRG-118A	1/17/2011	1/17/2013
		C63.5			
T4	ANP05843	Cable	32022-2-29094K-	7/30/2010	7/30/2012
			48TC		
T5	AN02810	Preamp	83051A	1/7/2012	1/7/2014

**Equipment Under Test (\* = EUT):** 

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

15.209 1-6GHz Spurious Emissions

Low Channel.

Temperature: 19.1°C, Relative Humidity: 35% & Atmospheric Pressure: 102kPa.

EUT is in continuous transmit mode.
The EUT has 16 channels, 1 through 15.
EUT is setup in typical mounting configuration.

Ext Attn: 0 dB

N	Measurement Data:		Re	Reading listed by margin.			Test Distance: 3 Meters					
	#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
				T5								
		MHz	$dB\mu V$	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
	1	5947.409M	39.0	+4.0	+1.0	+34.2	+1.1	+0.0	52.0	54.0	-2.0	Vert
				-27.3				-5				120
	2	5862.621M	39.3	+3.9	+0.9	+34.1	+1.1	+0.0	51.9	54.0	-2.1	Vert
				-27.4				-5				120
	3	5951.703M	38.9	+4.0	+1.0	+34.2	+1.1	+0.0	51.9	54.0	-2.1	Vert
				-27.3				-5				120

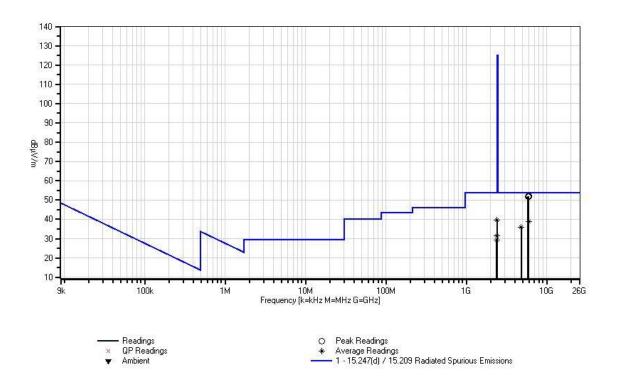
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4 5959.931M	38.9	+4.0 -27.3	+1.0	+34.2	+1.1	+0.0 -5	51.9	54.0	-2.1	Vert 120
5 5927.196M	38.8	+4.0	+1.0	+34.2	+1.1	+0.0	51.8	54.0	-2.2	Horiz
		-27.3				-5				121
6 5952.060M	38.8	+4.0	+1.0	+34.2	+1.1	+0.0	51.8	54.0	-2.2	Horiz
		-27.3				-5				121
7 5955.101M	38.8	+4.0	+1.0	+34.2	+1.1	+0.0	51.8	54.0	-2.2	Horiz
		-27.3				-5				121
8 5926.838M	38.8	+4.0	+1.0	+34.2	+1.1	+0.0	51.8	54.0	-2.2	Vert
		-27.3				-5				120
9 5862.442M	39.2	+3.9	+0.9	+34.1	+1.1	+0.0	51.8	54.0	-2.2	Horiz
10. 2200 0711	. 27.2	-27.4	0.7		0.5	-5	20.7	<b>7</b> 40		121
10 2399.871M	35.3	+2.3	+0.5	+27.7	+0.7	+0.0	39.5	54.0	-14.5	Vert
Ave ^ 2399.871M	60.8	-27.0 +2.3	+0.5	+27.7	+0.7	281 +0.0	65.0	54.0	+11.0	122 Vort
^ 2399.8/1M	00.8	+2.3 -27.0	+0.5	+21.1	+0.7	+0.0 281	05.0	54.0	+11.0	Vert 122
12 5949.914M	25.9	+4.0	+1.0	+34.2	+1.1	+0.0	38.9	54.0	-15.1	Horiz
Ave	25.9	-27.3	+1.0	⊤J <b>4.</b> 2	⊤1.1	281	30.9	34.0	-13.1	122
^ 5949.914M	40.1	+4.0	+1.0	+34.2	+1.1	+0.0	53.1	54.0	-0.9	Horiz
35 15.51 111	10.1	-27.3	11.0	131.2	, 1.1	-5	55.1	5 1.0	0.7	121
14 5960.468M	25.9	+4.0	+1.0	+34.2	+1.1	+0.0	38.9	54.0	-15.1	Vert
Ave		-27.3				281				122
^ 5960.468M	39.4	+4.0	+1.0	+34.2	+1.1	+0.0	52.4	54.0	-1.6	Vert
		-27.3				-5				120
16 4809.100M	25.4	+3.4	+0.8	+33.1	+1.1	+0.0	35.9	54.0	-18.1	Horiz
Ave		-27.9				281				122
^ 4809.100M	52.0	+3.4	+0.8	+33.1	+1.1	+0.0	62.5	54.0	+8.5	Horiz
		-27.9				338				100
18 2399.703M	27.2	+2.3	+0.5	+27.7	+0.7	+0.0	31.4	54.0	-22.6	Horiz
Ave		-27.0	0.5	27.5		281		<b>7</b> 40	44.5	122
^ 2399.703M	64.1	+2.3	+0.5	+27.7	+0.7	+0.0	68.3	54.0	+14.3	Horiz
20, 2207, (013.4	25.2	-27.0	.0.5	. 27.7	. 0. 7	-5	20.4	540	24.6	121
20 2387.691M	25.2	+2.3	+0.5	+27.7	+0.7	+0.0	29.4	54.0	-24.6	Vert
Ave ^ 2387.691M	49.6	-27.0	+0.5	127.7	+0.7	281	53.8	54.0	-0.2	122 Vort
~ 2387.091M	49.0	+2.3 -27.0	+0.5	+27.7	+0.7	+0.0 -5	33.8	34.0	-0.2	Vert 120
		-27.0				-5				120



CKC Laboratories, Inc. Date: 1/11/2012 Time: 16:29:26 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 34 Horiz





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/11/2012
Test Type: Maximized Emissions Time: 16:42:14
Equipment: Intelligent Light Sensor for Smart Sequence#: 36

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

I cot Equit	pincente				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05138	Cable	FSJ1P-50A-4	3/19/2010	3/19/2012
T2	ANP04241	Cable	FSJ1-50A	3/2/2010	3/2/2012
Т3	AN02061	Horn Antenna-ANSI	DRG-118A	1/17/2011	1/17/2013
		C63.5			
T4	ANP05843	Cable	32022-2-29094K-	7/30/2010	7/30/2012
			48TC		
T5	AN02810	Preamp	83051A	1/7/2012	1/7/2014

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

15.209 1-6GHz Spurious Emissions

Mid Channel

Temperature: 19.1°C, Relative Humidity: 35% & Atmospheric Pressure: 102kPa.

EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15. EUT is setup in typical mounting configuration.

Ext Attn: 0 dB

M	Measurement Data:		Reading listed by margin.			ırgin.	Test Distance: 3 Meters					
	#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
				T5								
		MHz	$dB\mu V$	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
	1	5969.412M	38.9	+4.0	+1.0	+34.3	+1.1	+0.0	52.0	54.0	-2.0	Horiz
				-27.3				365				122
	2	5986.763M	38.9	+4.0	+0.9	+34.3	+1.1	+0.0	51.9	54.0	-2.1	Horiz
				-27.3				365				122

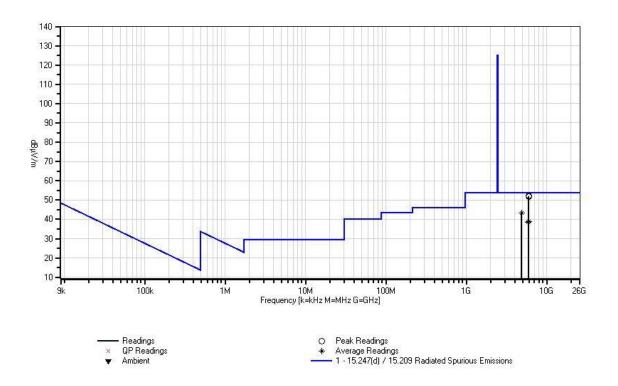
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3 5	5994.097M	38.9	+4.0	+0.9	+34.3	+1.1	+0.0	51.9	54.0	-2.1	Horiz
			-27.3				365				122
4 5	5976.925M	38.9	+4.0	+0.9	+34.3	+1.1	+0.0	51.9	54.0	-2.1	Horiz
			-27.3				365				122
5 3	5949.735M	38.9	+4.0	+1.0	+34.2	+1.1	+0.0	51.9	54.0	-2.1	Horiz
			-27.3				365				122
6 3	5945.621M	38.8	+4.0	+1.0	+34.2	+1.1	+0.0	51.8	54.0	-2.2	Horiz
			-27.3				365				122
7 4	4879.134M	32.7	+3.5	+0.8	+33.0	+1.1	+0.0	43.3	54.0	-10.7	Horiz
Α	Ave		-27.8				323				122
^ 2	4879.134M	49.4	+3.5	+0.8	+33.0	+1.1	+0.0	60.0	54.0	+6.0	Horiz
			-27.8								122
9 4	4881.085M	32.6	+3.5	+0.8	+33.0	+1.1	+0.0	43.2	54.0	-10.8	Horiz
Α	Ave		-27.8				323				122
^ 2	4881.084M	46.8	+3.5	+0.8	+33.0	+1.1	+0.0	57.4	54.0	+3.4	Horiz
			-27.8								122
11 3	5972.453M	25.9	+4.0	+0.9	+34.3	+1.1	+0.0	38.9	54.0	-15.1	Vert
Α	Ave		-27.3				-5				122
^ 4	5972.453M	39.1	+4.0	+0.9	+34.3	+1.1	+0.0	52.1	54.0	-1.9	Vert
			-27.3				-5				122
13 3	5911.991M	25.8	+4.0	+1.0	+34.2	+1.1	+0.0	38.7	54.0	-15.3	Horiz
Α	Ave		-27.4				323				122
^ 4	5911.991M	39.4	+4.0	+1.0	+34.2	+1.1	+0.0	52.3	54.0	-1.7	Horiz
			-27.4				365				122



CKC Laboratories, Inc. Date: 1/11/2012 Time: 16:42:14 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 36 Horiz





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/11/2012
Test Type: Maximized Emissions Time: 16:50:09
Equipment: Intelligent Light Sensor for Smart Sequence#: 36

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: A. Brar

Model: SU-2-00 S/N: ASI48295 Rev C

### Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05138	Cable	FSJ1P-50A-4	3/19/2010	3/19/2012
T2	ANP04241	Cable	FSJ1-50A	3/2/2010	3/2/2012
Т3	AN02061	Horn Antenna-ANSI	DRG-118A	1/17/2011	1/17/2013
		C63.5			
T4	ANP05843	Cable	32022-2-29094K-	7/30/2010	7/30/2012
			48TC		
T5	AN02810	Preamp	83051A	1/7/2012	1/7/2014

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

# Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

15.209 1-6GHz Spurious Emissions

Hi Channel.

Temperature: 19.1°C, Relative Humidity: 35% & Atmospheric Pressure: 102kPa.

EUT is in continuous transmit mode.
The EUT has 16 channels, 1 through 15.
EUT is setup in typical mounting configuration.

## Ext Attn: 0 dB

A	Measurement Data:		Re	Reading listed by margin.			Test Distance: 3 Meters					
	#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
				T5								
		MHz	$dB\mu V$	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
Г	1	5938.823M	38.9	+4.0	+1.0	+34.2	+1.1	+0.0	51.9	54.0	-2.1	Horiz
				-27.3				302				122
	2	5988.909M	38.8	+4.0	+0.9	+34.3	+1.1	+0.0	51.8	54.0	-2.2	Horiz
				-27.3				302				122
	3	5967.086M	38.6	+4.0	+1.0	+34.2	+1.1	+0.0	51.6	54.0	-2.4	Horiz
				-27.3				302				122

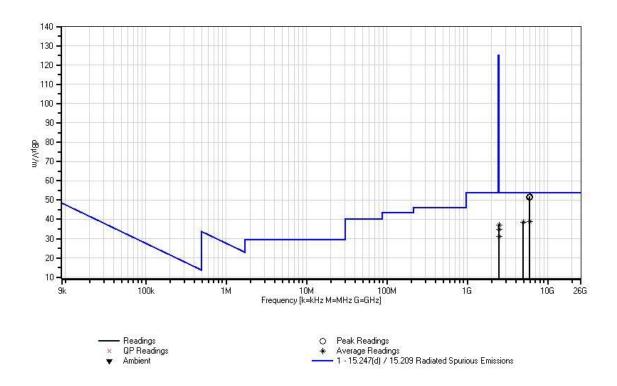
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4	5891.062M	38.5	+4.0	+1.0	+34.1	+1.1	+0.0	51.3	54.0	-2.7	Vert
			-27.4				-4				122
5	5908.593M	38.4	+4.0	+1.0	+34.2	+1.1	+0.0	51.3	54.0	-2.7	Vert
			-27.4				-4				122
6	5981.218M	25.9	+4.0	+0.9	+34.3	+1.1	+0.0	38.9	54.0	-15.1	Vert
	Ave		-27.3				-4				122
^	5981.218M	39.2	+4.0	+0.9	+34.3	+1.1	+0.0	52.2	54.0	-1.8	Vert
			-27.3				-4				122
8	4959.260M	27.7	+3.5	+0.8	+32.9	+1.1	+0.0	38.5	54.0	-15.5	Horiz
	Ave		-27.5				369				122
^	4959.260M	41.2	+3.5	+0.8	+32.9	+1.1	+0.0	52.0	54.0	-2.0	Horiz
			-27.5				302				122
10	2484.788M	32.8	+2.3	+0.5	+27.9	+0.7	+0.0	37.2	54.0	-16.8	Horiz
	Ave		-27.0				369				122
^	2484.788M	61.2	+2.3	+0.5	+27.9	+0.7	+0.0	65.6	54.0	+11.6	Horiz
			-27.0				302				122
12	2487.791M	30.3	+2.4	+0.5	+27.9	+0.7	+0.0	34.8	54.0	-19.2	Vert
	Ave		-27.0				-4				122
^	2487.791M	53.3	+2.4	+0.5	+27.9	+0.7	+0.0	57.8	54.0	+3.8	Vert
			-27.0				-4				122
14	2483.787M	26.6	+2.3	+0.5	+27.9	+0.7	+0.0	31.0	54.0	-23.0	Vert
	Ave		-27.0				-4				122
^	2483.787M	52.7	+2.3	+0.5	+27.9	+0.7	+0.0	57.1	54.0	+3.1	Vert
			-27.0				-4				122



CKC Laboratories, Inc. Date: 1/11/2012 Time: 16:50:09 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 36 Horiz





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/12/2012
Test Type: Maximized Emissions Time: 10:13:55
Equipment: Intelligent Light Sensor for Smart Sequence#: 45

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: N. Gamez

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

1 cst Equip	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05138	Cable	FSJ1P-50A-4	3/19/2010	3/19/2012
T2	ANP04241	Cable	FSJ1-50A	3/2/2010	3/2/2012
Т3	AN02061	Horn Antenna-ANSI	DRG-118A	1/17/2011	1/17/2013
		C63.5			
T4	ANP05843	Cable	32022-2-29094K-	7/30/2010	7/30/2012
			48TC		
T5	AN03114	Preamp	AMF-7D-	5/13/2011	5/13/2013
			00101800-30-10P		
T6	AN01416	High Pass Filter	84300-80038	2/23/2010	2/23/2012

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Support 2 criters.			
Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

15.209 6-12.5GHz Radiated Emissions

Low Channel.

Temperature: 18.7°C Relative Humidity: 34%

Atmospheric Pressure: 101.9kPa. EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

FCC15.209c is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

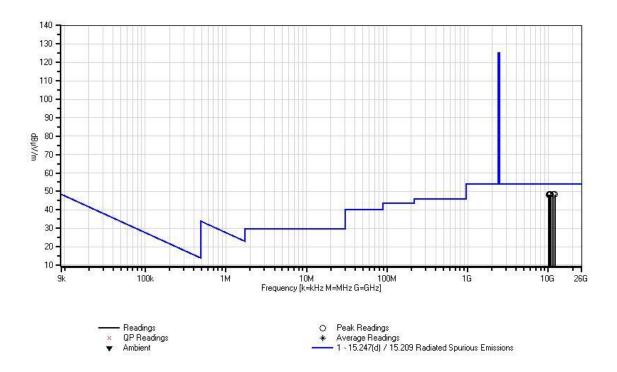
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Measu	rement Data:	Re	eading lis	ted by ma	argin.	Test Distance: 3 Meters				}	
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6							
	MHz	$dB\mu V$	dB	dB	dB	dB	Table	$dB\mu V/m \\$	$dB\mu V/m$	dB	Ant
1	12086.522	55.1	+5.9	+1.7	+39.8	+1.9	+0.0	48.4	54.0	-5.6	Vert
	M		-56.1	+0.1							
							364				121
2	10143.139	57.7	+5.4	+1.5	+39.6	+1.5	+0.0	48.3	54.0	-5.7	Horiz
	M		-58.4	+1.0							
							-5				121
3	11465.460	55.5	+5.9	+1.7	+39.8	+1.6	+0.0	48.3	54.0	-5.7	Horiz
	M		-56.4	+0.2							
							-5				121
4	10659.655	57.6	+5.5	+1.3	+40.3	+1.5	+0.0	48.3	54.0	-5.7	Vert
	M		-58.5	+0.6							
							364				121
5	10375.371	57.7	+5.5	+1.4	+39.9	+1.5	+0.0	48.3	54.0	-5.7	Vert
	M		-58.6	+0.9							
							364				121
6	10260.256	57.6	+5.4	+1.5	+39.8	+1.5	+0.0	48.2	54.0	-5.8	Horiz
	M		-58.6	+1.0							
							-5				121



CKC Laboratories, Inc. Date: 1/12/2012 Time: 10:13:55 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 45 Vert Vert





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/12/2012
Test Type: Maximized Emissions Time: 10:30:55
Equipment: Intelligent Light Sensor for Smart Sequence#: 48

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: N. Gamez

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

1 cst Equip	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05138	Cable	FSJ1P-50A-4	3/19/2010	3/19/2012
T2	ANP04241	Cable	FSJ1-50A	3/2/2010	3/2/2012
Т3	AN02061	Horn Antenna-ANSI	DRG-118A	1/17/2011	1/17/2013
		C63.5			
T4	ANP05843	Cable	32022-2-29094K-	7/30/2010	7/30/2012
			48TC		
T5	AN03114	Preamp	AMF-7D-	5/13/2011	5/13/2013
			00101800-30-10P		
T6	AN01416	High Pass Filter	84300-80038	2/23/2010	2/23/2012

*Equipment Under Test* (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

15.209 6-12.5GHz Radiated Emissions

Mid Channel.

Temperature: 18.7°C Relative Humidity: 34%

Atmospheric Pressure: 101.9kPa. EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

FCC15.209c is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

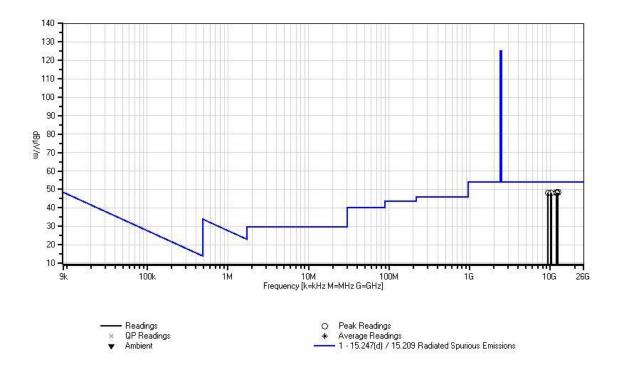
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Measu	rement Data:	Re	eading lis	ted by ma	argin.	Test Distance: 3 Meters					
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6							
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	12433.804	55.7	+6.3	+1.5	+40.0	+2.0	+0.0	48.4	54.0	-5.6	Horiz
	M		-57.1	+0.0							
							365				121
2	11963.958	54.9	+5.9	+1.9	+39.7	+1.8	+0.0	48.3	54.0	-5.7	Vert
	M		-56.1	+0.2							
							-5				121
3	10191.187	57.6	+5.4	+1.5	+39.7	+1.5	+0.0	48.2	54.0	-5.8	Vert
	M		-58.5	+1.0							
							-5				121
4	9353.350M	58.2	+5.2	+1.2	+38.7	+1.5	+0.0	48.1	54.0	-5.9	Vert
			-57.3	+0.6			-5				121
5	11959.954	54.7	+5.9	+1.9	+39.7	+1.8	+0.0	48.0	54.0	-6.0	Horiz
	M		-56.2	+0.2							
							365				121
6	10257.253	57.4	+5.4	+1.5	+39.8	+1.5	+0.0	48.0	54.0	-6.0	Horiz
	M		-58.6	+1.0							
							365				121



CKC Laboratories, Inc. Date: 1/12/2012 Time: 10:30:55 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 48 Horiz Horiz





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/12/2012
Test Type: Maximized Emissions Time: 10:45:51
Equipment: Intelligent Light Sensor for Smart Sequence#: 51

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: N. Gamez

Model: SU-2-00 S/N: ASI48295 Rev C

Test Fauinment

Test Equip	meni.				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	ANP05138	Cable	FSJ1P-50A-4	3/19/2010	3/19/2012
T2	ANP04241	Cable	FSJ1-50A	3/2/2010	3/2/2012
Т3	AN02061	Horn Antenna-ANSI	DRG-118A	1/17/2011	1/17/2013
		C63.5			
T4	ANP05843	Cable	32022-2-29094K-	7/30/2010	7/30/2012
			48TC		
T5	AN03114	Preamp	AMF-7D-	5/13/2011	5/13/2013
			00101800-30-10P		
T6	AN01416	High Pass Filter	84300-80038	2/23/2010	2/23/2012

**Equipment Under Test (\* = EUT):** 

Equipment chart I cat (			
Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

### Support Devices:

Support Derices.			
Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

15.209 6-12.5GHz Radiated Emissions

High Channel. Temperature: 18.7°C Relative Humidity: 34%

Atmospheric Pressure: 101.9kPa. EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

FCC15.209c is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

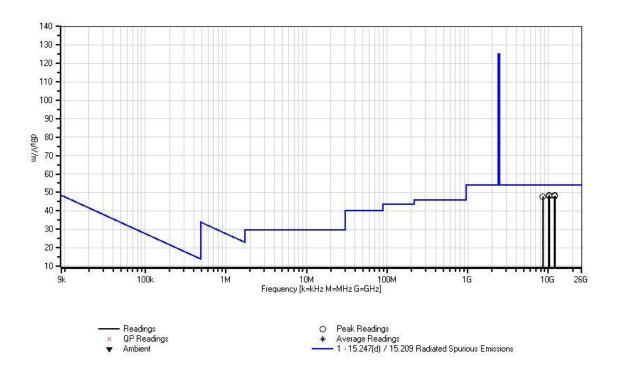
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Measu	rement Data:	Re	eading lis	ted by ma	argin.		Te	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	Т3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6							
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m \\$	dB	Ant
1	10271.267	57.9	+5.4	+1.5	+39.8	+1.5	+0.0	48.5	54.0	-5.5	Vert
	M		-58.6	+1.0							
							364				121
2	10264.260	57.8	+5.4	+1.5	+39.8	+1.5	+0.0	48.4	54.0	-5.6	Horiz
	M		-58.6	+1.0							
							-5				121
3	12026.748	54.9	+5.9	+1.8	+39.7	+1.8	+0.0	48.3	54.0	-5.7	Horiz
	M		-55.9	+0.1							
							-5				121
4	10145.141	57.5	+5.4	+1.5	+39.6	+1.5	+0.0	48.1	54.0	-5.9	Vert
	M		-58.4	+1.0							
							364				121
5	11950.945	54.7	+5.9	+1.9	+39.7	+1.8	+0.0	48.0	54.0	-6.0	Horiz
	M		-56.2	+0.2							
							-5				121
6	8522.520M	57.7	+4.8	+1.2	+39.1	+1.4	+0.0	47.8	54.0	-6.2	Vert
			-56.4	+0.0			364				121



CKC Laboratories, Inc. Date: 1/12/2012 Time: 10:45:51 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 51 Vert Vert





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/12/2012
Test Type: Maximized Emissions Time: 11:50:14
Equipment: Intelligent Light Sensor for Smart Sequence#: 54

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: N. Gamez

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

I est Equ	tp intenti				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	AN02693	Active Horn Antenna-ANSI C63.5 Antenna Factors (dB)	AMFW-5F- 12001800-20-10F	11/23/2010	11/23/2012
T2	AN03143	Cable	32022-29094K- 144TC	8/30/2011	8/30/2013
Т3	ANP06126	Cable	32022-29094K- 29094K-168TC	9/7/2011	9/7/2013
T4	ANP00928	Cable	various	3/29/2010	3/29/2012

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

15.209 12.5-18GHz Radiated Emissions

Low Channel.

Temperature: 18.7°C Relative Humidity: 34%

Atmospheric Pressure: 101.9kPa. EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15. EUT is setup in typical mounting configuration.

FCC15.209c is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

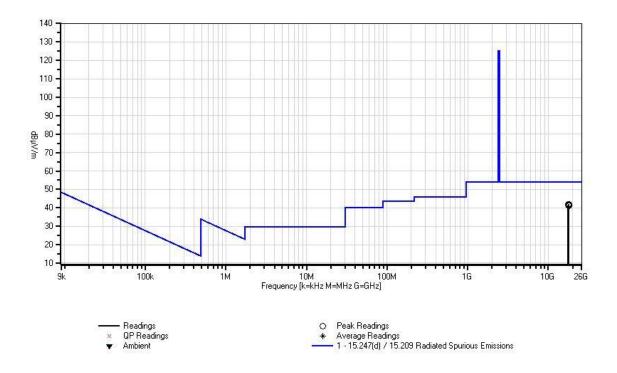
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Measu	rement Data:	Re	eading list	ted by ma	ırgin.		Τe	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	17898.525	42.2	-11.9	+6.2	+4.7	+0.7	+0.0	41.9	54.0	-12.1	Vert
	M										
							368				100
2	17842.095	42.2	-12.0	+6.2	+4.7	+0.7	+0.0	41.8	54.0	-12.2	Horiz
	M										
							364				100
3	17987.130	41.6	-11.7	+6.2	+4.7	+0.7	+0.0	41.5	54.0	-12.5	Vert
	M										
							368				100
4	17996.535	41.5	-11.7	+6.2	+4.7	+0.7	+0.0	41.4	54.0	-12.6	Horiz
	M										
							364				100
5	17624.790	42.2	-12.4	+6.2	+4.7	+0.6	+0.0	41.3	54.0	-12.7	Horiz
	M										
							364				100
6	17972.775	41.3	-11.7	+6.2	+4.7	+0.7	+0.0	41.2	54.0	-12.8	Vert
	M										
							368				100



CKC Laboratories, Inc. Date: 1/12/2012 Time: 11:50:14 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 54 Vert Vert





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/12/2012 Test Type: **Maximized Emissions** Time: 13:01:28 Equipment: **Intelligent Light Sensor for Smart** Sequence#: 57

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: N. Gamez

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

I est Equ	tp intenti				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	AN02693	Active Horn Antenna-ANSI C63.5 Antenna Factors (dB)	AMFW-5F- 12001800-20-10F	11/23/2010	11/23/2012
T2	AN03143	Cable	32022-29094K- 144TC	8/30/2011	8/30/2013
Т3	ANP06126	Cable	32022-29094K- 29094K-168TC	9/7/2011	9/7/2013
T4	ANP00928	Cable	various	3/29/2010	3/29/2012

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

### Test Conditions / Notes:

15.209 12.5-18GHz Radiated Emissions

Mid Channel.

Temperature: 18.7°C Relative Humidity: 34%

Atmospheric Pressure: 101.9kPa.

EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

FCC15.209c is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

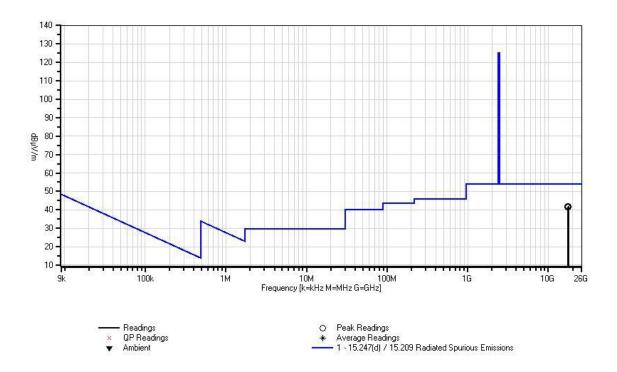
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Measu	rement Data:	Re	ading list	ted by ma	ırgin.		Τe	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	Т3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	17804.475	42.4	-12.0	+6.2	+4.7	+0.6	+0.0	41.9	54.0	-12.1	Horiz
	M										
							365				100
2	17327.823	44.5	-14.0	+6.0	+4.7	+0.6	+0.0	41.8	54.0	-12.2	Vert
	M										
							364				100
3	17747.550	42.2	-12.1	+6.2	+4.7	+0.7	+0.0	41.7	54.0	-12.3	Vert
	M										
							364				100
4	17344.840	44.2	-13.9	+6.0	+4.7	+0.6	+0.0	41.6	54.0	-12.4	Vert
	M										
							364				100
5	17849.520	41.9	-11.9	+6.2	+4.7	+0.7	+0.0	41.6	54.0	-12.4	Horiz
	M										
							365				100
6	17438.934	43.0	-13.2	+6.1	+4.7	+0.7	+0.0	41.3	54.0	-12.7	Horiz
	M										
							365				100



CKC Laboratories, Inc. Date: 1/12/2012 Time: 13:01:28 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C 15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 57 Horiz Horiz





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/12/2012
Test Type: Maximized Emissions Time: 13:14:42
Equipment: Intelligent Light Sensor for Smart Sequence#: 60

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: N. Gamez

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

z est zqu	Pinteritt				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	AN02693	Active Horn Antenna-ANSI C63.5 Antenna Factors (dB)	AMFW-5F- 12001800-20-10F	11/23/2010	11/23/2012
T2	AN03143	Cable	32022-29094K- 144TC	8/30/2011	8/30/2013
Т3	ANP06126	Cable	32022-29094K- 29094K-168TC	9/7/2011	9/7/2013
T4	ANP00928	Cable	various	3/29/2010	3/29/2012

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	Not Listed on the Adaptor	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

## Test Conditions / Notes:

15.209 12.5-18GHz Radiated Emissions

Hi Channel.

Temperature: 18.7°C Relative Humidity: 34%

Atmospheric Pressure: 101.9kPa.
EUT is in continuous transmit mode.
The EUT has 16 channels, 1 through 15.
EUT is setup in typical mounting configuration.

FCC15.209c is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

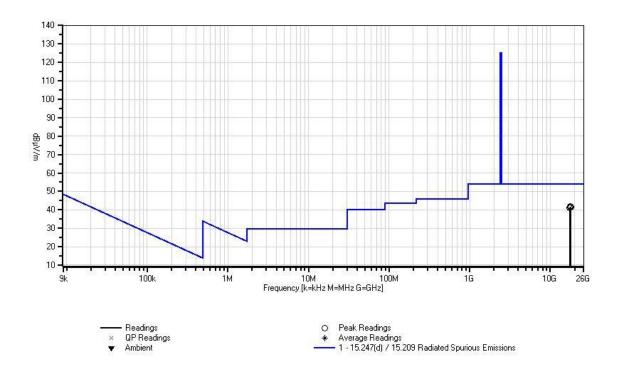
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Measu	rement Data:	Re	eading list	ted by ma	argin.		Τe	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	17834.670	42.2	-12.0	+6.2	+4.7	+0.7	+0.0	41.8	54.0	-12.2	Horiz
	M										
							364				100
2	17956.440	41.8	-11.8	+6.2	+4.7	+0.7	+0.0	41.6	54.0	-12.4	Vert
	M										
							364				100
3	17966.835	41.7	-11.8	+6.2	+4.7	+0.7	+0.0	41.5	54.0	-12.5	Horiz
	M										
							364				100
4	17992.575	41.6	-11.7	+6.2	+4.7	+0.7	+0.0	41.5	54.0	-12.5	Vert
	M										
							364				100
5	17843.085	41.9	-12.0	+6.2	+4.7	+0.7	+0.0	41.5	54.0	-12.5	Vert
	M										
							364				100
6	17397.893	43.3	-13.5	+6.1	+4.7	+0.6	+0.0	41.2	54.0	-12.8	Horiz
	M										
							364				100



CKC Laboratories, Inc. Date: 1/12/2012 Time: 13:14:42 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 60 Vert Vert





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/12/2012
Test Type: Maximized Emissions Time: 15:08:07
Equipment: Intelligent Light Sensor for Smart Sequence#: 63

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: N. Gamez

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

1 est Equi	іртені.				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	AN03143	Cable	32022-29094K-	8/30/2011	8/30/2013
			144TC		
T2	ANP06126	Cable	32022-29094K-	9/7/2011	9/7/2013
			29094K-168TC		
Т3	AN02694	Active Horn	AMFW-5F-	11/10/2010	11/10/2012
		Antenna-ANSI	18002650-20-10P		
		C63.5 Antenna			
		Factors (dB)			
T4	ANP00929	Cable	various	3/29/2010	3/29/2012

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

## Test Conditions / Notes:

15.209 18-25GHz Radiated Emissions

Low Channel.

Temperature: 20.2°C
Relative Humidity: 32%

Atmospheric Pressure: 101.7kPa.
EUT is in continuous transmit mode.
The EUT has 16 channels, 1 through 15.
EUT is setup in typical mounting configuration.

FCC15.209c is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

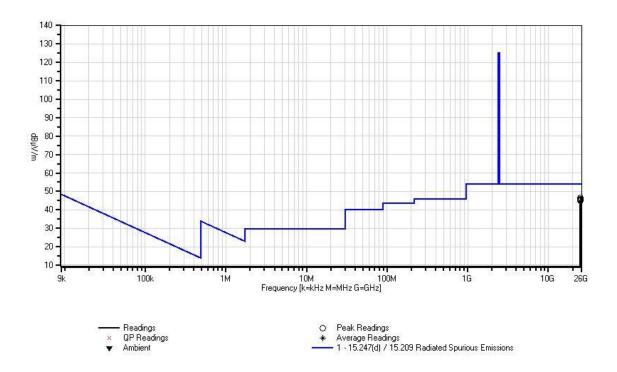
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Ext A	Attn: 0 dB										
Measu	rement Data:	Re	ading list	ted by ma	argin.		Τe	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	24975.150	47.1	+7.4	+5.6	-16.5	+3.0	+0.0	46.6	54.0	-7.4	Vert
	M										
							-5				110
2	24968.192	47.1	+7.4	+5.6	-16.6	+3.0	+0.0	46.5	54.0	-7.5	Horiz
	M										
							365				110
3	24917.498	46.3	+7.4	+5.6	-16.6	+3.0	+0.0	45.7	54.0	-8.3	Horiz
	M										
							365				110
4	24950.300	46.3	+7.4	+5.6	-16.6	+3.0	+0.0	45.7	54.0	-8.3	Horiz
	M										
							365				110
5	24869.786	46.0	+7.4	+5.6	-16.7	+3.0	+0.0	45.3	54.0	-8.7	Vert
	M										
							-5				110
6	24816.110	45.5	+7.4	+5.6	-16.8	+3.1	+0.0	44.8	54.0	-9.2	Vert
	M										
							-5				110



CKC Laboratories, Inc. Date: 1/12/2012 Time: 15:08:07 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 63 Vert Vert





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/12/2012
Test Type: Maximized Emissions Time: 15:26:06
Equipment: Intelligent Light Sensor for Smart Sequence#: 66

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: N. Gamez

Model: SU-2-00

S/N: ASI48295 Rev C

### Test Equipment:

1 cst Equ	ip in cite.				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	AN03143	Cable	32022-29094K- 144TC	8/30/2011	8/30/2013
T2	ANP06126	Cable	32022-29094K- 29094K-168TC	9/7/2011	9/7/2013
Т3	AN02694	Active Horn Antenna-ANSI C63.5 Antenna Factors (dB)	AMFW-5F- 18002650-20-10P	11/10/2010	11/10/2012
T4	ANP00929	Cable	various	3/29/2010	3/29/2012

### Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

### Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	Not Listed on the Adaptor	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

## Test Conditions / Notes:

15.209 18-25GHz Radiated Emissions

Mid Channel.

Temperature: 20.2°C Relative Humidity: 32%

Atmospheric Pressure: 101.7kPa.

EUT is in continuous transmit mode.

The EUT has 16 channels, 1 through 15.

EUT is setup in typical mounting configuration.

FCC15.209c is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

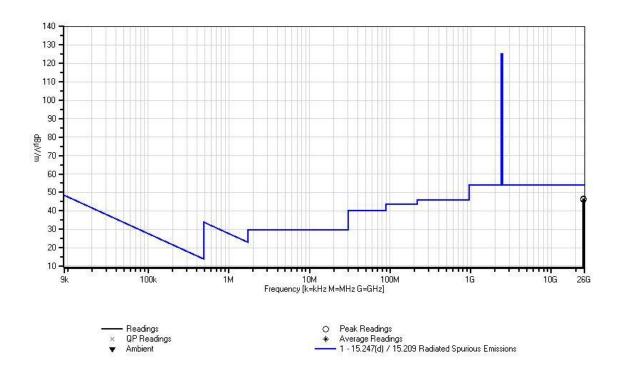
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Measu	rement Data:	Re	eading list	ted by ma	ırgin.		Τe	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	24994.036	47.1	+7.4	+5.6	-16.5	+3.0	+0.0	46.6	54.0	-7.4	Horiz
	M										
							365				110
2	24988.072	47.1	+7.4	+5.6	-16.5	+3.0	+0.0	46.6	54.0	-7.4	Vert
	M										
							-5				110
3	24914.516	47.3	+7.4	+5.6	-16.7	+3.0	+0.0	46.6	54.0	-7.4	Vert
	M										
							-5				110
4	24969.186	46.9	+7.4	+5.6	-16.6	+3.0	+0.0	46.3	54.0	-7.7	Vert
	M										
							-5				110
5	24921.474	46.7	+7.4	+5.6	-16.6	+3.0	+0.0	46.1	54.0	-7.9	Horiz
	M										
							365				110
6	24930.420	46.6	+7.4	+5.6	-16.6	+3.0	+0.0	46.0	54.0	-8.0	Horiz
	M										
							365				110



CKC Laboratories, Inc. Date: 1/12/2012 Time: 15:26:06 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15.247(d) / 15.209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 66 Horiz Horiz





Customer: Enlighted, Inc.

Specification: 15.247(d) / 15.209 Radiated Spurious Emissions

Work Order #: 92667 Date: 1/12/2012
Test Type: Maximized Emissions Time: 15:38:57
Equipment: Intelligent Light Sensor for Smart Sequence#: 69

**Networked Energy Saving Lighting** 

**Systems** 

Manufacturer: Enlighted, Inc. Tested By: N. Gamez

Model: SU-2-00 S/N: ASI48295 Rev C

Test Equipment:

I csi Lqu	іртсті.				
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02668	Spectrum Analyzer	E4446A	2/23/2011	2/23/2013
T1	AN03143	Cable	32022-29094K-	8/30/2011	8/30/2013
			144TC		
T2	ANP06126	Cable	32022-29094K-	9/7/2011	9/7/2013
			29094K-168TC		
T3	AN02694	Active Horn	AMFW-5F-	11/10/2010	11/10/2012
		Antenna-ANSI	18002650-20-10P		
		C63.5 Antenna			
		Factors (dB)			
T4	ANP00929	Cable	various	3/29/2010	3/29/2012

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Intelligent Light Sensor for	Enlighted, Inc.	SU-2-00	ASI48295 Rev C
Smart Networked Energy			
Saving Lighting Systems*			

### Support Devices:

Function	Manufacturer	Model #	S/N
AC Adaptor	None	AD35-0900300DU	2302AA
Laptop	Acer	Aspire 5750 Series	LXR9702166123024B71601
AC Adapter	Delta Electronics, Inc.	ADP-65VH B	679W1480GFA

## Test Conditions / Notes:

15.209 18-25GHz Radiated Emissions

Hi Channel.

Temperature: 20.2°C Relative Humidity: 32%

Atmospheric Pressure: 101.7kPa.
EUT is in continuous transmit mode.
The EUT has 16 channels, 1 through 15.
EUT is setup in typical mounting configuration.

FCC15.209c is covered by this data sheet, ensuring the spurious emissions are not higher than fundamental.

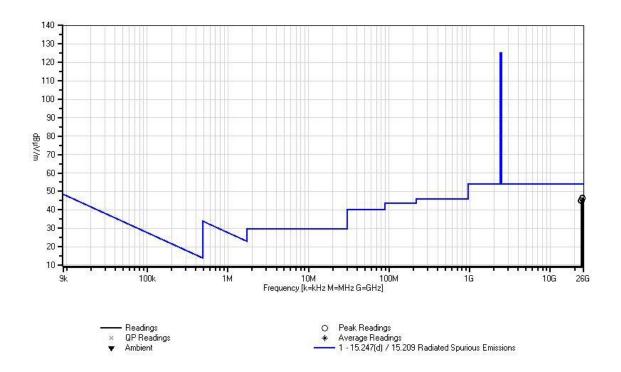
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Measu	rement Data:	Re	eading list	ted by ma	ırgin.		Τe	est Distance	e: 3 Meters		
#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	24998.012	47.0	+7.4	+5.6	-16.5	+3.0	+0.0	46.5	54.0	-7.5	Vert
	M										
							365				110
2	24959.246	46.8	+7.4	+5.6	-16.6	+3.0	+0.0	46.2	54.0	-7.8	Horiz
	M										
							-5				110
3	24924.456	46.7	+7.4	+5.6	-16.6	+3.0	+0.0	46.1	54.0	-7.9	Vert
	M										
							365				110
4	24893.642	46.8	+7.4	+5.6	-16.7	+3.0	+0.0	46.1	54.0	-7.9	Vert
	M										
							365				110
5	24289.290	46.5	+7.3	+5.5	-17.4	+3.0	+0.0	44.9	54.0	-9.1	Horiz
	M										
							-5				110
6	24124.286	46.6	+7.2	+5.5	-17.5	+3.0	+0.0	44.8	54.0	-9.2	Horiz
	M										
							-5				110

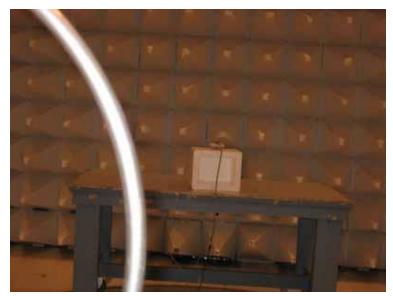


CKC Laboratories, Inc. Date: 1/12/2012 Time: 15:38:57 Enlighted, Inc. WO#: 92667 Model: SU-2-00 SN: ASI48295 Rev C
15:247(d) / 15:209 Radiated Spurious Emissions Test Distance: 3 Meters Sequence#: 69 Vert Vert

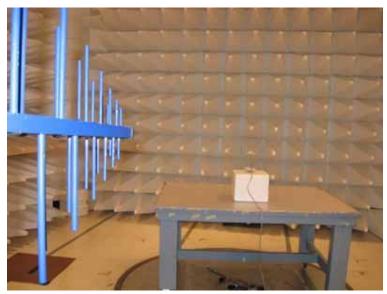




# **Test Setup Photos**

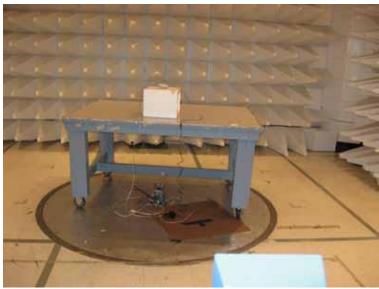


0.09-30MHz



30-1000MHz





1-25GHz



# 15.247(e) Power Spectral Density

# **Test Conditions / Setup**

The EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15. The EUT is setup in typical

 $mounting\ configuration.$ 

RBW/VBW 3/9.1kHz Temperature: 19.1°C Relative Humidity: 35%

Atmospheric Pressure: 102kPa.

Engineer Name: A. Brar

Test Equipment						
Asset/Serial #	Description	Model	Manufacturer	Cal Date	Cal Due	
AN02668	Spectrum Analyzer	E4446A	Agilent	2/23/2011	2/23/2013	
ANP05138	Cable	FSJ1P-50A-4	Andrews	3/19/2010	3/19/2012	
ANP04241	Cable	FSJ1-50A	Andrews	3/2/2010	3/2/2012	
AN02061	Horn Antenna-ANSI	DRG-118A	ARA	1/17/2011	1/17/2013	
	C63.5					

# **Test Data**

Test Results							
Frequency (MHz)	Measured Power in dBm	Power Limit in dBm	Pass/Fail				
2404.50	1.17	8	Pass				
Low Channel							
2439.58	-2.029	8	Pass				
Middle Channel							
2479.66	-3.429	8	Pass				
High Channel							

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# **Test Setup Photos**





# **RSS-210**

# 99 % Bandwidth

# **Test Conditions / Setup**

The EUT is in continuous transmit mode. The EUT has 16 channels, 1 through 15. The EUT is setup in typical mounting configuration.

Temperature: 19.1°C Relative Humidity: 35%

Atmospheric Pressure: 102kPa.

Engineer Name: A. Brar

Test Equipment						
Asset/Serial #	Description	Model	Manufacturer	Cal Date	Cal Due	
AN02668	Spectrum Analyzer	E4446A	Agilent	2/23/2011	2/23/2013	
ANP05138	Cable	FSJ1P-50A-4	Andrews	3/19/2010	3/19/2012	
ANP04241	Cable	FSJ1-50A	Andrews	3/2/2010	3/2/2012	
AN02061	Horn Antenna-ANSI	DRG-118A	ARA	1/17/2011	1/17/2013	
	C63.5					

# **Test Data**



Low Channel





Mid Channel



High Channel



# **Test Setup Photos**





# SUPPLEMENTAL INFORMATION

# **Measurement Uncertainty**

Uncertainty Value	Parameter
4.73 dB	Radiated Emissions
3.34 dB	Mains Conducted Emissions
3.30 dB	Disturbance Power

The reported measurement uncertainties are calculated based on the worst case of all laboratory environments from CKC Laboratories, Inc. test sites. Only those parameters which require estimation of measurement uncertainty are reported. The reported worst case measurement uncertainty is less than the maximum values derived in CISPR 16-4-2. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Compliance is deemed to occur provided measurements are below the specified limits.

# **Emissions Test Details**

#### **TESTING PARAMETERS**

Unless otherwise indicated, the following configuration parameters are used for equipment setup: The cables were routed consistent with the typical application by varying the configuration of the test sample. Interface cables were connected to the available ports of the test unit. The effect of varying the position of the cables was investigated to find the configuration that produced maximum emissions. Cables were of the type and length specified in the individual requirements. The length of cable that produced maximum emissions was selected.

The equipment under test (EUT) was set up in a manner that represented its normal use, as shown in the setup photographs. Any special conditions required for the EUT to operate normally are identified in the comments that accompany the emissions tables.

The emissions data was taken with a spectrum analyzer or receiver. Incorporating the applicable correction factors for distance, antenna, cable loss and amplifier gain, the data was reduced as shown in the table below. The corrected data was then compared to the applicable emission limits. Preliminary and final measurements were taken in order to ensure that all emissions from the EUT were found and maximized.

### **CORRECTION FACTORS**

The basic spectrum analyzer reading was converted using correction factors as shown in the highest emissions readings in the tables. For radiated emissions in  $dB\mu V/m$ , the spectrum analyzer reading in  $dB\mu V$  was corrected by using the following formula. This reading was then compared to the applicable specification limit.

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SAMPLE CALCULATIONS						
	Meter reading (dBμV)					
+	Antenna Factor	(dB)				
+	Cable Loss	(dB)				
-	Distance Correction	(dB)				
-	Preamplifier Gain	(dB)				
=	Corrected Reading	(dBμV/m)				

#### TEST INSTRUMENTATION AND ANALYZER SETTINGS

The test instrumentation and equipment listed were used to collect the emissions data. A spectrum analyzer or receiver was used for all measurements. Unless otherwise specified, the following table shows the measuring equipment bandwidth settings that were used in designated frequency bands. For testing emissions, an appropriate reference level and a vertical scale size of 10 dB per division were used.

MEASURING EQUIPMENT BANDWIDTH SETTINGS PER FREQUENCY RANGE					
TEST BEGINNING FREQUENCY ENDING FREQUENCY BANDWIDTH SETTING					
CONDUCTED EMISSIONS	150 kHz	30 MHz	9 kHz		
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz		
RADIATED EMISSIONS	1000 MHz	>1 GHz	1 MHz		

### SPECTRUM ANALYZER/RECEIVER DETECTOR FUNCTIONS

The notes that accompany the measurements contained in the emissions tables indicate the type of detector function used to obtain the given readings. Unless otherwise noted, all readings were made in the "positive peak" detector mode. Whenever a "quasi-peak" or "average" reading was recorded, the measurement was annotated with a "QP" or an "Ave" on the appropriate rows of the data sheets. In cases where quasi-peak or average limits were employed and data exists for multiple measurement types for the same frequency then the peak measurement was retained in the report for reference, however the numbering for the affected row was removed and an arrow or carrot ("A") was placed in the far left-hand column indicating that the row above takes precedence for comparison to the limit. The following paragraphs describe in more detail the detector functions and when they were used to obtain the emissions data.

### <u>Peak</u>

In this mode, the spectrum analyzer or receiver recorded all emissions at their peak value as the frequency band selected was scanned. By combining this function with another feature called "peak hold," the measurement device had the ability to measure intermittent or low duty cycle transient emission peak levels. In this mode the measuring device made a slow scan across the frequency band selected and measured the peak emission value found at each frequency across the band.

# Quasi-Peak

Quasi-peak measurements were taken using the quasi-peak detector when the true peak values exceeded or were within 2 dB of a quasi-peak specification limit. Additional QP measurements may have been taken at the discretion of the operator.

### **Average**

Average measurements were taken using the average detector when the true peak values exceeded or were within 2 dB of an average specification limit. Additional average measurements may have been taken at the discretion of the operator. If the specification or test procedure requires trace averaging, then the averaging was performed using 100 samples or as required by the specification. All other average measurements are performed using video bandwidth averaging. To make these measurements, the test engineer reduces the video bandwidth on the measuring device until the modulation of the signal is filtered out. At this point the measuring device is set into the linear mode and the scan time is reduced.

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