FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8

CERTIFICATION TEST REPORT

FOR

Outlet & Switch Device for Home Automation

MODEL NUMBER: 010001

REPORT NUMBER: 13U16004

ISSUE DATE: October 28, 2013

Prepared for
Green Edge Technologies
15333 Avenue of Science
San Diego, CA 92128, USA

Prepared by
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333 Pfingsten Road
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NVLAP LAB CODE 100414-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	Oct.28, 2013	Initial Issue	BM

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Green Edge Technologies
15333 Avenue of Science
San Diego CA 92188, USA

EUT DESCRIPTION: Outlet & Switch Device for Home Automation

MODEL: 010001

SERIAL NUMBER: Prototype

DATE TESTED: October 02, 2013

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15.249 Subpart C	Pass
INDUSTRY CANADA RSS-210 Issue 8 Annex A2.9	Pass
INDUSTRY CANADA RSS-GEN Issue 3	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL LLC. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For UL LLC By:

Michael Ferrer
PROJECT LEAD
UL LLC

Tested By:

Bart Mucha
STAFF ENGINEER
UL LLC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47, ANSI C63.4:2003 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 333 Pfingsten Road, Northbrook, IL, 60062.

UL LLC is accredited by NVLAP, Laboratory Code 100414-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/1004140.htm.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test	Range	Equipment	Uncertainty k=2
Conducted Emissions	150k-30MHz	LISN	2.29dB
Radiated Emissions	30-200MHz	Bicon 3m Horz	3.30dB
Radiated Emissions	30-130MHz	Bicon 3m Vert	4.84dB
Radiated Emissions	130-200MHz	Bicon 3m Vert	4.94dB
Radiated Emissions	200-1000MHz	LogP 3m Horz	3.46dB
Radiated Emissions	200-1000MHz	LogP 3m Vert	4.98dB
Radiated Emissions	1-6GHz	Horn	5.02dB
Radiated Emissions	6-18GHz	Horn	5.34dB

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an Outlet/Switch controller with wireless capabilities to switch it on or off.

5.2. MAXIMUM OUTPUT E-FIELD STRENGTH

The transmitter has a maximum output peak E-field as follows:

Frequency Range (MHz)	Mode	Output QP E-field Strength (dBuV/m)
902 to 928	FSK	90.87

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a Fracus FR05-S1-R-0-105 SMT chip antenna, with a maximum gain of 1.7dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was P4_FCC_TEST_CODE_OCT_1_2013 (we used test code to put the device in constant transmit mode).

5.5. WORST-CASE CONFIGURATION AND MODE

Only single model was tested. Model chosen for testing the 010001 -007 “Dual Lighting Control”. All other variants are a subset of the model tested and it is considered representative. In all cases the board layout is the same, the radio circuitry and antenna are the same. EUT was first pre-tested on middle channel in three different Axis (X, Y, and Z) It was found that worst case is the X-Axis.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Description	Manufacturer	Model	Serial Number	FCC ID
Outlet & Switch Controller	Green Edge	10001	Prototype	2AACXSMART-1

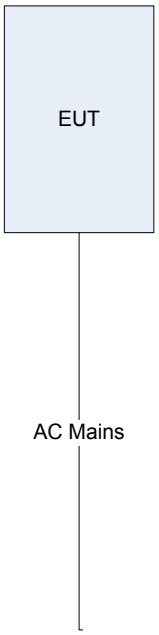
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
0	Enclosure	-	-	-	-	-
1	AC Input	1	None	Stndard wire	2m	-

TEST SETUP

EUT was setup on 80cm support, connected to outlet and inserted inside outlet box. AC cable was routed straight down.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Radiated Emissions Equipment

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESU	EMC4323	20121227	20131231
Bicon Antenna	Chase	VBA6106A	EMC4078	20130213	20140228
Log-P Antenna	Chase	UPA6109	EMC4258	20121015	20131030
Antenna Array 1GHz-40GHz	UL	BOMS	EMC4276	20130912	20140930
Spectrum Analyzer	Agilent	E4446A	s/n MY45300099	20130129	20150129
EMC Software Version - UL-Emission and NSA Program Version 9.5 December 06, 2012					

Line Conducted Emissions Equipment

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC4328	Dec 30, 2012	Dec 30, 2013
Transient Limiter	Electro-Metrics	EM7600-2	EMC4224	N/A	N/A
HighPass Filter	Solar Electronics	2803-150	885551	N/A	N/A
Attenuator	HP	8494B	2831A00838	N/A	N/A
LISN - L1	Solar	8602-50-TS-50-N	EMC4052	Jan 15, 2013	Jan 16, 2014
LISN - L2	Solar	8602-50-TS-50-N	EMC4064	Jan 15, 2013	Jan 16, 2014

7. TEST RESULTS

7.1. BANDWIDTH MEASUREMENTS

7.1.1. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

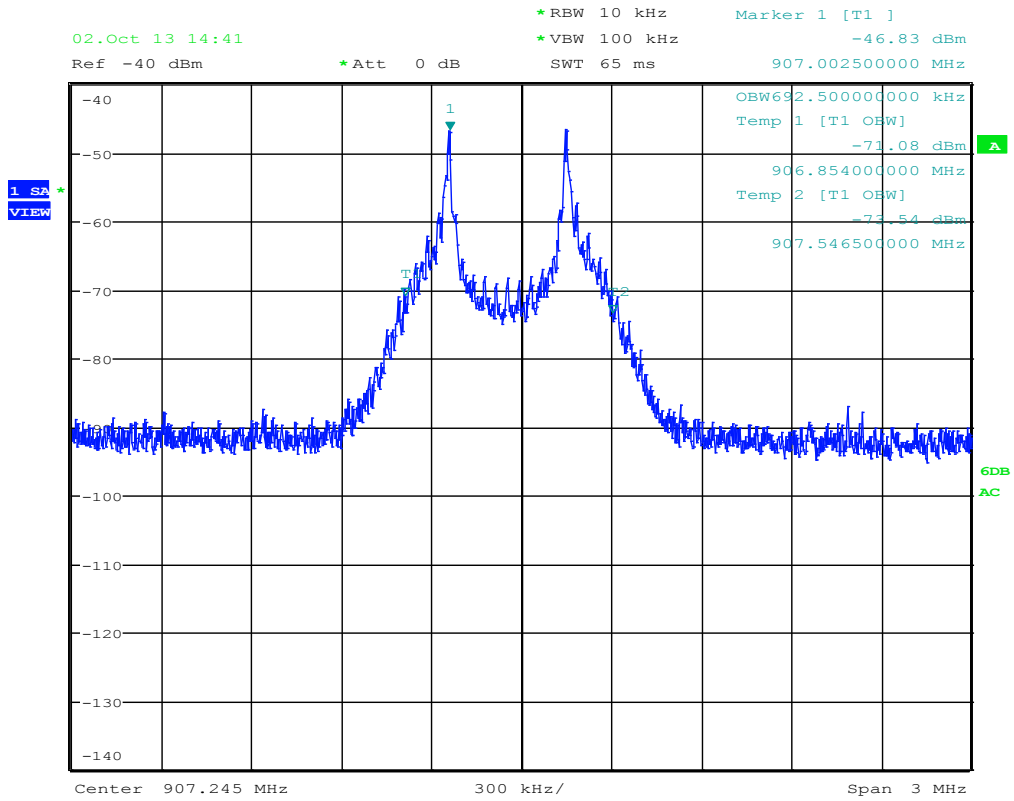
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

RESULTS

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	907.2	0.692
Middle	915.7	0.678
High	927	0.788

99% BANDWIDTH

99% BANDWIDTH LOW CH



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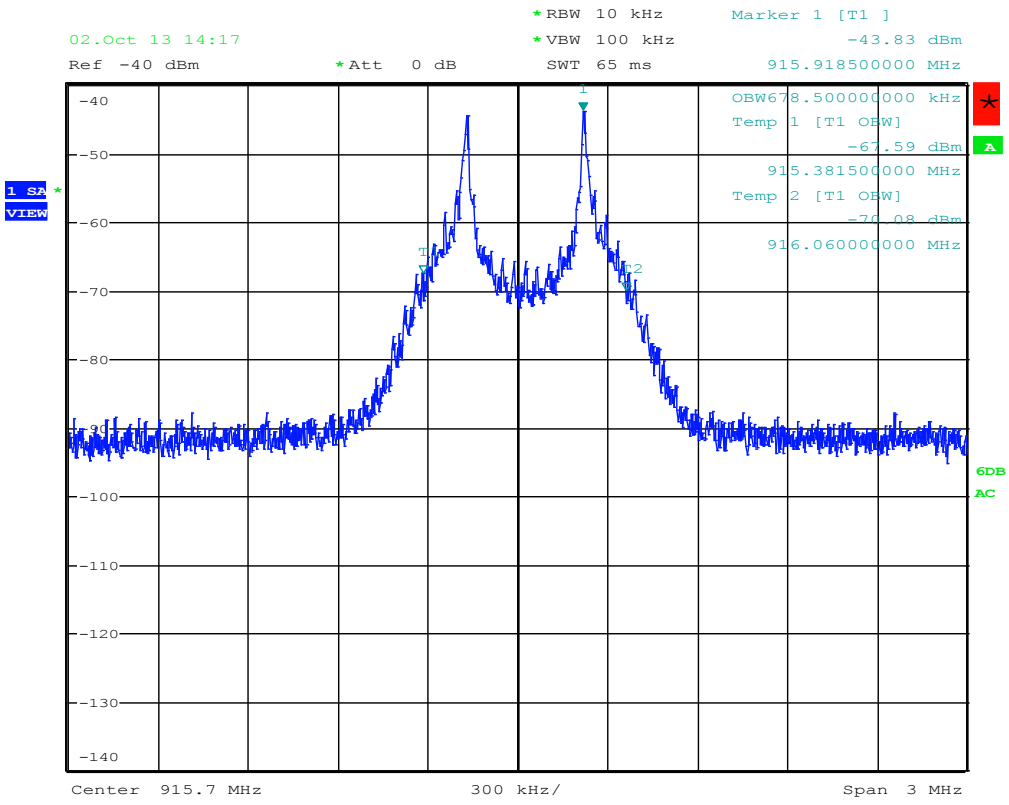
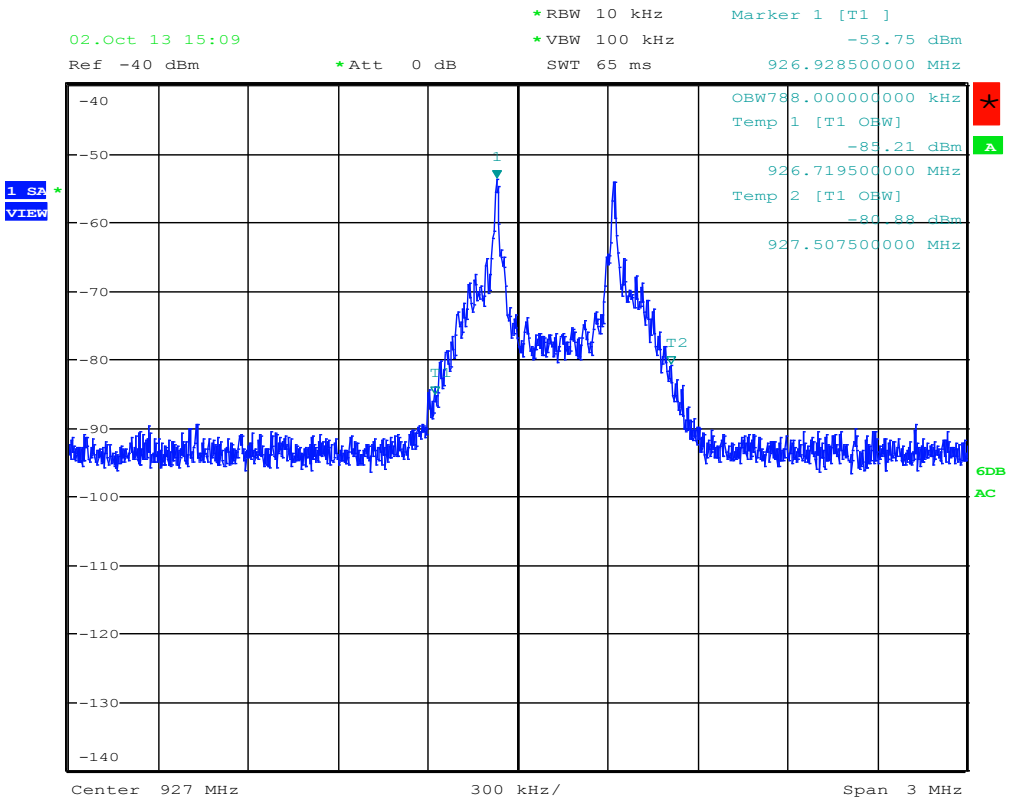
99% BANDWIDTH MID CH



99% BANDWIDTH HIGH CH



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7.1.2. 20dB BANDWIDTH

LIMITS

The band edges must remain between 902MHz and 928MHz

TEST PROCEDURE

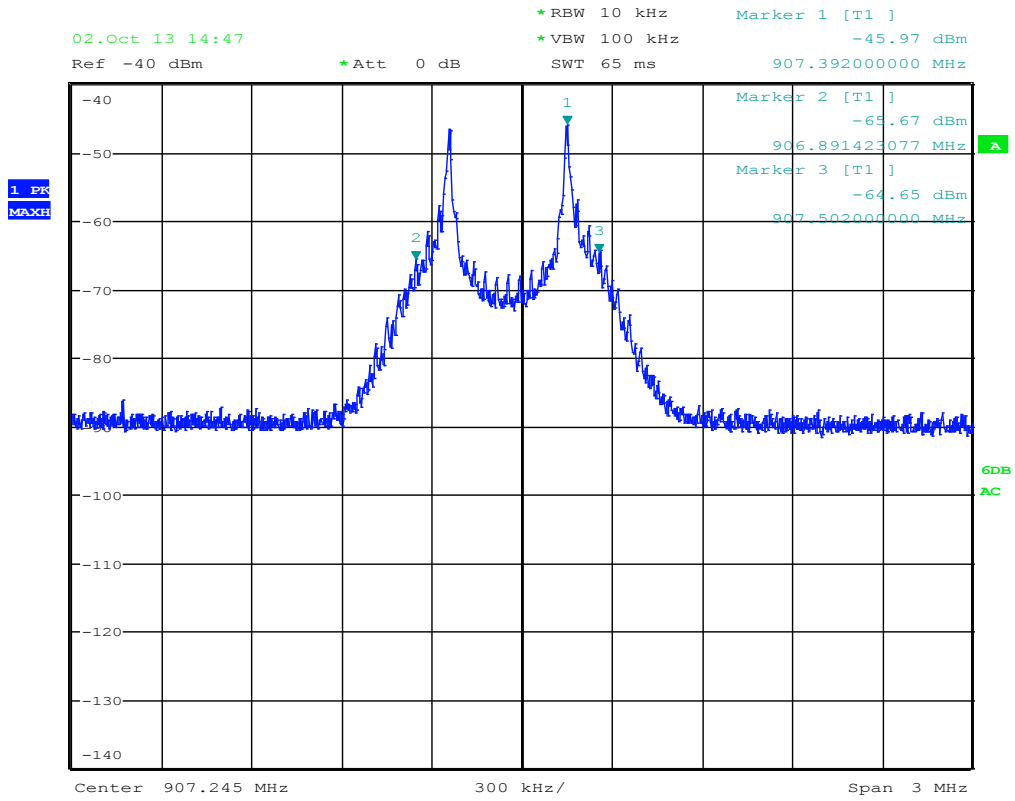
The transmitter output is connected to the spectrum analyzer. The RBW is set to 1% to 3% of the 20dB bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. Markers are utilized to measure the bandwidth.

RESULTS

Channel	Frequency (MHz)	Low Band edge Freq MHz	High Band edge Freq MHz	20dB Bandwidth (MHz)
Low	907.2	906.891	907.502	0.611
Middle	915.7	915.414	916.034	0.620
High	927	926.793	927.452	0.659

20dB BANDWIDTH

20dB BANDWIDTH LOW CH



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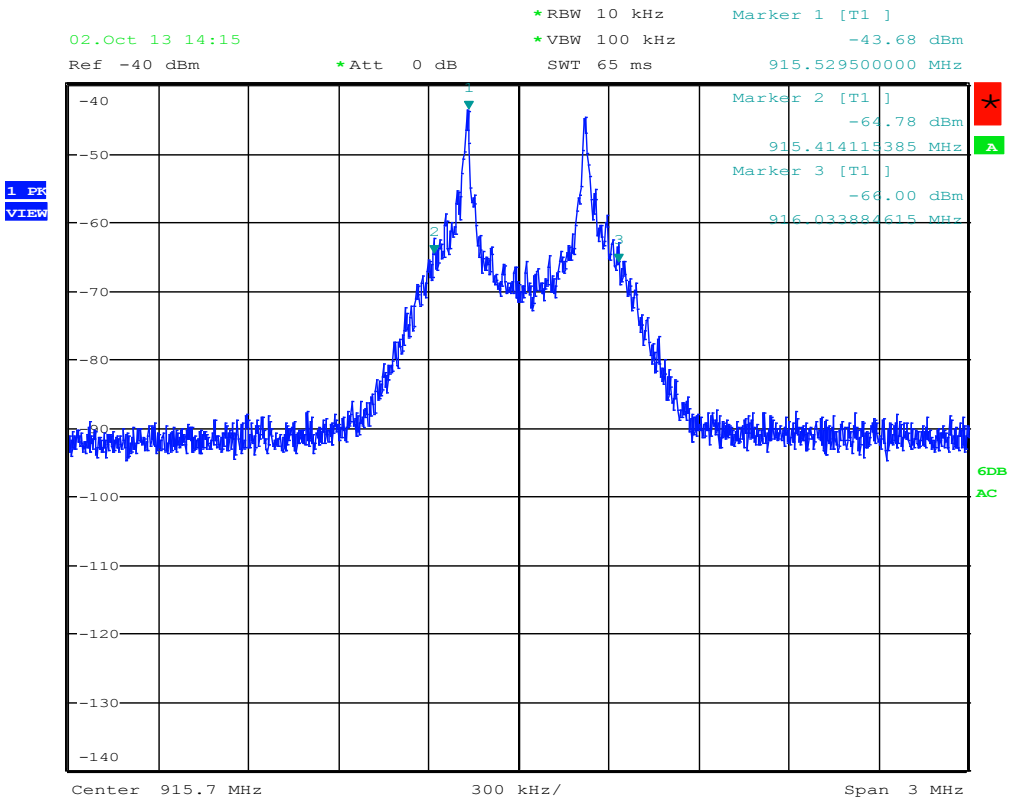
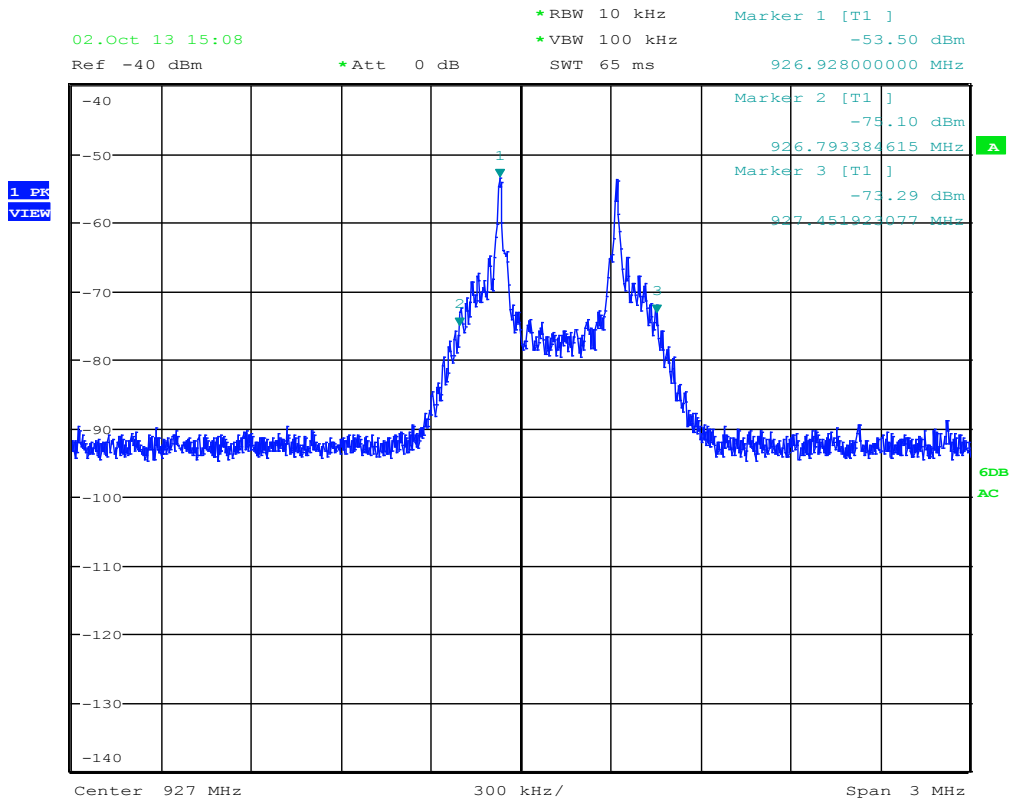
20dB BANDWIDTH MID CH



20dB BANDWIDTH HIGH CH



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7.2. RADIATED EMISSIONS

TEST PROCEDURE

ANSI C63.4:2003

LIMIT

IC RSS-210, A2.9
FCC 15.249

Operation within the bands 902–928 MHz, 2400–2483.5 MHz, 5725–5875 MHZ, and 24.0–24.25 GHz.
(a) Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

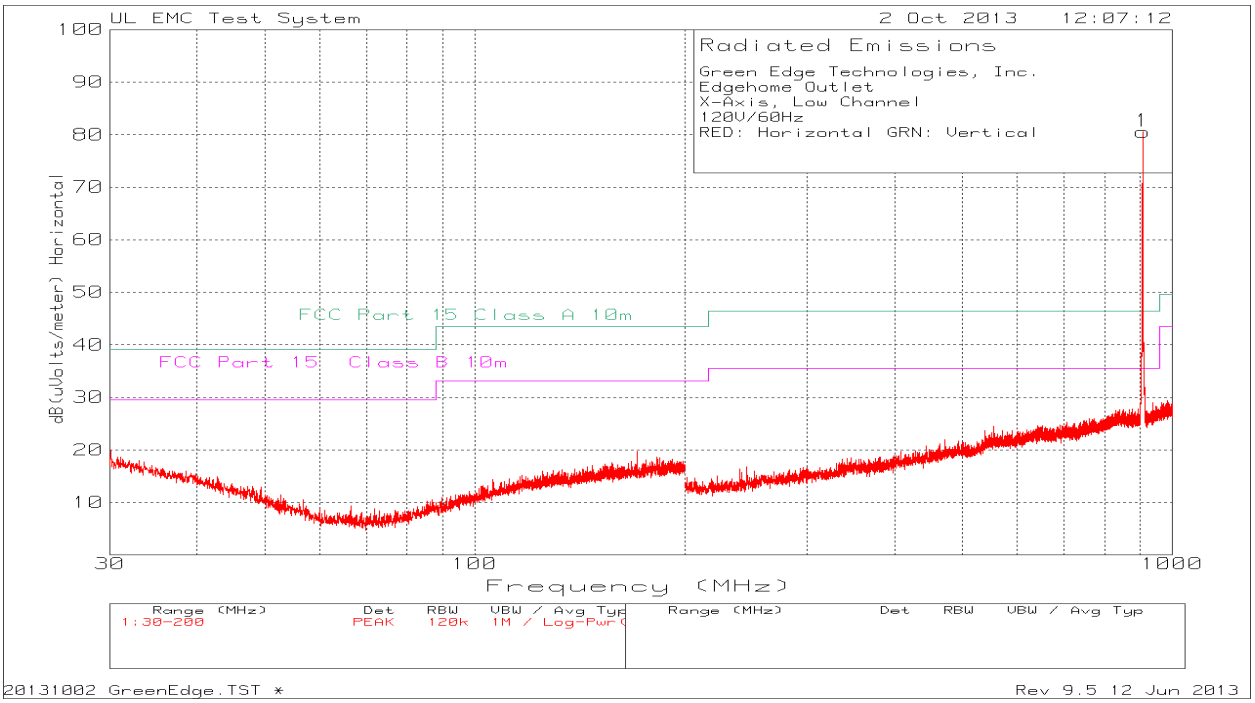
Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100 **	3
88–216	150 **	3
216–960	200 **	3
Above 960	500	3

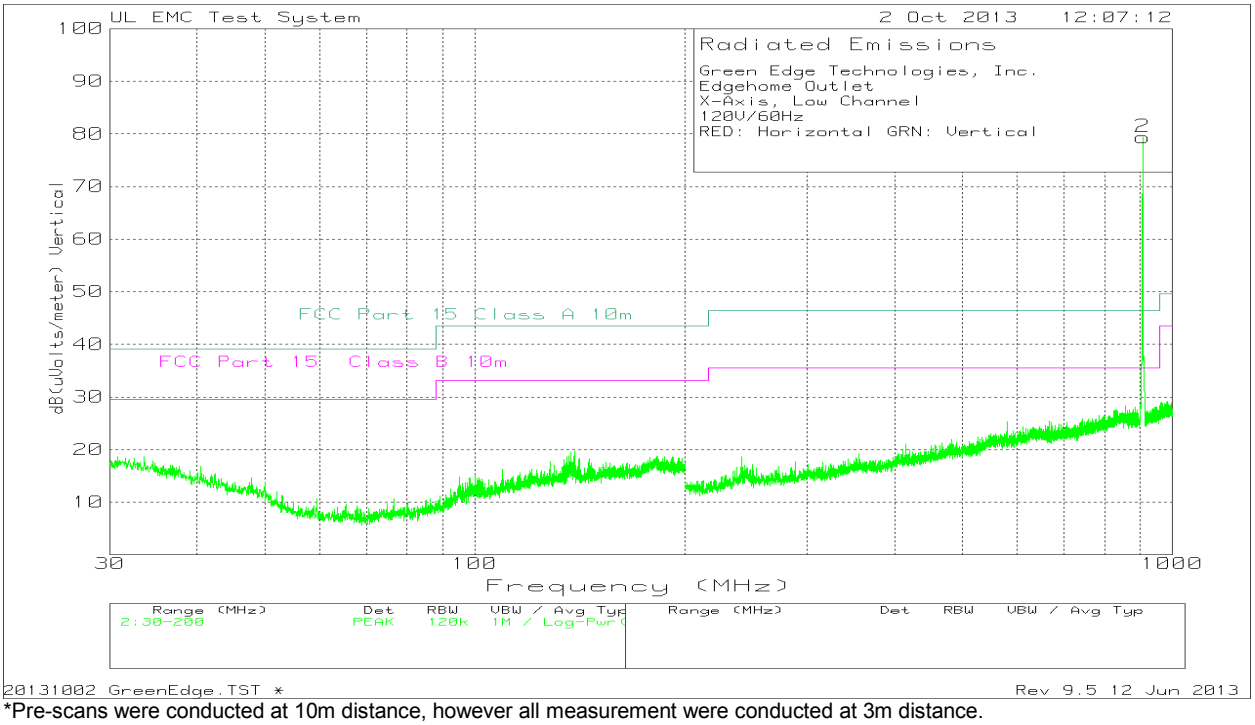
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

RESULTS

7.2.1. Below 1GHz Fundamental and Spurious Emissions

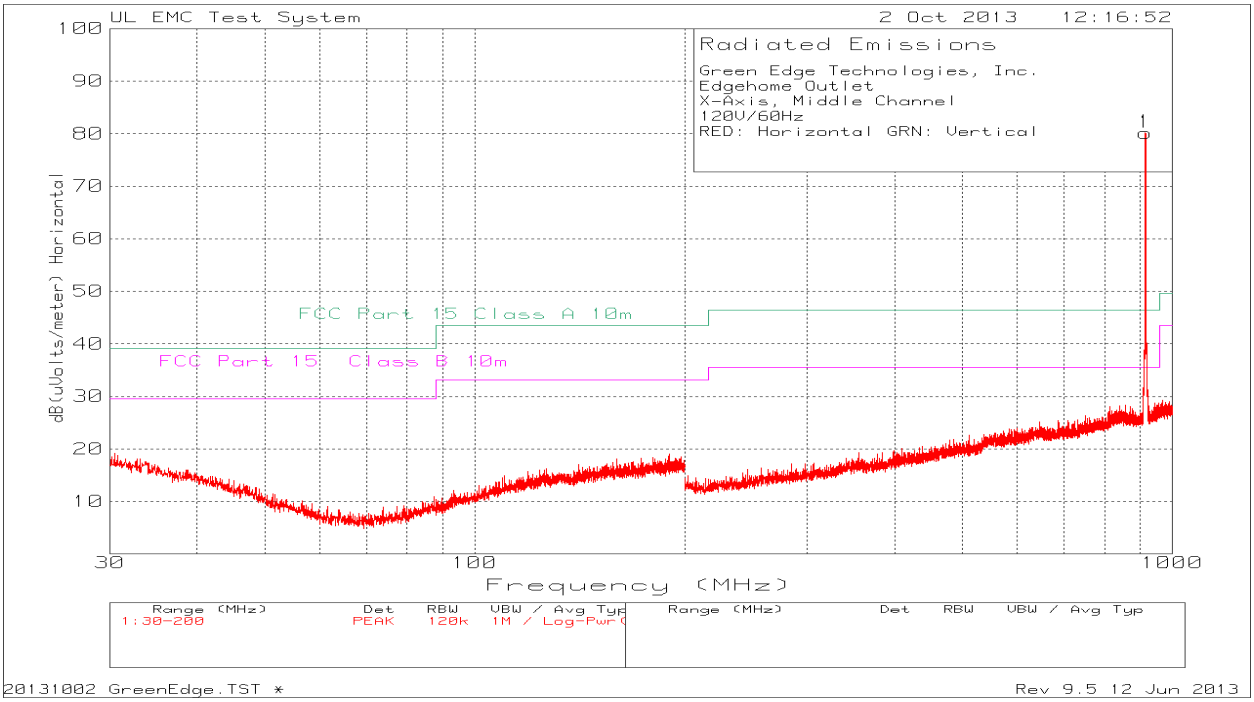
Low Channel Plots

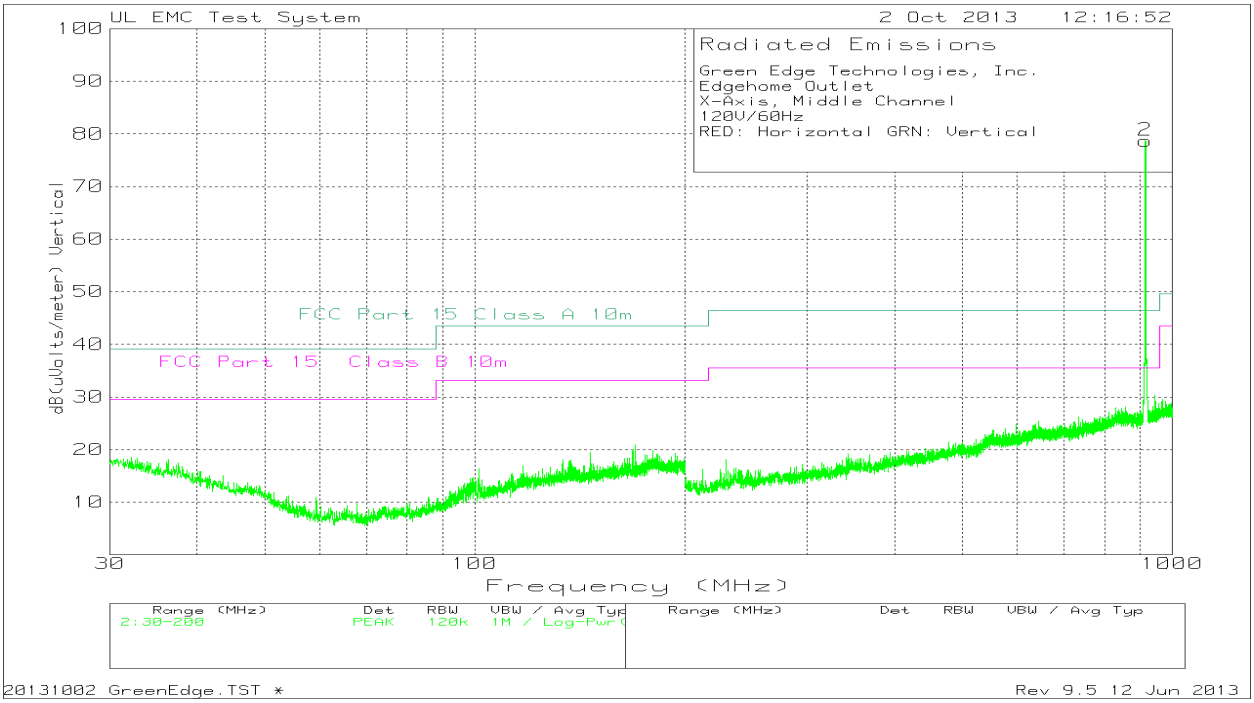




*Pre-scans were conducted at 10m distance, however all measurement were conducted at 3m distance.

Middle Channel Plots





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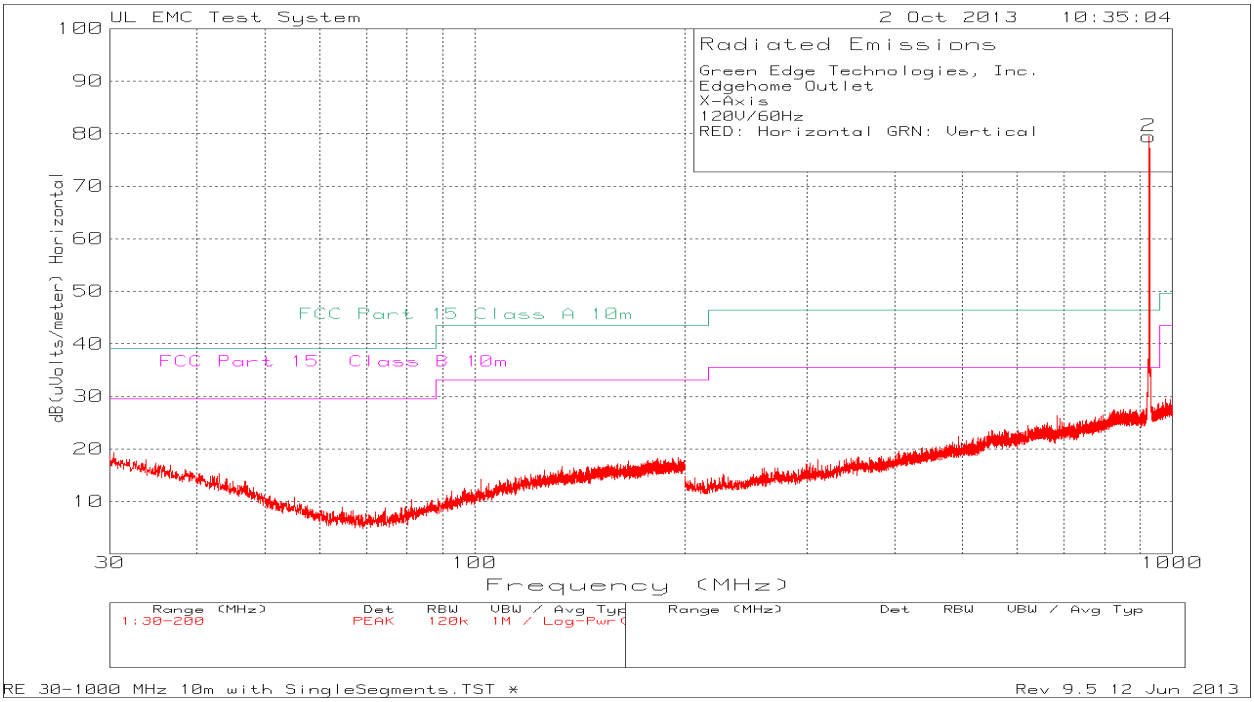
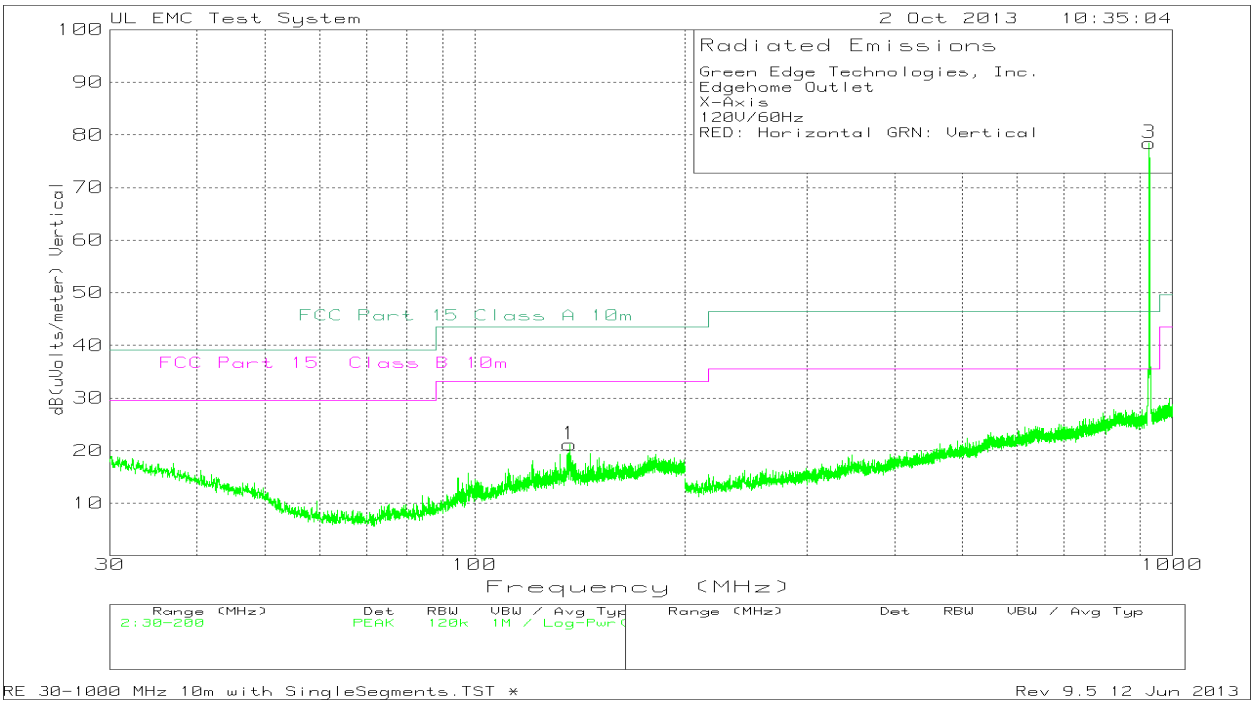
High Channel Plots





*Pre-scans were conducted at 10m distance, however all measurement were conducted at 3m distance.

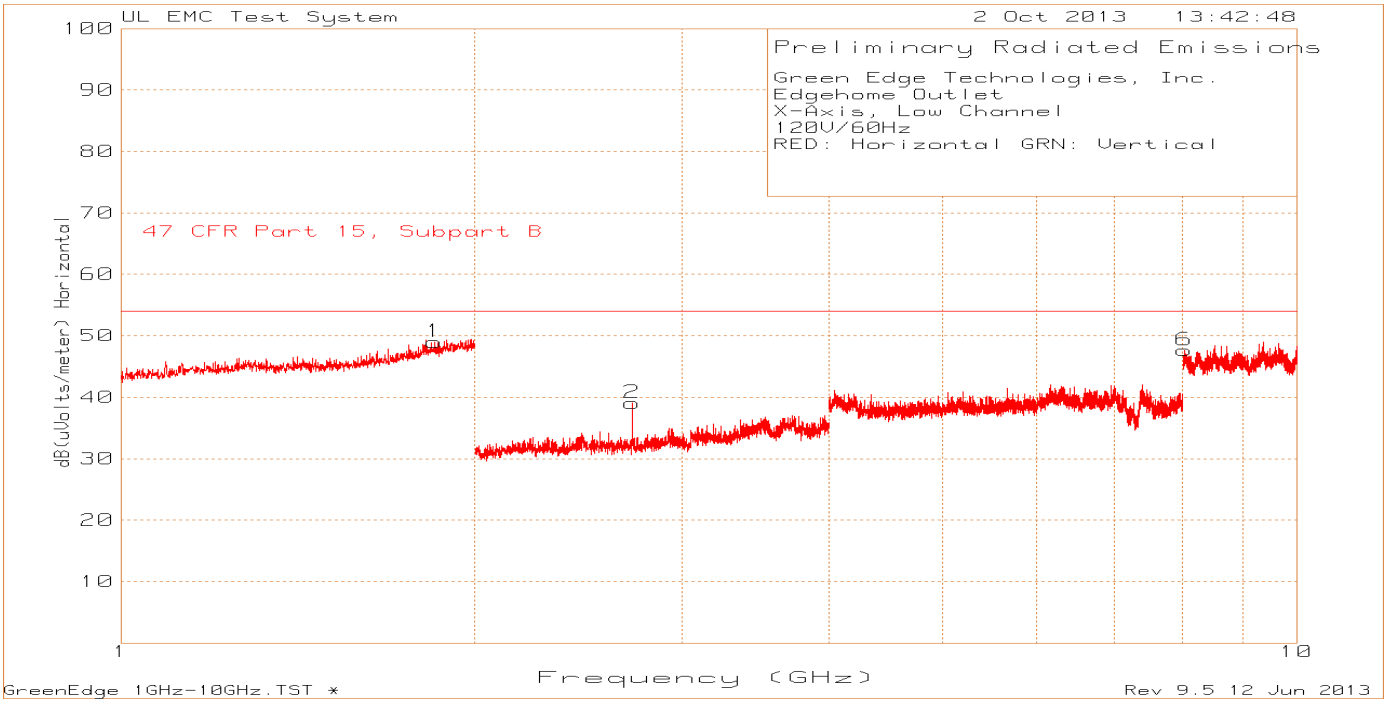
Below 1GHz Tabular Data

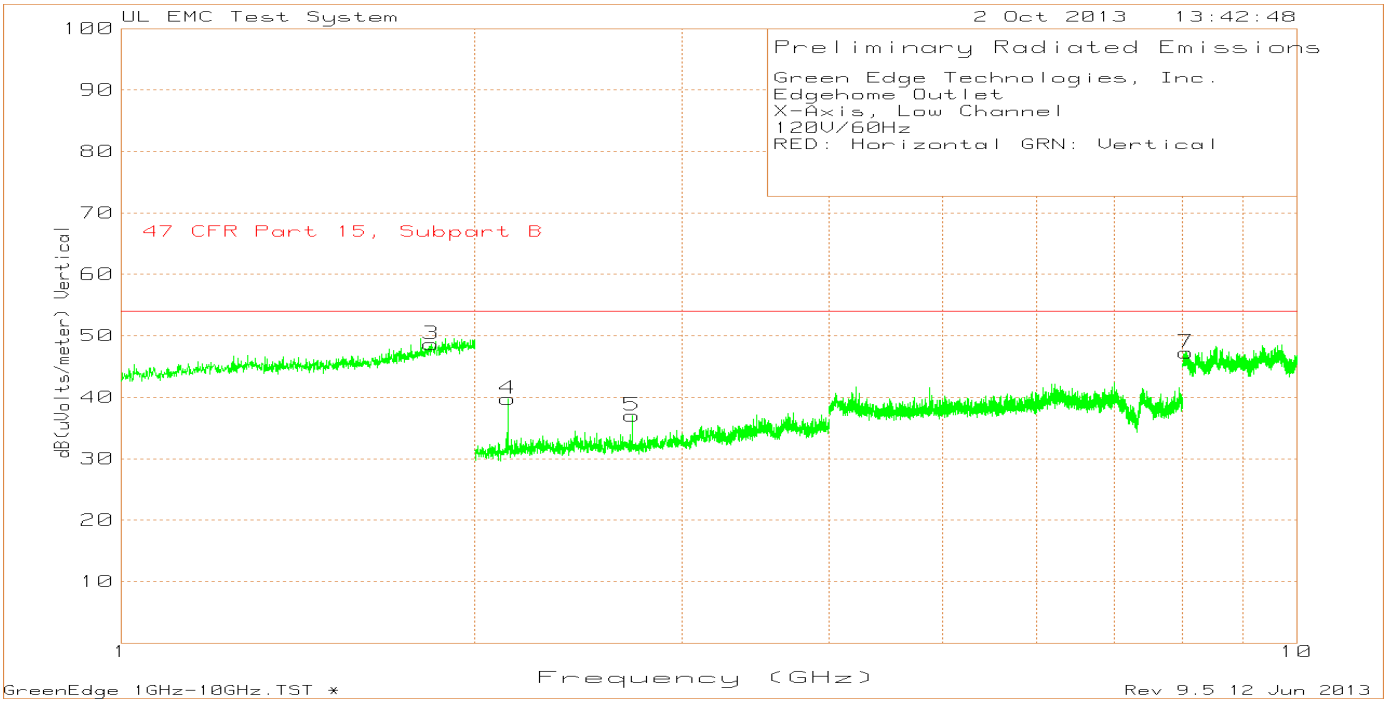
Radiated Emission Data 3m measurement distance											
Test Frequency MHz	Meter Reading dBuV	Detector	AF dB/m	CF dB	Level dBuV/m	15.249 QP Limit dBuV/m	Margin dB	Azimuth [Degs]	Height [cm]	Polarity	Notes
Middle Channel X, Y, Z Axis Worst Case Determination											
915.53	56.51	QP	23.1	10	89.61	94	-4.39	303	163	H	1
915.916218	56.5	QP	23.1	10	89.6	94	-4.4	303	163	H	1
915.531603	55.31	QP	23.1	10	88.41	94	-5.59	17	113	V	1
915.919423	55.42	QP	23.1	10	88.52	94	-5.48	17	113	V	1
915.528397	56.41	QP	23.1	10	89.51	94	-4.49	283	165	H	2
915.921026	56.43	QP	23.1	10	89.53	94	-4.47	283	165	H	2
915.528397	48.82	QP	23.1	10	81.92	94	-12.08	340	116	V	2
915.916218	48.78	QP	23.1	10	81.88	94	-12.12	340	116	V	2
915.53	44.77	QP	23.1	10	77.87	94	-16.13	142	146	H	3
915.919423	44.81	QP	23.1	10	77.91	94	-16.09	142	146	H	3
915.528397	53.75	QP	23.1	10	86.85	94	-7.15	173	130	V	3
915.919423	53.75	QP	23.1	10	86.85	94	-7.15	173	130	V	3
Low Channel											
907.001603	57.97	QP	23	9.9	90.87	94	-3.13	98	168	H	1
907.392628	57.94	QP	23	9.9	90.84	94	-3.16	98	168	H	1
907.001603	56.9	QP	23	9.9	89.8	94	-4.2	22	123	V	1
907.391026	56.9	QP	23	9.9	89.8	94	-4.2	22	123	V	1
High Channel											
926.927992	52.04	QP	23.3	10	85.34	94	-8.66	351	162	H	1
927.320621	51.99	QP	23.3	10	85.29	94	-8.71	351	162	H	1
926.929595	56.06	QP	23.3	10	89.36	94	-4.64	6	115	V	1
927.319018	56.04	QP	23.3	10	89.34	94	-4.66	6	115	V	1
Low channel Band Edge											
902	12.13	QP	22.9	9.9	44.93	46.02	-1.09	98	168	H	1
902	11.51	QP	22.9	9.9	44.31	46.02	-1.71	22	123	V	1
High Channel Band Edge											
928	11.54	QP	23.4	10	44.94	46.02	-1.08	6	115	V	1
928	7.66	QP	23.4	10	41.06	46.02	-4.96	351	161	H	1

Notes:
1 - X-Axis
2 - Y-Axis
3 - Z-Axis
QP - Quasi-Peak detector
AF - Antenna Factor, CF - Path/Cable Factor
PK - Peak detector

7.2.2. Above 1GHz Emissions

Low Channel Plots





* No Emissions recorded close to the limit.

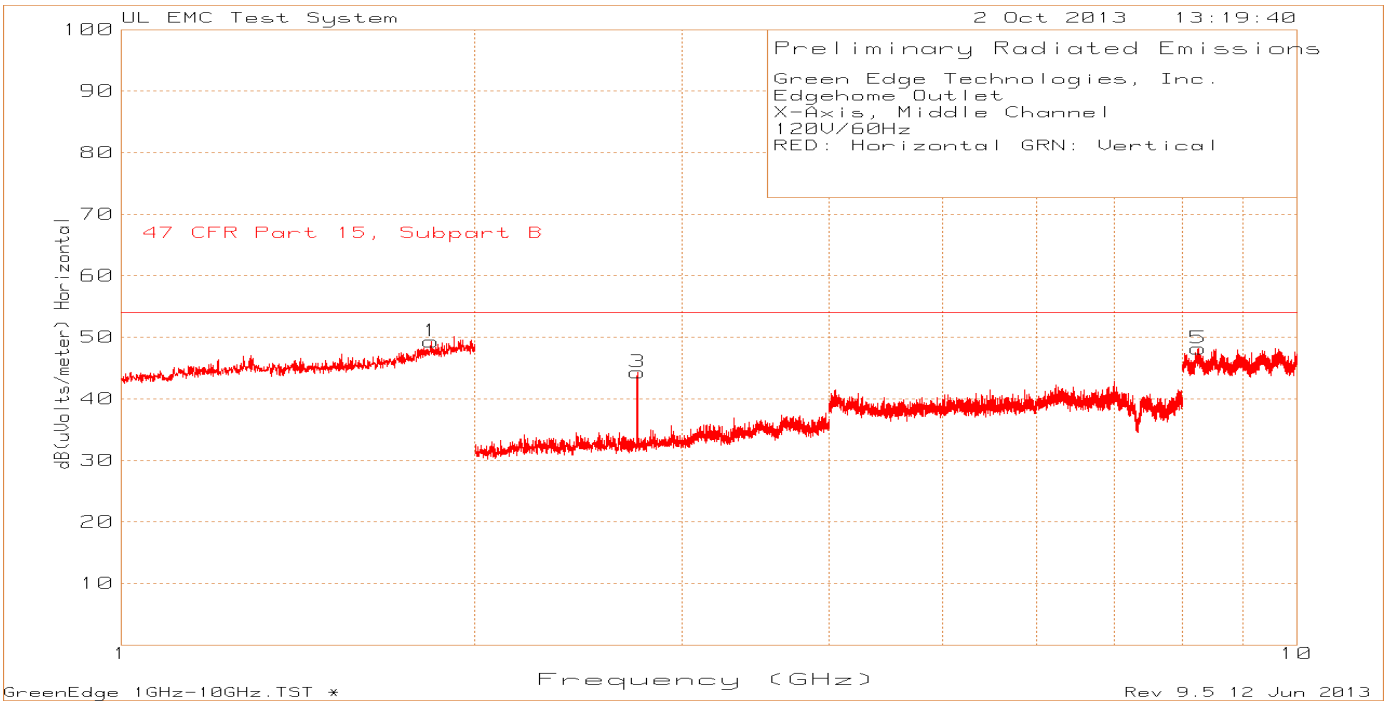
Low Channel Data

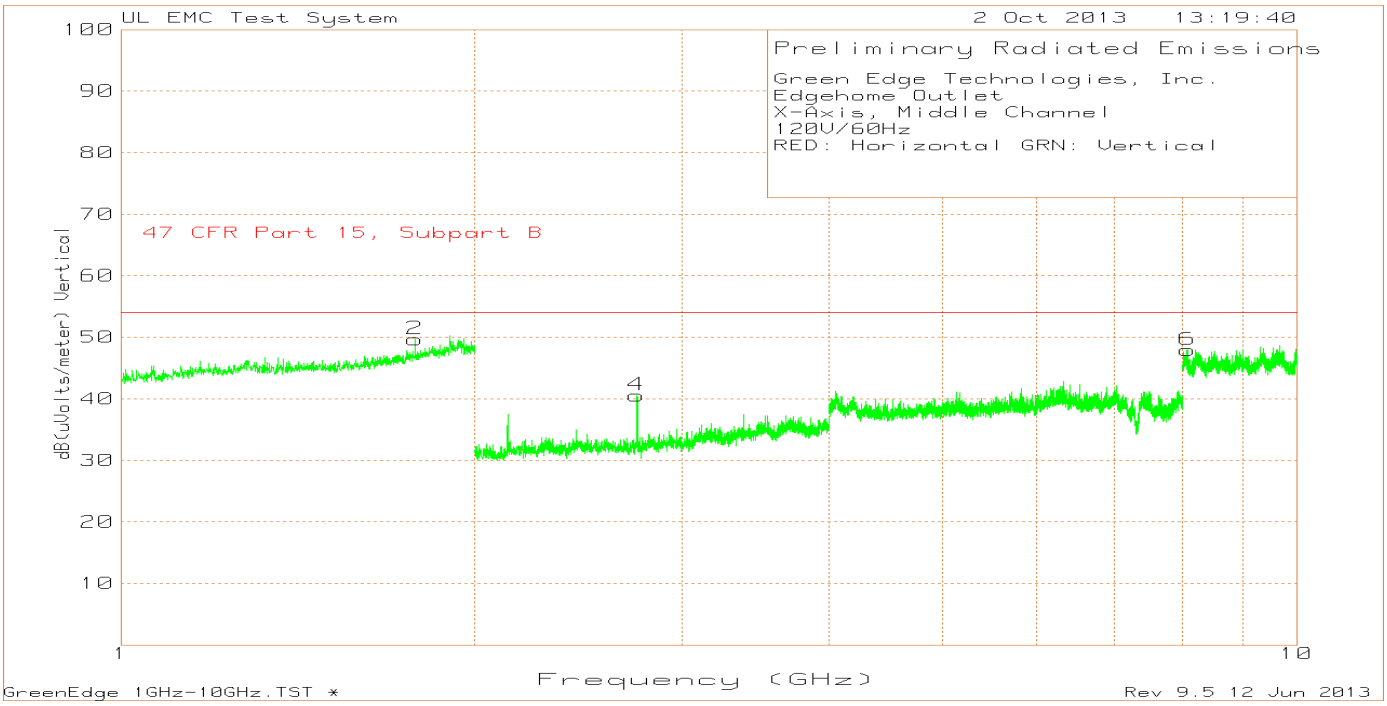
Green Edge Technologies, Inc.
Edgehome Outlet
X-Axis, Low Channel
120V/60Hz
RED: Horizontal GRN: Vertical
Trace Markers

Marker No.	Test Frequency GHz	Meter Reading dBuV	Detector	AF dB/m	CF dB	Level dBuV/m	Limit dBuV/m	Margin dB	Azimuth [Degs]	Height [cm]	Polarity
1	1.847	18.02	PK	27	3.99	49.01	54	-4.99	0-360	149	H
2	2.722	67.6	PK	22.1	-50.65	39.05	54	-14.95	0-360	100	H
6	8.031	58.47	PK	36.1	-46.89	47.68	54	-6.32	0-360	100	H
3	1.834	17.62	PK	27	4.03	48.65	54	-5.35	0-360	100	V
4	2.133	70.33	PK	21.5	-52.08	39.75	54	-14.25	0-360	100	V
5	2.722	65.62	PK	22.1	-50.65	37.07	54	-16.93	0-360	149	V
7	8.053	58.23	PK	36.2	-47.17	47.26	54	-6.74	0-360	149	V

PK - Peak detector

Middle Channel Plots





* No Emissions recorded close to the limit.

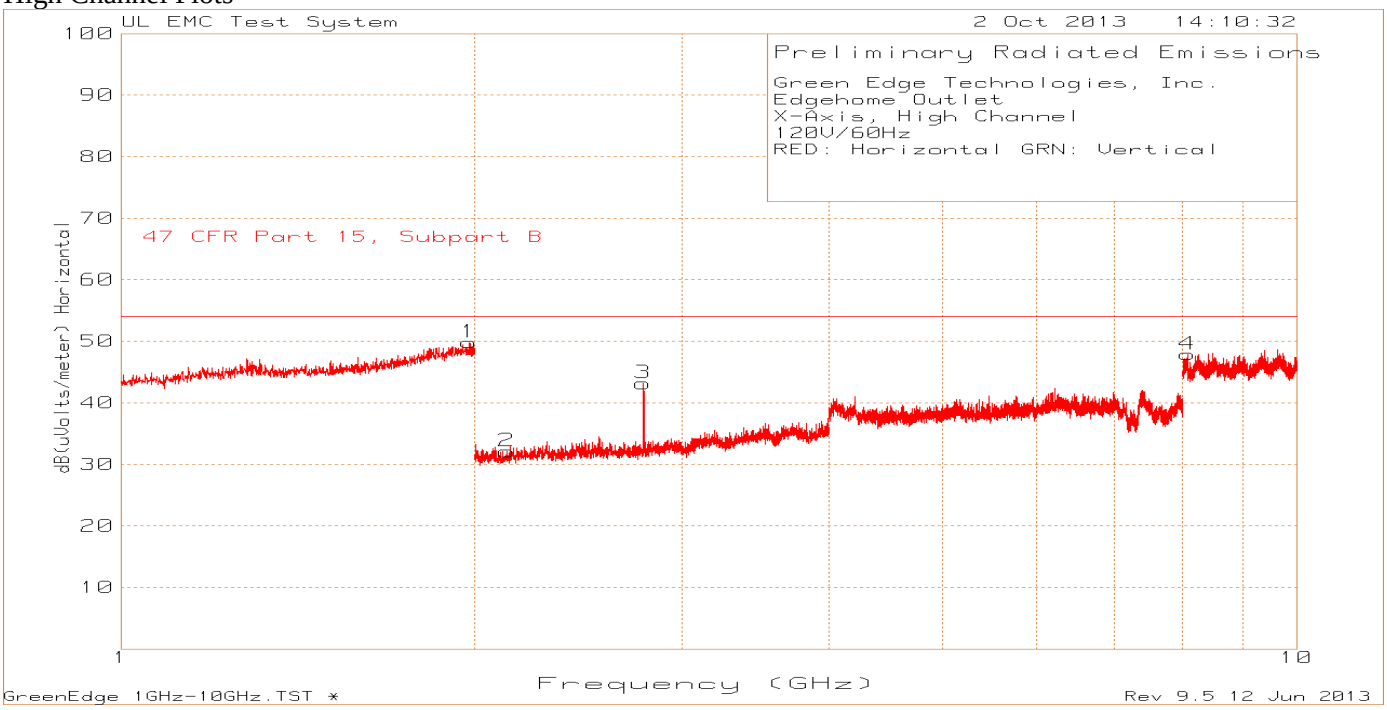
Middle Channel Data

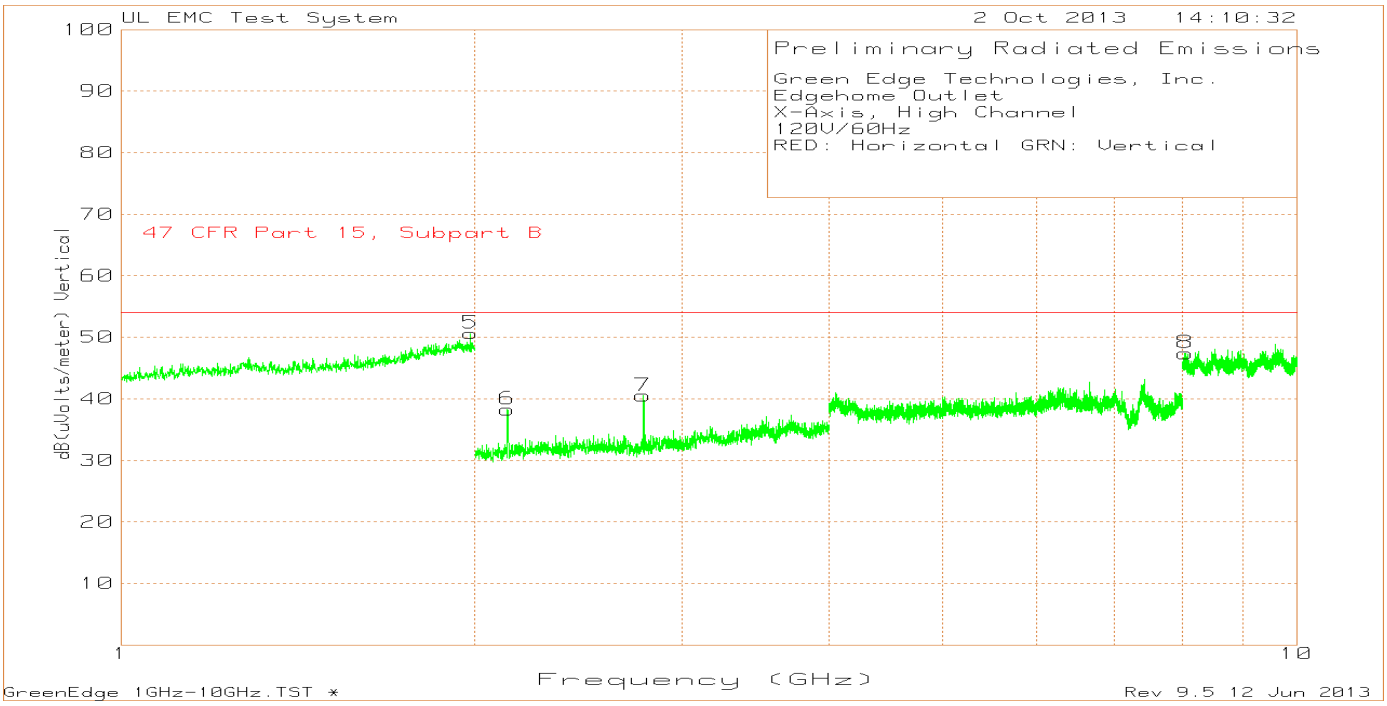
Green Edge Technologies, Inc.
Edgehome Outlet
X-Axis, Middle Channel
120V/60Hz
RED: Horizontal GRN: Vertical

Marker No.	Test Frequency GHz	Meter Reading dBuV	Detector	AF dB/m	CF dB	Level dBuV/m	Limit dBuV/m	Margin dB	Azimuth [Degs]	Height [cm]	Polarity
1	1.834	18.27	PK	27	4.03	49.3	54	-4.7	0-360	100	H
3	2.748	72.84	PK	22.1	-50.66	44.28	54	-9.72	0-360	100	H
5	8.249	58.86	PK	36.4	-47.11	48.15	54	-5.85	0-360	149	H
2	1.778	19.16	PK	26.6	3.92	49.68	54	-4.32	0-360	100	V
4	2.747	69.15	PK	22.1	-50.66	40.59	54	-13.41	0-360	149	V
6	8.074	59.51	PK	36.2	-47.77	47.94	54	-6.06	0-360	100	V

PK - Peak detector

High Channel Plots





* No Emissions recorded close to the limit.

High Channel Data

Green Edge Technologies, Inc.
Edgehome Outlet
X-Axis, High Channel
120V/60Hz
RED: Horizontal GRN: Vertical

Marker No.	Test Frequency GHz	Meter Reading dBuV	Detector	AF dB/m	CF dB	Level dBuV/m	Limit dBuV/m	Margin dB	Azimuth [Degs]	Height [cm]	Polarity
1	1.978	18.39	PK	27.3	4.16	49.85	54	-4.15	0-360	149	H
2	2.128	62.83	PK	21.5	-52.16	32.17	54	-21.83	0-360	149	H
3	2.781	71.48	PK	22.2	-50.48	43.2	54	-10.8	0-360	100	H
4	8.072	59.41	PK	36.2	-47.7	47.91	54	-6.09	0-360	100	H
5	1.983	19.2	PK	27.3	4.15	50.65	54	-3.35	0-360	100	V
6	2.131	68.88	PK	21.5	-52.11	38.27	54	-15.73	0-360	100	V
7	2.781	68.79	PK	22.2	-50.48	40.51	54	-13.49	0-360	149	V
8	8.041	58.21	PK	36.1	-46.9	47.41	54	-6.59	0-360	100	V

PK - Peak detector

7.3. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

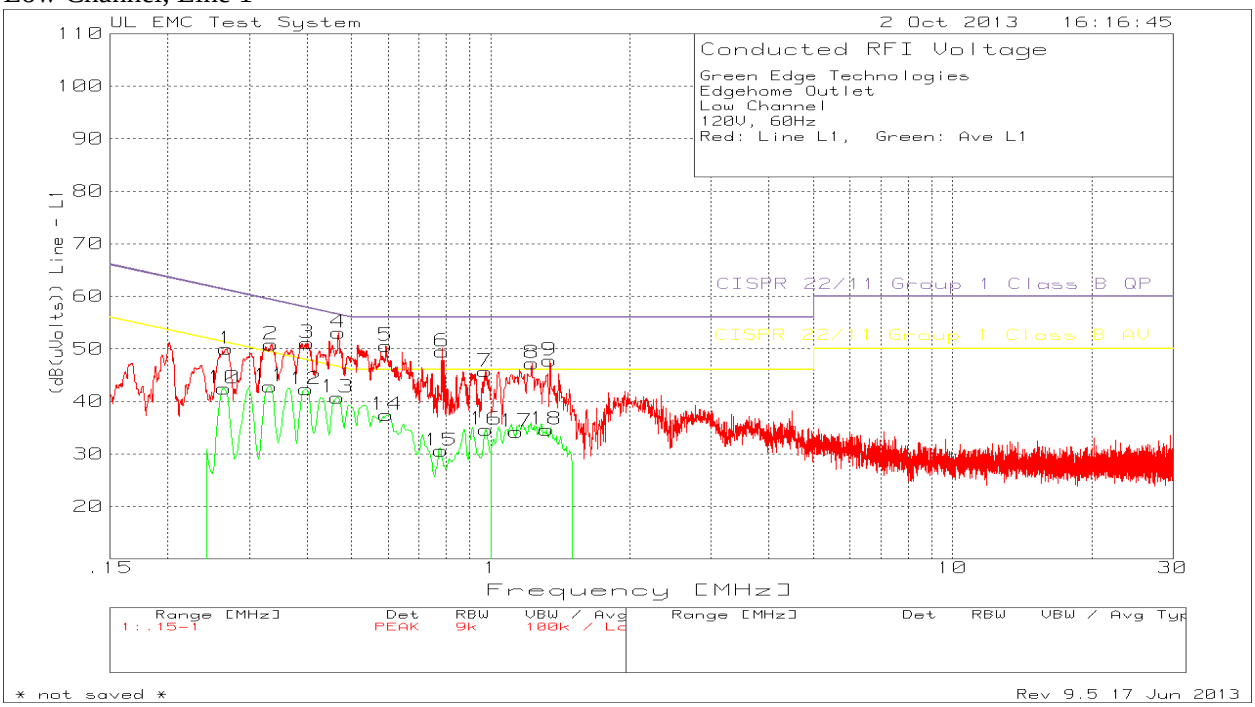
The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.4:2003.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both Line 1 (HOT) and Line 2 (NEUTRAL) lines.

RESULTS

Low Channel, Line 1



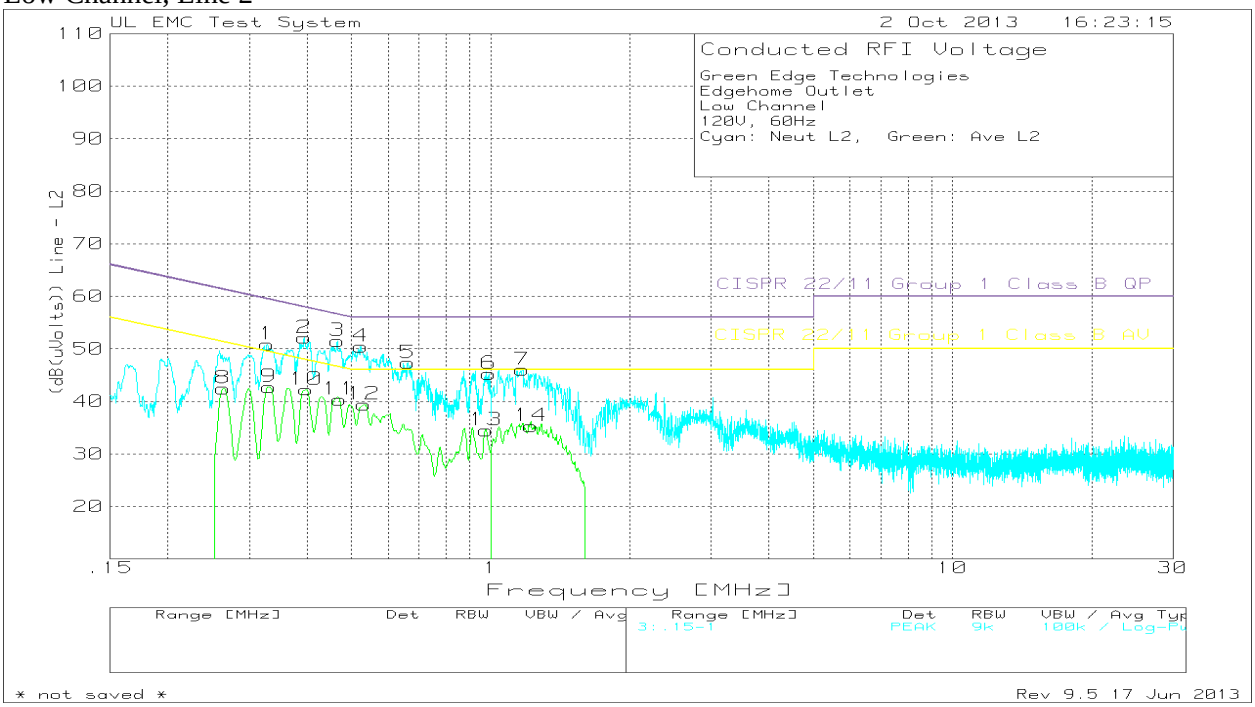
Trace Markers Line 1

No.	Test Frequency [MHz]	Meter Reading	Transducer Factor [dB]	Gain/Loss Factor [dB]	Corrected Reading dBuV	Limits and Margins: 1	2	3	4	5	6
1	.26806	38.79dBuV PK	.1	11.1	49.99	-	-	61.18	51.18	-	-
				Margin [dB]		-	-	-11.19	-1.19	-	-
2	.33495	39.95dBuV PK	.1	10.8	50.85	-	-	59.33	49.33	-	-
				Margin [dB]		-	-	-8.48	1.52	-	-
3	.40152	40.26dBuV PK	.1	10.7	51.06	-	-	57.82	47.82	-	-
				Margin [dB]		-	-	-6.76	3.24	-	-
4	.46809	42.32dBuV PK	.1	10.7	53.12	-	-	56.55	46.55	-	-
				Margin [dB]		-	-	-3.43	6.57	-	-
5	.59316	39.83dBuV PK	.1	10.6	50.53	-	-	56	46	-	-
				Margin [dB]		-	-	-5.47	4.53	-	-
6	.78469	38.84dBuV PK	.1	10.6	49.54	-	-	56	46	-	-
				Margin [dB]		-	-	-6.46	3.54	-	-
7	.97473	35.02dBuV PK	.1	10.6	45.72	-	-	56	46	-	-
				Margin [dB]		-	-	-10.28	-.28	-	-
10	.2652	31.3dBuV Av	.1	11.1	42.5	-	-	61.27	51.27	-	-
				Margin [dB]		-	-	-18.77	-8.77	-	-
11	.3327	31.94dBuV Av	.1	10.8	42.84	-	-	59.38	49.38	-	-
				Margin [dB]		-	-	-16.54	-6.54	-	-
12	.39795	31.48dBuV Av	.1	10.7	42.28	-	-	57.9	47.9	-	-
				Margin [dB]		-	-	-15.62	-5.62	-	-
13	.46545	30.03dBuV Av	0	10.7	40.73	-	-	56.59	46.59	-	-
				Margin [dB]		-	-	-15.86	-5.86	-	-
14	.59595	26.71dBuV Av	.1	10.6	37.41	-	-	56	46	-	-
				Margin [dB]		-	-	-18.59	-8.59	-	-
15	.78045	19.99dBuV Av	0	10.6	30.59	-	-	56	46	-	-
				Margin [dB]		-	-	-25.41	-15.41	-	-
16	.9762	23.96dBuV Av	.1	10.6	34.66	-	-	56	46	-	-
				Margin [dB]		-	-	-21.34	-11.34	-	-
8	1.22818	36.56dBuV PK	.1	10.6	47.26	-	-	56	46	-	-
				Margin [dB]		-	-	-8.74	1.26	-	-
9	1.34407	37.09dBuV PK	.1	10.6	47.79	-	-	56	46	-	-
				Margin [dB]		-	-	-8.21	1.79	-	-
17	1.135	23.5dBuV Av	.1	10.6	34.2	-	-	56	46	-	-
				Margin [dB]		-	-	-21.8	-11.8	-	-
18	1.3195	23.92dBuV Av	.1	10.6	34.62	-	-	56	46	-	-
				Margin [dB]		-	-	-21.38	-11.38	-	-

LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV

PK - Peak detector
Av - Average detector

Low Channel, Line 2



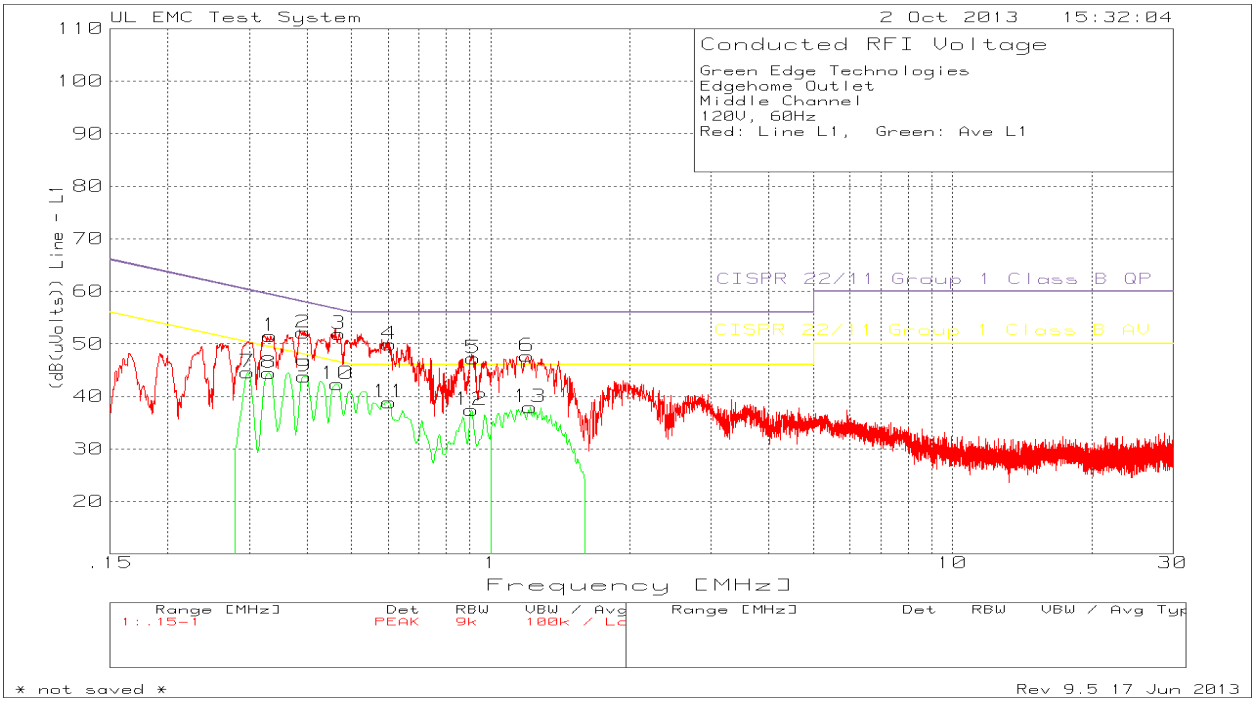
Trace Markers Line 2

No.	Test Frequency [MHz]	Meter Reading	Transducer Factor [dB]	Gain/Loss Factor [dB]	Corrected Reading dBuV	Limits and Margins: 1	2	3	4	5	6
1	.32847	39.92dBuV PK	.1	10.8	50.82	-	-	59.49	49.49	-	-
				Margin [dB]		-	-	-8.67	1.33	-	-
2	.3944	41.2dBuV PK	.1	10.8	52.1	-	-	57.97	47.97	-	-
				Margin [dB]		-	-	-5.87	4.13	-	-
3	.46533	40.66dBuV PK	.1	10.7	51.46	-	-	56.6	46.6	-	-
				Margin [dB]		-	-	-5.14	4.86	-	-
4	.52308	39.73dBuV PK	.1	10.6	50.43	-	-	56	46	-	-
				Margin [dB]		-	-	-5.57	4.43	-	-
5	.66089	36.62dBuV PK	.1	10.6	47.32	-	-	56	46	-	-
				Margin [dB]		-	-	-8.68	1.32	-	-
6	.99023	34.59dBuV PK	.1	10.6	45.29	-	-	56	46	-	-
				Margin [dB]		-	-	-10.71	-.71	-	-
8	.2636	31.28dBuV Av	.1	11.1	42.48	-	-	61.32	51.32	-	-
				Margin [dB]		-	-	-18.84	-8.84	-	-
9	.3311	31.84dBuV Av	.1	10.8	42.74	-	-	59.42	49.42	-	-
				Margin [dB]		-	-	-16.68	-6.68	-	-
10	.3986	31.46dBuV Av	.1	10.7	42.26	-	-	57.88	47.88	-	-
				Margin [dB]		-	-	-15.62	-5.62	-	-
11	.4706	29.56dBuV Av	.1	10.7	40.36	-	-	56.5	46.5	-	-
				Margin [dB]		-	-	-16.14	-6.14	-	-
12	.53135	28.74dBuV Av	.1	10.6	39.44	-	-	56	46	-	-
				Margin [dB]		-	-	-16.56	-6.56	-	-
13	.9791	23.77dBuV Av	.1	10.6	34.47	-	-	56	46	-	-
				Margin [dB]		-	-	-21.53	-11.53	-	-
7	1.17023	35.3dBuV PK	.1	10.6	46	-	-	56	46	-	-
				Margin [dB]		-	-	-10	0	-	-
14	1.225	24.61dBuV Av	.1	10.6	35.31	-	-	56	46	-	-
				Margin [dB]		-	-	-20.69	-10.69	-	-

LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV

PK - Peak detector
Av - Average detector

Middle Channel

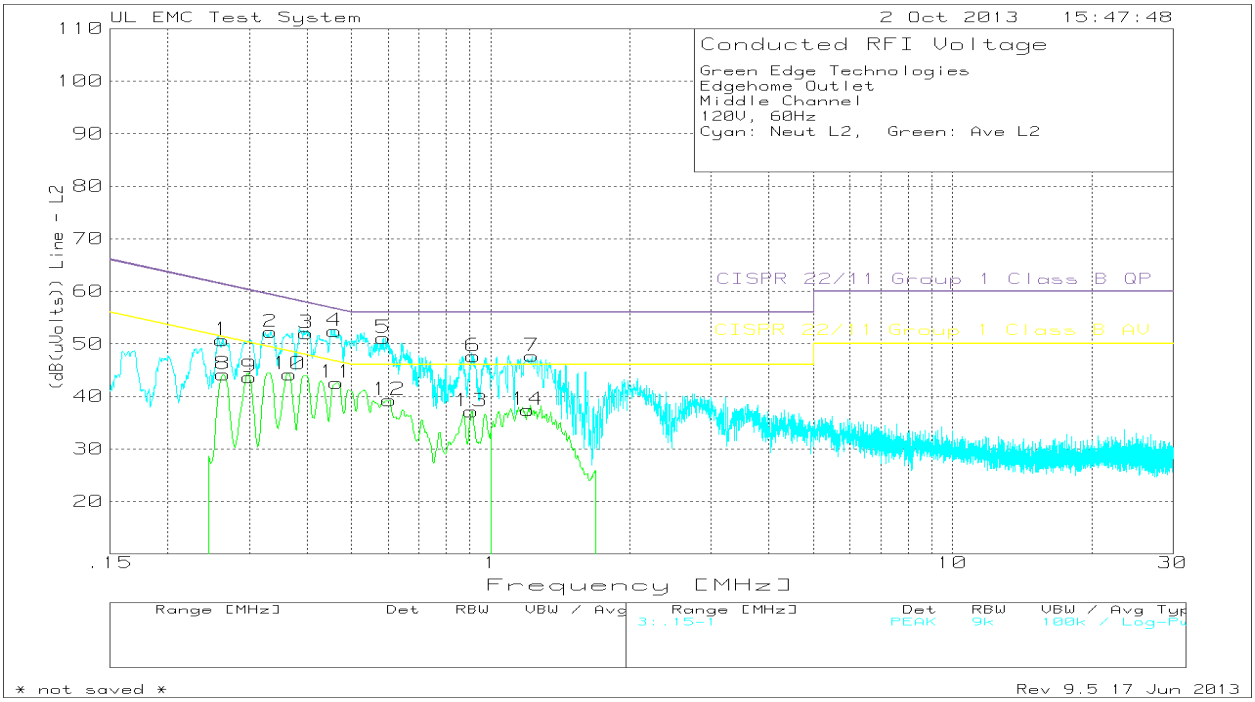


Trace Markers Line 1

No.	Test Frequency [MHz]	Meter Reading	Transducer Factor [dB]	Gain/Loss Factor [dB]	Corrected Reading dBuV	Limits and Margins: 1	2	3	4	5	6
1	.33368	40.56dBuV PK	.1	10.8	51.46	-	-	59.36	49.36	-	-
				Margin [dB]		-	-	-7.9	2.1	-	-
2	.39249	41.22dBuV PK	.1	10.8	52.12	-	-	58.01	48.01	-	-
				Margin [dB]		-	-	-5.89	4.11	-	-
3	.46957	41.08dBuV PK	.1	10.7	51.88	-	-	56.52	46.52	-	-
				Margin [dB]		-	-	-4.64	5.36	-	-
4	.6025	39.28dBuV PK	0	10.6	49.88	-	-	56	46	-	-
				Margin [dB]		-	-	-6.12	3.88	-	-
5	.91867	36.54dBuV PK	.1	10.6	47.24	-	-	56	46	-	-
				Margin [dB]		-	-	-8.76	1.24	-	-
7	.29753	33.62dBuV Av	.1	10.9	44.62	-	-	60.31	50.31	-	-
				Margin [dB]		-	-	-15.69	-5.69	-	-
8	.33128	33.51dBuV Av	.1	10.8	44.41	-	-	59.42	49.42	-	-
				Margin [dB]		-	-	-15.01	-5.01	-	-
9	.39428	32.85dBuV Av	.1	10.8	43.75	-	-	57.97	47.97	-	-
				Margin [dB]		-	-	-14.22	-4.22	-	-
10	.46628	31.55dBuV Av	.1	10.7	42.35	-	-	56.58	46.58	-	-
				Margin [dB]		-	-	-14.23	-4.23	-	-
11	.60353	28.33dBuV Av	0	10.6	38.93	-	-	56	46	-	-
				Margin [dB]		-	-	-17.07	-7.07	-	-
12	.90953	26.7dBuV Av	.1	10.6	37.4	-	-	56	46	-	-
				Margin [dB]		-	-	-18.6	-8.6	-	-
6	1.1992	37.11dBuV PK	0	10.6	47.71	-	-	56	46	-	-
				Margin [dB]		-	-	-8.29	1.71	-	-
13	1.216	27.28dBuV Av	.1	10.6	37.98	-	-	56	46	-	-
				Margin [dB]		-	-	-18.02	-8.02	-	-

LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV

PK - Peak detector
Av - Average detector



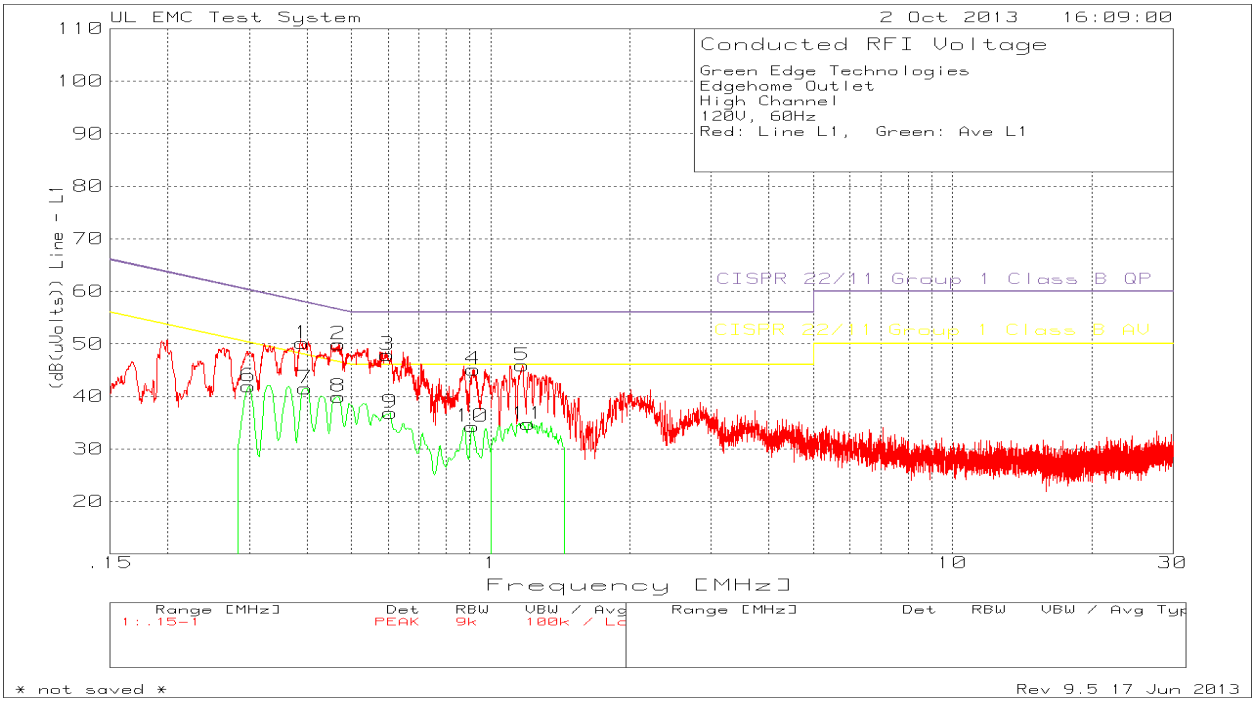
Trace Markers Line 2

No.	Test Frequency [MHz]	Meter Reading	Transducer Factor [dB]	Gain/Loss Factor [dB]	Corrected Reading dBuV	Limits and Margins: 1	2	3	4	5	6
1	.26233	39.51dBuV PK	.1	11.1	50.71	-	-	61.36	51.36	-	-
				Margin [dB]		-	-	-10.65	-.65	-	-
2	.33389	41.35dBuV PK	.1	10.8	52.25	-	-	59.35	49.35	-	-
				Margin [dB]		-	-	-7.1	2.9	-	-
3	.39823	41.21dBuV PK	.1	10.7	52.01	-	-	57.89	47.89	-	-
				Margin [dB]		-	-	-5.88	4.12	-	-
4	.45853	41.68dBuV PK	.1	10.7	52.48	-	-	56.72	46.72	-	-
				Margin [dB]		-	-	-4.24	5.76	-	-
5	.58551	40.44dBuV PK	.1	10.6	51.14	-	-	56	46	-	-
				Margin [dB]		-	-	-4.86	5.14	-	-
6	.91867	36.97dBuV PK	.1	10.6	47.67	-	-	56	46	-	-
				Margin [dB]		-	-	-8.33	1.67	-	-
8	.26308	33dBuV Av	.1	11.1	44.2	-	-	61.33	51.33	-	-
				Margin [dB]		-	-	-17.13	-7.13	-	-
9	.30133	32.71dBuV Av	.1	10.9	43.71	-	-	60.21	50.21	-	-
				Margin [dB]		-	-	-16.5	-6.5	-	-
10	.36658	33.32dBuV Av	.1	10.8	44.22	-	-	58.58	48.58	-	-
				Margin [dB]		-	-	-14.36	-4.36	-	-
11	.46333	31.76dBuV Av	.1	10.7	42.56	-	-	56.63	46.63	-	-
				Margin [dB]		-	-	-14.07	-4.07	-	-
12	.60283	28.58dBuV Av	.1	10.6	39.28	-	-	56	46	-	-
				Margin [dB]		-	-	-16.72	-6.72	-	-
13	.90883	26.5dBuV Av	.1	10.6	37.2	-	-	56	46	-	-
				Margin [dB]		-	-	-18.8	-8.8	-	-
7	1.22818	37.01dBuV PK	.1	10.6	47.71	-	-	56	46	-	-
				Margin [dB]		-	-	-8.29	1.71	-	-
14	1.2025	26.7dBuV Av	.1	10.6	37.4	-	-	56	46	-	-
				Margin [dB]		-	-	-18.6	-8.6	-	-

LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV

PK - Peak detector
Av - Average detector

High Channel

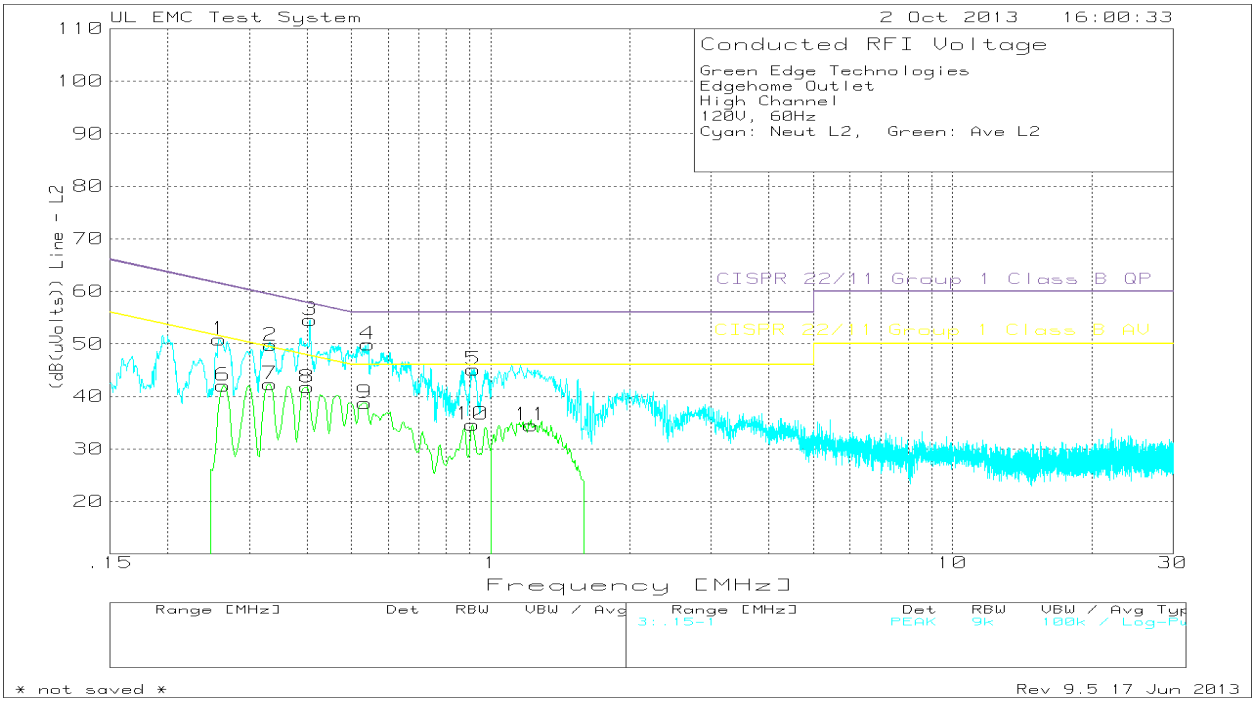


Trace Markers Line 1

No.	Test Frequency [MHz]	Meter Reading	Transducer Factor [dB]	Gain/Loss Factor [dB]	Corrected Reading dBuV	Limits and Margins: 1	2	3	4	5	6
1	.39058	39.21dBuV PK	.1	10.8	50.11	-	-	58.05	48.05	-	-
				Margin [dB]		-	-	-7.94	2.06	-	-
2	.46936	39.11dBuV PK	.1	10.7	49.91	-	-	56.53	46.53	-	-
				Margin [dB]		-	-	-6.62	3.38	-	-
3	.59634	37.21dBuV PK	.1	10.6	47.91	-	-	56	46	-	-
				Margin [dB]		-	-	-8.09	1.91	-	-
4	.91804	34.39dBuV PK	.1	10.6	45.09	-	-	56	46	-	-
				Margin [dB]		-	-	-10.91	-.91	-	-
6	.2994	30.9dBuV Av	.1	10.9	41.9	-	-	60.26	50.26	-	-
				Margin [dB]		-	-	-18.36	-8.36	-	-
7	.39615	30.75dBuV Av	.1	10.7	41.55	-	-	57.93	47.93	-	-
				Margin [dB]		-	-	-16.38	-6.38	-	-
8	.46815	29.18dBuV Av	.1	10.7	39.98	-	-	56.55	46.55	-	-
				Margin [dB]		-	-	-16.57	-6.57	-	-
9	.6054	26.28dBuV Av	0	10.6	36.88	-	-	56	46	-	-
				Margin [dB]		-	-	-19.12	-9.12	-	-
10	.91365	23.59dBuV Av	.1	10.6	34.29	-	-	56	46	-	-
				Margin [dB]		-	-	-21.71	-11.71	-	-
5	1.17023	35.17dBuV PK	.1	10.6	45.87	-	-	56	46	-	-
				Margin [dB]		-	-	-10.13	-.13	-	-
11	1.207	24dBuV Av	.1	10.6	34.7	-	-	56	46	-	-
				Margin [dB]		-	-	-21.3	-11.3	-	-

LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV

PK - Peak detector
Av - Average detector



Trace Markers Line 2

No.	Test Frequency [MHz]	Meter Reading	Transducer Factor [dB]	Gain/Loss Factor [dB]	Corrected Reading dBuV	Limits and Margins: 1	2	3	4	5	6
1	.25893	39.54dBuV PK	.1	11.2	50.84	-	-	61.47	51.47	-	-
				Margin [dB]		-	-	-10.63	-.63	-	-
2	.33389	38.81dBuV PK	.1	10.8	49.71	-	-	59.35	49.35	-	-
				Margin [dB]		-	-	-9.64	.36	-	-
3	.40608	43.73dBuV PK	.1	10.7	54.53	-	-	57.73	47.73	-	-
				Margin [dB]		-	-	-3.2	6.8	-	-
4	.54241	39.21dBuV PK	.1	10.6	49.91	-	-	56	46	-	-
				Margin [dB]		-	-	-6.09	3.91	-	-
5	.91889	34.46dBuV PK	.1	10.6	45.16	-	-	56	46	-	-
				Margin [dB]		-	-	-10.84	-.84	-	-
6	.26323	30.84dBuV Av	.1	11.1	42.04	-	-	61.33	51.33	-	-
				Margin [dB]		-	-	-19.29	-9.29	-	-
7	.33298	31.43dBuV Av	.1	10.8	42.33	-	-	59.38	49.38	-	-
				Margin [dB]		-	-	-17.05	-7.05	-	-
8	.40048	30.94dBuV Av	.1	10.7	41.74	-	-	57.84	47.84	-	-
				Margin [dB]		-	-	-16.1	-6.1	-	-
9	.53323	28.06dBuV Av	.1	10.6	38.76	-	-	56	46	-	-
				Margin [dB]		-	-	-17.24	-7.24	-	-
10	.91348	23.97dBuV Av	.1	10.6	34.67	-	-	56	46	-	-
				Margin [dB]		-	-	-21.33	-11.33	-	-
11	1.225	23.75dBuV Av	.1	10.6	34.45	-	-	56	46	-	-
				Margin [dB]		-	-	-21.55	-11.55	-	-

LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV

PK - Peak detector
Av - Average detector

8. SETUP PHOTOS

RADIATED RF MEASUREMENT SETUP

X-Axis Photo

Removed for short term confidentiality

Y-Axis Photo

Removed for short term confidentiality

Z-Axis Photo

Removed for short term confidentiality

Overall Radiated Emissions Setup

Removed for short term confidentiality

LINE CONDUCTED EMISSIONS MEASUREMENT SETUP

Removed for short term confidentiality

END OF REPORT