Test Report # 316375A

Equipment Under Test:	DLDNK Lumina RF Room Controller ZLDNK Intellect Room Controller
Test Date(s):	11/7/16 – 11/17/16, 6/4/18
Prepared for:	Dmitriy Moskovkin Leviton Manufacturing Co., Inc. Energy Management, Controls and Automation (EMC&A) 20497 SW Teton Avenue Tualatin, OR 97062

Report Issued by: Shane Dock, EMC Engineer

Signature:

Date: 8/24/2020

Report Reviewed by: Adam Alger, Quality Manager

Signature:

Date: 06/04/2020

Report Constructed by: Shane Dock EMC Engineer

Signature:

Date: 5/2/2018

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Laird Connectivity Test Services in Review

The Laird Connectivity, Inc. laboratory located at W66 N220 Commerce Court Cedarburg, Wisconsin, 53012 USA is recognized through the following organizations:

A2LA – American Association for Laboratory Accreditation

Accreditation based on ISO/IEC 17025:2017 with Electrical (EMC) Scope

A2LA Certificate Number: 1255.01

Scope of accreditation includes all test methods listed herein unless otherwise noted

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Federal Communications Commission (FCC) – USA

Accredited Test Firm Registration Number: 953492

Recognition of two 3 meter Semi-Anechoic Chambers

Government of Canada

Innovation, Science and Economic Development Canada

Accredited U.S. Identification Number: US0218

Recognition of two 3 meter Semi-Anechoic Chambers

1 Test Report Summary

During **11/7/16 – 6/4/18** the Equipment Under Test (EUT), as provided by **Leviton Manufacturing Co., Inc** was tested to the following requirements:

Requirement	Description	Specification	Method	Result
FCC: 15.247 (a)(2) IC: RSS-247 5.2 (a)	Digital Modulation System 6 dB bandwidth	500 kHz	ANSI C63.10	Pass
FCC: 2.1049 IC: RSS-GEN 6.7	Occupied Bandwidth	Reported	ANSI C63.10	Pass
FCC: 15.247 (b)(3) IC: RSS-247 5.4 (d)	Maximum Conducted Output Power	30 dBm	ANSI C63.10	Pass
FCC: 15.247 (e) IC: RSS-247 5.2 (b)	Digital Modulation System Power Spectral Density	8 dBm / 3 kHz	ANSI C63.10	Pass
FCC: 15.247 (d) IC: RSS-247 5.5	RF Spurious Emissions at the Transmitter Antenna Terminal	20 dBc	ANSI C63.10	Pass
FCC: 15.247 (d) IC: RSS-GEN 8.10	Spurious Radiated Emissions in Restricted Bands	FCC 15.209 RSS-GEN 8.9	ANSI C63.10	Pass
FCC: 2.1055 (d) IC: RSS-GEN 6.11	Frequency Stability	Reported	ANSI C63.10	Pass
FCC: 15.207 IC: RSS-GEN 8.8	AC Power Line Conducted Emissions	0.150-30 MHz	ANSI C63.10	Pass

Notice:

The results relate only to the item tested and described in this report. Any modifications made to the equipment under test after the specified test date(s) may invalidate the data herein.

If the resulting measurement margin is seen to be within the uncertainty value, as listed in this report, the possibility exists that this unit may not meet the required limit specification if subsequently tested.

2 CLIENT INFORMATION

Company Name	Leviton Manufacturing Co., Inc
Contact Person	Dmitriy Moskovkin
Address	20497 SW Teton Ave Tualatin, OR 97062

2.1 Equipment Under Test (EUT) Information

The following information has been supplied by the client

Product Name	DLDNK Lumina RF Room Controller ZLDNK Intellect Room Controller
Model Number	DLDNK-01W, DLDNK-02W, DLDNK – 04W, DLDNK-08W ZLDNK-01W, ZLDNK-02W, ZLDNK – 04W, ZLDNK-08W
Serial Number	Engineering Sample
FCC/IC ID	FCC: QGH-DLDNK IC: 2473A-DLDNK

2.2 Product Description

Lumina RF/Intellect Room Controller

1/2/4/8 Button multi-function Bluetooth keypad with room controller and LED feedback functionality. NEMA form factor.

2.3 Modifications Incorporated for Compliance

None noted at time of test

2.4 Deviations and Exclusions from Test Specifications

None noted at time of test

2.5 Additional Information

EUT's BLE radio programmed via Smart RF Studio per channel plan listed below. Unit powered with 120 VAC, 60 Hz. The EUT has 8 variants. Each variant has 1, 2, 4, or 8 buttons and can have either the Intellect or Lumina RF firmware. Test data presented here is from the 8 button variant.

2.6 Channel Plan

EUT emissions tested for Low Mid and High Channel for the BLE radio.

Low – 2402 MHz

Mid – 2440 MHz

High – 2480 MHz

All power settings set in test software to 0.

3 REFERENCES

Publication	Edition	Date
CFR 47 Part 15	-	2020
ANSI C63.10	-	2013
RSS-247	2	2017
RSS GEN	5	2018

4 UNCERTAINTY SUMMARY

Using the guidance of the following publications the calculated measurement uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level, using a coverage factor of k = 2.

References	Version / Date
CISPR 16-4-1	Ed. 2 (2009-02)
CISPR 16-4-2	Ed. 2 (2011-06)
CISPR 32	Ed. 1 (2012-01)
ANSI C63.23	2012
A2LA P103	February 4, 2016
A2LA P103c	August 10, 2015
ETSI TR 100-028	V1.3.1 (2001-03)

Measurement Type	Configuration	Uncertainty ±
Radiated Emissions	Biconical Antenna	5.0 dB
Radiated Emissions	Log Periodic Antenna	5.3 dB
Radiated Emissions	Horn Antenna	4.7 dB
AC Line Conducted Emissions	Artificial Mains Network	3.4 dB
Telecom Conducted Emissions	Asymmetric Artificial Network	4.9 dB
Disturbance Power Emissions	Absorbing Clamp	4.1 dB
Radiated Immunity	3 Volts/meter	2.2 dB
Conducted Immunity	CDN/EM/BCI	2.4/3.5/3.4 dB
EFT Burst/Surge	Peak pulse voltage	164 volts
ESD Immunity	15 kV level	1377 Volts

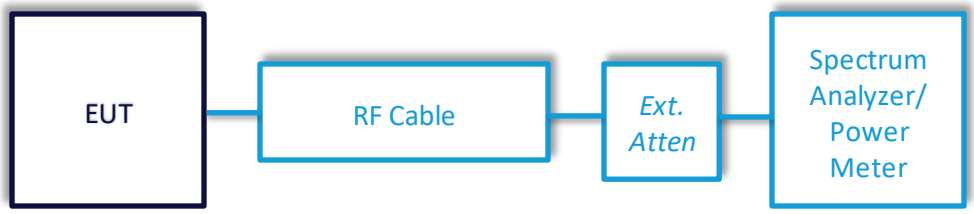
Parameter	ETSI U.C. ±	U.C. ±
Radio Frequency, from F0	$1x10^{-7}$	$0.55x10^{-7}$
Occupied Channel Bandwidth	5 %	2 %
RF conducted Power (Power Meter)	1.5 dB	1.2 dB
RF conducted emissions (Spectrum Analyzer)	3.0 dB	1.7 dB
All emissions, radiated	6.0 dB	5.3 dB
Temperature	1° C	0.65° C
Humidity	5 %	2.9 %
Supply voltages	3 %	1 %

5 TEST DATA

5.1 Antenna Port Conducted Emissions

Description of Measurement	The direct measurement of emissions at the antenna port of the EUT is achieved by use of a RF connection to a spectrum analyzer or power meter. The cable and attenuator factors are loaded into the analyzer or power meter allowing for direct measurement readings without the need for further corrections.
Example Calculations	Measurement (dBm) + Cable factor (dB) + External Attenuator (dB) = Corrected Reading (dBm) Margin (dB) = Limit (dBm) – Corrected Reading (dBm)

Block Diagram



5.1.1 Antenna Port Conducted Emissions – Bandwidth

Operator	Shane Dock
Test Date	11/16/16
Location	Conducted RF Measurement Area
Temp. / R.H.	70-74 degrees F/ 30-42% RH
Requirement	OBW: FCC: 2.1049 IC: RSS-GEN 6.7 DTS BW: FCC: 15.247 (a)(2) IC: RSS-247 5.2 (a)
Method	ANSI C63.10 Section 6.9.2, 11.8

Limits:

6 dB BW (MHz)
> 500

Test Parameters

Frequency	2402, 2440, 2480 MHz

Tables

Channel	Low	Mid	High
6dB BW (kHz)	678.3	679.4	685.5
99% BW (kHz)	1053.8	1055.7	1050.9

Instrumentation

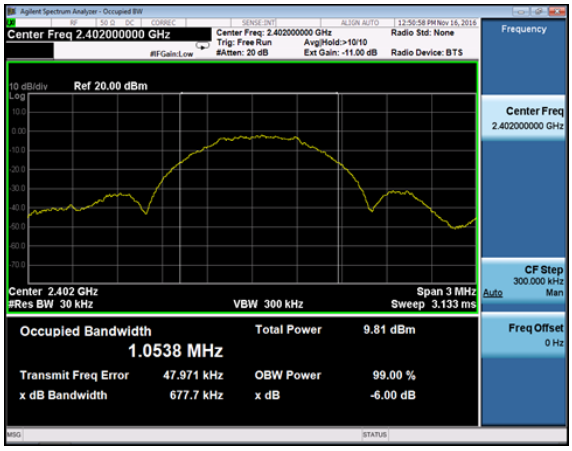
LSR a Laird Business

Date : 3-Nov-2016 Type Test : Conducted Radio Job # : C-2584

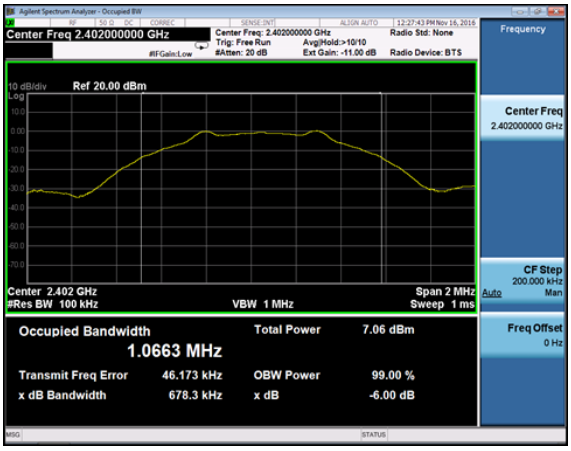
Prepared By: Shane Dock Customer : Leviton LES Quote #: 316375

No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	EE 960087	44GHz EXA Spectrum Analyzer	Agilent	N9010A	MY53400296	12/18/2015	12/18/2016	Active Calibration
2	AA 960143	Phaseflex	Gore	EKD01D01048.0	5546519	6/26/2015	6/26/2017	Active Calibration

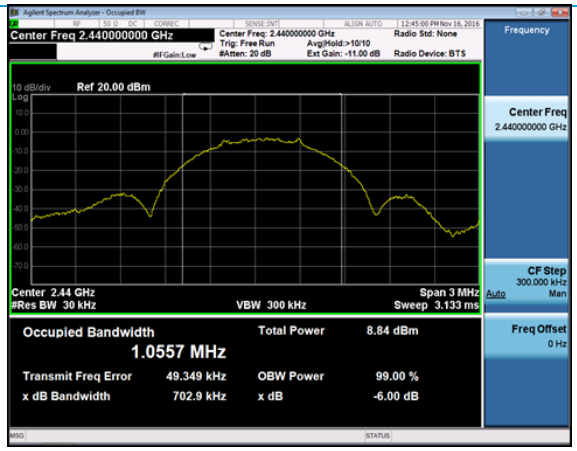
Plots



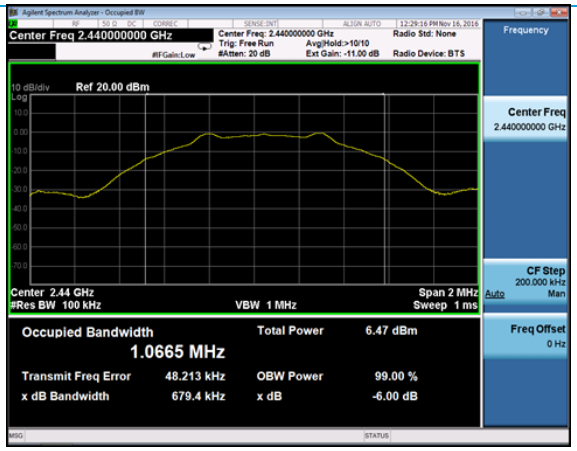
99% BW Low



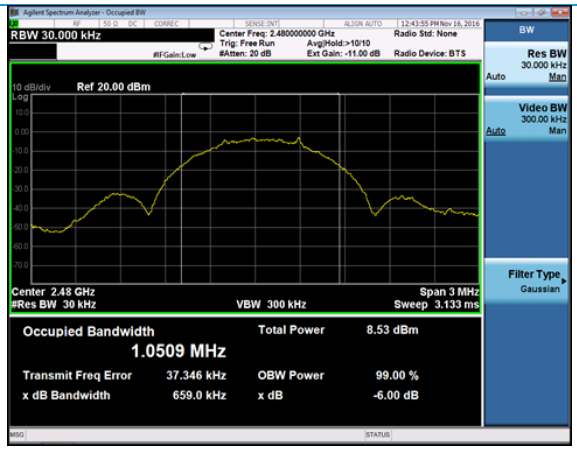
6 dB BW Low



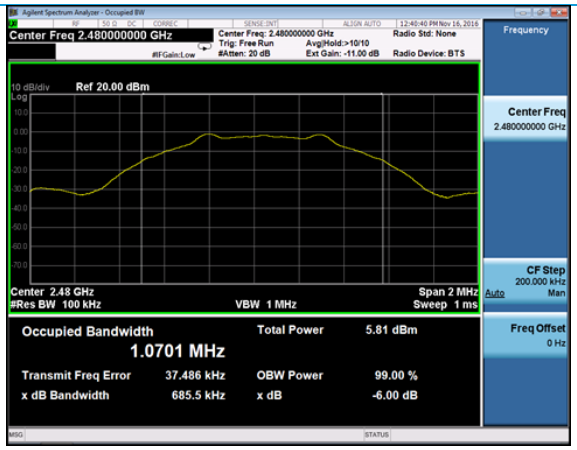
99% BW Mid



6 dB BW Mid



99% BW High



6 dB BW High

5.1.2 Antenna Port Conducted Emissions – Maximum Conducted Output Power

Operator	Shane Dock
Test Date	11/16/16, 6/4/18
Location	Conducted RF Measurement Area
Temp. / R.H.	70-74 degrees F/ 30-42% RH
Requirement	FCC: 15.247 (b)(3) IC: RSS-247 5.4 (d)
Method	ANSI C63.10 Section 11.9.1.1

Limits:

Maximum Conducted Output Power (watts)	Maximum Conducted Output Power (dBm)
1	30

Test Parameters

Frequency	2402, 2440, 2480 MHz
RBW	3 MHz
Notes	On 6/4/18, original data was affirmed to be equivalent or lower within the bounds of the uncertainty of the measurement. 11/16/16 data reported as worst-case.

Table

Channel	Low	Mid	High
Power Setting	0 dBm	0 dBm	0 dBm
Pout Conducted (dBm)	0.382	-0.194	-0.927

Worst Case Margin = 30.000 dBm – (0.382 dBm) = 29.618 dB

Instrumentation

Date : 3-Nov-2016 Type Test : Conducted Radio Job # : C-2584

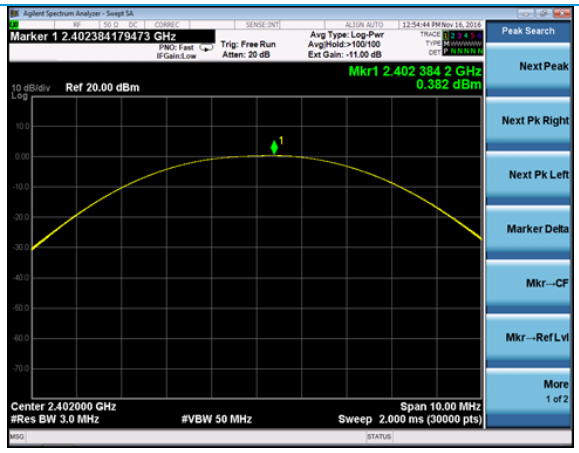
Prepared By: Shane Dock Customer : Leviton LES Quote #: 316375

No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	EE 960087	44GHz EXA Spectrum Analyzer	Agilent	N9010A	MY53400296	12/18/2015	12/18/2016	Active Calibration
2	AA 960143	Phaseflex	Gore	EKD01D01048.0	5546519	6/26/2015	6/26/2017	Active Calibration

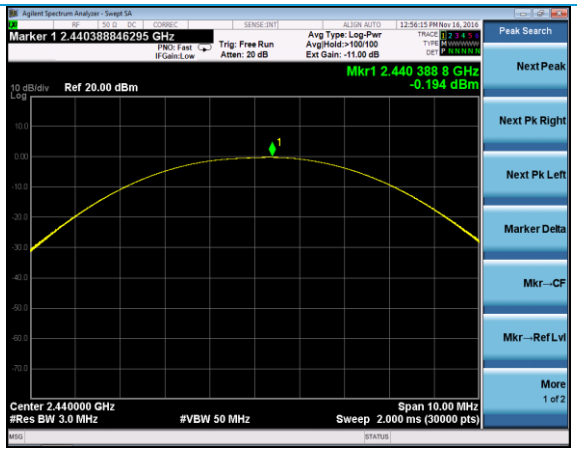
6-4-18 Measurements

No.	Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due Date	Equipment Status
1	EE 960087	Analyzer - Spectrum	Agilent	N9010A	MY53400296	4/25/2018	4/25/2019	Active Calibration
2	AA 960143	Cable	Gore	EKD01D01048.0	5546519	11/15/2017	11/15/2018	Active Verification

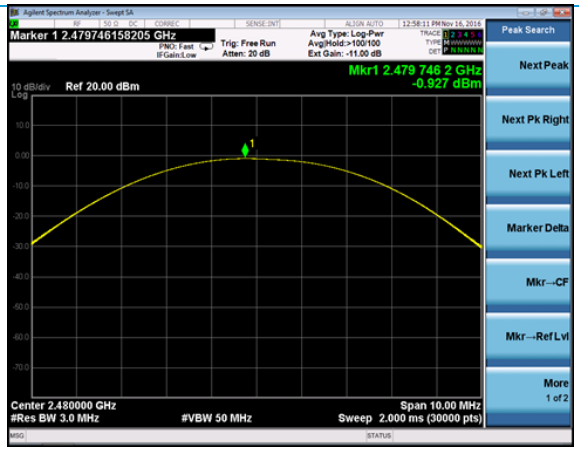
Plots



Low Channel Pout



Mid Channel Pout



High Channel Pout

5.1.3 Antenna Port Conducted Emissions – RF Spurious Emissions

Operator	Shane Dock
Test Date	11/16/16, 6/4/18
Location	Conducted RF Measurement Area
Temp. / R.H.	70-74 degrees F/ 30-42% RH
Requirement	FCC: 15.247 (d) IC: RSS-247 5.5
Method	ANSI C63.10 Section 11.11

Limits:

RF Spurious Limit
20 dBc

Test Parameters

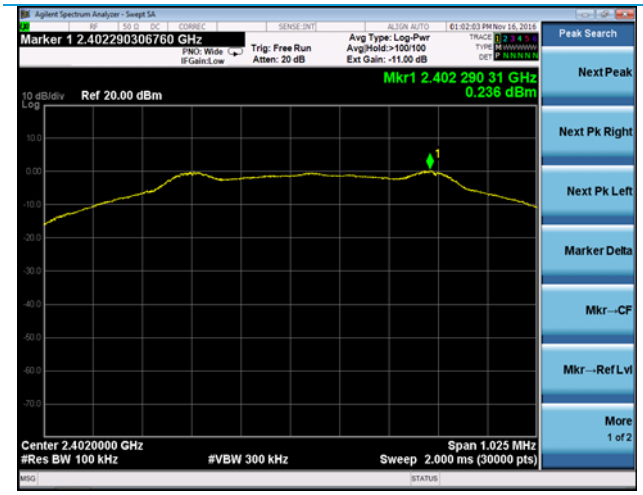
Frequency	30-25000 MHz
Settings	2402, 2440, 2480 MHz Channels
RBW	100k
VBW	300k
Trace	Max Hold
Detector	Peak
Note	All emissions are >20 dB below the limit.

Data

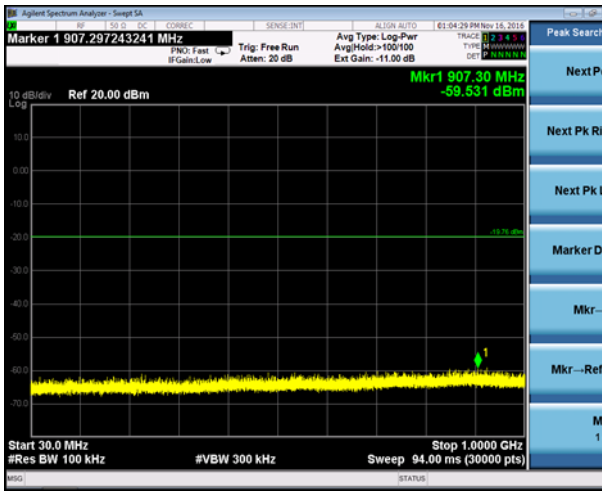
Frequency (MHz)	Measurement (dBm)	Limit (dBm)	Margin (dB)	Channel
2399.3	-42.4	-19.8	22.6	Low
2485.3	-47.4	-19.8	27.7	High

Plots

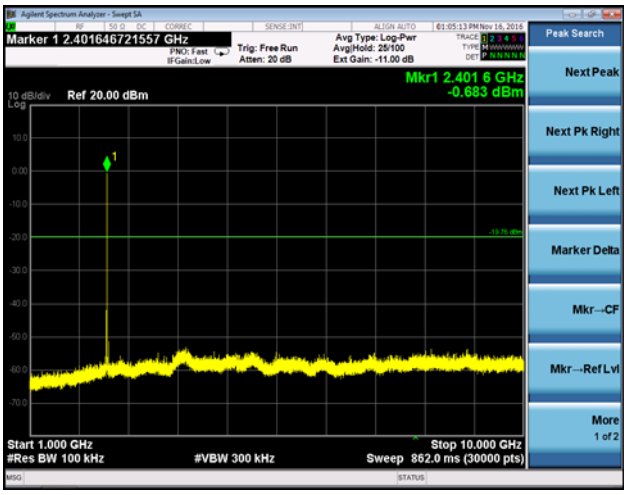
Reference Levels (Worst-Case Shown)



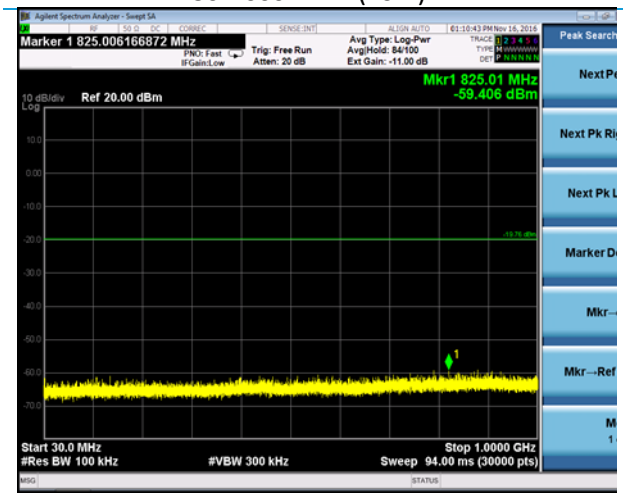
Low Channel (Limit = 19.764 dBm)



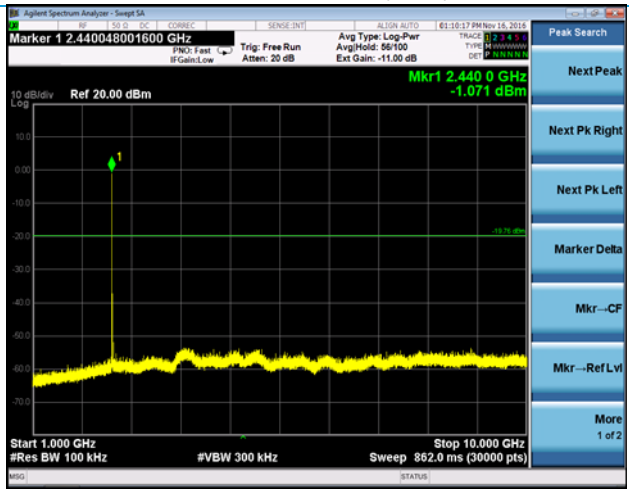
30-1000 MHz (Low)



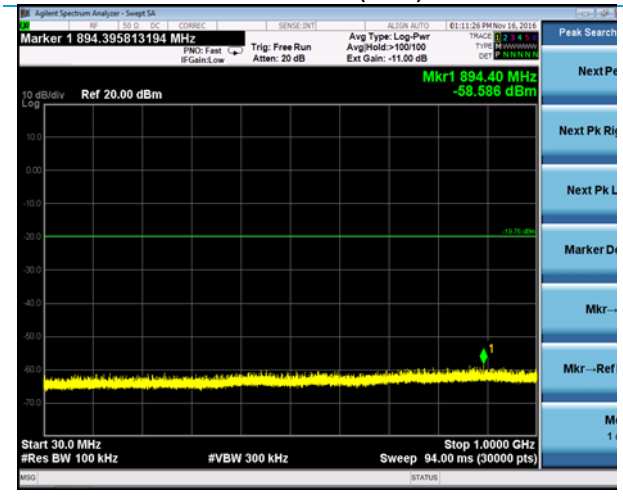
1000-10000 MHz (Low)



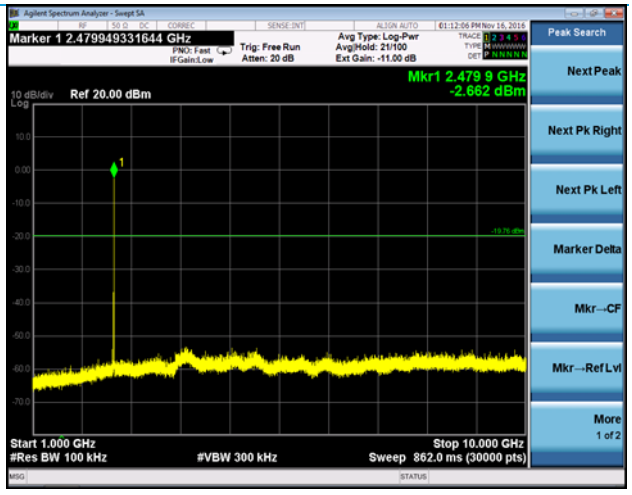
30-1000 MHz (Mid)



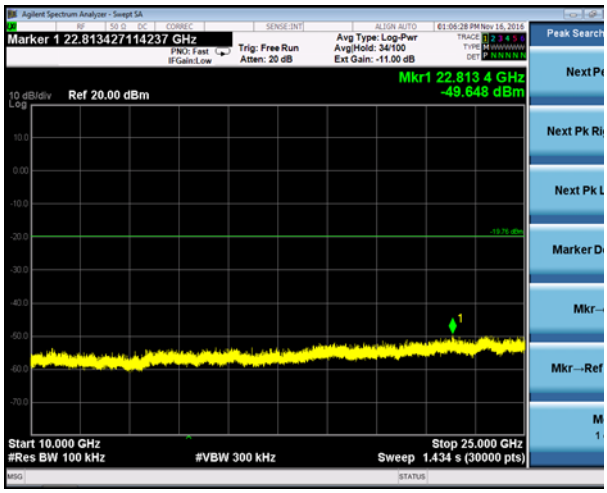
1000-10000 MHz (Mid)



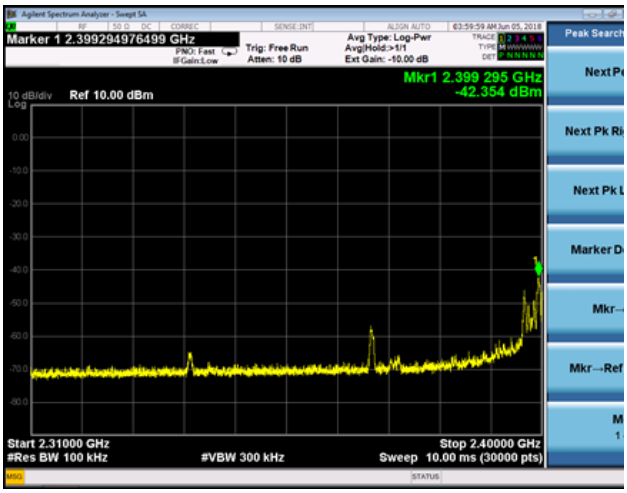
30-1000 MHz (High)



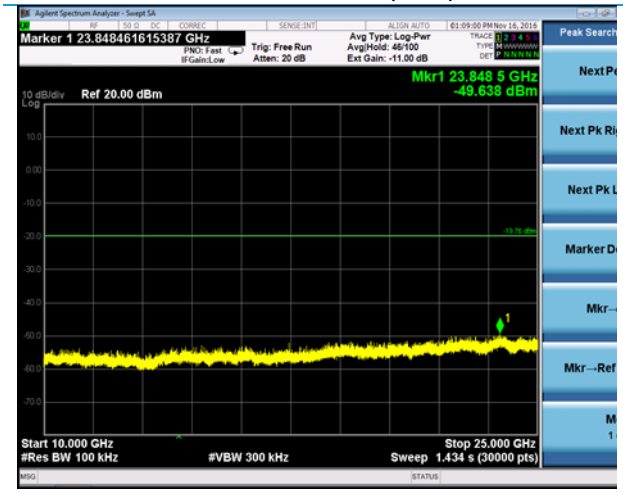
1000-10000 MHz (High)



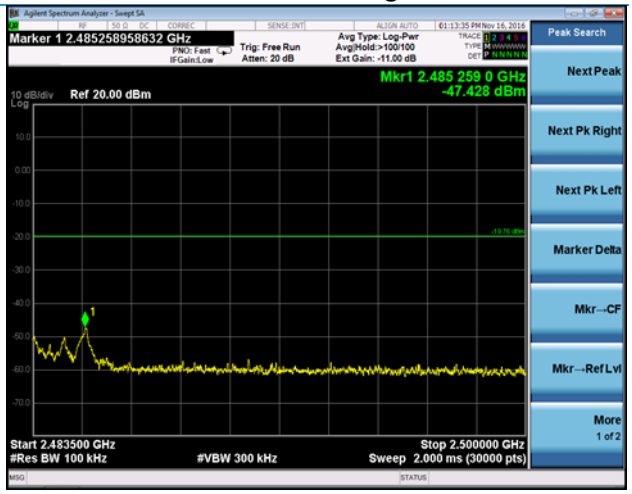
10000-25000 MHz (Low)



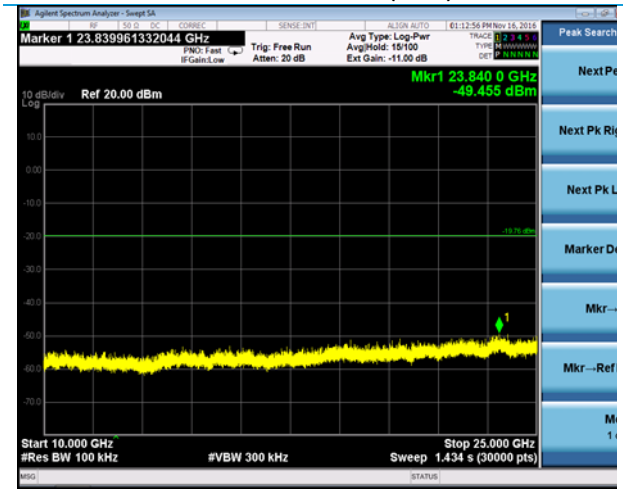
Lower Band Edge



10000-25000 MHz (Mid)



Upper Band Edge



10000-25000 MHz (High)

5.1.4 Antenna Port Conducted Emissions – Power Spectral Density

Operator	Shane Dock
Test Date	11/16/16
Location	Conducted RF Measurement Area
Temp. / R.H.	70-74 degrees F/ 30-42% RH
Requirement	FCC: 15.247 (e) IC: RSS-247 5.2 (b)
Method	ANSI C63.10 Section 11.10.2

Limits:

PSD (dBm/3 kHz)
< 8

Test Parameters

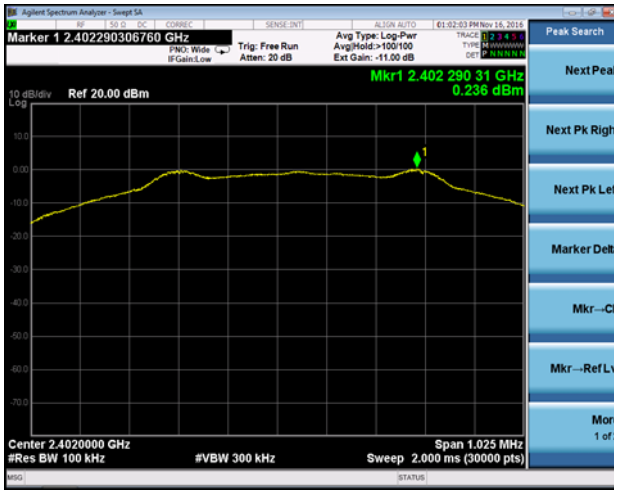
Frequency	2402, 2440, 2480 MHz
RBW	100kHz
VBW	300kHz
Trace	Max Hold
Detector	Peak

Table

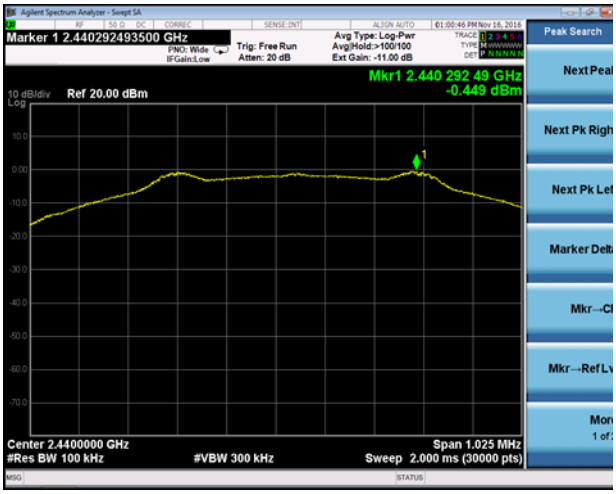
Channel	Low	Mid	High
PSD (dBm)	0.236	-0.449	-1.224

Worst Case Margin = 8.000 dBm – 0.236 dBm) = 7.764 dB

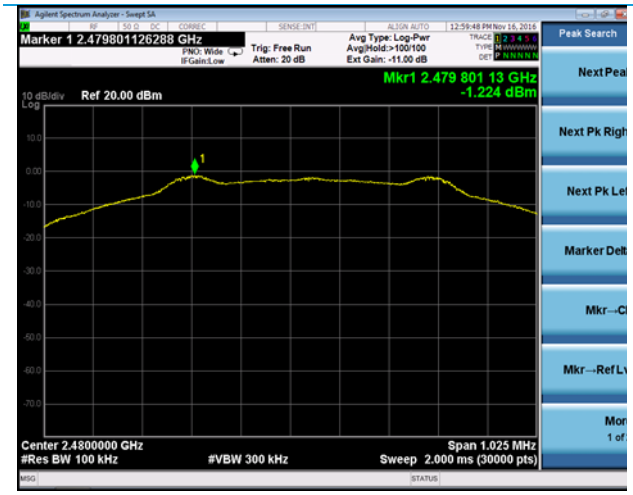
Plots



Low Channel



Mid Channel



High Channels

5.1.5 Antenna Port Conducted Emissions – Frequency Stability

Operator	Shane Dock
Test Date	11/16/16
Location	Conducted RF Measurement Area
Temp. / R.H.	70-74 degrees F/ 30-42% RH
Requirement	FCC: 2.1055 (d) IC: RSS-GEN 6.11
Method	ANSI C63.10 Section 6.8

Test Parameters

Frequency	2402, 2440, 2480 MHz
Channels	Low, Mid, High
Frequencies (Nominal)	2402, 2440, 2480 MHz
Voltages	See below

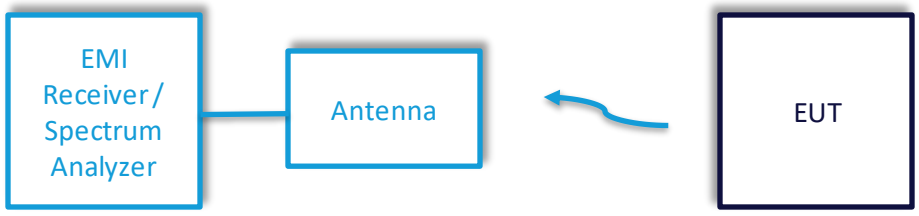
Table (Values below listed in GHz at the given voltages unless otherwise listed)

Channel	102 VAC	120 VAC	138 VAC	Deviation (Hz)
Low	2.40204175	2.44003258	2.48002125	8830
Mid	2.40203892	2.44005225	2.48005959	19670
High	2.40203292	2.44005192	2.48006459	43340

5.2 Radiated Emissions

Description of Measurement	The frequency spectrum is investigated for intentional and / or unintentional signals emanating from the EUT by use of a standardized test site and measurement antenna. The antenna, cable, pre-amp, and other necessary measurement system correction factors are loaded onto the EMI receiver / spectrum analyzer when the measurements are performed allowing the data to be gathered and reported as corrected values. The maximum emissions from the EUT are determined by turn-table azimuth rotation (360°) and scanning of the measurement antenna. Maximized levels are noted at degree values of azimuth, measurement antenna height, and measurement antenna polarity.
Example Calculations	Measurement (dBµV) + Cable factor (dB) + Other (dB) + Antenna Factor (dB/m) = Corrected Reading (dBµV/m) Margin (dB) = Limit (dBµV/m) - Corrected Reading (dBµV/m) Example at 4000 MHz: Reading = 40 dBµV + 3.4 dB + 0.9 dB + 6.5 dB/m = 50.8 dBµV/m Average Limit = 20 log (500) = 54 dBµV/m Margin = 54 dBµV/m - 50.8 dBµV/m = 3.2 dB

Block Diagram



5.2.1 Radiated Emissions

Operator	Shane Dock
Test Date	11/14/17
Location	Chamber 5, Chamber 3
Temp. / R.H.	70-74 degrees F/ 30-42% RH
Requirement	FCC: 15.247 (d) IC: RSS-GEN 8.10
Method	ANSI C63.10 Sections 6.5 and 6.6

Limits:

	30-88 MHz	88-216 MHz	216 – 960 MHz	960+ MHz
Field Strength (µV/m)	100	150	200	500
Field Strength (dBµV/m)	40.0	43.5	46.0	54.0

Test Parameters

Frequency	30-25000 MHz
Distance	3m
Settings	Unit tested at Low, Mid, High Channels
Settings	RBW = 120kHz, VBW 1.2 MHz (<1 GHz) RBW = 1 MHz, VBW = 3 MHZ (>1 GHz) Average Measurement VBW = 10 Hz (Duty Cycle is continuous)
Notes	Measurements taken in restricted bands. For measurements above 1 GHz, antenna used with a tilt gear to keep EUT within the cone of radiation. Absorbers were also added to the floor of the chamber while measuring emissions above 1 GHz. Emissions under 1 GHz are not a function of Tx Mode.
Example Calculation	Limit (dBµV) = 20* Log[Limit (µV)] 40 = 20* log (100) Raw Data + Antenna Factor + Cable Factor = Reported Data 19.77 dBµV + 12.50 dB/m + 0.93 dB = 38.80 dBµV/m

Instrumentation

LSR
a Laird Business

Date : 3-Nov-2016 Type Test : Radiated Emissions Job # : C-2584

Prepared By: Shane Dock Customer : Leviton LES Quote #: 316375

No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	AA 960156	Double Ridge Horn Antenna	ETS Lindgren	3117	169300	10/13/2016	10/13/2017	Active Calibration
2	EE 960086	EMI Receiver	Agilent	N9038A	MY51210148	5/12/2016	5/12/2017	Active Calibration
3	AA 960154	High Pass Filter 2.4 GHz	KWM	HPF-L-14186	7272-02	7/25/2016	7/25/2017	Active Calibration
4	AA 960174	Small Horn Antenna	ETS Lindgren	3116C-PA	00206880	4/23/2016	4/23/2017	Active Calibration
5	AA 960150	Biconical Antenna	ETS Lindgren	3110B	0003-3346	2/1/2016	1/31/2017	Active Calibration
6	AA 960163	Log Periodic Antenna	A.H. Systems, Inc.	SAS-512-2	500	3/18/2016	3/18/2017	Active Calibration
7	EE 960088	MXE Spectrum Analyzer	Agilent	N9038A	MY51210138	2/24/2016	2/23/2017	Active Calibration
8	AA 960171	Cable - low loss 6m	A.H. Systems, Inc.	SAC-26G-6	386	3/31/2016	3/31/2017	Active Verification

Project Engineer: Shane Dock Quality Assurance:

Table

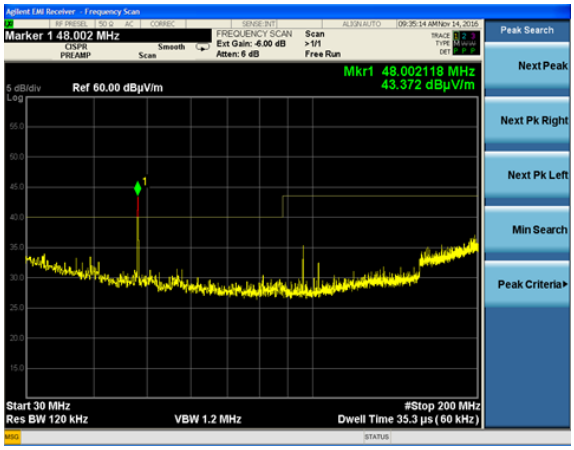
Frequency (MHz)	Orientation	Polarization	Height (cm)	Azimuth (degree)	Peak (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4960	V	H	110.28	246.50	44.2	74.0	29.8	36.9	54.0	17.1
		V	212.57	321.00	45.1	74.0	28.9	39.4	54.0	14.6
	H	H	147.00	277.75	44.1	74.0	29.9	38.1	54.0	15.9
		V	101.47	311.50	43.9	74.0	30.1	37.7	54.0	16.3
	F	H	206.00	21.00	43.5	74.0	30.5	37.0	54.0	17.0
		V	134.52	289.00	43.0	74.0	31.0	35.9	54.0	18.1

Frequency (MHz)	Orientation	Polarization	Height (cm)	Azimuth (degree)	Peak (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)	Average (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
4880	V	V	118.33	322.25	43.7	74.0	30.3	37.1	54.0	16.9
4804	V	V	128.52	278.50	44.8	74.0	29.2	36.5	54.0	17.5

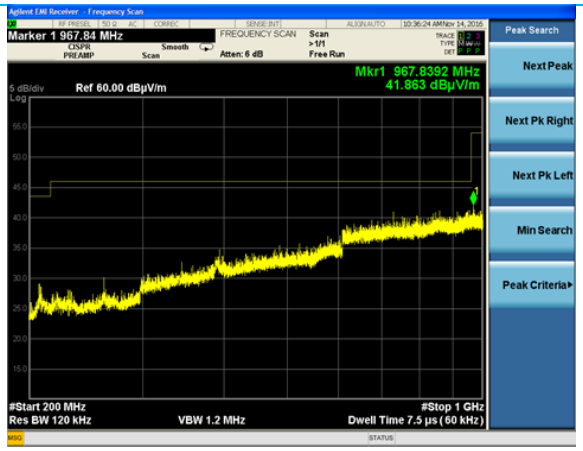
Band Edge	Frequency (MHz)	Peak Measurement (dBuV/m)	Peak Limit (dBuV/m)	Peak Margin (dB)
Lower	2390.0	53.2	74.0	20.8
Upper	2485.6	55.9	74.0	18.1

Band Edge	Frequency (MHz)	Average Measurement (dBuV/m)	Average Limit (dBuV/m)	Average Margin (dB)
Lower	2389.5	42.5	54.0	11.5
Upper	2483.5	46.5	54.0	7.5

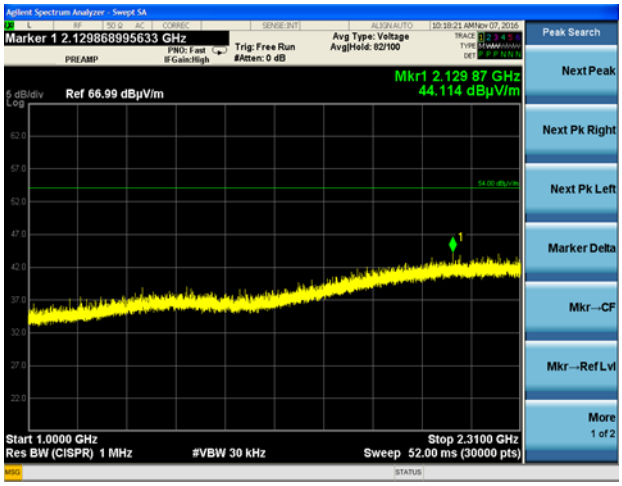
Plots (Worst-Case Shown)



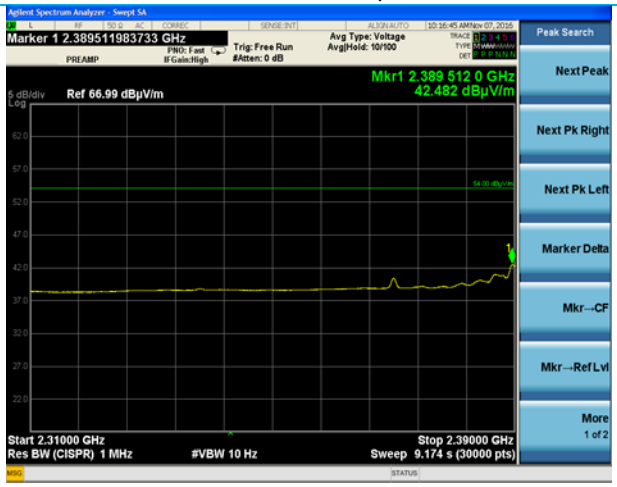
30 – 200 MHz (Low Channel, Vertical Polarization)



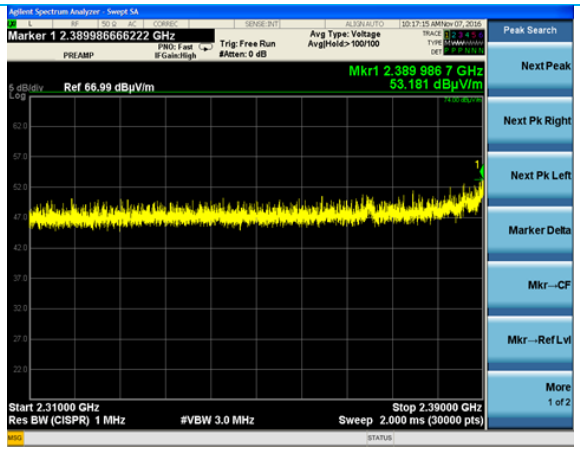
200 – 1000 MHz (Low Channel, Horizontal Polarization)



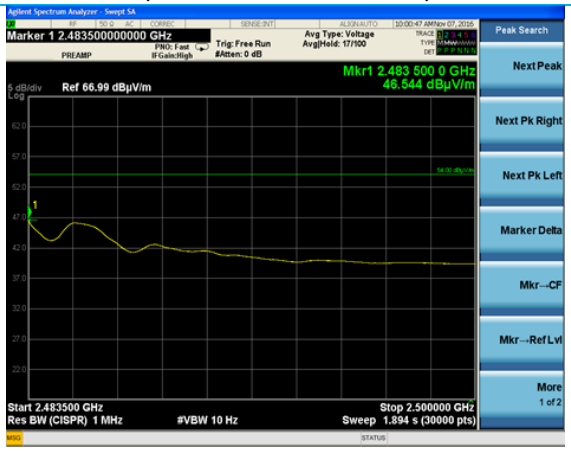
1 – 2.31 GHz (Vertical Polarization, Low Channel)



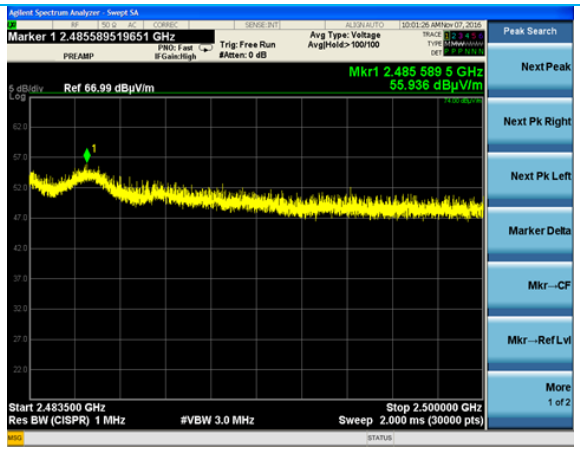
Lower Band Edge (Average, Low Channel) (Horizontal Polarization)



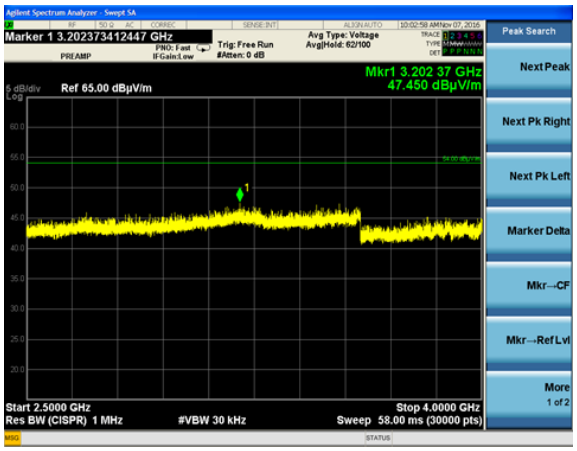
Lower Band Edge (Peak, Low Channel) (Horizontal Polarization)



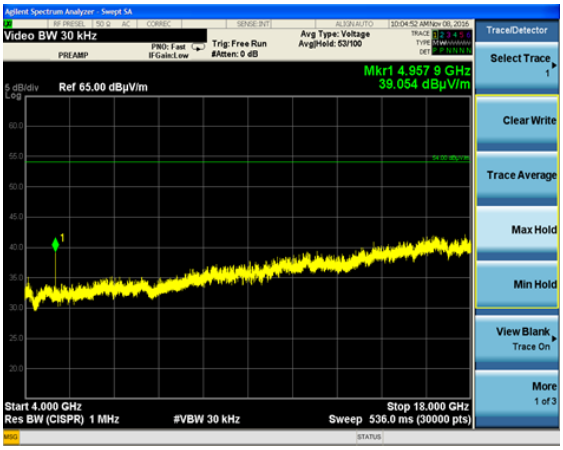
Upper Band Edge (Average, High Channel) (Horizontal Polarization)



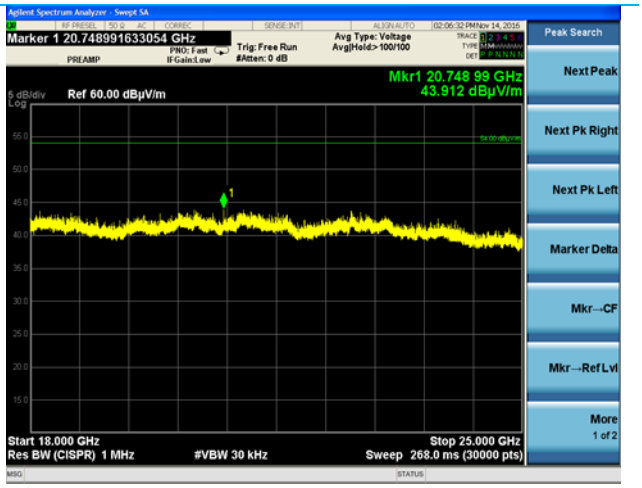
Upper Band Edge (Peak, High Channel) (Horizontal Polarization)



2.5 – 4 GHz (High Channel, Vertical Polarization)



4 – 18 GHz (High Channel, Vertical Polarization)

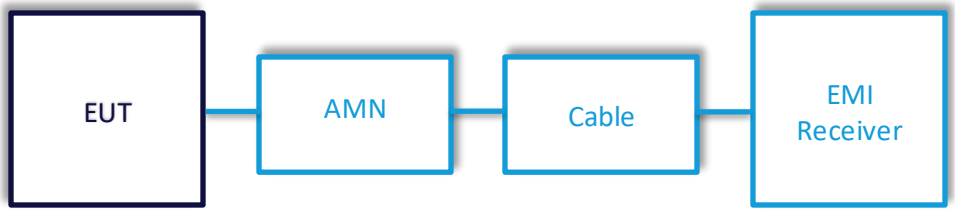


18 – 25 GHz (High Channel, Vertical Polarization)

5.3 AC Mains Conducted Emissions

	A line impedance stabilization network (LISN) or artificial mains network (AMN) allows the emissions of the power supply conductors to be measured while isolating the EUT from the supply mains.
Description of Measurement	The AMN, cable, and other necessary measurement system correction factors are loaded onto the EMI receiver when the measurements are performed. The data is gathered and reported as the corrected values. Maximum emissions are determined with a peak max hold trace then measurements at a selection of the highest points are made with quasi-peak and average detectors. Results are recorded and compared to limit for each line. (e.g. line and neutral)
Example Calculations	Measurement (dBµV) + Cable factor (dB) + Other (dB) = Corrected Reading (dBµV) Margin (dB) = Limit (dBµV) - Corrected Reading (dBµV)

Block Diagram



5.3.1 AC Mains Conducted Emissions

Operator	Zach Wilson
Test Date	11/17/16
Location	EMC Lab
Temp. / R.H.	71 degrees F / 40% RH
Requirement	FCC: 15.207 IC: RSS-GEN 8.8
Method	ANSI C63.10 Section 6.2

Limits:

Frequency of Emission (MHz)	Quasi-Peak Limit (dBuV)	Average Limit (dBuV)
0.15 - 0.50	66 to 56	56 to 46
0.5 – 5	56	46
5-30	60	50

Test Parameters

Frequency	0.15 – 30 MHz
Settings	RBW 9 kHz
Settings	VBW 90 kHz
EUT Power	120V 60 Hz
Channel	Mid Channel Tx mode (Found to be worst-case)

Instrumentation

LSR
a Laird Business

Date: 17-Nov-2016 Type Test: Conducted AC Emissions Job #: C-2584

Prepared By: Zach Wilson Customer: Leviton LES Quote #: 316375

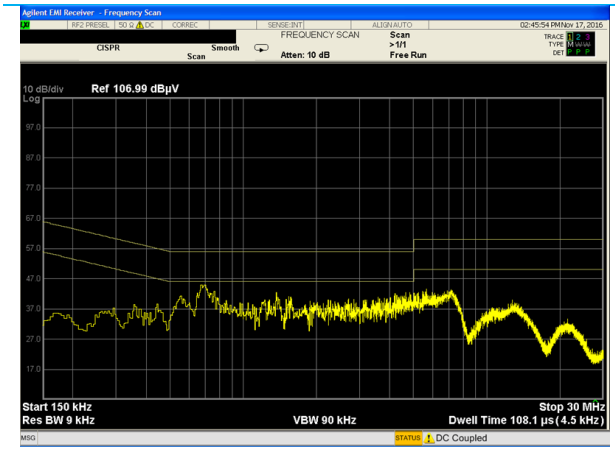
No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	EE 960088	8GHz MXE Spectrum Analyzer	Agilent	N9038A	MY51210138	2/24/2016	2/24/2017	Active Calibration
2	EE 960089	LISN - 15A	COM-POWER	LI-215A	191943	3/8/2016	3/8/2017	Active Calibration
3	EE 960162	LISN - 15A	COM-POWER	LI-215A	191969	8/15/2016	8/15/2017	Active Calibration

Test Technician: Quality Assurance:

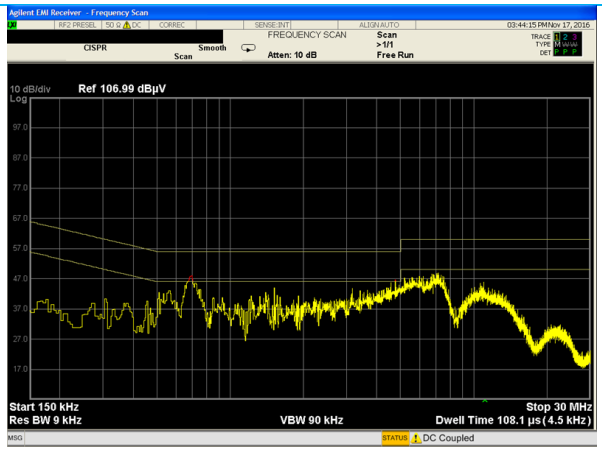
Table

Frequency (MHz)	Line	Q-Peak Reading (dBµV)	Q-Peak Limit (dBµV)	Quasi-Peak Margin (dB)	Average Reading (dBµV)	Average Limit (dBµV)	Average Margin (dB)
0.690	L1	44.6	56.0	11.4	36.1	46.0	9.9
1.398	L1	34.4	56.0	21.6	25.7	46.0	20.4
5.029	L1	37.3	60.0	22.7	27.7	50.0	22.3
0.690	L2	44.1	56.0	11.9	30.7	46.0	15.4
4.760	L2	39.7	56.0	16.3	25.5	46.0	20.5
7.095	L2	44.0	60.0	16.0	29.9	50.0	20.2

Plots



Line 1



Line 2

6 REVISION HISTORY

Version	Date	Notes	Person
V0	5/2/18	First Draft	Shane Dock
V1	6/5/18	Revisions	Shane Dock
V2	5/28/20	Customer Info Added	Shane Dock
V3	6/3/20	Updated report, requirements	Shane Dock
V4	6/4/20	Final Draft	Shane Dock
V5	7/8/2020	TCB Responses	Shane Dock
V6	8/24/20	Further Responses	Shane Dock

END OF REPORT