


National Technical Systems Test Report for Electromagnetic Interference (EMI) Testing of the Verity Scan with Ballot Box

Prepared For

SLI Compliance | 4720 Independence Street | Wheat Ridge, CO 80033 |

Performed By

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A handwritten signature in black ink, appearing to read "Eric L. Halasz", written over a horizontal line.

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iNARTE-Certified
Senior Technical Writer

A handwritten signature in black ink, appearing to read "Eugene DeVito", written over a horizontal line.

Eugene DeVito
EMI Project Engineer

This report and the information contained herein represent the results of testing articles/products identified and selected by the client. The tests were performed to specifications and/or procedures approved by the client. National Technical Systems (NTS) makes no representations expressed or implied that such testing fully demonstrates efficiency, performance, reliability, or any other characteristic of the articles being tested, or similar products. This report should not be relied upon as an endorsement or certification by NTS of the equipment tested, nor does it represent any statement whatsoever as to its merchantability or fitness of the test article or similar products for a particular purpose. This document shall not be reproduced except in full without written approval from NTS.

Revision History

Rev.	Description	Issue Date
0	Initial Release	04/29/2022
1	Changed EUT info on Pages 12 & 15. Added in 1-10 GHz RE data.	05/24/2022
2	Changed EUT info on Pages 13 and 17. Added in the test log for above 1GHz RE testing.	5/24/2022

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1.0 Introduction

This document presents the test procedures used and the results obtained during the performance of an Electromagnetic Interference (EMI) test program. The test program was conducted to assess the ability of the specified Equipment Under Test (EUT) to successfully satisfy the requirements listed in Section 2.0.

2.0 References

The following references listed below form a part of this document to the extent specified herein.

- Test Specification: FCC Part 15
- SLI Compliance Purchase Order(s) 20220207-03, dated 02/07/2022
- National Technical Systems (NTS) Quote(s) OP0607062, dated 02/02/2022
- ISO/IEC 17025:2017(E) *General Requirements for the Competence of Testing and Calibration Laboratories*, dated 11/1/2017

3.0 Product Selection and Description

SLI Compliance selected and provided the test sample(s) to be used as the Equipment Under Test. Details below:

Table 3.0-1: Product Identification - Equipment Under Test (EUT)

Item	Qty.	Name/Description	Serial Number
1	1	Verity Scan with Ballot Box	S2115228806

3.1 Security Classification

Non-classified

4.0 General Test Requirements

4.1 Test Equipment

The instrumentation used in the performance of these tests is periodically calibrated and standardized within manufacturer's rated accuracies and are traceable to the National Institute of Standards and Technology. The calibration procedures and practices are in accordance with ANSI/NCSL Z540-1 and ISO 17025:2017. Certification of calibration is on file subject to inspection by authorized personnel.

4.2 Measurement Uncertainties

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below were calculated using the approach described in CISPR 16-4-2:2003 using a coverage factor of k=2, which gives a level of confidence of approximately 95%. The levels were found to be below levels of CISPR and therefore no adjustment of the data for measurement uncertainty is required.

Table 4.2-1: Measurement Uncertainties

Measurement Type	Measurement Unit	Frequency Range	Expanded Uncertainty
Conducted Emissions	dB μ V or dB μ A	150 kHz – 30 MHz	\pm 2.8 dB
		30-1,000 MHz	\pm 4.2 dB
Radiated Electric Field	dB μ V/m	1,000-10,000 MHz	\pm 6.0 dB



5.0 Test Descriptions and Results

Table 5.0-1: Summary of Test Information & Results

Section	Test	Specification	Test Facility	Test Date	Serial #	Test Result
5.1	Radiated Emissions	FCC Part 15 Class B	Longmont	03/29/2022	S2115228806	Conforms
5.2	Conducted Emissions	FCC Part 15 Class B	Longmont	03/29/2022	S2115228806	Conforms

5.1 Radiated Emissions

5.1.1 Test Procedure

FCC Part 15

5.1.2 Test Result

The Verity Scan with Ballot Box met the specification requirements for Radiated Emissions.

5.1.3 Test Datasheets



National Technical Systems				
Radiated Emissions, FCC Part 15, Class B				
Standard Referenced: FCC Part 15, Class B		Date: 3/26/2022		
Temperature: 21°C	Humidity: 24%	Pressure: 831mb		
Input Voltage: 120Vac, 60Hz				
Configuration of Unit: Verity Scan w/Ballot box fully exercising all features of product.				
Test Engineer: W Koenig				
Date	Time	Log Entries	Initials	Result
3/26/22	0730 - 0800	Performed system verification and ambient scan in 10M #1	WK	---
	0800 - 1030	Radiated Emissions, 30 MHz - 1 GHz. FCC Part 15. Class B. 120 VAC / 60 Hz	WK	Pass

National Technical Systems				
Radiated Emissions, FCC Part 15, Class B				
Standard Referenced: FCC Part 15, Class B		Date: 4/18/2022		
Temperature: 21°C	Humidity: 18%	Pressure: 844 mb		
Input Voltage: 120Vac, 60Hz		Linearity Check: Comply		
Configuration of Unit: Verity Scan w/Ballot box fully exercising all features of product				
Test Engineer: T. Wittig				
Date	Time	Log Entries	Initials	Result
4/18/22	1100	Setup for RE testing	TW	---
	1115	Begin RE testing	TW	---
	1120	Begin RE testing	TW	---
	1300	Completed RE testin 1 to 10 GHz	TW	Pass



National Technical Systems	
Radiated Emissions, FCC Part 15, Class B	
Standard Referenced: FCC Part 15, Class B	Date: 3/26/2022
Temperature: 21°C Humidity: 24%	Pressure: 831mb
Input Voltage: 120Vac, 60Hz	
Configuration of Unit: Verity Scan w/Ballot box fully exercising all features of product.	
Test Engineer: W Koenig	

type refers to the type of measurement performed. The type of measurement made is based on the requirements of the particular standard:

PK = Peak Measurement: RBW is 120kHz, VBW is 3 MHz

QP = Quasi-Peak Measurement: RBW is 120kHz, VBW is 3 MHz, and QP Detection is ENABLED

AV = Video Average Measurement: RBW is 1 MHz, VBW is 10 Hz

The "field strength" (FS) emissions level is attained by adding the received amplitude measured (RA), Antenna factor (AF), and cable factor (CF) minus the amplifier gain (AG). $FS = RA + AF + CF - AG$. Final measurements are made with the Azimuth, Polarity, Height, and EUT Cables positioned for maximum radiation. If applicable, cables positions are noted in the test log.

(Sample Calculation: $49.6 \text{ dBuV} + 11.4 \text{ dB/m} - 28.8 \text{ dB (CF/AG)} = 32.2 \text{ dBuV/m}$. Important Note: This is a sample calculation only for the purpose of demonstration, and does not reflect data in this report.)

The "Azm/Pol/Hgt" indicates the turn-table azimuth, the antenna polarity, and the antenna height where the maximum emissions level was measured.

The "Margin" is with reference to the emissions limit. A positive number indicates that the emission measurement is below the limit. A negative number indicates that the emission measurement exceeds the limit.

The PRESCAN is a peak measurement and is performed with the RBW set to 120 kHz, VBW set to 3 MHz (30 MHz to 1 GHz), and the RBW set to 1 MHz, VBW set to 3MHz (> 1 GHz)

5.1.4 Test Photographs



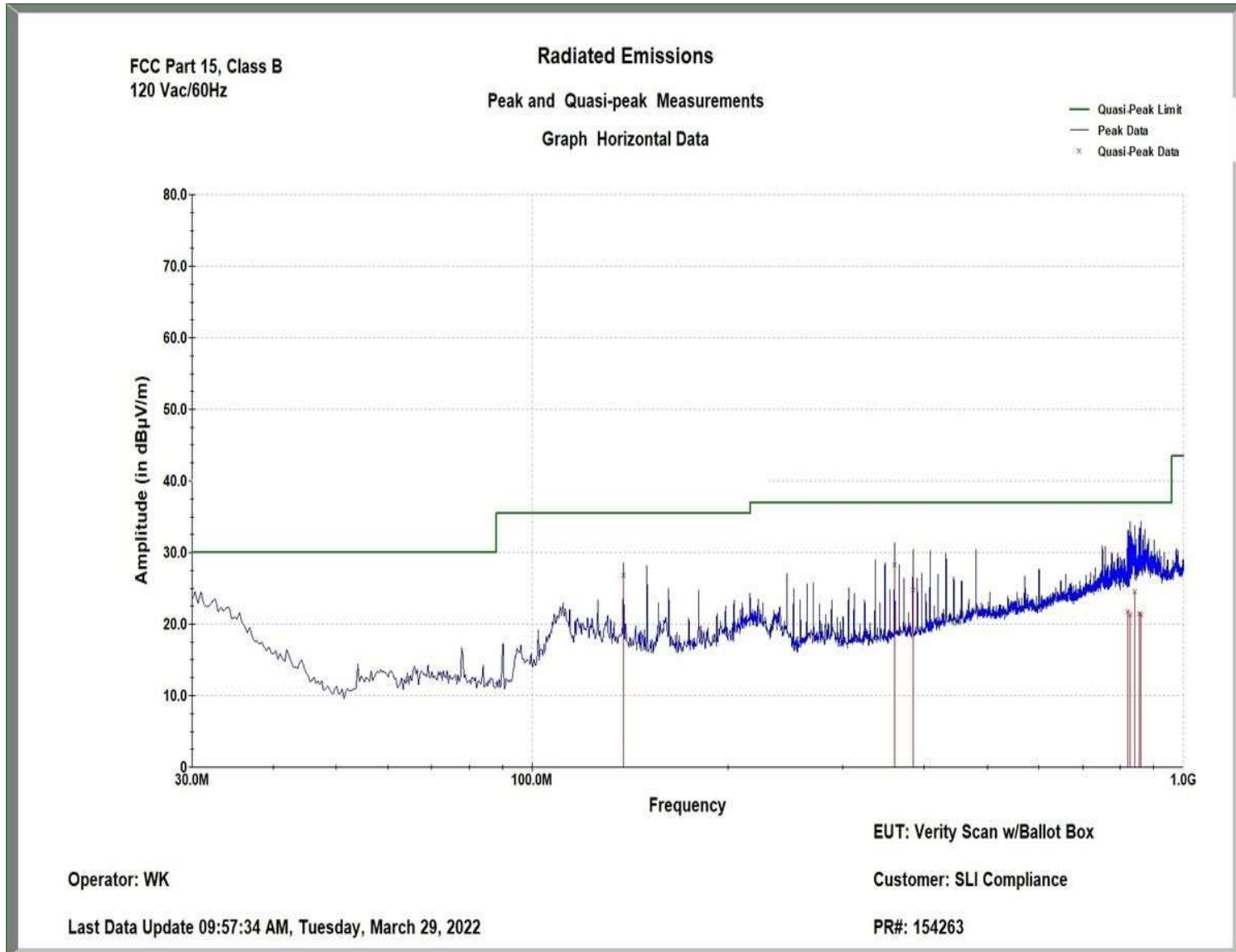
RE Back



RE Front

**RE Left****RE Right**

5.1.5 Test Data





Radiated Emissions
Quasi-peak Measurements

Table: Horizontal Quasi-peaks below 1 GHz

Operator: WKEUT: Verity Scan w/Ballot Box

PR#: 154263

Customer: SLI Compliance

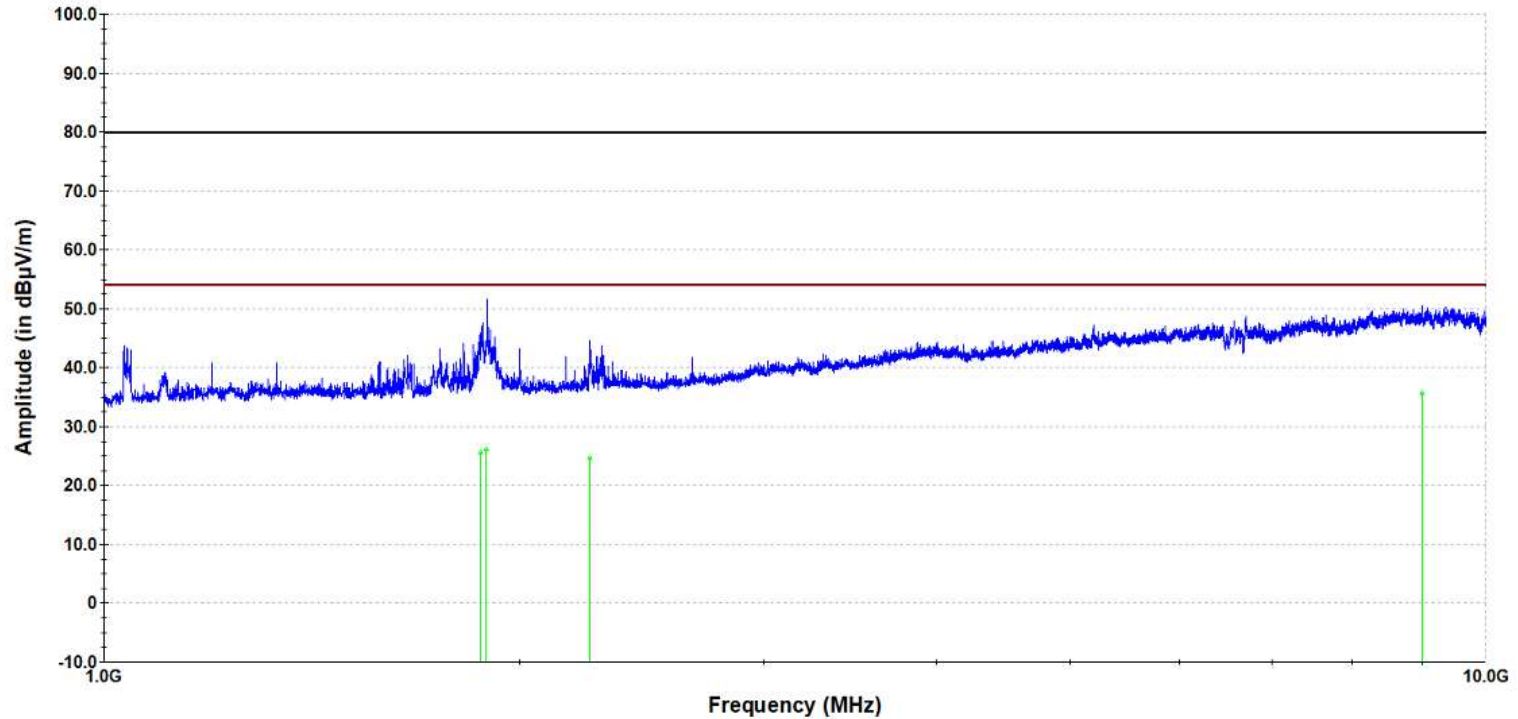
Frequency	Amplitude	Quasi-peak Limit	Delta to Limit	EUT Azimuth	Antenna Height
MHz	in dB μ V/m	in dB μ V/m	in dB	in degrees	in cm
137.993	26.8	35.5	-8.7	277	299
360	28.2	37	-8.8	114	378
384.05	24.8	37	-12.2	123	378
822.167	21.7	37	-15.3	123	100
828.31	21.3	37	-15.7	123	299
841.567	24.5	37	-12.5	123	100
855.147	21.4	37	-15.6	195	100
860.32	21.4	37	-15.6	118	375

FCC Part 15 Class B
120 Vac/60Hz

FCC Part 15 Class B
Verity Controller 3006085
Touch Writer Duo 3006070

Radiated Emissions
Peak and Quasi-peak Data
Graph: Horizontal Data

— Peak Limit
— Average Limit
— Peak Data
* Average Data



Operator: T. Wittig

PR154263 Radiated Emissions 10M-2 1 to 10 GHz FCC 4-19-2022.til

Last Data Update 12:43:05 PM, Tuesday, April 19, 2022

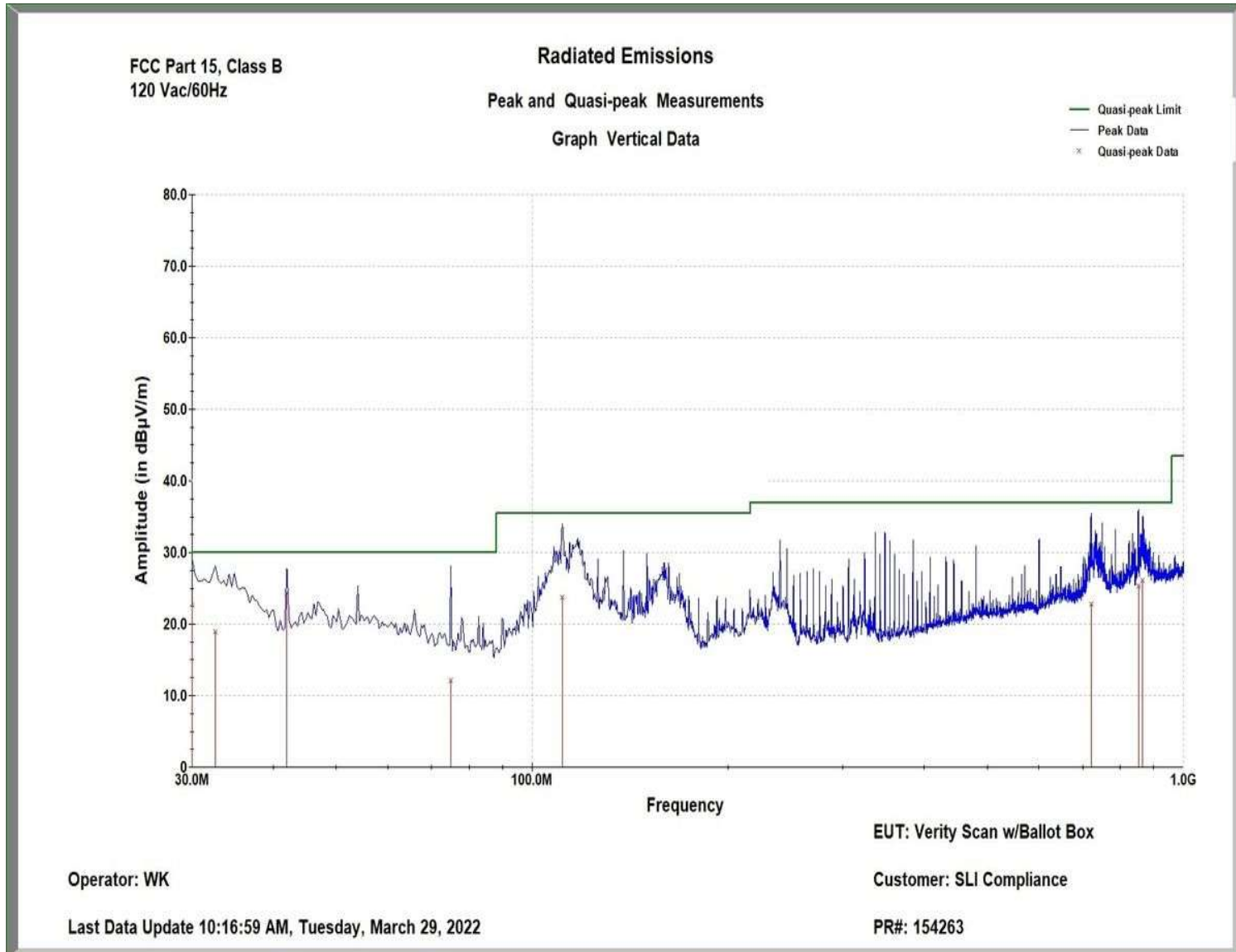
EUT: Verity Controller 3006085

Customer: SLI Compliance

PR#: PR154302



Radiated Emissions					
Average Measurements					
Table: Horizontal Averages above 1 GHz					
Operator: T. Wittig EUT: Verity Scan w/Ballot Box					
PR#: PR154302					
Customer: SLI Compliance					
Frequency	Amplitude	Average Limit	Delta to Limit	EUT Azimuth	Antenna Height
MHz	in dB μ V/m	in dB μ V/m	in dB	in degrees	in cm
1874.5	25.5	54	-28.5	109	109
1892	26.1	54	-27.9	112	113
2248	24.7	54	-29.3	73	305
8997	35.7	54	-18.3	19	198
FCC Part 15 Class B					





Radiated Emissions

Quasi-peak Measurements

Table: Vertical Quasi-peaks below 1 GHz

Operator: WKEUT: Verity Scan w/Ballot Box

PR#: 154263

Customer: SLI Compliance

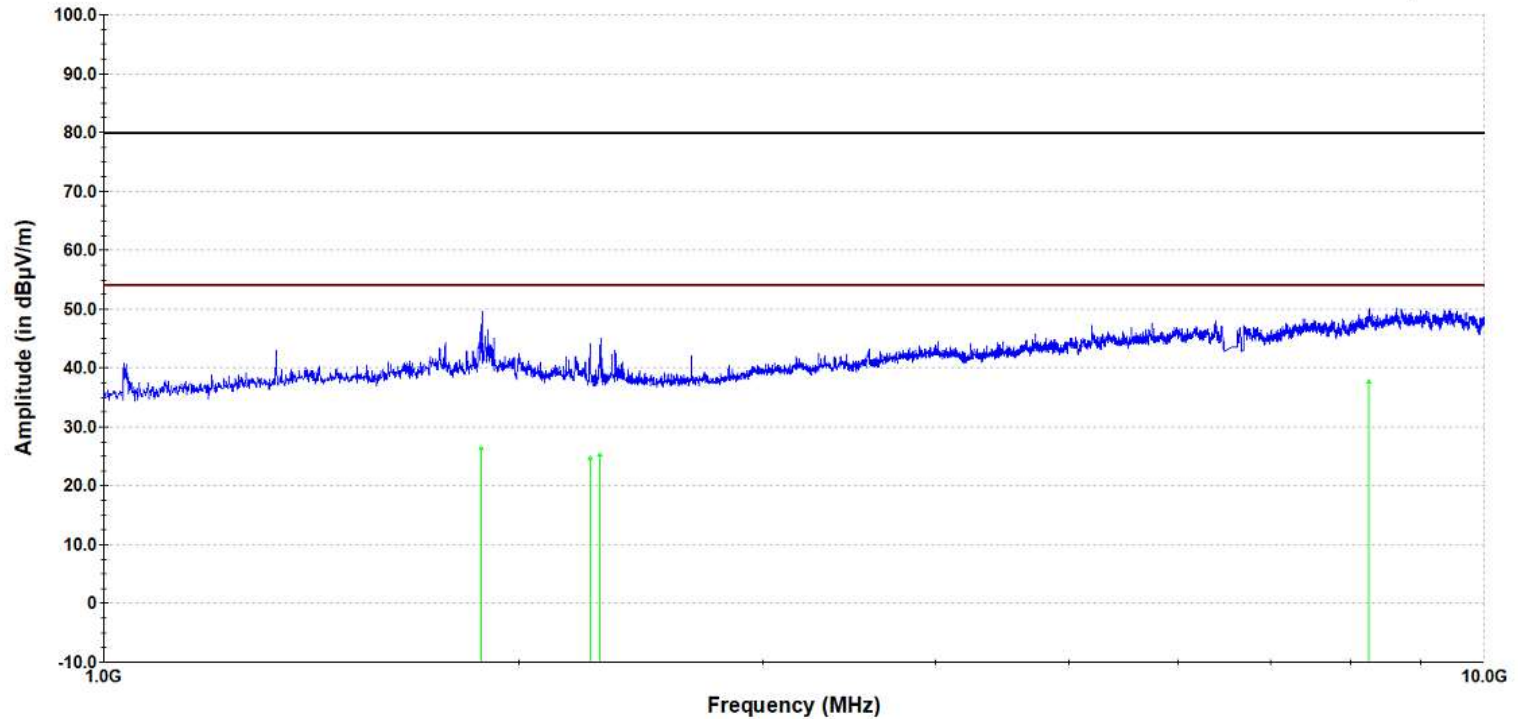
Frequency	Amplitude	Quasi-peak Limit	Delta to Limit	EUT Azimuth	Antenna Height
MHz	in dB μ V/m	in dB μ V/m	in dB	in degrees	in cm
30	22.6	30	-7.4	118	100
32.587	18.9	30	-11.1	81	175
41.963	24.4	30	-5.6	30	123
74.943	12.1	30	-17.9	210	123
111.157	23.7	35.5	-11.8	28	123
721.933	22.7	37	-14.3	155	175
852.883	25.3	37	-11.7	147	174
865.493	26.1	37	-10.9	156	173

FCC Part 15 Class B
120 Vac/60Hz

FCC Part 15 Class B
Verity Controller 3006085
Touch Writer Duo 3006070

Radiated Emissions
Peak and Quasi-peak Data
Graph: Vertical Data

— Peak Limit
— Average Limit
— Peak Data
+ Average Data



Operator: T. Wittig

PR154263 Radiated Emissions 10M-2 1 to 10 GHz FCC 4-19-2022.til

Last Data Update 12:49:28 PM, Tuesday, April 19, 2022

EUT: Verity Controller 3006085

Customer: SLI Compliance

PR#: PR154302



Radiated Emissions					
Average Measurements					
Table: Vertical Averages above 1 GHz					
Operator: T. Wittig EUT: Verity Scan w/Ballot Box					
PR#: PR154302					
Customer: SLI Compliance					
Frequency	Amplitude	Average Limit	Delta to Ave Limit	EUT Azimuth	Antenna Height
MHz	in dB μ V/m	in dB μ V/m	in dB	in degrees	in cm
1878.5	26.4	54	-27.6	119	271
2250	24.6	54	-29.4	193	314
2288	25.2	54	-28.8	133	114
8255	37.6	54	-16.4	221	188
FCC Part 15 Class B					



5.1.6 Test Equipment List

Table 5.1-1: Radiated Emissions Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC059736	Chamber (EMI, Semi-Anechoic)	CIR Enterprises	CH 1	04/03/2022	04/03/2024
WC059439	Meter (Digital Multimeter)	Fluke	85	07/30/2021	07/30/2022
WC059745	Power Supply (AC)	California Instruments	MX15-1	NCR	NCR
WC059748	Controller (System)	Sunol Sciences	SC104V	NCR	NCR
WC059822	Receiver	Keysight Technologies	N9038A	10/08/2021	10/08/2022
WC070276	Antenna (Biconical)	Sunol Sciences	JB1	09/21/2021	09/21/2023
WC078465	Amplifier (Pre/RF/Low Noise)	Pasternack Enterprises	PE15A1013	06/02/2021	06/02/2022
WC078470	Software	ETS-Lindgren	C47213	NCR	NCR
WC078486	Meter (Hydrometer)	Extech Instruments	Datalogger 42270	06/14/2021	06/14/2022

Calibration Abbreviations

CAL: Calibration

NCR: No Calibration Required

5.2 Conducted Emissions

5.2.1 Test Procedure

FCC Part 15

5.2.2 Test Result

The Verity Scan with Ballot Box met the specification requirements for Radiated Emissions.

5.2.3 Test Datasheets



National Technical Systems				
Conducted Emissions, FCC Part 15, Class B				
Standard Referenced: FCC Part 15, Class B		Date: 3/26/2022		
Temperature: <u>20°C</u>	Humidity: <u>24%</u>	Pressure: <u>831mb</u>		
Input Voltage: <u>120Vac, 60Hz</u>		LISN Bonding: <u>1.2 mOhms</u>		
Configuration of Unit: <u>Verity Scan w/Ballot box fully exercising all features of product.</u>				
Test Engineer: <u>W.Koenig</u>				
Date	Time	Log Entries	Initials	Result
3/26/22	1030 - 1100	Perform setup for CE testing.	WK	---
	1100 - 1145	Conducted Emissions, 150 kHz - 30 MHz. FCC Part 15. Class B. 120 VAC / 60	WK	Pass



National Technical Systems	
Conducted Emissions, FCC Part 15, Class B	
Standard Referenced: <u>FCC Part 15, Class B</u>	Date: <u>3/26/2022</u>
Temperature: <u>20°C</u> Humidity: <u>24%</u>	Pressure: <u>831mb</u>
Input Voltage: <u>120Vac, 60Hz</u>	LISN Bonding: <u>1.2 mOhms</u>
Configuration of Unit: <u>Verity Scan w/Ballot box fully exercising all features of product.</u>	
Test Engineer: <u>W.Koenig</u>	

“Type” refers to the type of measurement performed. The type of measurement made is based on the requirements of the particular standard:

PK = Peak Measurement: RBW is 9 kHz, VBW is 3 MHz

QP = Quasi-Peak Measurement: RBW is 9 kHz, VBW is 3 MHz, and QP Detection is ENABLED

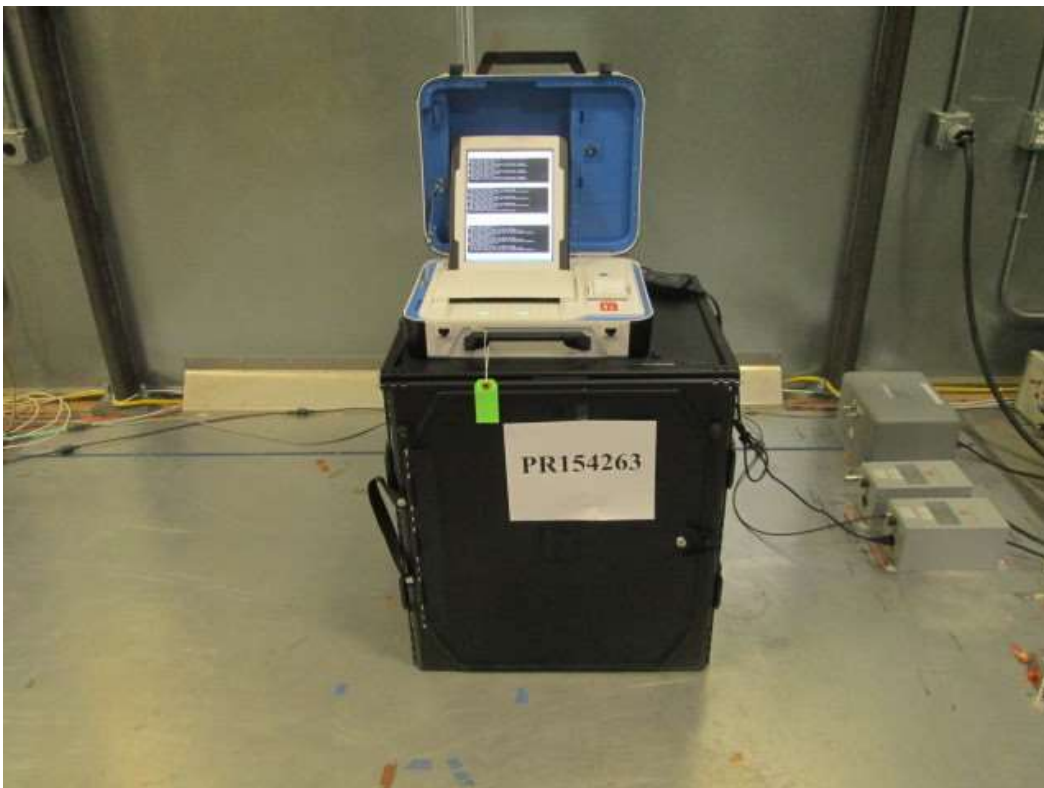
AV = Video Average Measurement: RBW is 9 kHz, VBW is 10 Hz

The “field strength” (FS) emissions level is attained by adding the received amplitude measured (RA), Antenna factor (AF), and cable factor (CF) minus the amplifier gain (AG). $FS = RA + AF + CF - AG$. Final measurements are made with the Azimuth, Polarity, Height, and EUT Cables positioned for maximum radiation. If applicable, cables positions are noted in the test log. (Sample Calculation: $49.6 \text{ dBuV} + 11.4 \text{ dB/m} - 28.8 \text{ dB (CF/AG)} = 32.2 \text{ dBuV/m}$. **Important Note:** This is a sample calculation only for the purpose of demonstration, and does not reflect data in this report.)

The “TestPoint” indicates which AC or DC input power line or which I/O cable the measurement was made on.

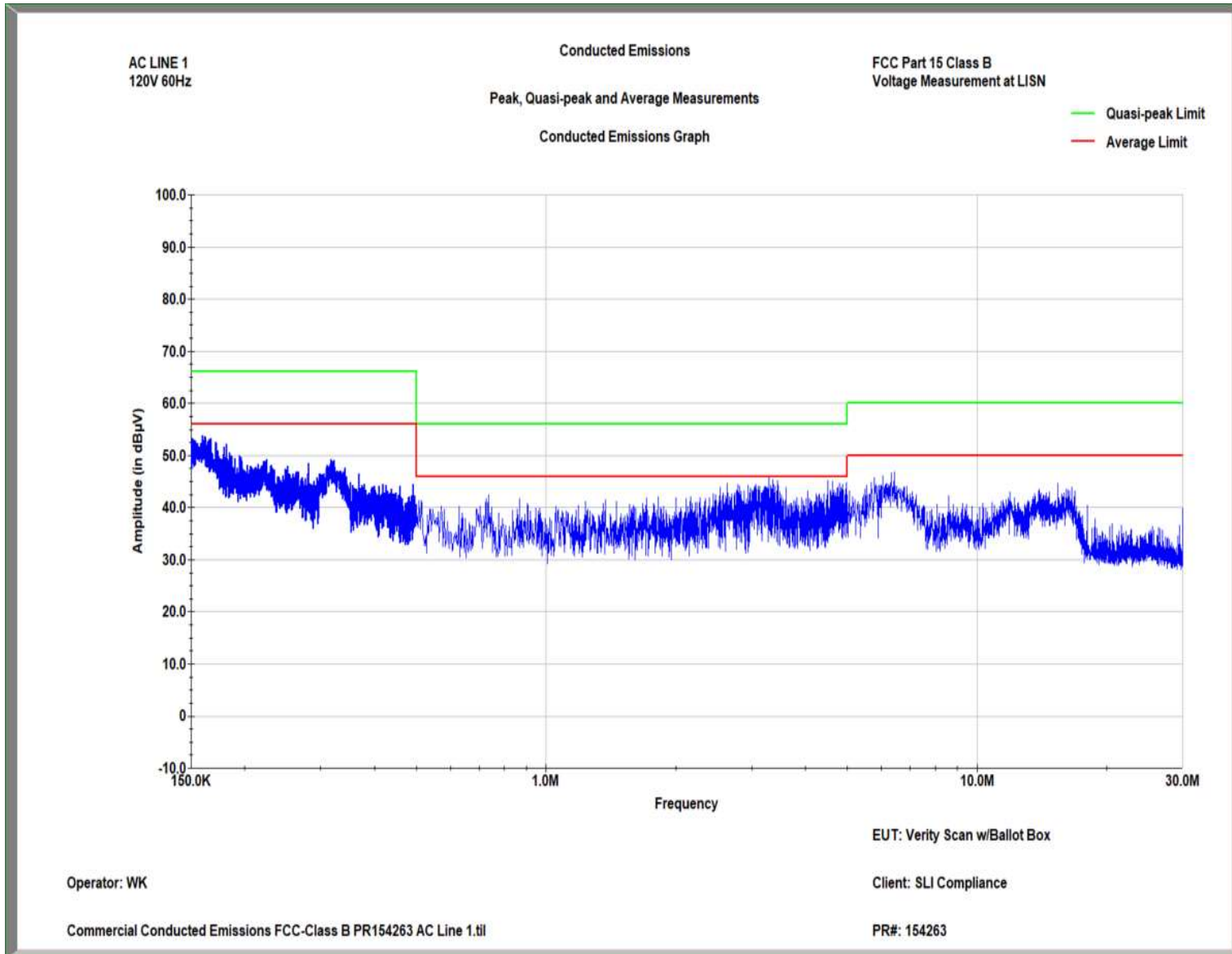
The “Margin” is with reference to the emissions limit. A positive number indicates that the emission measurement is below the limit. A negative number indicates that the emission measurement exceeds the limit.

The PRESCAN is a peak measurement and is performed with the RBW set to 9 kHz, and the VBW set to 3 MHz

5.2.4 Test Photographs**CE Back****CE Front**

**CE Left****CE Right**

5.2.5 Test Data





Conducted Emissions
Average Measurements
Average Data Table

Operator: WKEUT: Verity Scan w/Ballot Box

PR#: 154263

11:14:39 AM Tuesday March 29 2022 Client: SLI Compliance

Frequency	Amplitude	Quasi-peak Limit	Delta to Quasi-peak Limit	Average Limit	Delta to Average Limit
MHz	in dB μ V	in dB μ V	in dB	in dB μ V	in dB
0.15	33.54	66	-32.46	56	-22.46
0.15	33.94	66	-32.06	56	-22.06
0.15	31.9	66	-34.1	56	-24.1
0.15	31.99	66	-34.01	56	-24.01
0.16	35.15	66	-30.85	56	-20.85
0.16	32.9	66	-33.1	56	-23.1
0.16	32.07	66	-33.93	56	-23.93
0.17	33.35	66	-32.65	56	-22.65
0.17	33.92	66	-32.08	56	-22.08

AC LINE 1
120V 60Hz



Conducted Emissions

Peak Data

Peak Data Table

Operator: WKEUT: Verity Scan w/Ballot Box

PR#: 154263

10:54:55 AM Tuesday March 29 2022 Client: SLI Compliance

Frequency	Amplitude	Quasi-peak Limit	Delta to Quasi-peak Limit	Average Limit	Delta to Average Limit
MHz	in dBμV	in dBμV	in dB	in dBμV	in dB
0.15	52.59	66	-13.41	56	-3.41
0.15	53.33	66	-12.67	56	-2.67
0.15	52.82	66	-13.18	56	-3.18
0.16	53.86	66	-12.14	56	-2.14
0.16	53.54	66	-12.46	56	-2.46
0.16	52.69	66	-13.31	56	-3.31
0.17	53.01	66	-12.99	56	-2.99
0.17	53.25	66	-12.75	56	-2.75
0.17	52.44	66	-13.56	56	-3.56
0.51	41.29	56	-14.71	46	-4.71
0.51	41.31	56	-14.69	46	-4.69
0.57	40.27	56	-15.73	46	-5.73
0.63	40.3	56	-15.7	46	-5.7
0.7	40.23	56	-15.77	46	-5.77
0.72	41.68	56	-14.32	46	-4.32
0.73	42.39	56	-13.61	46	-3.61
0.87	41.69	56	-14.31	46	-4.31
0.91	40.69	56	-15.31	46	-5.31
1.05	40.27	56	-15.73	46	-5.73
1.19	40.37	56	-15.63	46	-5.63
1.23	41.15	56	-14.85	46	-4.85
1.24	40.25	56	-15.75	46	-5.75
1.35	40.78	56	-15.22	46	-5.22
1.37	41.45	56	-14.55	46	-4.55



1.46	41.21	56	-14.79	46	-4.79
1.56	40.58	56	-15.42	46	-5.42
1.59	40.4	56	-15.6	46	-5.6
1.6	40.02	56	-15.98	46	-5.98
1.68	40.81	56	-15.19	46	-5.19
1.7	40.39	56	-15.61	46	-5.61
1.71	41.79	56	-14.21	46	-4.21
1.78	40.81	56	-15.19	46	-5.19
1.78	40.34	56	-15.66	46	-5.66
1.82	42.07	56	-13.93	46	-3.93
1.84	40.03	56	-15.97	46	-5.97
1.87	40.2	56	-15.8	46	-5.8
2	41.89	56	-14.11	46	-4.11
2.11	41.77	56	-14.23	46	-4.23
2.13	40.3	56	-15.7	46	-5.7
2.16	41.15	56	-14.85	46	-4.85
2.16	42.07	56	-13.93	46	-3.93
2.19	40.79	56	-15.21	46	-5.21
2.22	41.05	56	-14.95	46	-4.95
2.24	41	56	-15	46	-5
2.28	41.91	56	-14.09	46	-4.09
2.32	40.16	56	-15.84	46	-5.84
2.33	41.09	56	-14.91	46	-4.91
2.35	41.77	56	-14.23	46	-4.23
2.38	40.19	56	-15.81	46	-5.81
2.39	41.83	56	-14.17	46	-4.17
2.44	42.65	56	-13.35	46	-3.35
2.47	41.39	56	-14.61	46	-4.61
2.47	41.6	56	-14.4	46	-4.4
2.48	42.48	56	-13.52	46	-3.52
2.48	41.39	56	-14.61	46	-4.61
2.51	41.03	56	-14.97	46	-4.97
2.53	43.8	56	-12.2	46	-2.2
2.54	40.95	56	-15.05	46	-5.05



2.55	41.28	56	-14.72	46	-4.72
2.57	42.79	56	-13.21	46	-3.21
2.6	40.9	56	-15.1	46	-5.1
2.6	41.16	56	-14.84	46	-4.84
2.61	42.28	56	-13.72	46	-3.72
2.62	41.73	56	-14.27	46	-4.27
2.64	44.61	56	-11.39	46	-1.39
2.64	42.62	56	-13.38	46	-3.38
2.66	42.04	56	-13.96	46	-3.96
2.69	41.86	56	-14.14	46	-4.14
2.7	42.7	56	-13.3	46	-3.3
2.73	42.18	56	-13.82	46	-3.82
2.74	42.72	56	-13.28	46	-3.28
2.75	41.63	56	-14.37	46	-4.37
2.76	43.27	56	-12.73	46	-2.73
2.77	41.44	56	-14.56	46	-4.56
2.78	43.23	56	-12.77	46	-2.77
2.79	44.44	56	-11.56	46	-1.56
2.8	42.84	56	-13.16	46	-3.16
2.81	44.11	56	-11.89	46	-1.89
2.82	42.33	56	-13.67	46	-3.67
2.83	43.22	56	-12.78	46	-2.78
2.85	41.51	56	-14.49	46	-4.49
2.88	43.07	56	-12.93	46	-2.93
2.88	41.29	56	-14.71	46	-4.71
2.9	40.81	56	-15.19	46	-5.19
2.92	41.76	56	-14.24	46	-4.24
2.93	40.38	56	-15.62	46	-5.62
2.94	44.27	56	-11.73	46	-1.73
2.94	41.33	56	-14.67	46	-4.67
2.95	41.17	56	-14.83	46	-4.83
2.96	41.29	56	-14.71	46	-4.71
2.97	42.88	56	-13.12	46	-3.12
2.98	43.7	56	-12.3	46	-2.3



3	41.16	56	-14.84	46	-4.84
3	43.4	56	-12.6	46	-2.6
3.01	42.62	56	-13.38	46	-3.38
3.03	43.36	56	-12.64	46	-2.64
3.04	43.9	56	-12.1	46	-2.1
3.04	43.67	56	-12.33	46	-2.33
3.05	44.17	56	-11.83	46	-1.83
3.06	44.5	56	-11.5	46	-1.5
3.07	42.79	56	-13.21	46	-3.21
3.09	43.59	56	-12.41	46	-2.41
3.09	41.17	56	-14.83	46	-4.83
3.1	44	56	-12	46	-2
3.12	40.91	56	-15.09	46	-5.09
3.13	44.04	56	-11.96	46	-1.96
3.15	41.06	56	-14.94	46	-4.94
3.15	42.75	56	-13.25	46	-3.25
3.16	42.13	56	-13.87	46	-3.87
3.17	42.73	56	-13.27	46	-3.27
3.18	43.21	56	-12.79	46	-2.79
3.2	43.26	56	-12.74	46	-2.74
3.22	43.99	56	-12.01	46	-2.01
3.22	42.62	56	-13.38	46	-3.38
3.23	44.16	56	-11.84	46	-1.84
3.25	43.69	56	-12.31	46	-2.31
3.25	42.29	56	-13.71	46	-3.71
3.27	43.87	56	-12.13	46	-2.13
3.27	43.19	56	-12.81	46	-2.81
3.28	45.79	56	-10.21	46	-0.21
3.29	43.32	56	-12.68	46	-2.68
3.3	45.61	56	-10.39	46	-0.39
3.31	44.16	56	-11.84	46	-1.84
3.32	44.19	56	-11.81	46	-1.81
3.33	43.62	56	-12.38	46	-2.38
3.34	43.44	56	-12.56	46	-2.56



3.36	45.42	56	-10.58	46	-0.58
3.36	44.35	56	-11.65	46	-1.65
3.37	44.51	56	-11.49	46	-1.49
3.4	42.11	56	-13.89	46	-3.89
3.4	44.07	56	-11.93	46	-1.93
3.42	43.12	56	-12.88	46	-2.88
3.43	41.66	56	-14.34	46	-4.34
3.45	45.11	56	-10.89	46	-0.89
3.45	44.26	56	-11.74	46	-1.74
3.46	42.38	56	-13.62	46	-3.62
3.48	41.17	56	-14.83	46	-4.83
3.48	41.39	56	-14.61	46	-4.61
3.49	43.02	56	-12.98	46	-2.98
3.52	42.47	56	-13.53	46	-3.53
3.54	40.18	56	-15.82	46	-5.82
3.55	40.96	56	-15.04	46	-5.04
3.55	41.71	56	-14.29	46	-4.29
3.56	40.58	56	-15.42	46	-5.42
3.59	41.29	56	-14.71	46	-4.71
3.6	43.86	56	-12.14	46	-2.14
3.64	40.46	56	-15.54	46	-5.54
3.66	40.67	56	-15.33	46	-5.33
3.69	40.85	56	-15.15	46	-5.15
3.71	40.74	56	-15.26	46	-5.26
3.72	40.15	56	-15.85	46	-5.85
3.76	41.36	56	-14.64	46	-4.64
3.79	41.22	56	-14.78	46	-4.78
3.8	40.38	56	-15.62	46	-5.62
3.81	40.29	56	-15.71	46	-5.71
3.83	41.84	56	-14.16	46	-4.16
3.85	40.33	56	-15.67	46	-5.67
3.91	40.15	56	-15.85	46	-5.85
3.92	41.84	56	-14.16	46	-4.16
3.94	41.29	56	-14.71	46	-4.71



3.96	40.41	56	-15.59	46	-5.59
3.99	40.24	56	-15.76	46	-5.76
4.01	41.64	56	-14.36	46	-4.36
4.02	40.21	56	-15.79	46	-5.79
4.05	43.12	56	-12.88	46	-2.88
4.08	41.71	56	-14.29	46	-4.29
4.1	40.19	56	-15.81	46	-5.81
4.1	40.84	56	-15.16	46	-5.16
4.11	41.27	56	-14.73	46	-4.73
4.12	41.11	56	-14.89	46	-4.89
4.14	41.2	56	-14.8	46	-4.8
4.19	41.12	56	-14.88	46	-4.88
4.21	40.87	56	-15.13	46	-5.13
4.24	42.63	56	-13.37	46	-3.37
4.25	42.01	56	-13.99	46	-3.99
4.27	40.04	56	-15.96	46	-5.96
4.29	42.31	56	-13.69	46	-3.69
4.31	42.71	56	-13.29	46	-3.29
4.31	42.56	56	-13.44	46	-3.44
4.33	41.82	56	-14.18	46	-4.18
4.36	41.36	56	-14.64	46	-4.64
4.4	40.98	56	-15.02	46	-5.02
4.41	42.63	56	-13.37	46	-3.37
4.46	41.47	56	-14.53	46	-4.53
4.48	42.44	56	-13.56	46	-3.56
4.51	45.19	56	-10.81	46	-0.81
4.56	43.31	56	-12.69	46	-2.69
4.57	41.87	56	-14.13	46	-4.13
4.59	42.92	56	-13.08	46	-3.08
4.61	42.27	56	-13.73	46	-3.73
4.62	44.91	56	-11.09	46	-1.09
4.64	42.88	56	-13.12	46	-3.12
4.66	43.34	56	-12.66	46	-2.66
4.67	42.22	56	-13.78	46	-3.78



4.69	42.72	56	-13.28	46	-3.28
4.72	42.07	56	-13.93	46	-3.93
4.73	43.77	56	-12.23	46	-2.23
4.75	43.8	56	-12.2	46	-2.2
4.76	41.37	56	-14.63	46	-4.63
4.77	42.02	56	-13.98	46	-3.98
4.8	42.13	56	-13.87	46	-3.87
4.8	44.56	56	-11.44	46	-1.44
4.84	43.91	56	-12.09	46	-2.09
4.86	43.48	56	-12.52	46	-2.52
4.88	44.39	56	-11.61	46	-1.61
4.9	42.84	56	-13.16	46	-3.16
4.93	42.42	56	-13.58	46	-3.58
4.95	42.06	56	-13.94	46	-3.94
4.96	43.47	56	-12.53	46	-2.53
4.97	43.46	56	-12.54	46	-2.54
4.98	44.74	56	-11.26	46	-1.26
5	41.74	56	-14.26	46	-4.26
5	42.5	56	-13.5	46	-3.5
5.54	44.21	60	-15.79	50	-5.79
5.69	44.75	60	-15.25	50	-5.25
5.79	45.82	60	-14.18	50	-4.18
5.91	44.3	60	-15.7	50	-5.7
5.96	44.18	60	-15.82	50	-5.82
6.04	46.12	60	-13.88	50	-3.88
6.33	46.6	60	-13.4	50	-3.4
6.44	46.75	60	-13.25	50	-3.25
6.89	44.16	60	-15.84	50	-5.84
15.41	44.64	60	-15.36	50	-5.36

AC LINE 1
120V 60Hz



Conducted Emissions

Quasi-peak Data

Quasi-peak Data Table

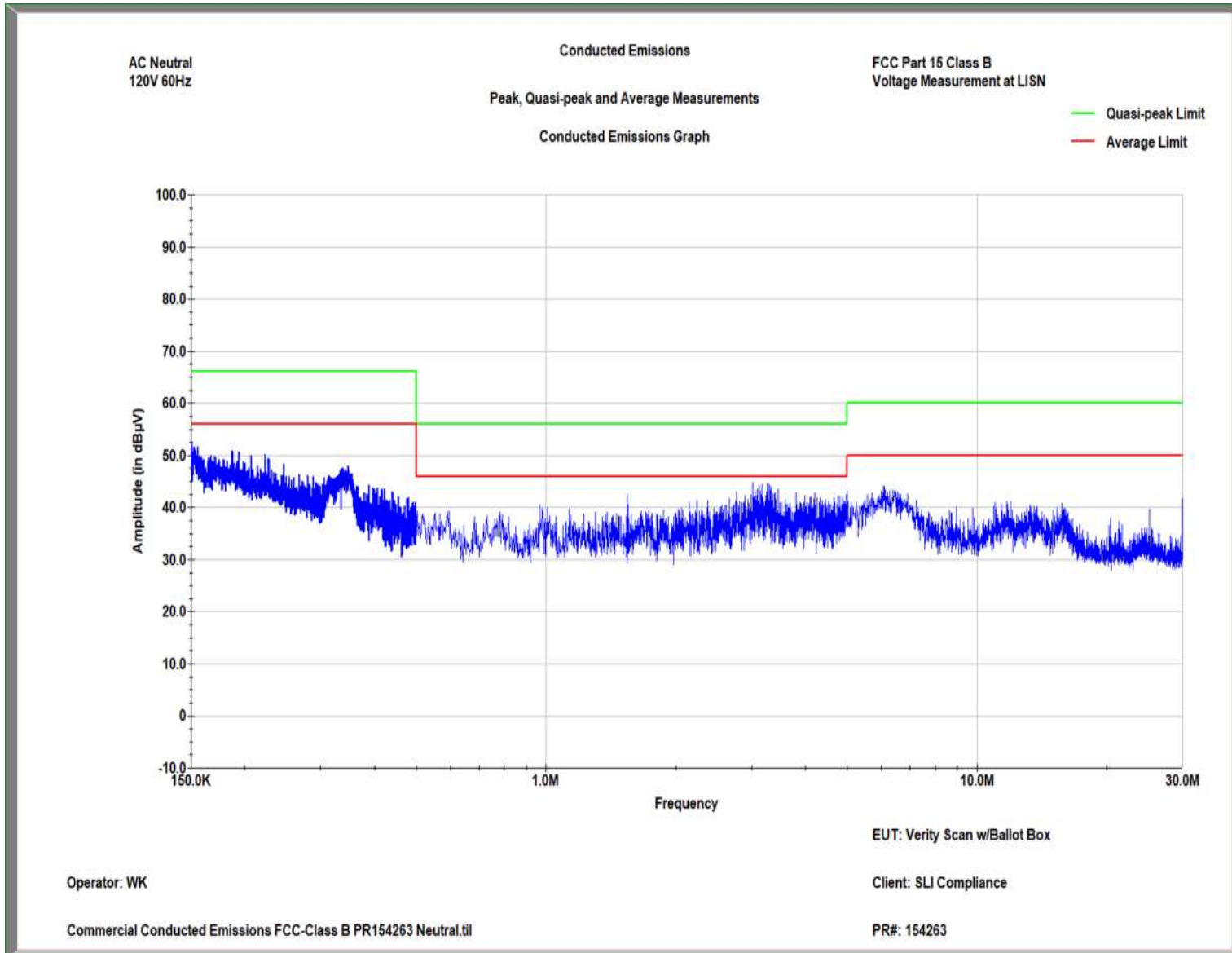
Operator: WKEUT: Verity Scan w/Ballot Box

PR#: 154263

11:07:05 AM Tuesday March 29 2022 Client: SLI Compliance

Frequency	Amplitude	Quasi-peak Limit	Delta to Quasi-peak Limit	Average Limit	Delta to Average Limit
MHz	in dB μ V	in dB μ V	in dB	in dB μ V	in dB
0.15	48.41	66	-17.59	56	-7.59
0.15	48.28	66	-17.72	56	-7.72
0.15	48.25	66	-17.75	56	-7.75
0.15	47.83	66	-18.17	56	-8.17
0.16	44.52	66	-21.48	56	-11.48
0.17	42.6	66	-23.4	56	-13.4
0.17	42.48	66	-23.52	56	-13.52
0.17	45.84	66	-20.16	56	-10.16
0.18	44.85	66	-21.15	56	-11.15

AC LINE 1
120V 60Hz





Conducted Emissions
Average Measurements
Average Data Table

Operator: WKEUT: Verity Scan w/Ballot Box
PR#: 154263

11:44:50 AM Tuesday March 29 2022 Client: SLI Compliance

Frequency	Amplitude	Quasi-peak Limit	Delta to Quasi-peak Limit	Average Limit	Delta to Average Limit
MHz	in dB μ V	in dB μ V	in dB	in dB μ V	in dB
0.15	35.7	66	-30.3	56	-20.3
0.15	34.81	66	-31.19	56	-21.19
0.16	32.89	66	-33.11	56	-23.11
0.16	32.18	66	-33.82	56	-23.82
0.16	32.07	66	-33.93	56	-23.93
0.16	29.4	66	-36.6	56	-26.6
0.16	30.16	66	-35.84	56	-25.84
0.17	29.58	66	-36.42	56	-26.42
0.18	32.7	66	-33.3	56	-23.3

AC Neutral
120V 60Hz



Conducted Emissions

Peak Data

Peak Data Table

Operator: WKEUT: Verity Scan w/Ballot Box

PR#: 154263

11:22:24 AM Tuesday March 29 2022 Client: SLI Compliance

Frequency	Amplitude	Quasi-peak Limit	Delta to Quasi-peak Limit	Average Limit	Delta to Average Limit
MHz	in dBμV	in dBμV	in dB	in dBμV	in dB
0.15	52.56	66	-13.44	56	-3.44
0.15	50.61	66	-15.39	56	-5.39
0.15	51.55	66	-14.45	56	-4.45
0.16	51.62	66	-14.38	56	-4.38
0.17	49.99	66	-16.01	56	-6.01
0.19	50.82	66	-15.18	56	-5.18
0.19	50.64	66	-15.36	56	-5.36
0.21	49.93	66	-16.07	56	-6.07
0.22	50.06	66	-15.94	56	-5.94
0.97	40.67	56	-15.33	46	-5.33
1.54	42.54	56	-13.46	46	-3.46
2.15	40.87	56	-15.13	46	-5.13
2.23	41.28	56	-14.72	46	-4.72
2.37	41.34	56	-14.66	46	-4.66
2.55	40.44	56	-15.56	46	-5.56
2.6	40.37	56	-15.63	46	-5.63
2.62	40.36	56	-15.64	46	-5.64
2.66	41.78	56	-14.22	46	-4.22
2.72	40.19	56	-15.81	46	-5.81
2.73	40.55	56	-15.45	46	-5.45
2.75	41.25	56	-14.75	46	-4.75
2.77	42.92	56	-13.08	46	-3.08
2.8	40.23	56	-15.77	46	-5.77
2.81	41.09	56	-14.91	46	-4.91



2.84	40.92	56	-15.08	46	-5.08
2.86	40.69	56	-15.31	46	-5.31
2.87	40.06	56	-15.94	46	-5.94
2.89	42.15	56	-13.85	46	-3.85
2.9	41.96	56	-14.04	46	-4.04
2.94	41.48	56	-14.52	46	-4.52
2.99	42.35	56	-13.65	46	-3.65
3.02	44.88	56	-11.12	46	-1.12
3.04	41.99	56	-14.01	46	-4.01
3.05	42.97	56	-13.03	46	-3.03
3.06	41.31	56	-14.69	46	-4.69
3.09	43.58	56	-12.42	46	-2.42
3.1	41.15	56	-14.85	46	-4.85
3.11	44.08	56	-11.92	46	-1.92
3.13	40.62	56	-15.38	46	-5.38
3.14	43.15	56	-12.85	46	-2.85
3.16	42.43	56	-13.57	46	-3.57
3.17	44.46	56	-11.54	46	-1.54
3.18	41.87	56	-14.13	46	-4.13
3.2	40.95	56	-15.05	46	-5.05
3.21	40.25	56	-15.75	46	-5.75
3.22	40.28	56	-15.72	46	-5.72
3.22	41.23	56	-14.77	46	-4.77
3.24	42.17	56	-13.83	46	-3.83
3.26	44.55	56	-11.45	46	-1.45
3.28	44.42	56	-11.58	46	-1.58
3.3	44.12	56	-11.88	46	-1.88
3.31	44.35	56	-11.65	46	-1.65
3.32	43.34	56	-12.66	46	-2.66
3.33	43.93	56	-12.07	46	-2.07
3.34	42.31	56	-13.69	46	-3.69
3.36	42.35	56	-13.65	46	-3.65
3.36	42.56	56	-13.44	46	-3.44
3.38	42.67	56	-13.33	46	-3.33



3.4	42.82	56	-13.18	46	-3.18
3.41	40.88	56	-15.12	46	-5.12
3.41	41.46	56	-14.54	46	-4.54
3.45	43.47	56	-12.53	46	-2.53
3.48	40.89	56	-15.11	46	-5.11
3.52	40.94	56	-15.06	46	-5.06
3.59	41.56	56	-14.44	46	-4.44
3.6	40.55	56	-15.45	46	-5.45
3.63	40.5	56	-15.5	46	-5.5
3.68	40.85	56	-15.15	46	-5.15
3.8	40.2	56	-15.8	46	-5.8
3.81	42.84	56	-13.16	46	-3.16
3.89	40.86	56	-15.14	46	-5.14
3.9	40.81	56	-15.19	46	-5.19
3.92	40.58	56	-15.42	46	-5.42
3.97	40.89	56	-15.11	46	-5.11
3.98	42.25	56	-13.75	46	-3.75
4	40.12	56	-15.88	46	-5.88
4.02	40.22	56	-15.78	46	-5.78
4.03	41.01	56	-14.99	46	-4.99
4.06	40.43	56	-15.57	46	-5.57
4.07	40.77	56	-15.23	46	-5.23
4.09	40.22	56	-15.78	46	-5.78
4.1	40.95	56	-15.05	46	-5.05
4.11	42.03	56	-13.97	46	-3.97
4.15	40.44	56	-15.56	46	-5.56
4.19	41.71	56	-14.29	46	-4.29
4.2	42.87	56	-13.13	46	-3.13
4.21	40.32	56	-15.68	46	-5.68
4.22	40.43	56	-15.57	46	-5.57
4.25	41.92	56	-14.08	46	-4.08
4.3	41.01	56	-14.99	46	-4.99
4.32	40.24	56	-15.76	46	-5.76
4.33	41.94	56	-14.06	46	-4.06



4.36	40.63	56	-15.37	46	-5.37
4.37	41.28	56	-14.72	46	-4.72
4.39	40.4	56	-15.6	46	-5.6
4.42	40.86	56	-15.14	46	-5.14
4.45	40.89	56	-15.11	46	-5.11
4.46	41.58	56	-14.42	46	-4.42
4.48	40.4	56	-15.6	46	-5.6
4.52	41.19	56	-14.81	46	-4.81
4.55	40.63	56	-15.37	46	-5.37
4.58	40.58	56	-15.42	46	-5.42
4.64	40.26	56	-15.74	46	-5.74
4.65	40.14	56	-15.86	46	-5.86
4.65	41.91	56	-14.09	46	-4.09
4.66	41.5	56	-14.5	46	-4.5
4.74	40.64	56	-15.36	46	-5.36
4.75	42.04	56	-13.96	46	-3.96
4.78	40.04	56	-15.96	46	-5.96
4.8	42.02	56	-13.98	46	-3.98
4.82	40.01	56	-15.99	46	-5.99
4.87	42.08	56	-13.92	46	-3.92
4.9	40.61	56	-15.39	46	-5.39
4.92	41.21	56	-14.79	46	-4.79
4.94	41.07	56	-14.93	46	-4.93
4.96	40.58	56	-15.42	46	-5.42
4.98	42.51	56	-13.49	46	-3.49
4.99	42.07	56	-13.93	46	-3.93
5	43.07	56	-12.93	46	-2.93
5.58	42.34	60	-17.66	50	-7.66
5.71	42.77	60	-17.23	50	-7.23
6.1	44.07	60	-15.93	50	-5.93
6.13	43.33	60	-16.67	50	-6.67
6.45	43.3	60	-16.7	50	-6.7
6.55	43.01	60	-16.99	50	-6.99
6.9	42.66	60	-17.34	50	-7.34



30 41.84 60 -18.16 50 -8.16

AC Neutral
120V 60Hz



Conducted Emissions
Quasi-peak Data
Quasi-peak Data Table

Operator: WKEUT: Verity Scan w/Ballot Box

PR#: 154263

11:37:57 AM Tuesday March 29 2022 Client: SLI Compliance

Frequency	Amplitude	Quasi-peak Limit	Delta to Quasi-peak Limit	Average Limit	Delta to Average Limit
MHz	in dB μ V	in dB μ V	in dB	in dB μ V	in dB
0.15	45.82	66	-20.18	56	-10.18
0.15	45.59	66	-20.41	56	-10.41
0.15	45.29	66	-20.71	56	-10.71
0.15	44.97	66	-21.03	56	-11.03
0.15	44.26	66	-21.74	56	-11.74
0.16	43.31	66	-22.69	56	-12.69
0.16	42.02	66	-23.98	56	-13.98
0.17	42.73	66	-23.27	56	-13.27
0.18	42.58	66	-23.42	56	-13.42

AC Neutral
120V 60Hz



5.2.6 Test Equipment List

Table 5.2-1: Conducted Emissions Test Equipment List

Asset Number	Asset Type	Manufacturer	Model	Calibrated	Due
WC059736	Chamber (EMI, Semi-Anechoic)	CIR Enterprises	CH 1	04/03/2022	04/03/2024
WC059439	Meter (Digital Multimeter)	Fluke	85	07/30/2021	07/30/2022
WC059729	Power Supply (AC)	Pacific Power Source	TMX 140	NCR	NCR
WC059822	Receiver	Keysight Technologies	N9038A	10/08/2021	10/08/2022
WC076848	Network (LISN)	Solar Electronics	8012-50-R-25-BNC	12/08/2021	12/08/2022
WC078470	Software	ETS-Lindgren	C47213	NCR	NCR
WC078486	Meter (Hydrometer)	Extech Instruments	Datalogger 42270	06/14/2021	06/14/2022

Calibration Abbreviations

CAL: Calibration

NCR: No Calibration Required



6.0 Test Log

EMI Test Log

Manufacturer:	<u>SLI Compliance</u>	Project Number:	<u>PR154263/ B90817</u>
Model:	<u>Verity Scan w/Ballot box</u>	S/N:	<u>S2115228806</u>
Customer Representative:	<u>Darrick Forester</u>		
Standard Referenced:	<u>VVSG1.0 IEC 61000</u>		

FR0105

10m Emissions

Test	Test Code	Date	Event	O T	Time (hrs)	Result	Initials
RE		March 26, 2022 0730 - 0800	Performed system verification and ambient scan in 10M #1		0.5	---	WK
RE		0800 - 1030	Radiated Emissions, 30 MHz - 1 GHz. FCC Part 15. Class B. 120 VAC / 60 Hz		2.5	Pass	WK
CE		1030 - 1100	Perform setup for CE testing.		.5	---	WK
CE		1100 - 1145	Conducted Emissions, 150 kHz - 30 MHz. FCC Part 15. Class B. 120 VAC / 60		.75	Pass	WK

 National Technical Systems				
Radiated Emissions, FCC Part 15, Class B				
Standard Referenced: <u>FCC Part 15, Class B</u>		Date: <u>4/18/2022</u>		
Temperature: <u>21°C</u>	Humidity: <u>18%</u>	Pressure: <u>844 mb</u>		
Input Voltage: <u>120Vac, 60Hz</u>		Linearity Check: <u>Comply</u>		
Configuration of Unit: <u>Verity Scan w/Ballot box fully exercising all features of product</u>				
Test Engineer: <u>T. Wittig</u>				
Date	Time	Log Entries	Initials	Result
4/18/22	1100	Setup for RE testing	TW	---
	1115	Begin RE testing	TW	---
	1120	Begin RE testing	TW	---
	1300	Completed RE testin 1 to 10 GHz	TW	Pass



End of Test Report