Ossia, Inc.

EMC TEST REPORT FOR

Cota WPT Source
Model: Cota Tx203

Tested to The Following Standards:

FCC Part 15 Subpart B Section 15.107 & 15.109

Report No.: 103895-2

Date of issue: July 8, 2020

Test Certificate # 803.01

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 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.

Testing the Future
CKC LABORATORIES, INC.

TABLE OF CONTENTS

ADMINISTRATIVE INFORMATION

Test Report Information

REPORT PREPARED FOR:

Ossia, Inc.
1100 112th Ave NE Suite 301
Bellevue, WA 98004

Representative: Bob McDonald
Customer Reference Number: 13172

REPORT PREPARED BY:

Kim Romero
CKC Laboratories, Inc.
5046 Sierra Pines Drive
Mariposa, CA 95338

Project Number: 103895

DATE OF EQUIPMENT RECEIPT: June 26, 2020
DATE(S) OF TESTING: June26 and 29, 2020

Report Authorization

The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the equipment provided by the client, 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.

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.
Canyon Park
22116 23rd Drive S.E., Suite A
Bothell,WA 98021

Software Versions

CKC Laboratories Proprietary Software	Version
EMITest Emissions	5.03.12
EMITest Immunity	5.03.10

Site Registration & Accreditation Information

Location	*NIST CB #	FCC	Japan
Canyon Park, Bothell, WA	US0081	US1022	A-0136
Brea, CA	US0060	US1025	A-0136
Fremont, CA	US0082	US1023	A-0136
Mariposa, CA	US0103	US1024	A-0136

*CKC's list of NIST designated countries can be found at: https://standards.gov/cabs/designations.html

SUMMARY OF RESULTS

Standard / Specification: FCC Part 15 Subpart B

Test Procedure	Description	Modifications	Results
15.107 Class B	Conducted Emissions	NA	PASS
15.109 Class B	Radiated Emissions	Mod. #1	PASS

NA = Not Applicable

ISO/IEC 17025 Decision Rule
The declaration of pass or fail herein is based upon assessment to the specification(s) listed above, including where applicable, assessment of measurement uncertainties. For performance related tests, equipment was monitored for specified criteria identified in that section of testing.

Modifications During Testing

This list is a summary of the modifications made to the equipment during testing.

Summary of Conditions
Mod #1 = 1) Register settings updated on clock generator chip Si5341. 2) Series termination resistors added to outputs of clock generator chip Si5341. 3) Absorber material added to clock buffer chip CDCLVD1216.

Modifications listed above must be incorporated into all production units.

Conditions During Testing

This list is a summary of the conditions noted to the equipment during testing.

Summary of Conditions
None

EQUIPMENT UNDER TEST (EUT)

During testing, numerous configurations may have been utilized. The configurations listed below support compliance to the standard(s) listed in the Summary of Results section.

Configuration 1

Equipment Tested:

Device	Manufacturer	Model #	S/N
Cota WPT Source	Ossia, Inc.	Cota Tx203	OR-001

Support Equipment:

Device	Manufacturer	Model #	S/N
USB 2.0 Extension Cable	Blue Rigger	32 ft (10m)	NA
AC Adapter (for PoE Injector)	GlobTek, Inc.	GTM961808P18054-T3	NA
PoE Injector	Ossia, Inc.	OL-10282	NA
Laptop	Apple	MacBook Pro A1398	NA
USB Hub	AmazonBasics	B00DQFGJR4	NA
Thunderbolt to Ethernet adapter	Apple	A1433	NA

Configuration 2

Equipment Tested:

Device	Manufacturer	Model #	S/N
Cota WPT Source	Ossia, Inc.	Cota Tx203	OR-001

Support Equipment:

Device	Manufacturer	Model #	S/N
USB 2.0 Extension Cable	Blue Rigger	32 ft (10m)	NA
AC/DC Switching Adapter	Mean Well	GST220A12	NA
Laptop	Apple	MacBook Pro A1398	NA
USB Hub	AmazonBasics	B00DQFGJR4	NA
Thunderbolt to Ethernet adapter	Apple	A1433	NA

FCC PART 15 SUBPART B

15.107 AC Conducted Emissions

Test Notes: Conducted Disturbances at Mains Terminals, LISN method.

Test Setup / Conditions / Data

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.107 AC Mains Class B - Average**		
Work Order #:	**102119**	Date:	6/26/2020
Test Type:	**Conducted Emissions**	Time:	10:26:28
Tested By:	Michael Atkinson	Sequence#:	65
Software:	EMITest 5.03.12		115VAC 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

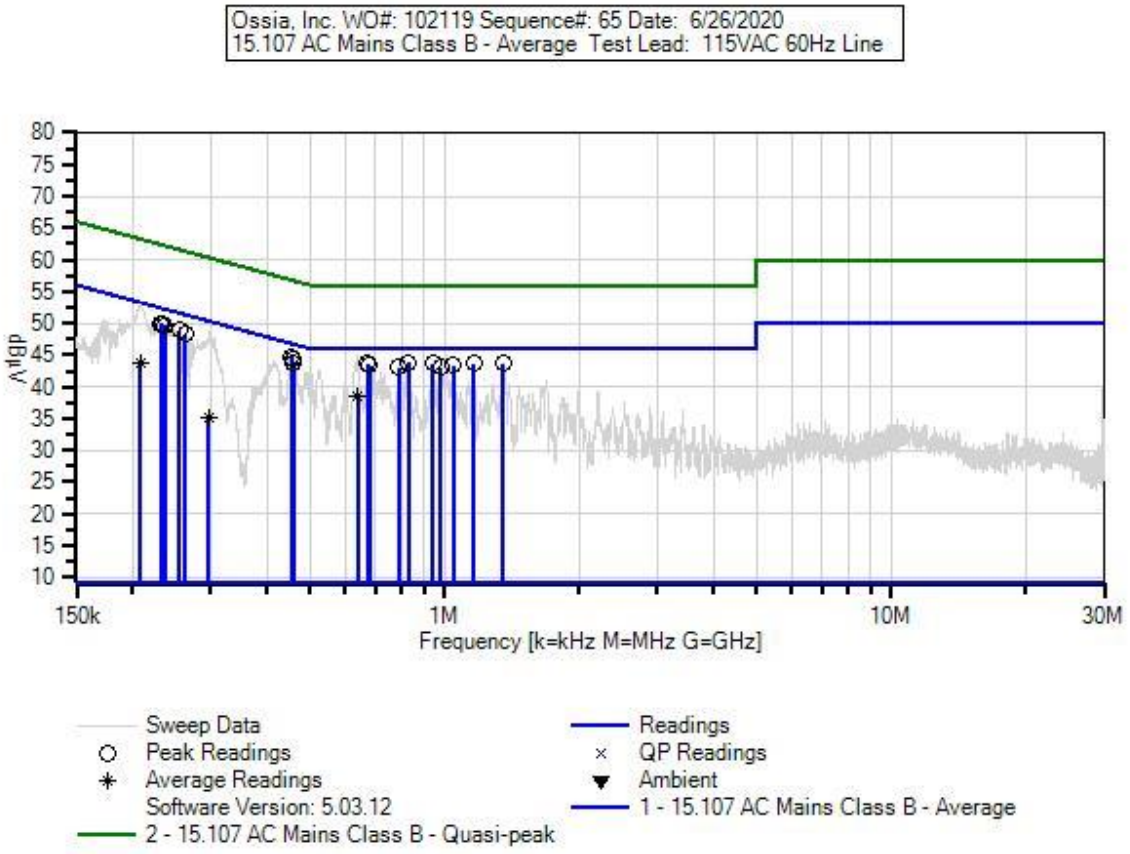
Temperature: 23°C
Humidity: 34%
Pressure: 101.6kPa

Method: ANSI C63.4 (2014)

Frequency: 0.15-30MHz

EUT connected to support laptop via USB cable. EUT connected to support PoE box with 2 x Ethernet cables for power. Support laptop connected to PoE box with 1 x Ethernet cable. Support Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T1	AN02611	High Pass Filter	HE9615-150K-50-720B	1/10/2020	1/10/2022
T2	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T3	ANP06515	Cable	Heliax	6/29/2018	6/29/2020
T4	ANP06219	Attenuator	768-10	4/7/2020	4/7/2022
T5	AN01311	50uH LISN-Line1 (L)	3816/2	2/24/2020	2/24/2022
	AN01311	50uH LISN-Line2 (N)	3816/2	2/24/2020	2/24/2022

Measurement Data: Reading listed by margin. Test Lead: Line

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	453.371k	35.8	+0.2 -0.5	+0.0	+0.1	+9.1	+0.0	44.7	46.8	-2.1	Line
2	832.268k	34.8	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.8	46.0	-2.2	Line
3	941.674k	34.7	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.7	46.0	-2.3	Line
4	672.296k	34.6	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	43.6	46.0	-2.4	Line
5	1.162M	34.6	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.6	46.0	-2.4	Line
6	1.356M	34.5	+0.2 -0.3	+0.0	+0.1	+9.1	+0.0	43.6	46.0	-2.4	Line
7	232.790k	41.5	+0.2 -1.0	+0.0	+0.0	+9.1	+0.0	49.8	52.3	-2.5	Line
8	456.395k	35.4	+0.2 -0.5	+0.0	+0.1	+9.1	+0.0	44.3	46.8	-2.5	Line
9	232.161k	41.6	+0.2 -1.0	+0.0	+0.0	+9.1	+0.0	49.9	52.4	-2.5	Line
10	236.143k	41.3	+0.2 -1.0	+0.0	+0.0	+9.1	+0.0	49.6	52.2	-2.6	Line
11	254.588k	40.5	+0.2 -0.9	+0.0	+0.0	+9.1	+0.0	48.9	51.6	-2.7	Line
12	678.948k	34.3	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	43.3	46.0	-2.7	Line
13	1.049M	34.3	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.3	46.0	-2.7	Line
14	459.117k	34.9	+0.2 -0.5	+0.0	+0.1	+9.1	+0.0	43.8	46.7	-2.9	Line
15	979.170k	34.1	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.1	46.0	-2.9	Line
16	263.163k	39.8	+0.2 -0.8	+0.0	+0.0	+9.1	+0.0	48.3	51.3	-3.0	Line
17	789.123k	34.0	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.0	46.0	-3.0	Line
18	639.942k Ave	29.4	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	38.4	46.0	-7.6	Line
^	639.941k	36.2	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	45.2	46.0	-0.8	Line
20	208.896k Ave	35.6	+0.2 -1.1	+0.0	+0.0	+9.1	+0.0	43.8	53.2	-9.4	Line
^	208.896k	44.6	+0.2 -1.1	+0.0	+0.0	+9.1	+0.0	52.8	53.2	-0.4	Line
22	297.164k Ave	26.5	+0.1 -0.7	+0.0	+0.0	+9.1	+0.0	35.0	50.3	-15.3	Line
^	297.164k	40.1	+0.1 -0.7	+0.0	+0.0	+9.1	+0.0	48.6	50.3	-1.7	Line

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.107 AC Mains Class B - Average**		
Work Order #:	**102119**	Date:	6/26/2020
Test Type:	**Conducted Emissions**	Time:	10:31:26
Tested By:	Michael Atkinson	Sequence#:	66
Software:	EMITest 5.03.12		115VAC 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Temperature: 23°C
Humidity: 34%
Pressure: 101.6kPa

Method: ANSI C63.4 (2014)

Frequency: 0.15-30MHz

EUT connected to support laptop via USB cable. EUT connected to support PoE box with 2 x Ethernet cables for power. Support laptop connected to PoE box with 1 x Ethernet cable. Support Laptop is located remotely.

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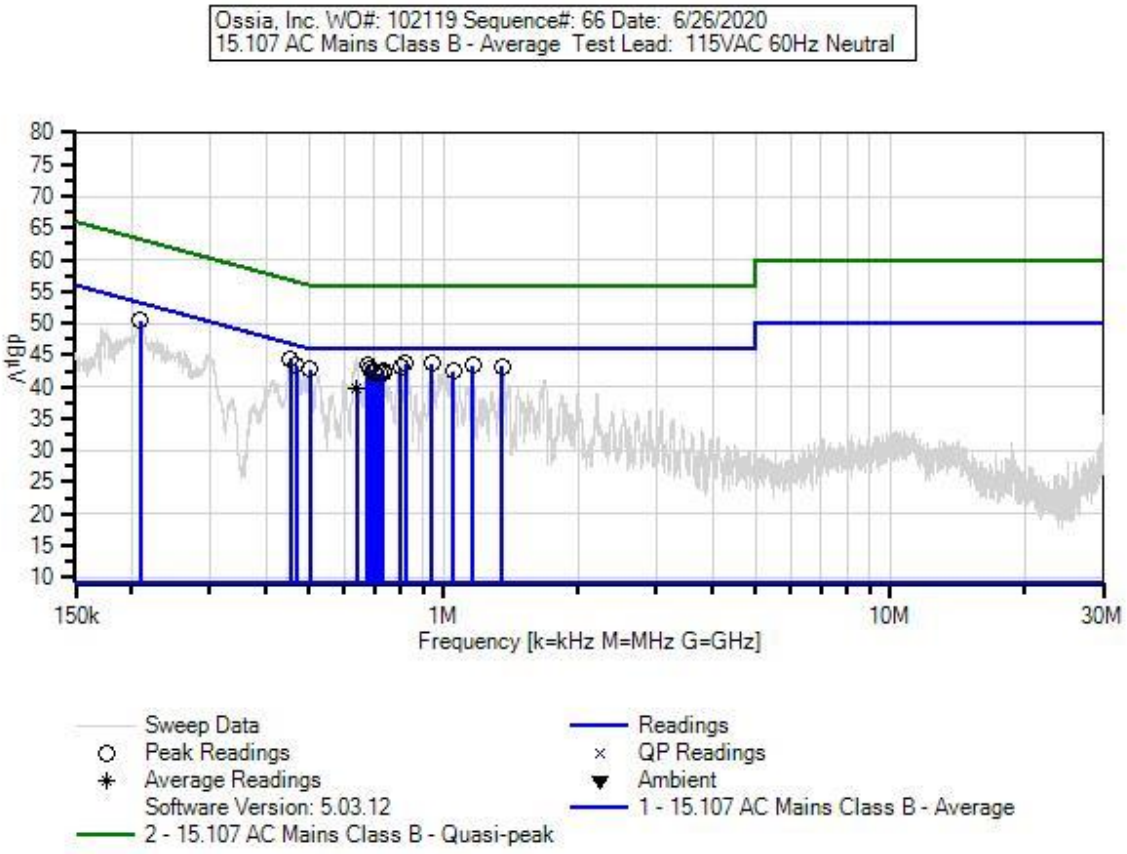


Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T1	AN02611	High Pass Filter	HE9615-150K-50-720B	1/10/2020	1/10/2022
T2	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T3	ANP06515	Cable	Heliax	6/29/2018	6/29/2020
T4	ANP06219	Attenuator	768-10	4/7/2020	4/7/2022
	AN01311	50uH LISN-Line1 (L)	3816/2	2/24/2020	2/24/2022
T5	AN01311	50uH LISN-Line2 (N)	3816/2	2/24/2020	2/24/2022

Measurement Data: Reading listed by margin. Test Lead: Neutral

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	823.537k	34.7	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.7	46.0	-2.3	Neutr
2	943.728k	34.6	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.6	46.0	-2.4	Neutr
3	453.371k	35.4	+0.2 -0.5	+0.0	+0.1	+9.1	+0.0	44.3	46.8	-2.5	Neutr
4	678.646k	34.5	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	43.5	46.0	-2.5	Neutr
5	675.320k	34.3	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	43.3	46.0	-2.7	Neutr
6	1.163M	34.3	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.3	46.0	-2.7	Neutr
7	209.420k	42.2	+0.2 -1.1	+0.0	+0.0	+9.1	+0.0	50.4	53.2	-2.8	Neutr
8	1.354M	34.1	+0.2 -0.3	+0.0	+0.1	+9.1	+0.0	43.2	46.0	-2.8	Neutr
9	802.991k	34.1	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	43.1	46.0	-2.9	Neutr
10	467.583k	34.5	+0.2 -0.5	+0.0	+0.1	+9.1	+0.0	43.4	46.6	-3.2	Neutr
11	501.450k	33.9	+0.2 -0.4	+0.0	+0.0	+9.1	+0.0	42.8	46.0	-3.2	Neutr
12	686.206k	33.7	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	42.7	46.0	-3.3	Neutr
13	733.377k	33.7	+0.2 -0.4	+0.0	+0.0	+9.1	+0.0	42.6	46.0	-3.4	Neutr
14	1.050M	33.5	+0.2 -0.3	+0.0	+0.0	+9.1	+0.0	42.5	46.0	-3.5	Neutr
15	697.394k	33.4	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	42.4	46.0	-3.6	Neutr
16	699.813k	33.2	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	42.2	46.0	-3.8	Neutr
17	718.863k	33.0	+0.3 -0.3	+0.0	+0.0	+9.1	+0.0	42.1	46.0	-3.9	Neutr
18	730.958k	33.2	+0.2 -0.4	+0.0	+0.0	+9.1	+0.0	42.1	46.0	-3.9	Neutr
19	638.430k Ave	30.6	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	39.6	46.0	-6.4	Neutr
^	638.429k	35.6	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	44.6	46.0	-1.4	Neutr
^	642.965k	34.9	+0.3 -0.4	+0.0	+0.0	+9.1	+0.0	43.9	46.0	-2.1	Neutr

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.107 AC Mains Class B - Average**		
Work Order #:	**102119**	Date:	6/26/2020
Test Type:	**Conducted Emissions**	Time:	13:54:02
Tested By:	Michael Atkinson	Sequence#:	75
Software:	EMITest 5.03.12		115VAC 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

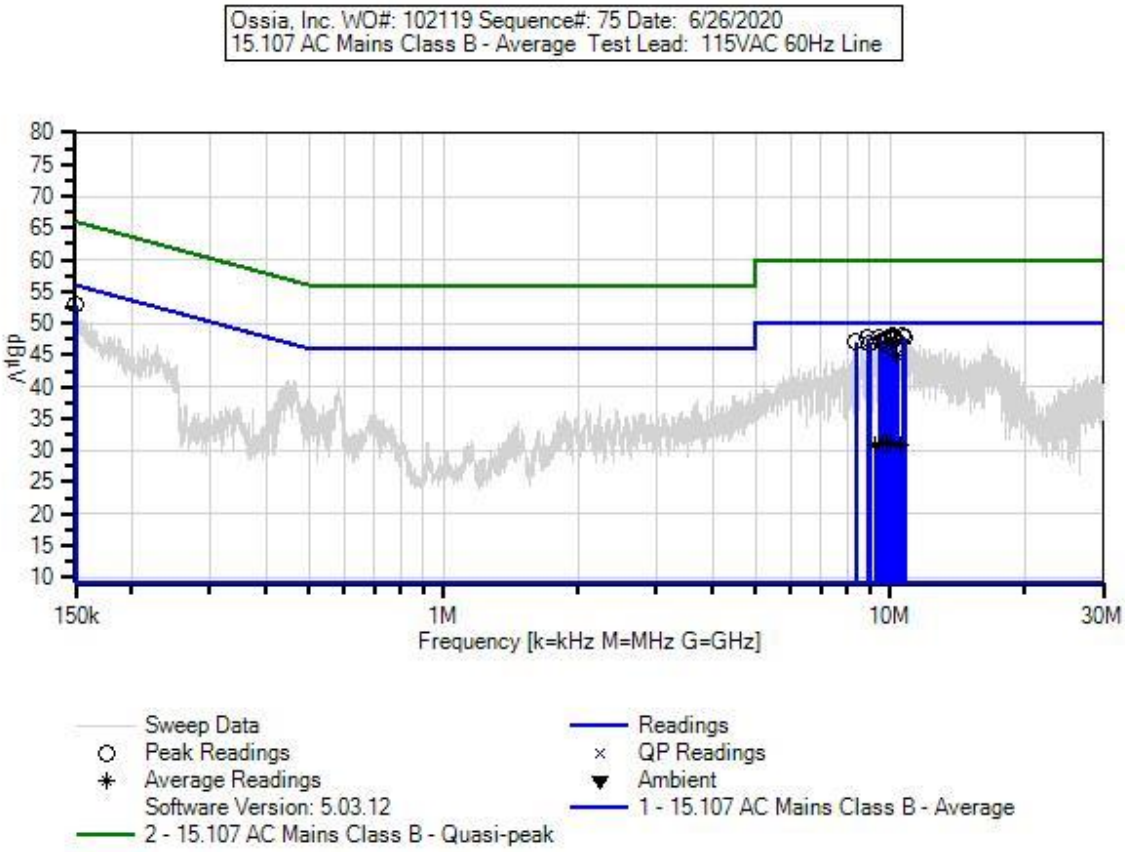
Temperature: 23°C
Humidity: 34%
Pressure: 101.6kPa

Method: ANSI C63.4 (2014)

Frequency: 0.15-30MHz

EUT connected to support laptop via USB cable. EUT connected to AC adapter for power. EUT connected to support Laptop via Ethernet cable. Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T1	AN02611	High Pass Filter	HE9615-150K-50-720B	1/10/2020	1/10/2022
T2	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T3	ANP06515	Cable	Heliax	6/29/2018	6/29/2020
T4	ANP06219	Attenuator	768-10	4/7/2020	4/7/2022
T5	AN01311	50uH LISN-Line1 (L)	3816/2	2/24/2020	2/24/2022
	AN01311	50uH LISN-Line2 (N)	3816/2	2/24/2020	2/24/2022

Measurement Data: Reading listed by margin. Test Lead: Line

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	10.179M	39.0	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.9	50.0	-2.1	Line
2	10.673M	39.0	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.9	50.0	-2.1	Line
3	9.473M	38.9	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.8	50.0	-2.2	Line
4	8.909M	38.8	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.7	50.0	-2.3	Line
5	10.248M	38.8	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.7	50.0	-2.3	Line
6	10.768M	38.8	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.7	50.0	-2.3	Line
7	9.944M	38.7	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.6	50.0	-2.4	Line
8	9.739M	38.4	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.3	50.0	-2.7	Line
9	10.098M	38.4	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.3	50.0	-2.7	Line
10	8.370M	38.3	+0.1 -0.5	+0.0	+0.1	+9.1	+0.0	47.1	50.0	-2.9	Line
11	9.499M	38.1	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	47.0	50.0	-3.0	Line
12	150.523k	43.7	+1.9 -1.8	+0.0	+0.0	+9.1	+0.0	52.9	56.0	-3.1	Line
13	8.999M	38.0	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	46.9	50.0	-3.1	Line
14	9.692M	37.9	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	46.8	50.0	-3.2	Line
15 Ave	10.367M	36.2	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	45.1	50.0	-4.9	Line
^	10.367M	39.5	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	48.4	50.0	-1.6	Line
17 Ave	9.858M	22.2	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	31.1	50.0	-18.9	Line
^	9.858M	39.6	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	48.5	50.0	-1.5	Line
19 Ave	10.047M	22.1	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	31.0	50.0	-19.0	Line
^	10.047M	39.1	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	48.0	50.0	-2.0	Line
21 Ave	9.657M	22.1	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	31.0	50.0	-19.0	Line
^	9.657M	39.3	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	48.2	50.0	-1.8	Line

23 Ave	10.557M	22.0	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	30.9	50.0	-19.1	Line
^	10.557M	39.4	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	48.3	50.0	-1.7	Line
25 Ave	9.260M	21.9	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	30.8	50.0	-19.2	Line
^	9.260M	39.2	+0.1 -0.5	+0.0	+0.2	+9.1	+0.0	48.1	50.0	-1.9	Line

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.107 AC Mains Class B - Average**		
Work Order #:	**102119**	Date:	6/26/2020
Test Type:	**Conducted Emissions**	Time:	14:01:09
Tested By:	Michael Atkinson	Sequence#:	76
Software:	EMITest 5.03.12		115VAC 60Hz

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

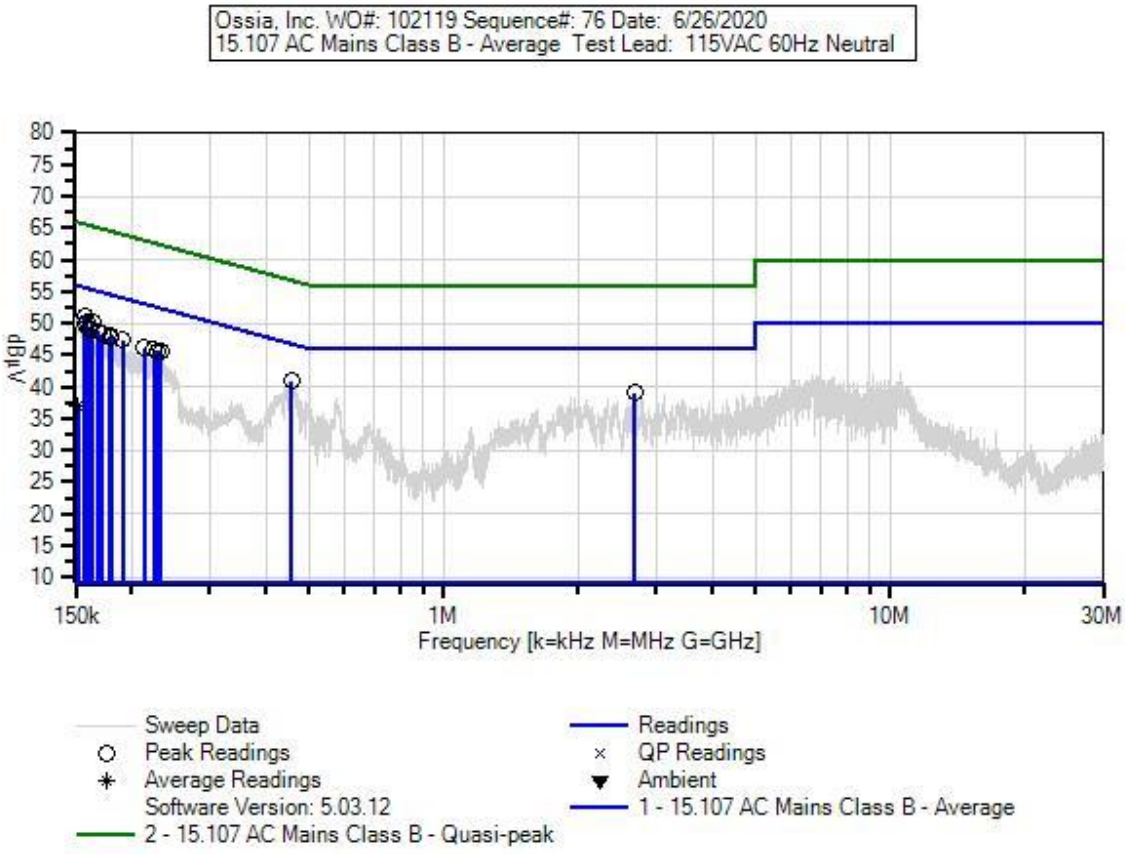
Temperature: 23°C
Humidity: 34%
Pressure: 101.6kPa

Method: ANSI C63.4 (2014)

Frequency: 0.15-30MHz

EUT connected to support laptop via USB cable. EUT connected to AC adapter for power. EUT connected to support Laptop via Ethernet cable. Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T1	AN02611	High Pass Filter	HE9615-150K-50-720B	1/10/2020	1/10/2022
T2	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T3	ANP06515	Cable	Heliax	6/29/2018	6/29/2020
T4	ANP06219	Attenuator	768-10	4/7/2020	4/7/2022
	AN01311	50uH LISN-Line1 (L)	3816/2	2/24/2020	2/24/2022
T5	AN01311	50uH LISN-Line2 (N)	3816/2	2/24/2020	2/24/2022

Measurement Data: Reading listed by margin. Test Lead: Neutral

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV	dBµV	dB	Ant
1	157.230k	42.9	+0.7 -1.6	+0.0	+0.0	+9.1	+0.0	51.1	55.6	-4.5	Neutr
2	163.517k	42.1	+0.5 -1.6	+0.0	+0.0	+9.1	+0.0	50.1	55.3	-5.2	Neutr
3	159.326k	41.9	+0.7 -1.6	+0.0	+0.0	+9.1	+0.0	50.1	55.5	-5.4	Neutr
4	157.754k	41.8	+0.7 -1.6	+0.0	+0.0	+9.1	+0.0	50.0	55.6	-5.6	Neutr
5	457.302k	32.0	+0.2 -0.5	+0.0	+0.1	+9.1	+0.0	40.9	46.7	-5.8	Neutr
6	160.793k	41.3	+0.6 -1.6	+0.0	+0.0	+9.1	+0.0	49.4	55.4	-6.0	Neutr
7	169.177k	40.8	+0.4 -1.5	+0.0	+0.0	+9.1	+0.0	48.8	55.0	-6.2	Neutr
8	161.736k	41.0	+0.6 -1.6	+0.0	+0.0	+9.1	+0.0	49.1	55.4	-6.3	Neutr
9	179.971k	39.9	+0.4 -1.3	+0.0	+0.0	+9.1	+0.0	48.1	54.5	-6.4	Neutr
10	172.530k	40.1	+0.4 -1.4	+0.0	+0.0	+9.1	+0.0	48.2	54.8	-6.6	Neutr
11	190.975k	39.3	+0.3 -1.3	+0.0	+0.0	+9.1	+0.0	47.4	54.0	-6.6	Neutr
12	232.789k	37.3	+0.2 -1.0	+0.0	+0.0	+9.1	+0.0	45.6	52.3	-6.7	Neutr
13	225.243k	37.4	+0.3 -1.0	+0.0	+0.0	+9.1	+0.0	45.8	52.6	-6.8	Neutr
14	179.447k	39.5	+0.4 -1.4	+0.0	+0.0	+9.1	+0.0	47.6	54.5	-6.9	Neutr
15	214.030k	37.8	+0.3 -1.1	+0.0	+0.0	+9.1	+0.0	46.1	53.0	-6.9	Neutr
16	227.759k	37.2	+0.3 -1.0	+0.0	+0.0	+9.1	+0.0	45.6	52.5	-6.9	Neutr
17	2.677M	30.0	+0.1 -0.3	+0.0	+0.1	+9.1	+0.0	39.0	46.0	-7.0	Neutr
18	151.571k Ave	28.5	+1.2 -1.7	+0.0	+0.0	+9.1	+0.0	37.1	55.9	-18.8	Neutr
^	151.570k	43.3	+1.2 -1.7	+0.0	+0.0	+9.1	+0.0	51.9	55.9	-4.0	Neutr
^	155.238k	42.7	+0.8 -1.7	+0.0	+0.0	+9.1	+0.0	50.9	55.7	-4.8	Neutr
^	150.103k	41.3	+2.4 -1.8	+0.0	+0.0	+9.1	+0.0	51.0	56.0	-5.0	Neutr

Test Setup Photo(s)

Configuration 1

Configuration 2

15.109 Radiated Emissions

Test Notes: Radiated disturbances emanating from enclosure.

Test Setup / Conditions / Data

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/26/2020
Test Type:	**Maximized Emissions**	Time:	13:37:09
Tested By:	M. Harrison/M. Atkinson	Sequence#:	74
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

Frequency Range: 30-1000MHz

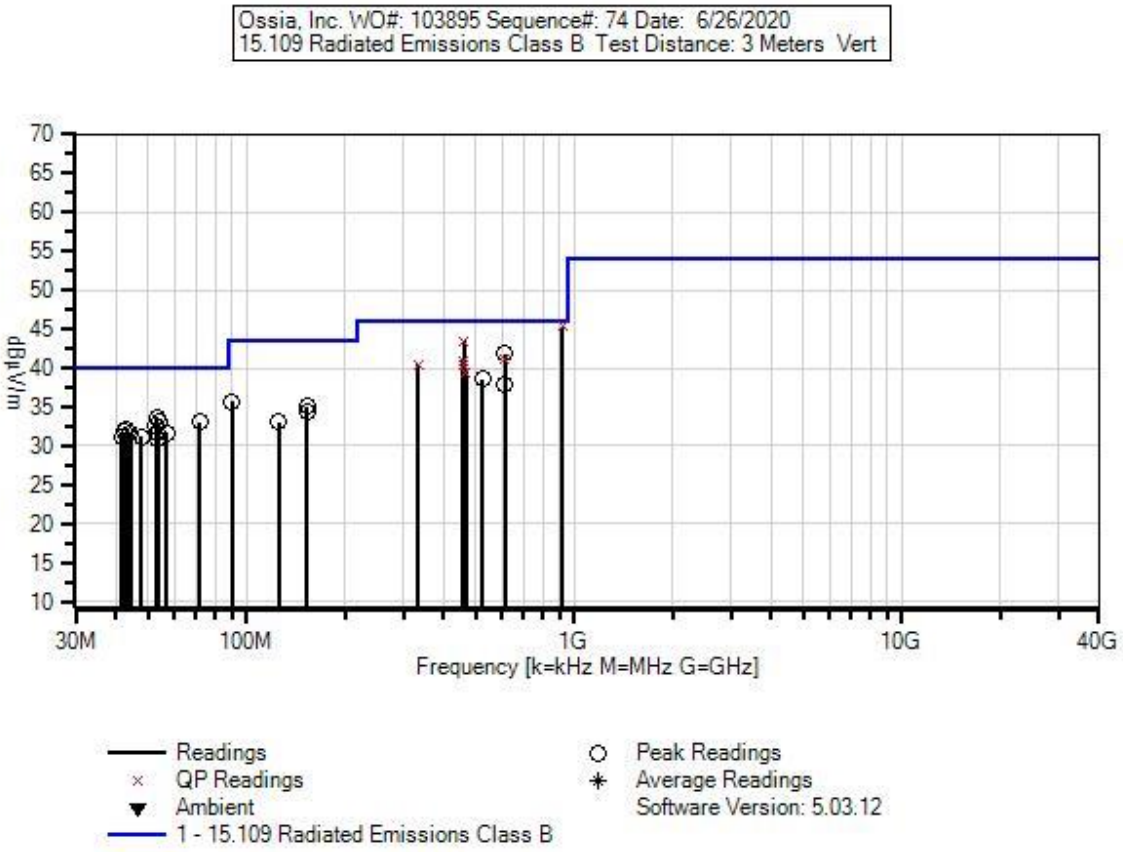
EUT connected to support laptop via USB cable. EUT connected to support PoE box with 2 x Ethernet cables for power. Support laptop connected to PoE box with 1 x Ethernet cable. Support Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

31 material ferrite on active USB extension cable outside of test volume, NOT a modification to the EUT.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T2	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T3	ANP05305	Cable	ETSI-50T	9/6/2019	9/6/2021
T4	AN02307	Preamp	8447D	1/10/2020	1/10/2022
T5	ANP05360	Cable	RG214	2/3/2020	2/3/2022
T6	ANP06123	Attenuator	18N-6	4/5/2019	4/5/2021
T7	AN03628	Biconilog Antenna	3142E	6/11/2019	6/11/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	918.756M	38.7	+0.0	+0.4	+1.5	-27.3	+0.0	45.3	46.0	-0.7	Vert
	QP		+2.1	+5.8	+24.1						
^	918.849M	39.2	+0.0	+0.4	+1.5	-27.3	+0.0	45.8	46.0	-0.2	Vert
			+2.1	+5.8	+24.1						
^	918.752M	36.0	+0.0	+0.4	+1.5	-27.3	+0.0	42.6	46.0	-3.4	Vert
			+2.1	+5.8	+24.1						
4	459.369M	44.8	+0.0	+0.2	+1.0	-27.9	+0.0	43.4	46.0	-2.6	Vert
	QP		+1.4	+5.8	+18.1						
^	459.369M	48.3	+0.0	+0.2	+1.0	-27.9	+0.0	46.9	46.0	+0.9	Vert
			+1.4	+5.8	+18.1						
6	612.000M	40.0	+0.0	+0.3	+1.2	-28.2	+0.0	41.8	46.0	-4.2	Vert
			+1.6	+5.8	+21.1						
7	612.509M	39.3	+0.0	+0.3	+1.2	-28.2	+0.0	41.1	46.0	-4.9	Vert
	QP		+1.6	+5.8	+21.1						
8	457.947M	42.4	+0.0	+0.2	+1.0	-27.9	+0.0	41.0	46.0	-5.0	Vert
	QP		+1.4	+5.8	+18.1						
9	457.630M	41.9	+0.0	+0.2	+1.0	-27.9	+0.0	40.5	46.0	-5.5	Vert
	QP		+1.4	+5.8	+18.1						
^	457.630M	46.9	+0.0	+0.2	+1.0	-27.9	+0.0	45.5	46.0	-0.5	Vert
			+1.4	+5.8	+18.1						
11	333.347M	44.8	+0.0	+0.2	+0.9	-27.1	+0.0	40.5	46.0	-5.5	Vert
	QP		+1.2	+5.8	+14.7						
^	333.347M	47.1	+0.0	+0.2	+0.9	-27.1	+0.0	42.8	46.0	-3.2	Vert
			+1.2	+5.8	+14.7						
13	53.315M	47.4	+0.0	+0.1	+0.4	-27.9	+0.0	33.6	40.0	-6.4	Vert
			+0.4	+5.8	+7.4						
14	465.220M	40.7	+0.0	+0.3	+1.1	-28.0	+0.0	39.5	46.0	-6.5	Vert
	QP		+1.4	+5.8	+18.2						
15	465.220M	40.7	+0.0	+0.3	+1.1	-28.0	+0.0	39.5	46.0	-6.5	Vert
	QP		+1.4	+5.8	+18.2						
^	465.220M	46.6	+0.0	+0.3	+1.1	-28.0	+0.0	45.4	46.0	-0.6	Vert
			+1.4	+5.8	+18.2						
17	72.084M	46.8	+0.0	+0.1	+0.4	-27.8	+0.0	33.0	40.0	-7.0	Vert
			+0.5	+5.8	+7.2						
18	53.778M	46.7	+0.0	+0.1	+0.4	-27.9	+0.0	33.0	40.0	-7.0	Vert
			+0.4	+5.8	+7.5						
19	52.810M	46.4	+0.0	+0.1	+0.4	-27.9	+0.0	32.6	40.0	-7.4	Vert
			+0.4	+5.8	+7.4						
20	524.186M	38.9	+0.0	+0.3	+1.1	-28.2	+0.0	38.5	46.0	-7.5	Vert
			+1.5	+5.8	+19.1						
21	43.130M	43.1	+0.0	+0.1	+0.3	-28.0	+0.0	32.2	40.0	-7.8	Vert
			+0.3	+5.8	+10.6						
22	90.286M	49.6	+0.0	+0.1	+0.4	-27.8	+0.0	35.7	43.5	-7.8	Vert
			+0.5	+5.8	+7.1						
23	612.343M	36.1	+0.0	+0.3	+1.2	-28.2	+0.0	37.9	46.0	-8.1	Vert
			+1.6	+5.8	+21.1						
24	42.331M	42.3	+0.0	+0.1	+0.3	-28.0	+0.0	31.8	40.0	-8.2	Vert
			+0.3	+5.8	+11.0						

25	53.104M	45.5	+0.0 +0.4	+0.1 +5.8	+0.4 +7.4	-27.9	+0.0	31.7	40.0	-8.3	Vert
26	56.976M	45.3	+0.0 +0.4	+0.1 +5.8	+0.4 +7.6	-27.9	+0.0	31.7	40.0	-8.3	Vert
27	153.145M	45.9	+0.0 +0.7	+0.2 +5.8	+0.6 +9.4	-27.5	+0.0	35.1	43.5	-8.4	Vert
28	44.140M	42.9	+0.0 +0.4	+0.1 +5.8	+0.3 +10.1	-28.0	+0.0	31.6	40.0	-8.4	Vert
29	41.447M	41.3	+0.0 +0.3	+0.1 +5.8	+0.3 +11.4	-28.0	+0.0	31.2	40.0	-8.8	Vert
30	47.760M	44.0	+0.0 +0.4	+0.1 +5.8	+0.4 +8.3	-27.9	+0.0	31.1	40.0	-8.9	Vert
31	153.112M	45.2	+0.0 +0.7	+0.2 +5.8	+0.6 +9.4	-27.5	+0.0	34.4	43.5	-9.1	Vert
32	53.300M	44.6	+0.0 +0.4	+0.1 +5.8	+0.4 +7.4	-27.9	+0.0	30.8	40.0	-9.2	Vert
33	125.100M	45.7	+0.0 +0.7	+0.1 +5.8	+0.5 +7.8	-27.6	+0.0	33.0	43.5	-10.5	Vert

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/26/2020
Test Type:	**Maximized Emissions**	Time:	13:40:22
Tested By:	M. Harrison/M. Atkinson	Sequence#:	73
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

Frequency Range: 30-1000MHz

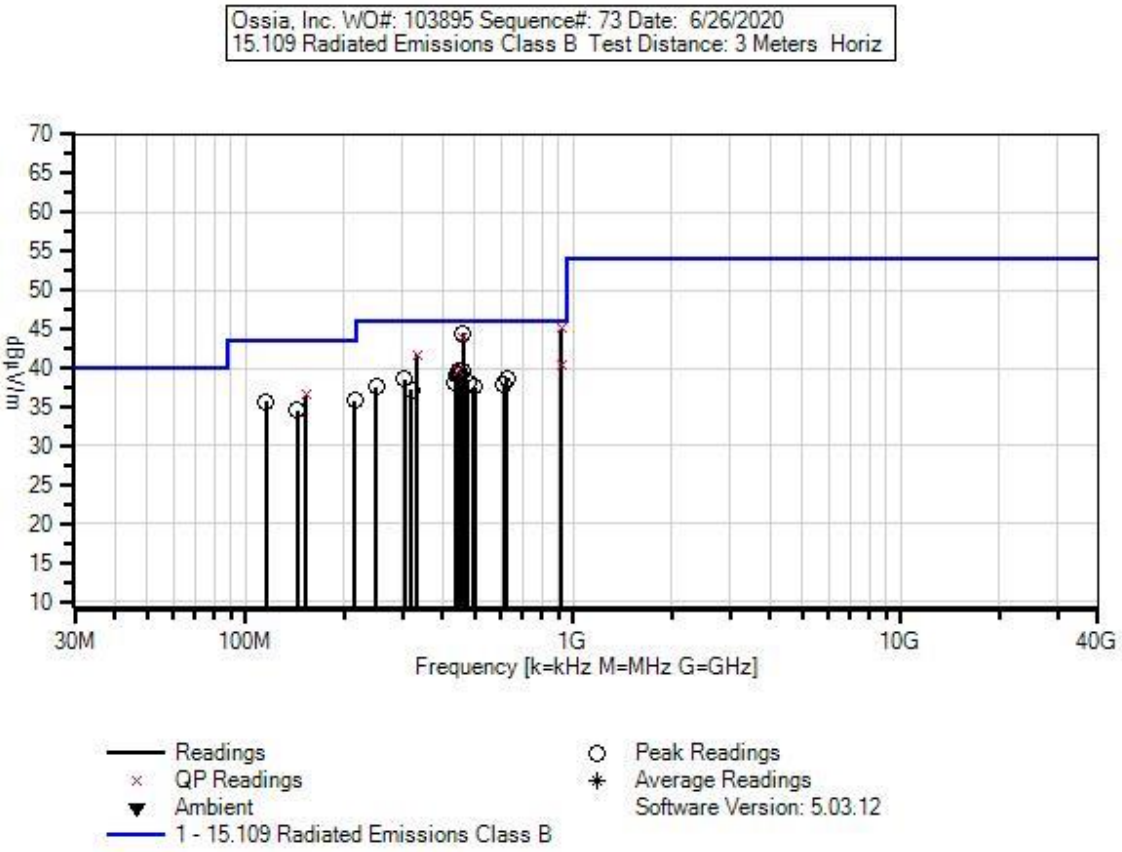
EUT connected to support laptop via USB cable. EUT connected to support PoE box with 2 x Ethernet cables for power. Support laptop connected to PoE box with 1 x Ethernet cable. Support Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

31 material ferrite on active USB extension cable outside of test volume, NOT a modification to the EUT.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T1	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T2	ANP05305	Cable	ETSI-50T	9/6/2019	9/6/2021
T3	AN02307	Preamp	8447D	1/10/2020	1/10/2022
T4	ANP05360	Cable	RG214	2/3/2020	2/3/2022
T5	ANP06123	Attenuator	18N-6	4/5/2019	4/5/2021
T6	AN03628	Biconilog Antenna	3142E	6/11/2019	6/11/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
			T5	T6							
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	918.757M	38.5	+0.4	+1.5	-27.3	+2.1	+0.0	45.1	46.0	-0.9	Horiz
	QP		+5.8	+24.1							
^	918.849M	33.6	+0.4	+1.5	-27.3	+2.1	+0.0	40.2	46.0	-5.8	Horiz
			+5.8	+24.1							
3	459.700M	45.8	+0.2	+1.0	-27.9	+1.4	+0.0	44.4	46.0	-1.6	Horiz
			+5.8	+18.1							
4	459.386M	45.3	+0.2	+1.0	-27.9	+1.4	+0.0	43.9	46.0	-2.1	Horiz
	QP		+5.8	+18.1							
5	333.356M	46.0	+0.2	+0.9	-27.1	+1.2	+0.0	41.7	46.0	-4.3	Horiz
	QP		+5.8	+14.7							
^	333.356M	48.8	+0.2	+0.9	-27.1	+1.2	+0.0	44.5	46.0	-1.5	Horiz
			+5.8	+14.7							
^	333.325M	44.8	+0.2	+0.9	-27.1	+1.2	+0.0	40.5	46.0	-5.5	Horiz
			+5.8	+14.7							
8	918.749M	33.9	+0.4	+1.5	-27.3	+2.1	+0.0	40.5	46.0	-5.5	Horiz
	QP		+5.8	+24.1							
^	918.760M	39.7	+0.4	+1.5	-27.3	+2.1	+0.0	46.3	46.0	+0.3	Horiz
			+5.8	+24.1							
^	918.749M	34.7	+0.4	+1.5	-27.3	+2.1	+0.0	41.3	46.0	-4.7	Horiz
			+5.8	+24.1							
11	458.214M	41.1	+0.2	+1.0	-27.9	+1.4	+0.0	39.7	46.0	-6.3	Horiz
			+5.8	+18.1							
12	449.000M	41.1	+0.2	+1.0	-27.9	+1.4	+0.0	39.6	46.0	-6.4	Horiz
	QP		+5.8	+18.0							
^	449.000M	45.2	+0.2	+1.0	-27.9	+1.4	+0.0	43.7	46.0	-2.3	Horiz
			+5.8	+18.0							
14	448.289M	41.1	+0.2	+1.0	-27.9	+1.4	+0.0	39.6	46.0	-6.4	Horiz
			+5.8	+18.0							
15	453.544M	40.6	+0.2	+1.0	-27.9	+1.4	+0.0	39.2	46.0	-6.8	Horiz
			+5.8	+18.1							
16	444.203M	40.7	+0.2	+1.0	-27.9	+1.4	+0.0	39.2	46.0	-6.8	Horiz
			+5.8	+18.0							
17	441.867M	40.6	+0.2	+1.0	-27.8	+1.4	+0.0	39.1	46.0	-6.9	Horiz
			+5.8	+17.9							
18	153.119M	47.3	+0.2	+0.6	-27.5	+0.7	+0.0	36.5	43.5	-7.0	Horiz
	QP		+5.8	+9.4							
^	153.122M	49.2	+0.2	+0.6	-27.5	+0.7	+0.0	38.4	43.5	-5.1	Horiz
			+5.8	+9.4							
^	153.082M	48.1	+0.2	+0.6	-27.5	+0.7	+0.0	37.2	43.5	-6.3	Horiz
			+5.8	+9.3							
21	625.187M	36.5	+0.3	+1.2	-28.2	+1.7	+0.0	38.7	46.0	-7.3	Horiz
			+5.8	+21.4							
22	306.112M	44.2	+0.2	+0.9	-27.1	+1.1	+0.0	38.5	46.0	-7.5	Horiz
			+5.8	+13.4							
23	214.754M	44.8	+0.2	+0.7	-27.2	+0.9	+0.0	35.8	43.5	-7.7	Horiz
			+5.8	+10.6							

24	476.897M	39.3	+0.3 +5.8	+1.1 +18.3	-28.0	+1.4	+0.0	38.2	46.0	-7.8	Horiz
25	114.960M	48.4	+0.1 +5.8	+0.5 +8.0	-27.7	+0.6	+0.0	35.7	43.5	-7.8	Horiz
26	434.861M	39.6	+0.2 +5.8	+1.0 +17.9	-27.8	+1.4	+0.0	38.1	46.0	-7.9	Horiz
27	612.343M	36.0	+0.3 +5.8	+1.2 +21.1	-28.2	+1.6	+0.0	37.8	46.0	-8.2	Horiz
28	499.666M	38.5	+0.3 +5.8	+1.1 +18.5	-28.1	+1.5	+0.0	37.6	46.0	-8.4	Horiz
29	495.579M	38.5	+0.3 +5.8	+1.1 +18.5	-28.1	+1.5	+0.0	37.6	46.0	-8.4	Horiz
30	249.985M	44.5	+0.2 +5.8	+0.8 +12.2	-27.0	+1.0	+0.0	37.5	46.0	-8.5	Horiz
31	319.718M	42.2	+0.2 +5.8	+0.9 +14.1	-27.1	+1.1	+0.0	37.2	46.0	-8.8	Horiz
32	143.779M	46.3	+0.1 +5.8	+0.5 +8.7	-27.5	+0.7	+0.0	34.6	43.5	-8.9	Horiz

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/26/2020
Test Type:	**Maximized Emissions**	Time:	12:35:20
Tested By:	M. Harrison/M. Atkinson	Sequence#:	55
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

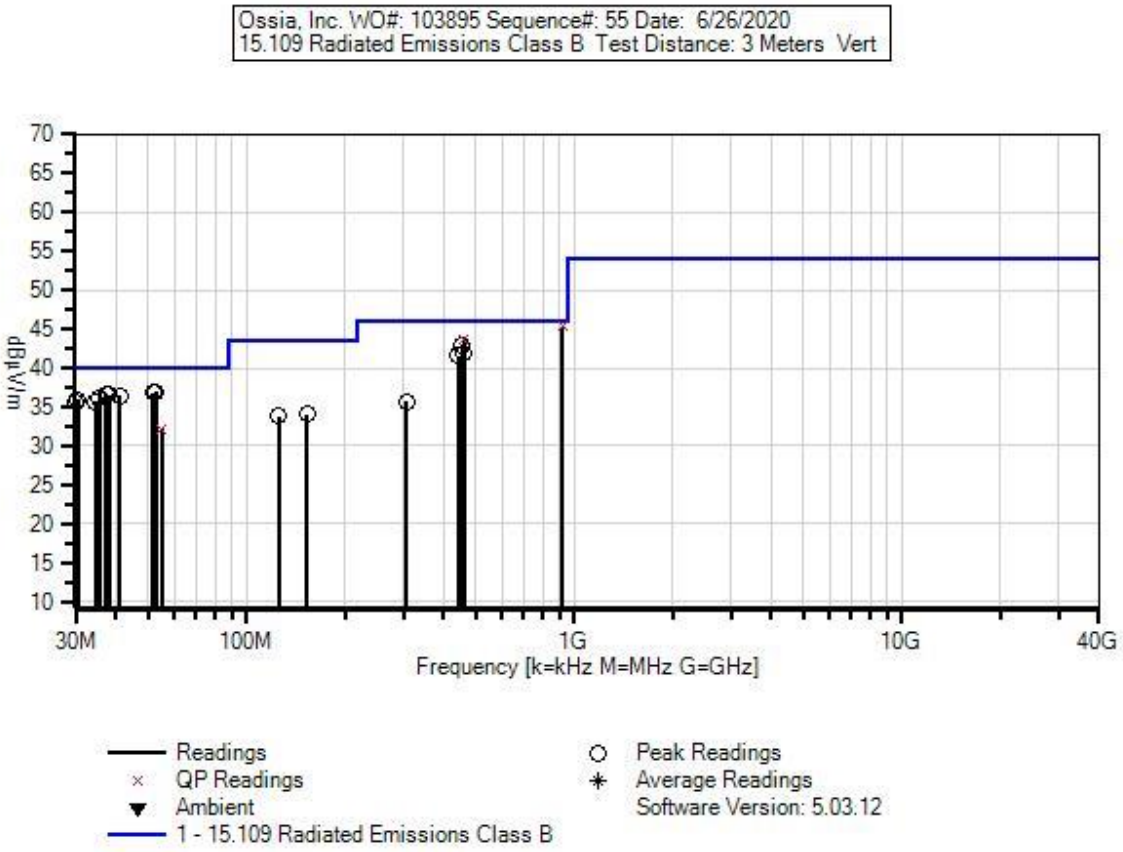
Frequency Range: 30-1000MHz

EUT connected to support laptop via USB cable. EUT connected to AC adapter for power. EUT connected to support Laptop via Ethernet cable. Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T1	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T2	ANP05305	Cable	ETSI-50T	9/6/2019	9/6/2021
T3	AN02307	Preamp	8447D	1/10/2020	1/10/2022
T4	ANP05360	Cable	RG214	2/3/2020	2/3/2022
T5	ANP06123	Attenuator	18N-6	4/5/2019	4/5/2021
T6	AN03628	Biconilog Antenna	3142E	6/11/2019	6/11/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	918.754M	38.7	+0.4	+1.5	-27.3	+2.1	+0.0	45.3	46.0	-0.7	Vert
	QP		+5.8	+24.1							
^	918.754M	39.8	+0.4	+1.5	-27.3	+2.1	+0.0	46.4	46.0	+0.4	Vert
			+5.8	+24.1							
3	459.358M	45.0	+0.2	+1.0	-27.9	+1.4	+0.0	43.6	46.0	-2.4	Vert
	QP		+5.8	+18.1							
^	459.358M	48.3	+0.2	+1.0	-27.9	+1.4	+0.0	46.9	46.0	+0.9	Vert
			+5.8	+18.1							
5	52.760M	50.7	+0.1	+0.4	-27.9	+0.4	+0.0	36.9	40.0	-3.1	Vert
			+5.8	+7.4							
6	454.266M	44.2	+0.2	+1.0	-27.9	+1.4	+0.0	42.8	46.0	-3.2	Vert
			+5.8	+18.1							
7	51.828M	50.6	+0.1	+0.4	-27.9	+0.4	+0.0	36.8	40.0	-3.2	Vert
			+5.8	+7.4							
8	37.254M	44.9	+0.1	+0.3	-28.0	+0.3	+0.0	36.7	40.0	-3.3	Vert
			+5.8	+13.3							
9	37.986M	45.0	+0.1	+0.3	-28.0	+0.3	+0.0	36.5	40.0	-3.5	Vert
			+5.8	+13.0							
10	41.047M	46.2	+0.1	+0.3	-28.0	+0.3	+0.0	36.4	40.0	-3.6	Vert
			+5.8	+11.7							
11	35.390M	43.5	+0.1	+0.3	-27.9	+0.3	+0.0	36.2	40.0	-3.8	Vert
			+5.8	+14.1							
12	30.532M	40.9	+0.1	+0.3	-27.9	+0.3	+0.0	35.9	40.0	-4.1	Vert
			+5.8	+16.4							
13	457.870M	43.2	+0.2	+1.0	-27.9	+1.4	+0.0	41.8	46.0	-4.2	Vert
			+5.8	+18.1							
14	30.067M	40.4	+0.1	+0.3	-27.9	+0.3	+0.0	35.7	40.0	-4.3	Vert
			+5.8	+16.7							
15	34.459M	42.6	+0.1	+0.3	-27.9	+0.3	+0.0	35.7	40.0	-4.3	Vert
			+5.8	+14.5							
16	441.293M	43.1	+0.2	+1.0	-27.8	+1.4	+0.0	41.6	46.0	-4.4	Vert
			+5.8	+17.9							
17	55.062M	45.9	+0.1	+0.4	-27.9	+0.4	+0.0	32.2	40.0	-7.8	Vert
	QP		+5.8	+7.5							
^	55.062M	52.8	+0.1	+0.4	-27.9	+0.4	+0.0	39.1	40.0	-0.9	Vert
			+5.8	+7.5							
19	153.137M	44.9	+0.2	+0.6	-27.5	+0.7	+0.0	34.1	43.5	-9.4	Vert
			+5.8	+9.4							
20	125.100M	46.5	+0.1	+0.5	-27.6	+0.7	+0.0	33.8	43.5	-9.7	Vert
			+5.8	+7.8							
21	306.241M	41.4	+0.2	+0.9	-27.1	+1.1	+0.0	35.7	46.0	-10.3	Vert
			+5.8	+13.4							

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/26/2020
Test Type:	**Maximized Emissions**	Time:	12:39:23
Tested By:	M. Harrison/M. Atkinson	Sequence#:	56
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

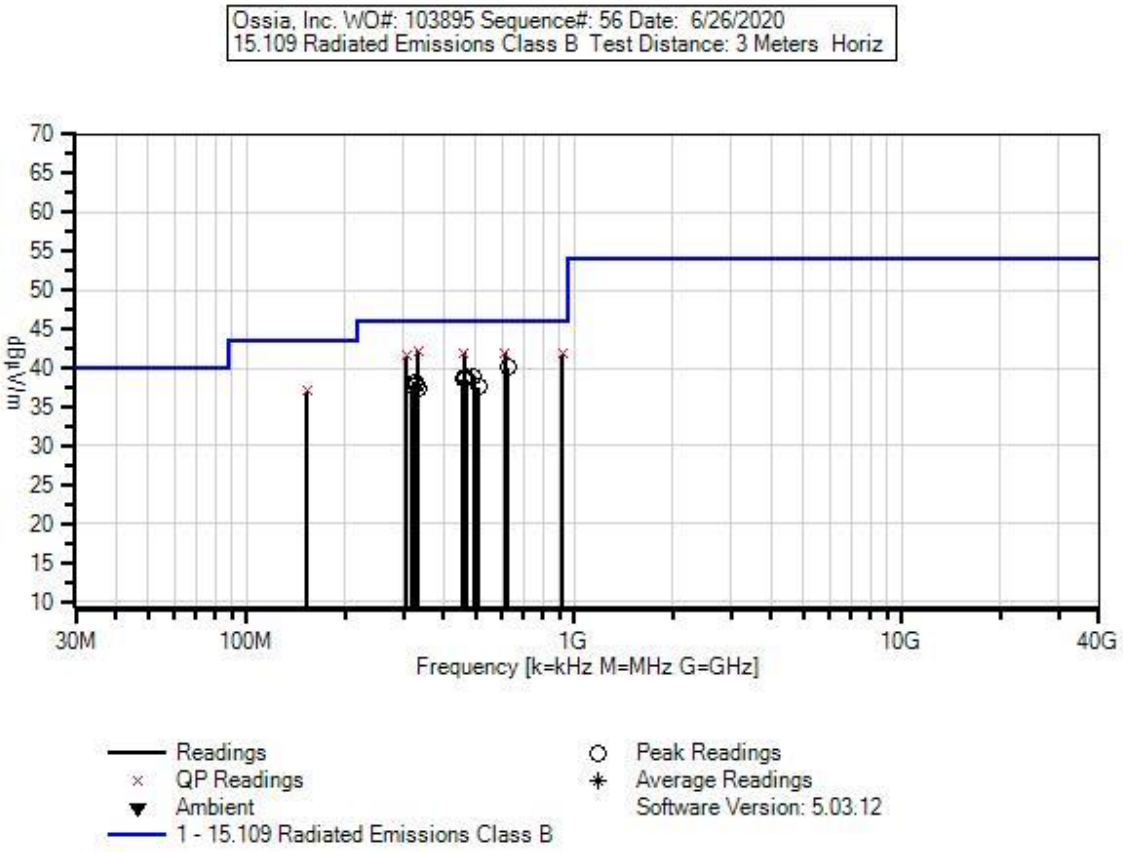
Frequency Range: 30-1000MHz

EUT connected to support laptop via USB cable. EUT connected to AC adapter for power. EUT connected to support Laptop via Ethernet cable. Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T1	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T2	ANP05305	Cable	ETSI-50T	9/6/2019	9/6/2021
T3	AN02307	Preamp	8447D	1/10/2020	1/10/2022
T4	ANP05360	Cable	RG214	2/3/2020	2/3/2022
T5	ANP06123	Attenuator	18N-6	4/5/2019	4/5/2021
T6	AN03628	Biconilog Antenna	3142E	6/11/2019	6/11/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	333.337M	46.5	+0.2	+0.9	-27.1	+1.2	+0.0	42.2	46.0	-3.8	Horiz
	QP		+5.8	+14.7							
^	333.337M	49.1	+0.2	+0.9	-27.1	+1.2	+0.0	44.8	46.0	-1.2	Horiz
			+5.8	+14.7							
3	612.494M	40.2	+0.3	+1.2	-28.2	+1.6	+0.0	42.0	46.0	-4.0	Horiz
	QP		+5.8	+21.1							
^	612.494M	41.5	+0.3	+1.2	-28.2	+1.6	+0.0	43.3	46.0	-2.7	Horiz
			+5.8	+21.1							
5	459.378M	43.3	+0.2	+1.0	-27.9	+1.4	+0.0	41.9	46.0	-4.1	Horiz
	QP		+5.8	+18.1							
^	459.378M	45.8	+0.2	+1.0	-27.9	+1.4	+0.0	44.4	46.0	-1.6	Horiz
			+5.8	+18.1							
7	918.752M	35.2	+0.4	+1.5	-27.3	+2.1	+0.0	41.8	46.0	-4.2	Horiz
	QP		+5.8	+24.1							
^	918.752M	37.7	+0.4	+1.5	-27.3	+2.1	+0.0	44.3	46.0	-1.7	Horiz
			+5.8	+24.1							
9	306.242M	47.3	+0.2	+0.9	-27.1	+1.1	+0.0	41.6	46.0	-4.4	Horiz
	QP		+5.8	+13.4							
^	306.242M	50.2	+0.2	+0.9	-27.1	+1.1	+0.0	44.5	46.0	-1.5	Horiz
			+5.8	+13.4							
11	624.957M	37.9	+0.3	+1.2	-28.2	+1.7	+0.0	40.1	46.0	-5.9	Horiz
			+5.8	+21.4							
12	153.128M	47.8	+0.2	+0.6	-27.5	+0.7	+0.0	37.0	43.5	-6.5	Horiz
	QP		+5.8	+9.4							
^	153.128M	49.9	+0.2	+0.6	-27.5	+0.7	+0.0	39.1	43.5	-4.4	Horiz
			+5.8	+9.4							
^	153.200M	46.2	+0.2	+0.6	-27.5	+0.7	+0.0	35.4	43.5	-8.1	Horiz
			+5.8	+9.4							
15	463.756M	40.1	+0.3	+1.1	-28.0	+1.4	+0.0	38.9	46.0	-7.1	Horiz
			+5.8	+18.2							
16	493.305M	39.9	+0.3	+1.1	-28.1	+1.5	+0.0	38.9	46.0	-7.1	Horiz
			+5.8	+18.4							
17	468.320M	39.8	+0.3	+1.1	-28.0	+1.4	+0.0	38.6	46.0	-7.4	Horiz
			+5.8	+18.2							
18	457.990M	39.9	+0.2	+1.0	-27.9	+1.4	+0.0	38.5	46.0	-7.5	Horiz
			+5.8	+18.1							
19	325.017M	43.0	+0.2	+0.9	-27.1	+1.1	+0.0	38.2	46.0	-7.8	Horiz
			+5.8	+14.3							
20	328.260M	42.4	+0.2	+0.9	-27.1	+1.2	+0.0	37.9	46.0	-8.1	Horiz
			+5.8	+14.5							
21	509.521M	38.4	+0.3	+1.1	-28.2	+1.5	+0.0	37.6	46.0	-8.4	Horiz
			+5.8	+18.7							
22	320.933M	42.6	+0.2	+0.9	-27.1	+1.1	+0.0	37.6	46.0	-8.4	Horiz
			+5.8	+14.1							
23	333.666M	41.7	+0.2	+0.9	-27.1	+1.2	+0.0	37.4	46.0	-8.6	Horiz
			+5.8	+14.7							

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/26/2020
Test Type:	**Maximized Emissions**	Time:	16:08:30
Tested By:	Michael Atkinson	Sequence#:	83
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

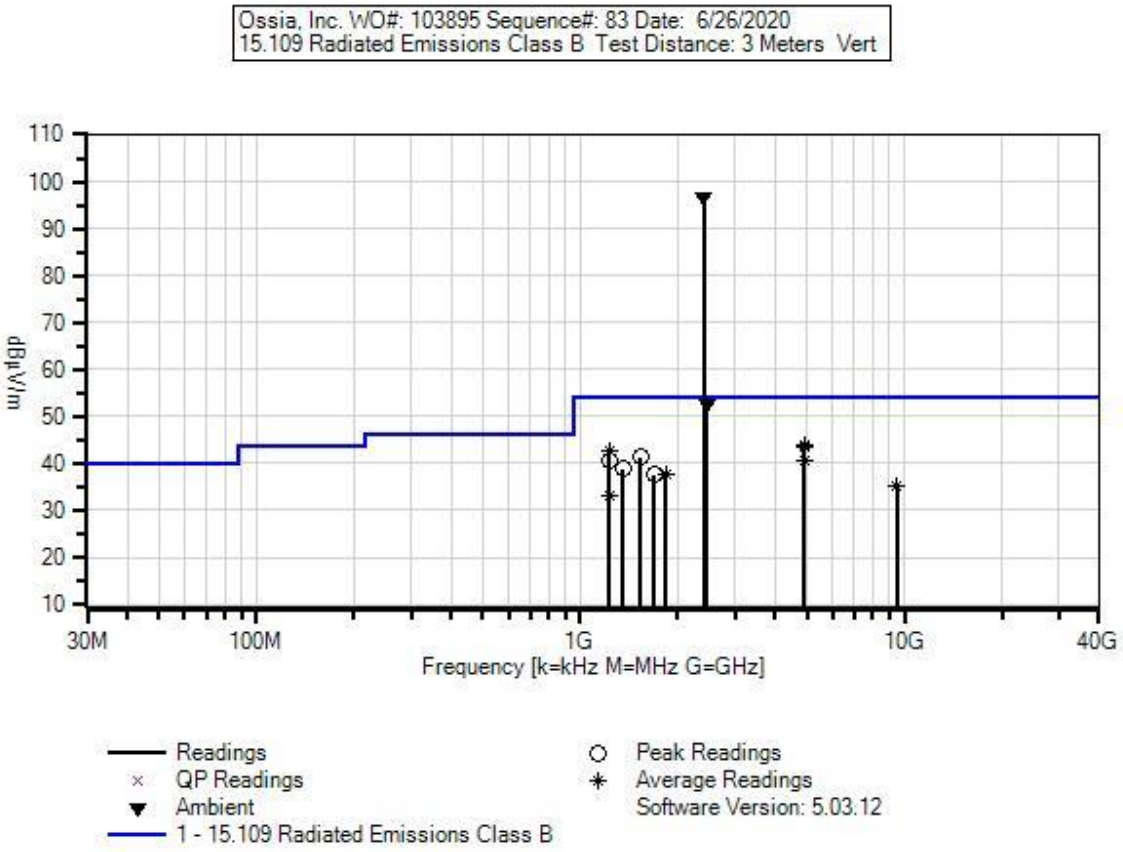
Frequency Range: 1-10GHz

EUT connected to support laptop via USB cable. EUT connected to support PoE box with 2 x Ethernet cables for power. Support laptop connected to PoE box with 1 x Ethernet cable. Support Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T2	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T3	ANP06515	Cable	Heliax	6/29/2018	6/29/2020
T4	AN03540	Preamp	83017A	5/13/2019	5/13/2021
T5	ANP07504	Cable	CLU40-KMKM-02.00F	1/17/2019	1/17/2021
T6	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	7/5/2019	7/5/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	2410.612M	99.7	+0.0	+0.6	+2.6	-34.3	+0.0	96.5	54.0	+42.5	Vert
	Ambient		+0.3	+27.6							
2	2457.867M	55.6	+0.0	+0.6	+2.7	-34.3	+0.0	52.5	54.0	-1.5	Vert
	Ambient		+0.3	+27.6							
3	4900.046M	39.4	+0.0	+0.9	+4.2	-33.6	+0.0	43.9	54.0	-10.1	Vert
	Ave		+0.5	+32.5							
4	4900.046M	39.2	+0.0	+0.9	+4.2	-33.6	+0.0	43.7	54.0	-10.3	Vert
	Ave		+0.5	+32.5							
5	1225.077M	51.5	+0.0	+0.4	+1.8	-36.1	+0.0	42.8	54.0	-11.2	Vert
	Ave		+0.1	+25.1							
6	1530.400M	48.5	+0.0	+0.5	+2.2	-35.3	+0.0	41.3	54.0	-12.7	Vert
			+0.2	+25.2							
7	1225.600M	49.4	+0.0	+0.4	+1.8	-36.1	+0.0	40.7	54.0	-13.3	Vert
			+0.1	+25.1							
8	4900.046M	36.1	+0.0	+0.9	+4.2	-33.6	+0.0	40.6	54.0	-13.4	Vert
	Ave		+0.5	+32.5							
^	4900.011M	42.2	+0.0	+0.9	+4.2	-33.6	+0.0	46.7	54.0	-7.3	Vert
			+0.5	+32.5							
10	1350.400M	46.8	+0.0	+0.4	+2.0	-35.7	+0.0	38.8	54.0	-15.2	Vert
			+0.1	+25.2							
11	1837.530M	43.2	+0.0	+0.5	+2.3	-34.8	+0.0	37.8	54.0	-16.2	Vert
	Ave		+0.2	+26.4							
^	1837.600M	47.3	+0.0	+0.5	+2.3	-34.8	+0.0	41.9	54.0	-12.1	Vert
			+0.2	+26.4							
13	1684.000M	44.2	+0.0	+0.5	+2.2	-35.0	+0.0	37.5	54.0	-16.5	Vert
			+0.2	+25.4							
14	9496.309M	23.2	+0.0	+1.4	+6.2	-33.9	+0.0	35.1	54.0	-18.9	Vert
	Ave		+0.6	+37.6							
^	9496.309M	39.2	+0.0	+1.4	+6.2	-33.9	+0.0	51.1	54.0	-2.9	Vert
			+0.6	+37.6							
16	1225.025M	42.0	+0.0	+0.4	+1.8	-36.1	+0.0	33.3	54.0	-20.7	Vert
	Ave		+0.1	+25.1							
^	1225.000M	50.9	+0.0	+0.4	+1.8	-36.1	+0.0	42.2	54.0	-11.8	Vert
			+0.1	+25.1							
^	1225.000M	50.7	+0.0	+0.4	+1.8	-36.1	+0.0	42.0	54.0	-12.0	Vert
			+0.1	+25.1							

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/26/2020
Test Type:	**Maximized Emissions**	Time:	16:03:49
Tested By:	Michael Atkinson	Sequence#:	84
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

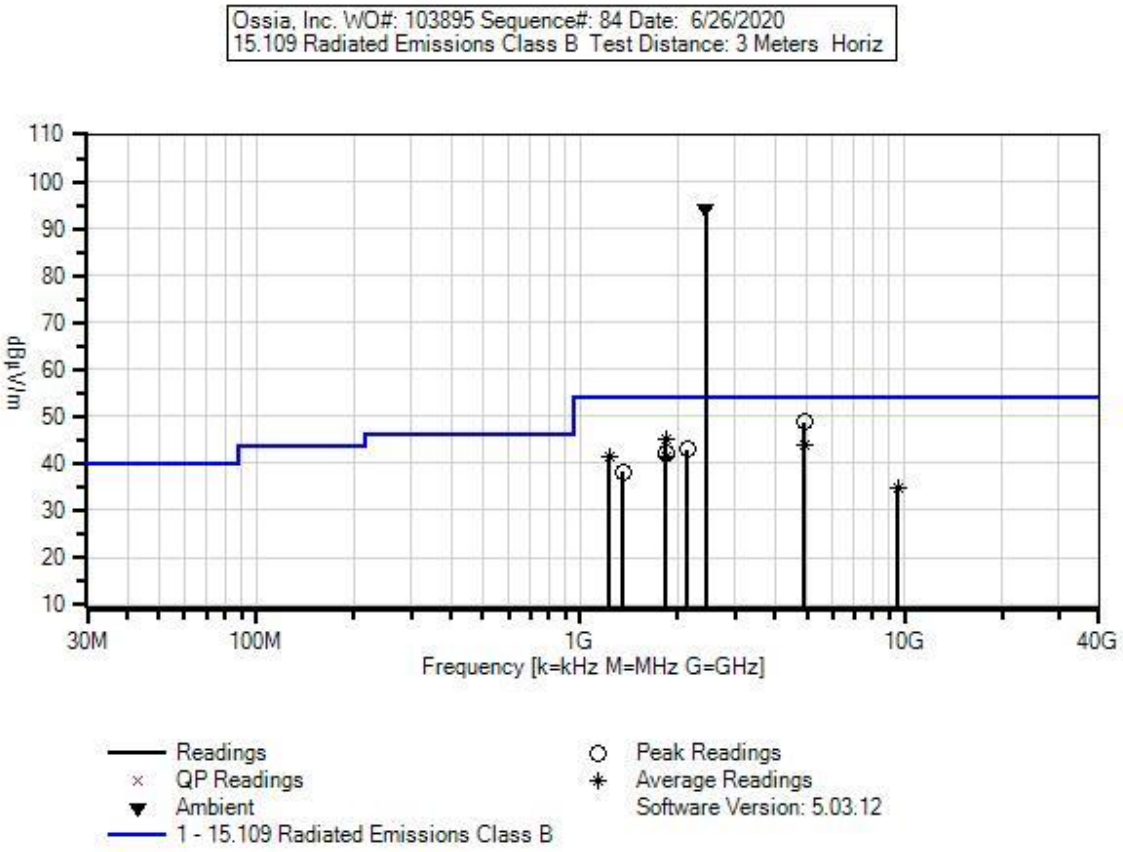
Frequency Range: 1-10GHz

EUT connected to support laptop via USB cable. EUT connected to support PoE box with 2 x Ethernet cables for power. Support laptop connected to PoE box with 1 x Ethernet cable. Support Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T2	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T3	ANP06515	Cable	Heliax	6/29/2018	6/29/2020
T4	AN03540	Preamp	83017A	5/13/2019	5/13/2021
T5	ANP07504	Cable	CLU40-KMKM-02.00F	1/17/2019	1/17/2021
T6	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	7/5/2019	7/5/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	2437.000M	97.5	+0.0	+0.6	+2.6	-34.3	+0.0	94.3	54.0	+40.3	Horiz
	Ambient		+0.3	+27.6							
2	4900.000M	44.2	+0.0	+0.9	+4.2	-33.6	+0.0	48.7	54.0	-5.3	Horiz
			+0.5	+32.5							
3	1837.556M	50.7	+0.0	+0.5	+2.3	-34.8	+0.0	45.3	54.0	-8.7	Horiz
	Ave		+0.2	+26.4							
4	4900.142M	39.5	+0.0	+0.9	+4.2	-33.6	+0.0	44.0	54.0	-10.0	Horiz
	Ave		+0.5	+32.5							
5	4900.142M	39.3	+0.0	+0.9	+4.2	-33.6	+0.0	43.8	54.0	-10.2	Horiz
	Ave		+0.5	+32.5							
6	2143.000M	46.3	+0.0	+0.6	+2.4	-34.4	+0.0	42.9	54.0	-11.1	Horiz
			+0.2	+27.8							
7	1838.500M	47.8	+0.0	+0.5	+2.3	-34.8	+0.0	42.4	54.0	-11.6	Horiz
			+0.2	+26.4							
8	1837.556M	47.0	+0.0	+0.5	+2.3	-34.8	+0.0	41.6	54.0	-12.4	Horiz
	Ave		+0.2	+26.4							
9	1225.070M	50.2	+0.0	+0.4	+1.8	-36.1	+0.0	41.5	54.0	-12.5	Horiz
	Ave		+0.1	+25.1							
^	1225.000M	52.5	+0.0	+0.4	+1.8	-36.1	+0.0	43.8	54.0	-10.2	Horiz
			+0.1	+25.1							
11	1351.000M	46.1	+0.0	+0.4	+2.0	-35.7	+0.0	38.1	54.0	-15.9	Horiz
			+0.1	+25.2							
12	9528.460M	22.9	+0.0	+1.4	+6.2	-33.9	+0.0	34.8	54.0	-19.2	Horiz
	Ave		+0.6	+37.6							
^	9528.460M	38.6	+0.0	+1.4	+6.2	-33.9	+0.0	50.5	54.0	-3.5	Horiz
			+0.6	+37.6							

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/26/2020
Test Type:	**Maximized Emissions**	Time:	15:25:27
Tested By:	Michael Atkinson	Sequence#:	82
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

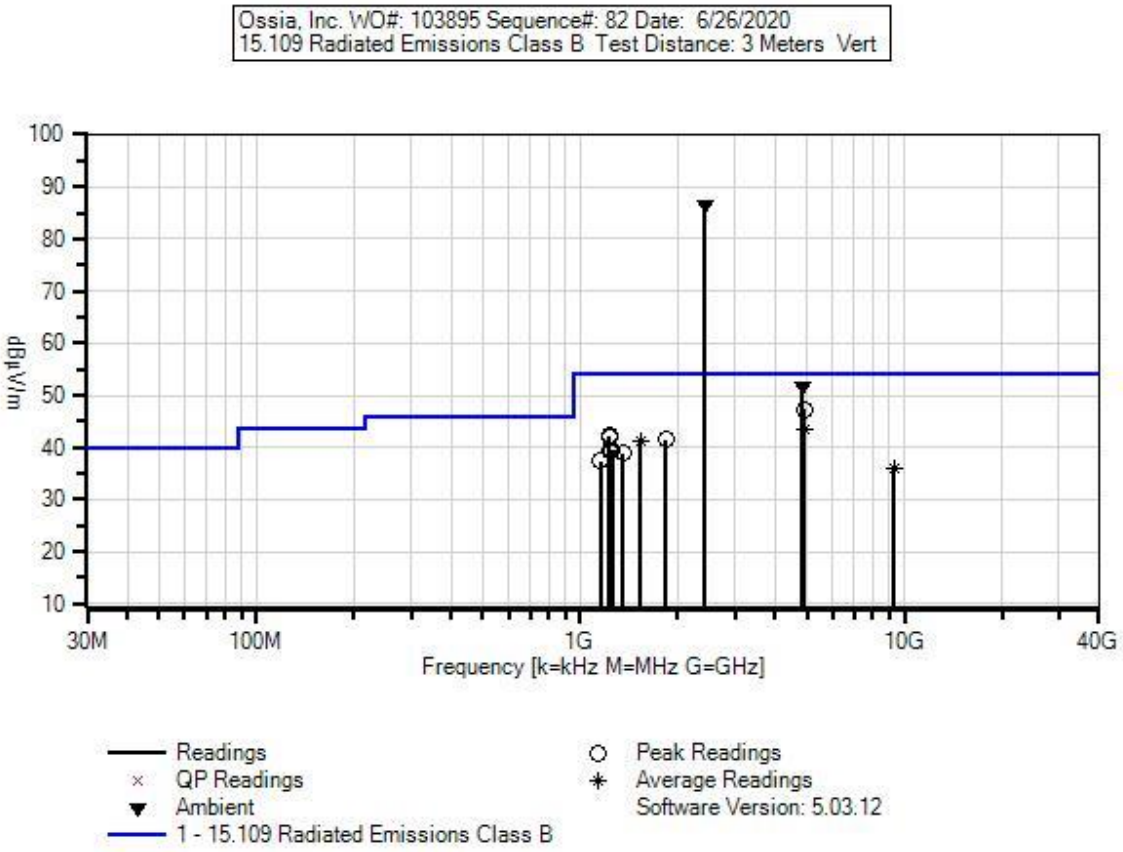
Frequency Range: 1-10GHz

EUT connected to support laptop via USB cable. EUT connected to AC adapter for power. EUT connected to support Laptop via Ethernet cable. Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T2	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T3	ANP06515	Cable	Heliax	6/29/2018	6/29/2020
T4	AN03540	Preamp	83017A	5/13/2019	5/13/2021
T5	ANP07504	Cable	CLU40-KMKM-02.00F	1/17/2019	1/17/2021
T6	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	7/5/2019	7/5/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	2423.500M	89.9	+0.0	+0.6	+2.6	-34.3	+0.0	86.7	54.0	+32.7	Vert
	Ambient		+0.3	+27.6							
2	4852.000M	47.4	+0.0	+0.9	+4.1	-33.6	+0.0	51.7	54.0	-2.3	Vert
	Ambient		+0.5	+32.4							
3	4899.913M	42.8	+0.0	+0.9	+4.2	-33.6	+0.0	47.3	54.0	-6.7	Vert
			+0.5	+32.5							
4	4900.041M	39.1	+0.0	+0.9	+4.2	-33.6	+0.0	43.6	54.0	-10.4	Vert
	Ave		+0.5	+32.5							
5	1225.000M	51.0	+0.0	+0.4	+1.8	-36.1	+0.0	42.3	54.0	-11.7	Vert
			+0.1	+25.1							
6	1225.000M	50.6	+0.0	+0.4	+1.8	-36.1	+0.0	41.9	54.0	-12.1	Vert
			+0.1	+25.1							
7	1837.000M	46.9	+0.0	+0.5	+2.3	-34.8	+0.0	41.5	54.0	-12.5	Vert
			+0.2	+26.4							
8	1531.313M	48.4	+0.0	+0.5	+2.2	-35.3	+0.0	41.2	54.0	-12.8	Vert
	Ave		+0.2	+25.2							
^	1531.313M	50.9	+0.0	+0.5	+2.2	-35.3	+0.0	43.7	54.0	-10.3	Vert
			+0.2	+25.2							
10	1250.500M	48.0	+0.0	+0.4	+1.8	-36.0	+0.0	39.5	54.0	-14.5	Vert
			+0.1	+25.2							
11	1225.000M	48.0	+0.0	+0.4	+1.8	-36.1	+0.0	39.3	54.0	-14.7	Vert
			+0.1	+25.1							
12	1349.500M	46.9	+0.0	+0.4	+2.0	-35.7	+0.0	38.9	54.0	-15.1	Vert
			+0.1	+25.2							
13	1150.000M	46.7	+0.0	+0.4	+1.8	-36.5	+0.0	37.4	54.0	-16.6	Vert
			+0.1	+24.9							
14	9298.048M	24.3	+0.0	+1.5	+6.2	-34.1	+0.0	35.9	54.0	-18.1	Vert
	Ave		+0.4	+37.6							
^	9298.048M	39.0	+0.0	+1.5	+6.2	-34.1	+0.0	50.6	54.0	-3.4	Vert
			+0.4	+37.6							

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/26/2020
Test Type:	**Maximized Emissions**	Time:	15:20:46
Tested By:	Michael Atkinson	Sequence#:	81
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 2			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 2			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

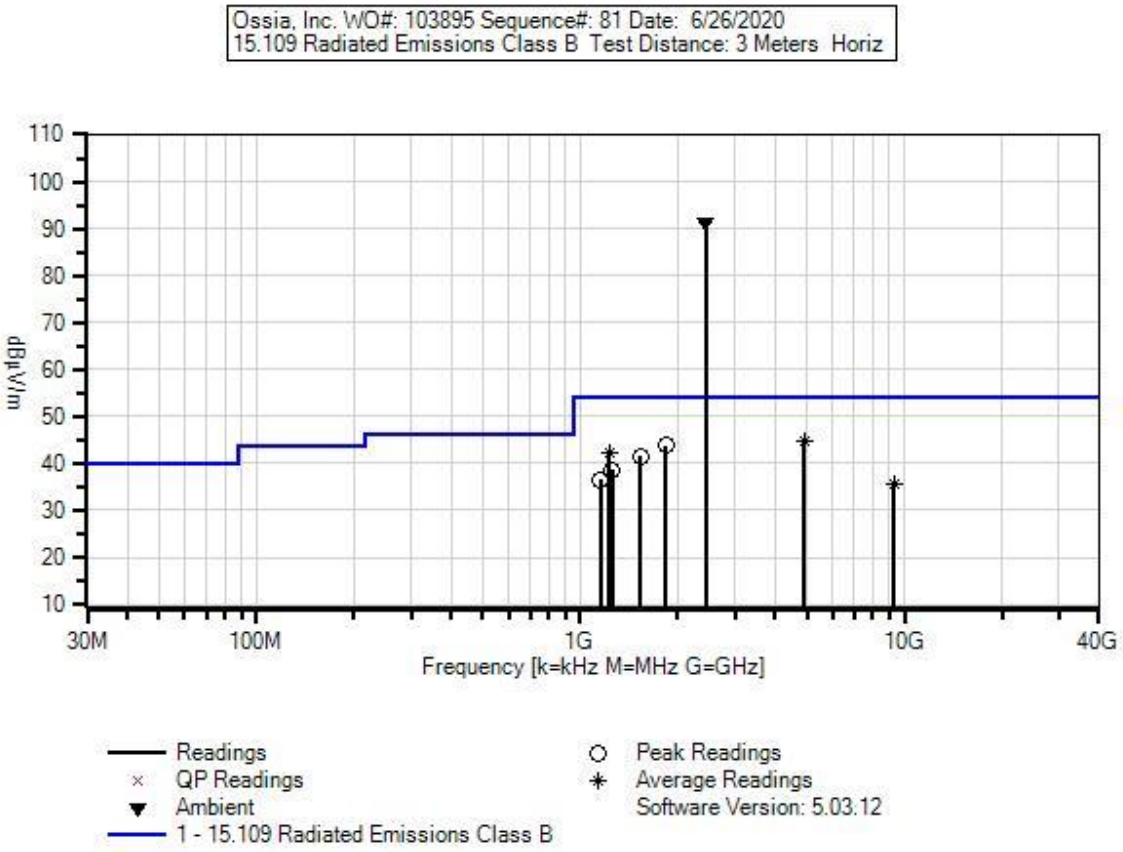
Frequency Range: 1-10GHz

EUT connected to support laptop via USB cable. EUT connected to AC adapter for power. EUT connected to support Laptop via Ethernet cable. Laptop is located remotely.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
T1	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T2	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T3	ANP06515	Cable	Heliax	6/29/2018	6/29/2020
T4	AN03540	Preamp	83017A	5/13/2019	5/13/2021
T5	ANP07504	Cable	CLU40-KMKM-02.00F	1/17/2019	1/17/2021
T6	AN01467	Horn Antenna-ANSI C63.5 Calibration	3115	7/5/2019	7/5/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	2438.500M	94.3	+0.0	+0.6	+2.6	-34.3	+0.0	91.1	54.0	+37.1	Horiz
	Ambient		+0.3	+27.6							
2	4900.059M	40.2	+0.0	+0.9	+4.2	-33.6	+0.0	44.7	54.0	-9.3	Horiz
	Ave		+0.5	+32.5							
^	4900.000M	43.5	+0.0	+0.9	+4.2	-33.6	+0.0	48.0	54.0	-6.0	Horiz
			+0.5	+32.5							
4	1837.500M	49.2	+0.0	+0.5	+2.3	-34.8	+0.0	43.8	54.0	-10.2	Horiz
			+0.2	+26.4							
5	1225.006M	50.8	+0.0	+0.4	+1.8	-36.1	+0.0	42.1	54.0	-11.9	Horiz
	Ave		+0.1	+25.1							
^	1225.000M	52.8	+0.0	+0.4	+1.8	-36.1	+0.0	44.1	54.0	-9.9	Horiz
			+0.1	+25.1							
7	1531.000M	48.8	+0.0	+0.5	+2.2	-35.3	+0.0	41.6	54.0	-12.4	Horiz
			+0.2	+25.2							
8	1250.500M	47.2	+0.0	+0.4	+1.8	-36.0	+0.0	38.7	54.0	-15.3	Horiz
			+0.1	+25.2							
9	1151.500M	45.8	+0.0	+0.4	+1.8	-36.5	+0.0	36.5	54.0	-17.5	Horiz
			+0.1	+24.9							
10	9303.407M	24.2	+0.0	+1.5	+6.2	-34.1	+0.0	35.8	54.0	-18.2	Horiz
	Ave		+0.4	+37.6							
^	9303.407M	39.3	+0.0	+1.5	+6.2	-34.1	+0.0	50.9	54.0	-3.1	Horiz
			+0.4	+37.6							

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/26/2020
Test Type:	**Maximized Emissions**	Time:	16:18:24
Tested By:	Michael Atkinson	Sequence#:	85
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

Frequency Range: 10-18GHz

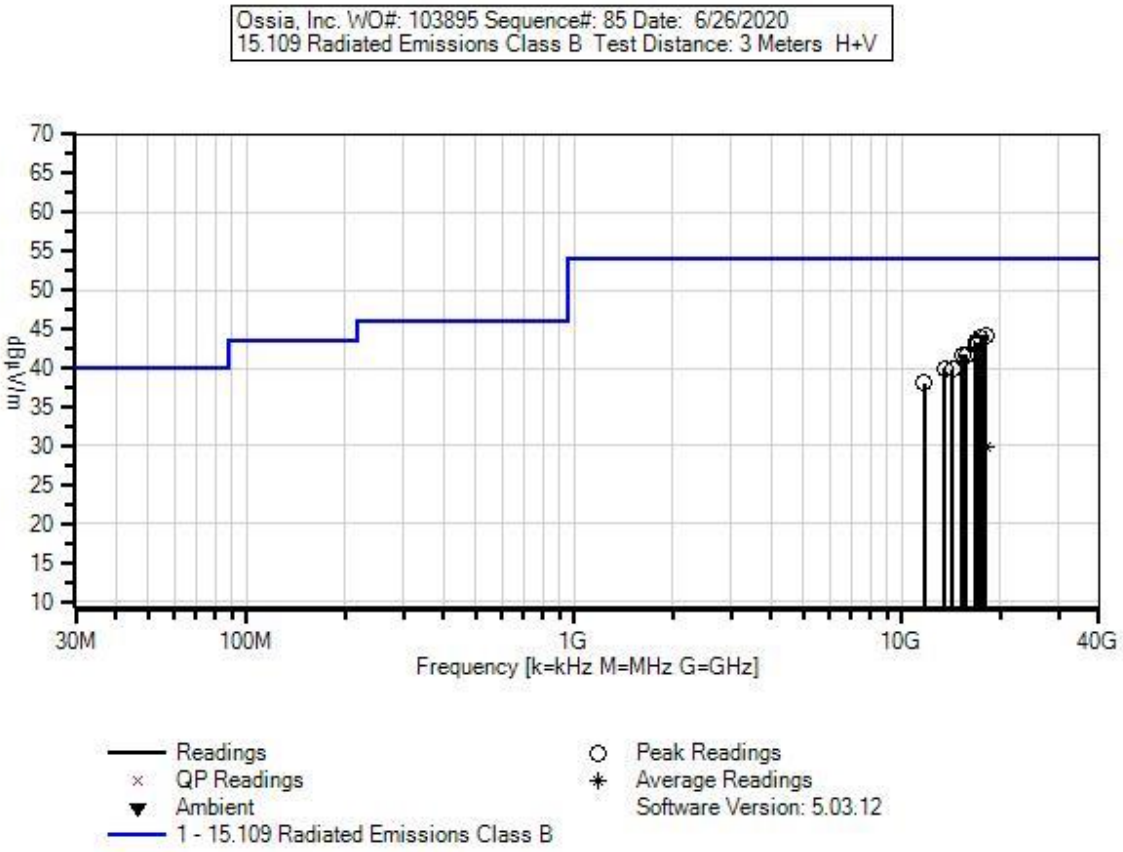
EUT connected to support laptop via USB cable. EUT connected to support PoE box with 2 x Ethernet cables for power. Support laptop connected to PoE box with 1 x Ethernet cable. Support Laptop is located remotely.

Data collected in configuration 1 is representative of worst case.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported. Horizontal and Vertical antenna polarities investigated, worst case reported.



Test Equipment:

ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T1	ANP06540	Cable	Heliax	8/23/2019	8/23/2021
T2	ANP06515	Cable	Heliax	6/29/2018	6/29/2020
T3	AN02741	Active Horn Antenna	AMFW-5F-12001800-20-10P	4/26/2019	4/26/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	17993.595 M	42.7	+1.7	+9.0	-9.2		+0.0	44.2	54.0	-9.8	Horiz
2	17359.454 M	44.8	+1.8	+8.6	-11.3		+0.0	43.9	54.0	-10.1	Horiz
3	16901.464 M	42.9	+1.9	+9.0	-10.5		+0.0	43.3	54.0	-10.7	Horiz
4	16959.114 M	43.0	+2.0	+9.1	-10.9		+0.0	43.2	54.0	-10.8	Horiz
5	16795.774 M	43.7	+1.8	+9.0	-11.4		+0.0	43.1	54.0	-10.9	Horiz
6	17064.804 M	43.6	+2.0	+9.0	-11.5		+0.0	43.1	54.0	-10.9	Horiz
7	16766.950 M	43.8	+1.7	+9.0	-11.5		+0.0	43.0	54.0	-11.0	Horiz
8	16971.924 M	42.7	+2.1	+9.1	-11.0		+0.0	42.9	54.0	-11.1	Horiz
9	15287.290 M	45.1	+1.7	+8.4	-13.5		+0.0	41.7	54.0	-12.3	Horiz
10	15722.861 M	44.4	+1.8	+8.1	-12.6		+0.0	41.7	54.0	-12.3	Horiz
11	13472.000 M	45.6	+1.3	+7.5	-14.5		+0.0	39.9	54.0	-14.1	Vert
12	14264.000 M	45.0	+1.6	+7.9	-14.7		+0.0	39.8	54.0	-14.2	Vert
13	11728.000 M	42.9	+1.7	+6.7	-13.3		+0.0	38.0	54.0	-16.0	Vert
14	17993.595 M Ave	28.4	+1.7	+9.0	-9.2		+0.0	29.9	54.0	-24.1	Vert

Test Location:	CKC Laboratories • 22116 23rd Drive SE, Suite A • Bothell, WA 98021 • 1-800-500-4EMC (4362)		
Customer:	**Ossia, Inc.**		
Specification:	**15.109 Radiated Emissions Class B**		
Work Order #:	**103895**	Date:	6/29/2020
Test Type:	**Maximized Emissions**	Time:	10:13:40
Tested By:	Michael Atkinson	Sequence#:	86
Software:	EMITest 5.03.12		

Equipment Tested:

Device	Manufacturer	Model #	S/N
Configuration 1			

Support Equipment:

Device	Manufacturer	Model #	S/N
Configuration 1			

Test Conditions / Notes:

Temperature: 19-21°C
Humidity: 29-32%
Pressure: 102-103kPa

Method: ANSI C63.4: 2014

Frequency Range: 18-26.5 and 26.5 to 30GHz (Max EUT frequency is less than 6GHz)

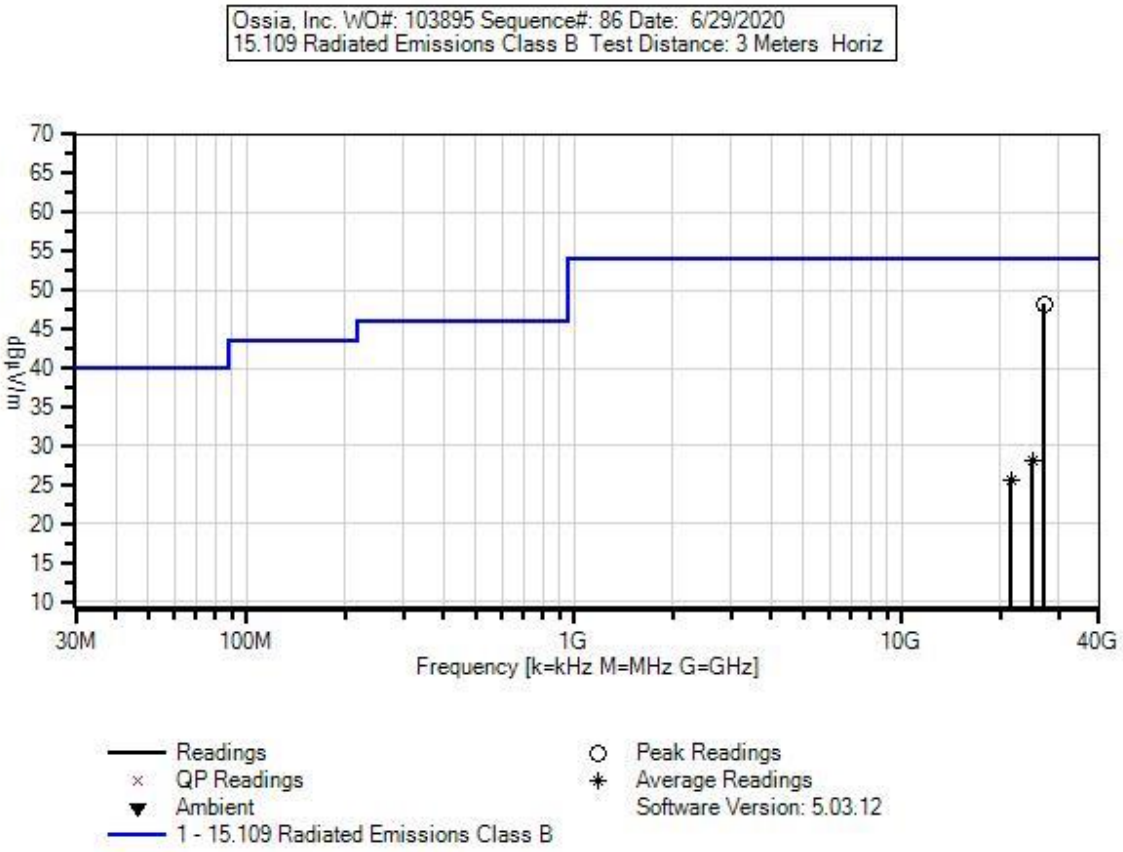
EUT connected to support laptop via USB cable. EUT connected to support PoE box with 2 x Ethernet cables for power. Support laptop connected to PoE box with 1 x Ethernet cable. Support Laptop is located remotely.

Data collected in configuration 1 is representative of worst case.

EUT is in standby mode with all digital circuitry active. Ethernet scripts are running to fully exercise the system at representative traffic 10Mbps. Internal radios are powered by not transmitting.

Modification 1 was in place during testing.

XYZ EUT orientations investigated, worst case reported. Horizontal and Vertical antenna polarities investigated, worst case reported.



Test Equipment:

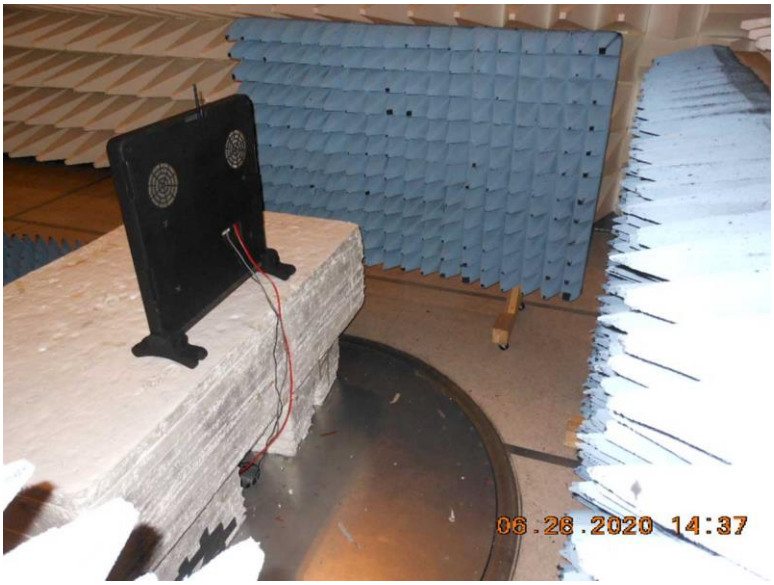
ID	Asset #	Description	Model	Calibration Date	Cal Due Date
	AN02673	Spectrum Analyzer	E4446A	2/22/2019	2/22/2021
T1	ANP07212	Cable	32026-29801-29801-18	8/7/2019	8/7/2021
T2	ANP07211	Cable	32026-29801-29801-18	8/7/2019	8/7/2021
T3	AN02763-69	Waveguide	Multiple	4/28/2020	4/28/2022
T4	ANP06678	Cable	32026-29801-29801-144	2/20/2020	2/20/2022
T5	AN02742	Active Horn Antenna	AMFW-5F-18002650-20-10P	10/16/2018	10/16/2020
T6	AN02764-70	Waveguide	Multiple	4/28/2020	4/28/2022
T7	AN02743	Active Horn Antenna	AMFW-5F-260400-33-8P	4/26/2019	4/26/2021

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2 T6	T3 T7	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	27175.000 M	29.8	+1.3 +0.0	+1.2 +4.4	+0.0 +1.1	+10.4	+0.0	48.2	54.0	-5.8	Horiz
2	24983.214 M Ave	26.3	+1.2 -11.9	+0.7 +0.0	+1.7 +0.0	+10.0	+0.0	28.0	54.0	-26.0	Vert
^	24983.214 M	39.8	+1.2 -11.9	+0.7 +0.0	+1.7 +0.0	+10.0	+0.0	41.5	54.0	-12.5	Vert
4	21448.000 M Ave	27.5	+1.3 -15.2	+0.8 +0.0	+2.0 +0.0	+9.2	+0.0	25.6	54.0	-28.4	Horiz
^	21448.000 M	41.4	+1.3 -15.2	+0.8 +0.0	+2.0 +0.0	+9.2	+0.0	39.5	54.0	-14.5	Horiz

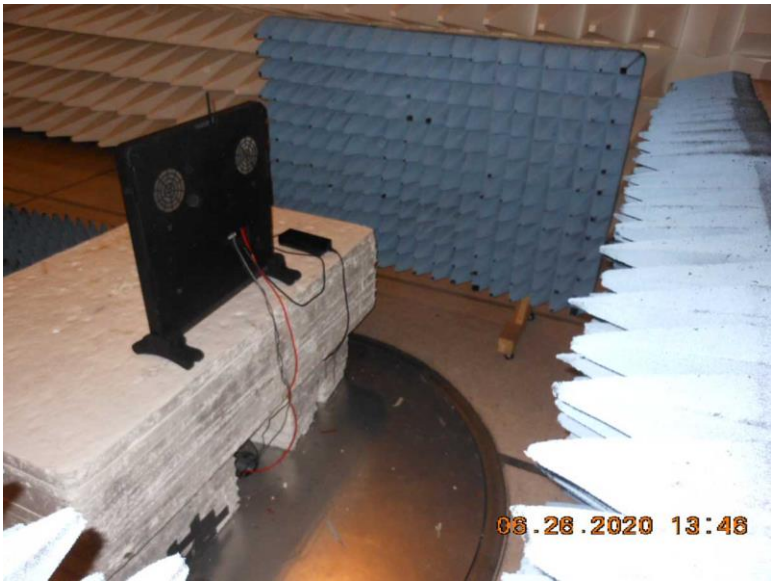
Test Setup Photo(s)

Configuration 1, Below 1GHz



Configuration 1, Above 1GHz

Configuration 2, Below 1GHz



Configuration 2, Above 1GHz

X-Axis

Y-Axis

Z-Axis

SUPPLEMENTAL INFORMATION

Measurement Uncertainty

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

Uncertainties reported are worst case for all CKC Laboratories' sites and represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2.

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 dBµV/m, the spectrum analyzer reading in dBµV was corrected by using the following formula. This reading was then compared to the applicable specification limit. Individual measurements were compared with the displayed limit value in the margin column. The margin was calculated based on subtracting the limit value from the corrected measurement value; a positive margin represents a measurement exceeding the limit, while a negative margin represents a measurement less than the limit.

SAMPLE CALCULATIONS		
	Meter reading	(dBµV)
+	Antenna Factor	(dB/m)
+	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	9 kHz	150 kHz	200 Hz
RADIATED 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 caret ("^") 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.

Peak

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.