

July 15, 2023

Actineon, Inc.
2530 Zanker Road
San Jose, California 95131

Dear Michael Kelsey,

Enclosed is the Wireless test report for compliance testing of the Actineon, Inc., IOT EDGE HUB / Splunk SPLKEH201GL as tested to the requirements of Title 47 of the CFR, Part 15 Subpart C, RSS 247 for Intentional Radiators.

Thank you for using the services of Eurofins Electrical and Electronic Testing NA, Inc. If you have any questions regarding these results or if Eurofins Electrical and Electronic Testing NA, Inc. can be of further service to you, please feel free to contact me.



Documentation Department
Eurofins Electrical and Electronic Testing NA, Inc.

Reference: WIR125986-ACT_FCC_ISED-BLE_Rev 1.0



FCC Test Site(s) Reg #:US1123
IC Test Site(s) Reg. #: 2043C

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FCC/ ISED Test Report

Applicant name: Actineon, Inc

Product: IOT EDGE HUB

Report: WIR125986-ACT_FCC_ISED-BLE_Rev 1.0

Applicant Address:

**12530 Zanker Road
San Jose, California 95131**

Manufacturer Address:

**2530 Zanker Road
San Jose, California 95131**

Prepared By:
Eurofins Electrical and Electronic Testing NA, Inc.
3162 Belick St.
Santa Clara CA, 95054

FCC/ ISED Test Report

Applicant name: Actineon, Inc.

Product: IOT EDGE HUB

Standard

47 CFR FCC Part 15, Subpart C (Section 15.247)

558074 D01 15.247 Meas Guidance v05r02

RSS 247 Issue2, February 2017

RSS Gen Issue5, March 2019

ANSI C63.10: 2013

Richard Dollente

Richard Dollente

Test Engineer, Wireless Laboratory

Engineering Statement: The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements FCC Rules under normal use and maintenance.

Gary Chou

Gary Chou

Wireless Engineering Manager, Wireless Laboratory

Report Status Sheet

Revision	Report Date	Reason for Revision
Ø	July 15, 2023	Initial Issue.
1	August 15, 2023	Update EUT/ Test software information

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I. Executive Summary

A. Executive Summary

47 CFR FCC Part 15, Subpart C (SECTION 15.247) RSS 247 Issue2, RSS Gen Issue5				
FCC/ IC Cluse	ISED	Test Item	Result	Remarks
15.207	RSS Gen 8.8	AC Power Conducted Emission	PASS	Meet the requirement of limit.
15.205 & 15.209 & 15.247(d)	RSS Gen 8.8	Radiated Emissions and Band Edge Measurement	PASS	Meet the requirement of limit.
15.247(a)(2)	RSS 247 5.5C	6dB bandwidth & 99% bandwidth	PASS	Note 1
15.247(b)	RSS 247 5.2.1 RSS Gen 6.7	Conducted power	PASS	Note 1
15.247(e)	RSS 247 5.4.4	Power Spectral Density	PASS	Note 1
15.203	RSS 247 5.2.2	Antenna Requirement	PASS	PCB antenna (IPEX MHF I connector) meet the requirement.

Note:

1. Other test item please refer to FCC Module Report: TLZ-CM276NF, ISED Module Report: 6100A-CM276NF
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

II. Equipment Information

A. Overview

EUT Summary Table

Product:	IOT EDGE HUB	
Brand:	Actineon	
Model(s) Tested:	Splunk SPLKEH201GL	
Series Model:	N/A	
Sample Status:	Engineering sample	
Sample Serial Number:	ACT-076-4422-0135	
EUT Specifications:	Primary Power:	POE 48 Vdc/ 0.625A, Power adaptor: 15Vdc/ 2A
	Voltage Frequency:	N/A
	Technology / Type of Modulations:	BLUETOOTH LE: GFSK
	Operating Frequency :	2.402 ~ 2.480GHz
	FCC ID:	2BBHWSPLKEH201GL
	ISED ID:	30709SPLKEH201GL
	Antenna Type:	PCB Antenna
	Antenna connector	IPEX MHF I
	Antenna Model	YF0026AA
	Antenna Gain	3.2 dBi
Analysis:	The results obtained relate only to the item(s) tested.	
Environmental Test Conditions:	Temperature: 20.3° C	
	Relative Humidity: 47.5%	
	Barometric Pressure: 860-1060 mbar	
Evaluated by:	Richard Dollente	
Issue Date(s):	August 15, 2023	

NOTE: The following modules can be chosen to be configured in the EUT.

	Model No.	FCC ID	Note
-	-	-	-

-	-	-	-
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FCC/IC RF Testing Units Setting

Model	Hardware (FW) Rev.	Firmware (FW) Rev.	FW operation verification and Instruction
Splunk SPLKEH201GL	SPLKEH201GL	TEZI 5.7.0 v1.3.2	Verify by Spectrum Analyzer & Laptop

DESCRIPTION OF TEST MODES

Control software: Putty V0.78

Power Setting :

Channel	Frequency(MHz)	Power Setting
0	2402	Default
19	2440	Default
39	2480	Default

40 channels are provided for Bluetooth LE:

Channel	Frequency(MHz)	Channel	Frequency(MHz)	Channel	Frequency(MHz)
0	2402	14	2430	28	2458
1	2404	15	2432	29	2460
2	2406	16	2434	30	2462
3	2408	17	2436	31	2464
4	2410	18	2438	32	2466
5	2412	19	2440	33	2468
6	2414	20	2442	34	2470
7	2416	21	2444	35	2472
8	2418	22	2446	36	2474
9	2420	23	2448	37	2476
10	2422	24	2450	38	2478
11	2424	25	2452	39	2480
12	2426	26	2454		
13	2428	27	2456		

B. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
B	wideband radio communication tester	ROHDE& SCHARZ	CMW500	1201.0002K50	-	Bluetooth Tester

Note: (Describe the outline of a simulator, if used for the tests, as a note under the table.)

Insert Cable Connections to/from EUT provided by test team.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
	-	-	-	-	0	-

Note: The core(s) is(are) originally attached to the cable(s).

General Description of Applied Standards

C. References

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

- 47 CFR FCC Part 15, Subpart C (Section 15.247)
- 558074 D01 15.247 Meas Guidance v05r02
- ANSI C63.10:2013
- RSS 247 Issue2
- RSS Gen Issue5

D. Test Site

All testing was performed at Eurofins Electrical and Electronic Testing NA, Inc., 3162 Belick St. Santa Clara, CA 95054. All equipment used in making physical determinations is accurate and bears recent traceability to the National Institute of Standards and Technology.

Eurofins Electrical and Electronic Testing NA, Inc. has been accredited by the American Association for Laboratory Accreditation (A2LA) (Certificate #: 0591.02) in accordance with ISO/IEC 17025:2017.

Eurofins Electrical and Electronic Testing NA, Inc. is part of the Eurofins Electrical & Electronics (E&E) global compliance network.

FCC Test Site(s) Reg #:US1123

IC Test Site(s) Reg. #: 2043C

E. Measurement Uncertainty

Test Method	Typical Expanded Uncertainty	K	Confidence Level
RF Frequencies	±4.52 Hz	2	95%
RF Power Conducted Emissions	±2.32 dB	2	95%
RF Power Conducted Spurious Emissions	±2.25 dB	2	95%
RF Power Radiated Emissions	±3.01 dB	2	95%
Conducted Emission Voltage	±2.44	2	95%

Uncertainty Calculations Summary

F. Modifications

a) Modifications to EUT

No modifications were made to the EUT.

b) Modifications to Test Standard

No modifications were made to the test standard.

G. Disposition of EUT

The test sample including all support equipment (if any), submitted to the Electromagnetic Compatibility Lab for testing was returned to Actineon, Inc upon completion of testing.

III. Electromagnetic Compatibility Criteria for Intentional Radiators

Radiated Emission and Bandage Measurement

Limits of Radiated Emission and Bandage Measurement:

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

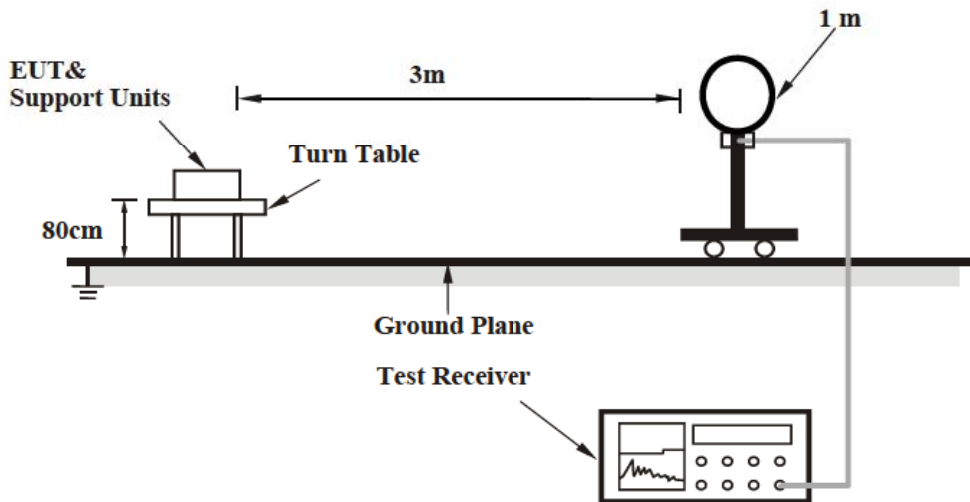
Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Test Procedures:

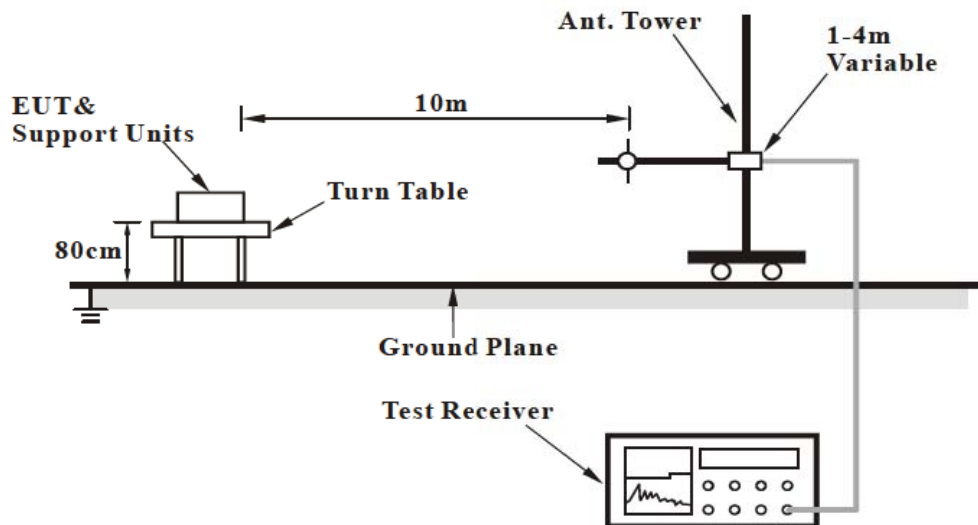
The transmitter was turned on. Measurements were performed of the low, mid and high Channels. The EUT was rotated orthogonally through all three axes. Plots shown are corrected for both antenna correction factor and distance and compared to a 3 m limit line. Only noise floor was measured above 18 GHz.

Test Setup

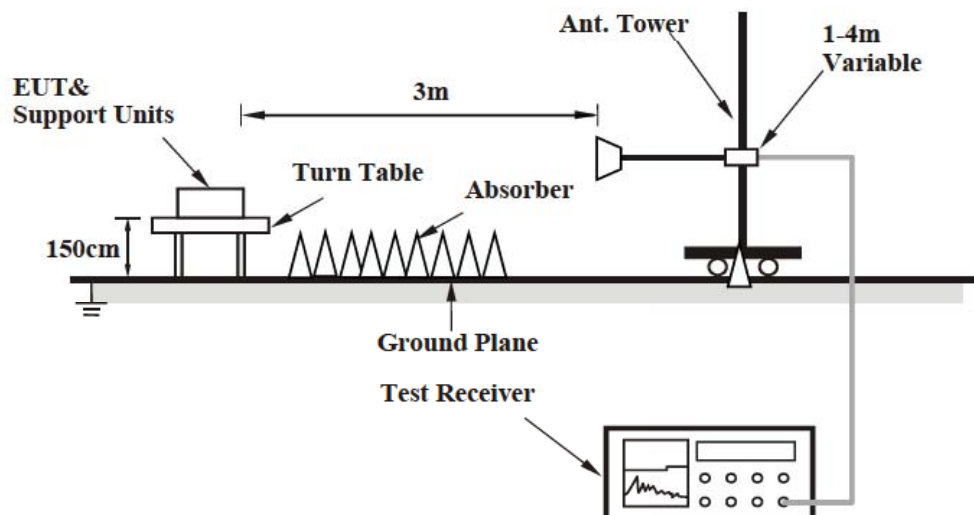
For Radiated Emission Below 30MHz



For Radiated emission 30 MHz to 1GHz



For Radiated emission 1GHz to 40GHz



Test Results: The EUT was tested is **compliant** with Radiated Spurious Emissions Requirements.

Test Equipment List

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S2003	EMI Test Receiver	Keysight	N9030B	11/01/2022	11/01/2023
1S2399	Turntable Controller	SUNOL SCIENCE	SC99V	Not Required	Not Required
1S2486	5 Meter Chamber Control Room	Panashield	5 Meter Control Room	Not Required	Not Required
1S3826	Horn Antenna	ETS-LINDGREN	3117	04/06/2023	04/06/2025
1S4802	Preamplifier	EMC Instrument	EMC118A45SE	Note 1	Note 1
1S2668	Preamplifier	Sonoma Instrument	310N	Note 1	Note 1
1S2600	Antenna	Sunol Sciences Corp	JB3	04/ 11/ 2023	04/ 11/ 2025
1S3983	Loop Antenna	ETS-LINDGREN	6512	10/ 14 /2021	10/ 14 /2023
Note 1: Verified by calibrated instrumentation at the time of testing					

Test Engineer: Richard Dollente

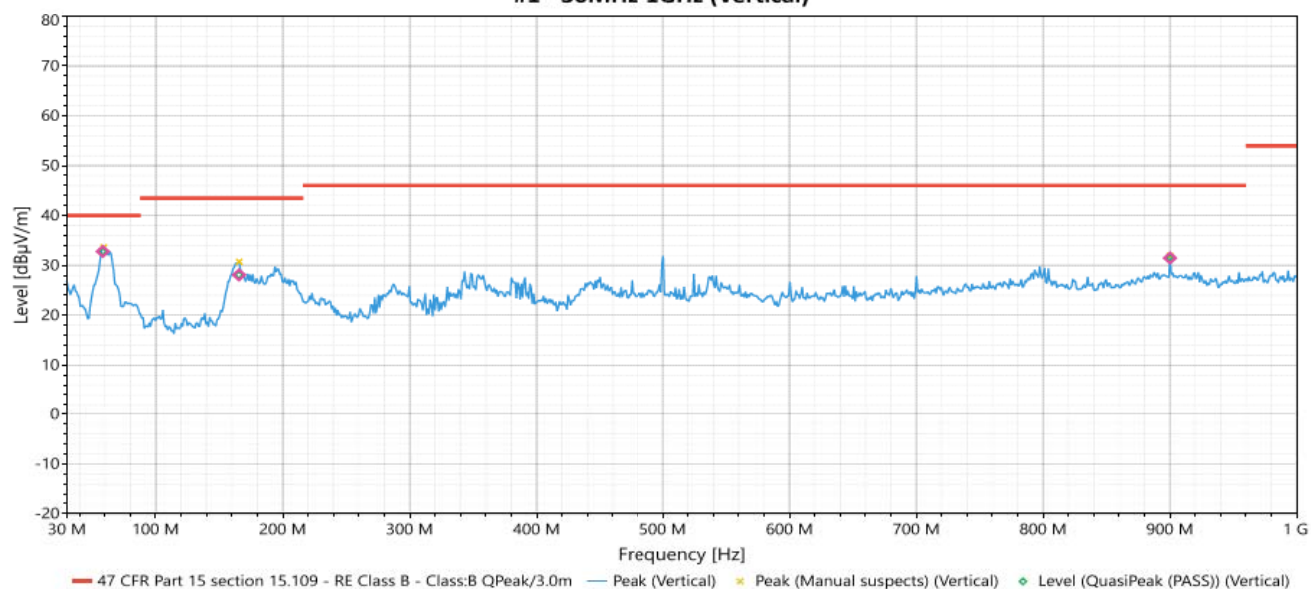
Test Date(s): 04/22/2023

Test Data

Radiated Emissions (30 MHz~1000 MHz)

EUT Test Condition		Measurement Detail	
Input Power	120 Vac	Frequency Range	30MHz-1GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE BLE 2440 MHz		

#1 - 30MHz-1GHz (Vertical)



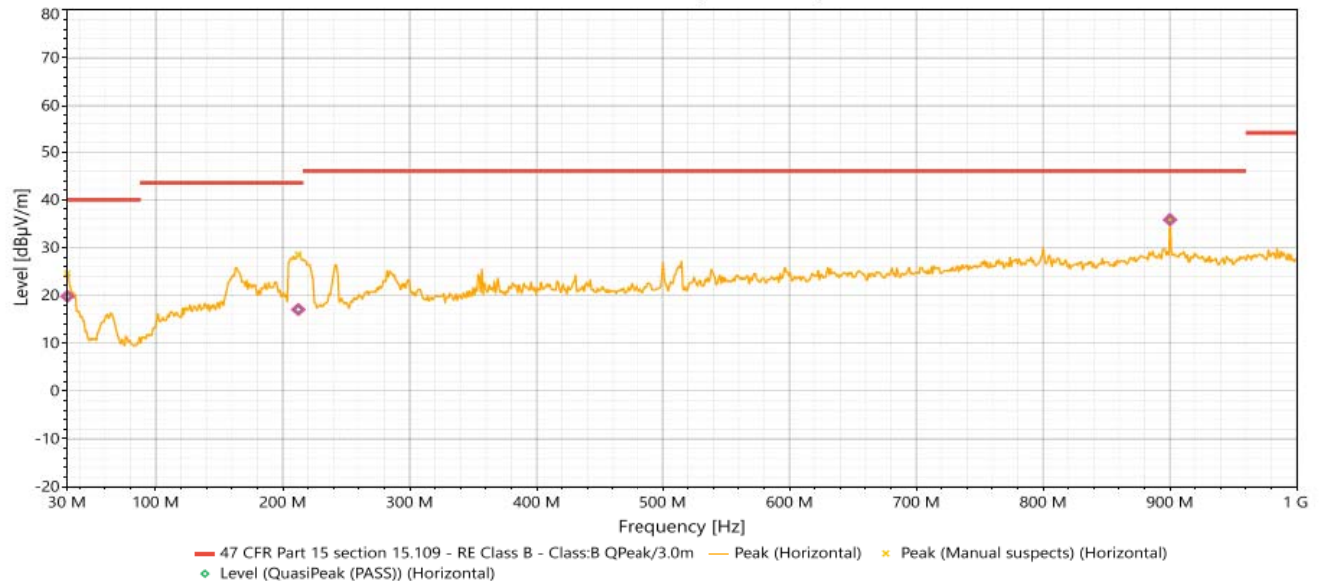
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/Fail
1	58.3	Vertical	32.787	40	-7.213	1.02	352	-13.45	Pass
2	165.64	Vertical	28.078	43.5	-15.422	1.65	9	-9.27	Pass
3	900.04	Vertical	31.482	46	-14.518	1.18	357	4.51	Pass

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

EUT Test Condition		Measurement Detail	
Input Power	120 Vac	Frequency Range	30MHz-1GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE BLE 2440 MHz		

#2 - 30MHz-1GHz (Horizontal)



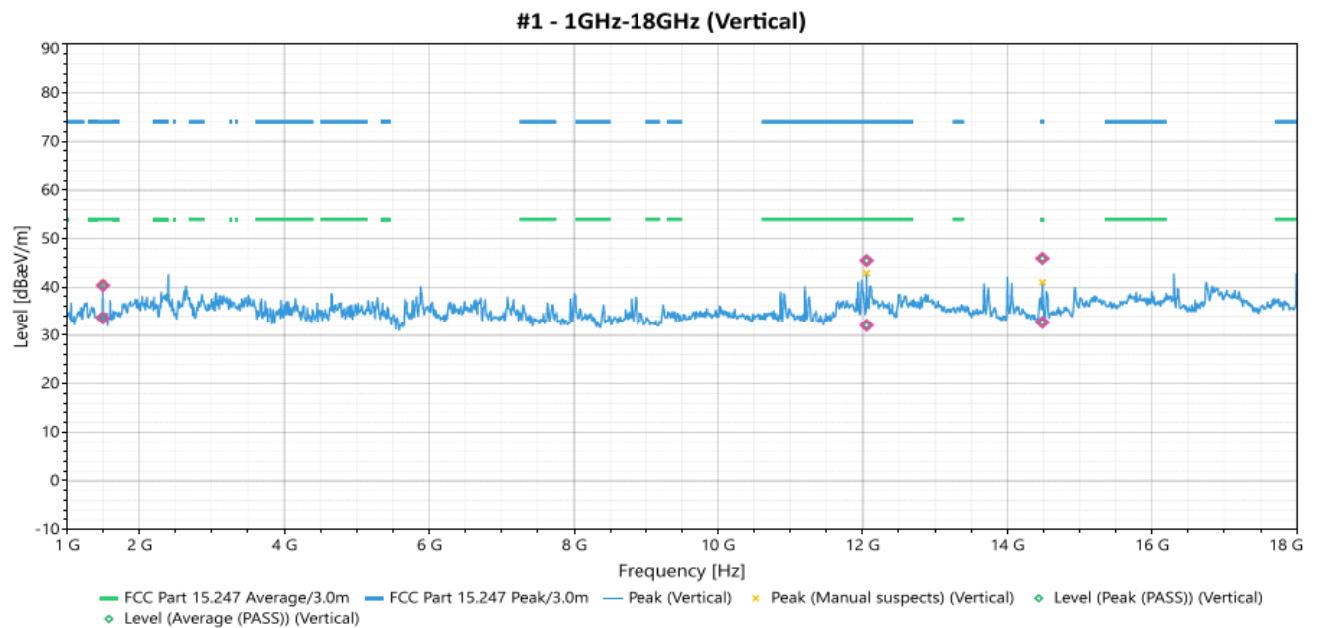
Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level Peak [dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/Fail
1	30.43	Horizontal	19.797	40	-20.203	1.94	14	-0.97	Pass
2	212.29	Horizontal	17.042	43.5	-26.458	1.61	120	-9.68	Pass
3	900.03	Horizontal	35.806	46	-10.194	1.01	8	4.91	Pass

REMARKS:

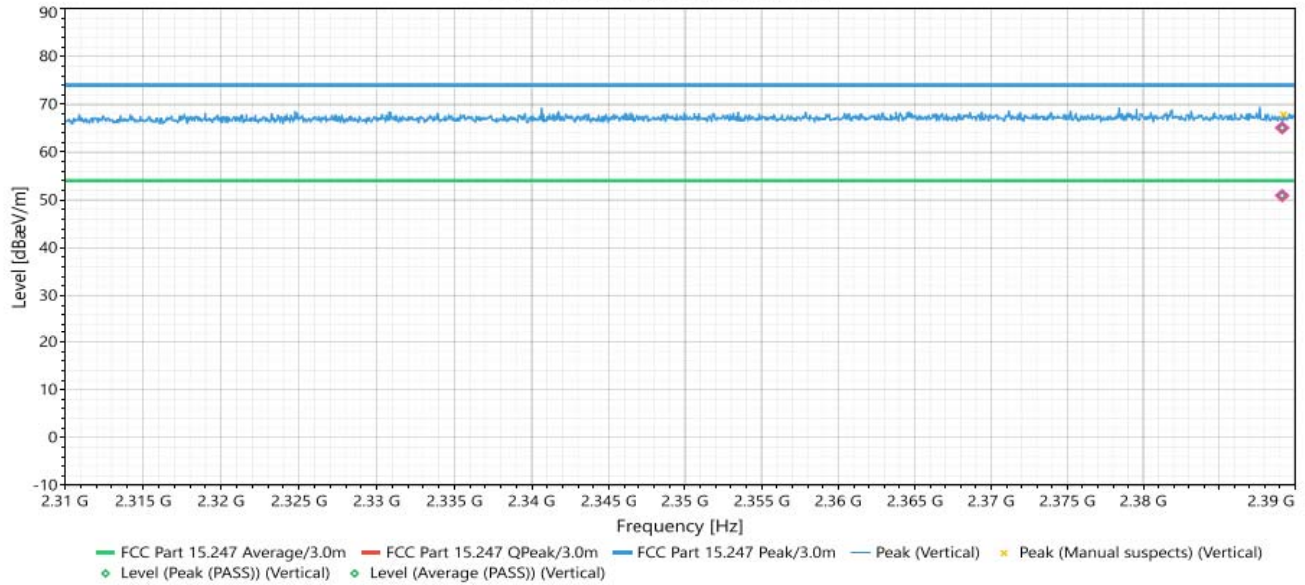
1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

Radiated Emissions (Above 1GHz)

EUT Test Condition		Measurement Detail	
Input Power	120 Vac	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE BLE 2402 MHz		



#1 - 2.31GHz-2.39GHz (Vertical)



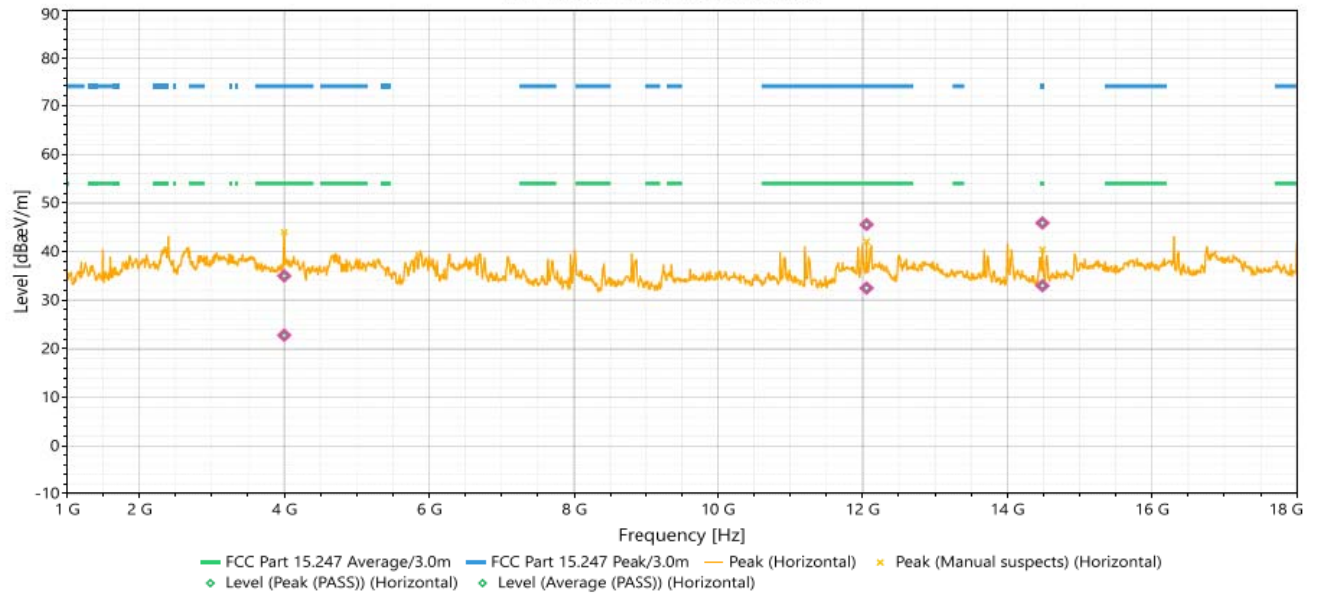
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	1499.7	Vertical	40.356	74	-33.644	1.02	356	-2.5	Peak (PASS)
2	1499.7	Vertical	33.614	54	-20.386	1.02	356	-2.5	Average (PASS)
3	12055	Vertical	45.472	74	-28.528	2.79	33	7.48	Peak (PASS)
4	12055	Vertical	32.068	54	-21.932	2.79	33	7.48	Average (PASS)
5	14486	Vertical	45.928	74	-28.072	3.32	69	6.7	Peak (PASS)
6	14486	Vertical	32.694	54	-21.306	3.32	69	6.7	Average (PASS)
7	2389.164	Vertical	65.08	74	-8.92	2.02	355	38.73	Peak (PASS)
8	2389.164	Vertical	50.908	54	-3.092	2.02	355	38.73	Average (PASS)

REMARKS:

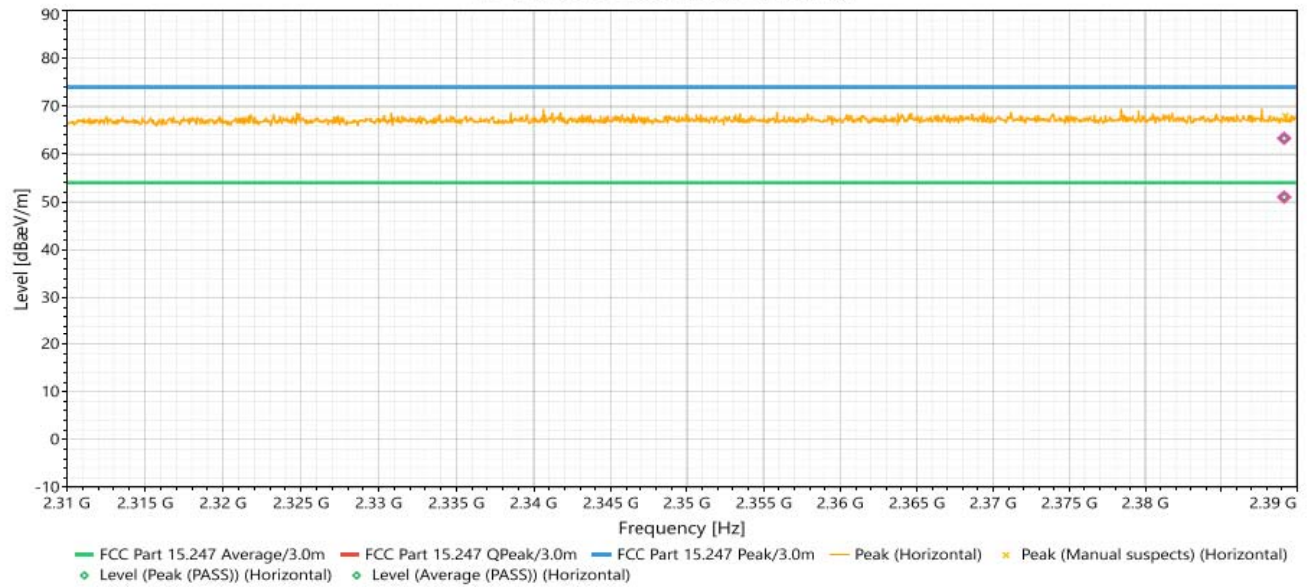
1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

EUT Test Condition		Measurement Detail	
Input Power	120 Vac	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE BLE 2402 MHz		

#2 - 1GHz-18GHz (Horizontal)



#2 - 2.31GHz-2.39GHz (Horizontal)



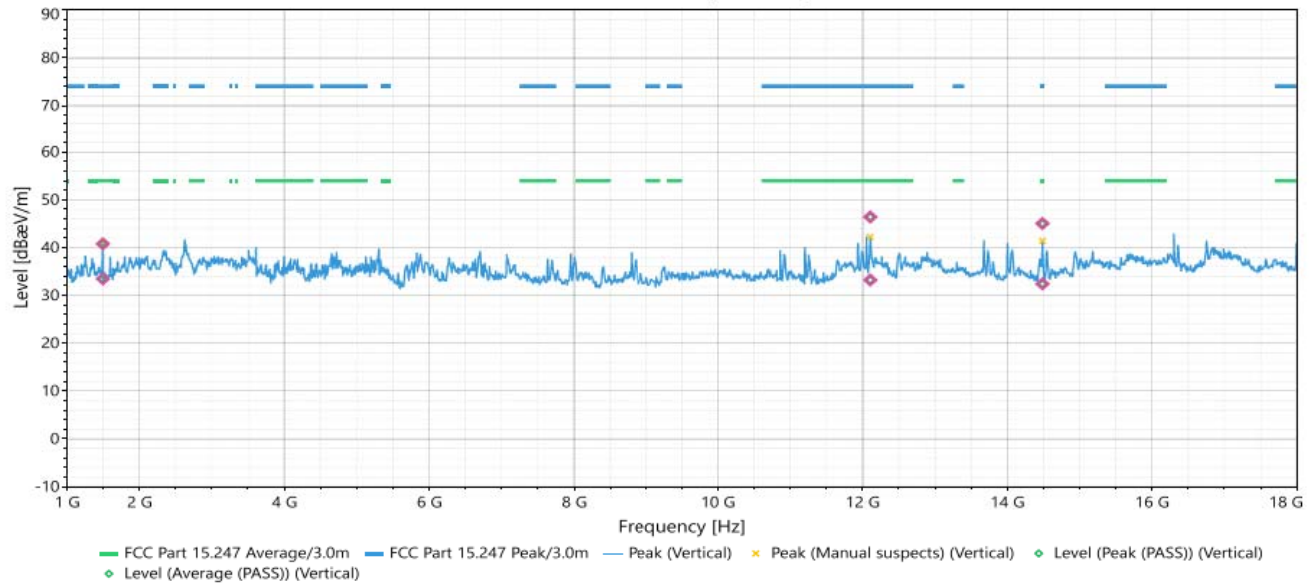
Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	4000.4	Horizontal	34.988	74	-39.012	1	41	3.27	Peak (PASS)
2	4000.4	Horizontal	22.781	54	-31.219	1	41	3.27	Average (PASS)
3	12055	Horizontal	45.559	74	-28.441	1.26	53	7.51	Peak (PASS)
4	12055	Horizontal	32.465	54	-21.535	1.26	53	7.51	Average (PASS)
5	14486	Horizontal	45.879	74	-28.121	3.13	240	6.83	Peak (PASS)
6	14486	Horizontal	32.993	54	-21.007	3.13	240	6.83	Average (PASS)
7	2389.164	Horizontal	63.299	74	-10.701	2.8	185	38.84	Peak (PASS)
8	2389.164	Horizontal	51.011	54	-2.989	2.8	185	38.84	Average (PASS)

REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

EUT Test Condition		Measurement Detail	
Input Power	120 Vac	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE BLE 2440 MHz		

#1 - 1GHz-18GHz (Vertical)

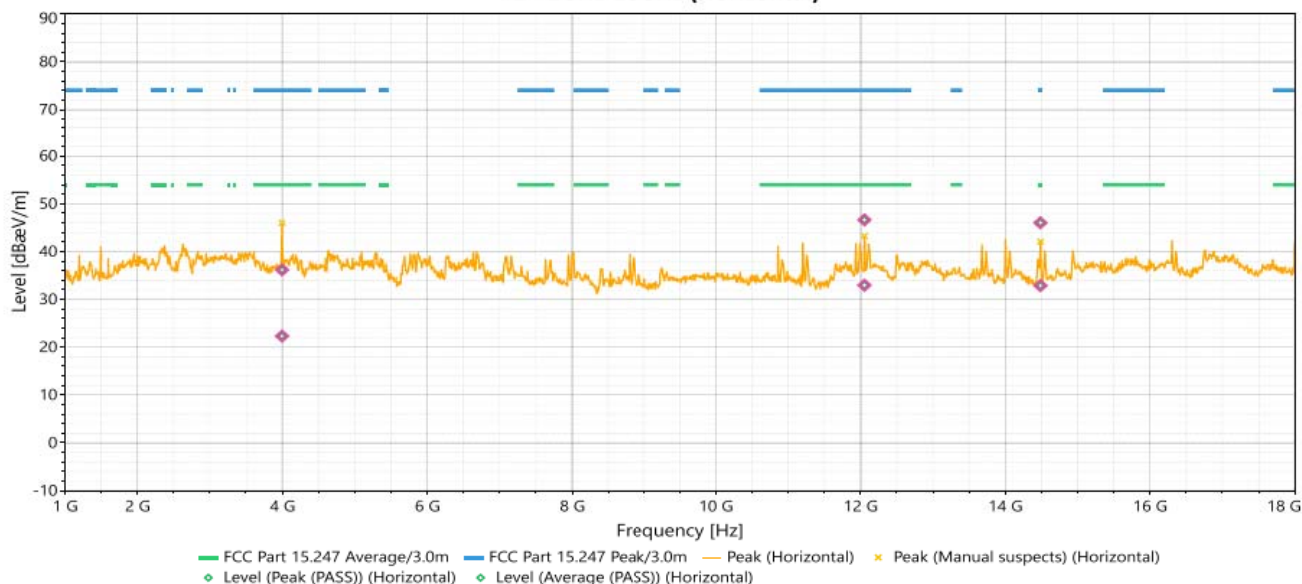


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	1499.7	Vertical	40.775	74	-33.225	1	357	-2.5	Peak (PASS)
2	1499.7	Vertical	33.456	54	-20.544	1	357	-2.5	Average (PASS)
3	12107.7	Vertical	46.396	74	-27.604	3.34	334	7.54	Peak (PASS)
4	12107.7	Vertical	33.208	54	-20.792	3.34	334	7.54	Average (PASS)
5	14486	Vertical	45.026	74	-28.974	3.12	115	6.7	Peak (PASS)
6	14486	Vertical	32.404	54	-21.596	3.12	115	6.7	Average (PASS)

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

EUT Test Condition		Measurement Detail	
Input Power	120 Vac	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE BLE 2440 MHz		

#2 - 1GHz-18GHz (Horizontal)



Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3998.7	Horizontal	36.173	74	-37.827	2.04	305	3.27	Peak (PASS)
2	3998.7	Horizontal	22.317	54	-31.683	2.04	305	3.27	Average (PASS)
3	12053.3	Horizontal	46.618	74	-27.382	3.07	193	7.51	Peak (PASS)
4	12053.3	Horizontal	32.965	54	-21.035	3.07	193	7.51	Average (PASS)
5	14486	Horizontal	46.023	74	-27.977	2.98	0	6.83	Peak (PASS)
6	14486	Horizontal	32.876	54	-21.124	2.98	0	6.83	Average (PASS)

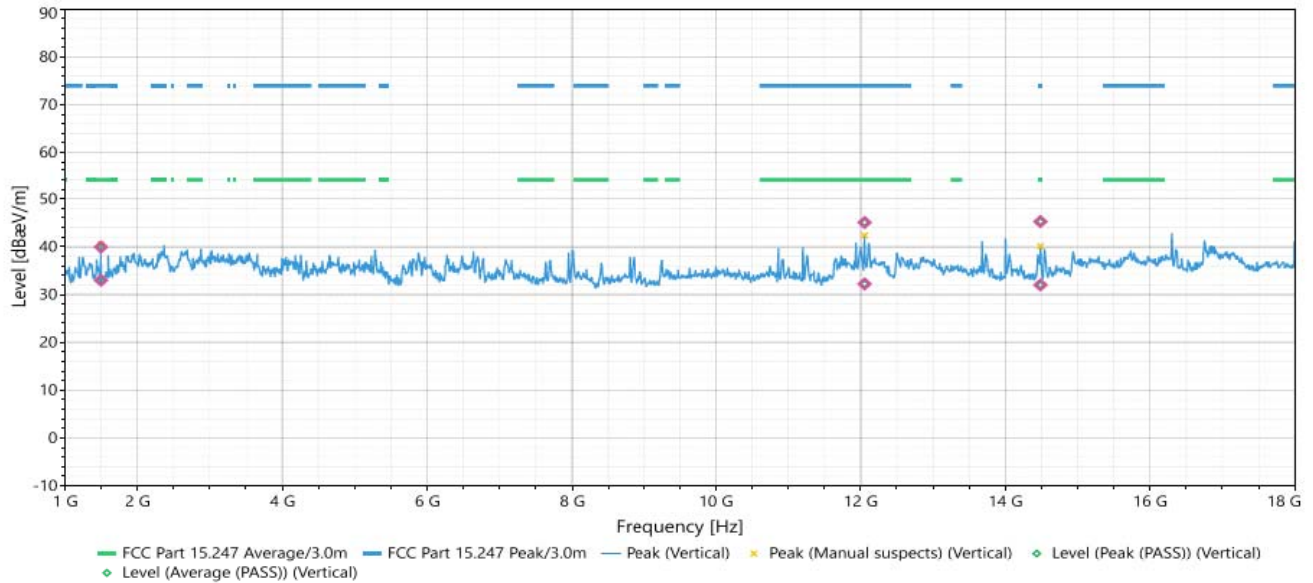
REMARKS:

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

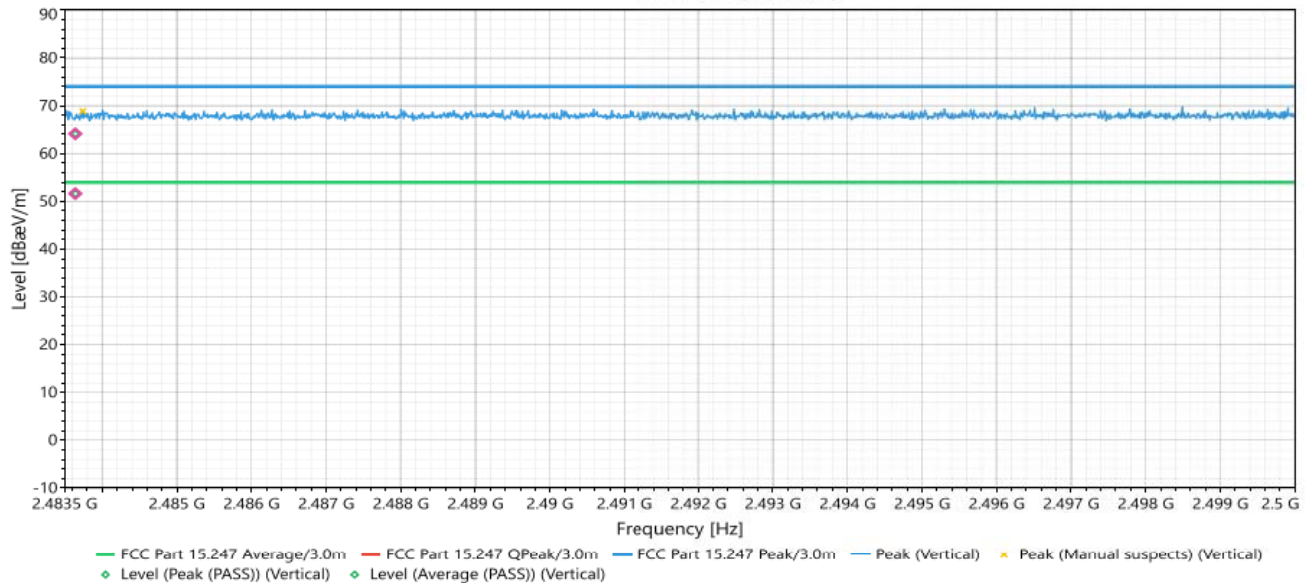
EUT Test Condition	Measurement Detail
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Input Power	120 Vac	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE BLE 2480 MHz		

#1 - 1GHz-18GHz (Vertical)



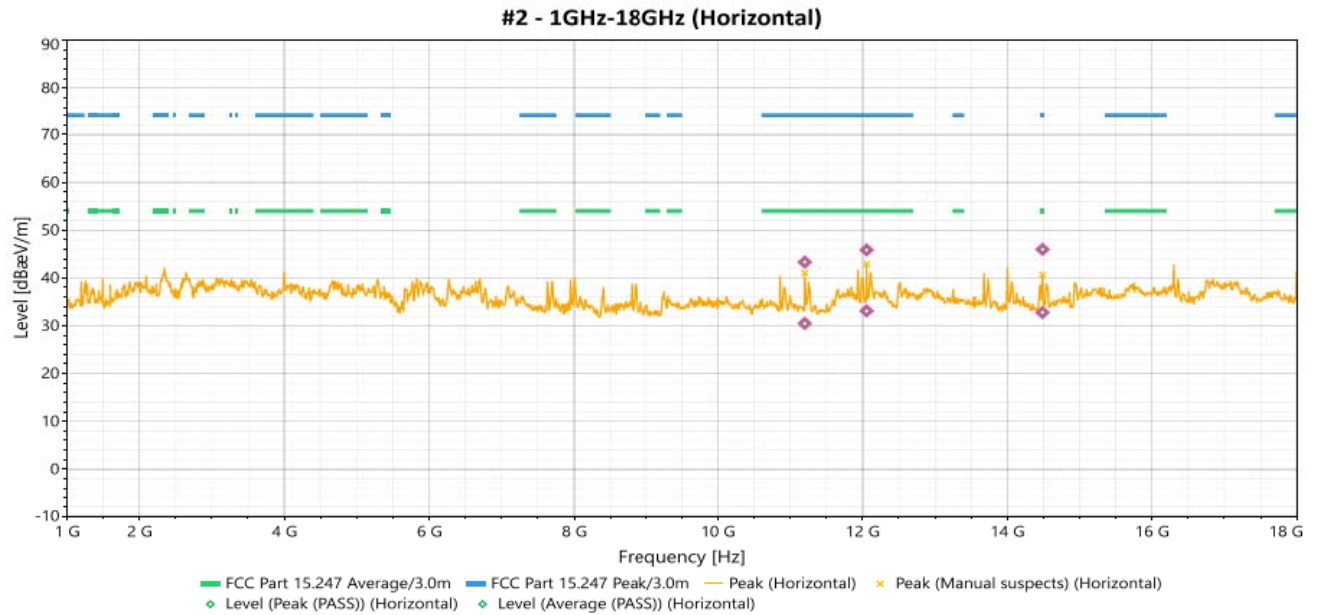
#1 - 2.4835GHz-2.5GHz (Vertical)



Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11201.6	Vertical	43.324	74	-30.676	1.14	286	6.49	Peak (PASS)
2	11201.6	Vertical	30.477	54	-23.523	1.14	286	6.49	Average (PASS)
3	12055	Vertical	45.864	74	-28.136	3.14	124	7.51	Peak (PASS)
4	12055	Vertical	33.111	54	-20.889	3.14	124	7.51	Average (PASS)
5	14487.7	Vertical	45.974	74	-28.026	2.78	209	6.83	Peak (PASS)
6	14487.7	Vertical	32.766	54	-21.234	2.78	209	6.83	Average (PASS)
7	2483.628	Vertical	64.607	74	-9.393	2.64	157	39.15	Peak (PASS)
8	2483.628	Vertical	51.607	54	-2.393	2.64	157	39.15	Average (PASS)

1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

EUT Test Condition		Measurement Detail	
Input Power	120 Vac	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE BLE 2480 MHz		



#2 - 2.4835GHz-2.5GHz (Horizontal)



Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(µV/m)]	Limit Peak dB(µV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	11201.6	Horizontal	43.324	74	-30.676	1.14	286	6.49	Peak (PASS)
2	11201.6	Horizontal	30.477	54	-23.523	1.14	286	6.49	Average (PASS)
3	12055	Horizontal	45.864	74	-28.136	3.14	124	7.51	Peak (PASS)
4	12055	Horizontal	33.111	54	-20.889	3.14	124	7.51	Average (PASS)
5	14487.7	Horizontal	45.974	74	-28.026	2.78	209	6.83	Peak (PASS)
6	14487.7	Horizontal	32.766	54	-21.234	2.78	209	6.83	Average (PASS)
7	2483.628	Horizontal	64.607	74	-9.393	2.64	157	39.15	Peak (PASS)
8	2483.628	Horizontal	51.607	54	-2.393	2.64	157	39.15	Average (PASS)

REMARKS:

1. Level (dBµV) = Reading (dBµV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) + Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

Conducted Emission Measurement**Limits of Conducted Emission Measurement :**

The following standards specified below are covered in the scope of this section of the test report:

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

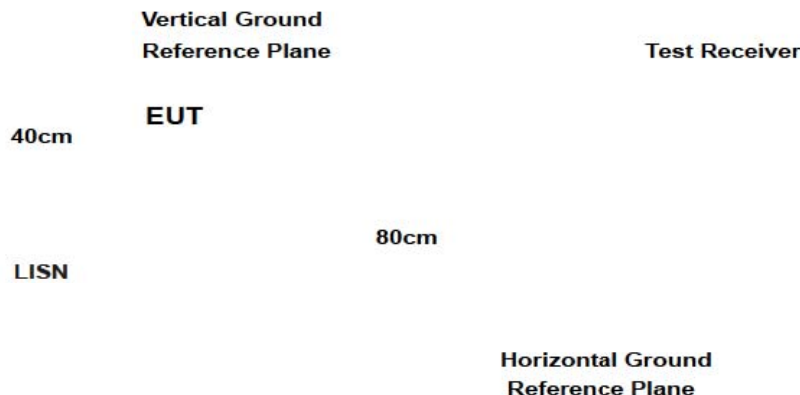
Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Conducted Emissions - Test Procedure

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency ranges from 150 kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Conducted Emissions - Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo)

Test Equipment List

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2017.

MET Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S2488	Screen Room	Universal	Custom Made	Not Required	Not Required
1S4818	Digital Barometer	Control Company	6530. 68000-49	05/04/2022	05/04/2024
4U1668	True RMS Multimeter with Remote Display	Fluke	233	04/03/2023	04/03/2025
1S3898	Voltage Regulator	Volteq	TDGC2-5kVA	See Note	See Note
1S3809	EMI Receiver	Narda Safety Test Solutions	PMM 9010F	10/12/2022	10/12/2023
1S4781	Transient Limiter	Fischer Custom Communications, Inc.	450B-2.4-BNC	See Note	See Note
1U0337	LISN	Com-Power	LI-215A	10/12/2022	10/12/2023
1S2659	Impedance Stabilization Network (ISN)	Fischer Custom Communications, Inc.	F-071115-1057-1-09	04/06/2023	04/06/2024
1S54005	Micro-Ohmmeter	NDB Technologies, Inc.	DRM-1A	11/21/2022	11/21/2023
1S4852	Radio Communicator Analyzer	Anritsu	MT8821C	04/10/2023	04/10/2024

Test Engineer: Richard Dollente

Test Date(s): 04/22/20223

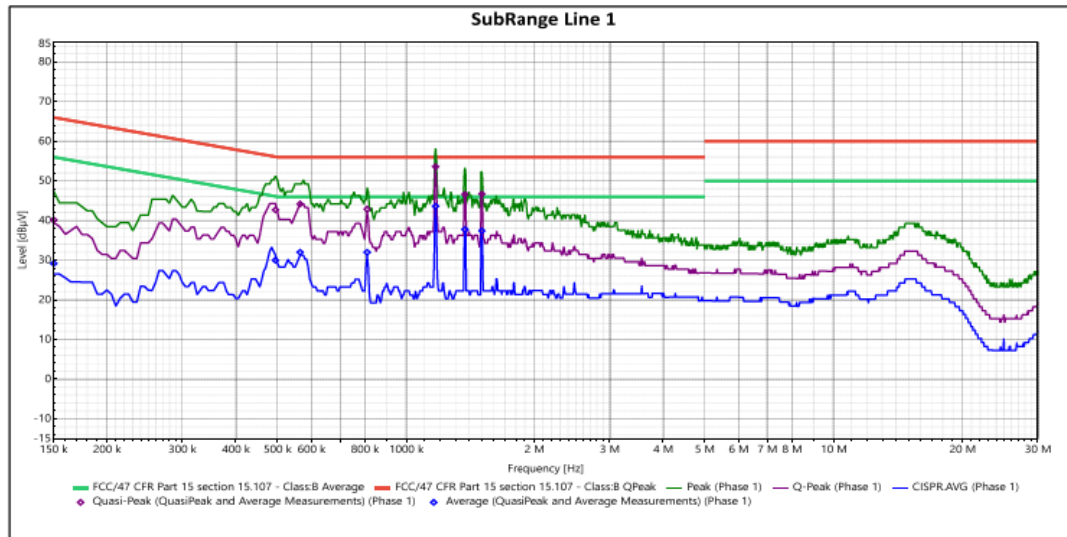
Test Results

Frequency Range	0.15-30 MHz	Phase	Line
Input Power	120 Vac	Environmental Conditions	24 °C, 48% RH
Tested by	Richard Dollente	Test Date	04/22/2023
Test Mode	Mode 1		

Line	Frequency	QP Amplitude (dBµV)	QP Limit (dBµV)	QP Margin (dB)	Pass/Fail	Average Amplitude (dBµV)	Average Limit (dBµV)	Average Margin (dB)	Pass/Fail
Phase 1	150 kHz	40.12	66	-25.88	Pass	29.15	56	-26.85	Pass
Phase 1	495 kHz	42.683	56.083	-13.4	Pass	29.993	46.083	-16.09	Pass
Phase 1	565 kHz	44.187	56	-11.813	Pass	31.987	46	-14.013	Pass
Phase 1	810 kHz	42.857	56	-13.143	Pass	31.987	46	-14.013	Pass
Phase 1	1.17 MHz	53.603	56	-2.397	Pass	43.623	46	-2.377	Pass
Phase 1	1.37 MHz	46.581	56	-9.419	Pass	37.721	46	-8.279	Pass

Remarks:

1. The emission levels of other frequencies were very low against the limit.
2. Margin value = Emission level – Limit value
3. Emission Level = Correction Factor + Reading Value

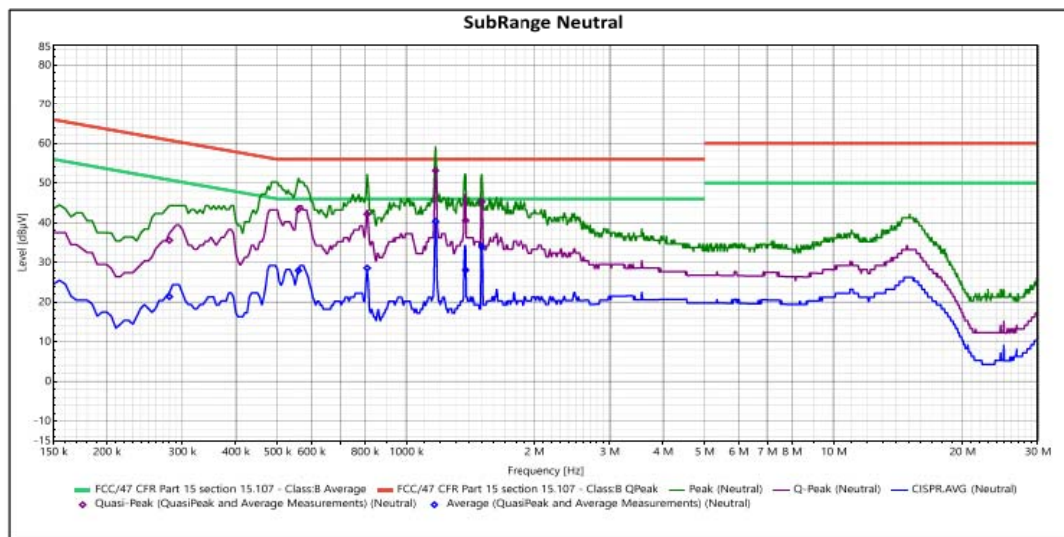


Frequency Range	0.15-30 MHz	Phase	Neutral
Input Power	120 Vac	Environmental Conditions	24 °C, 48% RH
Tested by	Richard Dollente	Test Date	04/20/2023
Test Mode	Mode 1		

Line	Frequency	QP Amplitude (dBμV)	QP Limit (dBμV)	QP Margin (dB)	Pass/Fail	Average Amplitude (dBμV)	Average Limit (dBμV)	Average Margin (dB)	Pass/Fail
Neutral	280 kHz	35.566	60.816	-25.25	Pass	21.356	50.816	-29.46	Pass
Neutral	560 kHz	43.378	56	-12.622	Pass	27.958	46	-18.042	Pass
Neutral	810 kHz	42.197	56	-13.803	Pass	28.577	46	-17.423	Pass
Neutral	1.17 MHz	53.163	56	-2.837	Pass	40.363	46	-5.637	Pass
Neutral	1.375 MHz	40.602	56	-15.398	Pass	28.092	46	-17.908	Pass
Neutral	1.5 MHz	45.279	56	-10.721	Pass	33.979	46	-12.021	Pass

Remarks:

1. The emission levels of other frequencies were very low against the limit.
2. Margin value = Emission level – Limit value
3. Emission Level = Correction Factor + Reading Value



IV. Pictures of test Arrangements

Please see setup photo file

END OF REPORT