

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-WLAN-2.4GHz_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-WLAN-2.4GHz_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/ ISED 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

Table of Contents

I.	Executive Summary	6
	A. Executive Summary	6
II.	Equipment Information.....	7
	A. Overview.....	7
	B. References.....	10
	C. Test Site	10
	D. Measurement Uncertainty	11
	E. Modifications	12
	Modifications to EUT	12
	Modifications to Test Standard.....	12
	F. Disposition of EUT	12
III.	Electromagnetic Compatibility Criteria for Intentional Radiators.....	13
	A. Radiated Emission and Bandage Measurement	13
	B. Conducted Emission Measurement.....	58

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	
Firmware:	TEZI 5.7.0 v1.3.2	
Series Model:	N/A	
Sample Status:	Original	
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:	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
	Operating Frequency :	2.412 ~ 2.462GHz
	FCC ID:	2BBHWSPLKEH201GL
	ISED ID:	30709SPLKEH201GL
	Antenna Type:	PCB Antenna
	Antenna connector:	IPEX MHF I
Transmits Mode	1TX 1RX	
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
-	-	-	-
-	-	-	-

FCC/IC/ CE 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

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency	Channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

7 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
3	2422MHz	9	2452MHz
4	2427MHz		
5	2432MHz		
6	2437MHz		
7	2442MHz		
8	2447MHz		

Power setting is as below:

802.11b			802.11g		
Channel	Power Setting		Channel	Power Setting	
	Chain 0	Chain 1		Chain 0	Chain 1
1	Default	-	1	Default	-
6	Default	-	6	Default	-
11	Default	-	11	Default	-
802.11n 20			802.11n 40		
Channel	Channel		Channel	Channel	
	Chain 0	Chain 1		Chain 0	Chain 1
1	Default	-	3	Default	-
6	Default	-	6	Default	-
11	Default	-	9	Default	-

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	Laptop	ACER	A315-51-533U	NXGNPAA0167300AA597600	-	-

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:

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

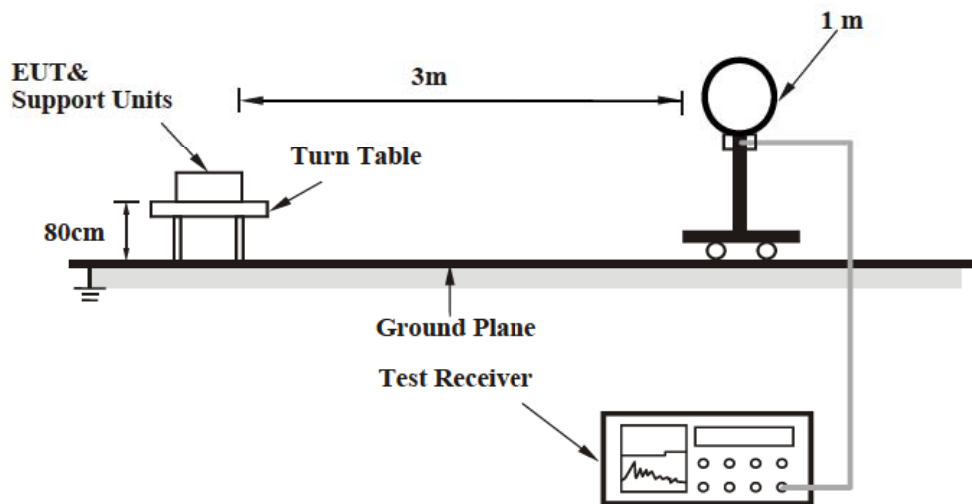
Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Test Procedures:

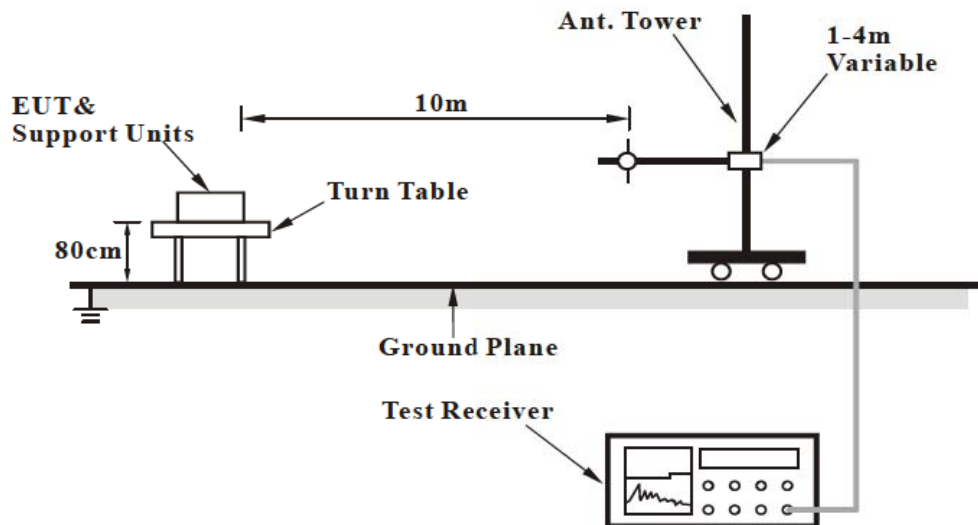
The transmitter was turned on. Measurements were performed of the low, mid and high Channels. The EUT was rotated orthogonally through all three axes. Plots shown are corrected for both antenna correction factor and distance and compared to a 3 m limit line. Only noise floor was measured above 18 GHz.

Test Setup

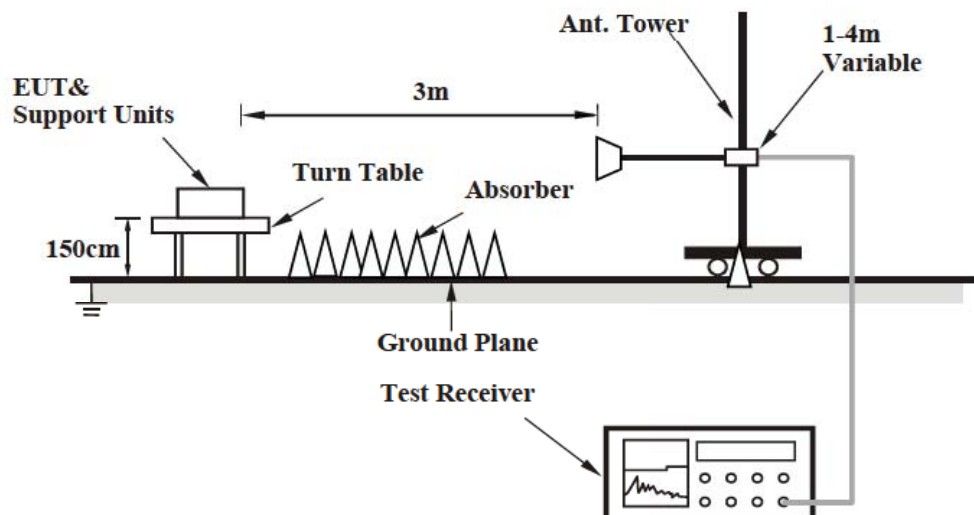
For Radiated Emission Below 30MHz



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					

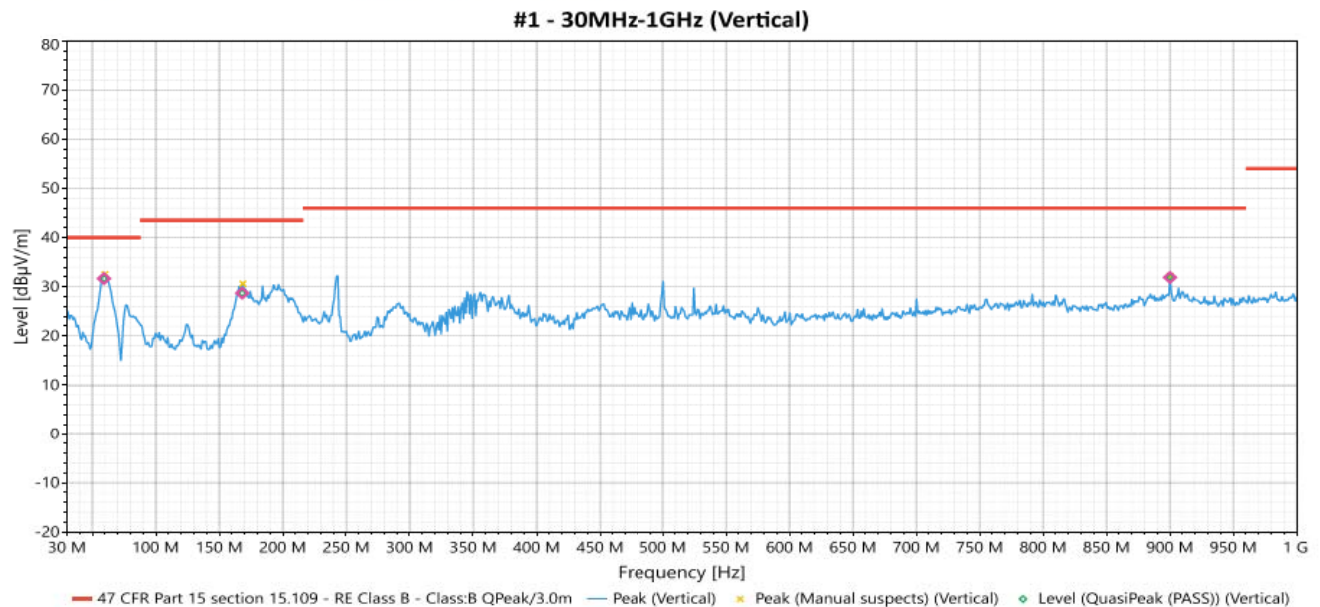
Test Engineer: Richard Dollente

Test Date(s): 04/22/2023

Test Data

Radiated Emissions (30 MHz~1000 MHz)

EUT Test Condition		Measurement Detail	
Input Power	120 Vac, 60Hz	Frequency Range	30MHz-1GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11B 2437 MHz		



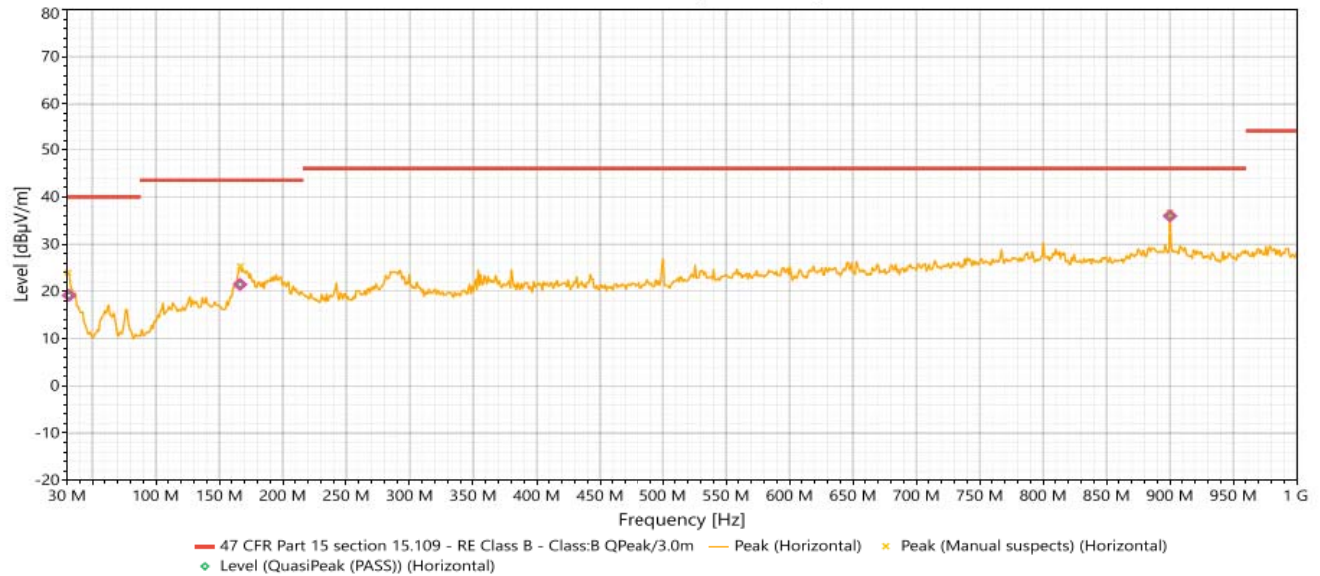
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/Fail
1	59.3	Vertical	31.669	40	-8.331	1.37	109	-13.08	Pass
2	168.23	Vertical	28.709	43.5	-14.791	1.53	358	-9.27	Pass
3	900.02	Vertical	31.918	46	-14.082	1.06	0	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, 60Hz	Frequency Range	30MHz-1GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11B 2437 MHz		

#2 - 30MHz-1GHz (Horizontal)



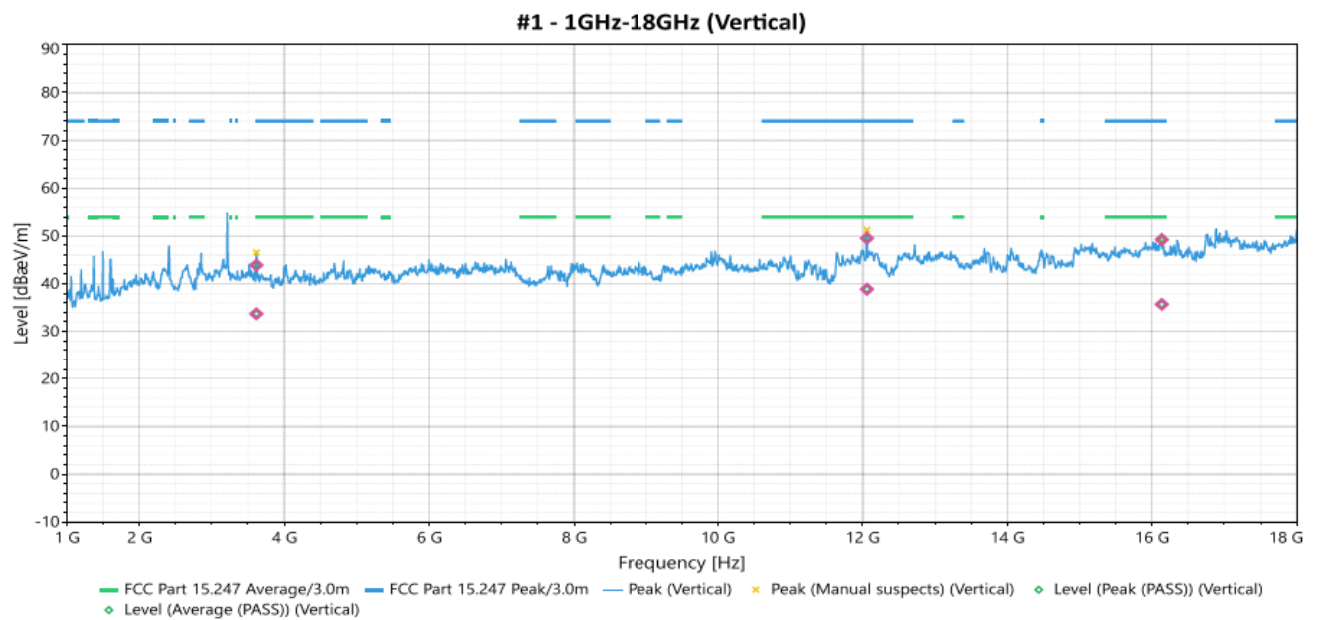
Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Pass/Fail
1	31.77	Horizontal	19.139	40	-20.861	1.84	9	-2.09	Pass
2	166.39	Horizontal	21.483	43.5	-22.017	2.02	101	-9.37	Pass
3	900.03	Horizontal	35.994	46	-10.006	1.03	354	4.91	Pass

REMARKS:

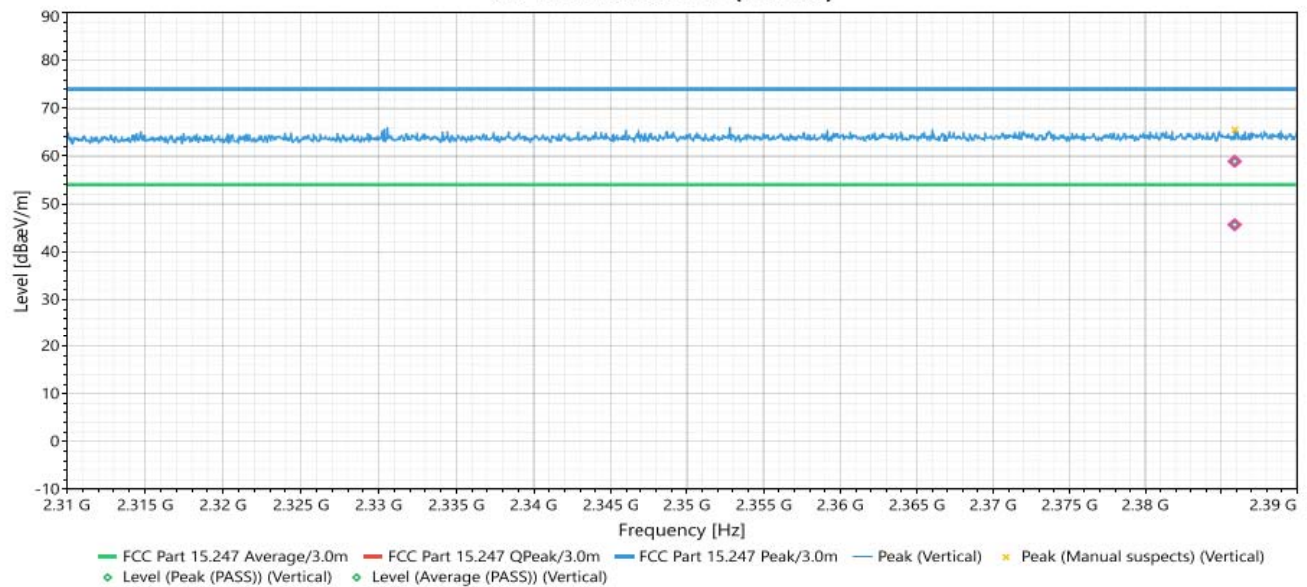
1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

Radiated Emissions (Above 1GHz)

EUT Test Condition		Measurement Detail	
Input Power	120 Vac, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE B 2412 MHz		



#1 - 2.31GHz-2.39GHz (Vertical)

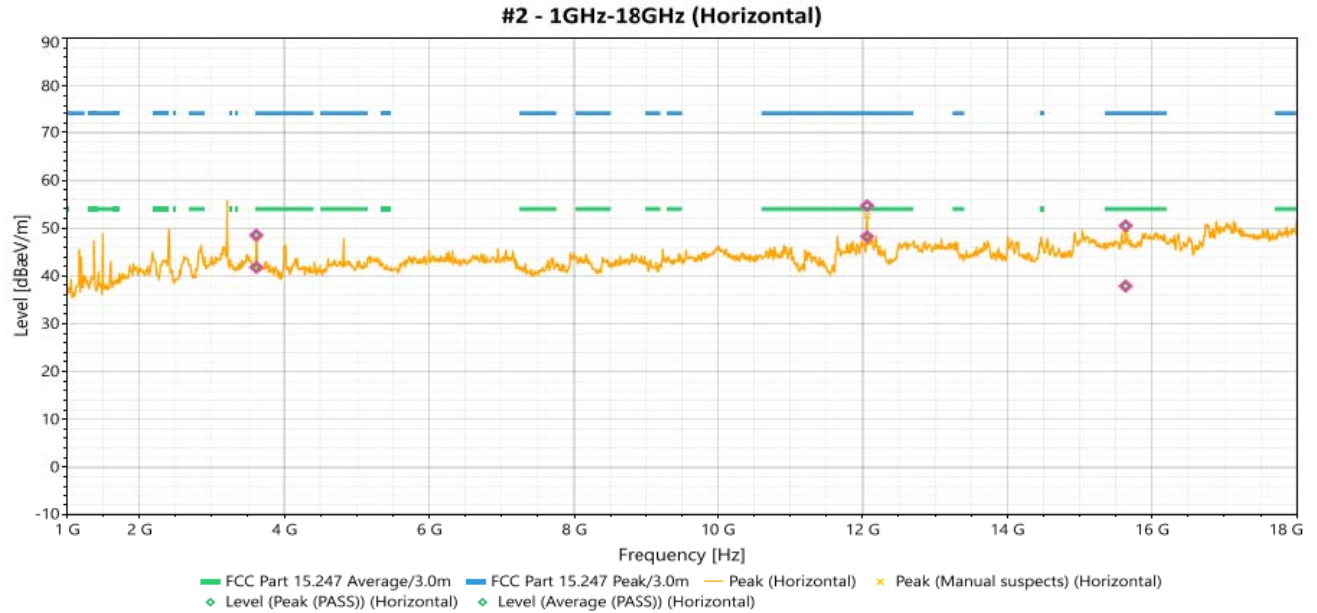


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3616.2	Vertical	43.913	74	-30.087	2.6	360	3.04	Peak (PASS)
2	3616.2	Vertical	33.718	54	-20.282	2.6	360	3.04	Average (PASS)
3	12060.1	Vertical	49.533	74	-24.467	1	360	7.49	Peak (PASS)
4	12060.1	Vertical	38.871	54	-15.129	1	360	7.49	Average (PASS)
5	16135	Vertical	49.257	74	-24.743	1.23	102	8.53	Peak (PASS)
6	16135	Vertical	35.696	54	-18.304	1.23	102	8.53	Average (PASS)
7	2385.89	Vertical	58.912	74	-15.088	2.7	12	38.73	Peak (PASS)
8	2385.89	Vertical	45.646	54	-8.354	2.7	12	38.73	Average (PASS)

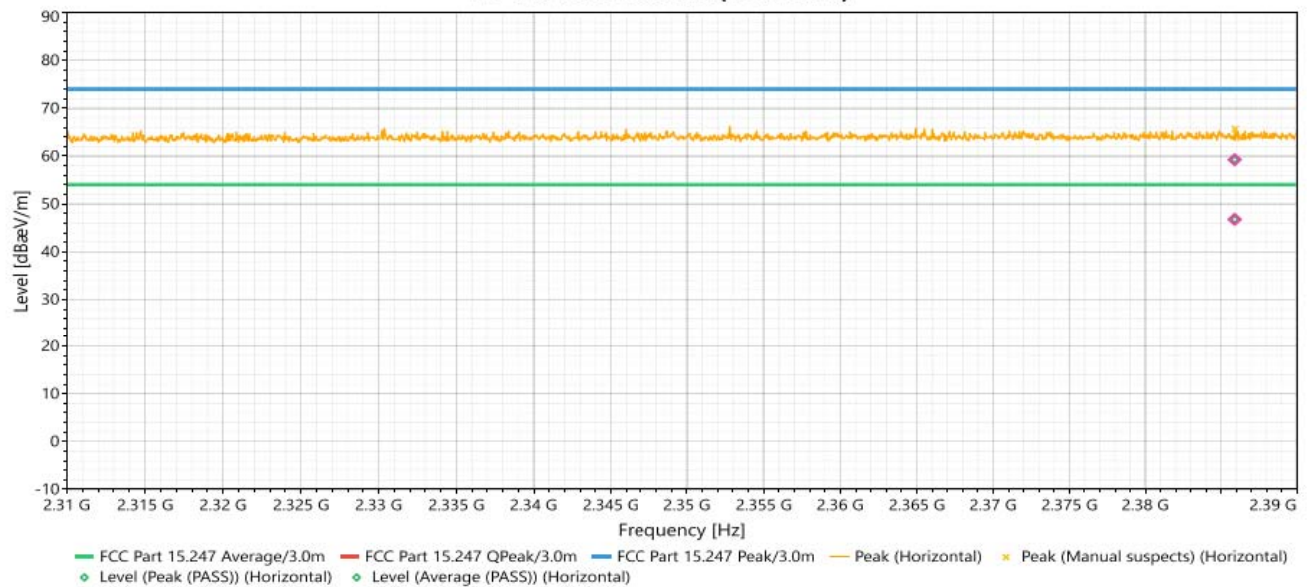
REMARKS:

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, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE B 2412 MHz		



#2 - 2.31GHz-2.39GHz (Horizontal)



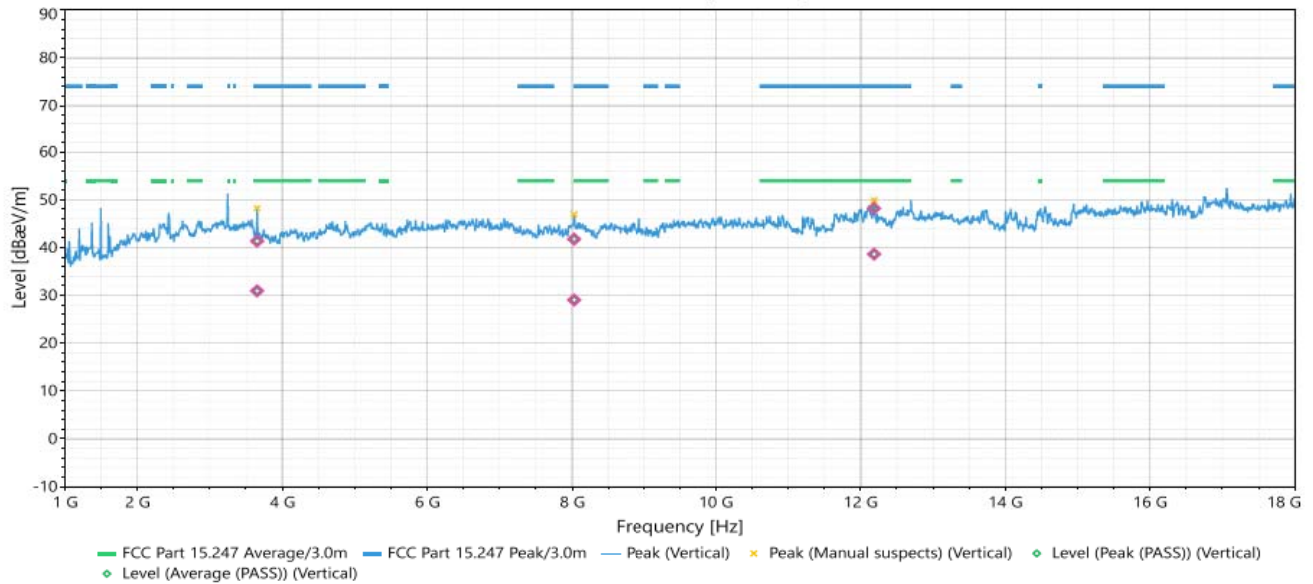
Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3616.2	Horizontal	48.521	74	-25.479	2.31	354	3.01	Peak (PASS)
2	3616.2	Horizontal	41.799	54	-12.201	2.31	354	3.01	Average (PASS)
3	12061.8	Horizontal	54.686	74	-19.314	2.18	44	7.52	Peak (PASS)
4	12061.8	Horizontal	48.225	54	-5.775	2.18	44	7.52	Average (PASS)
5	15635.2	Horizontal	50.507	74	-23.493	3.46	333	8.18	Peak (PASS)
6	15635.2	Horizontal	37.886	54	-16.114	3.46	333	8.18	Average (PASS)
7	2385.89	Horizontal	59.263	74	-14.737	2.51	11	38.84	Peak (PASS)
8	2385.89	Horizontal	46.772	54	-7.228	2.51	11	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, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11 B 2437 MHz		

#1 - 1GHz-18GHz (Vertical)

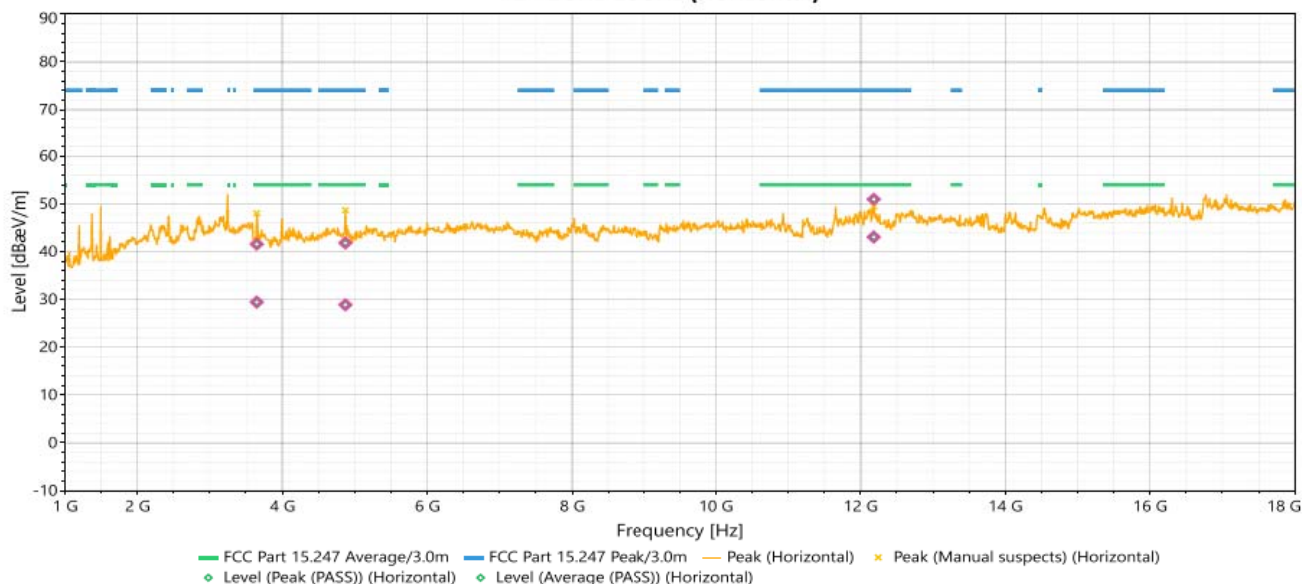


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak [dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3653.6	Vertical	41.35	74	-32.65	1	360	3.01	Peak (PASS)
2	3653.6	Vertical	30.942	54	-23.058	1	360	3.01	Average (PASS)
3	8029.4	Vertical	41.764	74	-32.236	1.09	111	5.86	Peak (PASS)
4	8029.4	Vertical	29.03	54	-24.97	1.09	111	5.86	Average (PASS)
5	12185.9	Vertical	48.176	74	-25.824	1	360	7.55	Peak (PASS)
6	12185.9	Vertical	38.62	54	-15.38	1	360	7.55	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, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11B 2437 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	3650.2	Horizontal	41.55	74	-32.45	1.03	355	3.03	Peak (PASS)
2	3650.2	Horizontal	29.432	54	-24.568	1.03	355	3.03	Average (PASS)
3	4872.5	Horizontal	41.789	74	-32.211	1	180	4.01	Peak (PASS)
4	4872.5	Horizontal	28.873	54	-25.127	1	180	4.01	Average (PASS)
5	12182.5	Horizontal	50.939	74	-23.061	1.86	49	7.54	Peak (PASS)
6	12182.5	Horizontal	43.037	54	-10.963	1.86	49	7.54	Average (PASS)

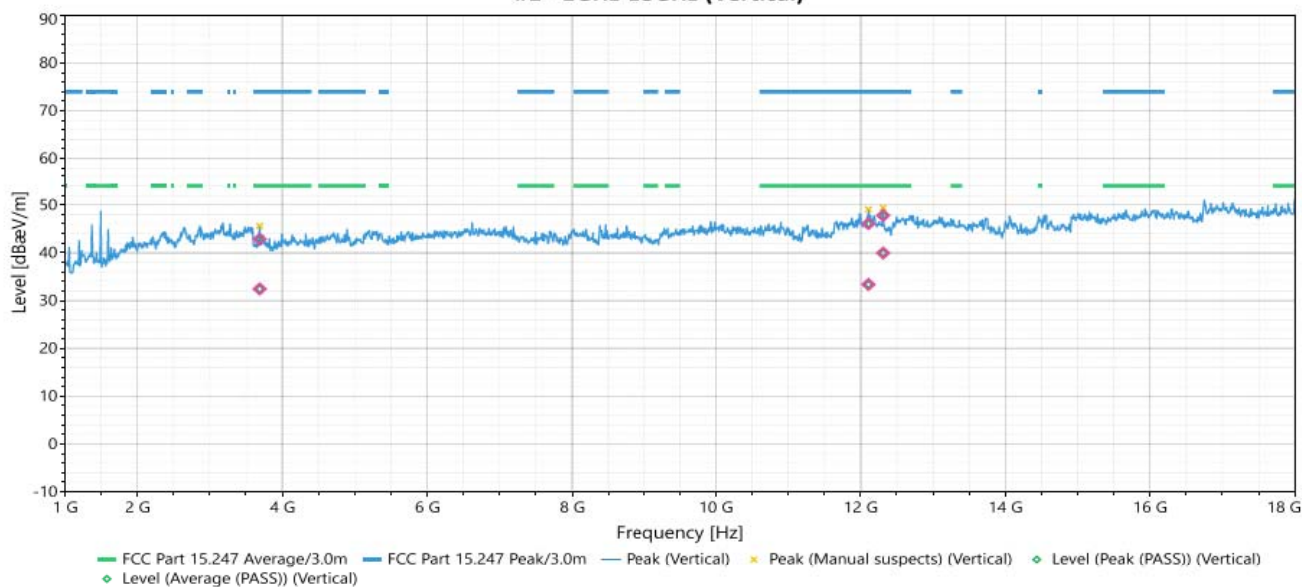
REMARKS:

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.

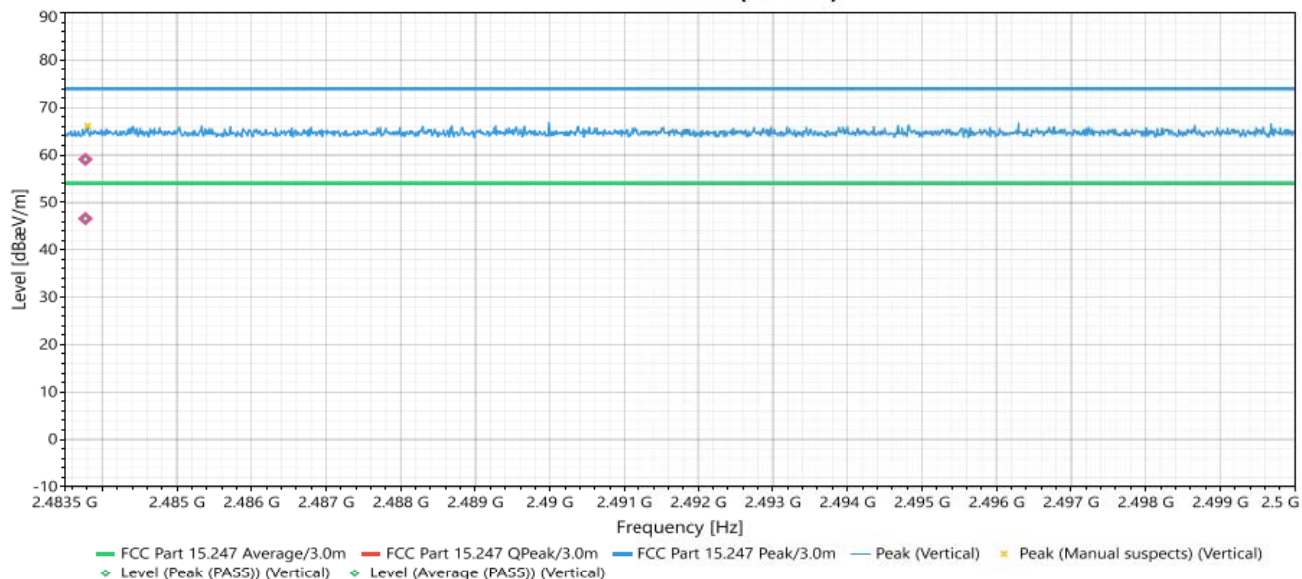
EUT Test Condition	Measurement Detail
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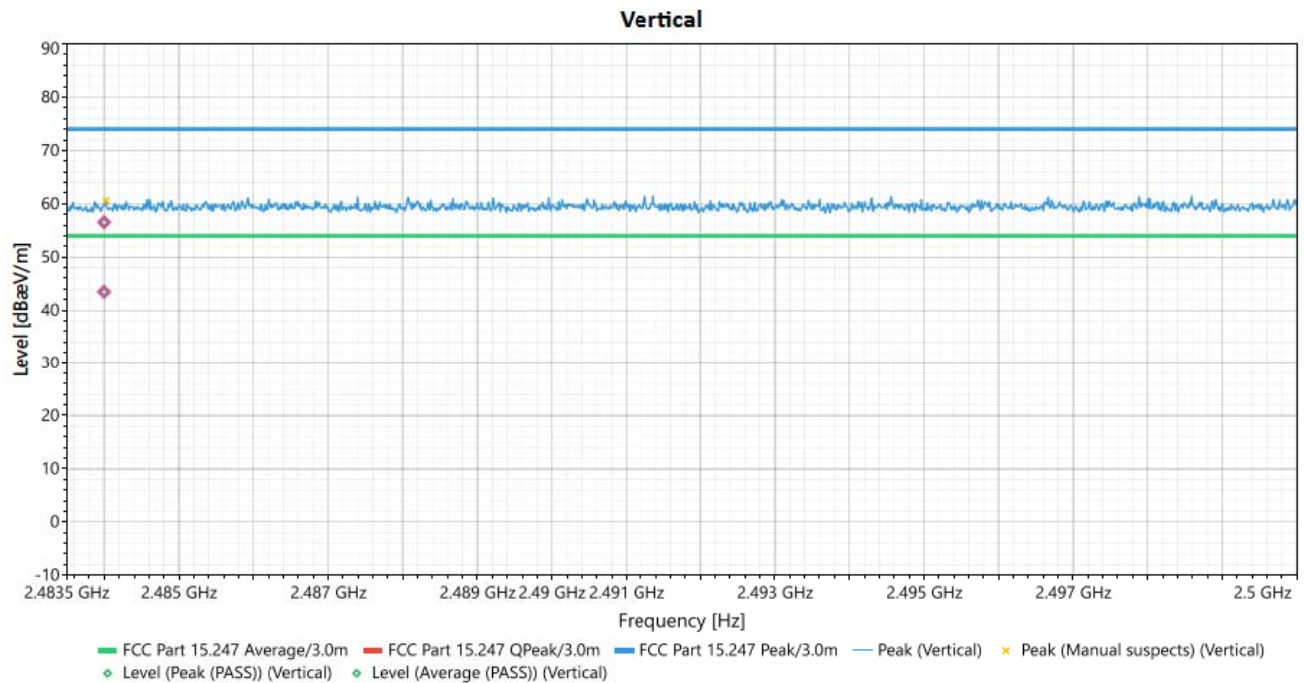
Input Power	120 Vac, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11B 2462 MHz		

#1 - 1GHz-18GHz (Vertical)



#1 - 2.4835GHz-2.5GHz (Vertical)

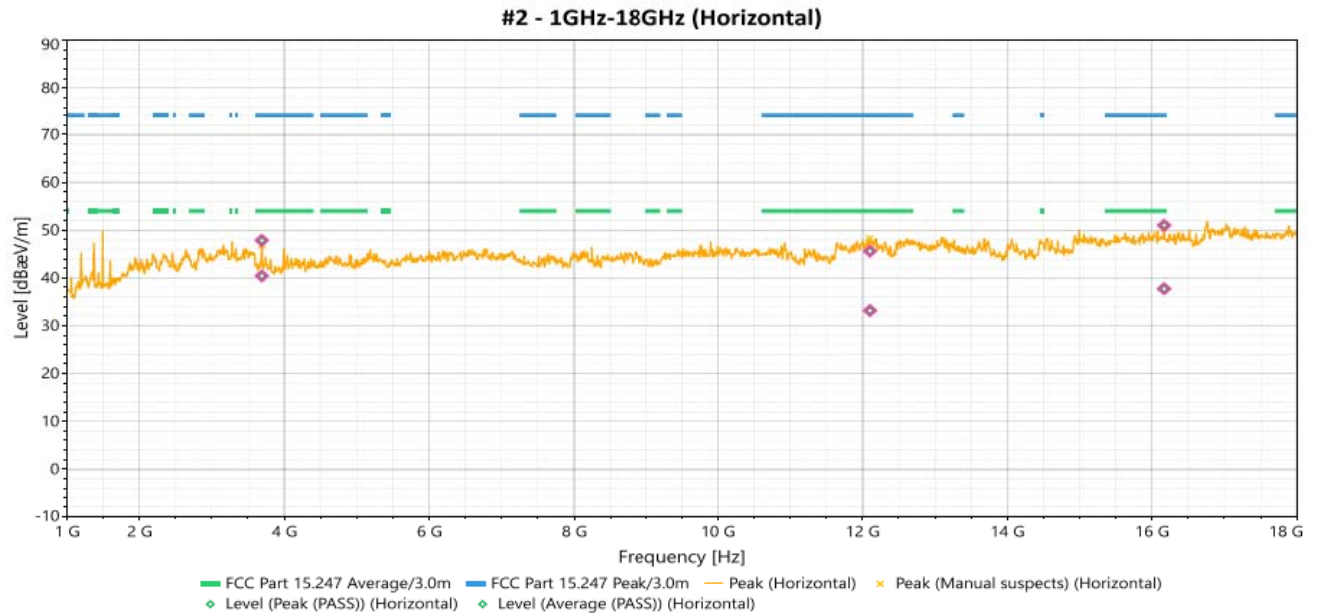




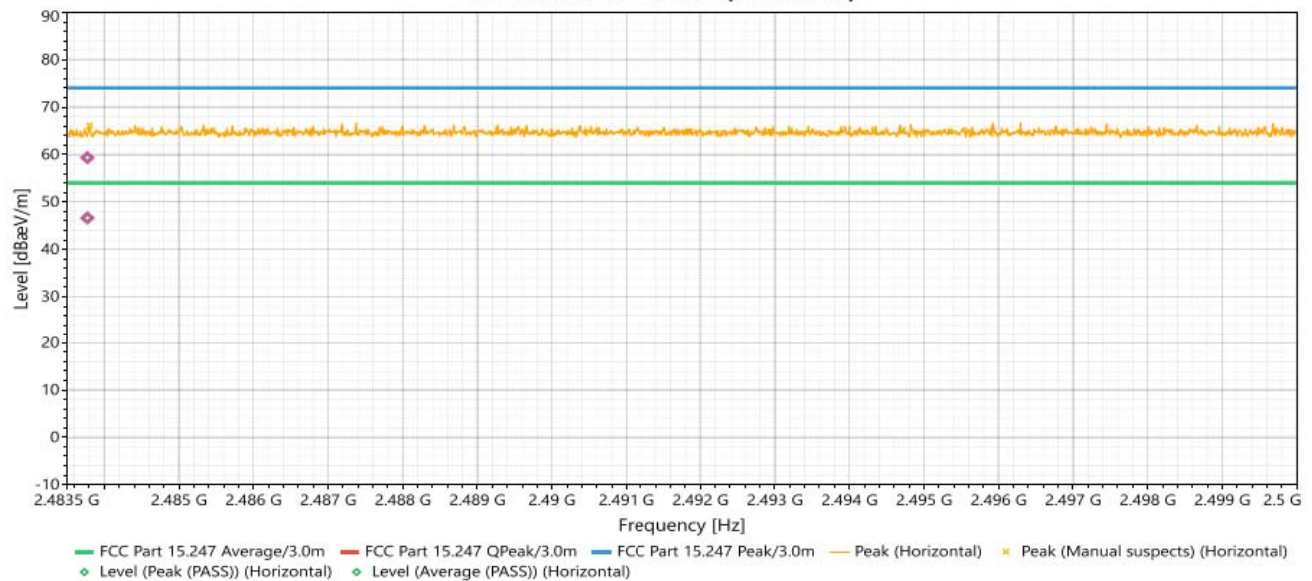
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak [dB(µV/m)]	Limit Peak dB(µV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3689.3	Vertical	42.829	74	-31.171	1	360	3.04	Peak (PASS)
2	3689.3	Vertical	32.43	54	-21.57	1	360	3.04	Average (PASS)
3	12109.4	Vertical	46.066	74	-27.934	1.13	187	7.54	Peak (PASS)
4	12109.4	Vertical	33.362	54	-20.638	1.13	187	7.54	Average (PASS)
5	12311.7	Vertical	47.785	74	-26.215	1.03	355	7.46	Peak (PASS)
6	12311.7	Vertical	39.938	54	-14.062	1.03	355	7.46	Average (PASS)
7	2483.777	Vertical	59.067	74	-14.933	2.29	240	39.14	Peak (PASS)
8	2483.777	Vertical	46.581	54	-7.419	2.29	240	39.14	Average (PASS)

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.

EUT Test Condition		Measurement Detail	
Input Power	120 Vac, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11B 2462 MHz		



#2 - 2.4835GHz-2.5GHz (Horizontal)

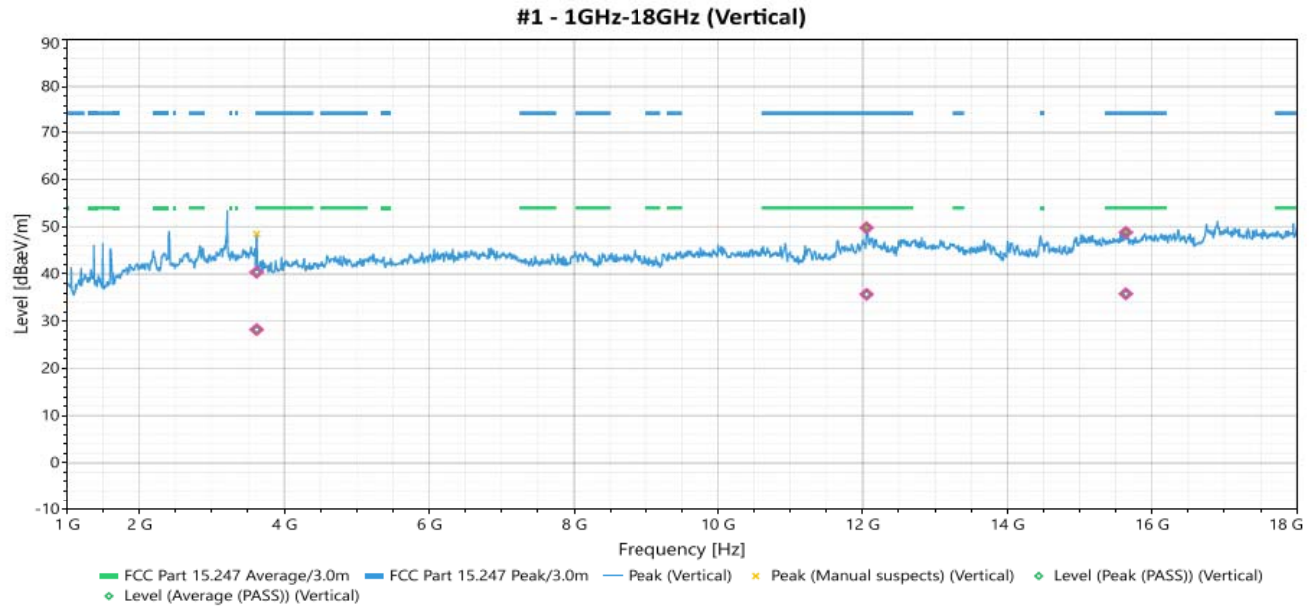


Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(μV/m)]	Limit Peak dB(μV/m)	Margin Peak [dB]	Height (cm)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3691	Horizontal	47.852	74	-26.148	2.23	355	3.08	Peak (PASS)
2	3691	Horizontal	40.445	54	-13.555	2.23	355	3.08	Average (PASS)
3	12102.6	Horizontal	45.618	74	-28.382	1	265	7.55	Peak (PASS)
4	12102.6	Horizontal	33.177	54	-20.823	1	265	7.55	Average (PASS)
5	16167.3	Horizontal	51.01	74	-22.99	3.49	301	8.53	Peak (PASS)
6	16167.3	Horizontal	37.753	54	-16.247	3.49	301	8.53	Average (PASS)
7	2483.777	Horizontal	59.338	74	-14.662	2.78	137	39.15	Peak (PASS)
8	2483.777	Horizontal	46.618	54	-7.382	2.78	137	39.15	Average (PASS)

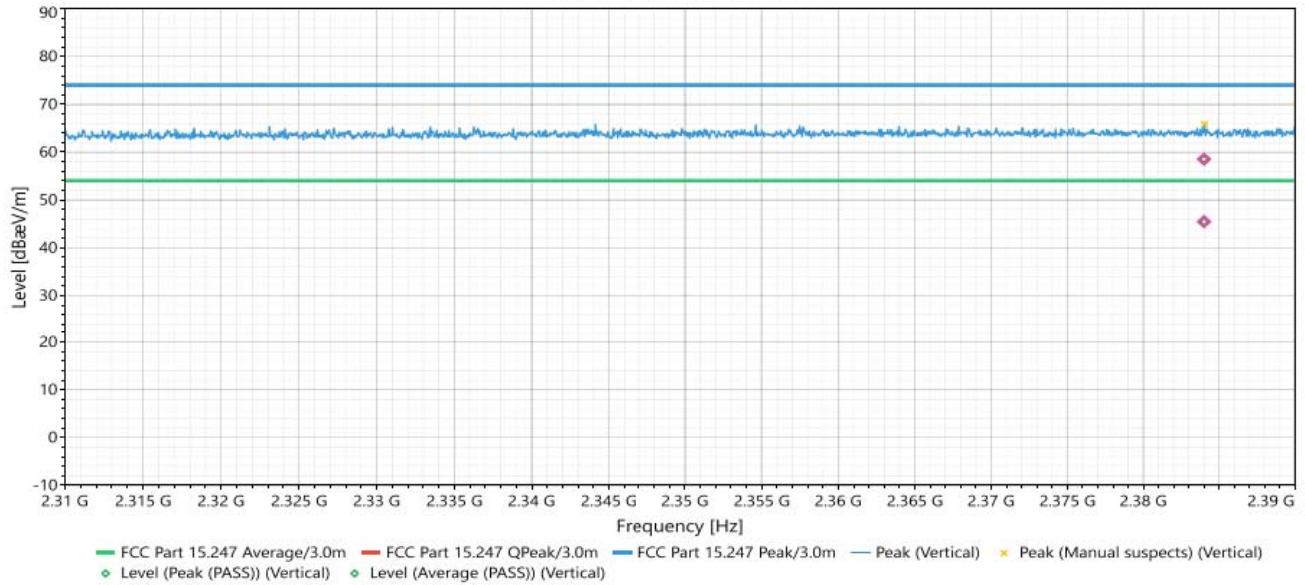
REMARKS:

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, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE G 2412 MHz		



#1 - 2.31GHz-2.39GHz (Vertical)

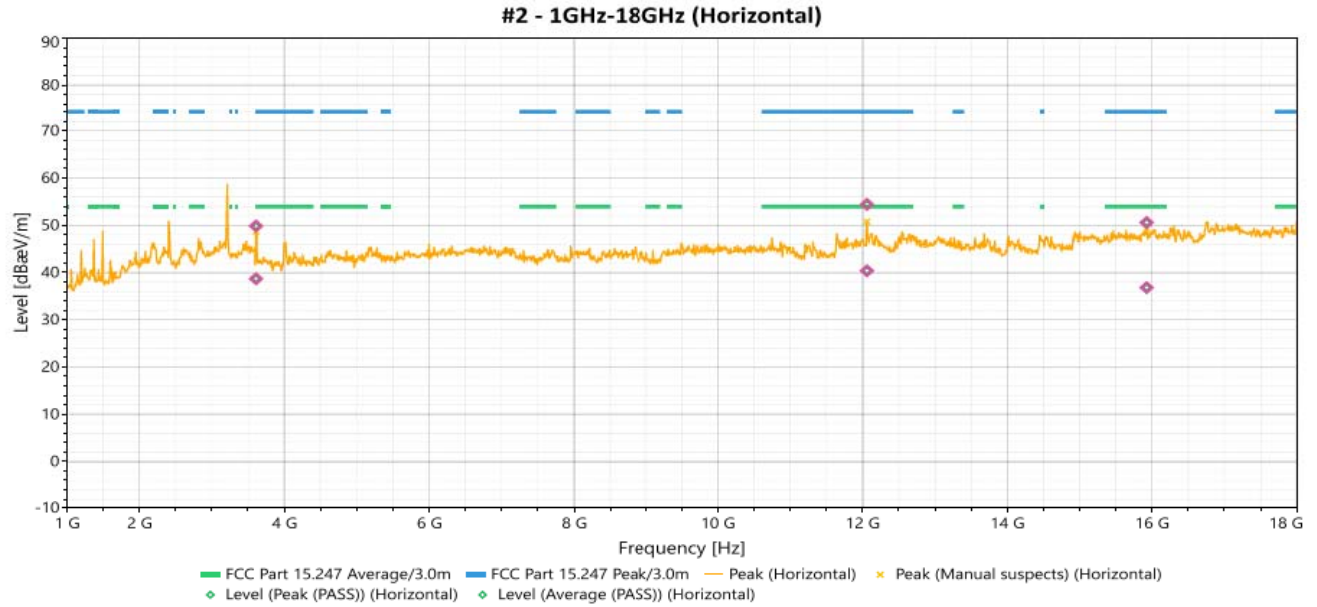


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3619.6	Vertical	40.361	74	-33.639	1	356	3.04	Peak (PASS)
2	3619.6	Vertical	28.201	54	-25.799	1	356	3.04	Average (PASS)
3	12055	Vertical	49.785	74	-24.215	1.14	346	7.48	Peak (PASS)
4	12055	Vertical	35.667	54	-18.333	1.14	346	7.48	Average (PASS)
5	15638.6	Vertical	48.789	74	-25.211	2.48	256	8.24	Peak (PASS)
6	15638.6	Vertical	35.78	54	-18.22	2.48	256	8.24	Average (PASS)
7	2384.002	Vertical	58.522	74	-15.478	1.21	112	38.73	Peak (PASS)
8	2384.002	Vertical	45.455	54	-8.545	1.21	112	38.73	Average (PASS)

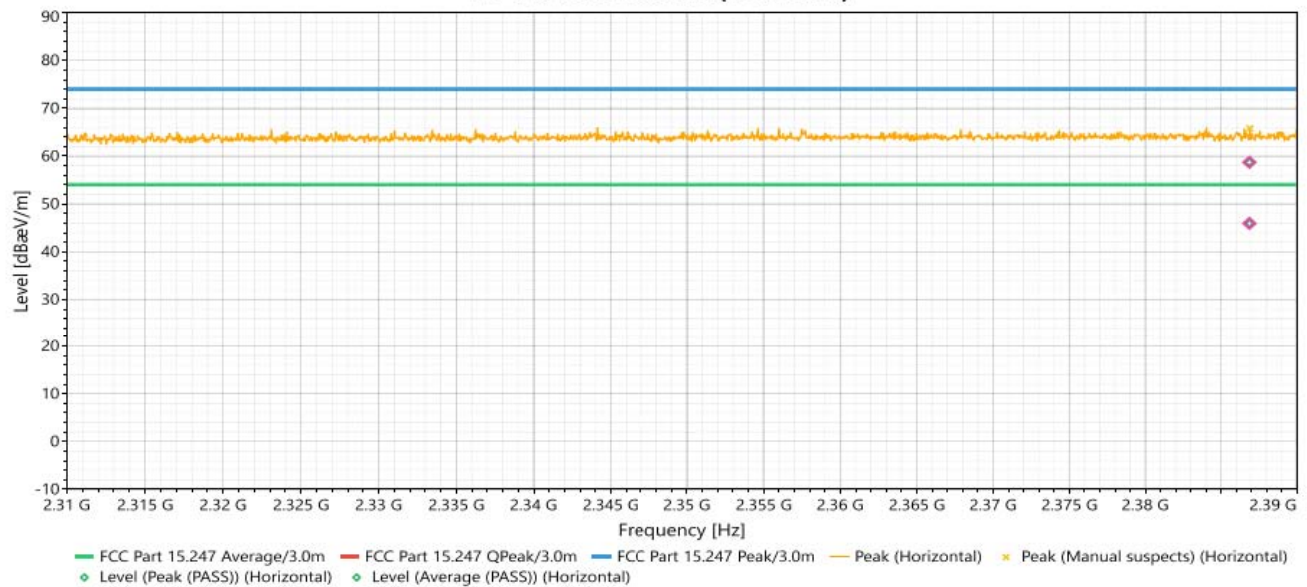
REMARKS:

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, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE G 2412 MHz		



#2 - 2.31GHz-2.39GHz (Horizontal)

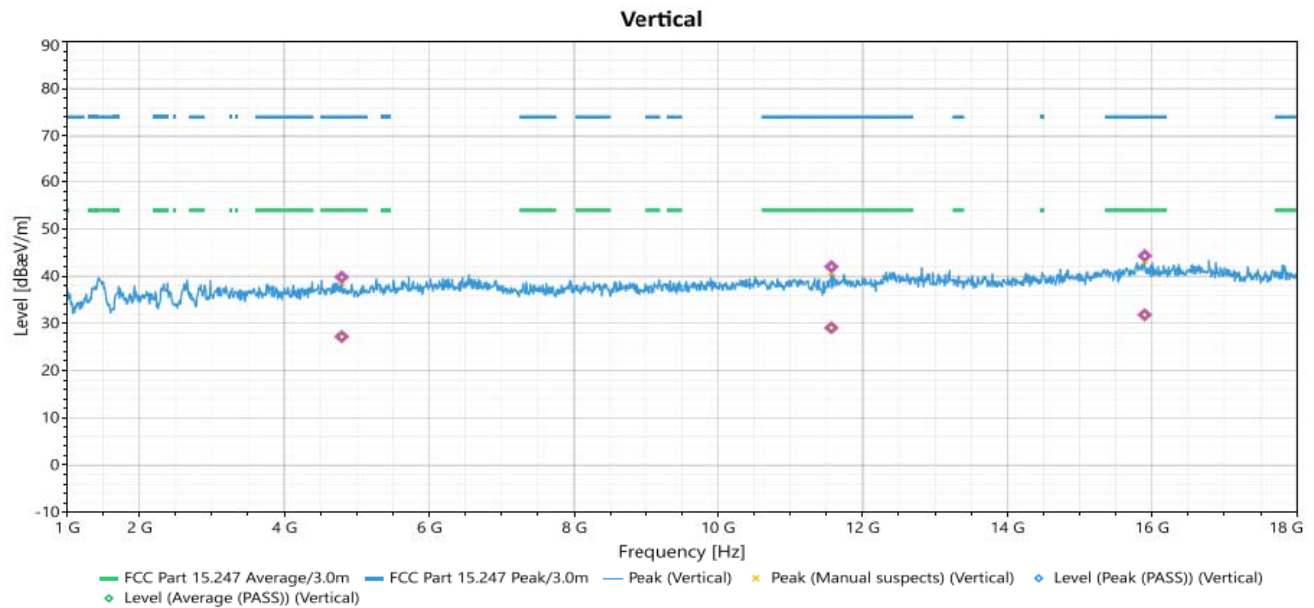


Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3612.8	Horizontal	49.85	74	-24.15	2.25	352	3	Peak (PASS)
2	3612.8	Horizontal	38.705	54	-15.295	2.25	352	3	Average (PASS)
3	12060.1	Horizontal	54.433	74	-19.567	1.83	49	7.52	Peak (PASS)
4	12060.1	Horizontal	40.405	54	-13.595	1.83	49	7.52	Average (PASS)
5	15925.9	Horizontal	50.595	74	-23.405	1.81	255	8.44	Peak (PASS)
6	15925.9	Horizontal	36.819	54	-17.181	1.81	255	8.44	Average (PASS)
7	2386.866	Horizontal	58.713	74	-15.287	1.86	344	38.84	Peak (PASS)
8	2386.866	Horizontal	45.93	54	-8.07	1.86	344	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, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11 G 2437 MHz		

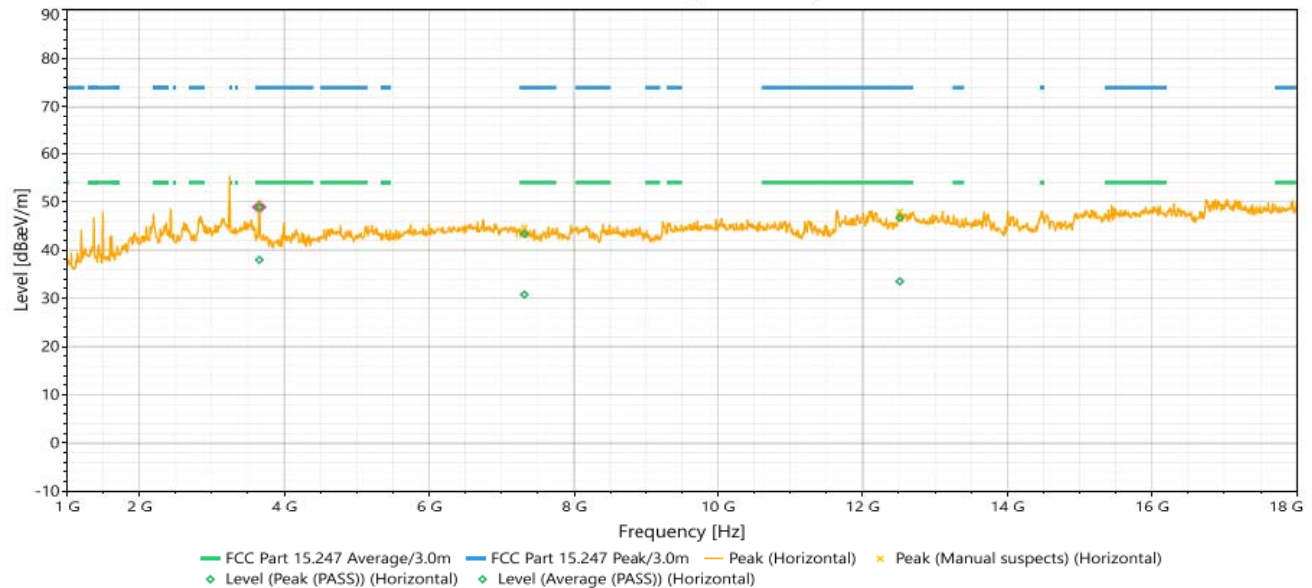


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3657	Vertical	41.047	74	-32.953	1	358	3.02	Peak (PASS)
2	3657	Vertical	28.654	54	-25.346	1	358	3.02	Average (PASS)
3	7318.8	Vertical	40.742	74	-33.258	1	261	5.87	Peak (PASS)
4	7318.8	Vertical	28.032	54	-25.968	1	261	5.87	Average (PASS)
5	12131.5	Vertical	46.569	74	-27.431	2.43	346	7.54	Peak (PASS)
6	12131.5	Vertical	33.749	54	-20.251	2.43	346	7.54	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, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11G 2437 MHz		

#2 - 1GHz-18GHz (Horizontal)



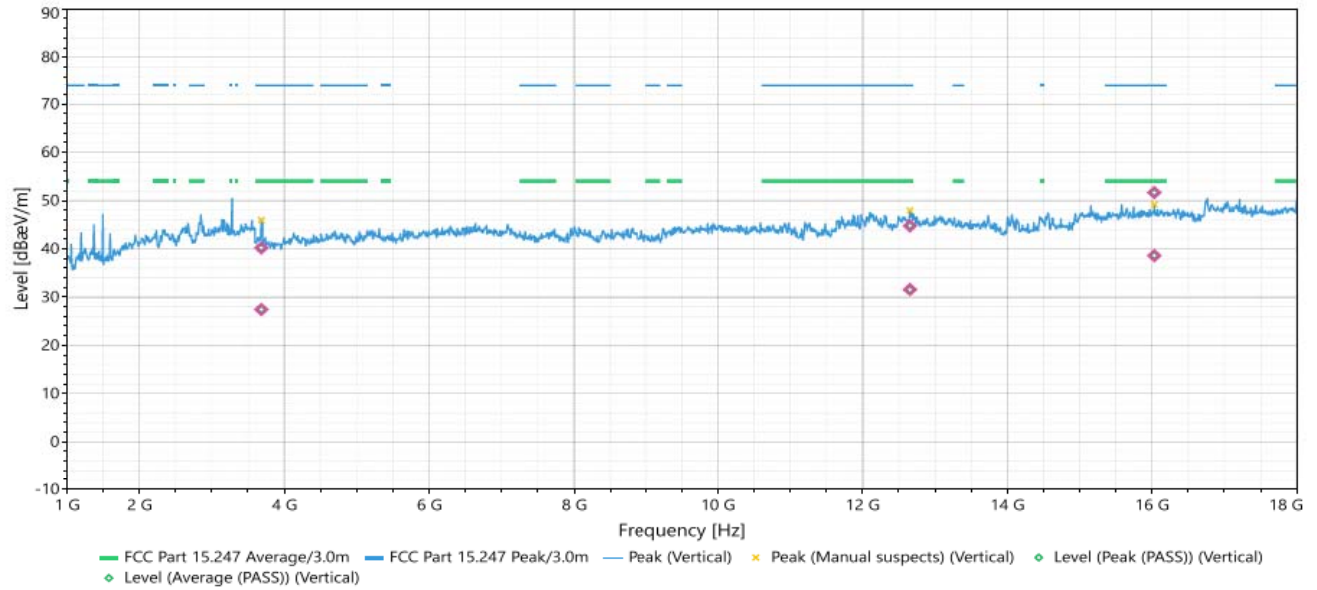
Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level Peak [dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3657	Horizontal	48.913	74	-25.087	2.38	356	3.04	Peak (PASS)
2	3657	Horizontal	37.984	54	-16.016	2.38	356	3.04	Average (PASS)
3	7315.4	Horizontal	43.339	74	-30.661	2.02	122	5.89	Peak (PASS)
4	7315.4	Horizontal	30.797	54	-23.203	2.02	122	5.89	Average (PASS)
5	12514	Horizontal	46.719	74	-27.281	2.01	331	7.55	Peak (PASS)
6	12514	Horizontal	33.523	54	-20.477	2.01	331	7.55	Average (PASS)

REMARKS:

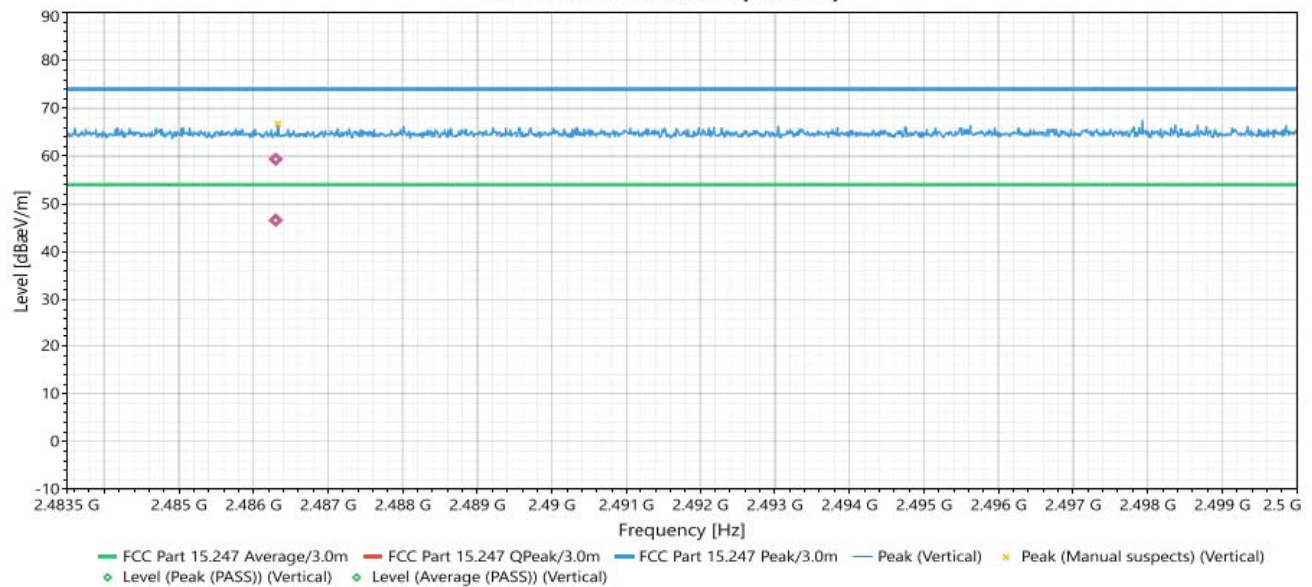
1. Level (dBuV) = Reading (dBuV) + Factor (dB(1/m)).
2. Factor (dB(1/m)) = Antenna Factor(AF) (dB(1/m)) + Cable Loss (dB) +Preamplifier
3. Margin value = Emission level – Limit value.
4. The emission levels of other frequencies were less than 20dB margin against the limit.

EUT Test Condition		Measurement Detail	
Input Power	120 Vac, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11G 2462 MHz		

#1 - 1GHz-18GHz (Vertical)



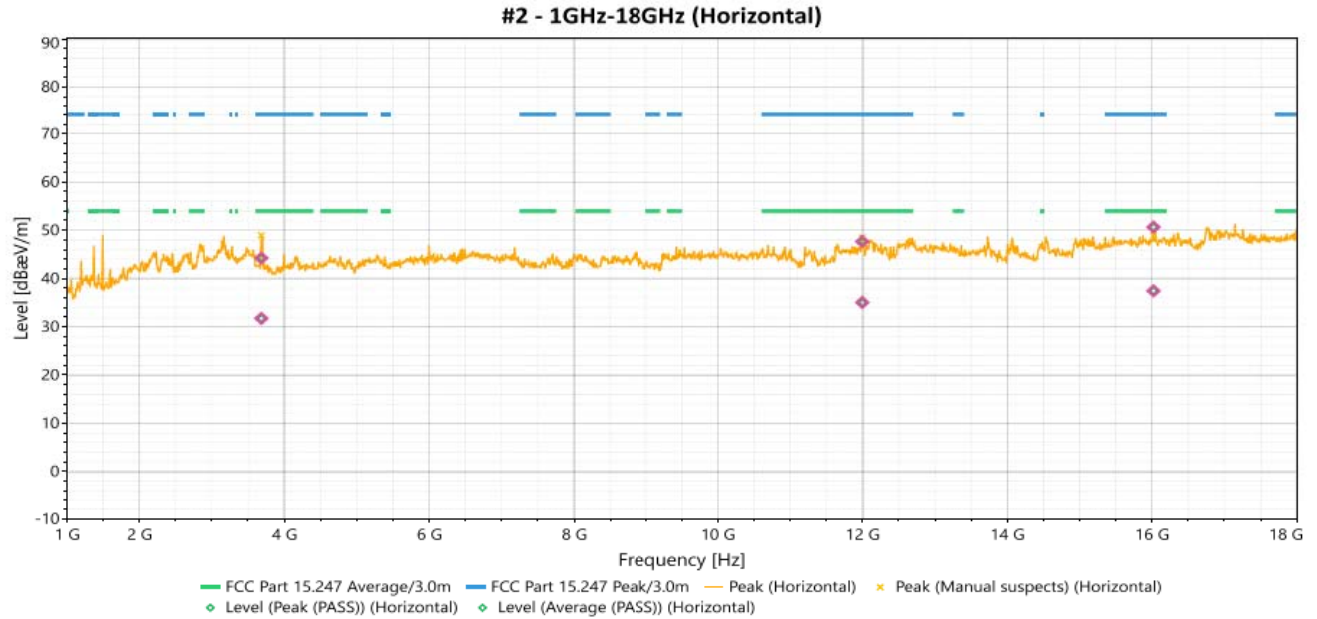
#1 - 2.4835GHz-2.5GHz (Vertical)

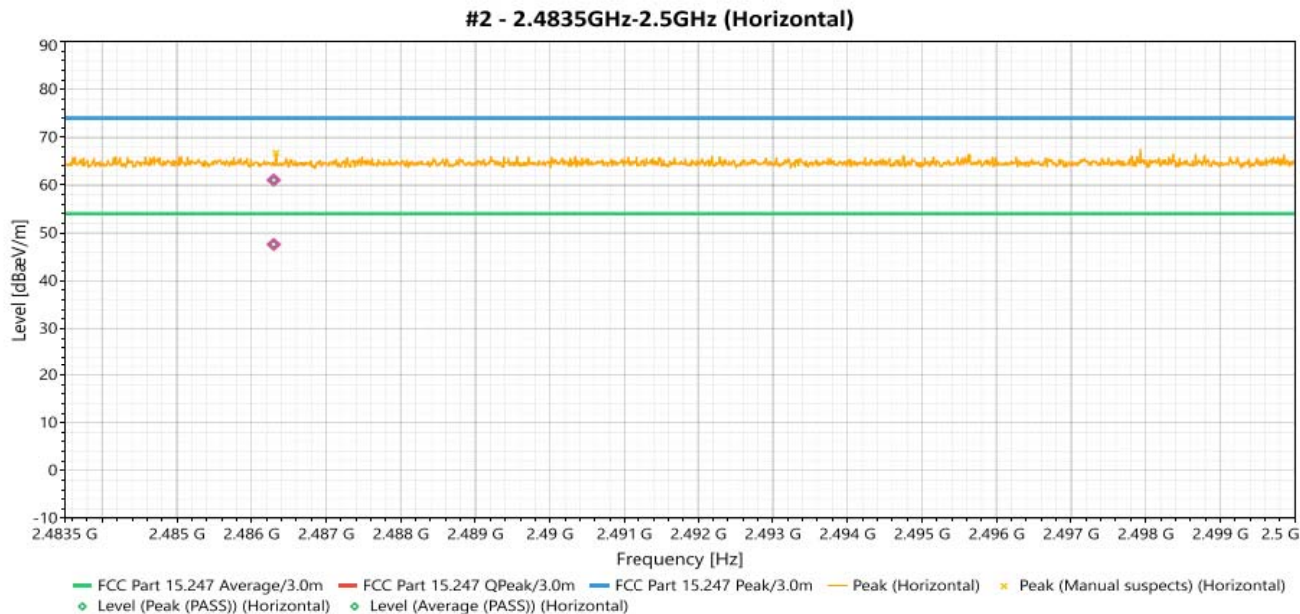


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3684.2	Vertical	40.188	74	-33.812	2.63	323	3.04	Peak (PASS)
2	3684.2	Vertical	27.418	54	-26.582	2.63	323	3.04	Average (PASS)
3	12655.1	Vertical	44.777	74	-29.223	1	286	7.57	Peak (PASS)
4	12655.1	Vertical	31.562	54	-22.438	1	286	7.57	Average (PASS)
5	16031.3	Vertical	51.668	74	-22.332	3.32	237	8.55	Peak (PASS)
6	16031.3	Vertical	38.602	54	-15.398	3.32	237	8.55	Average (PASS)
7	2486.298	Vertical	59.361	74	-14.639	1.8	56	39.16	Peak (PASS)
8	2486.298	Vertical	46.6	54	-7.4	1.8	56	39.16	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, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE 11G 2462 MHz		



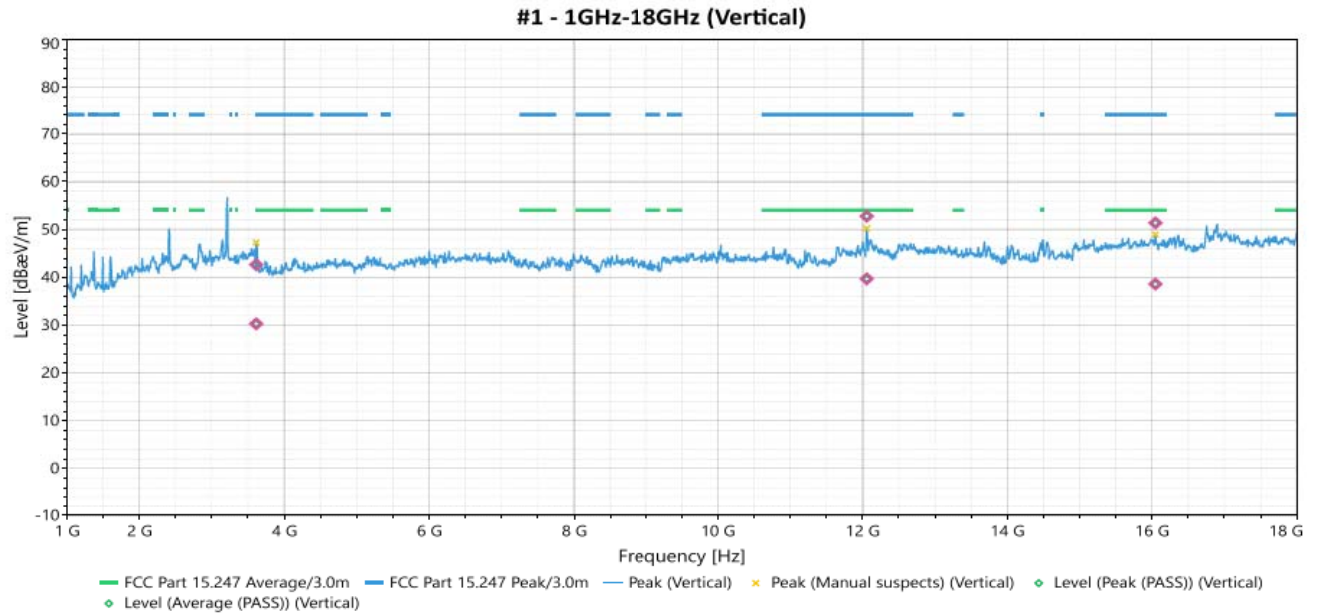


Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level [dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	3684.2	Horizontal	44.225	74	-29.775	2.34	350	3.07	Peak (PASS)
2	3684.2	Horizontal	31.734	54	-22.266	2.34	350	3.07	Average (PASS)
3	11995.5	Horizontal	47.665	74	-26.335	2.27	67	7.53	Peak (PASS)
4	11995.5	Horizontal	35.038	54	-18.962	2.27	67	7.53	Average (PASS)
5	16021.1	Horizontal	50.642	74	-23.358	1.94	262	8.52	Peak (PASS)
6	16021.1	Horizontal	37.434	54	-16.566	1.94	262	8.52	Average (PASS)
7	2486.298	Horizontal	61.061	74	-12.939	2.69	357	39.16	Peak (PASS)
8	2486.298	Horizontal	47.6	54	-6.4	2.69	357	39.16	Average (PASS)

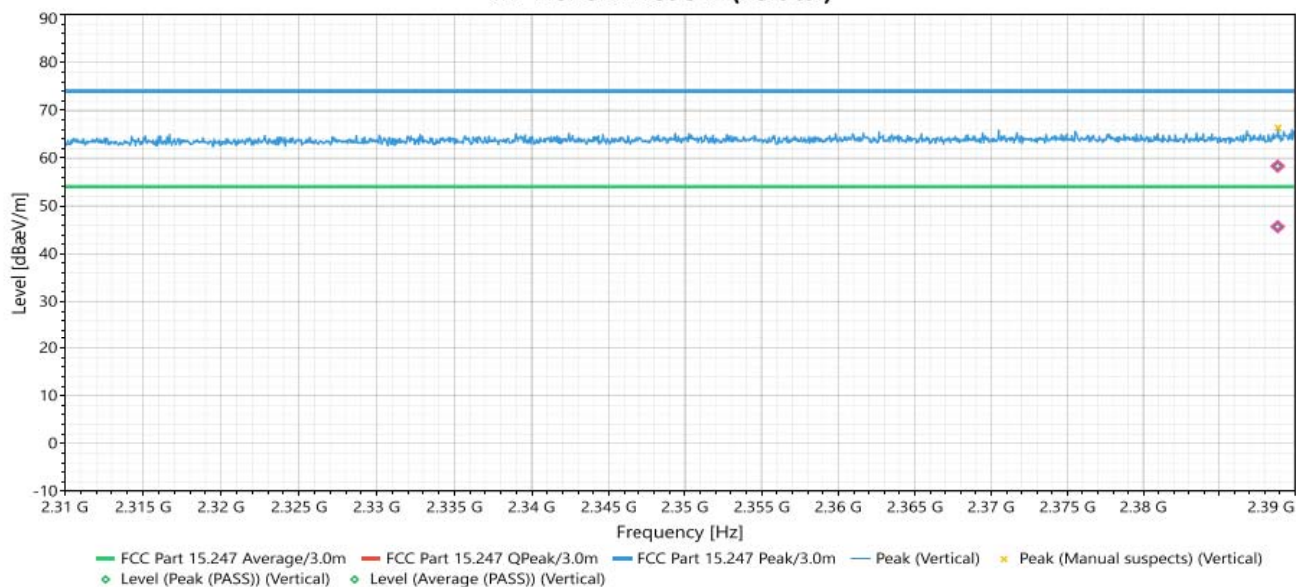
REMARKS:

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, 60Hz	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Richard Dollente
Test Mode	TX MODE N HT20 2412 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	3614.5	Vertical	42.628	74	-31.372	1	92	3.04	Peak (PASS)
2	3614.5	Vertical	30.273	54	-23.727	1	92	3.04	Average (PASS)
3	12058.4	Vertical	52.778	74	-21.222	1.52	65	7.49	Peak (PASS)
4	12058.4	Vertical	39.679	54	-14.321	1.52	65	7.49	Average (PASS)
5	16046.6	Vertical	51.366	74	-22.634	3.37	348	8.53	Peak (PASS)
6	16046.6	Vertical	38.586	54	-15.414	3.37	348	8.53	Average (PASS)
7	2388.866	Vertical	58.318	74	-15.682	1.64	72	38.73	Peak (PASS)
8	2388.866	Vertical	45.67	54	-8.33	1.64	72	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.