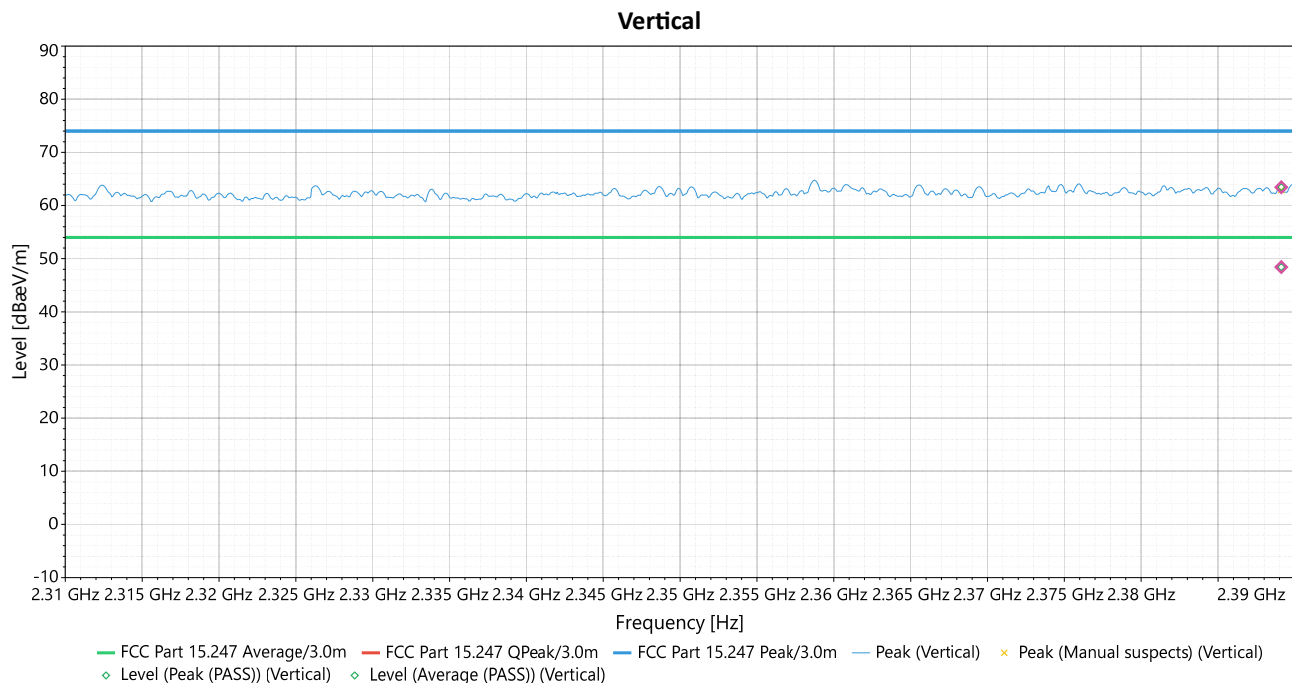


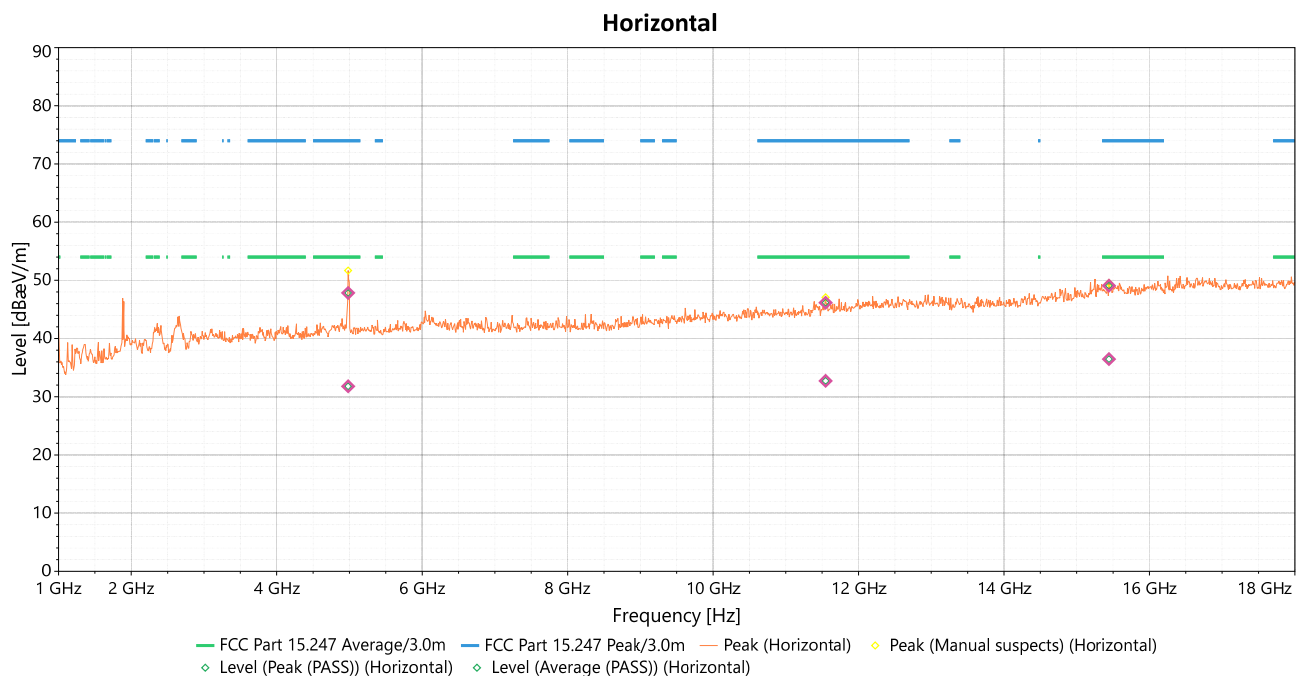


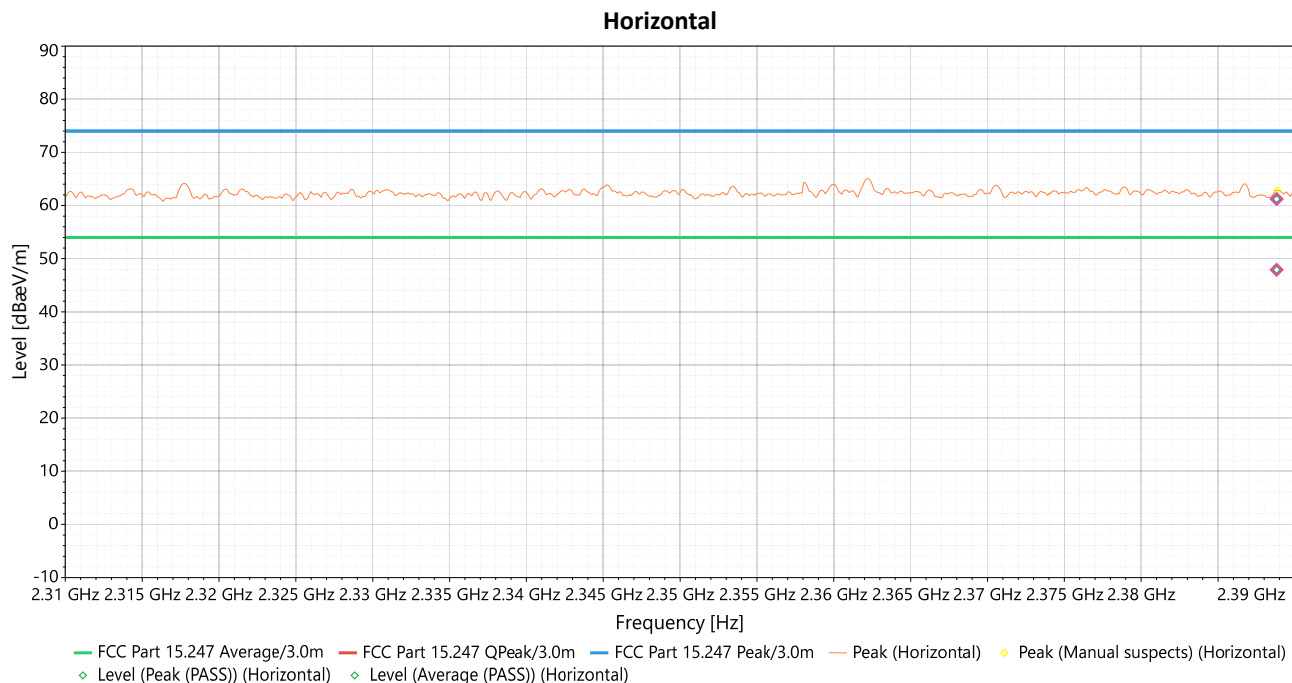
Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	4978	Vertical	49.293	74	-24.707	2.75	207	0.76	Peak (PASS)
2	4978	Vertical	31.45	54	-22.55	2.75	207	0.76	Average (PASS)
3	15491	Vertical	49.263	74	-24.737	2.83	180	4.36	Peak (PASS)
4	15491	Vertical	36.583	54	-17.417	2.83	180	4.36	Average (PASS)
5	16128	Vertical	49.732	74	-24.268	2.16	5	4.79	Peak (PASS)
6	16128	Vertical	36.926	54	-17.074	2.16	5	4.79	Average (PASS)
7	2389.115	Vertical	63.428	74	-10.572	1.49	0	35.82	Peak (PASS)
8	2389.115	Vertical	48.41	54	-5.59	1.49	0	35.82	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	3.8Vdc	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Alberto Saldivar
Test Mode	TX MODE N HT20 2412 MHz		



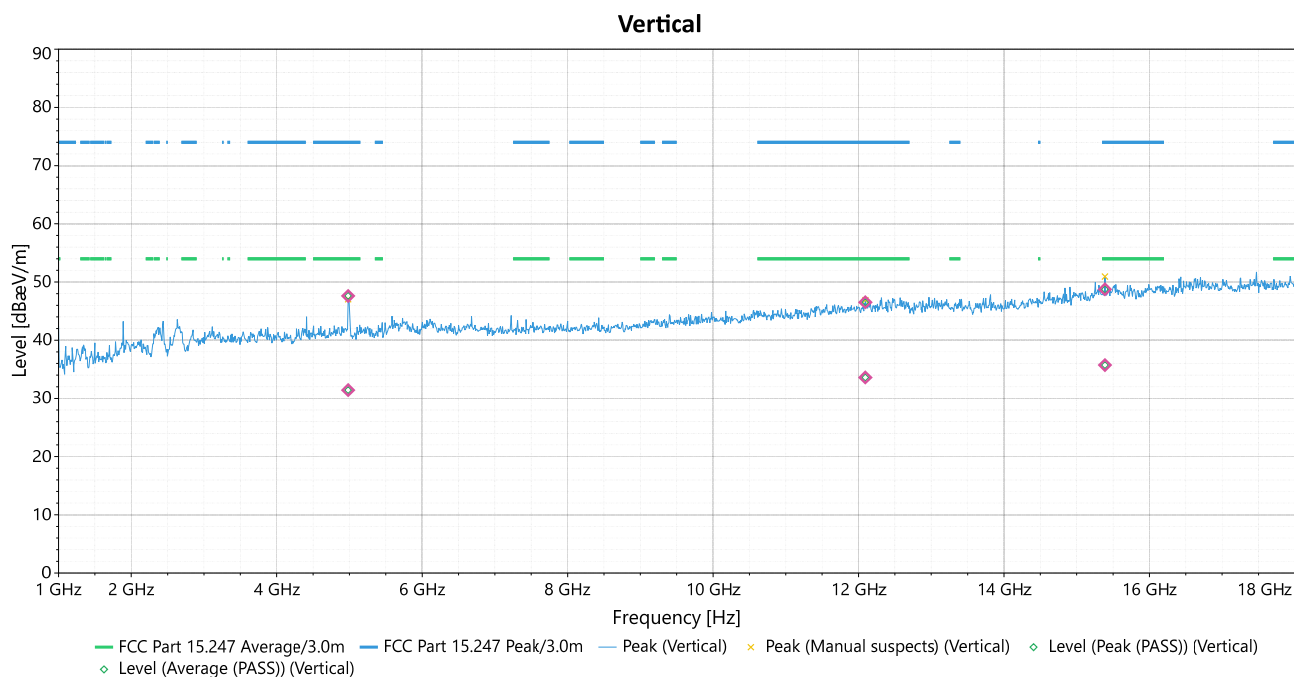


Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	4981.4	Horizontal	47.834	74	-26.166	3.07	358	1.33	Peak (PASS)
2	4981.4	Horizontal	31.793	54	-22.207	3.07	358	1.33	Average (PASS)
3	11547	Horizontal	46.147	74	-27.853	1.69	298	3.38	Peak (PASS)
4	11547	Horizontal	32.735	54	-21.265	1.69	298	3.38	Average (PASS)
5	15443	Horizontal	49.094	74	-24.906	1.9	50	4.57	Peak (PASS)
6	15443	Horizontal	36.461	54	-17.539	1.9	50	4.57	Average (PASS)
7	2388.814	Horizontal	61.206	74	-12.794	2.89	154	35.87	Peak (PASS)
8	2388.814	Horizontal	47.914	54	-6.086	2.89	154	35.87	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.

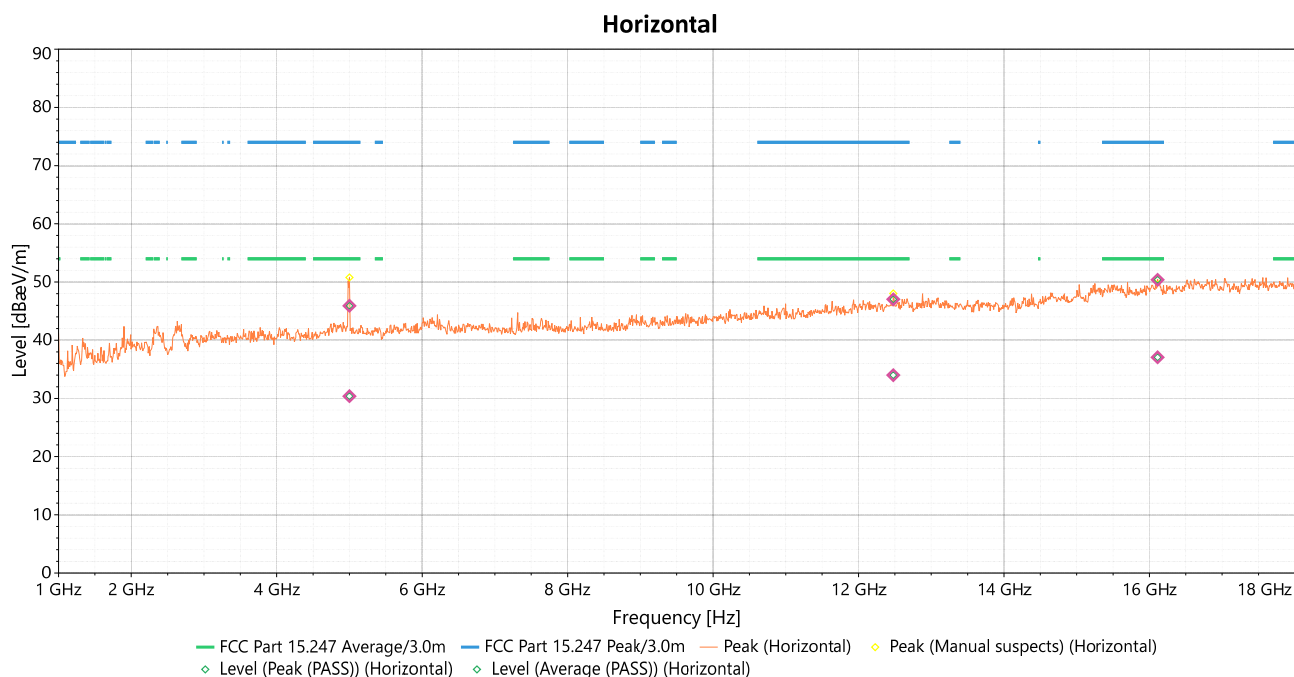
EUT Test Condition		Measurement Detail	
Input Power	3.8Vdc	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Alberto Saldivar
Test Mode	TX MODE 11 N HT20 2437 MHz		



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	4981.4	Vertical	47.609	74	-26.391	2.93	207	0.76	Peak (PASS)
2	4981.4	Vertical	31.424	54	-22.576	2.93	207	0.76	Average (PASS)
3	12094	Vertical	46.522	74	-27.478	1.38	50	3.67	Peak (PASS)
4	12094	Vertical	33.602	54	-20.398	1.38	50	3.67	Average (PASS)
5	15389	Vertical	48.74	74	-25.26	1.81	207	4.29	Peak (PASS)
6	15389	Vertical	35.718	54	-18.282	1.81	207	4.29	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	3.8Vdc	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Alberto Saldivar
Test Mode	TX MODE 11N HT20 2437 MHz		

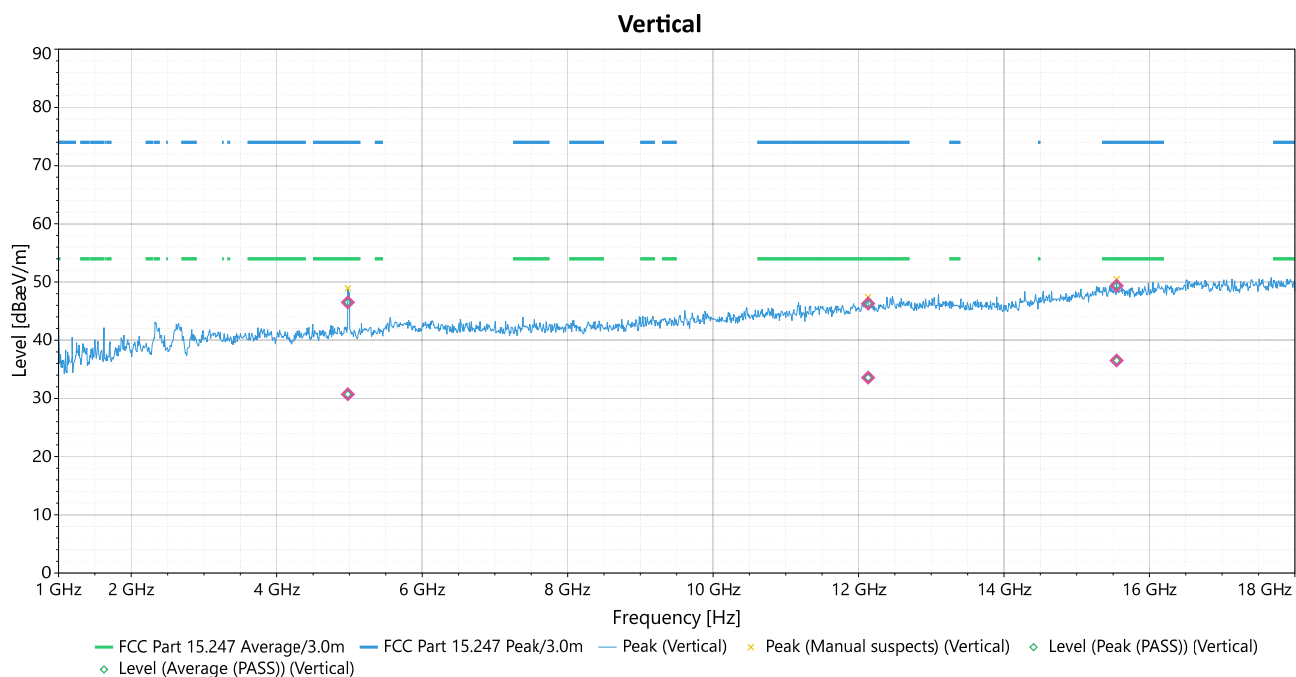


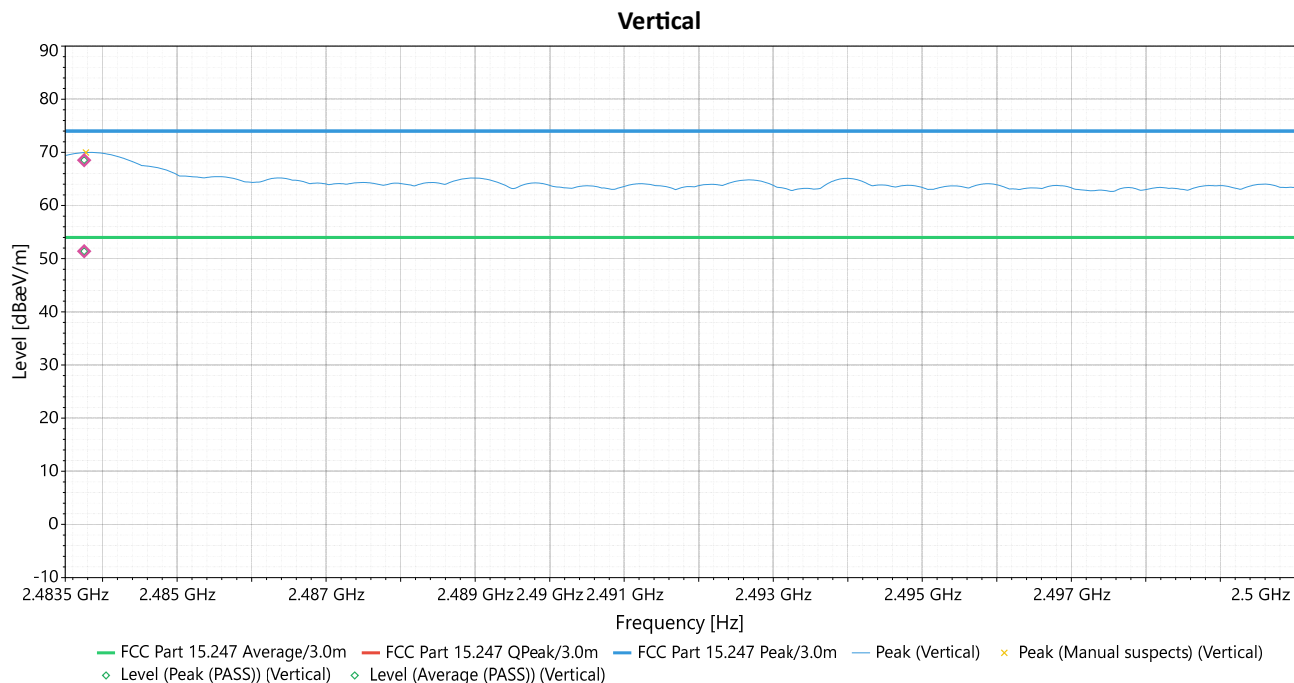
Antenna Polarity & Test Distance: Horizontal at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	5000.1	Horizontal	45.914	74	-28.086	3.06	0	1.32	Peak (PASS)
2	5000.1	Horizontal	30.384	54	-23.616	3.06	0	1.32	Average (PASS)
3	12478	Horizontal	47.026	74	-26.974	2.13	201	3.96	Peak (PASS)
4	12478	Horizontal	33.986	54	-20.014	2.13	201	3.96	Average (PASS)
5	16113	Horizontal	50.383	74	-23.617	1.84	155	4.93	Peak (PASS)
6	16113	Horizontal	37.065	54	-16.935	1.84	155	4.93	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	3.8Vdc	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Alberto Saldivar
Test Mode	TX MODE 11N HT20 2462 MHz		

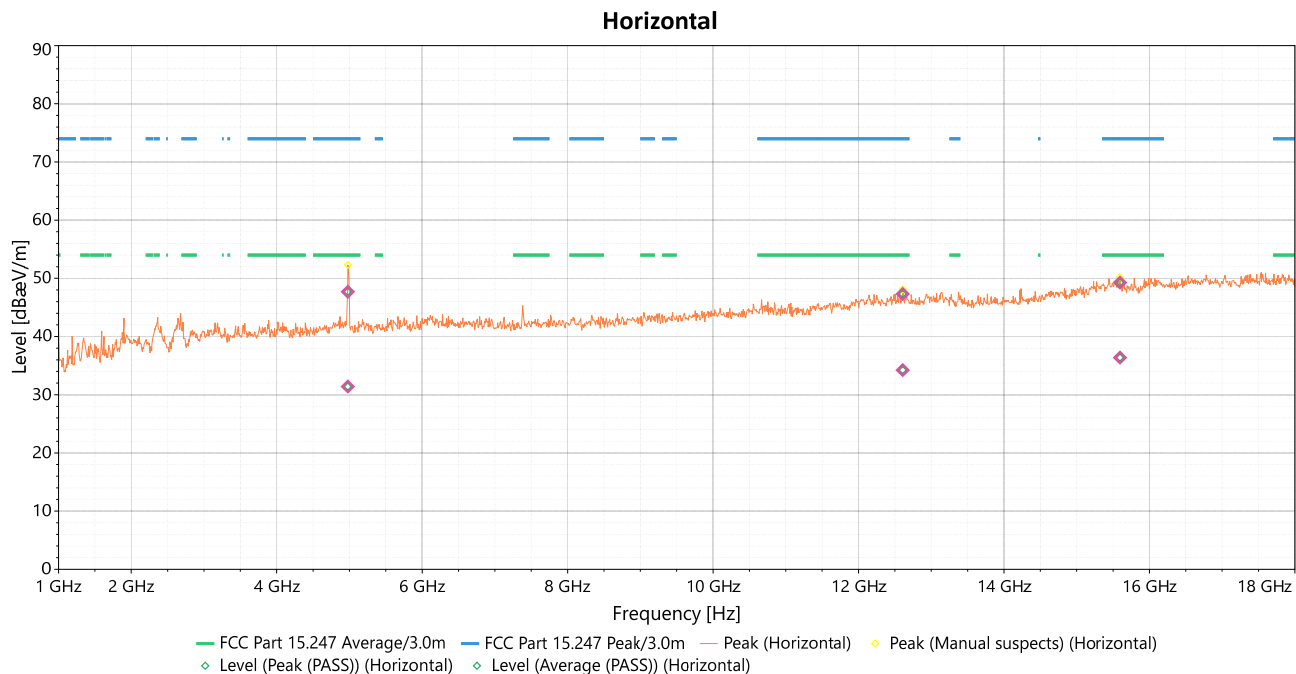


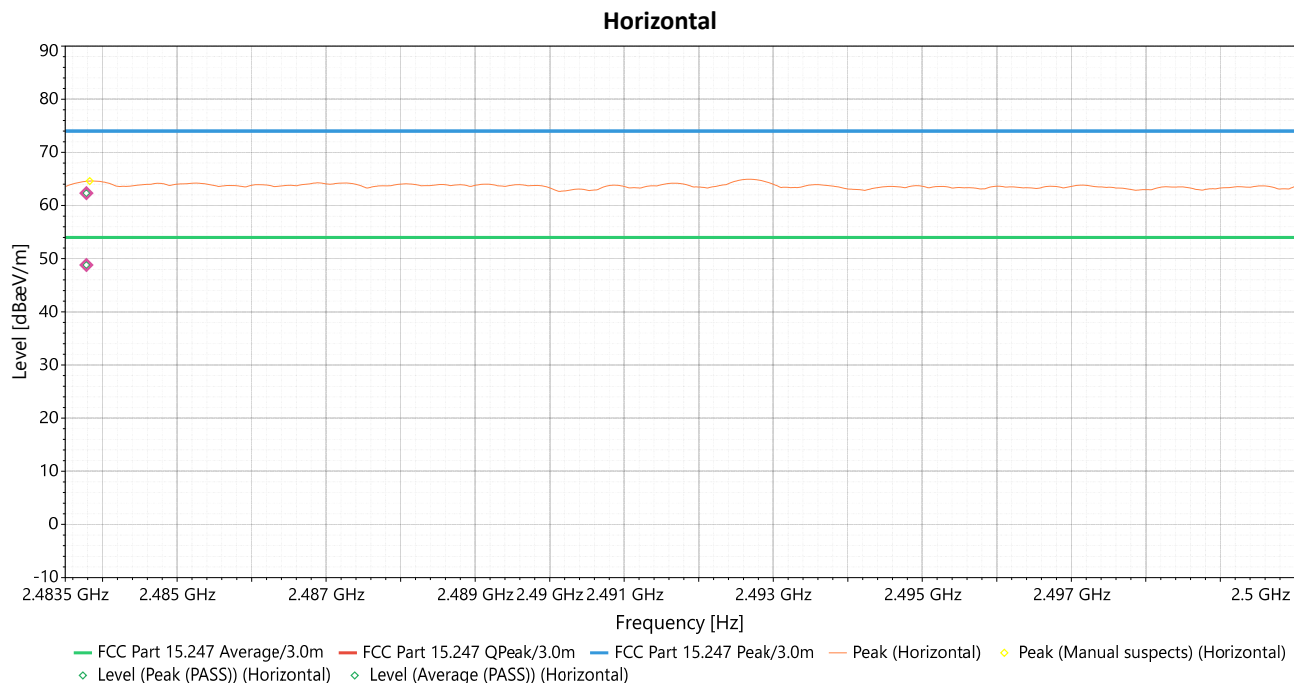


Antenna Polarity & Test Distance: Vertical at 3m									
No.	Frequency (MHz)	Polarization	Level Peak[dB(uV/m)]	Limit Peak dB(uV/m)	Margin Peak [dB]	Height (m)	Angle (Deg)	Factor [dB(1/m)]	Measure Type/ Result
1	4978	Vertical	46.508	74	-27.492	3.37	312	0.76	Peak (PASS)
2	4978	Vertical	30.709	54	-23.291	3.37	312	0.76	Average (PASS)
3	12132	Vertical	46.296	74	-27.704	1.45	201	3.71	Peak (PASS)
4	12132	Vertical	33.573	54	-20.427	1.45	201	3.71	Average (PASS)
5	15550	Vertical	49.373	74	-24.627	1.29	189	4.35	Peak (PASS)
6	15550	Vertical	36.515	54	-17.485	1.29	189	4.35	Average (PASS)
7	2483.753	Vertical	68.538	74	-5.462	1	360	36.21	Peak (PASS)
8	2483.753	Vertical	51.394	54	-2.606	1	360	36.21	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	3.8Vdc	Frequency Range	1GHz-26GHz
Environmental Conditions	25 deg. C, 70% RH	Tested By	Alberto Saldivar
Test Mode	TX MODE 11N HT20 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	4978	Horizontal	47.697	74	-26.303	3.11	104	1.33	Peak (PASS)
2	4978	Horizontal	31.401	54	-22.599	3.11	104	1.33	Average (PASS)
3	12608	Horizontal	47.334	74	-26.666	2.74	134	3.94	Peak (PASS)
4	12608	Horizontal	34.242	54	-19.758	2.74	134	3.94	Average (PASS)
5	15596	Horizontal	49.277	74	-24.723	2.63	46	4.49	Peak (PASS)
6	15596	Horizontal	36.376	54	-17.624	2.63	46	4.49	Average (PASS)
7	2483.782	Horizontal	62.317	74	-11.683	1	45	36.32	Peak (PASS)
8	2483.782	Horizontal	48.81	54	-5.19	1	45	36.32	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.

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

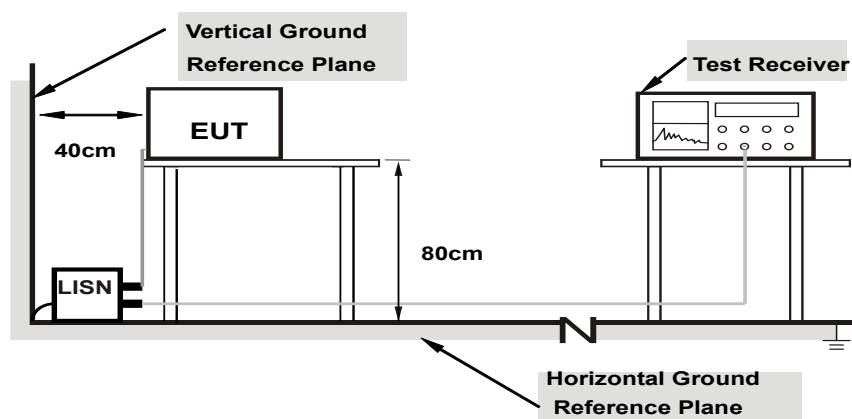
Note: 1. The lower limit shall apply at the transition frequencies.

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

- 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.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- 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.

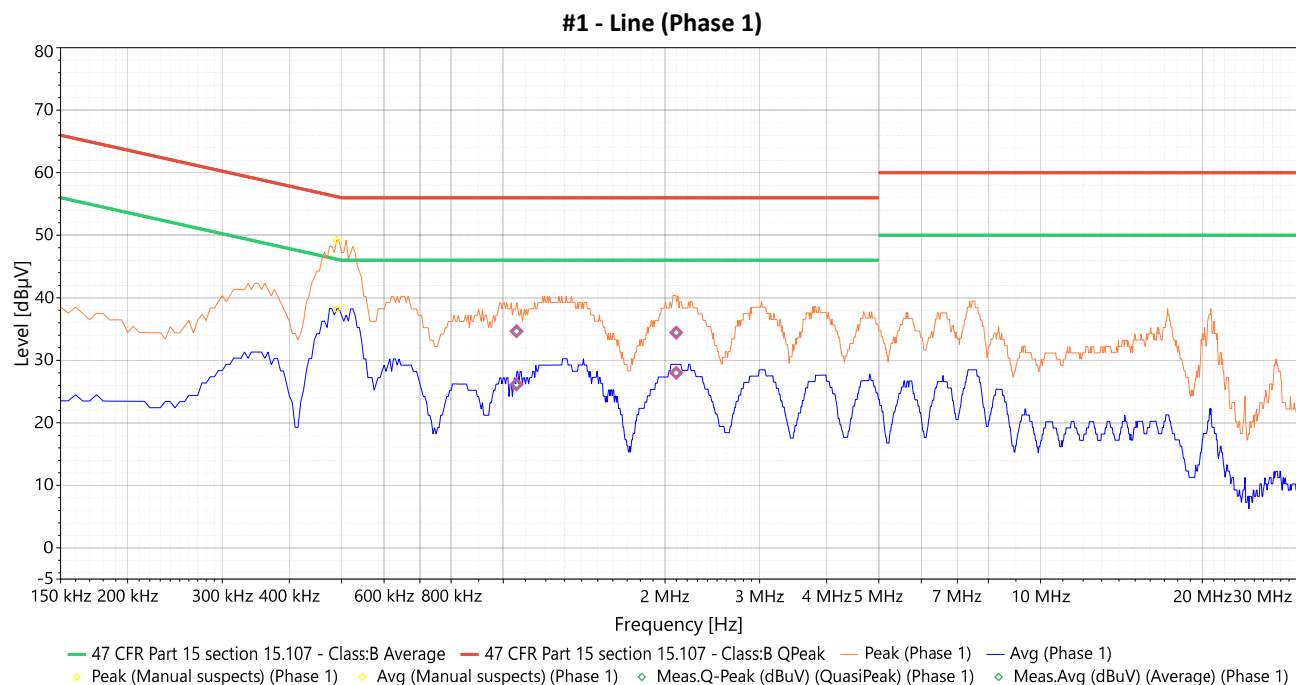
For the actual test configuration, please refer to the attached file (Test Setup Photo)

Test Results:

Phase	Line (L)	Detector Function	Quasi-Peak / Average
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Conducted Emission									
No.	Frequency (MHz)	Polarization	Level QP[dB(uV/m)]	Level Average[dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Source	Factor [dB(1/m)]	Result
1	1.059081	Line	34.648	NaN	56	-21.352	QuasiPeak	0.21	Pass
2	1.059081	Line	NaN	26.148	46	-19.852	Average	0.21	Pass
3	2.098634	Line	34.433	NaN	56	-21.567	QuasiPeak	0.35	Pass
4	2.098634	Line	NaN	27.993	46	-18.007	Average	0.35	Pass

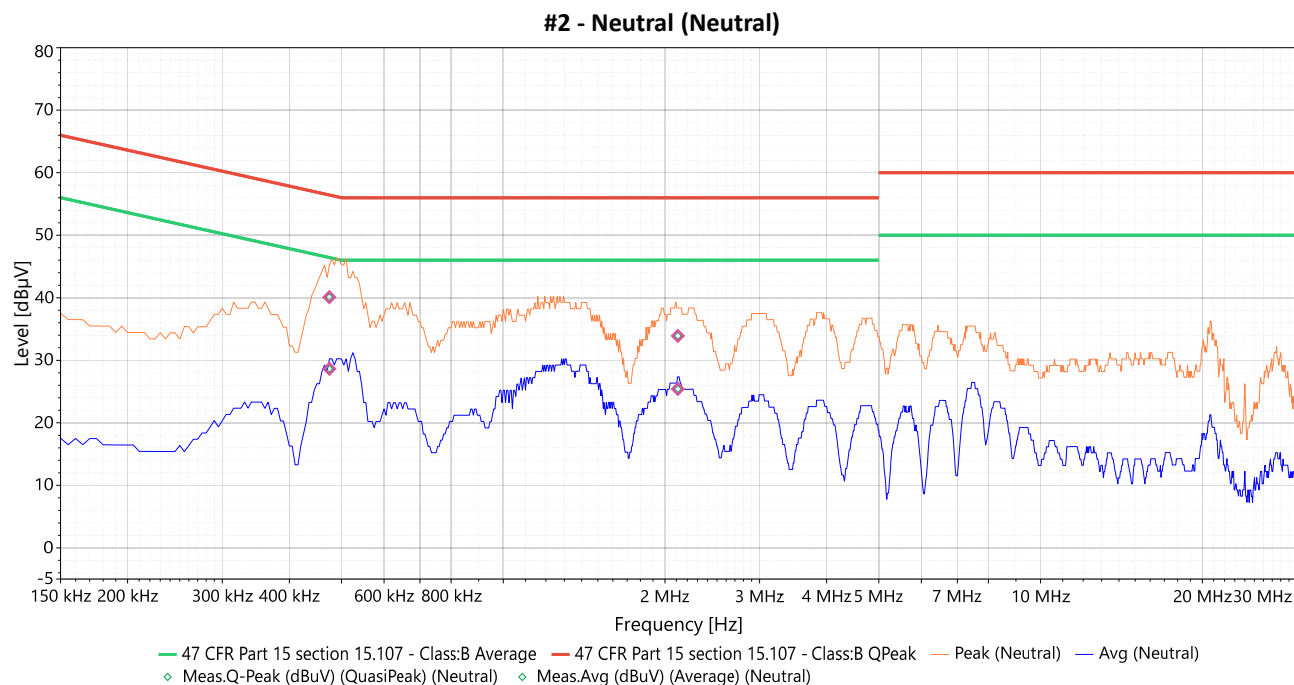
Test Plot:



Phase	Neutral (N)	Detector Function	Quasi-Peak / Average
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Conducted Emission									
No.	Frequency (MHz)	Polarization	Level QP[dB(uV/m)]	Level Average[dB(uV/m)]	Limit dB(uV/m)	Margin [dB]	Source	Factor [dB(1/m)]	Result
1	0.474545	Neutral	40.085	NaN	56.426	-16.341	QuasiPeak	0.25	Pass
2	0.474545	Neutral	NaN	28.635	46.426	-17.791	Average	0.25	Pass
3	2.113394	Neutral	33.915	NaN	56	-22.085	QuasiPeak	0.35	Pass
4	2.113394	Neutral	NaN	25.425	46	-20.575	Average	0.35	Pass

Test Plot:



Test Equipment

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

Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.

Test Name: CE Voltage – AC Power Port			Test Date(s): 07/21/2022		
MET Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1U0337	LISN	Com-Power	LI-215A	10/07/2021	10/07/2022
1U0304	EMI Receiver	Narda	PMM 9010	10/07/2021	10/07/2022
Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.					

Table 1. Conducted Emissions, Test Equipment

Test Engineer: Alberto Saldivar

Test Date(s): 07/21/2022

6dB Bandwidth Measurement & 99% Bandwidth Measurement

Limits of Conducted Emission Measurement :

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

Test Procedure

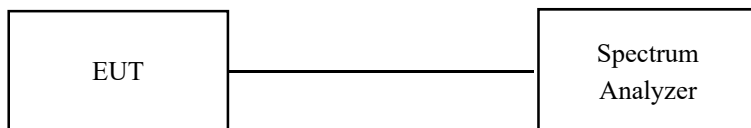
99% Bandwidth Measurement

Refer to ANSI C63.10 section 6.9.3

-6dB Bandwidth Measurement

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

Conducted Emissions - Test Setup



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

Test Equipment

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

Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.

Test Name: 6dB Bandwidth Measurement & 99% Bandwidth Measurement			Test Date(s): 0717/2022		
MET Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S2003	EMI Test Receiver	Keysight	N9030B	10/08/2021	10/08/2022
Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.					

Test Result:

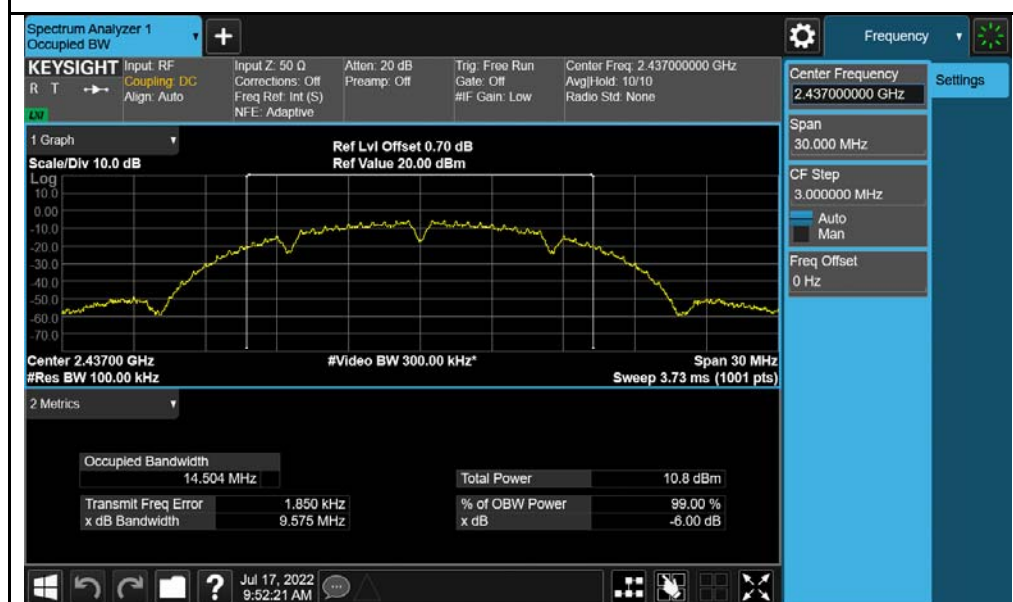
B MODE

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	10.019	14.515	0.5	PASS
6	2437	10.022	14.504	0.5	PASS
11	2462	10.041	14.501	0.5	PASS

Test Plots:



11B-2412MHz



11B-2437MHz





11G-2412MHz



11G-2437MHz