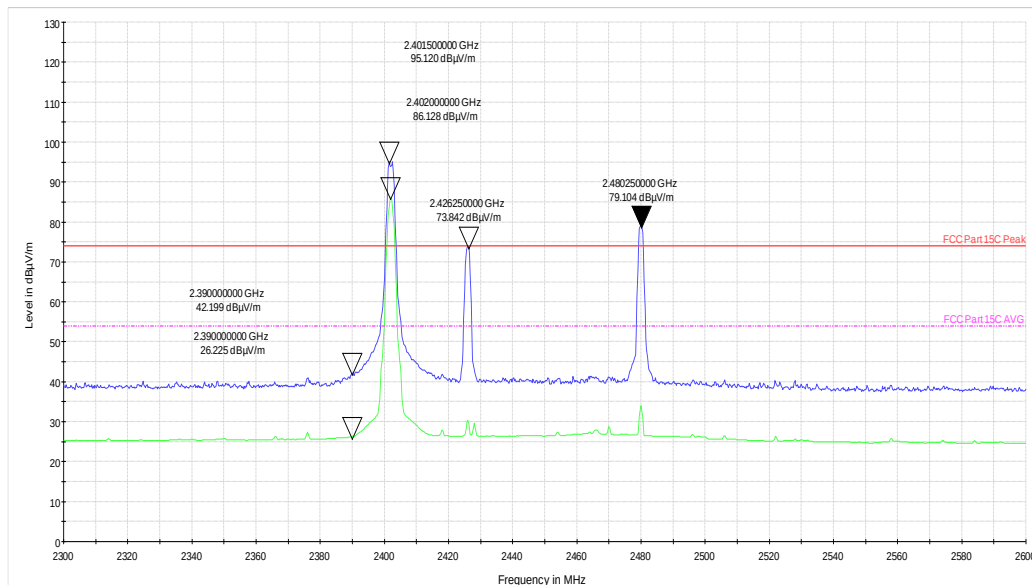
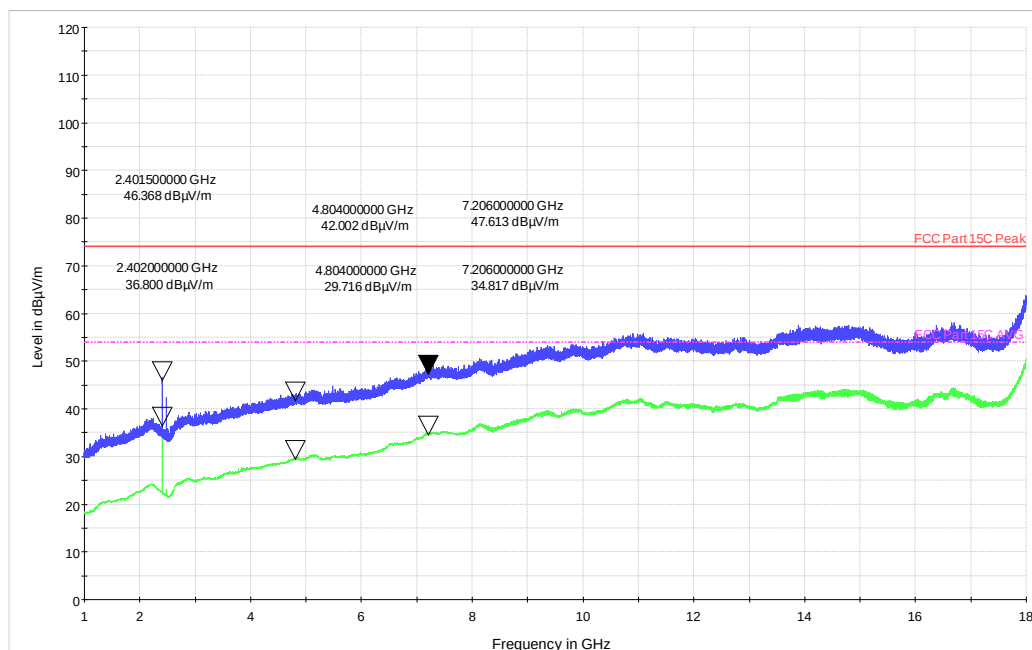




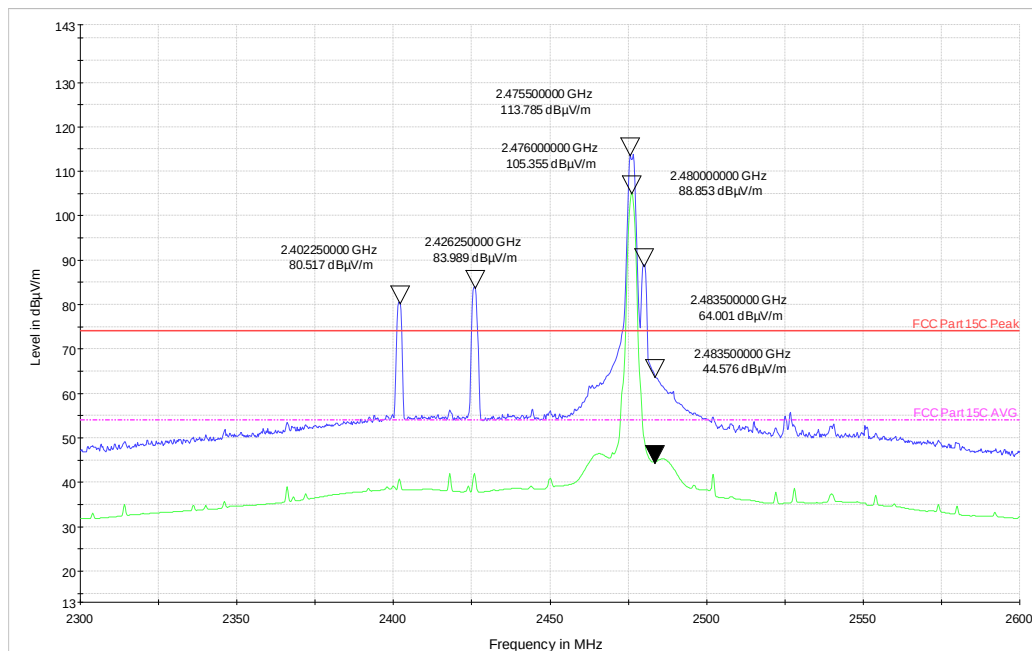
Channel Frequency: 2402MHz

Polarization: Horizontal



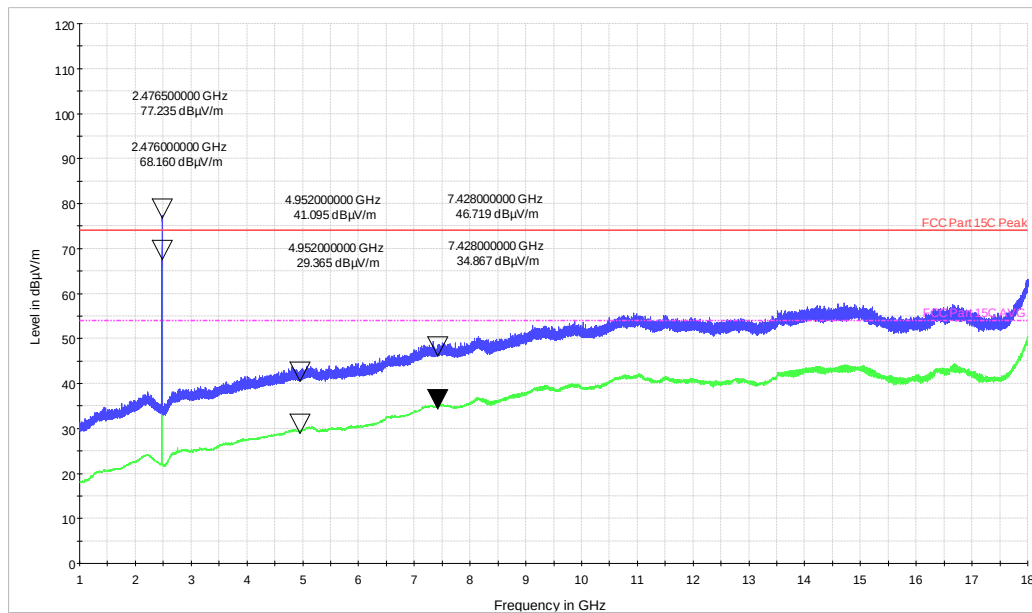
Channel Frequency: 1GHz -18GHz

Polarization: Horizontal



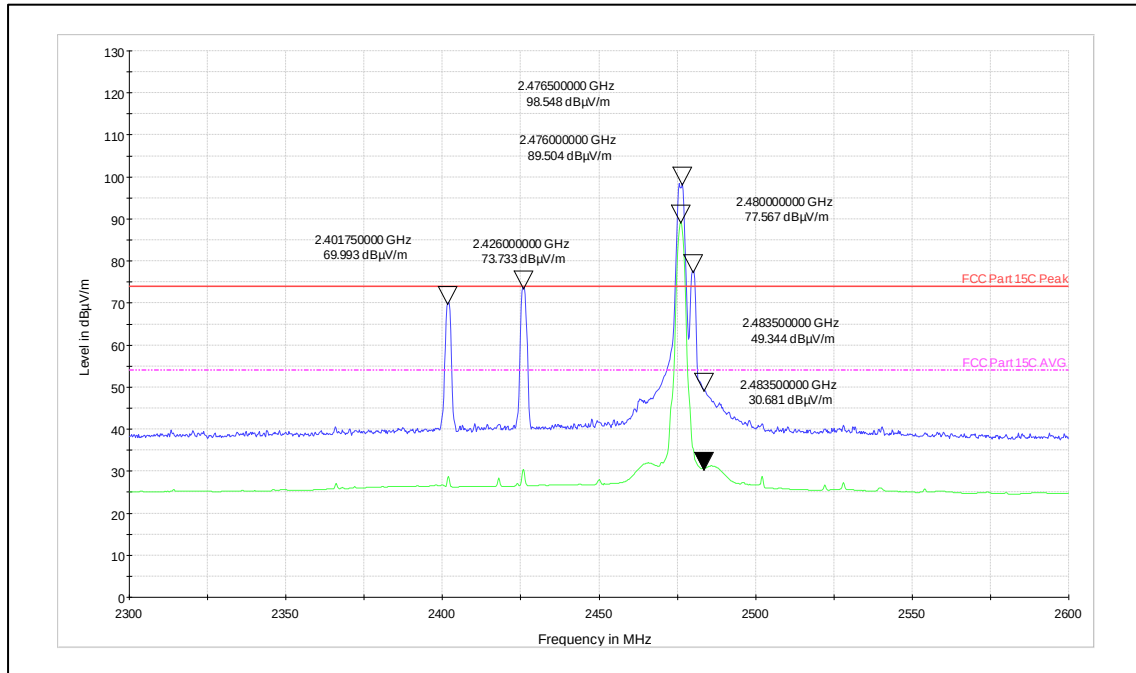
Channel Frequency: 2476MHz

Polarization: vertical



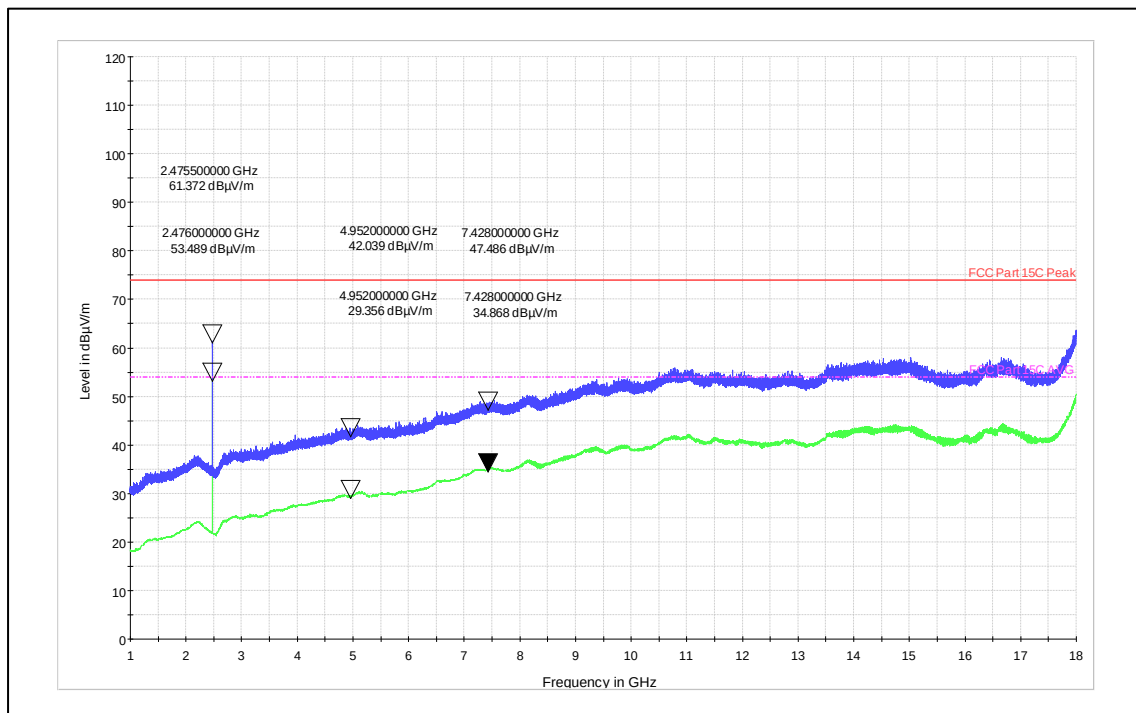
Channel Frequency: 1GHz -18GHz

Polarization: vertical



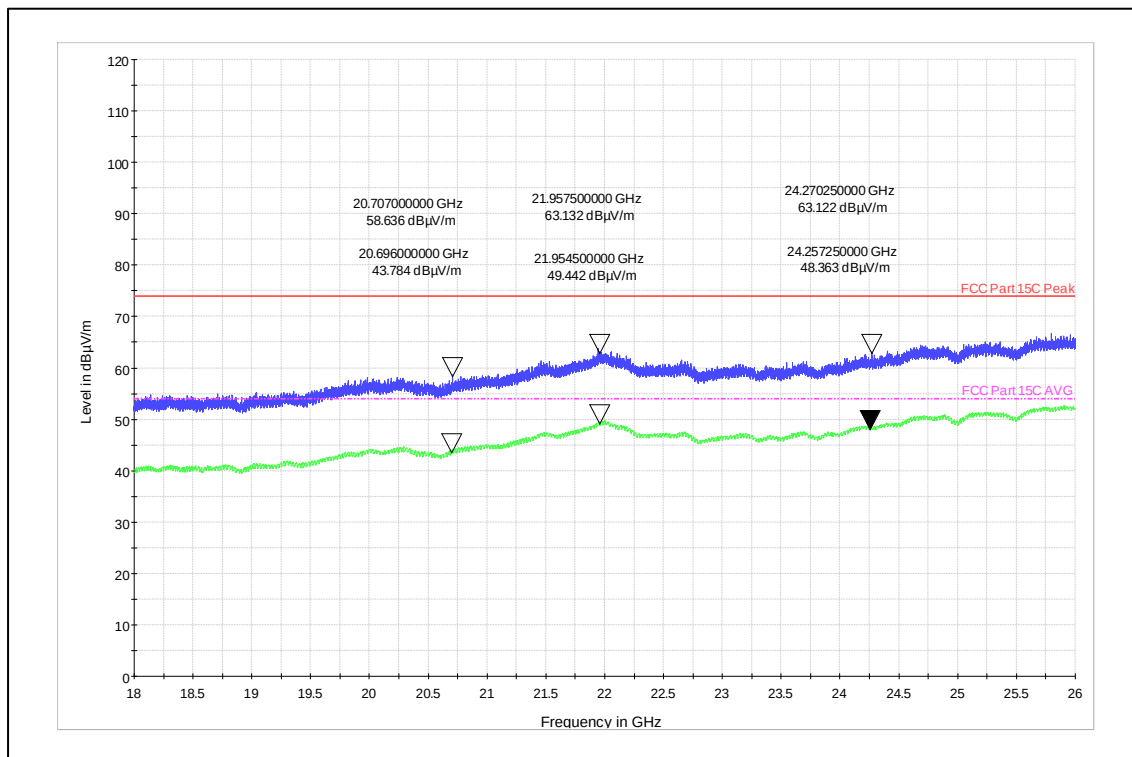
Channel Frequency: 2476MHz

Polarization: Horizontal



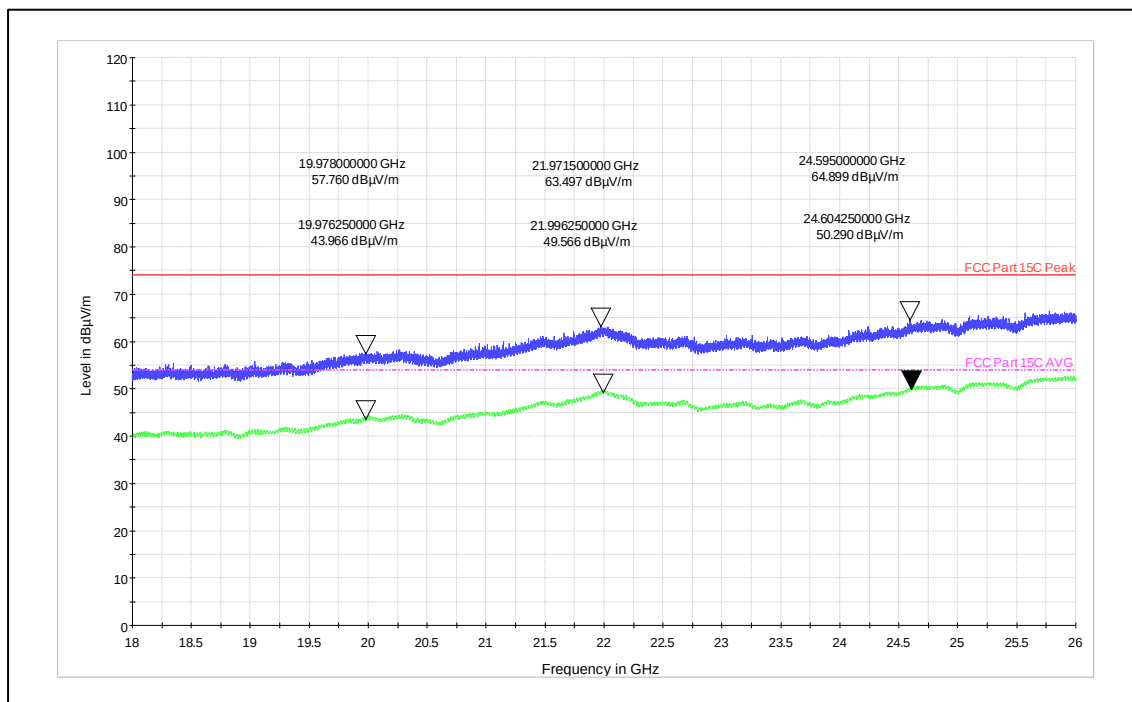
Channel Frequency: 1GHz -18GHz

Polarization: Horizontal



Channel Frequency: 18GHz -26GHz

Polarization: Vertical



Channel Frequency: 18GHz -26GHz

Polarization: Horizontal

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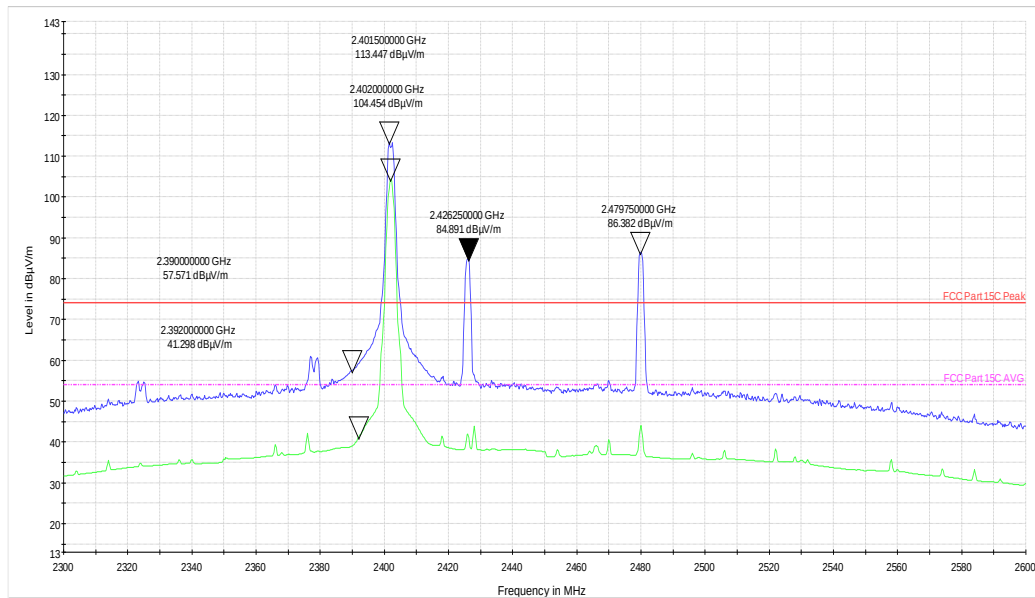
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Laird Technologies-OD24M-5:

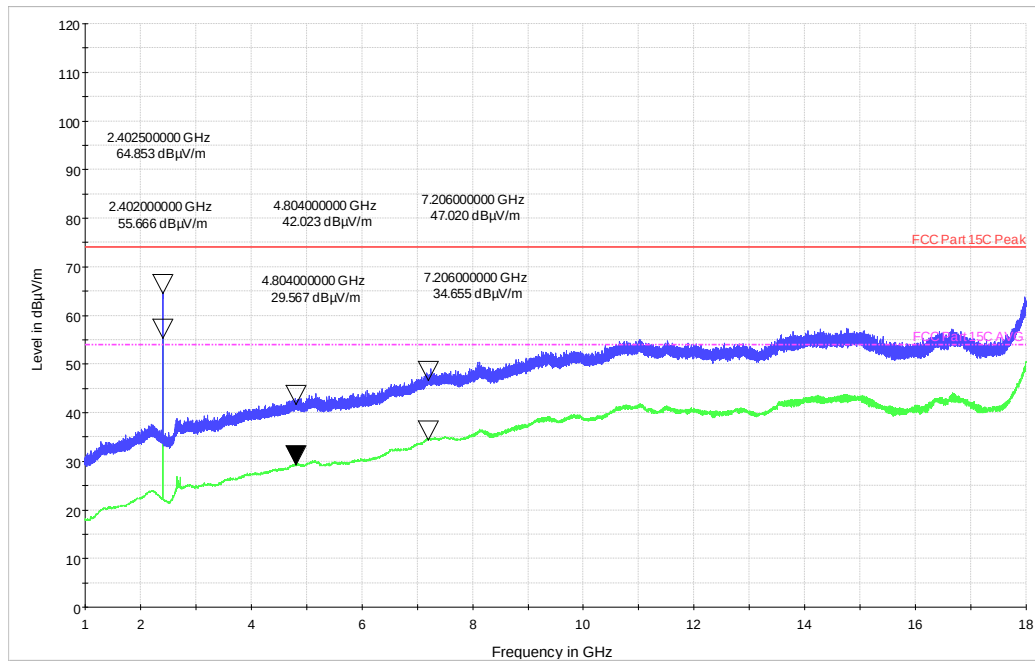
Channel Frequency (MHz)	Frequency (MHz)	Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2402	2402(Pk)	Vertical	113.44	-	-
	2402(Av)		104.45	-	-
	2390(Pk)		57.57	74*	-16.43
	2390(Av)		41.29	54*	-12.71
	4804(Pk)		42.02	74	-31.98
	4804(Av)		29.56	54	-24.44
	7206(Pk)		47.02	74	-26.98
	7206(Av)		34.65	54	-19.35
	2402(Pk)	Horizontal	89.19	-	-
	2402(Av)		80.07	-	-
	2390(Pk)		37.60	74*	-36.40
	2390(Av)		24.55	54*	-29.45
	4804(Pk)		41.98	74	-32.02
	4804(Av)		29.34	54	-24.66
	7206(Pk)		46.90	74	-27.10
	7206(Av)		34.60	54	-19.40
2476	2476(Pk)	Vertical	111.78	-	-
	2476(Av)		103.54	-	-
	2483.5(Pk)		61.18	74*	-12.82
	2483.5(Av)		42.79	54*	-11.21
	4952(Pk)		41.81	74	-32.19
	4952(Av)		29.39	54	-24.61
	7428(Pk)		47.54	74	-26.46
	7428(Av)		34.57	54	-19.43
	2476(Pk)	Horizontal	88.52	-	-
	2476(Av)		81.08	-	-
	2483.5(Pk)		42.46	74*	-31.54
	2483.5(Av)		25.87	54*	-28.13
	4952(Pk)		40.90	74	-33.10
	4952(Av)		29.11	54	-24.89
	7428(Pk)		46.44	74	-27.56
	7428(Av)		34.50	54	-19.50

Pk: Peak Detector;
Av: Average Detector;
*→ Restricted Bands
- → Fundamental Frequency



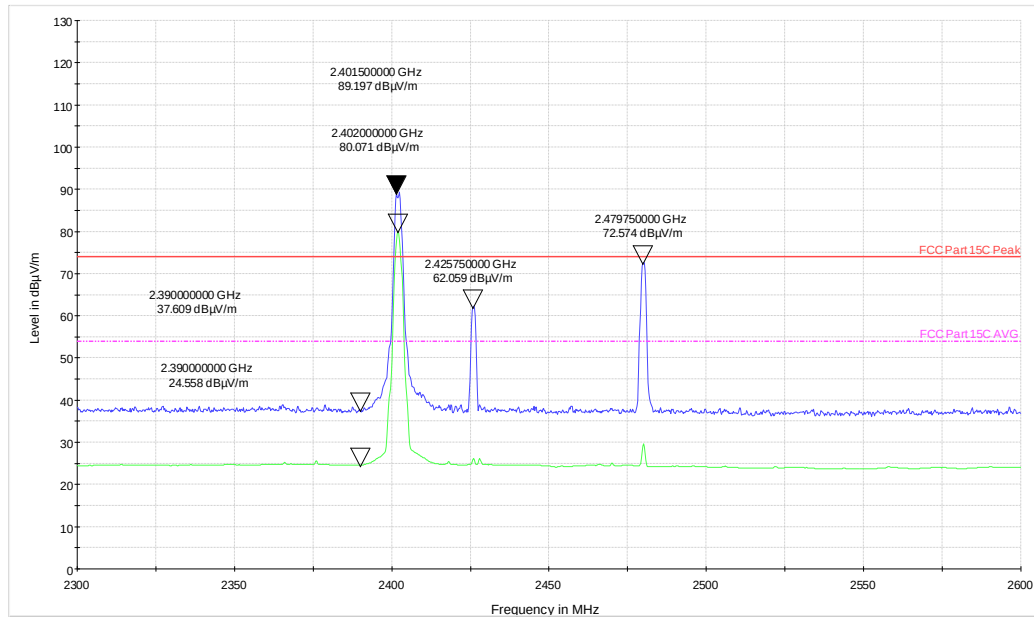
Channel Frequency: 2402MHz

Polarization: Vertical



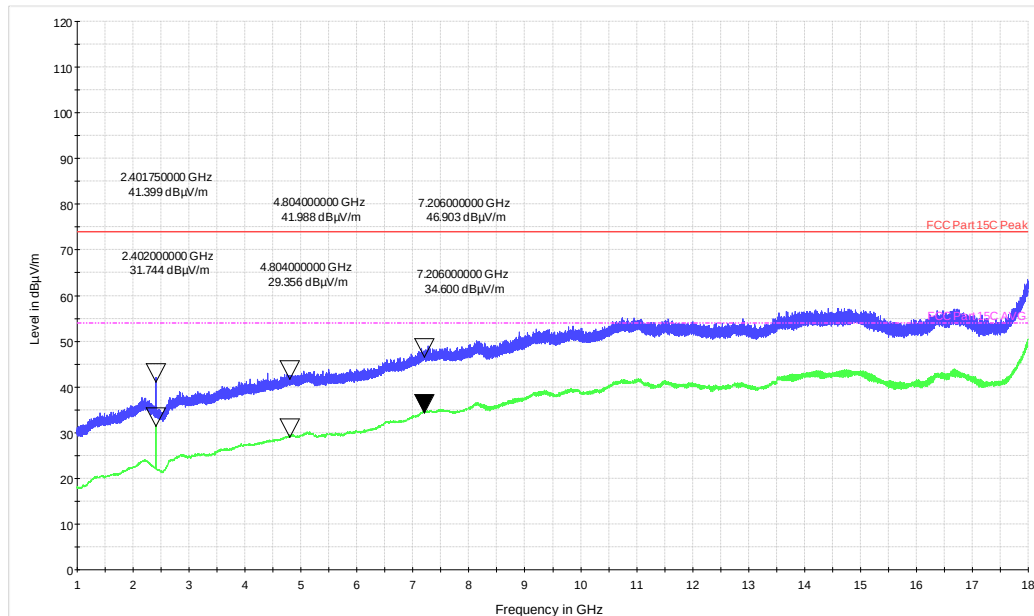
Channel Frequency: 1GHz -18GHz

Polarization: Vertical



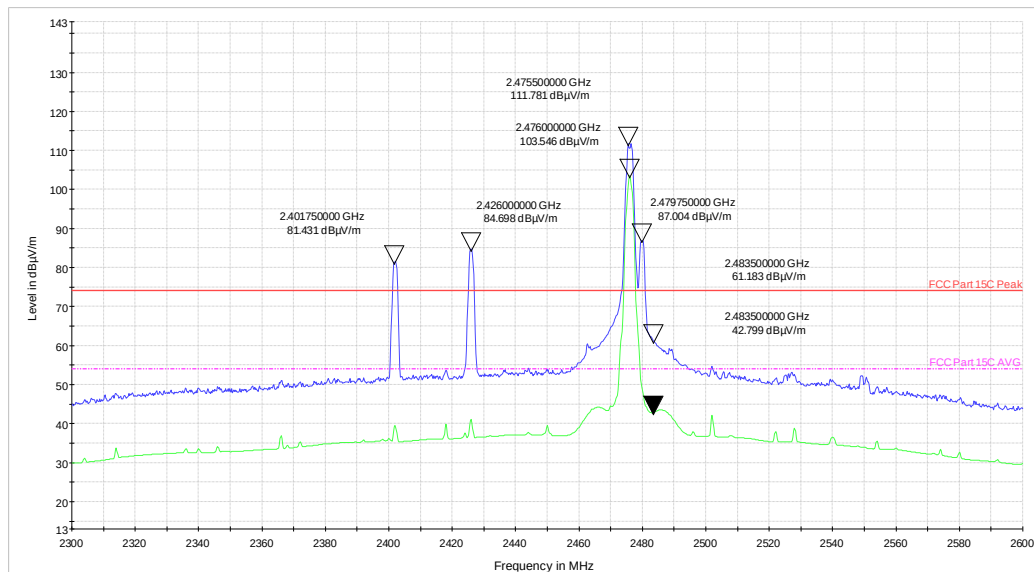
Channel Frequency: 2402MHz

Polarization: Horizontal



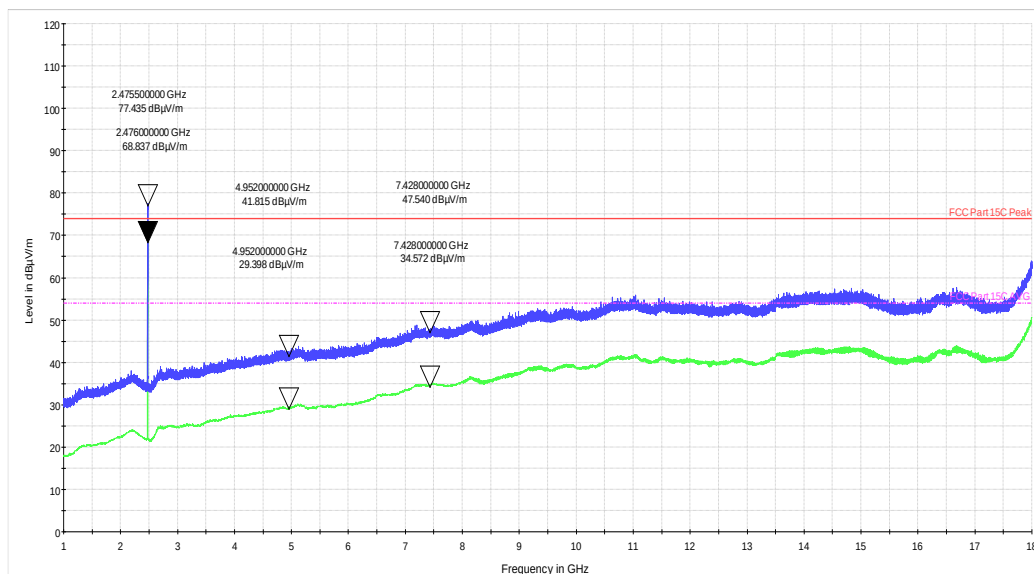
Channel Frequency: 1GHz -18GHz

Polarization: Horizontal



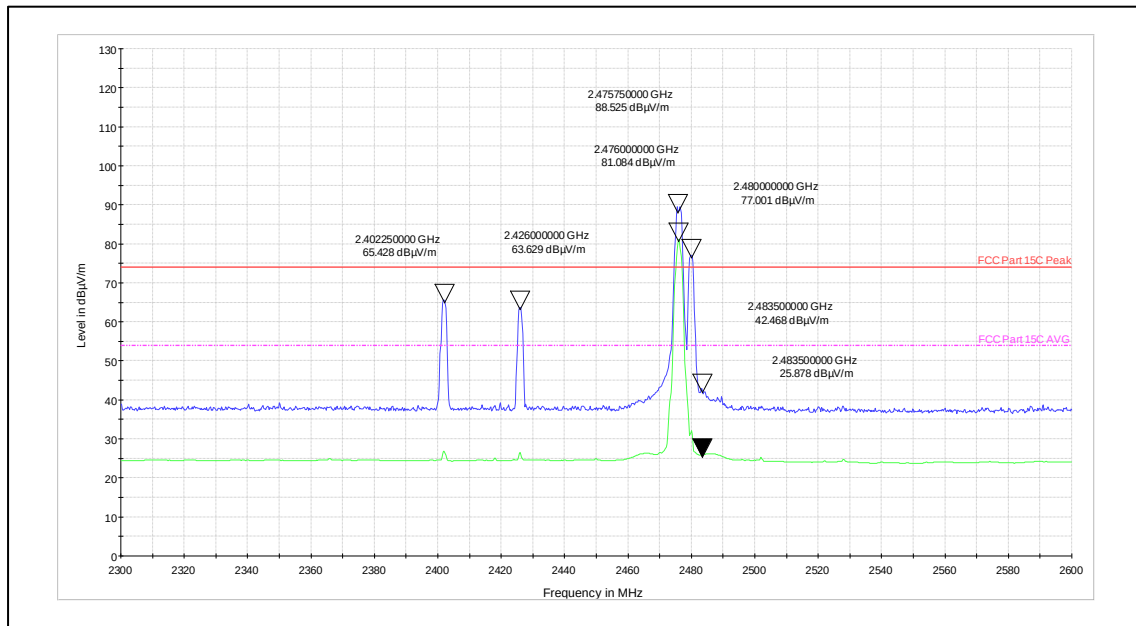
Channel Frequency: 2476MHz

Polarization: vertical



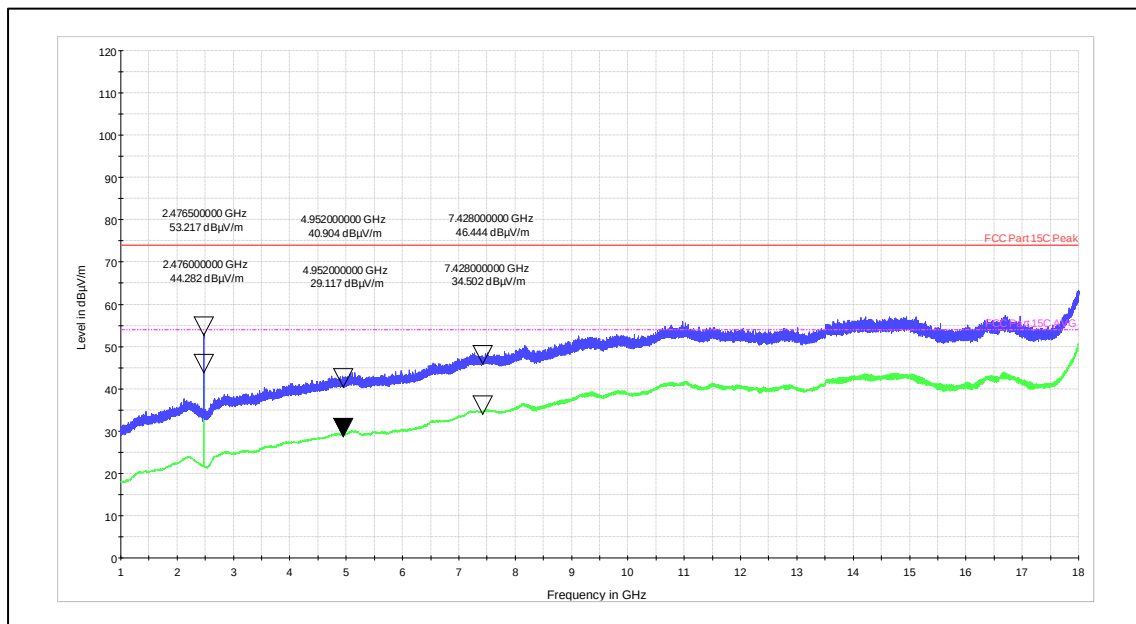
Channel Frequency: 1GHz -18GHz

Polarization: vertical



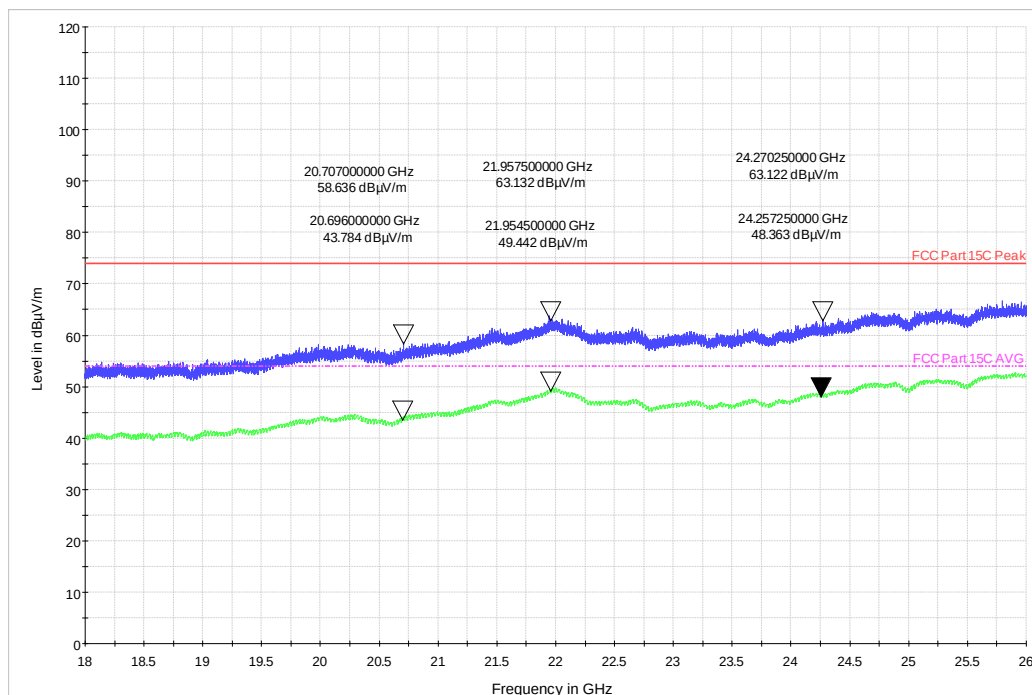
Channel Frequency: 2476MHz

Polarization: Horizontal



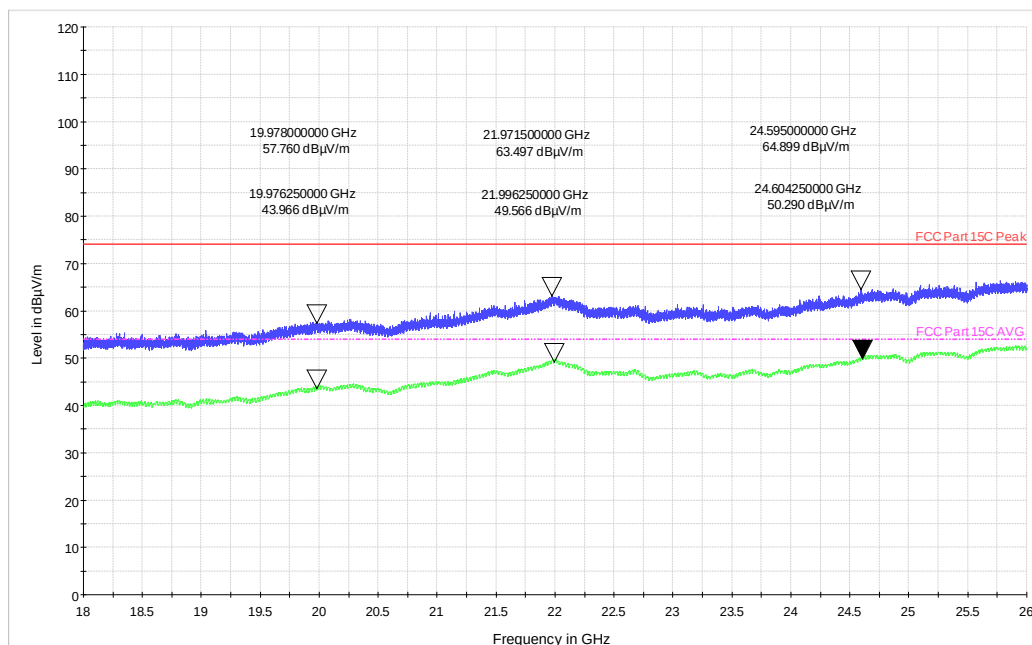
Channel Frequency: 1GHz -18GHz

Polarization: Horizontal



Channel Frequency: 18GHz -26GHz

Polarization: Vertical



Channel Frequency: 18GHz -26GHz

Polarization: Horizontal

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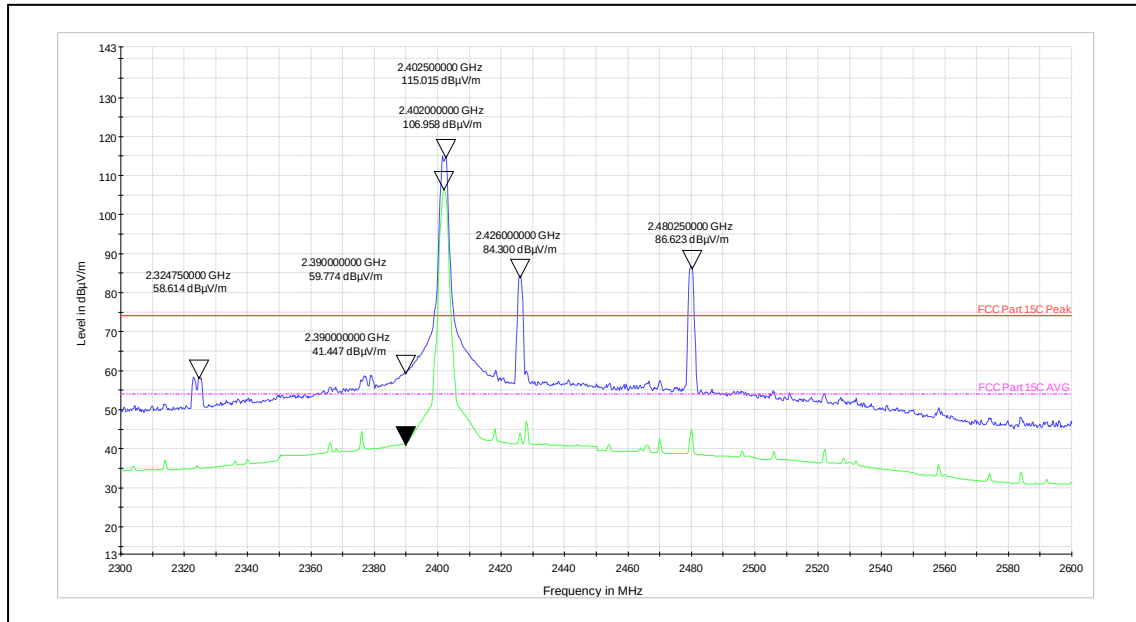
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L-COM HGV-2409U:

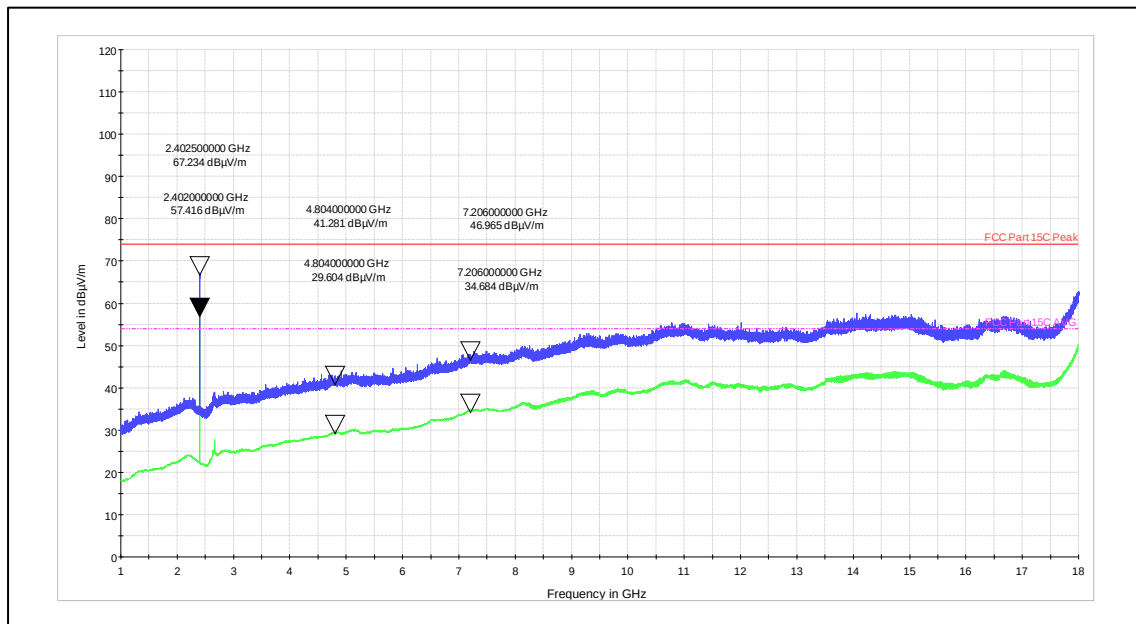
Channel Frequency (MHz)	Frequency (MHz)	Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2402	2402(Pk)	Vertical	115.01	-	-
	2402(Av)		106.95	-	-
	2390(Pk)		59.77	74*	-14.23
	2390(Av)		41.44	54*	-12.56
	4804(Pk)		41.28	74	-32.72
	4804(Av)		29.60	54	-24.40
	7206(Pk)		46.96	74	-27.04
	7206(Av)		34.68	54	-19.32
	2402(Pk)	Horizontal	90.85	-	-
	2402(Av)		82.62	-	-
	2390(Pk)		39.12	74*	-34.88
	2390(Av)		25.25	54*	-28.75
	4804(Pk)		41.24	74	-32.76
	4804(Av)		29.51	54	-24.49
	7206(Pk)		47.01	74	-26.99
	7206(Av)		34.60	54	-19.40
2476	2476(Pk)	Vertical	116.47	-	-
	2476(Av)		108.27	-	-
	2483.5(Pk)		66.72	74*	-7.28
	2483.5(Av)		47.21	54*	-6.79
	4952(Pk)		41.29	74	-32.71
	4952(Av)		29.37	54	-24.63
	7428(Pk)		46.21	74	-27.79
	7428(Av)		35.75	54	-18.25
	2476(Pk)	Horizontal	92.76	-	-
	2476(Av)		83.80	-	-
	2483.5(Pk)		44.50	74*	-29.50
	2483.5(Av)		27.23	54*	-26.77
	4952(Pk)		40.92	74	-33.08
	4952(Av)		29.30	54	-24.70
	7428(Pk)		46.26	74	-27.74
	7428(Av)		34.54	54	-19.46

Pk: Peak Detector;
Av: Average Detector;
*→ Restricted Bands
- → Fundamental Frequency



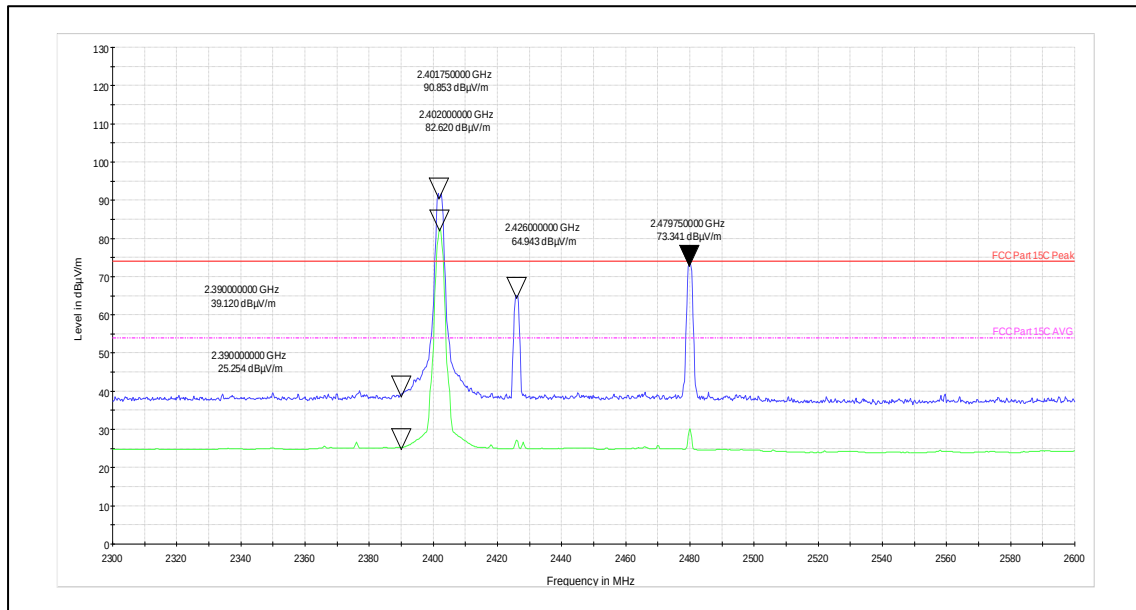
Channel Frequency: 2402MHz

Polarization: Vertical



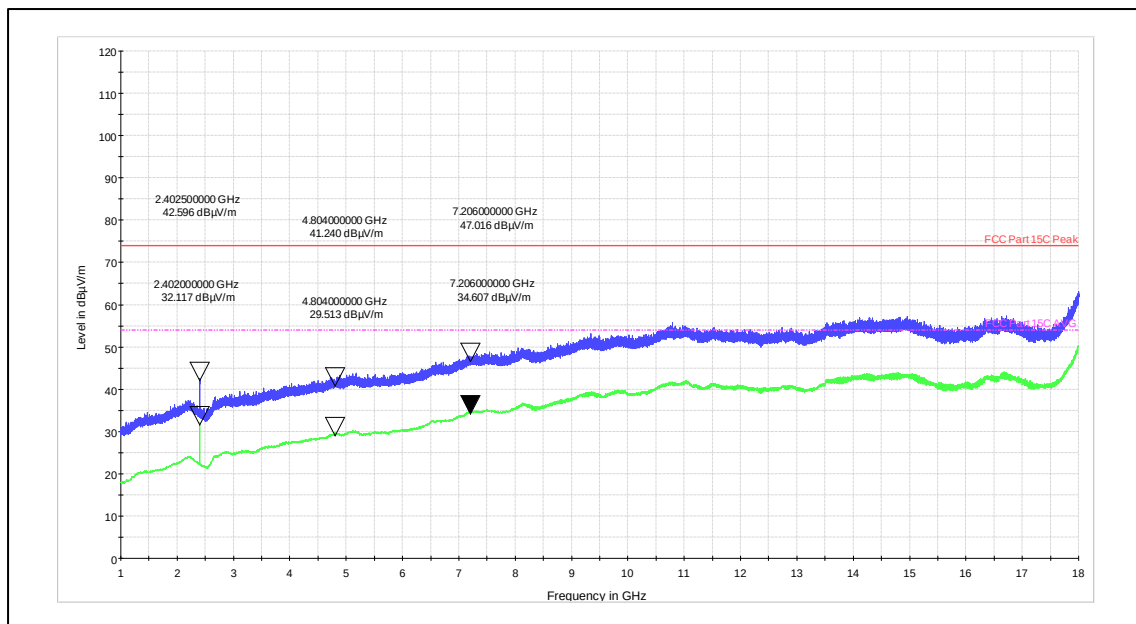
Channel Frequency: 1GHz -18GHz

Polarization: Vertical



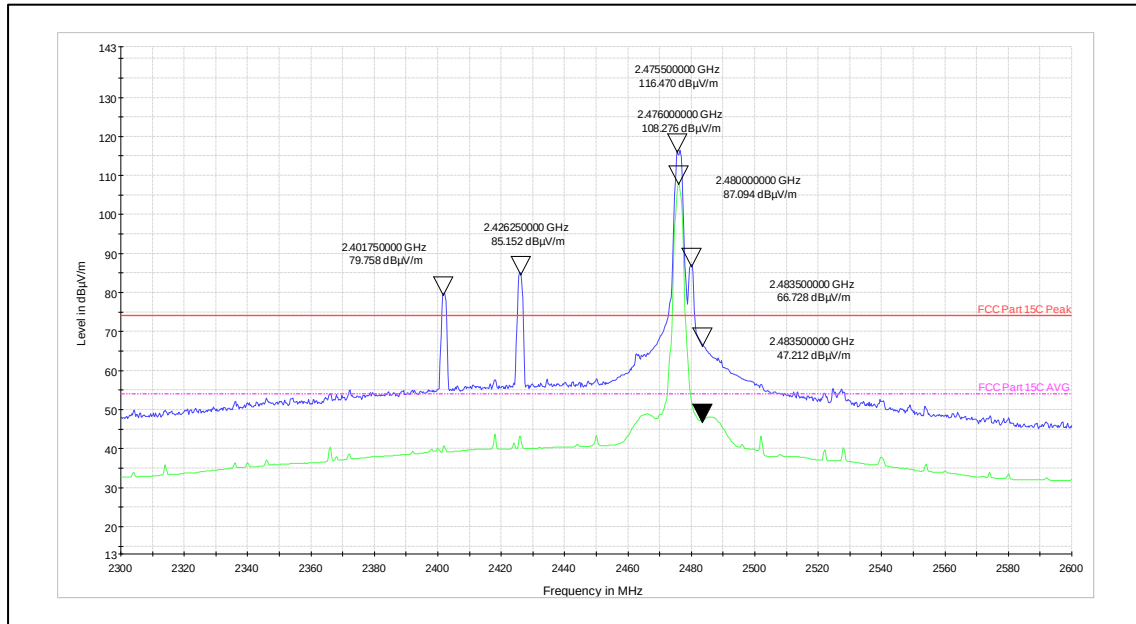
Channel Frequency: 2402MHz

Polarization: Horizontal



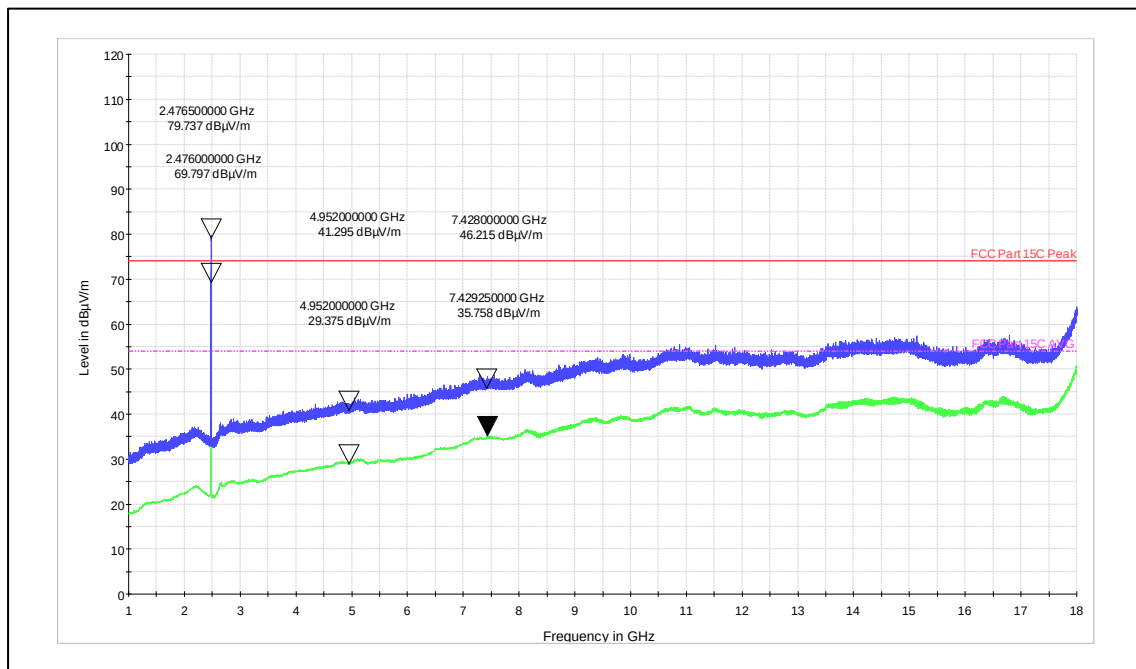
Channel Frequency: 1GHz -18GHz

Polarization: Horizontal



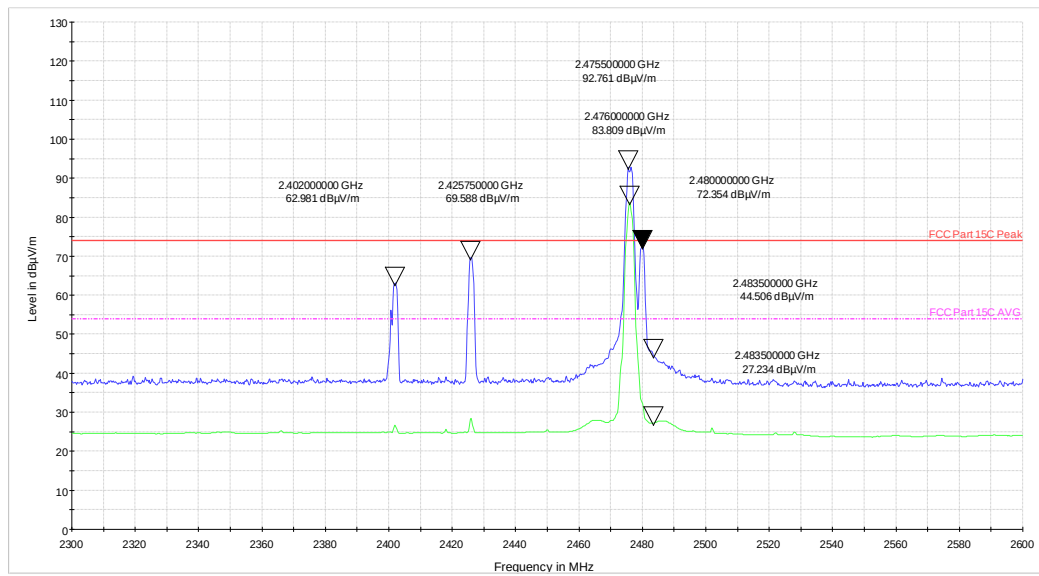
Channel Frequency: 2476MHz

Polarization: vertical



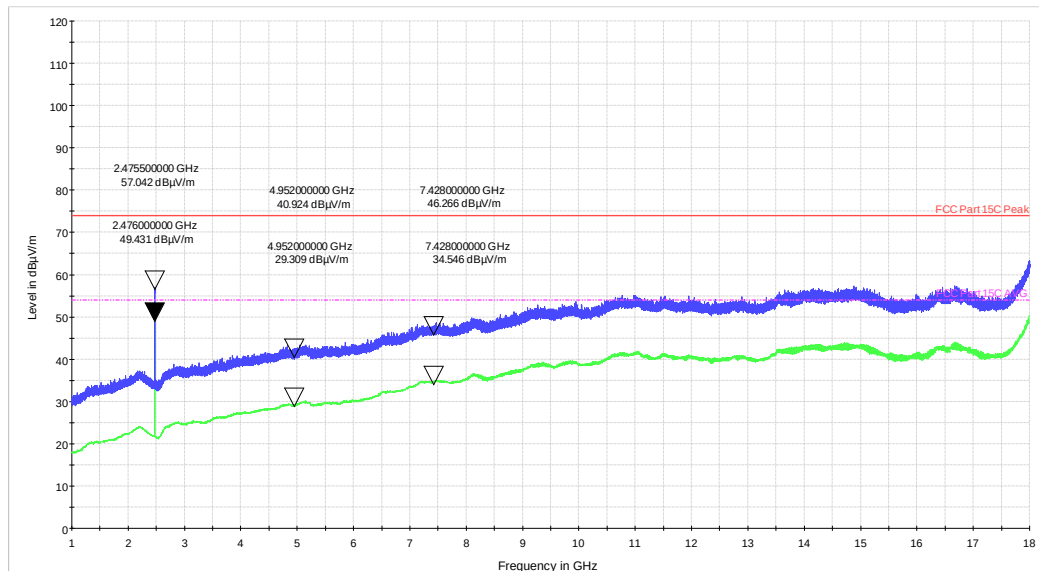
Channel Frequency: 1GHz -18GHz

Polarization: vertical



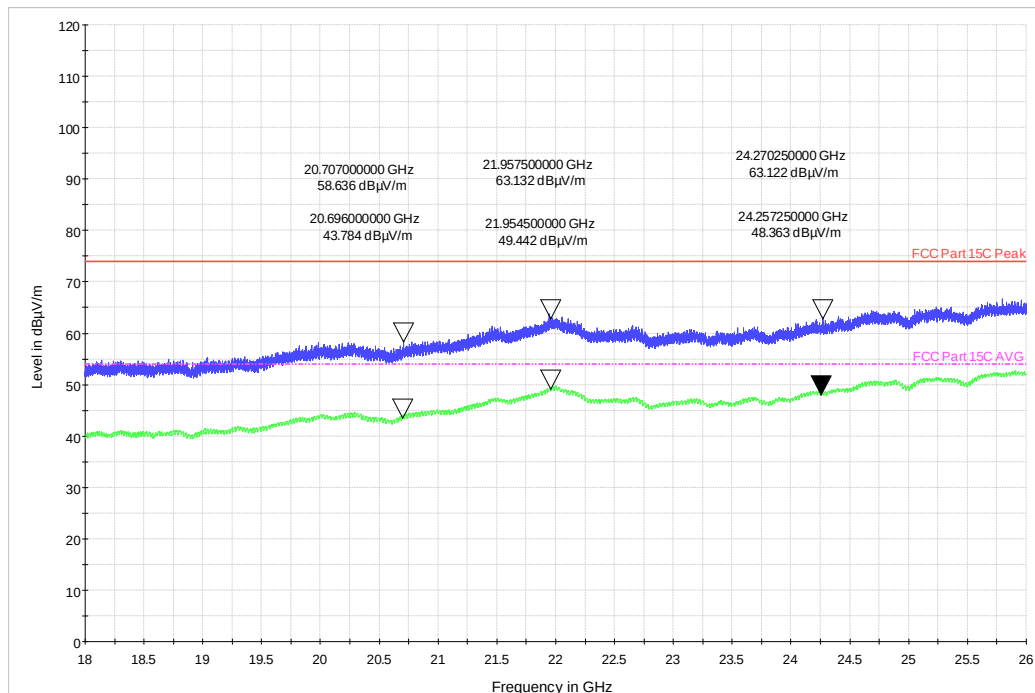
Channel Frequency: 2476MHz

Polarization: Horizontal



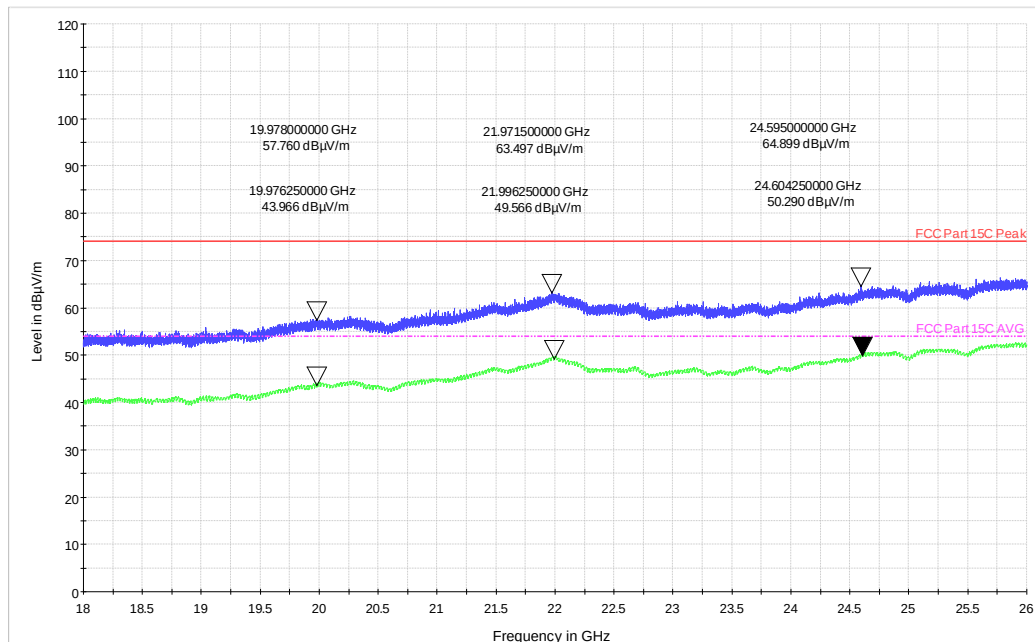
Channel Frequency: 1GHz -18GHz

Polarization: Horizontal



Channel Frequency: 18GHz -26GHz

Polarization: Vertical



Channel Frequency: 18GHz -26GHz

Polarization: Horizontal

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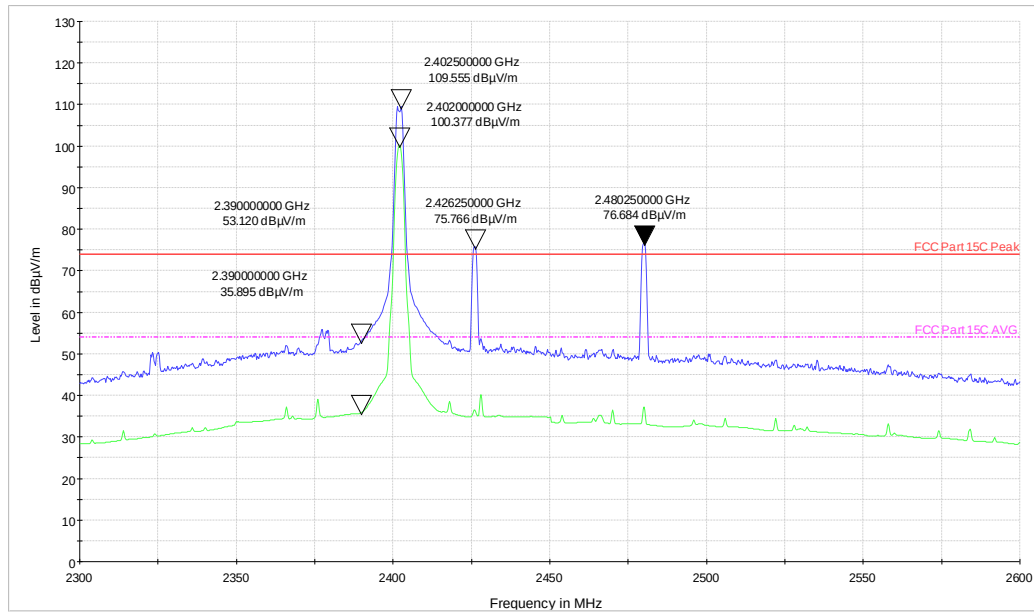
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SG1015NM-2450-5dBi:

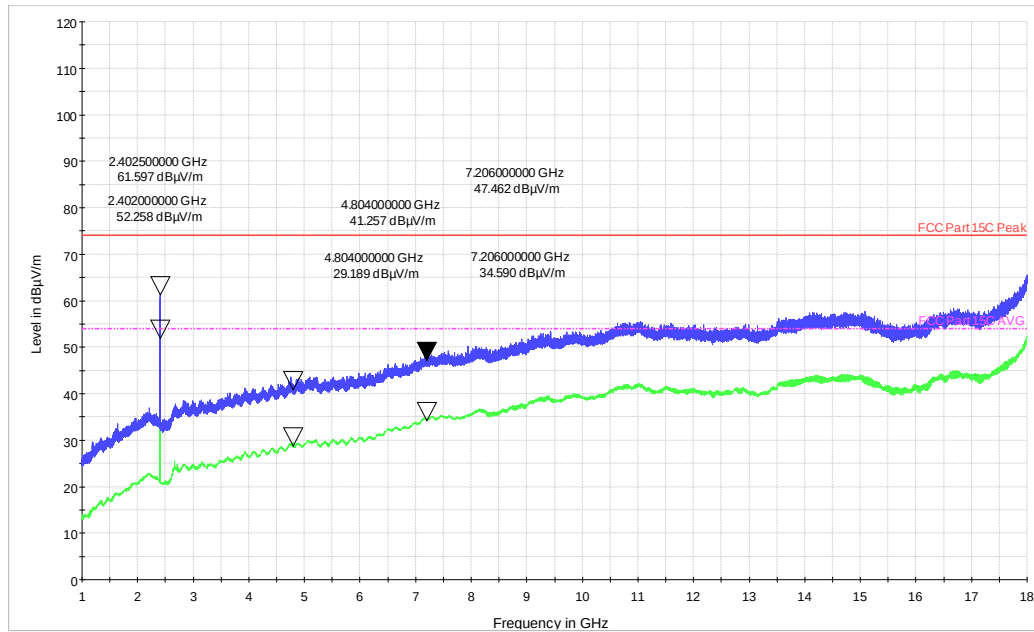
Channel Frequency (MHz)	Frequency (MHz)	Polarization	Measured Emission (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2402	2402(Pk)	Vertical	109.55	-	-
	2402(Av)		100.37	-	-
	2390(Pk)		53.12	74*	-20.88
	2390(Av)		35.89	54*	-18.11
	4804(Pk)		41.25	74	-32.75
	4804(Av)		29.18	54	-24.82
	7206(Pk)		34.59	74	-39.41
	7206(Av)		46.74	54	-7.26
	2402(Pk)	Horizontal	89.29	-	-
	2402(Av)		79.69	-	-
	2390(Pk)		36.69	74*	-37.31
	2390(Av)		23.71	54*	-30.29
	4804(Pk)		40.56	74	-33.44
	4804(Av)		28.82	54	-25.18
	7206(Pk)		46.45	74	-27.55
	7206(Av)		34.59	54	-19.41
2476	2476(Pk)	Vertical	112.12	-	-
	2476(Av)		103.58	-	-
	2483.5(Pk)		61.54	74*	-12.46
	2483.5(Av)		42.94	54*	-11.06
	4952(Pk)		40.98	74	-33.02
	4952(Av)		29.36	54	-24.64
	7428(Pk)		46.77	74	-27.23
	7428(Av)		34.99	54	-19.01
	2476(Pk)	Horizontal	97.45	-	-
	2476(Av)		88.51	-	-
	2483.5(Pk)		47.06	74*	-26.94
	2483.5(Av)		29.77	54*	-24.23
	4952(Pk)		41.50	74	-32.50
	4952(Av)		29.25	54	-24.75
	7428(Pk)		46.88	74	-27.12
	7428(Av)		35.03	54	-18.97

Pk: Peak Detector;
Av: Average Detector;
*→ Restricted Bands
- → Fundamental Frequency



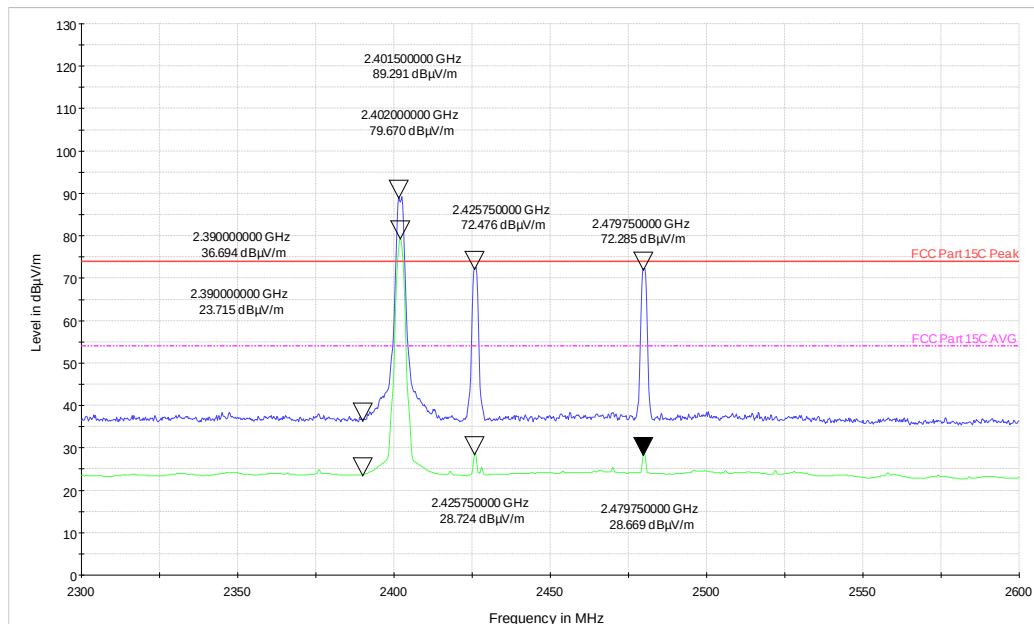
Channel Frequency: 2402MHz

Polarization: Vertical



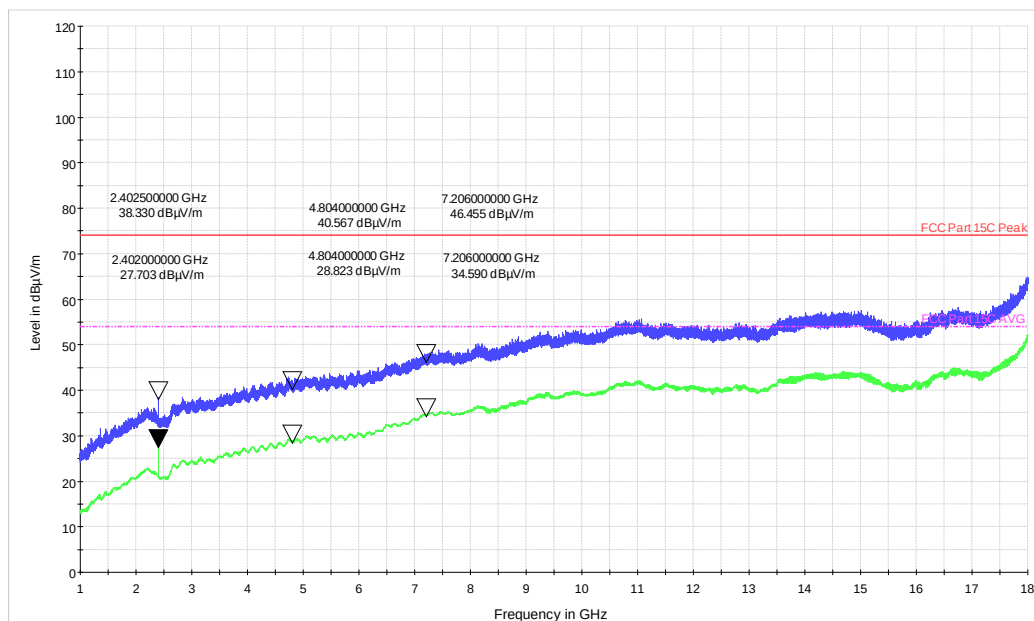
Channel Frequency: 1GHz -18GHz

Polarization: Vertical



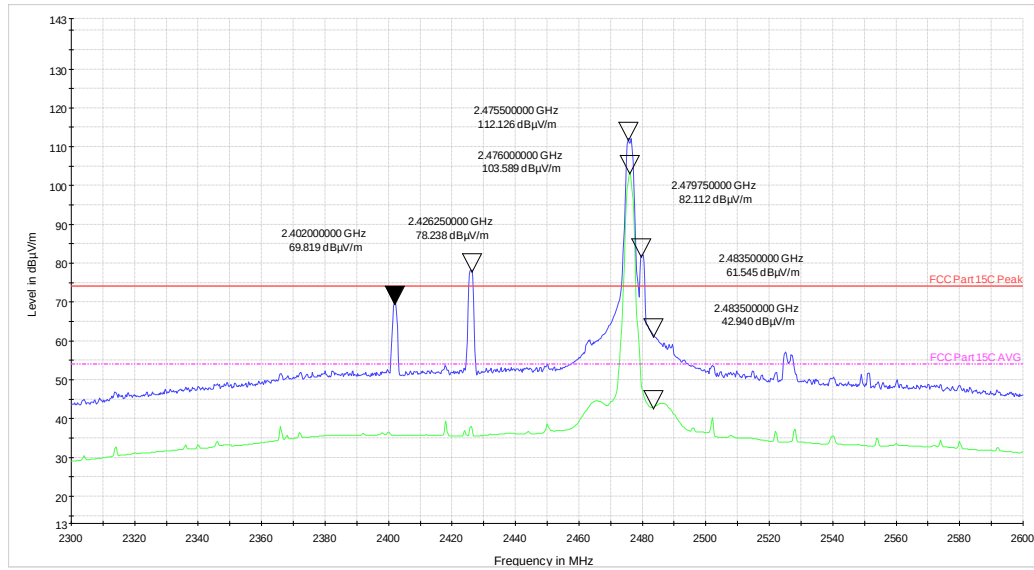
Channel Frequency: 2402MHz

Polarization: Horizontal



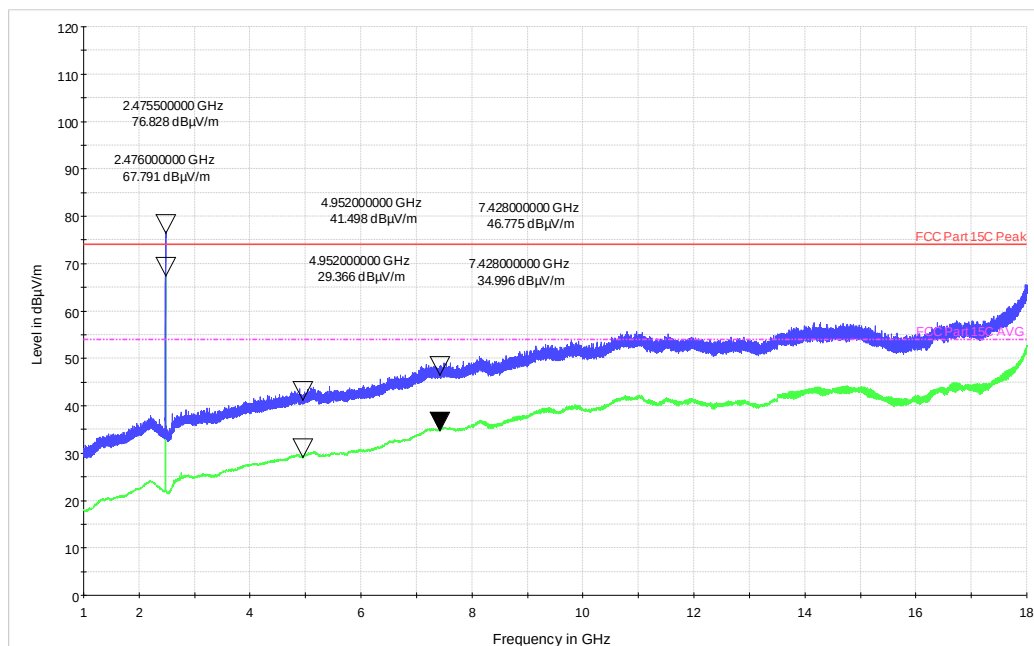
Channel Frequency: 1GHz -18GHz

Polarization: Horizontal



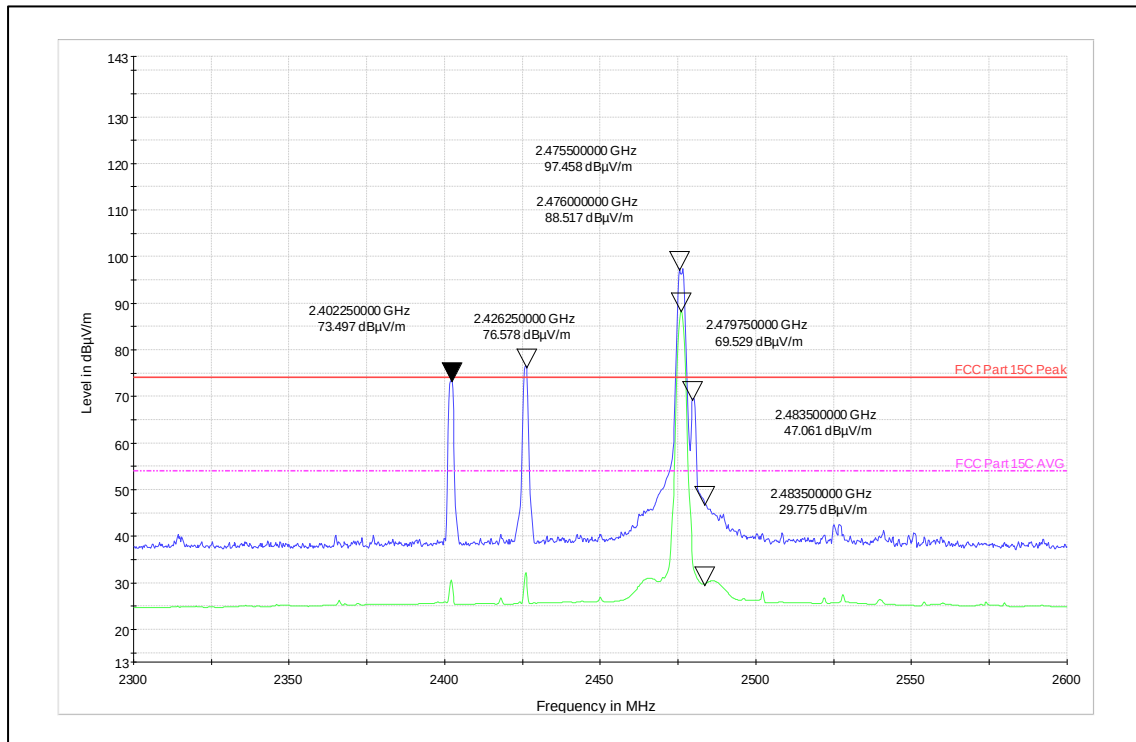
Channel Frequency: 2476MHz

Polarization: vertical



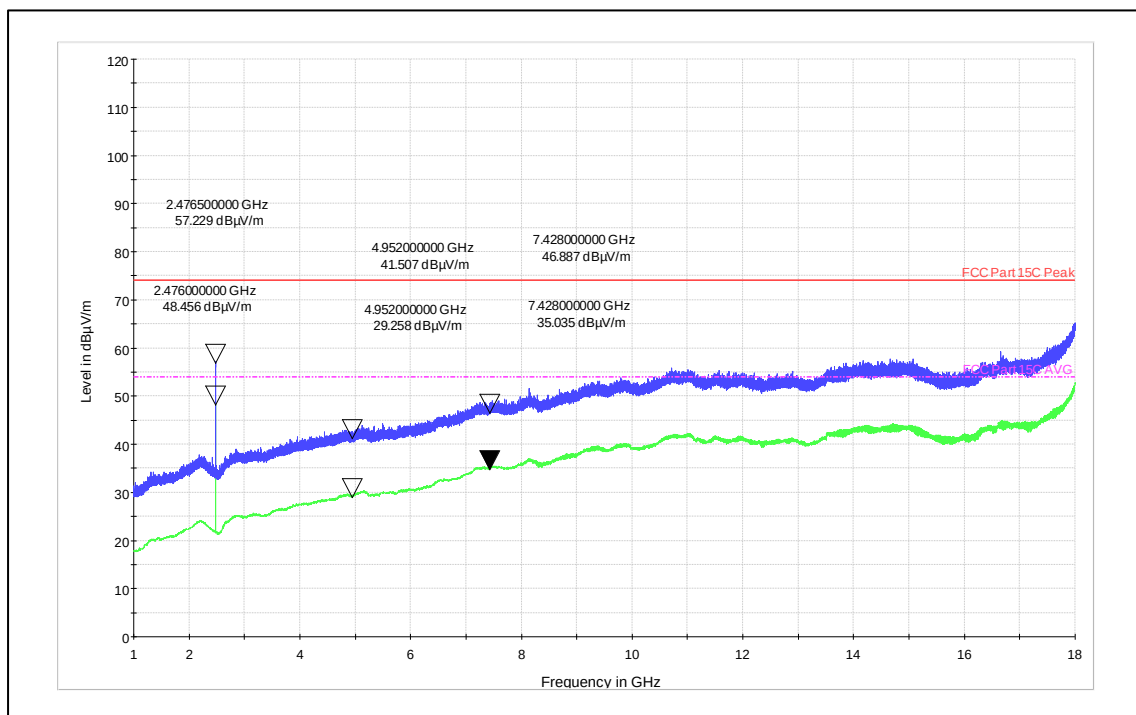
Channel Frequency: 1GHz -18GHz

Polarization: vertical



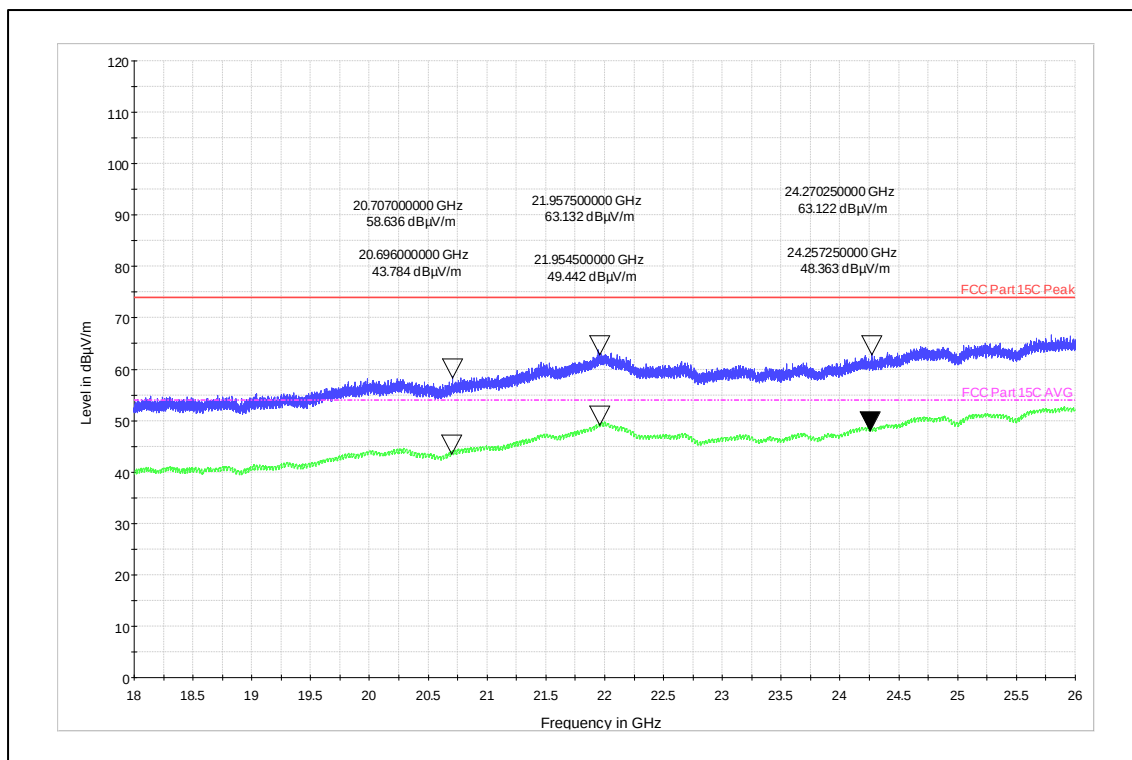
Channel Frequency: 2476MHz

Polarization: Horizontal



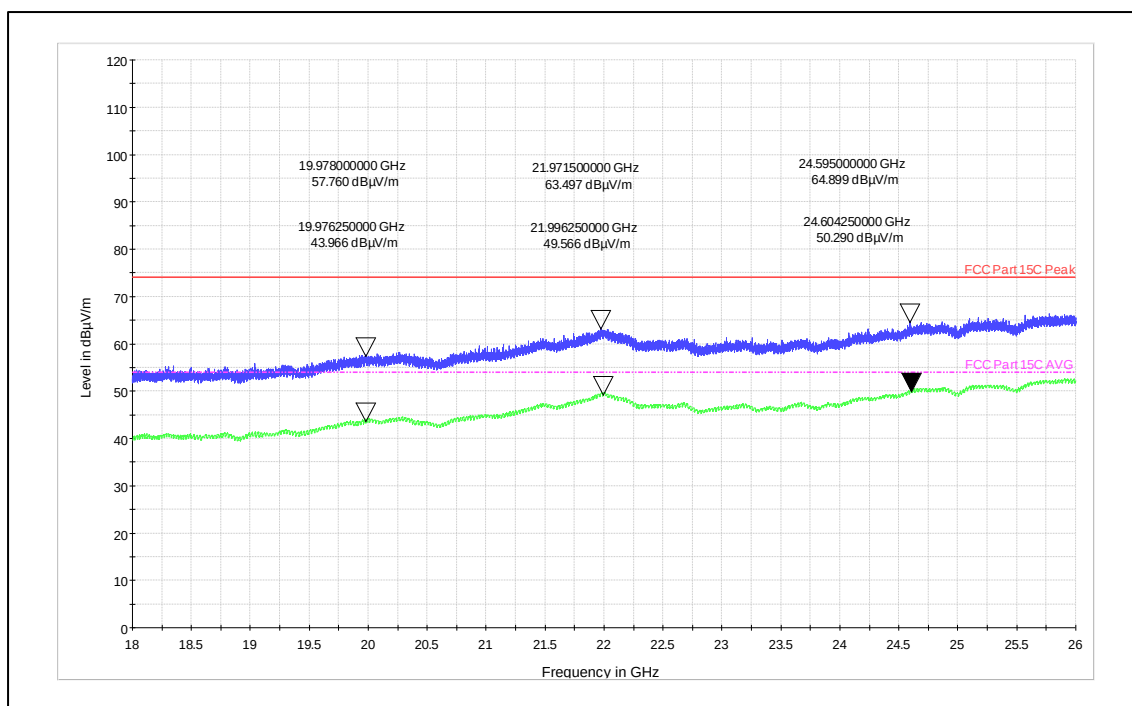
Channel Frequency: 1GHz -18GHz

Polarization: Horizontal



Channel Frequency: 18GHz -26GHz

Polarization: Vertical



Channel Frequency: 18GHz -26GHz

Polarization: Horizontal

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8.5.1 RSE Test Results of Simultaneous Operation with Anchor 1, Anchor 2 and BLE:

Note: Simultaneous Operation was performed As specified under the section 4.4 and worst case test results are mentioned in this report.

Test results for Simultaneous operation

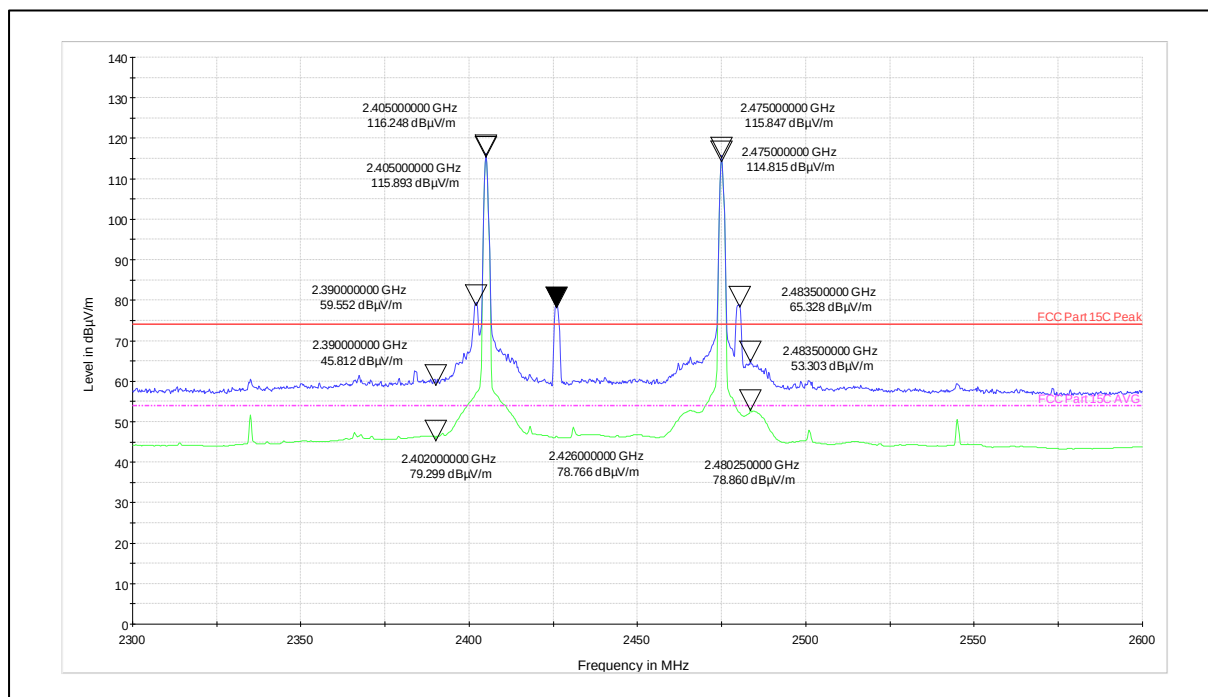
Combination: IEEE 802.15.4 + IEEE 802.15.4 + BLE

AIR-ANT2450V-N:

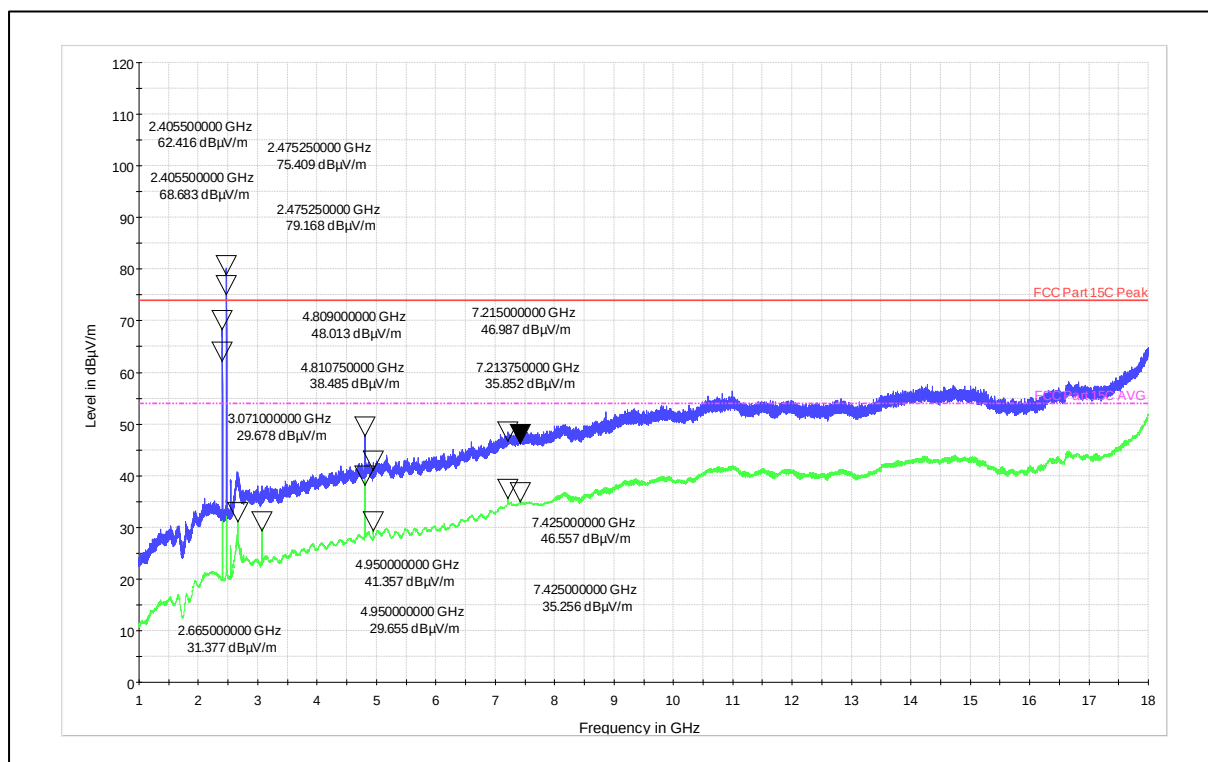
Protocol	Polarization	Measured Frequency (MHz)	Measured Emission (dBμV/m)	Limit (dBμV/m)	Margin (dB)
IEEE 802.15.4	Vertical	2405(Pk)	116.24	-	-
		2405(Av)	115.89	-	-
		2390(Pk)	59.55	74*	-14.45
		2390(Av)	45.81	54*	-8.19
		4810(Pk)	48.01	74	-25.99
		4810(Av)	38.48	54	-15.52
		7215(Pk)	46.98	74	-27.02
		7215(Av)	35.85	54	-18.15
IEEE 802.15.4		2475(Pk)	115.84	-	-
		2475(Av)	114.81	-	-
		2483.5(Pk)	65.32	74*	-8.68
		2483.5(Av)	53.30	54*	-0.7
		4950(Pk)	41.35	74	-32.65
		4950(Av)	29.65	54	-24.35
		7425(Pk)	46.55	74	-27.45
		7425(Av)	35.25	54	-18.75
IEEE 802.15.4	Horizontal	2405(Pk)	90.88	-	-
		2405(Av)	90.20	-	-
		2390(Pk)	55.74	74*	-18.26
		2390(Av)	42.35	54*	-11.65
		4810(Pk)	40.95	74	-33.05
		4810(Av)	30.76	54	-23.24
		7215(Pk)	49.85	74	-24.15
		7215(Av)	37.78	54	-16.22
IEEE 802.15.4		2475(Pk)	89.53	-	-
		2475(Av)	89.45	-	-
		2483.5(Pk)	54.25	74*	-19.75
		2483.5(Av)	42.61	54*	-11.39
		4950(Pk)	41.25	74	-32.75
		4950(Av)	30.22	54	-23.78
		7425(Pk)	47.67	74	-26.33
		7425(Av)	34.77	54	-19.23

Pk: Peak Detector;
Av: Average Detector;
*→ Restricted Bands
- → Fundamental Frequency

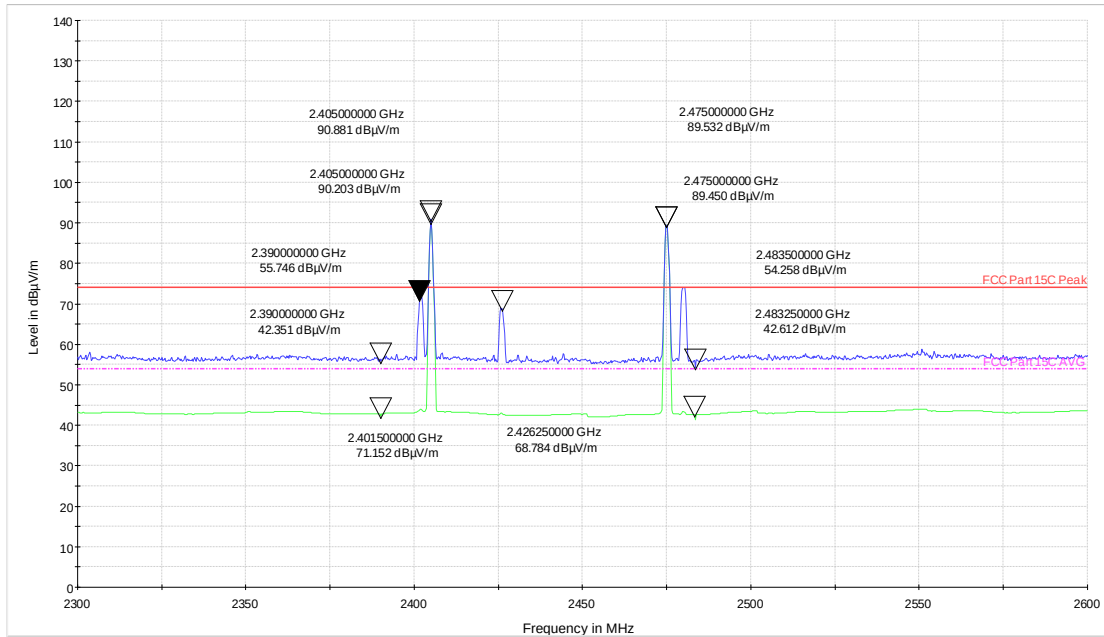
Test Plots:



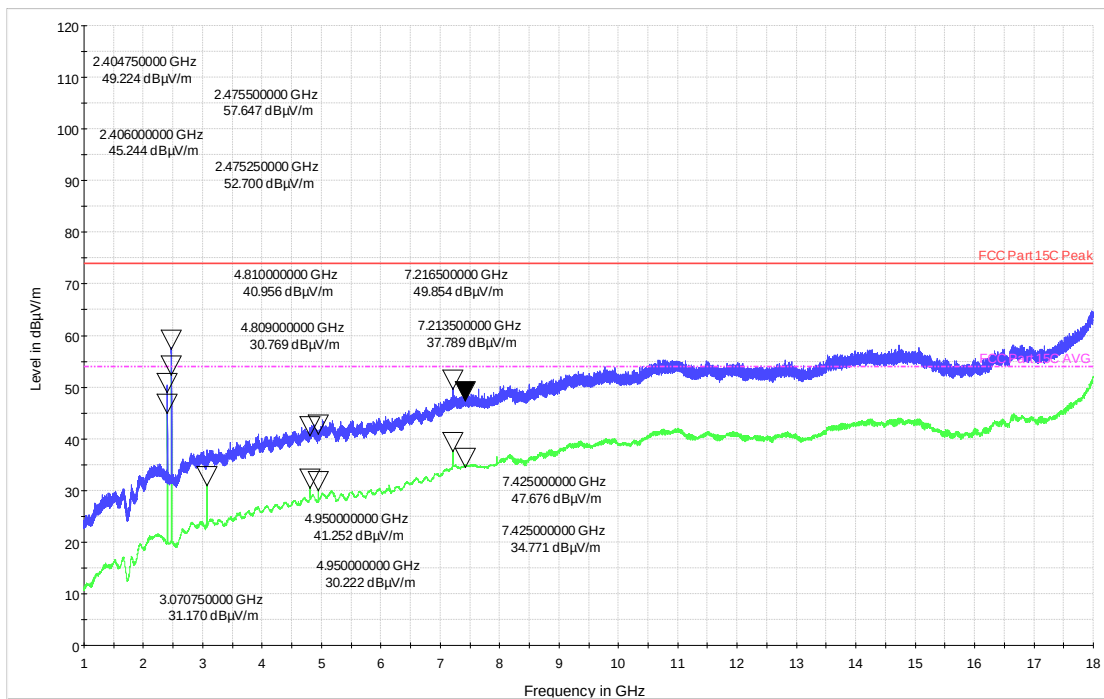
Fundamental Frequency: (IEEE 802.15.4-2405MHz, IEEE 802.15.4-2475MHz) Polarization: vertical



Channel Frequency: 1GHz -18GHz Polarization: vertical



Fundamental Frequency: (IEEE 802.15.4-2405MHz, IEEE 802.15.4-2475MHz) Polarization: Horizontal



Channel Frequency: 1GHz -18GHz

Polarization: Horizontal

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8.6 Conducted spurious emission Test on AC Power lines

Result

Pass

Test Specification : FCC Part 15 Section 15.207 / RSS Gen Issue 5 Section 8.8
Test Method : ANSI C 63.10-2013
Testing Location : Screened room
Measurement Bandwidth : 9kHz
Frequency Range : 150kHz – 30MHz
Supply Voltage : 110VAC,60Hz
Test Method : Refer TEST METHODOLOGY

Table 9: Limits for Conducted poweline emission

Frequency of emission (MHz)	QP Limit (dBµV)	AV Limit (dBµV/m)
0.15 – 0.5	66 – 56*	56 – 46*
0.5 – 5	56	46
5 – 30	60	50

* Decreases with the logarithm of the frequency

Test Conditions:

Temperature (Norm) = +23.1 °C

Voltage = 24V DC (AC – DC Adapter)

Relative humidity: 66%

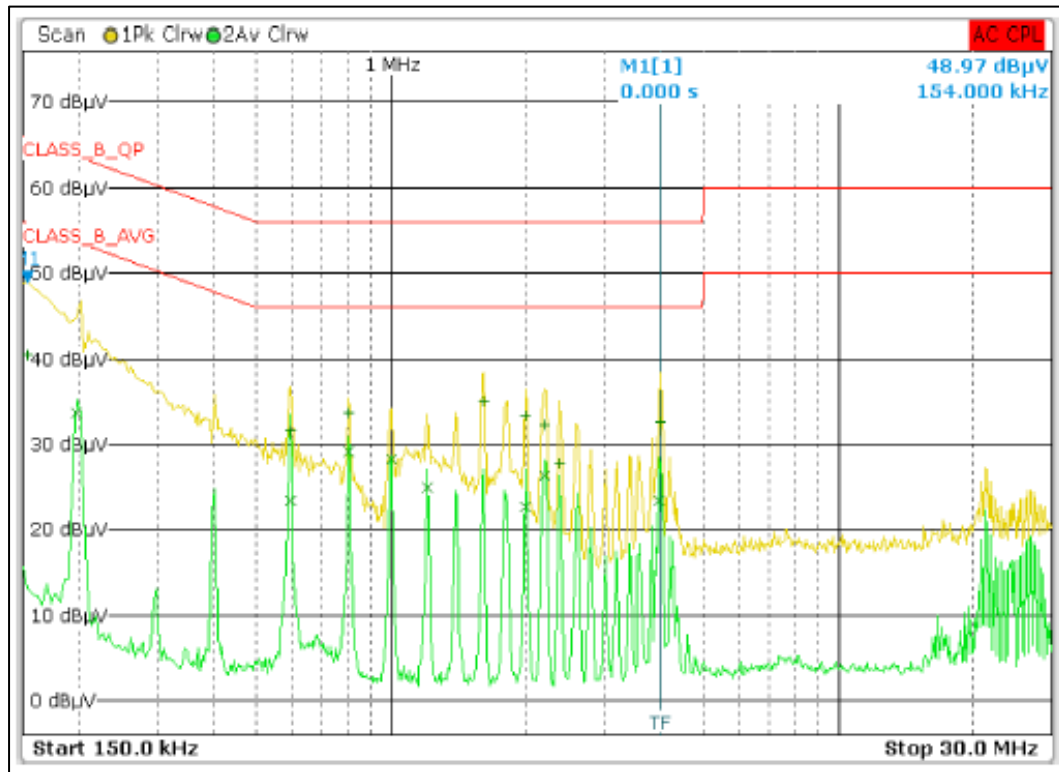
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Test results:

110VAC-60Hz-Line



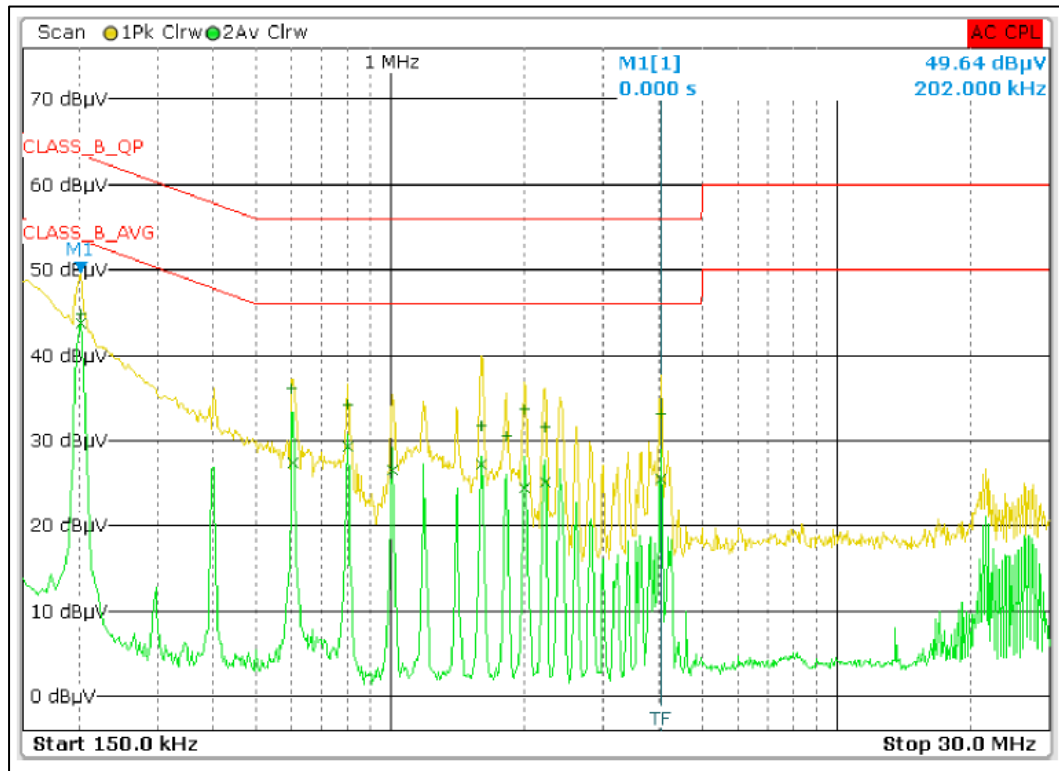
Trace	Frequency	Level (dBµV)	Phase	Detector	Delta Limit/dB
2	802.000000000 kHz	29.15		Average	-16.85
2	998.000000000 kHz	28.18		Average	-17.82
2	2.206000000 MHz	26.30		Average	-19.70
2	198.000000000 kHz	33.67		Average	-20.02
1	1.610000000 MHz	35.01		Quasi Peak	-20.99
2	1.206000000 MHz	24.96		Average	-21.04
1	802.000000000 kHz	33.57		Quasi Peak	-22.43
2	3.986000000 MHz	23.44		Average	-22.56
2	594.000000000 kHz	23.39		Average	-22.61
1	1.998000000 MHz	33.30		Quasi Peak	-22.70
2	1.998000000 MHz	22.73		Average	-23.27
1	3.994000000 MHz	32.64		Quasi Peak	-23.36
1	2.206000000 MHz	32.30		Quasi Peak	-23.70
1	594.000000000 kHz	31.56		Quasi Peak	-24.44
1	154.000000000 kHz	40.40		Quasi Peak	-25.38
1	2.382000000 MHz	27.73		Quasi Peak	-28.27

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110VAC-60Hz-Neutral:



Trace	Frequency	Level (dBμV)	Phase	Detector	Delta Limit/dB
2	202.00000000 kHz	43.67		Average	-9.86
2	802.00000000 kHz	29.35		Average	-16.65
2	606.00000000 kHz	27.37		Average	-18.63
1	202.00000000 kHz	44.79		Quasi Peak	-18.74
2	1.60200000 MHz	27.26		Average	-18.74
2	1.00600000 MHz	26.53		Average	-19.47
1	602.00000000 kHz	36.15		Quasi Peak	-19.85
2	4.02600000 MHz	25.46		Average	-20.54
2	2.21800000 MHz	25.18		Average	-20.82
2	2.00200000 MHz	24.46		Average	-21.54
1	802.00000000 kHz	34.12		Quasi Peak	-21.88
1	2.00200000 MHz	33.56		Quasi Peak	-22.44
1	4.02200000 MHz	33.19		Quasi Peak	-22.81
1	1.60200000 MHz	31.65		Quasi Peak	-24.35
1	2.22200000 MHz	31.63		Quasi Peak	-24.37
1	1.81800000 MHz	30.57		Quasi Peak	-25.43

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*****End of Test report*****