

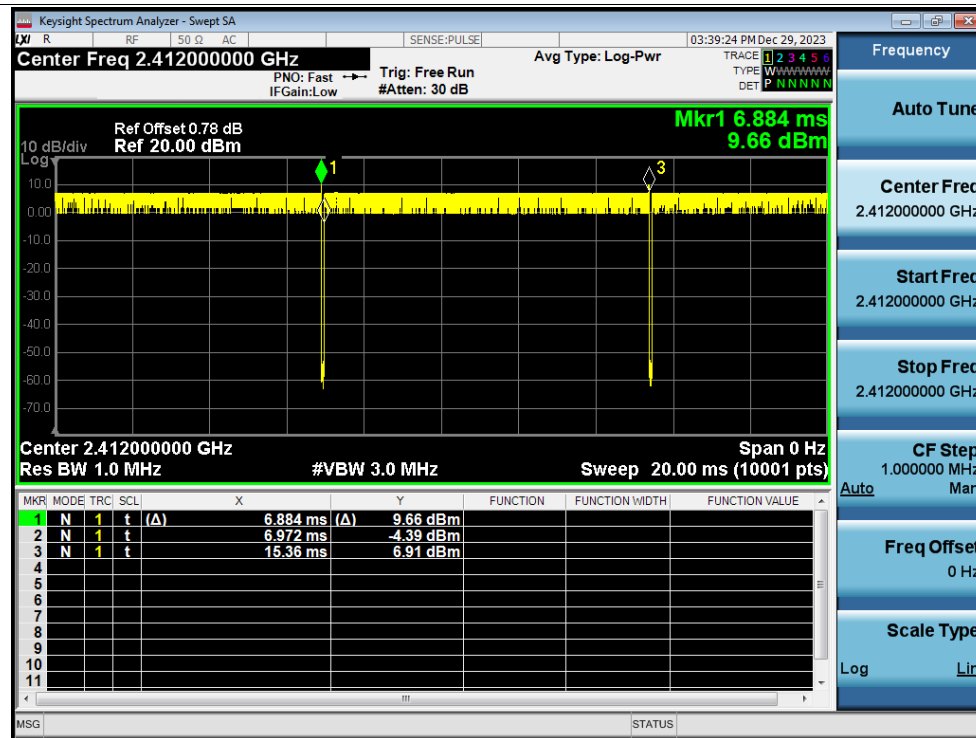
Appendix A

Duty Cycle

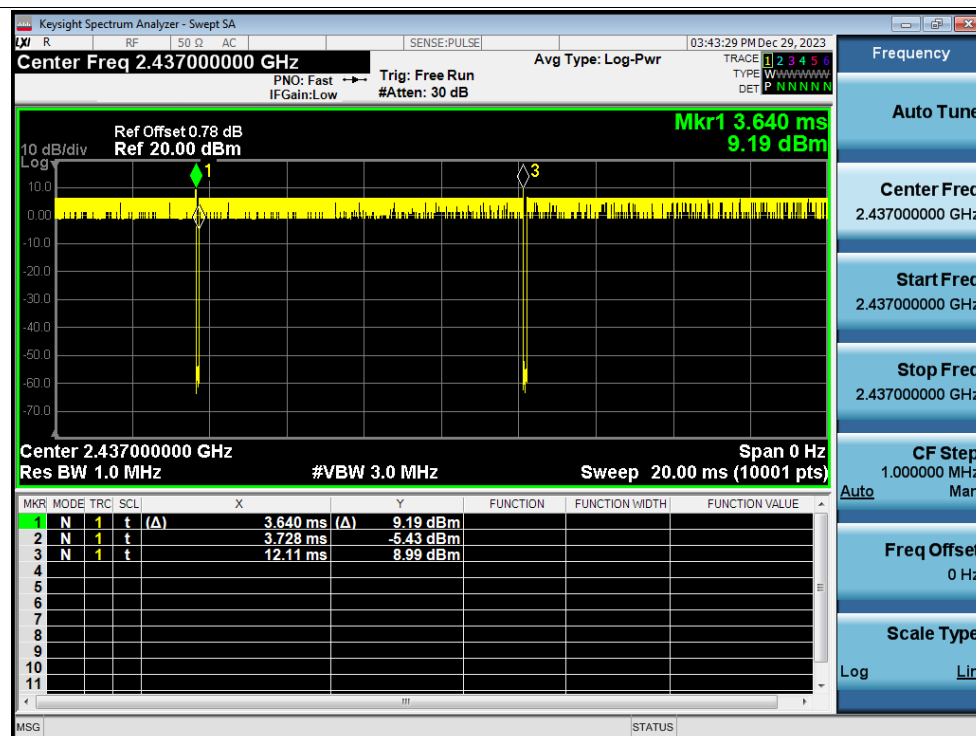
Condition	Mode	Frequency (MHz)	Antenna	On Time (ms)	Period (ms)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)	Final settingFor VBW (kHz)
NVNT	b	2412	Ant1	8.39	8.47	99.06	0	0.12	1
NVNT	b	2437	Ant1	8.39	8.47	99.06	0	0.12	1
NVNT	b	2462	Ant1	8.39	8.47	99.06	0	0.12	1
NVNT	g	2412	Ant1	1.4	1.41	99.29	0	0.72	1
NVNT	g	2437	Ant1	1.39	1.41	98.58	0	0.72	1
NVNT	g	2462	Ant1	1.39	1.41	98.58	0	0.72	1
NVNT	n20	2412	Ant1	1.3	1.32	98.48	0	0.77	1
NVNT	n20	2437	Ant1	1.3	1.32	98.48	0	0.77	1
NVNT	n20	2462	Ant1	1.3	1.32	98.48	0	0.77	1

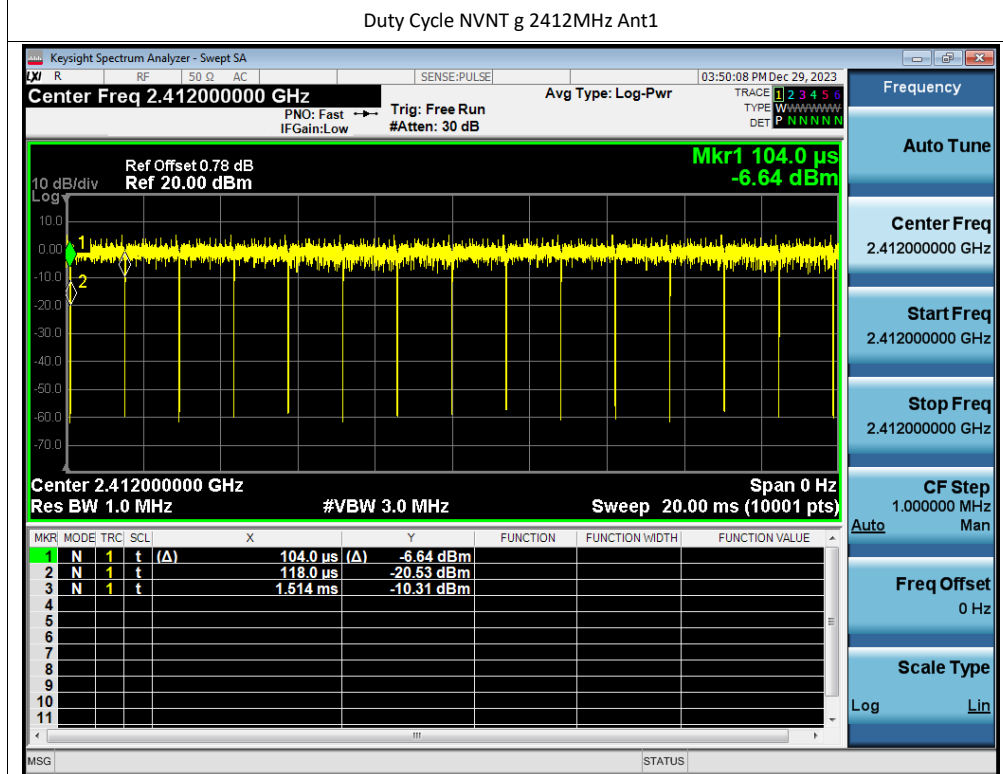
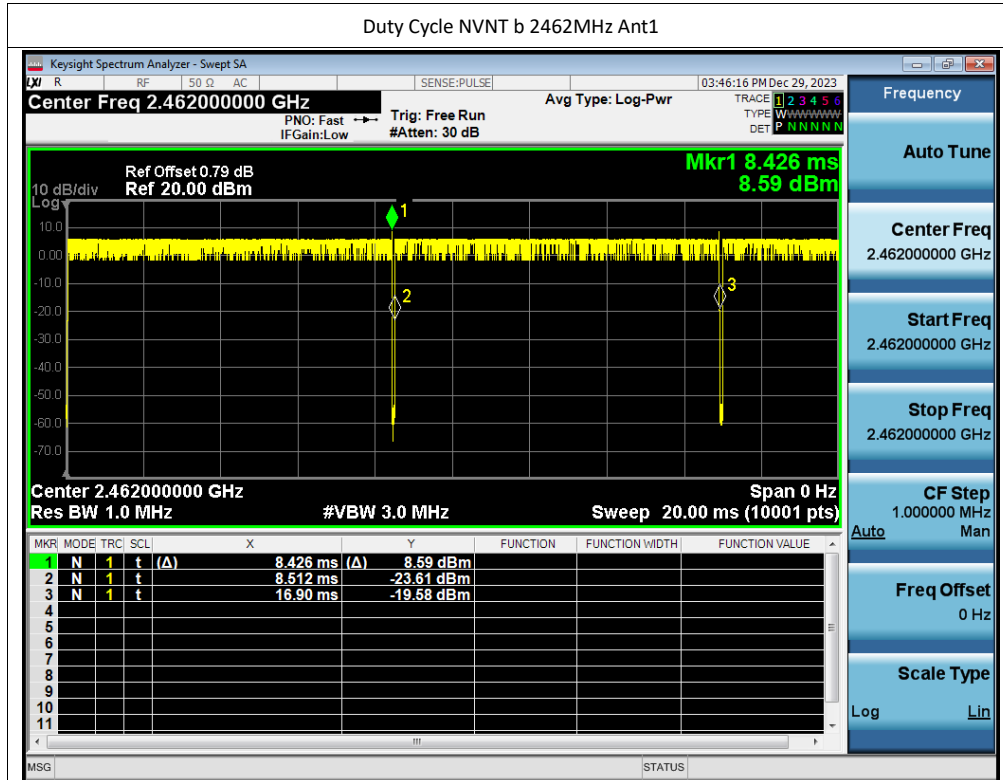
Test Graphs

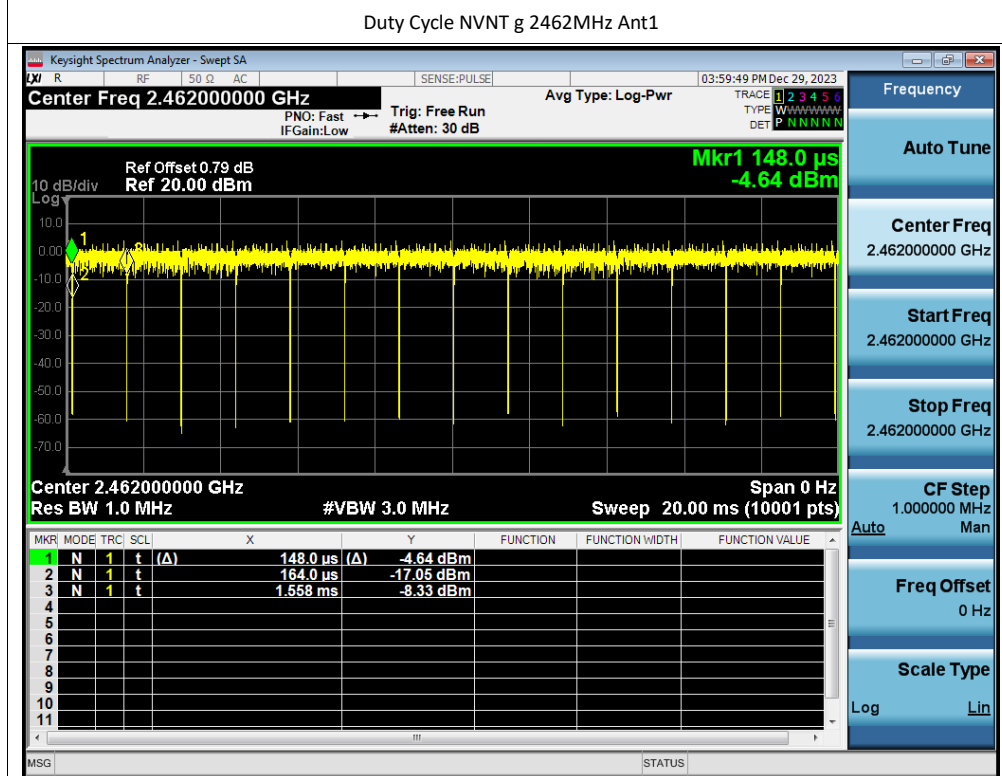
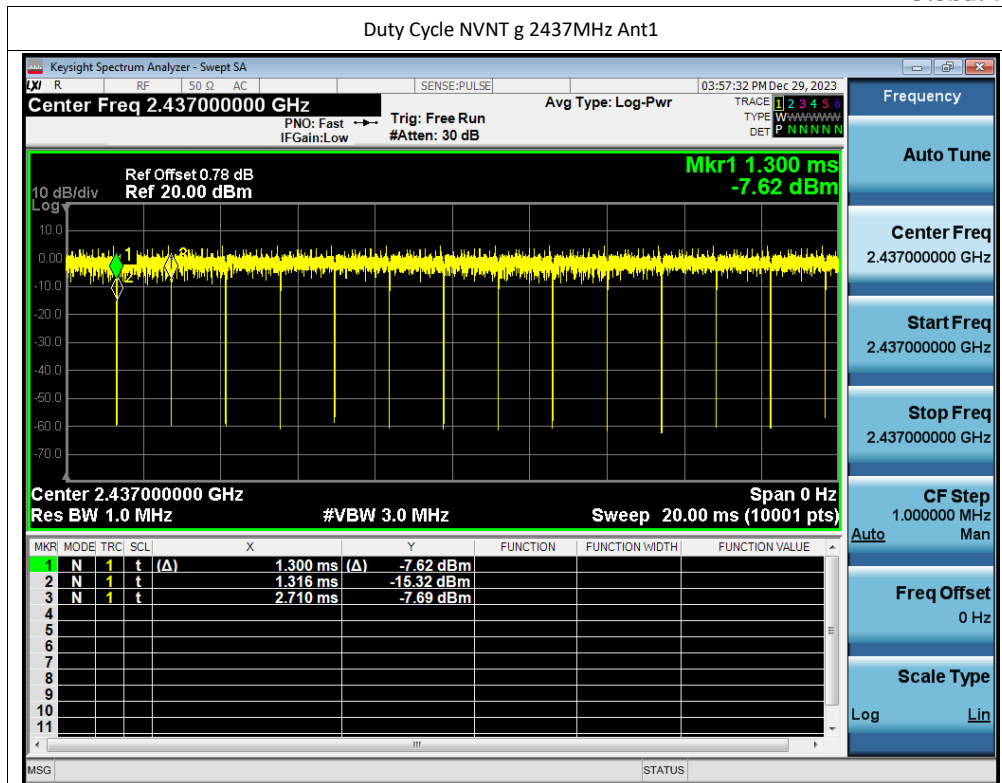
Duty Cycle NVNT b 2412MHz Ant1



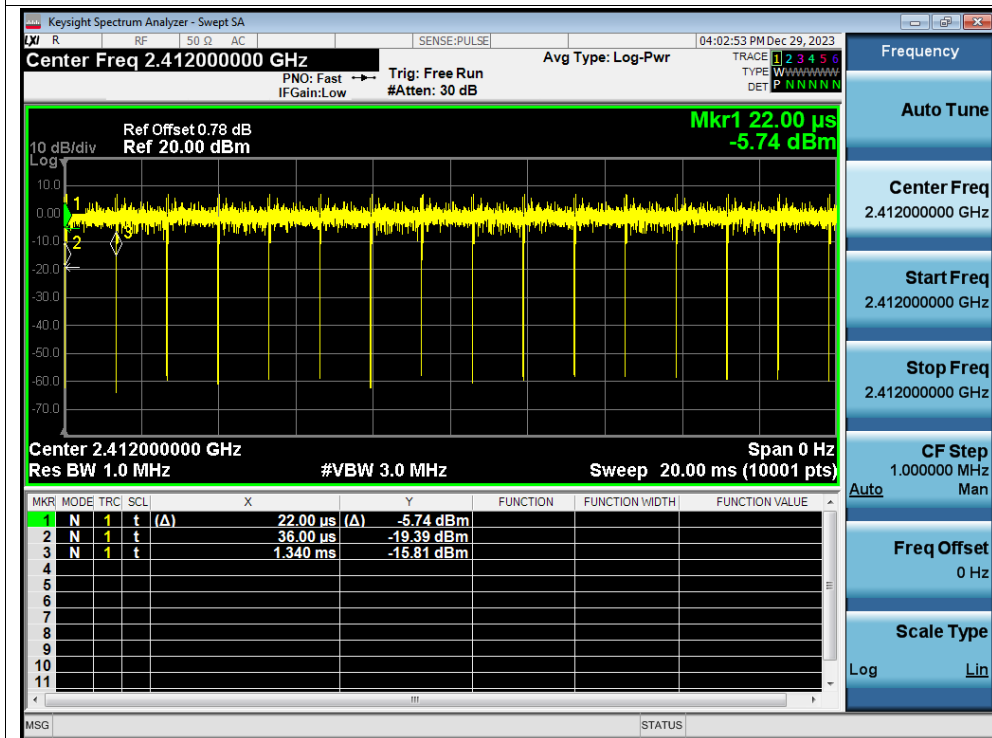
Duty Cycle NVNT b 2437MHz Ant1



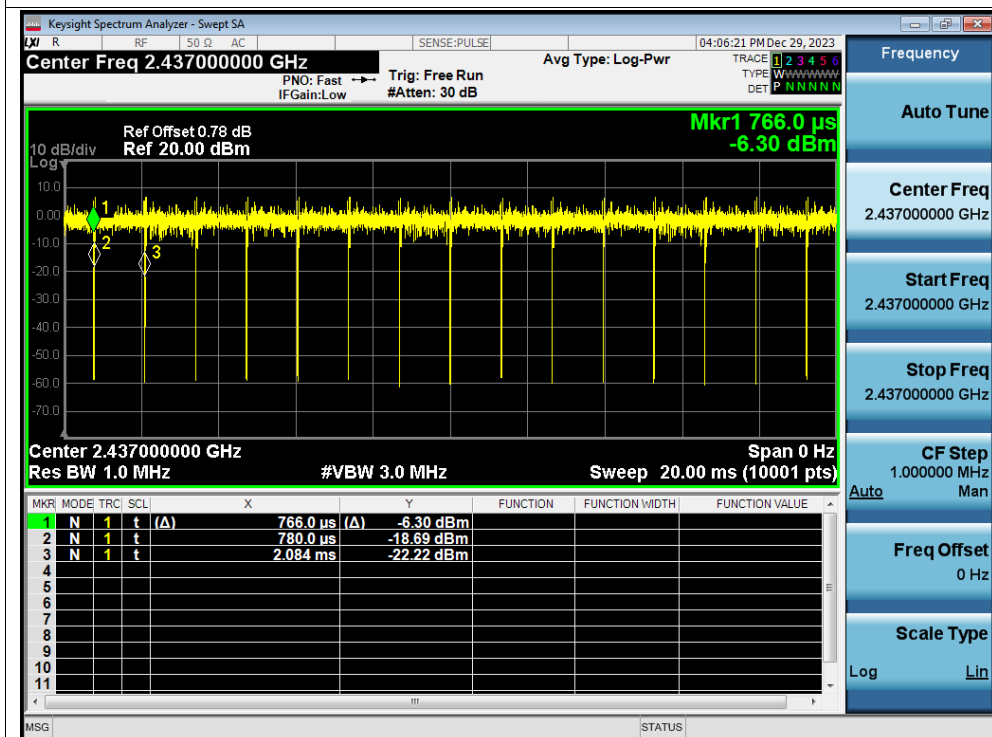


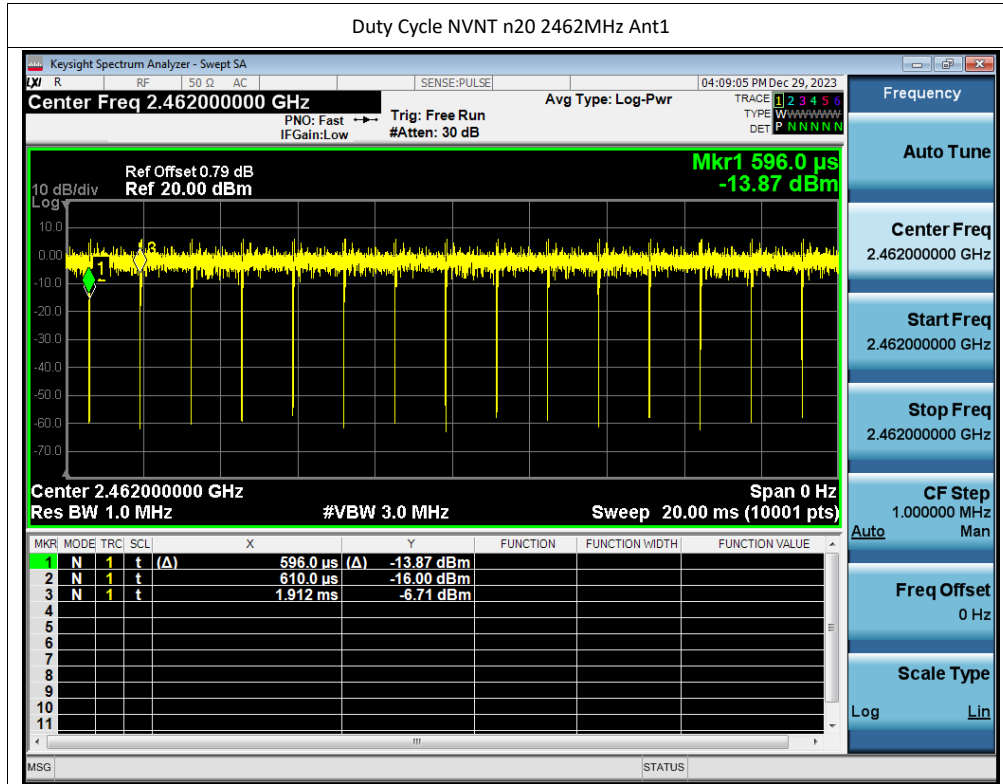


Duty Cycle NVNT n20 2412MHz Ant1



Duty Cycle NVNT n20 2437MHz Ant1





Maximum Conducted Output Power

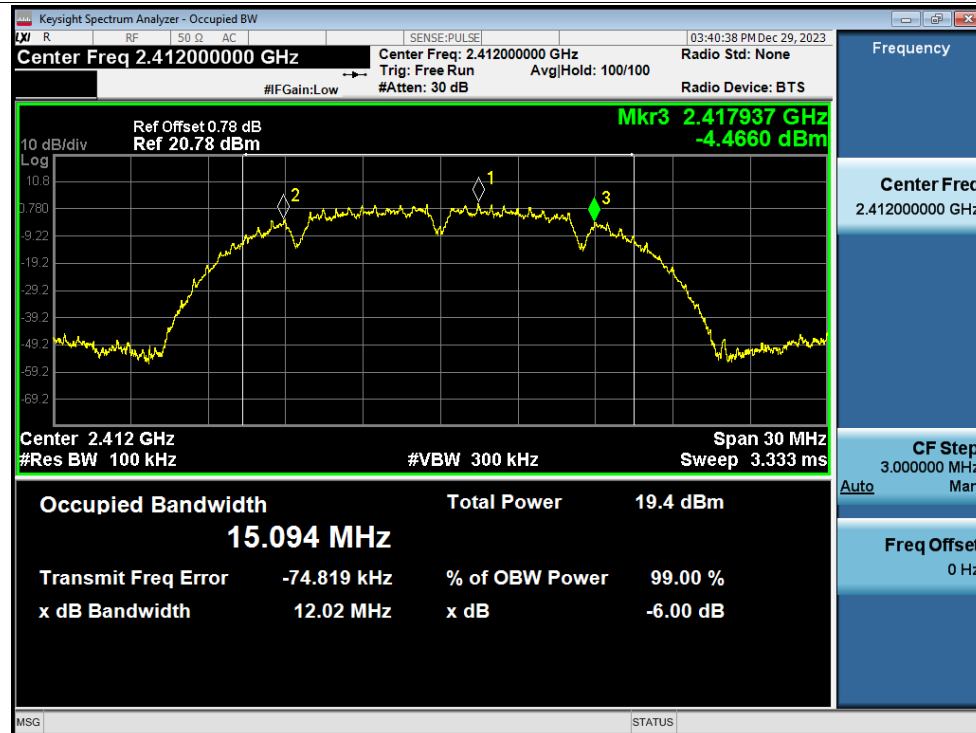
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.96	0	15.96	30	Pass
NVNT	b	2437	Ant1	15.57	0	15.57	30	Pass
NVNT	b	2462	Ant1	15.05	0	15.05	30	Pass
NVNT	g	2412	Ant1	14.43	0	14.43	30	Pass
NVNT	g	2437	Ant1	13.78	0	13.78	30	Pass
NVNT	g	2462	Ant1	13.12	0	13.12	30	Pass
NVNT	n20	2412	Ant1	14.22	0	14.22	30	Pass
NVNT	n20	2437	Ant1	13.69	0	13.69	30	Pass
NVNT	n20	2462	Ant1	13.12	0	13.12	30	Pass

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	12.024	0.5	Pass
NVNT	b	2437	Ant1	12.03	0.5	Pass
NVNT	b	2462	Ant1	10.1	0.5	Pass
NVNT	g	2412	Ant1	15.03	0.5	Pass
NVNT	g	2437	Ant1	15.13	0.5	Pass
NVNT	g	2462	Ant1	15.04	0.5	Pass
NVNT	n20	2412	Ant1	16.59	0.5	Pass
NVNT	n20	2437	Ant1	15.05	0.5	Pass
NVNT	n20	2462	Ant1	13.82	0.5	Pass

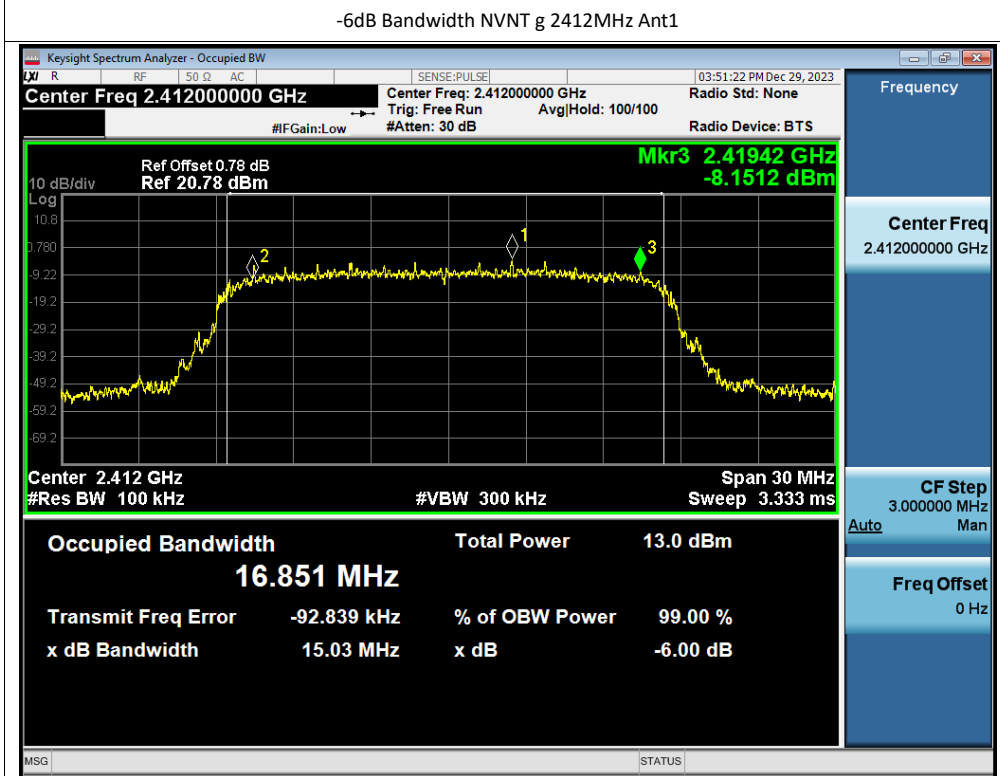
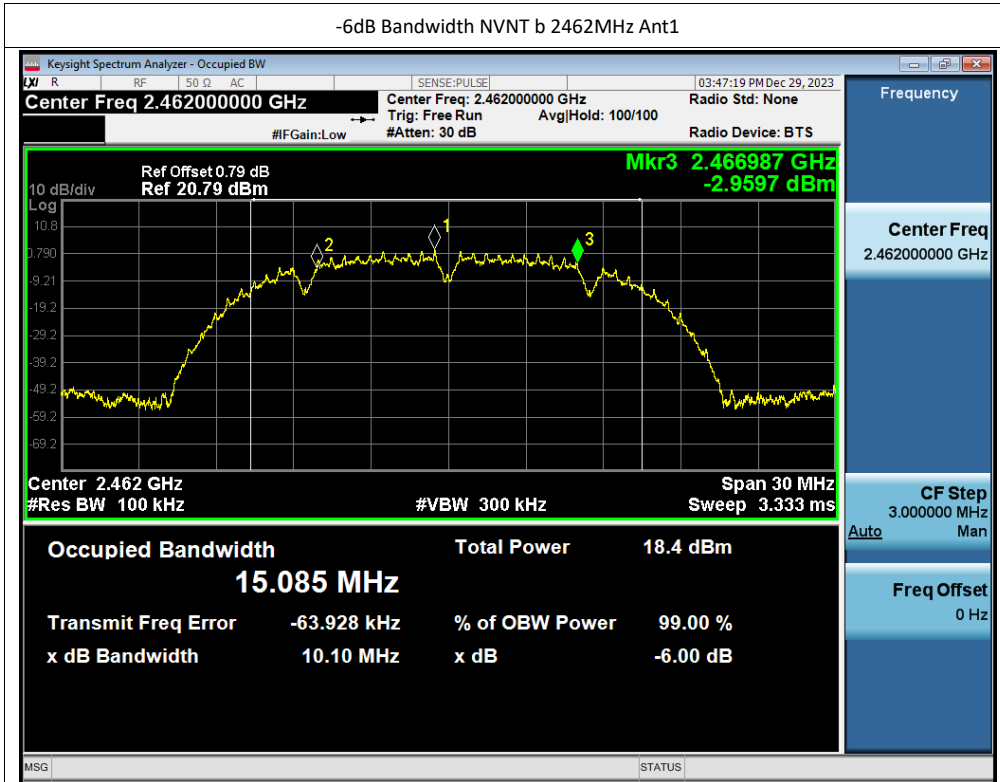
Test Graphs

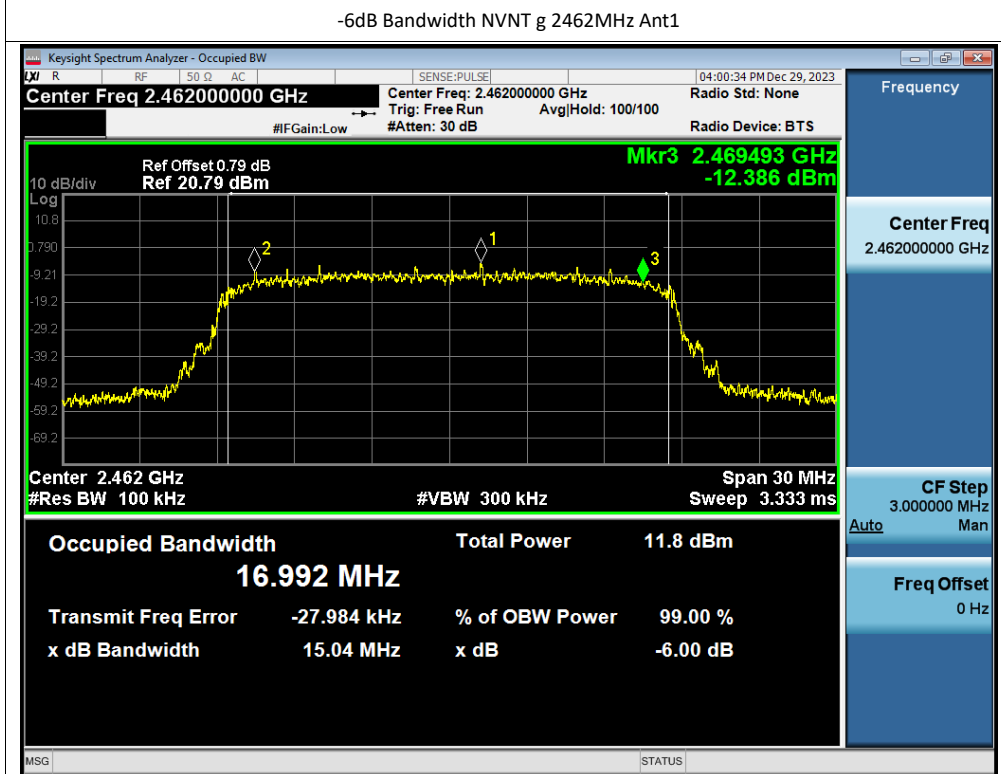
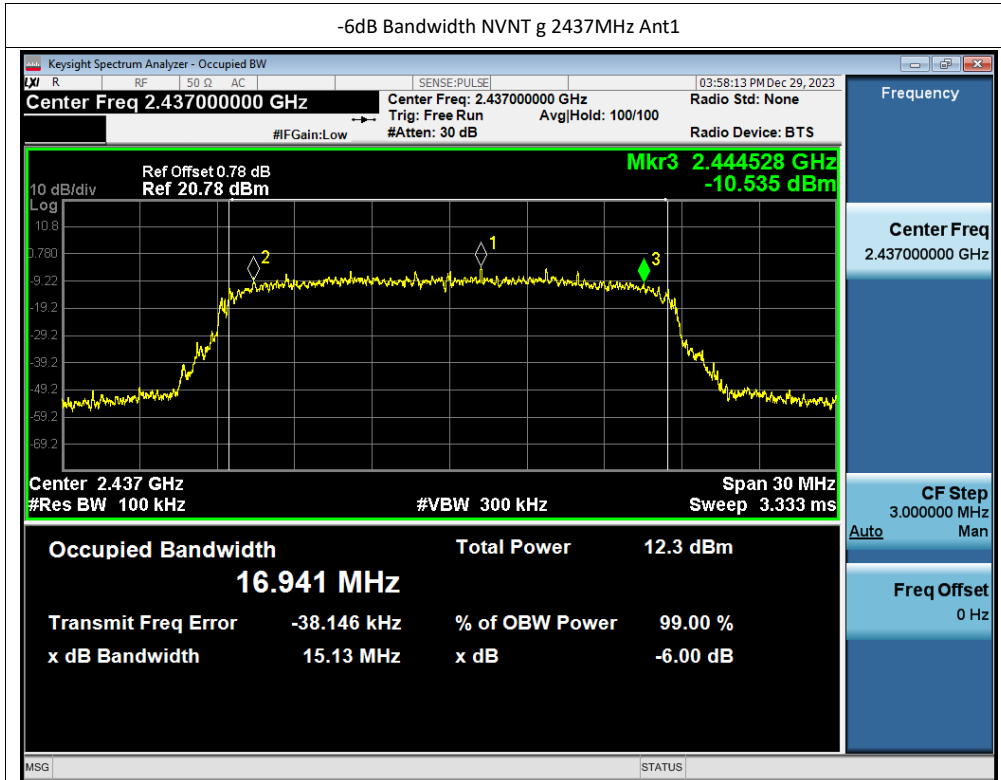
-6dB Bandwidth NVNT b 2412MHz Ant1



-6dB Bandwidth NVNT b 2437MHz Ant1



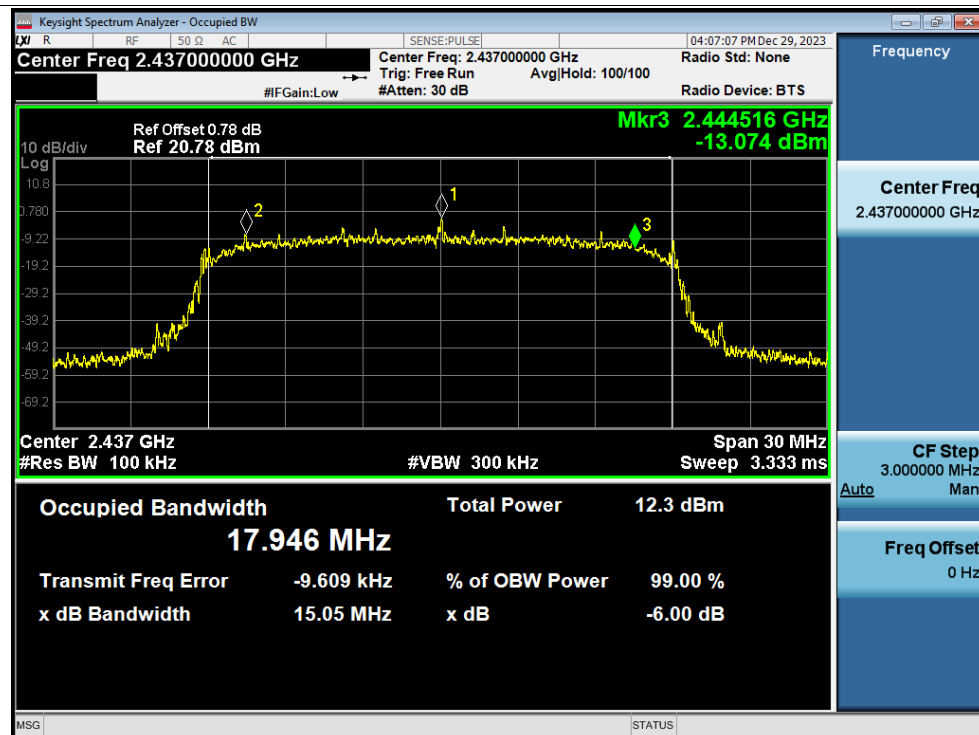


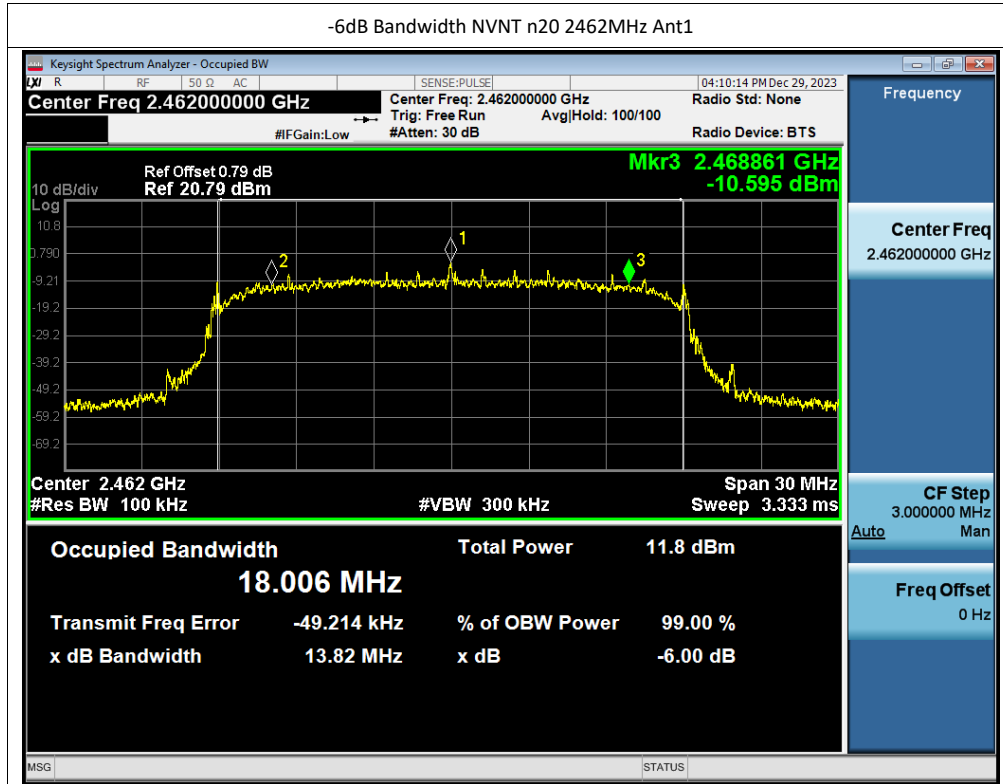


-6dB Bandwidth NVNT n20 2412MHz Ant1



-6dB Bandwidth NVNT n20 2437MHz Ant1



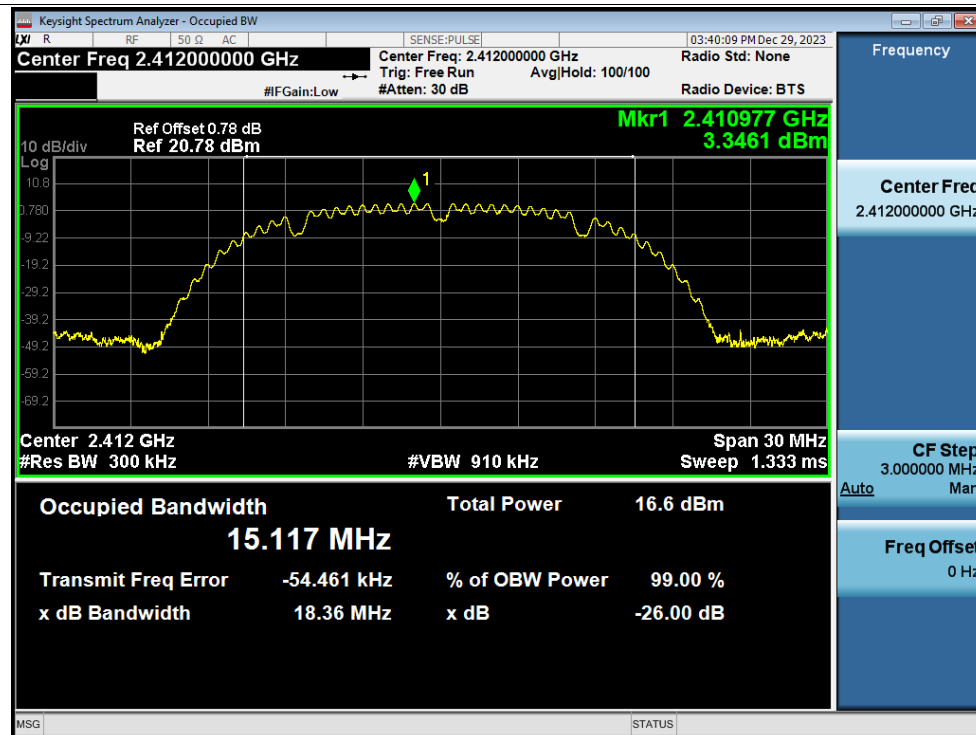


Occupied Channel Bandwidth

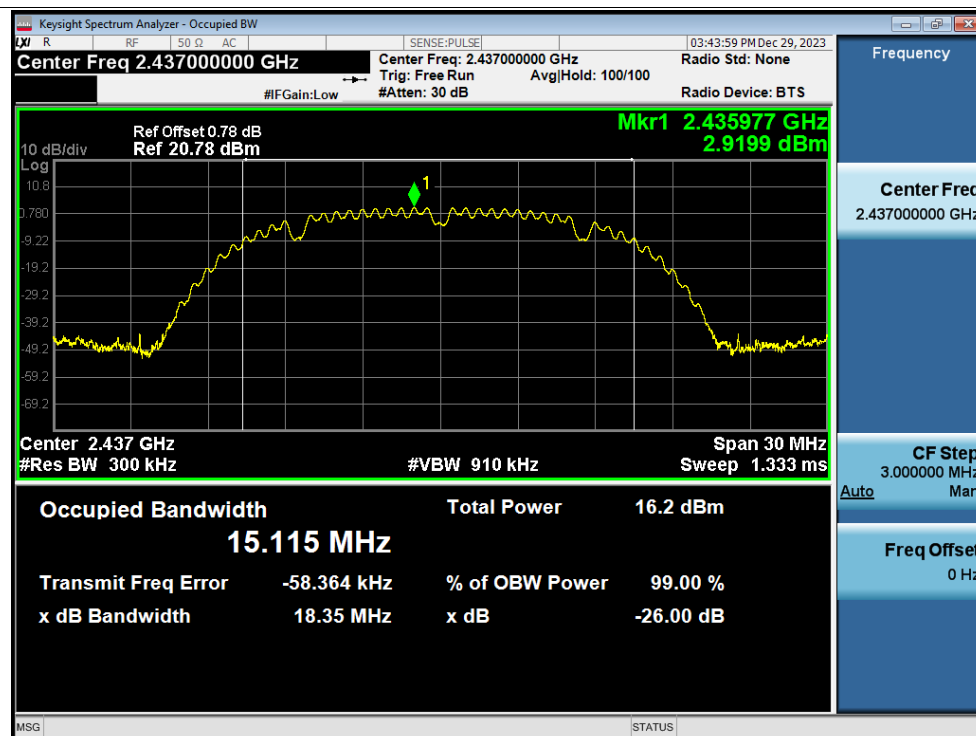
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	15.117
NVNT	b	2437	Ant1	15.115
NVNT	b	2462	Ant1	15.112
NVNT	g	2412	Ant1	17.095
NVNT	g	2437	Ant1	17.032
NVNT	g	2462	Ant1	17.117
NVNT	n20	2412	Ant1	17.962
NVNT	n20	2437	Ant1	18.001
NVNT	n20	2462	Ant1	18.01

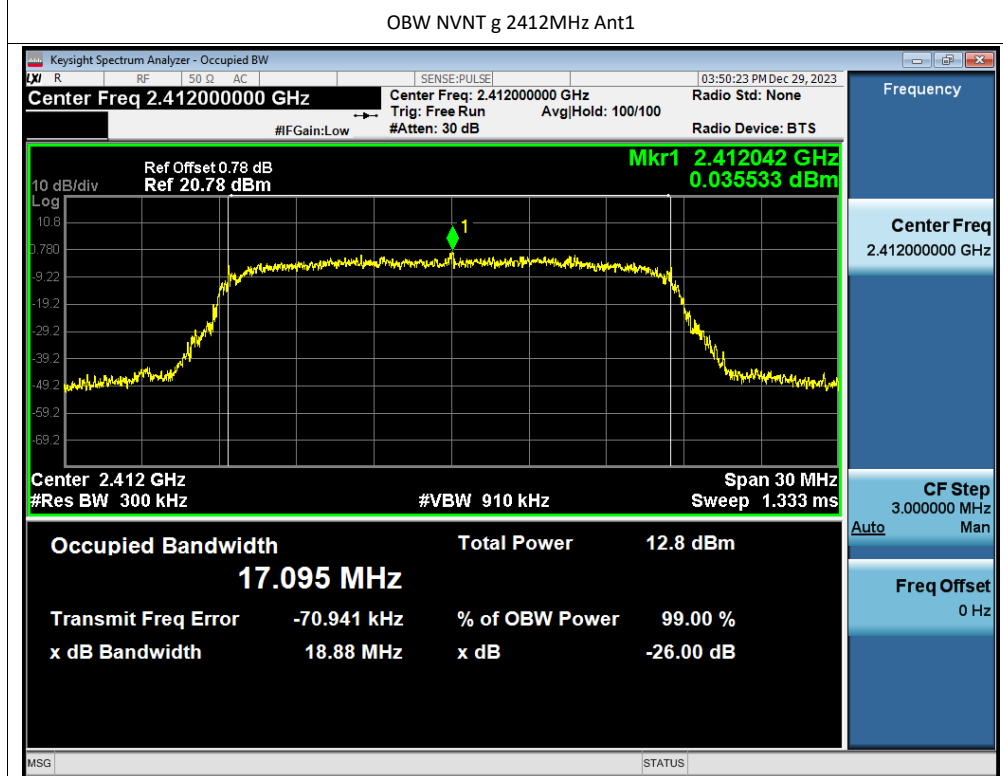
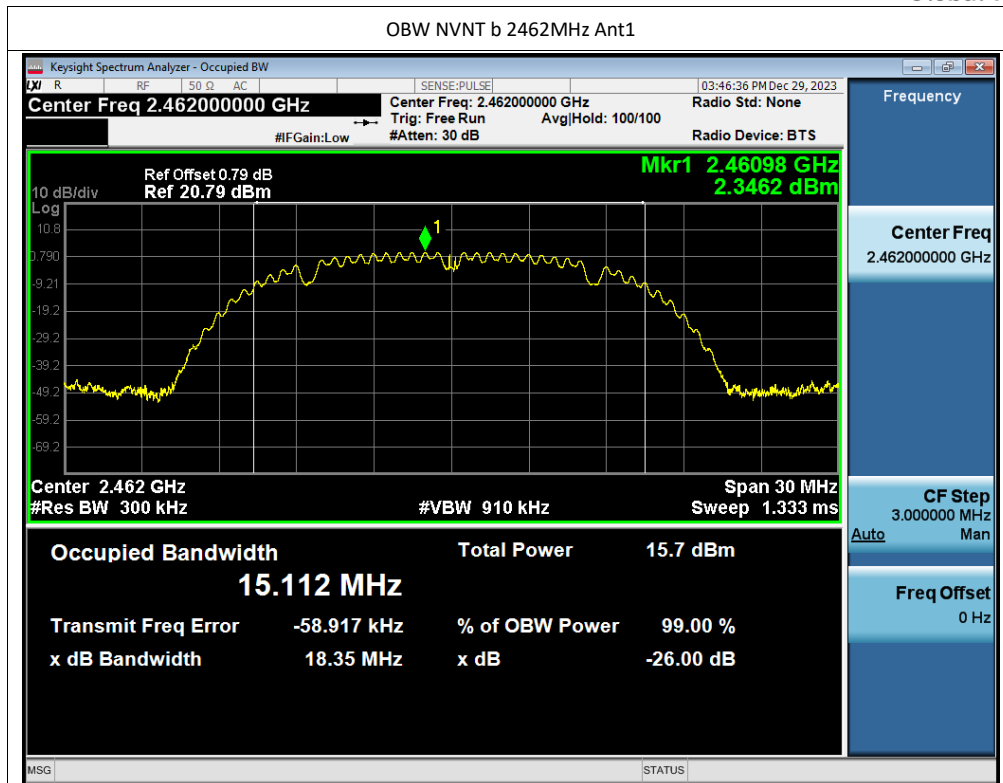
Test Graphs

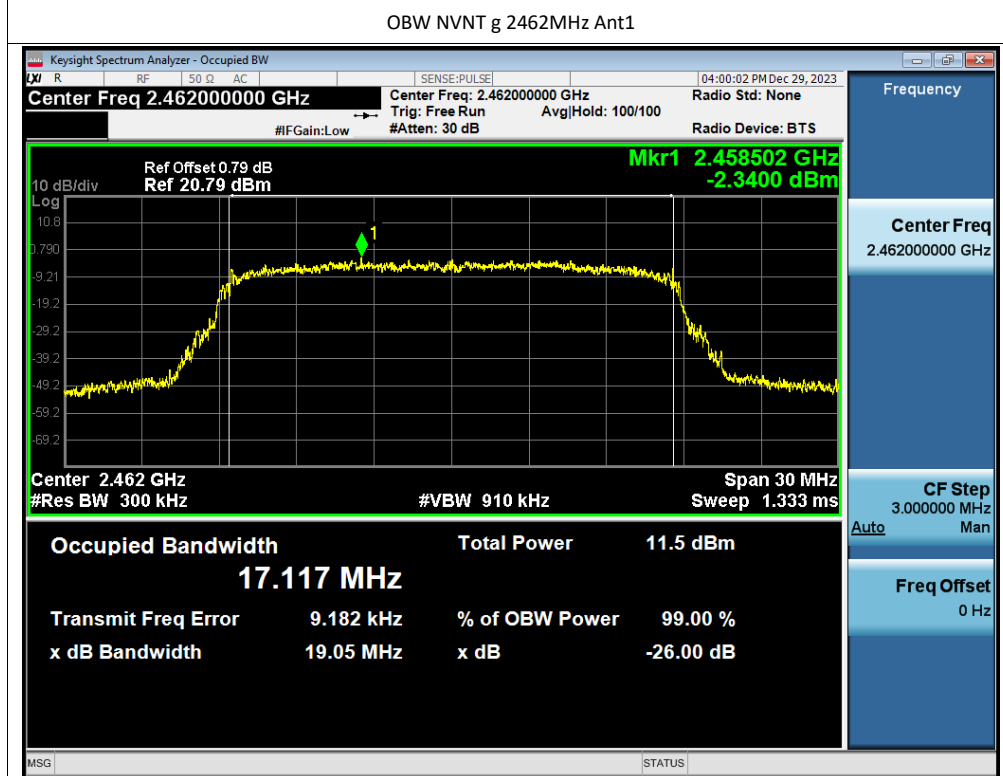
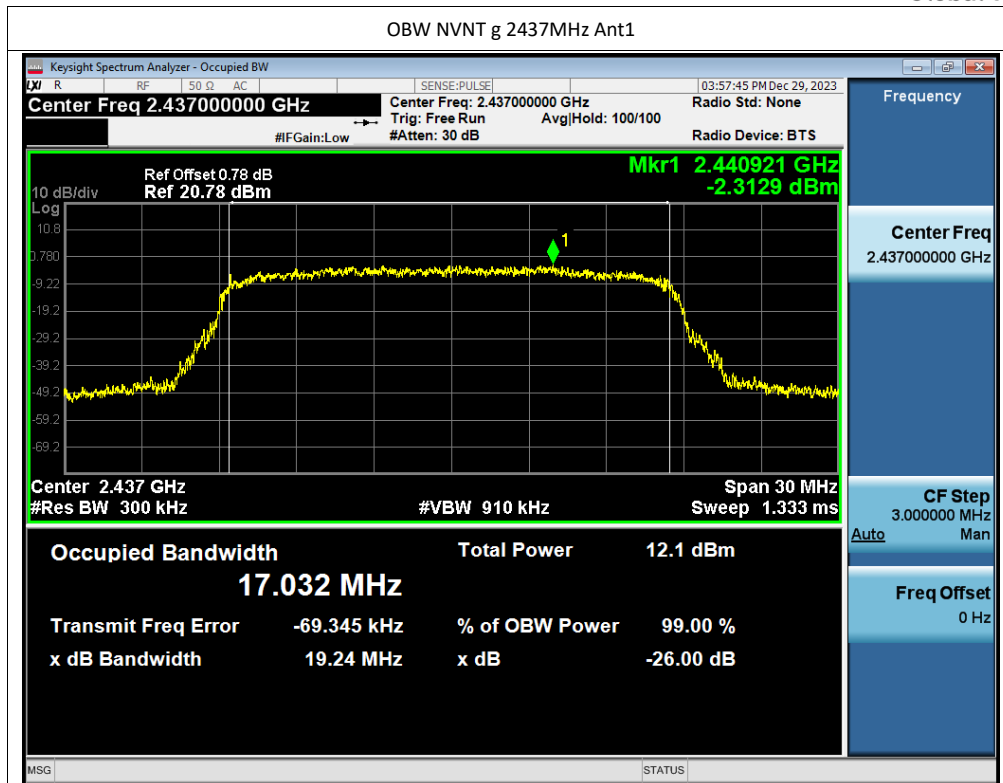
OBW NVNT b 2412MHz Ant1

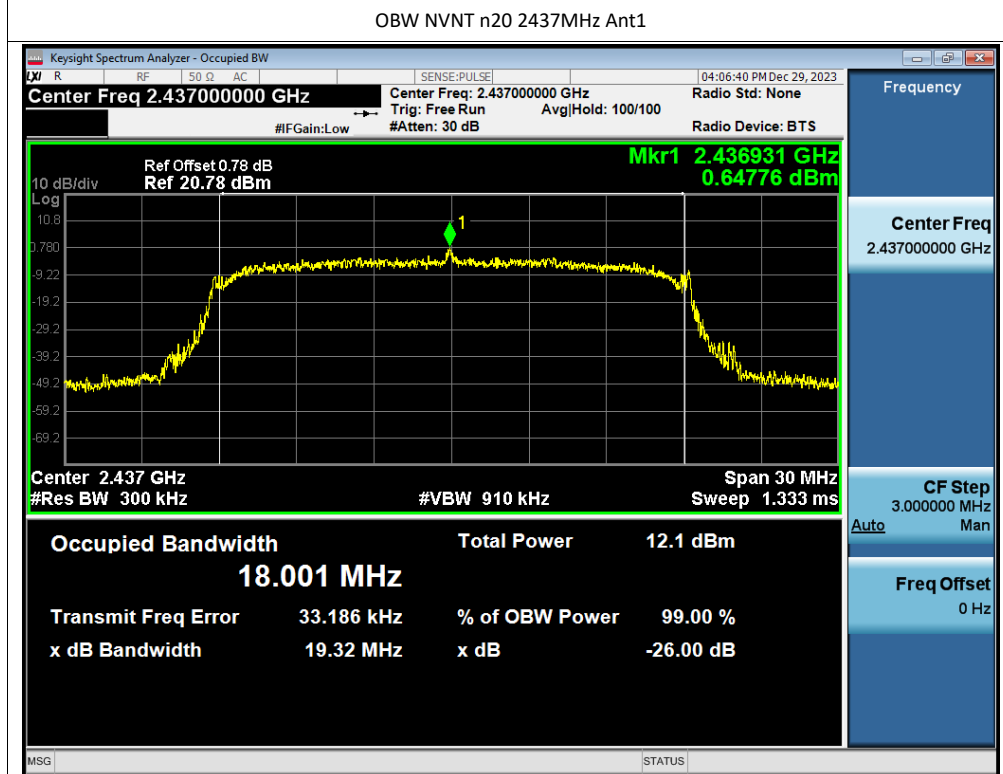
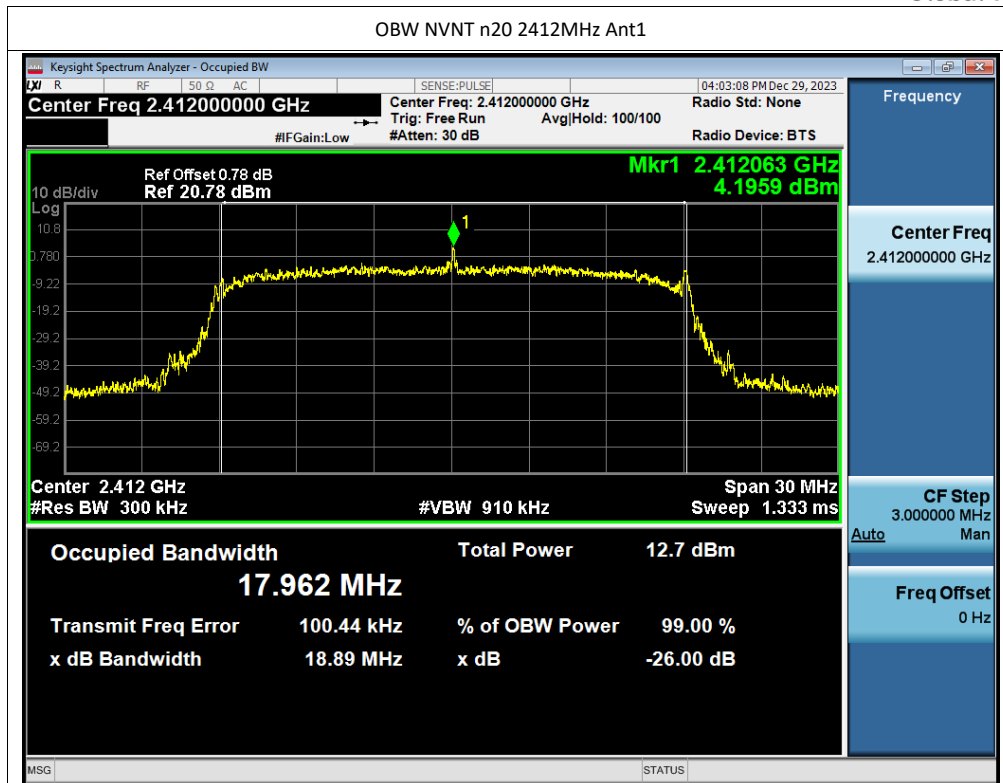


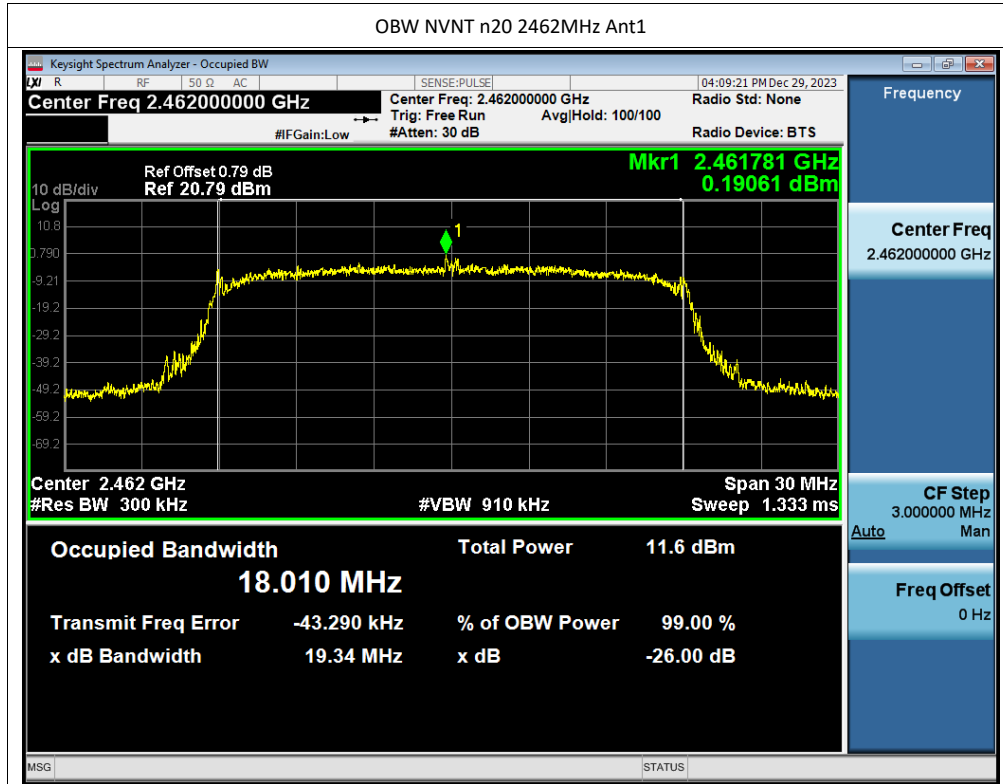
OBW NVNT b 2437MHz Ant1











Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-11.7	0	-11.7	8	Pass
NVNT	b	2437	Ant1	-11.23	0	-11.23	8	Pass
NVNT	b	2462	Ant1	-12.13	0	-12.13	8	Pass
NVNT	g	2412	Ant1	-13.4	0	-13.4	8	Pass
NVNT	g	2437	Ant1	-14.58	0	-14.58	8	Pass
NVNT	g	2462	Ant1	-15.18	0	-15.18	8	Pass
NVNT	n20	2412	Ant1	-13.74	0	-13.74	8	Pass
NVNT	n20	2437	Ant1	-15.42	0	-15.42	8	Pass
NVNT	n20	2462	Ant1	-14.92	0	-14.92	8	Pass

Test Graphs

PSD NVNT b 2412MHz Ant1



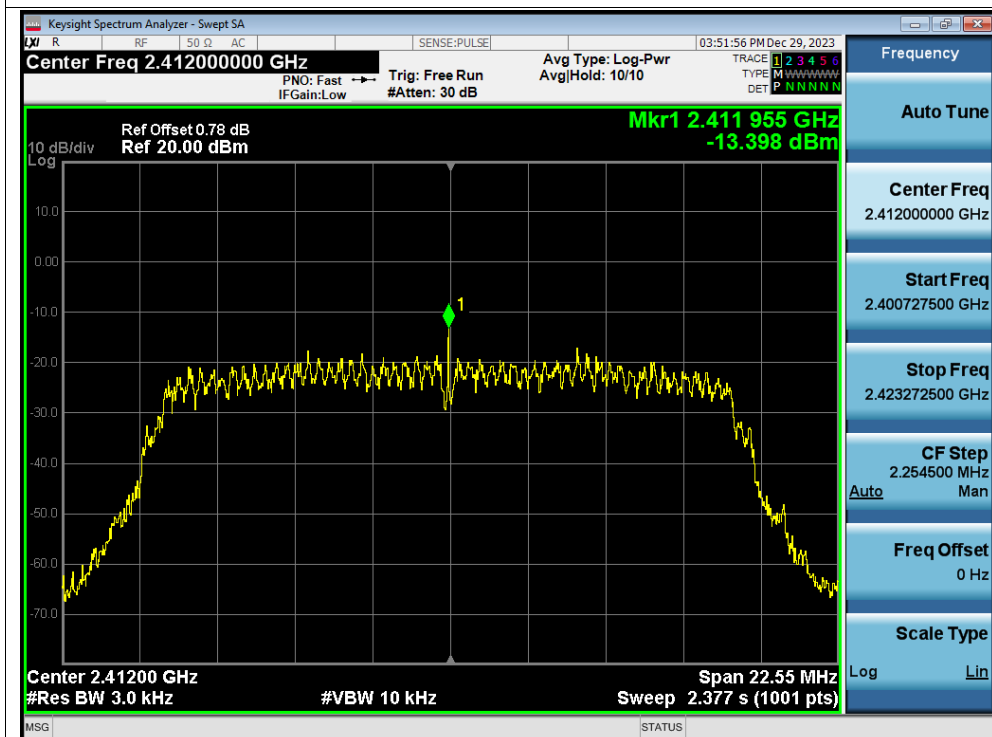
PSD NVNT b 2437MHz Ant1



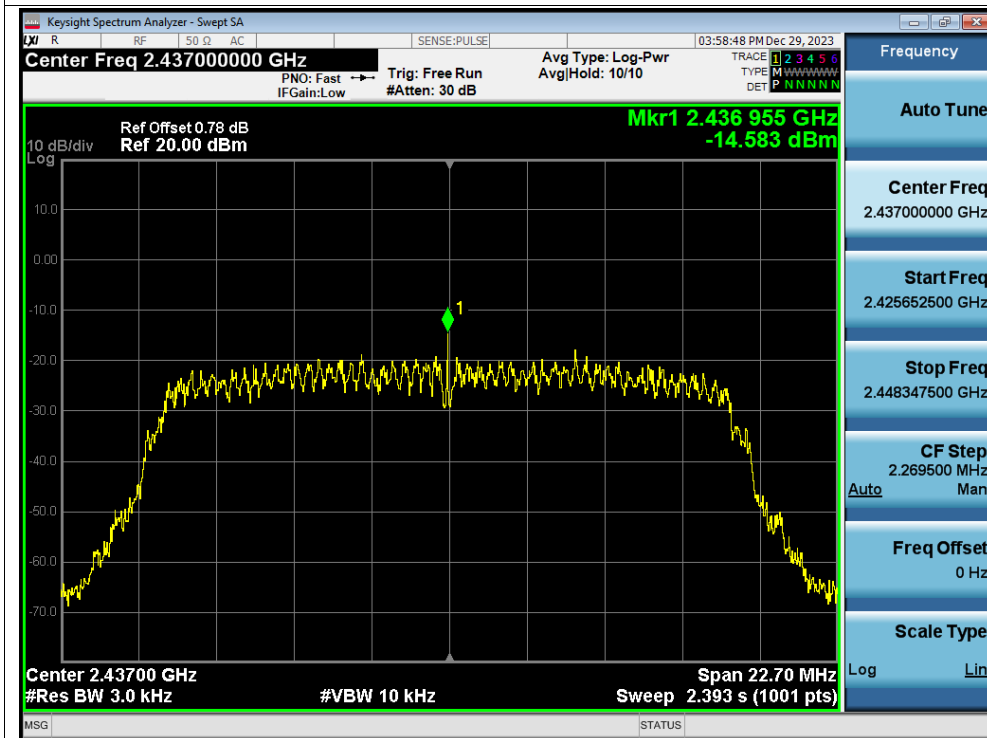
PSD NVNT b 2462MHz Ant1



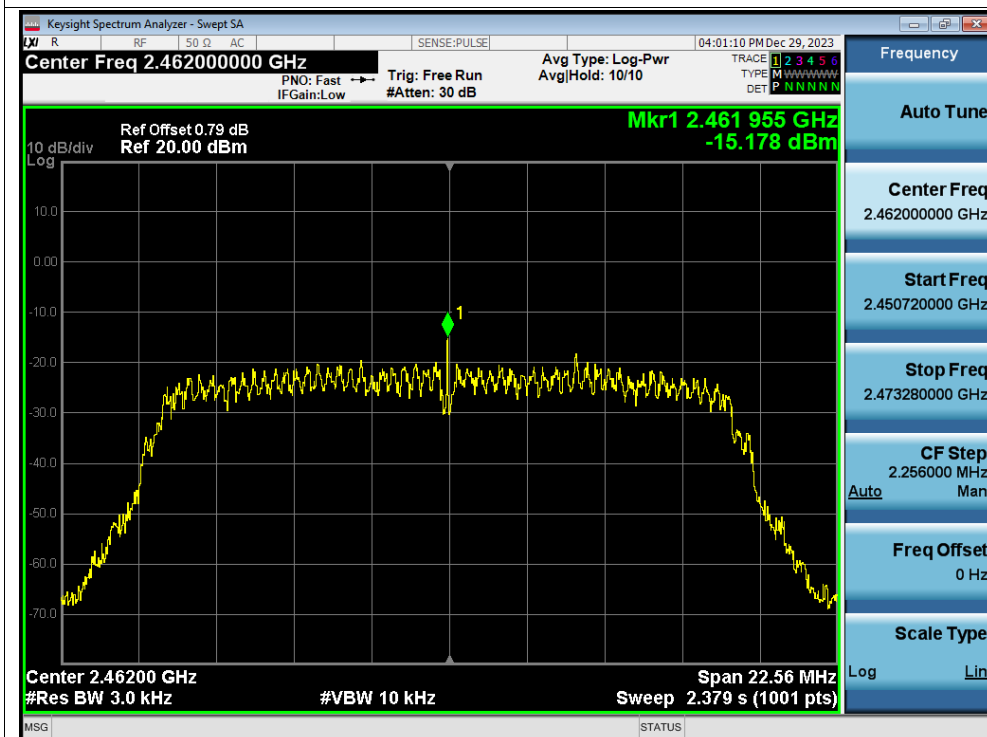
PSD NVNT g 2412MHz Ant1

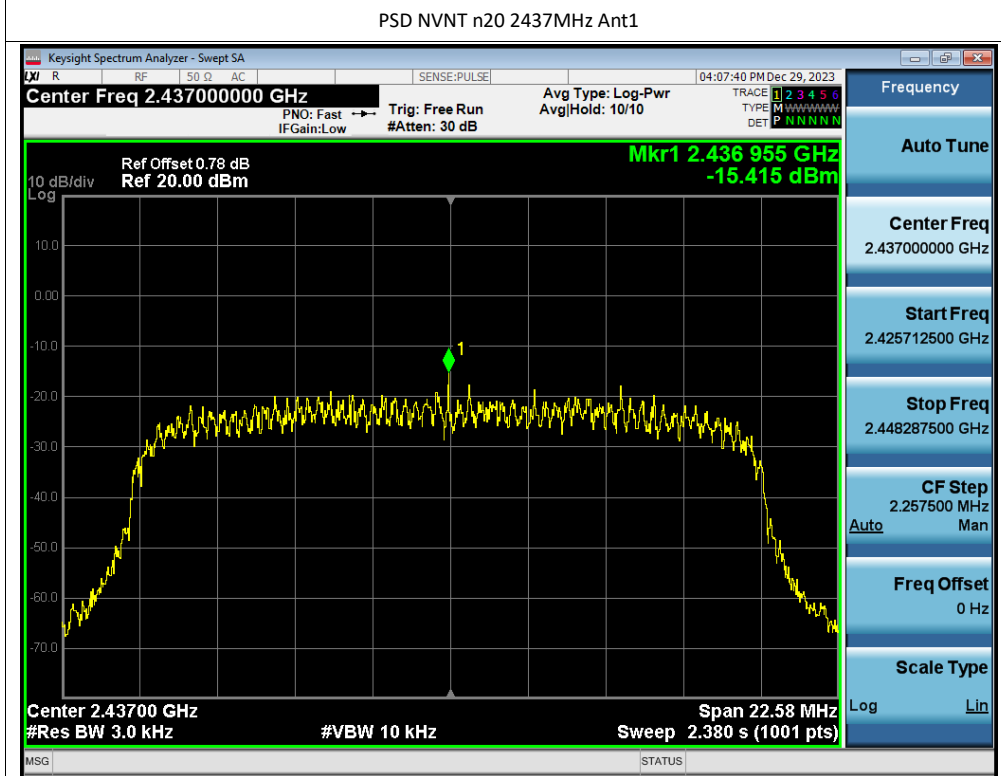
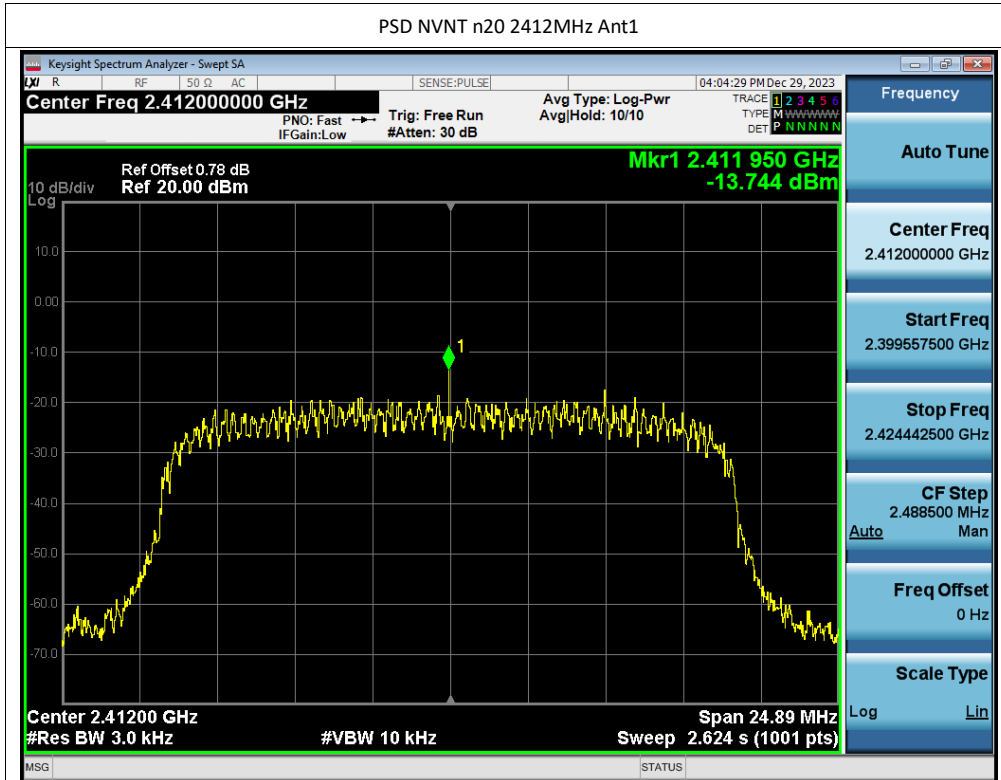


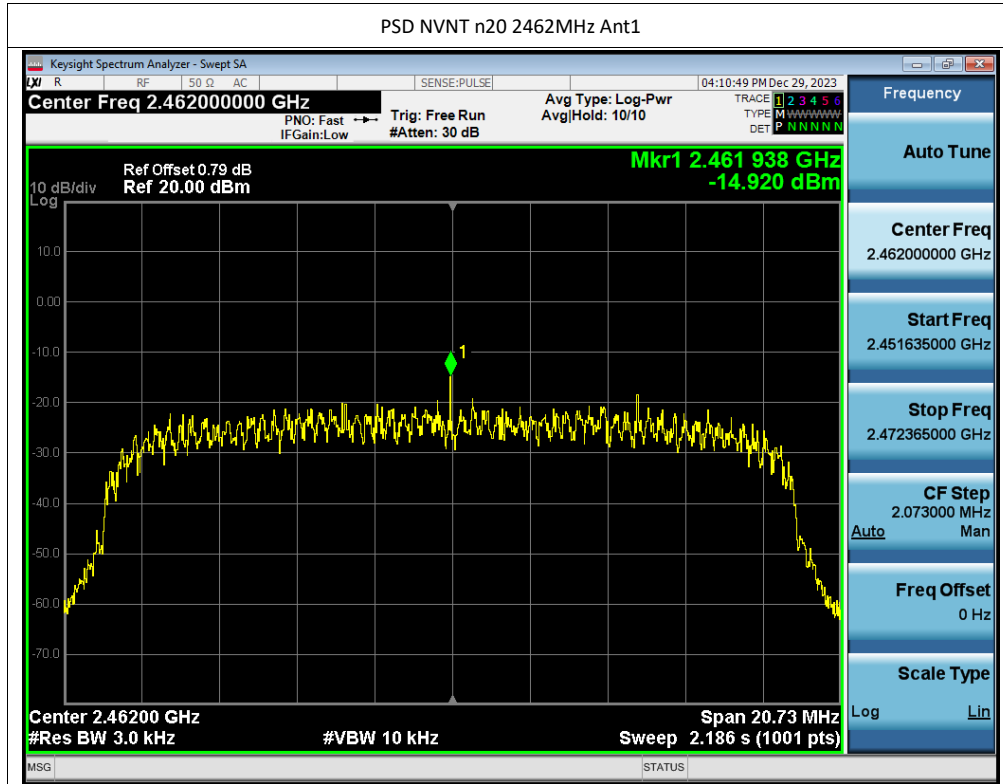
PSD NVNT g 2437MHz Ant1



PSD NVNT g 2462MHz Ant1







Band Edge

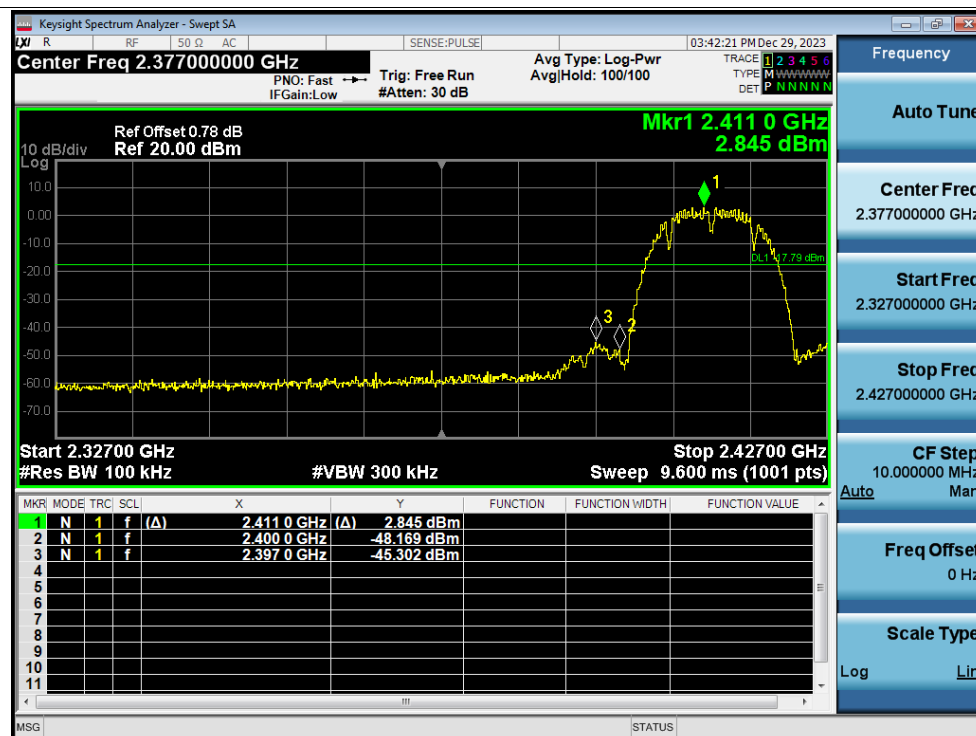
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-47.52	-20	Pass
NVNT	b	2462	Ant1	-57.41	-20	Pass
NVNT	g	2412	Ant1	-45.8	-20	Pass
NVNT	g	2462	Ant1	-50.17	-20	Pass
NVNT	n20	2412	Ant1	-46.63	-20	Pass
NVNT	n20	2462	Ant1	-53.65	-20	Pass

Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref



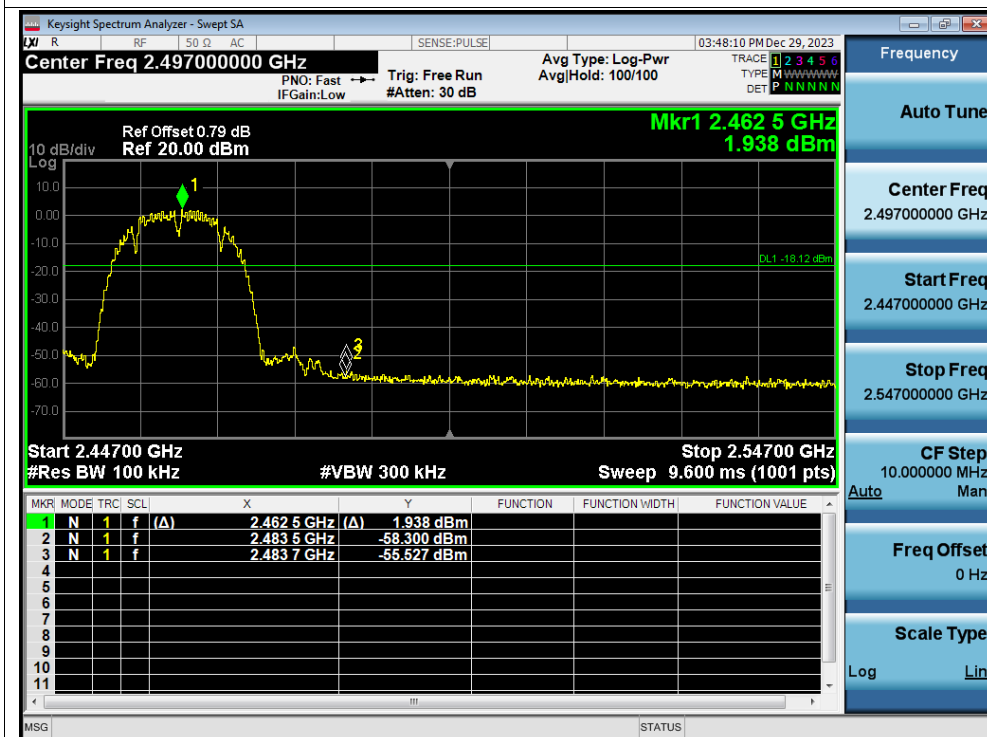
Band Edge NVNT b 2412MHz Ant1 Emission



Band Edge NVNT b 2462MHz Ant1 Ref



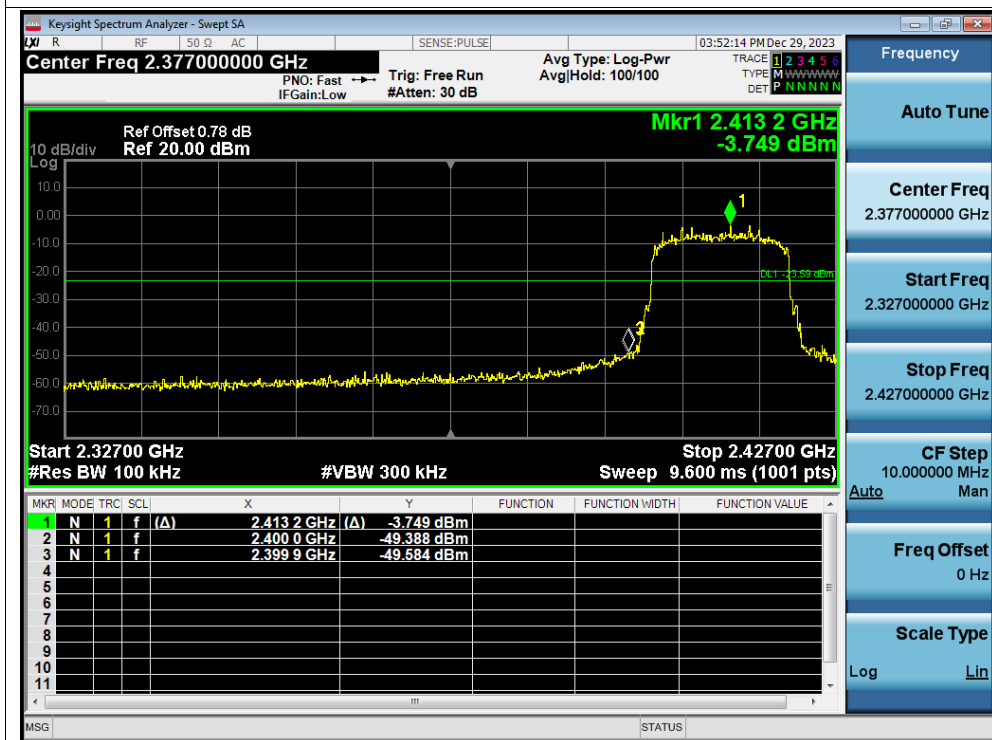
Band Edge NVNT b 2462MHz Ant1 Emission



Band Edge NVNT g 2412MHz Ant1 Ref



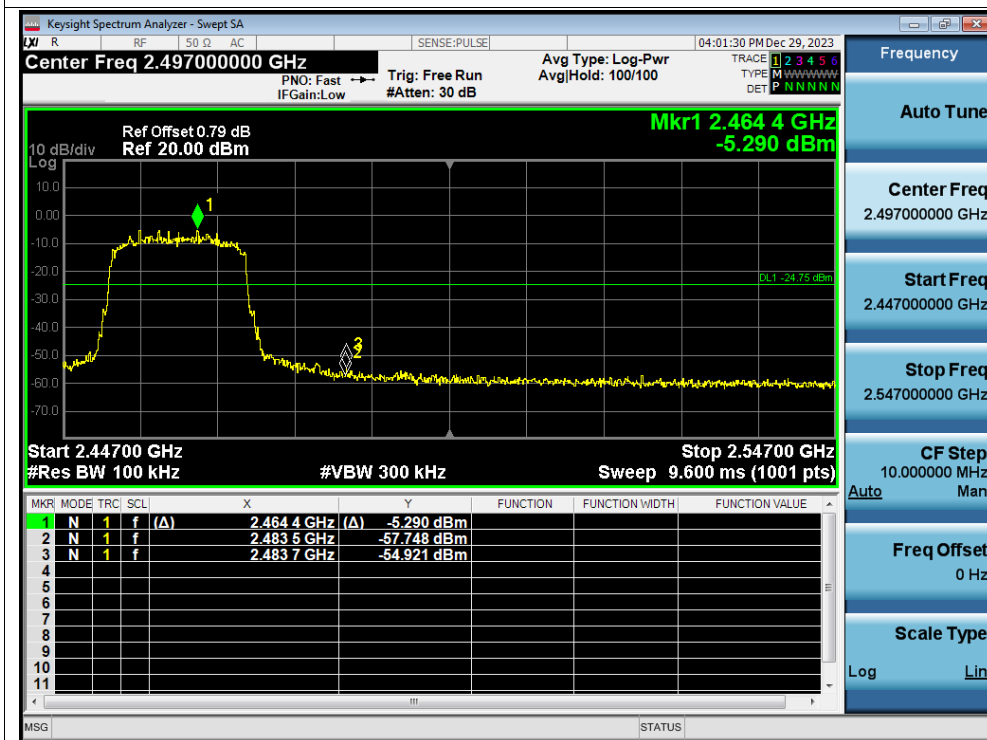
Band Edge NVNT g 2412MHz Ant1 Emission



Band Edge NVNT g 2462MHz Ant1 Ref



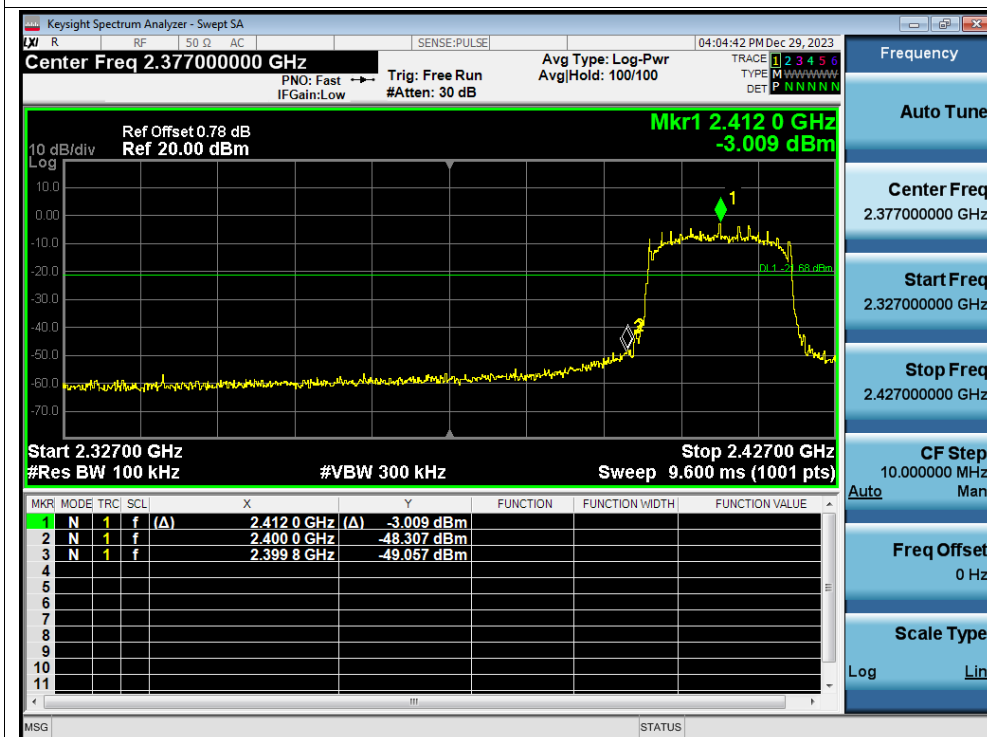
Band Edge NVNT g 2462MHz Ant1 Emission



Band Edge NVNT n20 2412MHz Ant1 Ref



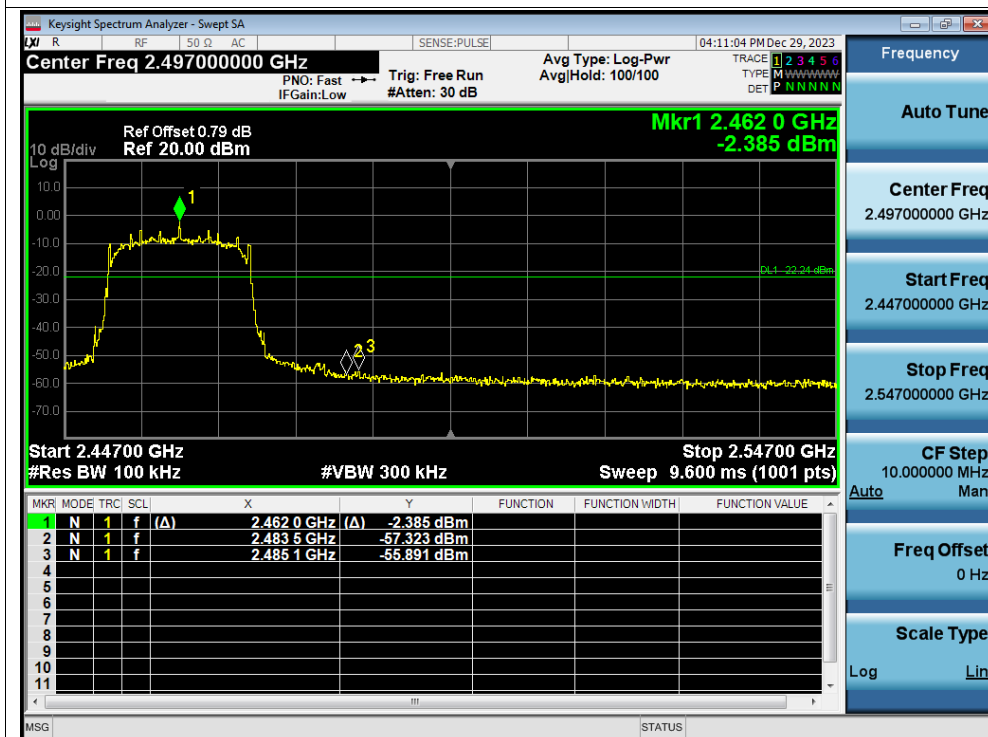
Band Edge NVNT n20 2412MHz Ant1 Emission



Band Edge NVNT n20 2462MHz Ant1 Ref



Band Edge NVNT n20 2462MHz Ant1 Emission



Conducted RF Spurious Emission

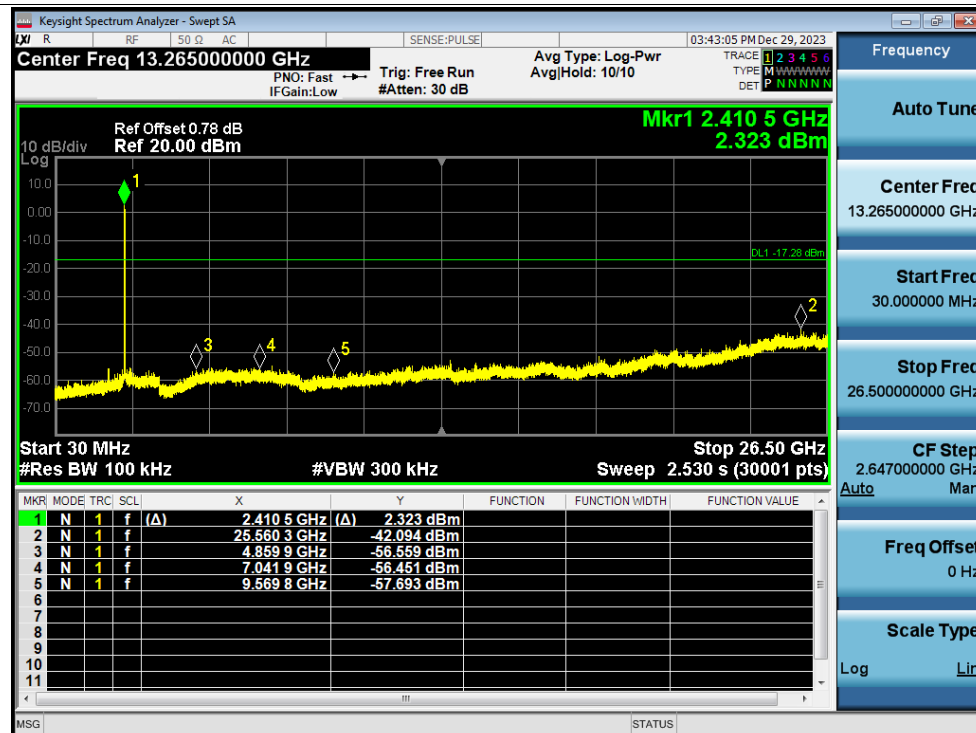
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-44.81	-20	Pass
NVNT	b	2437	Ant1	-45.79	-20	Pass
NVNT	b	2462	Ant1	-43.78	-20	Pass
NVNT	g	2412	Ant1	-38.45	-20	Pass
NVNT	g	2437	Ant1	-37.62	-20	Pass
NVNT	g	2462	Ant1	-37.95	-20	Pass
NVNT	n20	2412	Ant1	-38.92	-20	Pass
NVNT	n20	2437	Ant1	-38.47	-20	Pass
NVNT	n20	2462	Ant1	-40.92	-20	Pass

Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref



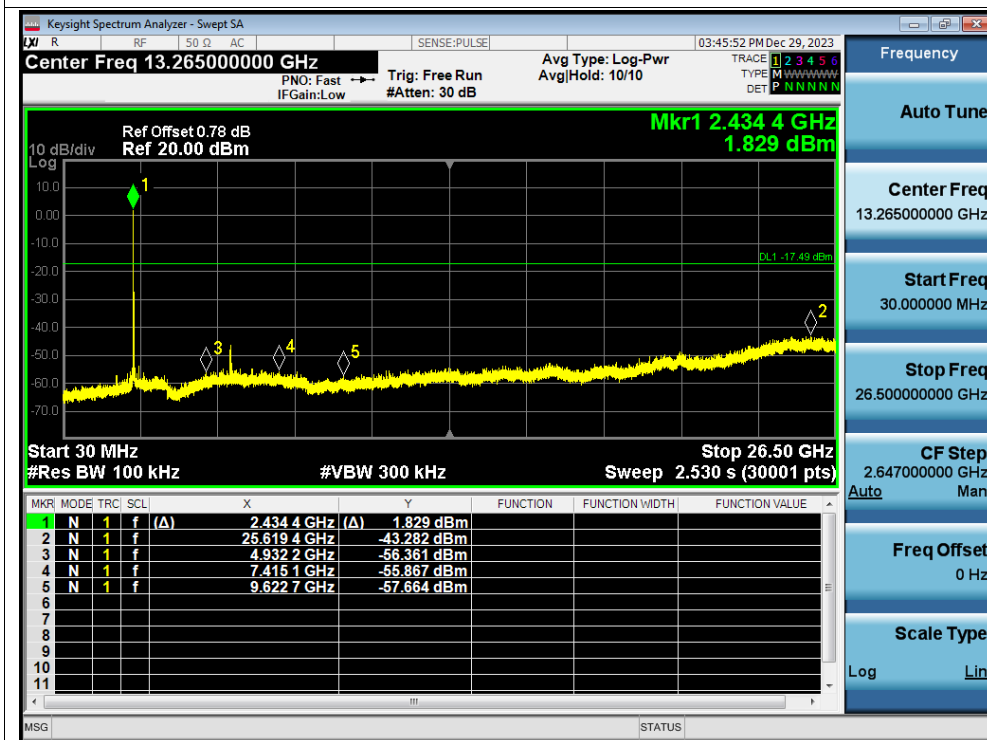
Tx. Spurious NVNT b 2412MHz Ant1 Emission



Tx. Spurious NVNT b 2437MHz Ant1 Ref



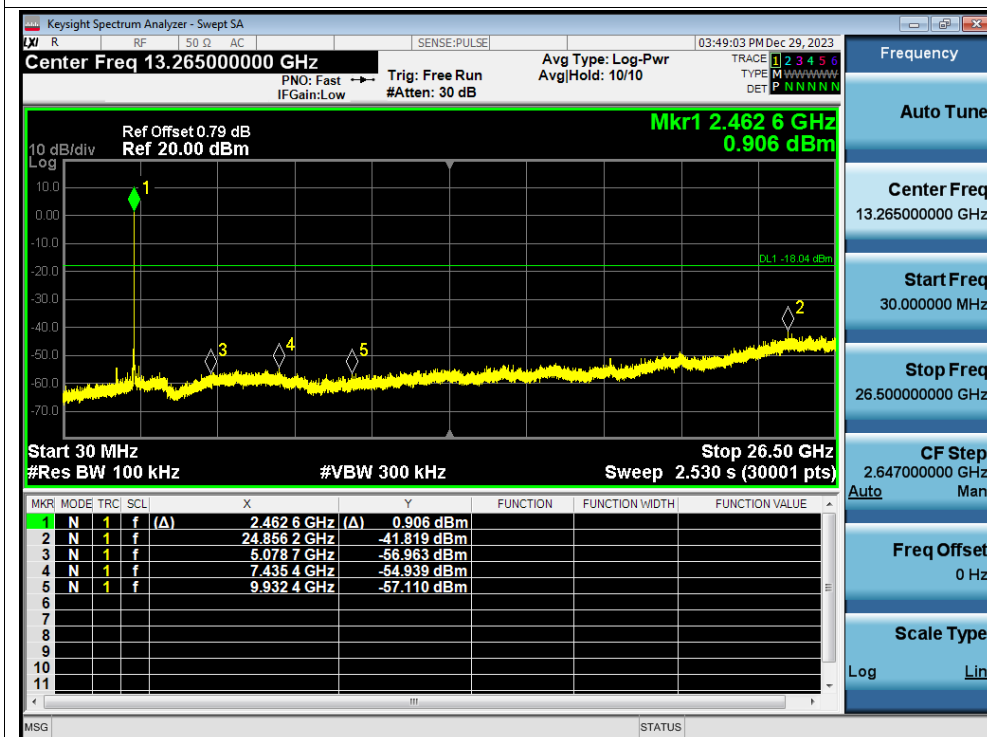
Tx. Spurious NVNT b 2437MHz Ant1 Emission



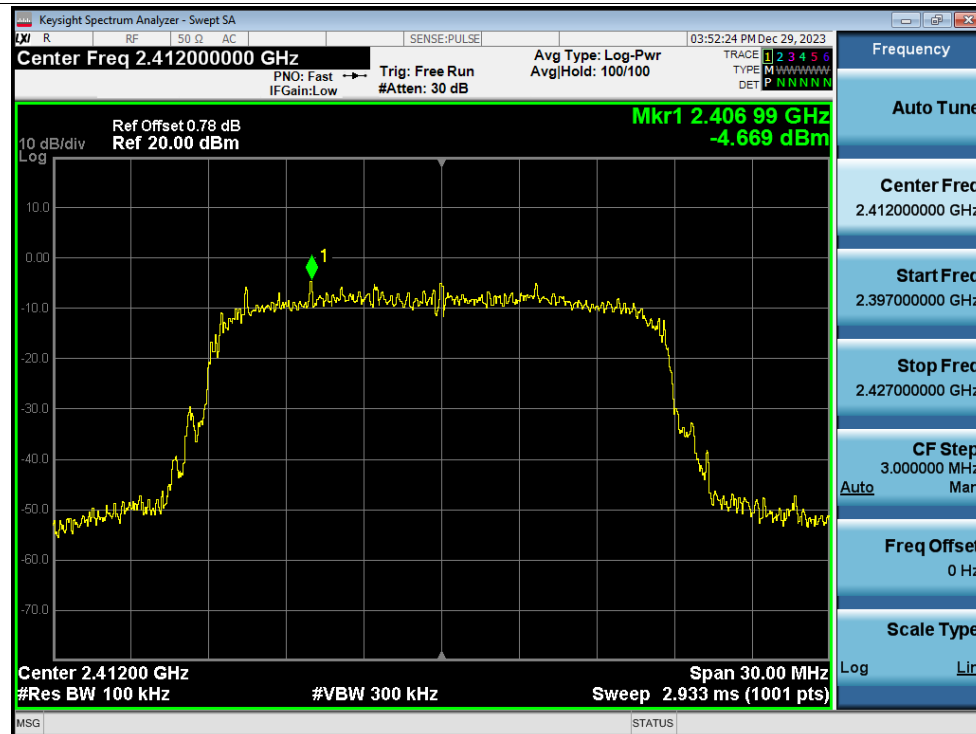
Tx. Spurious NVNT b 2462MHz Ant1 Ref



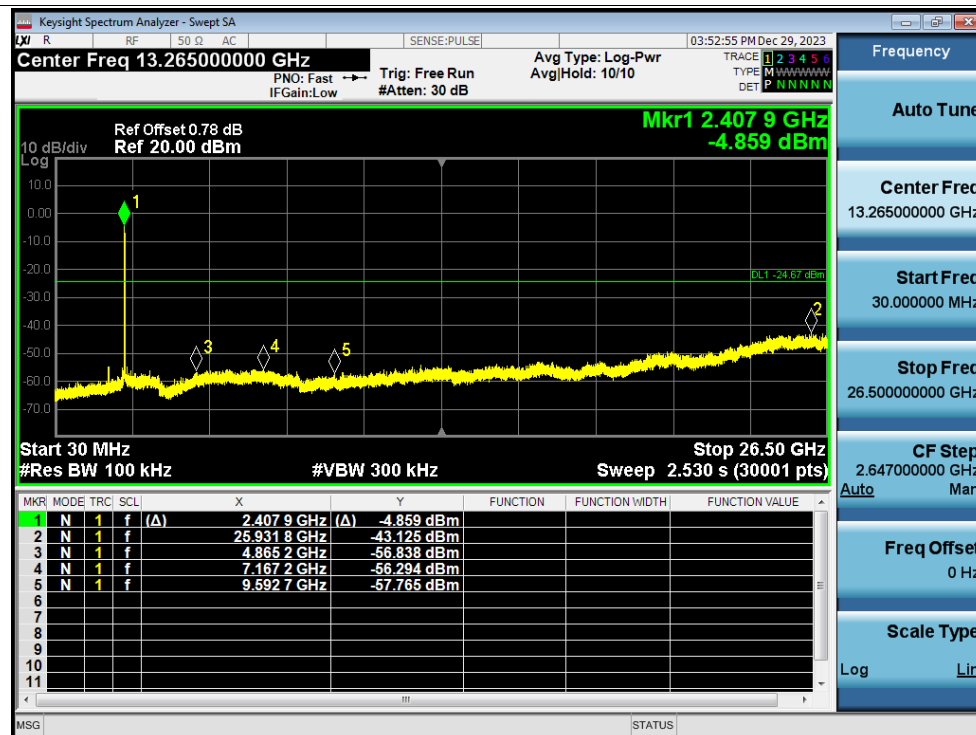
Tx. Spurious NVNT b 2462MHz Ant1 Emission



Tx. Spurious NVNT g 2412MHz Ant1 Ref



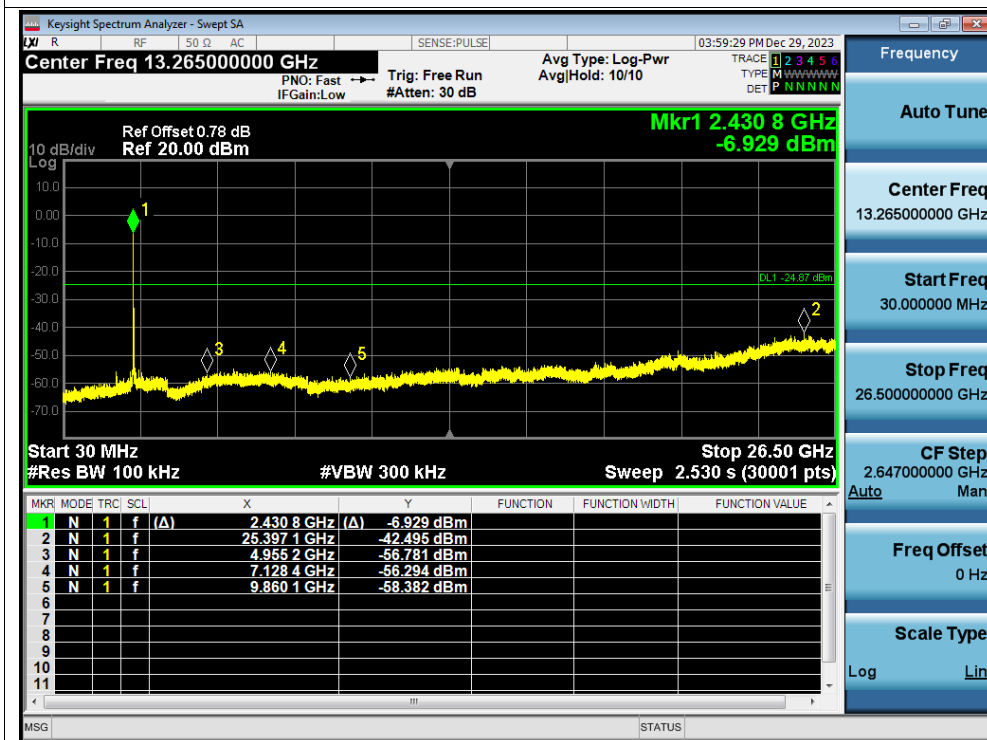
Tx. Spurious NVNT g 2412MHz Ant1 Emission



Tx. Spurious NVNT g 2437MHz Ant1 Ref



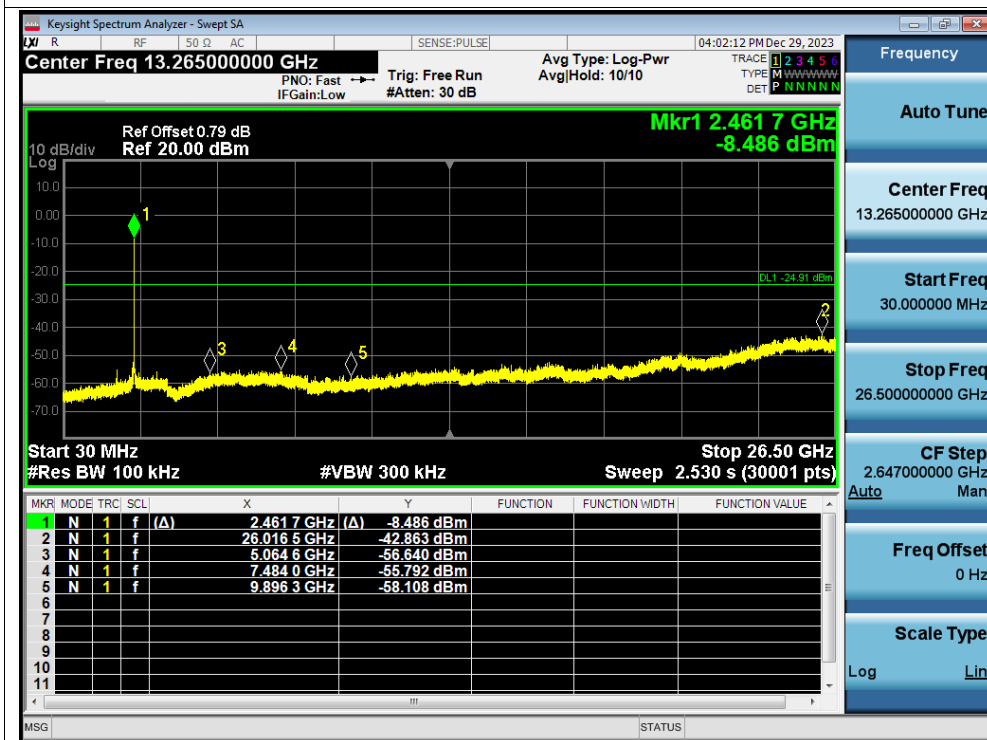
Tx. Spurious NVNT g 2437MHz Ant1 Emission



Tx. Spurious NVNT g 2462MHz Ant1 Ref



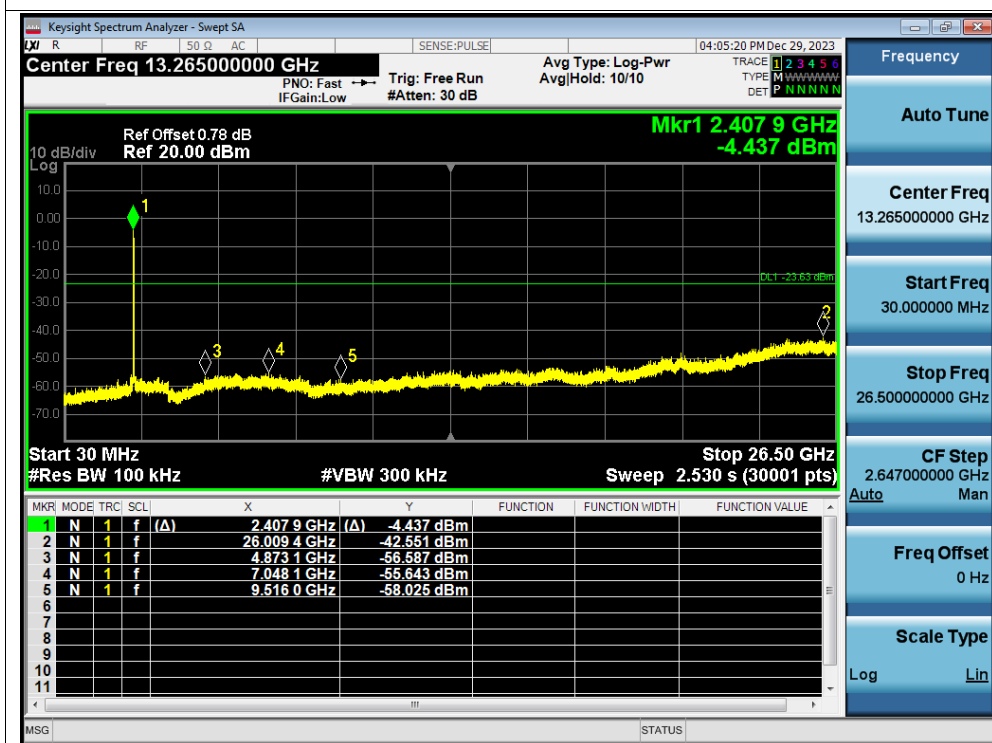
Tx. Spurious NVNT g 2462MHz Ant1 Emission



Tx. Spurious NVNT n20 2412MHz Ant1 Ref



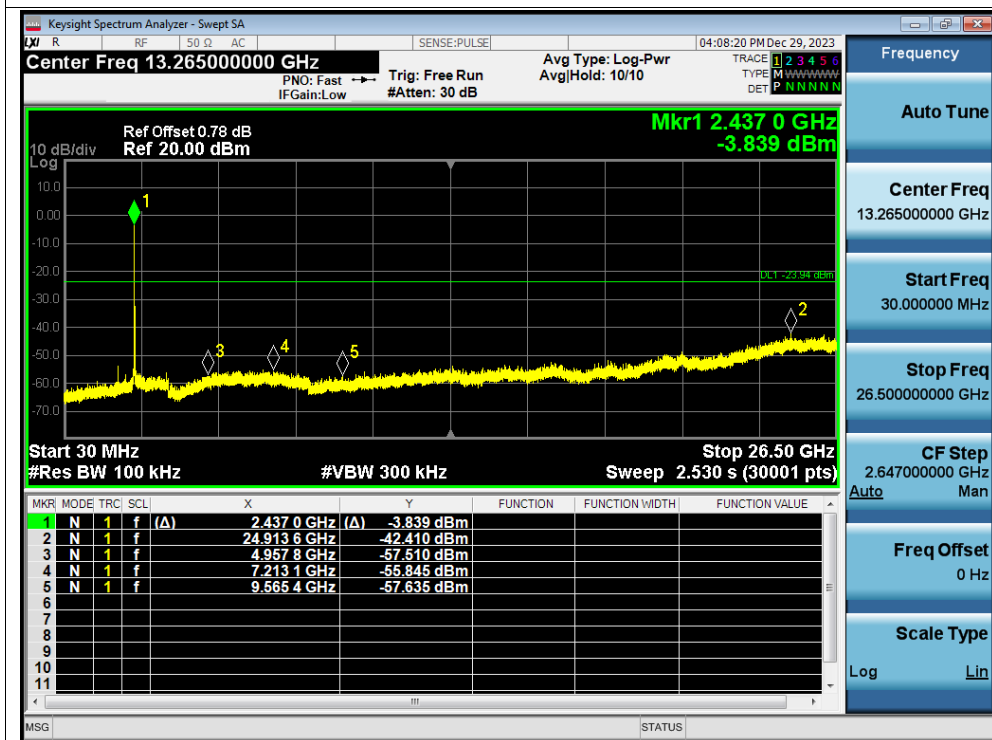
Tx. Spurious NVNT n20 2412MHz Ant1 Emission



Tx. Spurious NVNT n20 2437MHz Ant1 Ref



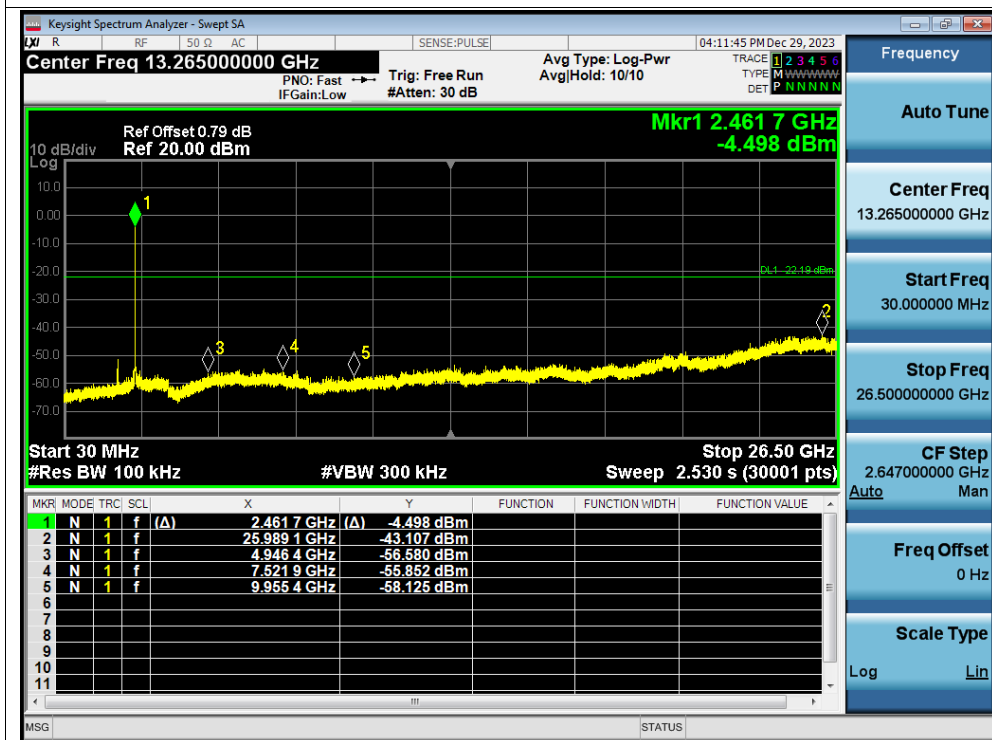
Tx. Spurious NVNT n20 2437MHz Ant1 Emission



Tx. Spurious NVNT n20 2462MHz Ant1 Ref



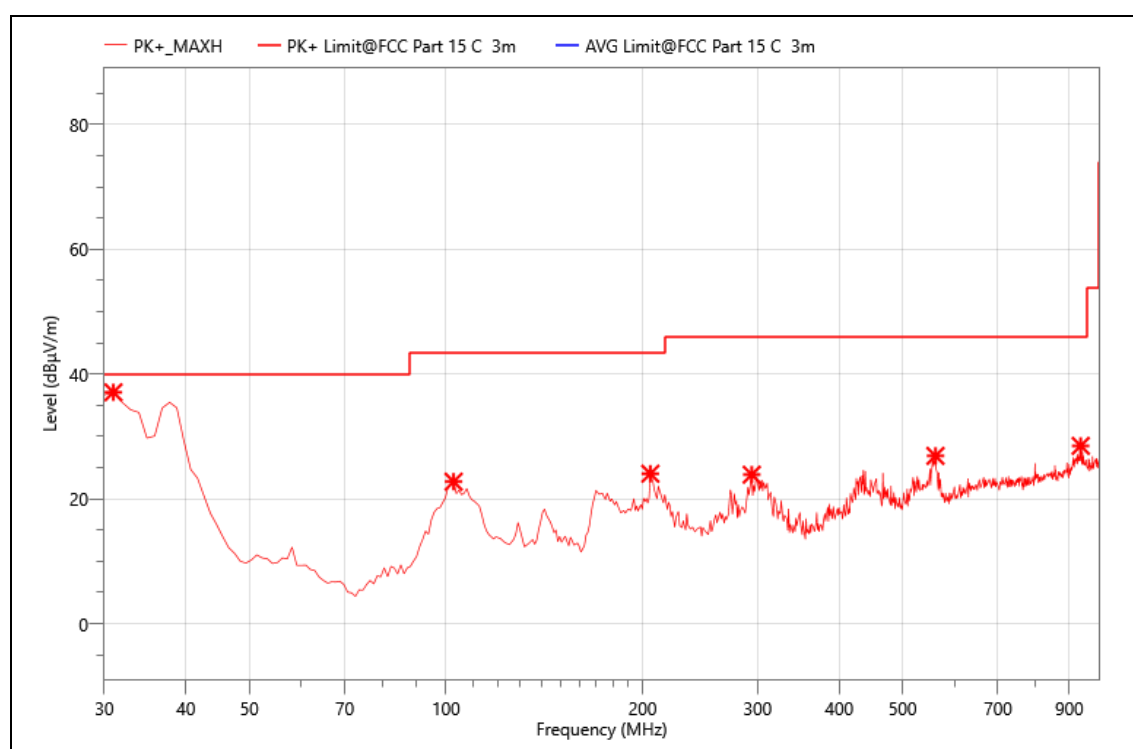
Tx. Spurious NVNT n20 2462MHz Ant1 Emission



● Undesirable radiated Spurious Emission below 1GHz (30MHz to 1GHz)

The worst result as bellow:

EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2412
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa

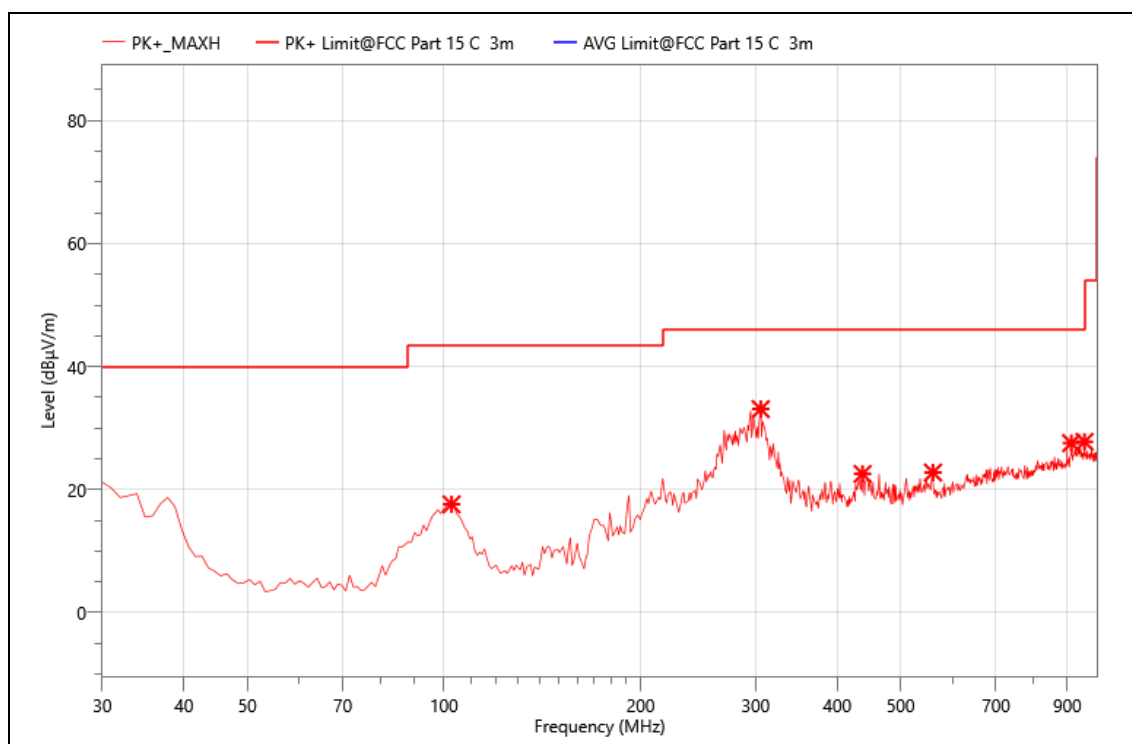


Critical_Freqs

No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	30.970	51.88	-14.8	37.08	40.00	2.92	PK+	V
2	102.750	46.51	-23.76	22.75	43.50	20.75	PK+	V
3	205.570	45.71	-21.69	24.02	43.50	19.48	PK+	V
4	293.840	42.98	-19.1	23.88	46.00	22.12	PK+	V
5	561.560	37.32	-10.43	26.89	46.00	19.11	PK+	V
6	936.950	31.66	-3.17	28.49	46.00	17.51	PK+	V

Note : [Margin=Limit-Meas.]; [Meas.=Reading+Corr.]

EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2412
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

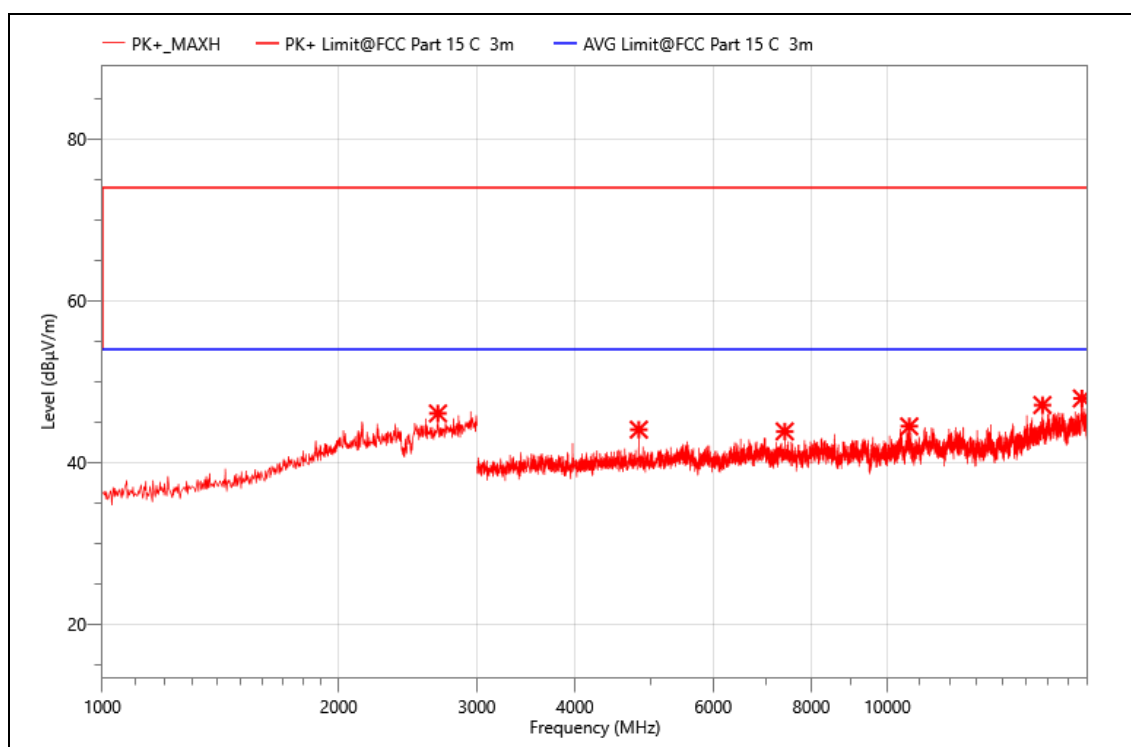
No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	102.750	41.37	-23.76	17.61	43.50	25.89	PK+	H
2	305.480	51.72	-18.62	33.10	46.00	12.90	PK+	H
3	437.400	36.83	-14.26	22.57	46.00	23.43	PK+	H
4	560.590	33.14	-10.36	22.78	46.00	23.22	PK+	H
5	912.700	31.74	-4.17	27.57	46.00	18.43	PK+	H
6	956.350	31.49	-3.71	27.78	46.00	18.22	PK+	H

Note : [Margin=Limit-Meas.]; [Meas.=Reading+Corr.]

● Undesirable radiated Spurious Emission Above 1GHz (1GHz to 40GHz)

The worst result as bellow:

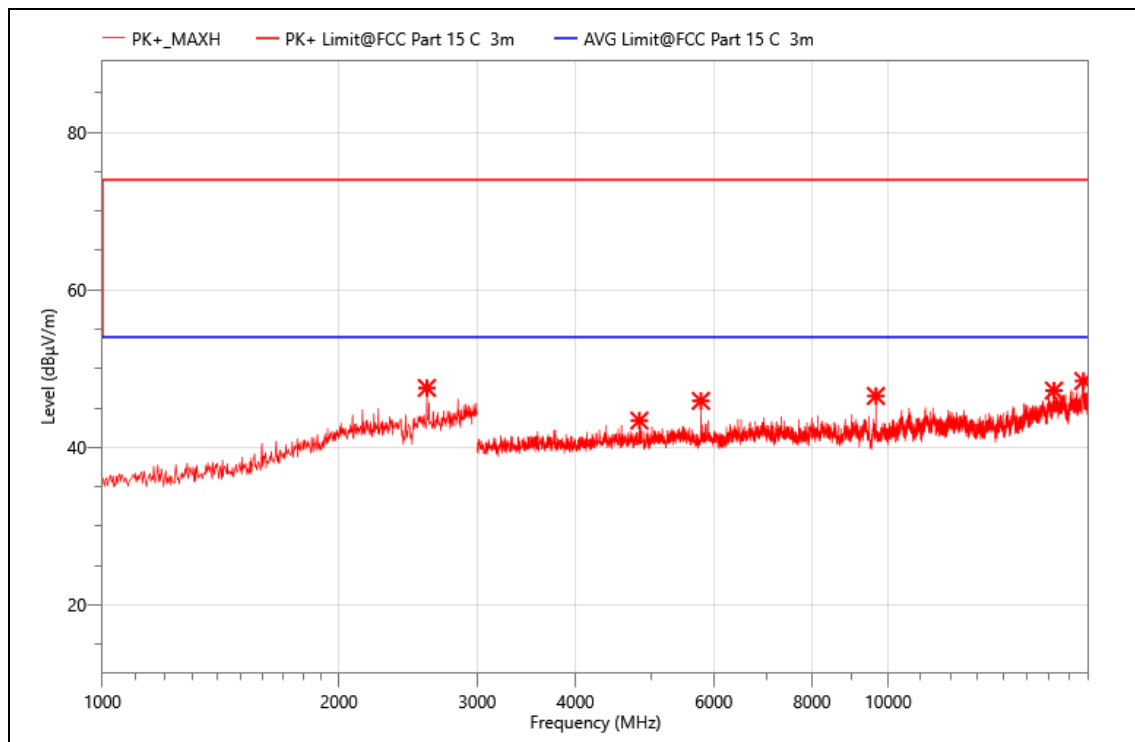
EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2412
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	2676.000	54.48	-8.42	46.06	74.00	27.94	PK+	V
2	4824.000	55.52	-11.47	44.05	74.00	29.95	PK+	V
3	7401.000	51.99	-8.16	43.83	74.00	30.17	PK+	V
4	10665.000	49.66	-5.2	44.46	74.00	29.54	PK+	V
5	15760.500	49.38	-2.29	47.09	74.00	26.91	PK+	V
6	17695.500	47.70	0.21	47.91	74.00	26.09	PK+	V

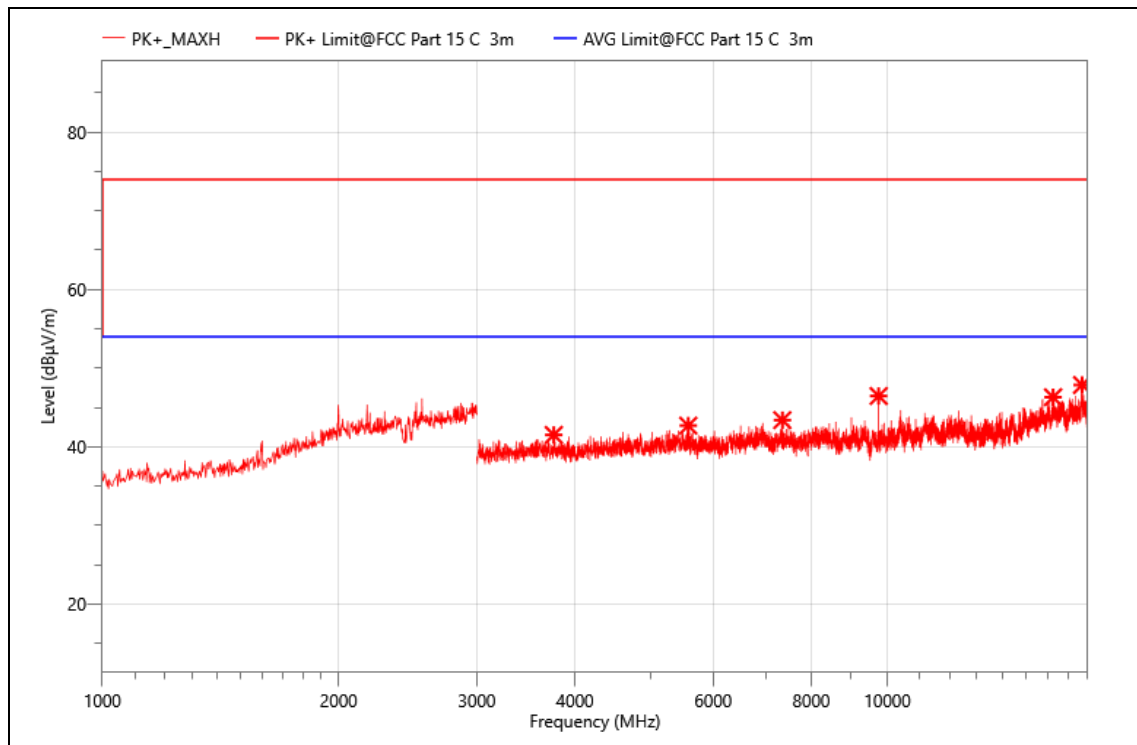
EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2412
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	2588.000	55.63	-8.09	47.54	74.00	26.46	PK+	H
2	4824.000	54.87	-11.47	43.40	74.00	30.60	PK+	H
3	5776.500	55.03	-9.13	45.90	74.00	28.10	PK+	H
4	9648.000	53.30	-6.78	46.52	74.00	27.48	PK+	H
5	16261.500	48.10	-0.89	47.21	74.00	26.79	PK+	H
6	17722.500	48.72	-0.3	48.42	74.00	25.58	PK+	H

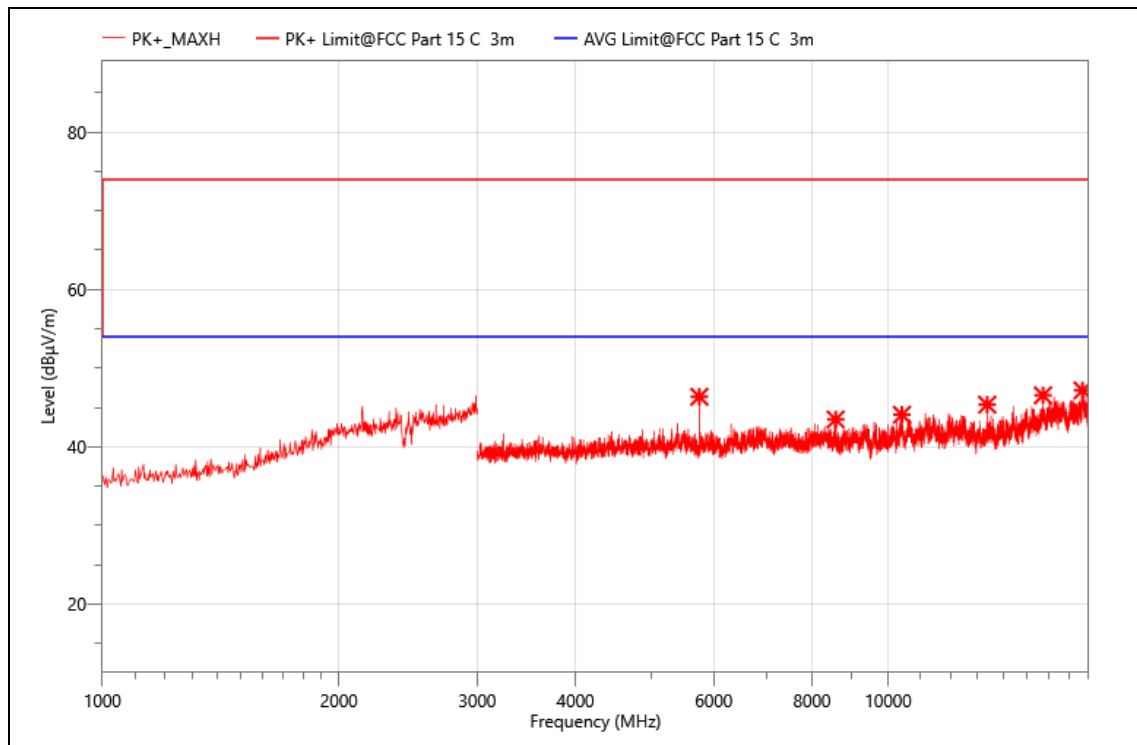
EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2437
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	3759.000	54.97	-13.46	41.51	74.00	32.49	PK+	H
2	5577.000	51.91	-9.22	42.69	74.00	31.31	PK+	H
3	7350.000	51.58	-8.19	43.39	74.00	30.61	PK+	H
4	9748.500	53.04	-6.59	46.45	74.00	27.55	PK+	H
5	16260.000	47.15	-0.85	46.30	74.00	27.70	PK+	H
6	17704.500	47.77	0.08	47.85	74.00	26.15	PK+	H

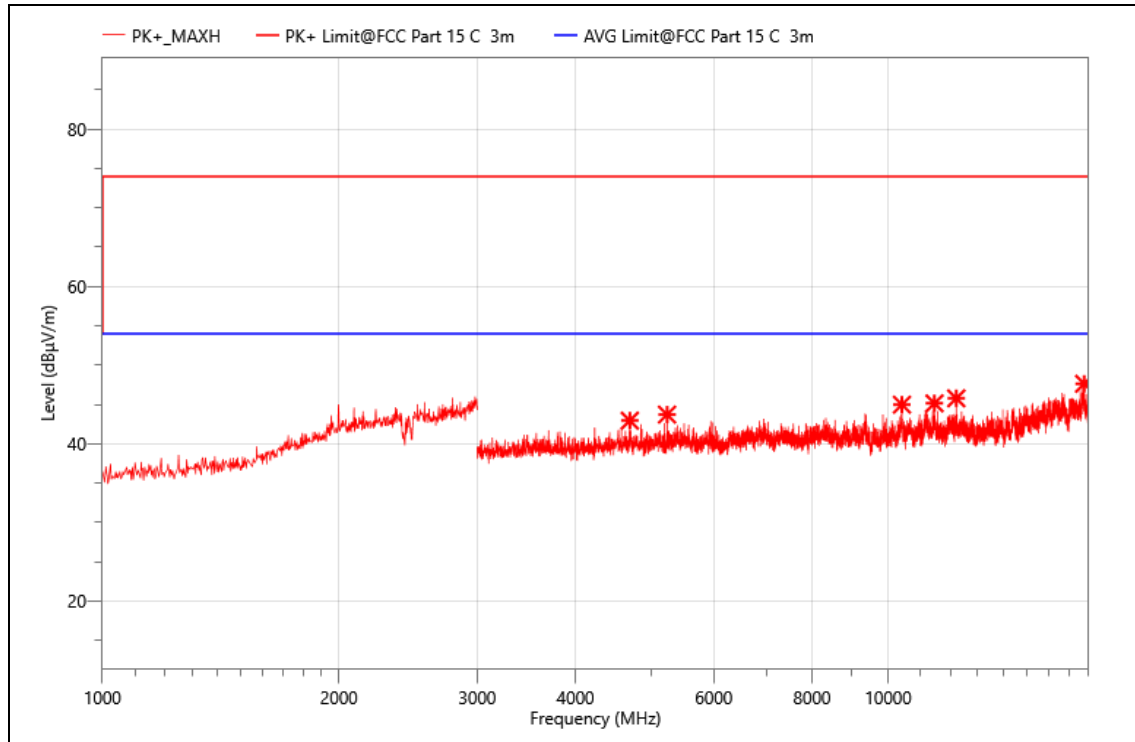
EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2437
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	5751.000	55.75	-9.4	46.35	74.00	27.65	PK+	V
2	8575.500	51.38	-7.9	43.48	74.00	30.52	PK+	V
3	10411.500	49.58	-5.51	44.07	74.00	29.93	PK+	V
4	13369.500	49.40	-4.05	45.35	74.00	28.65	PK+	V
5	15742.500	48.89	-2.35	46.54	74.00	27.46	PK+	V
6	17679.000	46.87	0.29	47.16	74.00	26.84	PK+	V

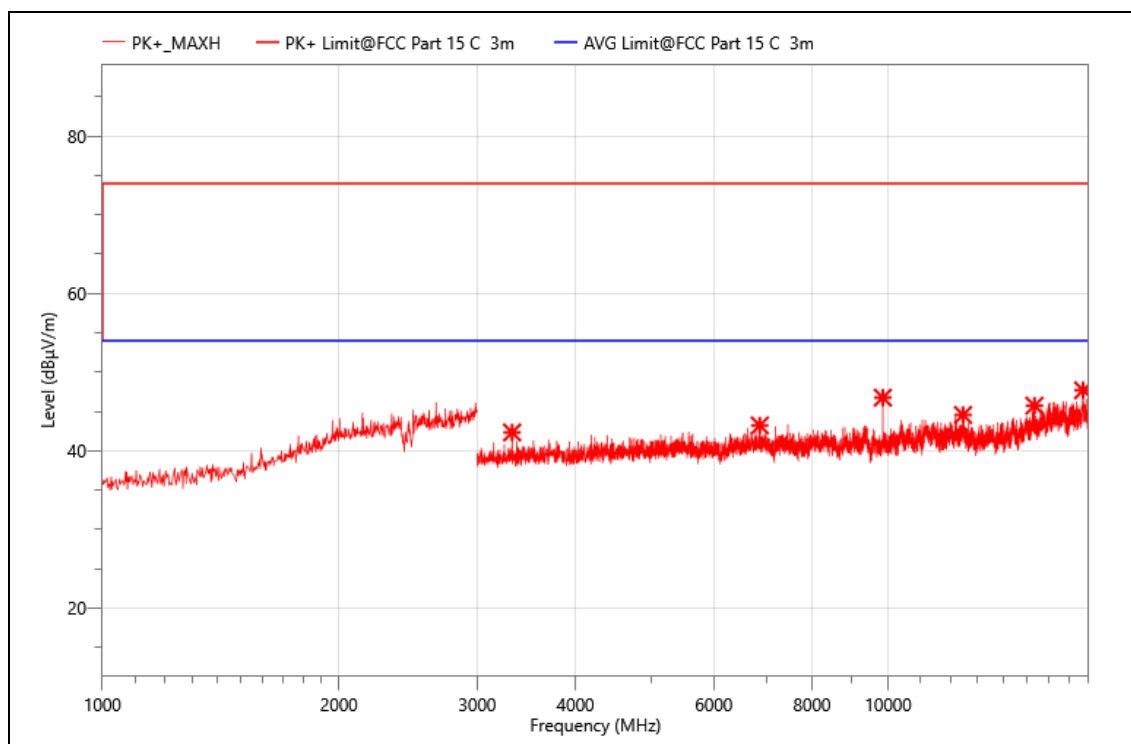
EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2462
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	4690.500	54.49	-11.55	42.94	74.00	31.06	PK+	V
2	5232.000	53.89	-10.18	43.71	74.00	30.29	PK+	V
3	10413.000	50.48	-5.51	44.97	74.00	29.03	PK+	V
4	11454.000	49.57	-4.43	45.14	74.00	28.86	PK+	V
5	12211.500	50.28	-4.5	45.78	74.00	28.22	PK+	V
6	17763.000	48.10	-0.48	47.62	74.00	26.38	PK+	V

EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2462
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBµV)	Corr. (dB)	Meas. (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Det.	Pol.
1	3322.500	56.75	-14.42	42.33	74.00	31.67	PK+	H
2	6865.500	51.40	-8.18	43.22	74.00	30.78	PK+	H
3	9847.500	53.65	-6.9	46.75	74.00	27.25	PK+	H
4	12456.000	49.40	-4.85	44.55	74.00	29.45	PK+	H
5	15354.000	48.73	-3	45.73	74.00	28.27	PK+	H
6	17709.000	47.70	-0.02	47.68	74.00	26.32	PK+	H

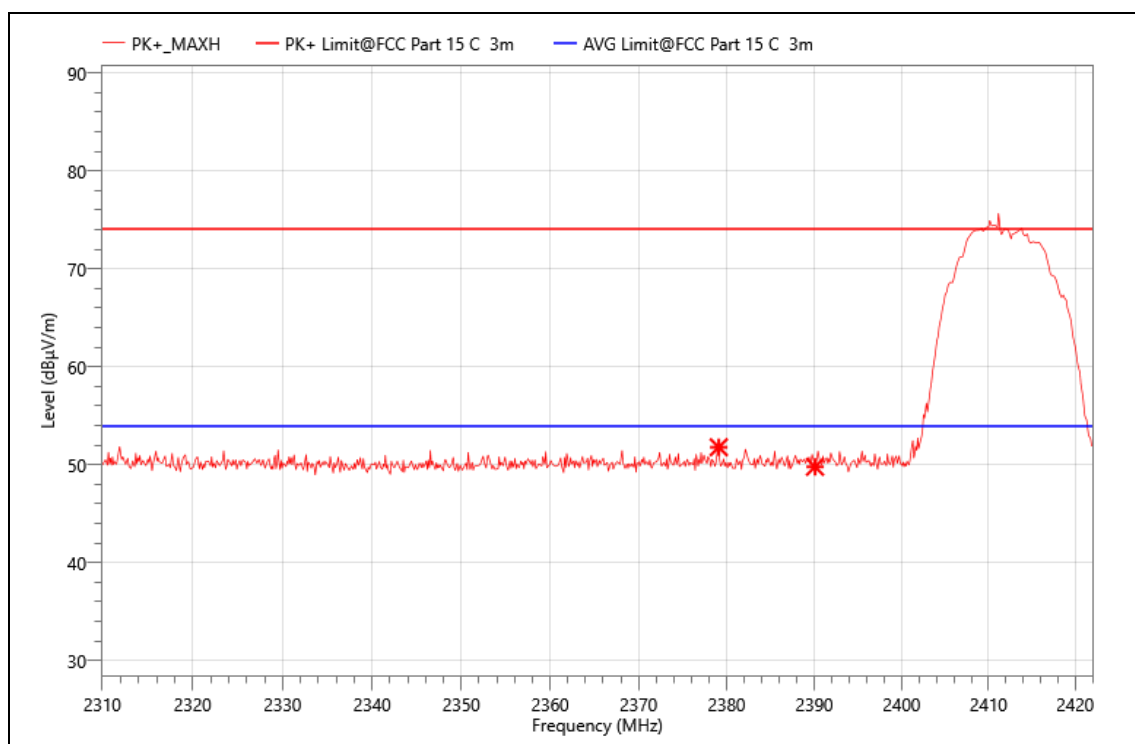
No others harmonics emissions are higher than 20 dB below the limits of 47 CFR Part 15.247.

Note:

1. [Margin=Limit-Meas.]; [Meas.=Reading+Corr.]
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
5. Measuring frequencies from 1GHz to 25GHz.

● Band Edge

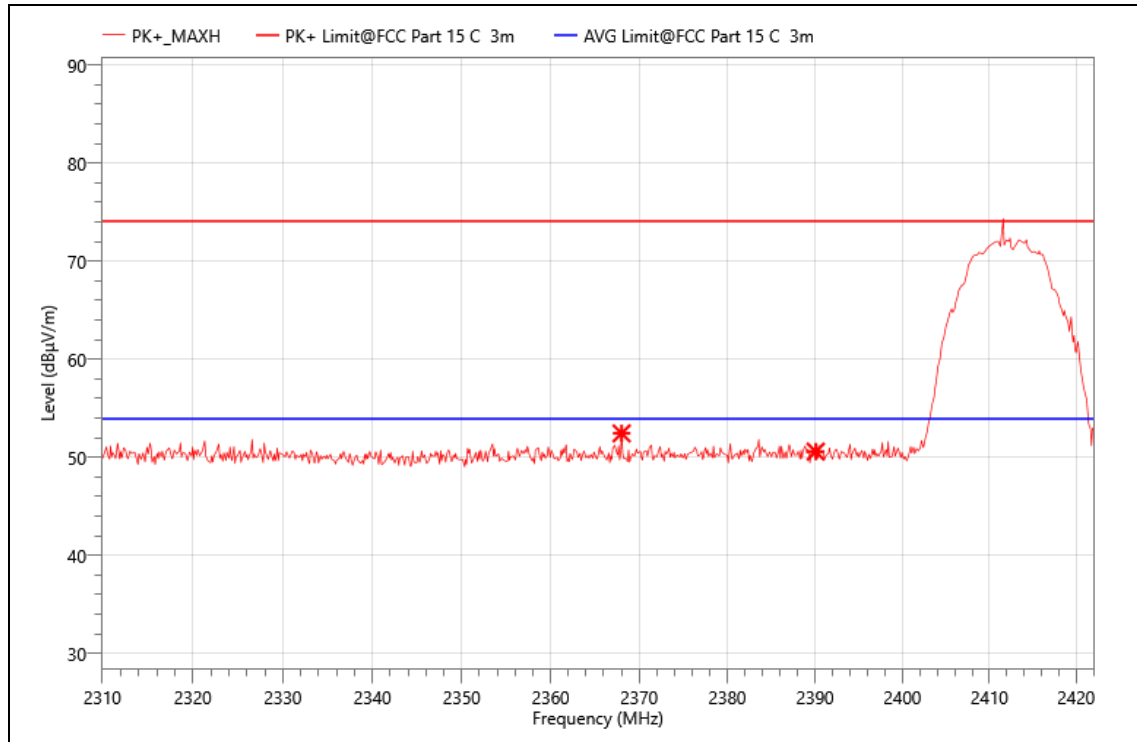
EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2412
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	2379.104	25.87	25.92	51.79	74.00	22.21	PK+	H
2	2390.080	23.83	25.96	49.79	74.00	24.21	PK+	H

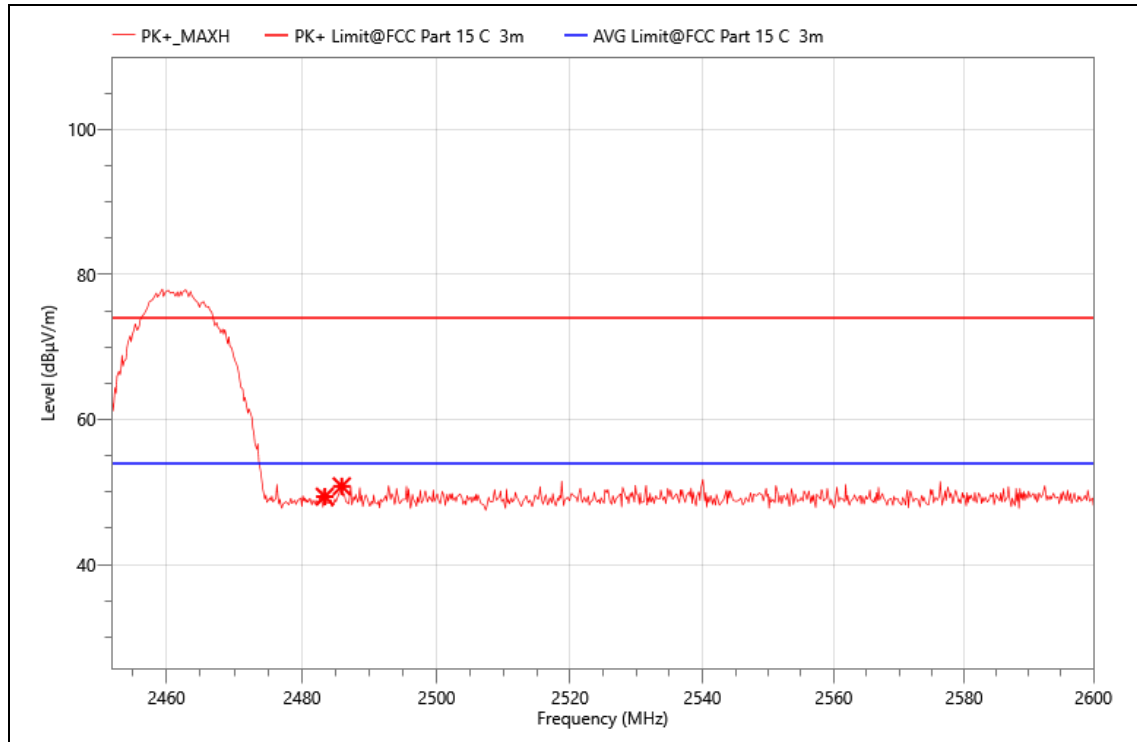
EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2412
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	2368.016	26.62	25.83	52.45	74.00	21.55	PK+	V
2	2390.080	24.63	25.96	50.59	74.00	23.41	PK+	V

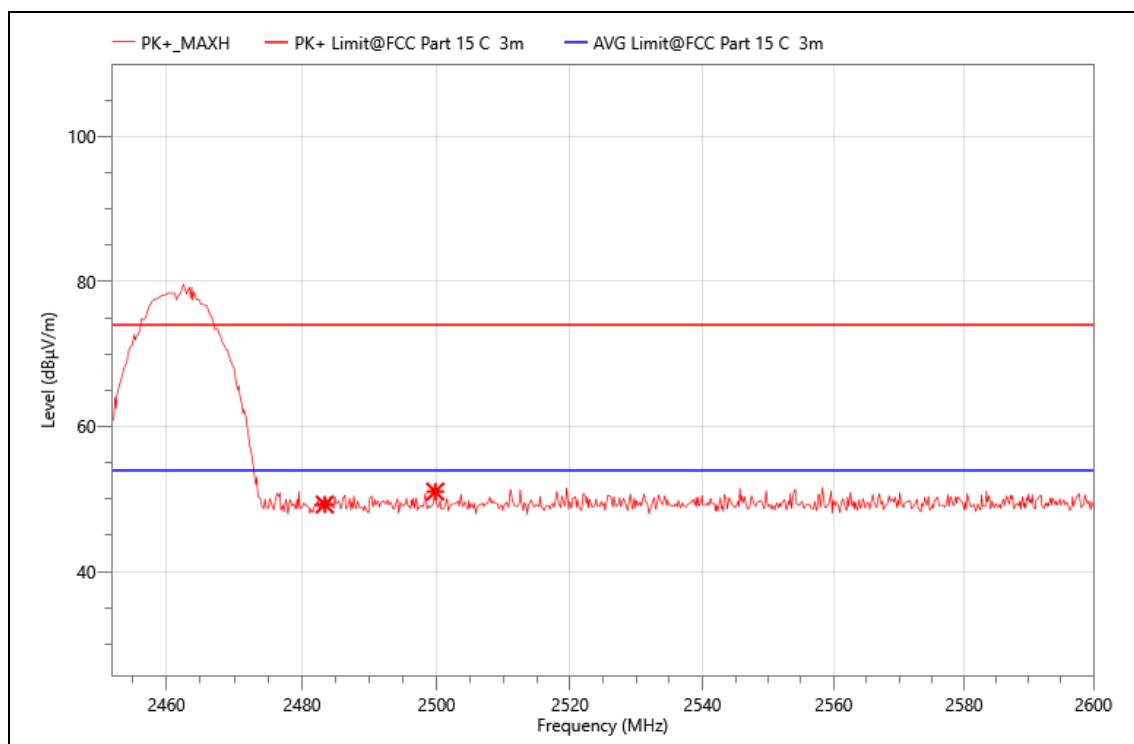
EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2412
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	2483.376	23.66	25.71	49.37	74.00	24.63	PK+	H
2	2485.892	25.08	25.72	50.80	74.00	23.20	PK+	H

EUT :	Macy FM RGB+Wifi
MN:	FM-MAWT-BL
Mode:	2.4G WIFI b 2462
Power:	AC 120V/60Hz
TE:	Vier
Date	2024/01/02
T/A/P	24°C/49%/101Kpa



Critical_Freqs

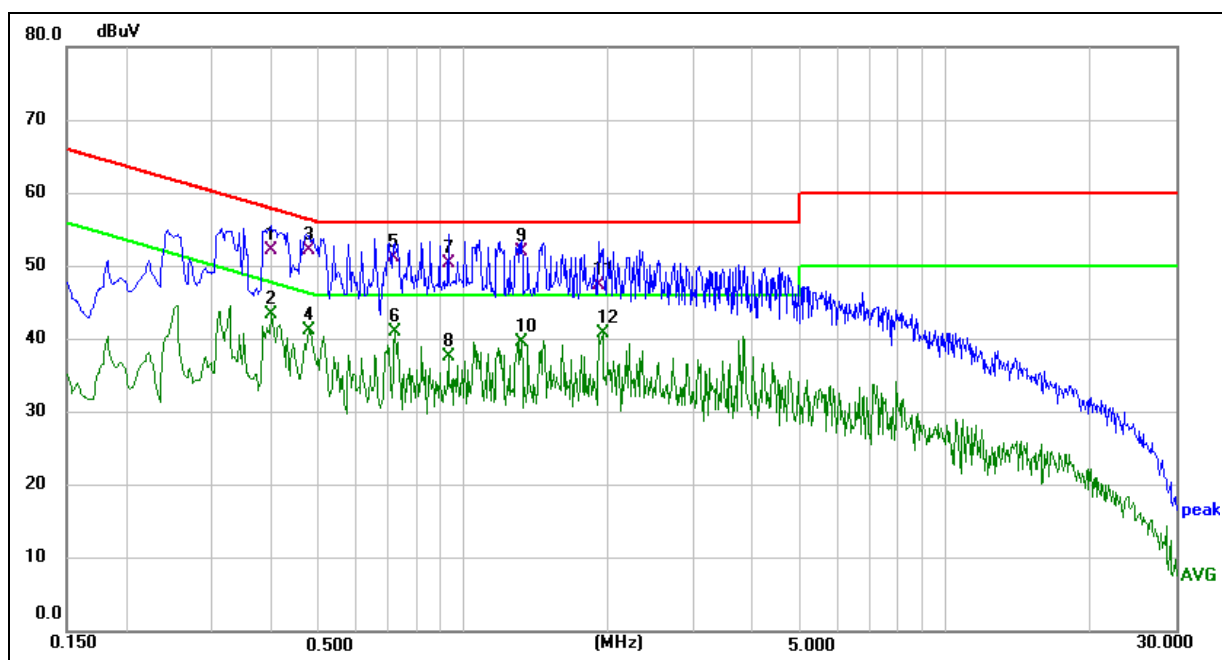
No.	Freq. (MHz)	Reading (dBμV)	Corr. (dB)	Meas. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Det.	Pol.
1	2483.376	23.55	25.71	49.26	74.00	24.74	PK+	V
2	2499.804	25.27	25.77	51.04	74.00	22.96	PK+	V

Note:

1. [Margin=Limit-Meas.]; [Meas.=Reading+Corr.]
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
3. Peak: Peak detector.
4. Only the worst data was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

● AC POWER LINE CONDUCTED EMISSIONS

LINE L1 RESULTS (2.4G WIFI b 2412)

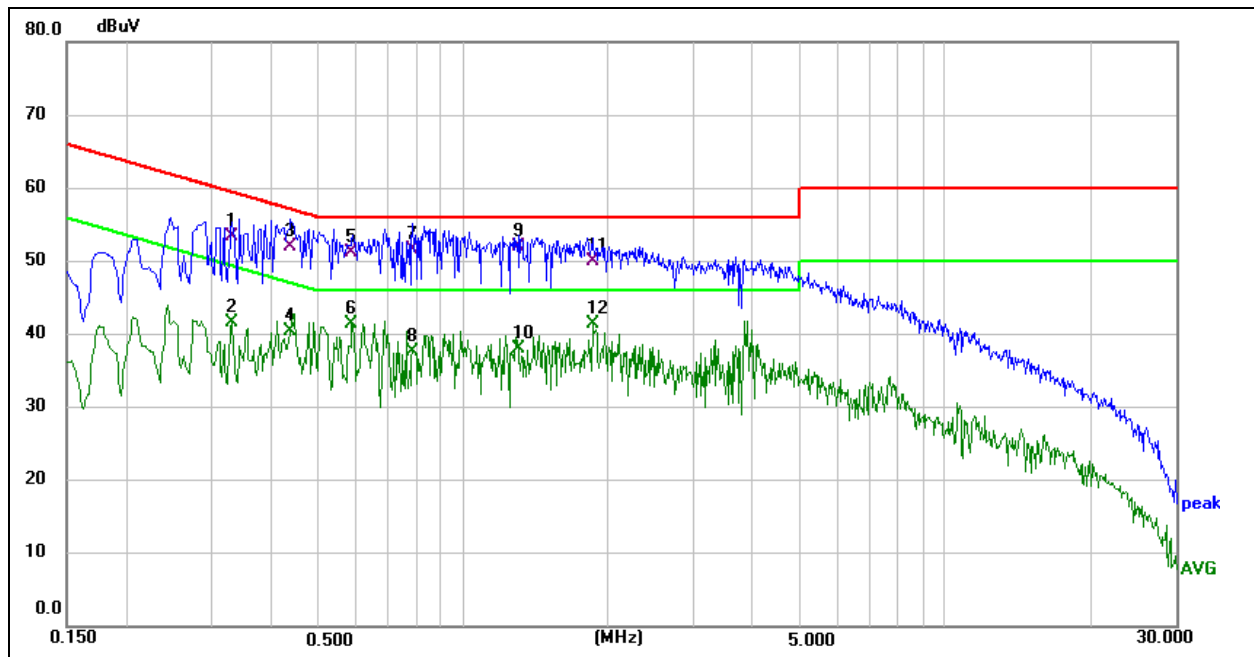


No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.3980	40.89	11.21	52.10	57.90	-5.80	QP
2	0.3980	32.16	11.21	43.37	47.90	-4.53	AVG
3	0.4780	40.74	11.36	52.10	56.37	-4.27	QP
4	0.4780	29.74	11.36	41.10	46.37	-5.27	AVG
5	0.7180	39.25	11.85	51.10	56.00	-4.90	QP
6	0.7220	29.08	11.85	40.93	46.00	-5.07	AVG
7	0.9300	39.98	10.42	50.40	56.00	-5.60	QP
8	0.9300	27.25	10.42	37.67	46.00	-8.33	AVG
9 *	1.3220	41.48	10.42	51.90	56.00	-4.10	QP
10	1.3220	29.16	10.42	39.58	46.00	-6.42	AVG
11	1.9100	36.97	10.43	47.40	56.00	-8.60	QP
12	1.9460	30.35	10.43	40.78	46.00	-5.22	AVG

Note: 1. Result = Reading +Correct Factor.

2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

LINE N RESULTS (2.4G WIFI b 2412)



Phase: N

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.3300	42.25	11.05	53.30	59.45	-6.15	QP
2	0.3300	30.46	11.05	41.51	49.45	-7.94	AVG
3	0.4380	40.71	11.29	52.00	57.10	-5.10	QP
4	0.4380	29.07	11.29	40.36	47.10	-6.74	AVG
5	0.5899	39.52	11.58	51.10	56.00	-4.90	QP
6	0.5899	29.85	11.58	41.43	46.00	-4.57	AVG
7	0.7860	39.61	11.99	51.60	56.00	-4.40	QP
8	0.7860	25.61	11.99	37.60	46.00	-8.40	AVG
9 *	1.2980	41.48	10.42	51.90	56.00	-4.10	QP
10	1.2980	27.56	10.42	37.98	46.00	-8.02	AVG
11	1.8580	39.47	10.43	49.90	56.00	-6.10	QP
12	1.8580	30.91	10.43	41.34	46.00	-4.66	AVG

Note: 1. Result = Reading +Correct.

2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. All test modes had been tested, only the worst data record in the report.