

Appendix A: Test Results of DTS device

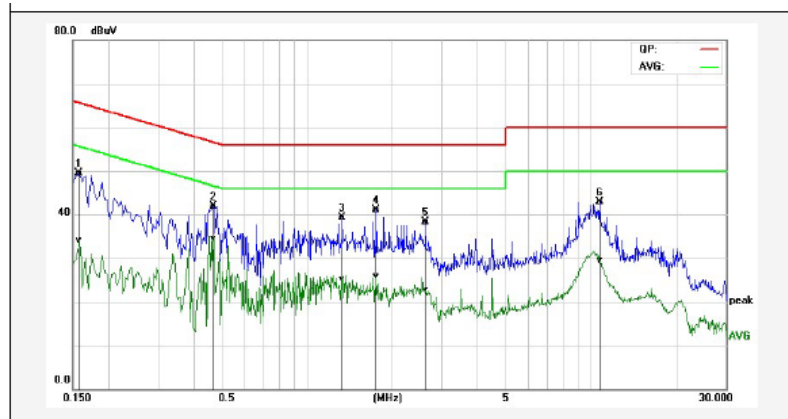
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Conducted Emission on AC Mains

Note: All modes have been tested, and the report only reflects the worst mode.

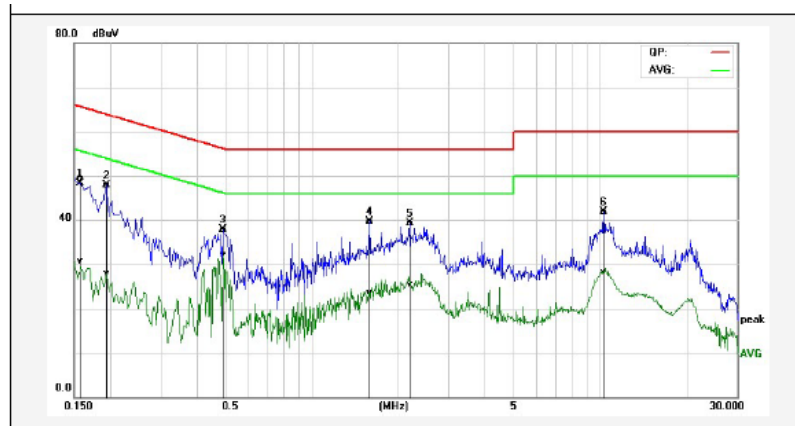
Test Mode :	Working	Test Voltage :	AC 110V/60Hz
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L



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1P	0.1580	39.97	24.66	9.50	49.47	34.16	65.56	55.57	-16.09	-21.41	Pass
2*	0.4700	32.41	25.08	9.50	41.91	34.58	56.51	46.51	-14.60	-11.93	Pass
3P	1.3420	29.93	15.72	9.37	39.30	25.09	56.00	46.00	-16.70	-20.91	Pass
4P	1.7660	31.86	16.49	9.32	41.18	25.81	56.00	46.00	-14.82	-20.19	Pass
5P	2.6420	29.12	13.50	9.24	38.36	22.74	56.00	46.00	-17.64	-23.26	Pass
6P	10.7540	33.76	20.35	9.23	42.99	29.58	60.00	50.00	-17.01	-20.42	Pass

N



No.	Frequency (MHz)	QuasiPeak reading (dBuV)	Average reading (dBuV)	Correction factor (dB)	QuasiPeak result (dBuV)	Average result (dBuV)	QuasiPeak limit (dBuV)	Average limit (dBuV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1P	0.1582	40.07	21.37	9.40	49.47	30.77	65.55	55.56	-16.08	-24.79	Pass
2P	0.1940	38.44	18.42	9.40	47.84	27.82	63.86	53.86	-16.02	-26.04	Pass
3*	0.4940	28.45	22.69	9.40	37.85	32.09	56.10	46.10	-18.25	-14.01	Pass
4P	1.5980	30.37	14.17	9.24	39.61	23.41	56.00	46.00	-16.39	-22.59	Pass
5P	2.2060	30.12	16.24	9.18	39.30	25.42	56.00	46.00	-16.70	-20.58	Pass
6P	10.3220	32.76	19.21	9.10	41.86	28.31	60.00	50.00	-18.14	-21.69	Pass

Correction Factor = insertion loss of LISN + cable loss;

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit

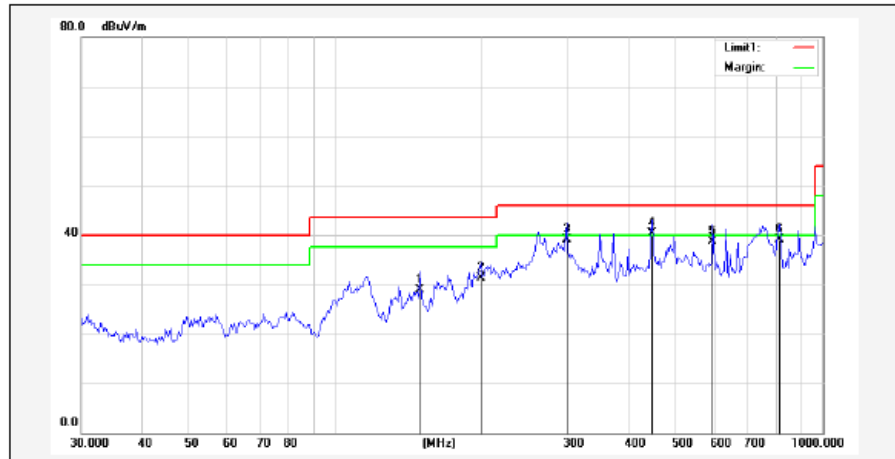
Radiated Spurious Emission

Below 1GHz:

All modes have been tested, and the report only reflects the worst mode.

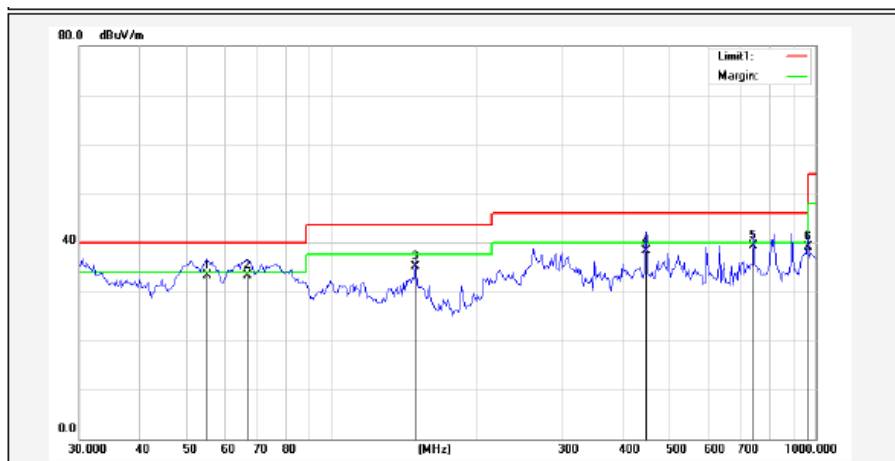
Test Mode: Working

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	148.9173	40.48	-11.50	28.98	43.50	-14.54			QP
2	198.6424	45.63	-14.39	31.24	43.50	-12.26			QP
3	298.5932	50.52	-11.47	39.05	46.00	-6.95			QP
4*	445.6931	47.29	-7.01	40.28	46.00	-5.72			QP
5	594.5143	42.50	-3.85	38.65	46.00	-7.35			QP
6	815.6352	39.70	-0.56	39.14	46.00	-6.86			QP

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree (deg.)	Height (cm)	Remark
1	55.2882	44.95	-11.71	33.24	40.00	-6.76			QP
2*	66.8395	46.47	-13.22	33.25	40.00	-6.75			QP
3	148.9173	46.64	-11.50	35.14	43.50	-8.36			QP
4	445.6931	45.37	-7.01	38.36	46.00	-7.64			QP
5	744.4265	40.22	-0.99	39.23	46.00	-6.77			QP
6	965.4741	37.41	1.76	39.17	54.00	-14.83			QP

Correction Factor = antenna factor + cable loss – amplifier gain;

Reading = Reading Amplitude in the instrument;

Result = Correction Factor + Reading;

Margin = Result – Limit.

Above 1GHz:

Note: All models were tested, and only the worst model(802.11n (HT20), MIMO) were reported in the report.

802.11n (HT20)-Low (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3788	60.42	-16.95	43.47	74	-30.53	peak
2	5964	56.66	-13.16	43.5	74	-30.5	peak
3	8820	55.89	-9.07	46.82	74	-27.18	peak
4	10588	54.75	-6.05	48.7	74	-25.3	peak
5	11438	54.56	-5.26	49.3	74	-24.7	peak
6	12424	55.66	-4.19	51.47	74	-22.53	peak

802.11n (HT20)-Low (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4264	58.38	-16.12	42.26	74	-31.74	peak
2	6100	56.88	-13.19	43.69	74	-30.31	peak
3	8718	56.36	-9.34	47.02	74	-26.98	peak
4	10350	55.51	-6.37	49.14	74	-24.86	peak
5	11370	56.51	-5.29	51.22	74	-22.78	peak
6	12730	54.43	-3.58	50.85	74	-23.15	peak

802.11n (HT20)-Middle (worst mode) Horizontal

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3890	58.83	-17.01	41.82	74	-32.18	peak
2	5896	56.59	-13.08	43.51	74	-30.49	peak
3	6508	57	-12.61	44.39	74	-29.61	peak
4	8412	56.19	-10.18	46.01	74	-27.99	peak
5	10146	55.64	-6.63	49.01	74	-24.99	peak
6	11064	56.23	-5.41	50.82	74	-23.18	peak

802.11n (HT20)-Middle (worst mode) Vertical

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	3856	58.79	-16.99	41.8	74	-32.2	peak
2	5624	57.58	-14.41	43.17	74	-30.83	peak
3	6984	57.7	-11.78	45.92	74	-28.08	peak
4	8854	56.36	-8.98	47.38	74	-26.62	peak
5	9908	56.08	-7.08	49	74	-25	peak
6	11132	56.08	-5.34	50.74	74	-23.26	peak

802.11n (HT20)-High (worst mode) Horizontal

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	3856	59.29	-16.99	42.3	74	-31.7	peak
2	5828	57.14	-14.05	43.09	74	-30.91	peak
3	6882	57.27	-12.01	45.26	74	-28.74	peak
4	8650	57.4	-9.52	47.88	74	-26.12	peak
5	10078	55.91	-6.73	49.18	74	-24.82	peak
6	13070	54.97	-3.04	51.93	74	-22.07	peak

802.11n (HT20)-High (worst mode) Vertical

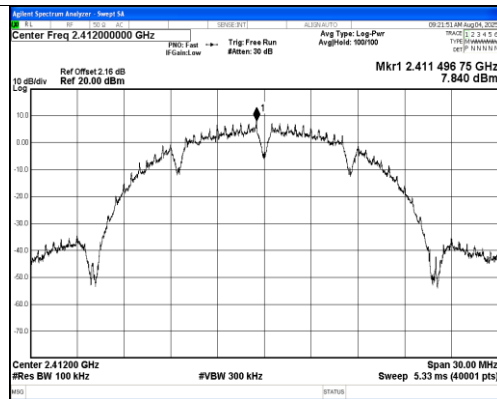
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4026	58.52	-16.73	41.79	74	-32.21	peak
2	5964	56.51	-13.16	43.35	74	-30.65	peak
3	9024	55.65	-8.58	47.07	74	-26.93	peak
4	10248	54.92	-6.53	48.39	74	-25.61	peak
5	11098	56.4	-5.35	51.05	74	-22.95	peak
6	13478	55.01	-2.62	52.39	74	-21.61	peak

Node:

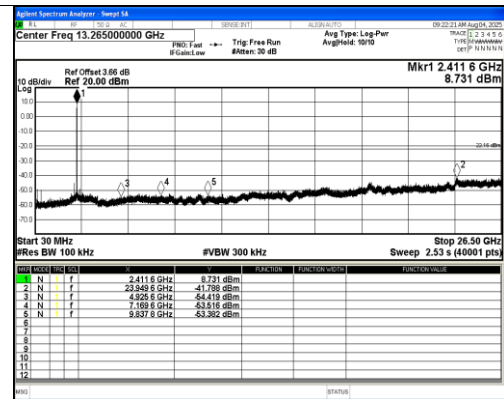
- 1、Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported..
- 2、Radiated emissions measured in frequency above 1GHz were made with an instrument using peak/average detector mode.
- 3、Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
- 4、Margin (dB), result in dBuV/m – limit in dBuV/m.
- 5、All restricted band have a frequency margin greater than 20dB (20dB = 74dBuV/m-54dBuV/m), meet the 54dBuV/m limit, and do not require AVG.

Conducted RF Spurious Emission

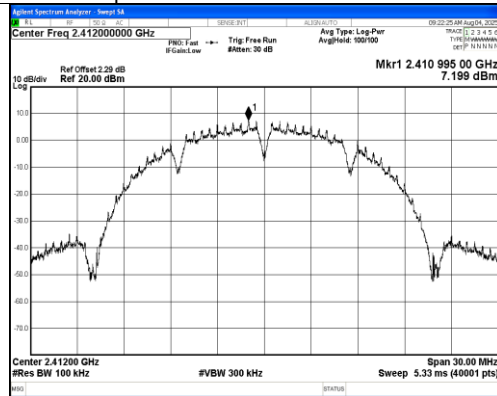
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-49.62	-30	Pass
NVNT	b	2412	Ant4	-47.57	-30	Pass
NVNT	b	2437	Ant1	-47.9	-30	Pass
NVNT	b	2437	Ant4	-47.62	-30	Pass
NVNT	b	2462	Ant1	-47.49	-30	Pass
NVNT	b	2462	Ant4	-47.33	-30	Pass
NVNT	g	2412	Ant1	-44.52	-30	Pass
NVNT	g	2412	Ant4	-43.73	-30	Pass
NVNT	g	2437	Ant1	-47.61	-30	Pass
NVNT	g	2437	Ant4	-46.54	-30	Pass
NVNT	g	2462	Ant1	-44.13	-30	Pass
NVNT	g	2462	Ant4	-42.51	-30	Pass
NVNT	n20	2412	Ant1	-42.48	-30	Pass
NVNT	n20	2412	Ant4	-43.09	-30	Pass
NVNT	n20	2437	Ant1	-46.37	-30	Pass
NVNT	n20	2437	Ant4	-47.35	-30	Pass
NVNT	n20	2462	Ant1	-43.49	-30	Pass
NVNT	n20	2462	Ant4	-41.47	-30	Pass



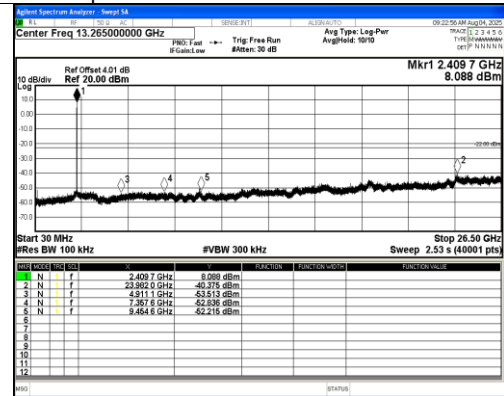
Tx. Spurious NVNT b 2412MHz Ant1 Ref



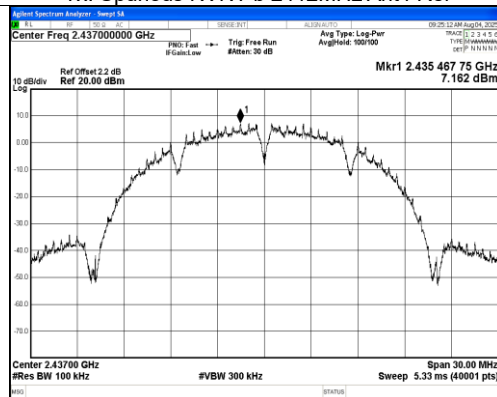
Tx. Spurious NVNT b 2412MHz Ant1 Emission



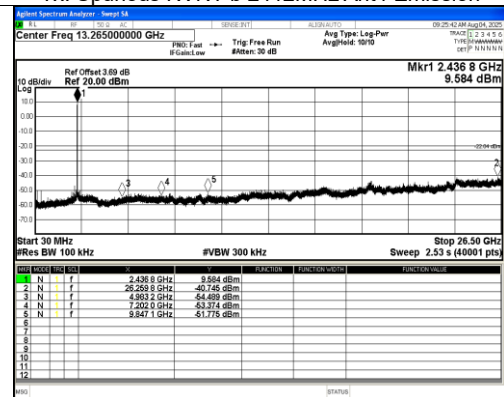
Tx. Spurious NVNT b 2412MHz Ant4 Ref



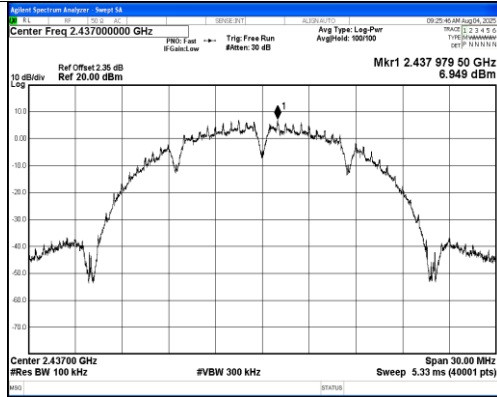
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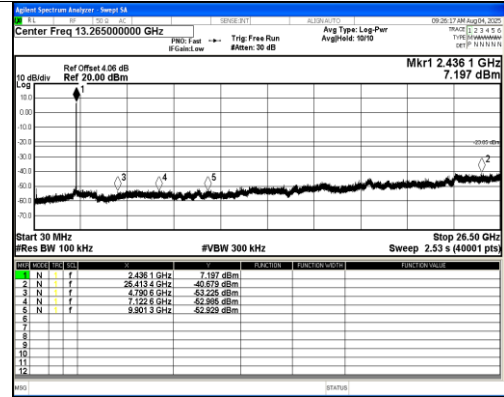
Tx. Spurious NVNT b 2437MHz Ant1 Ref



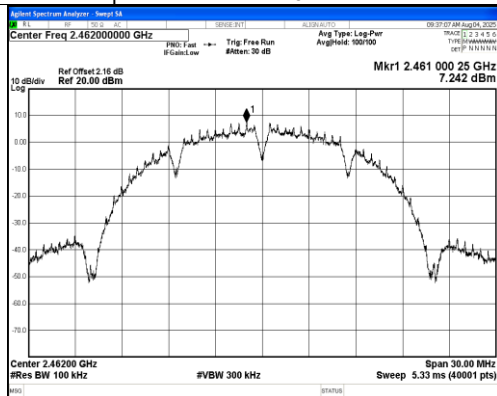
Tx. Spurious NVNT b 2437MHz Ant1 Emission



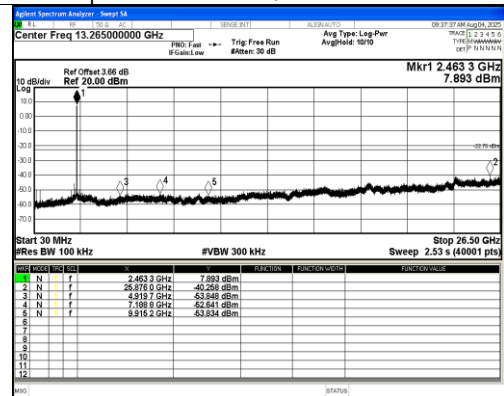
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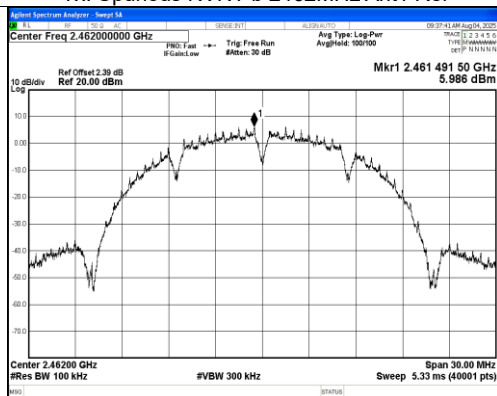
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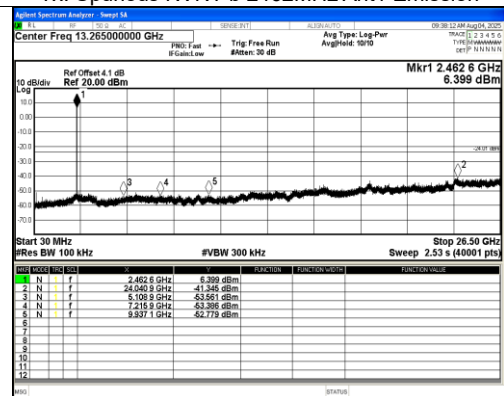
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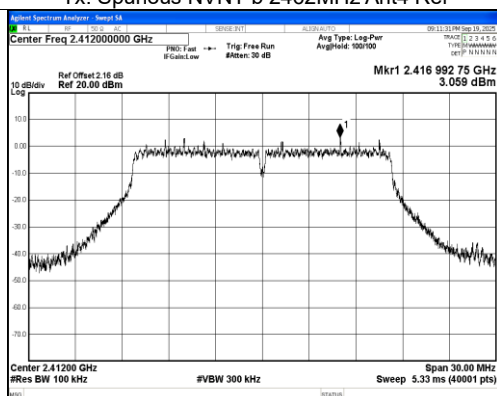
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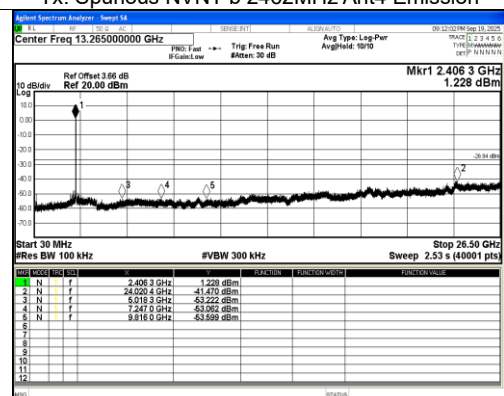
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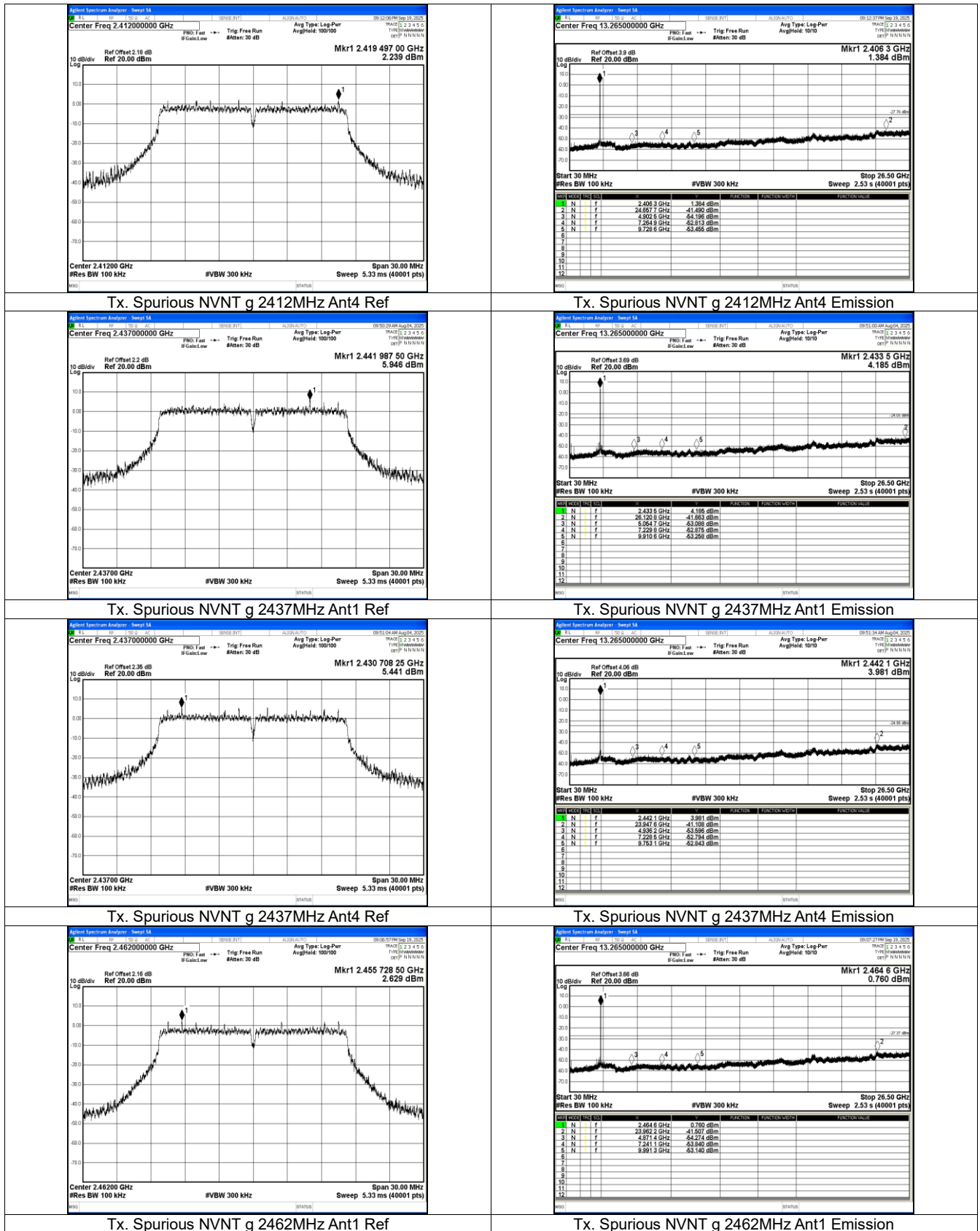
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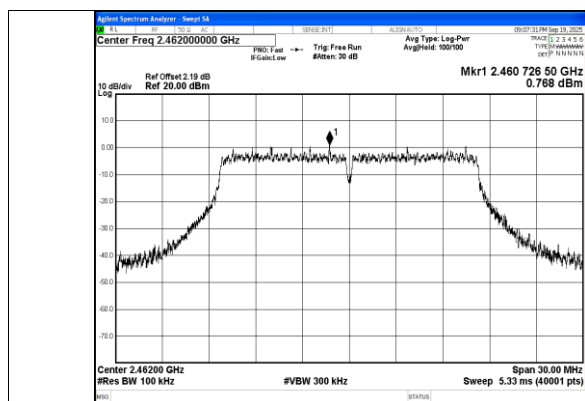


Tx. Spurious NVNT g 2412MHz Ant1 Ref

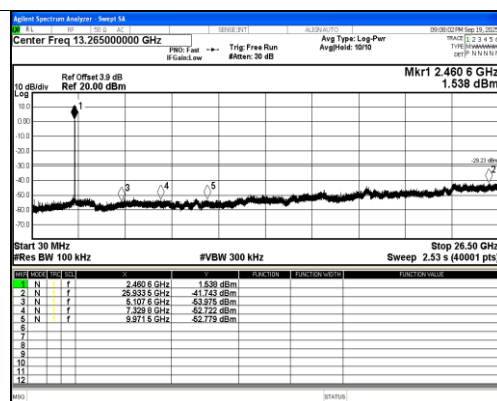


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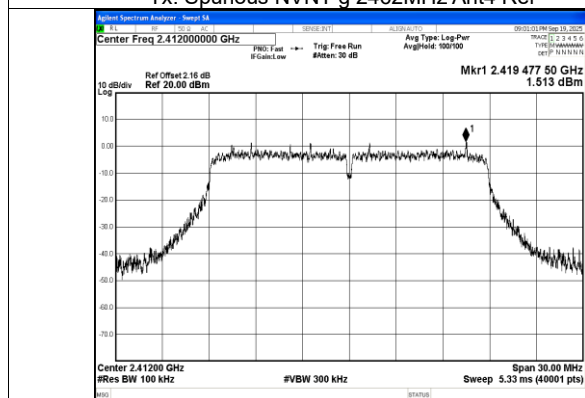




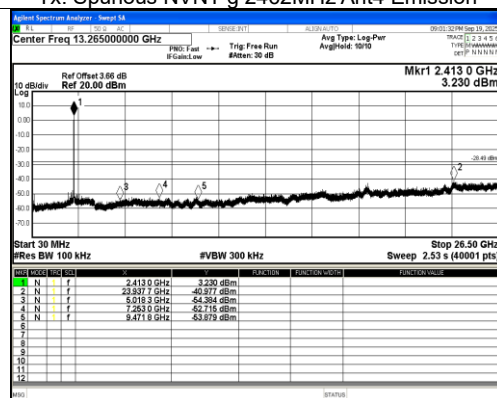
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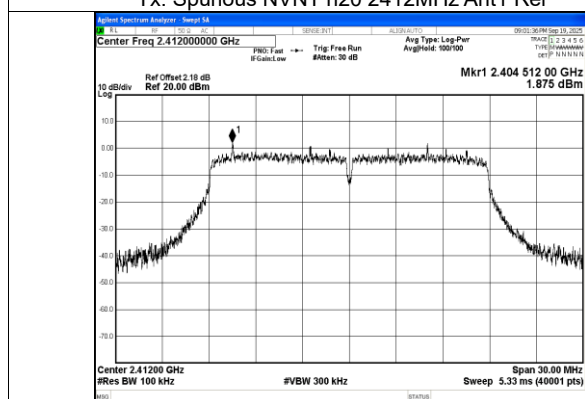
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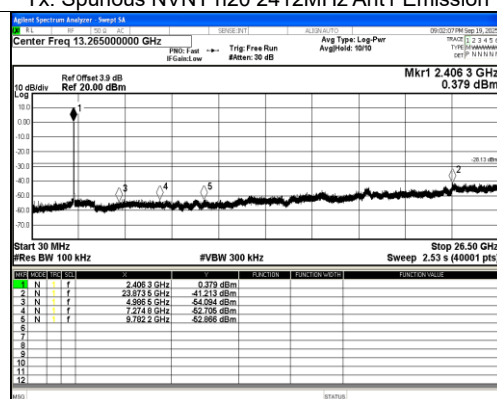
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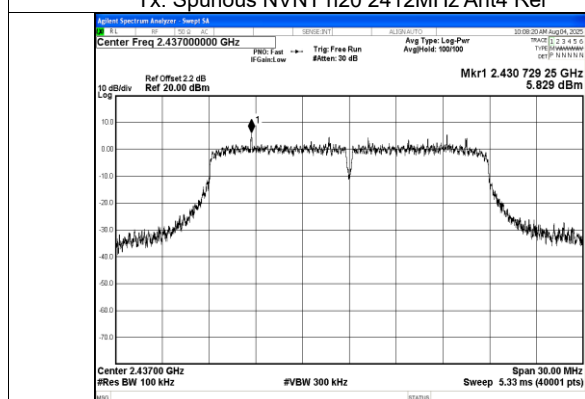
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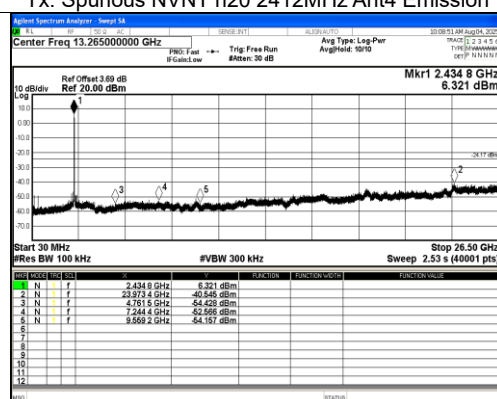
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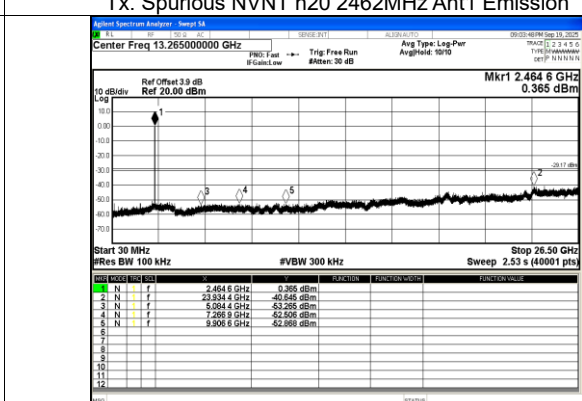
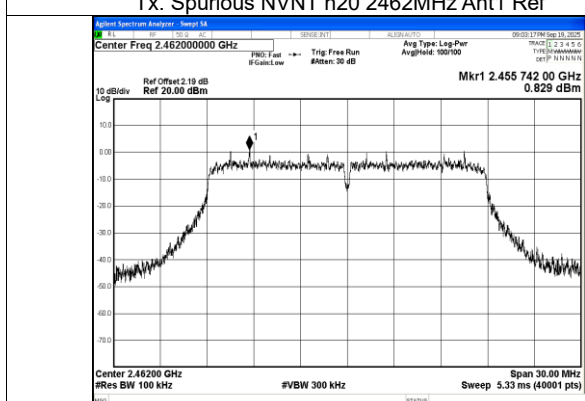
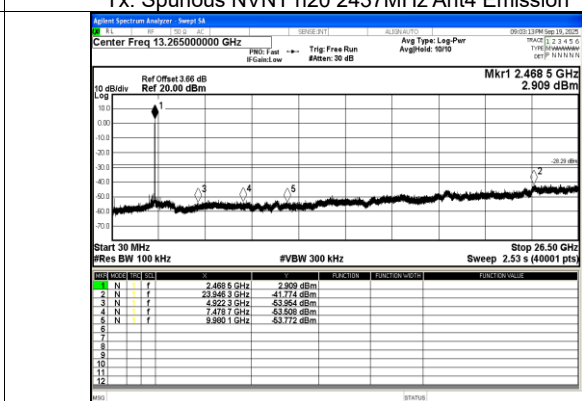
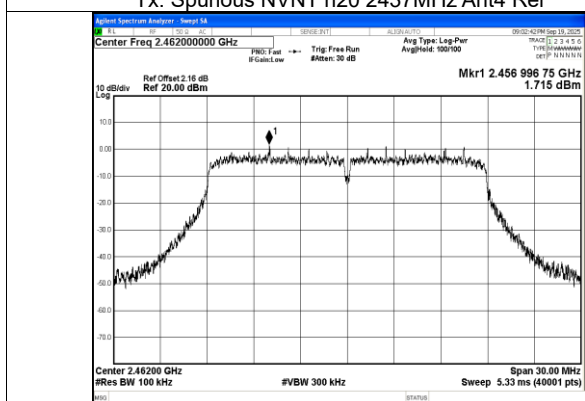
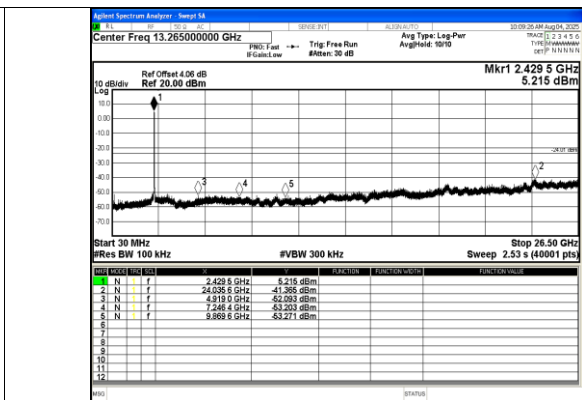
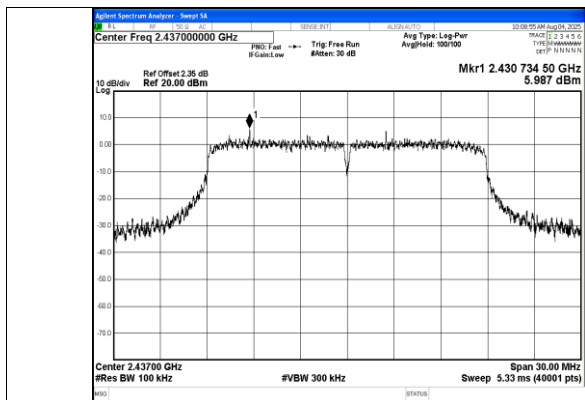
Tx. Spurious NVNT n20 2412MHz Ant4 Emission



Tx. Spurious NVNT n20 2437MHz Ant1 Ref

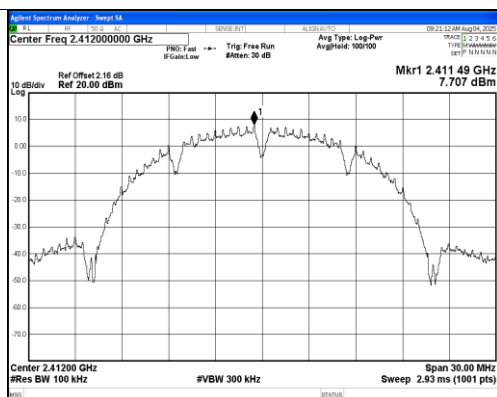


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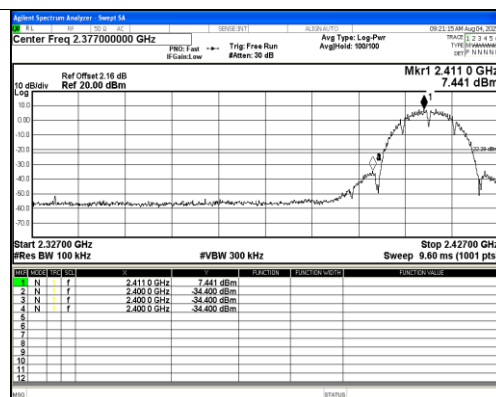


Band Edge

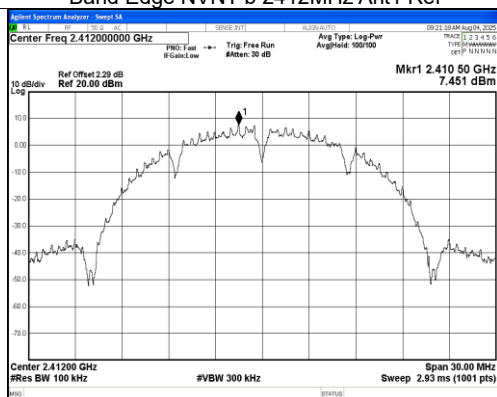
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-42.11	-30	Pass
NVNT	b	2412	Ant4	-43.34	-30	Pass
NVNT	b	2462	Ant1	-61.05	-30	Pass
NVNT	b	2462	Ant4	-60.51	-30	Pass
NVNT	g	2412	Ant1	-39.14	-30	Pass
NVNT	g	2412	Ant4	-33.58	-30	Pass
NVNT	g	2462	Ant1	-53.53	-30	Pass
NVNT	g	2462	Ant4	-50.96	-30	Pass
NVNT	n20	2412	Ant1	-39.45	-30	Pass
NVNT	n20	2412	Ant4	-36.77	-30	Pass
NVNT	n20	2462	Ant1	-53.03	-30	Pass
NVNT	n20	2462	Ant4	-47.69	-30	Pass



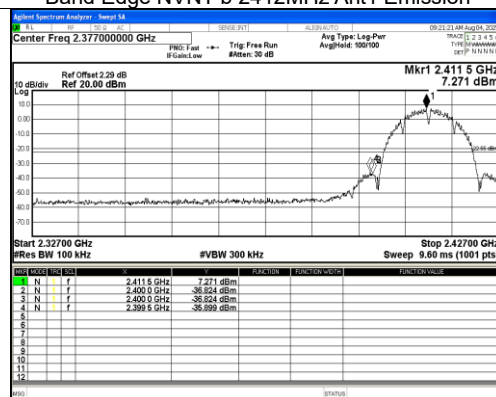
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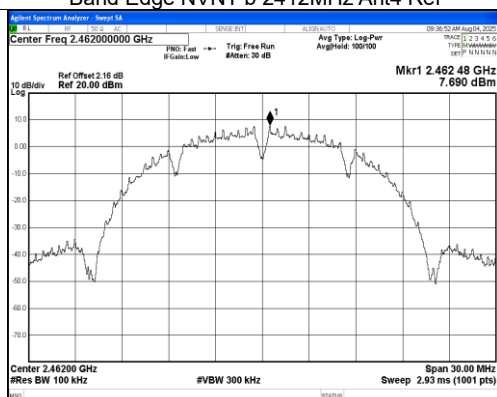
Band Edge NVNT b 2412MHz Ant1 Emission



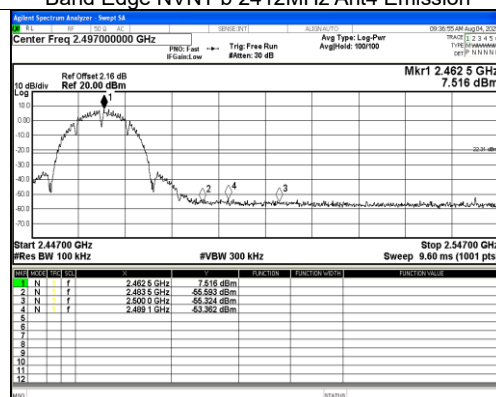
Band Edge NVNT b 2412MHz Ant4 Ref



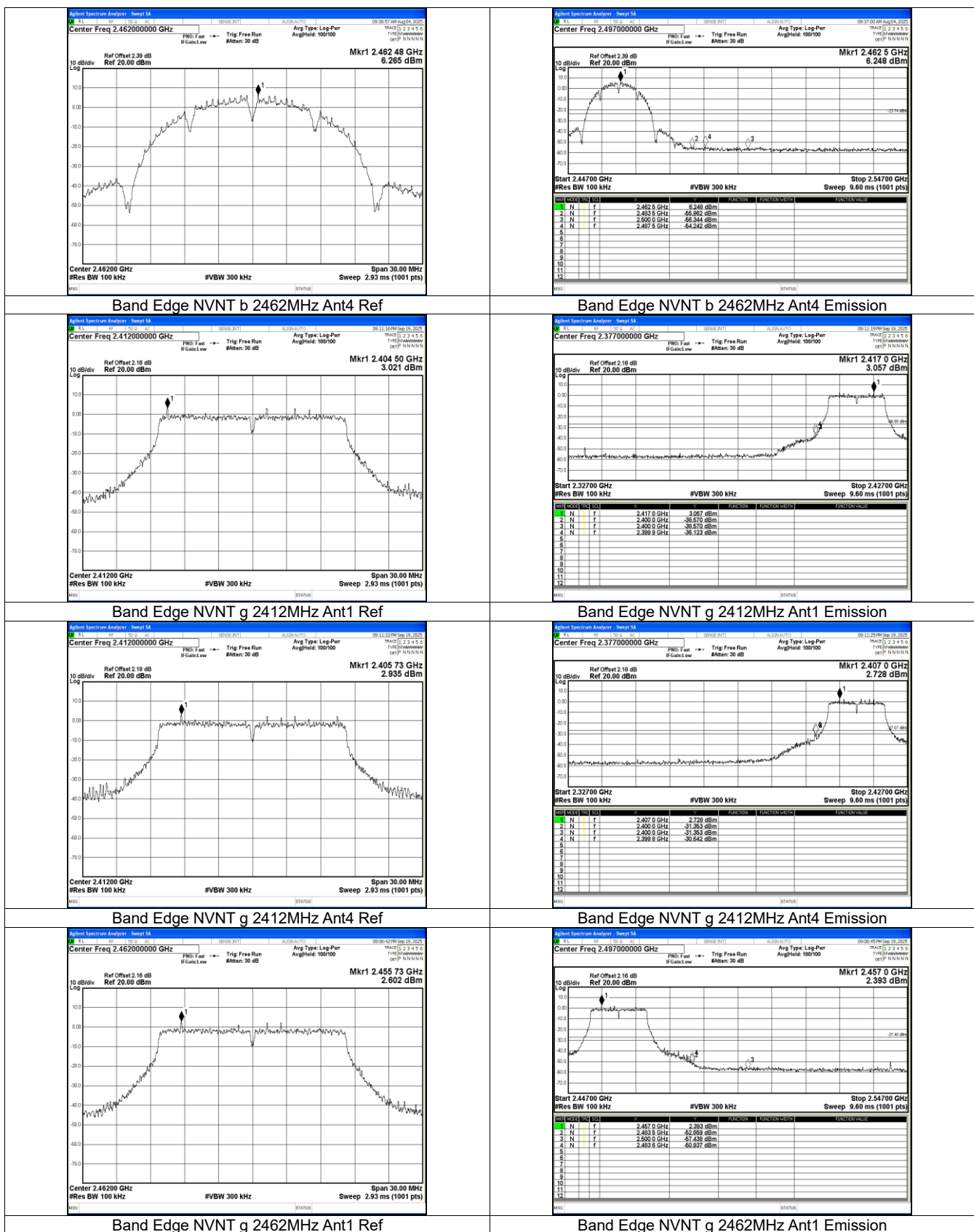
Band Edge NVNT b 2412MHz Ant4 Emission

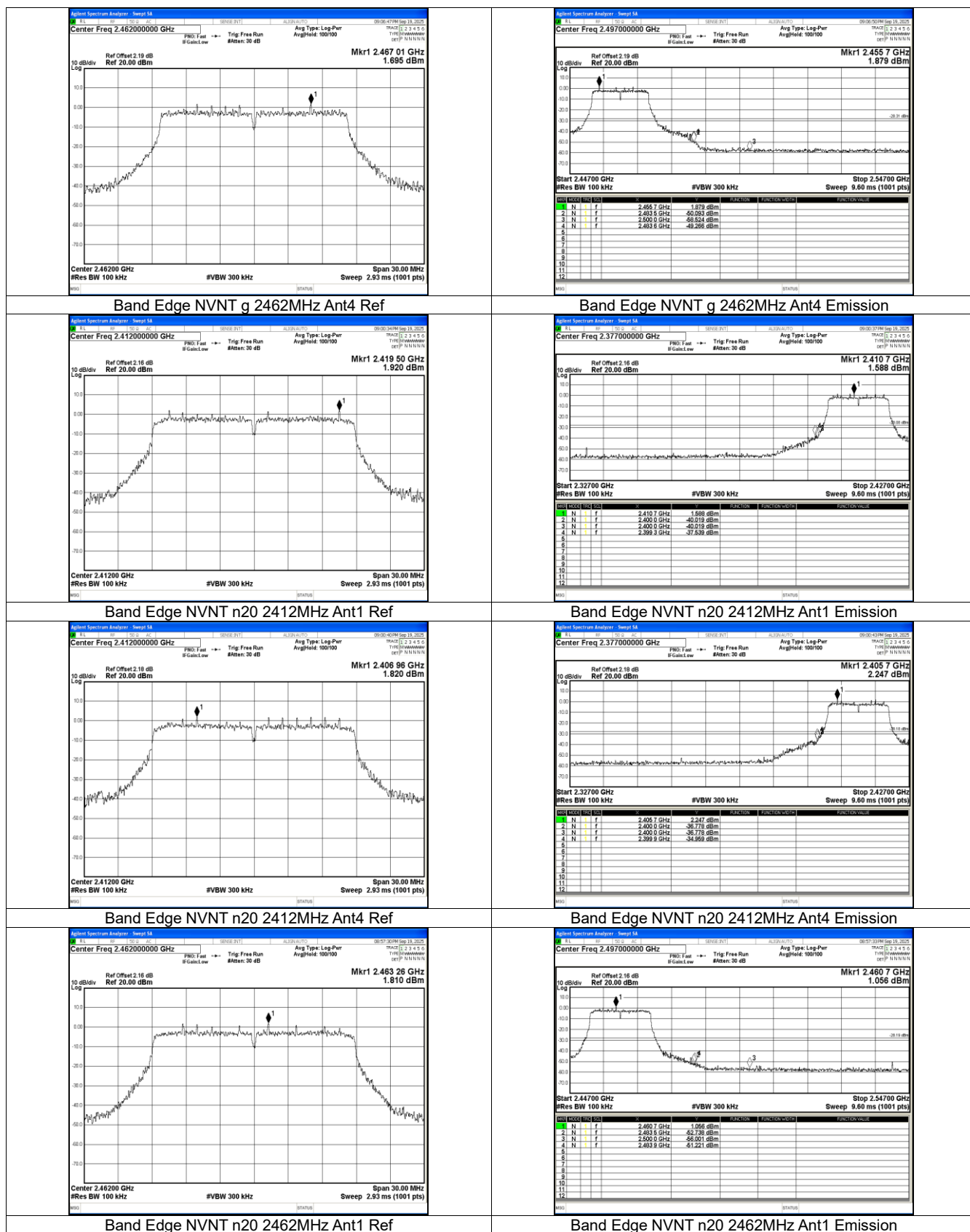


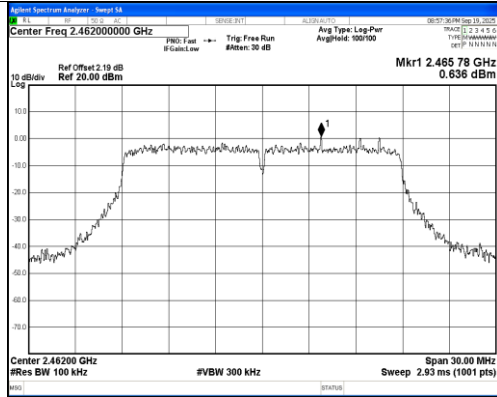
Band Edge NVNT b 2462MHz Ant1 Ref



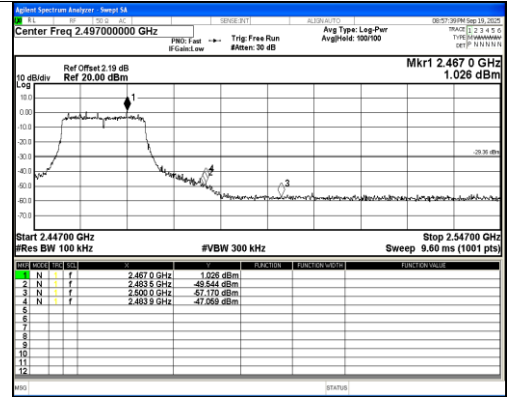
Band Edge NVNT b 2462MHz Ant1 Emission







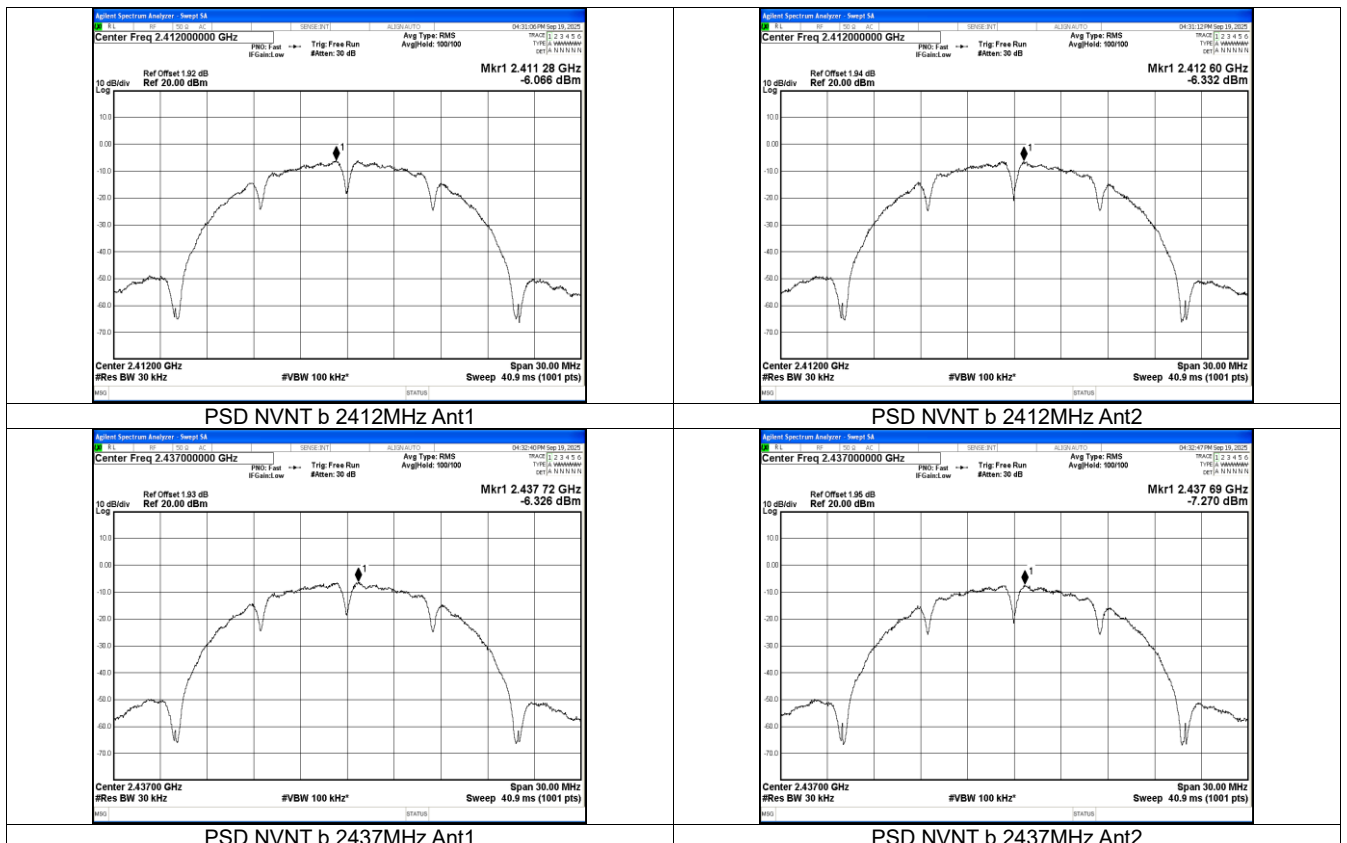
Band Edge NVNT n20 2462MHz Ant4 Ref

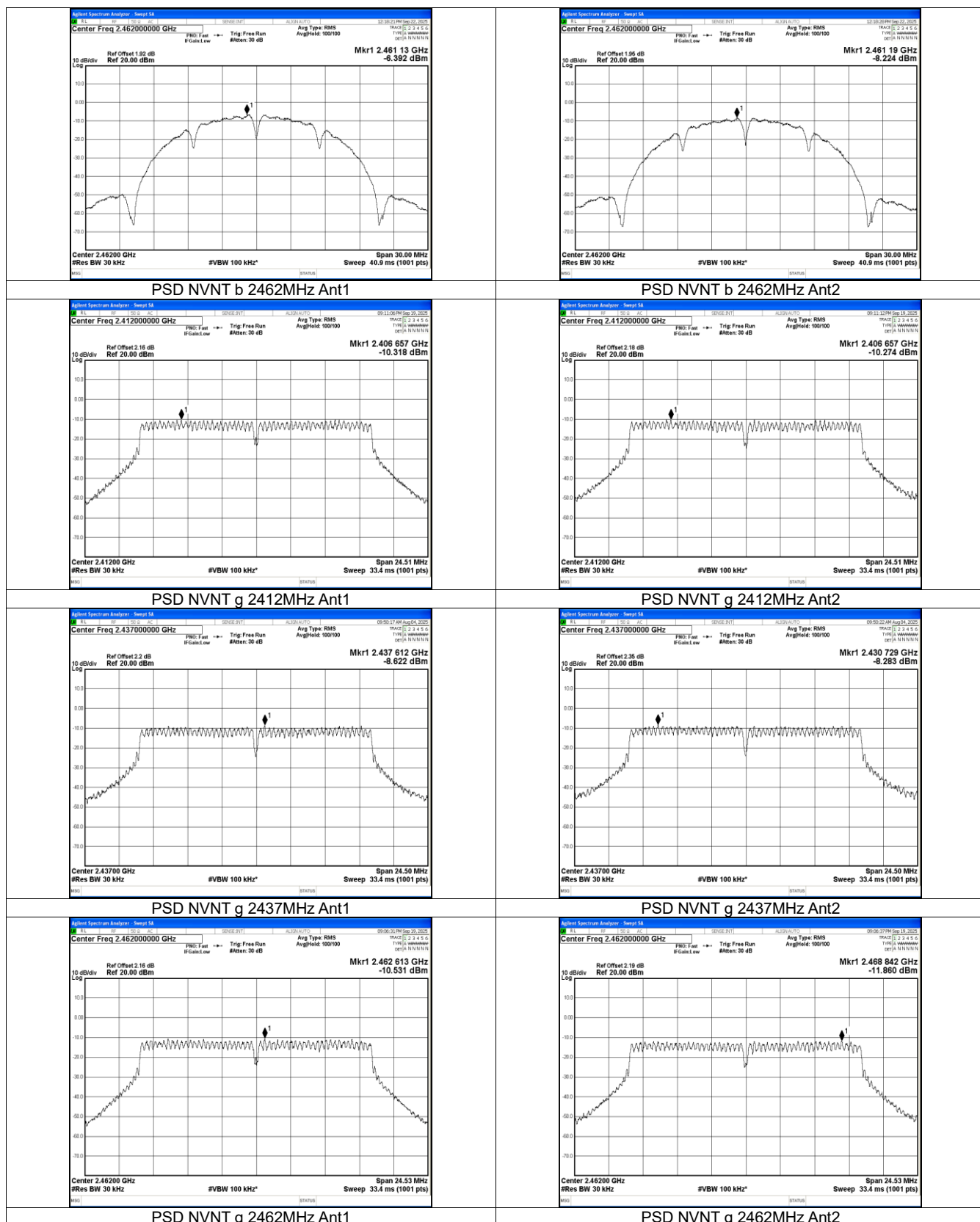


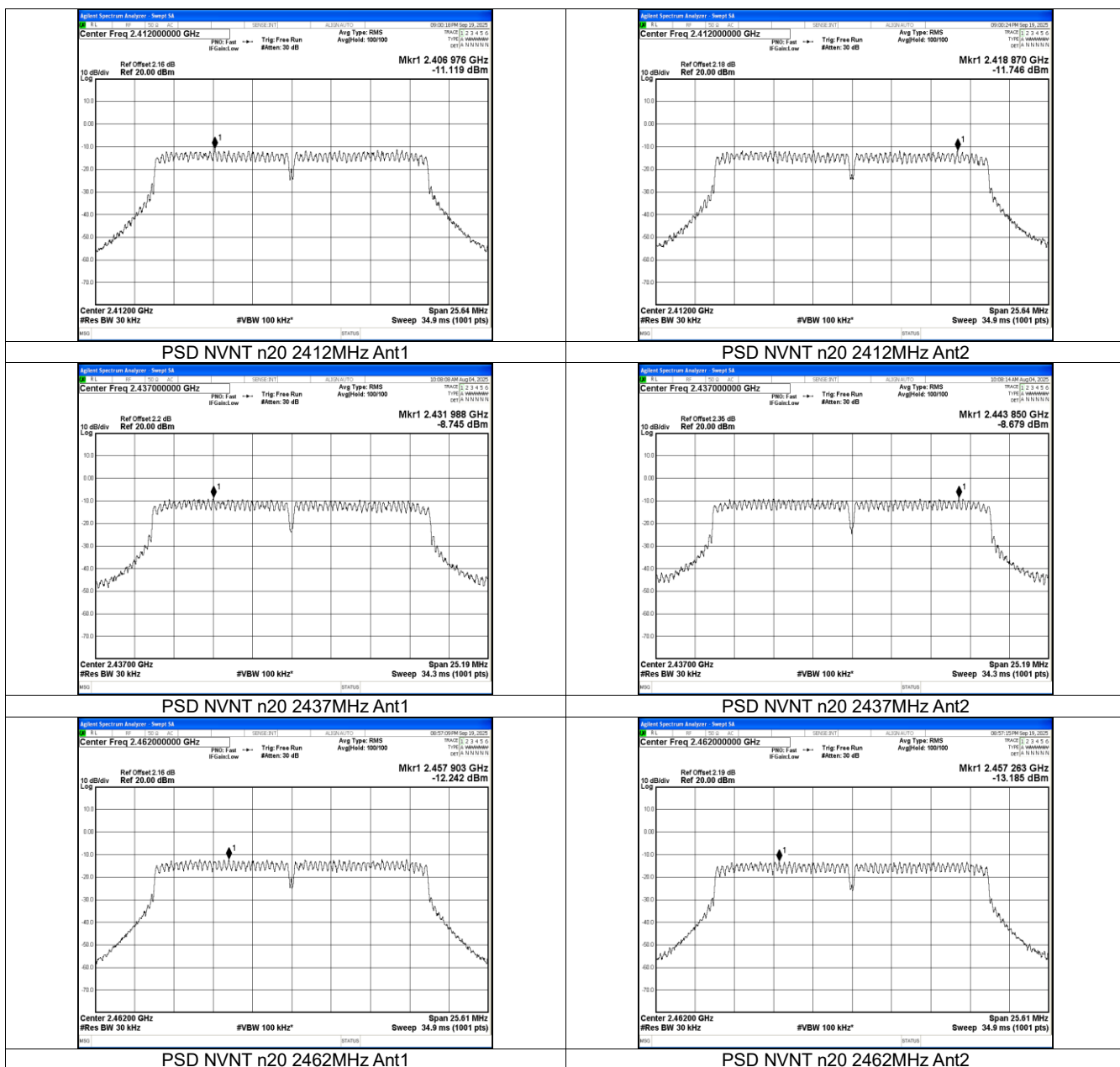
Band Edge NVNT n20 2462MHz Ant4 Emission

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	-16.07	0.02	-16.05	8	Pass
NVNT	b	2412	Ant2	-16.33	0.02	-16.31	8	Pass
NVNT	b	2412	Sum	-13.19	0.02	-13.17	8	Pass
NVNT	b	2437	Ant1	-16.33	0.05	-16.28	8	Pass
NVNT	b	2437	Ant2	-17.27	0.05	-17.22	8	Pass
NVNT	b	2437	Sum	-13.76	0.05	-13.71	8	Pass
NVNT	b	2462	Ant1	-16.39	0.02	-16.37	8	Pass
NVNT	b	2462	Ant2	-18.22	0.02	-18.2	8	Pass
NVNT	b	2462	Sum	-14.2	0.02	-14.18	8	Pass
NVNT	g	2412	Ant1	-20.32	0.34	-19.98	8	Pass
NVNT	g	2412	Ant2	-20.27	0.34	-19.93	8	Pass
NVNT	g	2412	Sum	-17.28	0.34	-16.94	8	Pass
NVNT	g	2437	Ant1	-18.62	8.33	-10.29	8	Pass
NVNT	g	2437	Ant2	-18.28	8.33	-9.95	8	Pass
NVNT	g	2437	Sum	-15.44	8.33	-7.11	8	Pass
NVNT	g	2462	Ant1	-20.53	0.12	-20.41	8	Pass
NVNT	g	2462	Ant2	-21.86	0.12	-21.74	8	Pass
NVNT	g	2462	Sum	-18.13	0.12	-18.01	8	Pass
NVNT	n20	2412	Ant1	-21.12	0.09	-21.03	8	Pass
NVNT	n20	2412	Ant2	-21.75	0.09	-21.66	8	Pass
NVNT	n20	2412	Sum	-18.41	0.09	-18.32	8	Pass
NVNT	n20	2437	Ant1	-18.74	3.69	-15.05	8	Pass
NVNT	n20	2437	Ant2	-18.68	3.69	-14.99	8	Pass
NVNT	n20	2437	Sum	-15.7	3.69	-12.01	8	Pass
NVNT	n20	2462	Ant1	-22.24	0.13	-22.11	8	Pass
NVNT	n20	2462	Ant2	-23.19	0.13	-23.06	8	Pass
NVNT	n20	2462	Sum	-19.68	0.13	-19.55	8	Pass

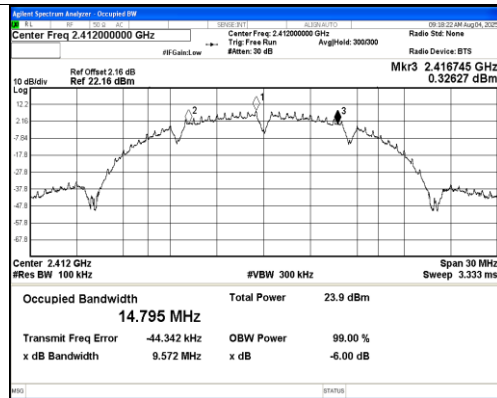




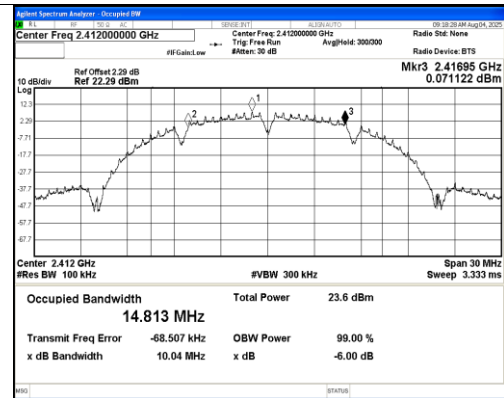


-6dB Bandwidth

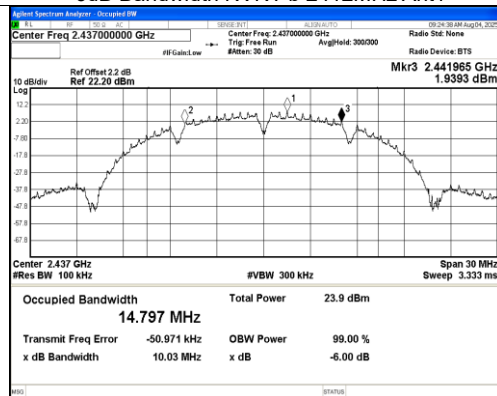
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.57	0.5	Pass
NVNT	b	2412	Ant4	10.04	0.5	Pass
NVNT	b	2437	Ant1	10.03	0.5	Pass
NVNT	b	2437	Ant4	10.04	0.5	Pass
NVNT	b	2462	Ant1	9.58	0.5	Pass
NVNT	b	2462	Ant4	9.99	0.5	Pass
NVNT	g	2412	Ant1	16.33	0.5	Pass
NVNT	g	2412	Ant4	16.34	0.5	Pass
NVNT	g	2437	Ant1	16.29	0.5	Pass
NVNT	g	2437	Ant4	16.33	0.5	Pass
NVNT	g	2462	Ant1	16.32	0.5	Pass
NVNT	g	2462	Ant4	16.35	0.5	Pass
NVNT	n20	2412	Ant1	17.09	0.5	Pass
NVNT	n20	2412	Ant4	16.8	0.5	Pass
NVNT	n20	2437	Ant1	16.79	0.5	Pass
NVNT	n20	2437	Ant4	16.72	0.5	Pass
NVNT	n20	2462	Ant1	16.98	0.5	Pass
NVNT	n20	2462	Ant4	17.07	0.5	Pass



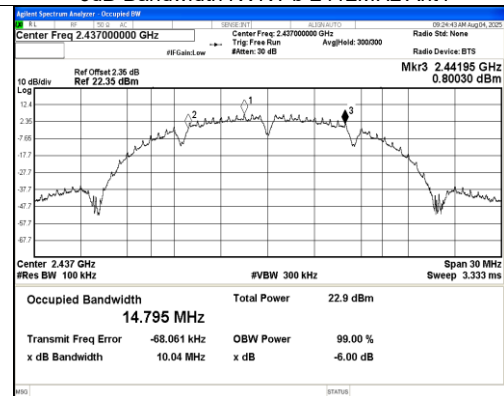
-6dB Bandwidth NVNT b 2412MHz Ant1



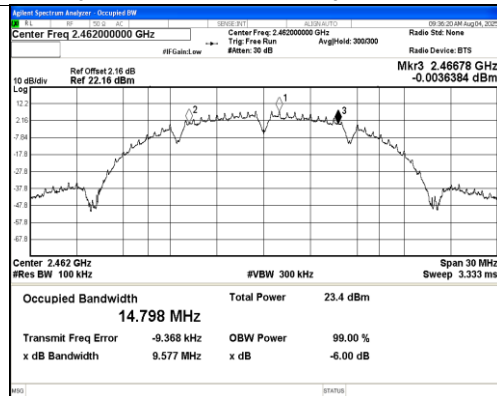
-6dB Bandwidth NVNT b 2412MHz Ant4



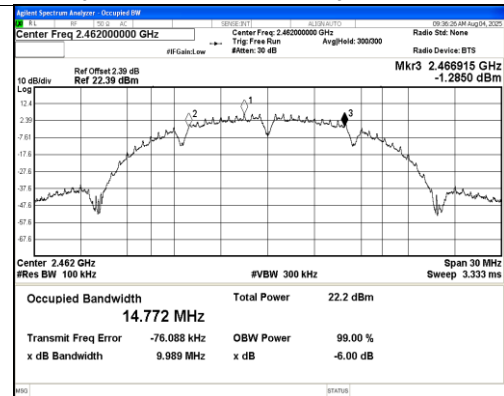
-6dB Bandwidth NVNT b 2437MHz Ant1



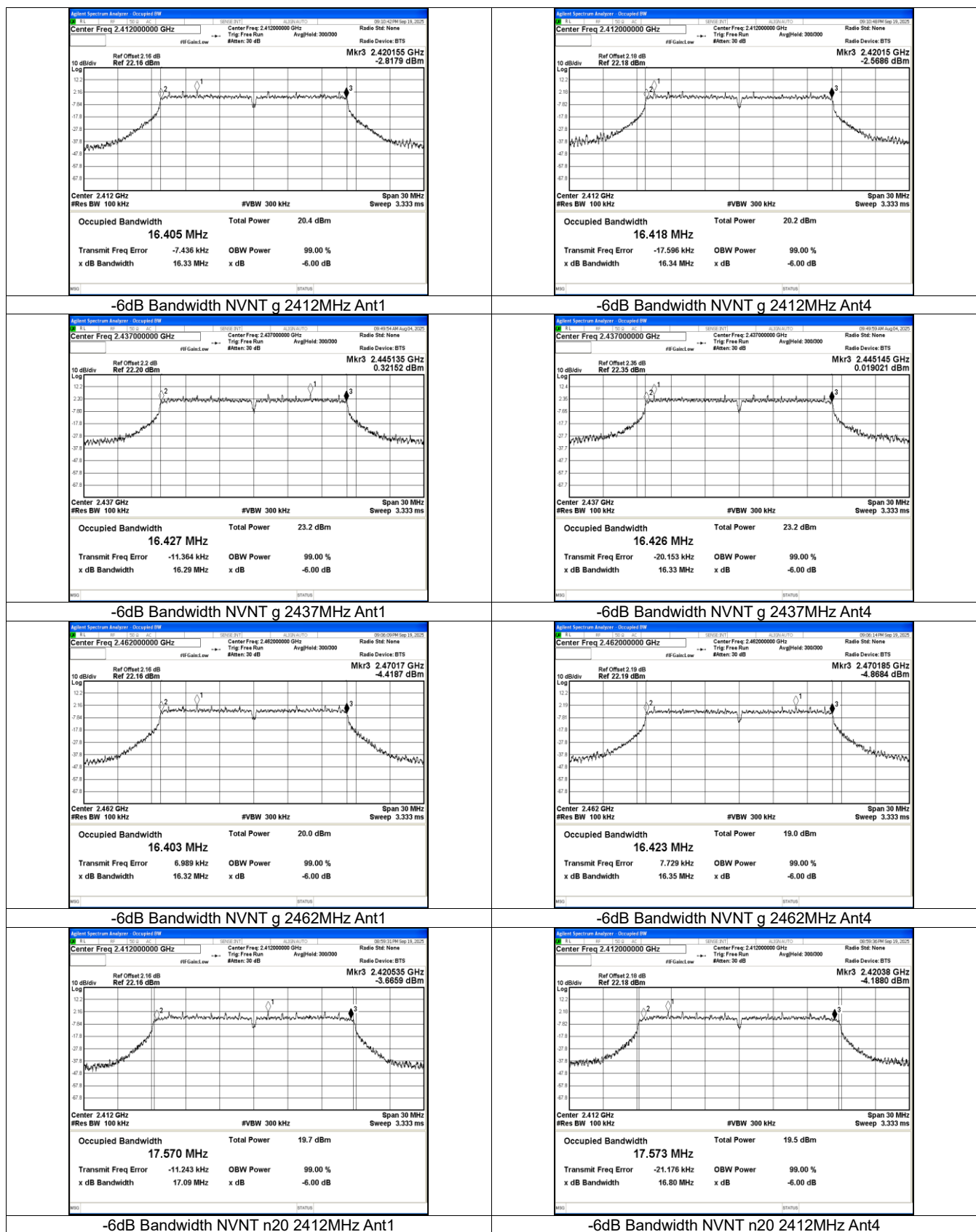
-6dB Bandwidth NVNT b 2437MHz Ant4

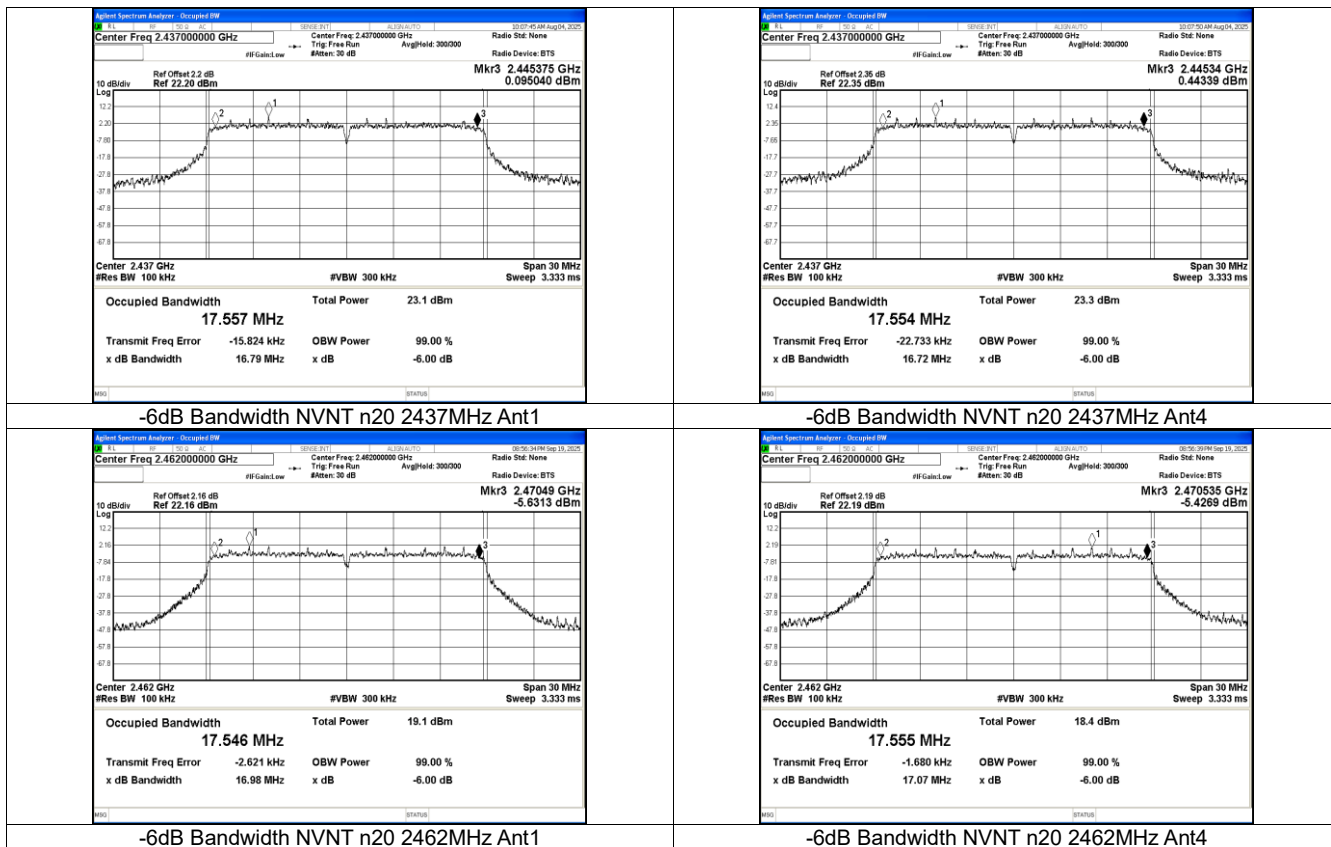


-6dB Bandwidth NVNT b 2462MHz Ant1



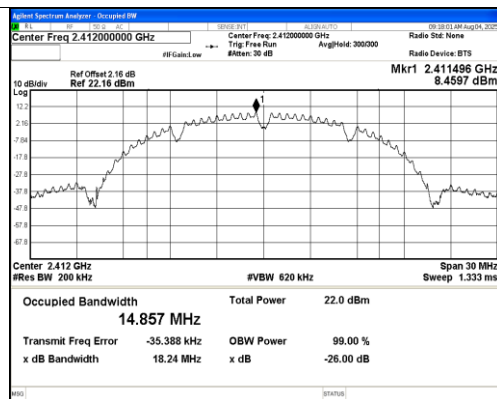
-6dB Bandwidth NVNT b 2462MHz Ant4



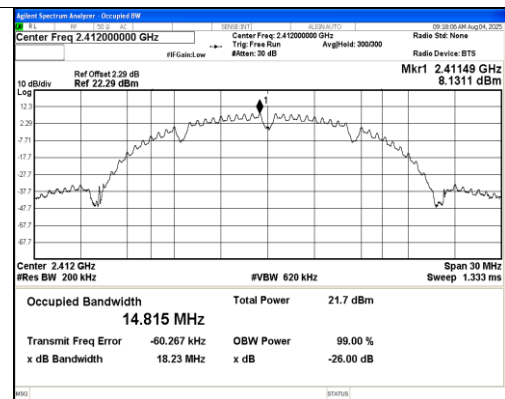


Occupied Channel Bandwidth

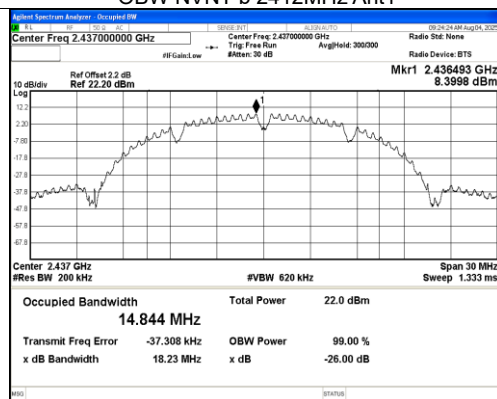
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	14.857
NVNT	b	2412	Ant4	14.815
NVNT	b	2437	Ant1	14.844
NVNT	b	2437	Ant4	14.791
NVNT	b	2462	Ant1	14.847
NVNT	b	2462	Ant4	14.777
NVNT	g	2412	Ant1	16.54
NVNT	g	2412	Ant4	16.501
NVNT	g	2437	Ant1	16.536
NVNT	g	2437	Ant4	16.506
NVNT	g	2462	Ant1	16.545
NVNT	g	2462	Ant4	16.536
NVNT	n20	2412	Ant1	17.589
NVNT	n20	2412	Ant4	17.625
NVNT	n20	2437	Ant1	17.569
NVNT	n20	2437	Ant4	17.58
NVNT	n20	2462	Ant1	17.566
NVNT	n20	2462	Ant4	17.593



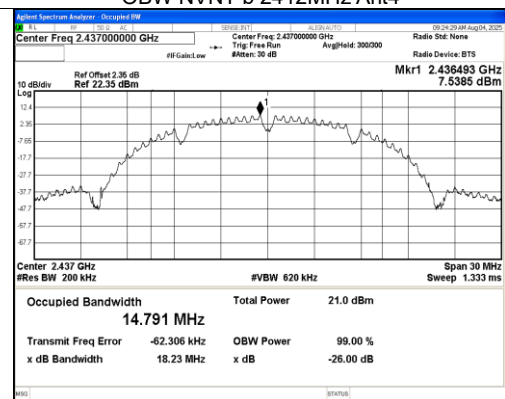
OBW NVNT b 2412MHz Ant1



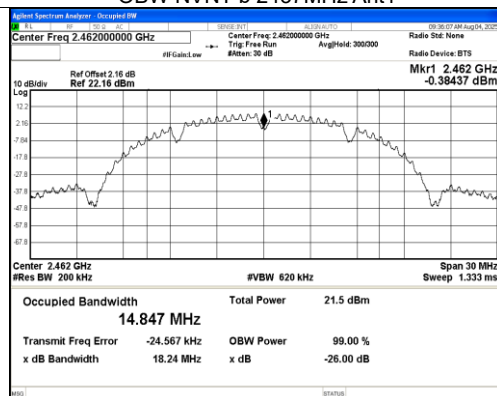
OBW NVNT b 2412MHz Ant4



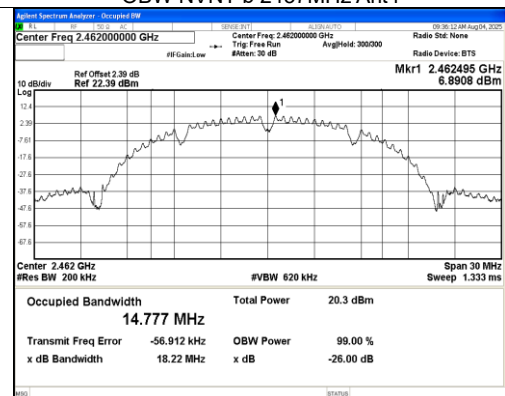
OBW NVNT b 2437MHz Ant1



OBW NVNT b 2437MHz Ant4



OBW NVNT b 2462MHz Ant1



OBW NVNT b 2462MHz Ant4