

Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: LED PROJECTOR

Test Model: L018

Environmental Conditions

Temperature:	23.7°C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Jone Lee
Supervised by:	Fengliu Tang

C.1 -6dB Bandwidth

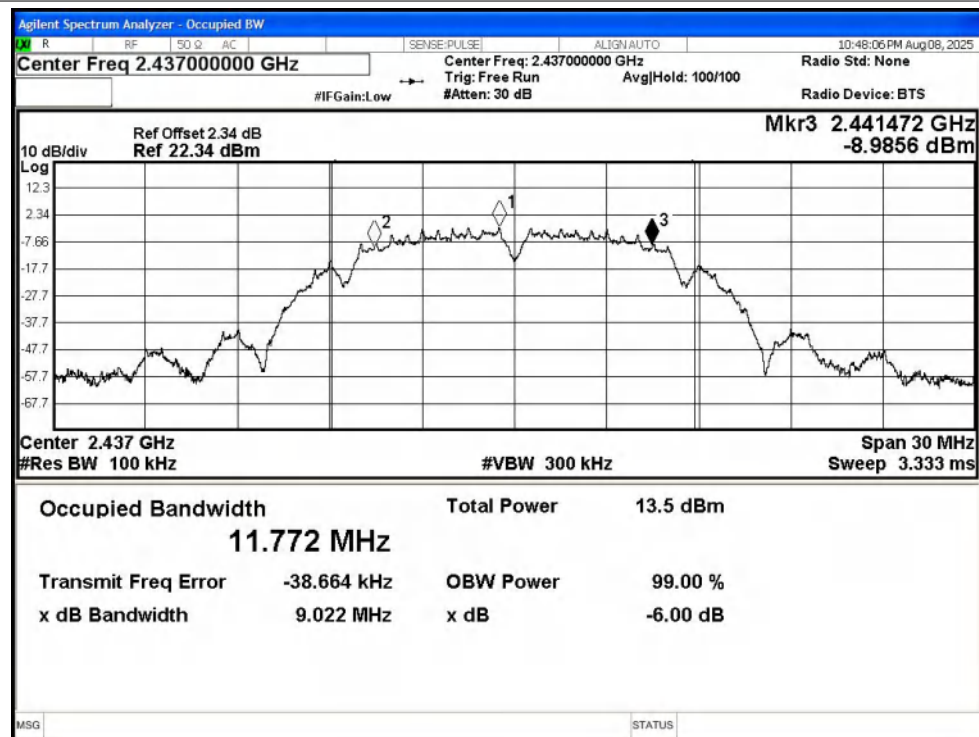
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	7.62	≥ 0.5	Pass
NVNT	b	2437	Ant1	9.022	≥ 0.5	Pass
NVNT	b	2462	Ant1	8.059	≥ 0.5	Pass
NVNT	g	2412	Ant1	16.405	≥ 0.5	Pass
NVNT	g	2437	Ant1	16.331	≥ 0.5	Pass
NVNT	g	2462	Ant1	16.29	≥ 0.5	Pass
NVNT	n20	2412	Ant1	17.348	≥ 0.5	Pass
NVNT	n20	2437	Ant1	17.293	≥ 0.5	Pass
NVNT	n20	2462	Ant1	17.127	≥ 0.5	Pass
NVNT	n40	2422	Ant1	35.496	≥ 0.5	Pass
NVNT	n40	2437	Ant1	35.175	≥ 0.5	Pass
NVNT	n40	2452	Ant1	35.02	≥ 0.5	Pass

Test Graphs

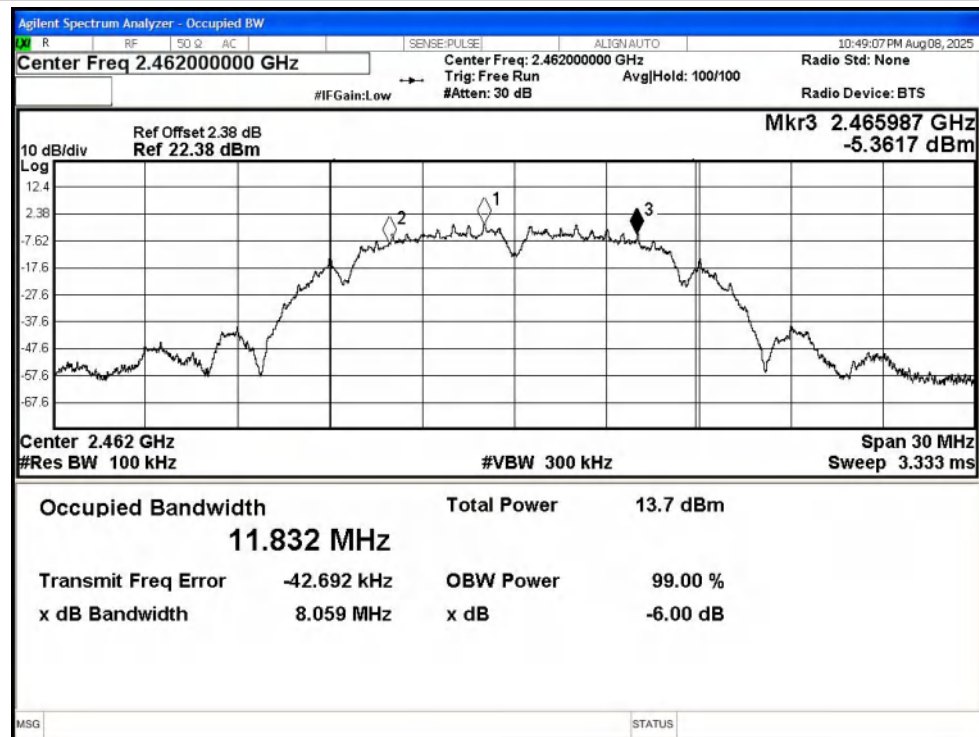
-6dB Bandwidth NVNT b 2412MHz Ant1



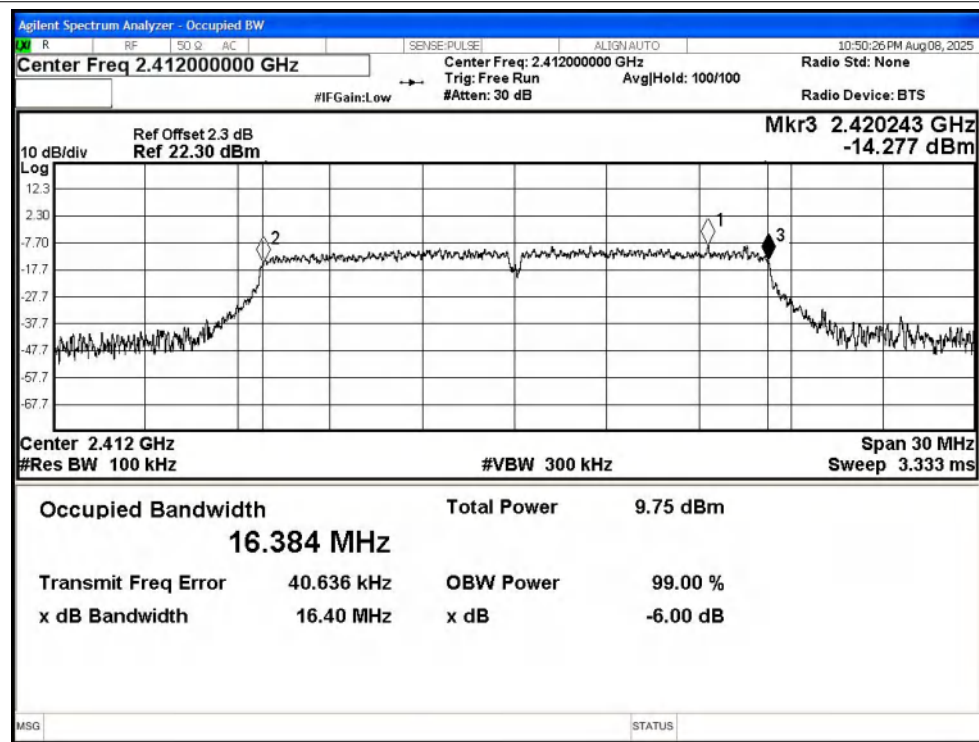
-6dB Bandwidth NVNT b 2437MHz Ant1



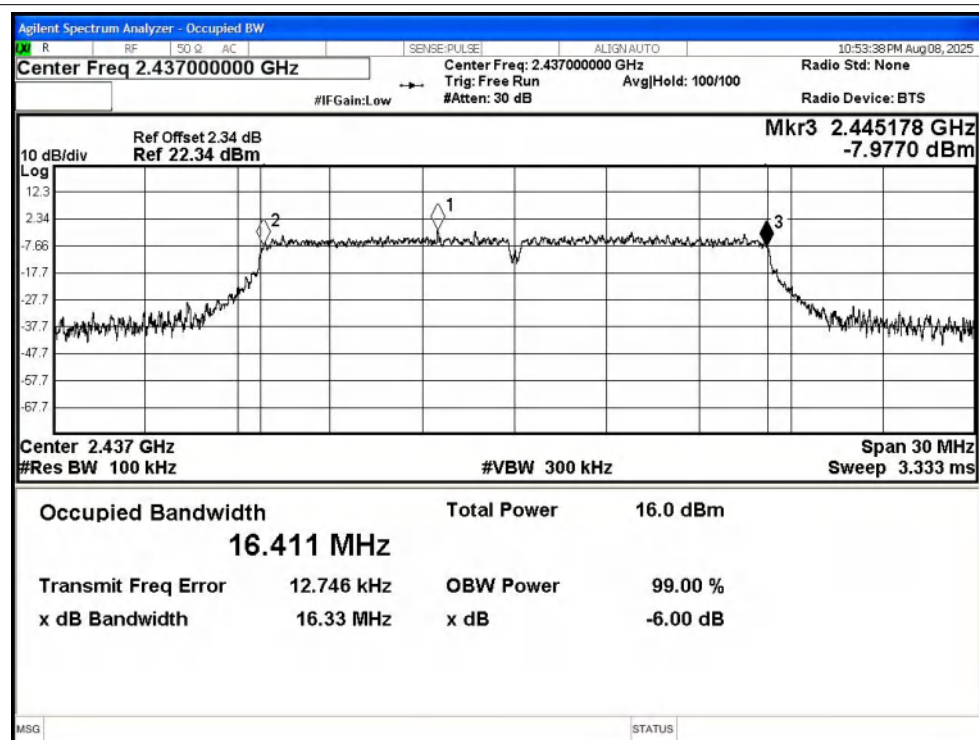
-6dB Bandwidth NVNT b 2462MHz Ant1



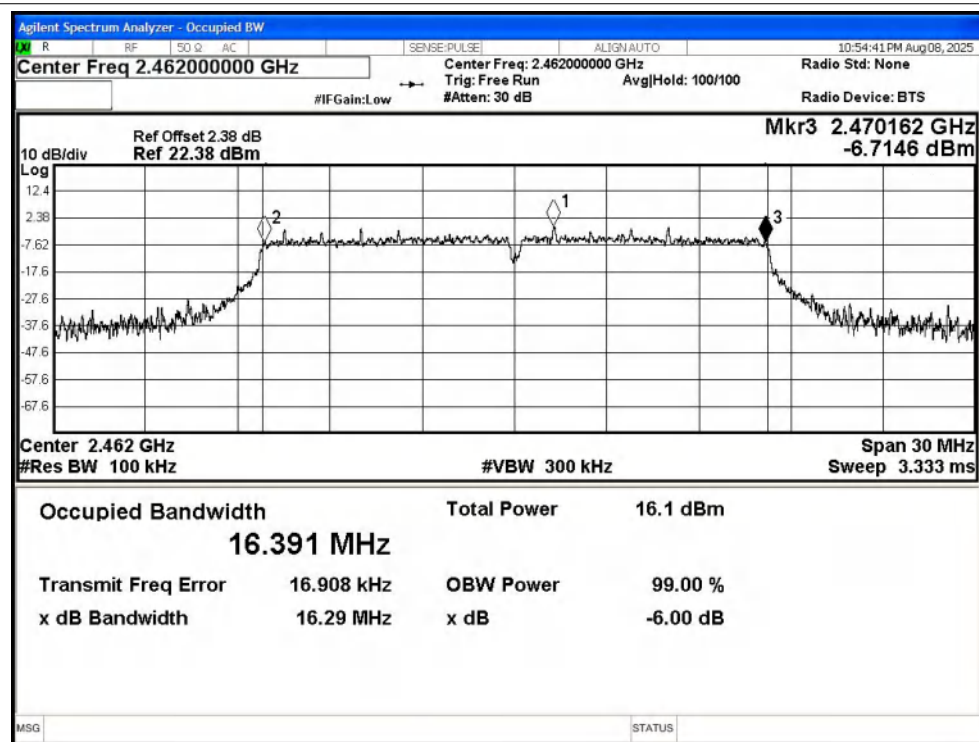
-6dB Bandwidth NVNT g 2412MHz Ant1



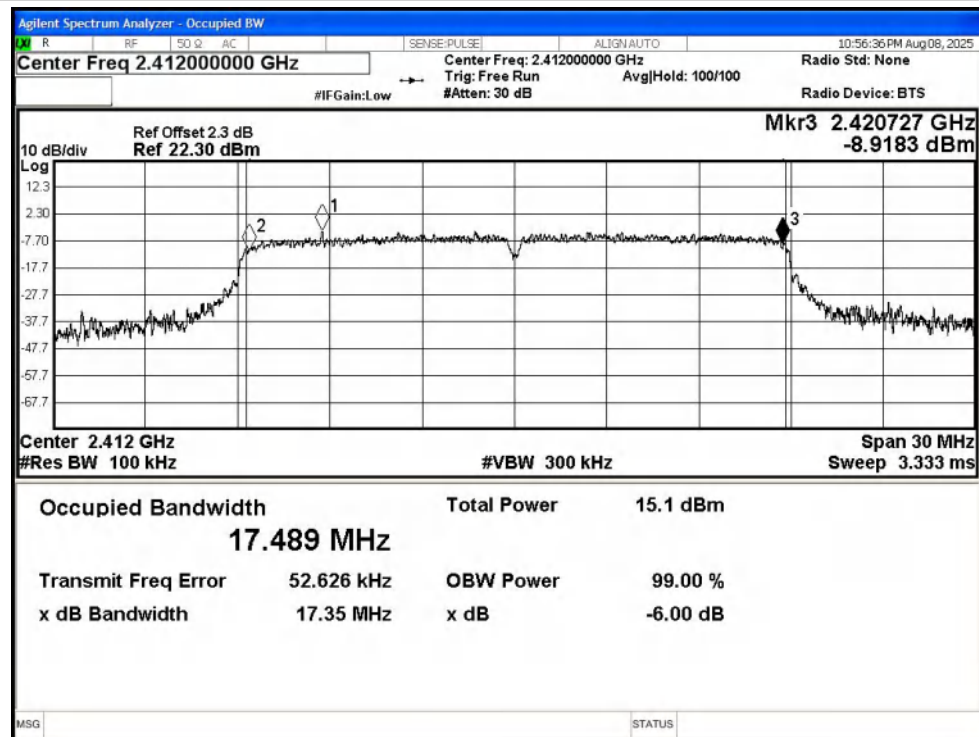
-6dB Bandwidth NVNT g 2437MHz Ant1



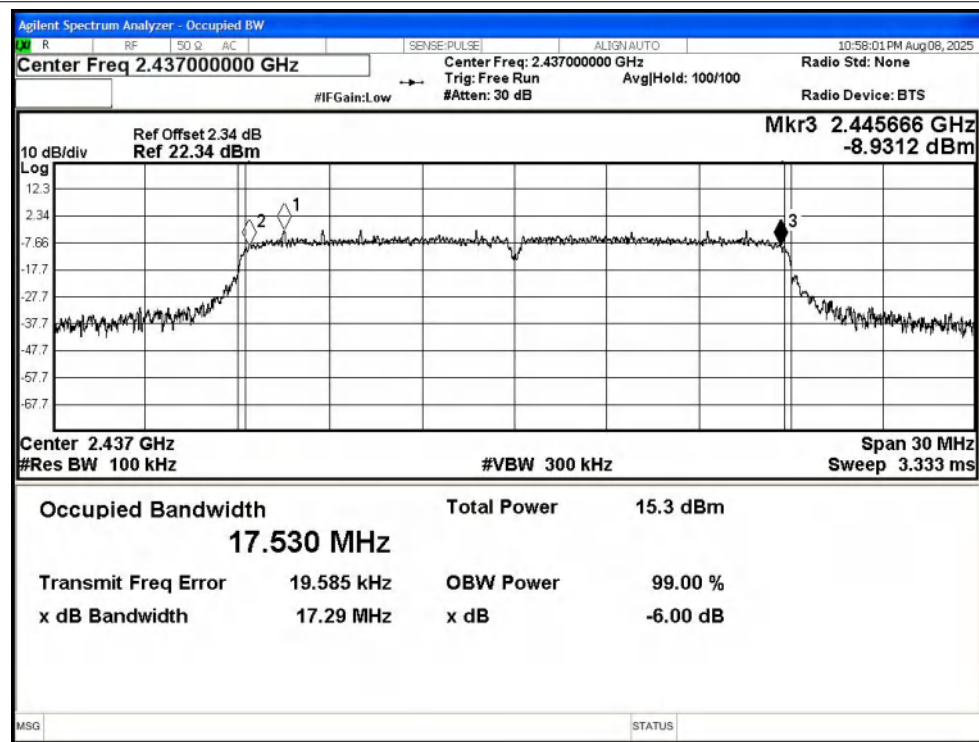
-6dB Bandwidth NVNT g 2462MHz Ant1



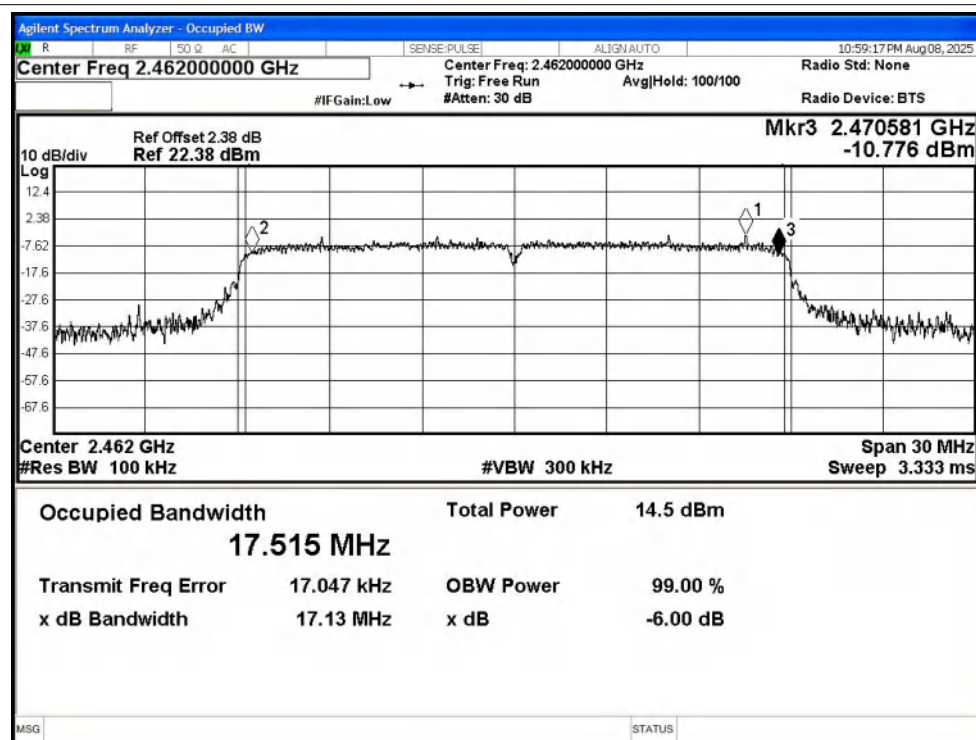
-6dB Bandwidth NVNT n20 2412MHz Ant1



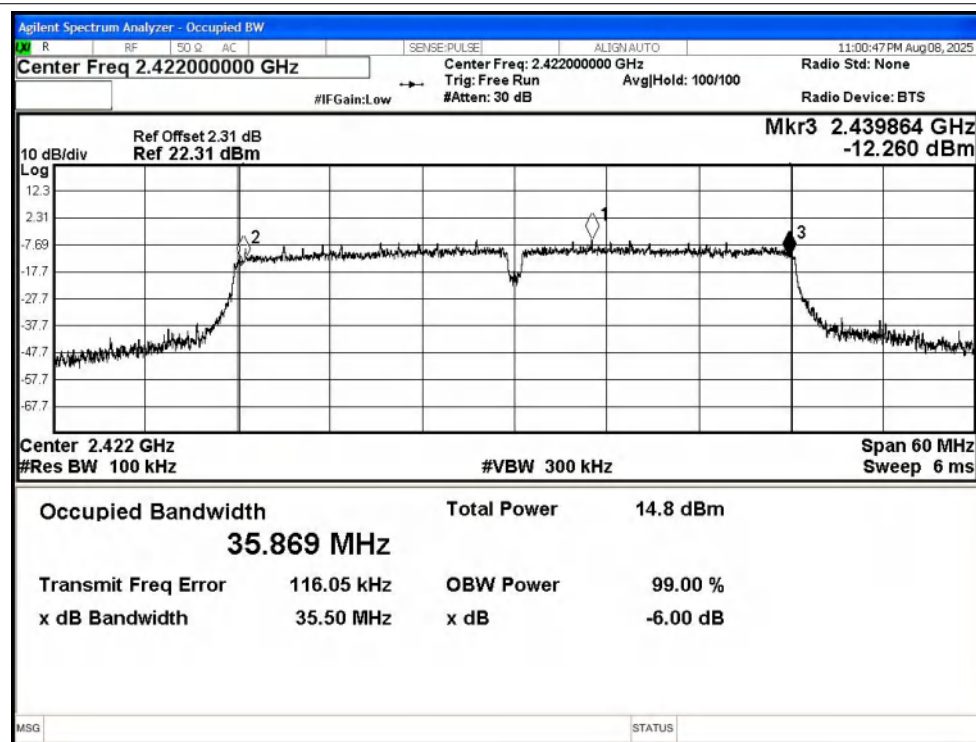
-6dB Bandwidth NVNT n20 2437MHz Ant1



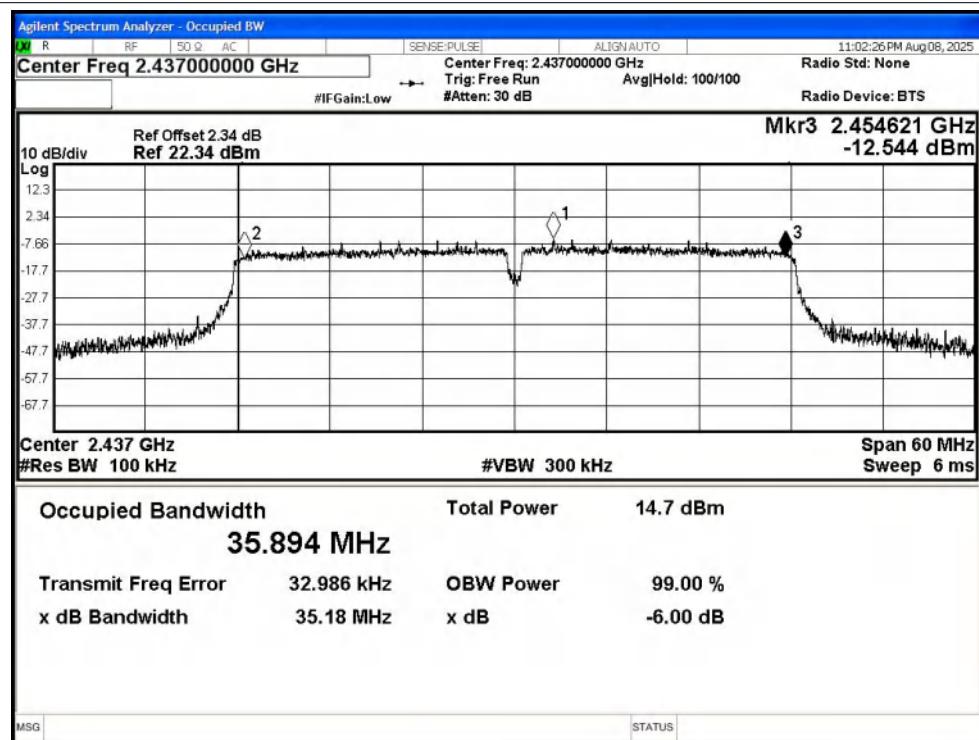
-6dB Bandwidth NVNT n20 2462MHz Ant1



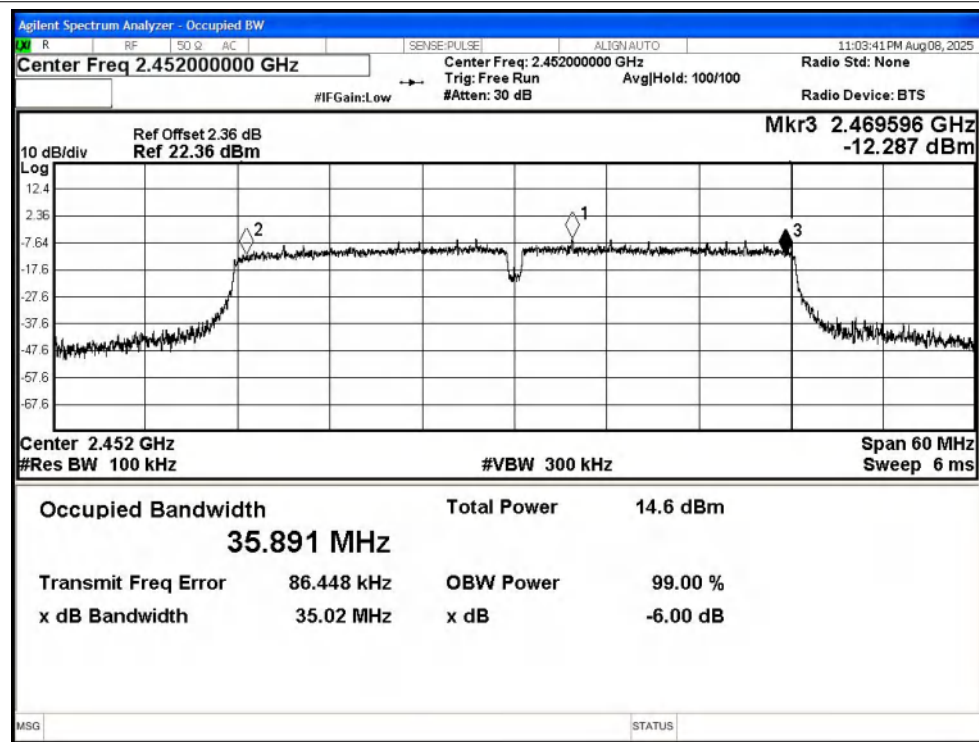
-6dB Bandwidth NVNT n40 2422MHz Ant1



-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1



C.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	14.92	30	Pass
NVNT	b	2437	Ant1	14.27	30	Pass
NVNT	b	2462	Ant1	14.35	30	Pass
NVNT	g	2412	Ant1	14.25	30	Pass
NVNT	g	2437	Ant1	14.84	30	Pass
NVNT	g	2462	Ant1	14.83	30	Pass
NVNT	n20	2412	Ant1	13.76	30	Pass
NVNT	n20	2437	Ant1	13.99	30	Pass
NVNT	n20	2462	Ant1	13.17	30	Pass
NVNT	n40	2422	Ant1	13.32	30	Pass
NVNT	n40	2437	Ant1	13.22	30	Pass
NVNT	n40	2452	Ant1	13.13	30	Pass

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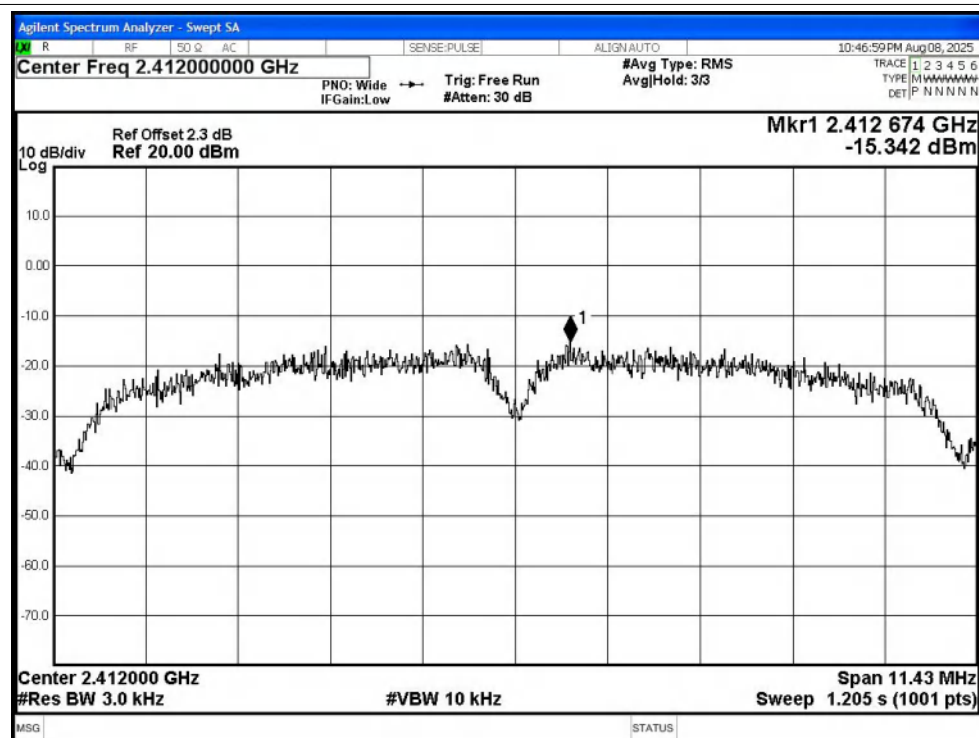
C.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-15.34	8	Pass
NVNT	b	2437	Ant1	-14.68	8	Pass
NVNT	b	2462	Ant1	-15.68	8	Pass
NVNT	g	2412	Ant1	-21.1	8	Pass
NVNT	g	2437	Ant1	-16.07	8	Pass
NVNT	g	2462	Ant1	-16.17	8	Pass
NVNT	n20	2412	Ant1	-17.11	8	Pass
NVNT	n20	2437	Ant1	-16.31	8	Pass
NVNT	n20	2462	Ant1	-17.52	8	Pass
NVNT	n40	2422	Ant1	-20.54	8	Pass
NVNT	n40	2437	Ant1	-19.14	8	Pass
NVNT	n40	2452	Ant1	-20.53	8	Pass

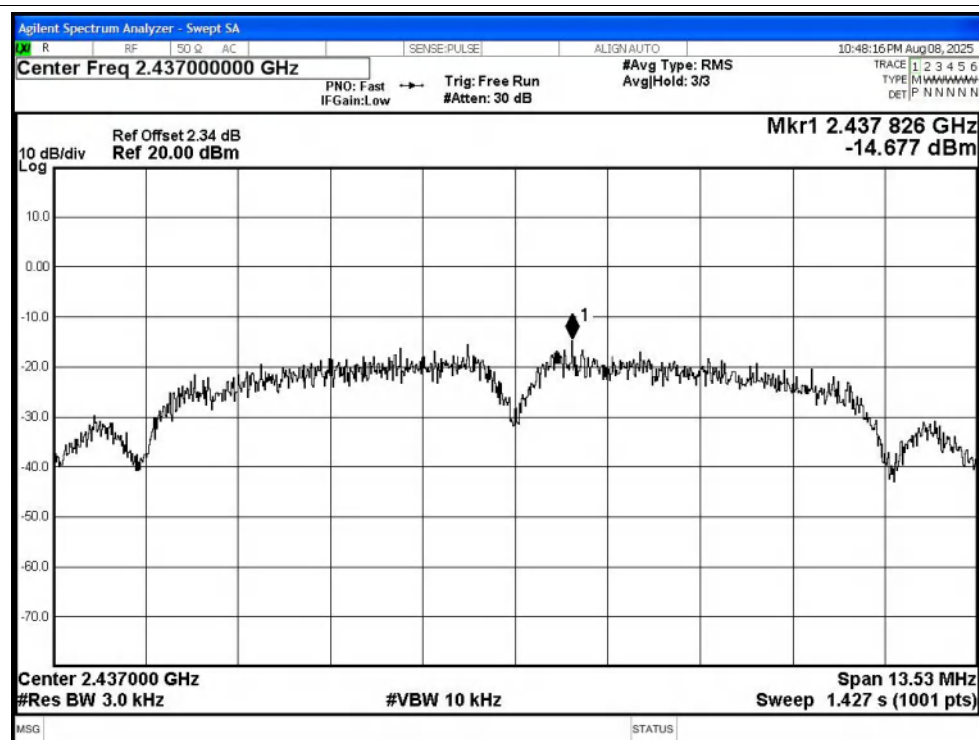
LCSC07315004EC

Test Graphs

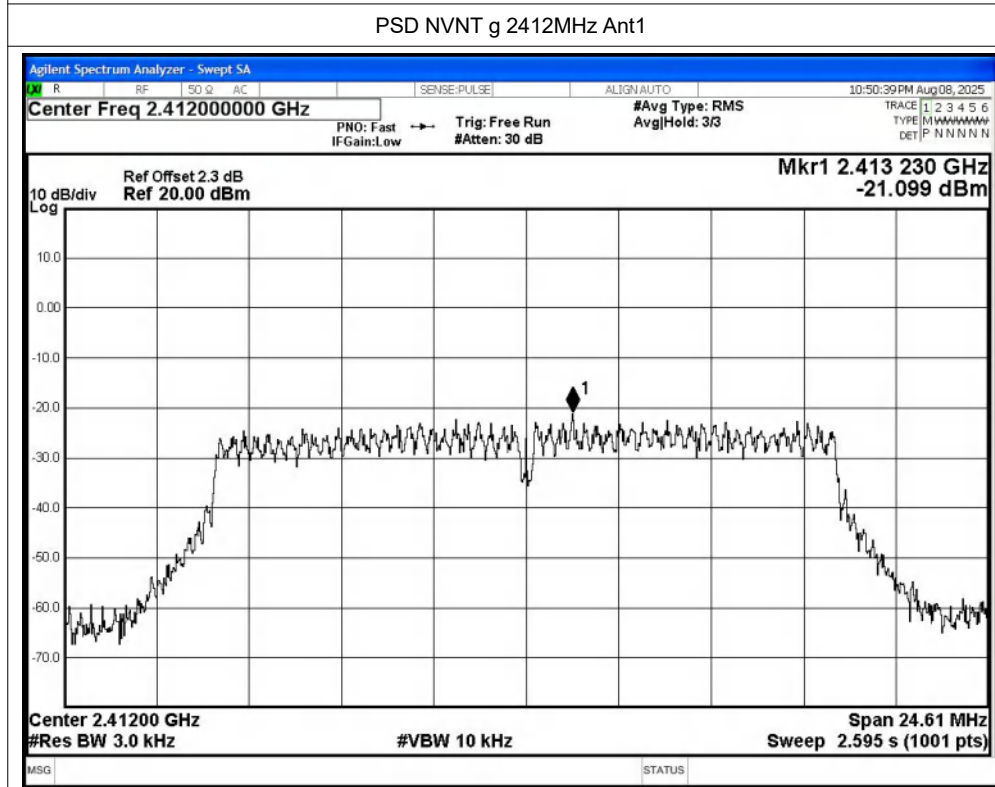
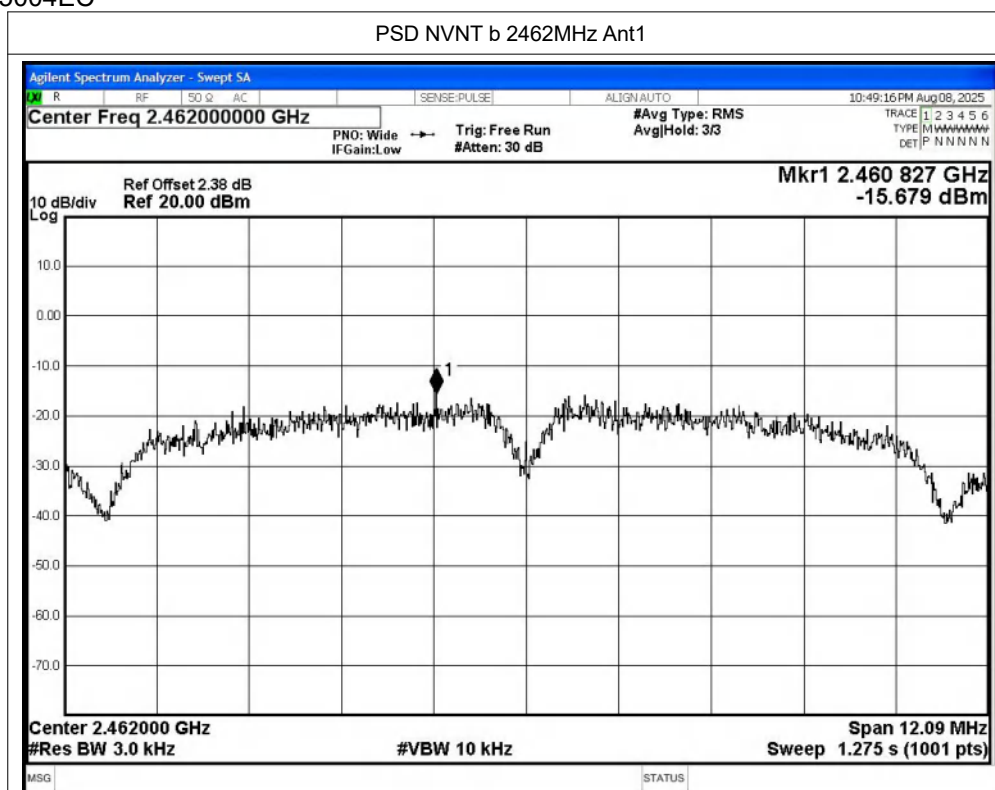
PSD NVNT b 2412MHz Ant1



PSD NVNT b 2437MHz Ant1

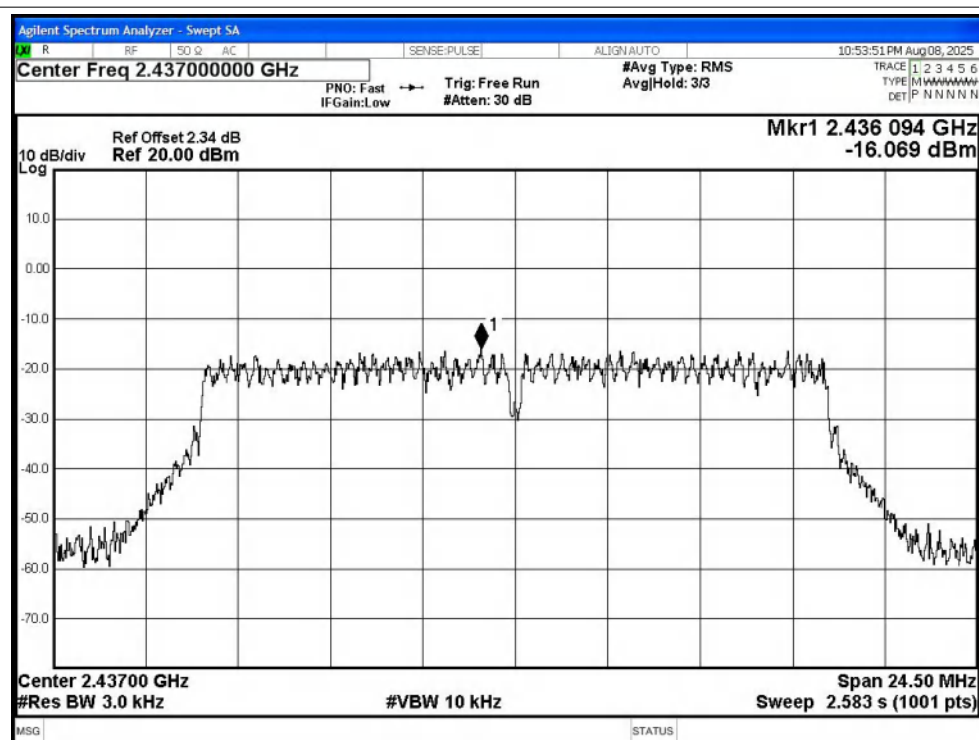


LCSC07315004EC

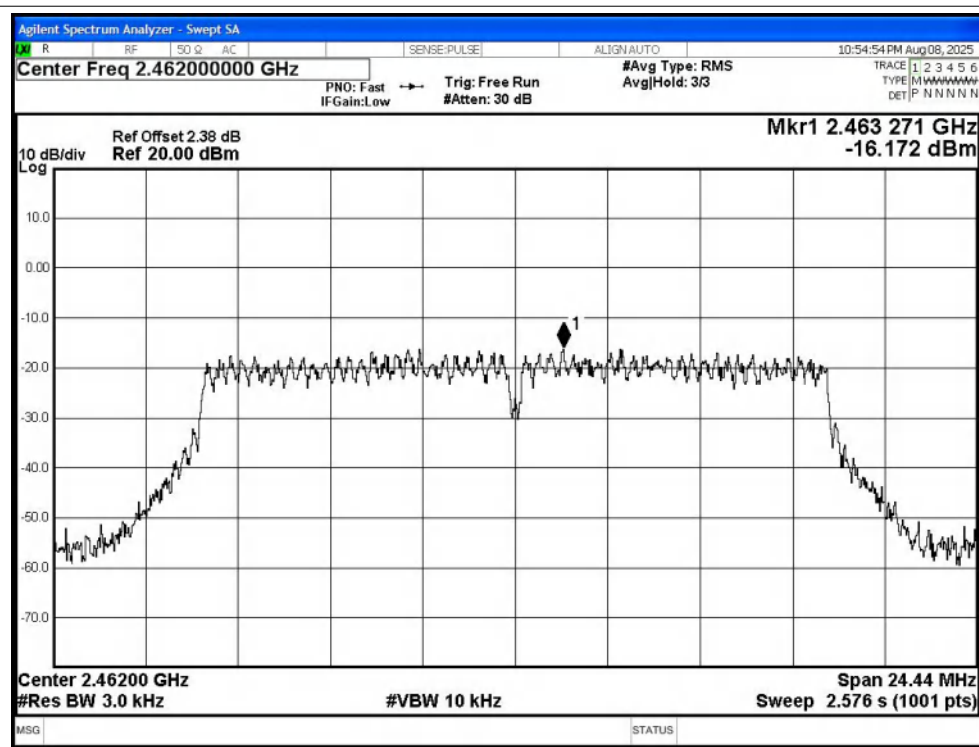


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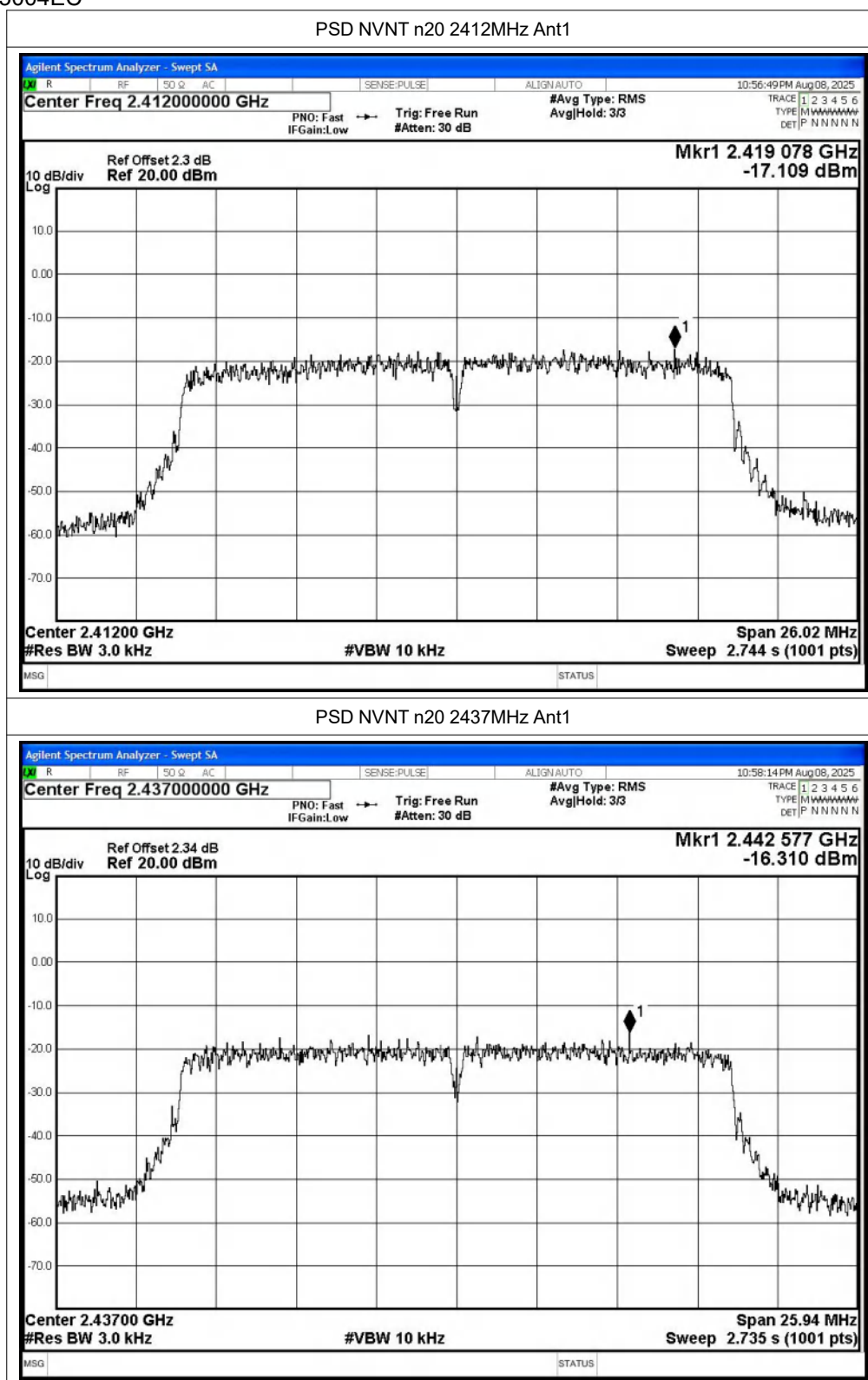
PSD NVNT g 2437MHz Ant1



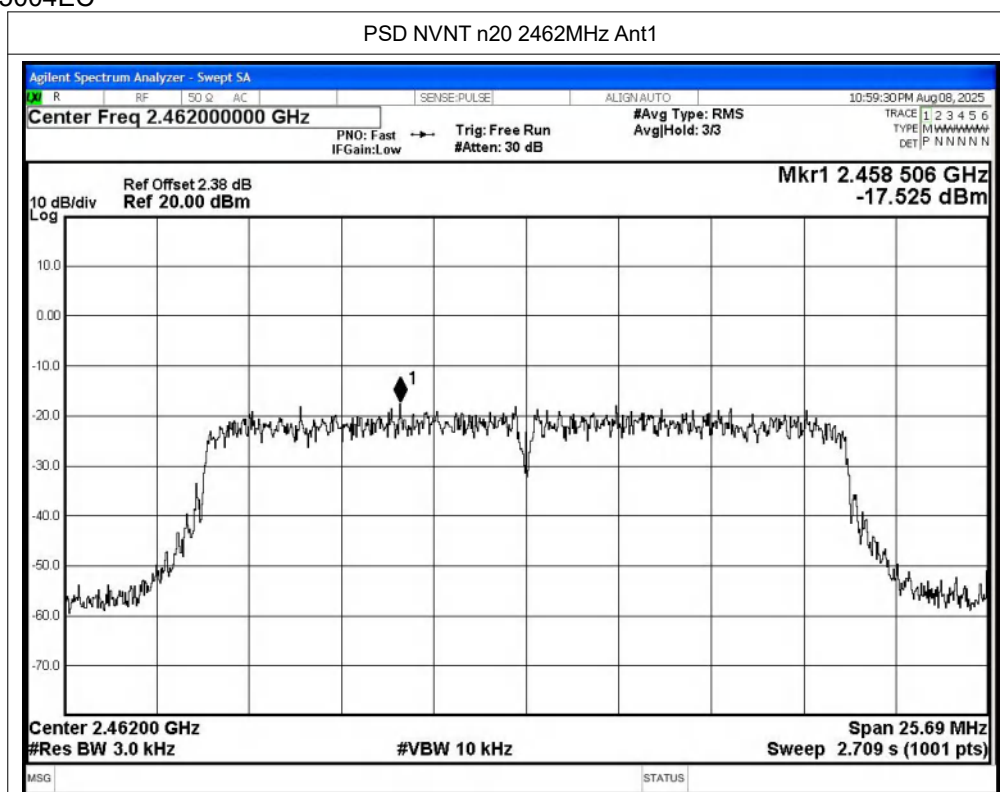
PSD NVNT g 2462MHz Ant1



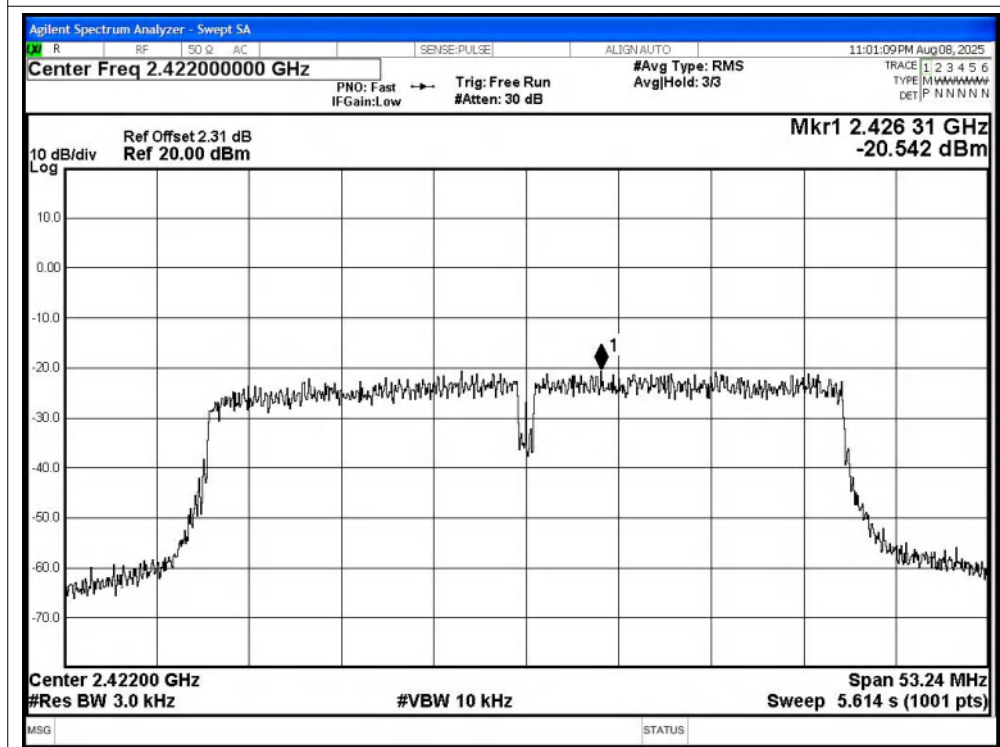
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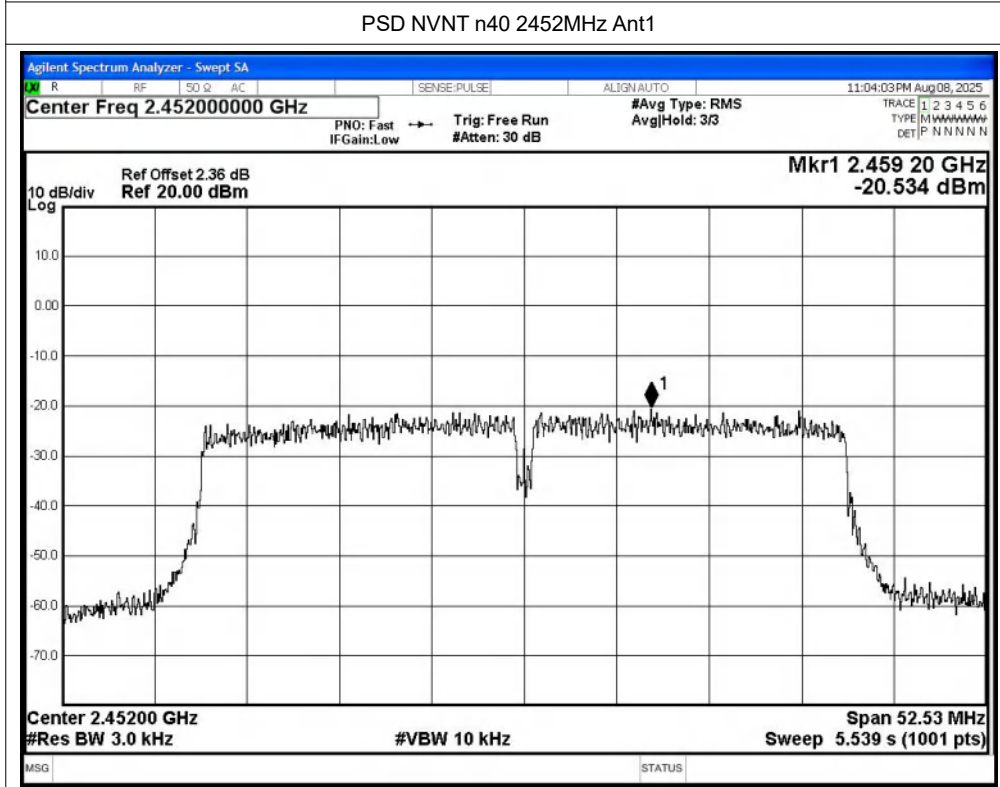
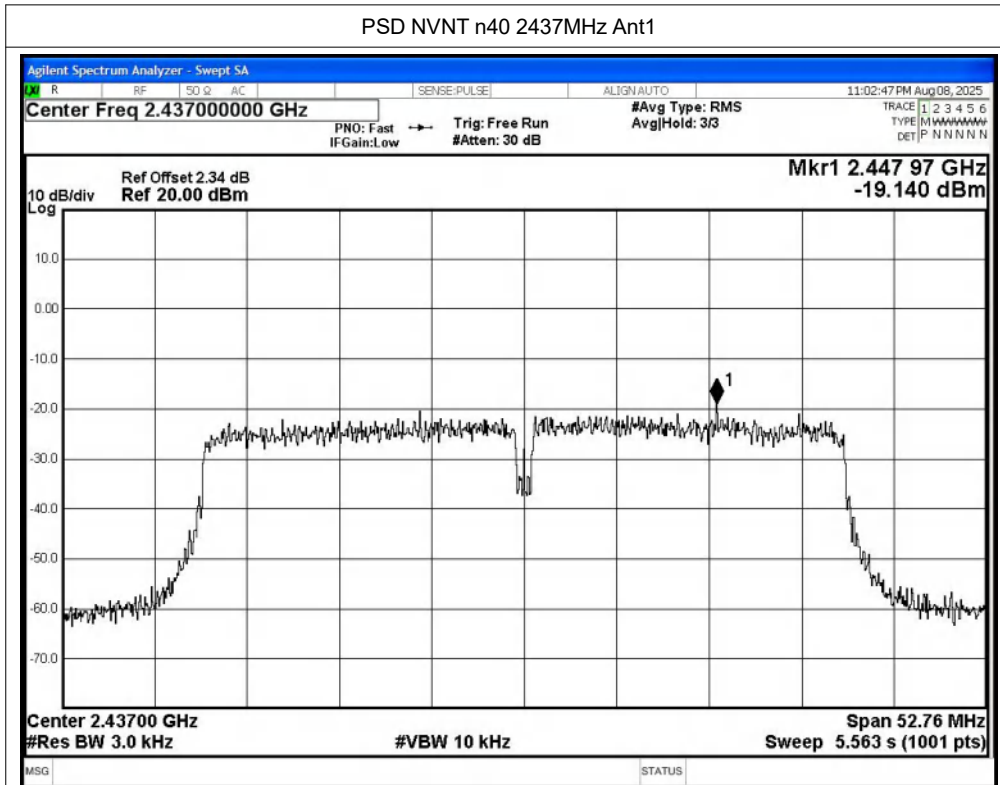
LCSC07315004EC



PSD NVNT n40 2422MHz Ant1



LCSC07315004EC

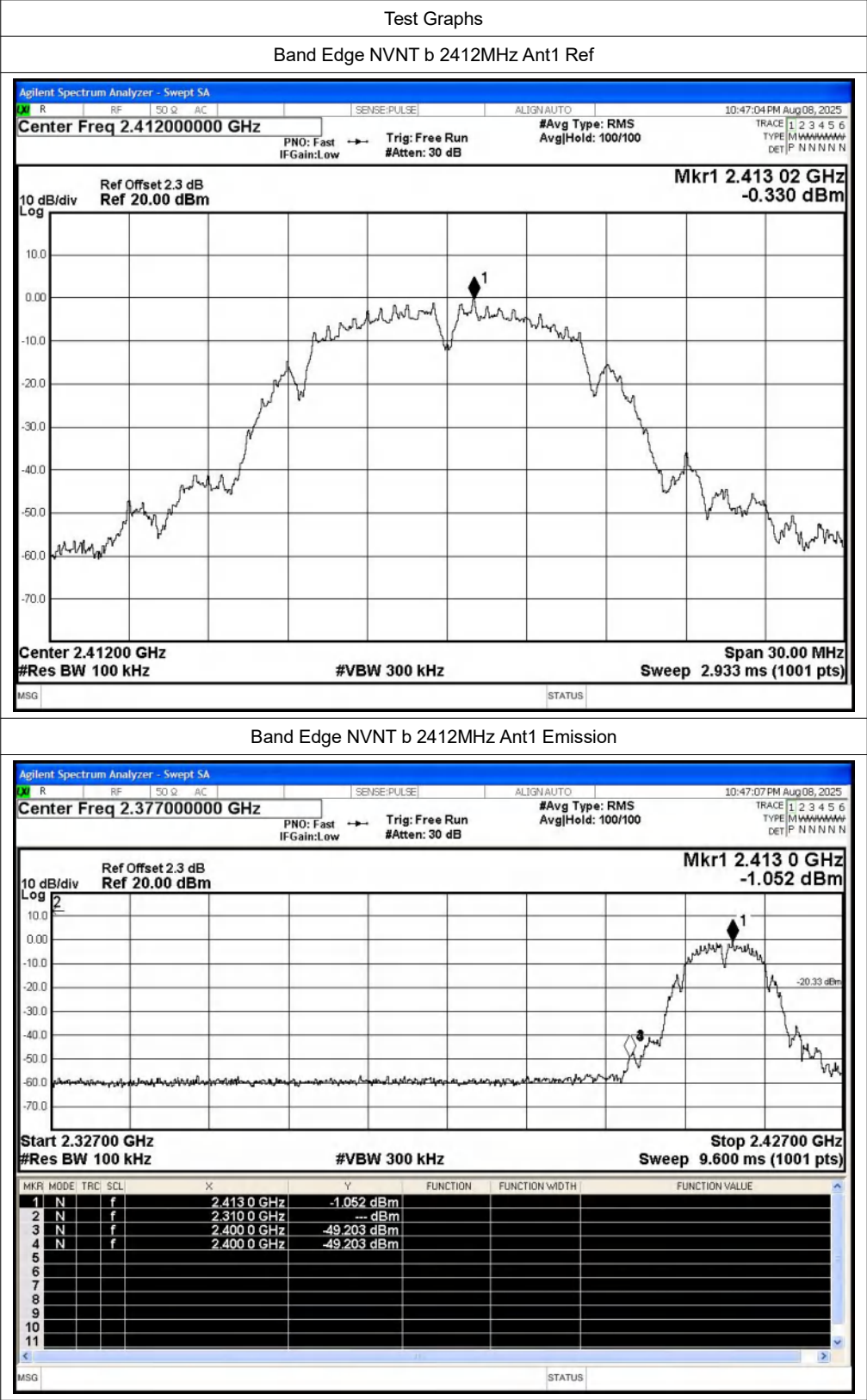


LCSC07315004EC

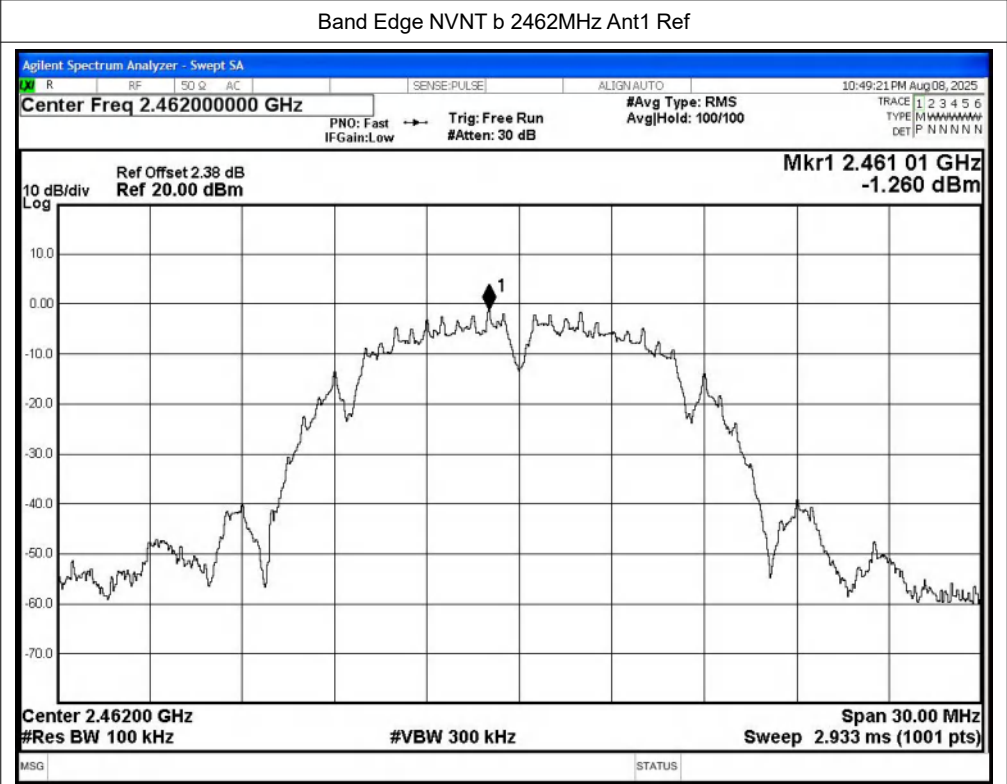
C.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-48.87	-20	Pass
NVNT	b	2462	Ant1	-55.89	-20	Pass
NVNT	g	2412	Ant1	-33.18	-20	Pass
NVNT	g	2462	Ant1	-44.42	-20	Pass
NVNT	n20	2412	Ant1	-30.05	-20	Pass
NVNT	n20	2462	Ant1	-39.18	-20	Pass
NVNT	n40	2422	Ant1	-35.25	-20	Pass
NVNT	n40	2452	Ant1	-35.84	-20	Pass

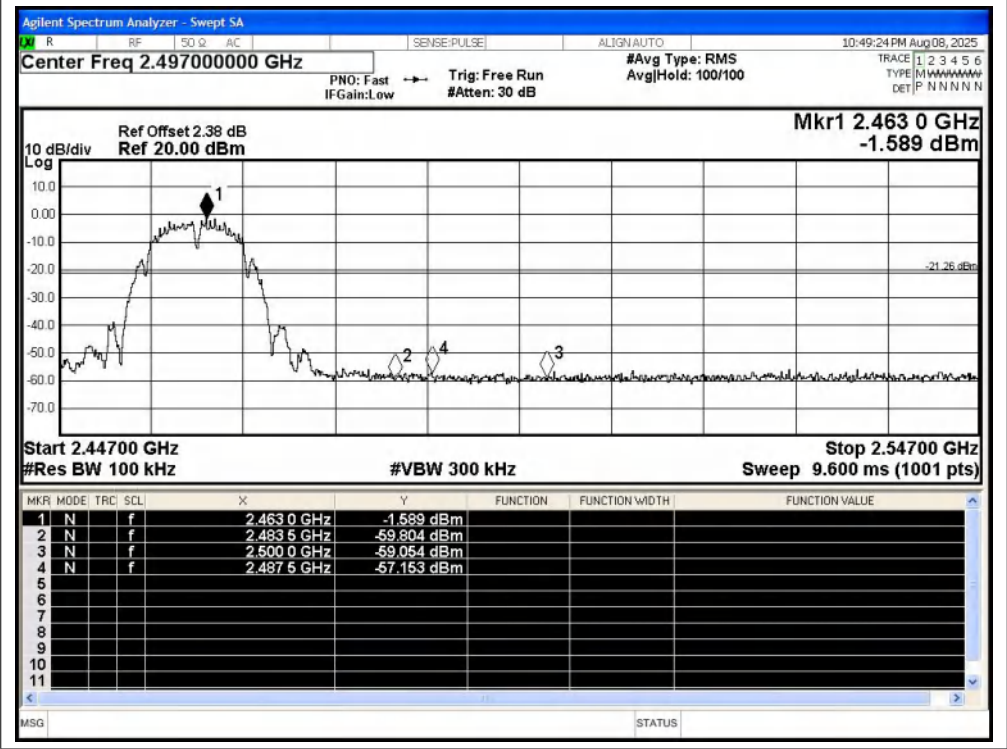
LCSC07315004EC



LCSC07315004EC

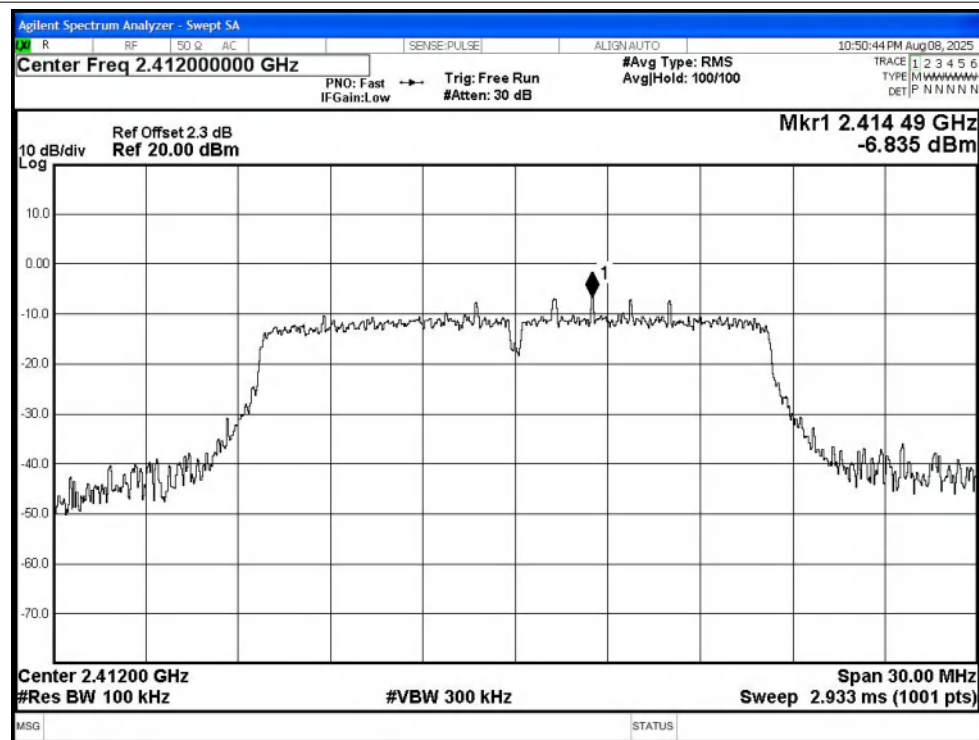


Band Edge NVNT b 2462MHz Ant1 Emission

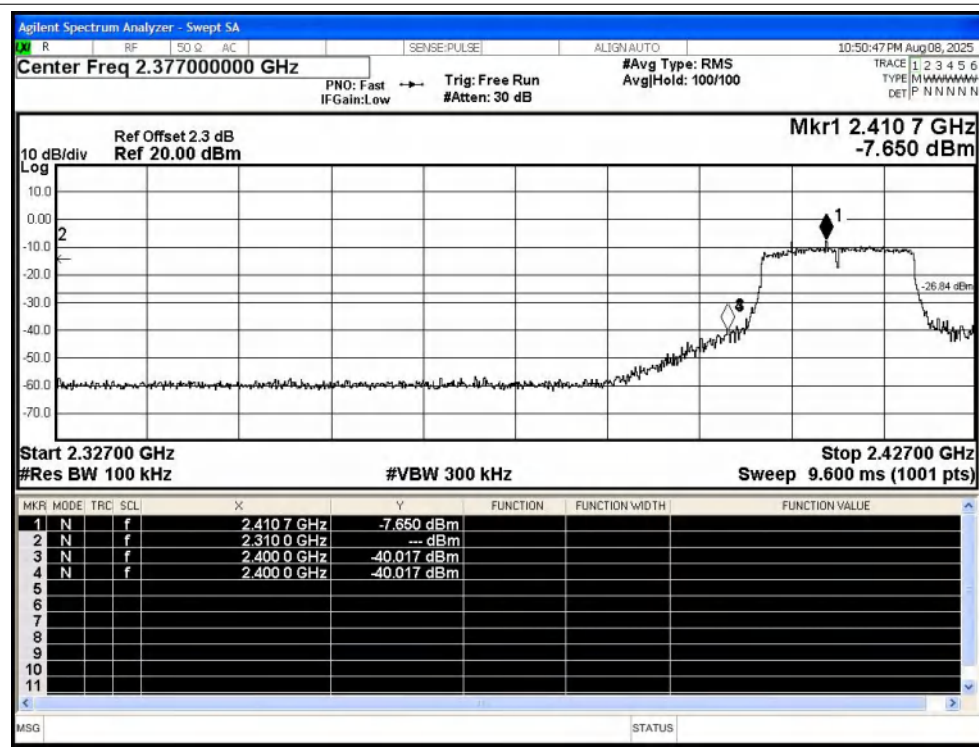


LCSC07315004EC

Band Edge NVNT g 2412MHz Ant1 Ref

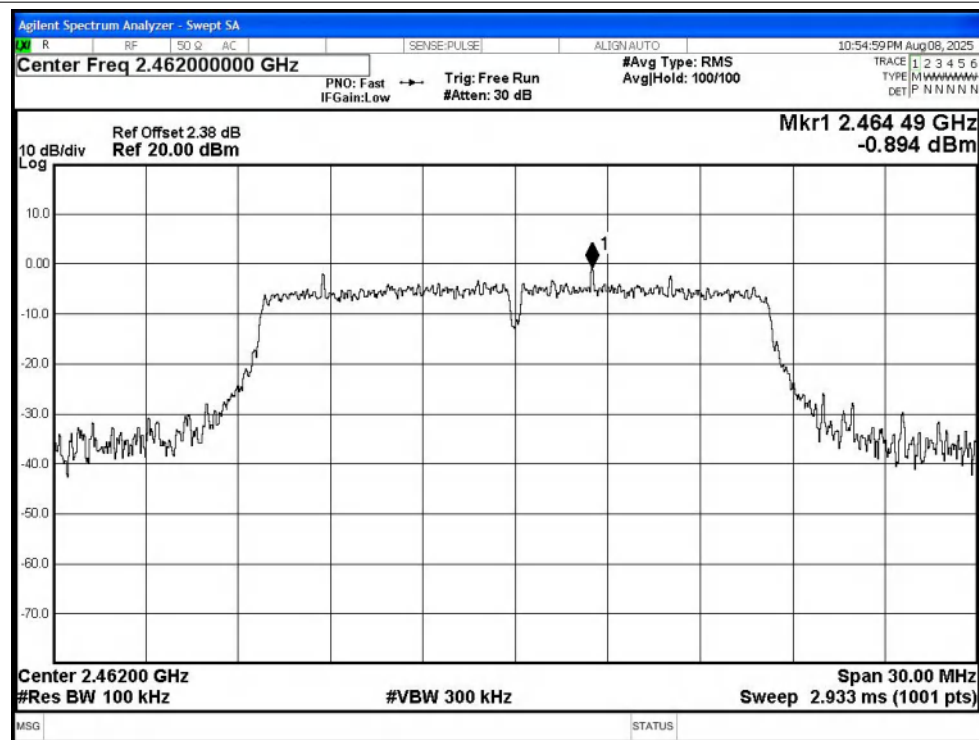


Band Edge NVNT g 2412MHz Ant1 Emission

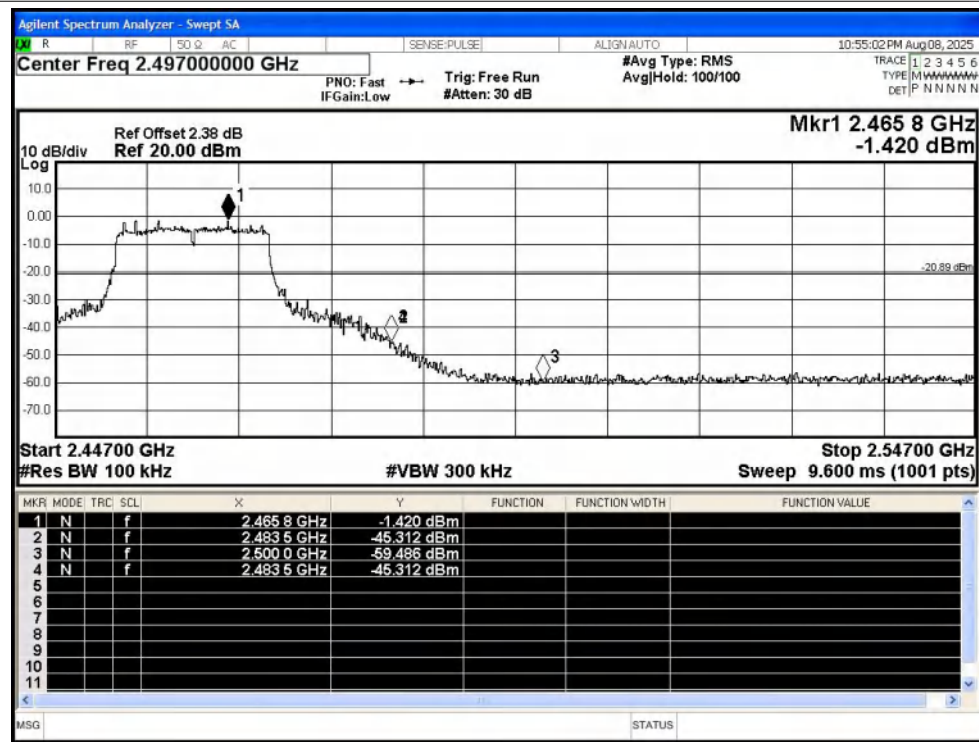


LCSC07315004EC

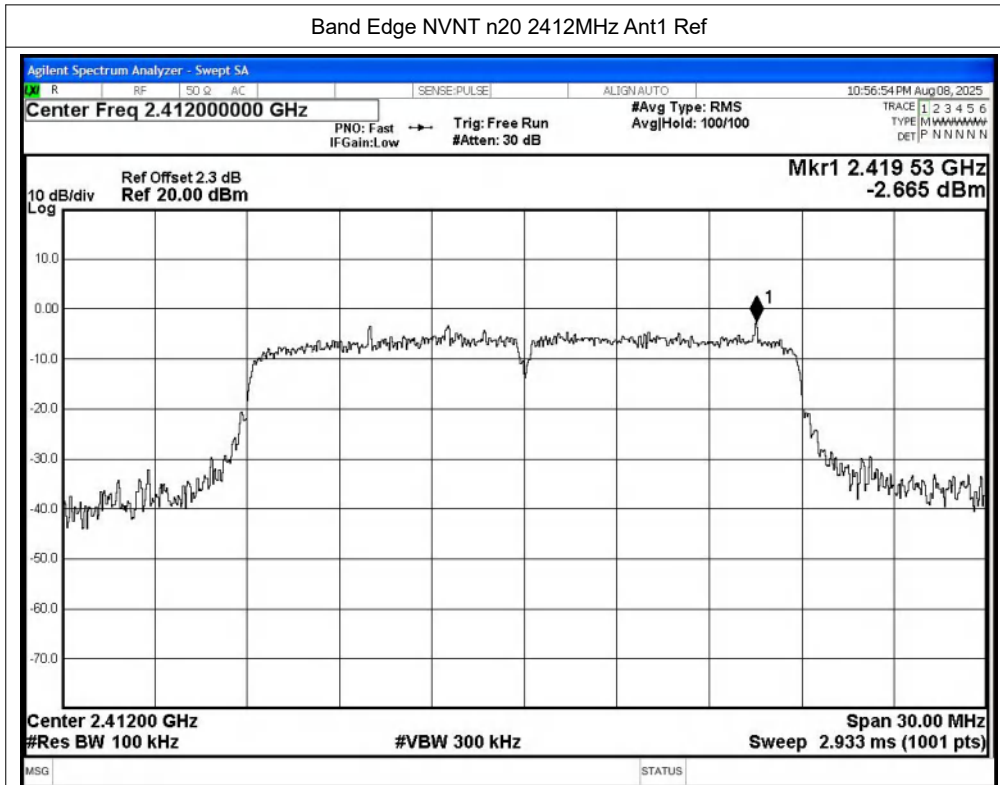
Band Edge NVNT g 2462MHz Ant1 Ref



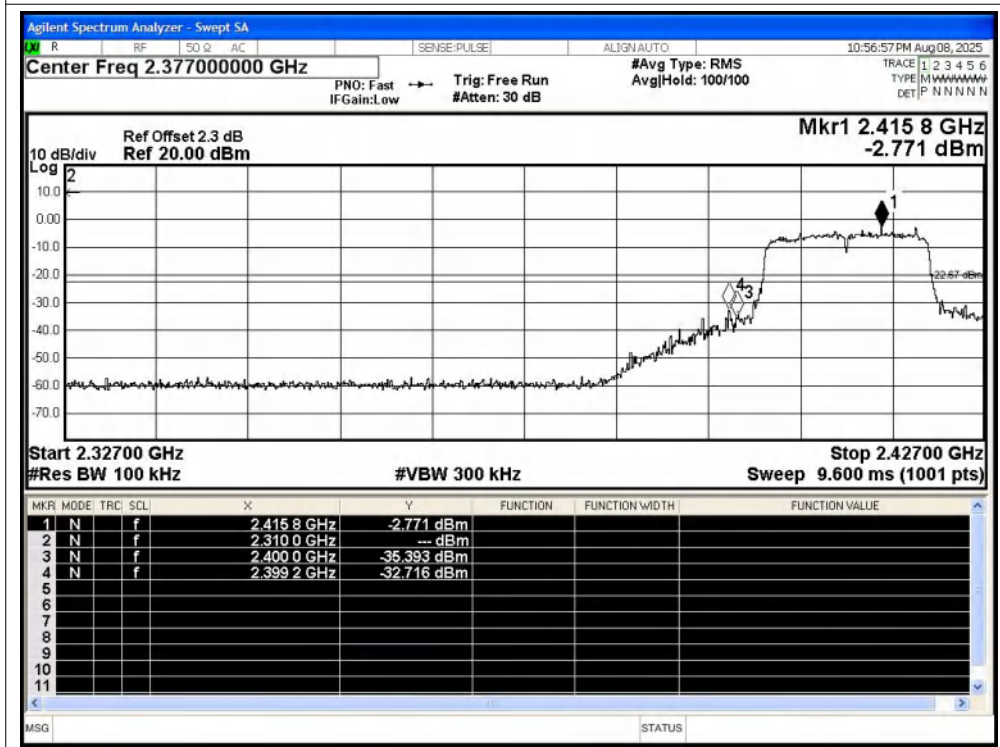
Band Edge NVNT g 2462MHz Ant1 Emission



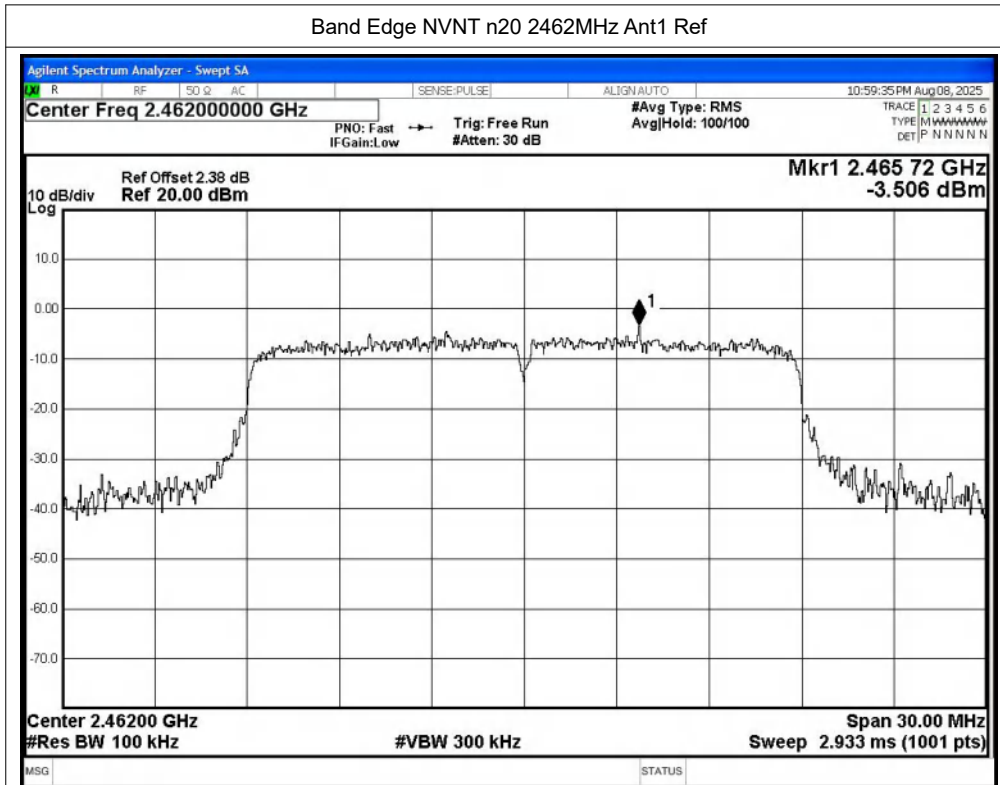
LCSC07315004EC



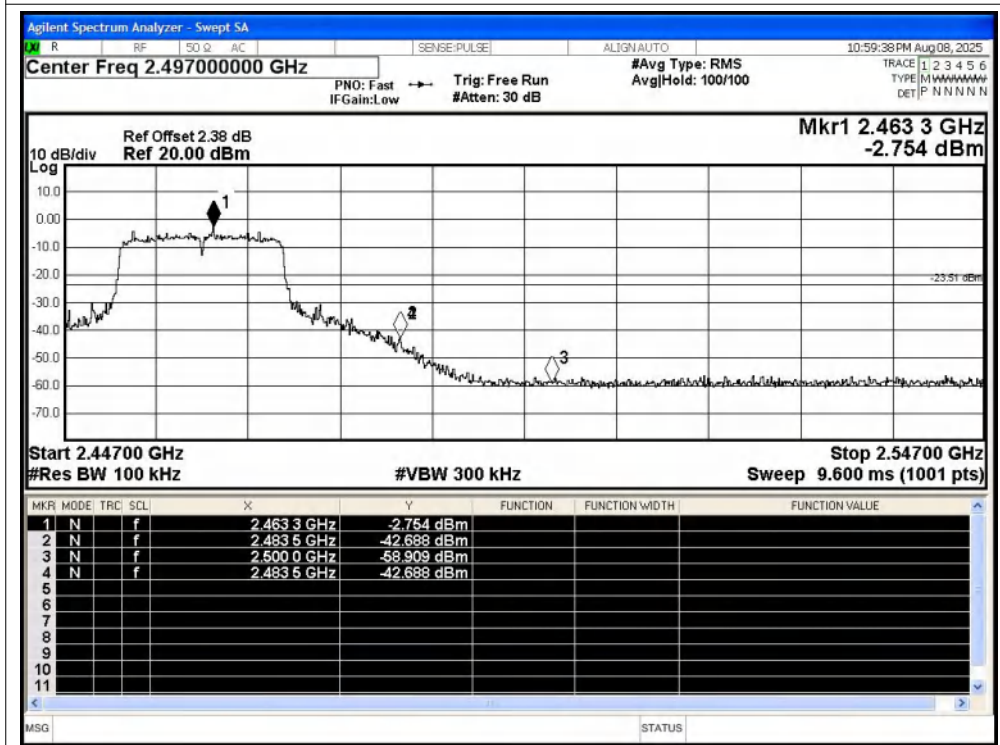
Band Edge NVNT n20 2412MHz Ant1 Emission



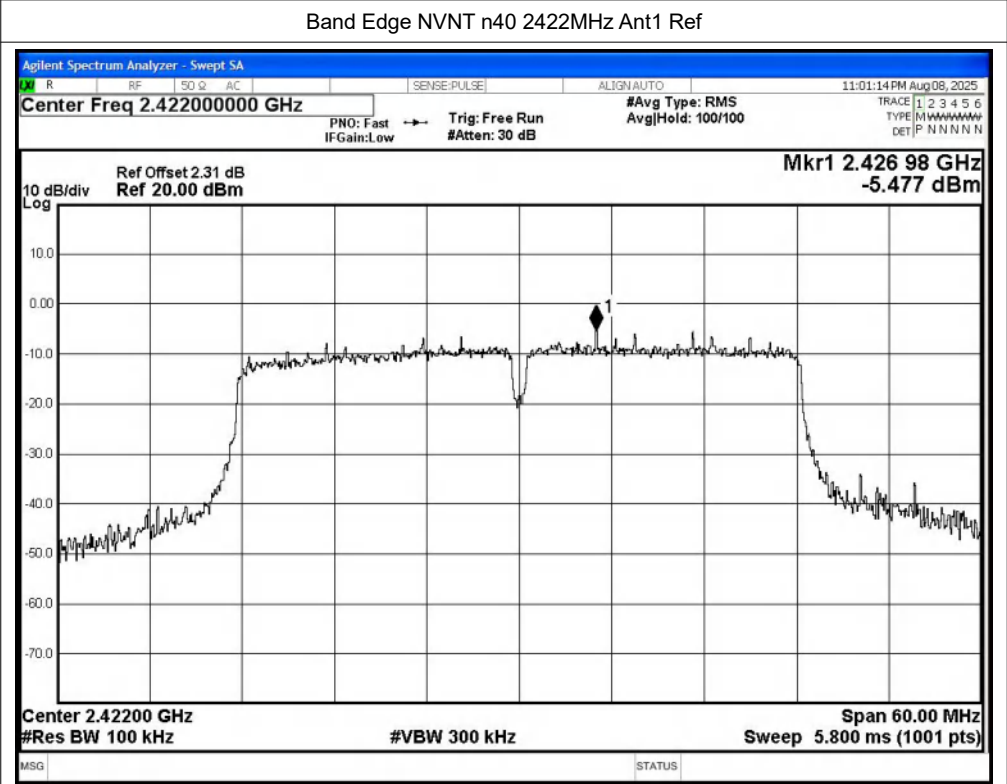
LCSC07315004EC



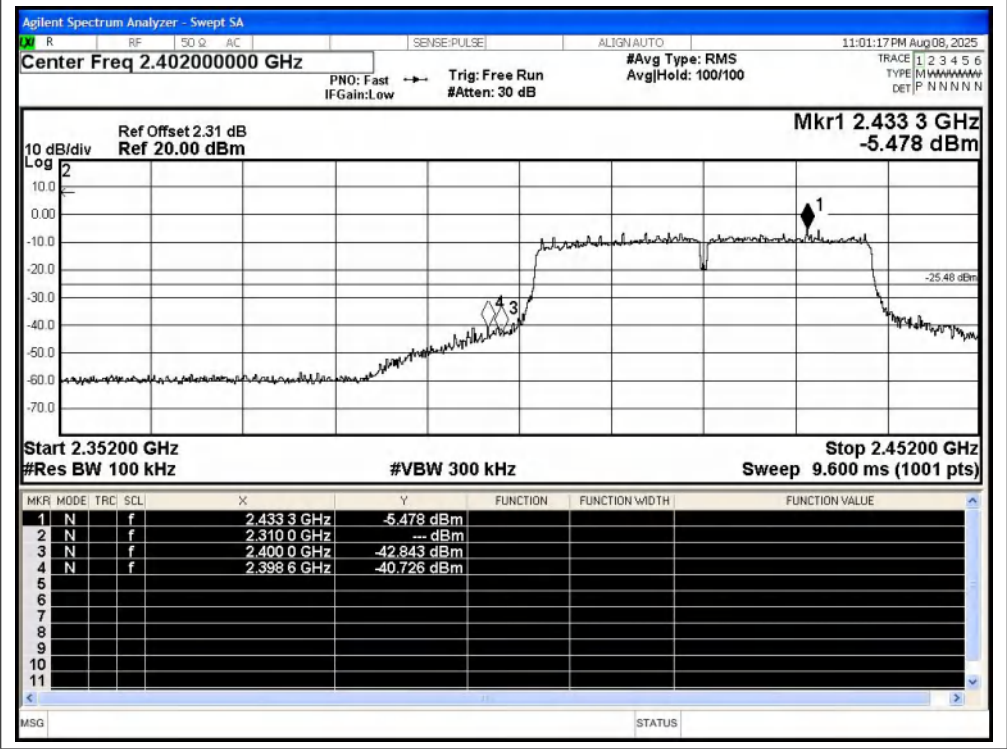
Band Edge NVNT n20 2462MHz Ant1 Emission



LCSC07315004EC

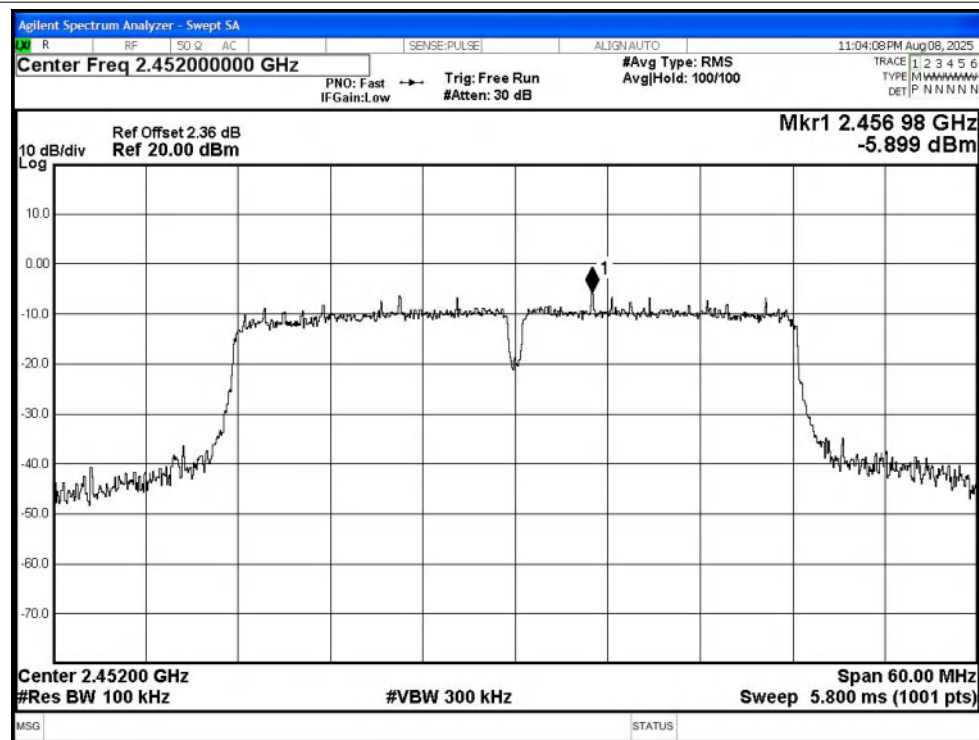


Band Edge NVNT n40 2422MHz Ant1 Emission

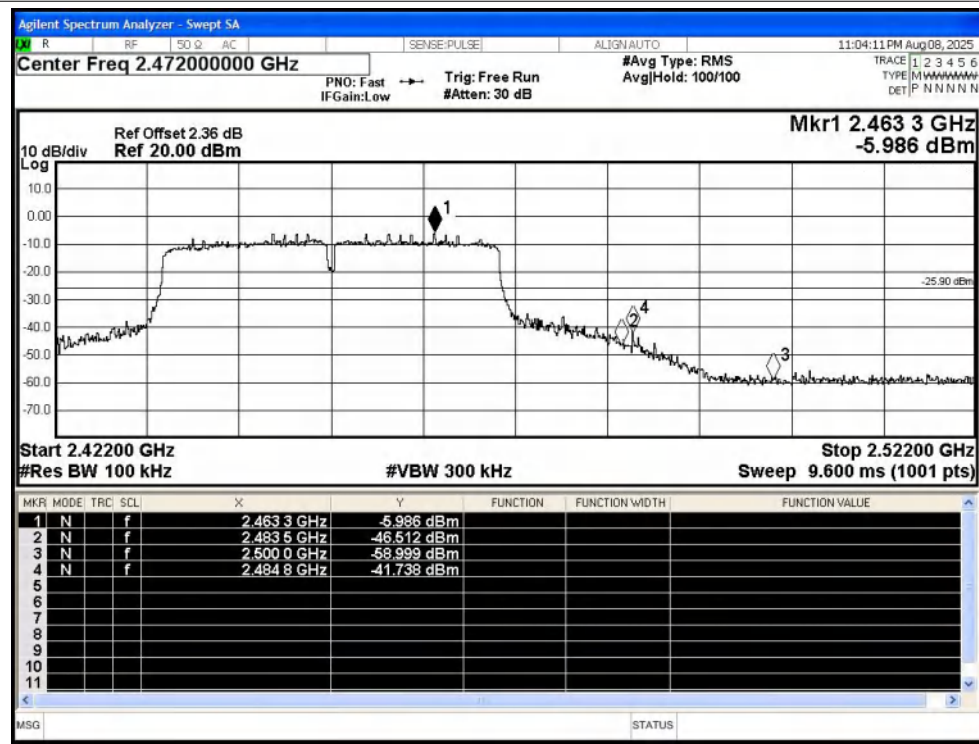


LCSC07315004EC

Band Edge NVNT n40 2452MHz Ant1 Ref



Band Edge NVNT n40 2452MHz Ant1 Emission



LCSC07315004EC

C.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-45.47	-20	Pass
NVNT	b	2437	Ant1	-44.61	-20	Pass
NVNT	b	2462	Ant1	-44.04	-20	Pass
NVNT	g	2412	Ant1	-37.75	-20	Pass
NVNT	g	2437	Ant1	-43.81	-20	Pass
NVNT	g	2462	Ant1	-44.04	-20	Pass
NVNT	n20	2412	Ant1	-42.71	-20	Pass
NVNT	n20	2437	Ant1	-43.25	-20	Pass
NVNT	n20	2462	Ant1	-42.89	-20	Pass
NVNT	n40	2422	Ant1	-40.83	-20	Pass
NVNT	n40	2437	Ant1	-38.14	-20	Pass
NVNT	n40	2452	Ant1	-39.19	-20	Pass

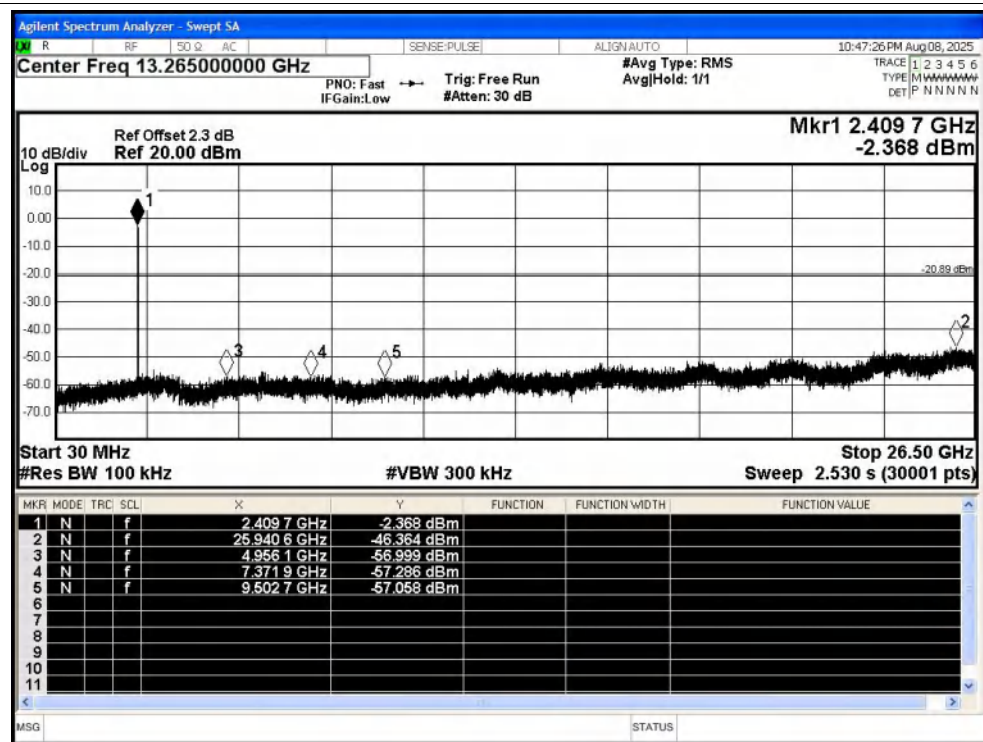
LCSC07315004EC

Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref

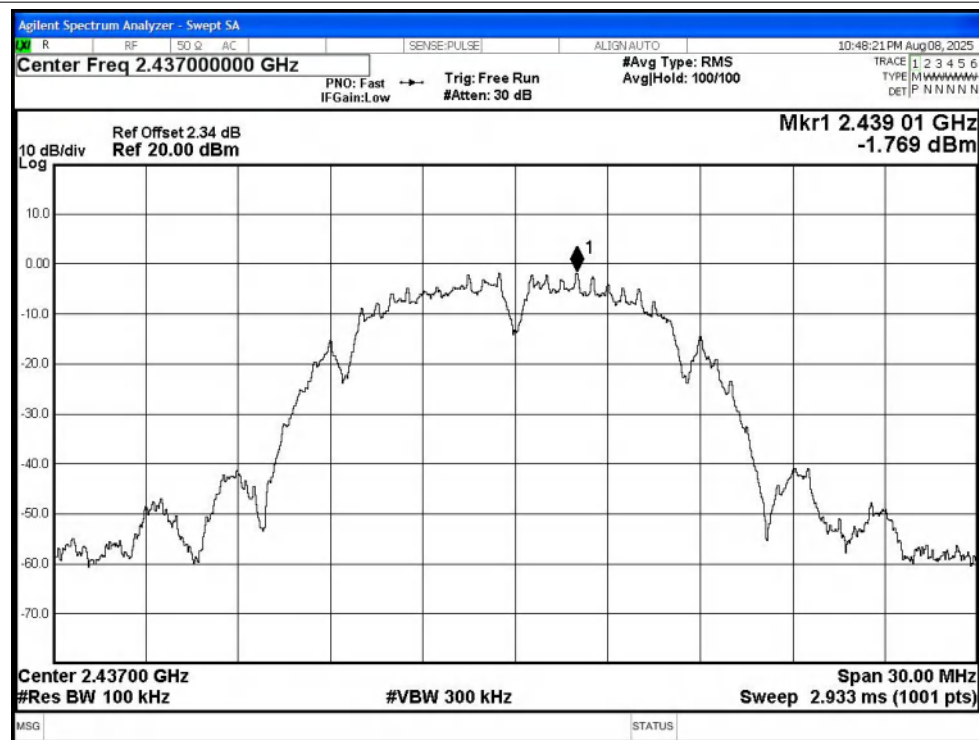


Tx. Spurious NVNT b 2412MHz Ant1 Emission

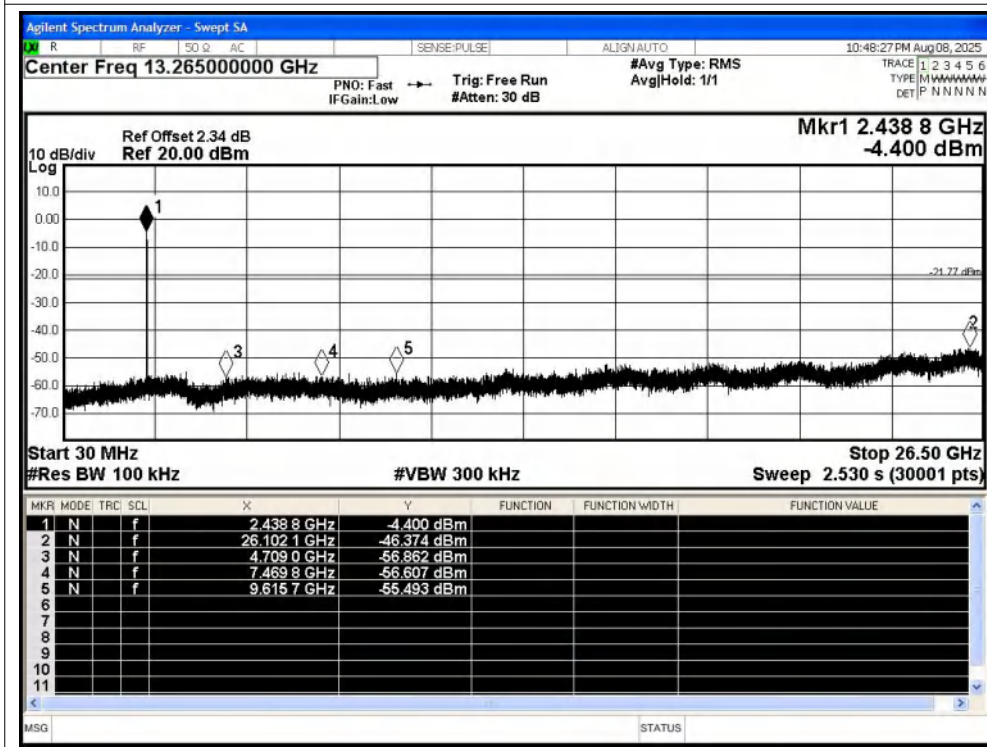


LCSC07315004EC

Tx. Spurious NVNT b 2437MHz Ant1 Ref



Tx. Spurious NVNT b 2437MHz Ant1 Emission

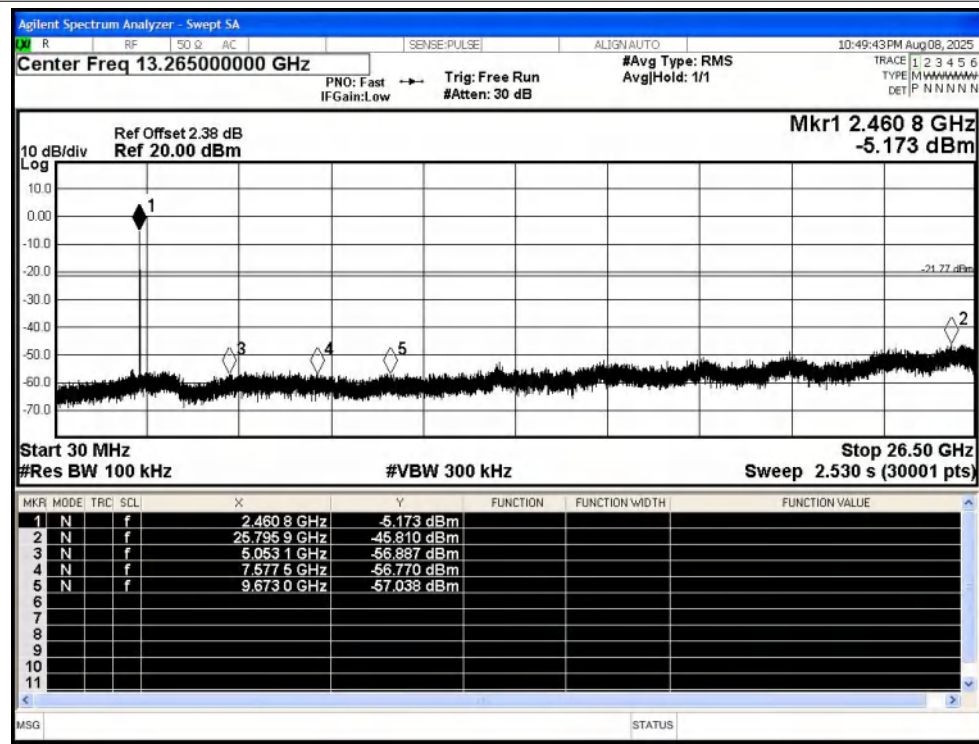


LCSC07315004EC

Tx. Spurious NVNT b 2462MHz Ant1 Ref

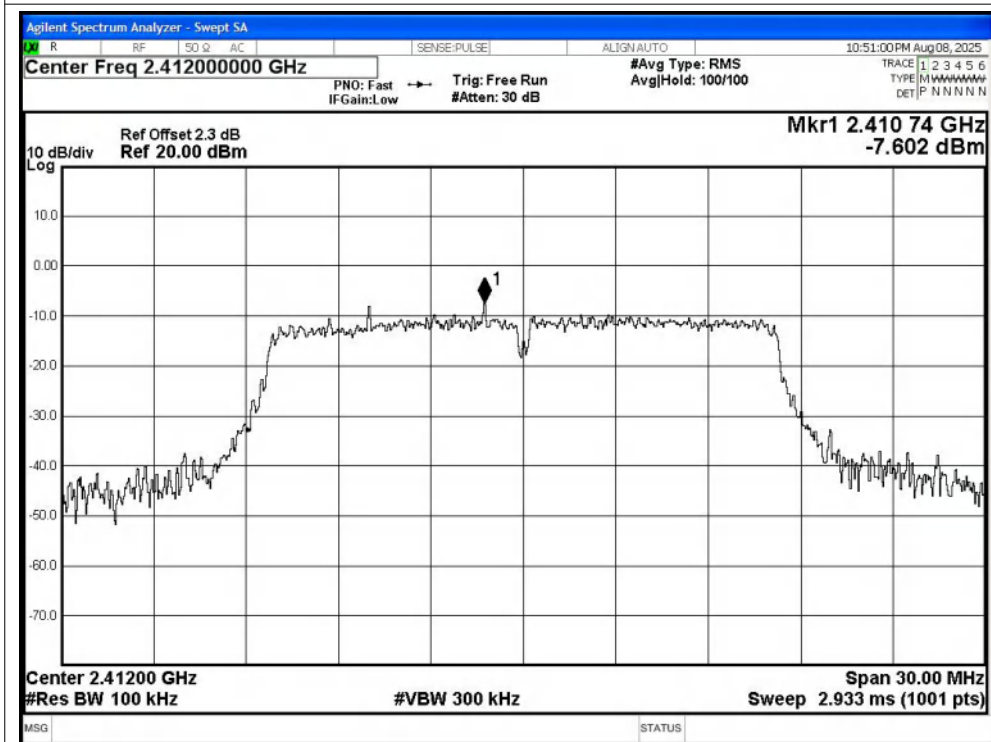


Tx. Spurious NVNT b 2462MHz Ant1 Emission

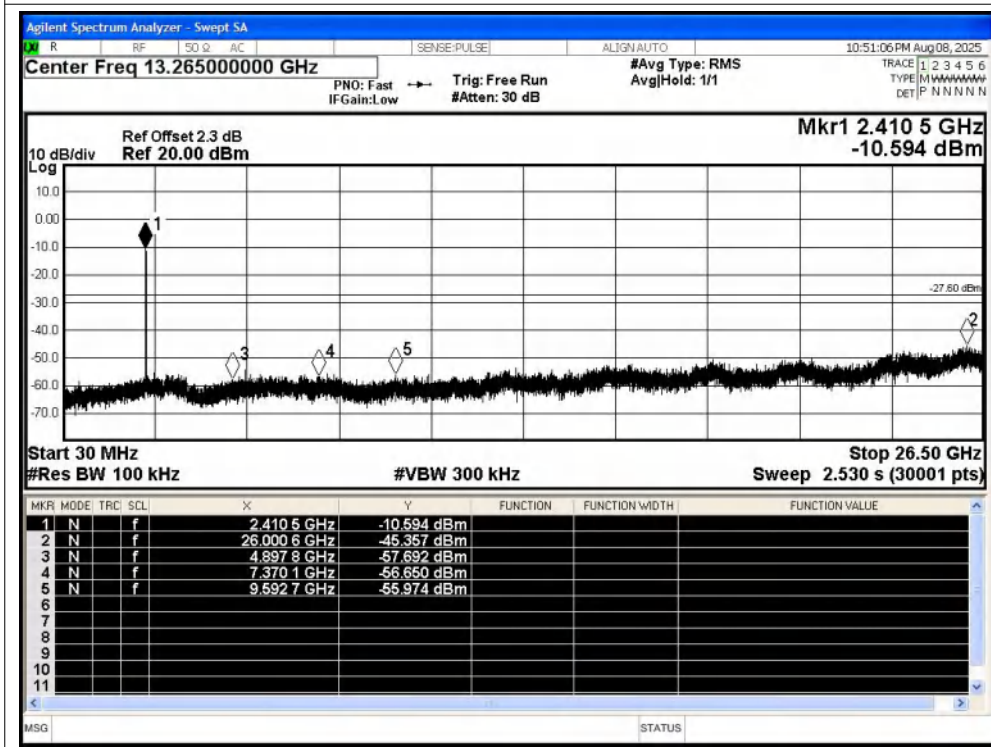


LCSC07315004EC

Tx. Spurious NVNT g 2412MHz Ant1 Ref

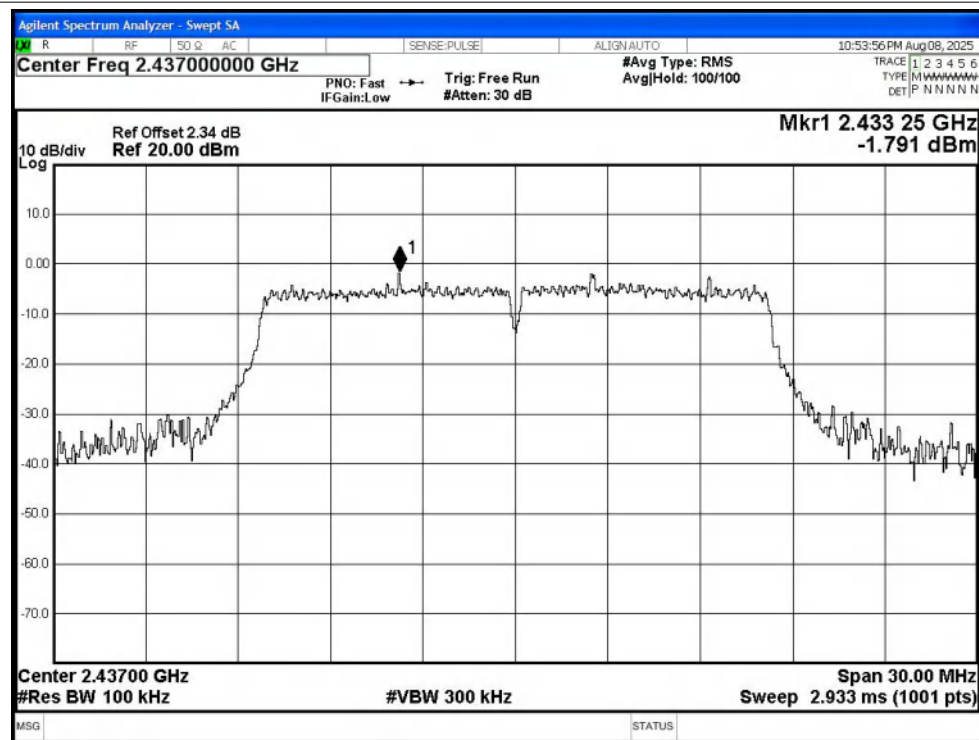


Tx. Spurious NVNT g 2412MHz Ant1 Emission

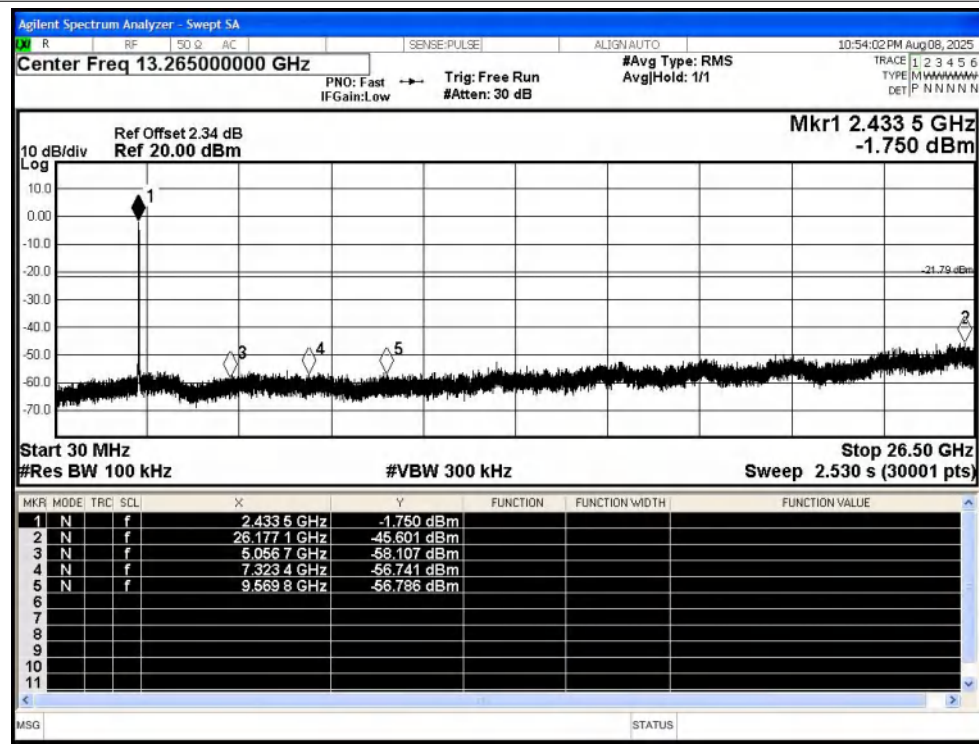


LCSC07315004EC

Tx. Spurious NVNT g 2437MHz Ant1 Ref

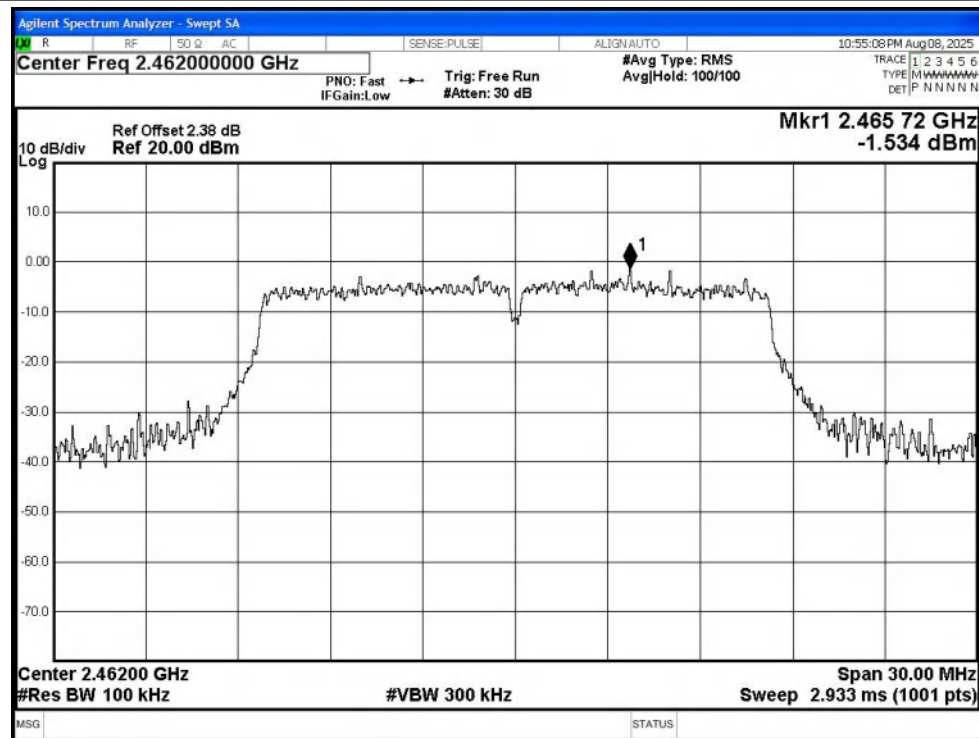


Tx. Spurious NVNT g 2437MHz Ant1 Emission

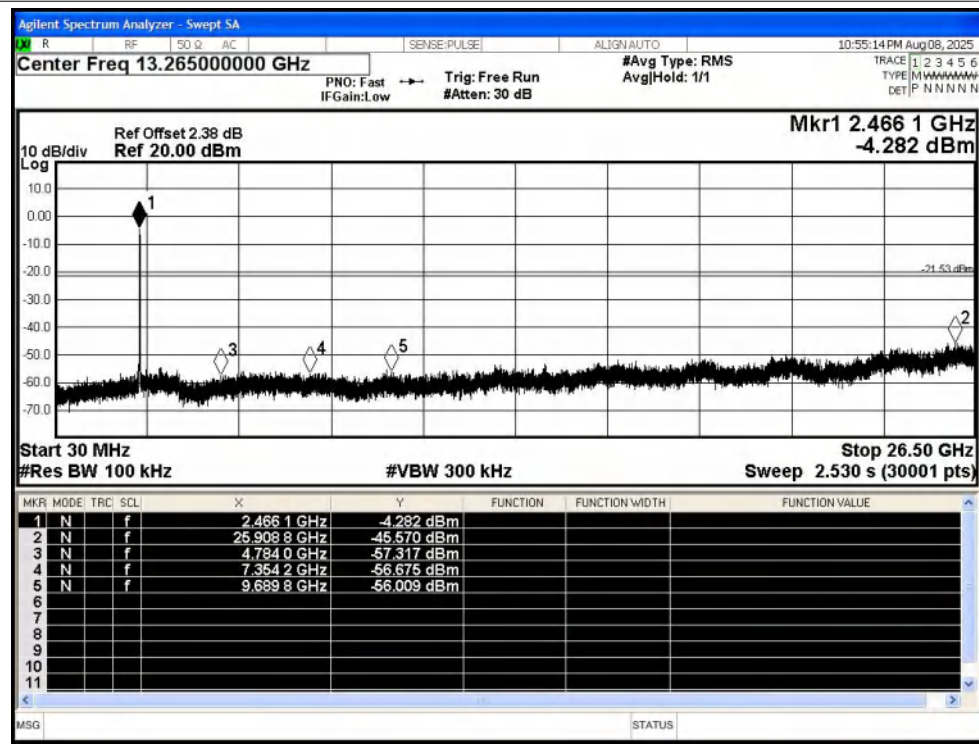


LCSC07315004EC

Tx. Spurious NVNT g 2462MHz Ant1 Ref

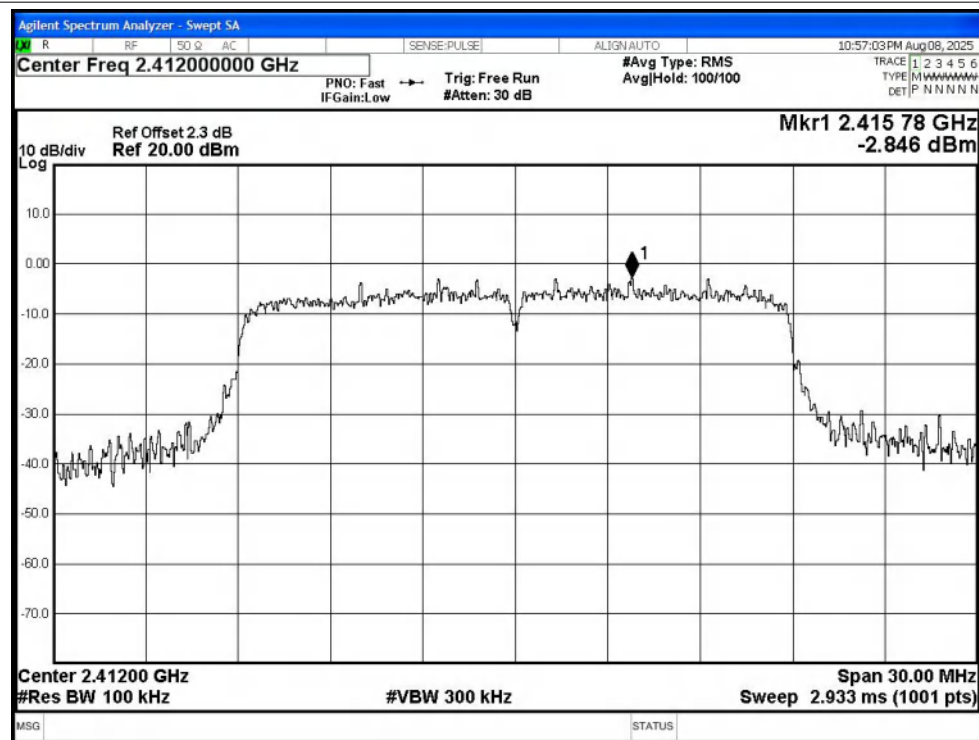


Tx. Spurious NVNT g 2462MHz Ant1 Emission

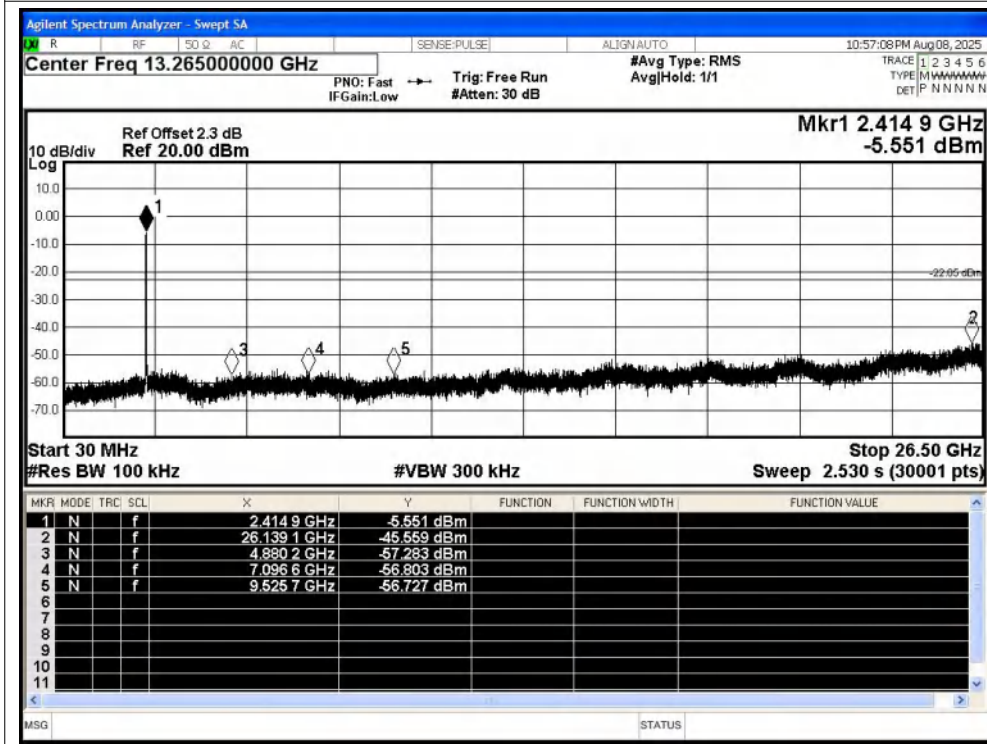


LCSC07315004EC

Tx. Spurious NVNT n20 2412MHz Ant1 Ref

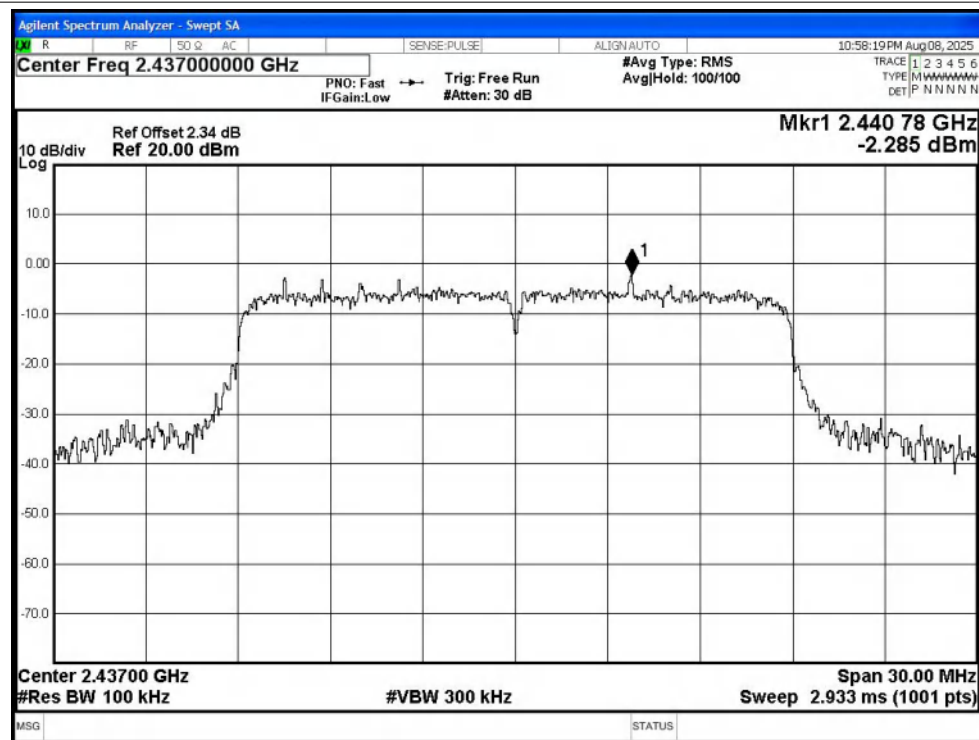


Tx. Spurious NVNT n20 2412MHz Ant1 Emission

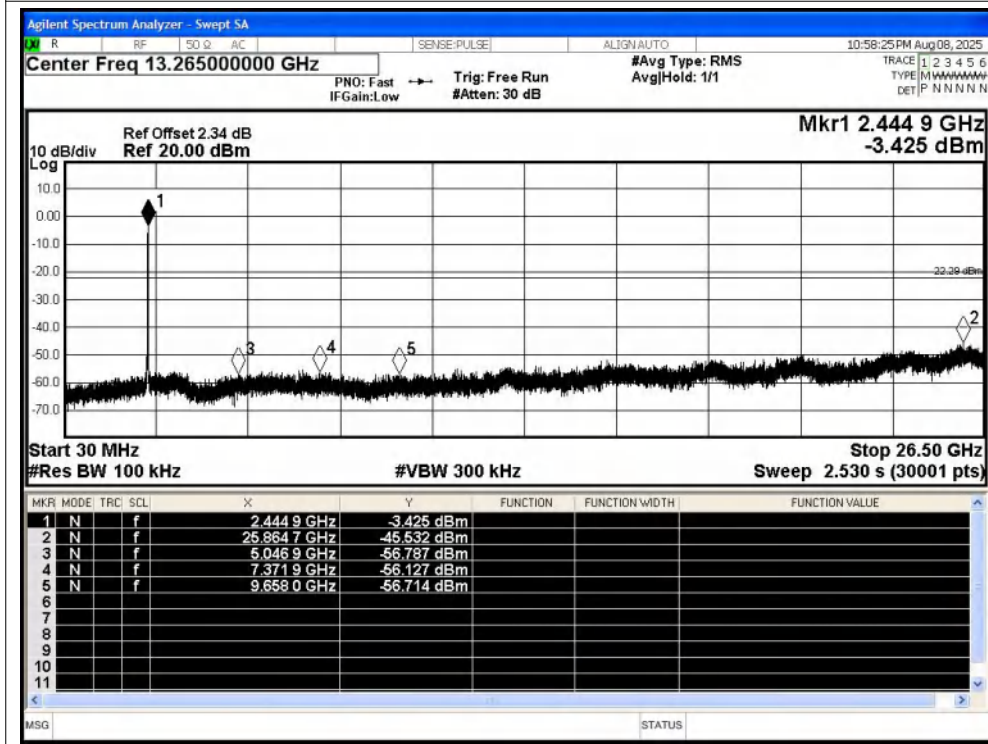


LCSC07315004EC

Tx. Spurious NVNT n20 2437MHz Ant1 Ref

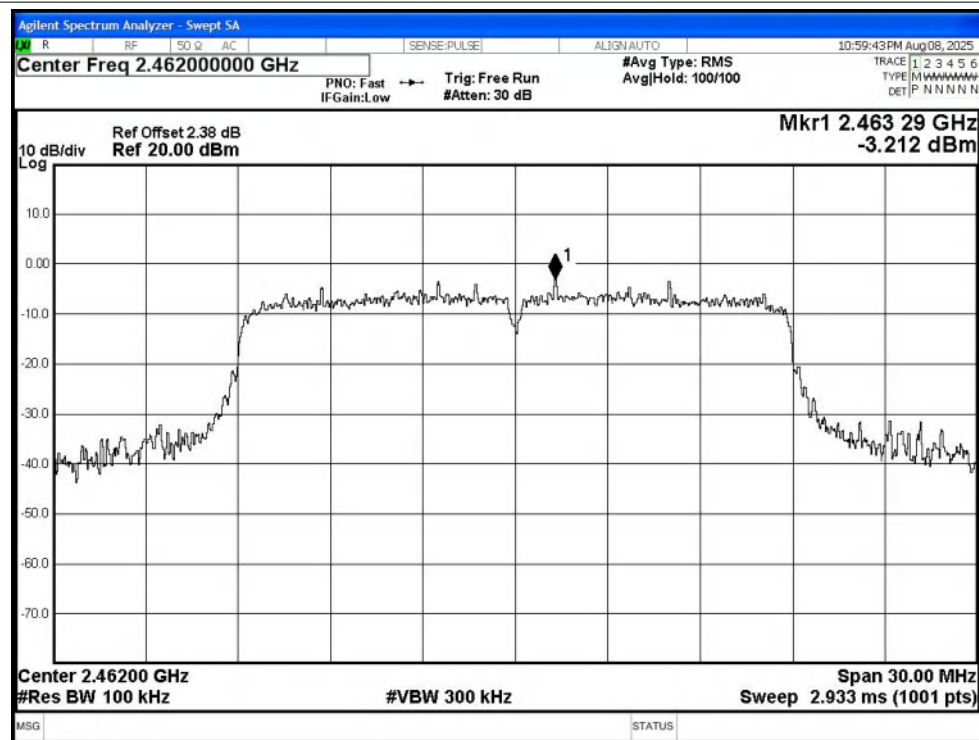


Tx. Spurious NVNT n20 2437MHz Ant1 Emission

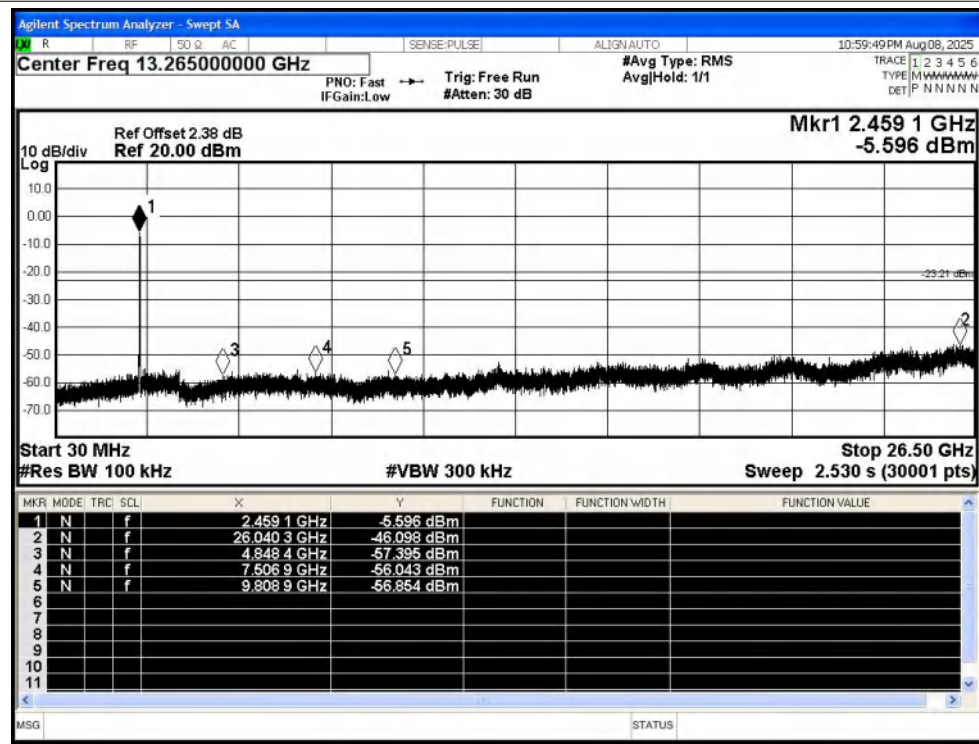


LCSC07315004EC

Tx. Spurious NVNT n20 2462MHz Ant1 Ref

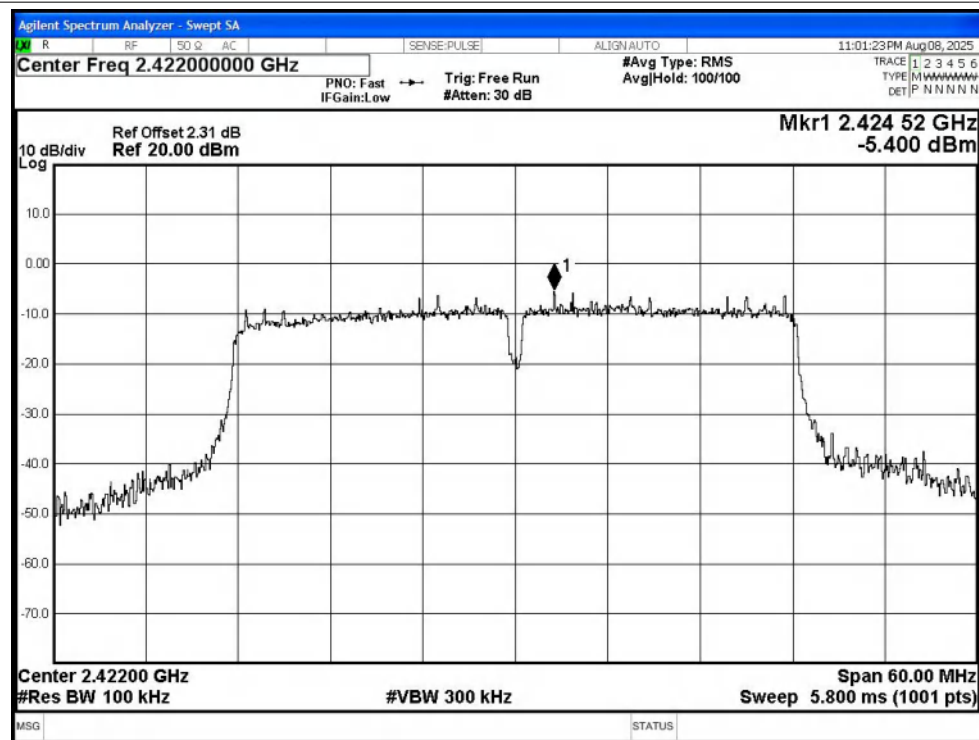


Tx. Spurious NVNT n20 2462MHz Ant1 Emission

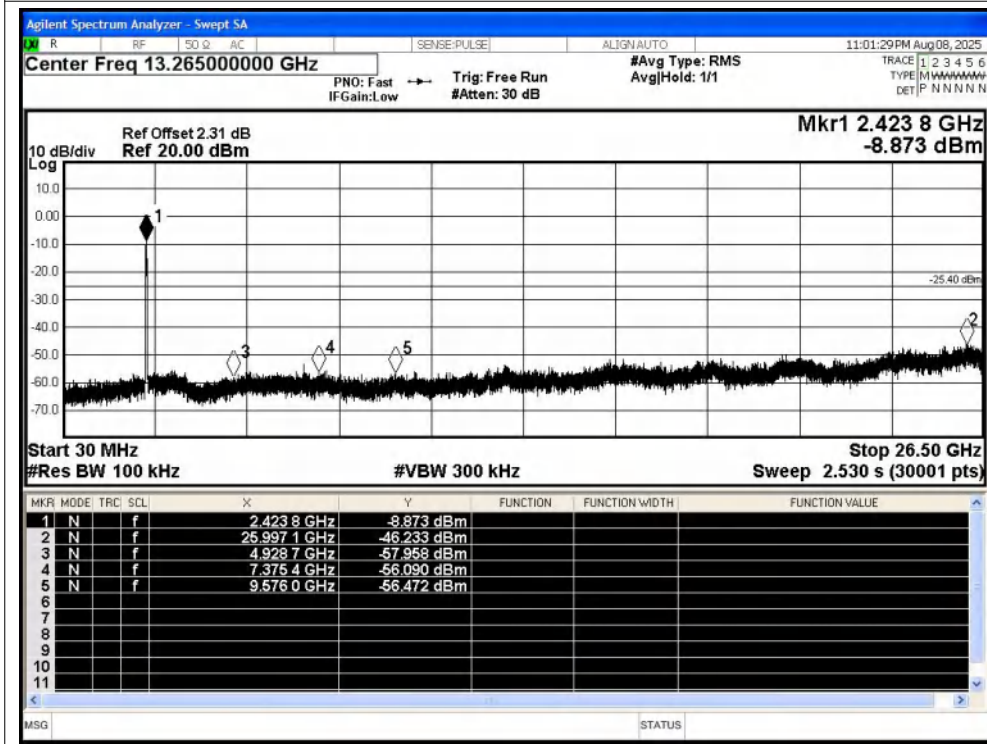


LCSC07315004EC

Tx. Spurious NVNT n40 2422MHz Ant1 Ref

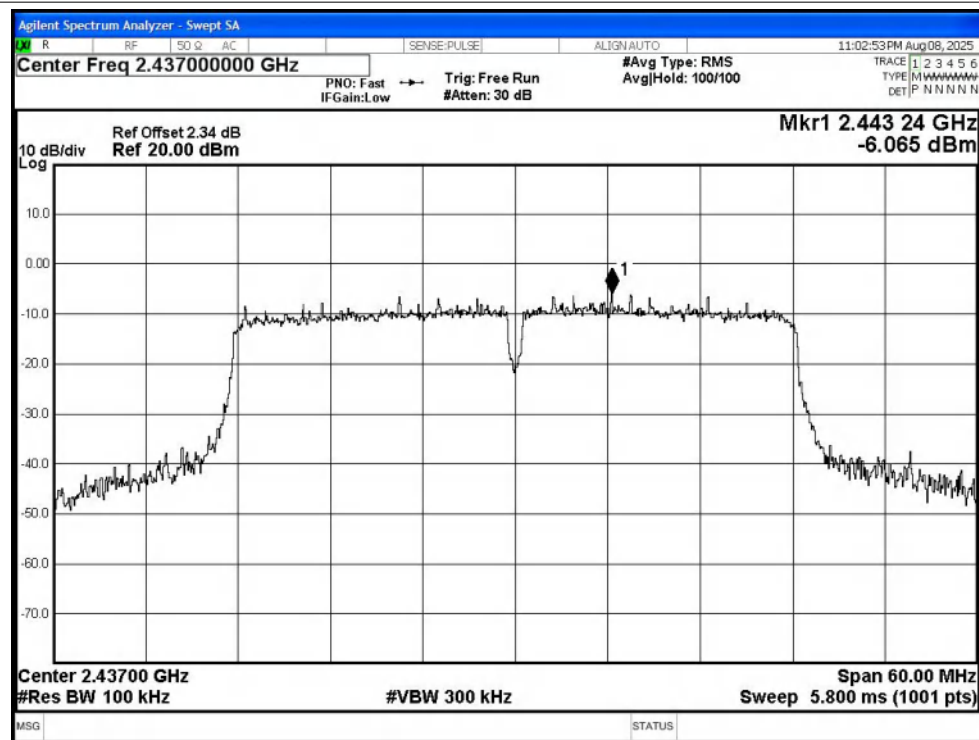


Tx. Spurious NVNT n40 2422MHz Ant1 Emission

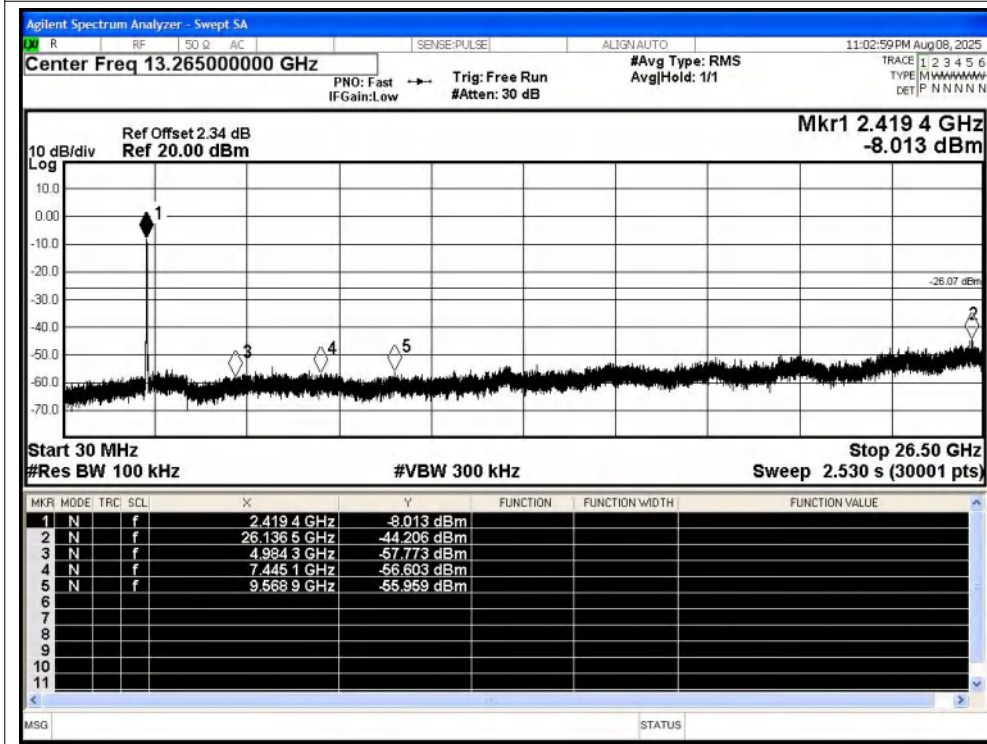


LCSC07315004EC

Tx. Spurious NVNT n40 2437MHz Ant1 Ref

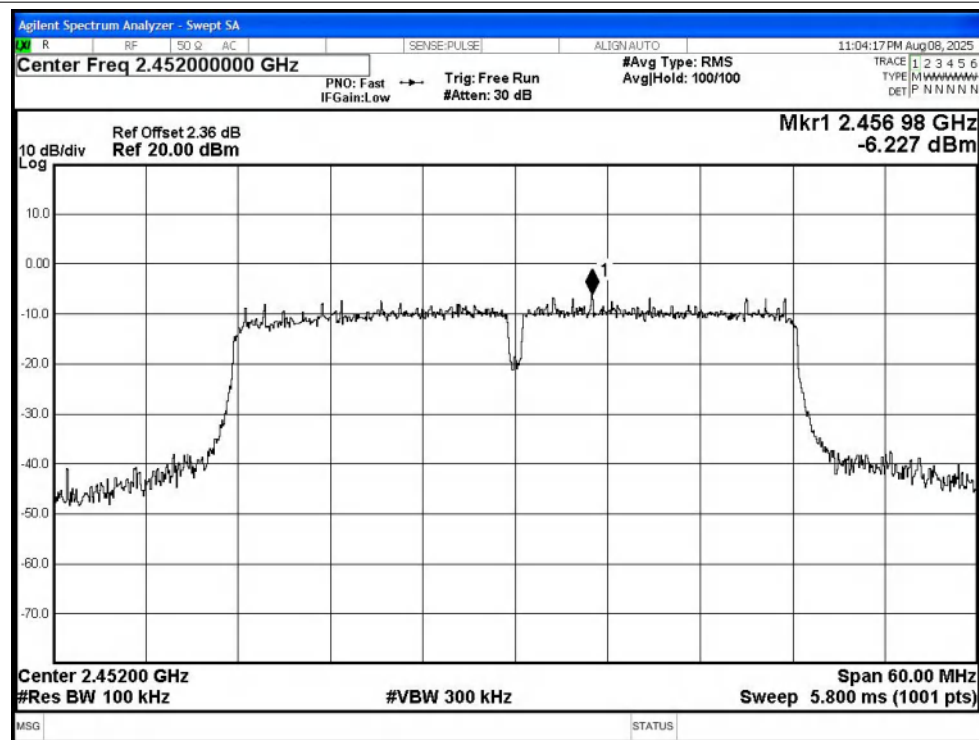


Tx. Spurious NVNT n40 2437MHz Ant1 Emission

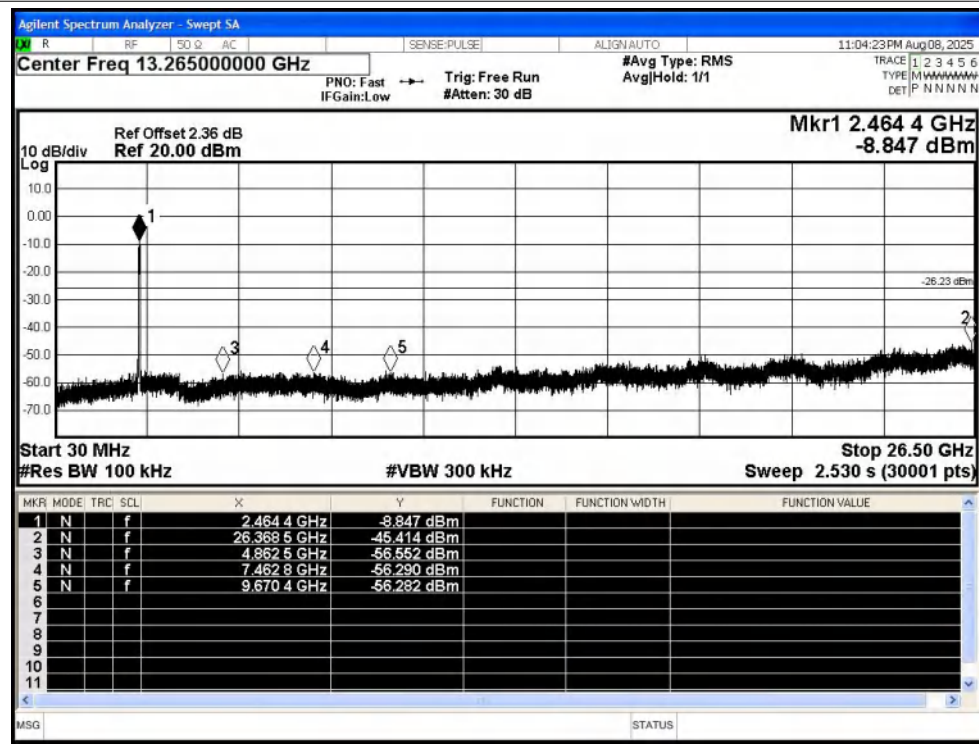


LCSC07315004EC

Tx. Spurious NVNT n40 2452MHz Ant1 Ref



Tx. Spurious NVNT n40 2452MHz Ant1 Emission

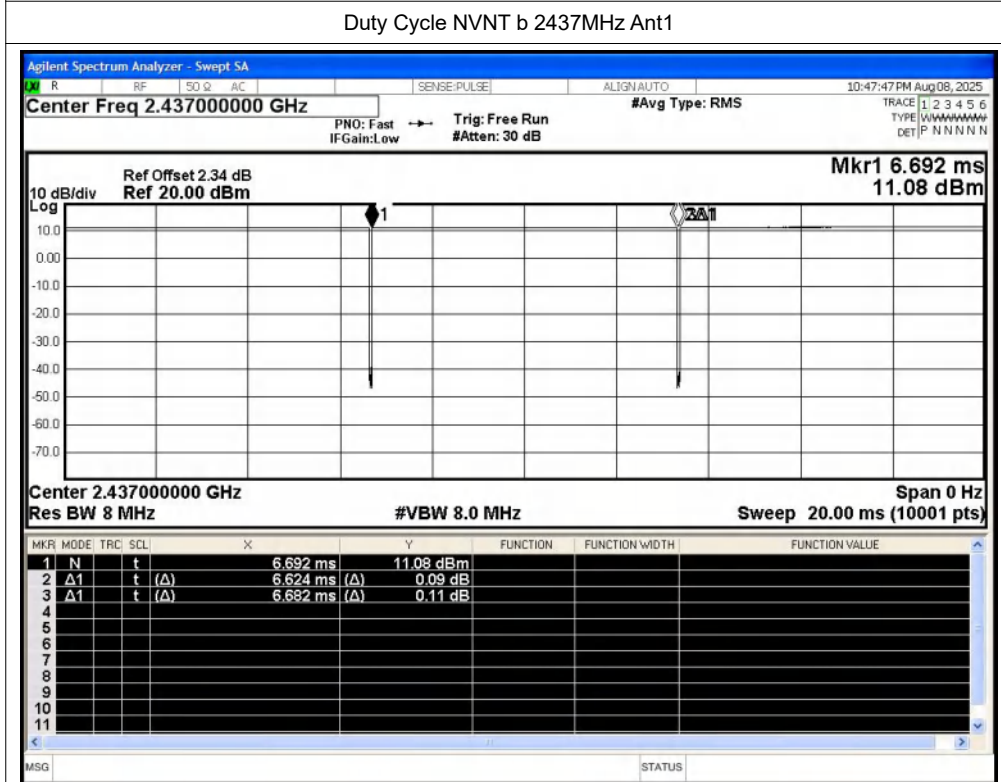
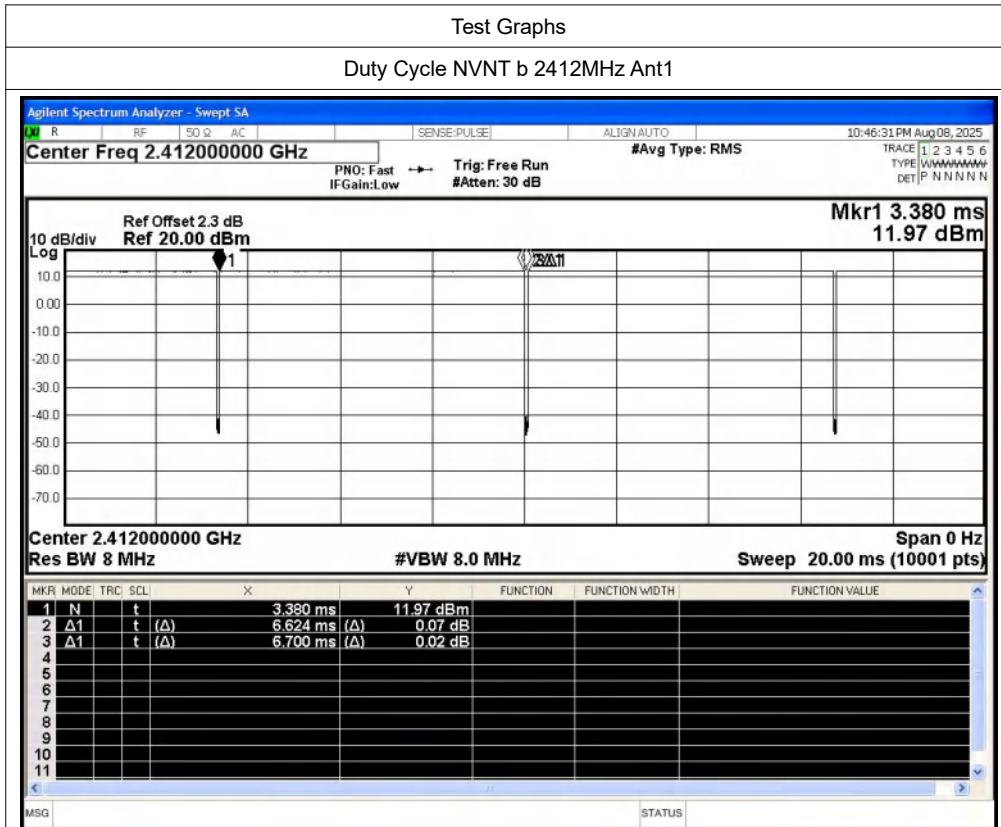


LCSC07315004EC

C.6 Duty Cycle

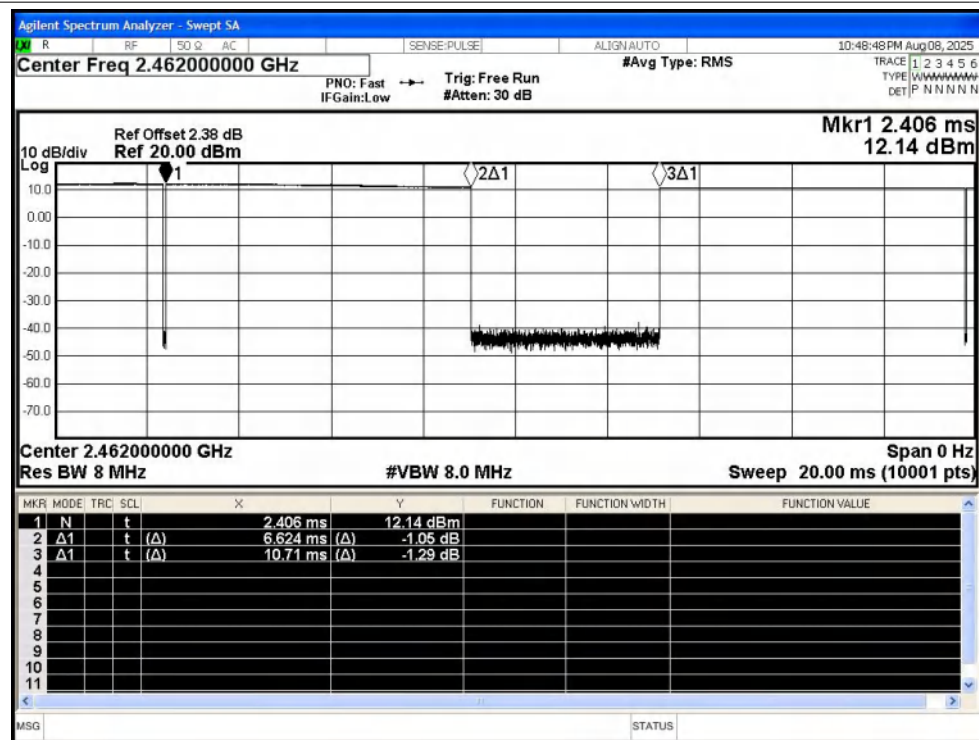
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	98.87	0	0.15
NVNT	b	2437	Ant1	99.13	0	0.15
NVNT	b	2462	Ant1	61.83	2.09	0.15
NVNT	g	2412	Ant1	97.75	0.1	0.37
NVNT	g	2437	Ant1	97.75	0.1	0.37
NVNT	g	2462	Ant1	97.75	0.1	0.37
NVNT	n20	2412	Ant1	97.33	0.12	0.44
NVNT	n20	2437	Ant1	97.33	0.12	0.44
NVNT	n20	2462	Ant1	97.33	0.12	0.44
NVNT	n40	2422	Ant1	94.71	0.24	0.9
NVNT	n40	2437	Ant1	94.7	0.24	0.9
NVNT	n40	2452	Ant1	94.71	0.24	0.9

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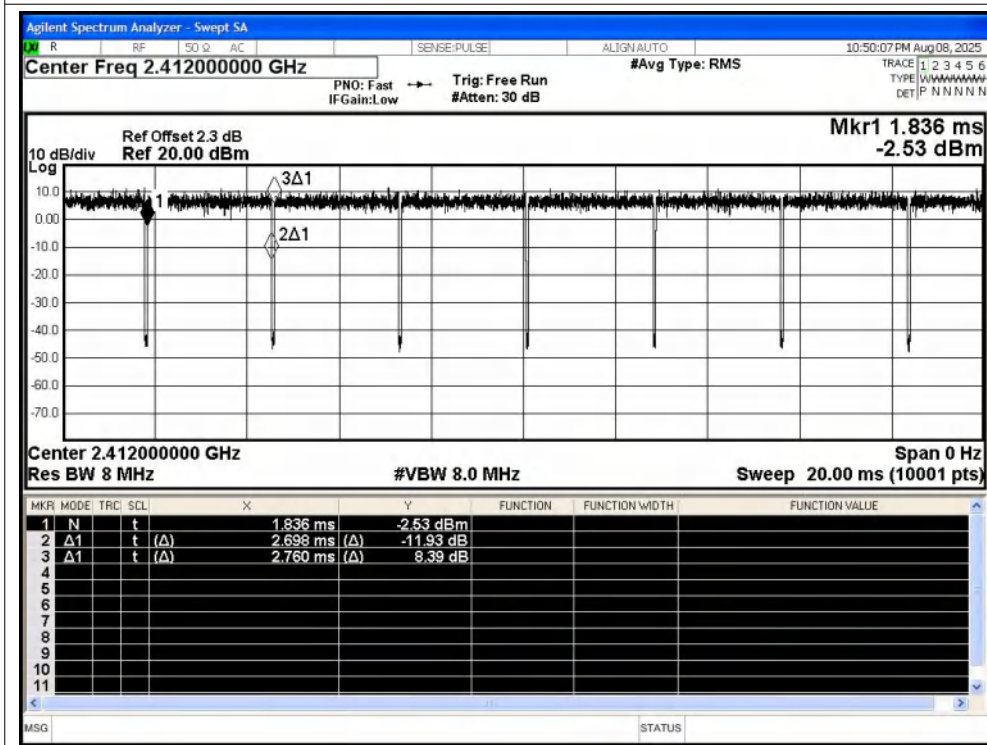


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Duty Cycle NVNT b 2462MHz Ant1

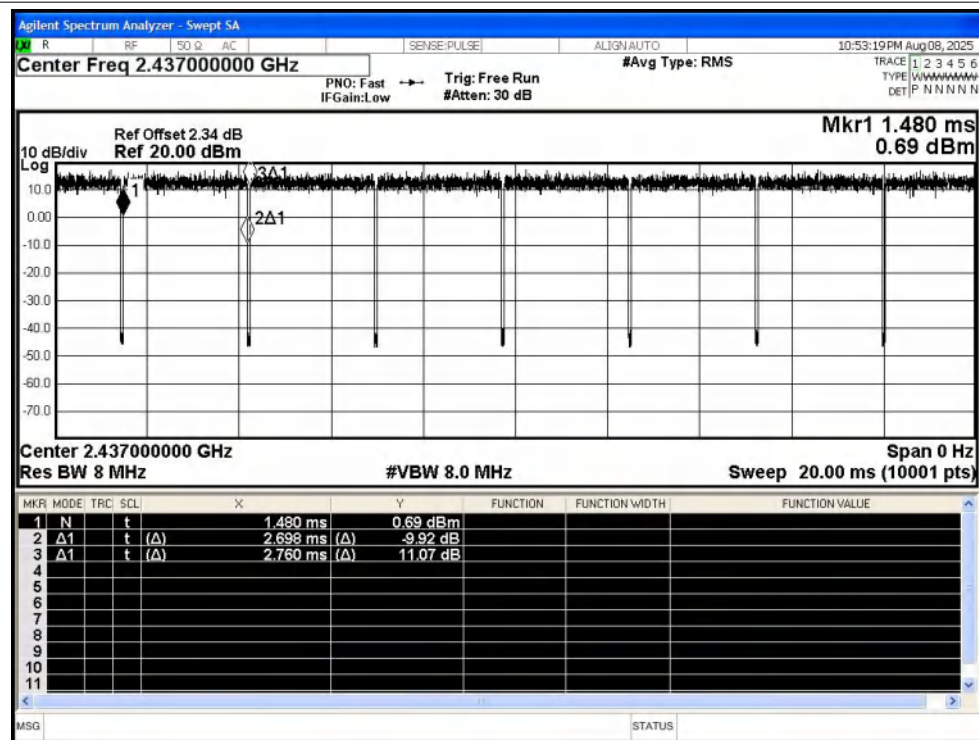


Duty Cycle NVNT g 2412MHz Ant1

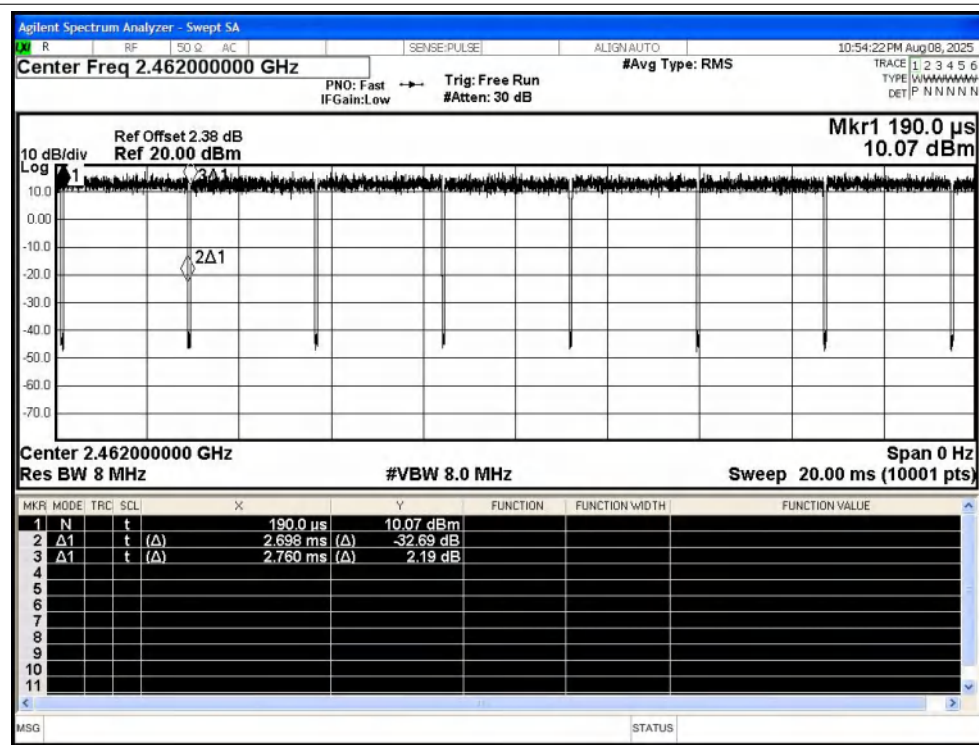


LCSC07315004EC

Duty Cycle NVNT g 2437MHz Ant1

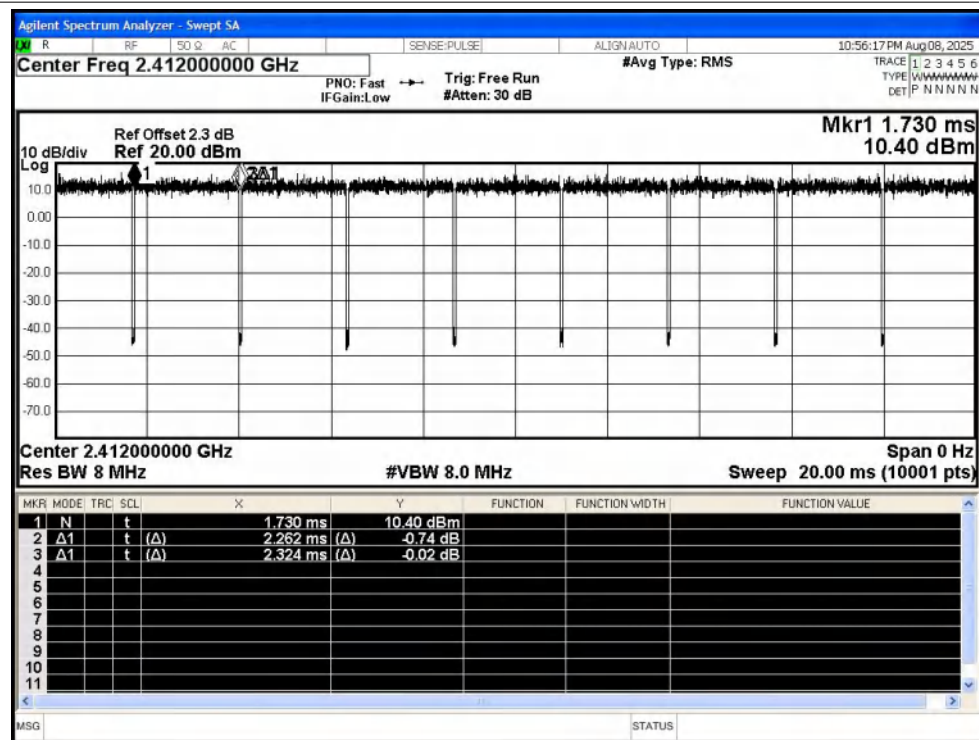


Duty Cycle NVNT g 2462MHz Ant1

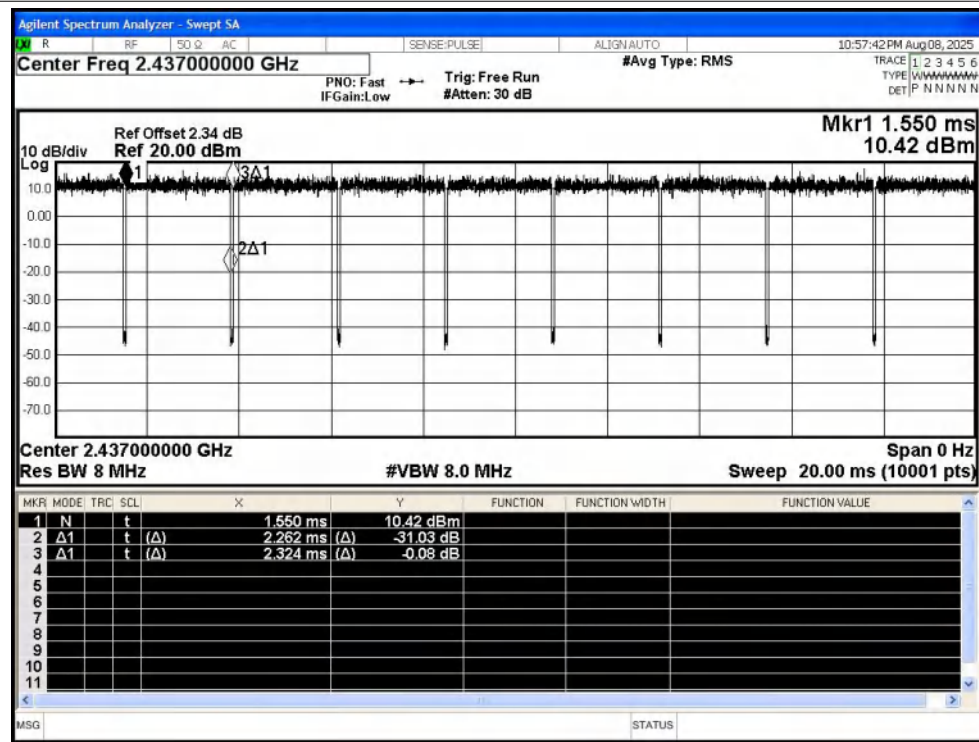


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Duty Cycle NVNT n20 2412MHz Ant1

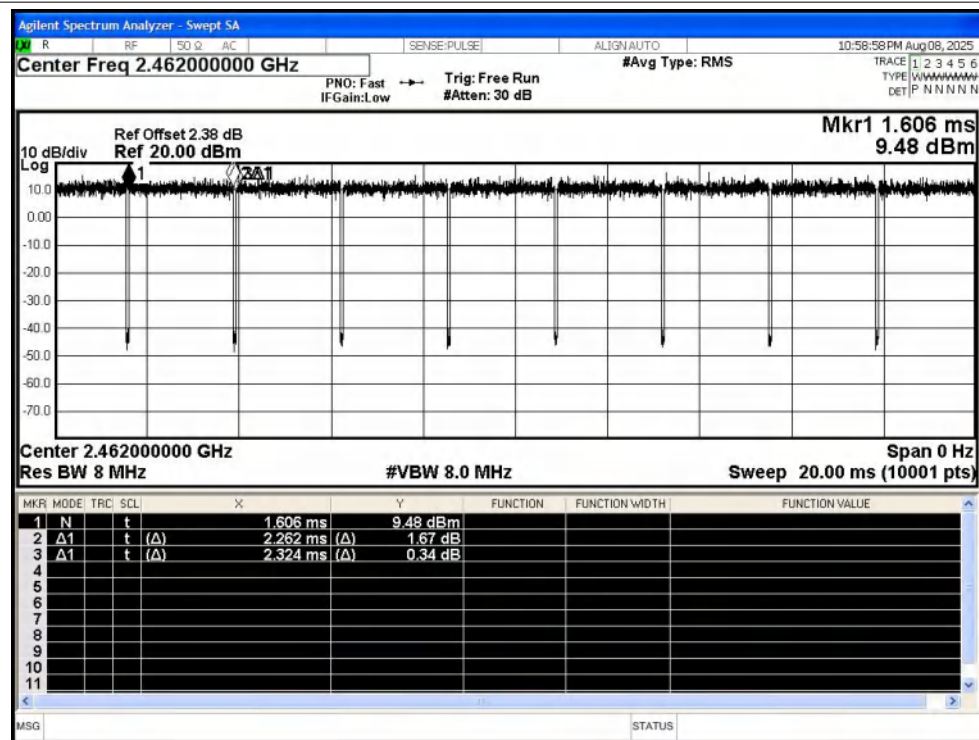


Duty Cycle NVNT n20 2437MHz Ant1

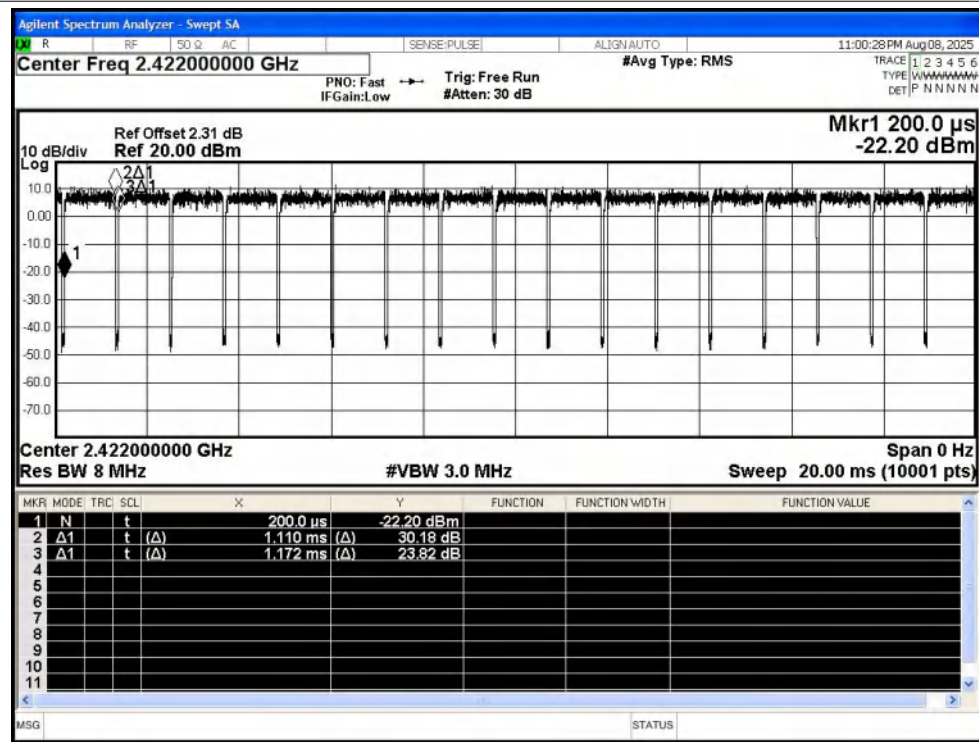


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Duty Cycle NVNT n20 2462MHz Ant1

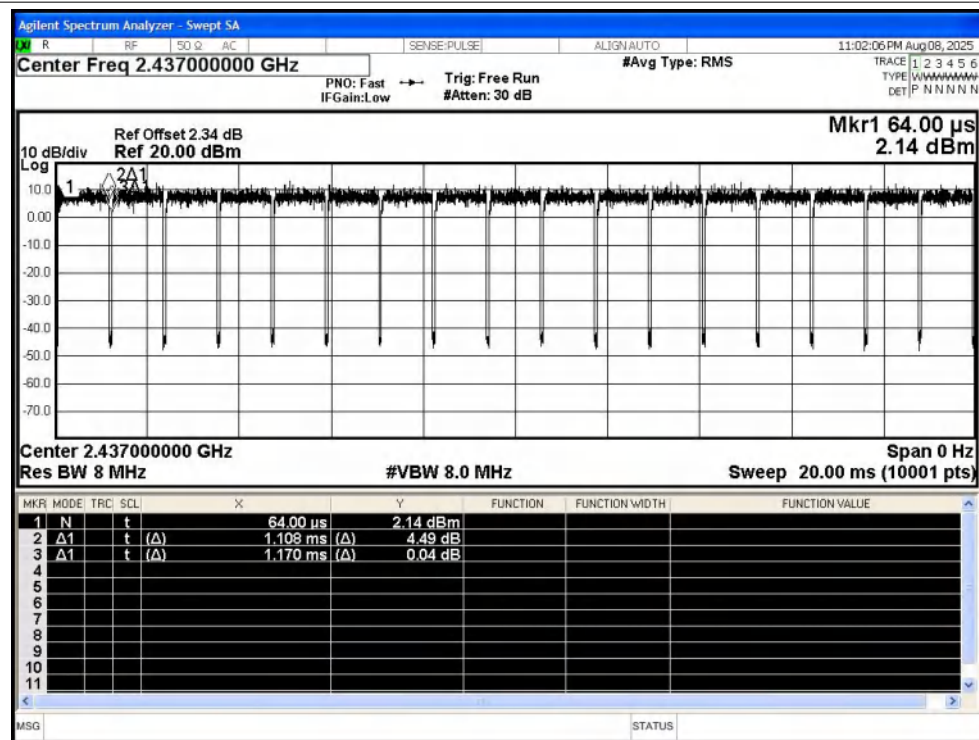


Duty Cycle NVNT n40 2422MHz Ant1

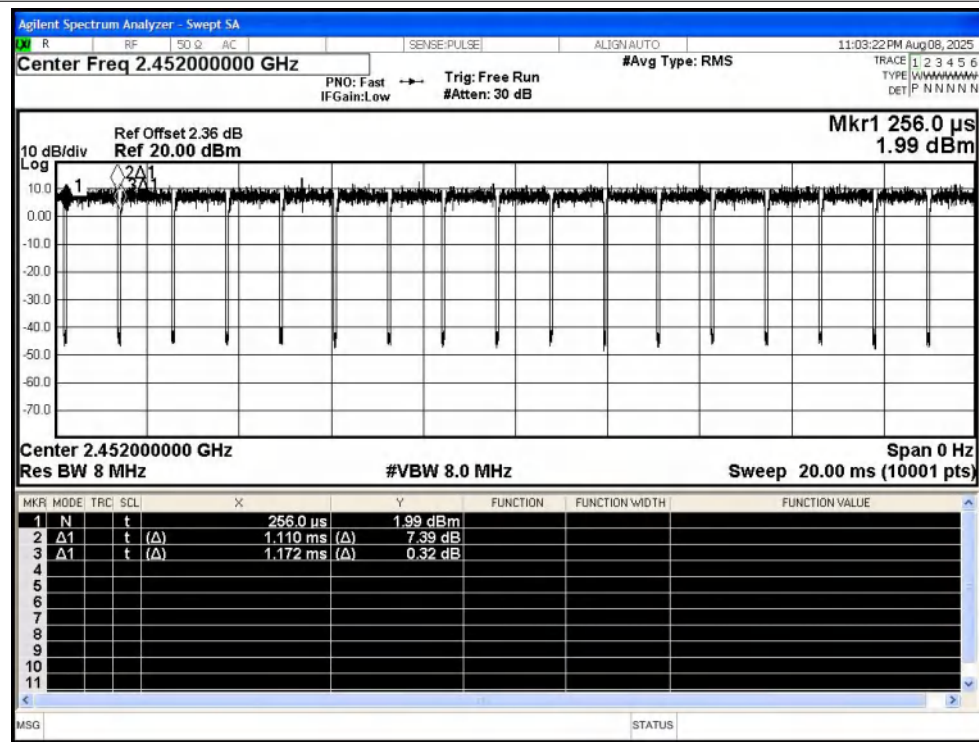


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Duty Cycle NVNT n40 2437MHz Ant1



Duty Cycle NVNT n40 2452MHz Ant1



LCSC07315004EC

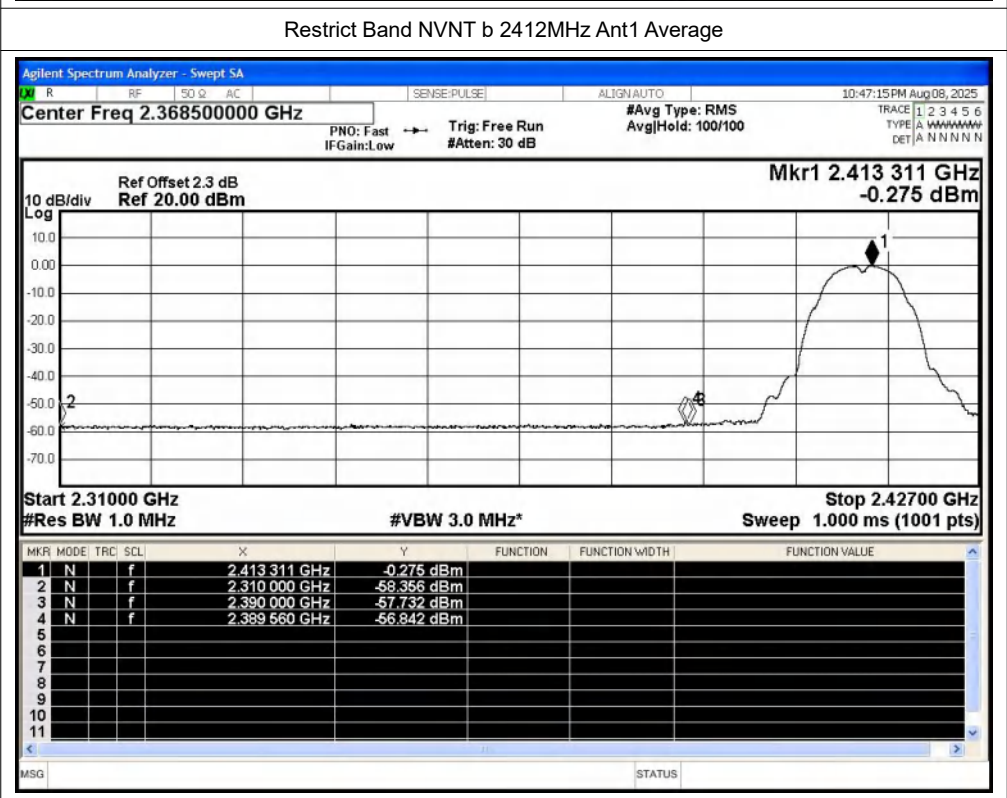
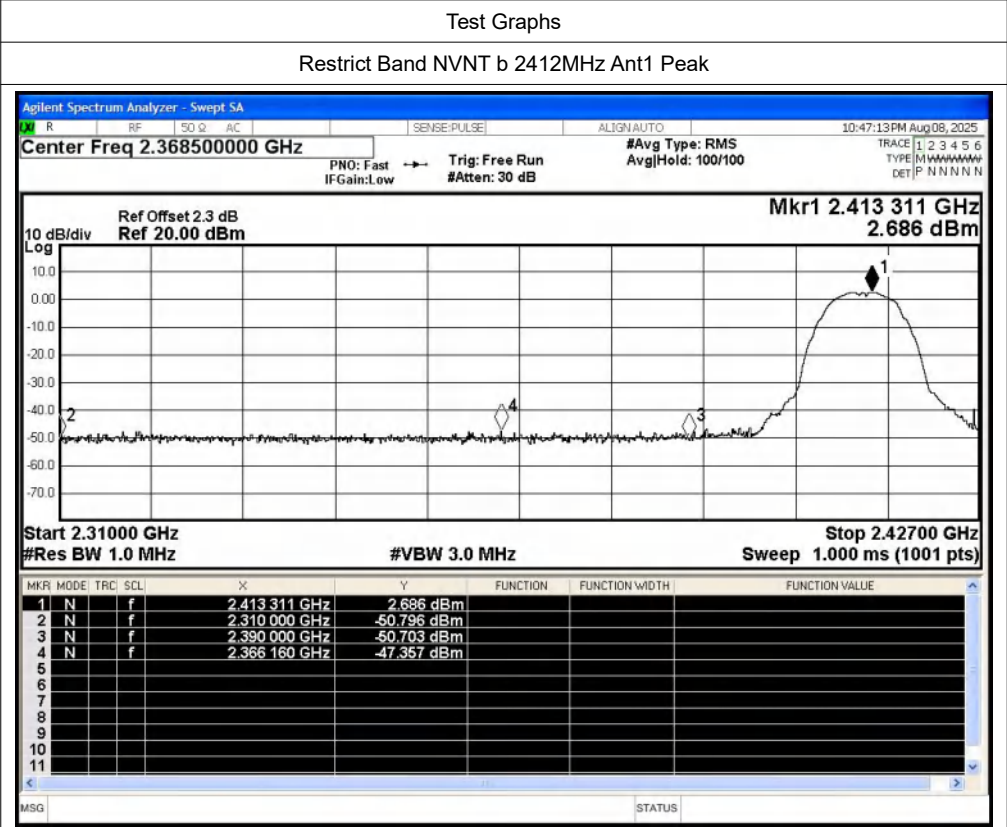
C.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-50.8	2.98	-	47.44	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-58.36	2.98	0	39.88	Average	54	Pass
NVNT	b	2412	Ant1	2366.16	-47.36	2.98	-	50.88	Peak	74	Pass
NVNT	b	2412	Ant1	2389.56	-56.84	2.98	0	41.40	Average	54	Pass
NVNT	b	2412	Ant1	2390	-50.7	2.98	-	47.54	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-57.73	2.98	0	40.51	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-49.72	2.98	-	48.52	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-57.45	2.98	2.09	42.88	Average	54	Pass
NVNT	b	2462	Ant1	2486.273	-46.42	2.98	-	51.82	Peak	74	Pass
NVNT	b	2462	Ant1	2484.047	-56.57	2.98	2.09	43.76	Average	54	Pass
NVNT	b	2462	Ant1	2500	-50.47	2.98	-	47.77	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-57.59	2.98	2.09	42.74	Average	54	Pass
NVNT	g	2412	Ant1	2310	-49.9	2.98	-	48.34	Peak	74	Pass
NVNT	g	2412	Ant1	2310	-58.49	2.98	0.1	39.85	Average	54	Pass
NVNT	g	2412	Ant1	2388.624	-43.52	2.98	-	54.72	Peak	74	Pass
NVNT	g	2412	Ant1	2389.443	-56.01	2.98	0.1	42.33	Average	54	Pass
NVNT	g	2412	Ant1	2390	-46.18	2.98	-	52.06	Peak	74	Pass
NVNT	g	2412	Ant1	2390	-55.97	2.98	0.1	42.37	Average	54	Pass
NVNT	g	2462	Ant1	2483.5	-45.35	2.98	-	52.89	Peak	74	Pass
NVNT	g	2462	Ant1	2483.5	-56.55	2.98	0.1	41.79	Average	54	Pass
NVNT	g	2462	Ant1	2483.729	-39.62	2.98	-	58.62	Peak	74	Pass
NVNT	g	2462	Ant1	2483.941	-55.58	2.98	0.1	42.76	Average	54	Pass
NVNT	g	2462	Ant1	2500	-49.59	2.98	-	48.65	Peak	74	Pass
NVNT	g	2462	Ant1	2500	-57.65	2.98	0.1	40.69	Average	54	Pass
NVNT	n20	2412	Ant1	2310	-50.41	2.98	-	47.83	Peak	74	Pass
NVNT	n20	2412	Ant1	2310	-58.68	2.98	0.12	39.68	Average	54	Pass
NVNT	n20	2412	Ant1	2389.911	-43.03	2.98	-	55.21	Peak	74	Pass
NVNT	n20	2412	Ant1	2389.911	-56.1	2.98	0.12	42.26	Average	54	Pass
NVNT	n20	2412	Ant1	2390	-45.86	2.98	-	52.38	Peak	74	Pass
NVNT	n20	2412	Ant1	2390	-56.82	2.98	0.12	41.54	Average	54	Pass
NVNT	n20	2462	Ant1	2483.5	-40.74	2.98	-	57.50	Peak	74	Pass
NVNT	n20	2462	Ant1	2483.5	-55.59	2.98	0.12	42.77	Average	54	Pass
NVNT	n20	2462	Ant1	2483.623	-37.48	2.98	-	60.76	Peak	74	Pass
NVNT	n20	2462	Ant1	2483.57	-53.45	2.98	0.12	44.91	Average	54	Pass
NVNT	n20	2462	Ant1	2500	-47.9	2.98	-	50.34	Peak	74	Pass
NVNT	n20	2462	Ant1	2500	-57.78	2.98	0.12	40.58	Average	54	Pass

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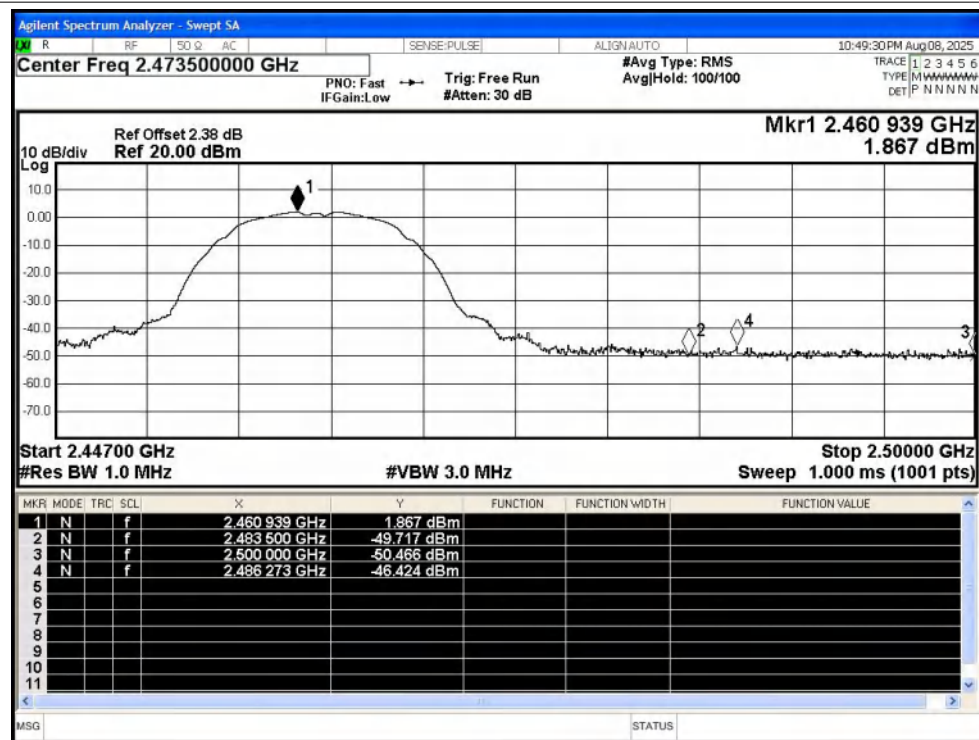
NVNT	n40	2422	Ant1	2310	-50.54	2.98	-	47.70	Peak	74	Pass
NVNT	n40	2422	Ant1	2310	-58.64	2.98	0.24	39.84	Average	54	Pass
NVNT	n40	2422	Ant1	2389.094	-41.71	2.98	-	56.53	Peak	74	Pass
NVNT	n40	2422	Ant1	2389.662	-55.32	2.98	0.24	43.16	Average	54	Pass
NVNT	n40	2422	Ant1	2390	-45.73	2.98	-	52.51	Peak	74	Pass
NVNT	n40	2422	Ant1	2390	-55.81	2.98	0.24	42.67	Average	54	Pass
NVNT	n40	2452	Ant1	2483.5	-41.47	2.98	-	56.77	Peak	74	Pass
NVNT	n40	2452	Ant1	2483.5	-53.86	2.98	0.24	44.62	Average	54	Pass
NVNT	n40	2452	Ant1	2484.79	-38.21	2.98	-	60.03	Peak	74	Pass
NVNT	n40	2452	Ant1	2483.62	-53.29	2.98	0.24	45.19	Average	54	Pass
NVNT	n40	2452	Ant1	2500	-49.46	2.98	-	48.78	Peak	74	Pass
NVNT	n40	2452	Ant1	2500	-57.71	2.98	0.24	40.77	Average	54	Pass

LCSC07315004EC

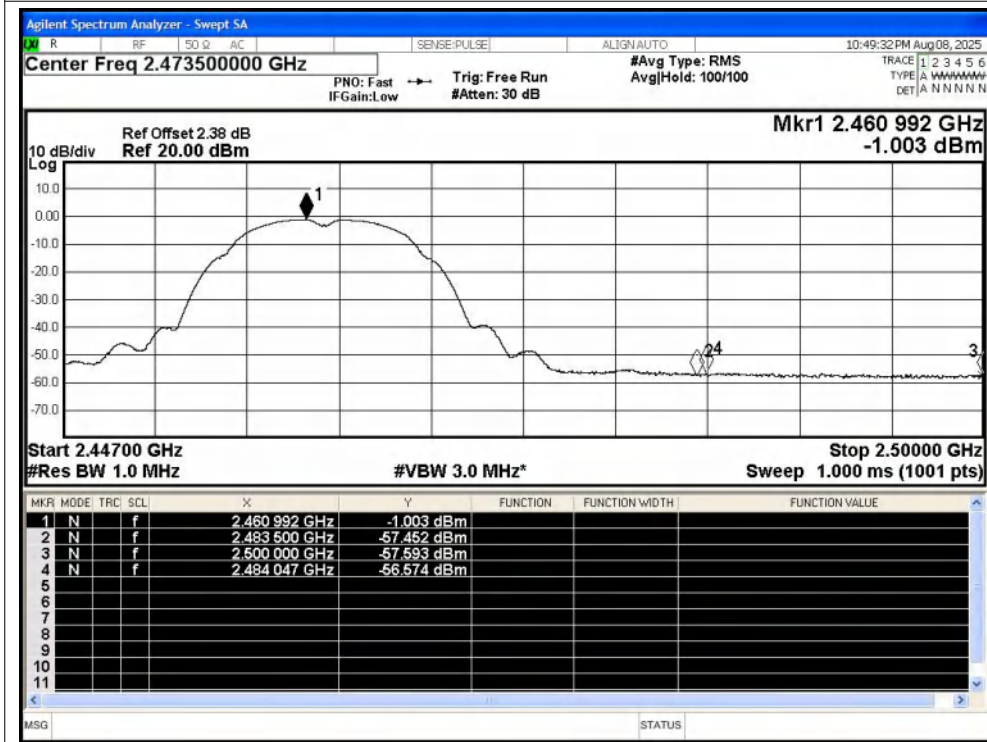


LCSC07315004EC

Restrict Band NVNT b 2462MHz Ant1 Peak



Restrict Band NVNT b 2462MHz Ant1 Average

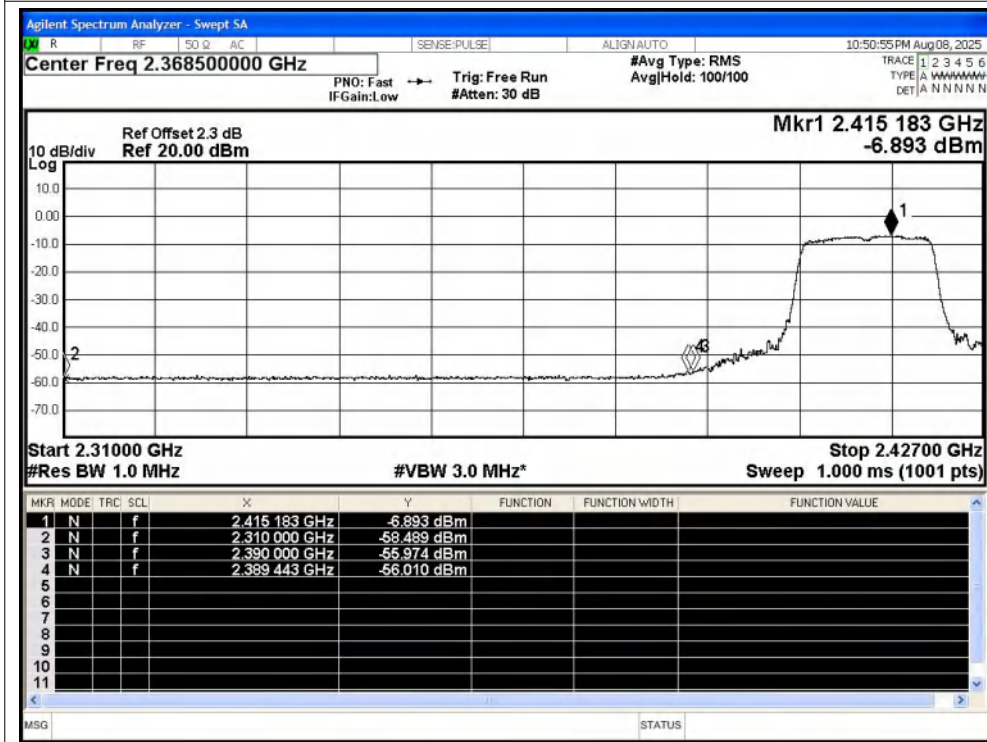


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Restrict Band NVNT g 2412MHz Ant1 Peak

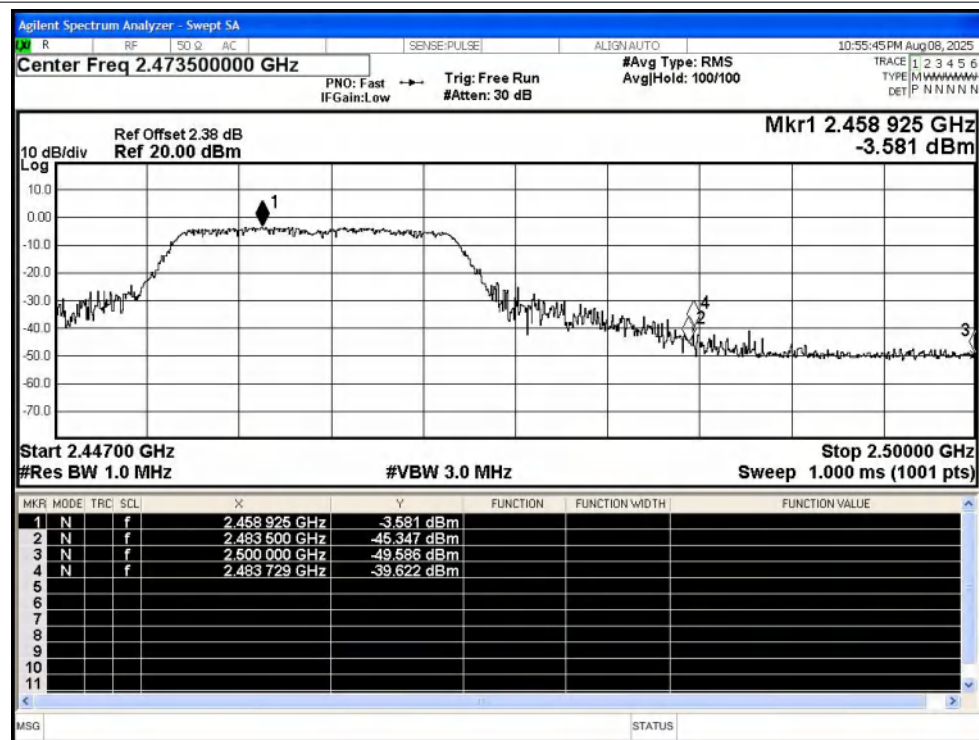


Restrict Band NVNT g 2412MHz Ant1 Average

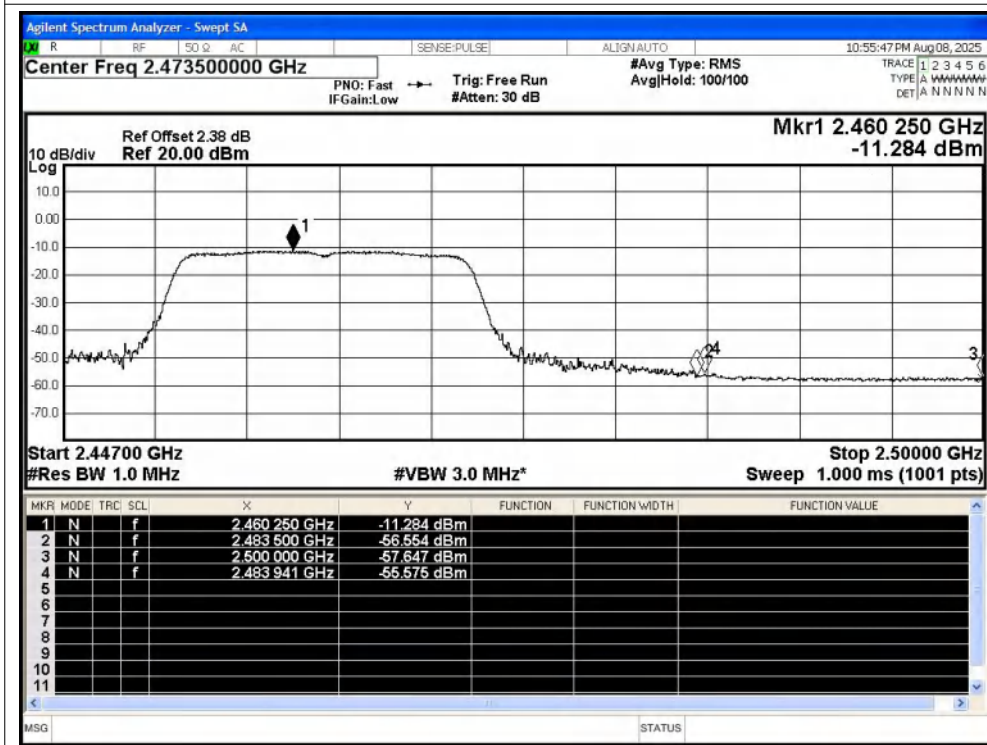


LCSC07315004EC

Restrict Band NVNT g 2462MHz Ant1 Peak



Restrict Band NVNT g 2462MHz Ant1 Average

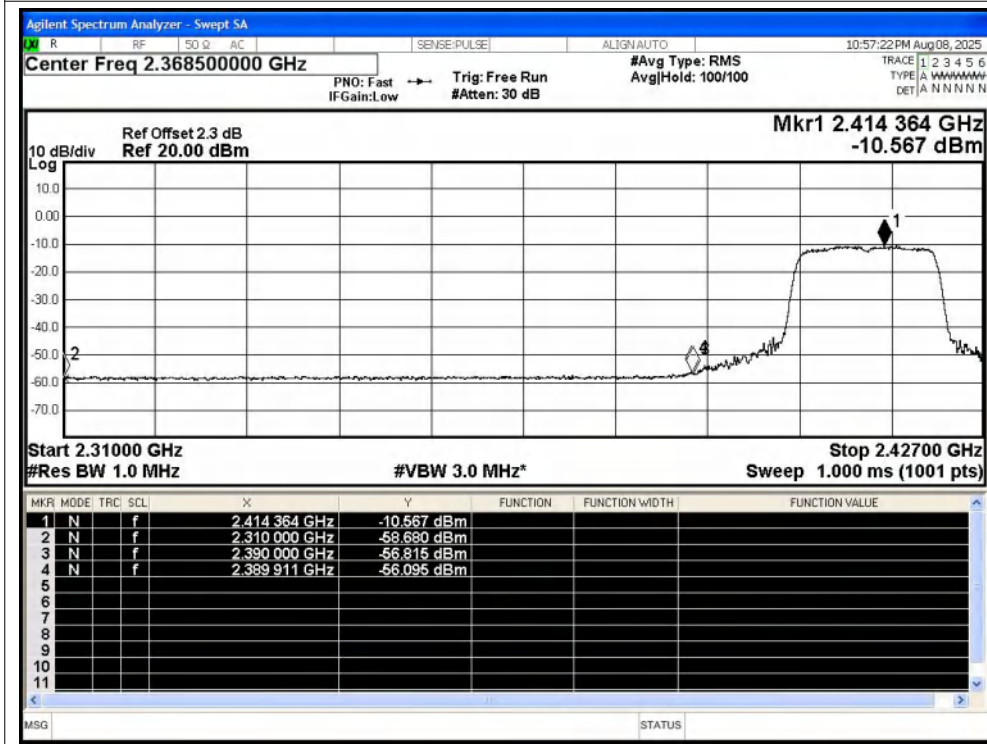


LCSC07315004EC

Restrict Band NVNT n20 2412MHz Ant1 Peak

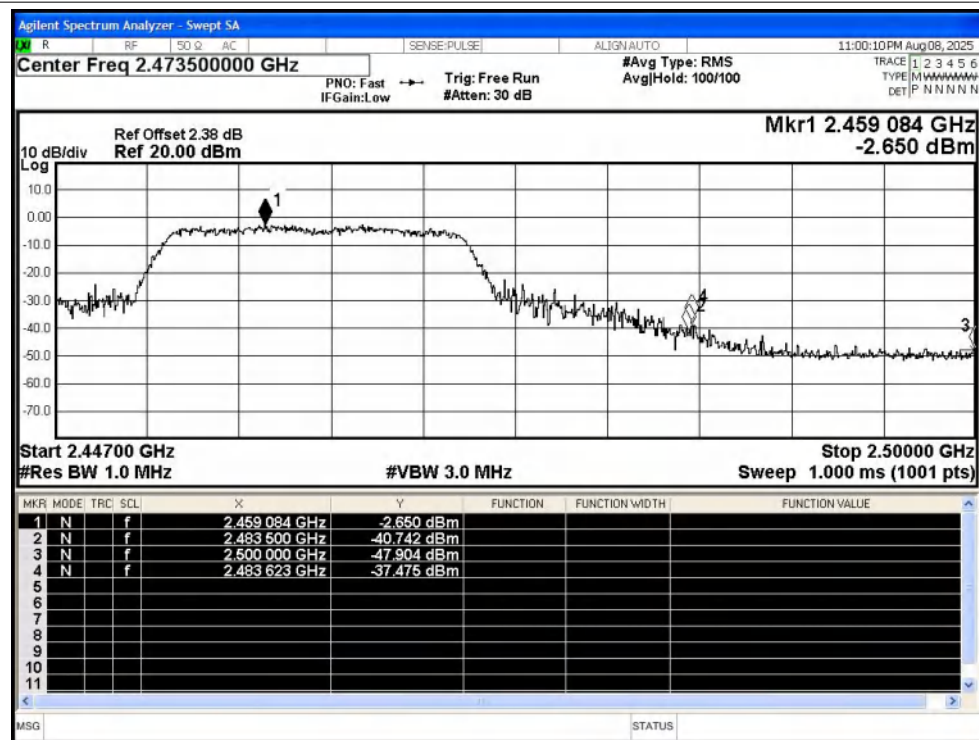


Restrict Band NVNT n20 2412MHz Ant1 Average

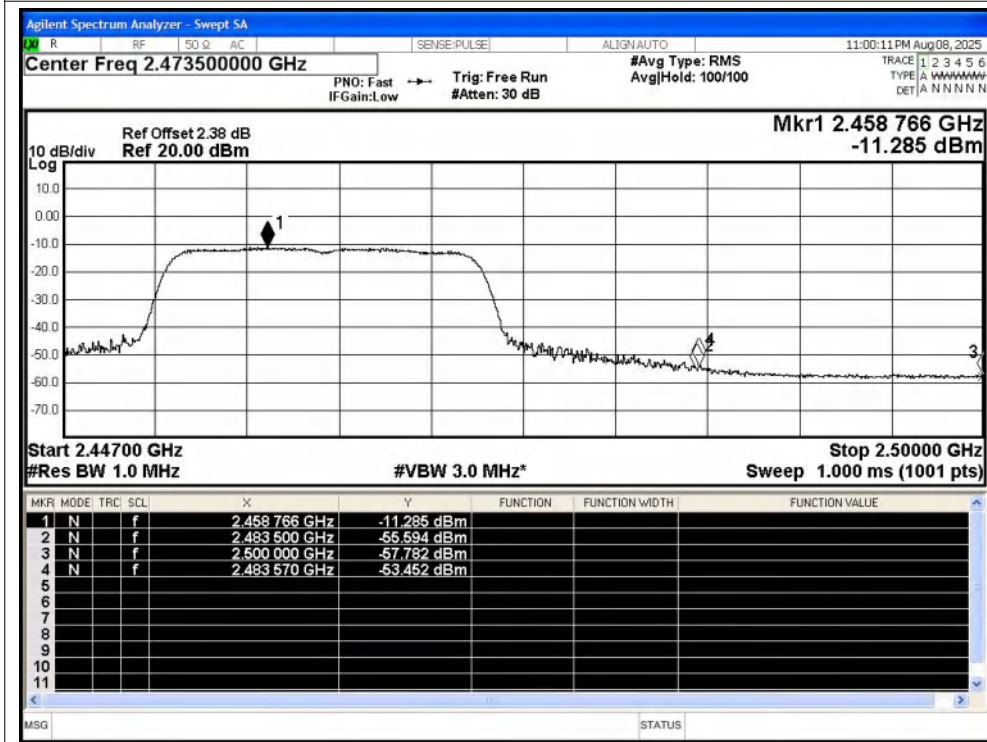


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Restrict Band NVNT n20 2462MHz Ant1 Peak

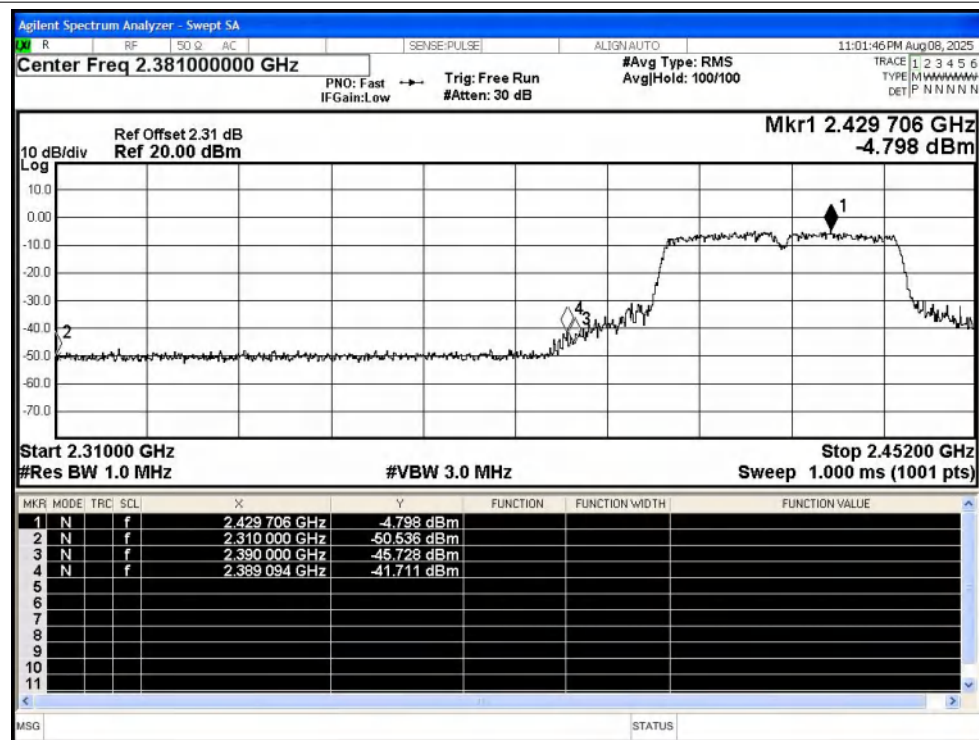


Restrict Band NVNT n20 2462MHz Ant1 Average

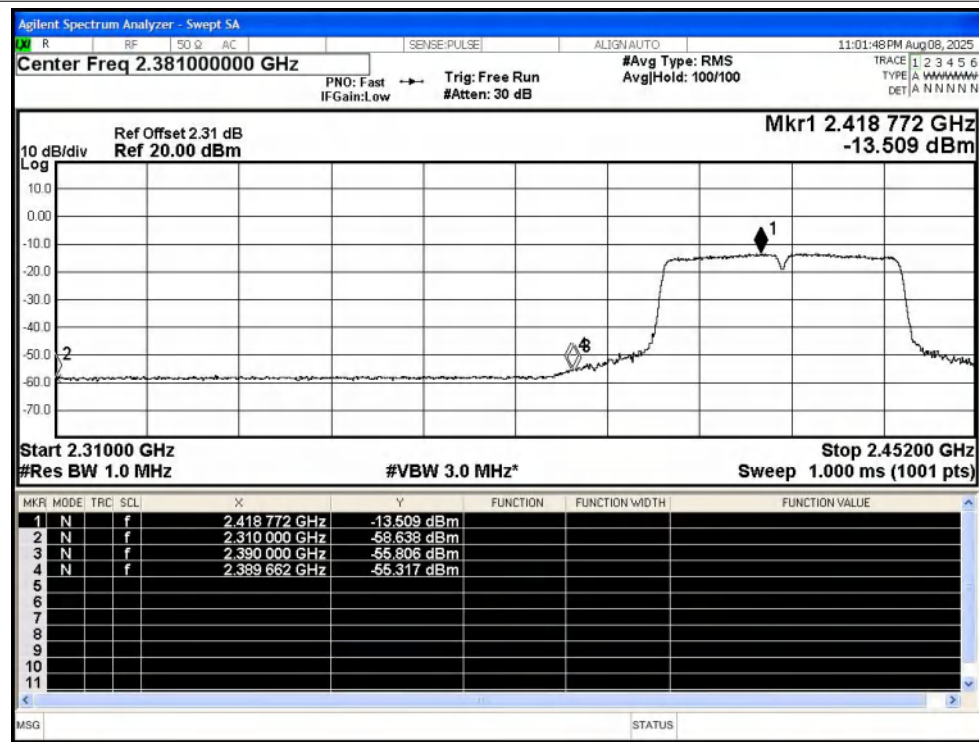


LCSC07315004EC

Restrict Band NVNT n40 2422MHz Ant1 Peak

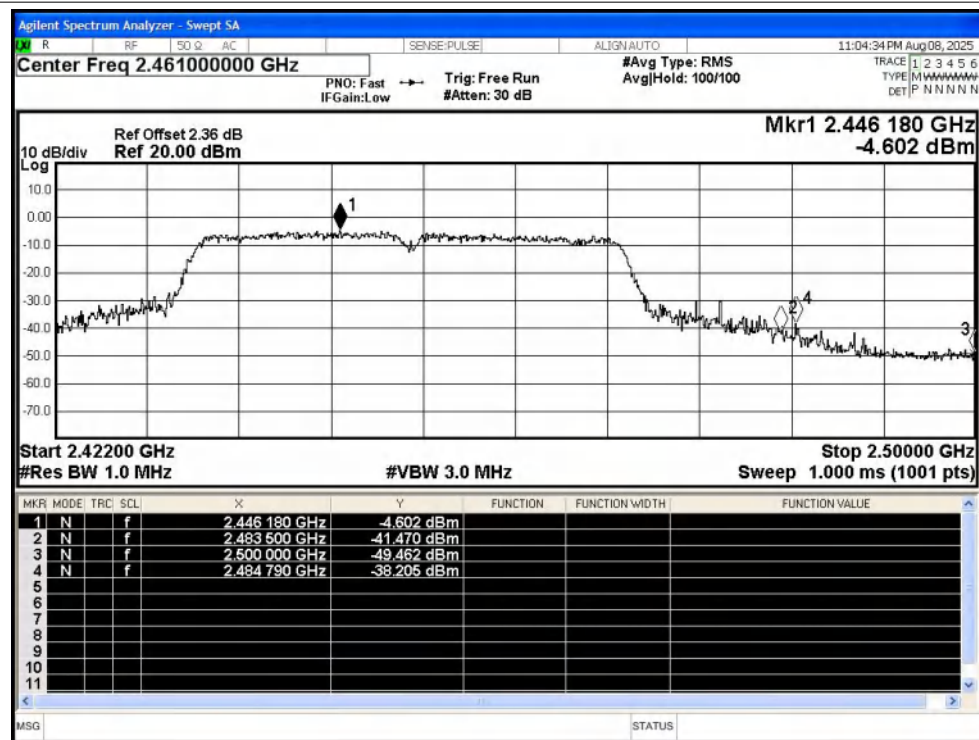


Restrict Band NVNT n40 2422MHz Ant1 Average



LCSC07315004EC

Restrict Band NVNT n40 2452MHz Ant1 Peak



Restrict Band NVNT n40 2452MHz Ant1 Average

