



Appendix A

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Projector

Test Model: J12C

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jeson Zhou
Supervised by:	Nick Peng



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A.1 -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant0	8.562	≥ 0.5	Pass
NVNT	b	2437	Ant0	9.03	≥ 0.5	Pass
NVNT	b	2462	Ant0	8.001	≥ 0.5	Pass
NVNT	g	2412	Ant0	15.732	≥ 0.5	Pass
NVNT	g	2437	Ant0	16.302	≥ 0.5	Pass
NVNT	g	2462	Ant0	16.083	≥ 0.5	Pass
NVNT	n20	2412	Ant0	16.185	≥ 0.5	Pass
NVNT	n20	2437	Ant0	17.144	≥ 0.5	Pass
NVNT	n20	2462	Ant0	16.885	≥ 0.5	Pass

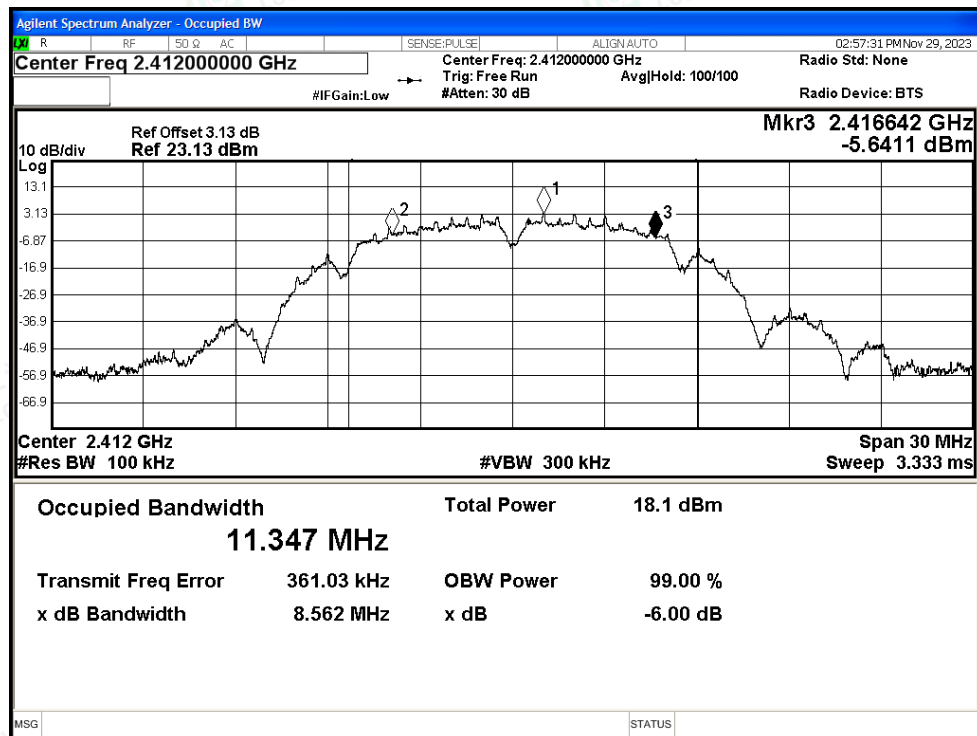


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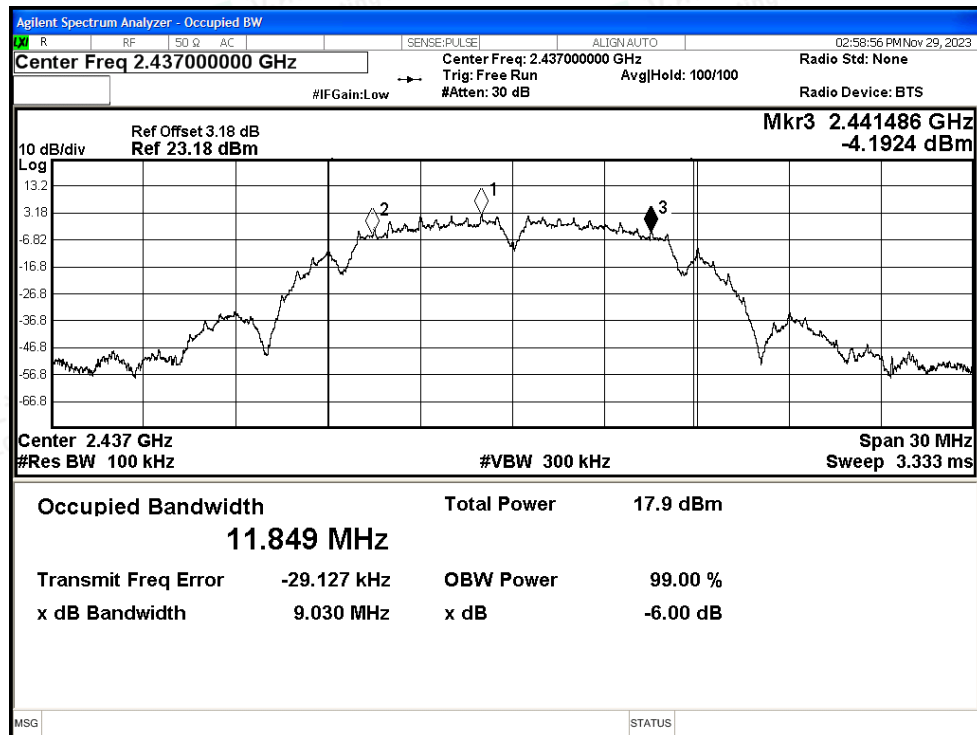


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant0

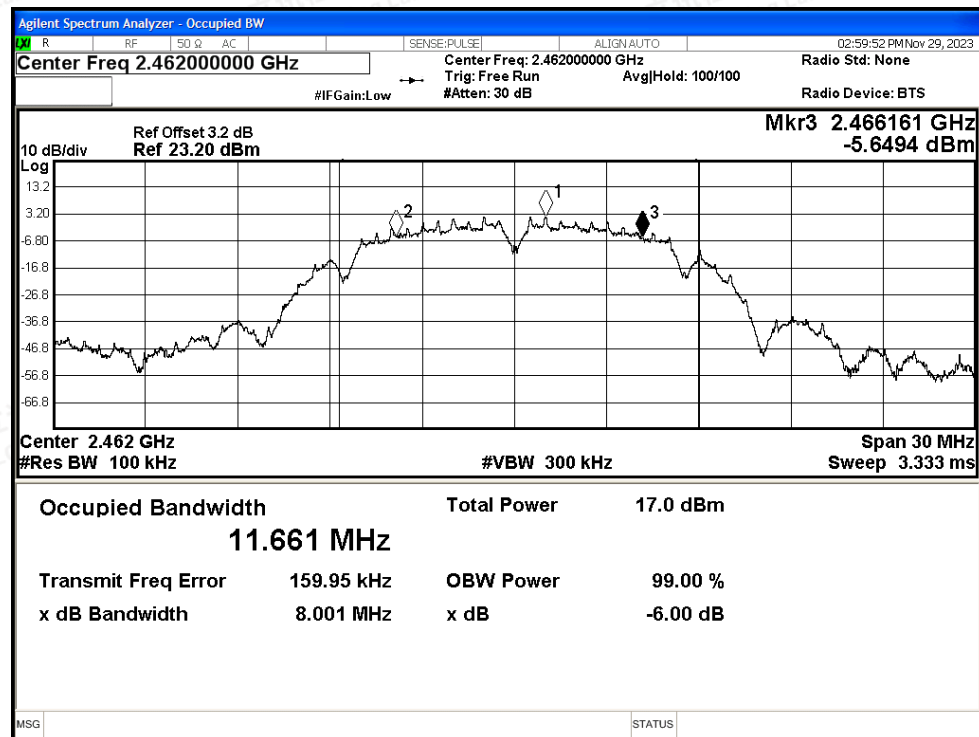


-6dB Bandwidth NVNT b 2437MHz Ant0

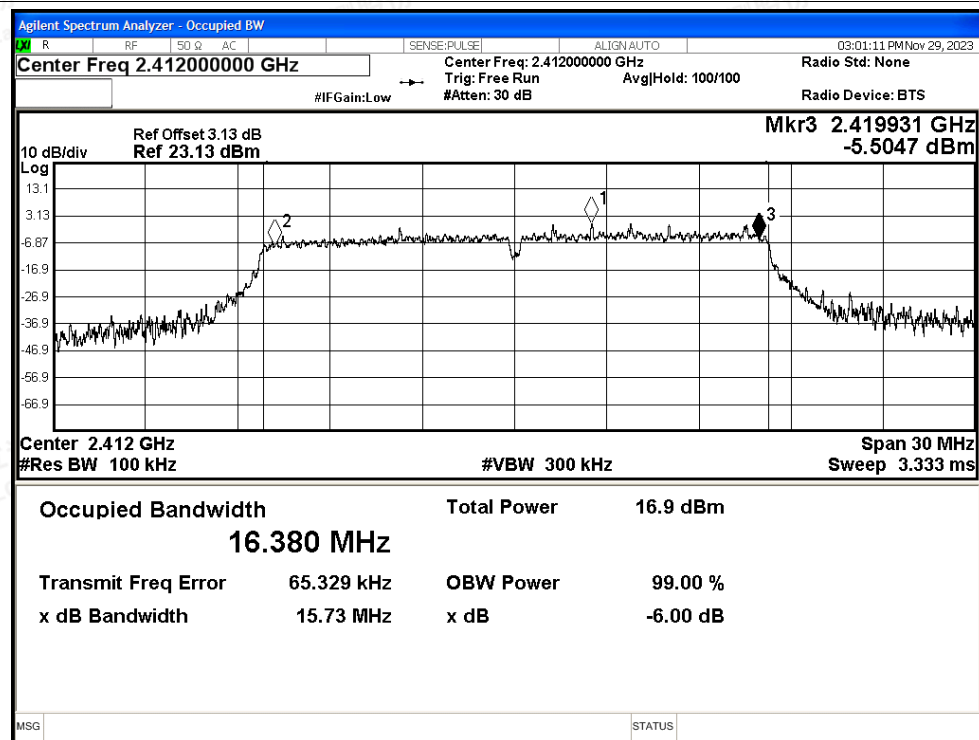




-6dB Bandwidth NVNT b 2462MHz Ant0



-6dB Bandwidth NVNT g 2412MHz Ant0



Shenzhen LCS Compliance Testing Laboratory Ltd.

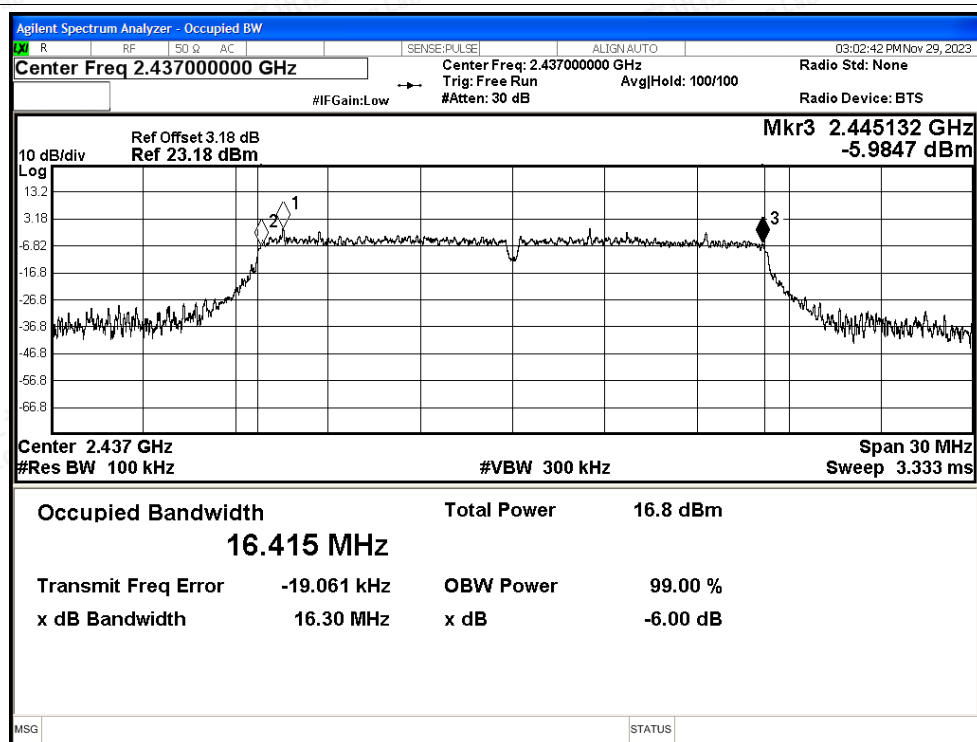
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

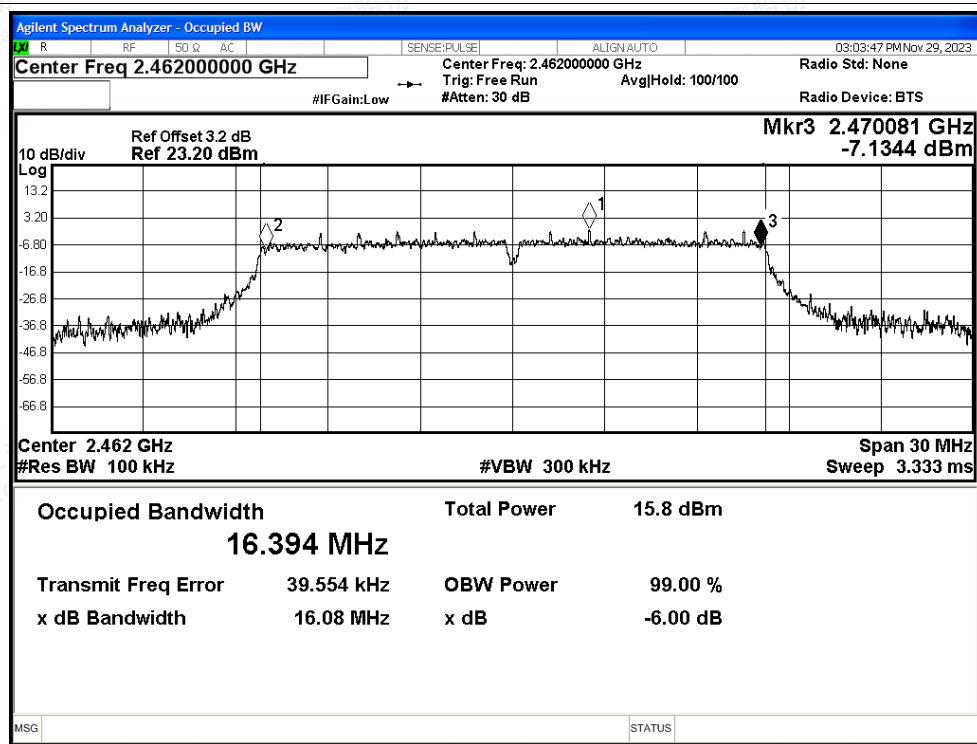
Scan code to check authenticity



-6dB Bandwidth NVNT g 2437MHz Ant0



-6dB Bandwidth NVNT g 2462MHz Ant0



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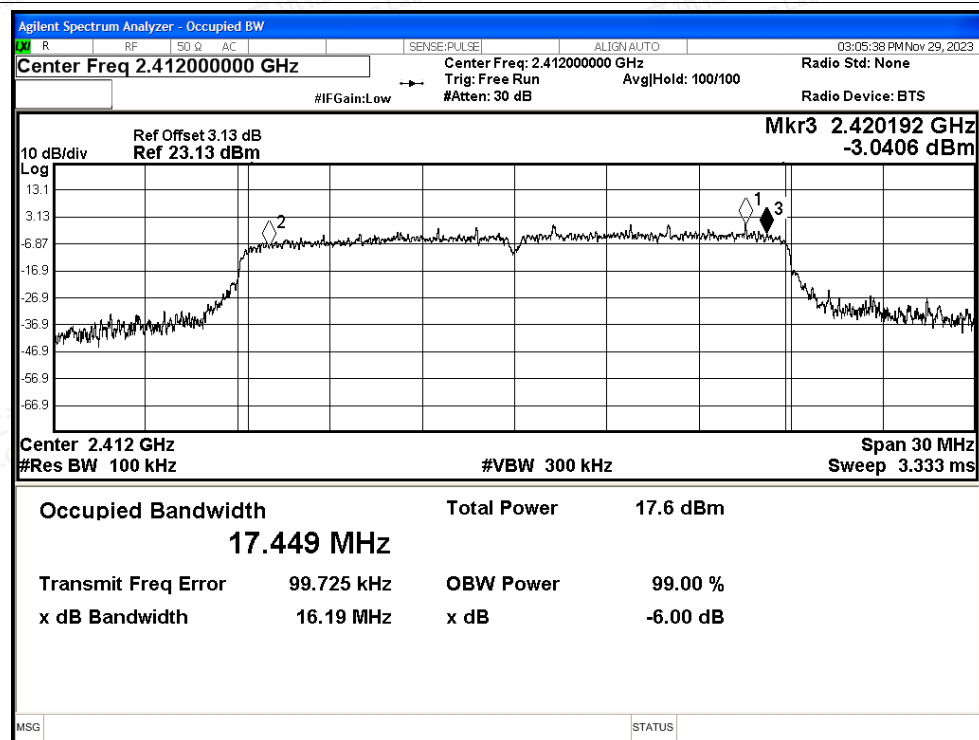
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

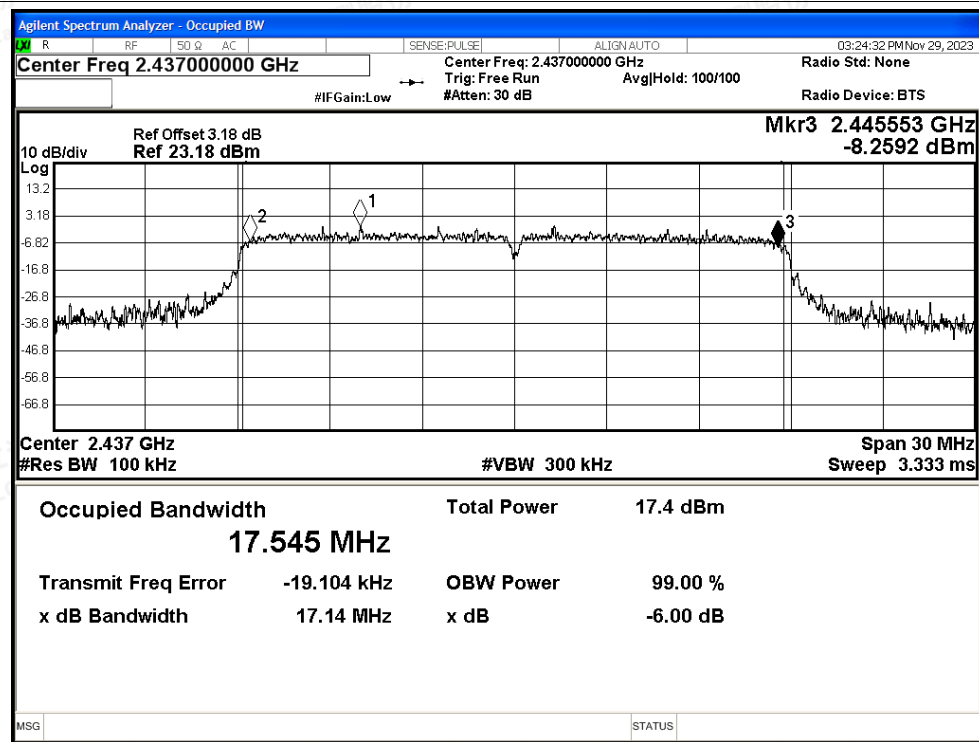
Scan code to check authenticity

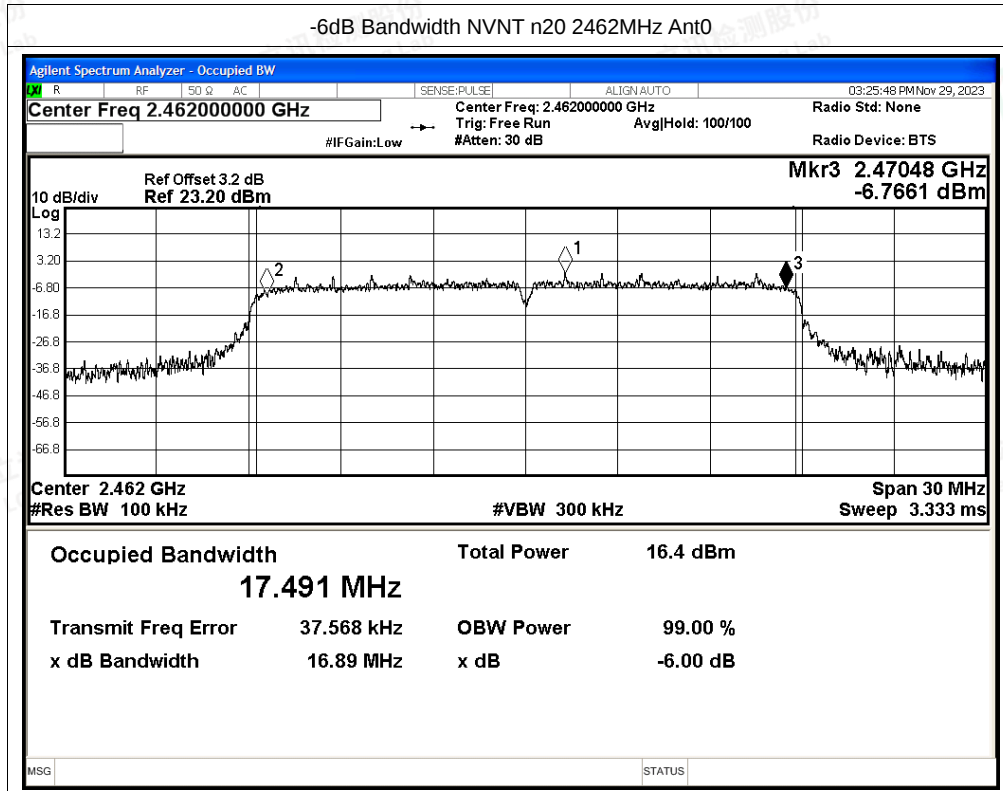


-6dB Bandwidth NVNT n20 2412MHz Ant0



-6dB Bandwidth NVNT n20 2437MHz Ant0







A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant0	13.06	30	Pass
NVNT	b	2437	Ant0	12.9	30	Pass
NVNT	b	2462	Ant0	11.96	30	Pass
NVNT	g	2412	Ant0	15.66	30	Pass
NVNT	g	2437	Ant0	15.67	30	Pass
NVNT	g	2462	Ant0	14.56	30	Pass
NVNT	n20	2412	Ant0	16.06	30	Pass
NVNT	n20	2437	Ant0	16.05	30	Pass
NVNT	n20	2462	Ant0	14.82	30	Pass



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A.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant0	-11.53	8	Pass
NVNT	b	2437	Ant0	-11.66	8	Pass
NVNT	b	2462	Ant0	-12.34	8	Pass
NVNT	g	2412	Ant0	-13.65	8	Pass
NVNT	g	2437	Ant0	-15.05	8	Pass
NVNT	g	2462	Ant0	-15.99	8	Pass
NVNT	n20	2412	Ant0	-13.54	8	Pass
NVNT	n20	2437	Ant0	-13.84	8	Pass
NVNT	n20	2462	Ant0	-15.69	8	Pass

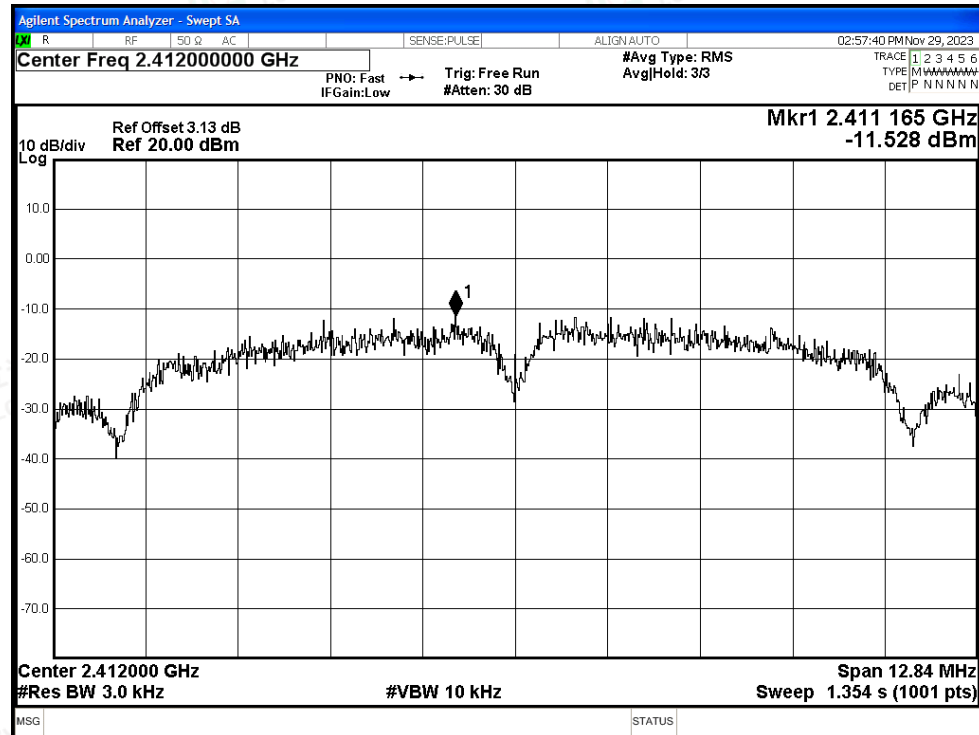


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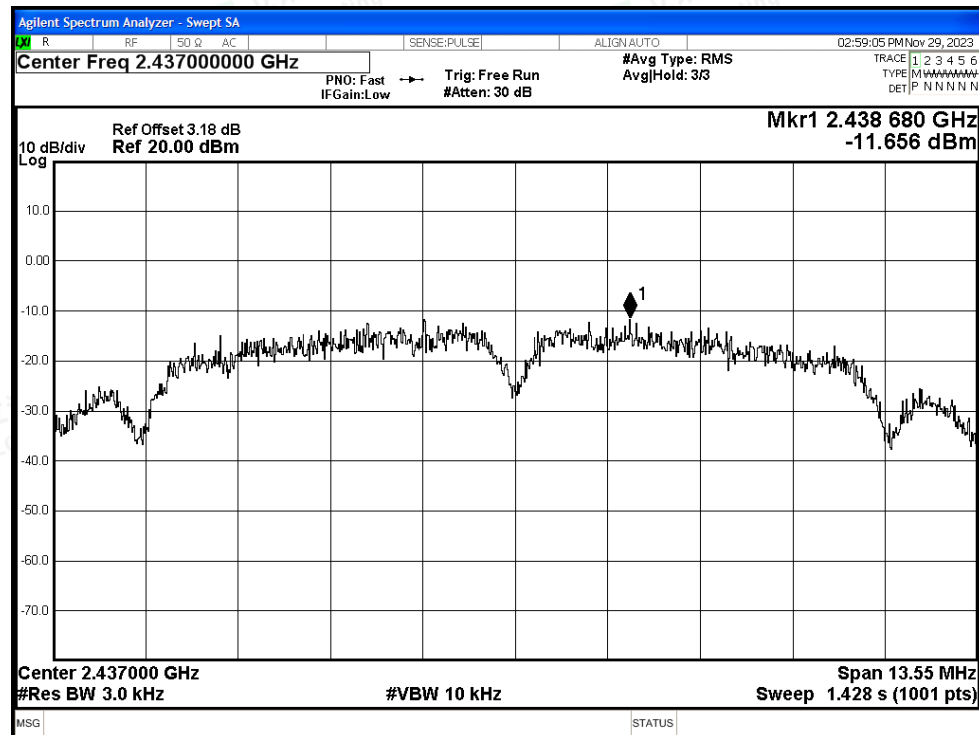


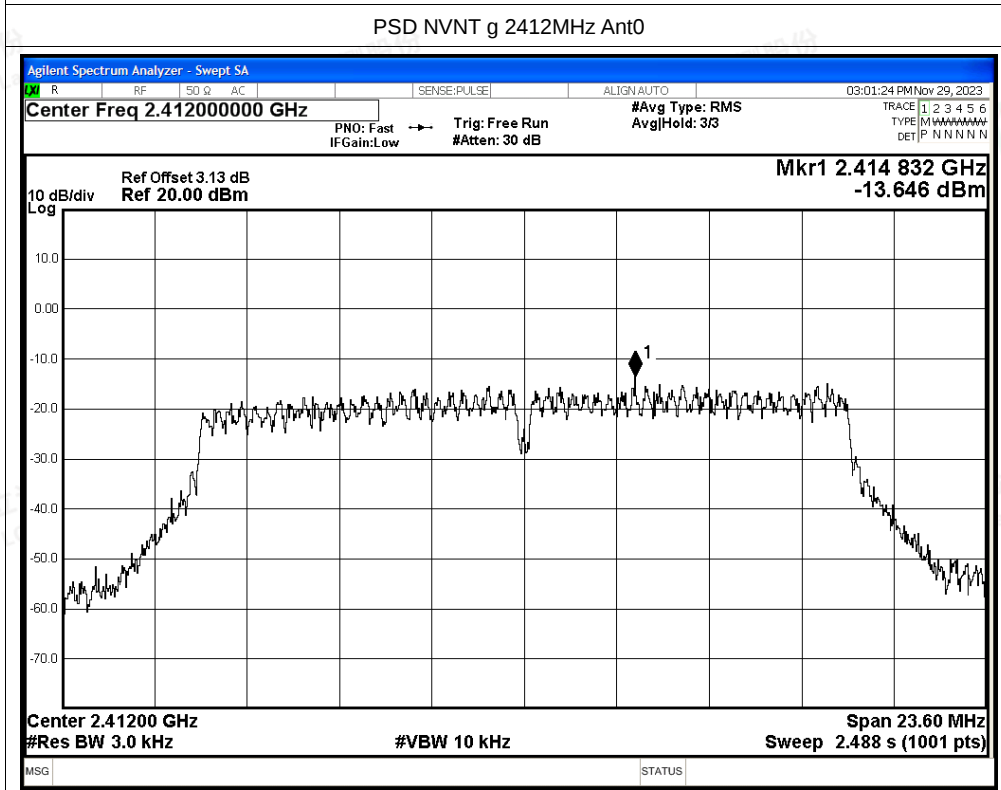
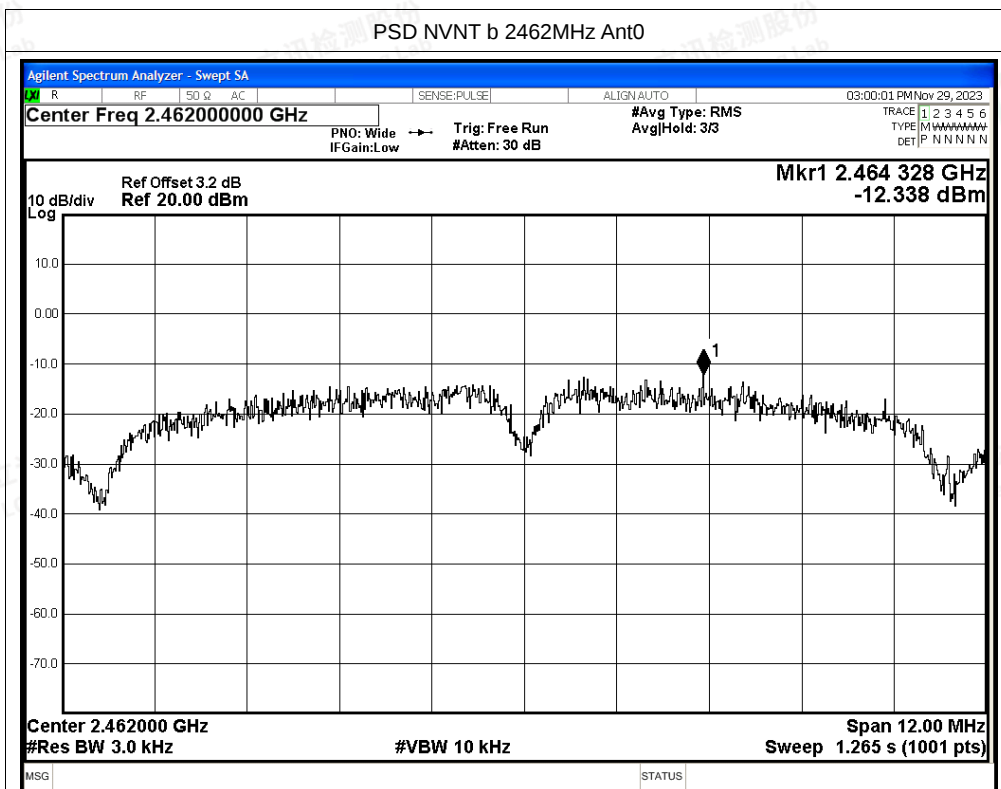
Test Graphs

PSD NVNT b 2412MHz Ant0



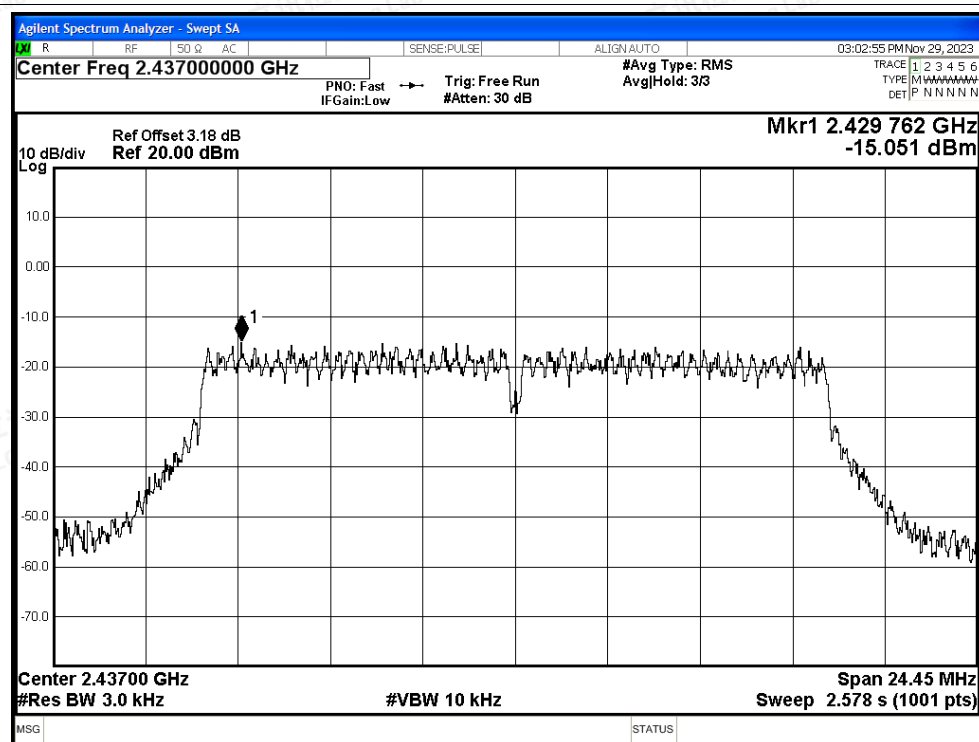
PSD NVNT b 2437MHz Ant0



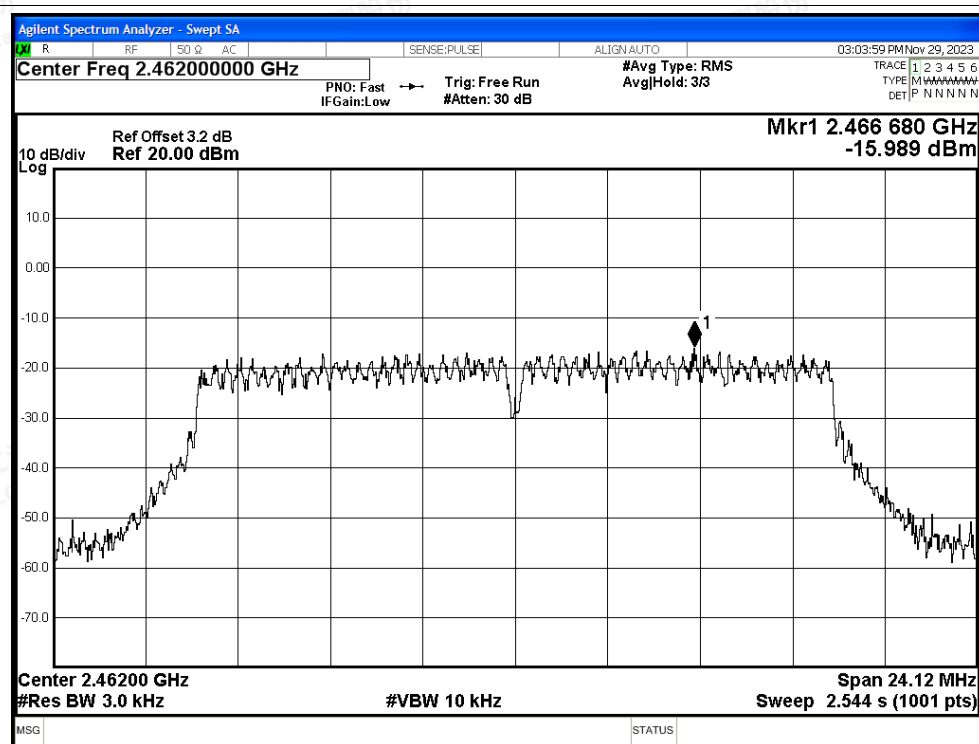


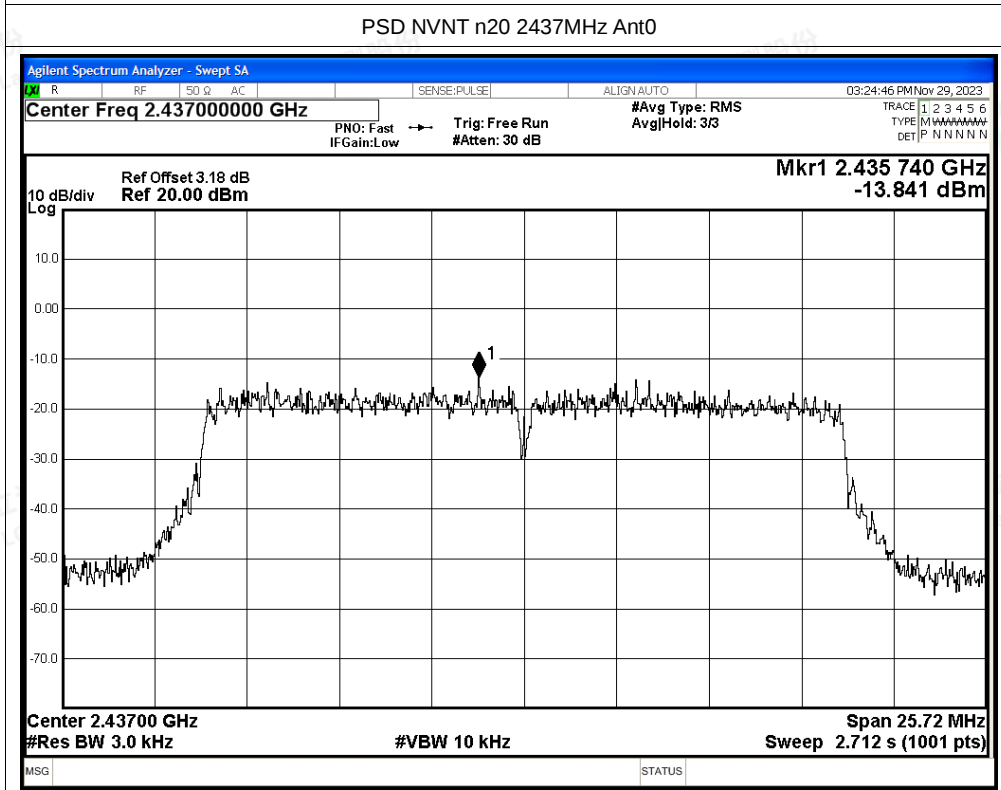
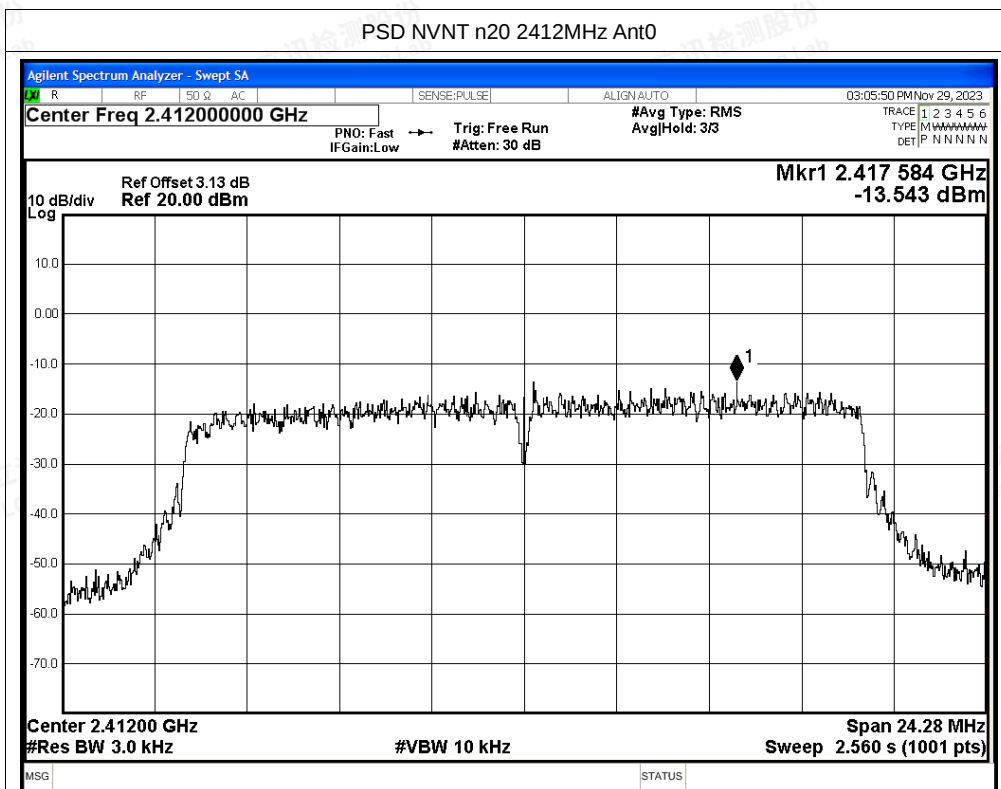


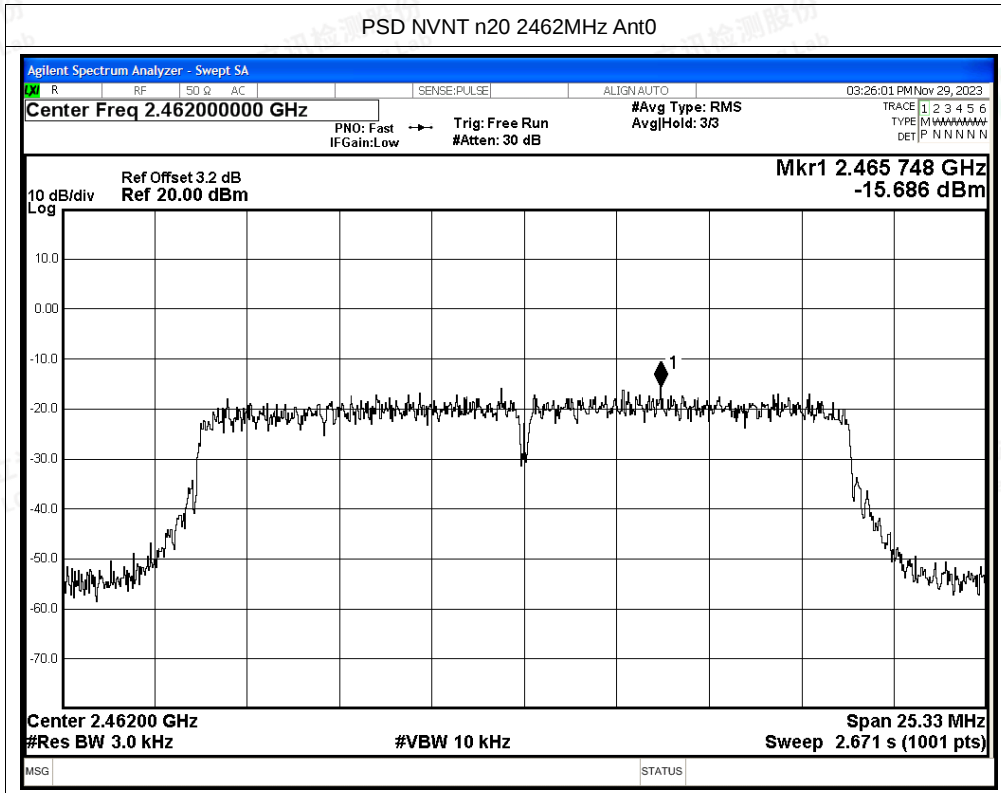
PSD NVNT g 2437MHz Ant0



PSD NVNT g 2462MHz Ant0









A.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant0	-54.08	-20	Pass
NVNT	b	2462	Ant0	-55.25	-20	Pass
NVNT	g	2412	Ant0	-35.16	-20	Pass
NVNT	g	2462	Ant0	-40.79	-20	Pass
NVNT	n20	2412	Ant0	-33.91	-20	Pass
NVNT	n20	2462	Ant0	-39.5	-20	Pass

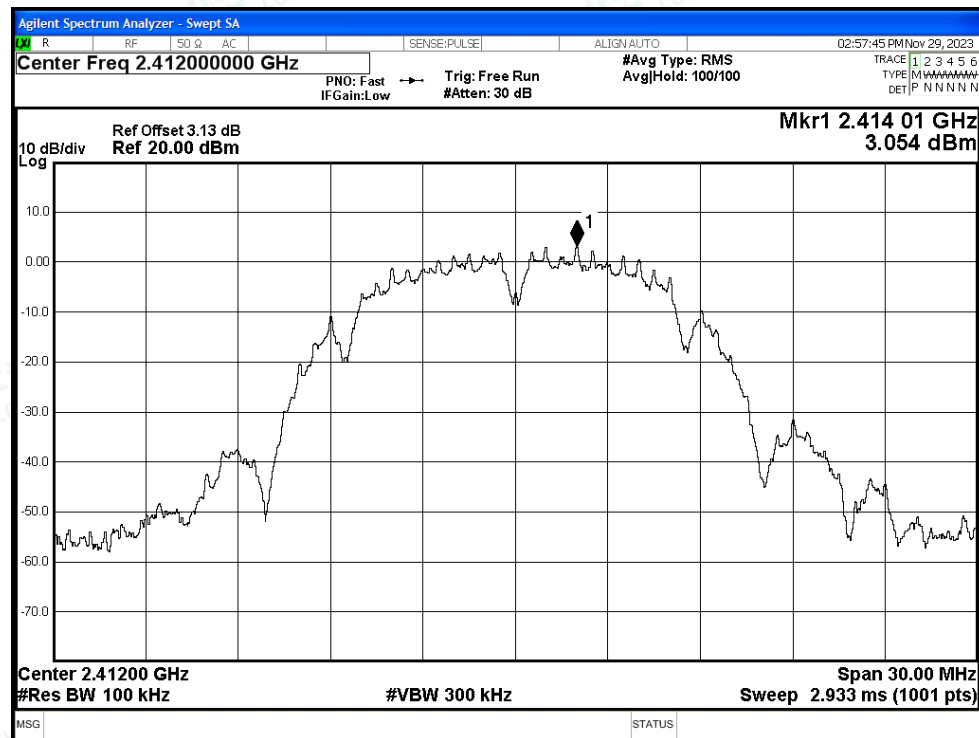


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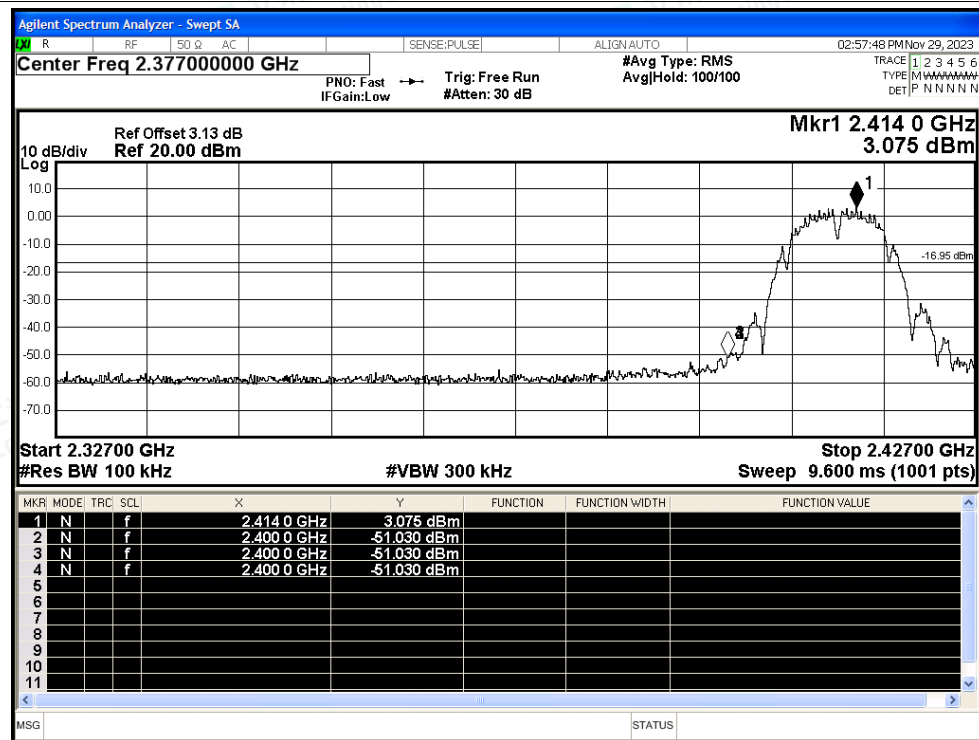


Test Graphs

Band Edge NVNT b 2412MHz Ant0 Ref

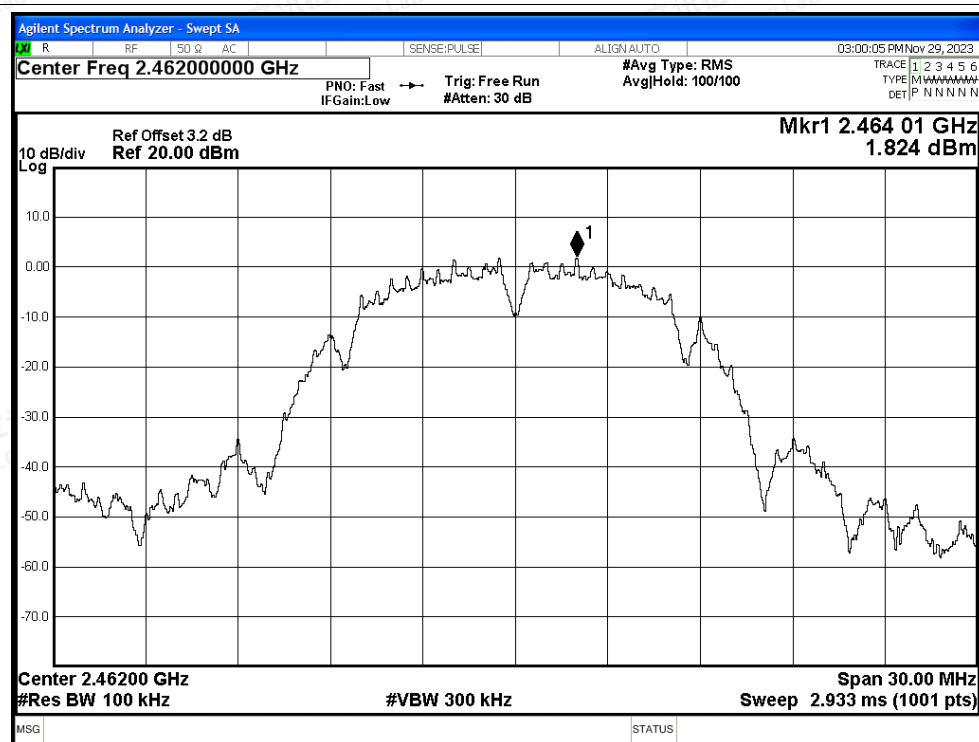


Band Edge NVNT b 2412MHz Ant0 Emission

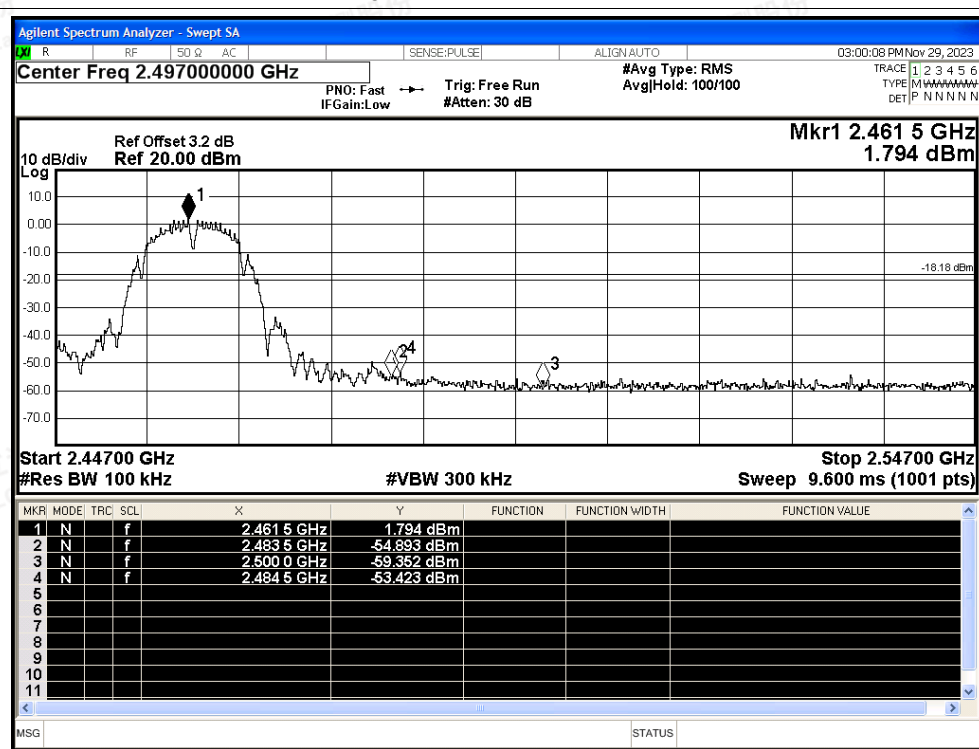




Band Edge NVNT b 2462MHz Ant0 Ref

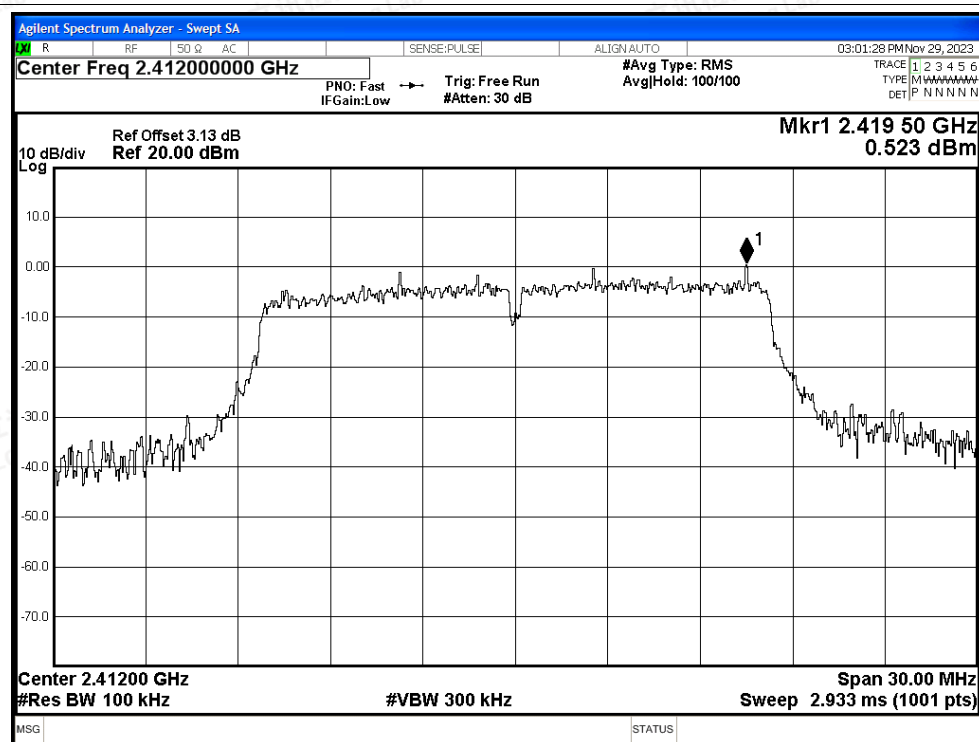


Band Edge NVNT b 2462MHz Ant0 Emission

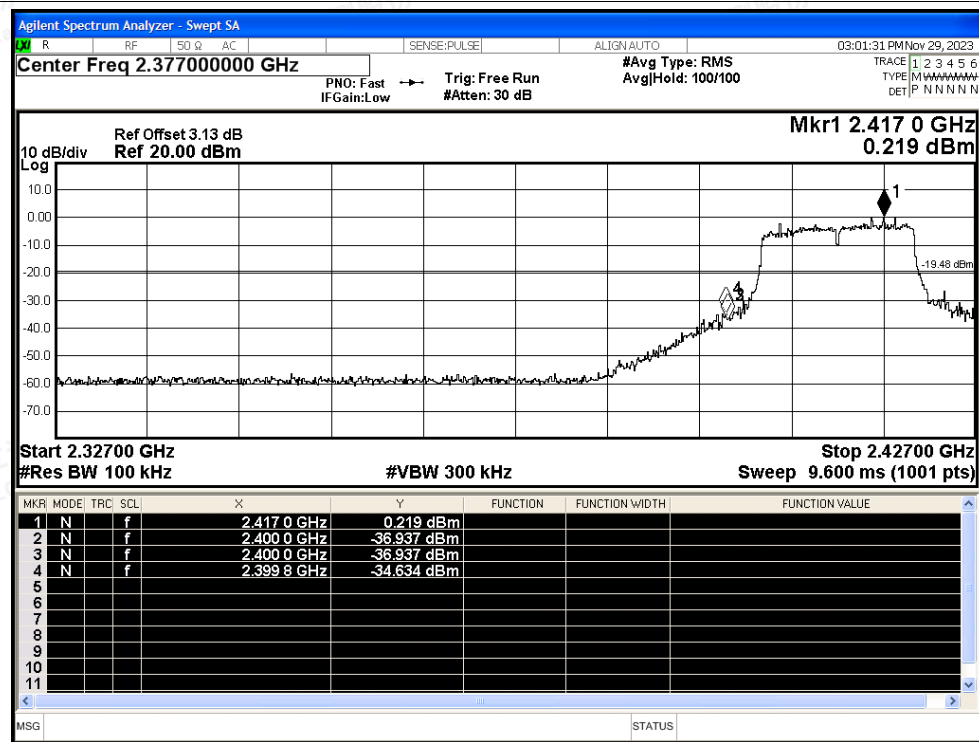




Band Edge NVNT g 2412MHz Ant0 Ref

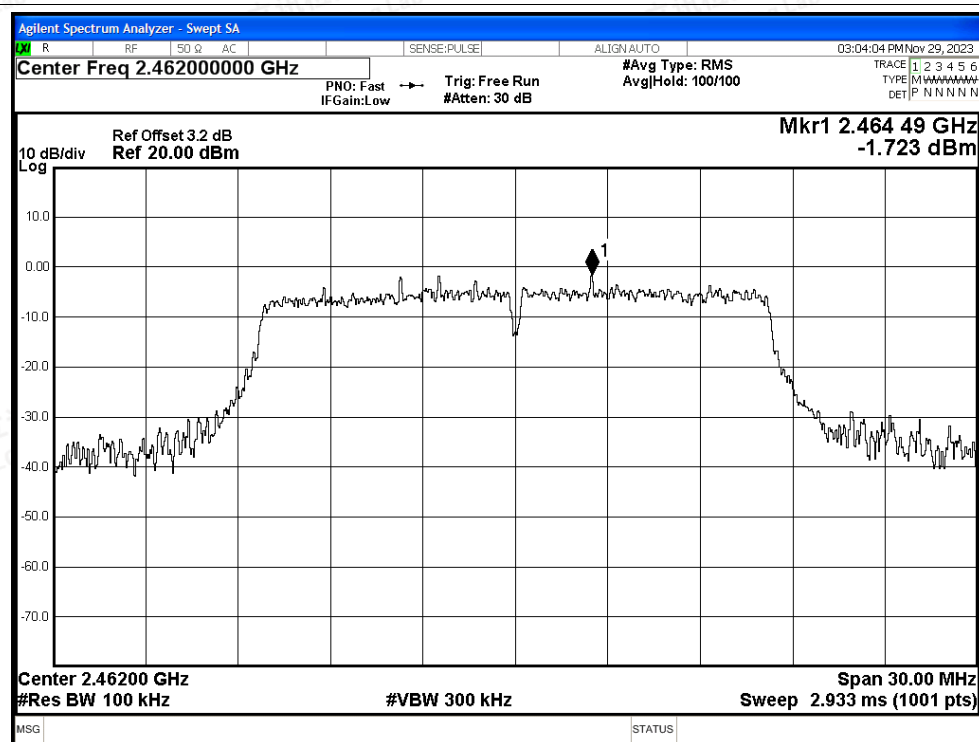


Band Edge NVNT g 2412MHz Ant0 Emission

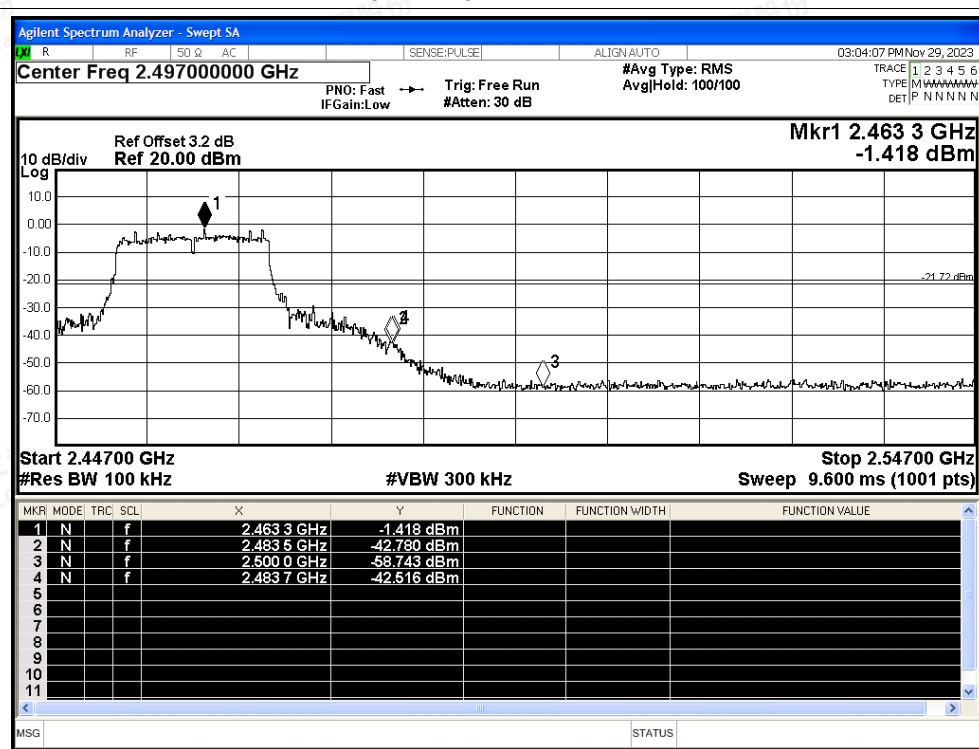




Band Edge NVNT g 2462MHz Ant0 Ref

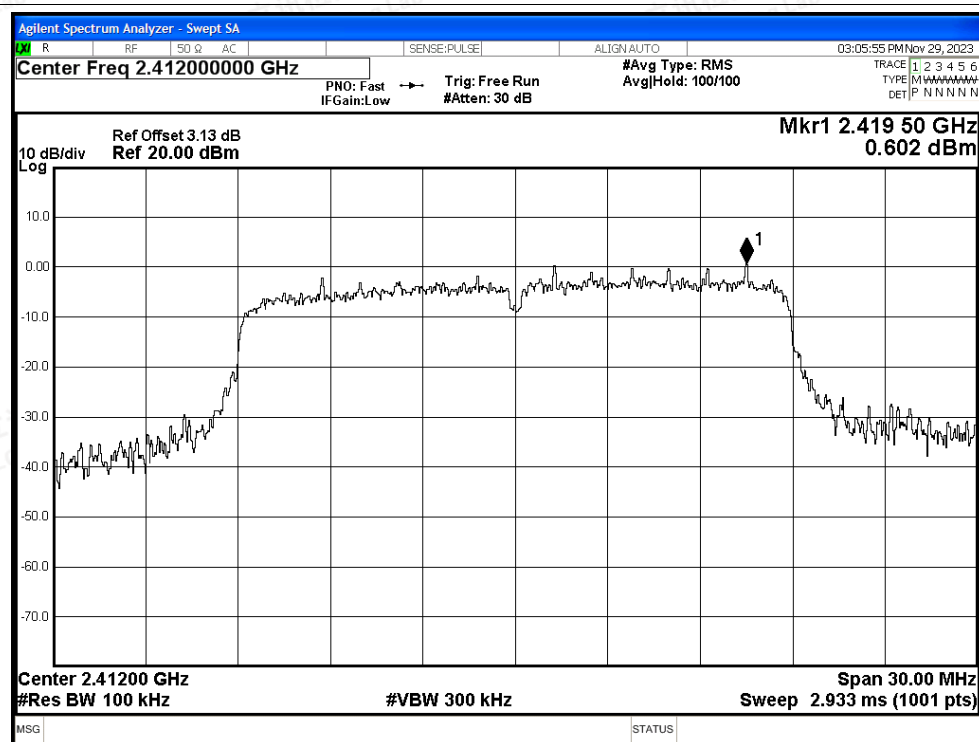


Band Edge NVNT g 2462MHz Ant0 Emission

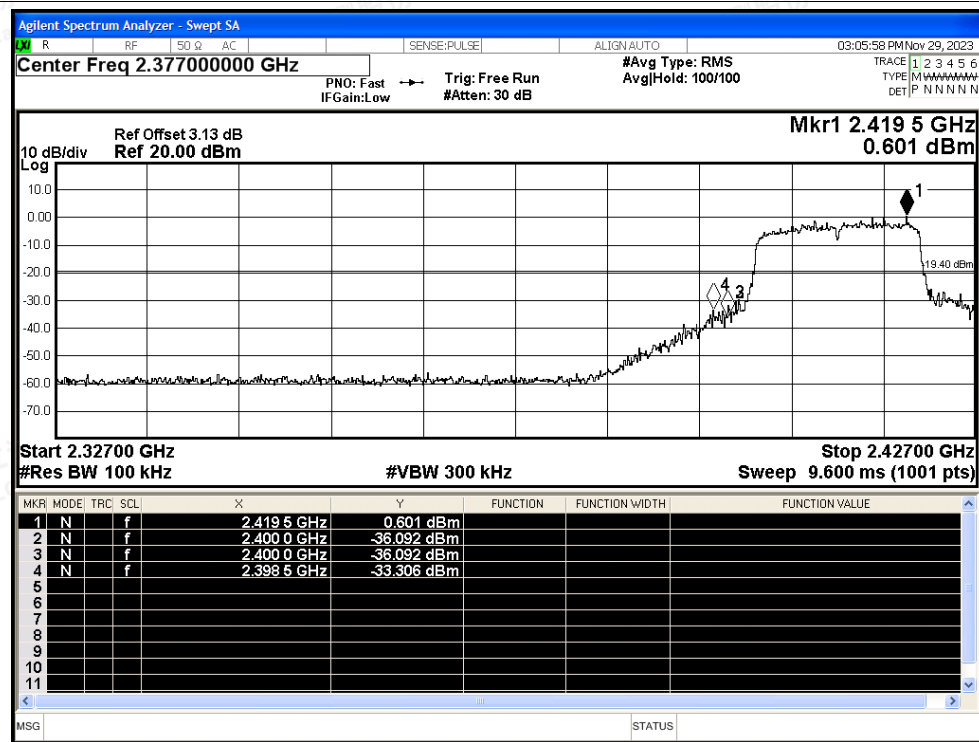




Band Edge NVNT n20 2412MHz Ant0 Ref

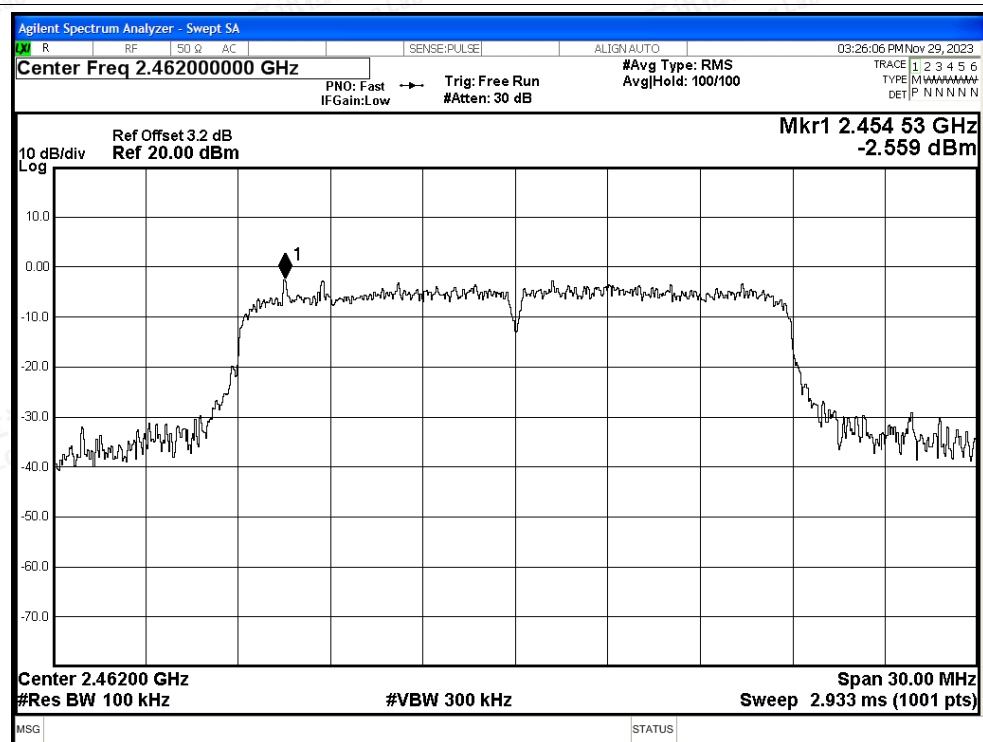


Band Edge NVNT n20 2412MHz Ant0 Emission

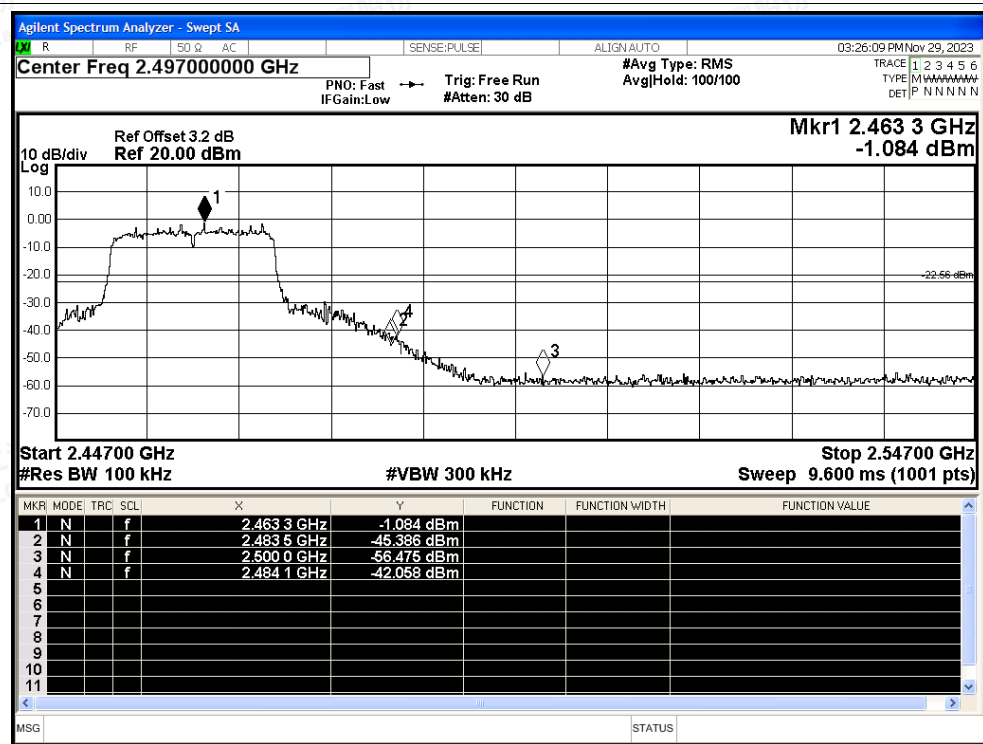




Band Edge NVNT n20 2462MHz Ant0 Ref



Band Edge NVNT n20 2462MHz Ant0 Emission





A.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant0	-48.67	-20	Pass
NVNT	b	2437	Ant0	-46.28	-20	Pass
NVNT	b	2462	Ant0	-45.37	-20	Pass
NVNT	g	2412	Ant0	-46.12	-20	Pass
NVNT	g	2437	Ant0	-44.57	-20	Pass
NVNT	g	2462	Ant0	-44.42	-20	Pass
NVNT	n20	2412	Ant0	-46.13	-20	Pass
NVNT	n20	2437	Ant0	-45.2	-20	Pass
NVNT	n20	2462	Ant0	-44.06	-20	Pass

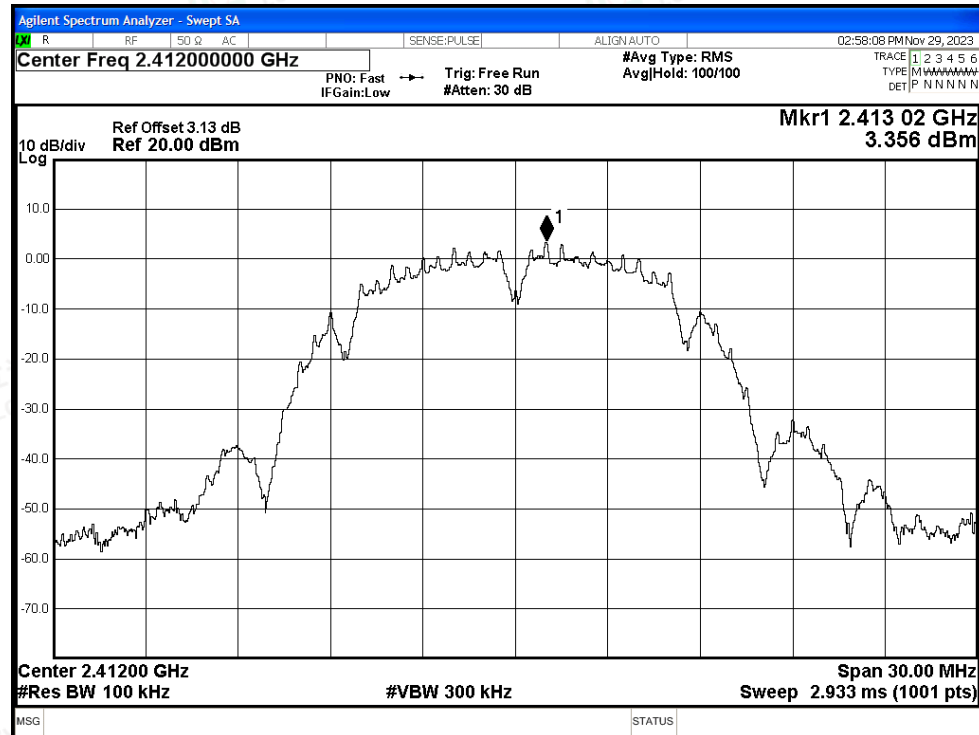


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518000, China
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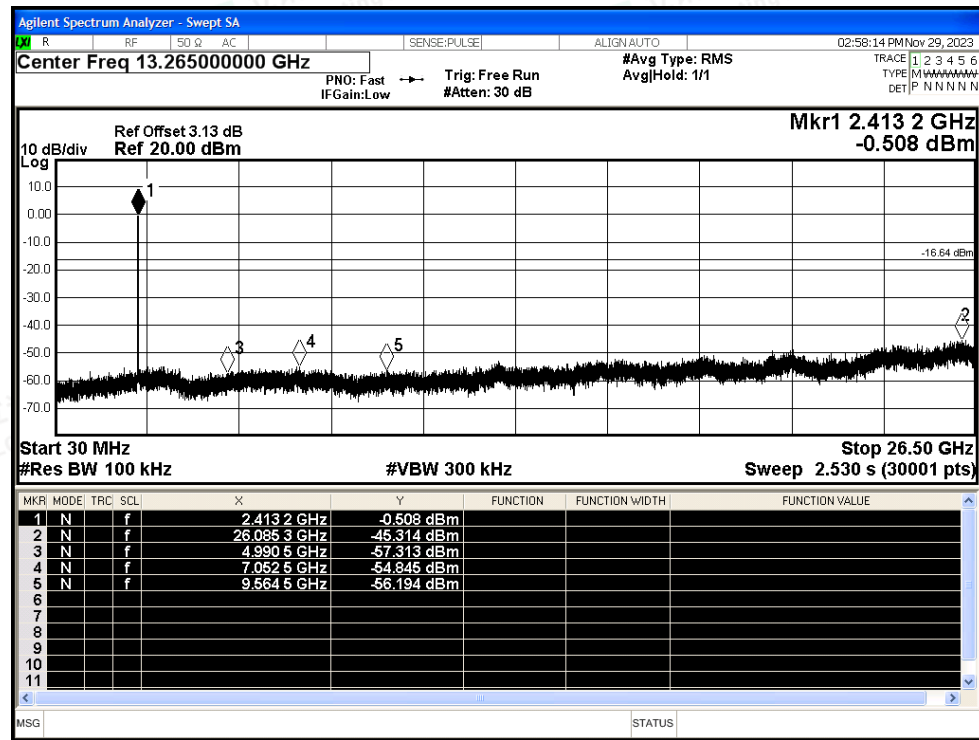


Test Graphs

Tx. Spurious NVNT b 2412MHz Ant0 Ref

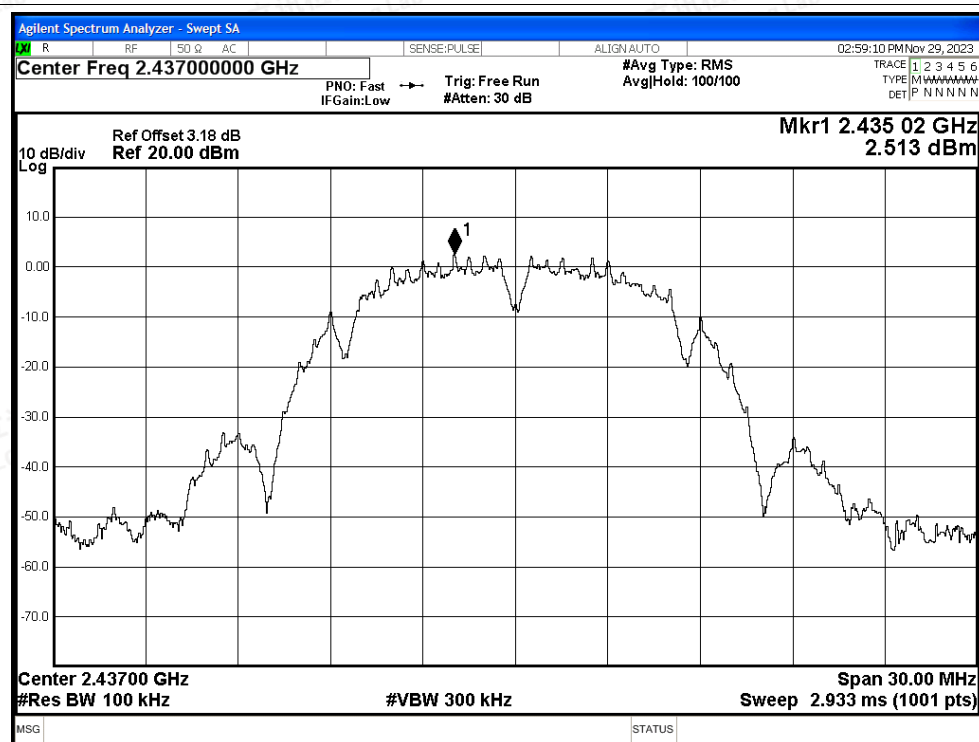


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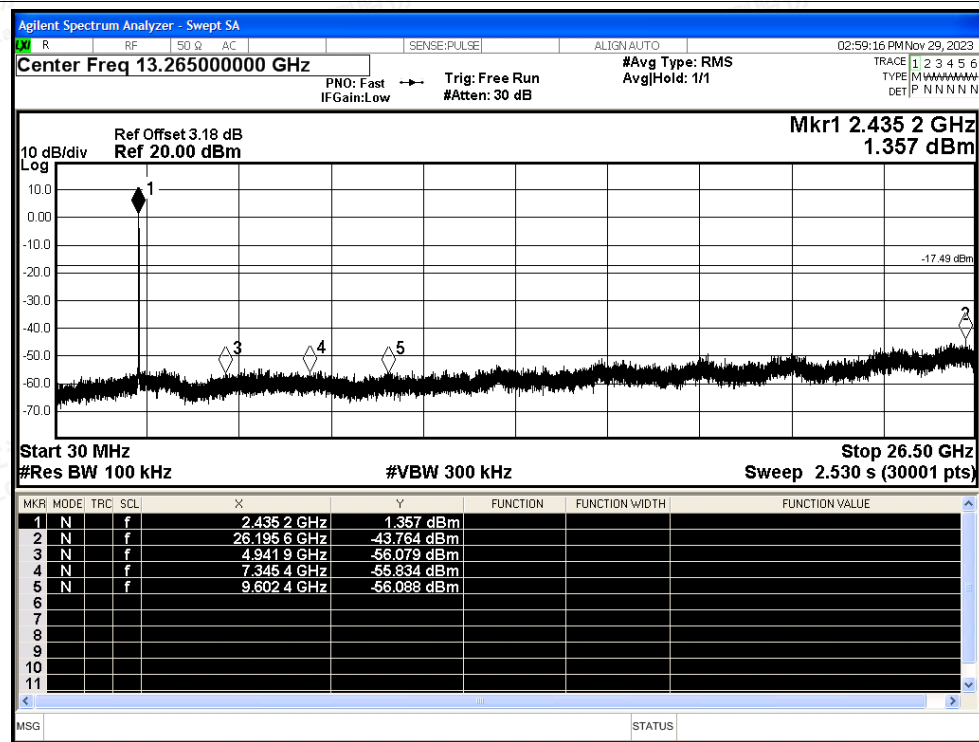




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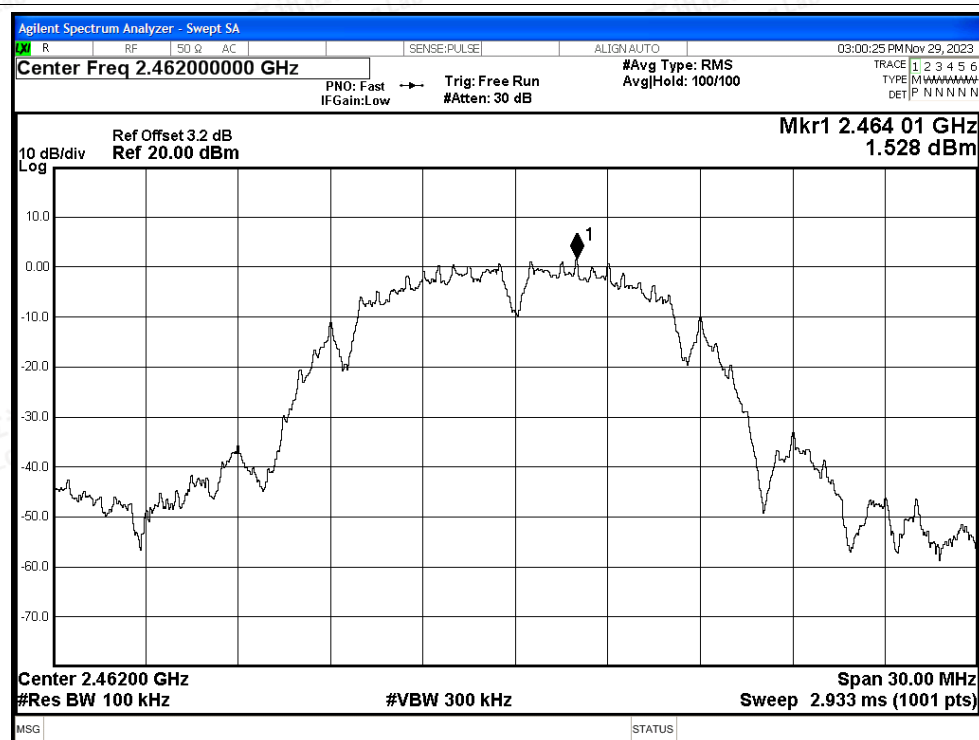


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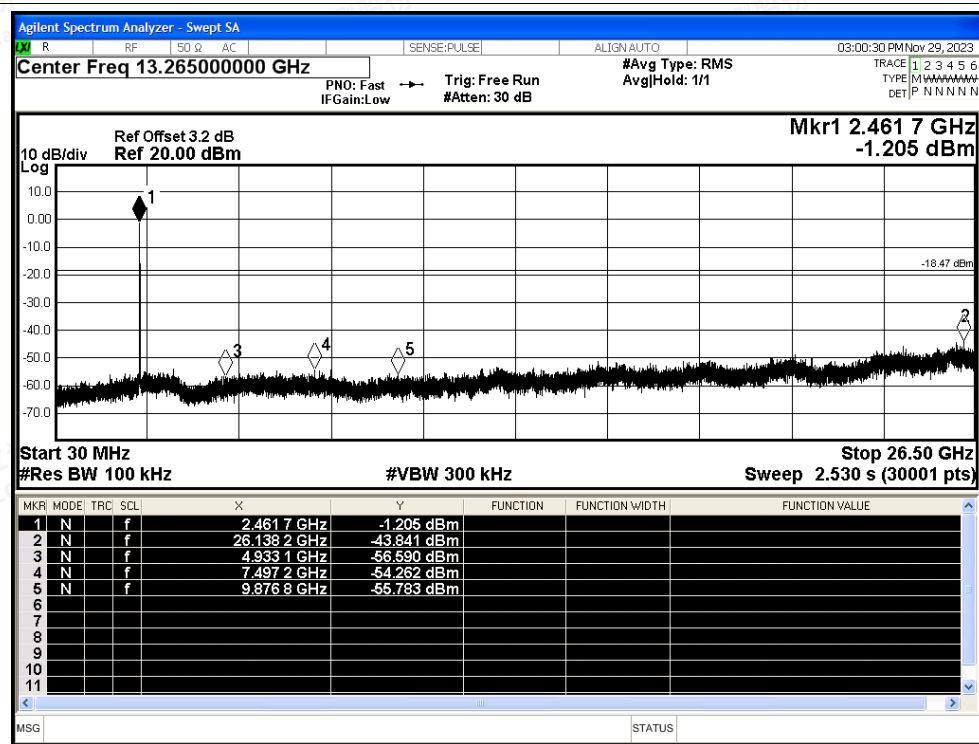




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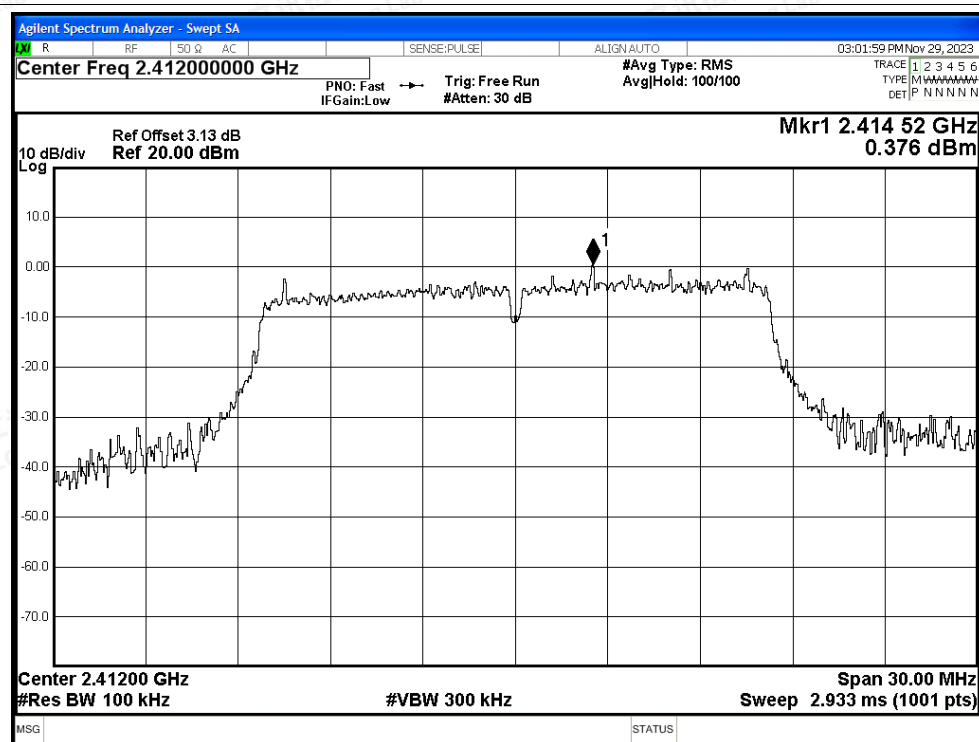


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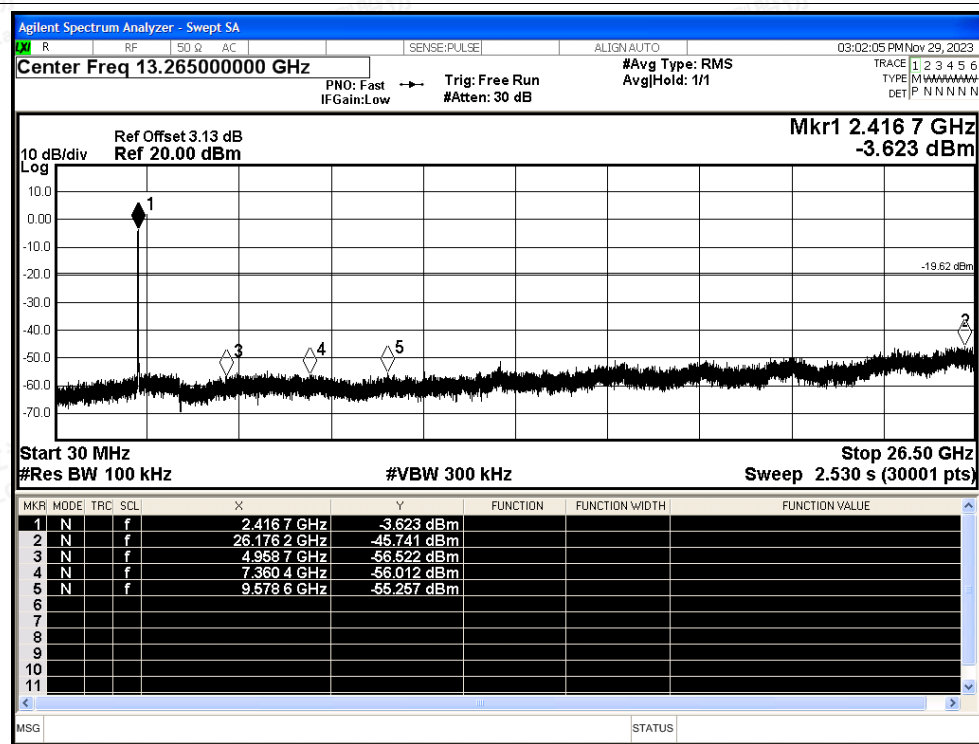




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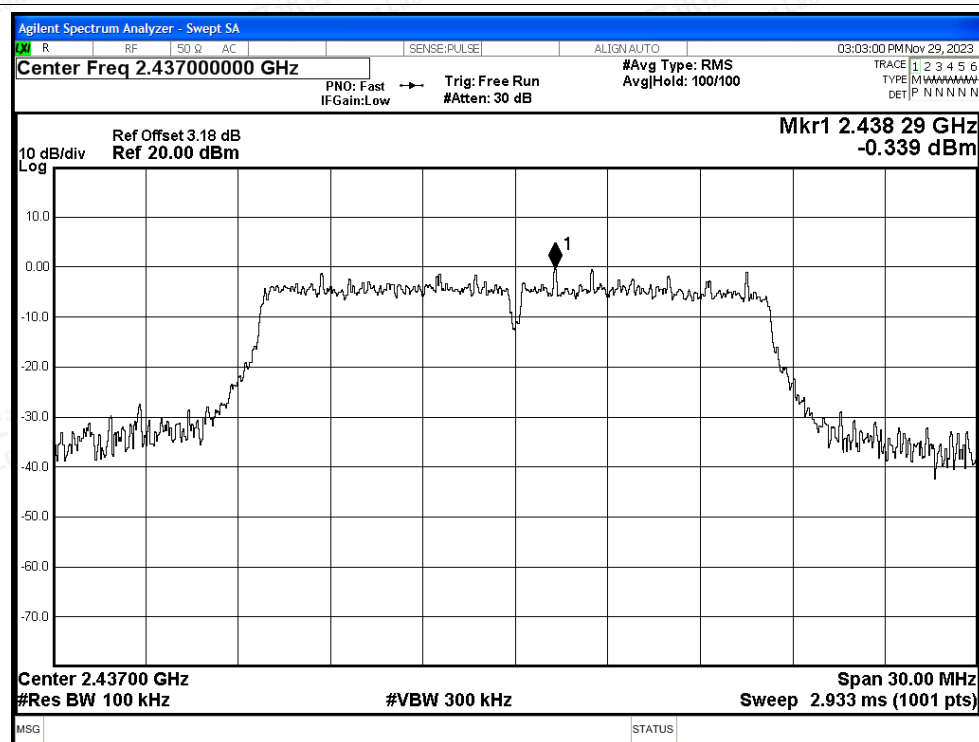


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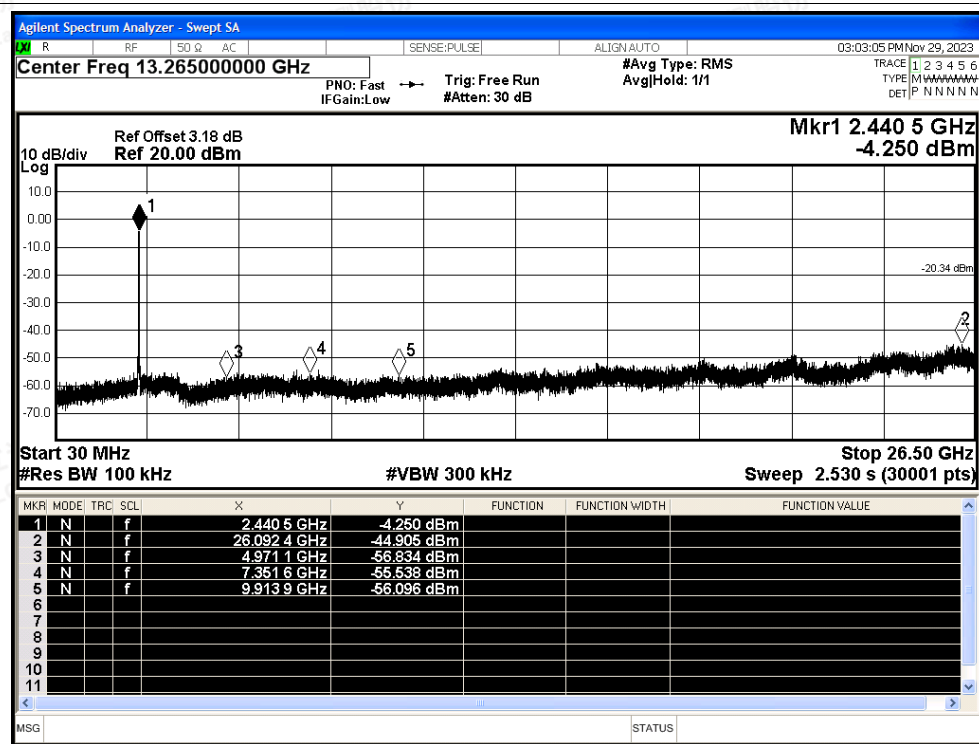




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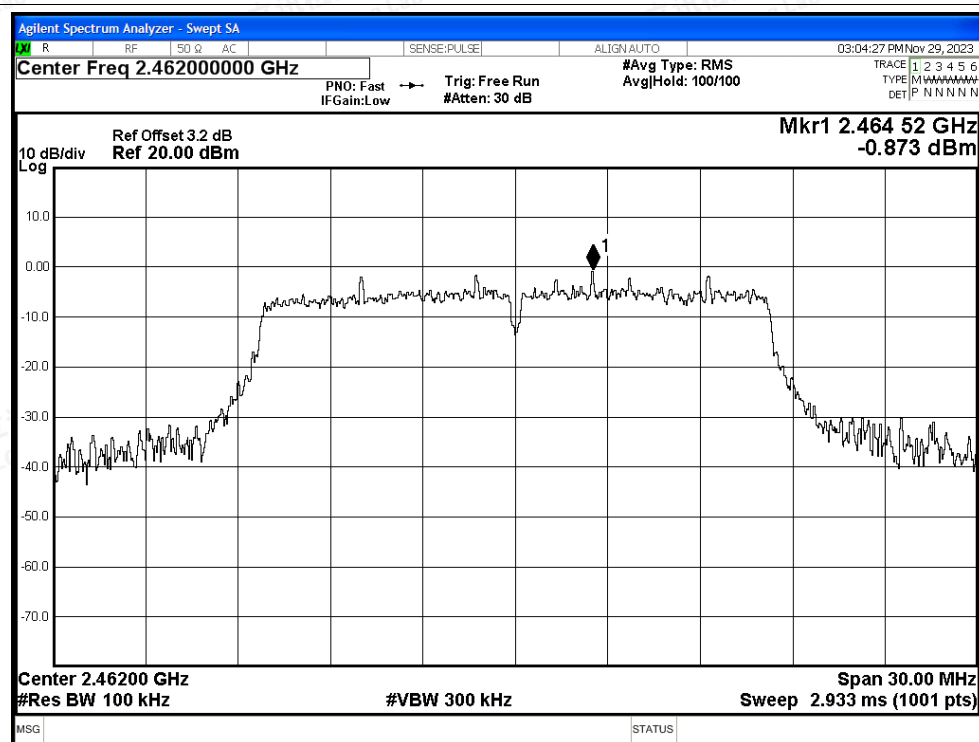


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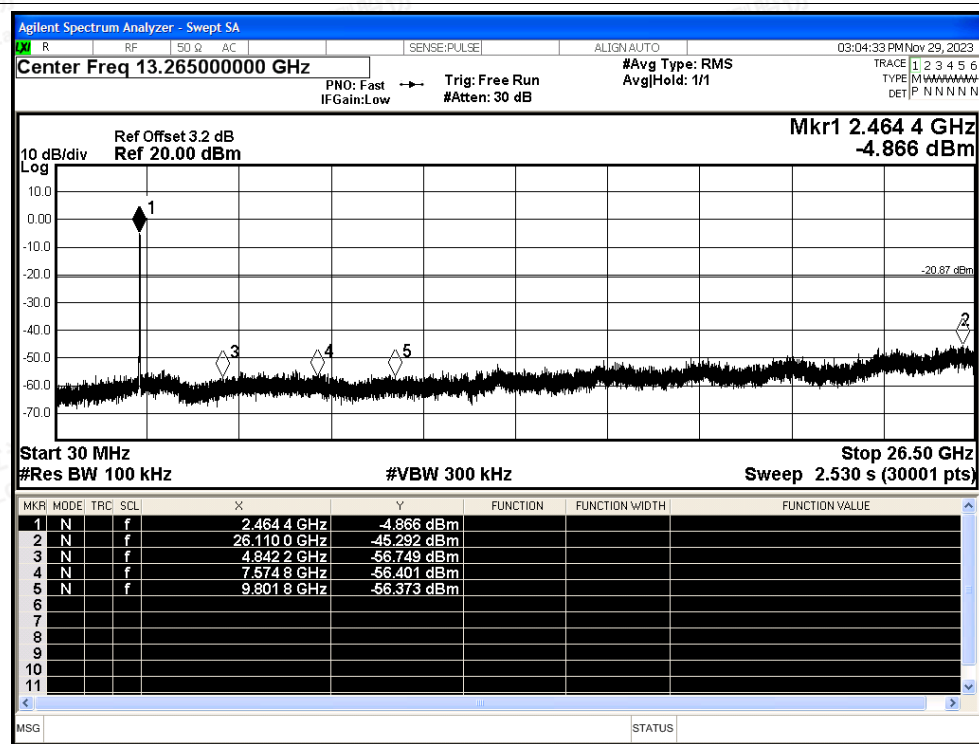




Tx. Spurious NVNT g 2462MHz Ant0 Ref

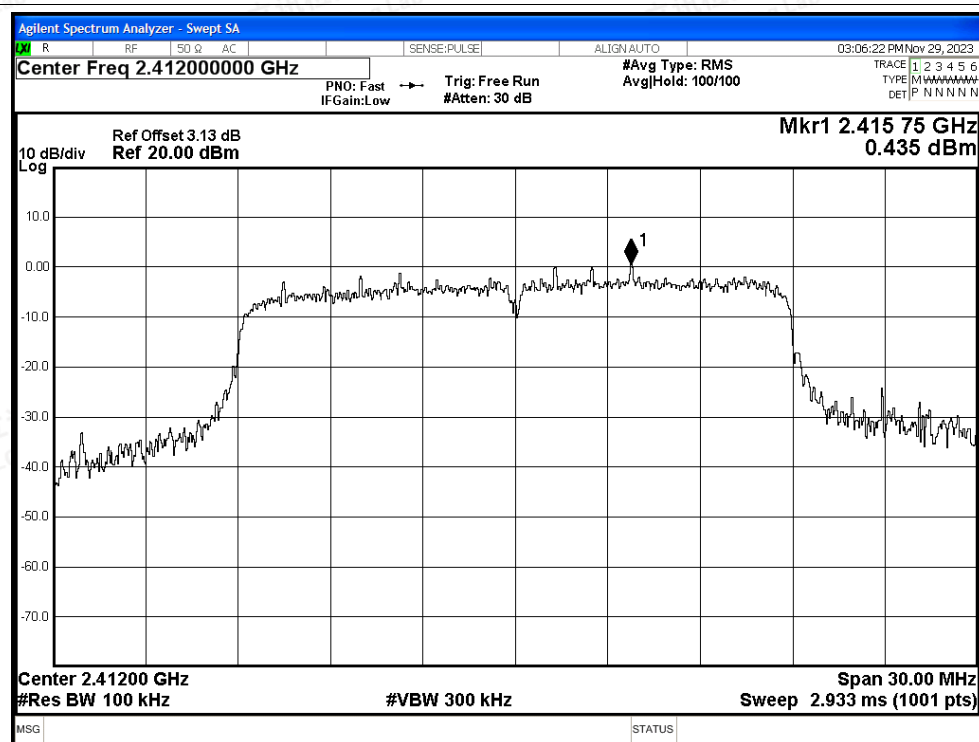


Tx. Spurious NVNT g 2462MHz Ant0 Emission

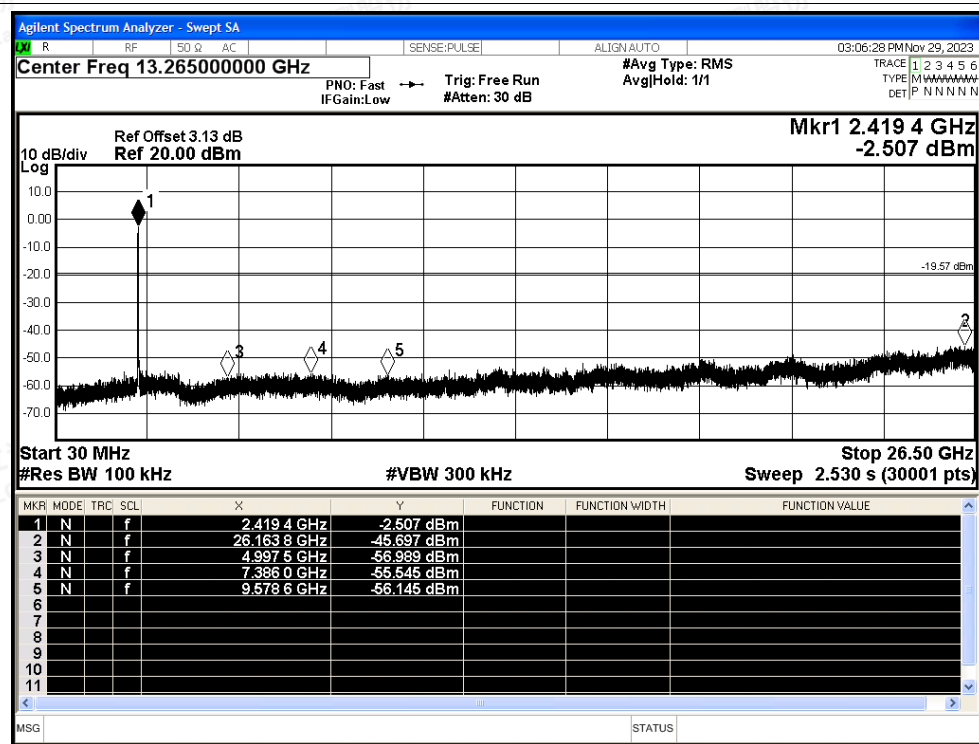




Tx. Spurious NVNT n20 2412MHz Ant0 Ref

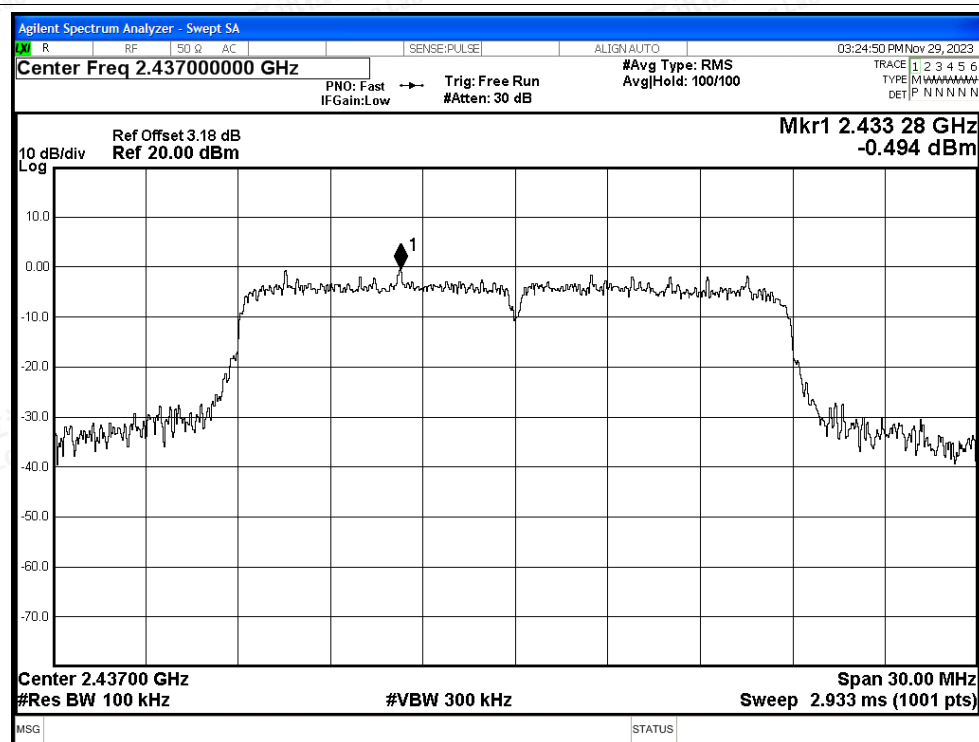


Tx. Spurious NVNT n20 2412MHz Ant0 Emission

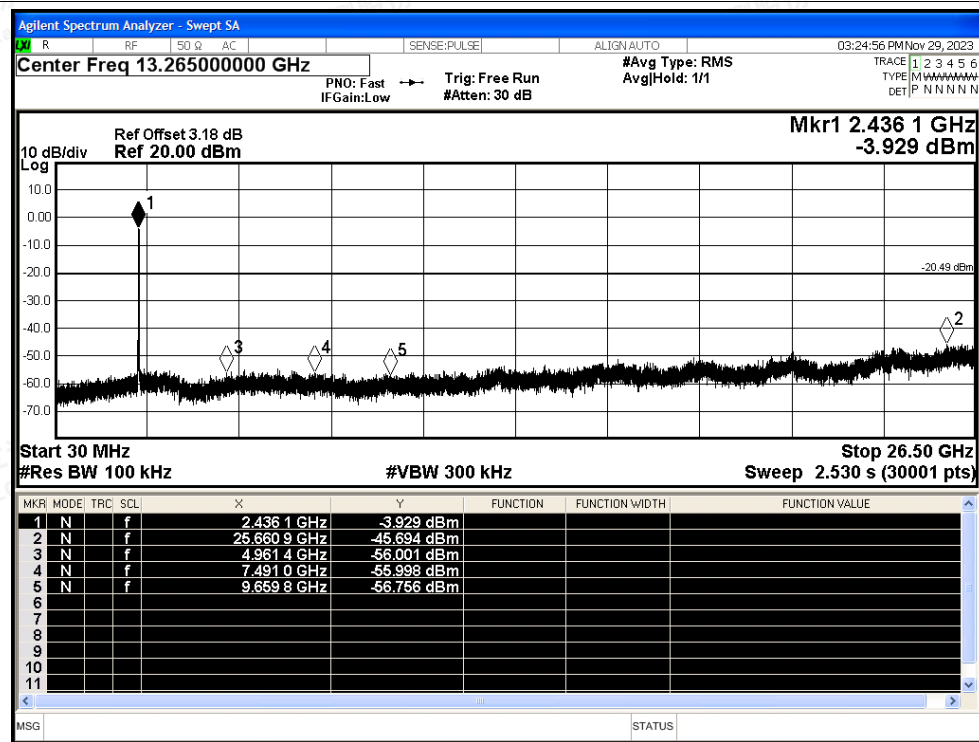




Tx. Spurious NVNT n20 2437MHz Ant0 Ref

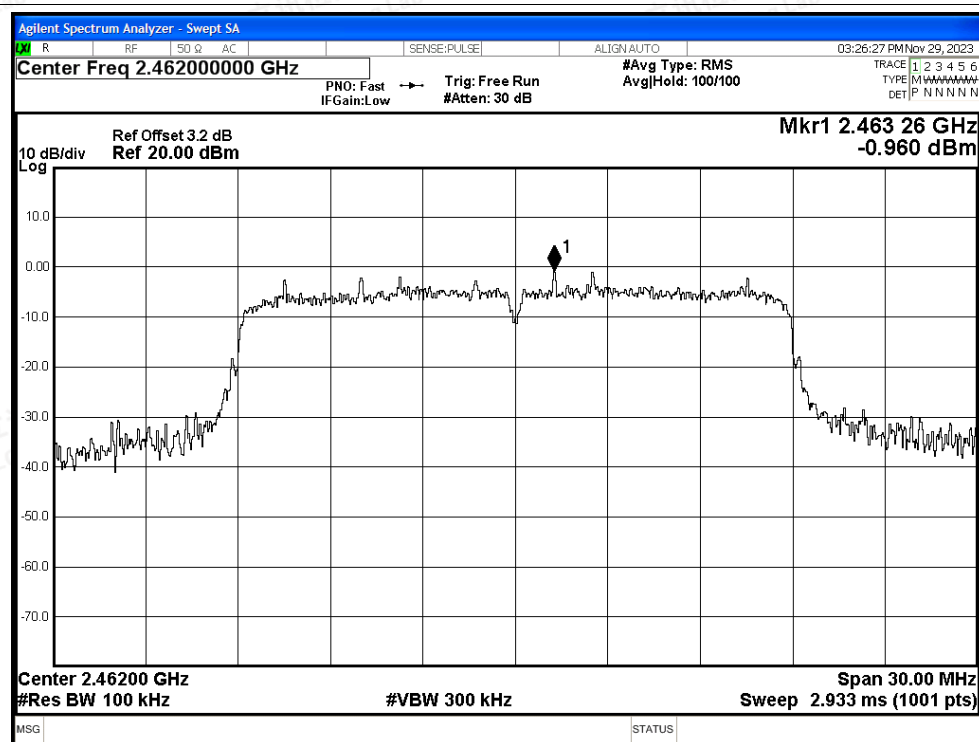


Tx. Spurious NVNT n20 2437MHz Ant0 Emission

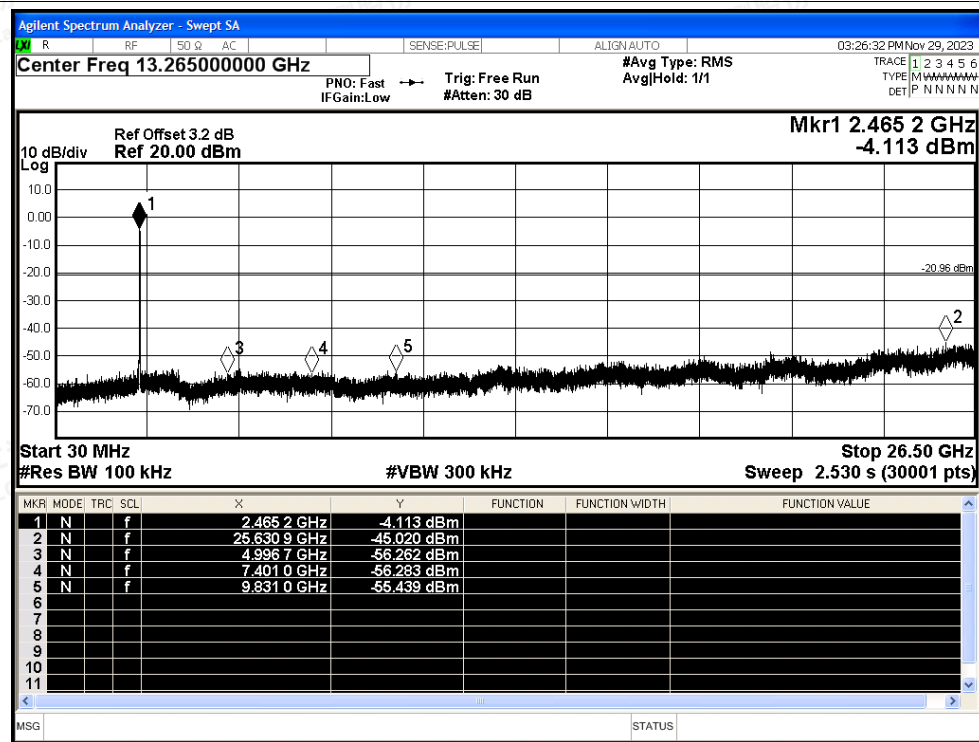




Tx. Spurious NVNT n20 2462MHz Ant0 Ref



Tx. Spurious NVNT n20 2462MHz Ant0 Emission





A.6 Duty Cycle

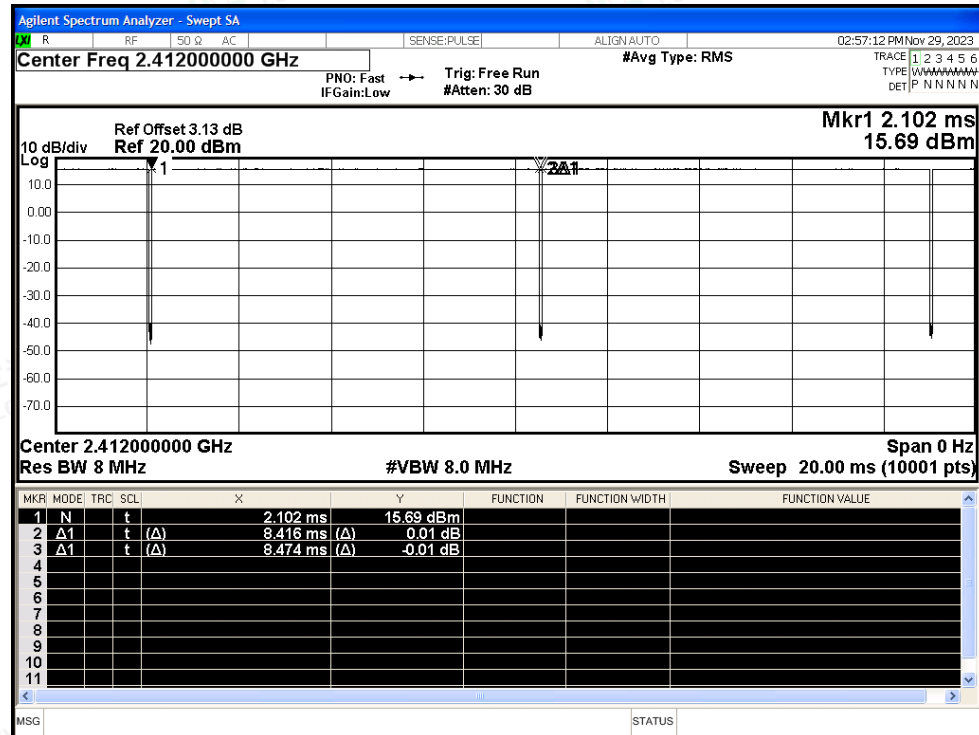
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant0	99.32	0	0.12
NVNT	b	2437	Ant0	99.32	0	0.12
NVNT	b	2462	Ant0	99.34	0	0.12
NVNT	g	2412	Ant0	95.62	0.19	0.72
NVNT	g	2437	Ant0	95.75	0.19	0.72
NVNT	g	2462	Ant0	95.75	0.19	0.72
NVNT	n20	2412	Ant0	95.02	0.22	0.85
NVNT	n20	2437	Ant0	95.02	0.22	0.85
NVNT	n20	2462	Ant0	94.86	0.23	0.85



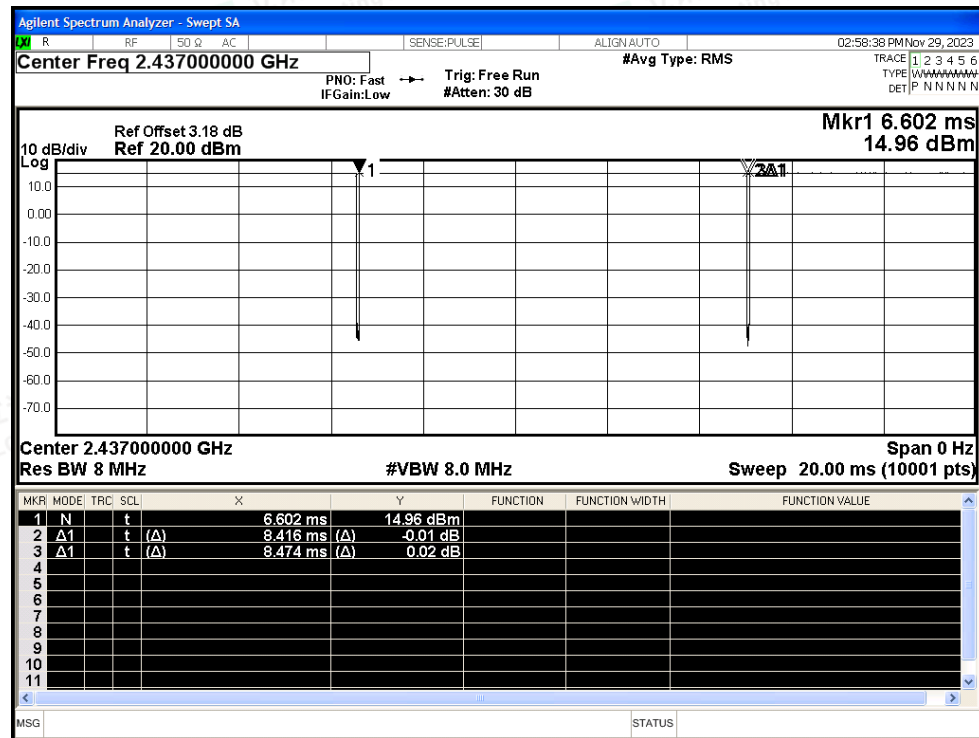


Test Graphs

Duty Cycle NVNT b 2412MHz Ant0

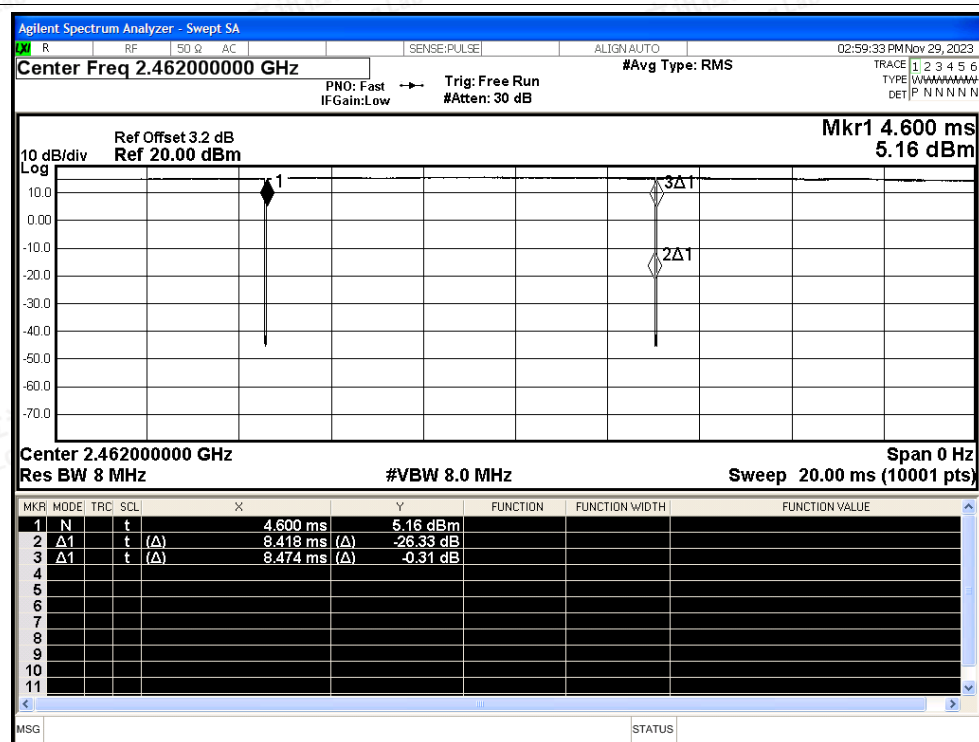


Duty Cycle NVNT b 2437MHz Ant0

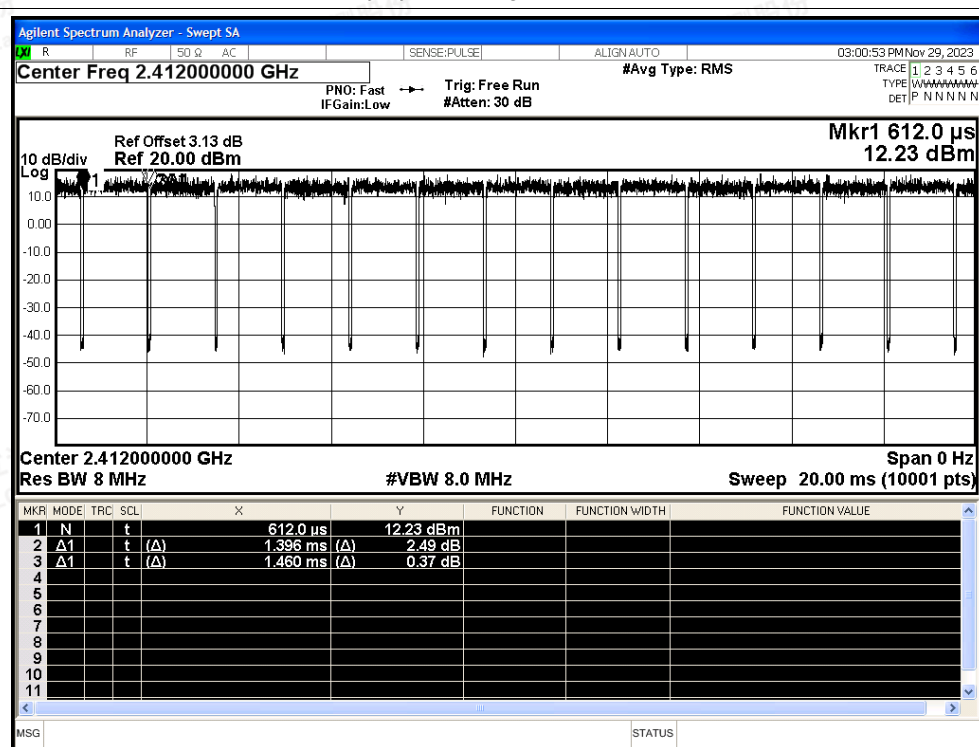




Duty Cycle NVNT b 2462MHz Ant0

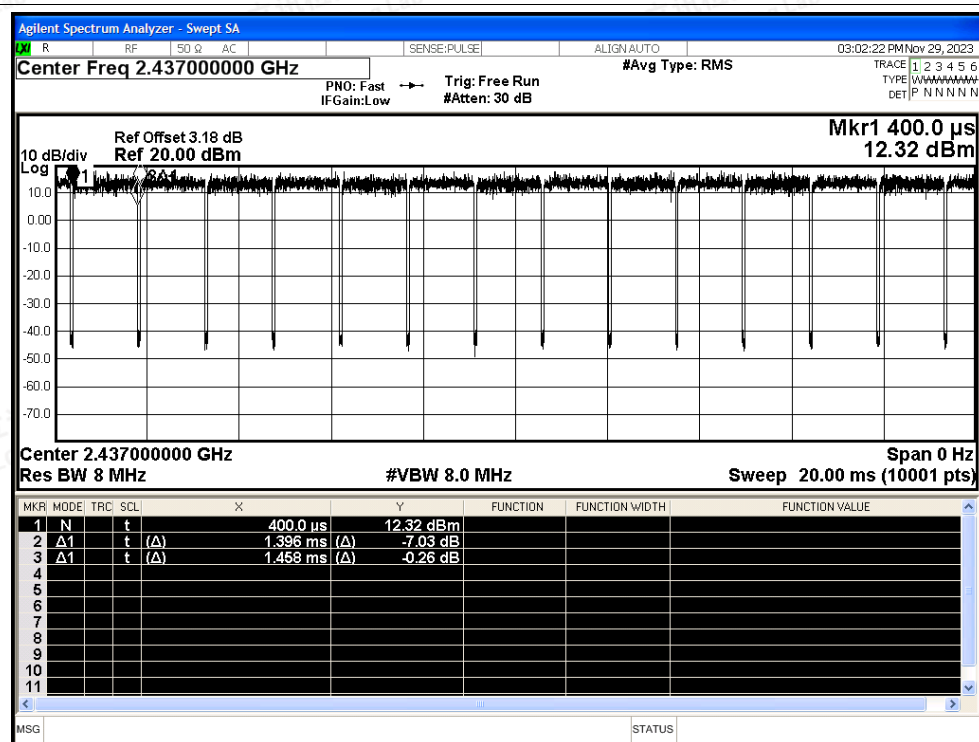


Duty Cycle NVNT g 2412MHz Ant0

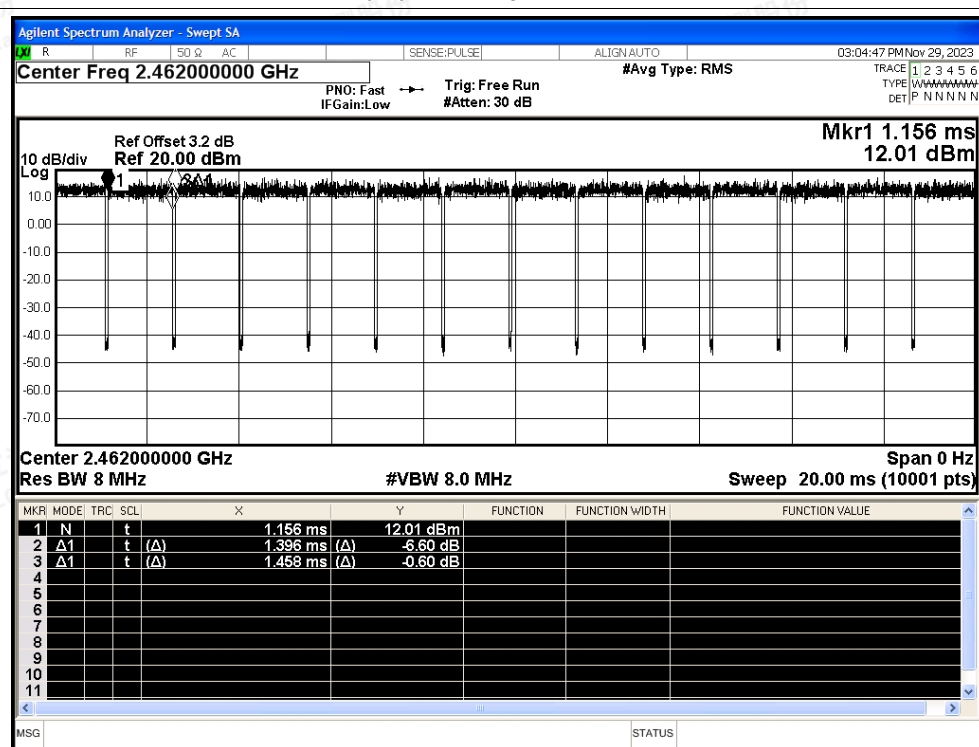


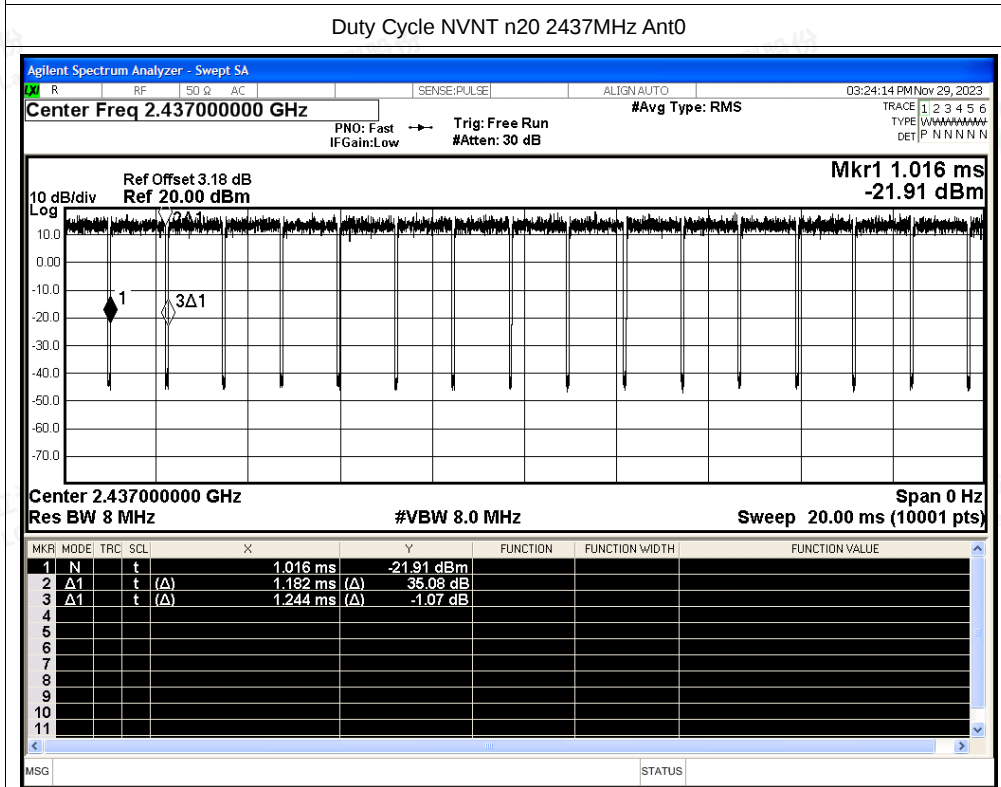
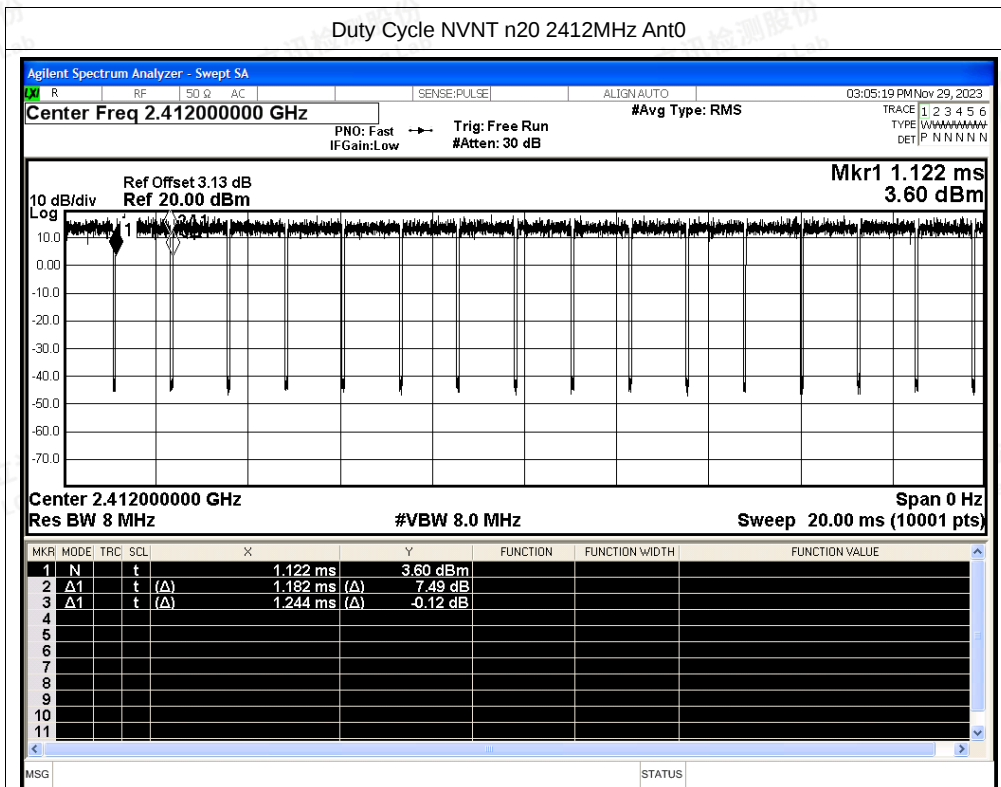


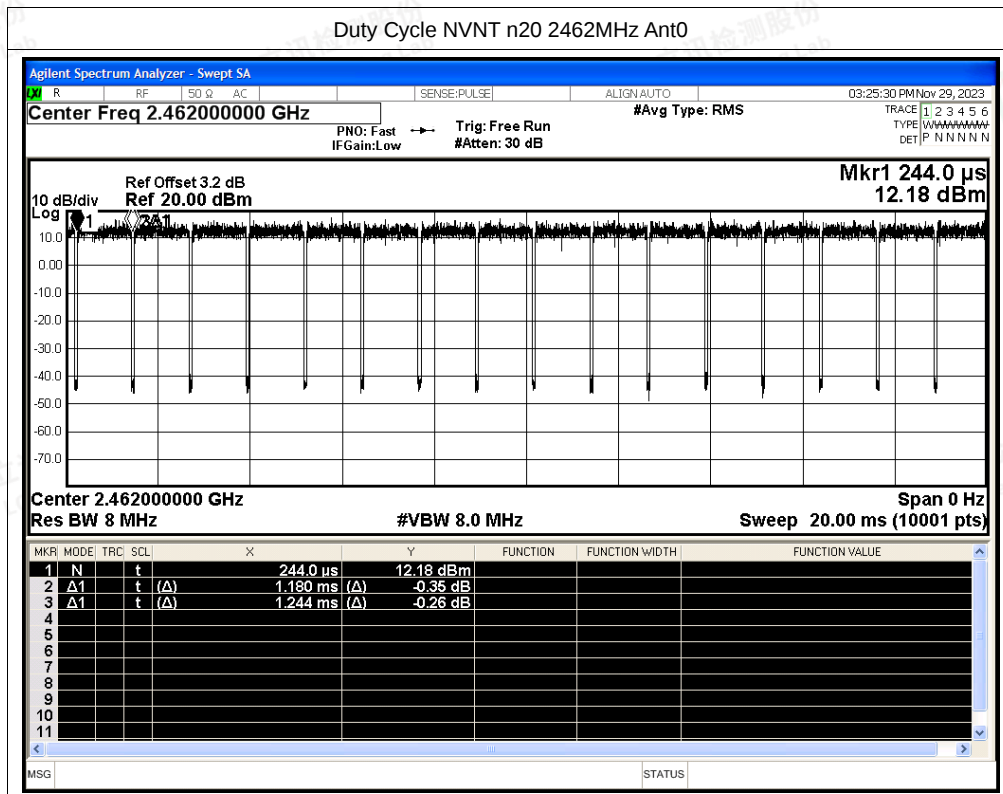
Duty Cycle NVNT g 2437MHz Ant0



Duty Cycle NVNT g 2462MHz Ant0









A.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant0	2310	-48	2.69	45.83	Peak	74	Pass
NVNT	b	2412	Ant0	2310	-56.95	2.69	40.12	Average	54	Pass
NVNT	b	2412	Ant0	2334.453	-45.86	2.69	50.14	Peak	74	Pass
NVNT	b	2412	Ant0	2389.326	-55.05	2.69	40.62	Average	54	Pass
NVNT	b	2412	Ant0	2390	-46.11	2.69	49.54	Peak	74	Pass
NVNT	b	2412	Ant0	2390	-55.1	2.69	40.59	Average	54	Pass
NVNT	b	2462	Ant0	2483.5	-45.76	2.69	47.71	Peak	74	Pass
NVNT	b	2462	Ant0	2483.5	-53.16	2.69	42.01	Average	54	Pass
NVNT	b	2462	Ant0	2488.711	-42.59	2.69	58.97	Peak	74	Pass
NVNT	b	2462	Ant0	2484.047	-52.98	2.69	42.14	Average	54	Pass
NVNT	b	2462	Ant0	2500	-50.12	2.69	47.72	Peak	74	Pass
NVNT	b	2462	Ant0	2500	-56.27	2.69	40.78	Average	54	Pass
NVNT	g	2412	Ant0	2310	-48.96	2.69	48.87	Peak	74	Pass
NVNT	g	2412	Ant0	2310	-56.62	2.69	41.41	Average	54	Pass
NVNT	g	2412	Ant0	2389.56	-41.63	2.69	50.96	Peak	74	Pass
NVNT	g	2412	Ant0	2389.794	-51.16	2.69	42.66	Average	54	Pass
NVNT	g	2412	Ant0	2390	-41.63	2.69	48.3	Peak	74	Pass
NVNT	g	2412	Ant0	2390	-50.83	2.69	41.62	Average	54	Pass
NVNT	g	2462	Ant0	2483.5	-30.9	2.69	48.86	Peak	74	Pass
NVNT	g	2462	Ant0	2483.5	-44.05	2.69	43.34	Average	54	Pass
NVNT	g	2462	Ant0	2483.57	-29.35	2.69	55.74	Peak	74	Pass
NVNT	g	2462	Ant0	2483.517	-44.05	2.69	45.19	Average	54	Pass
NVNT	g	2462	Ant0	2500	-48.3	2.69	48.76	Peak	74	Pass
NVNT	g	2462	Ant0	2500	-55.97	2.69	42.11	Average	54	Pass
NVNT	n20	2412	Ant0	2310	-49.96	2.69	46.75	Peak	74	Pass
NVNT	n20	2412	Ant0	2310	-56.31	2.69	42.04	Average	54	Pass
NVNT	n20	2412	Ant0	2388.39	-38.23	2.69	50.78	Peak	74	Pass
NVNT	n20	2412	Ant0	2389.911	-49.93	2.69	42.46	Average	54	Pass
NVNT	n20	2412	Ant0	2390	-39.42	2.69	48.57	Peak	74	Pass
NVNT	n20	2412	Ant0	2390	-49.45	2.69	41.87	Average	54	Pass
NVNT	n20	2462	Ant0	2483.5	-36.68	2.69	51.68	Peak	74	Pass
NVNT	n20	2462	Ant0	2483.5	-51.65	2.69	43.52	Average	54	Pass
NVNT	n20	2462	Ant0	2483.517	-36.68	2.69	59.85	Peak	74	Pass
NVNT	n20	2462	Ant0	2483.623	-51.51	2.69	43.52	Average	54	Pass
NVNT	n20	2462	Ant0	2500	-50.03	2.69	48.32	Peak	74	Pass
NVNT	n20	2462	Ant0	2500	-55.94	2.69	41.73	Average	54	Pass

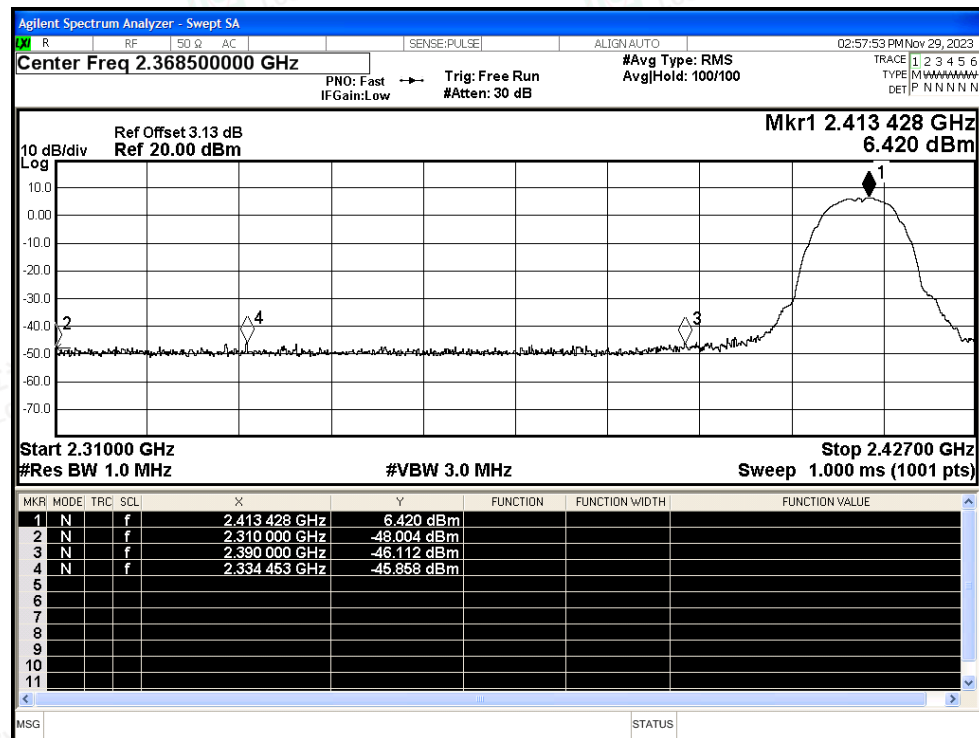


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Scan code to check authenticity

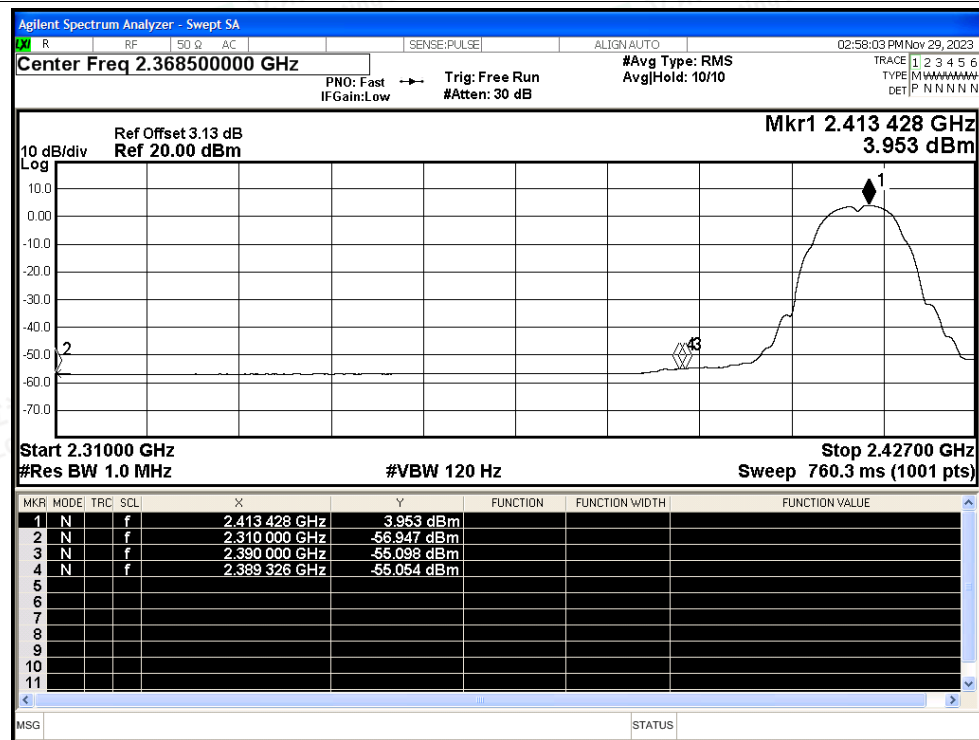


Test Graphs

Restrict Band NVNT b 2412MHz Ant0 Peak

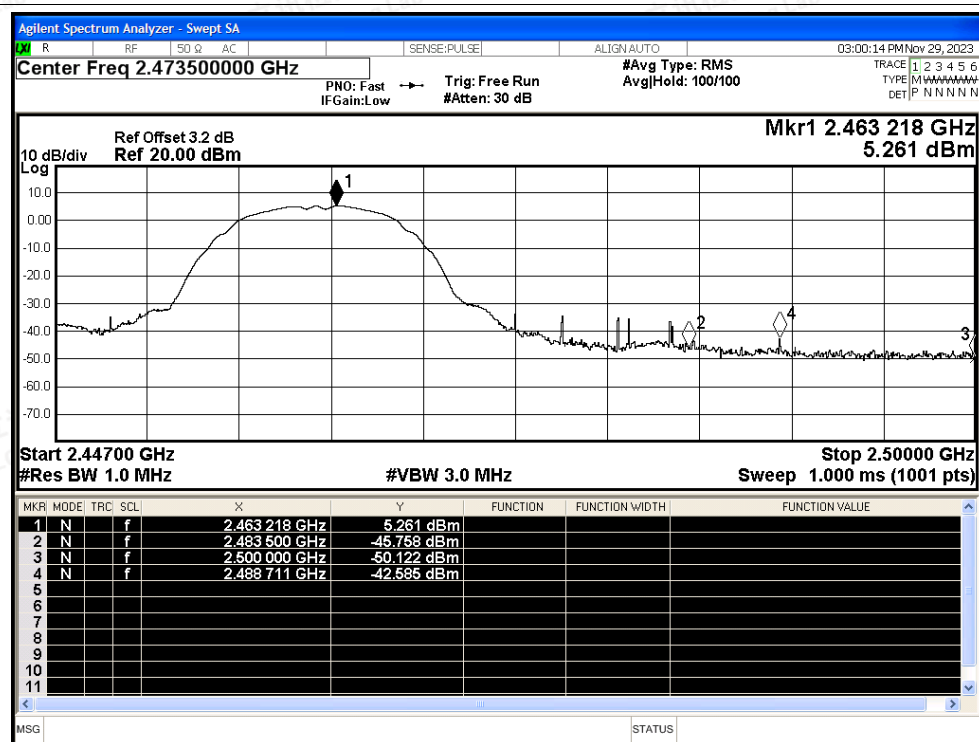


Restrict Band NVNT b 2412MHz Ant0 Average

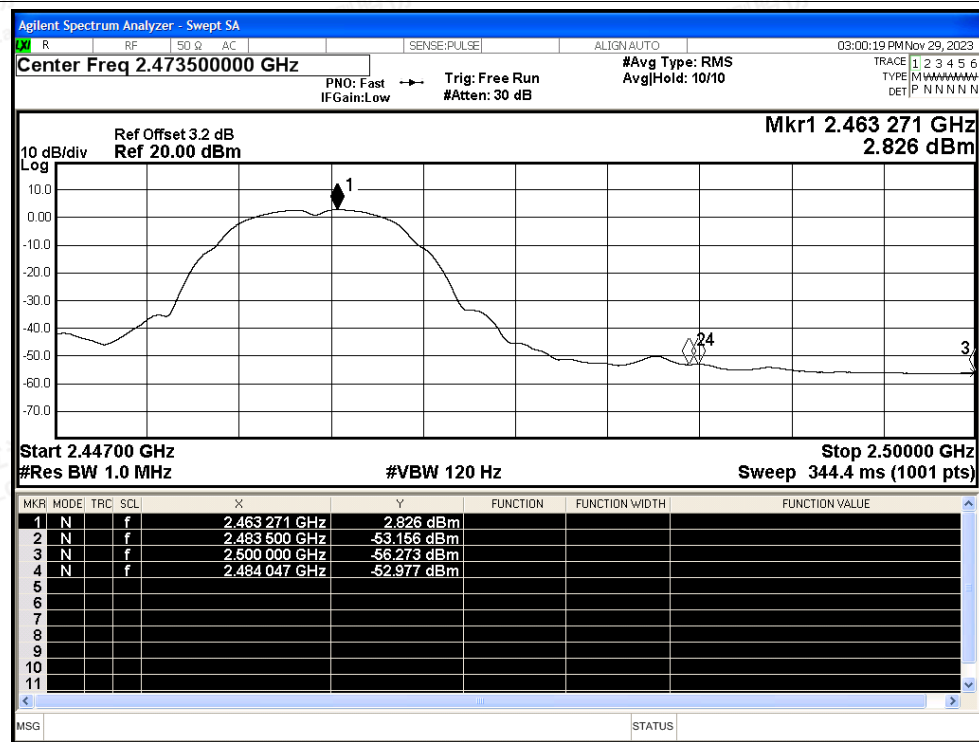




Restrict Band NVNT b 2462MHz Ant0 Peak

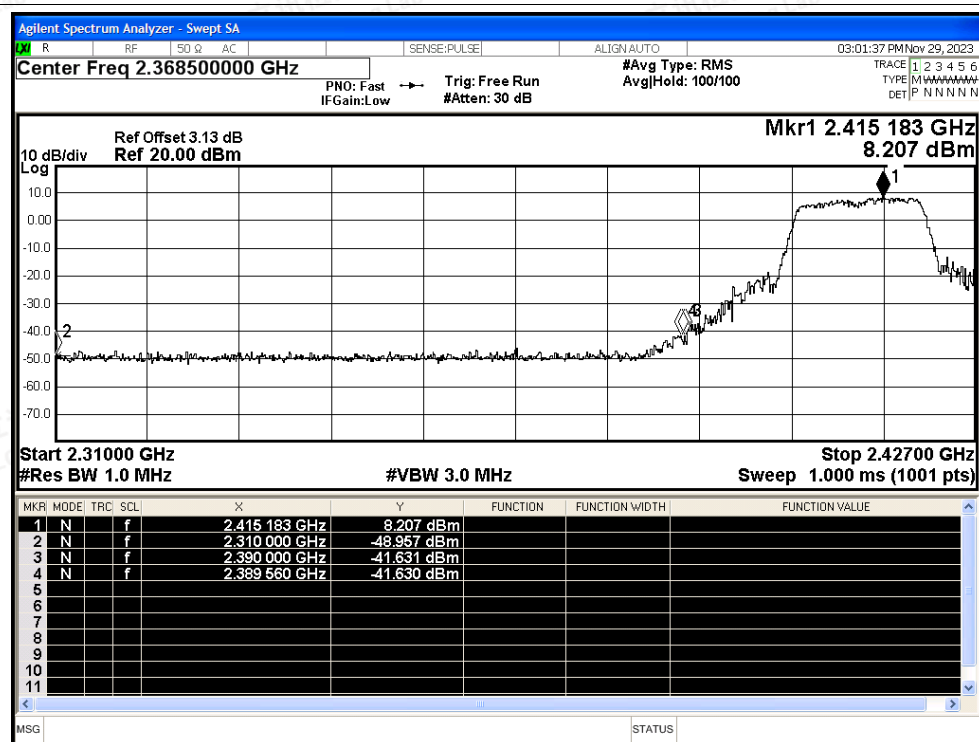


Restrict Band NVNT b 2462MHz Ant0 Average

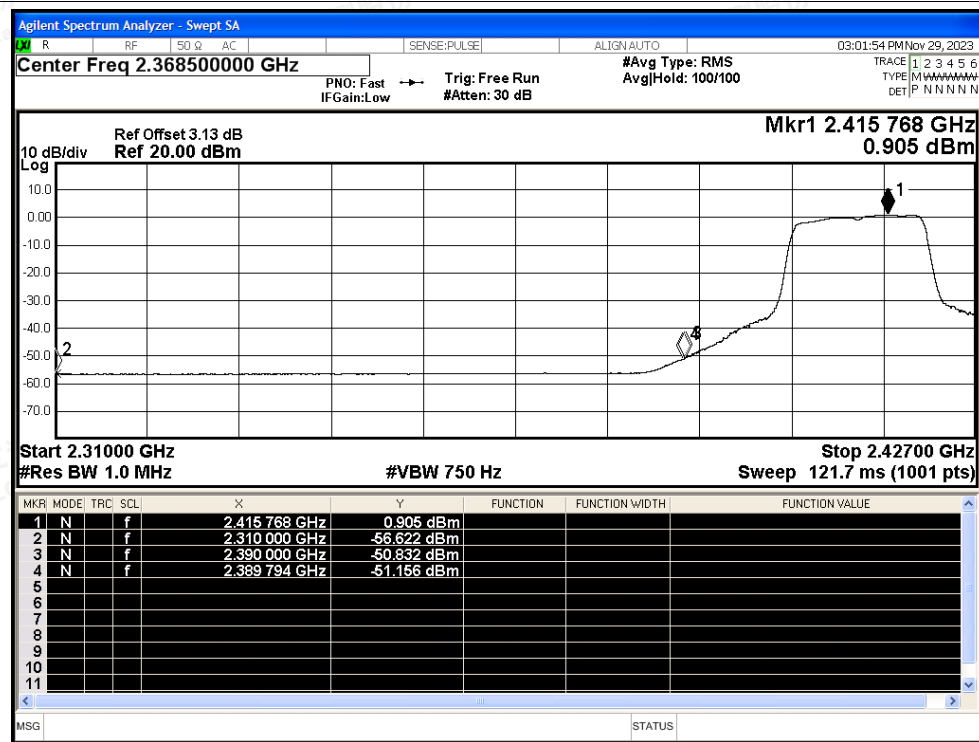




Restrict Band NVNT g 2412MHz Ant0 Peak

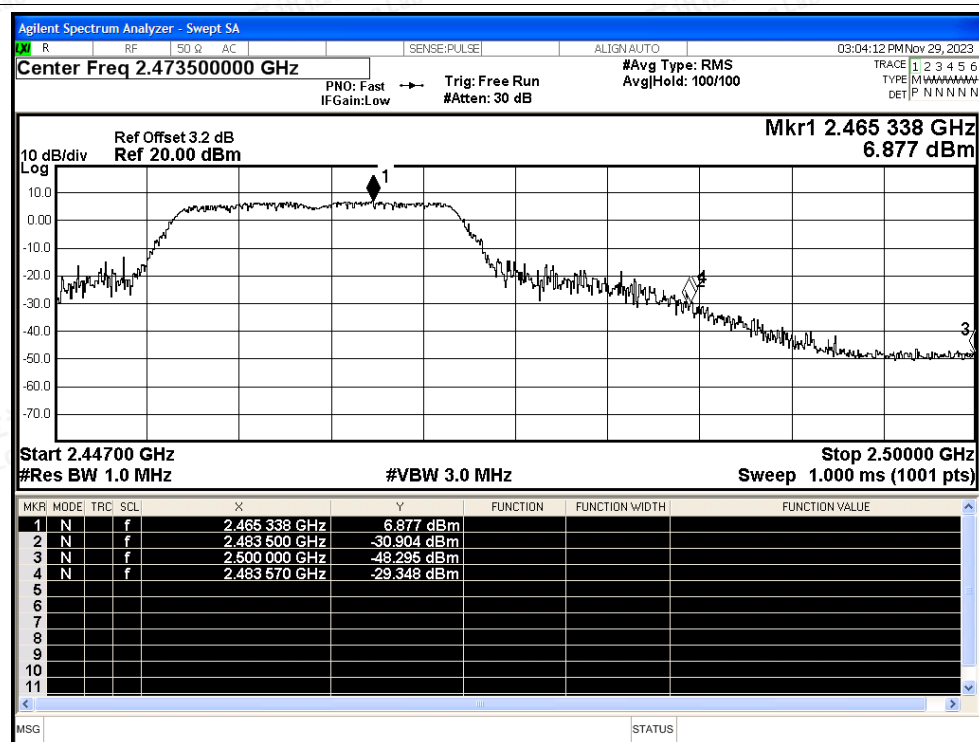


Restrict Band NVNT g 2412MHz Ant0 Average

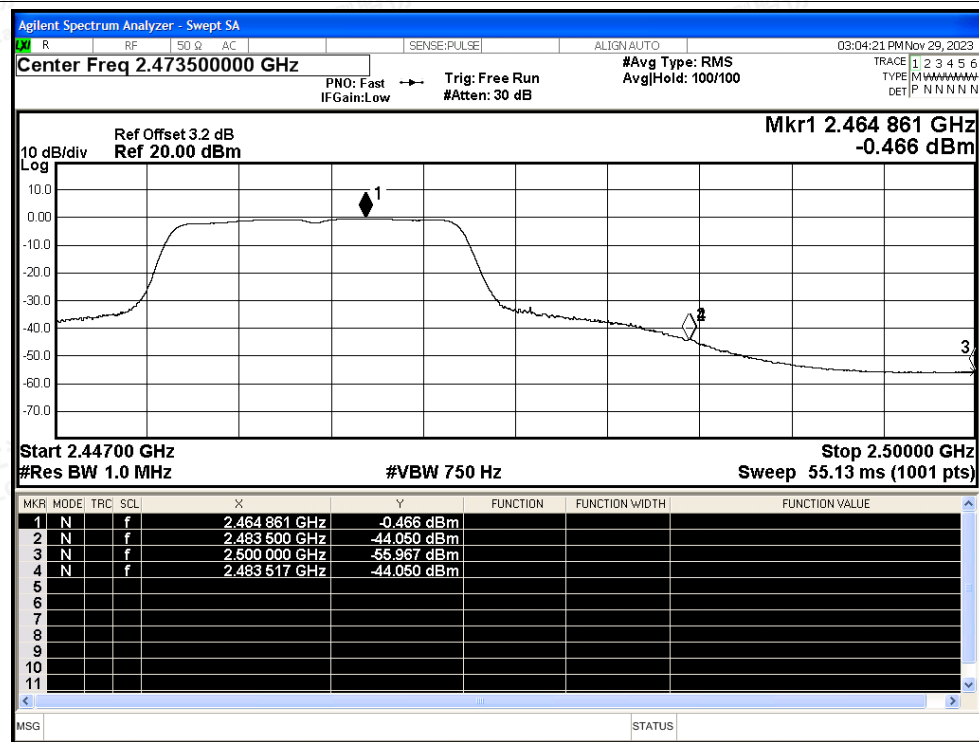




Restrict Band NVNT g 2462MHz Ant0 Peak

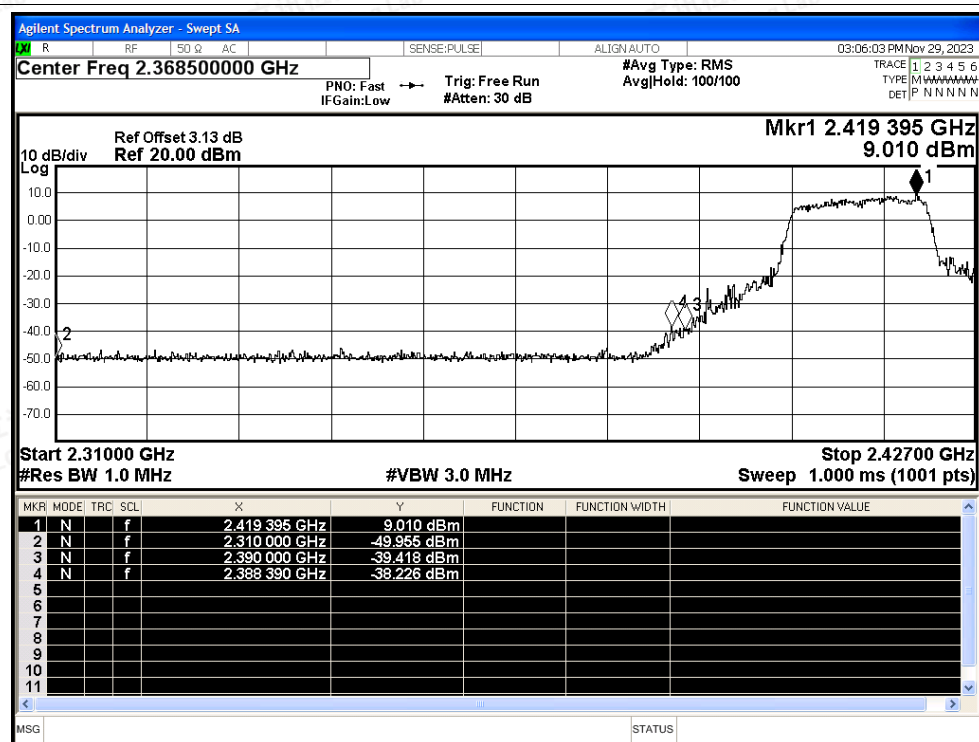


Restrict Band NVNT g 2462MHz Ant0 Average

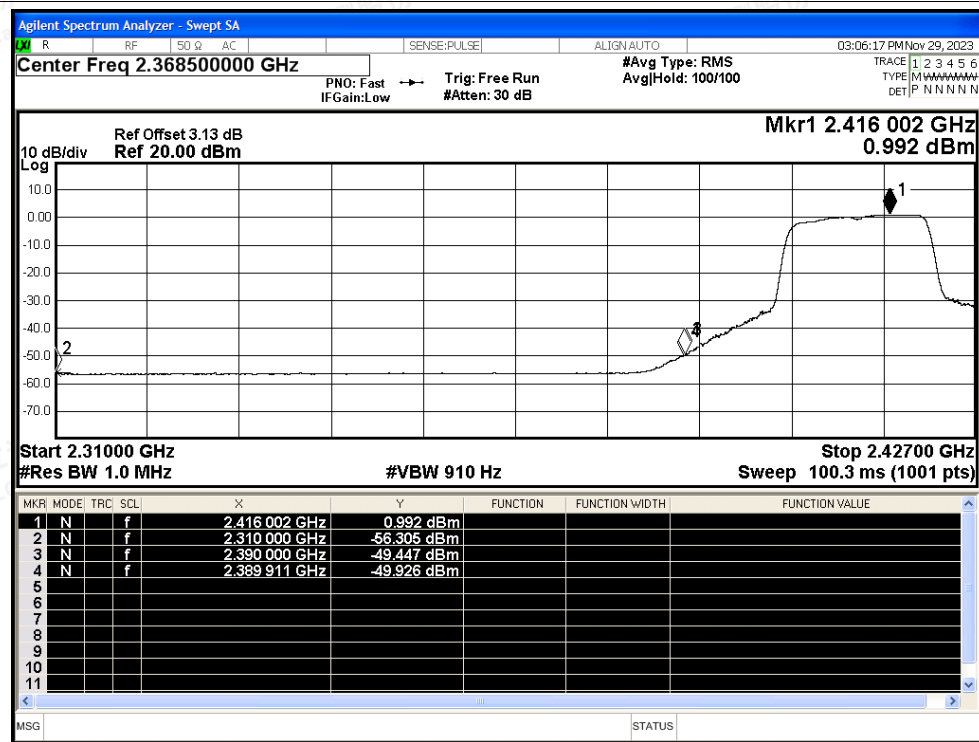




Restrict Band NVNT n20 2412MHz Ant0 Peak

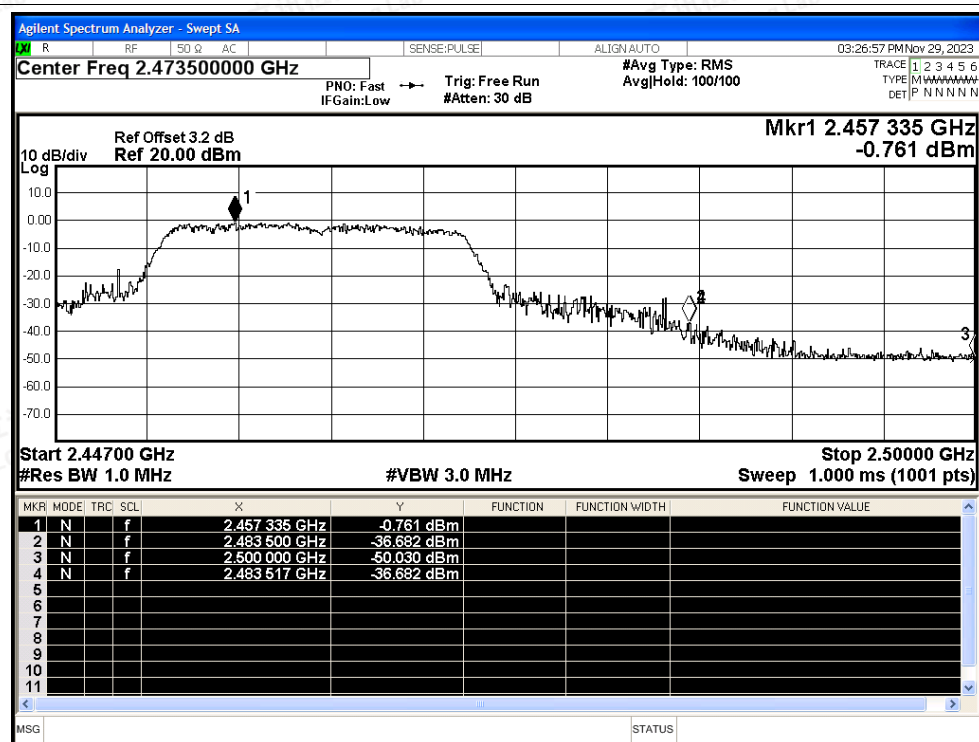


Restrict Band NVNT n20 2412MHz Ant0 Average





Restrict Band NVNT n20 2462MHz Ant0 Peak



Restrict Band NVNT n20 2462MHz Ant0 Average

