



Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Mini PC

Test Model: HPPMC20

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
Supervised by:	Ling Zhu





C.1 -6dB Bandwidth

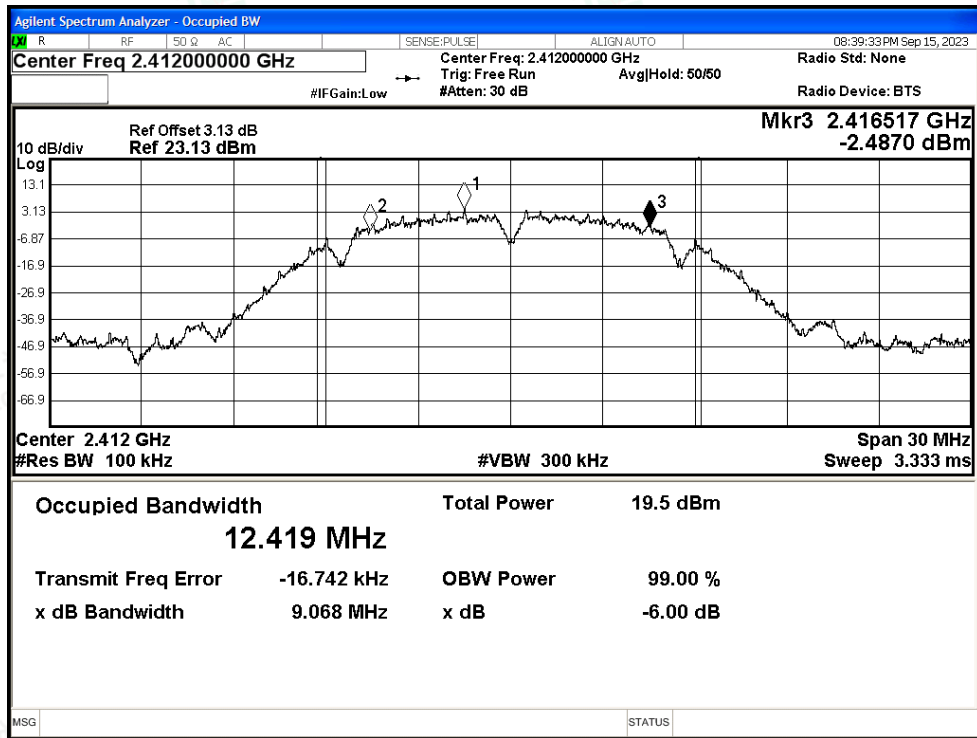
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant0	9.068	≥ 0.5	Pass
NVNT	b	2437	Ant0	8.533	≥ 0.5	Pass
NVNT	b	2462	Ant0	9.959	≥ 0.5	Pass
NVNT	g	2412	Ant0	16.31	≥ 0.5	Pass
NVNT	g	2437	Ant0	15.074	≥ 0.5	Pass
NVNT	g	2462	Ant0	15.038	≥ 0.5	Pass
NVNT	n20	2412	Ant0	13.882	≥ 0.5	Pass
NVNT	n20	2437	Ant0	13.872	≥ 0.5	Pass
NVNT	n20	2462	Ant0	16.073	≥ 0.5	Pass
NVNT	n40	2422	Ant0	35.276	≥ 0.5	Pass
NVNT	n40	2437	Ant0	35.056	≥ 0.5	Pass
NVNT	n40	2452	Ant0	35.022	≥ 0.5	Pass





Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant0

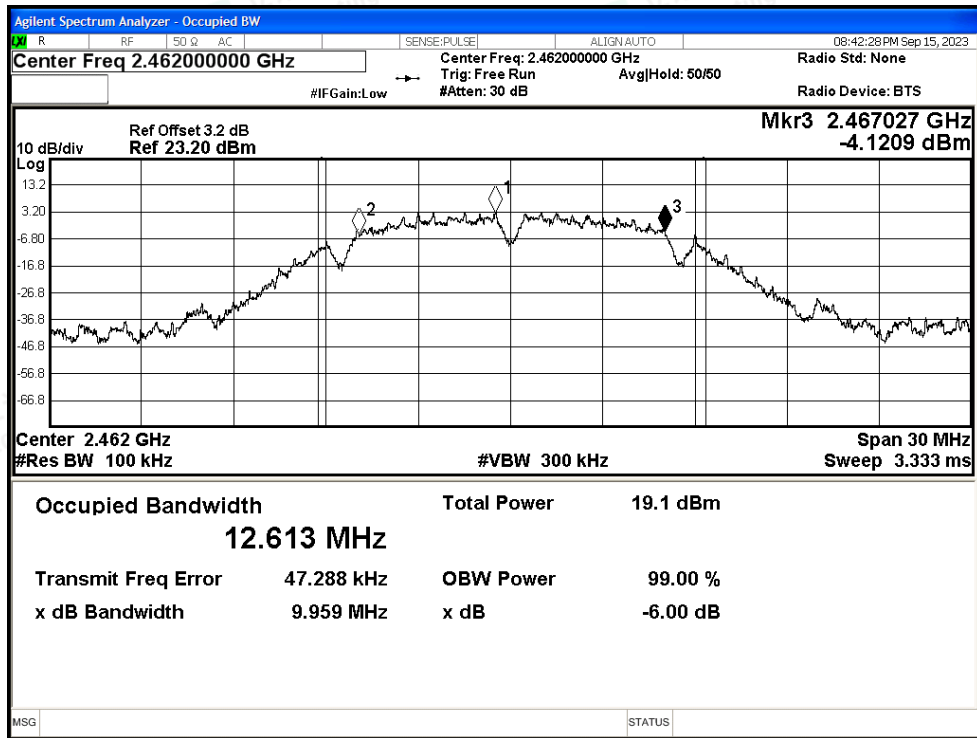


-6dB Bandwidth NVNT b 2437MHz Ant0

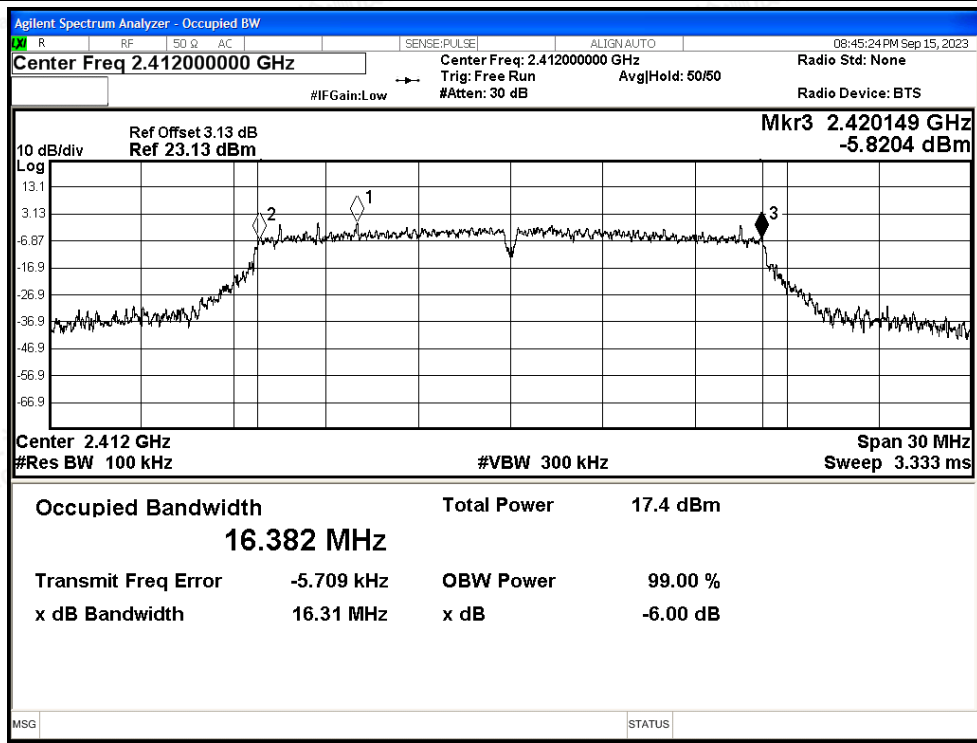




-6dB Bandwidth NVNT b 2462MHz Ant0

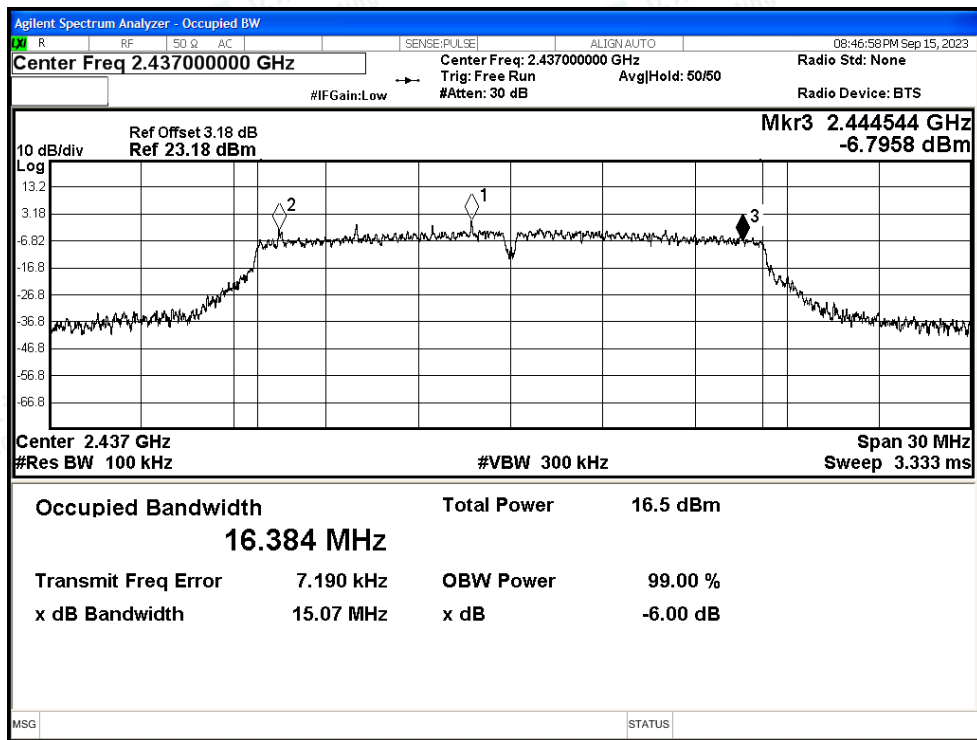


-6dB Bandwidth NVNT g 2412MHz Ant0

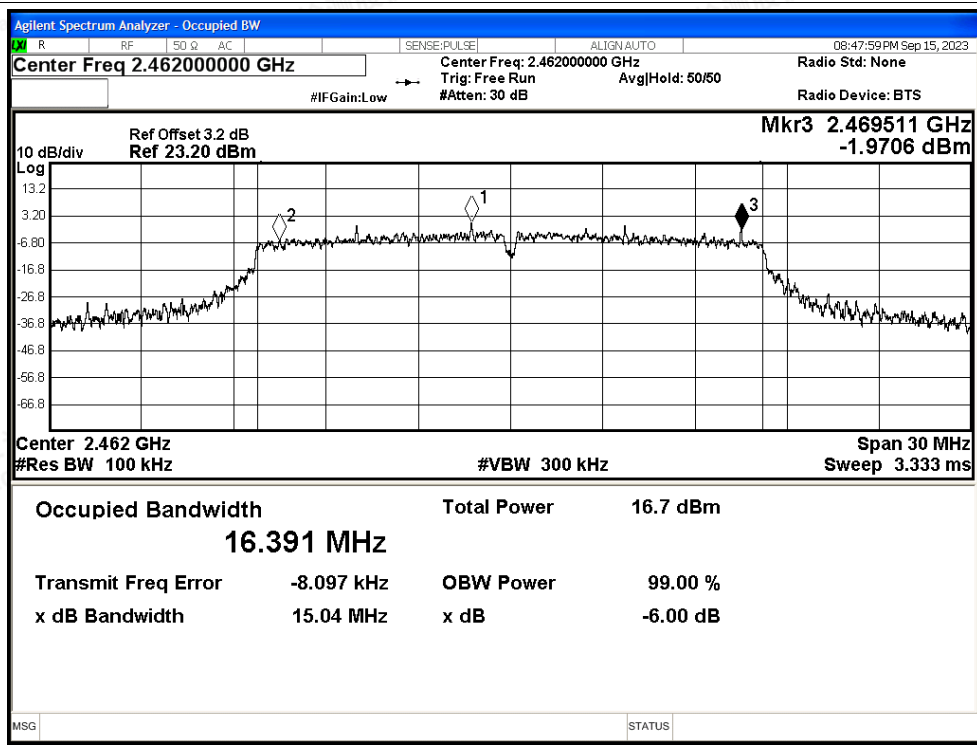




-6dB Bandwidth NVNT g 2437MHz Ant0

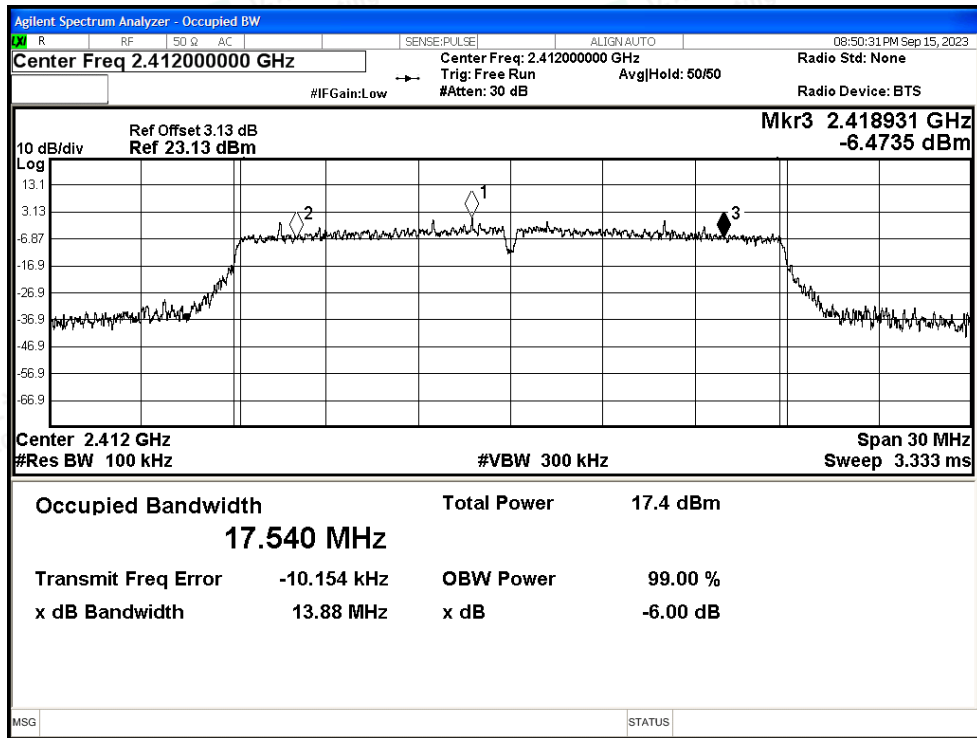


-6dB Bandwidth NVNT g 2462MHz Ant0

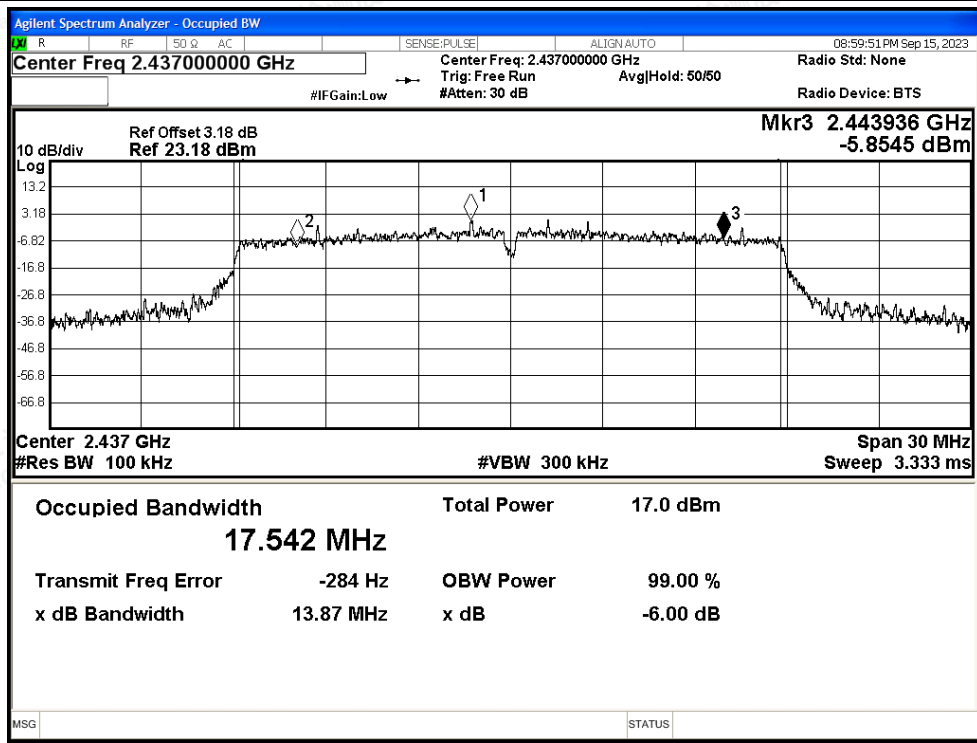




-6dB Bandwidth NVNT n20 2412MHz Ant0

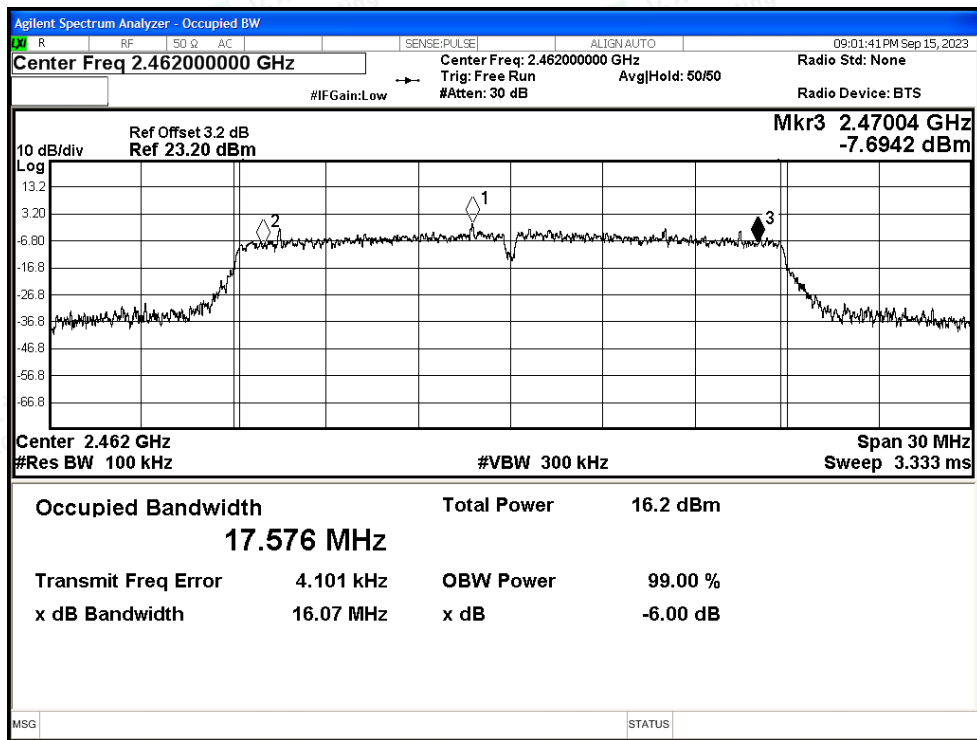


-6dB Bandwidth NVNT n20 2437MHz Ant0

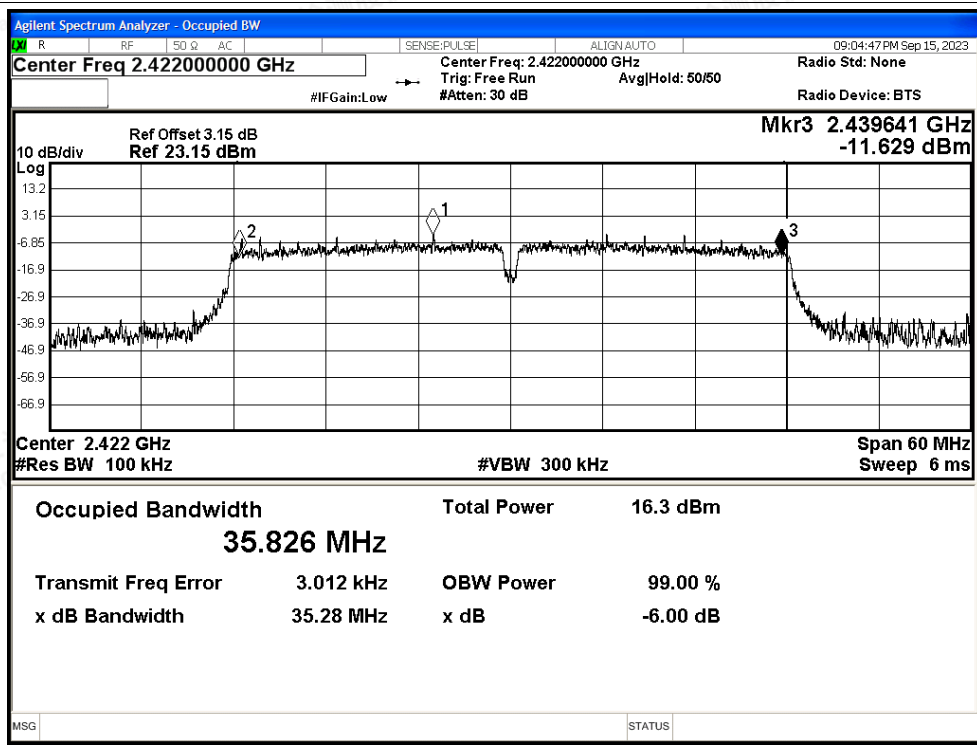




-6dB Bandwidth NVNT n20 2462MHz Ant0

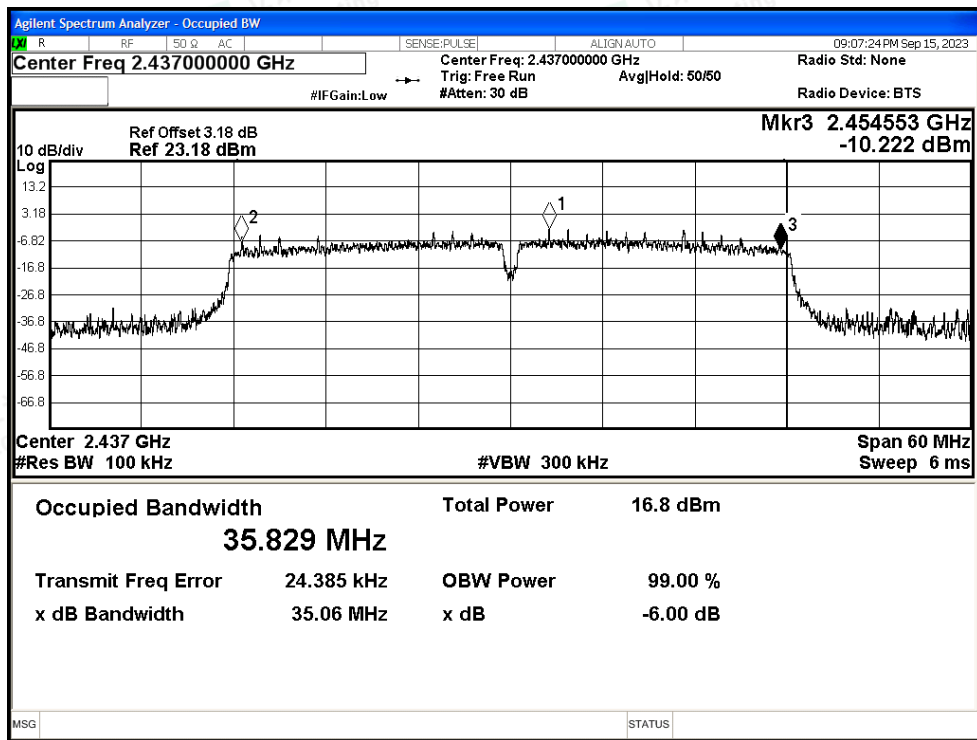


-6dB Bandwidth NVNT n40 2422MHz Ant0

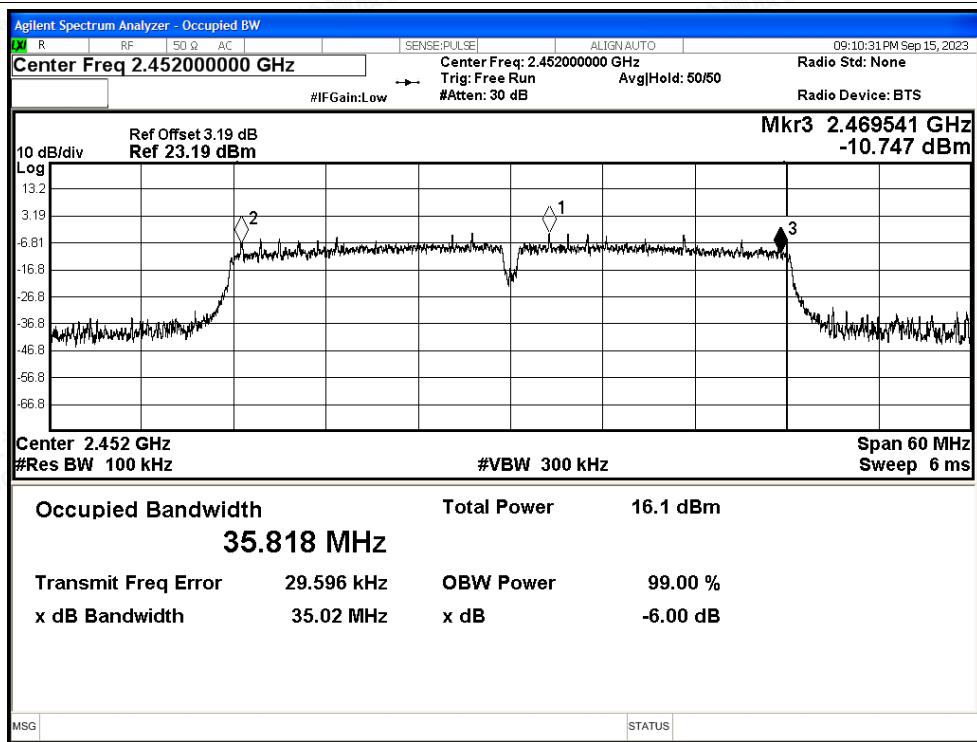




-6dB Bandwidth NVNT n40 2437MHz Ant0

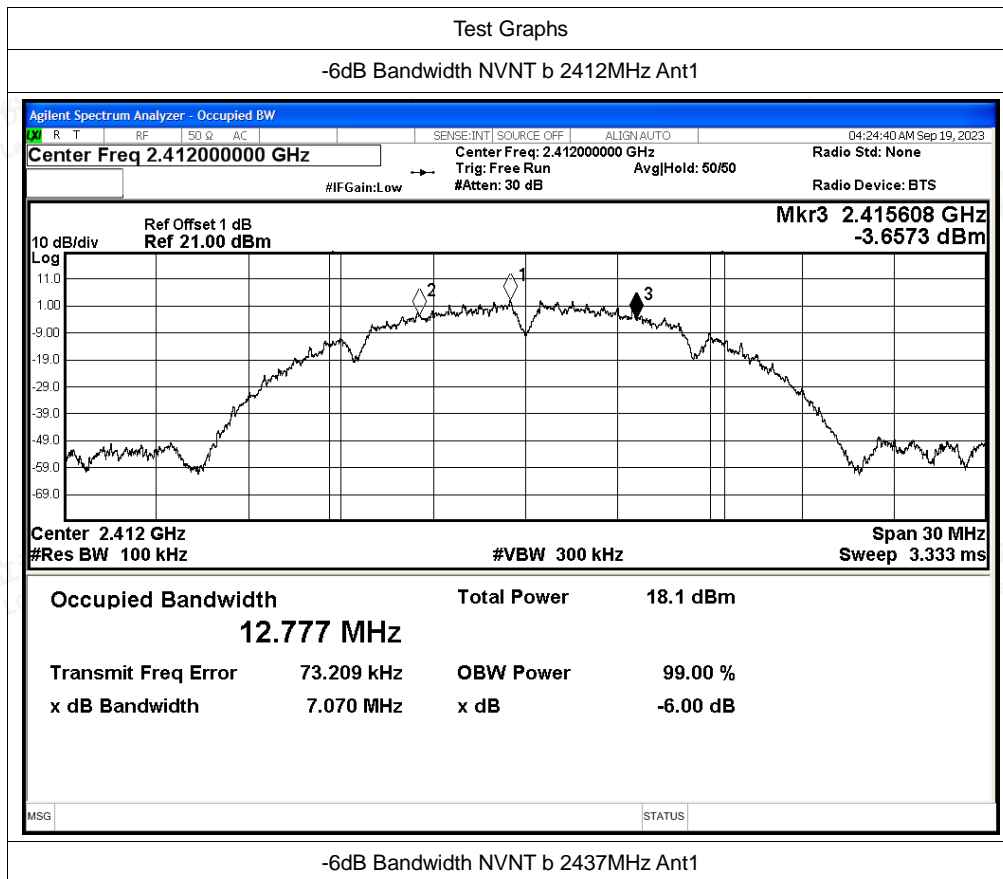


-6dB Bandwidth NVNT n40 2452MHz Ant0





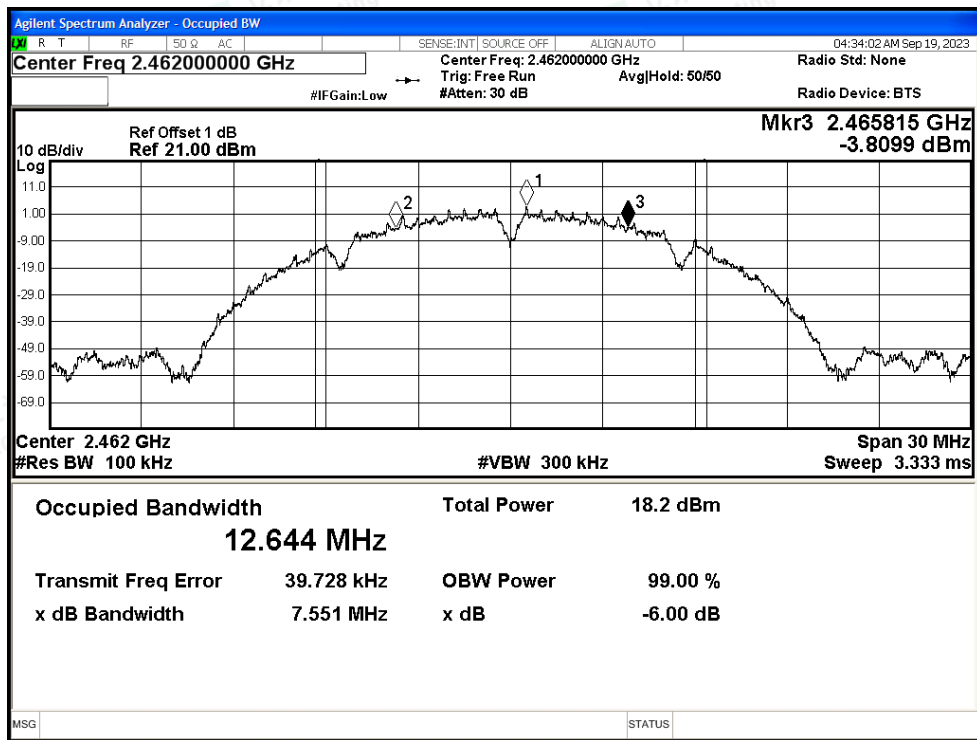
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	7.07	0.5	Pass
NVNT	b	2437	Ant1	7.576	0.5	Pass
NVNT	b	2462	Ant1	7.551	0.5	Pass
NVNT	g	2412	Ant1	13.427	0.5	Pass
NVNT	g	2437	Ant1	15.104	0.5	Pass
NVNT	g	2462	Ant1	16.304	0.5	Pass
NVNT	n20	2412	Ant1	16.058	0.5	Pass
NVNT	n20	2437	Ant1	15.602	0.5	Pass
NVNT	n20	2462	Ant1	16.097	0.5	Pass
NVNT	n40	2422	Ant1	32.601	0.5	Pass
NVNT	n40	2437	Ant1	35.102	0.5	Pass
NVNT	n40	2452	Ant1	34.977	0.5	Pass



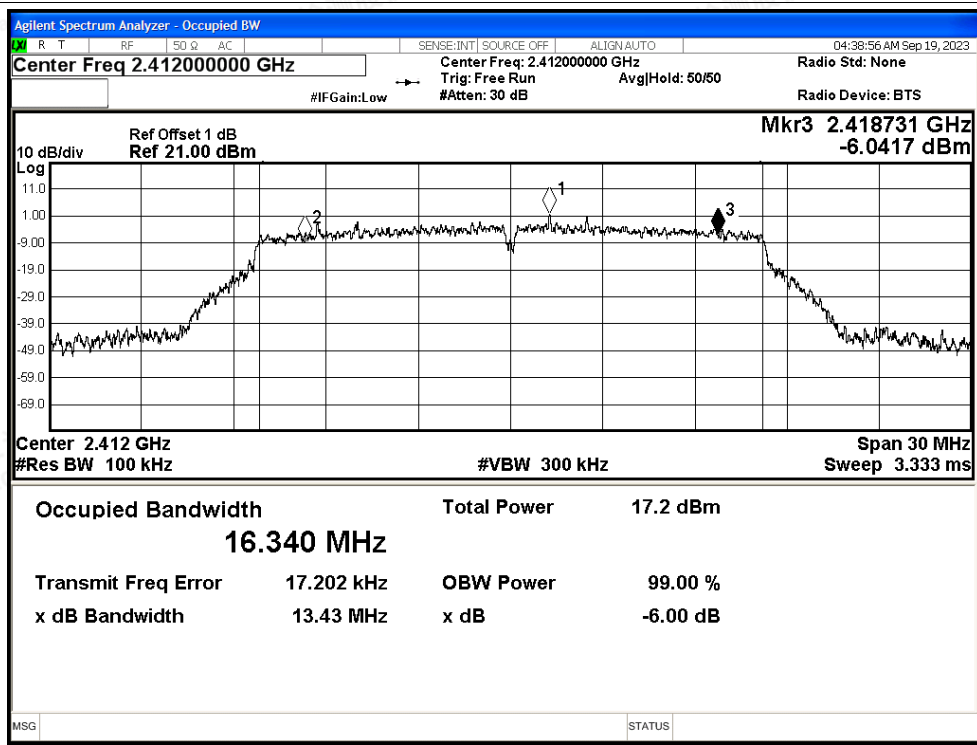




-6dB Bandwidth NVNT b 2462MHz Ant1

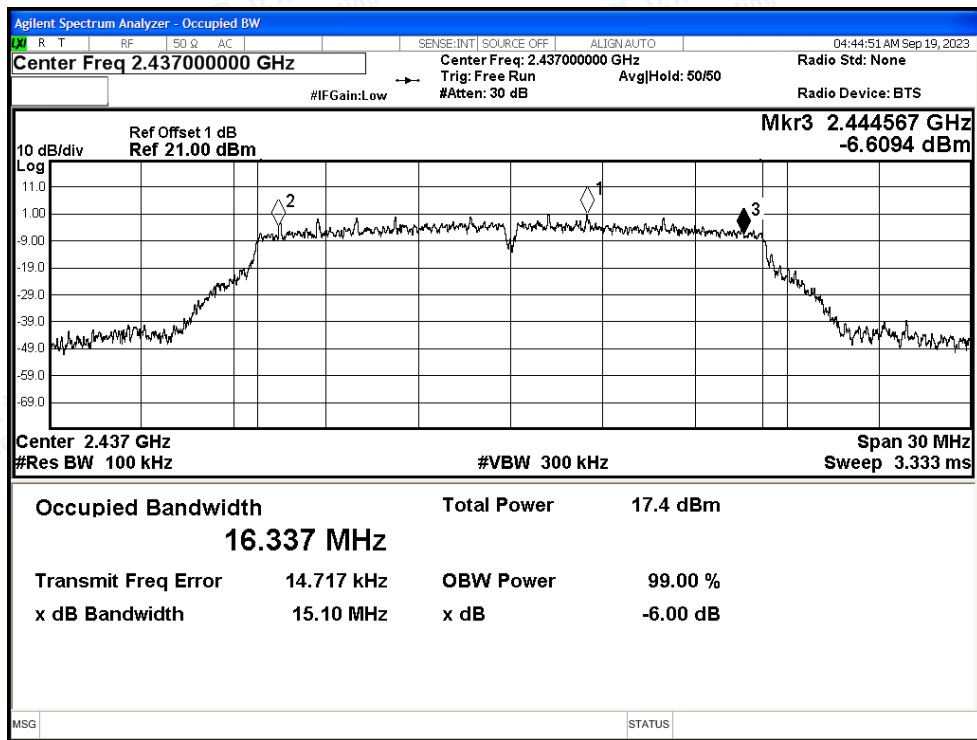


-6dB Bandwidth NVNT g 2412MHz Ant1

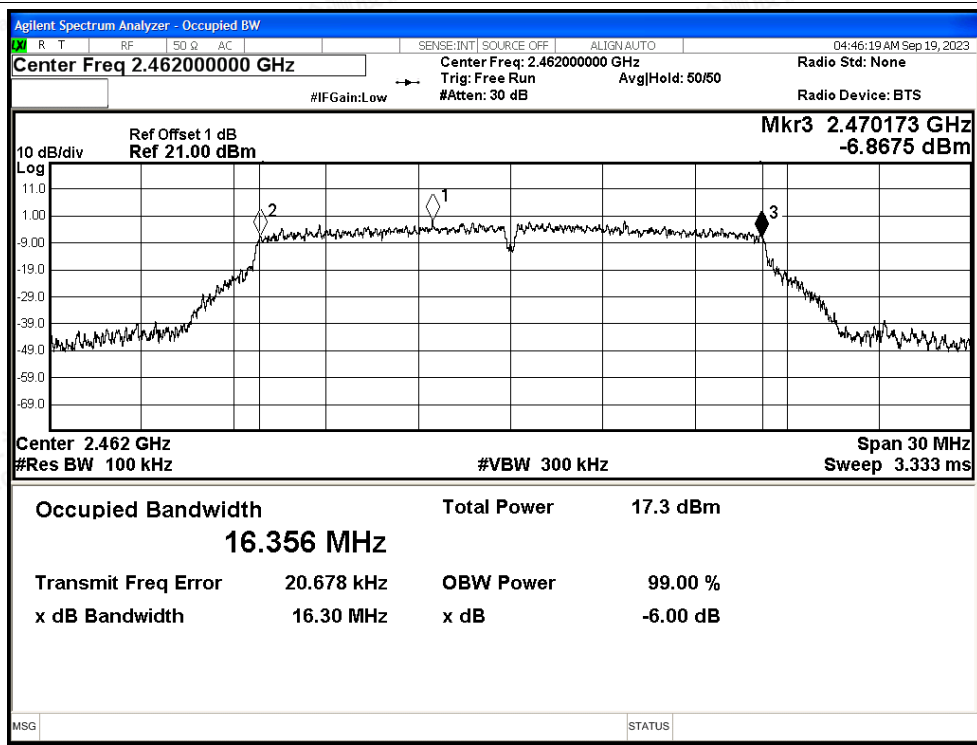




-6dB Bandwidth NVNT g 2437MHz Ant1

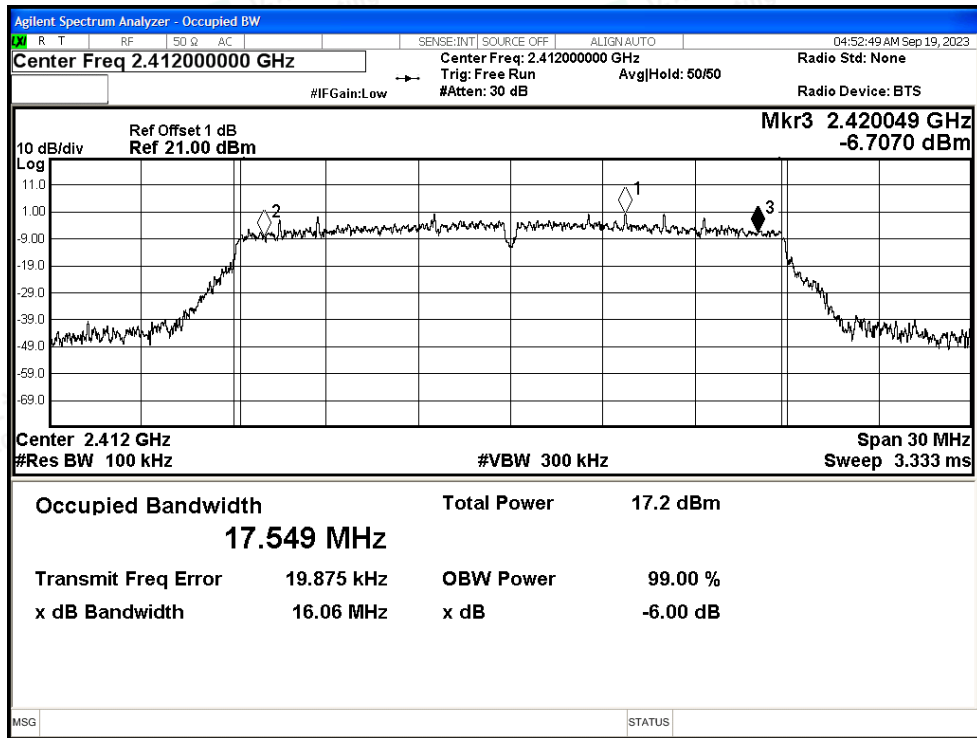


-6dB Bandwidth NVNT g 2462MHz Ant1

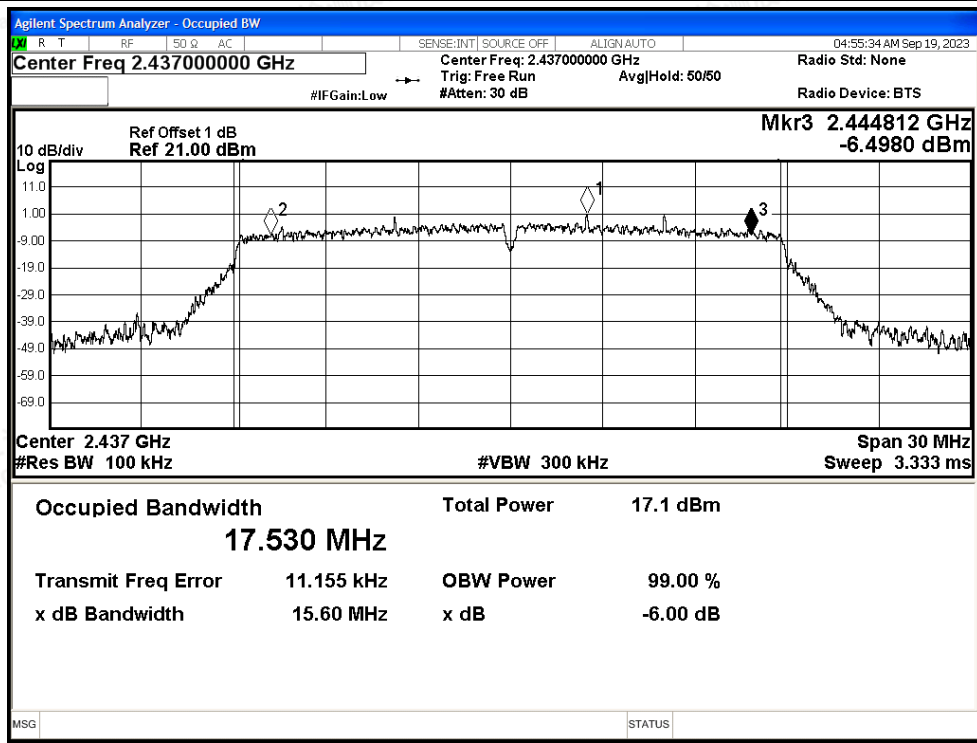




-6dB Bandwidth NVNT n20 2412MHz Ant1

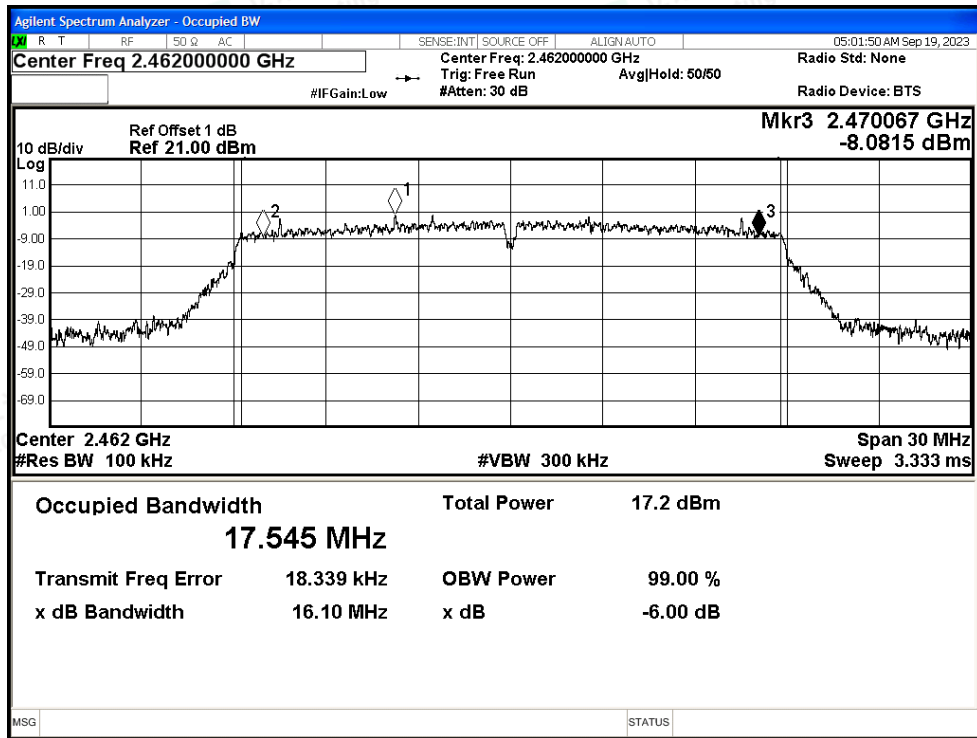


-6dB Bandwidth NVNT n20 2437MHz Ant1

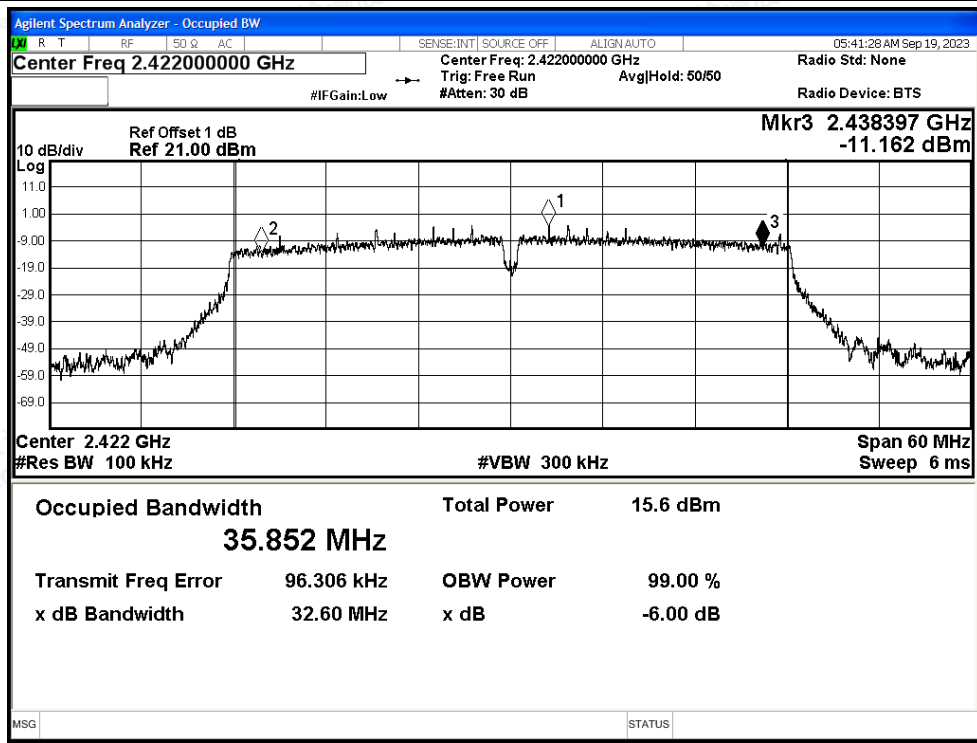




-6dB Bandwidth NVNT n20 2462MHz Ant1

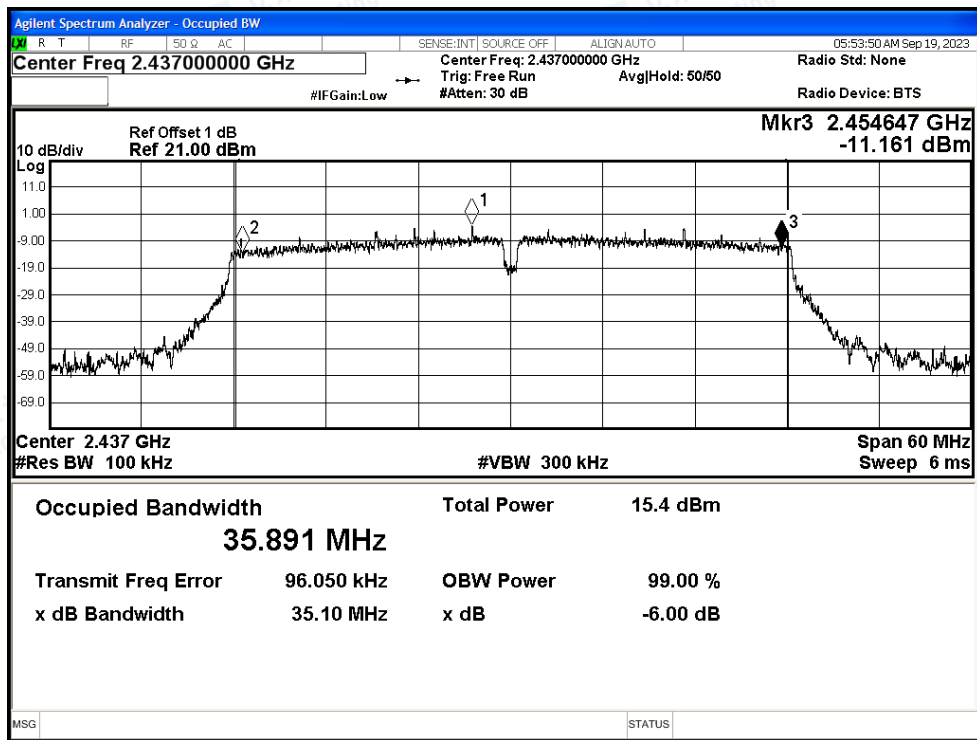


-6dB Bandwidth NVNT n40 2422MHz Ant1

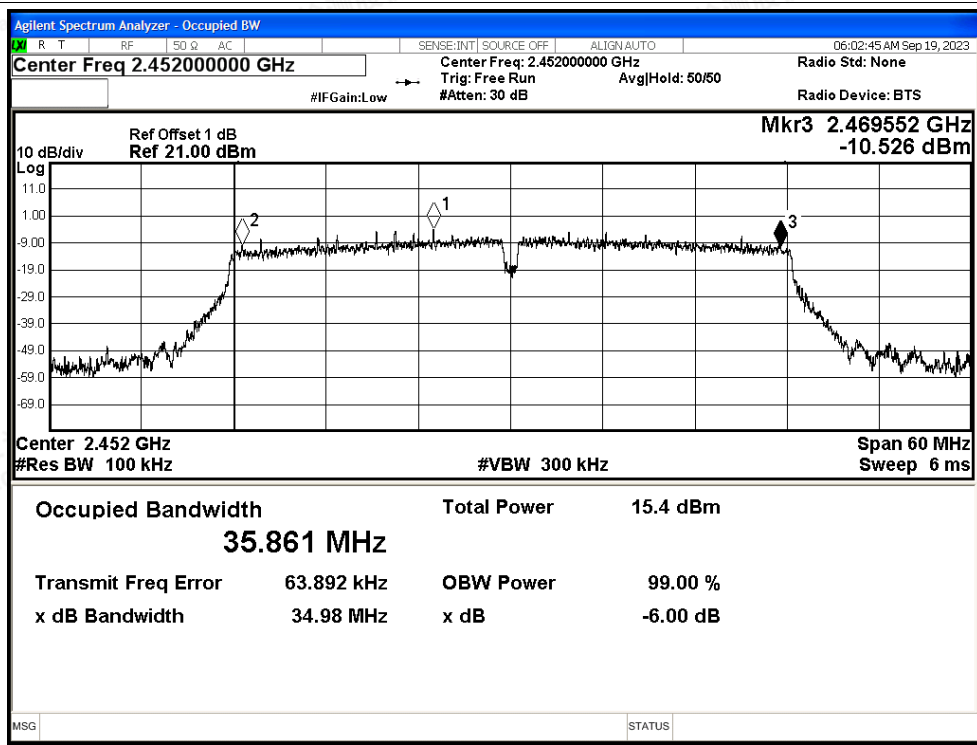




-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1





C.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant0	14.74	30	Pass
NVNT	b	2437	Ant0	14.69	30	Pass
NVNT	b	2462	Ant0	14.57	30	Pass
NVNT	g	2412	Ant0	14.75	30	Pass
NVNT	g	2437	Ant0	14.01	30	Pass
NVNT	g	2462	Ant0	14.08	30	Pass
NVNT	n20	2412	Ant0	14.70	30	Pass
NVNT	n20	2437	Ant0	14.36	30	Pass
NVNT	n20	2462	Ant0	15.29	30	Pass
NVNT	n40	2422	Ant0	13.52	30	Pass
NVNT	n40	2437	Ant0	14.01	30	Pass
NVNT	n40	2452	Ant0	13.39	30	Pass

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	13.17	30	Pass
NVNT	b	2437	Ant1	13.45	30	Pass
NVNT	b	2462	Ant1	13.24	30	Pass
NVNT	g	2412	Ant1	13.75	30	Pass
NVNT	g	2437	Ant1	13.83	30	Pass
NVNT	g	2462	Ant1	13.77	30	Pass
NVNT	n20	2412	Ant1	13.45	30	Pass
NVNT	n20	2437	Ant1	13.41	30	Pass
NVNT	n20	2462	Ant1	15.15	30	Pass
NVNT	n40	2422	Ant1	12.81	30	Pass
NVNT	n40	2437	Ant1	12.64	30	Pass
NVNT	n40	2452	Ant1	12.59	30	Pass

MIMO

Condition	Mode	Frequency (MHz)	Total Power (dBm)			Limit (dBm)	Verdict
			Ant0	Ant1	Ant0+Ant1		
NVNT	n20	2412	14.70	13.45	17.13	30	Pass
NVNT	n20	2437	14.36	13.41	16.92	30	Pass
NVNT	n20	2462	15.29	15.15	18.23	30	Pass
NVNT	n40	2422	13.52	12.81	16.19	30	Pass
NVNT	n40	2437	14.01	12.64	16.39	30	Pass
NVNT	n40	2452	13.39	12.59	16.02	30	Pass





C.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant0	-10.26	8	Pass
NVNT	b	2437	Ant0	-11.09	8	Pass
NVNT	b	2462	Ant0	-10.23	8	Pass
NVNT	g	2412	Ant0	-12.30	8	Pass
NVNT	g	2437	Ant0	-13.10	8	Pass
NVNT	g	2462	Ant0	-12.97	8	Pass
NVNT	n20	2412	Ant0	-12.88	8	Pass
NVNT	n20	2437	Ant0	-13.50	8	Pass
NVNT	n20	2462	Ant0	-13.61	8	Pass
NVNT	n40	2422	Ant0	-17.67	8	Pass
NVNT	n40	2437	Ant0	-16.79	8	Pass
NVNT	n40	2452	Ant0	-15.84	8	Pass

Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-10.99	8	Pass
NVNT	b	2437	Ant1	-10.72	8	Pass
NVNT	b	2462	Ant1	-9.74	8	Pass
NVNT	g	2412	Ant1	-14.64	8	Pass
NVNT	g	2437	Ant1	-13.80	8	Pass
NVNT	g	2462	Ant1	-13.20	8	Pass
NVNT	n20	2412	Ant1	-14.74	8	Pass
NVNT	n20	2437	Ant1	-14.78	8	Pass
NVNT	n20	2462	Ant1	-14.57	8	Pass
NVNT	n40	2422	Ant1	-16.77	8	Pass
NVNT	n40	2437	Ant1	-17.19	8	Pass
NVNT	n40	2452	Ant1	-18.25	8	Pass

MIMO

Condition	Mode	Frequency (MHz)	Total PSD (dBm/3kHz)			Limit (dBm)	Verdict
			Ant0	Ant1	Ant0+Ant1		
NVNT	n20	2412	-12.88	-14.74	-10.70	8	Pass
NVNT	n20	2437	-13.50	-14.78	-11.08	8	Pass
NVNT	n20	2462	-13.61	-14.57	-11.05	8	Pass
NVNT	n40	2422	-17.67	-16.77	-14.19	8	Pass
NVNT	n40	2437	-16.79	-17.19	-13.98	8	Pass
NVNT	n40	2452	-15.84	-18.25	-13.87	8	Pass

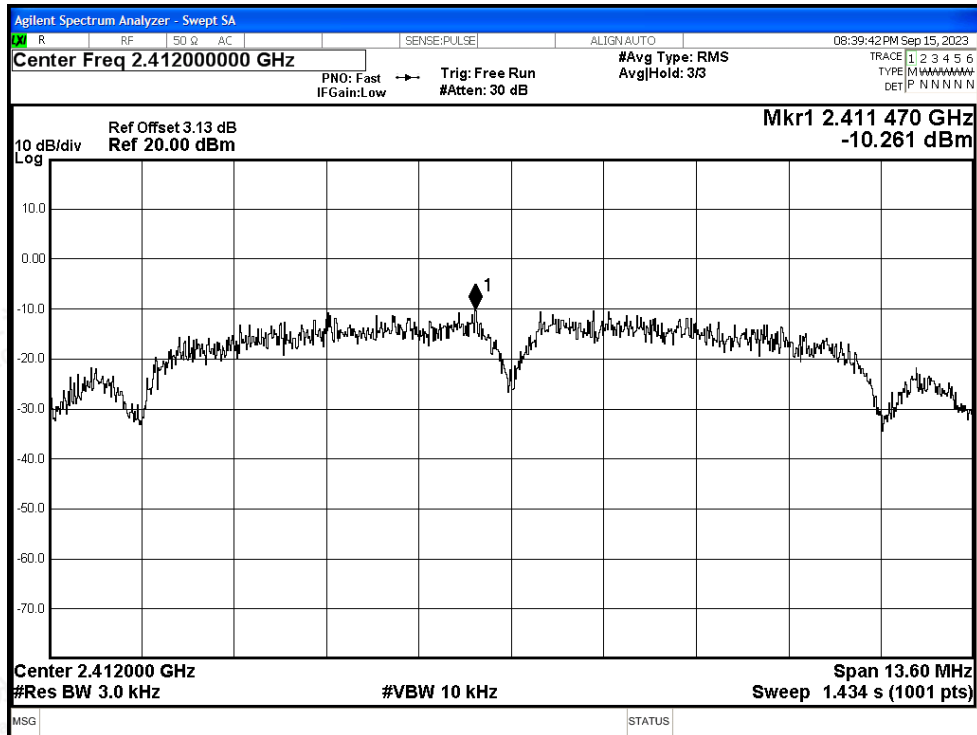


Shenzhen LCS Compliance Testing Laboratory Ltd.
 Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
 Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
 Scan code to check authenticity

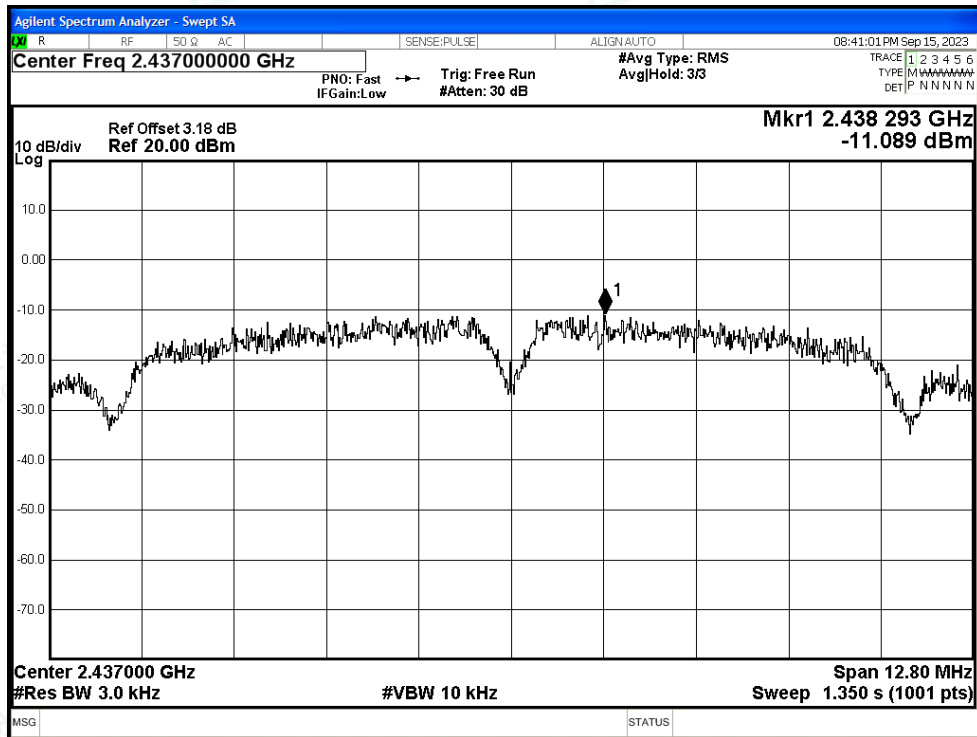


Test Graphs

PSD NVNT b 2412MHz Ant0

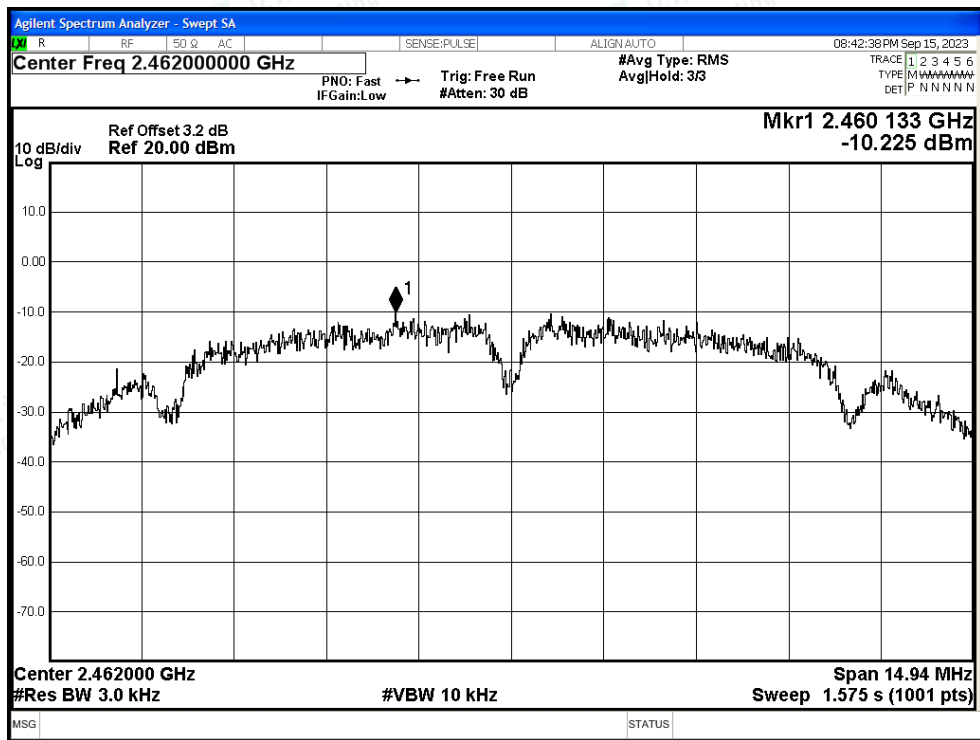


PSD NVNT b 2437MHz Ant0

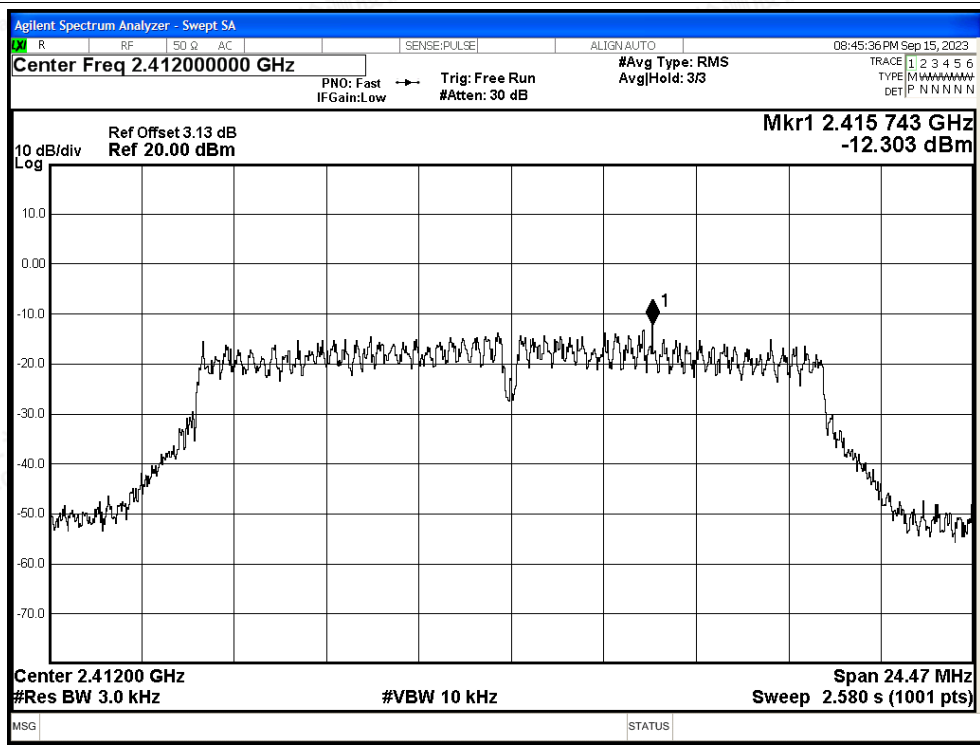




PSD NVNT b 2462MHz Ant0

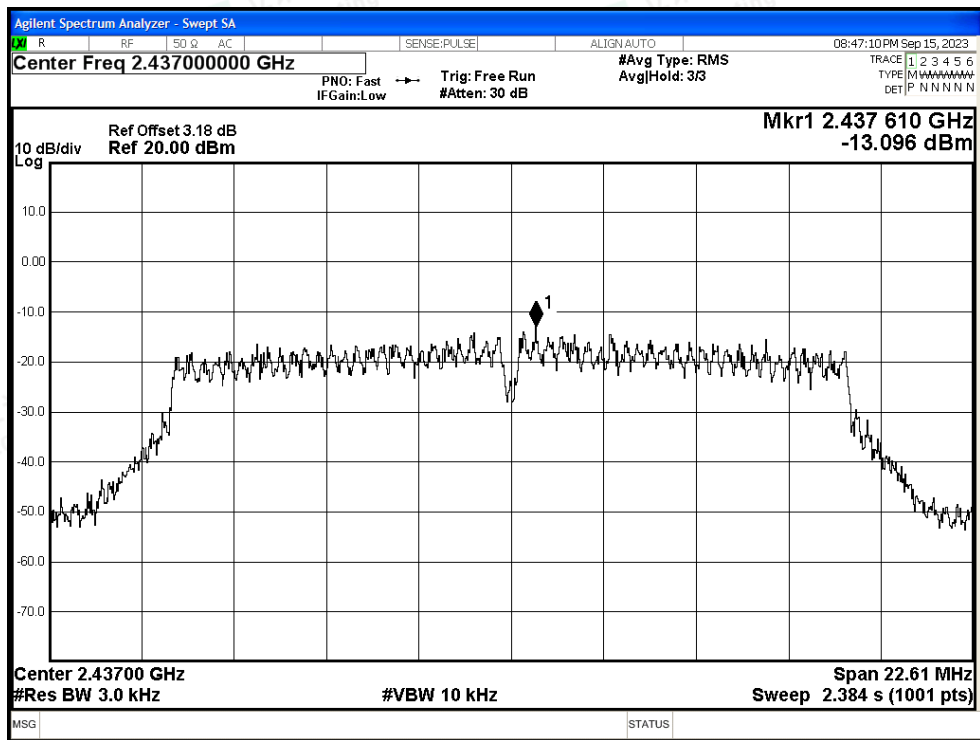


PSD NVNT g 2412MHz Ant0

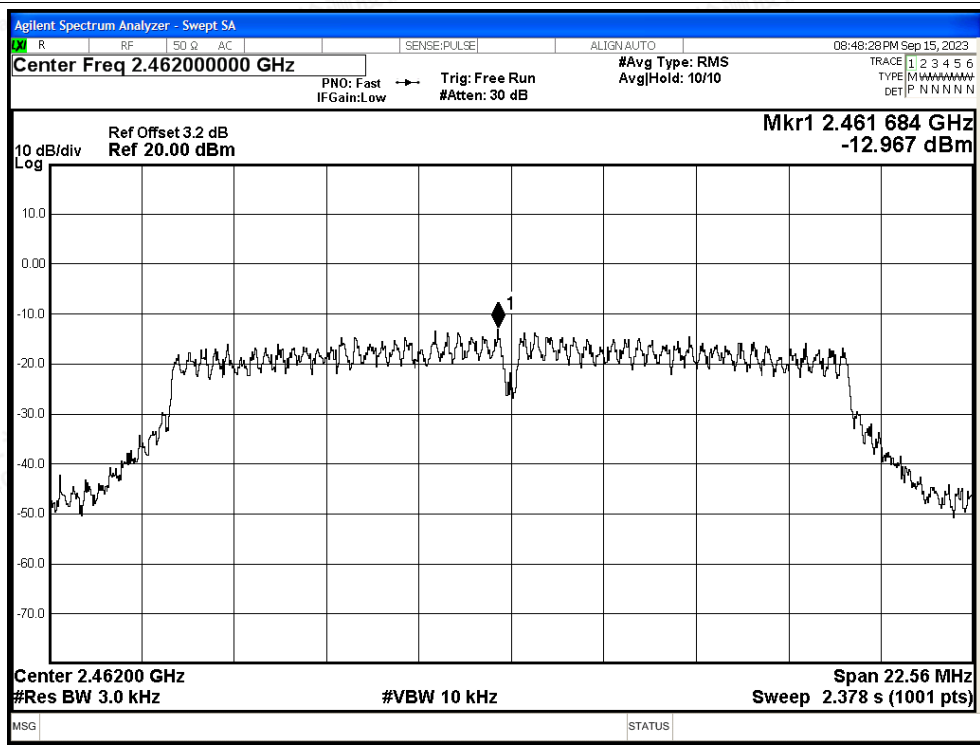


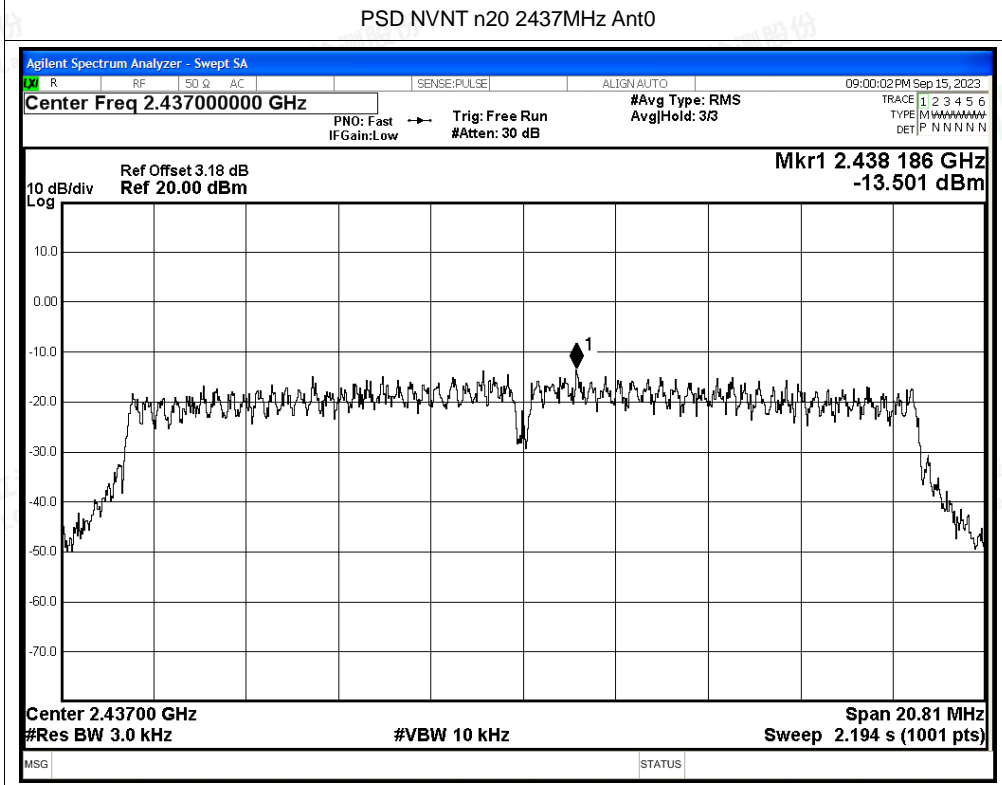
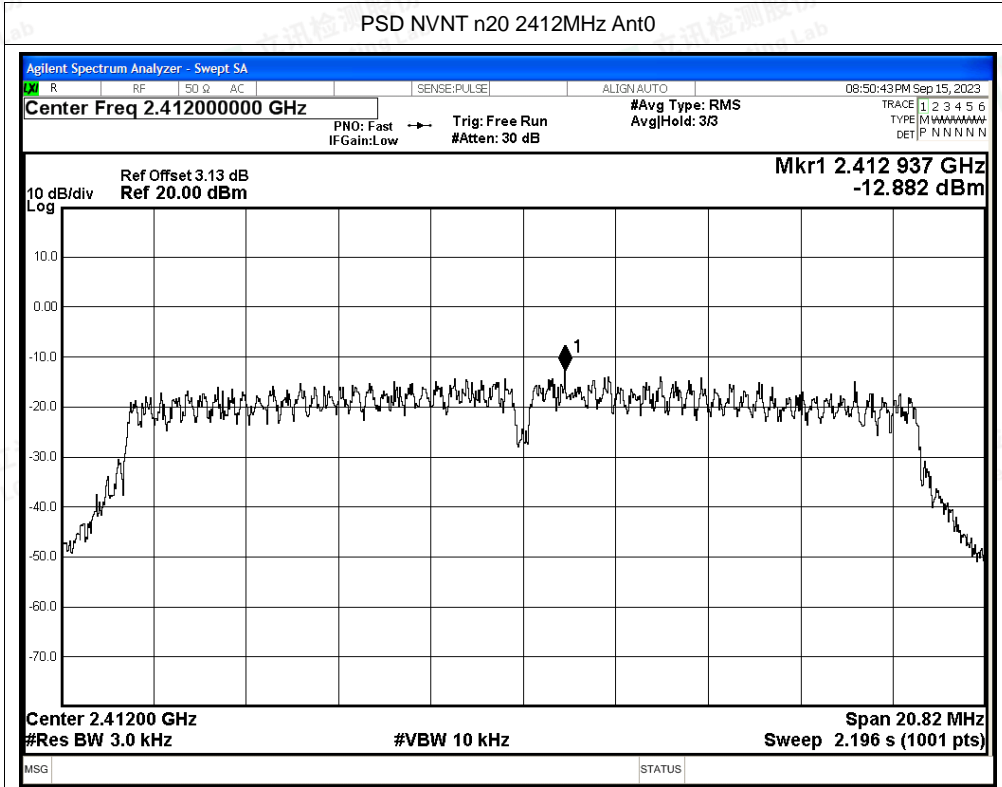


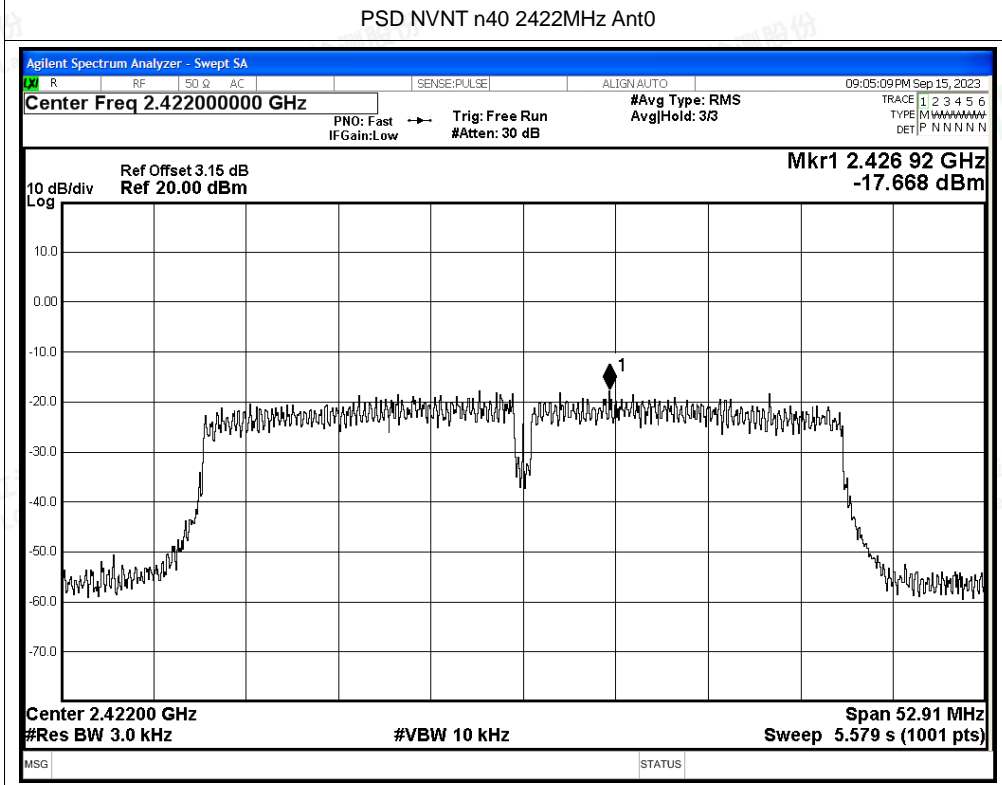
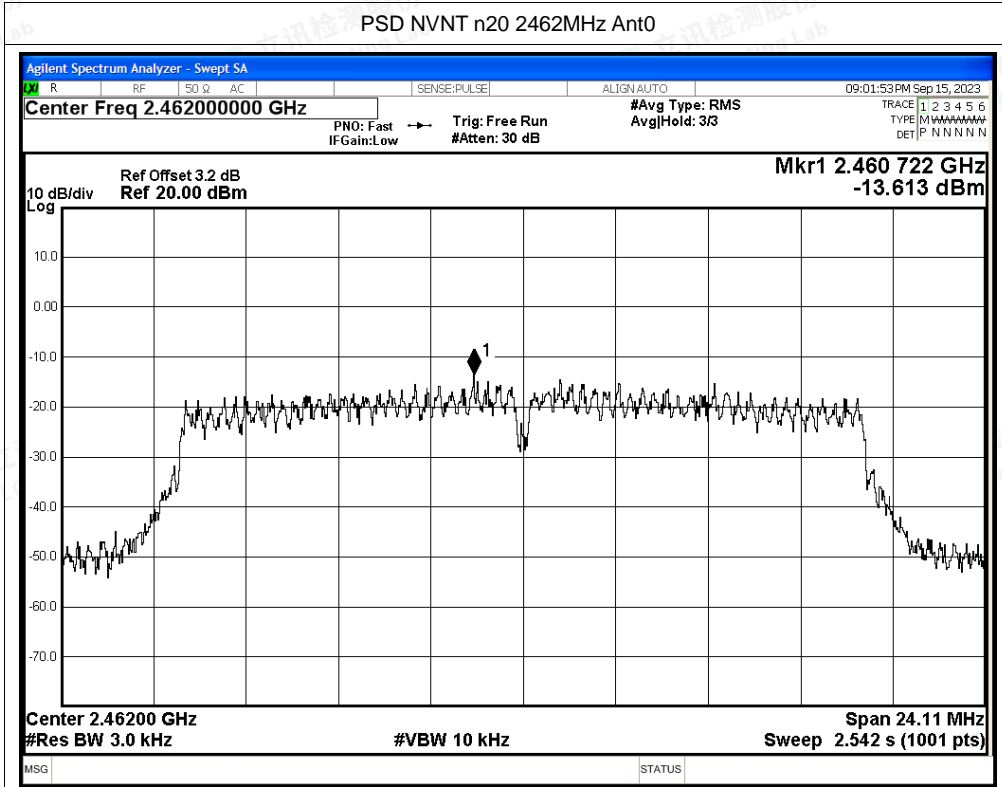
PSD NVNT g 2437MHz Ant0



PSD NVNT g 2462MHz Ant0

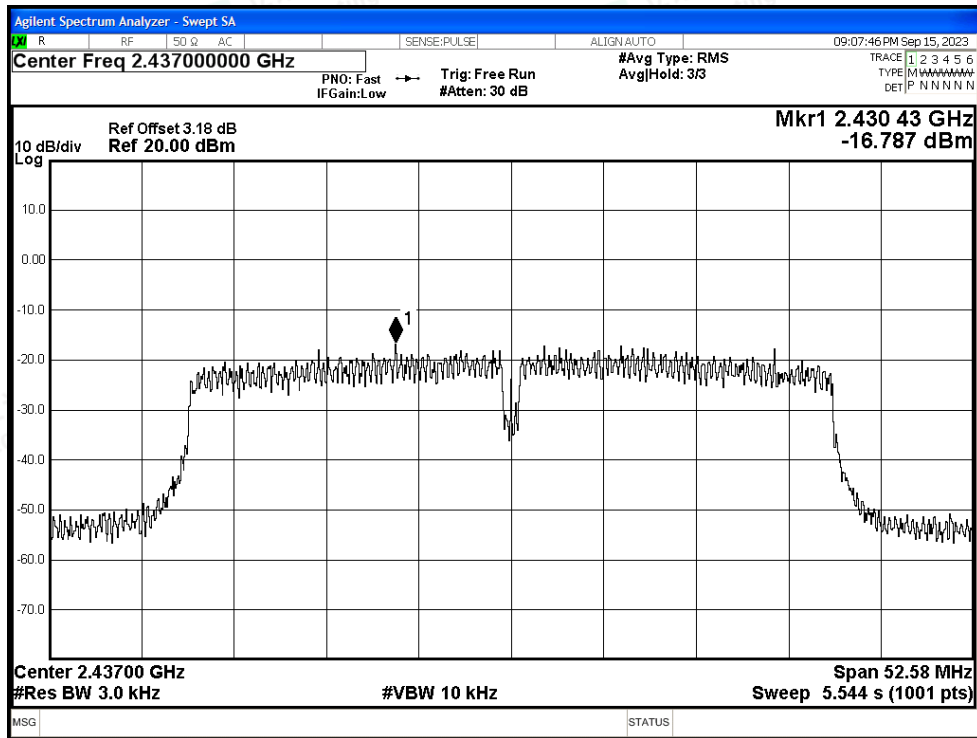




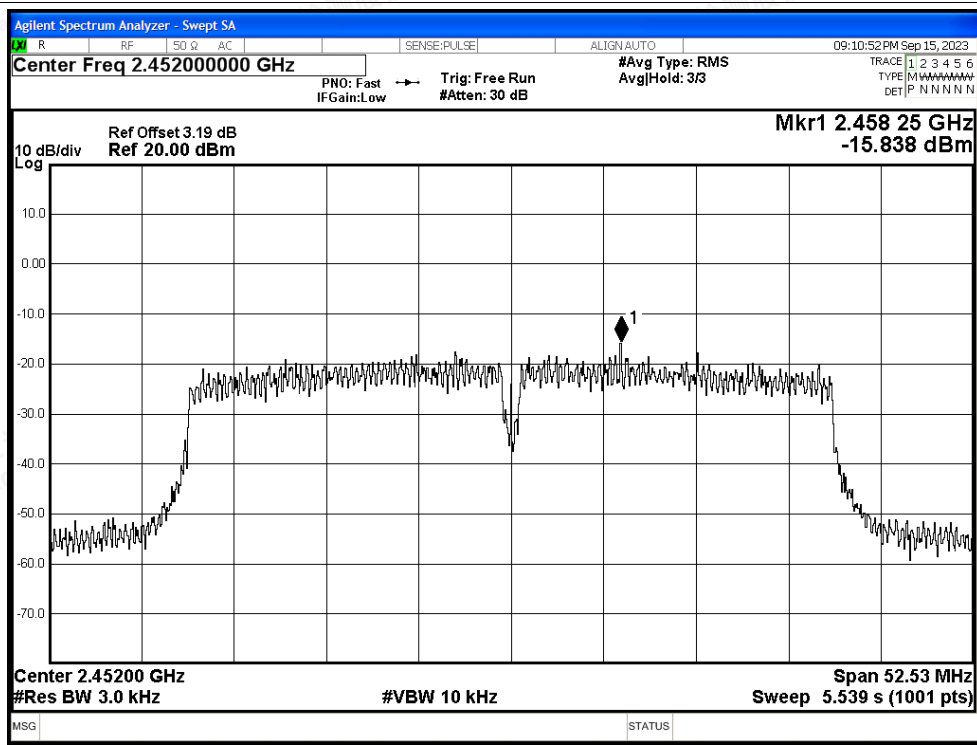




PSD NVNT n40 2437MHz Ant0



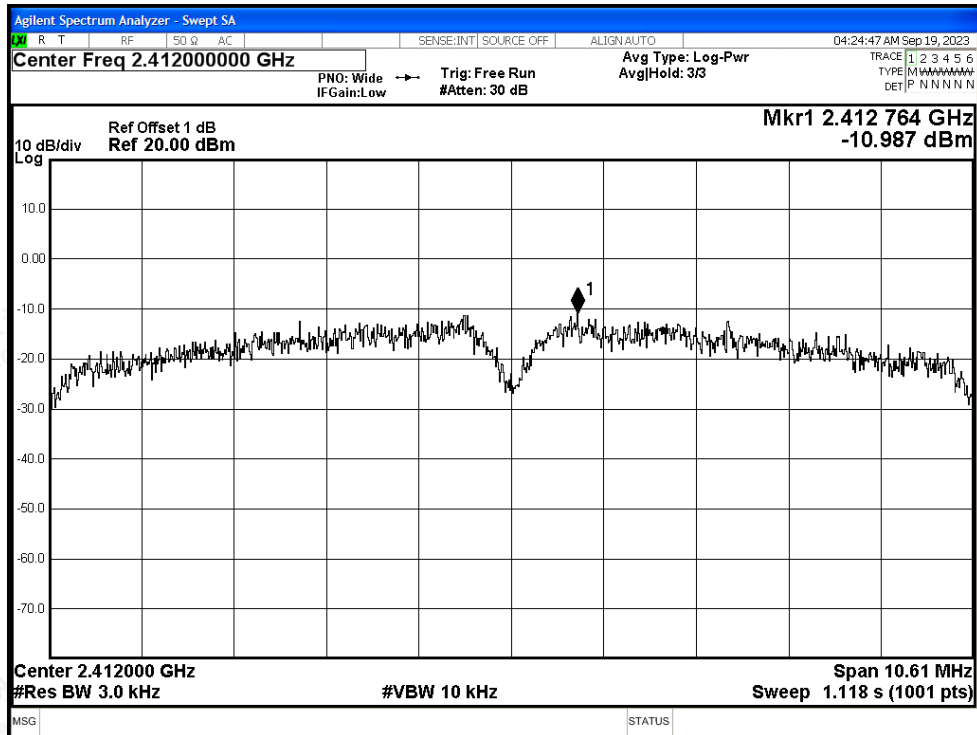
PSD NVNT n40 2452MHz Ant0



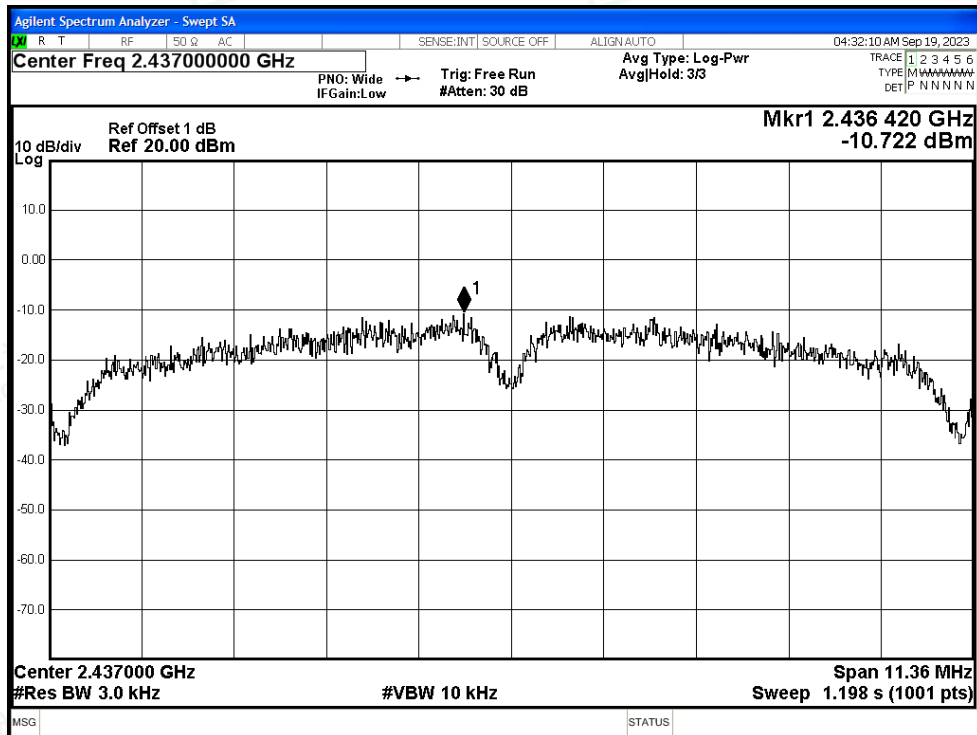


Test Graphs

PSD NVNT b 2412MHz Ant1

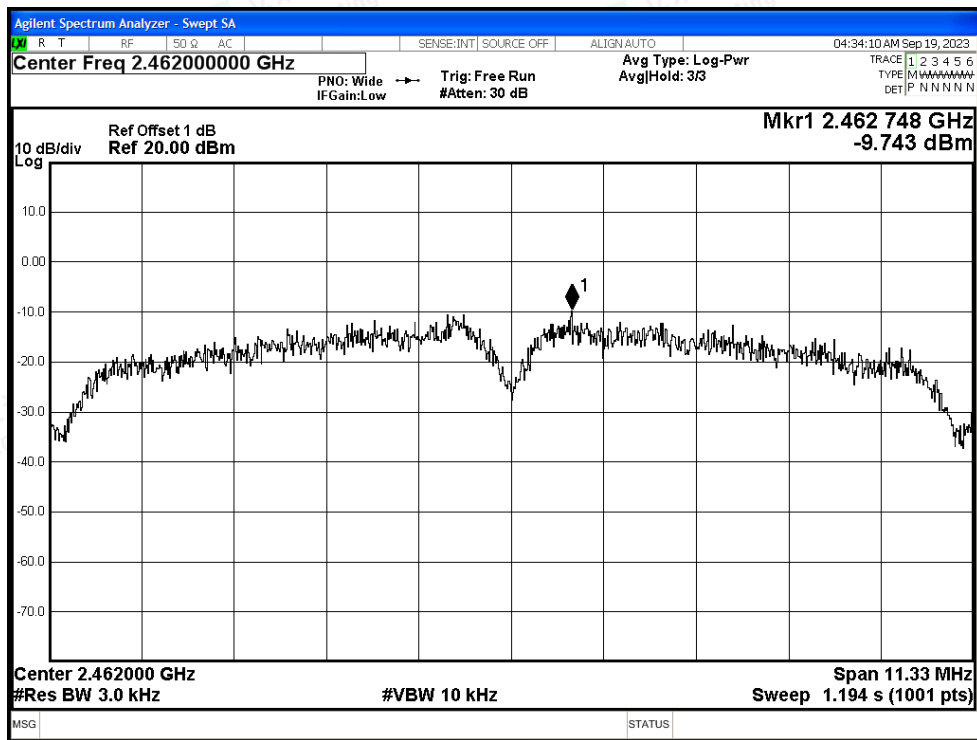


PSD NVNT b 2437MHz Ant1

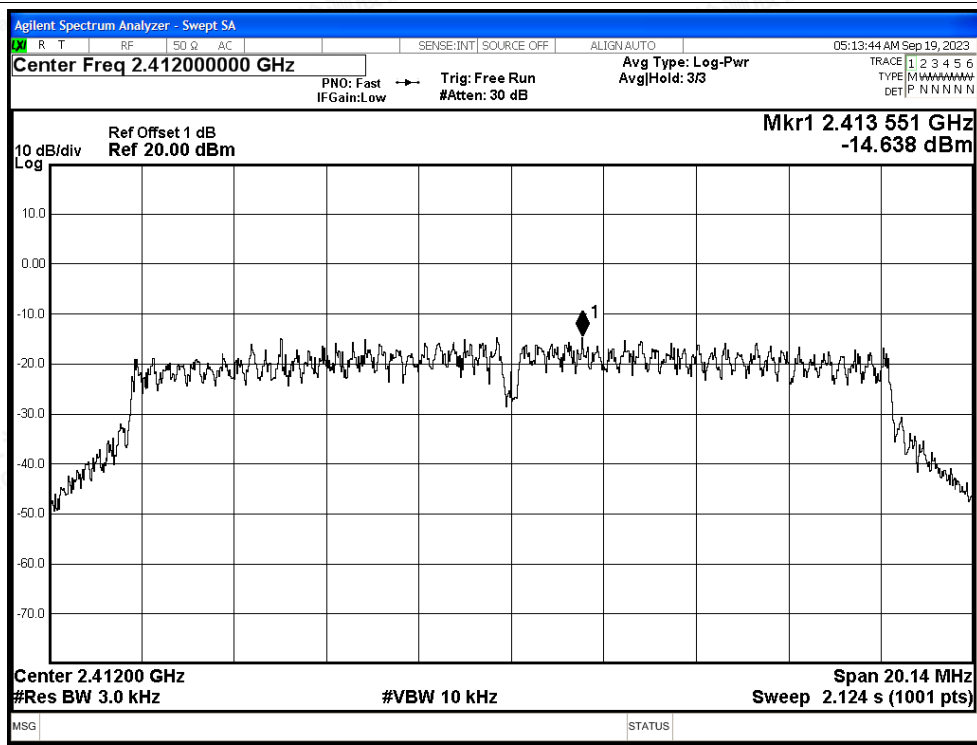




PSD NVNT b 2462MHz Ant1

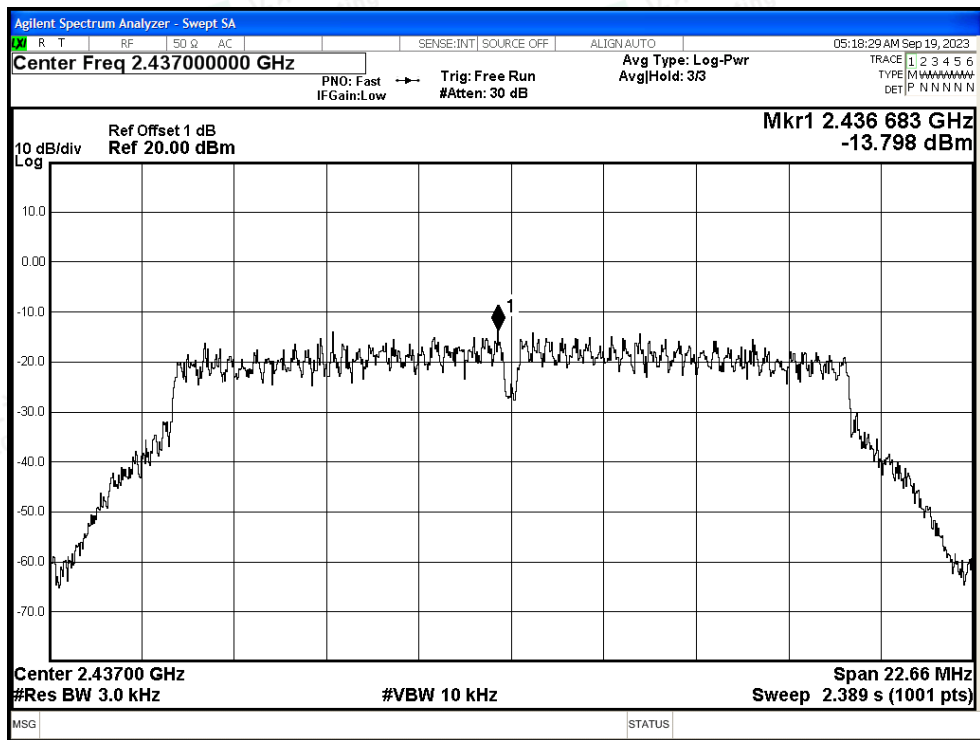


PSD NVNT g 2412MHz Ant1

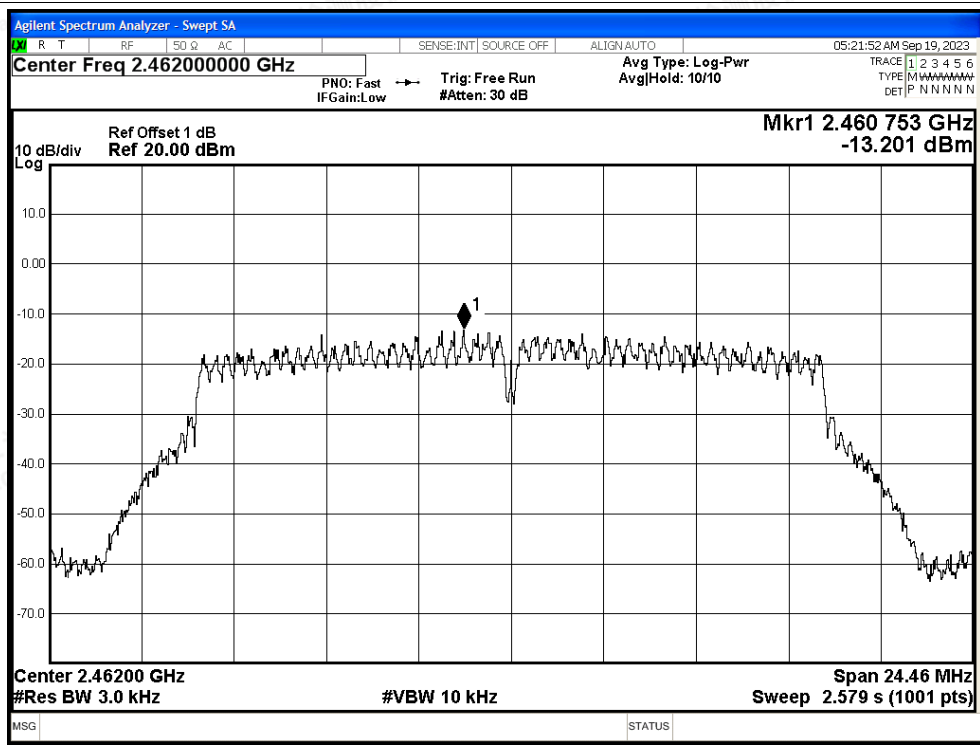




PSD NVNT g 2437MHz Ant1

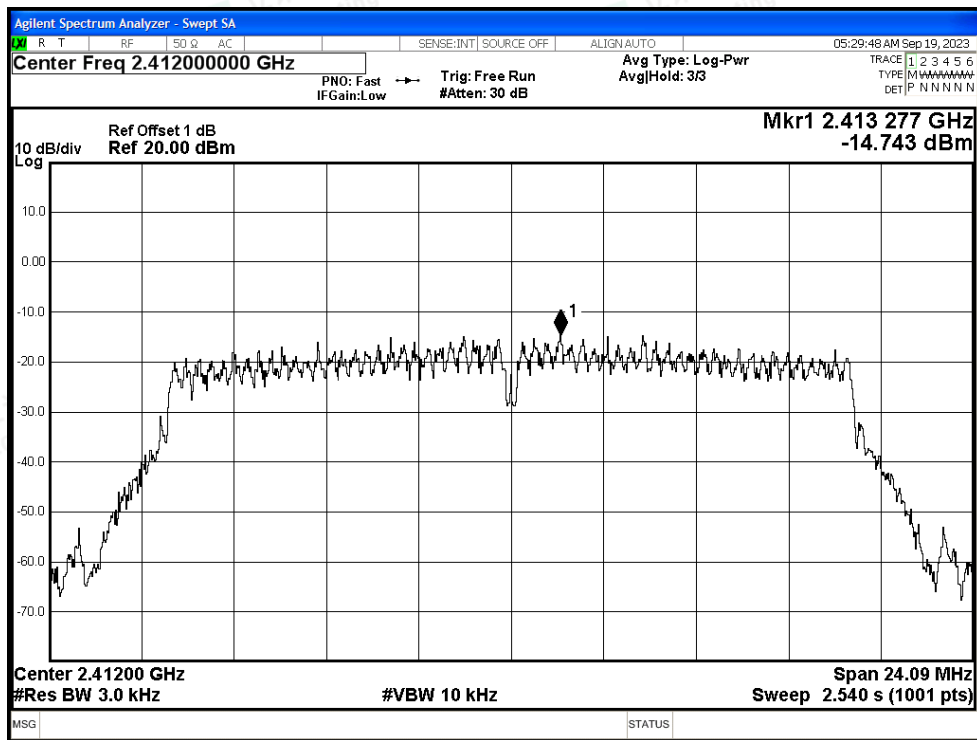


PSD NVNT g 2462MHz Ant1

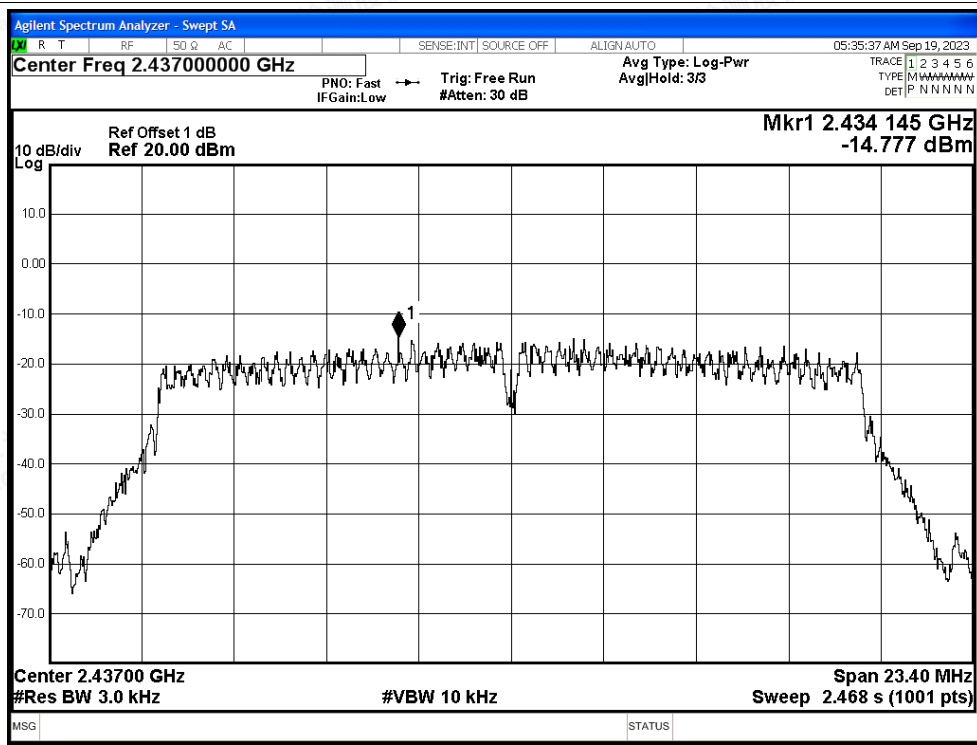


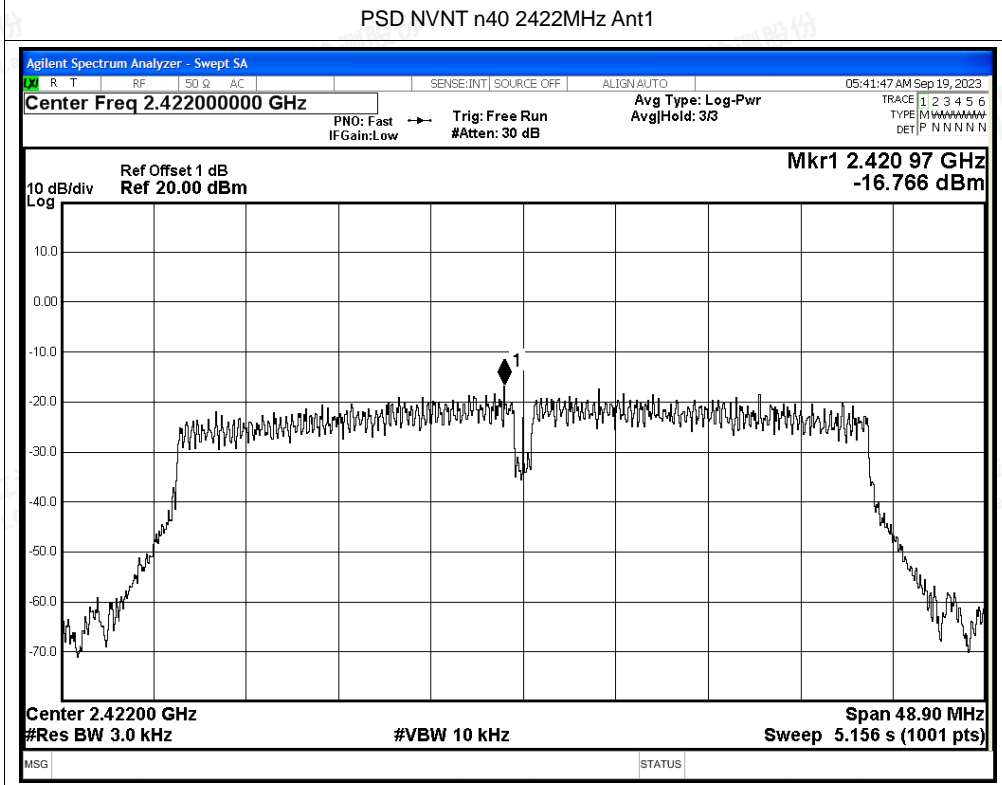
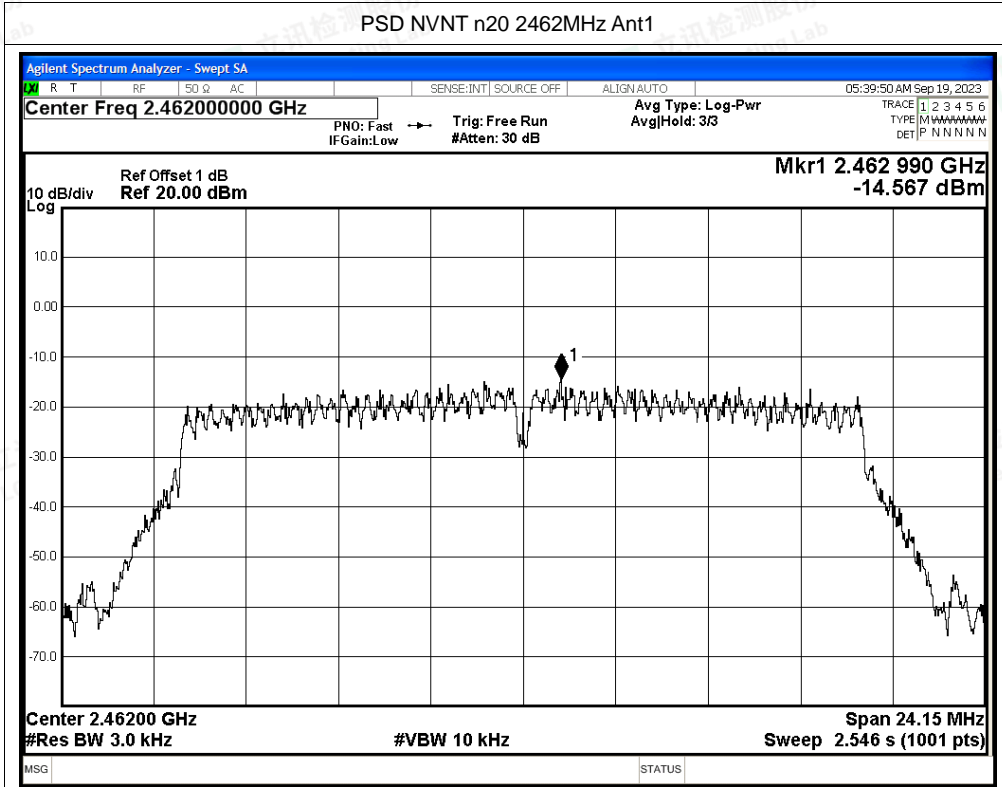


PSD NVNT n20 2412MHz Ant1



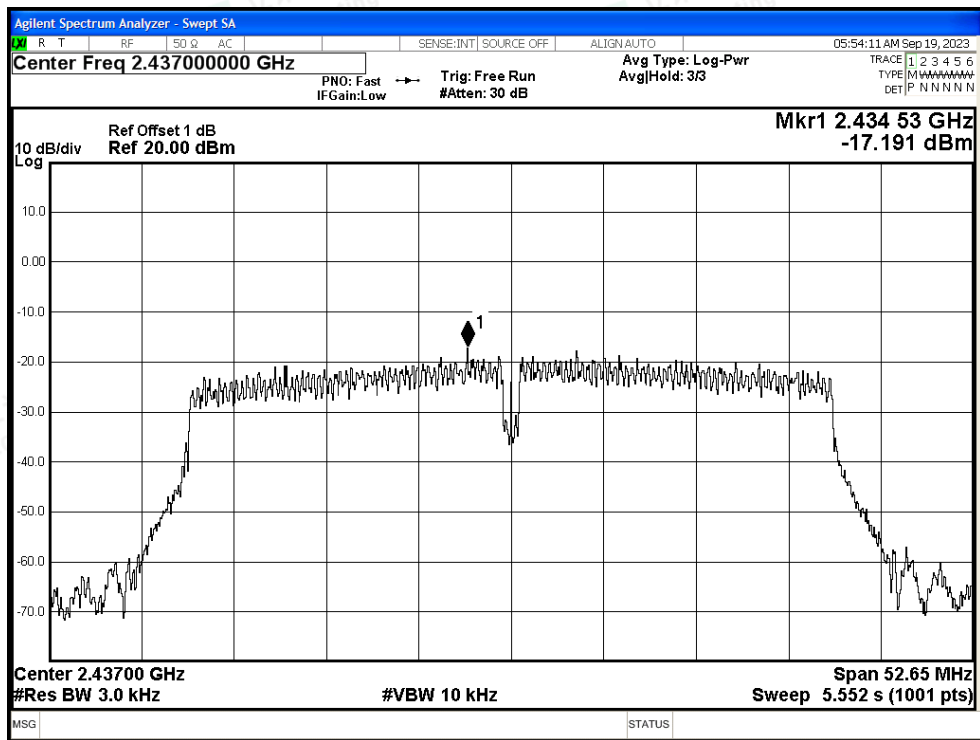
PSD NVNT n20 2437MHz Ant1



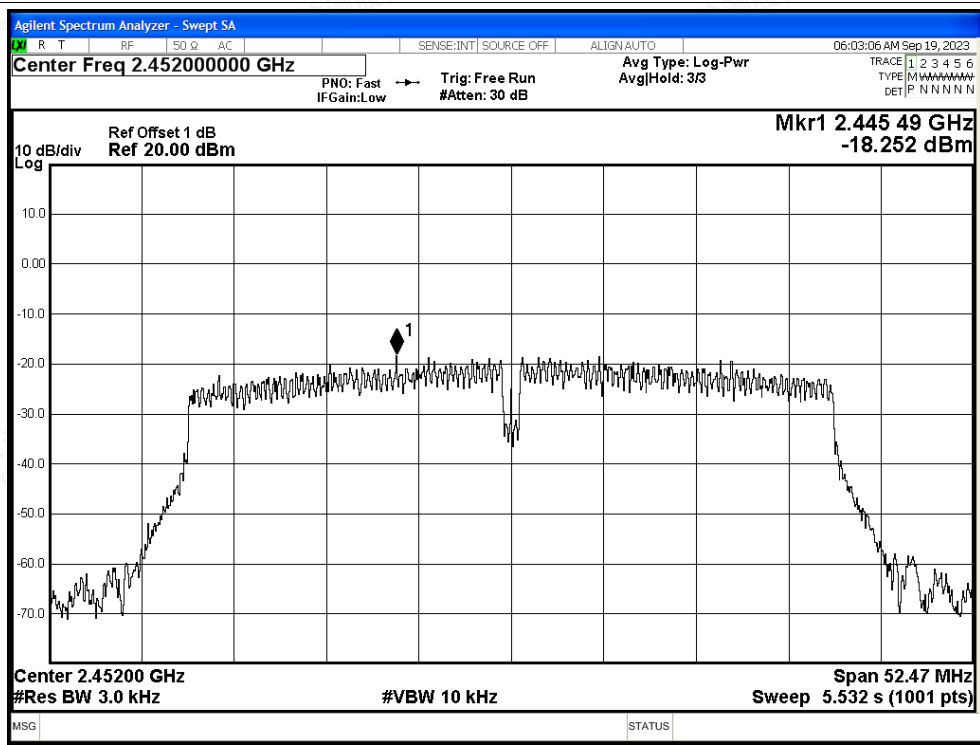




PSD NVNT n40 2437MHz Ant1



PSD NVNT n40 2452MHz Ant1





C.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant0	-47.25	-20	Pass
NVNT	b	2462	Ant0	-58.88	-20	Pass
NVNT	g	2412	Ant0	-35.61	-20	Pass
NVNT	g	2462	Ant0	-46.61	-20	Pass
NVNT	n20	2412	Ant0	-35.29	-20	Pass
NVNT	n20	2462	Ant0	-43.15	-20	Pass
NVNT	n40	2422	Ant0	-32.28	-20	Pass
NVNT	n40	2452	Ant0	-32.37	-20	Pass

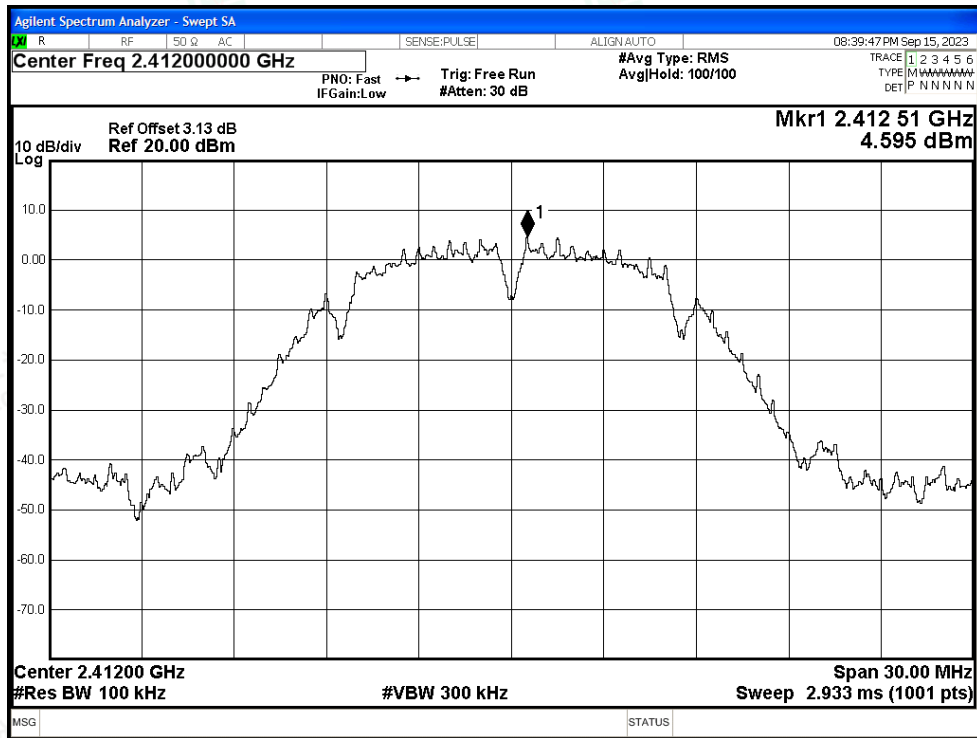


Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

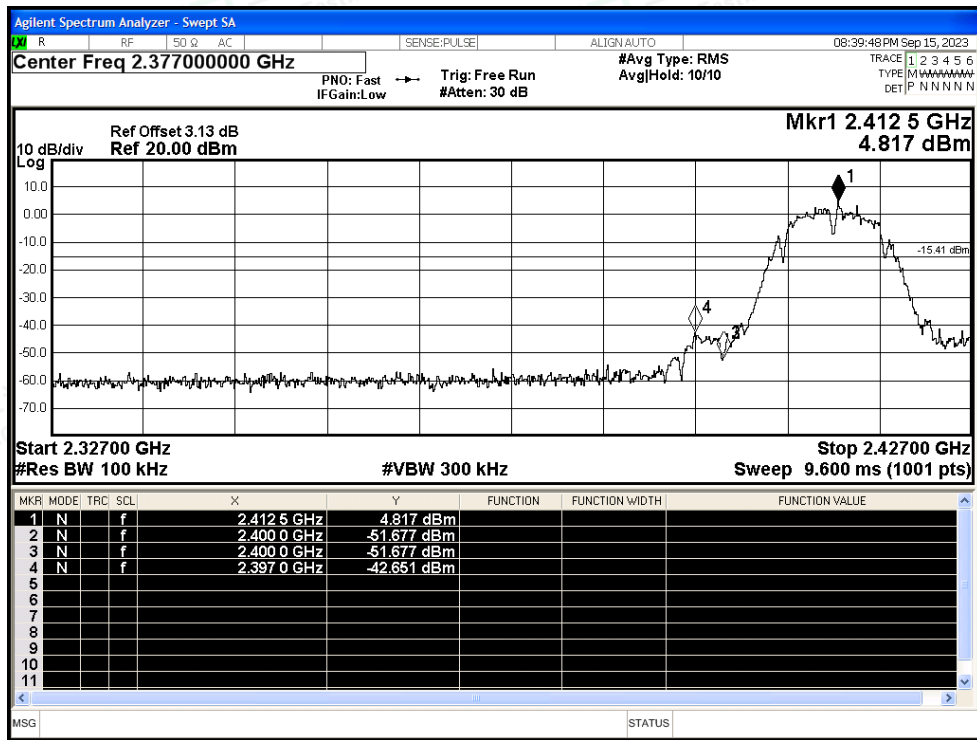


Test Graphs

Band Edge NVNT b 2412MHz Ant0 Ref

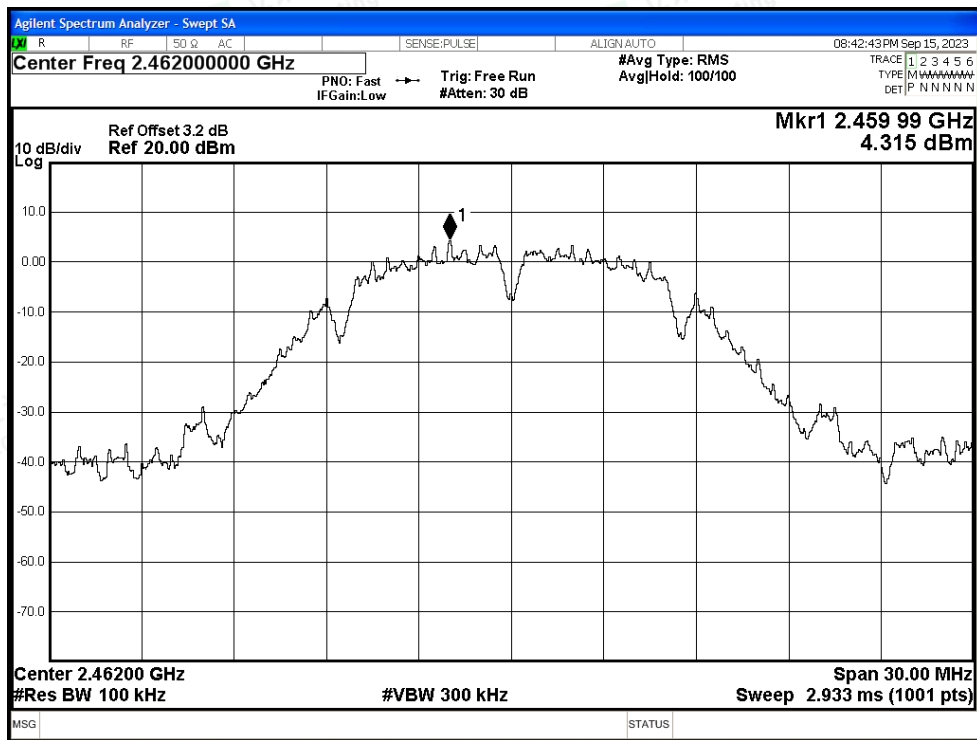


Band Edge NVNT b 2412MHz Ant0 Emission

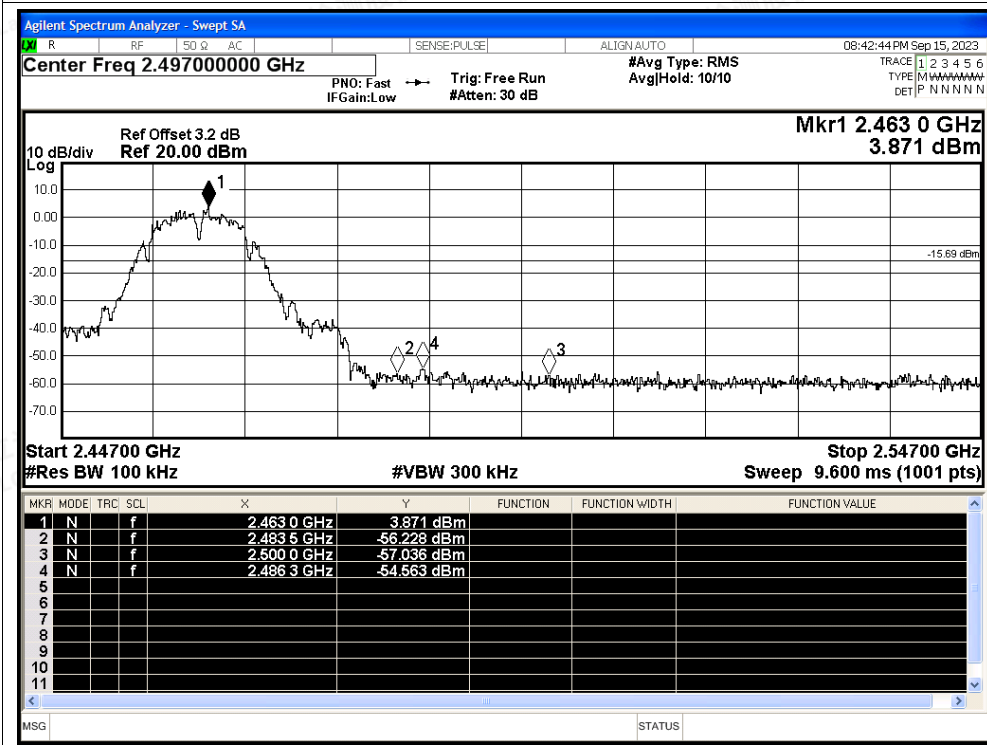




Band Edge NVNT b 2462MHz Ant0 Ref

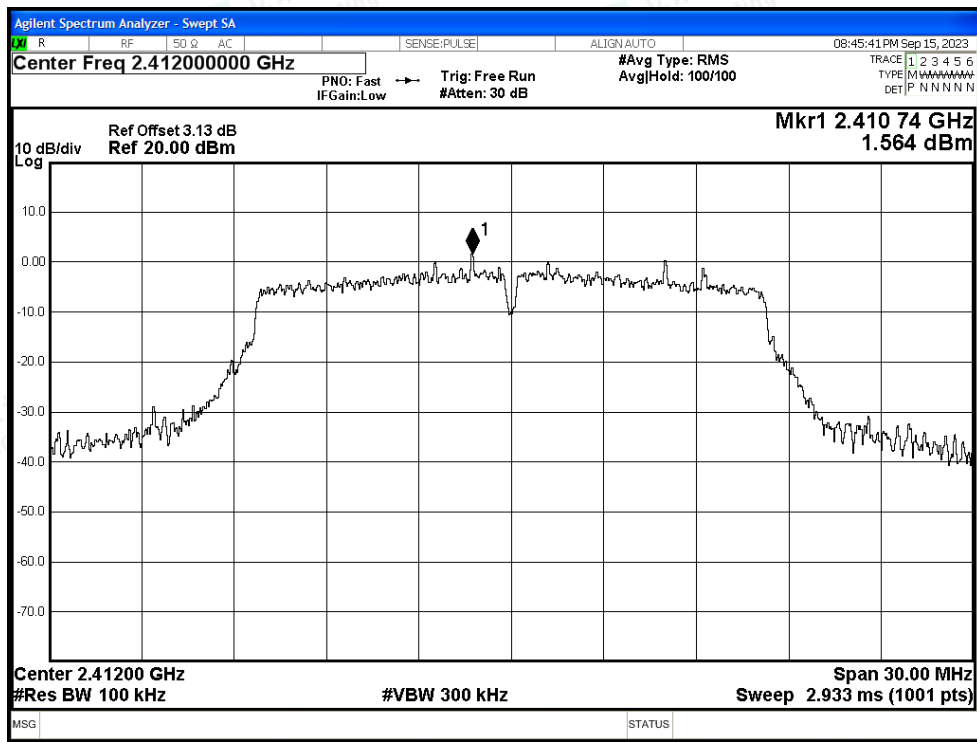


Band Edge NVNT b 2462MHz Ant0 Emission

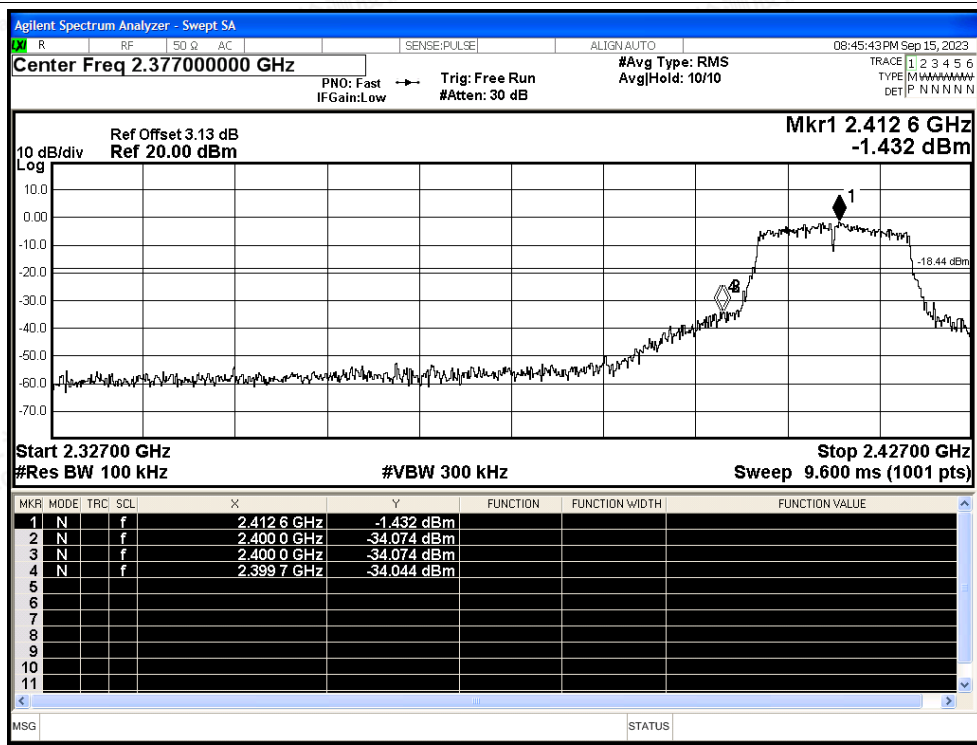




Band Edge NVNT g 2412MHz Ant0 Ref

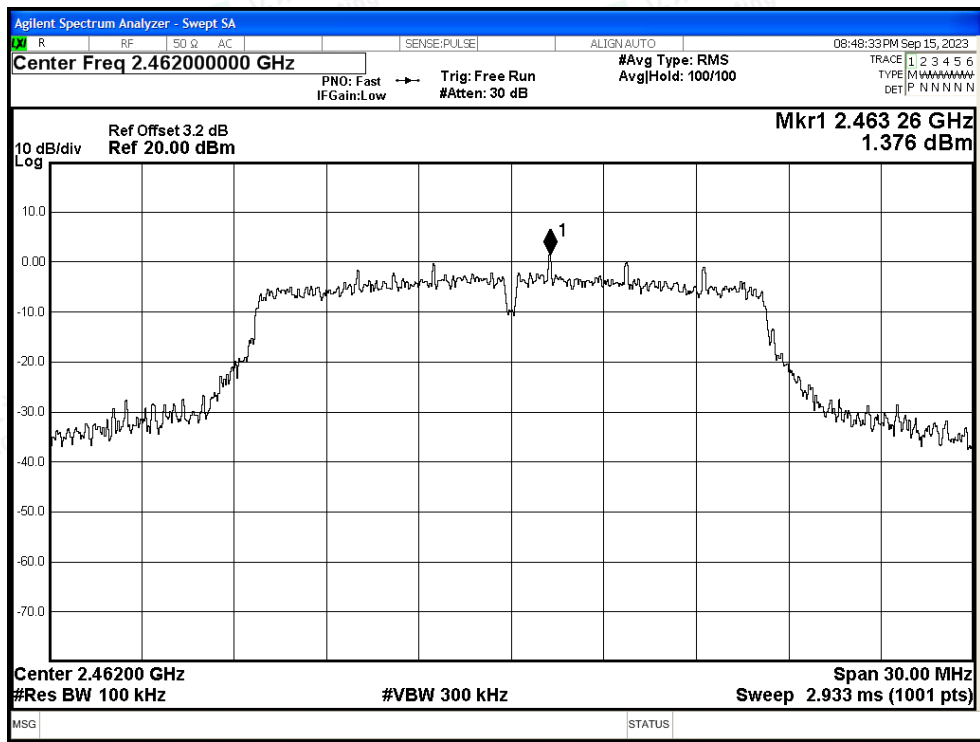


Band Edge NVNT g 2412MHz Ant0 Emission

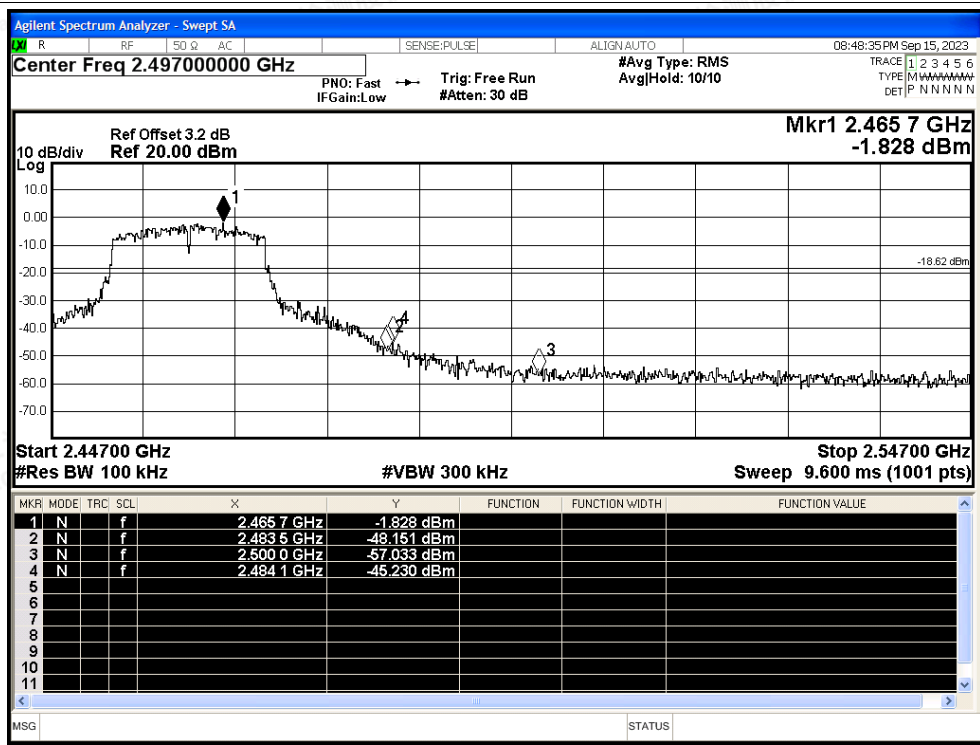




Band Edge NVNT g 2462MHz Ant0 Ref

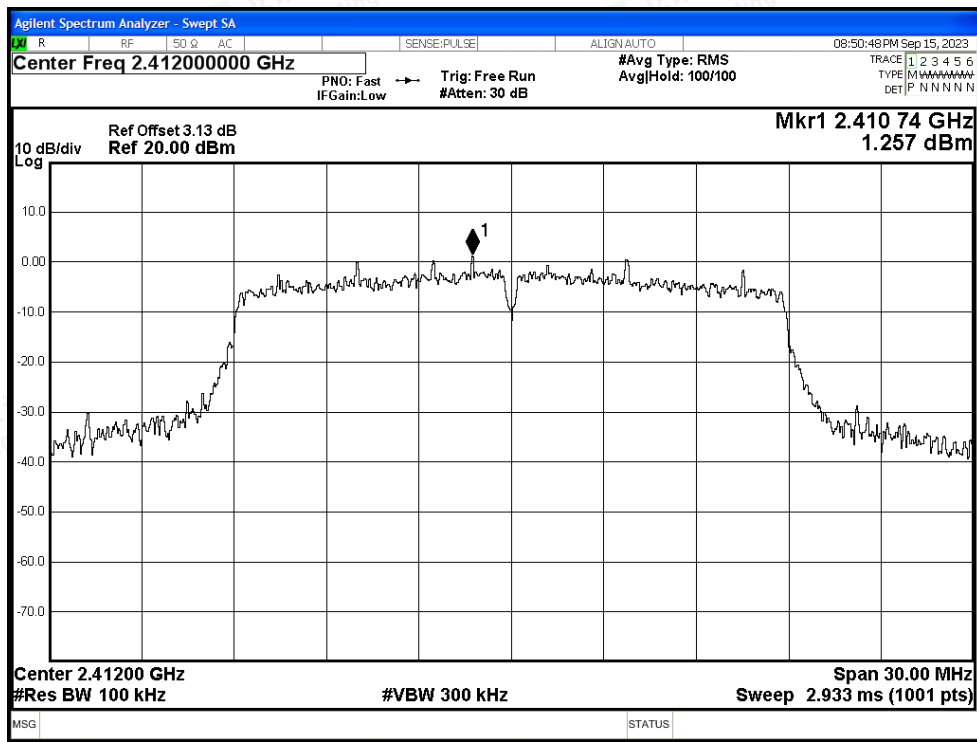


Band Edge NVNT g 2462MHz Ant0 Emission

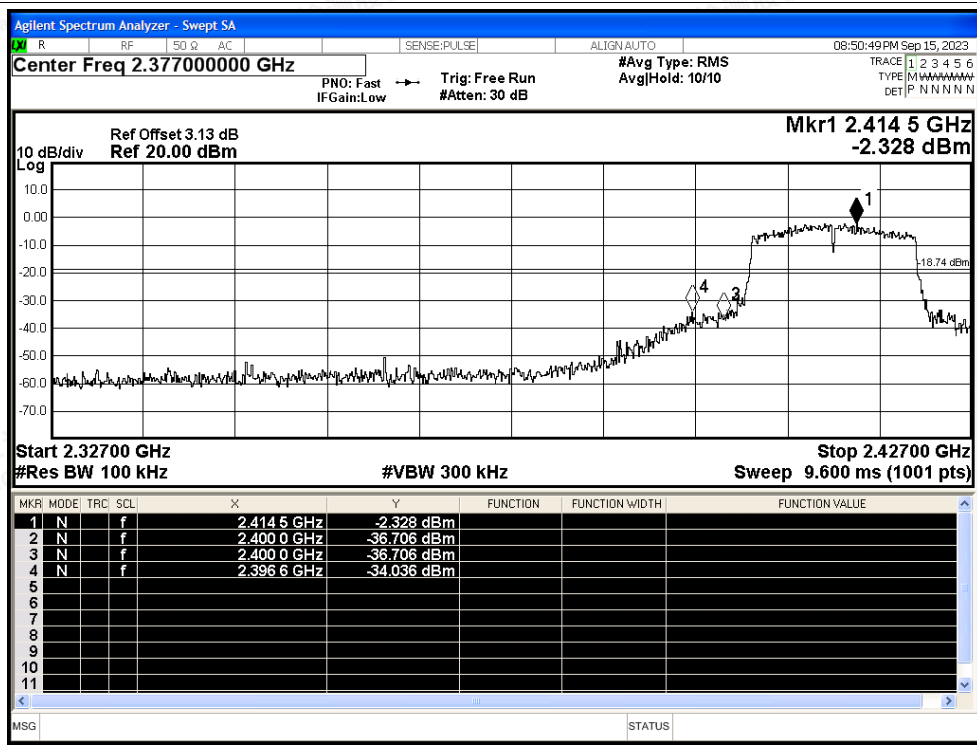




Band Edge NVNT n20 2412MHz Ant0 Ref

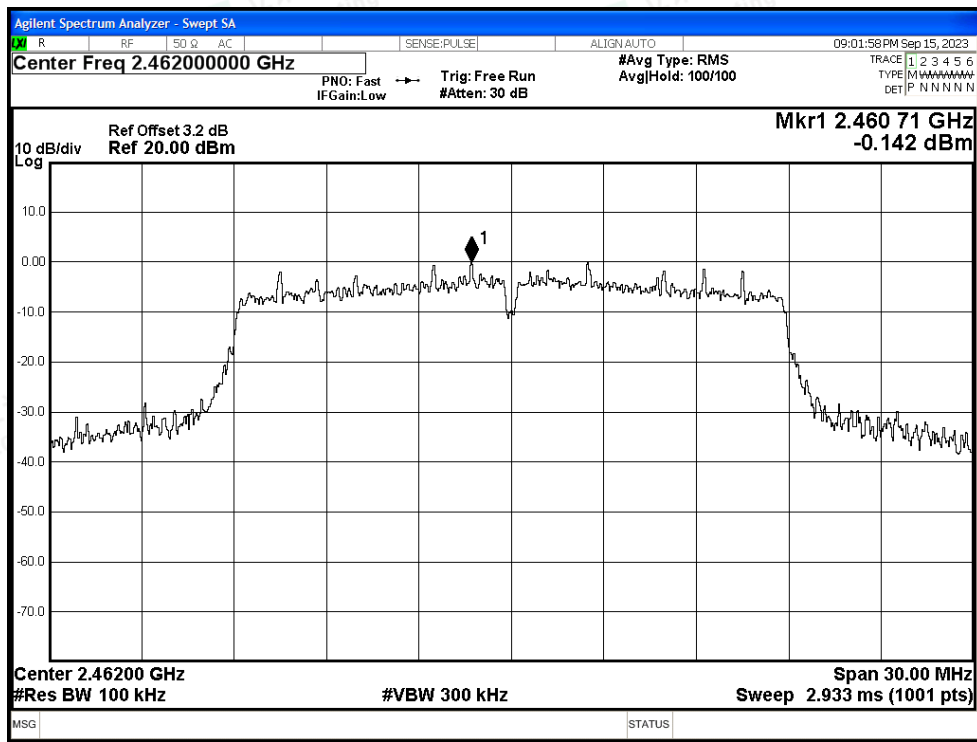


Band Edge NVNT n20 2412MHz Ant0 Emission

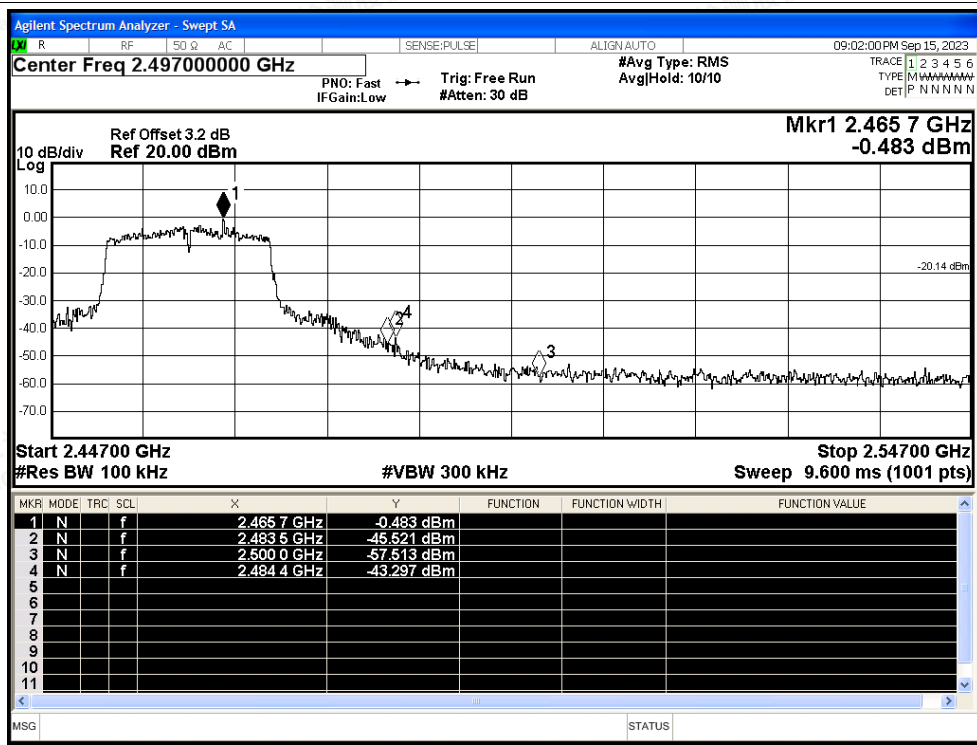




Band Edge NVNT n20 2462MHz Ant0 Ref

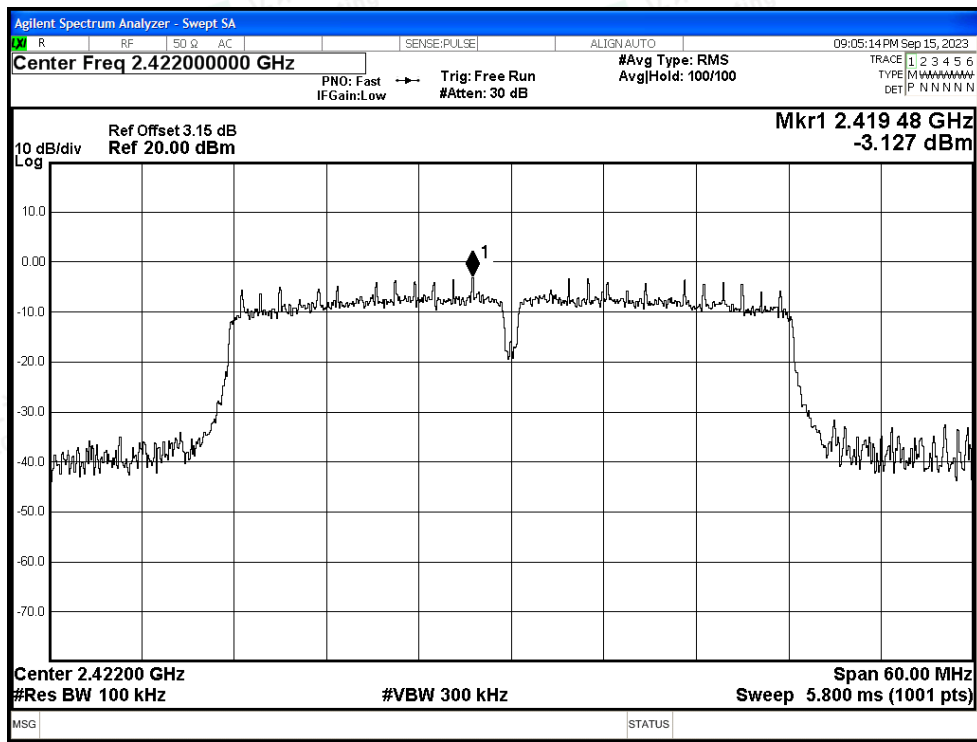


Band Edge NVNT n20 2462MHz Ant0 Emission

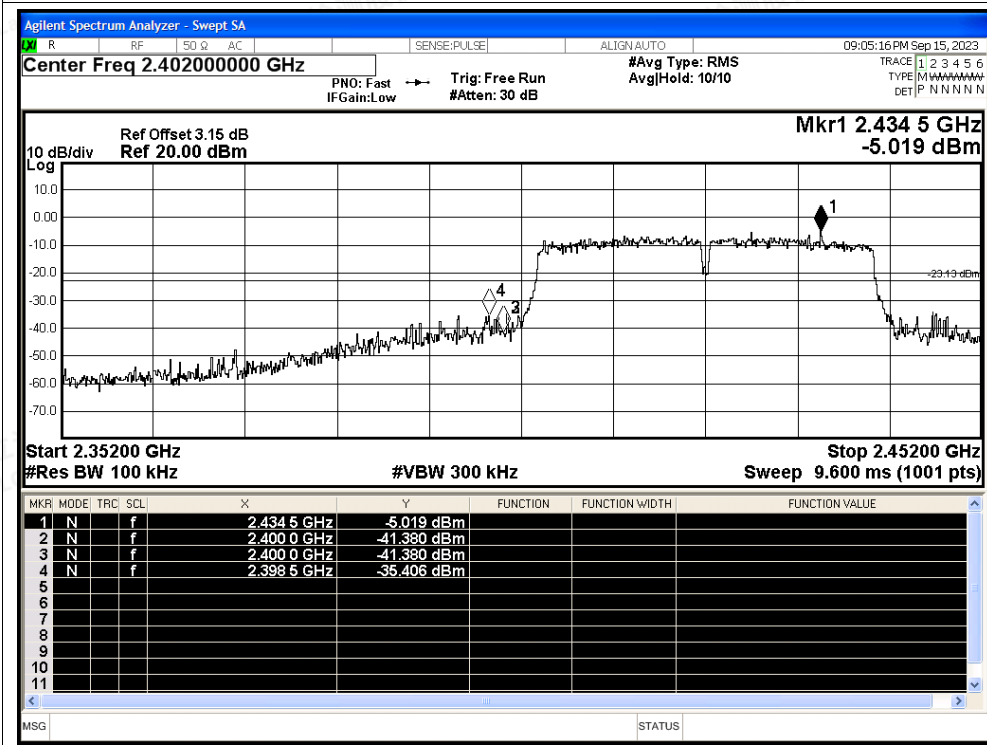




Band Edge NVNT n40 2422MHz Ant0 Ref

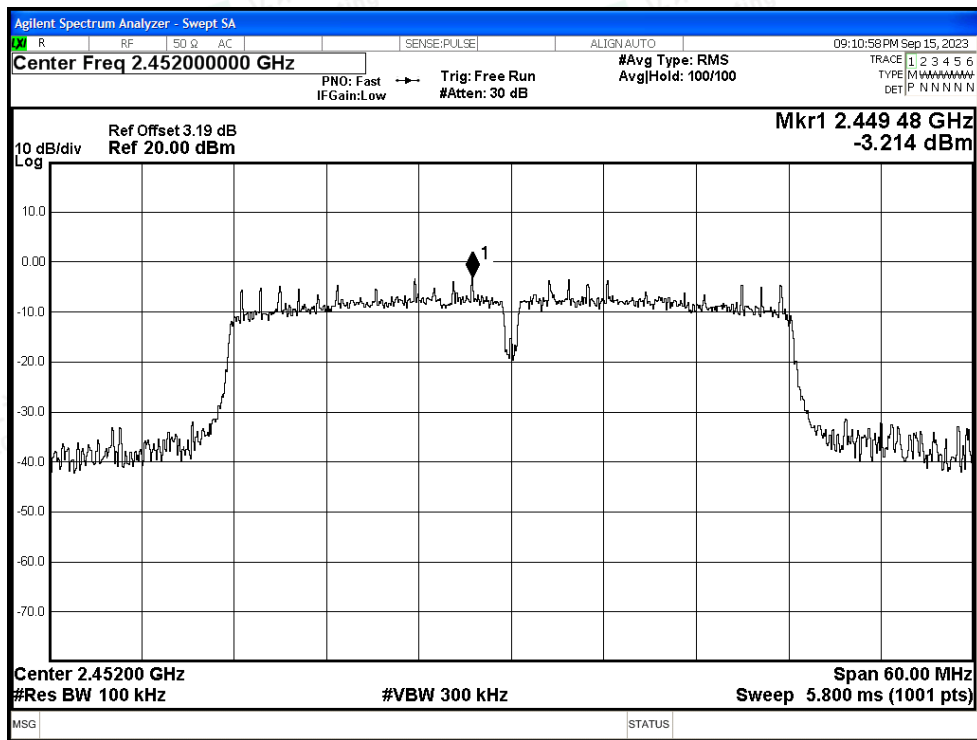


Band Edge NVNT n40 2422MHz Ant0 Emission

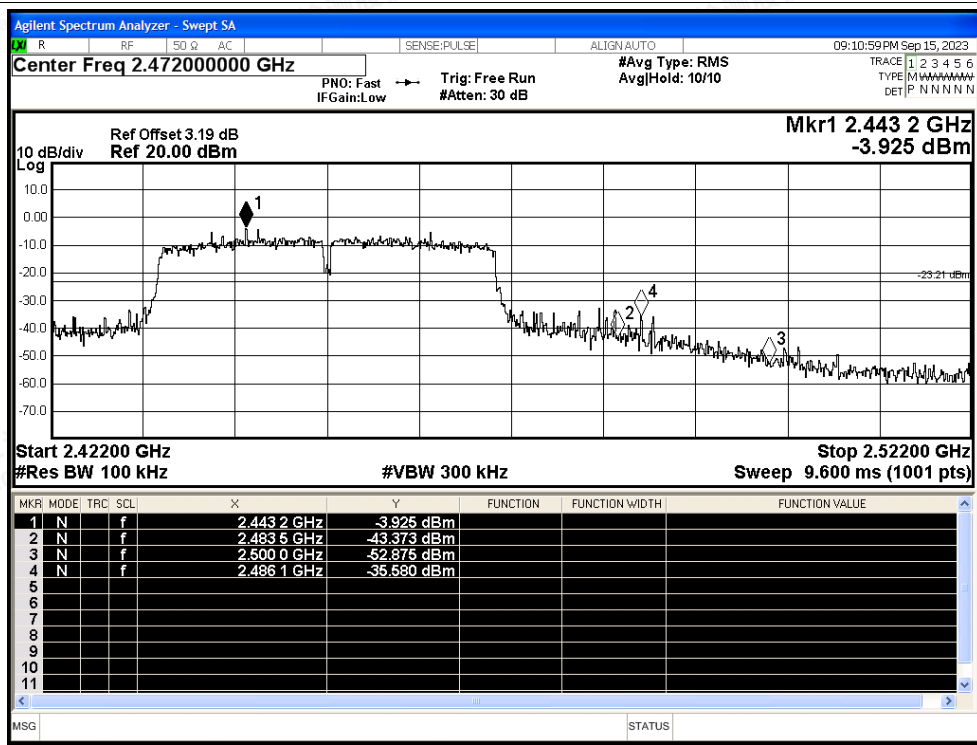




Band Edge NVNT n40 2452MHz Ant0 Ref



Band Edge NVNT n40 2452MHz Ant0 Emission





Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-54.45	-20	Pass
NVNT	b	2462	Ant1	-58.83	-20	Pass
NVNT	g	2412	Ant1	-42.55	-20	Pass
NVNT	g	2462	Ant1	-53.69	-20	Pass
NVNT	n20	2412	Ant1	-41.18	-20	Pass
NVNT	n20	2462	Ant1	-52.86	-20	Pass
NVNT	n40	2422	Ant1	-42.97	-20	Pass
NVNT	n40	2452	Ant1	-46.63	-20	Pass

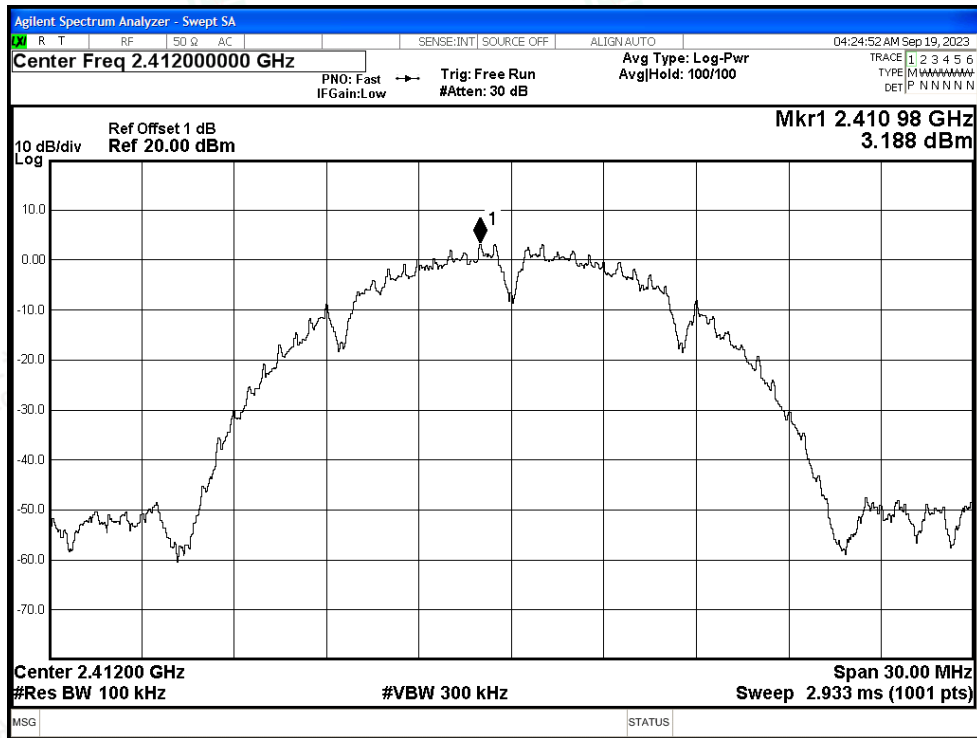


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Scan code to check authenticity

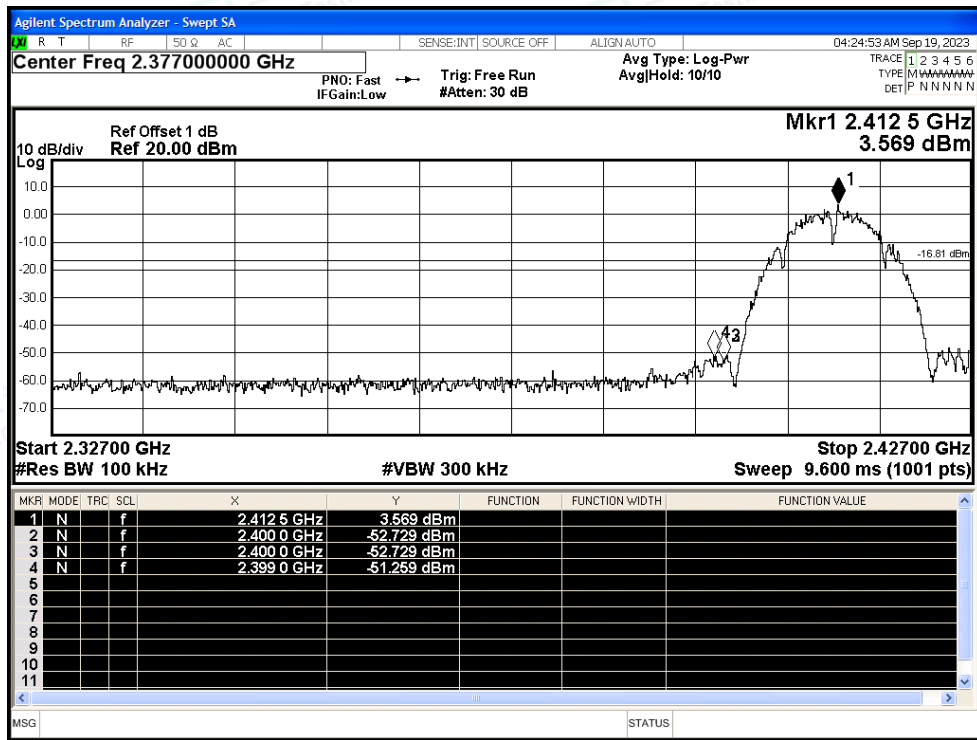


Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref

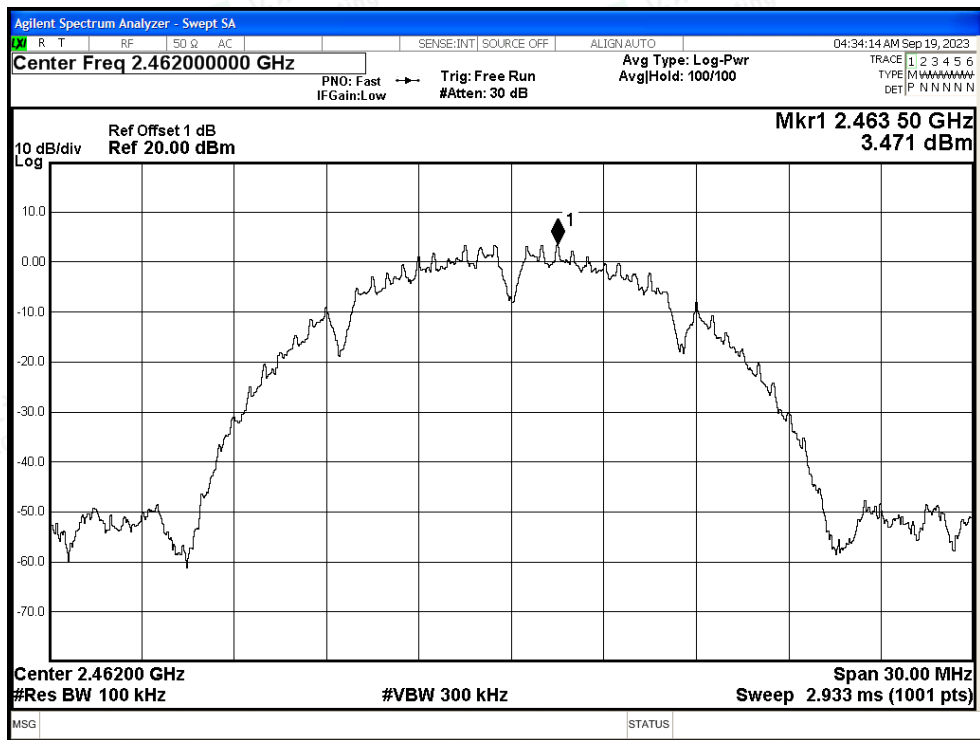


Band Edge NVNT b 2412MHz Ant1 Emission

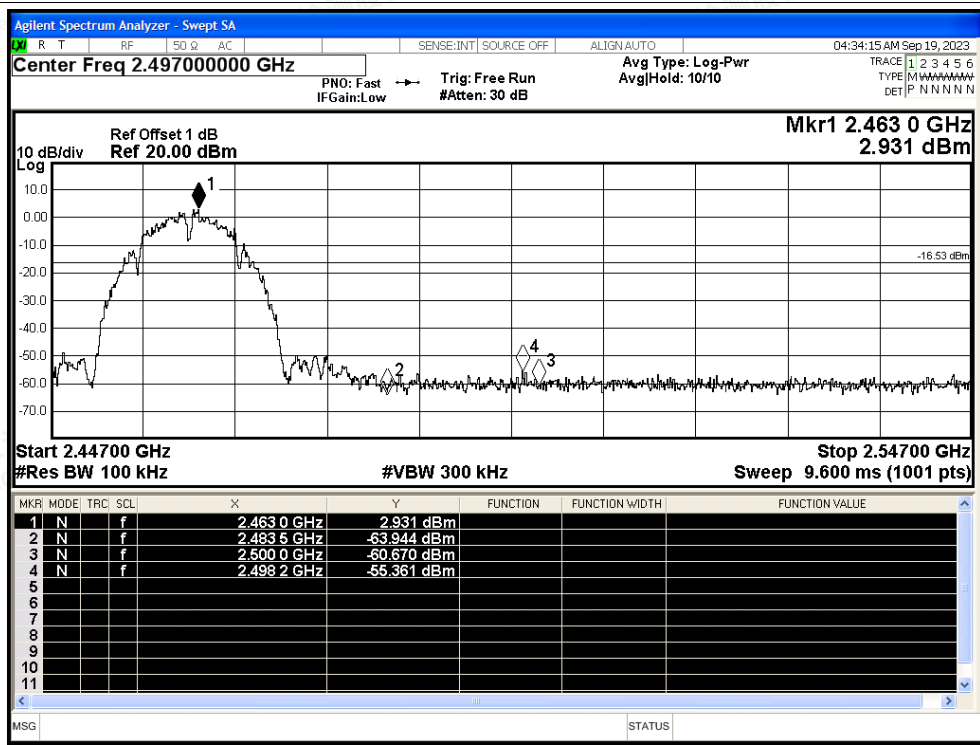




Band Edge NVNT b 2462MHz Ant1 Ref

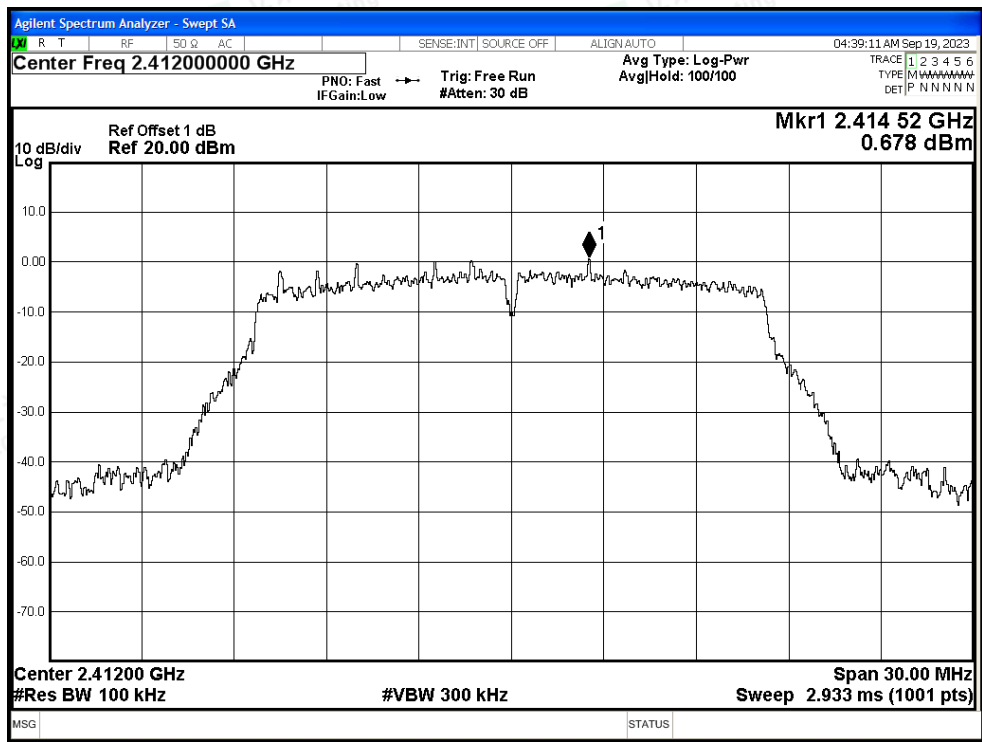


Band Edge NVNT b 2462MHz Ant1 Emission

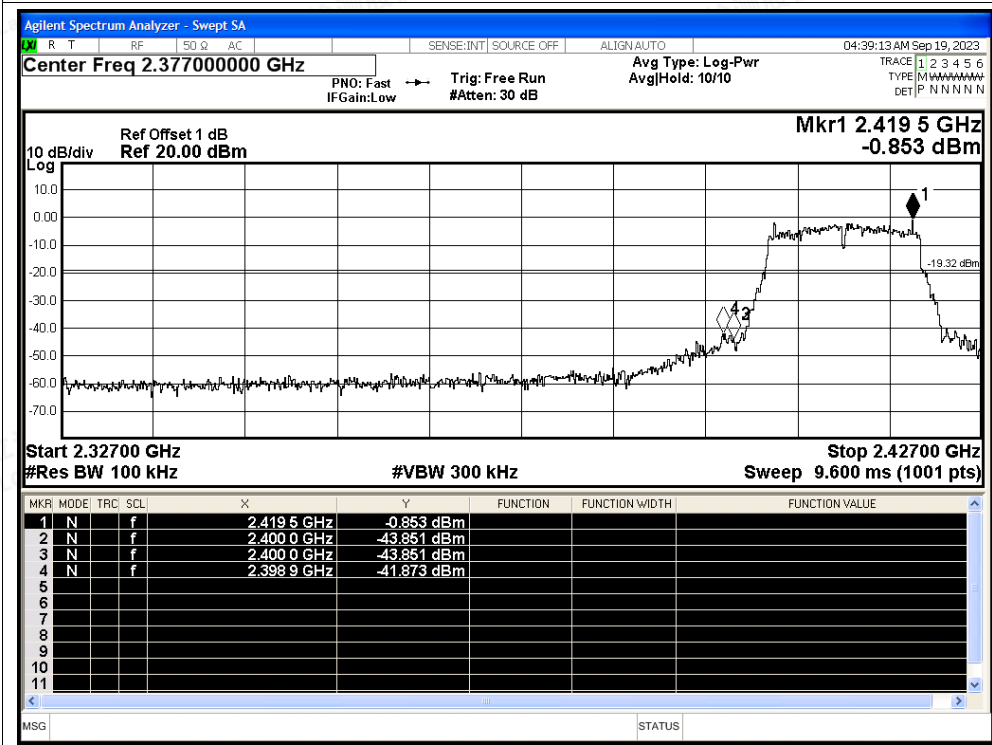




Band Edge NVNT g 2412MHz Ant1 Ref

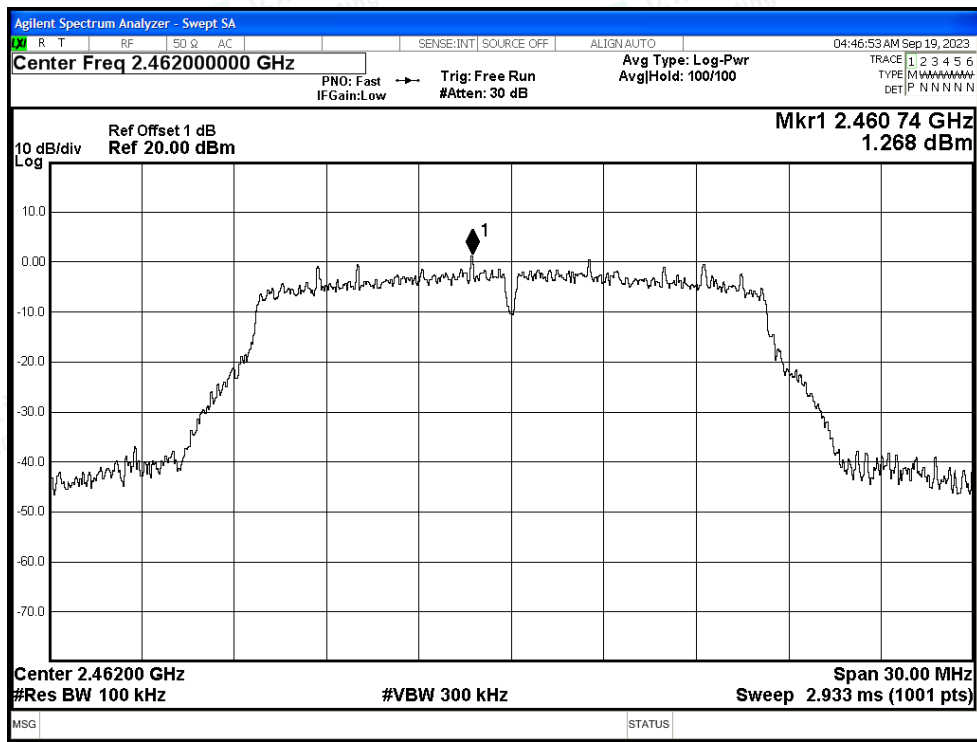


Band Edge NVNT g 2412MHz Ant1 Emission

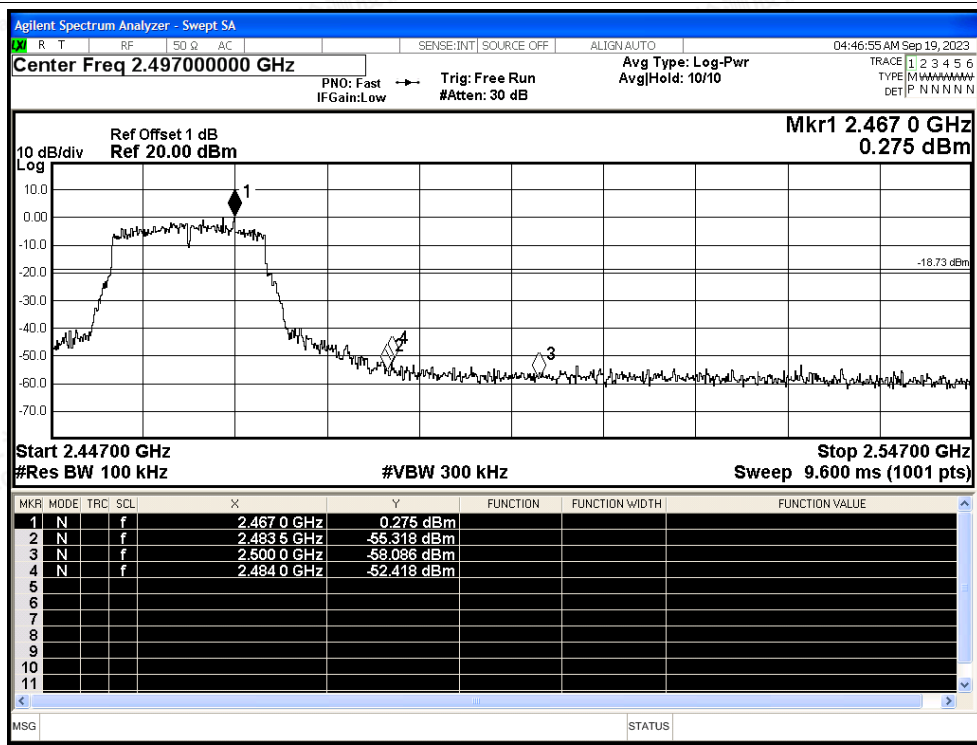




Band Edge NVNT g 2462MHz Ant1 Ref

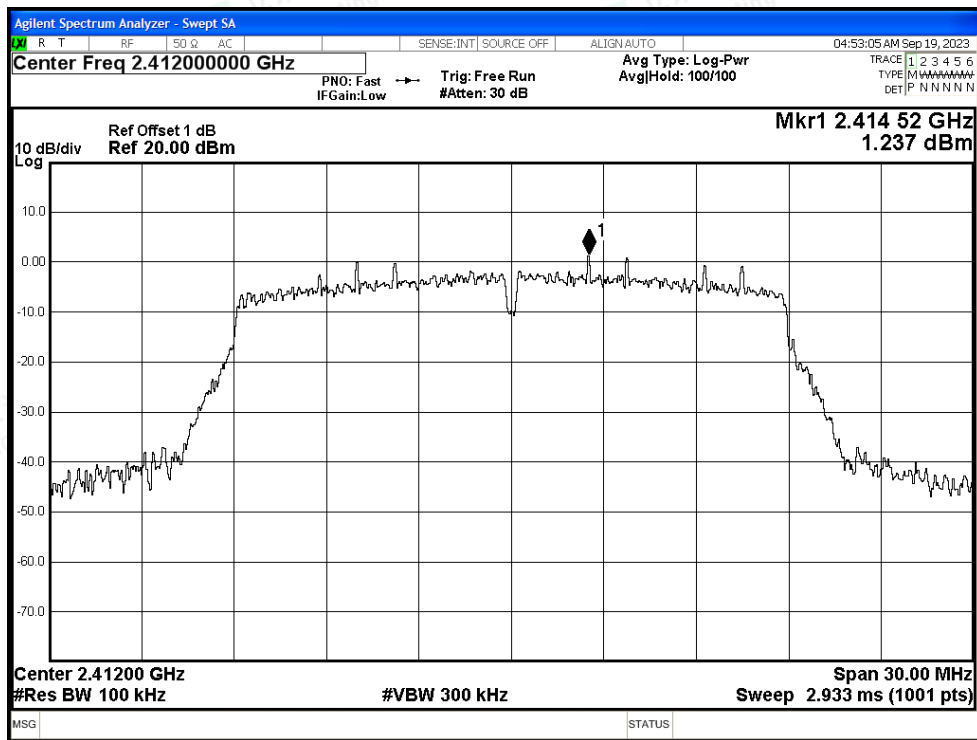


Band Edge NVNT g 2462MHz Ant1 Emission

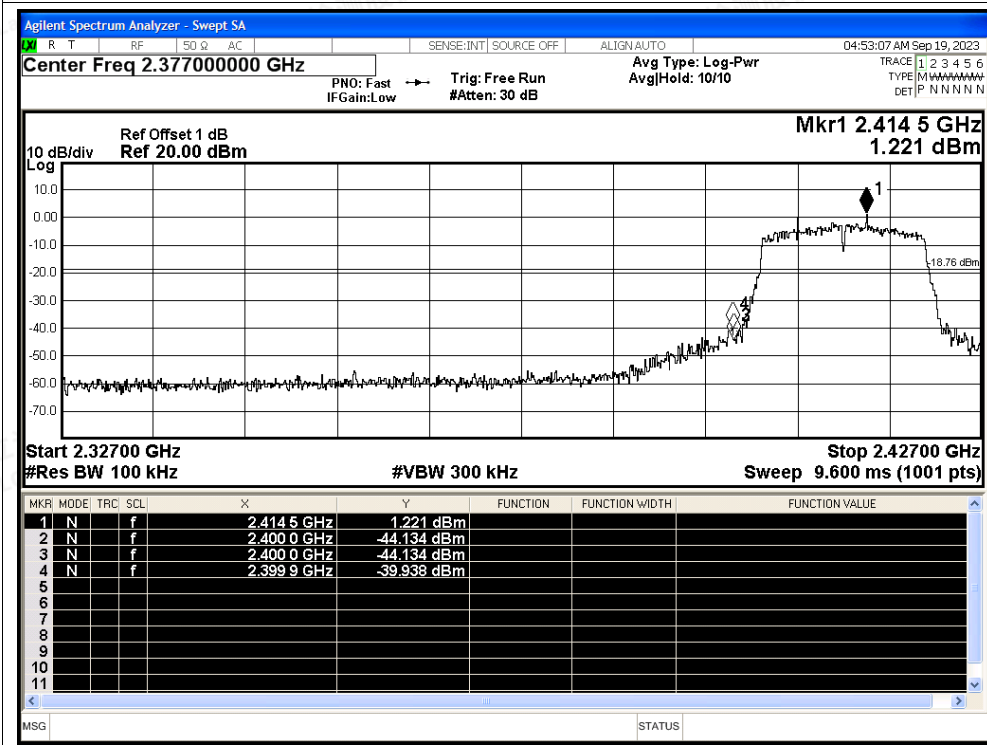




Band Edge NVNT n20 2412MHz Ant1 Ref

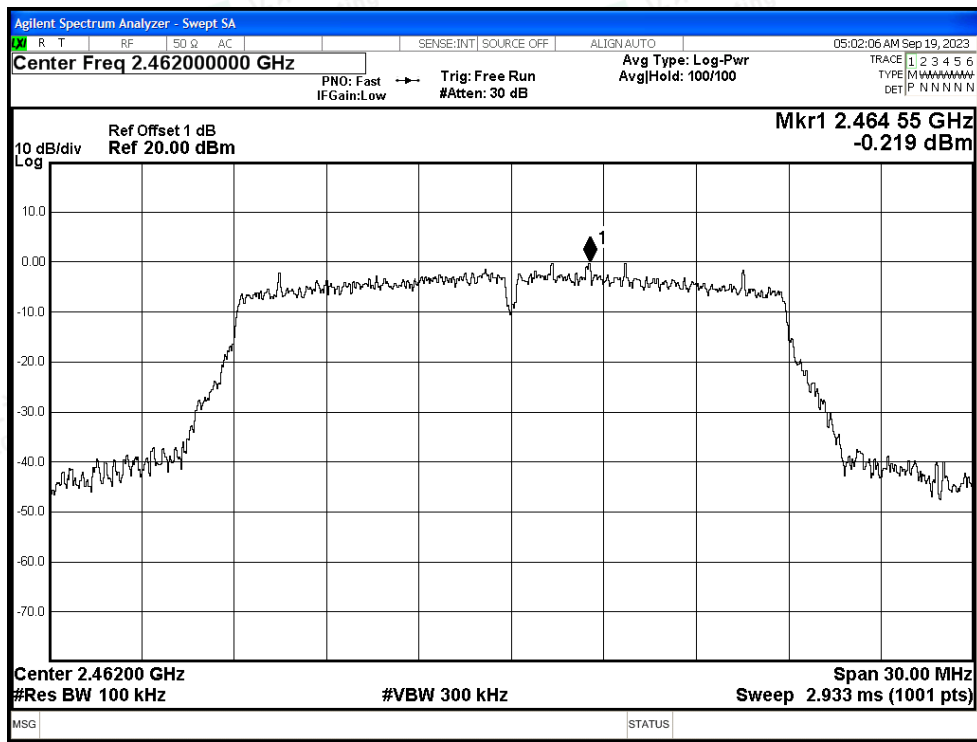


Band Edge NVNT n20 2412MHz Ant1 Emission

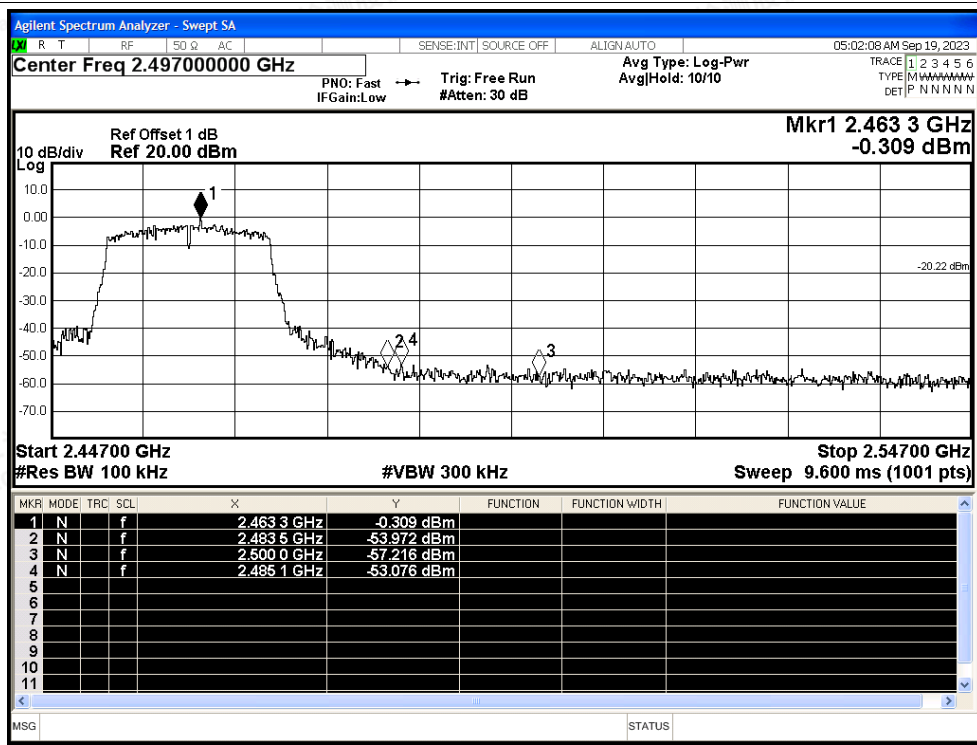




Band Edge NVNT n20 2462MHz Ant1 Ref

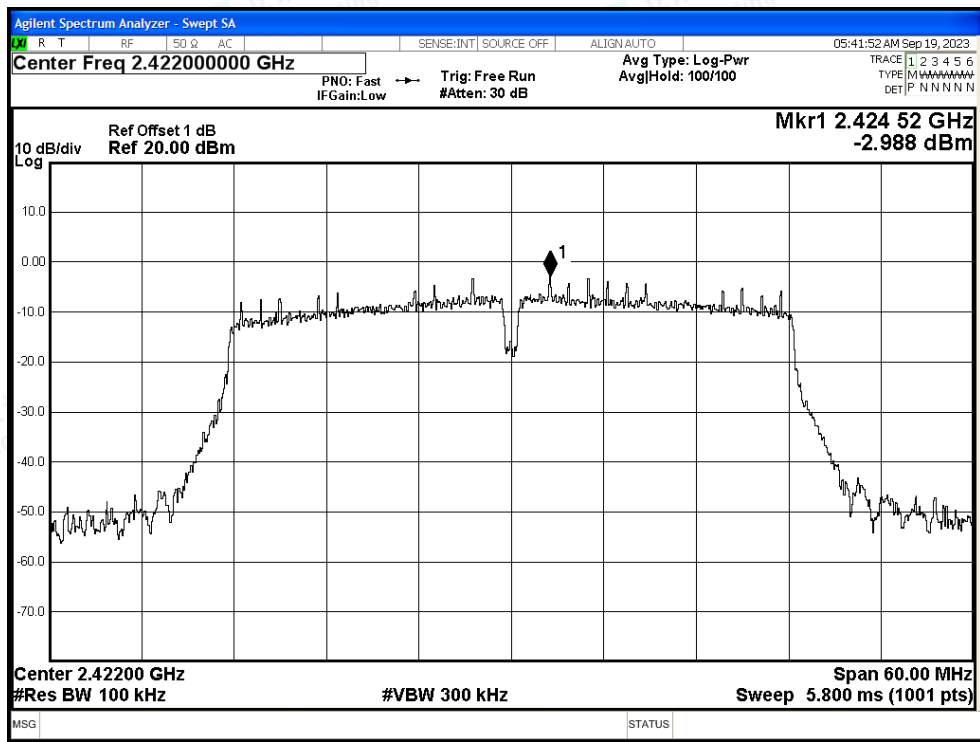


Band Edge NVNT n20 2462MHz Ant1 Emission

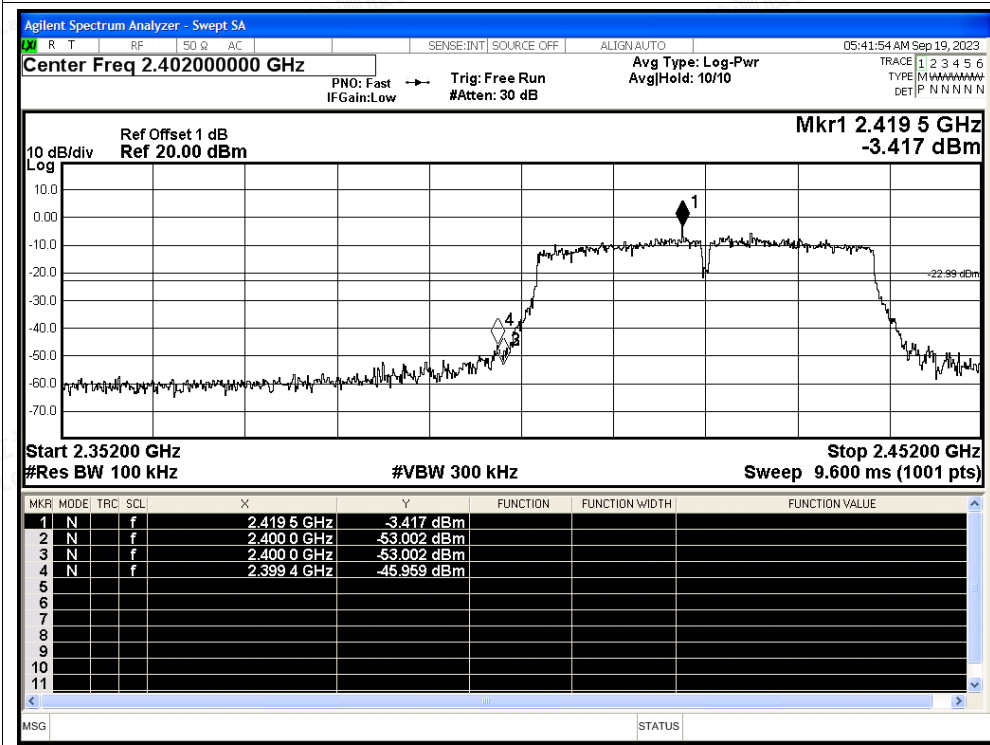




Band Edge NVNT n40 2422MHz Ant1 Ref

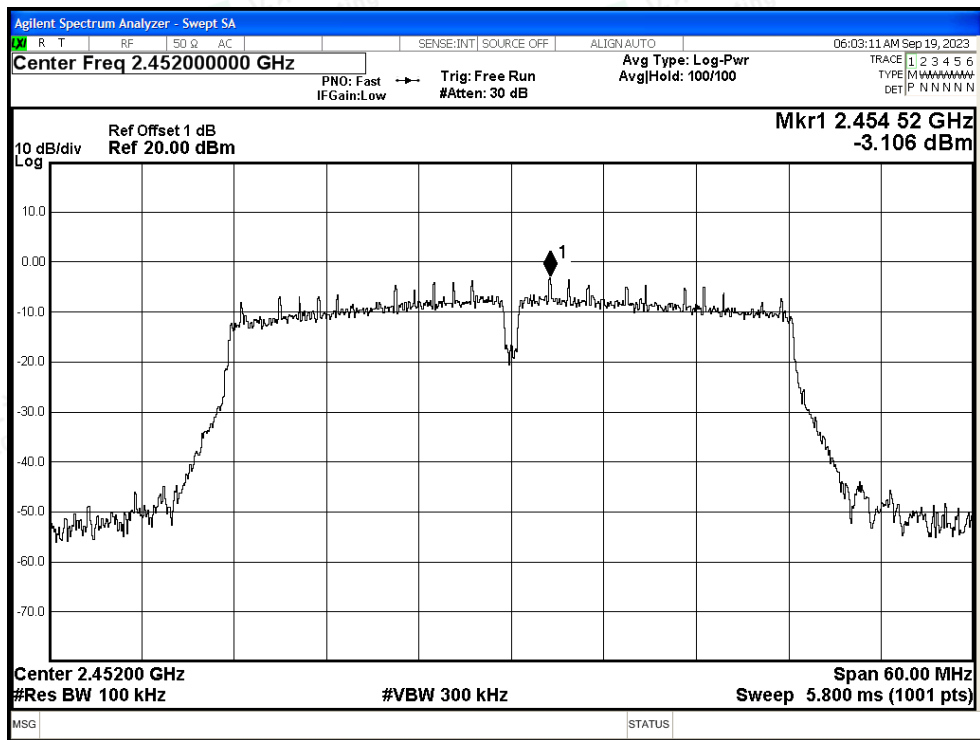


Band Edge NVNT n40 2422MHz Ant1 Emission

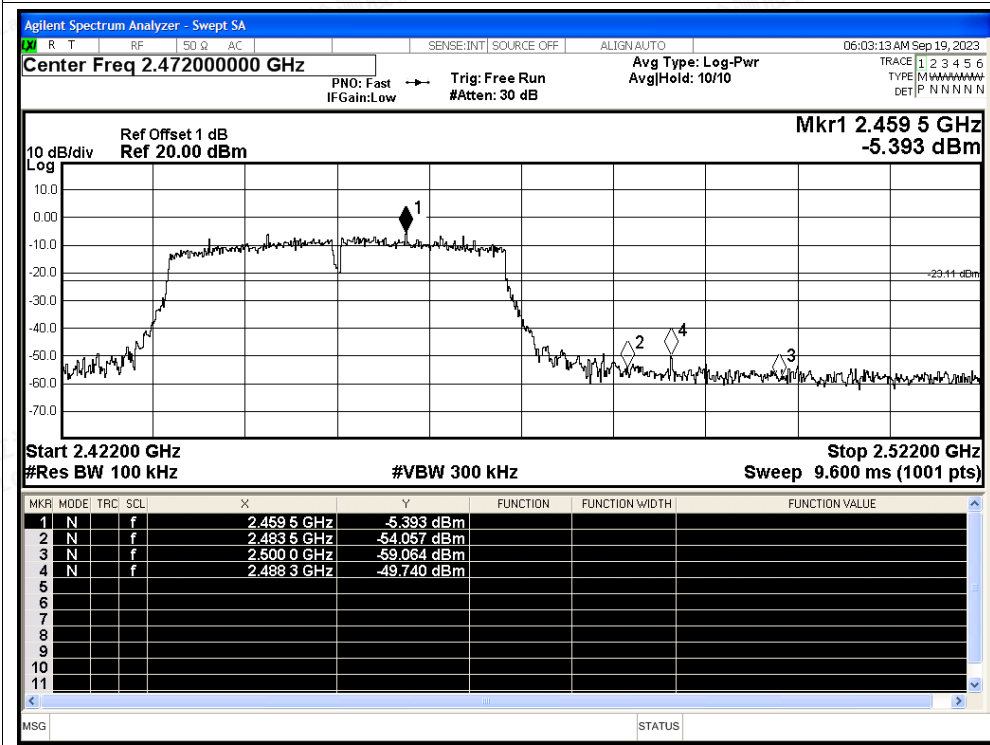




Band Edge NVNT n40 2452MHz Ant1 Ref



Band Edge NVNT n40 2452MHz Ant1 Emission





C.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant0	-50.28	-20	Pass
NVNT	b	2437	Ant0	-48.68	-20	Pass
NVNT	b	2462	Ant0	-49.51	-20	Pass
NVNT	g	2412	Ant0	-46.28	-20	Pass
NVNT	g	2437	Ant0	-45.71	-20	Pass
NVNT	g	2462	Ant0	-44.5	-20	Pass
NVNT	n20	2412	Ant0	-45.75	-20	Pass
NVNT	n20	2437	Ant0	-46.96	-20	Pass
NVNT	n20	2462	Ant0	-45.37	-20	Pass
NVNT	n40	2422	Ant0	-42.46	-20	Pass
NVNT	n40	2437	Ant0	-42.39	-20	Pass
NVNT	n40	2452	Ant0	-42.22	-20	Pass

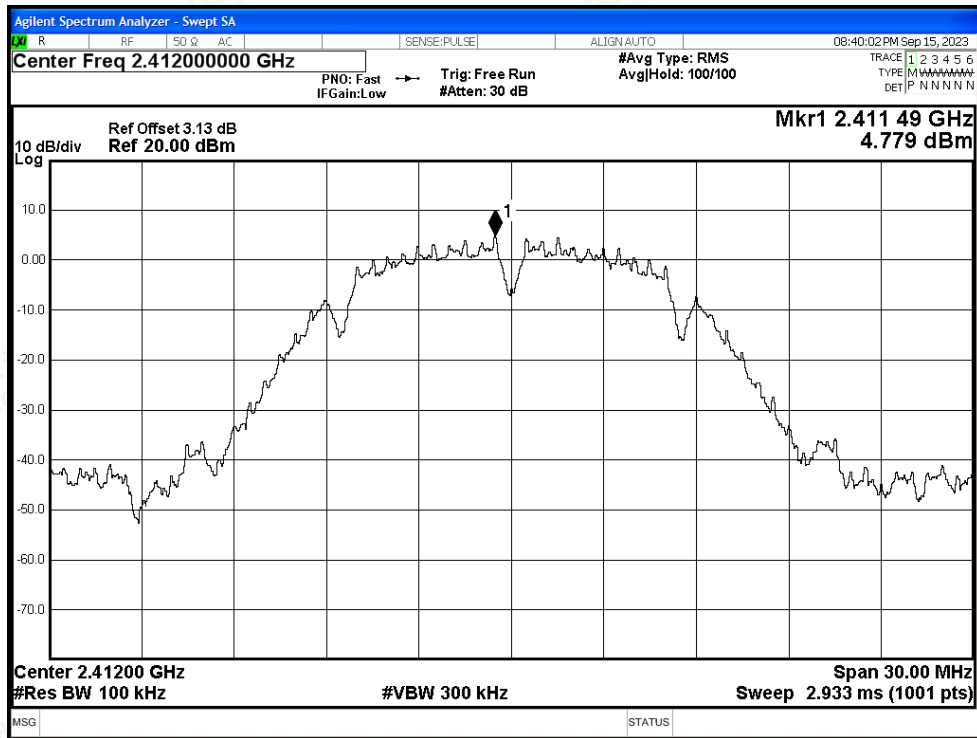


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 Scan code to check authenticity

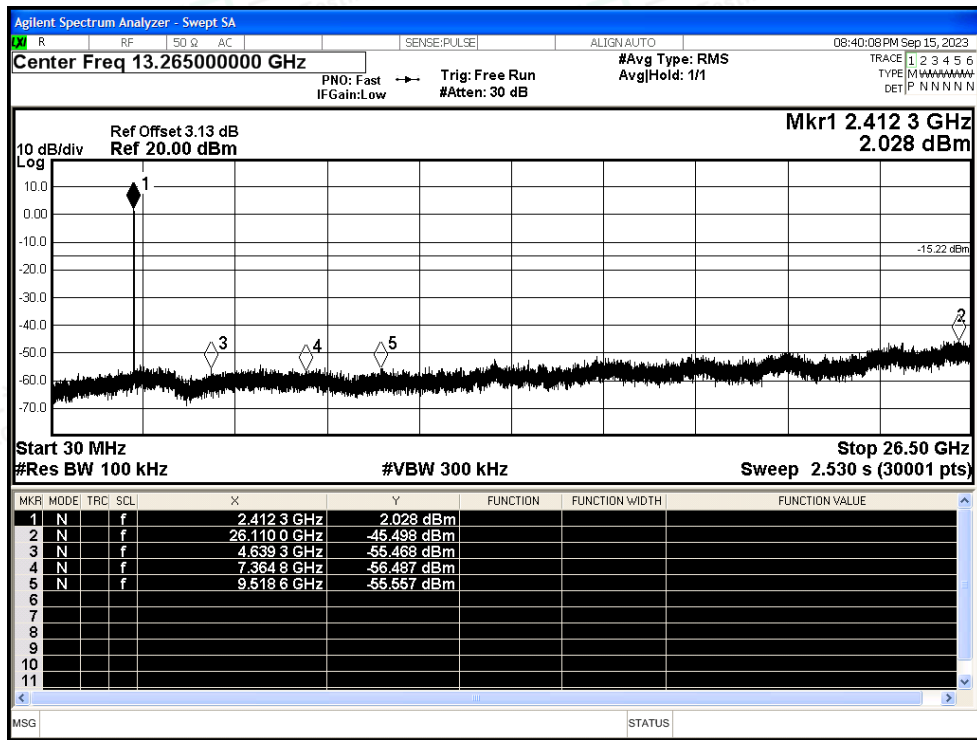


Test Graphs

Tx. Spurious NVNT b 2412MHz Ant0 Ref

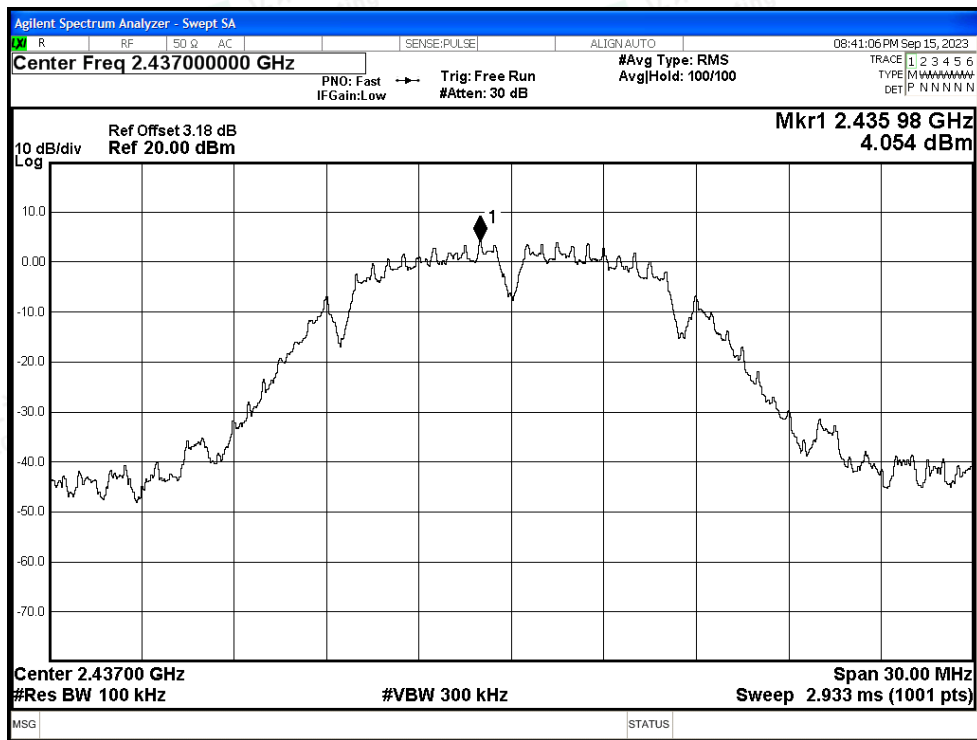


Tx. Spurious NVNT b 2412MHz Ant0 Emission





Tx. Spurious NVNT b 2437MHz Ant0 Ref



Tx. Spurious NVNT b 2437MHz Ant0 Emission

