



Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Gutsi

Test Model: Gen 1

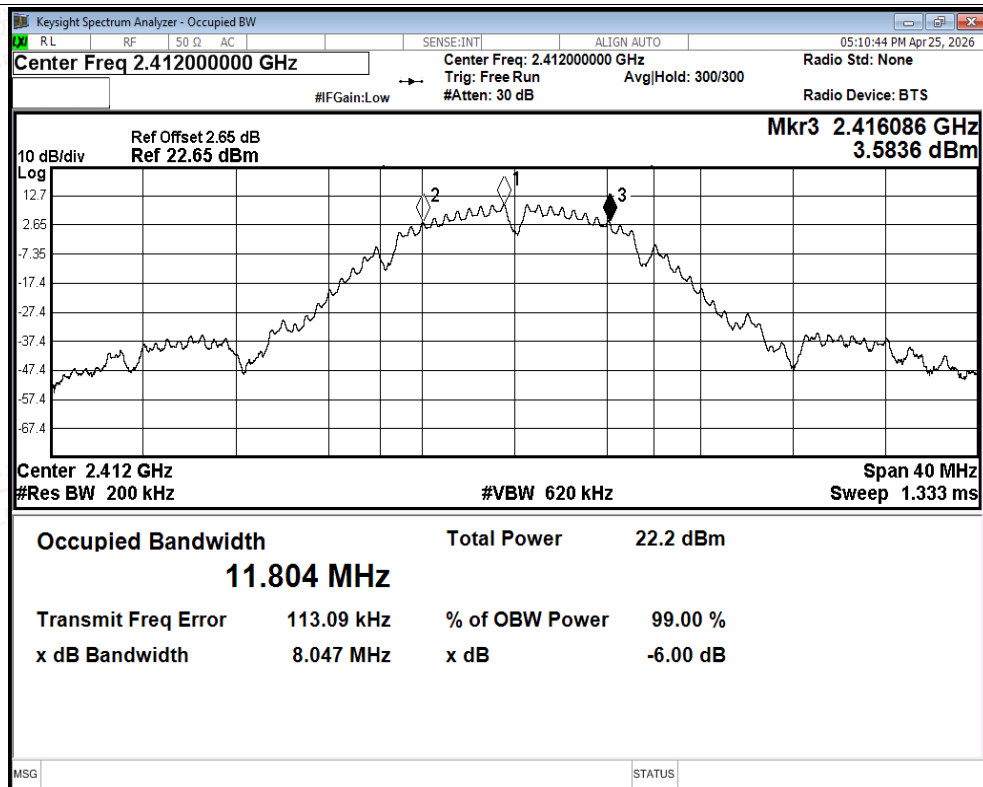
Environmental Conditions

Temperature:	23.4°C
Relative Humidity:	54.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
Supervised by:	Can Kun

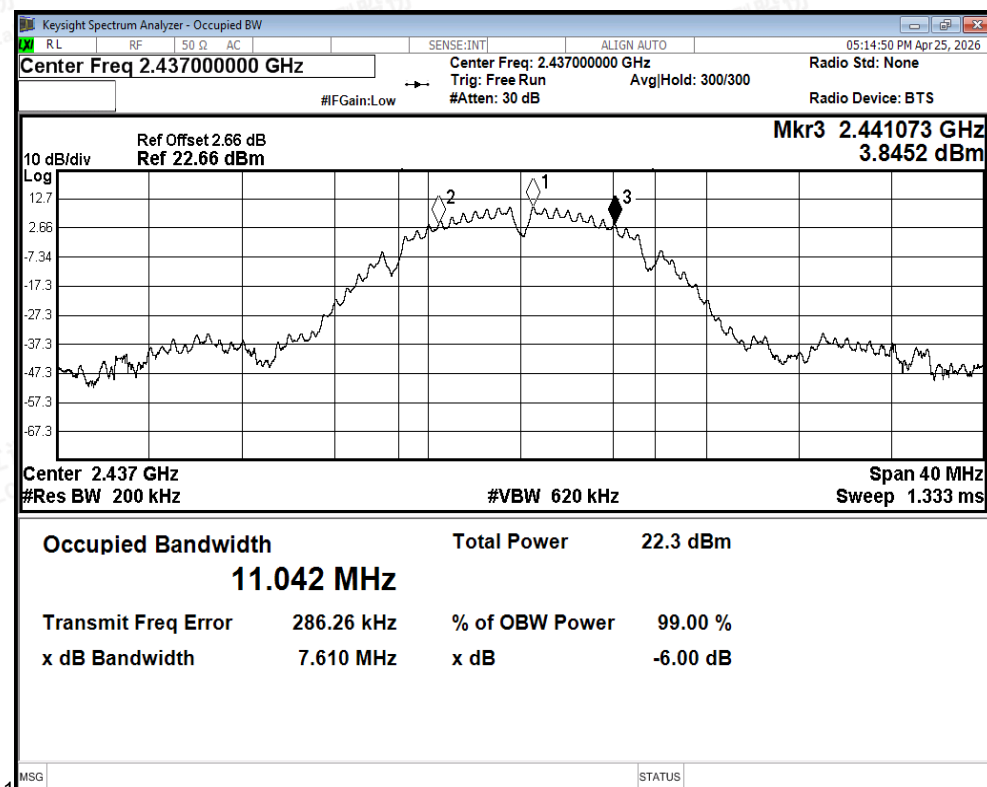


C.1 -6dB Bandwidth

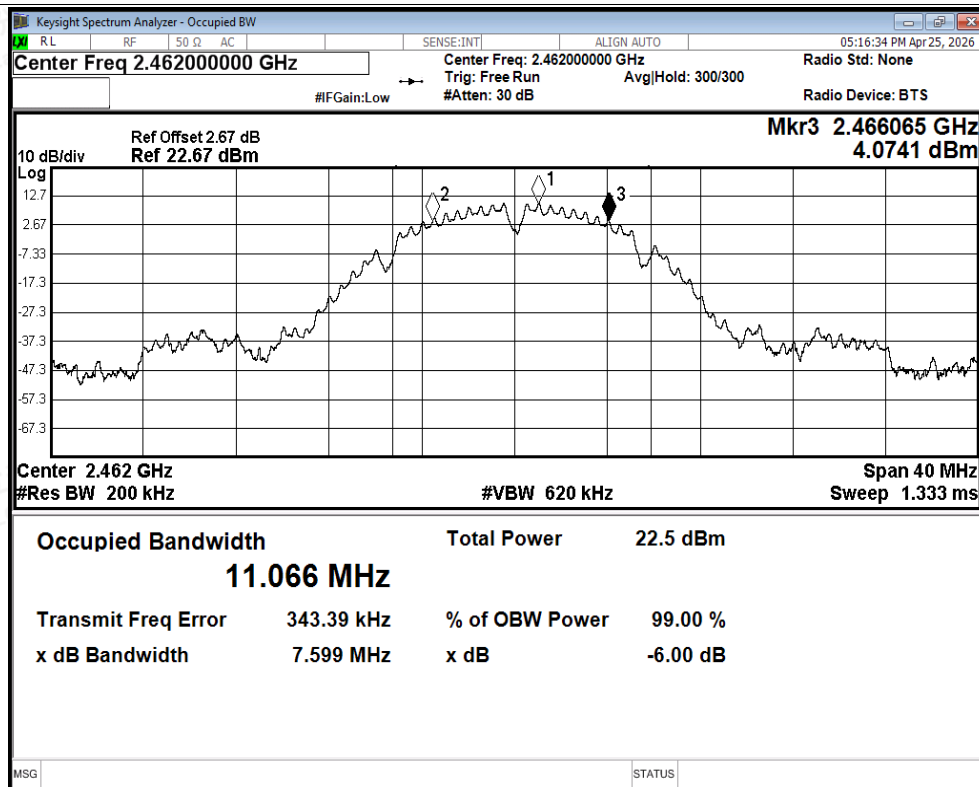
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	8.047	0.5	Pass
NVNT	b	2437	Ant1	7.61	0.5	Pass
NVNT	b	2462	Ant1	7.599	0.5	Pass
NVNT	g	2412	Ant1	16.31	0.5	Pass
NVNT	g	2437	Ant1	16.25	0.5	Pass
NVNT	g	2462	Ant1	16.3	0.5	Pass
NVNT	n20	2412	Ant1	17.79	0.5	Pass
NVNT	n20	2437	Ant1	17.83	0.5	Pass
NVNT	n20	2462	Ant1	17.73	0.5	Pass
NVNT	ax20	2412	Ant1	19.08	0.5	Pass
NVNT	ax20	2437	Ant1	19.04	0.5	Pass
NVNT	ax20	2462	Ant1	19.16	0.5	Pass



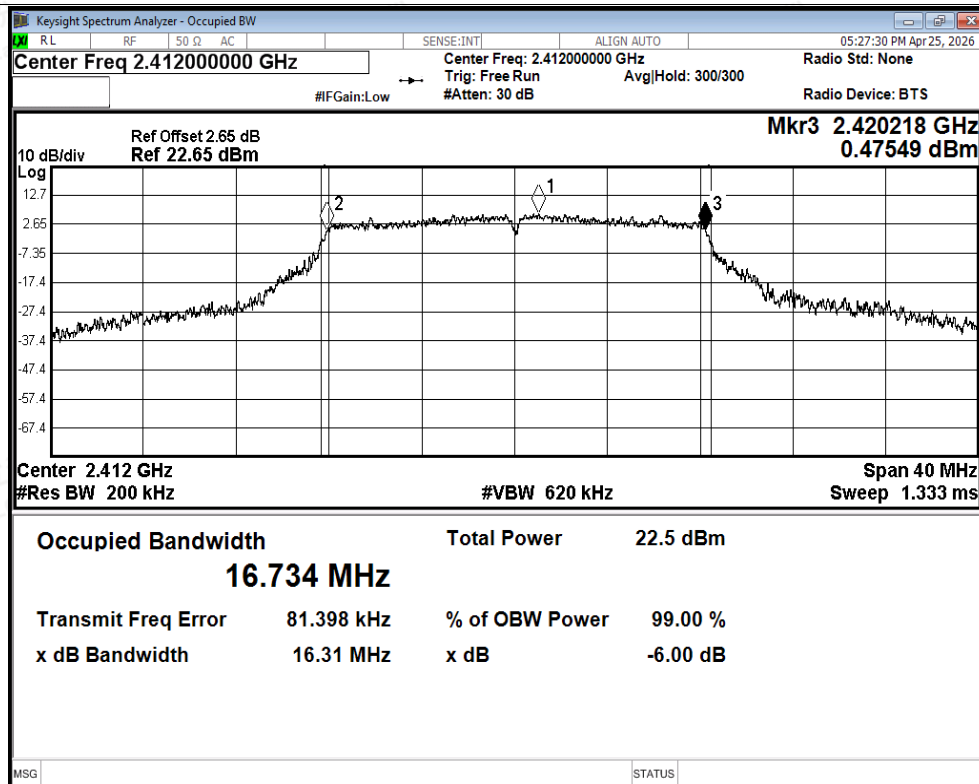
-6dB Bandwidth NVNT b 2412MHz Ant1



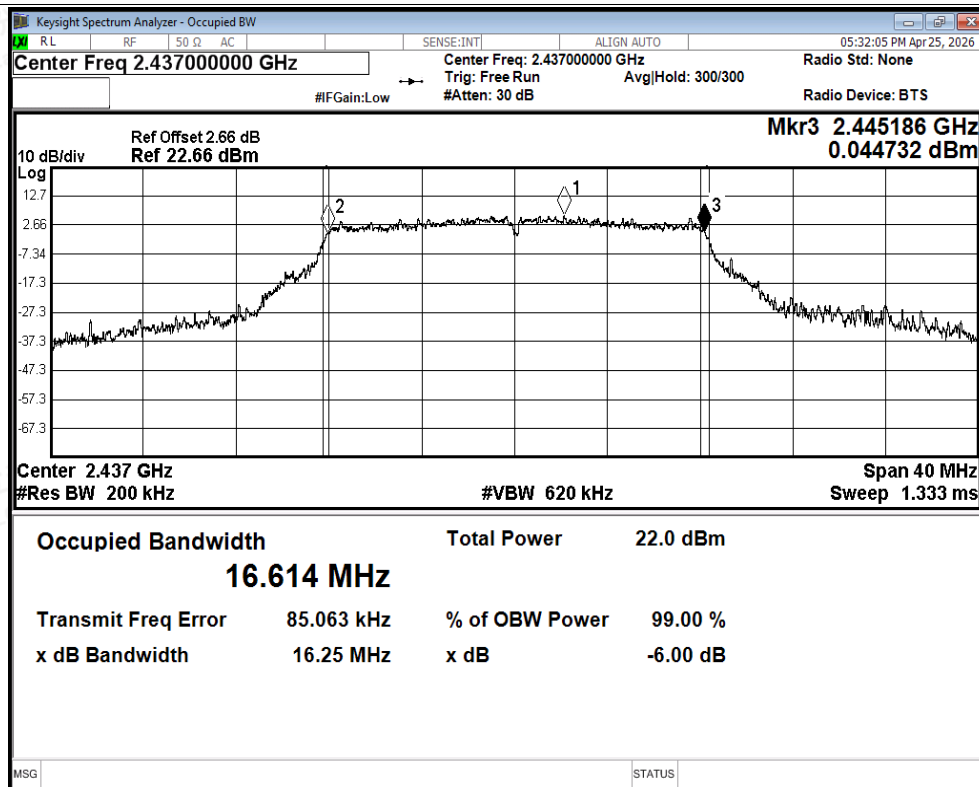
-6dB Bandwidth NVNT b 2437MHz Ant1



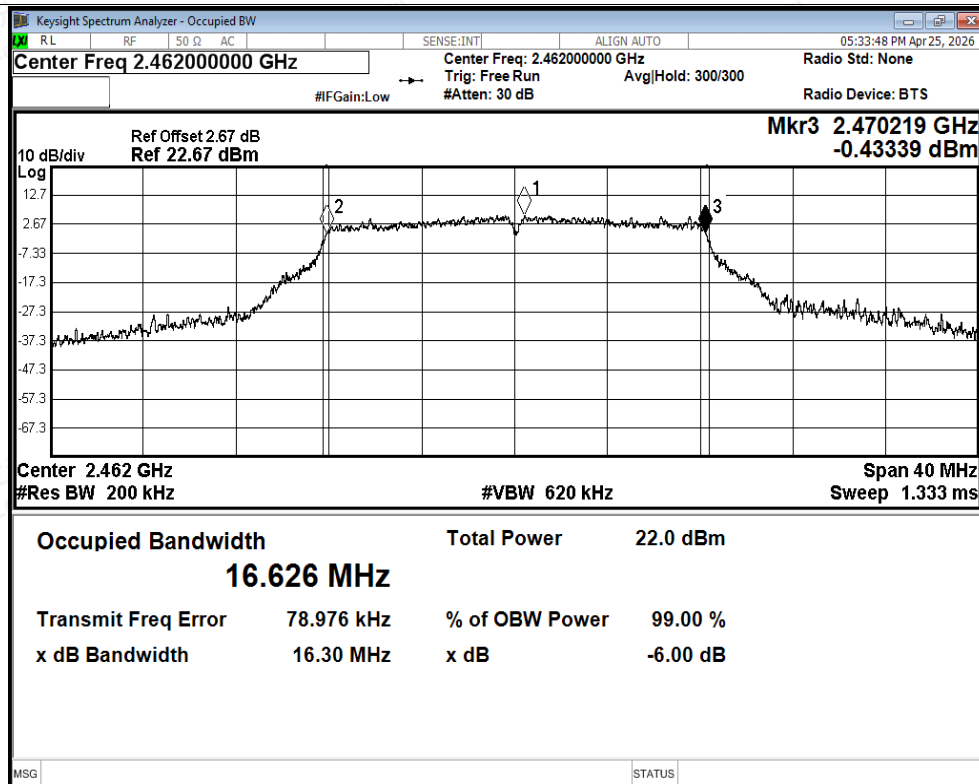
-6dB Bandwidth NVNT b 2462MHz Ant1



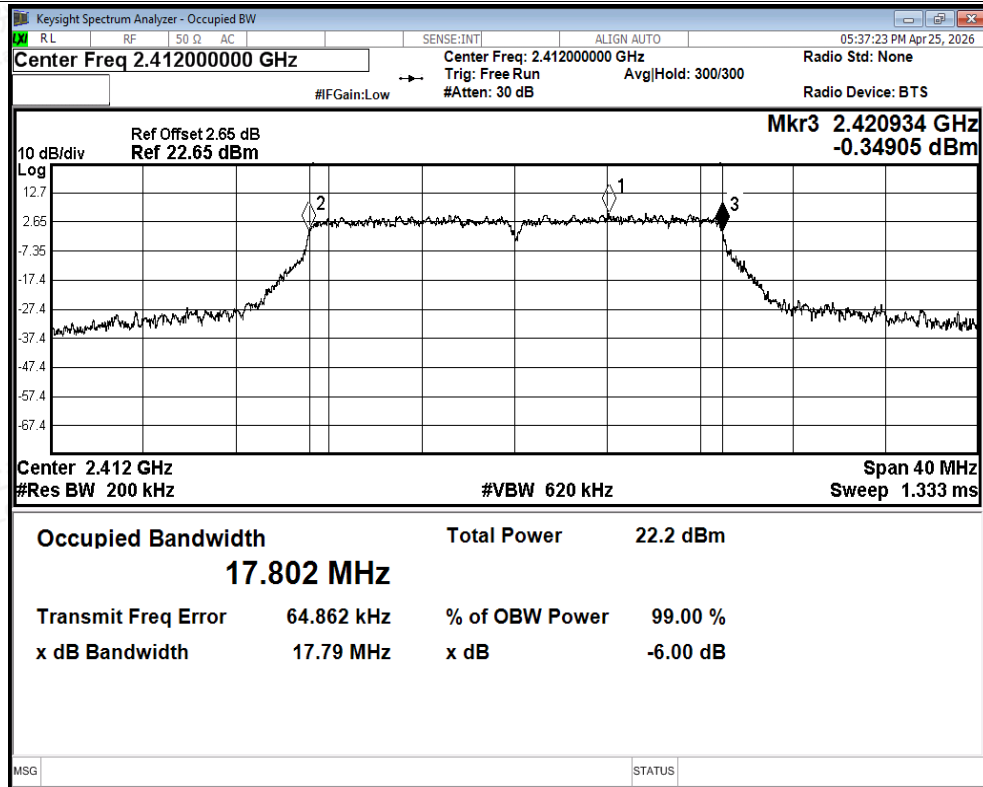
-6dB Bandwidth NVNT g 2412MHz Ant1



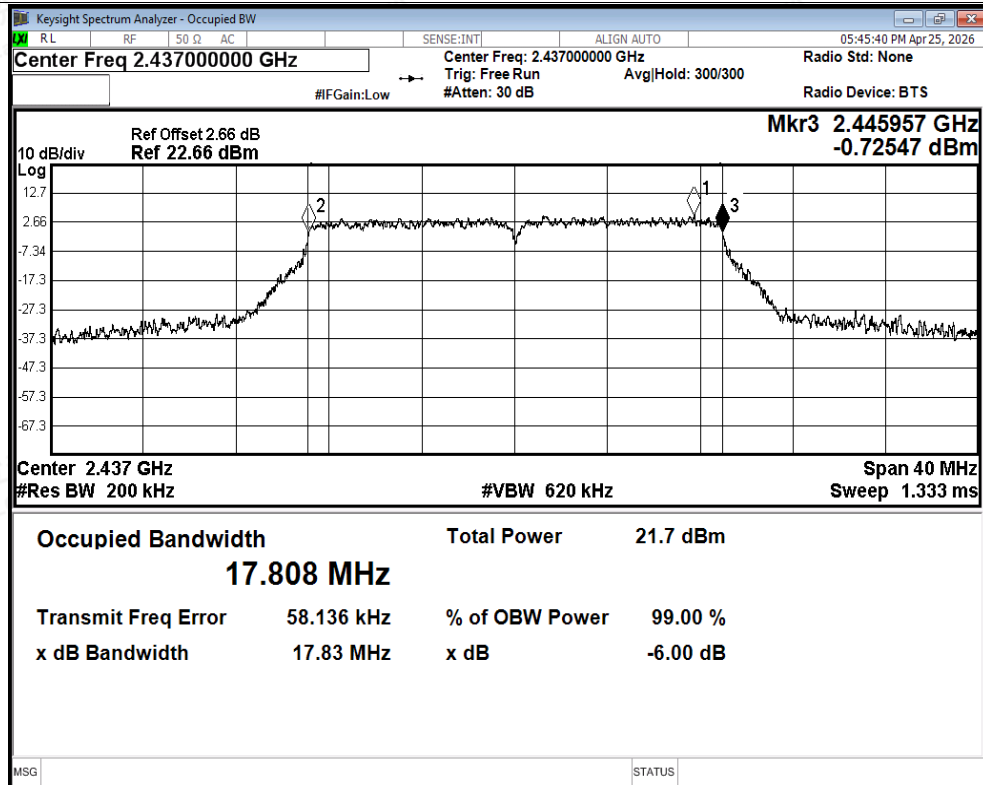
-6dB Bandwidth NVNT g 2437MHz Ant1



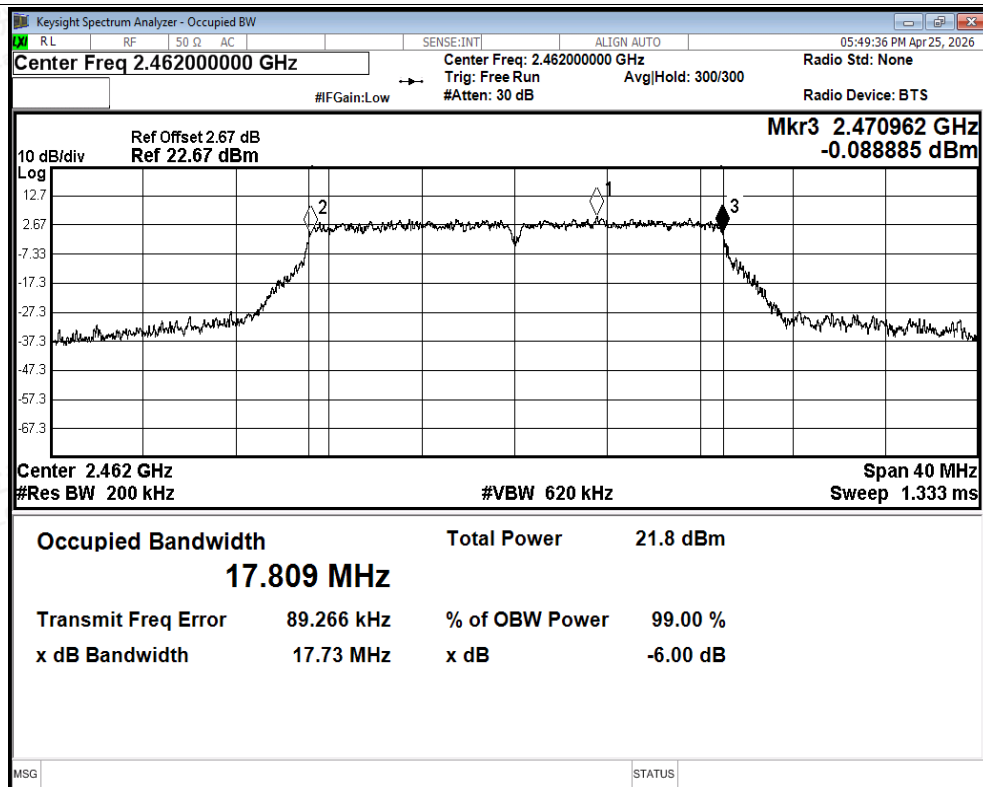
-6dB Bandwidth NVNT g 2462MHz Ant1



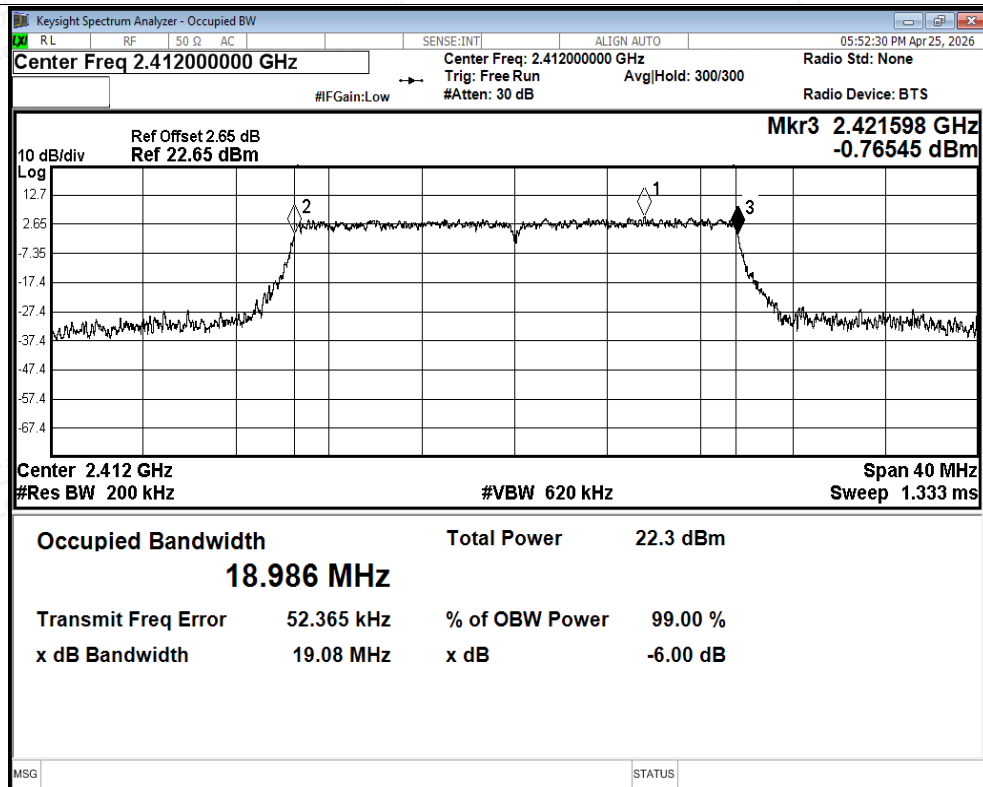
-6dB Bandwidth NVNT n20 2412MHz Ant1



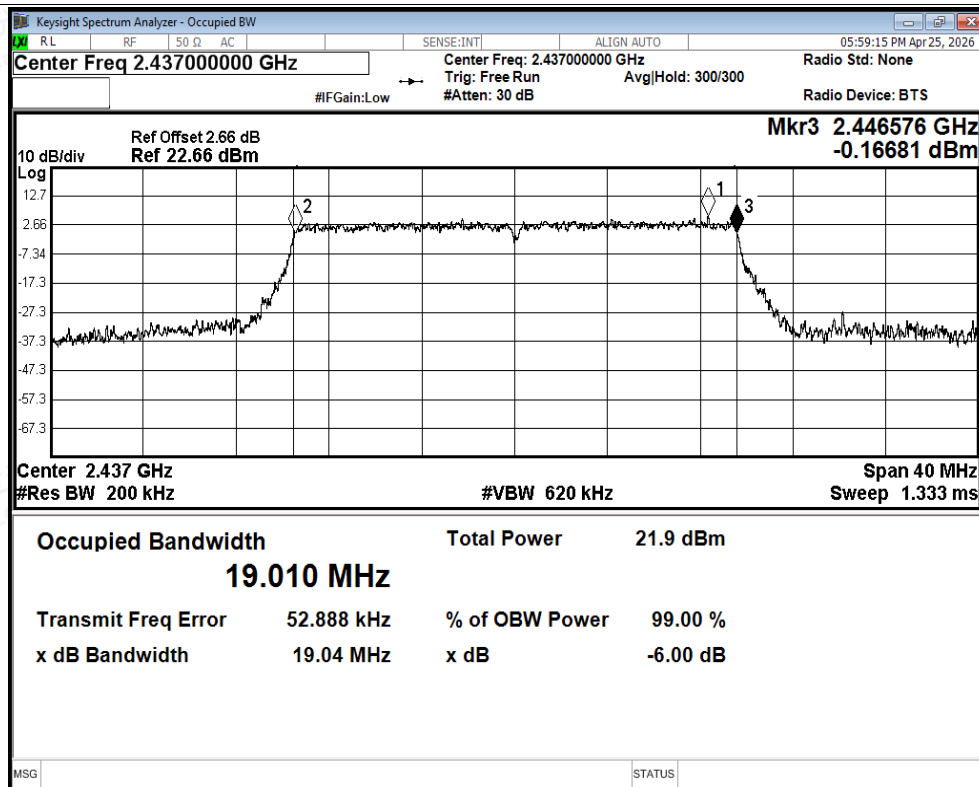
-6dB Bandwidth NVNT n20 2437MHz Ant1



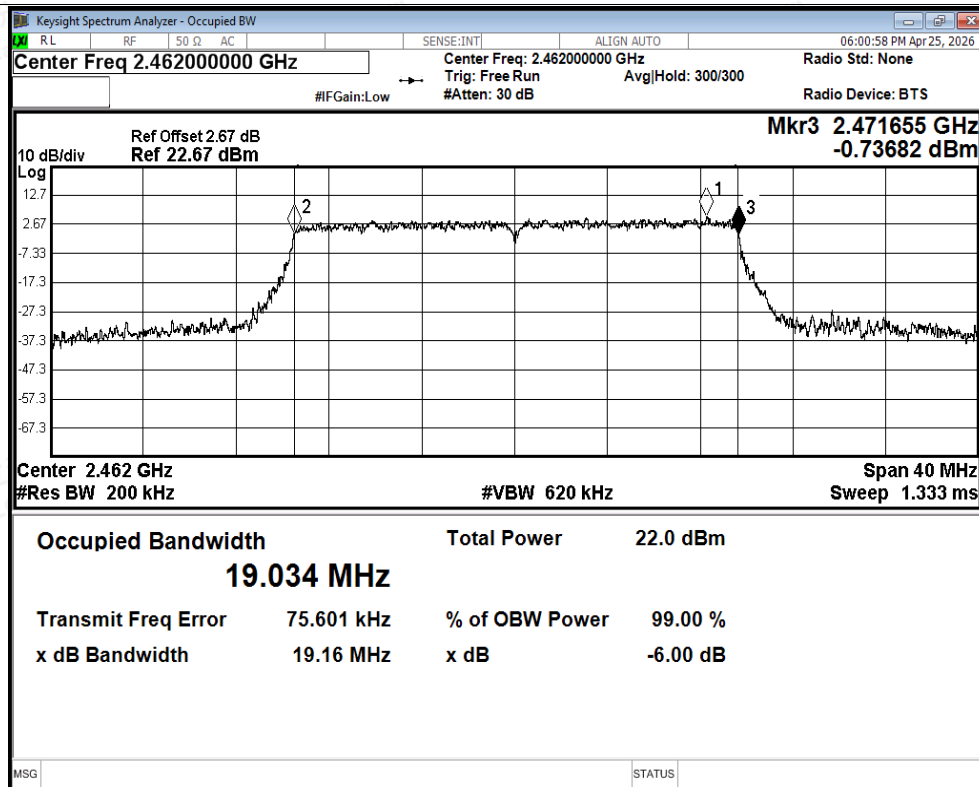
-6dB Bandwidth NVNT n20 2462MHz Ant1



-6dB Bandwidth NVNT ax20 2412MHz Ant1



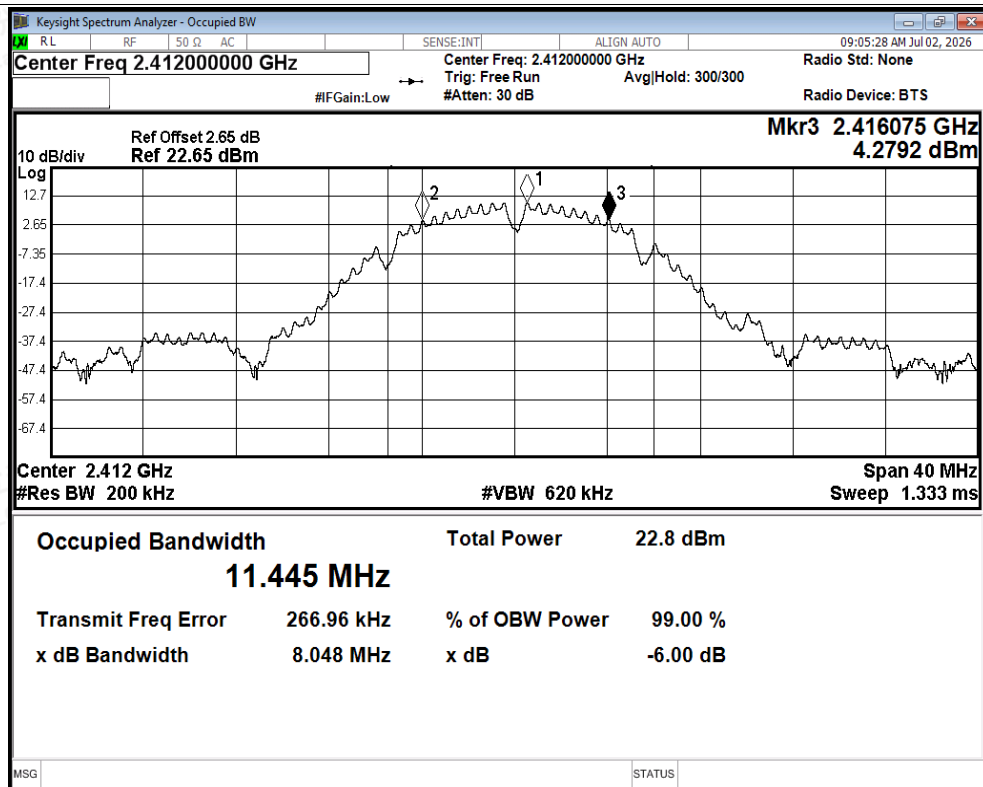
-6dB Bandwidth NVNT ax20 2437MHz Ant1



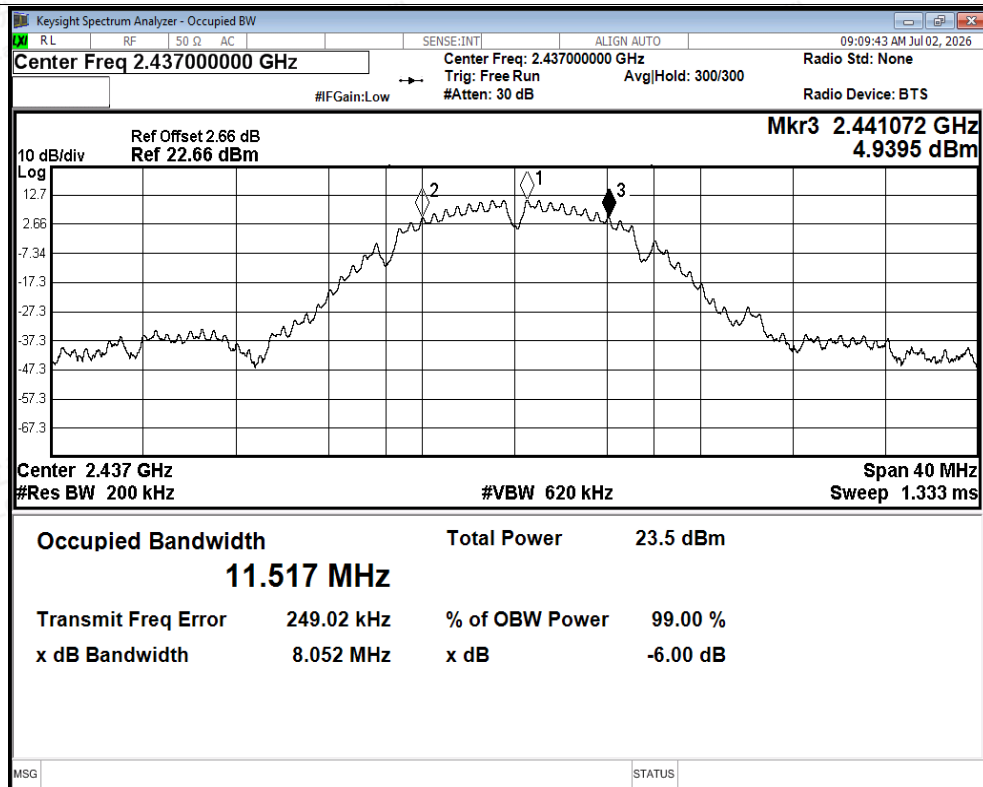
-6dB Bandwidth NVNT ax20 2462MHz Ant1



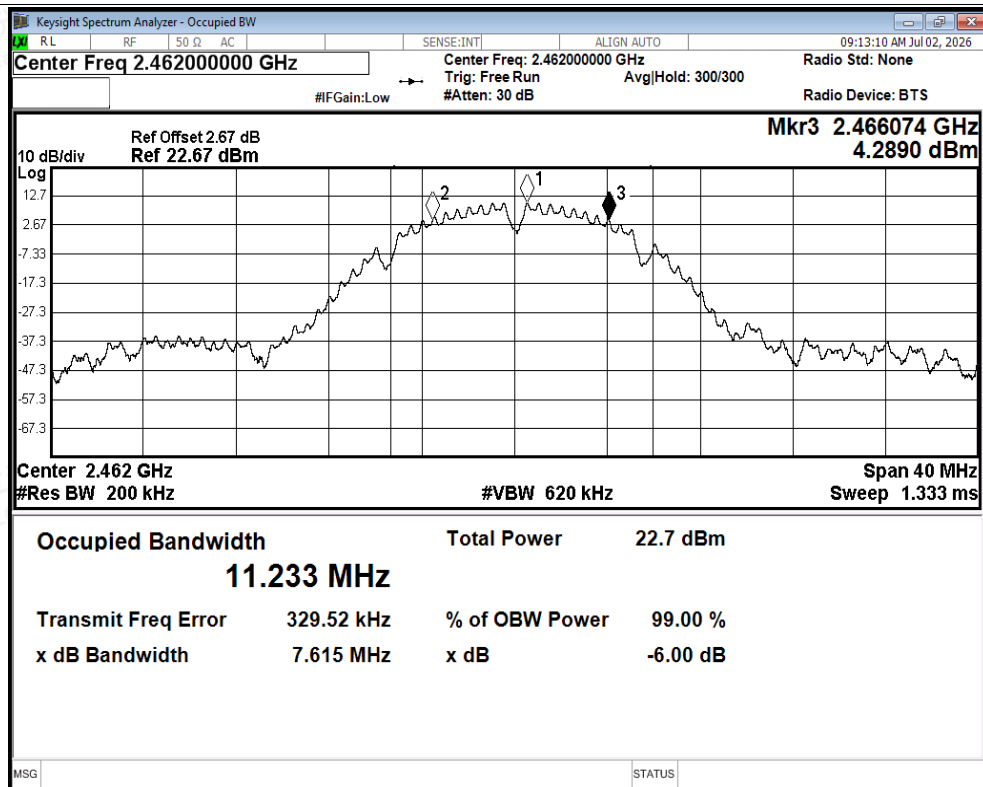
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant2	8.048	0.5	Pass
NVNT	b	2437	Ant2	8.052	0.5	Pass
NVNT	b	2462	Ant2	7.615	0.5	Pass
NVNT	g	2412	Ant2	16.31	0.5	Pass
NVNT	g	2437	Ant2	16.3	0.5	Pass
NVNT	g	2462	Ant2	16.16	0.5	Pass
NVNT	n20	2412	Ant2	17.55	0.5	Pass
NVNT	n20	2437	Ant2	17.43	0.5	Pass
NVNT	n20	2462	Ant2	17.29	0.5	Pass
NVNT	ax20	2412	Ant2	19.12	0.5	Pass
NVNT	ax20	2437	Ant2	19.13	0.5	Pass
NVNT	ax20	2462	Ant2	19.1	0.5	Pass



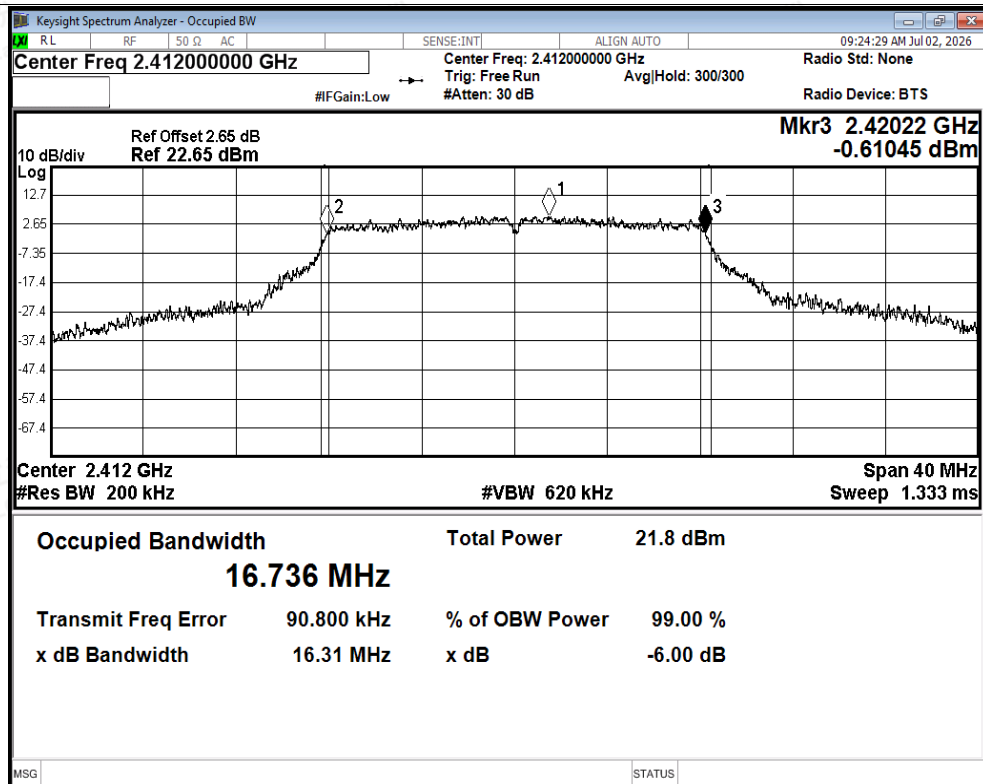
-6dB Bandwidth NVNT b 2412MHz Ant2



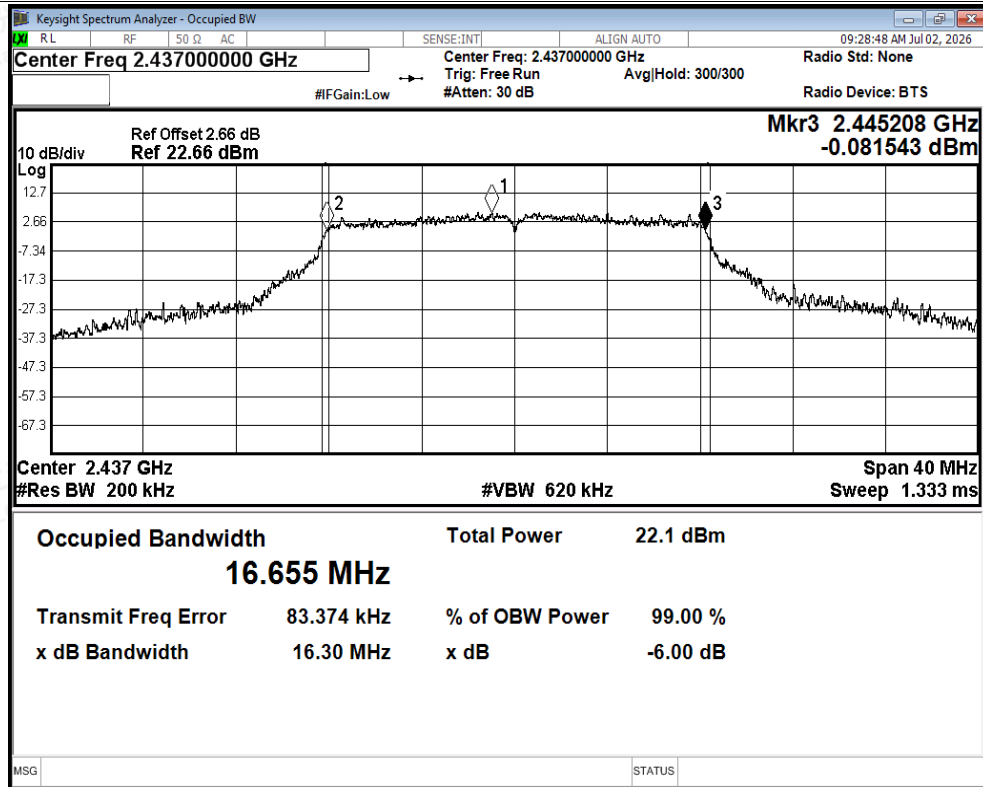
-6dB Bandwidth NVNT b 2437MHz Ant2



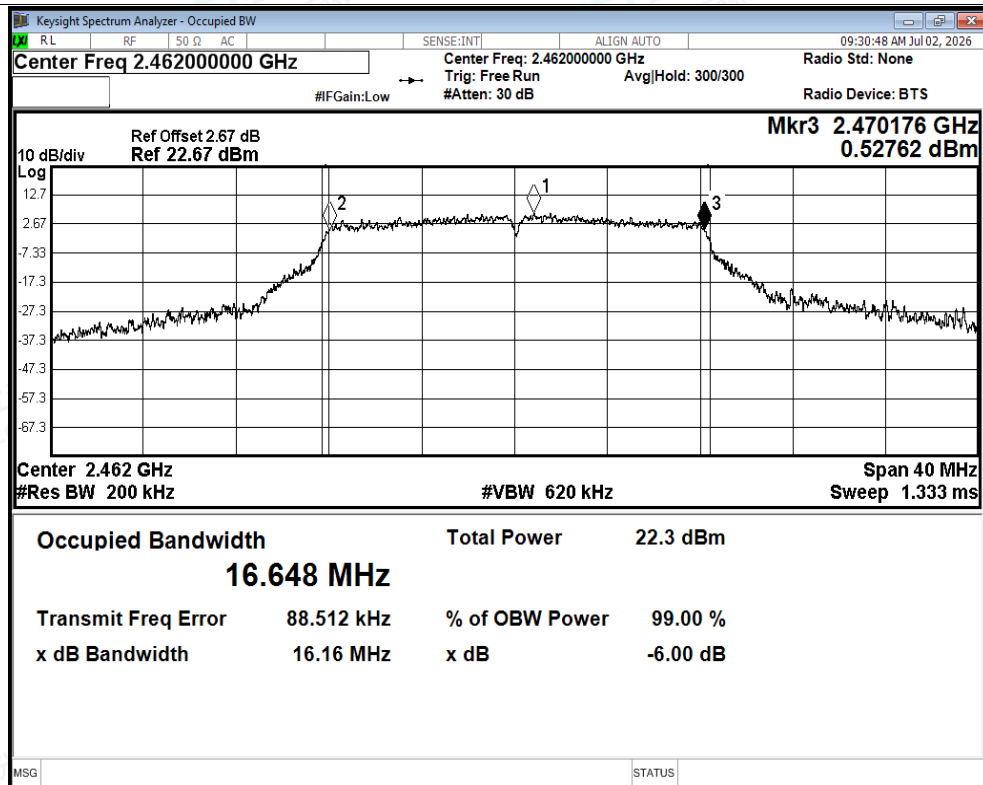
-6dB Bandwidth NVNT b 2462MHz Ant2



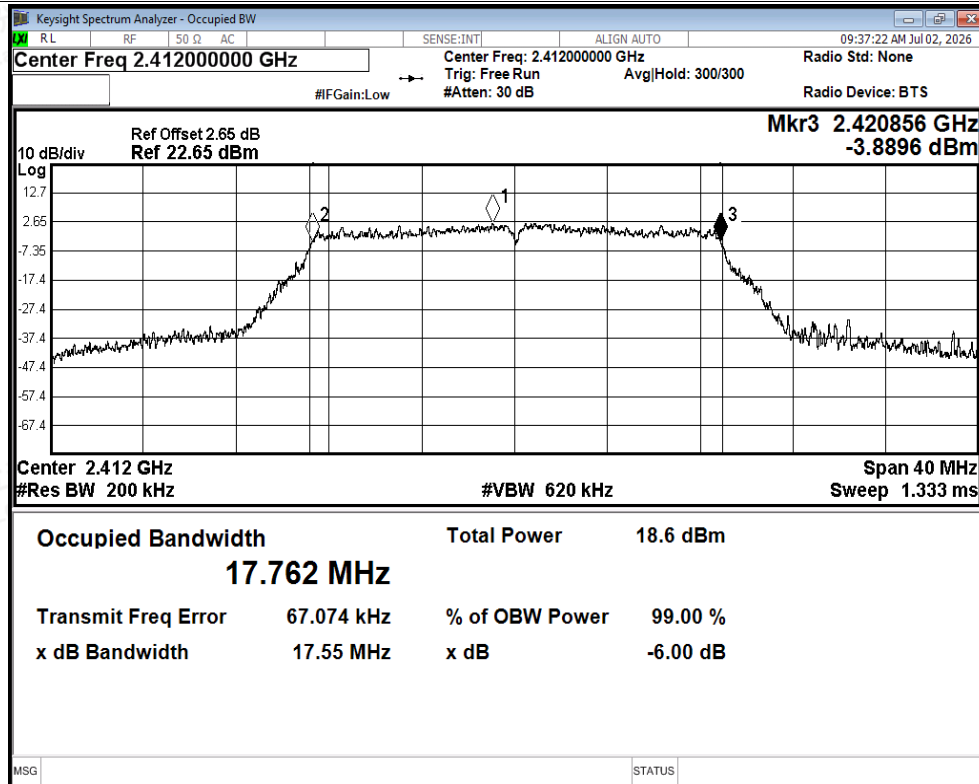
-6dB Bandwidth NVNT g 2412MHz Ant2



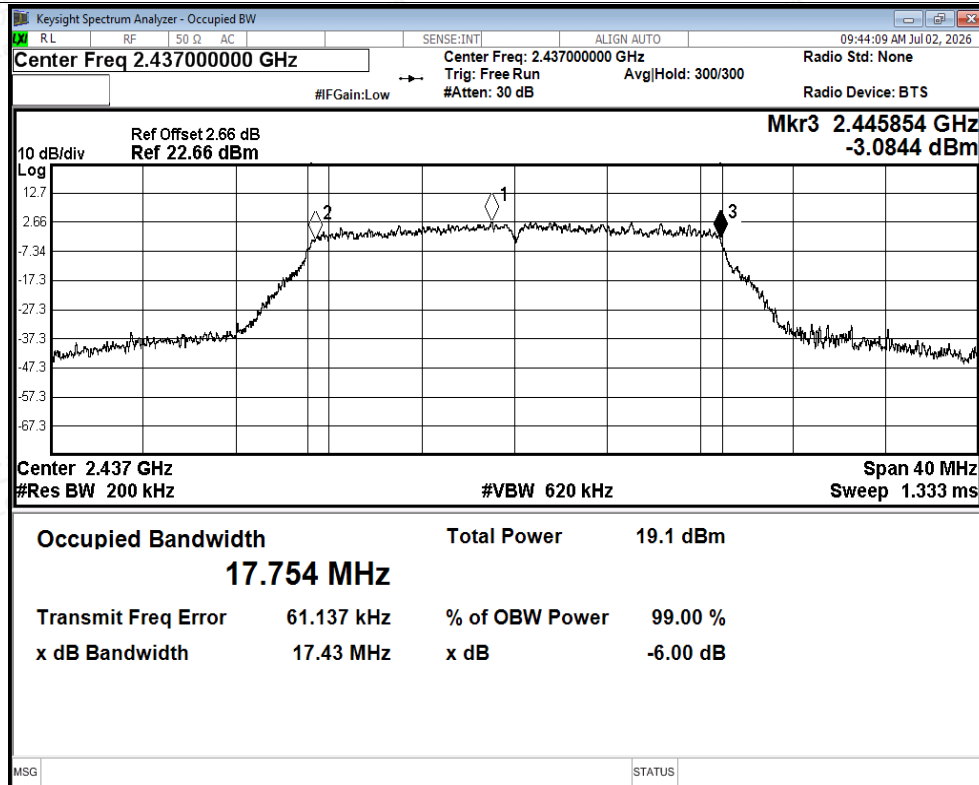
-6dB Bandwidth NVNT g 2437MHz Ant2



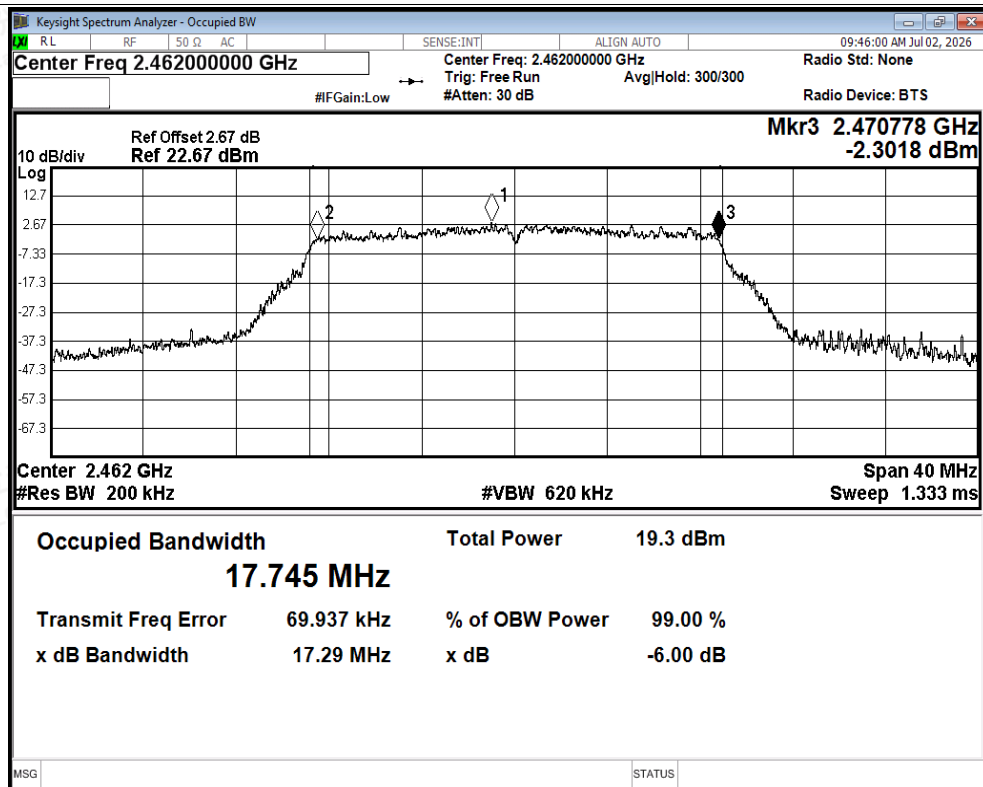
-6dB Bandwidth NVNT g 2462MHz Ant2



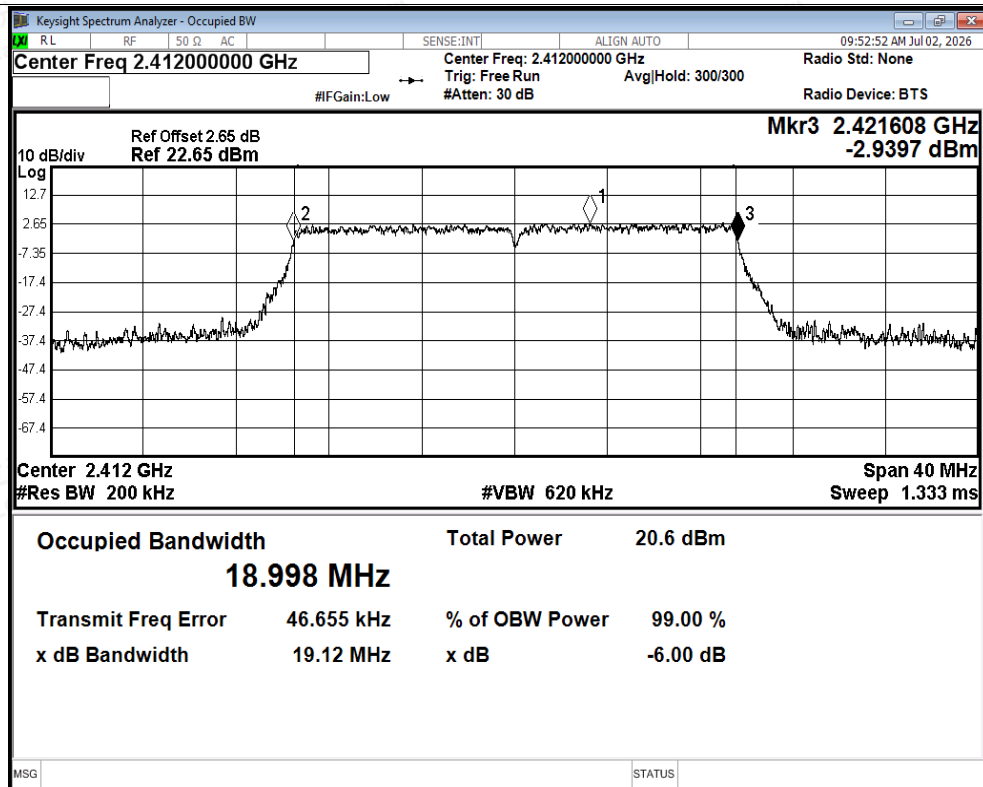
-6dB Bandwidth NVNT n20 2412MHz Ant2



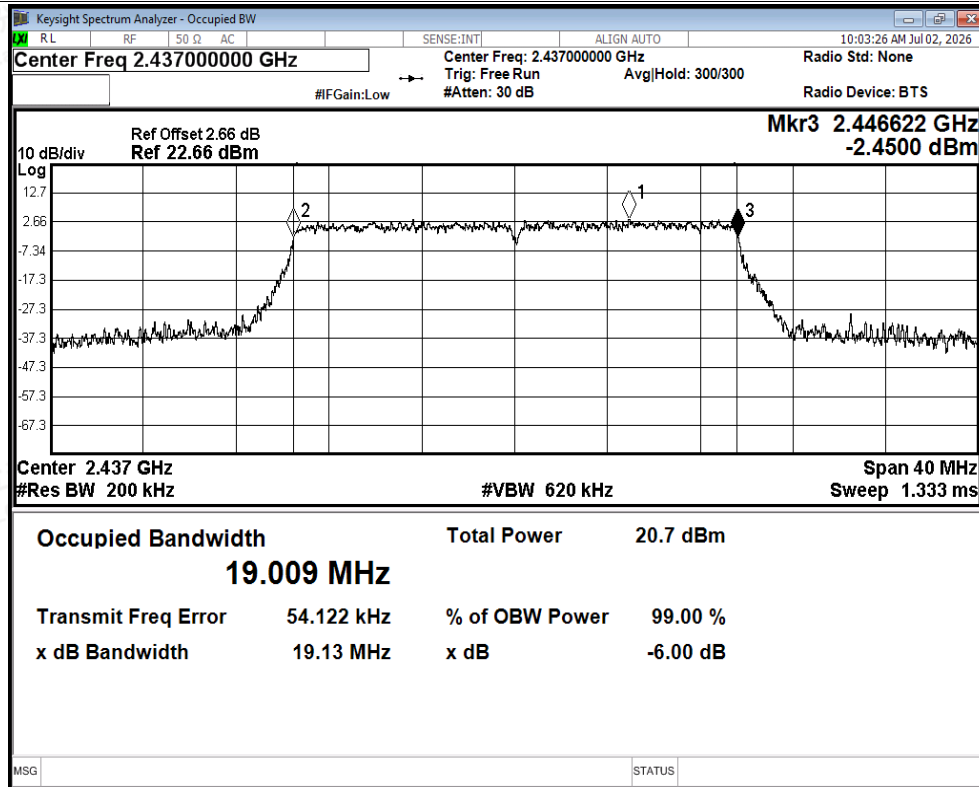
-6dB Bandwidth NVNT n20 2437MHz Ant2



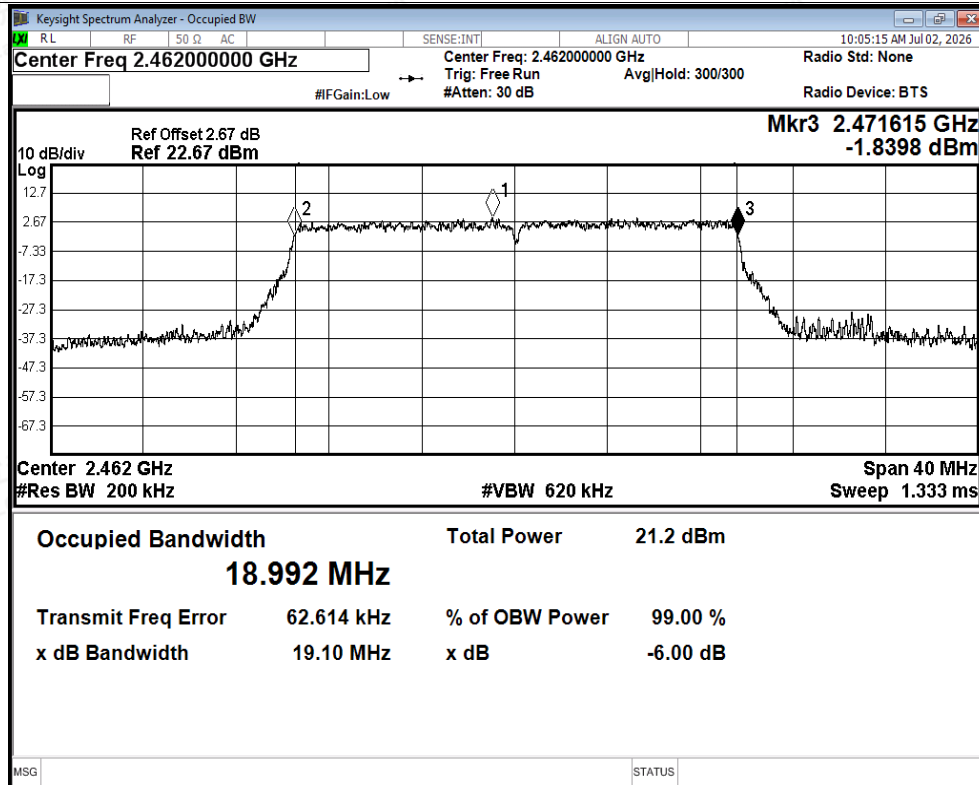
-6dB Bandwidth NVNT n20 2462MHz Ant2



-6dB Bandwidth NVNT ax20 2412MHz Ant2



-6dB Bandwidth NVNT ax20 2437MHz Ant2



-6dB Bandwidth NVNT ax20 2462MHz Ant2



C.2 Maximum Average Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Limit Conducted(dBm)	Verdict
NVNT	b	2412	Ant1	17.04	0.05	17.09	30	Pass
NVNT	b	2437	Ant1	17.07	0.05	17.12	30	Pass
NVNT	b	2462	Ant1	17.33	0.05	17.38	30	Pass
NVNT	g	2412	Ant1	15.98	0.29	16.27	30	Pass
NVNT	g	2437	Ant1	15.46	0.29	15.75	30	Pass
NVNT	g	2462	Ant1	15.48	0.3	15.78	30	Pass
NVNT	n20	2412	Ant1	13.42	2.07	15.49	30	Pass
NVNT	n20	2437	Ant1	12.96	2.03	14.99	30	Pass
NVNT	n20	2462	Ant1	13.05	2.01	15.06	30	Pass
NVNT	ax20	2412	Ant1	12.8	2.33	15.13	30	Pass
NVNT	ax20	2437	Ant1	12.31	2.39	14.7	30	Pass
NVNT	ax20	2462	Ant1	12.36	2.37	14.73	30	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Limit Conducted(dBm)	Verdict
NVNT	b	2412	Ant2	17.68	0.05	17.73	30	Pass
NVNT	b	2437	Ant2	18.37	0.05	18.42	30	Pass
NVNT	b	2462	Ant2	17.58	0.05	17.63	30	Pass
NVNT	g	2412	Ant2	15.25	0.29	15.54	30	Pass
NVNT	g	2437	Ant2	15.5	0.29	15.79	30	Pass
NVNT	g	2462	Ant2	15.79	0.29	16.08	30	Pass
NVNT	n20	2412	Ant2	12.11	0.32	12.43	30	Pass
NVNT	n20	2437	Ant2	12.47	0.31	12.78	30	Pass
NVNT	n20	2462	Ant2	12.63	0.31	12.94	30	Pass
NVNT	ax20	2412	Ant2	11.13	2.33	13.46	30	Pass
NVNT	ax20	2437	Ant2	11.3	2.33	13.63	30	Pass
NVNT	ax20	2462	Ant2	11.62	2.33	13.95	30	Pass



MIMO

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)			Limit (dBm)	Verdict
			Ant1	Ant2	Ant1+Ant2		
NVNT	n20	2412	15.49	12.43	17.23	30	Pass
NVNT	n20	2437	14.99	12.78	17.03	30	Pass
NVNT	n20	2462	15.06	12.94	17.14	30	Pass
NVNT	ax20	2412	15.13	13.46	17.39	30	Pass
NVNT	ax20	2437	14.7	13.63	17.21	30	Pass
NVNT	ax20	2462	14.73	13.95	17.37	30	Pass

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C.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/30kHz)	Duty Factor (dB)	Total PSD (dBm/30kHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-3.69	0.05	-3.64	-13.64	8	Pass
NVNT	b	2437	Ant1	-3.71	0.05	-3.66	-13.66	8	Pass
NVNT	b	2462	Ant1	-3.5	0.05	-3.45	-13.45	8	Pass
NVNT	g	2412	Ant1	-7.08	0.29	-6.79	-16.79	8	Pass
NVNT	g	2437	Ant1	-7.69	0.29	-7.4	-17.40	8	Pass
NVNT	g	2462	Ant1	-7.67	0.3	-7.37	-17.37	8	Pass
NVNT	n20	2412	Ant1	-9.21	2.07	-7.14	-17.14	8	Pass
NVNT	n20	2437	Ant1	-8.68	2.03	-6.65	-16.65	8	Pass
NVNT	n20	2462	Ant1	-9.06	2.01	-7.05	-17.05	8	Pass
NVNT	ax20	2412	Ant1	-8.56	2.33	-6.23	-16.23	8	Pass
NVNT	ax20	2437	Ant1	-9.05	2.39	-6.66	-16.66	8	Pass
NVNT	ax20	2462	Ant1	-9.3	2.37	-6.93	-16.93	8	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/30kHz)	Duty Factor (dB)	Total PSD (dBm/30kHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant2	-3.51	0.05	-3.46	-13.46	8	Pass
NVNT	b	2437	Ant2	-2.77	0.05	-2.72	-12.72	8	Pass
NVNT	b	2462	Ant2	-3.14	0.05	-3.09	-13.09	8	Pass
NVNT	g	2412	Ant2	-8.13	0.29	-7.84	-17.84	8	Pass
NVNT	g	2437	Ant2	-7.85	0.29	-7.56	-17.56	8	Pass
NVNT	g	2462	Ant2	-6.69	0.29	-6.4	-16.40	8	Pass
NVNT	n20	2412	Ant2	-10.95	0.32	-10.63	-20.63	8	Pass
NVNT	n20	2437	Ant2	-10.79	0.31	-10.48	-20.48	8	Pass
NVNT	n20	2462	Ant2	-10.55	0.31	-10.24	-20.24	8	Pass
NVNT	ax20	2412	Ant2	-11.24	2.33	-8.91	-18.91	8	Pass
NVNT	ax20	2437	Ant2	-10.84	2.33	-8.51	-18.51	8	Pass
NVNT	ax20	2462	Ant2	-9.84	2.33	-7.51	-17.51	8	Pass



MIMO

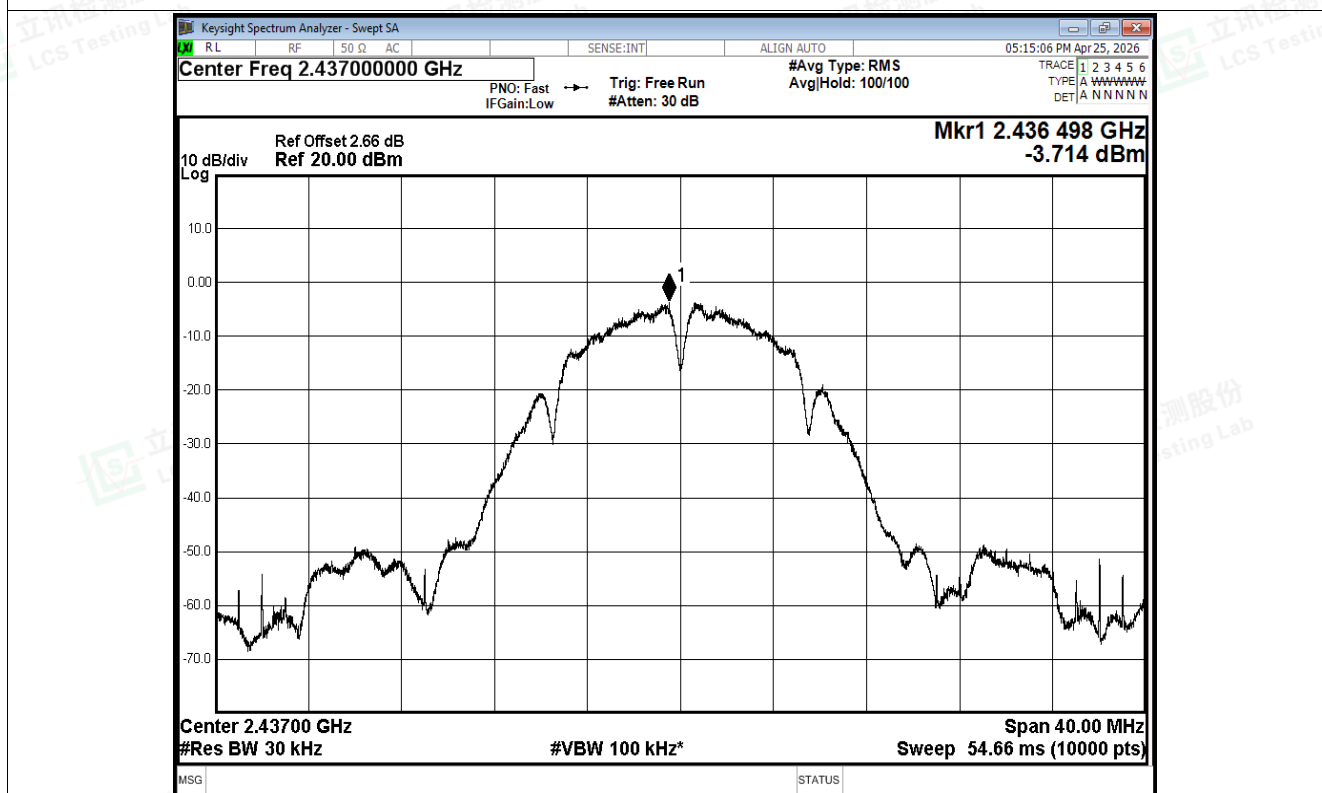
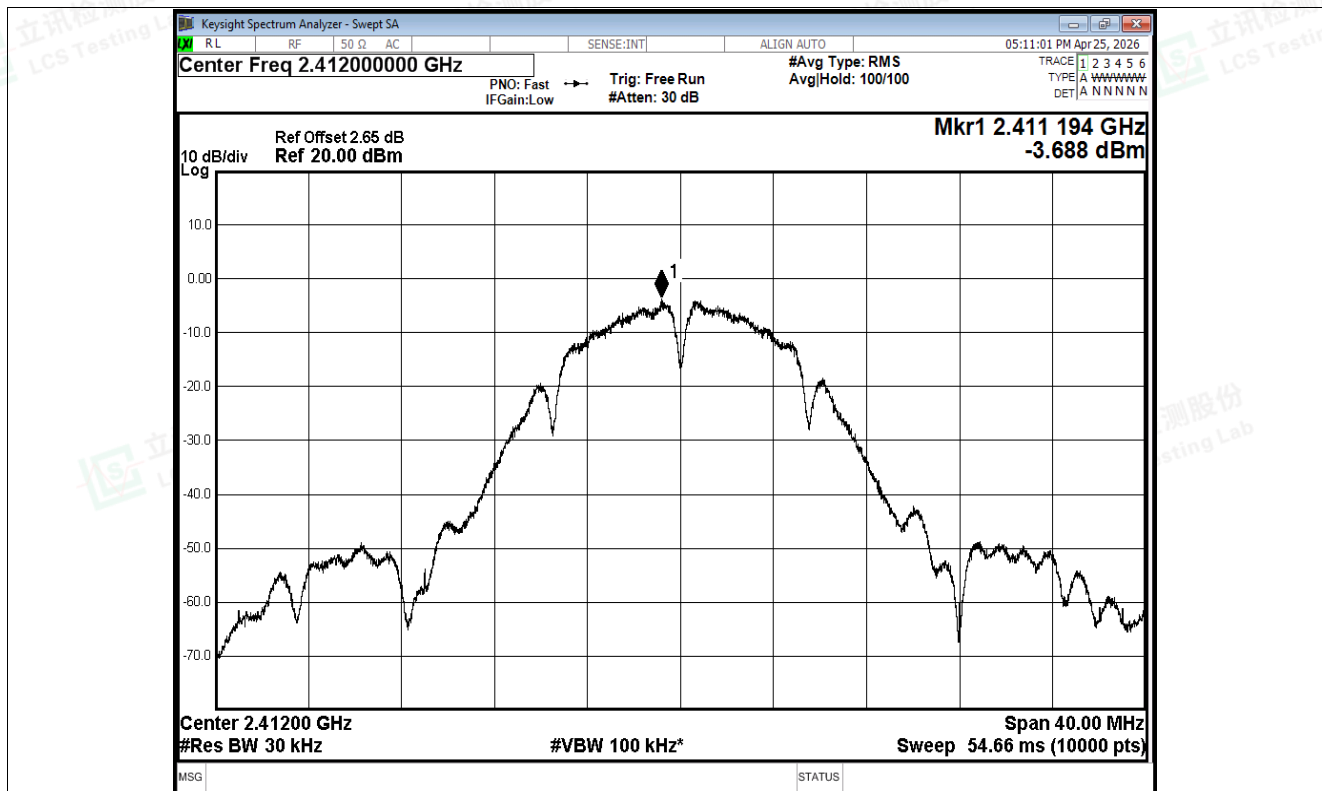
Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/3kHz)			Limit (dBm)	Verdict
			Ant1	Ant2	Ant1+Ant2		
NVNT	n20	2412	-17.14	-20.63	-15.53	5.90	Pass
NVNT	n20	2437	-16.65	-20.48	-15.15	5.90	Pass
NVNT	n20	2462	-17.05	-20.24	-15.35	5.90	Pass
NVNT	ax20	2412	-16.23	-18.91	-14.36	5.90	Pass
NVNT	ax20	2437	-16.66	-18.51	-14.48	5.90	Pass
NVNT	ax20	2462	-16.93	-17.51	-14.20	5.90	Pass

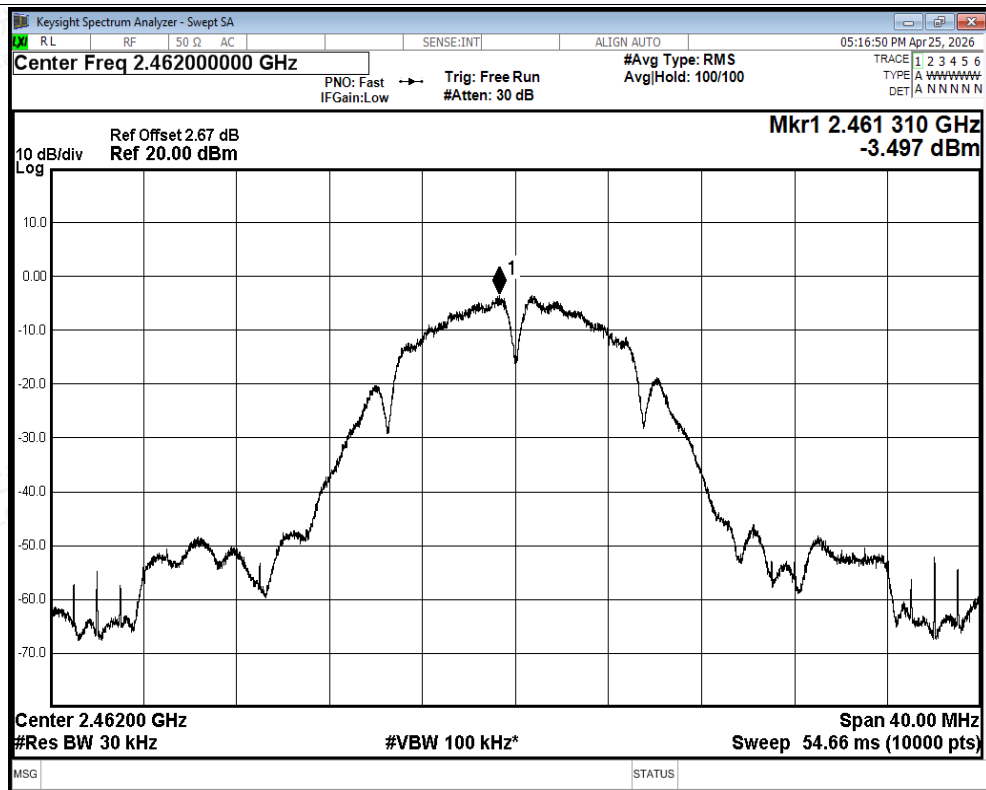
Note : Result[dBm/3kHz]=Result[dBm/30kHz]+10*Log(3/30)

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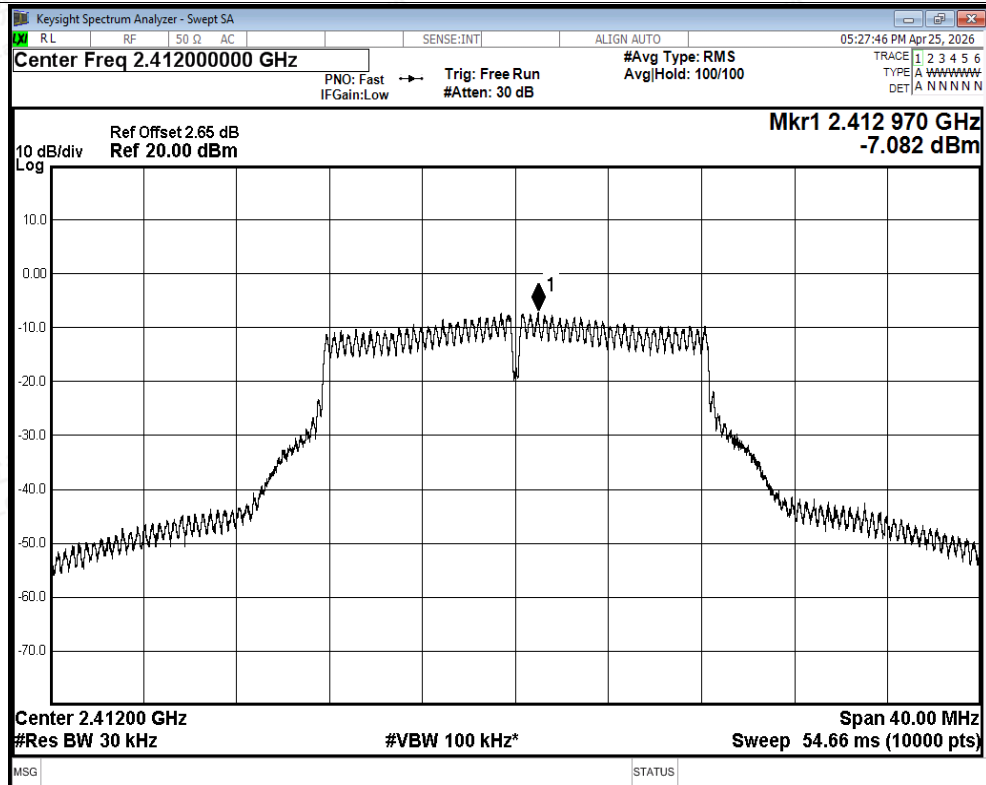
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

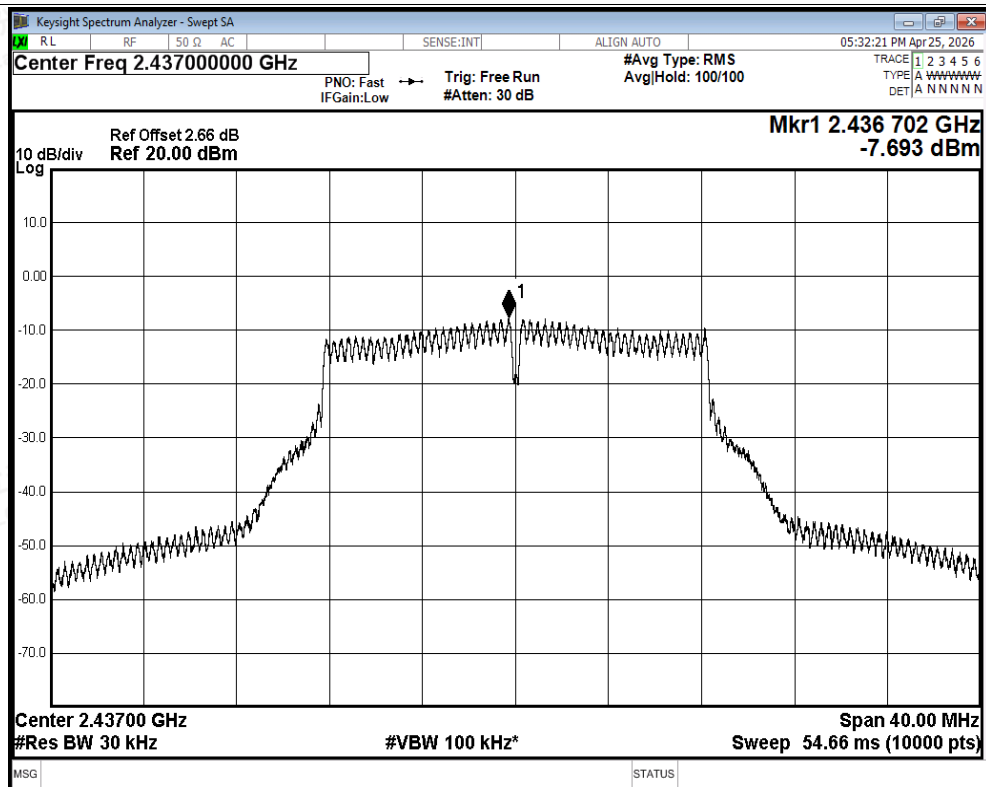




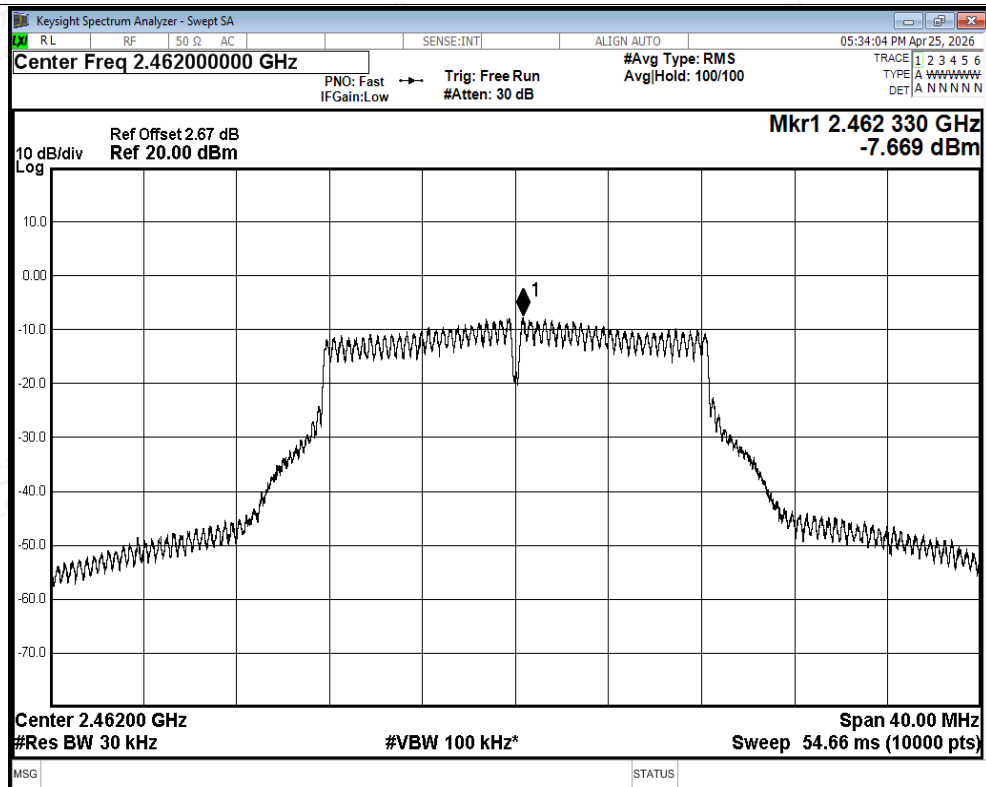
PSD NVNT b 2462MHz Ant1



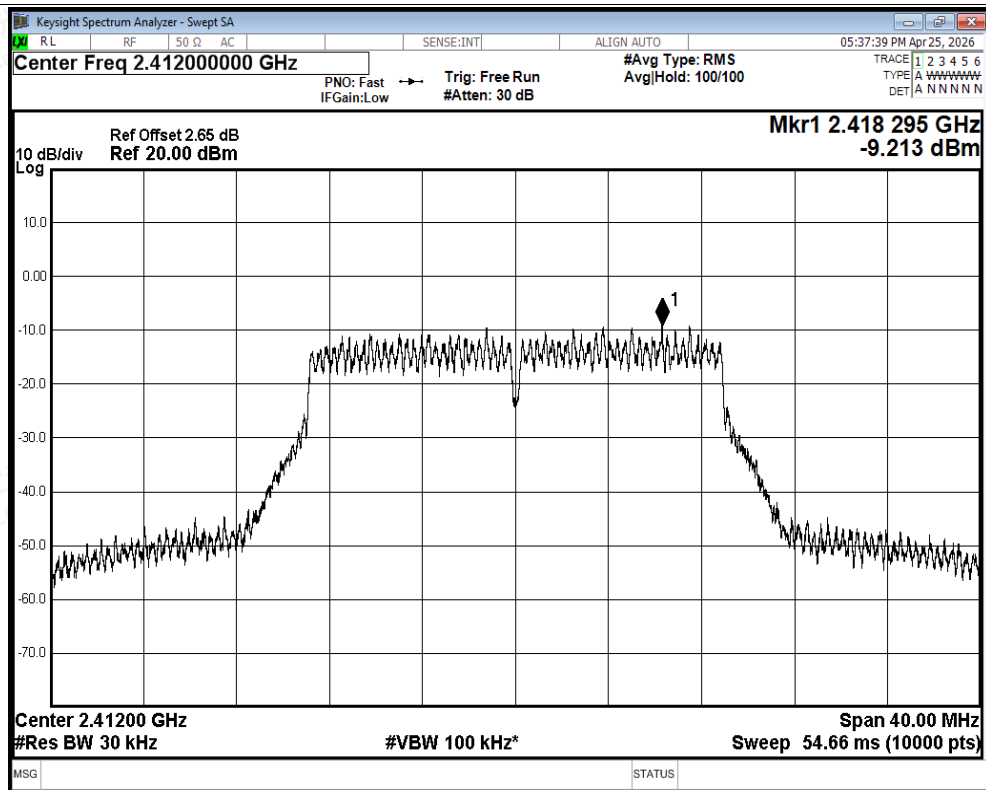
PSD NVNT g 2412MHz Ant1



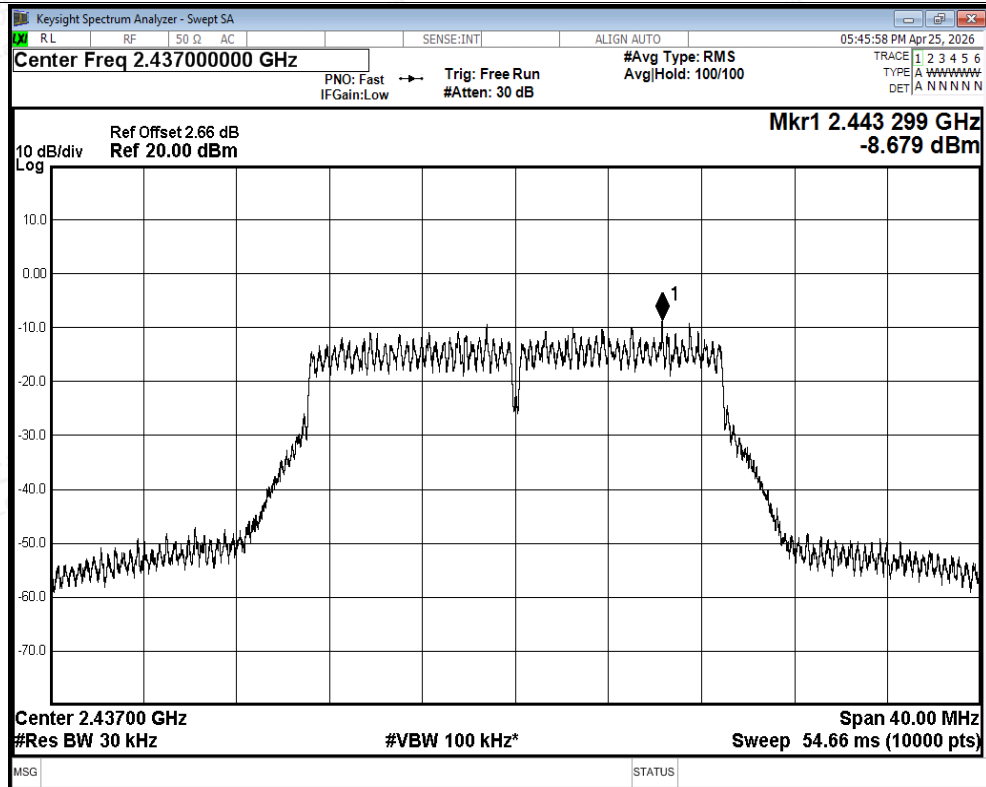
PSD NVNT g 2437MHz Ant1



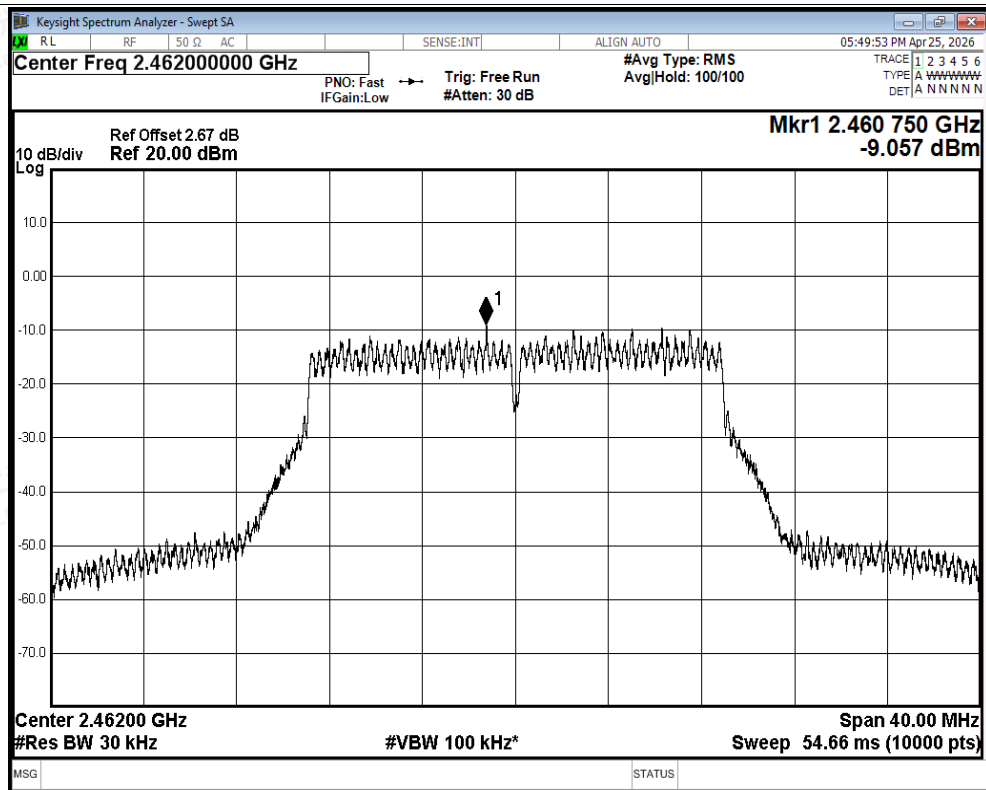
PSD NVNT g 2462MHz Ant1



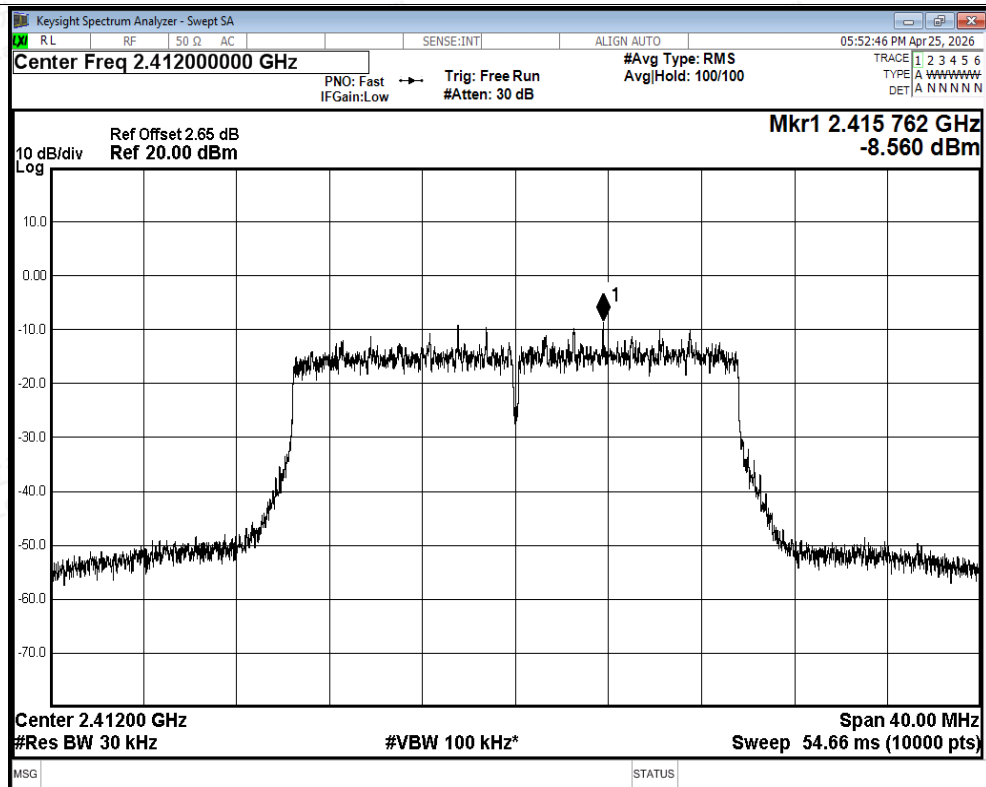
PSD NVNT n20 2412MHz Ant1



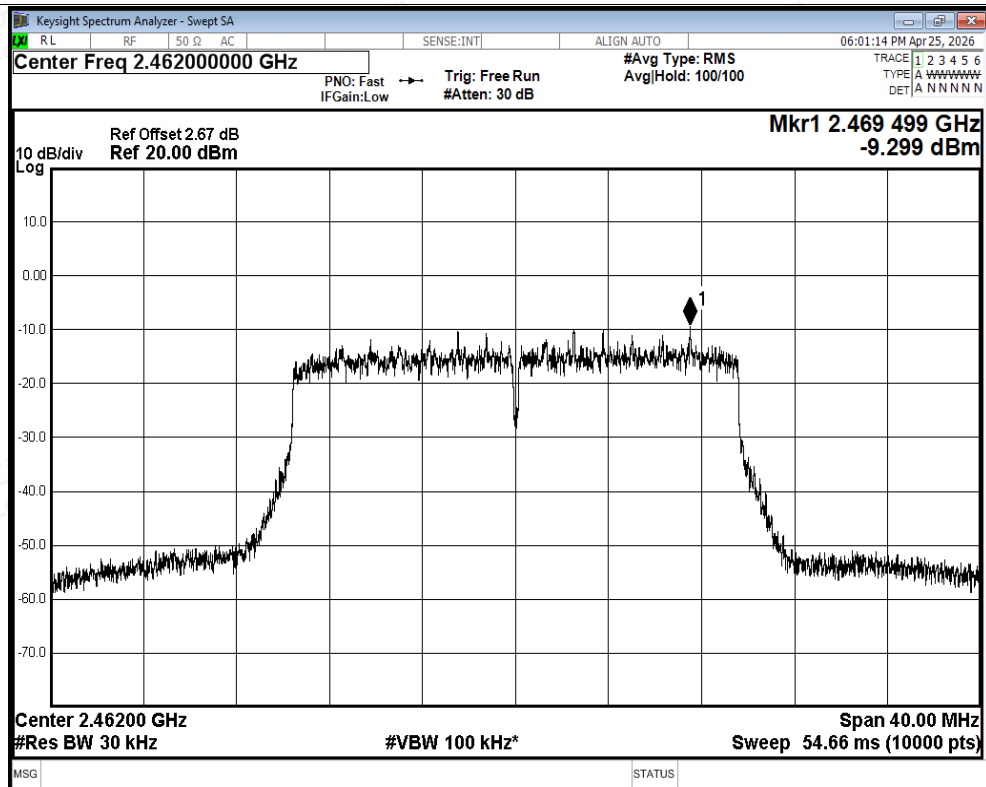
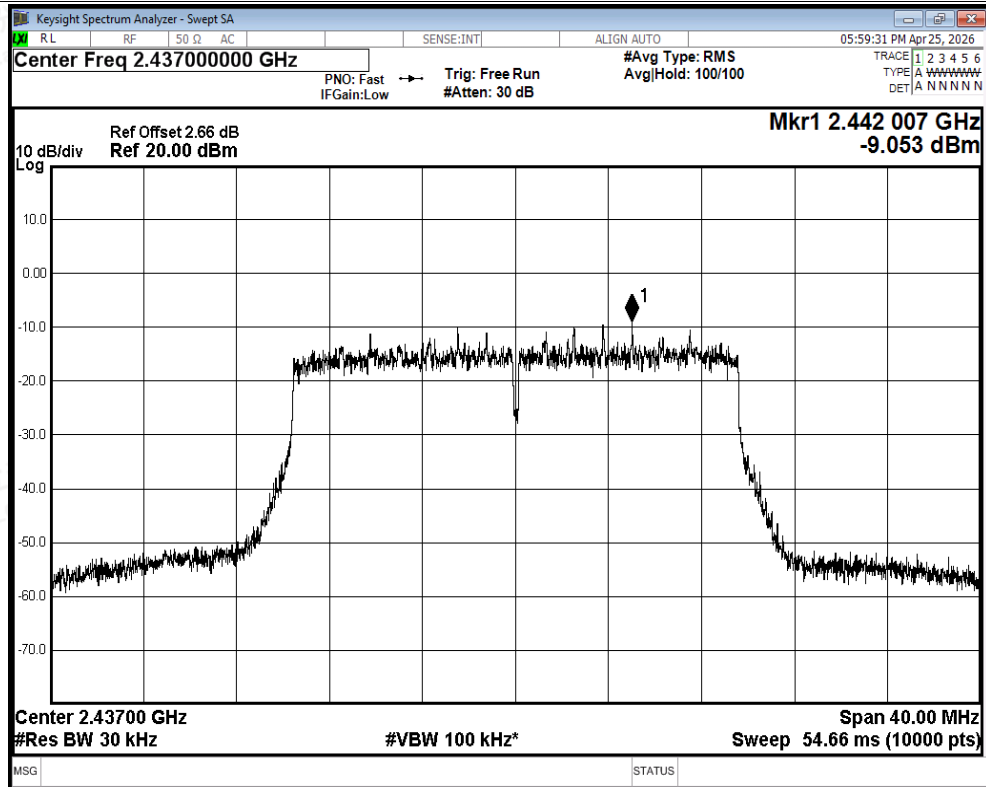
PSD NVNT n20 2437MHz Ant1

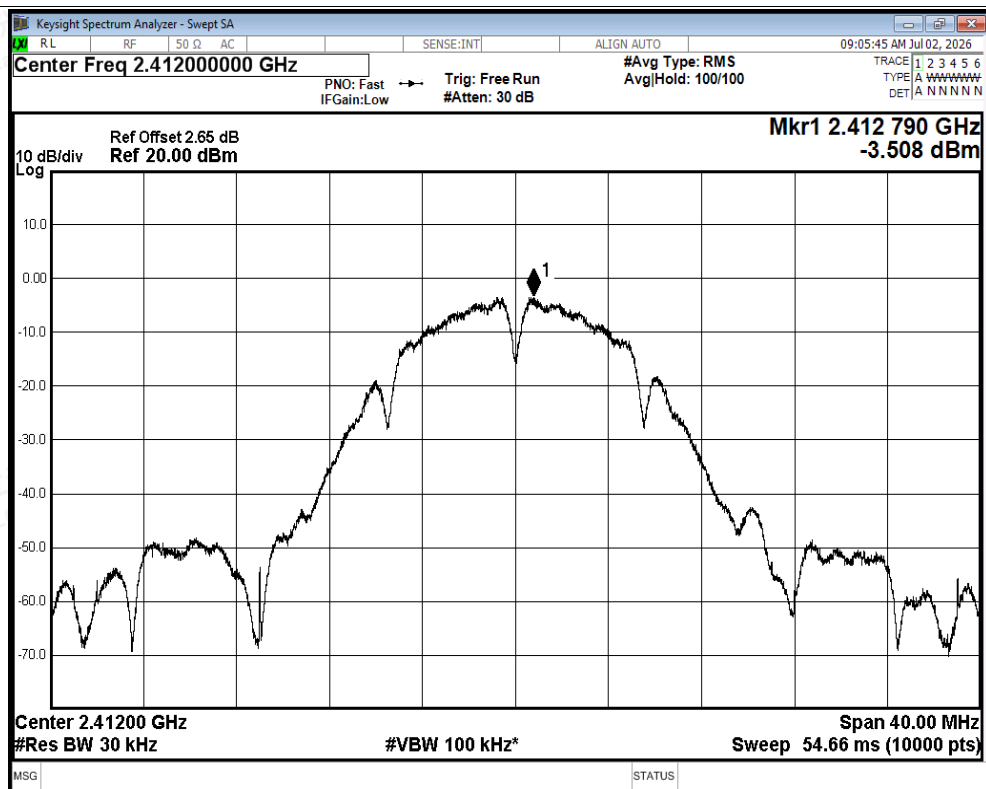


PSD NVNT n20 2462MHz Ant1

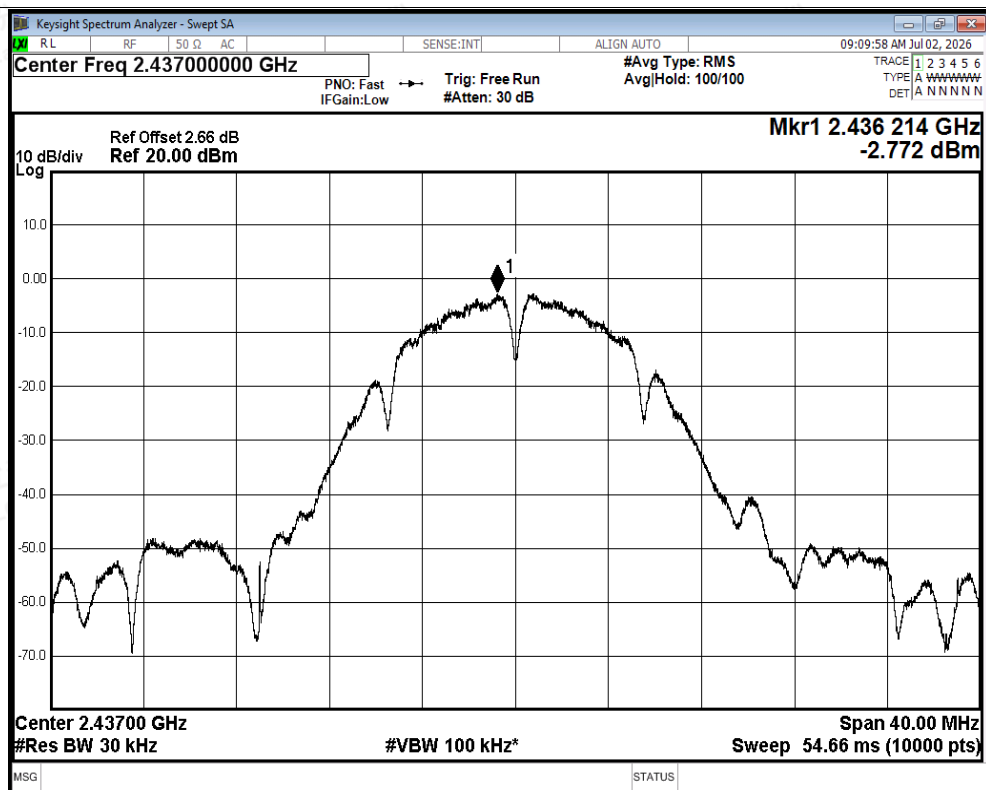


PSD NVNT ax20 2412MHz Ant1

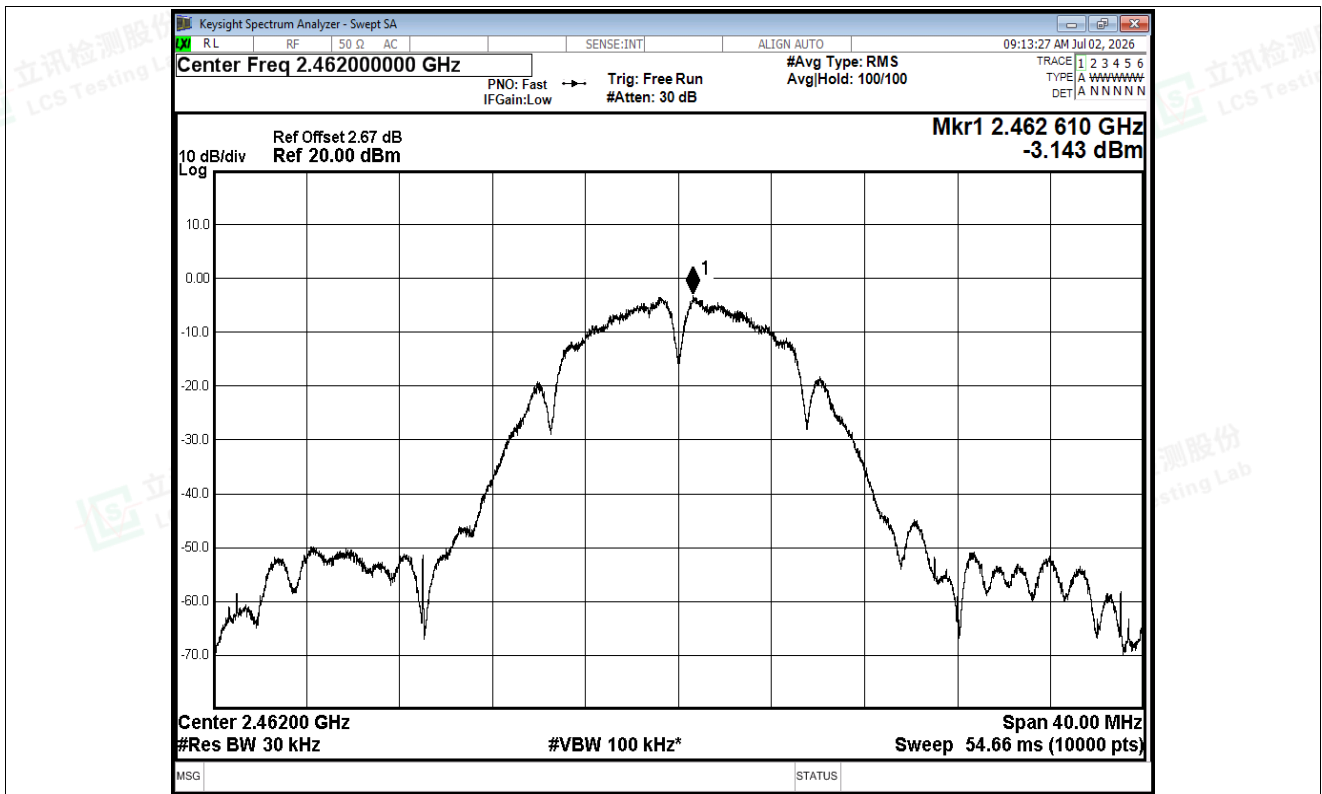




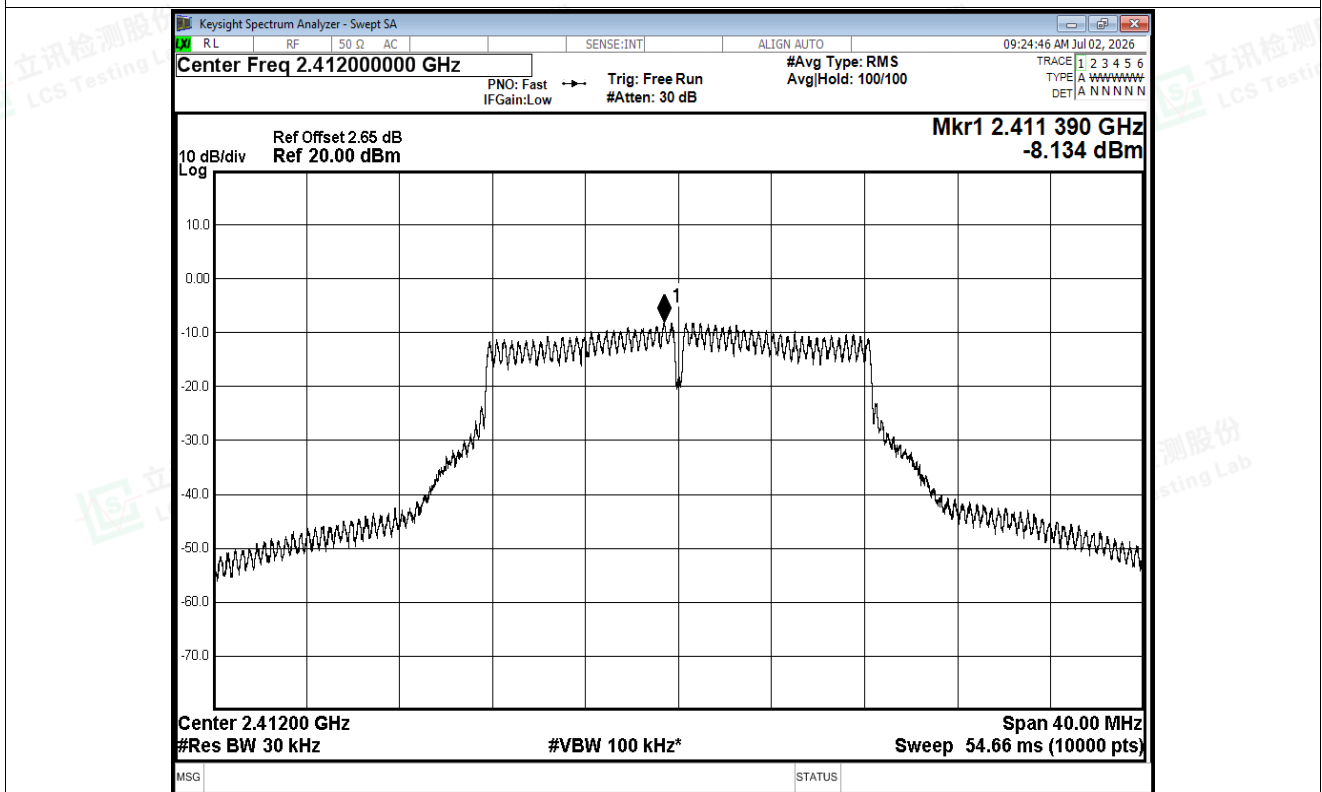
PSD NVNT b 2412MHz Ant2



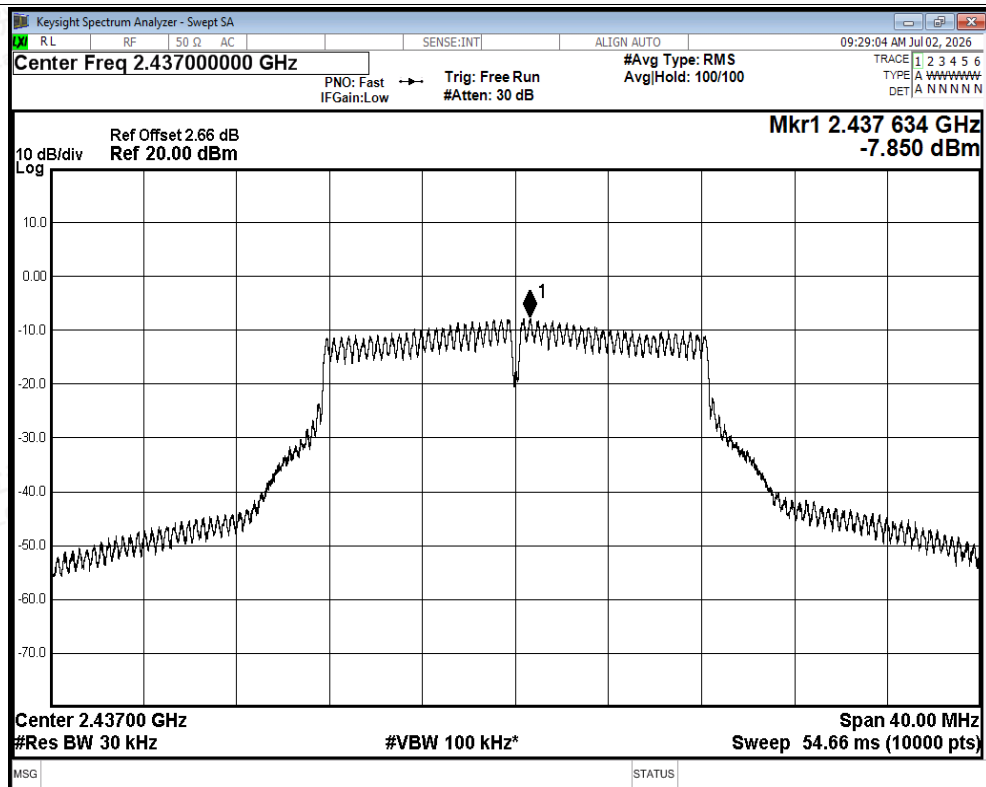
PSD NVNT b 2437MHz Ant2



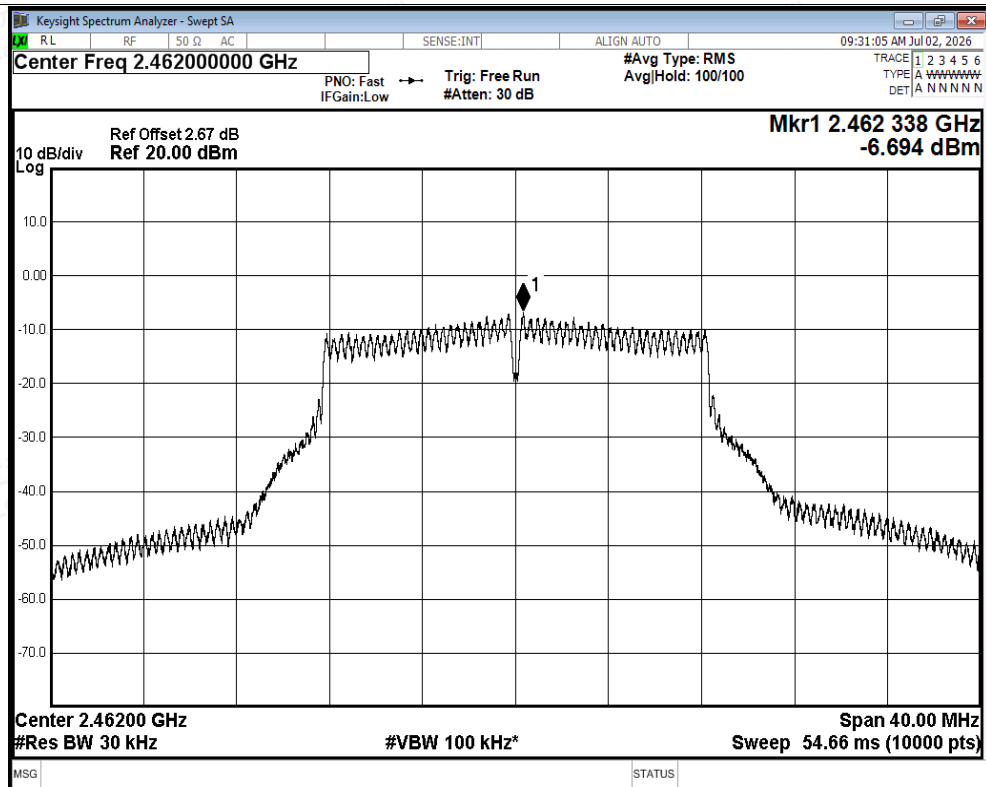
PSD NVNT b 2462MHz Ant2



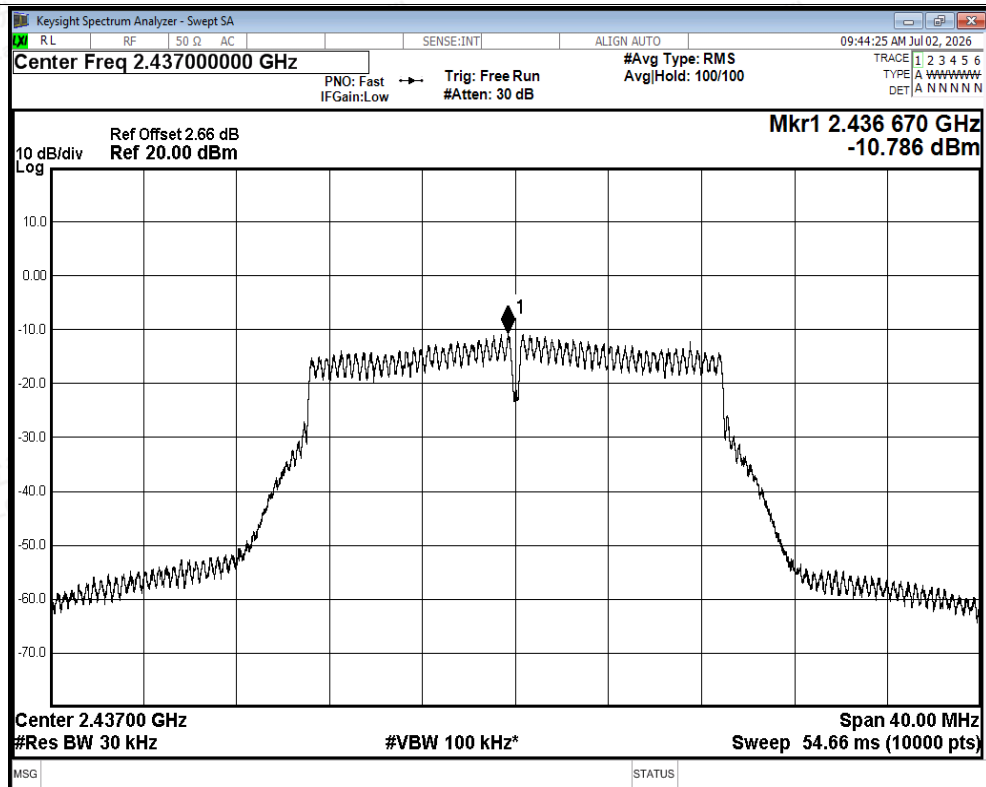
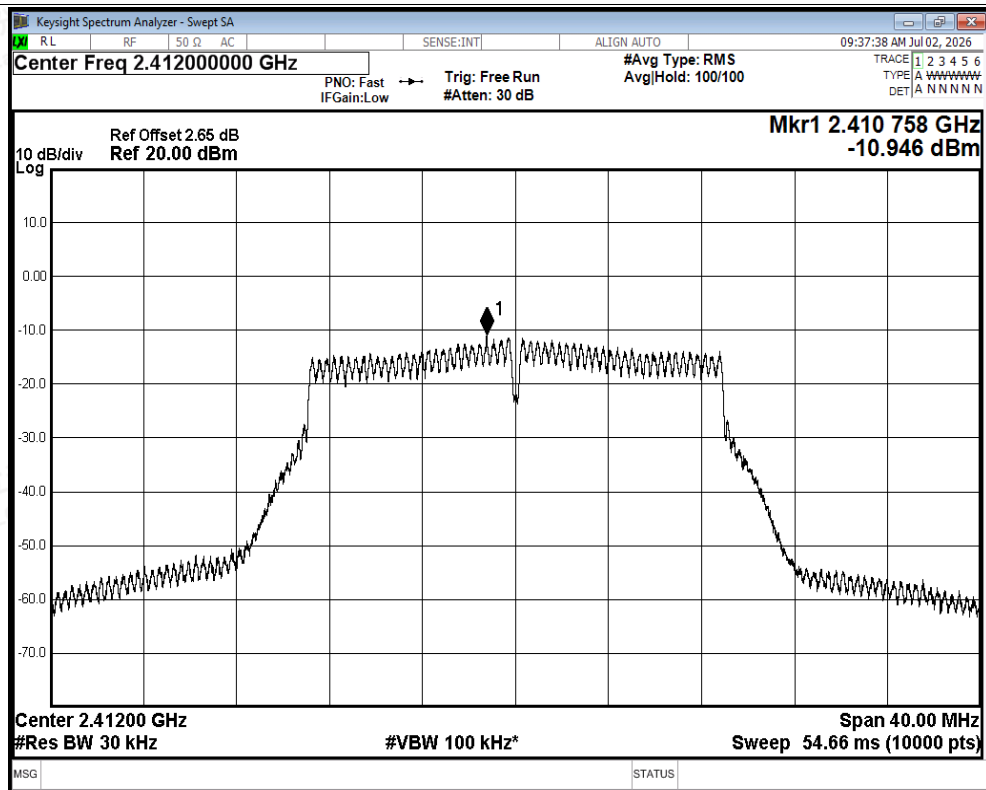
PSD NVNT g 2412MHz Ant2

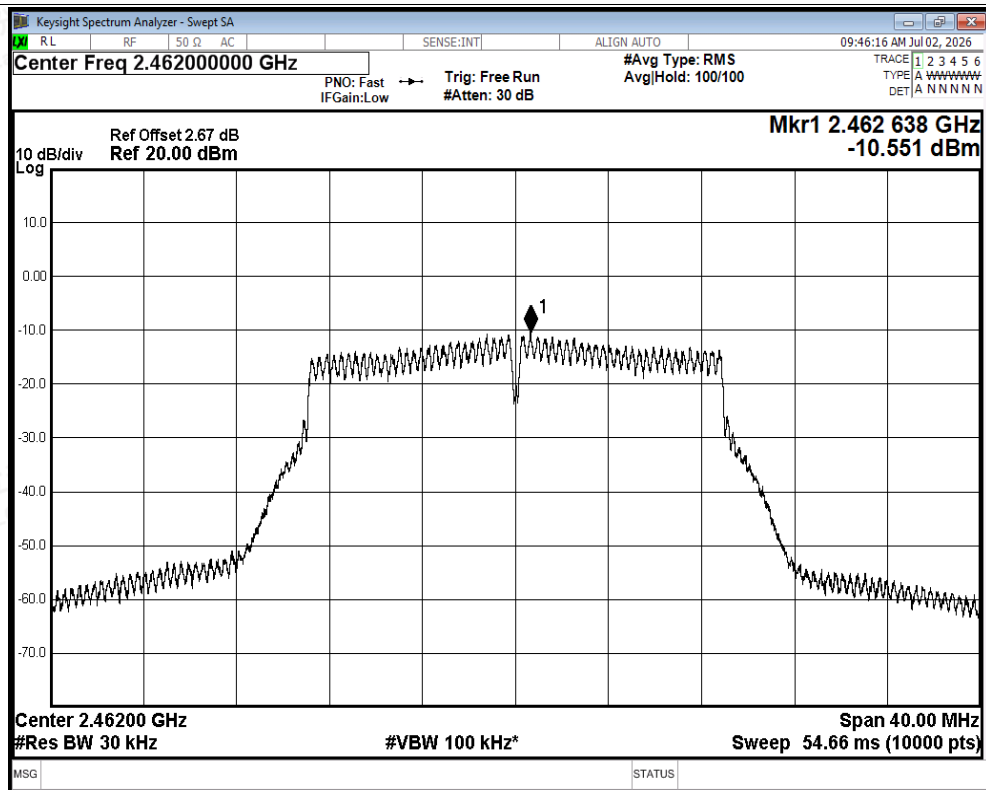


PSD NVNT g 2437MHz Ant2

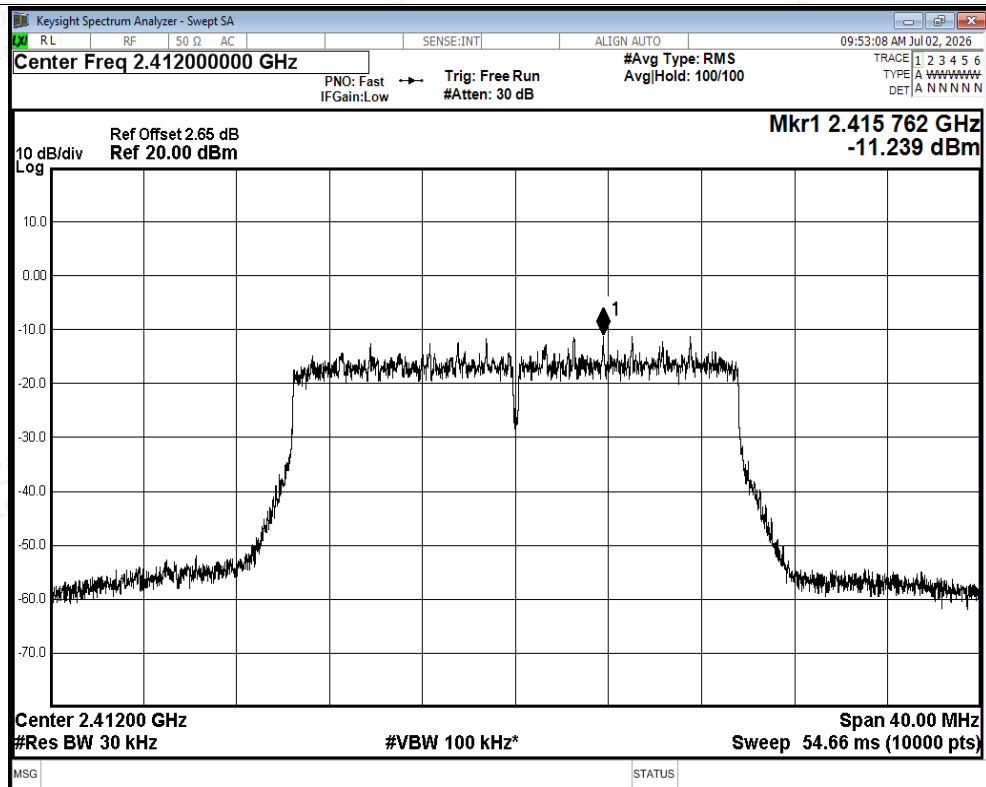


PSD NVNT g 2462MHz Ant2

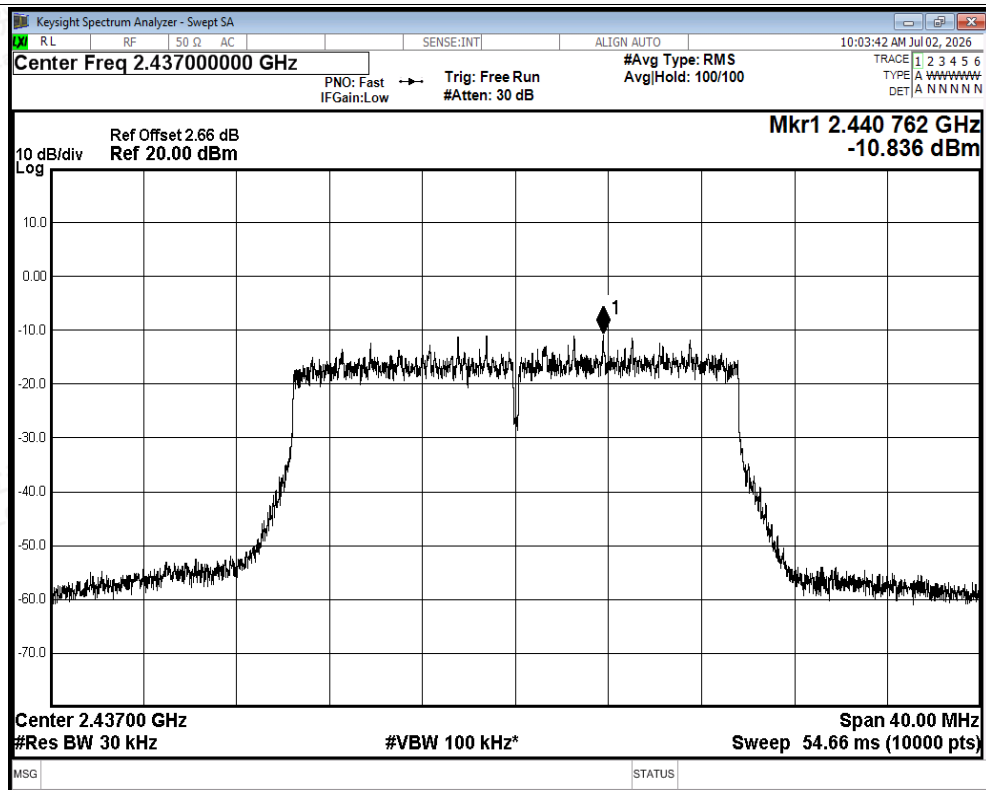




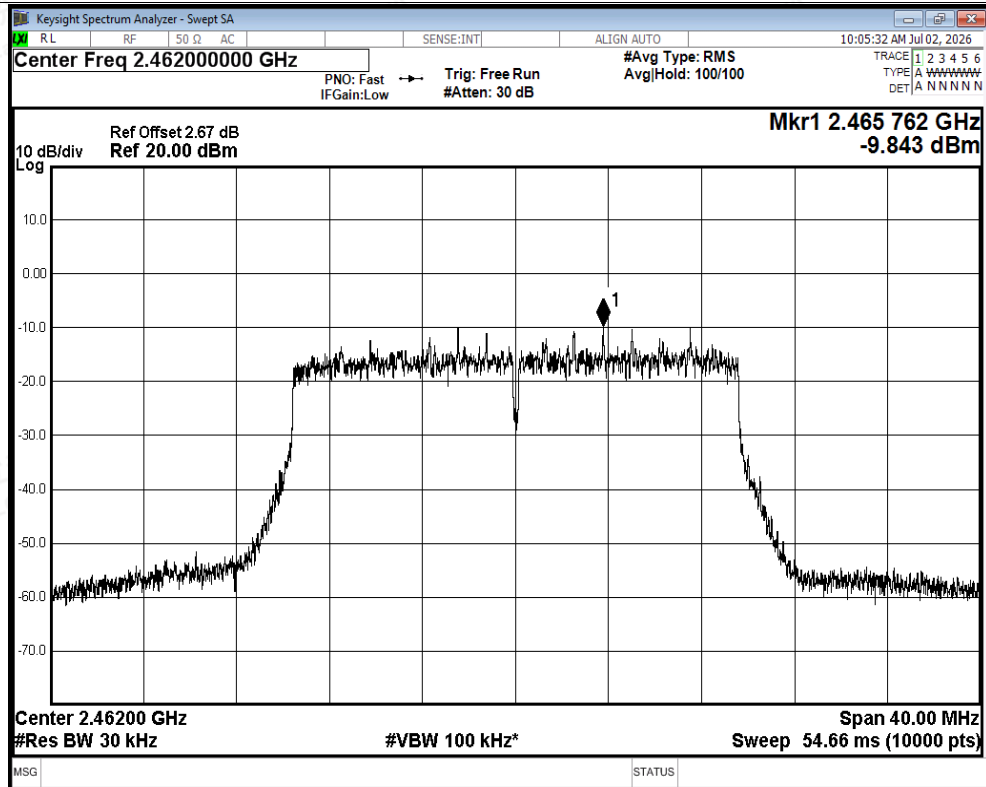
PSD NVNT n20 2462MHz Ant2



PSD NVNT ax20 2412MHz Ant2



PSD NVNT ax20 2437MHz Ant2

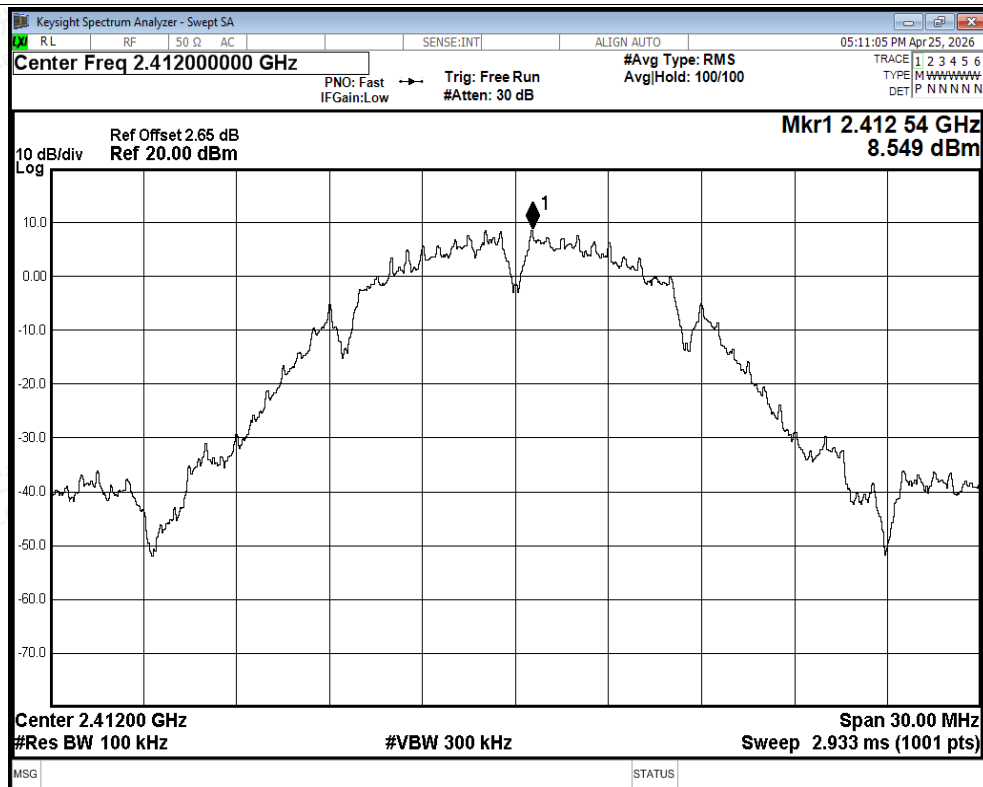


PSD NVNT ax20 2462MHz Ant2

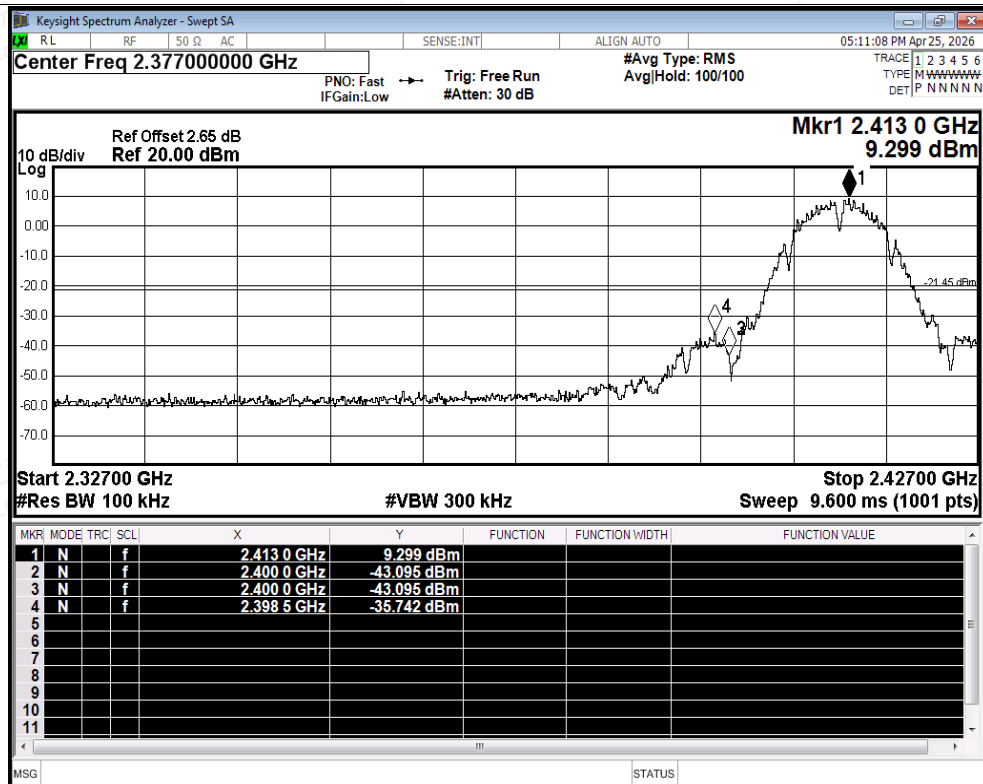


C.4 Band Edge

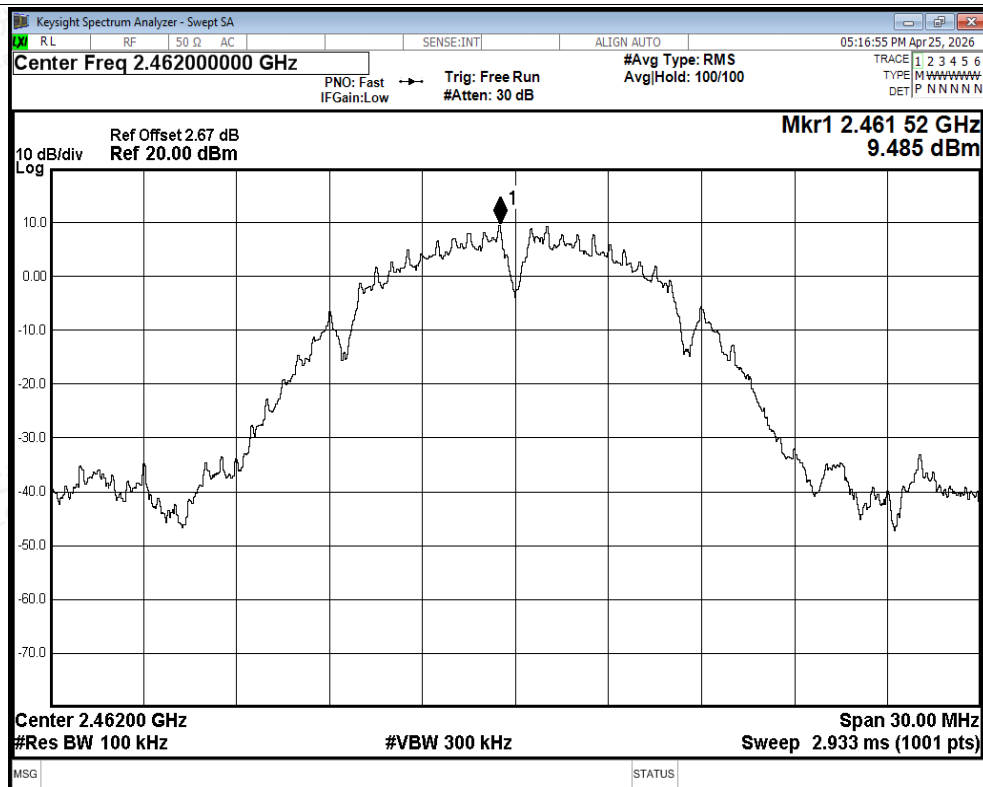
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-44.29	-30	Pass
NVNT	b	2462	Ant1	-55.73	-30	Pass
NVNT	g	2412	Ant1	-31.86	-30	Pass
NVNT	g	2462	Ant1	-40.97	-30	Pass
NVNT	n20	2412	Ant1	-30.55	-30	Pass
NVNT	n20	2462	Ant1	-39.64	-30	Pass
NVNT	ax20	2412	Ant1	-34.57	-30	Pass
NVNT	ax20	2462	Ant1	-41.5	-30	Pass



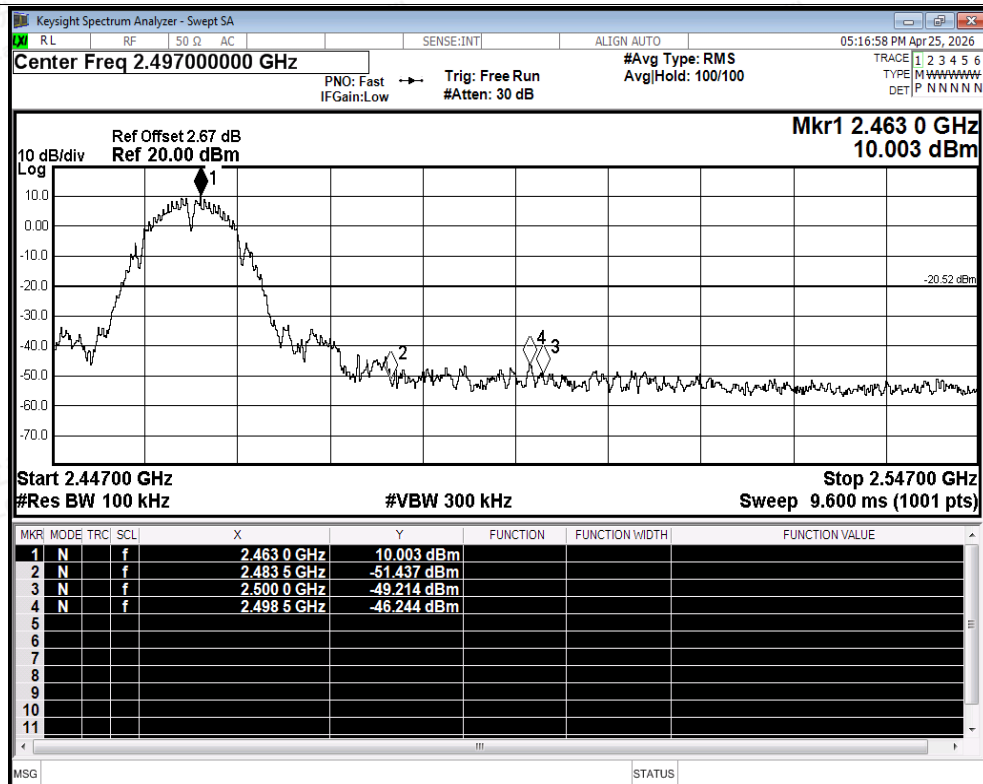
Band Edge NVNT b 2412MHz Ant1 Ref



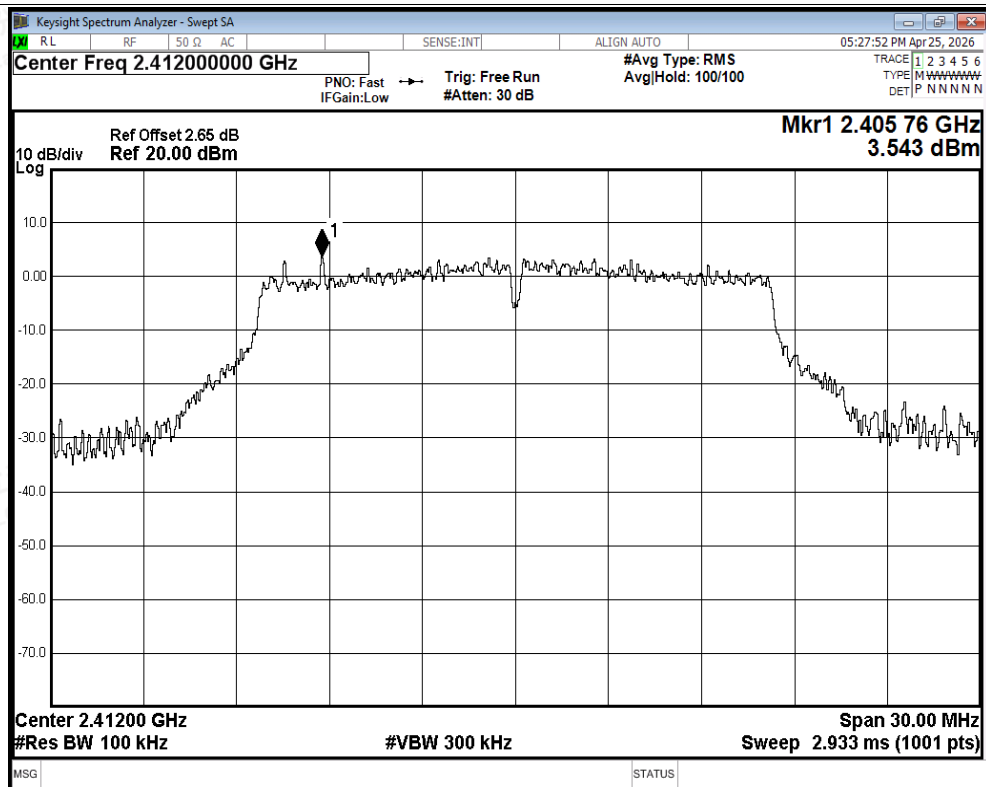
Band Edge NVNT b 2412MHz Ant1 Emission



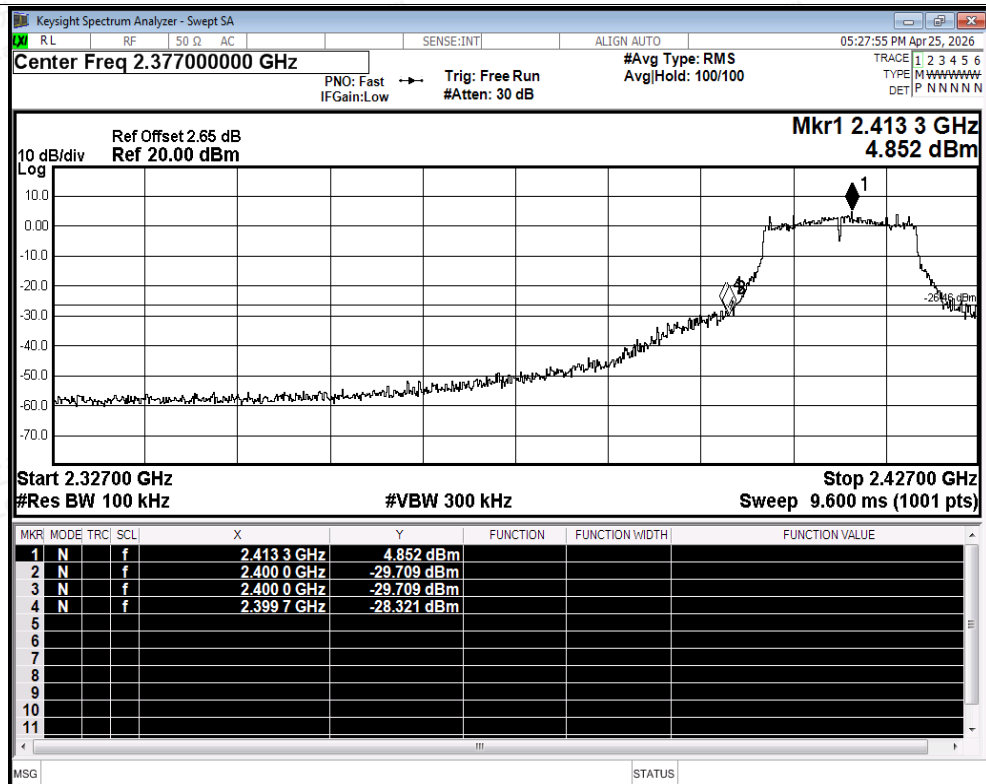
Band Edge NVNT b 2462MHz Ant1 Ref



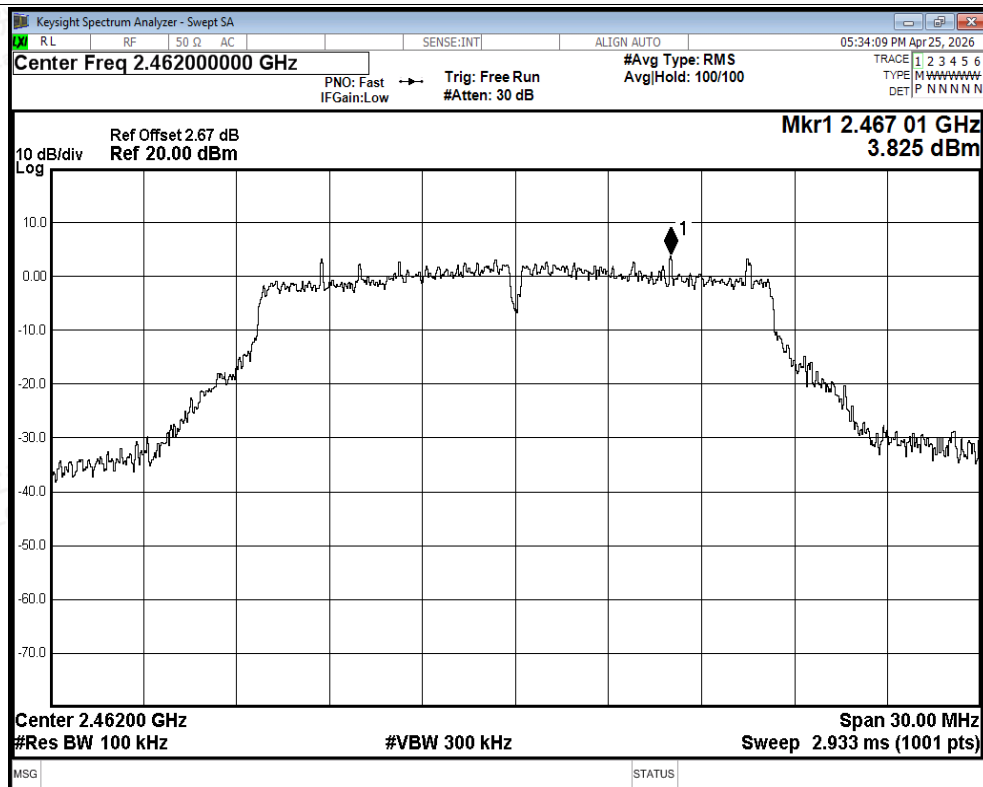
Band Edge NVNT b 2462MHz Ant1 Emission



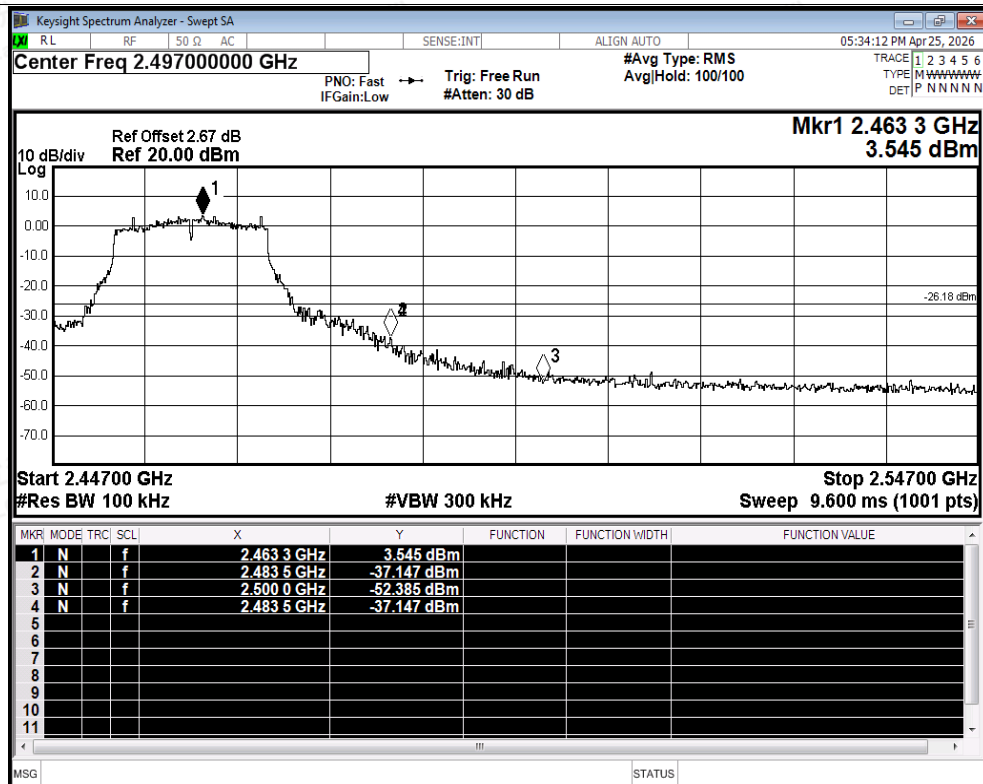
Band Edge NVNT g 2412MHz Ant1 Ref



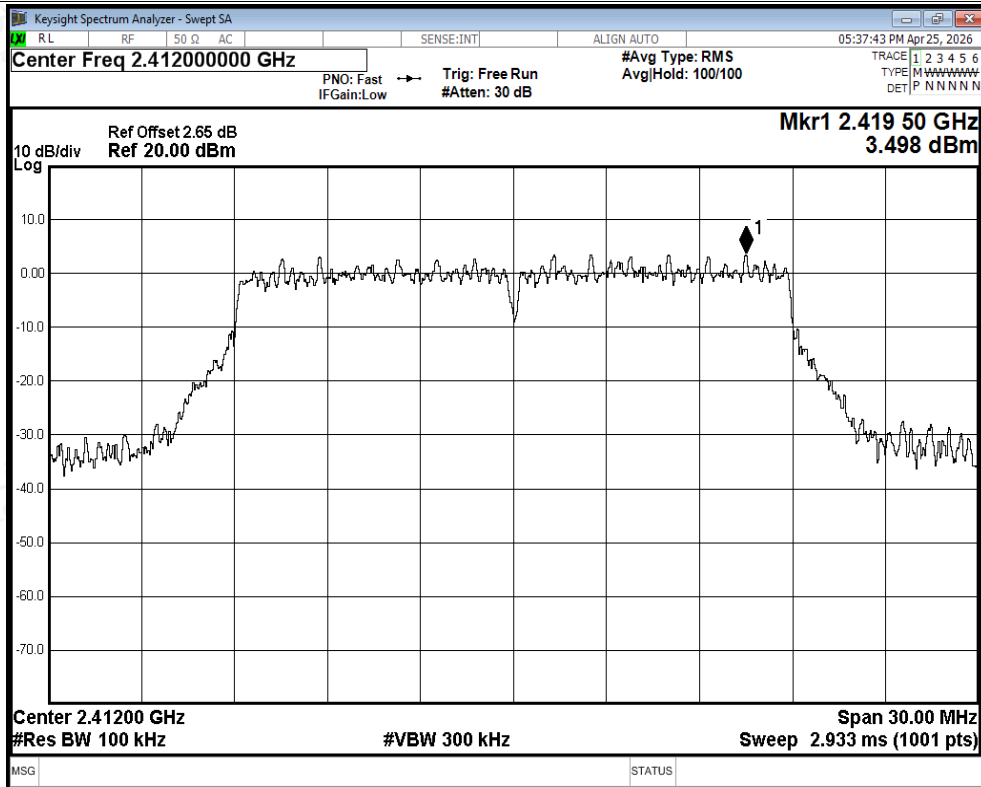
Band Edge NVNT g 2412MHz Ant1 Emission



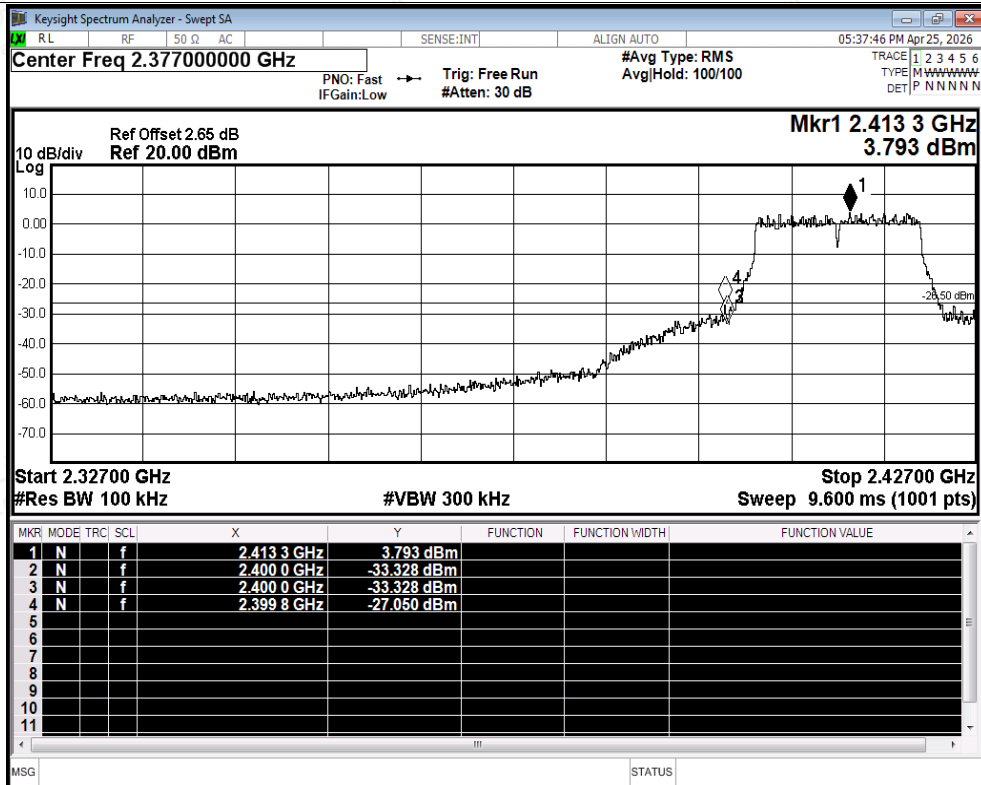
Band Edge NVNT g 2462MHz Ant1 Ref



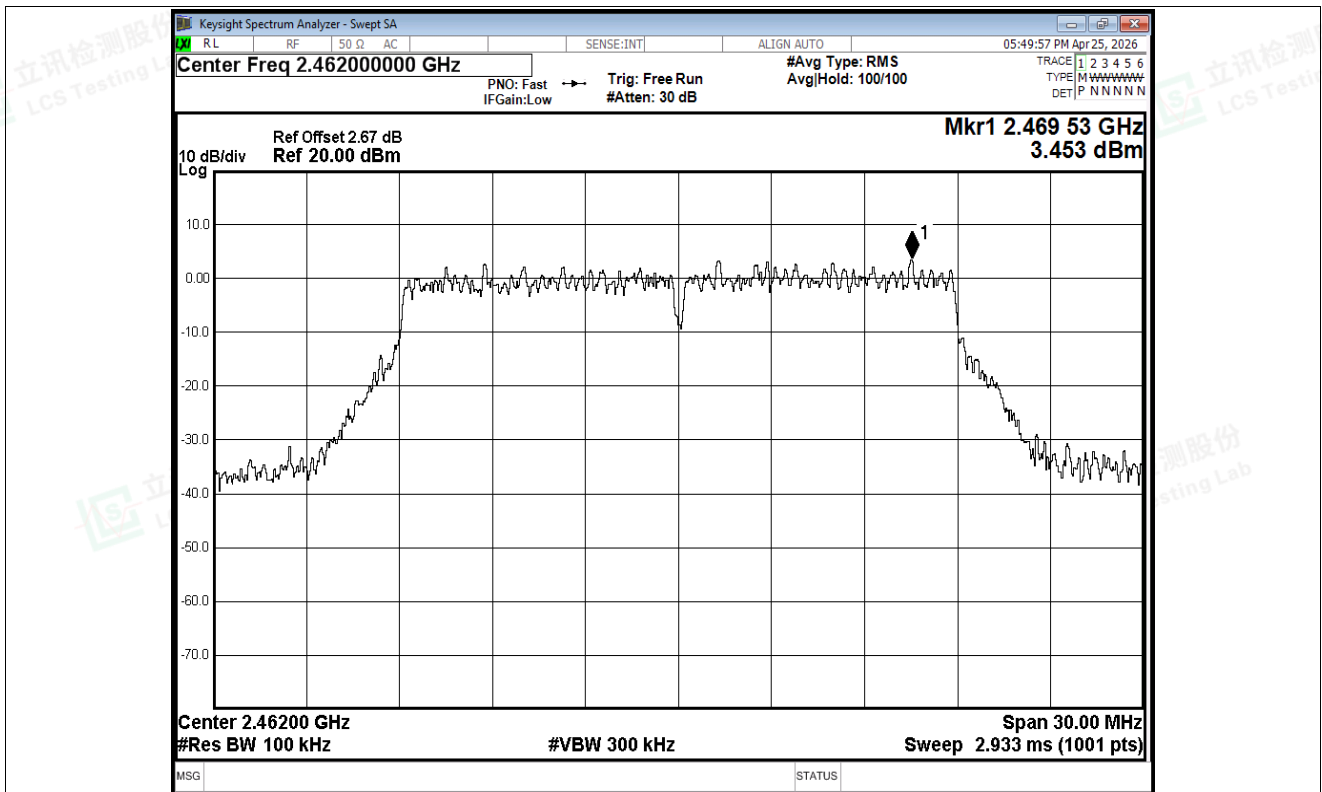
Band Edge NVNT g 2462MHz Ant1 Emission



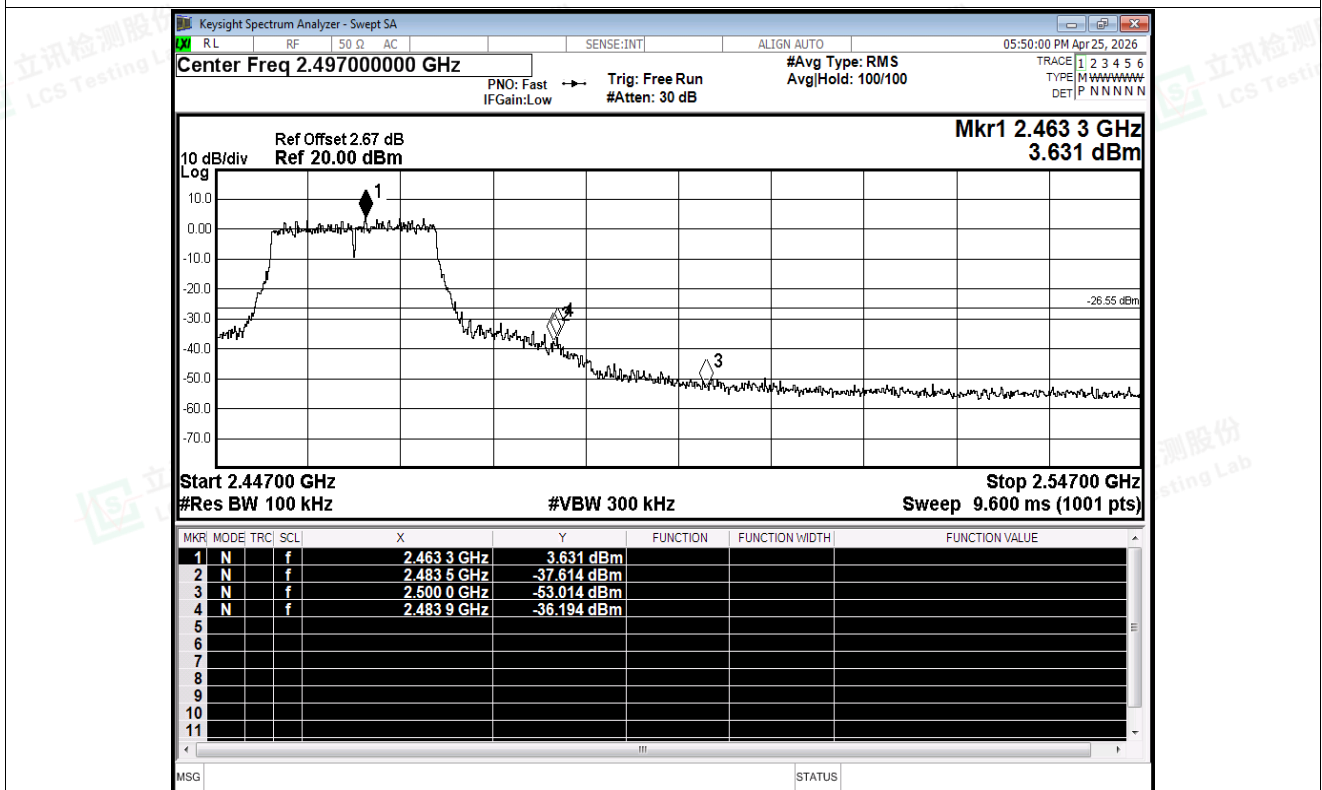
Band Edge NVNT n20 2412MHz Ant1 Ref



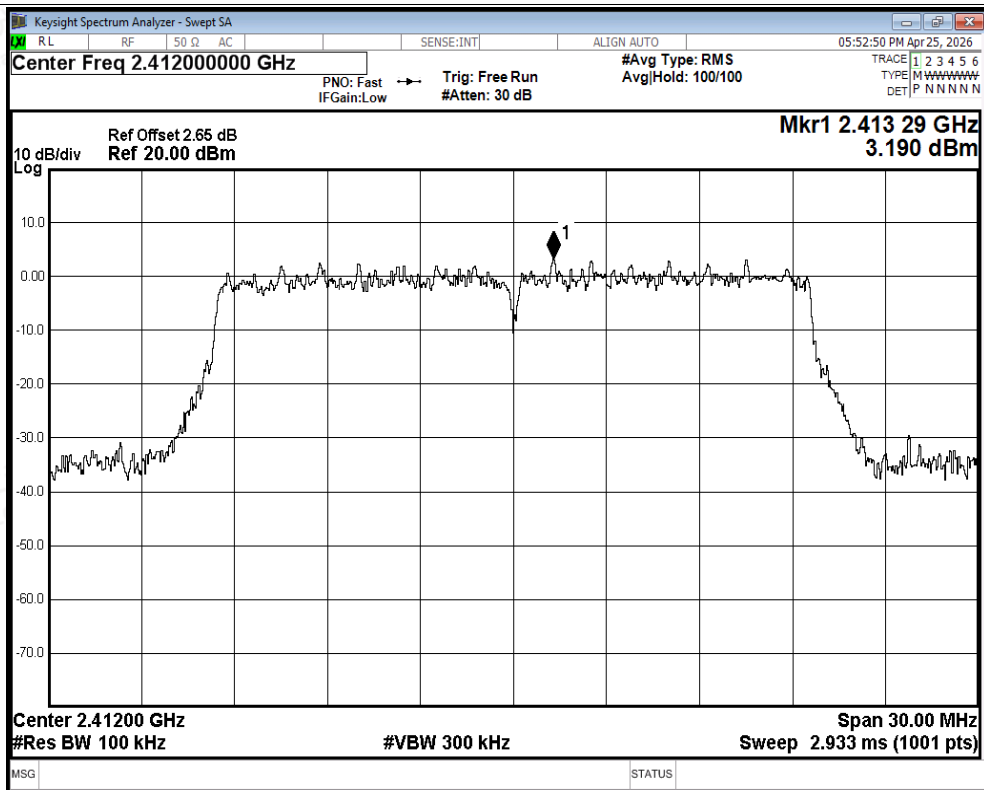
Band Edge NVNT n20 2412MHz Ant1 Emission



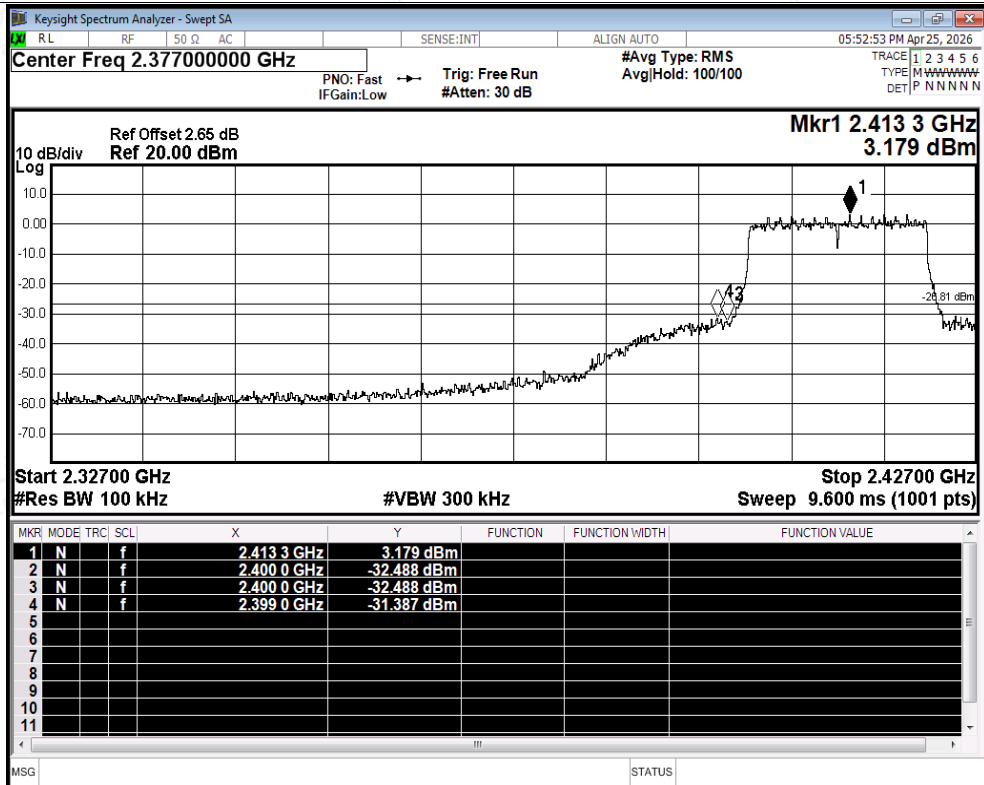
Band Edge NVNT n20 2462MHz Ant1 Ref



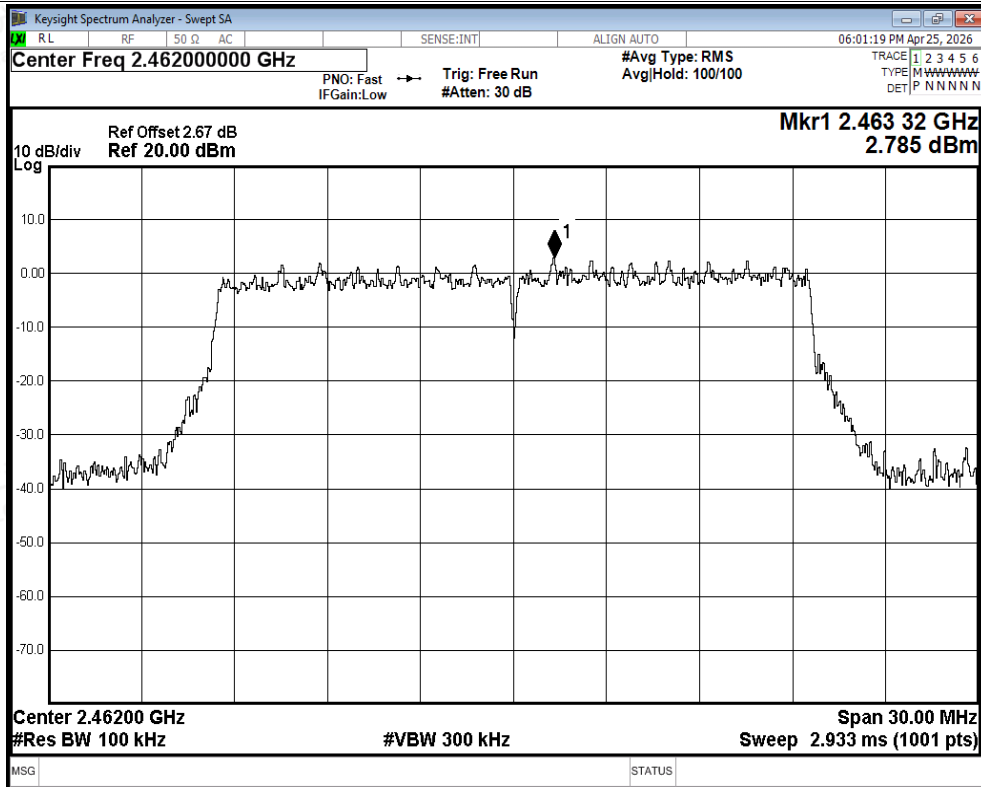
Band Edge NVNT n20 2462MHz Ant1 Emission



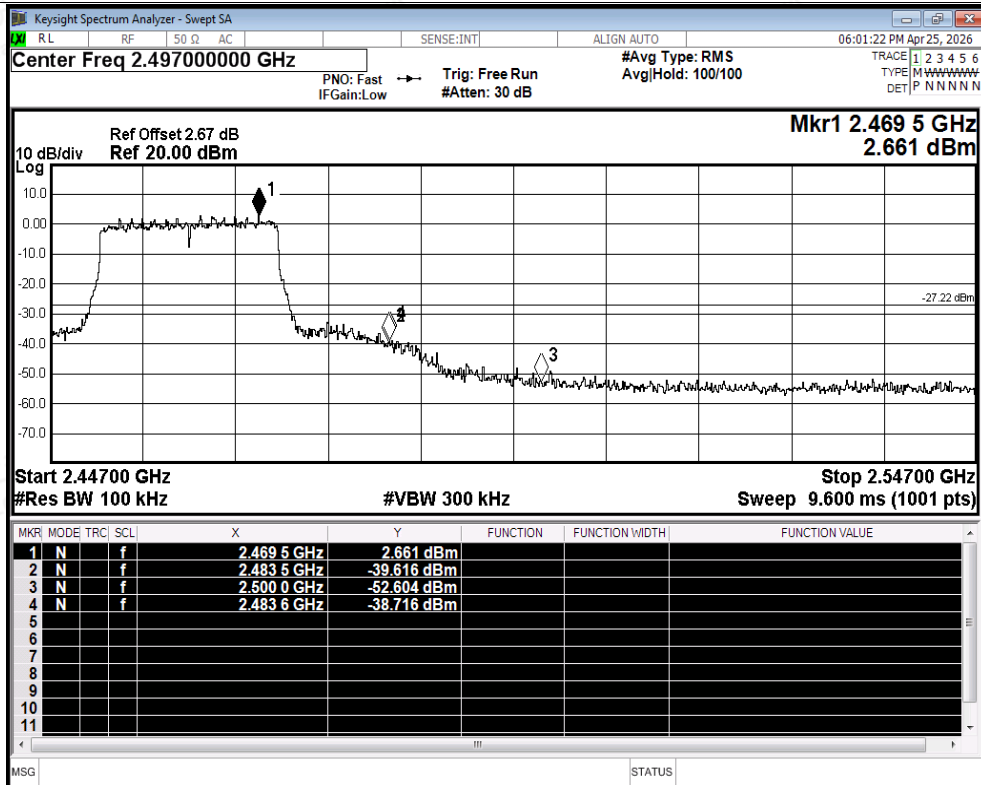
Band Edge NVNT ax20 2412MHz Ant1 Ref



Band Edge NVNT ax20 2412MHz Ant1 Emission



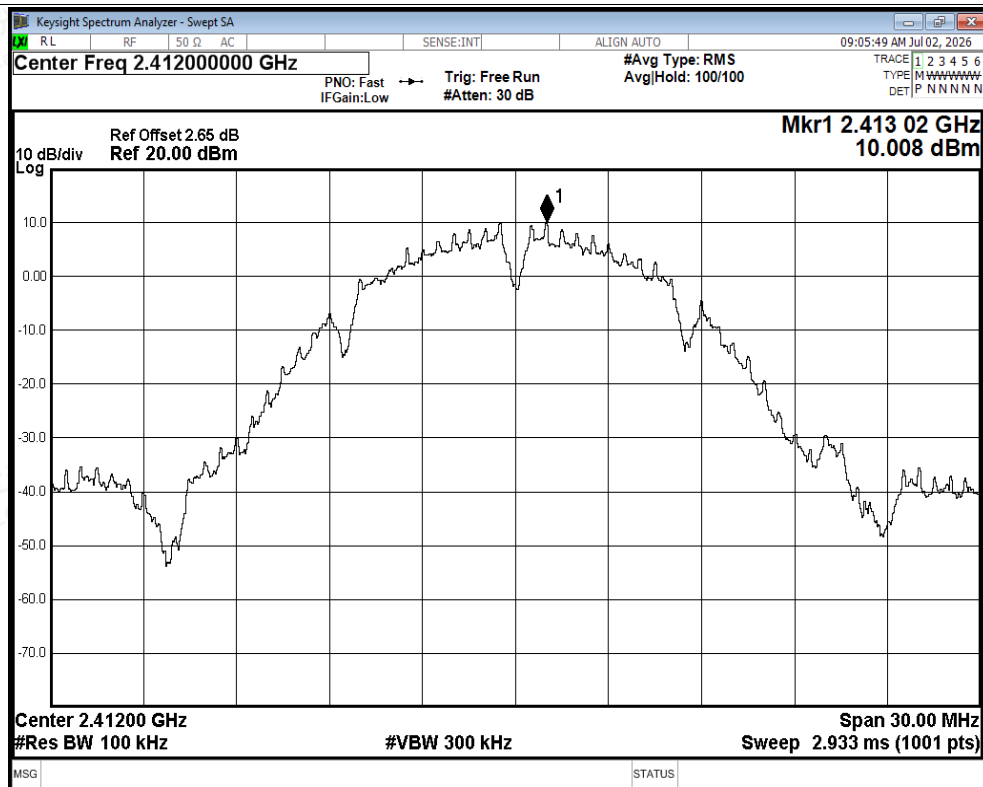
Band Edge NVNT ax20 2462MHz Ant1 Ref



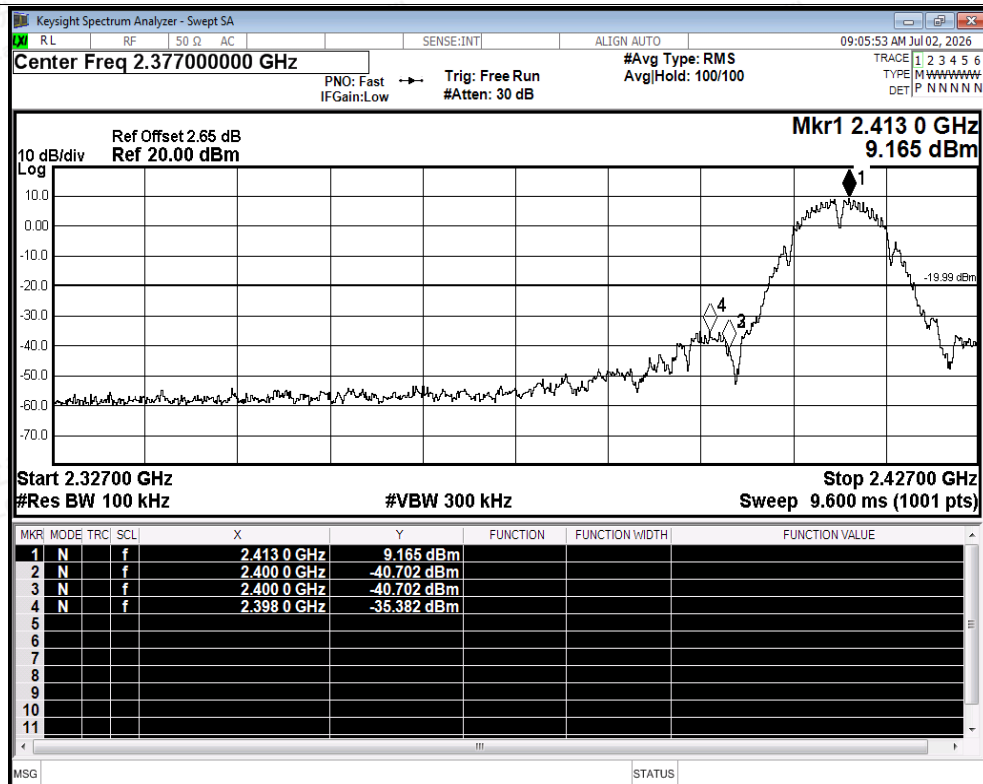
Band Edge NVNT ax20 2462MHz Ant1 Emission



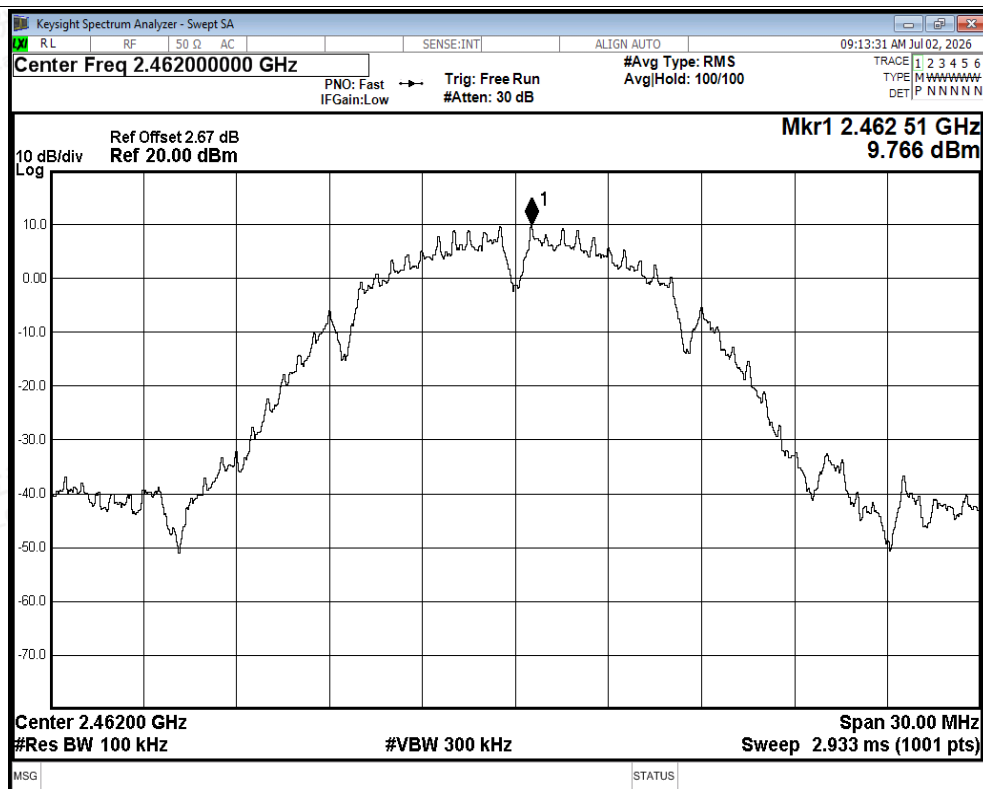
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant2	-45.39	-30	Pass
NVNT	b	2462	Ant2	-59.74	-30	Pass
NVNT	g	2412	Ant2	-30.51	-30	Pass
NVNT	g	2462	Ant2	-42.04	-30	Pass
NVNT	n20	2412	Ant2	-35.85	-30	Pass
NVNT	n20	2462	Ant2	-48.34	-30	Pass
NVNT	ax20	2412	Ant2	-37.05	-30	Pass
NVNT	ax20	2462	Ant2	-40.73	-30	Pass



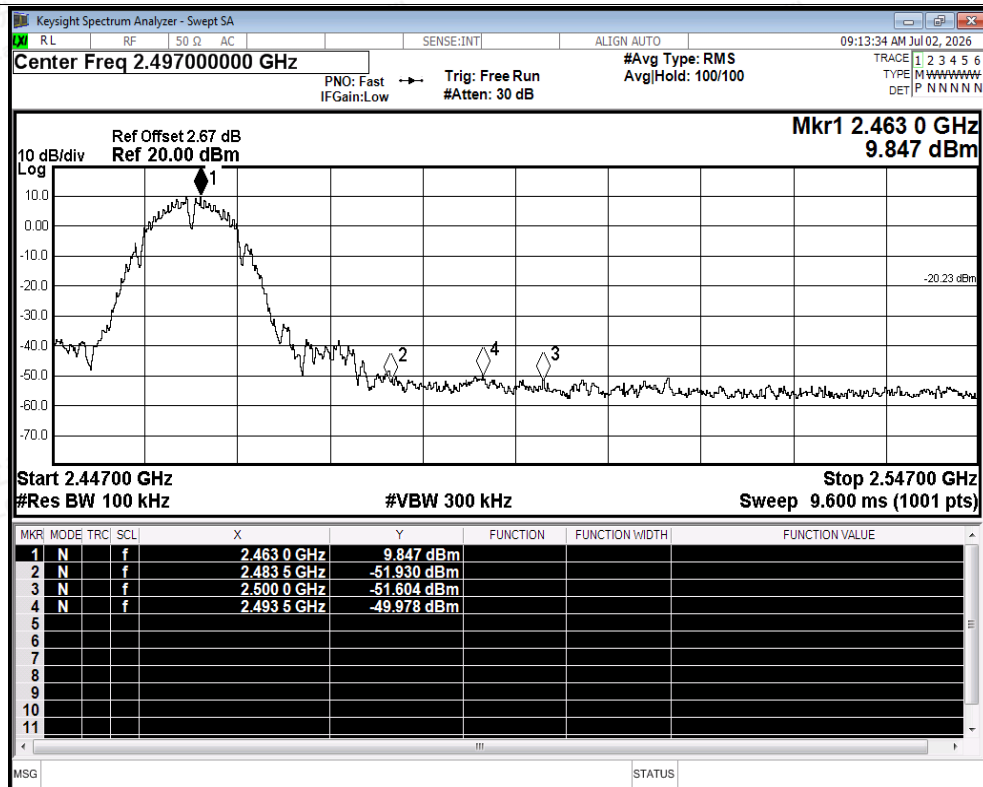
Band Edge NVNT b 2412MHz Ant2 Ref



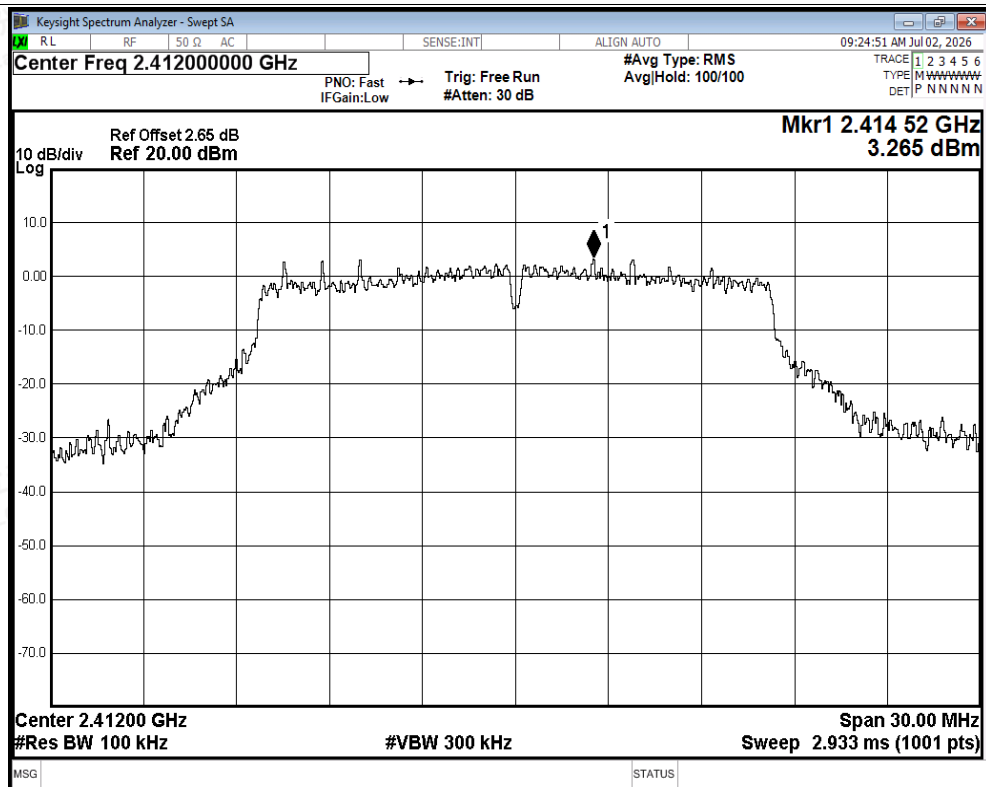
Band Edge NVNT b 2412MHz Ant2 Emission



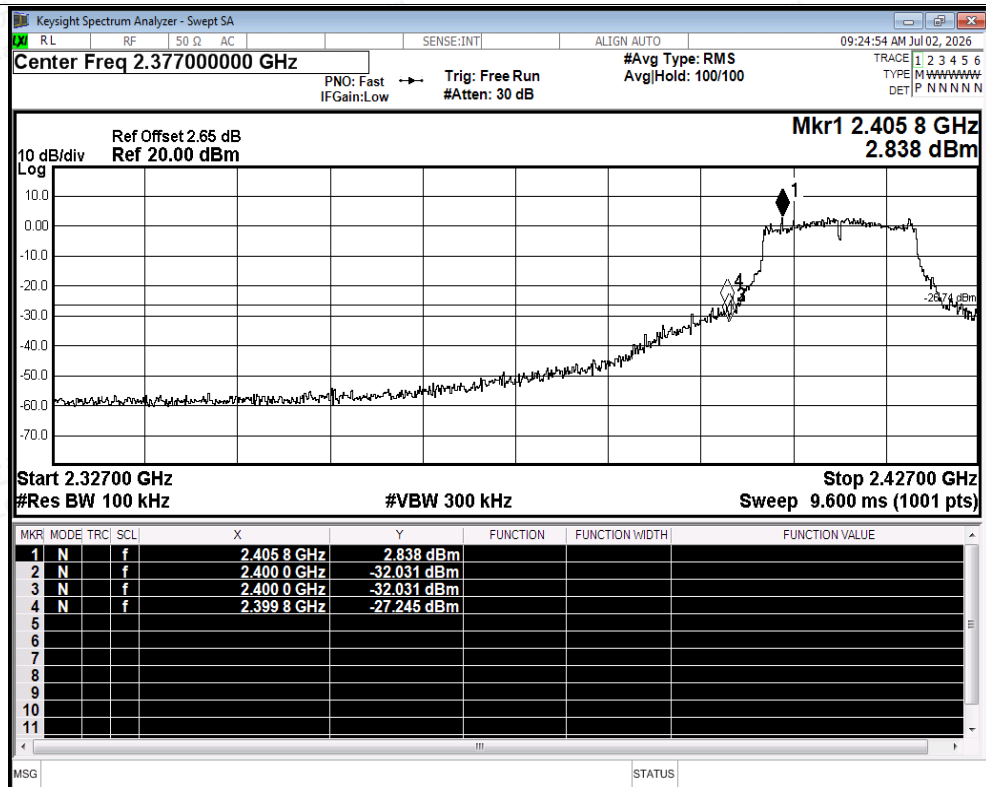
Band Edge NVNT b 2462MHz Ant2 Ref



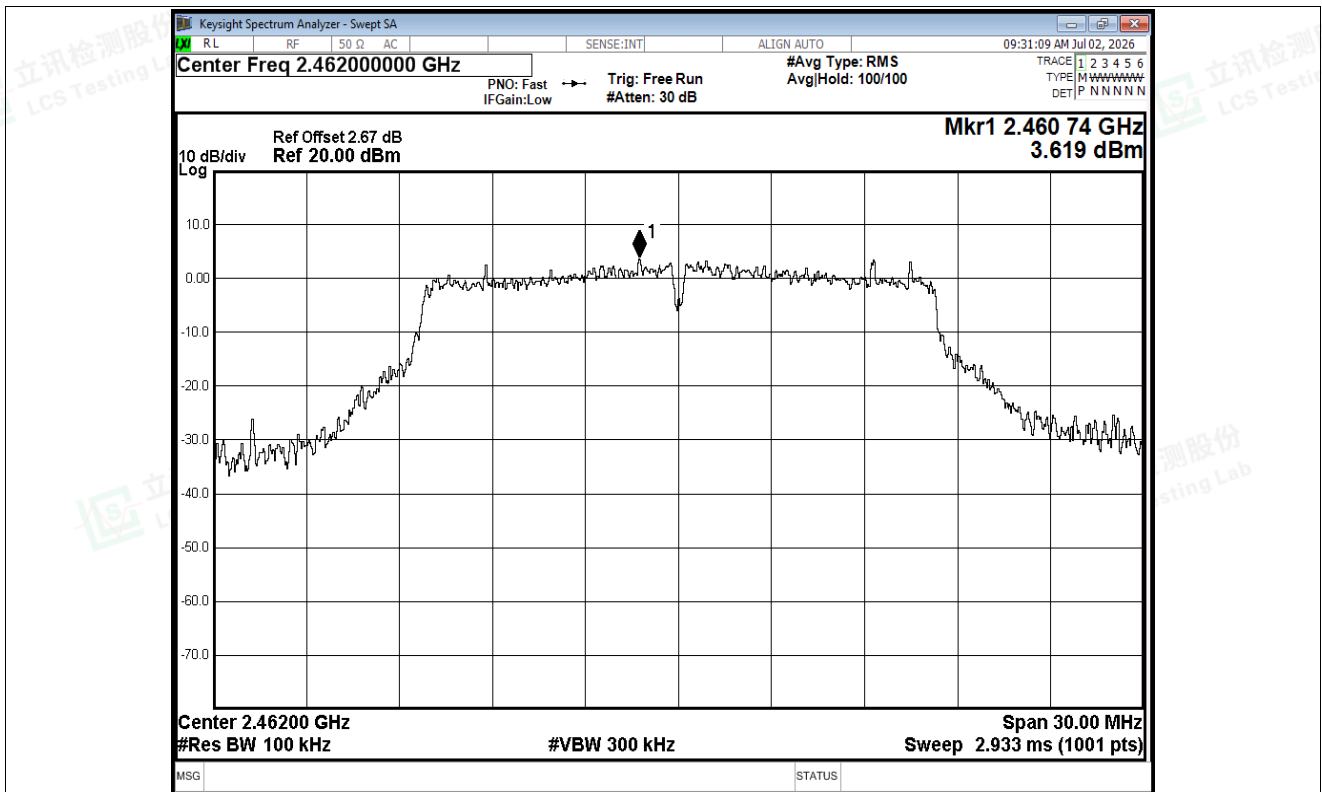
Band Edge NVNT b 2462MHz Ant2 Emission



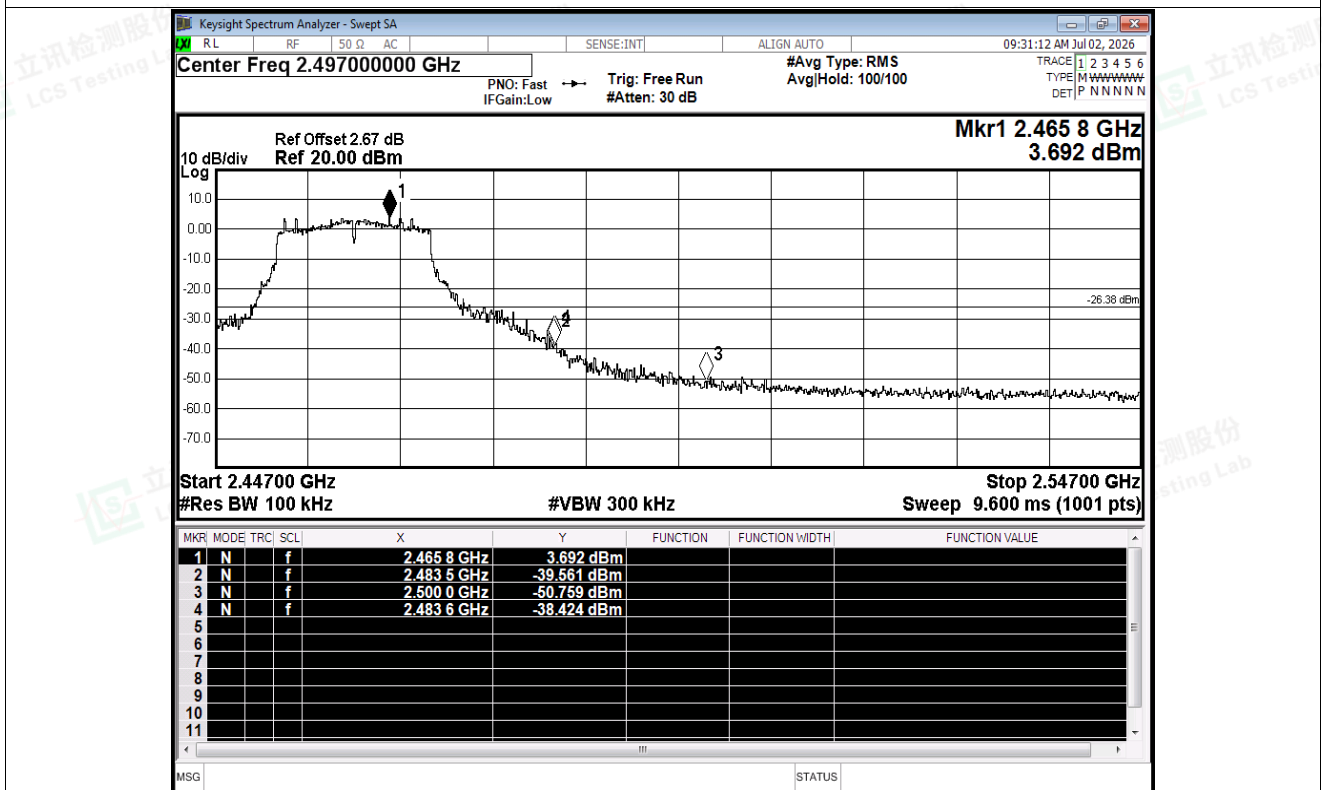
Band Edge NVNT g 2412MHz Ant2 Ref



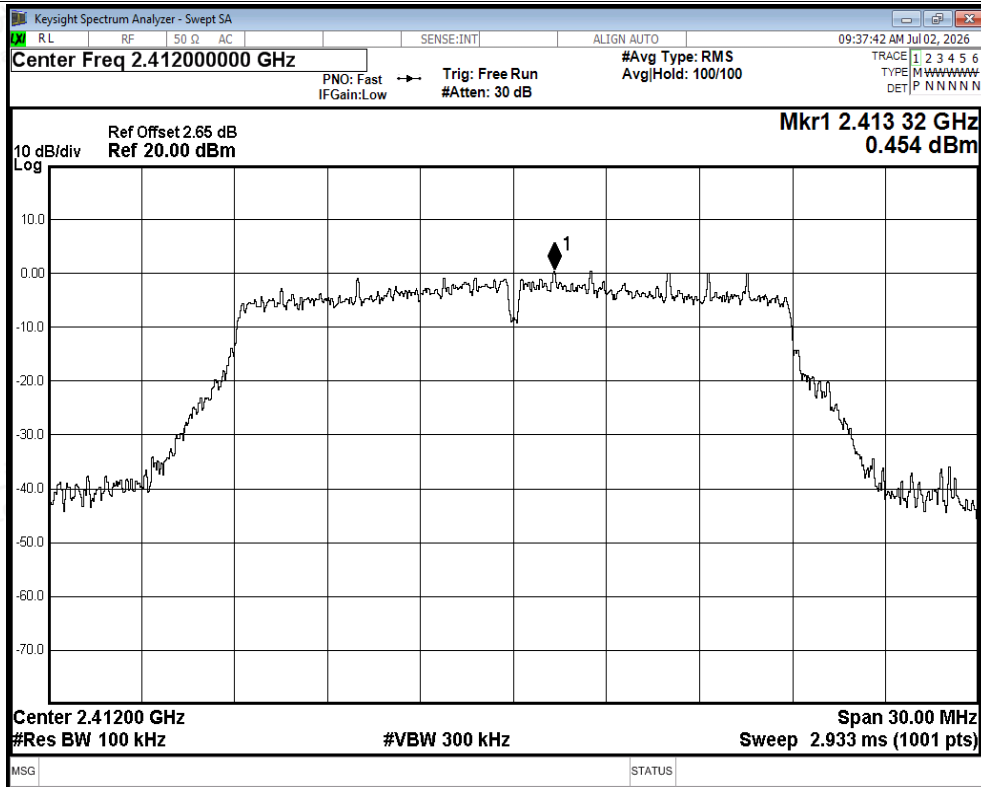
Band Edge NVNT g 2412MHz Ant2 Emission



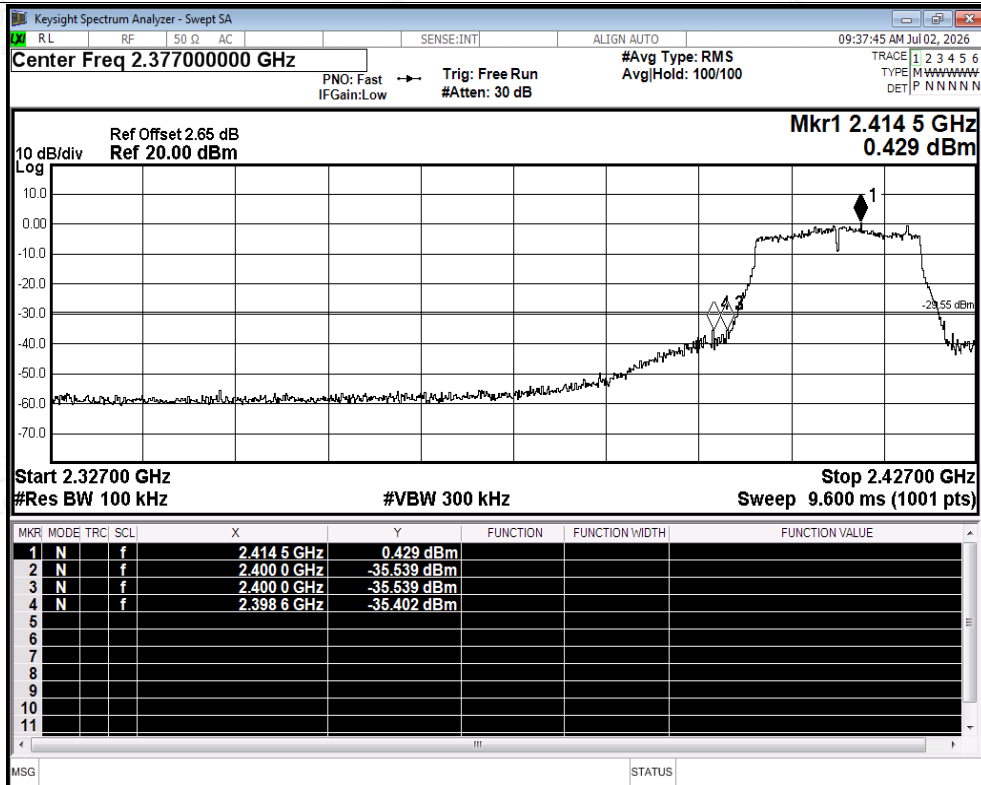
Band Edge NVNT g 2462MHz Ant2 Ref



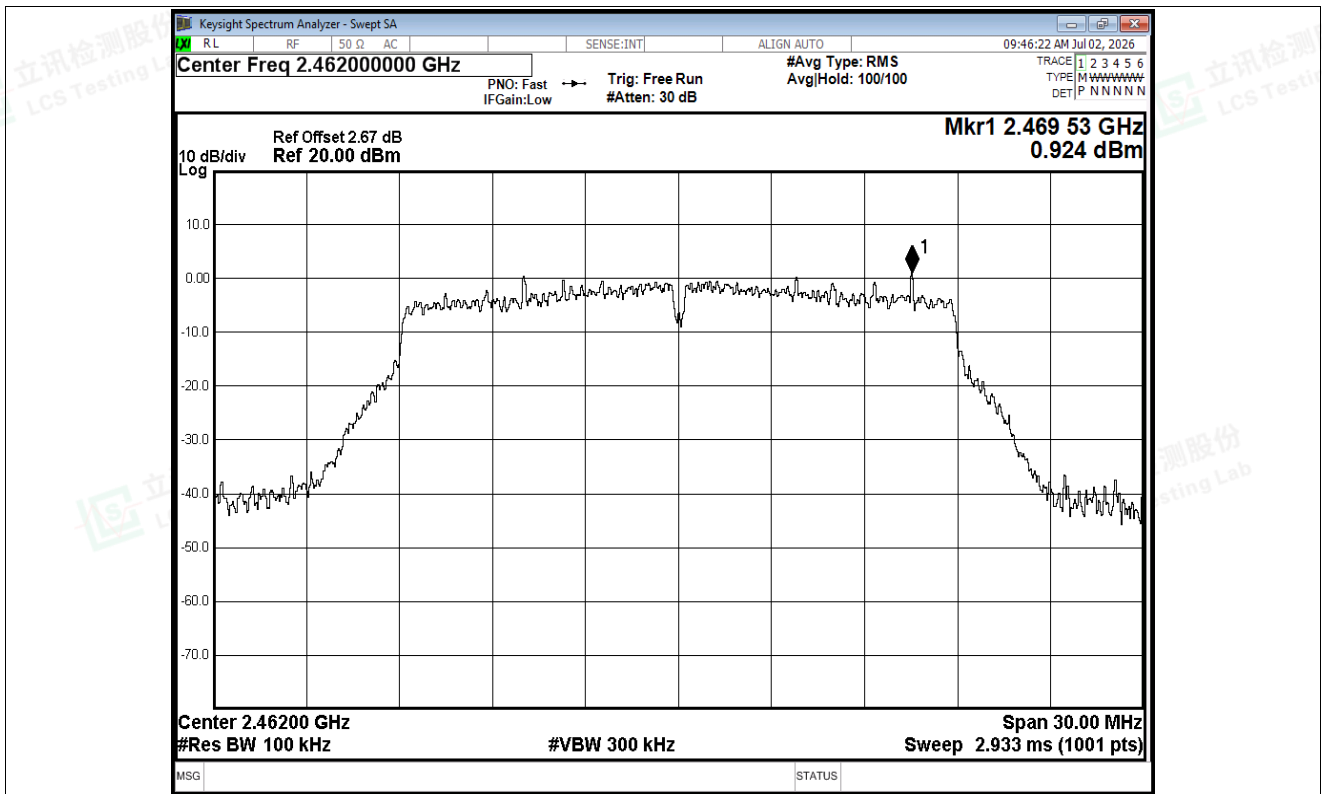
Band Edge NVNT g 2462MHz Ant2 Emission



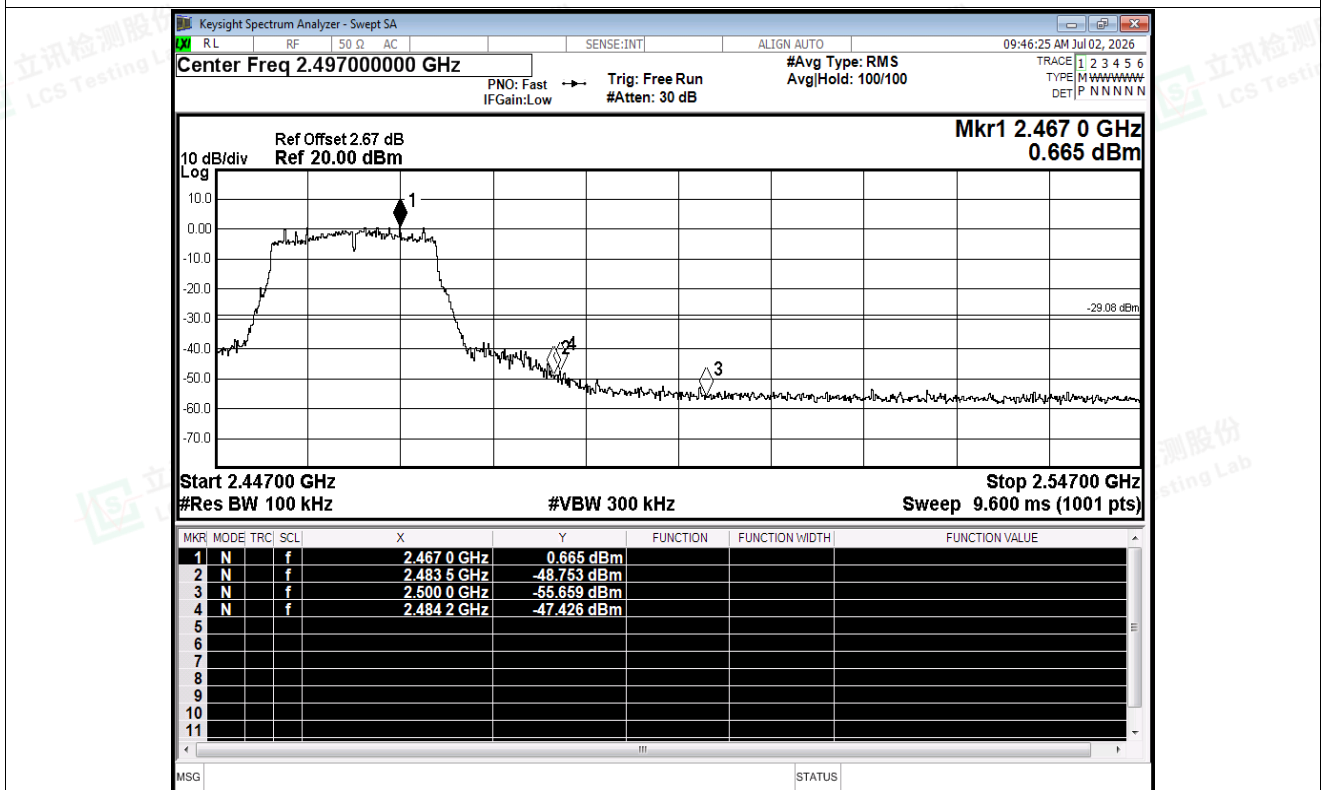
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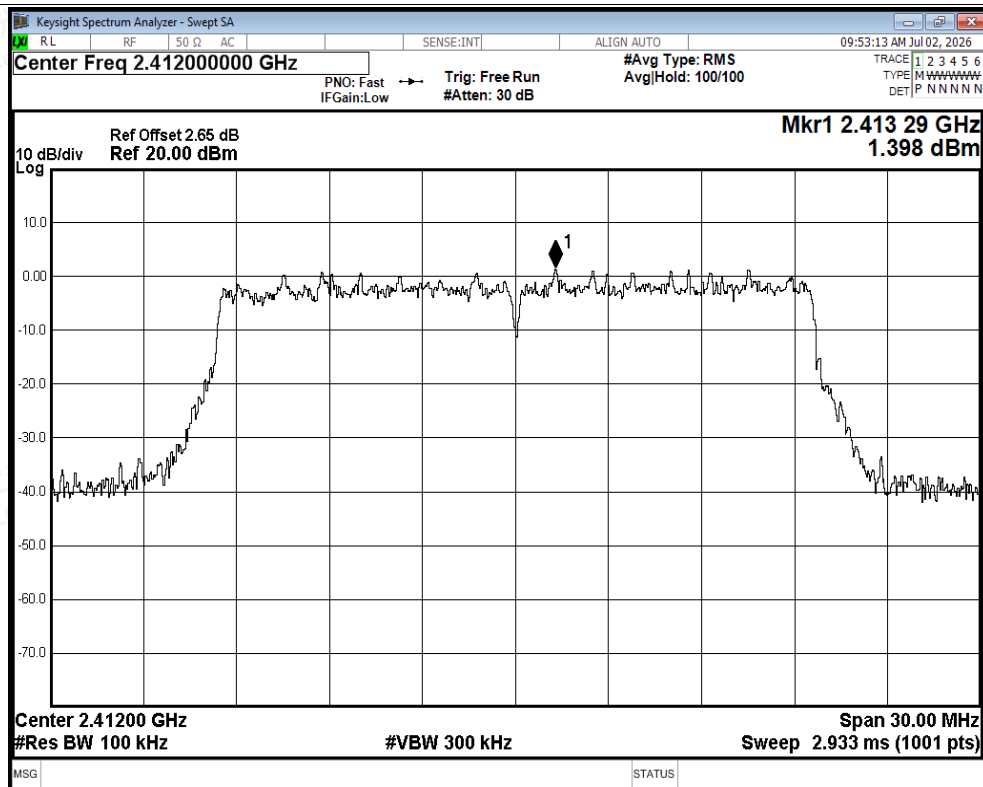
Band Edge NVNT n20 2412MHz Ant2 Emission



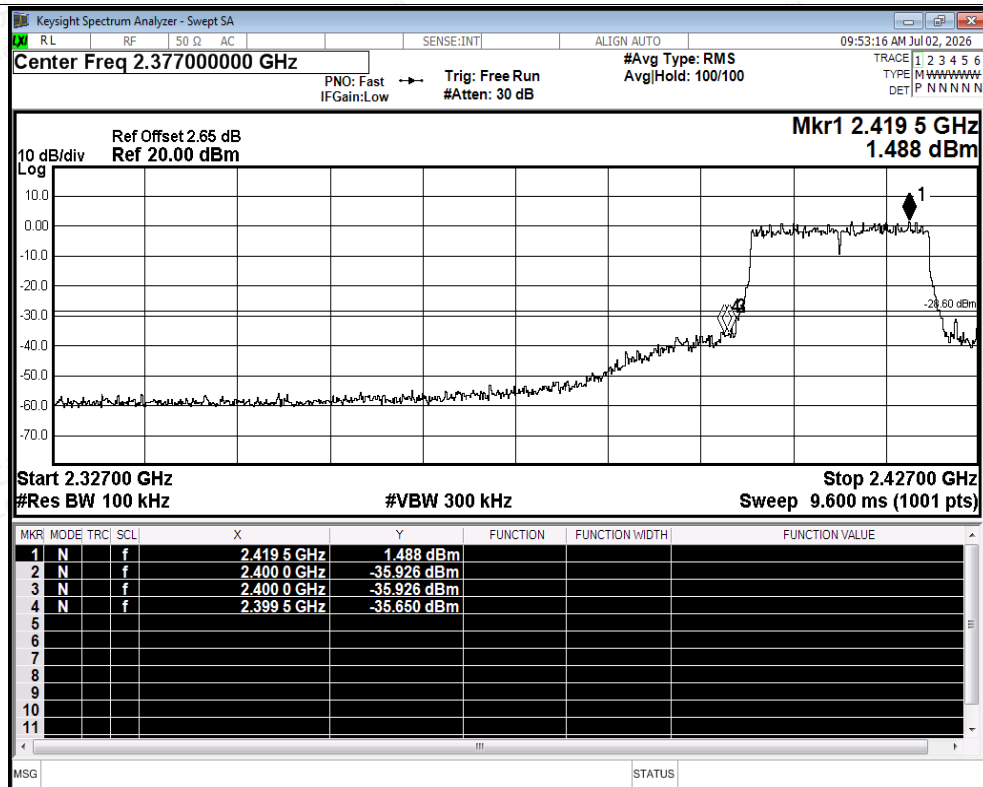
Band Edge NVNT n20 2462MHz Ant2 Ref



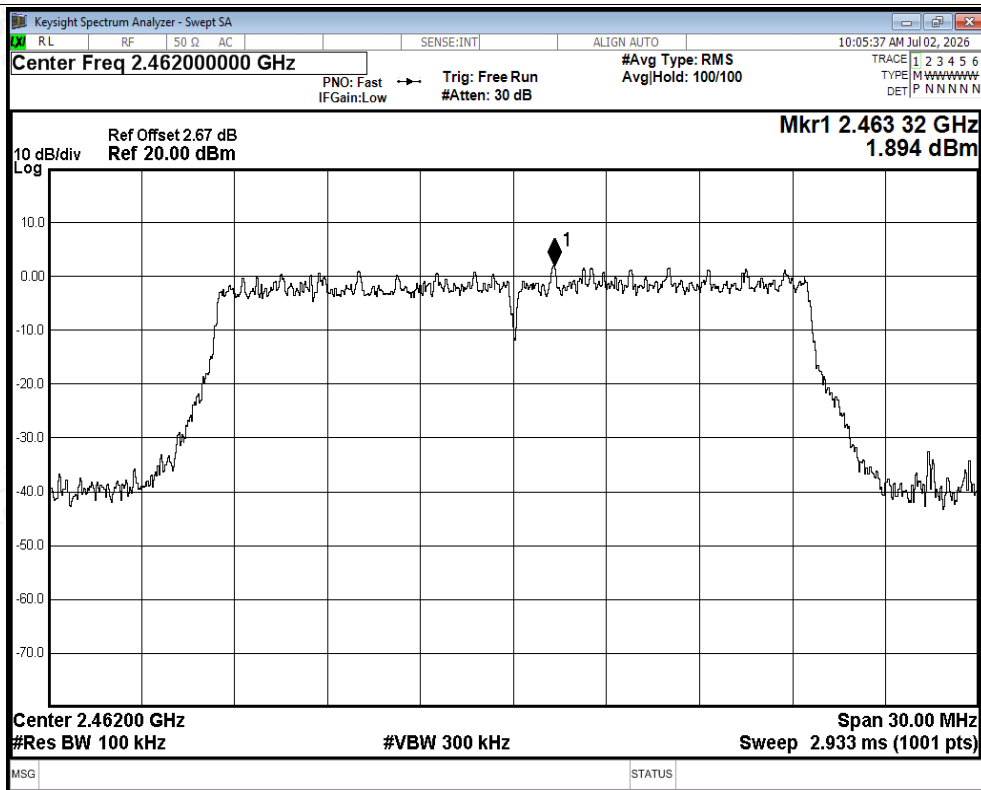
Band Edge NVNT n20 2462MHz Ant2 Emission



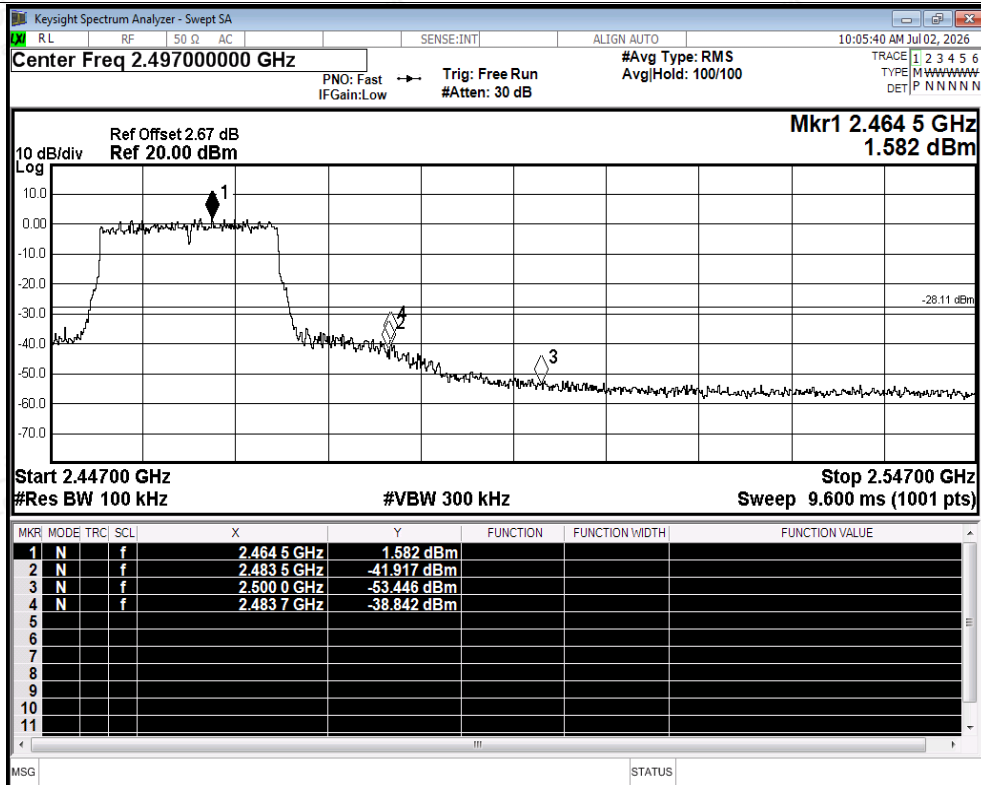
Band Edge NVNT ax20 2412MHz Ant2 Ref



Band Edge NVNT ax20 2412MHz Ant2 Emission



Band Edge NVNT ax20 2462MHz Ant2 Ref

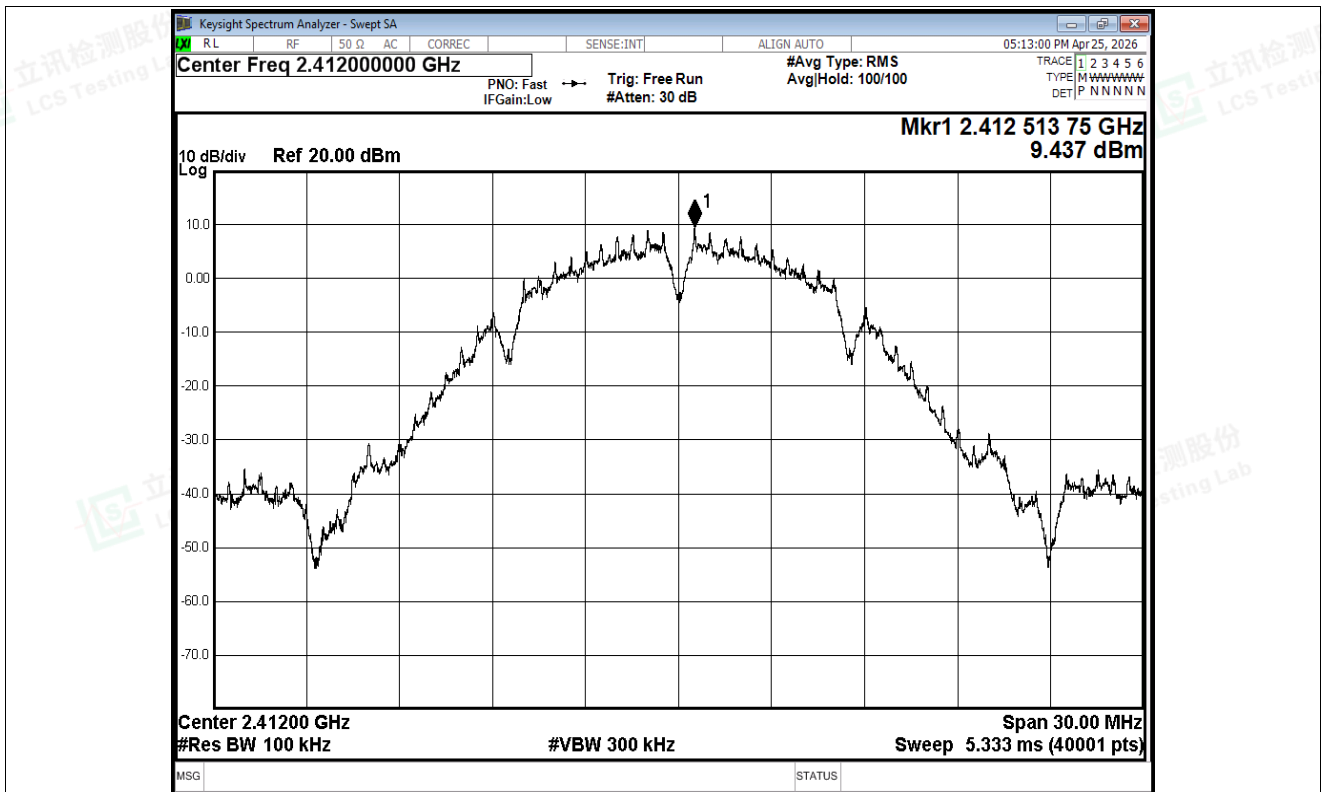


Band Edge NVNT ax20 2462MHz Ant2 Emission

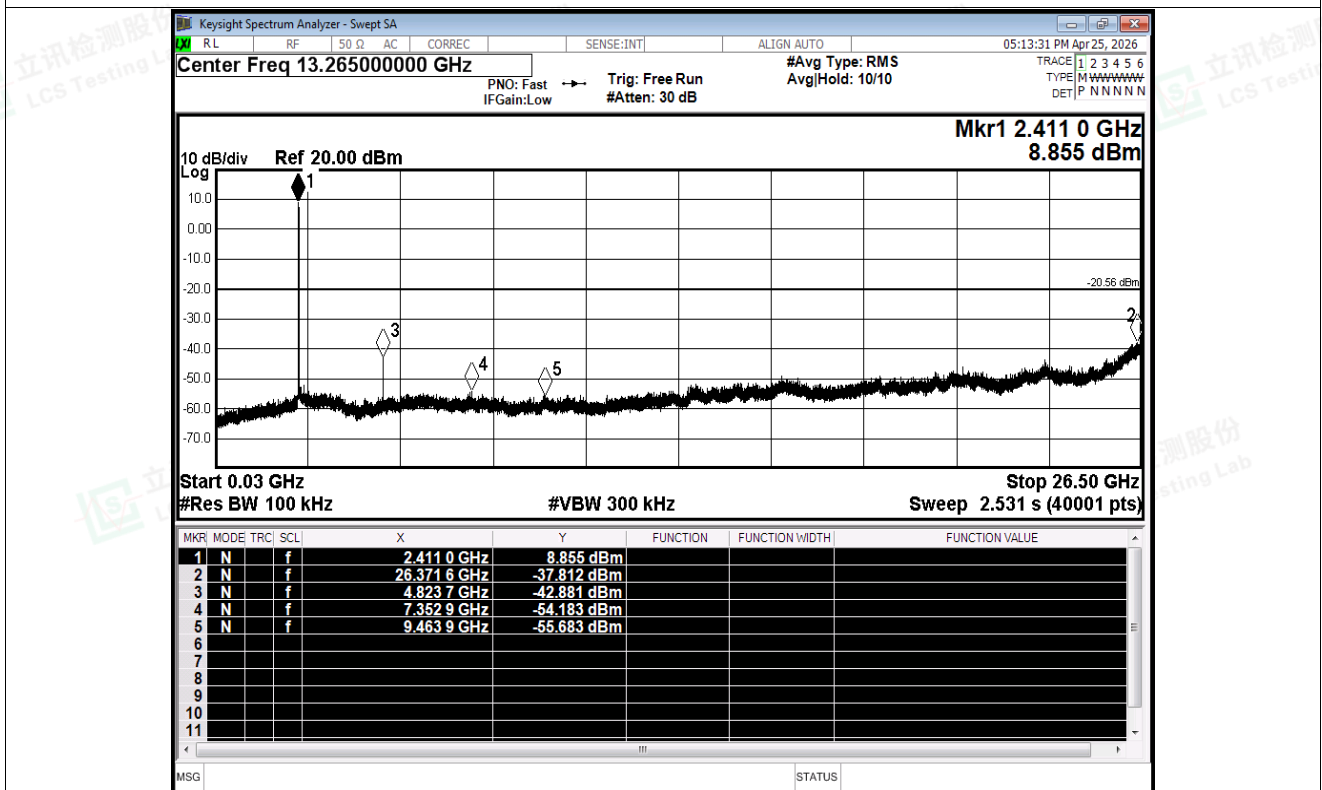


C.5 Conducted RF Spurious Emission

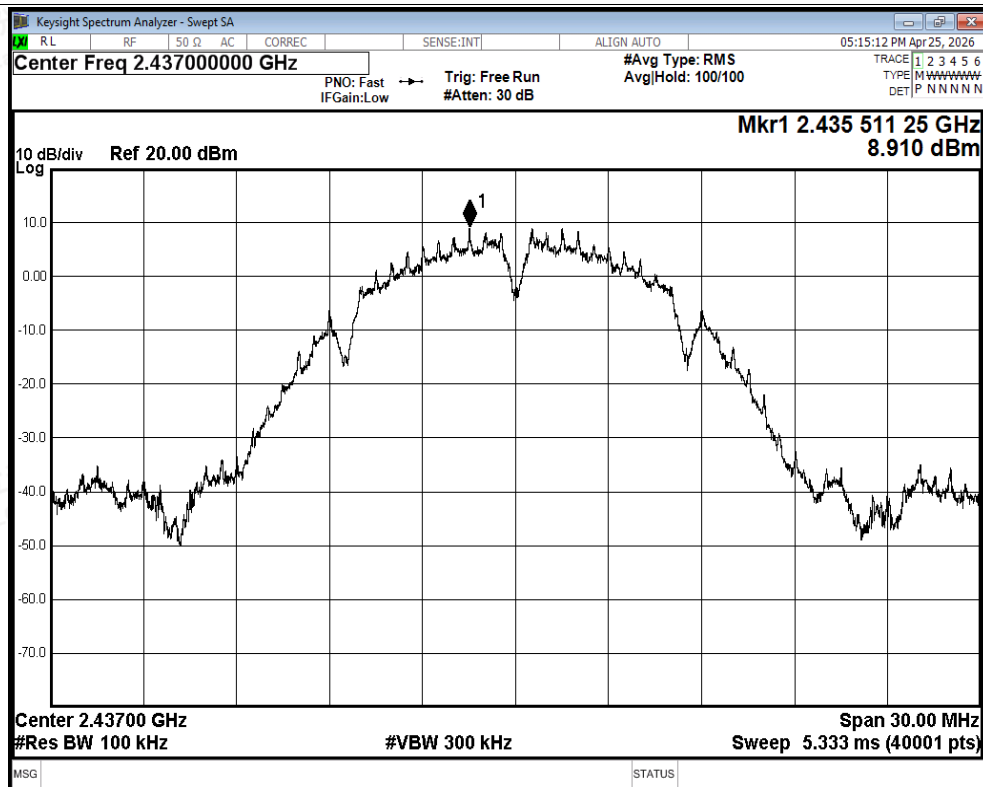
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-47.25	-30	Pass
NVNT	b	2437	Ant1	-46.38	-30	Pass
NVNT	b	2462	Ant1	-47.35	-30	Pass
NVNT	g	2412	Ant1	-41.53	-30	Pass
NVNT	g	2437	Ant1	-41.4	-30	Pass
NVNT	g	2462	Ant1	-40.86	-30	Pass
NVNT	n20	2412	Ant1	-41.32	-30	Pass
NVNT	n20	2437	Ant1	-39.86	-30	Pass
NVNT	n20	2462	Ant1	-41.4	-30	Pass
NVNT	ax20	2412	Ant1	-40.04	-30	Pass
NVNT	ax20	2437	Ant1	-39.24	-30	Pass
NVNT	ax20	2462	Ant1	-38.6	-30	Pass



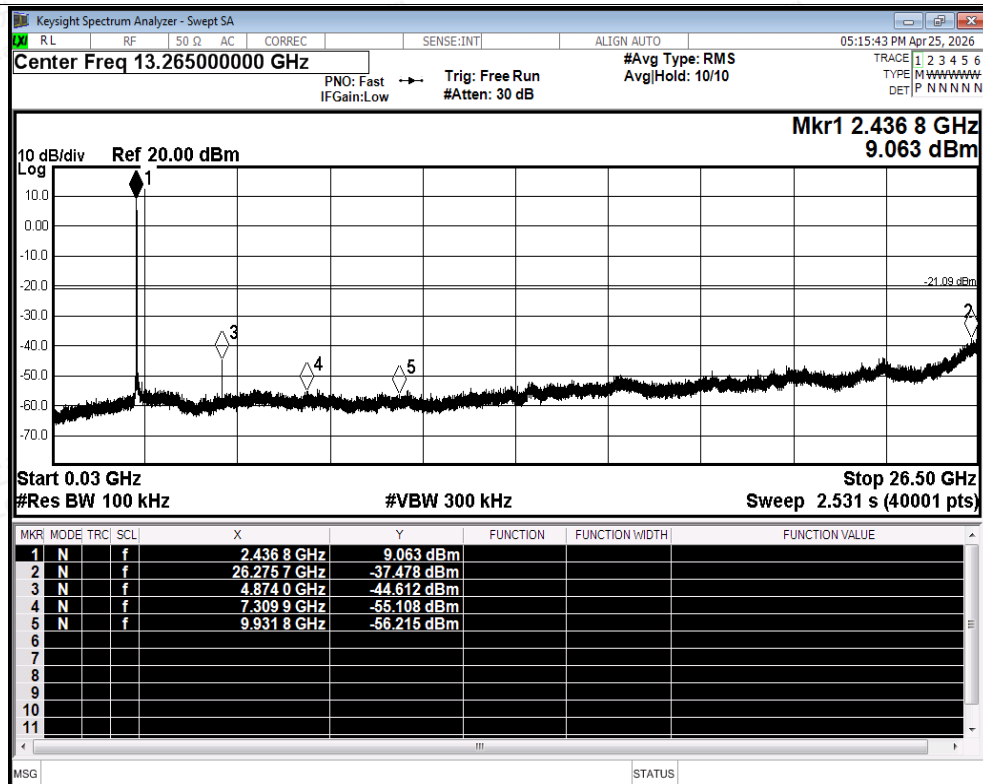
Tx. Spurious NVNT b 2412MHz Ant1 Ref



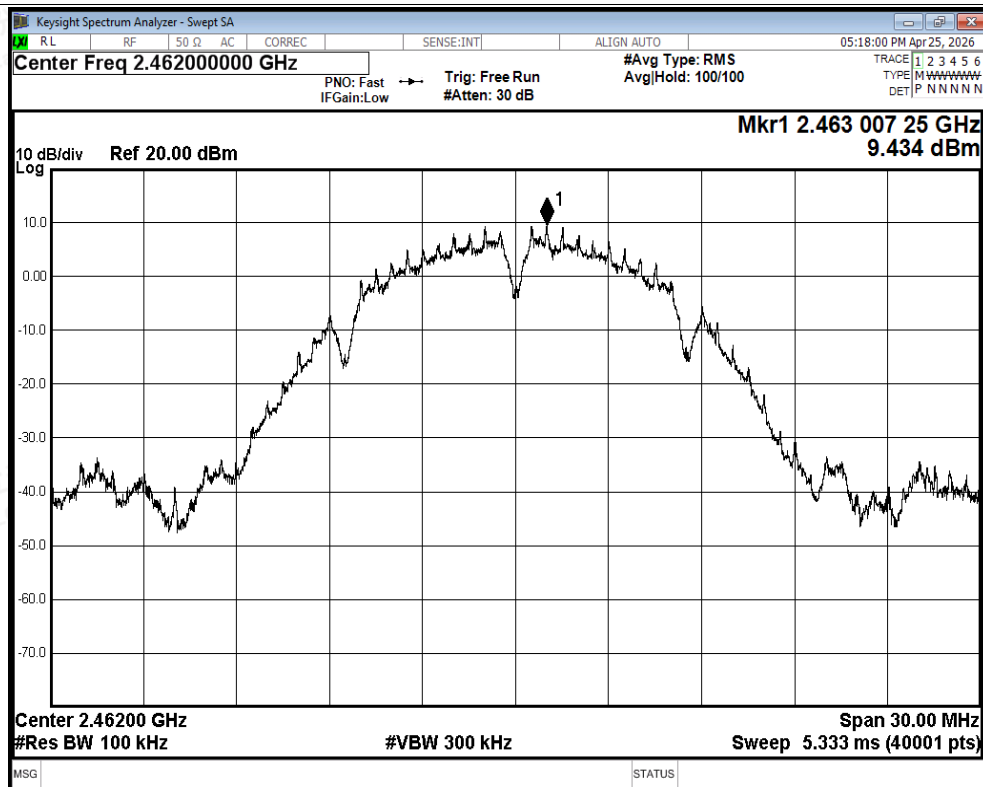
Tx. Spurious NVNT b 2412MHz Ant1 Emission



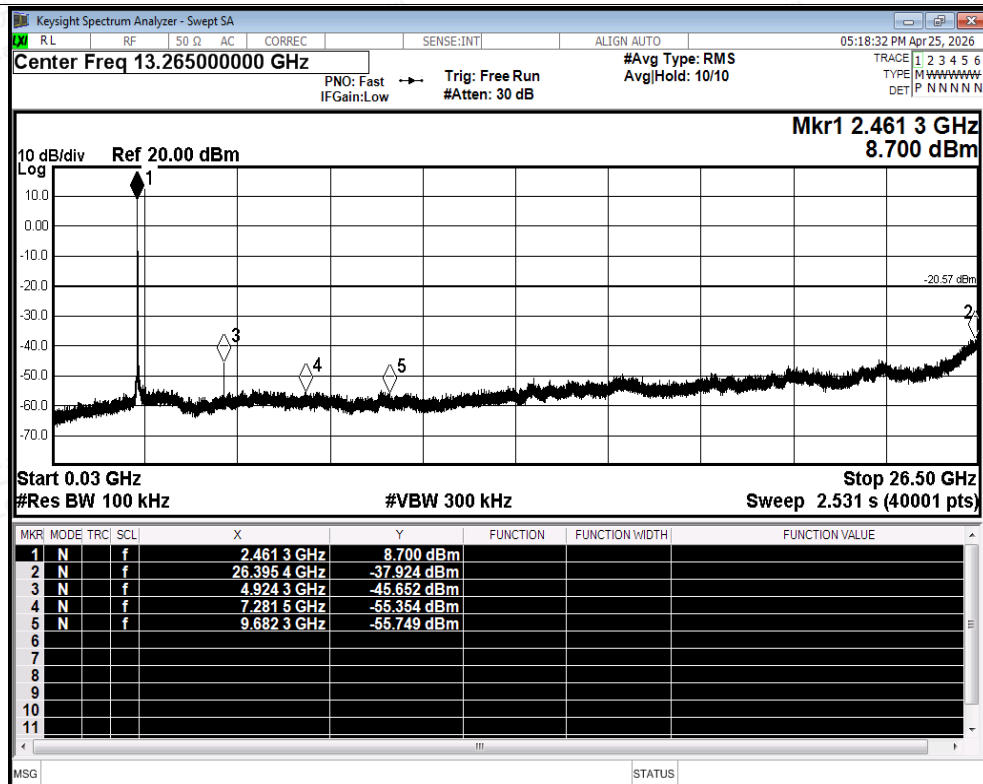
Tx. Spurious NVNT b 2437MHz Ant1 Ref



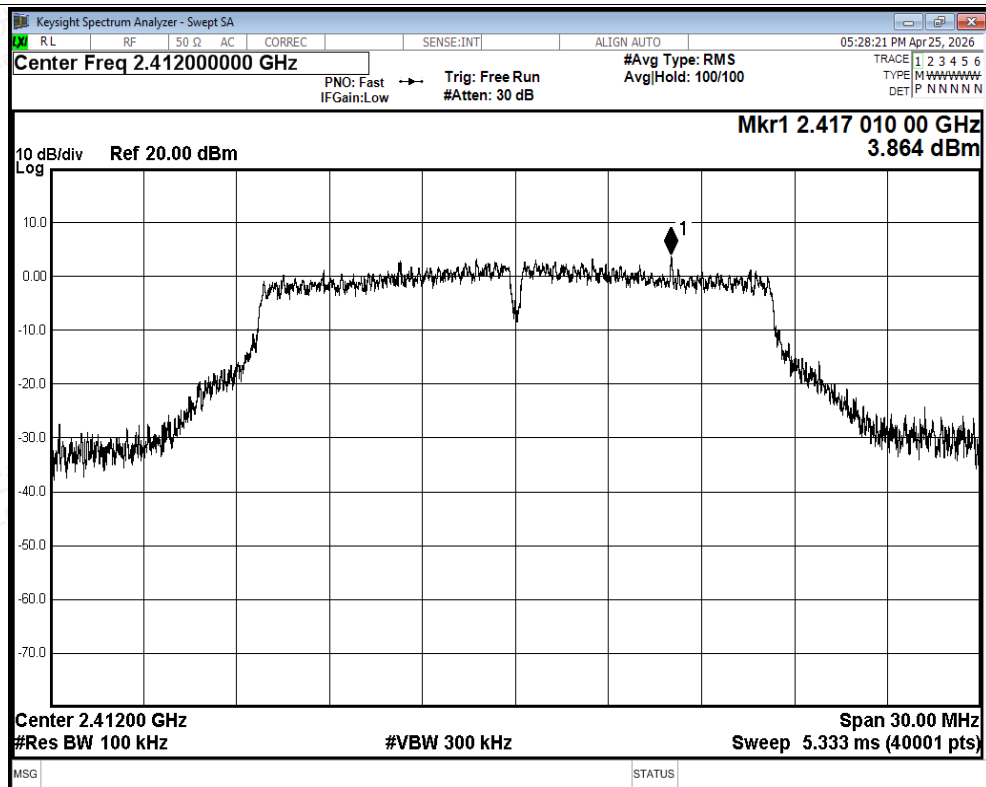
Tx. Spurious NVNT b 2437MHz Ant1 Emission



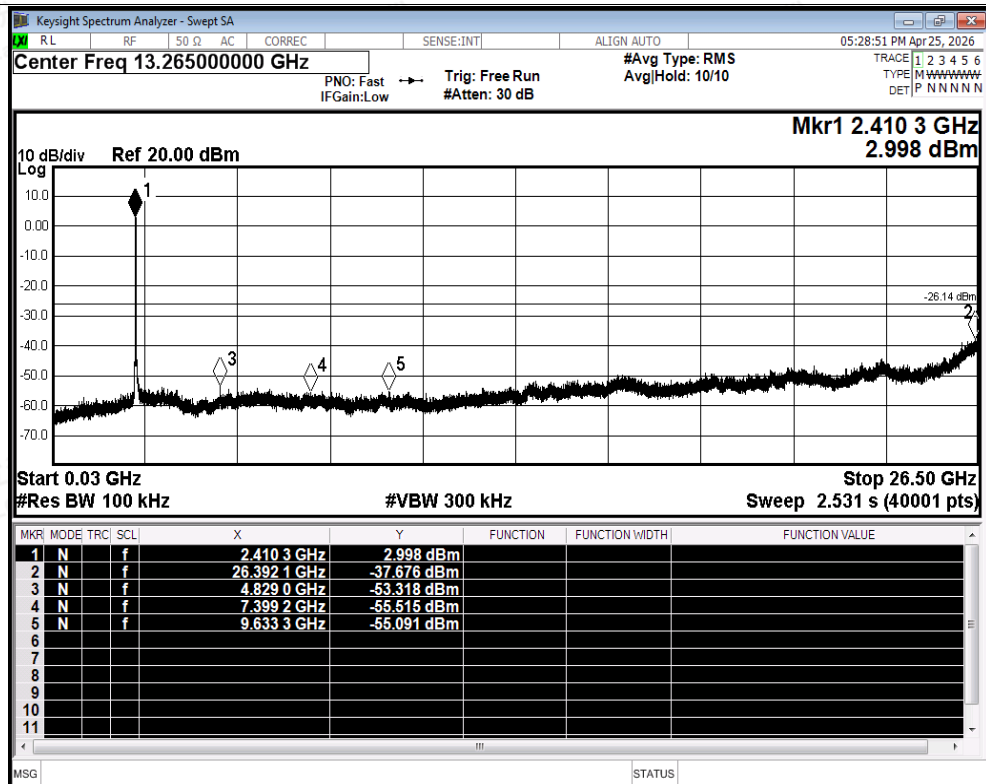
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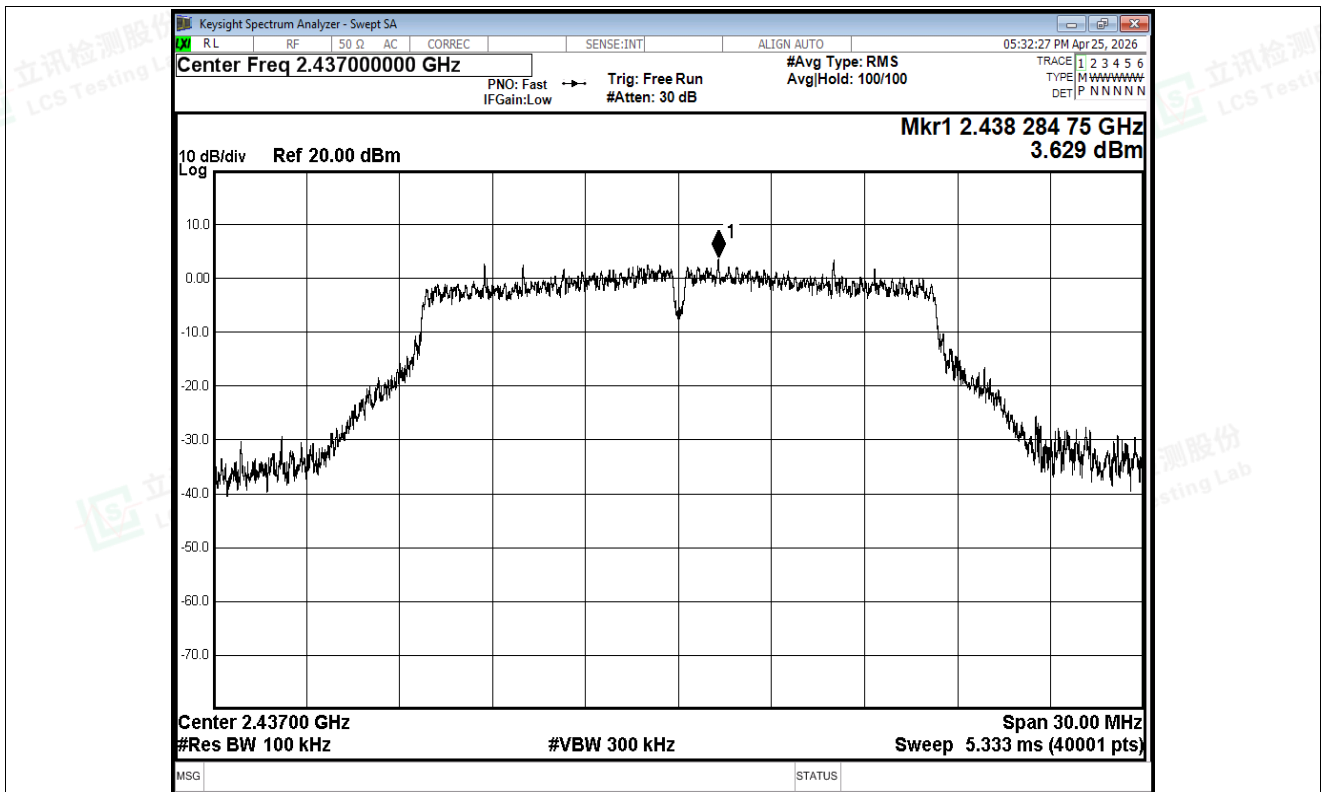
Tx. Spurious NVNT b 2462MHz Ant1 Emission



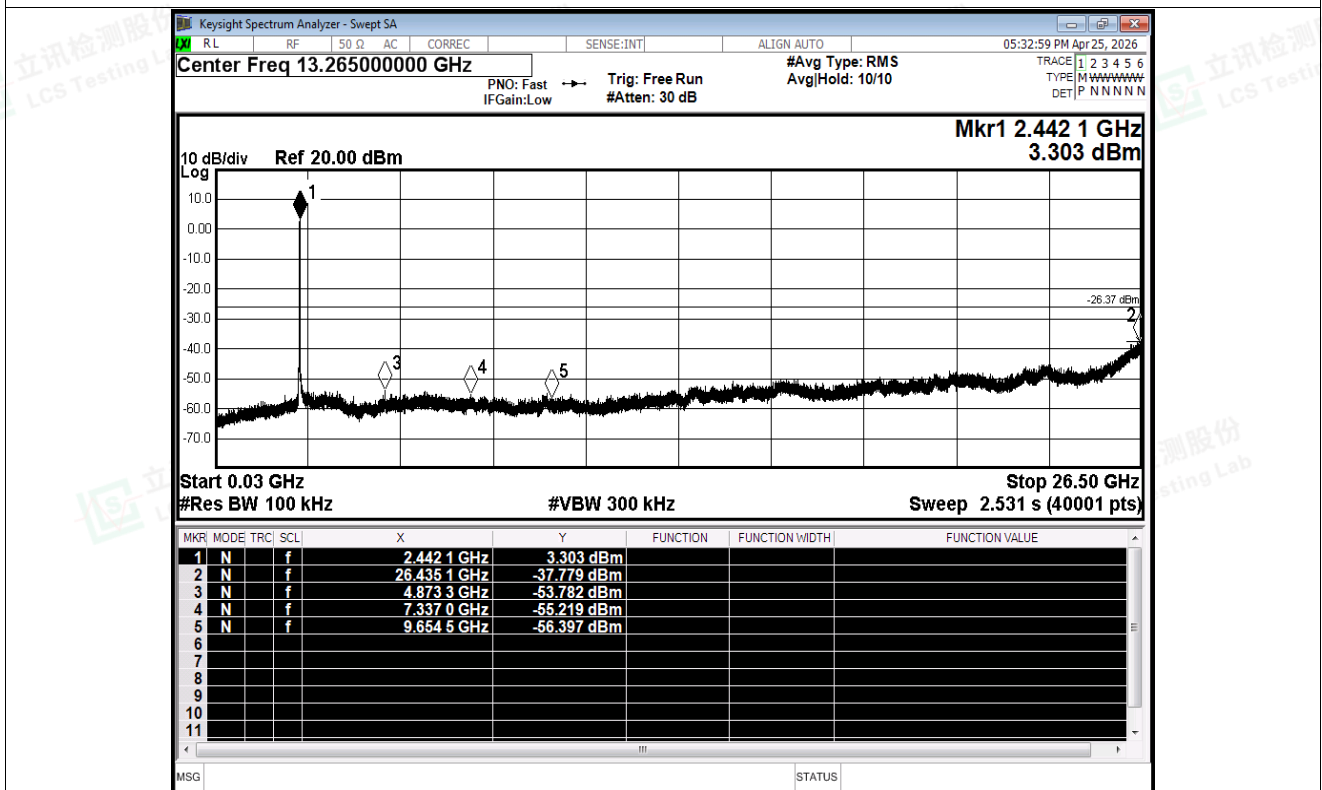
Tx. Spurious NVNT g 2412MHz Ant1 Ref



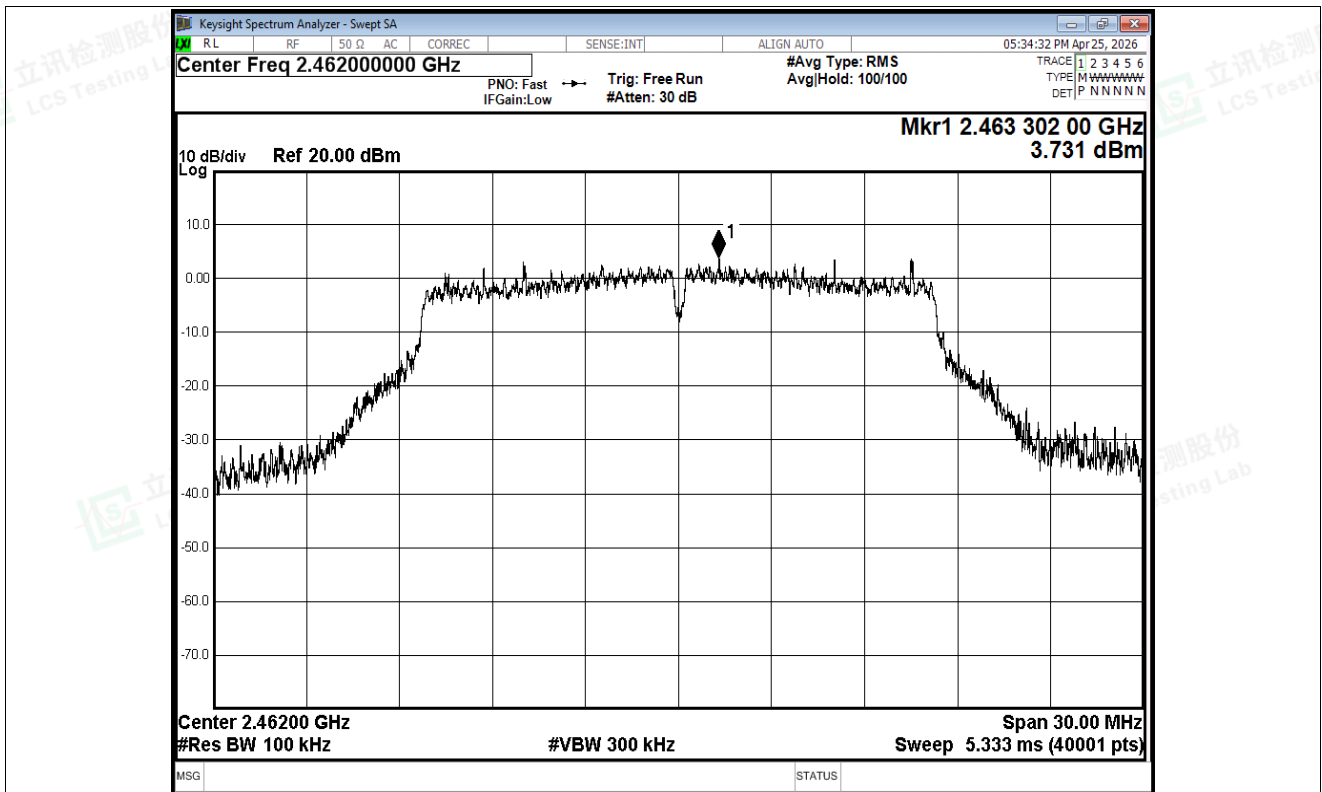
Tx. Spurious NVNT g 2412MHz Ant1 Emission



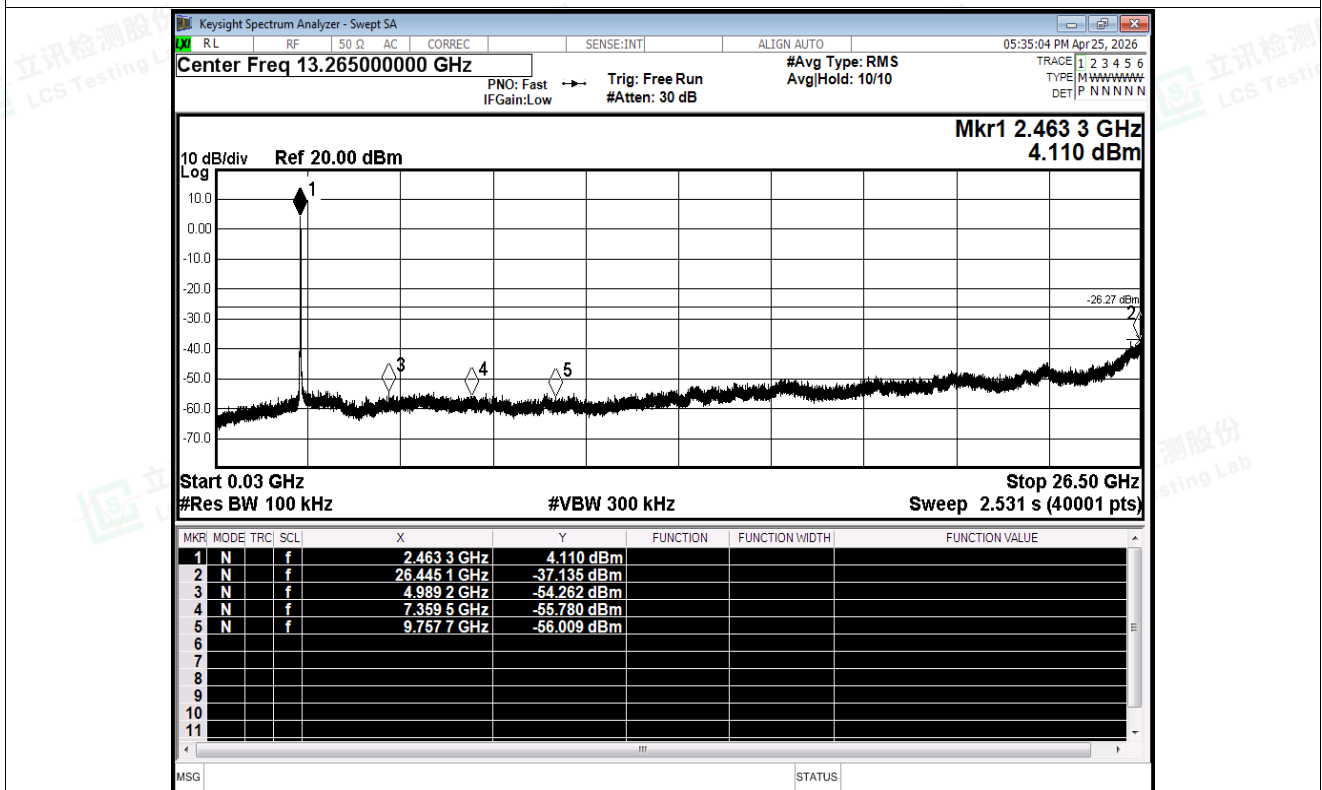
Tx. Spurious NVNT g 2437MHz Ant1 Ref



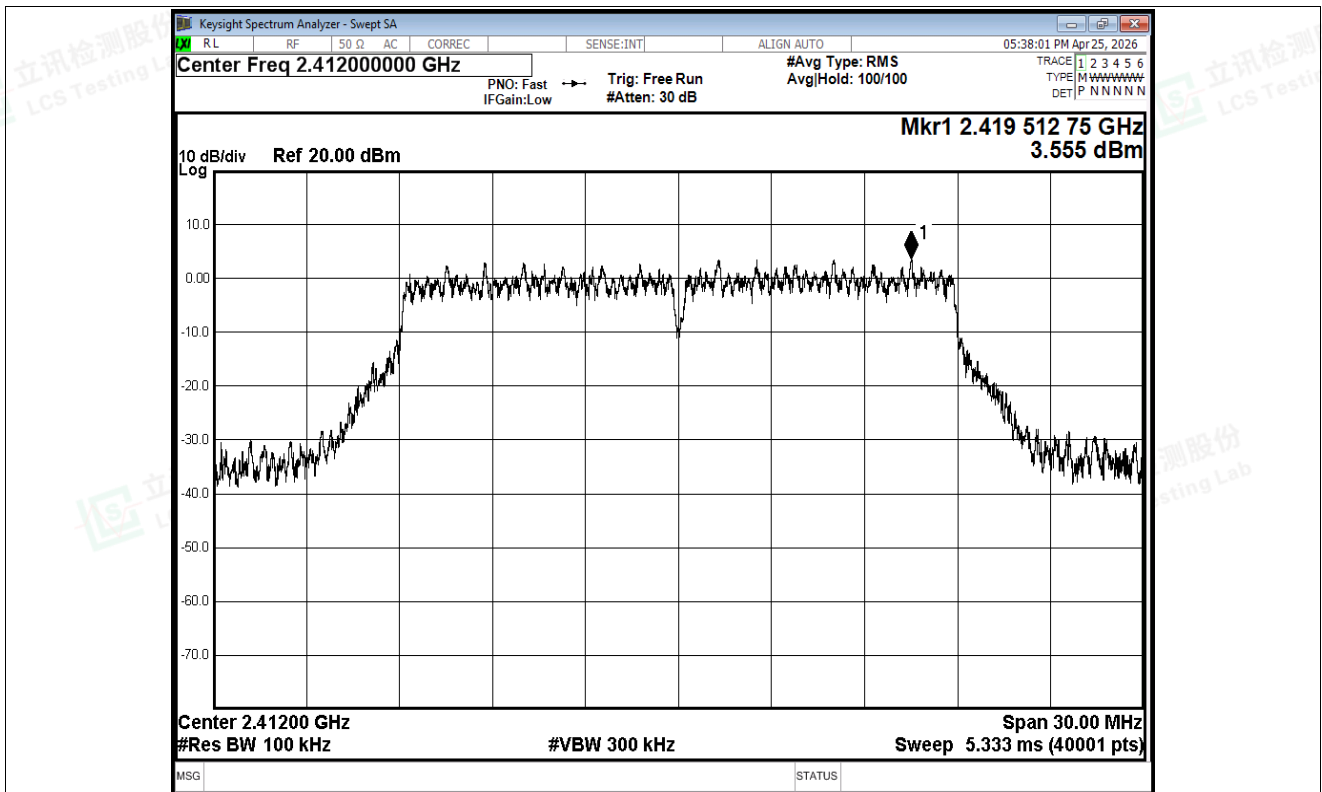
Tx. Spurious NVNT g 2437MHz Ant1 Emission



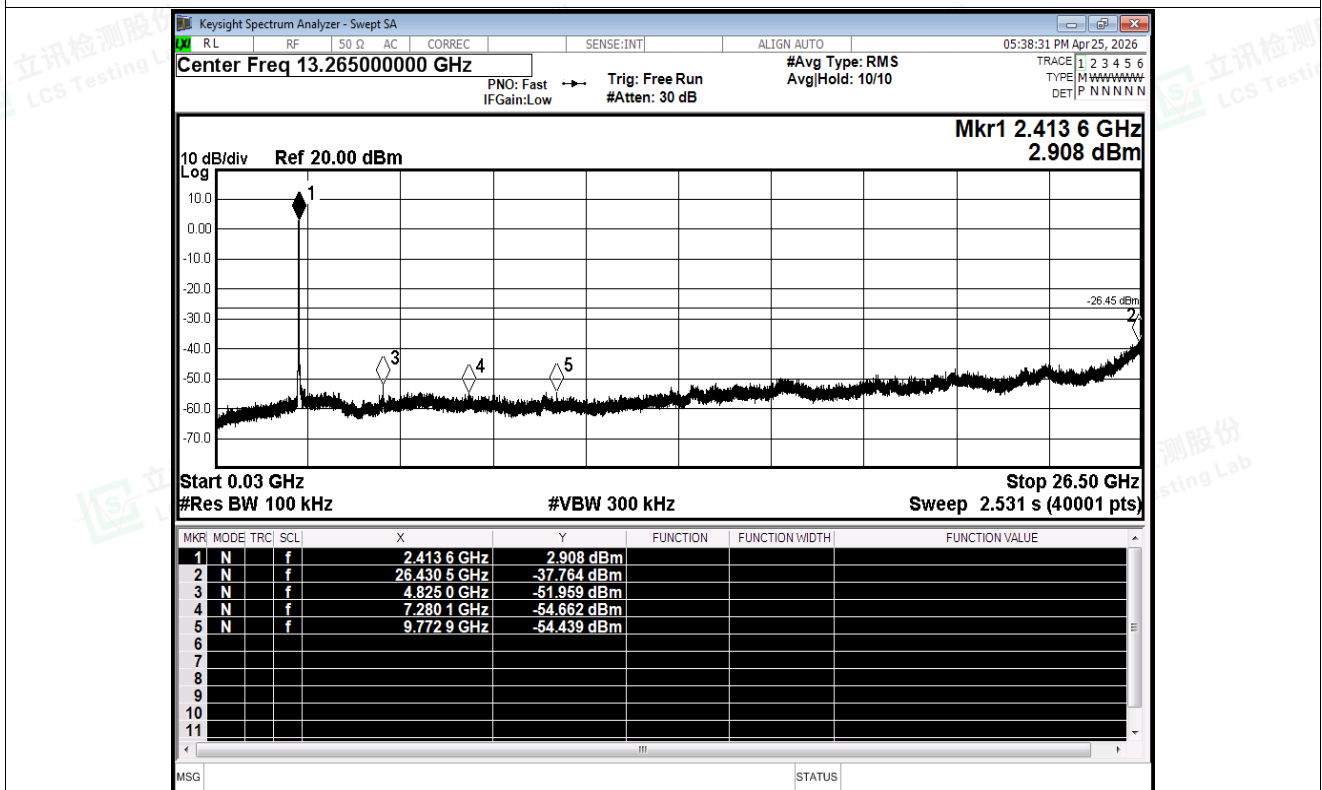
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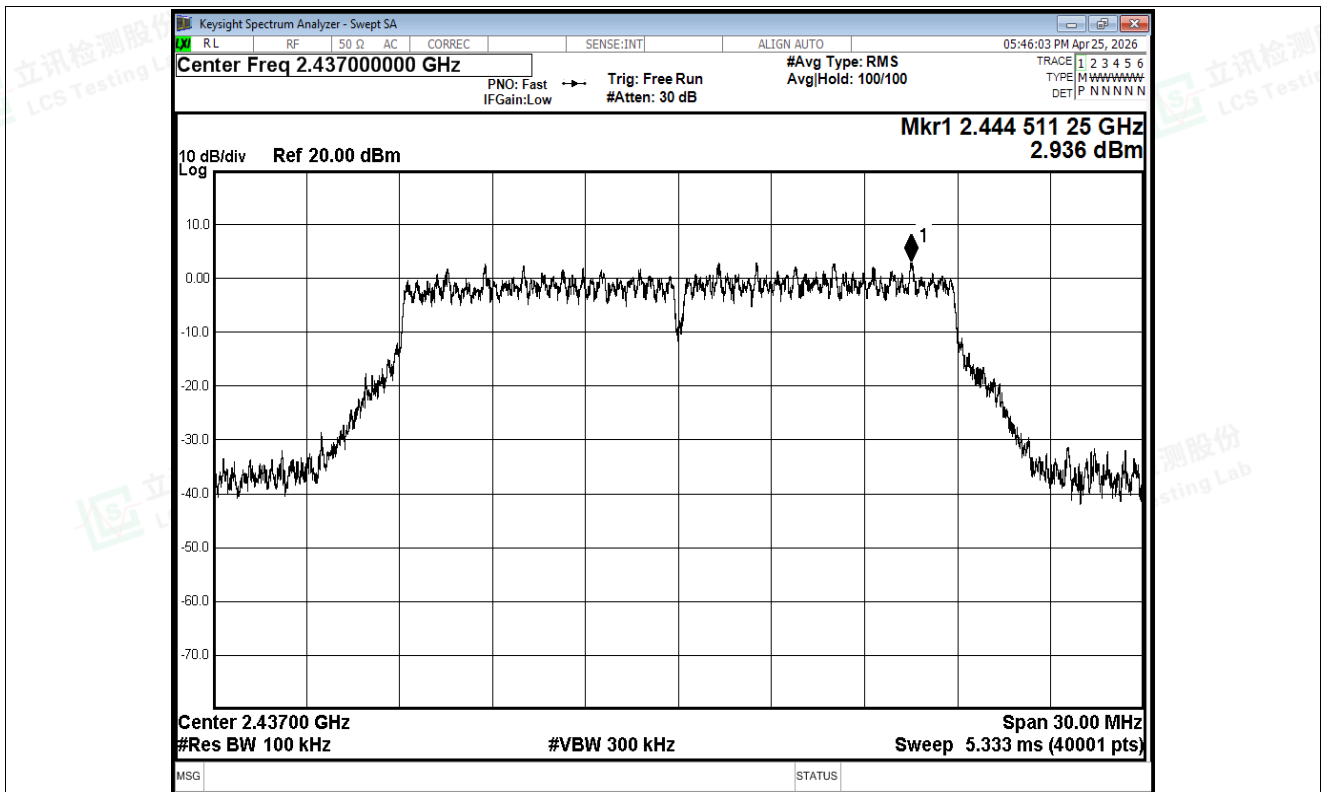
Tx. Spurious NVNT g 2462MHz Ant1 Emission



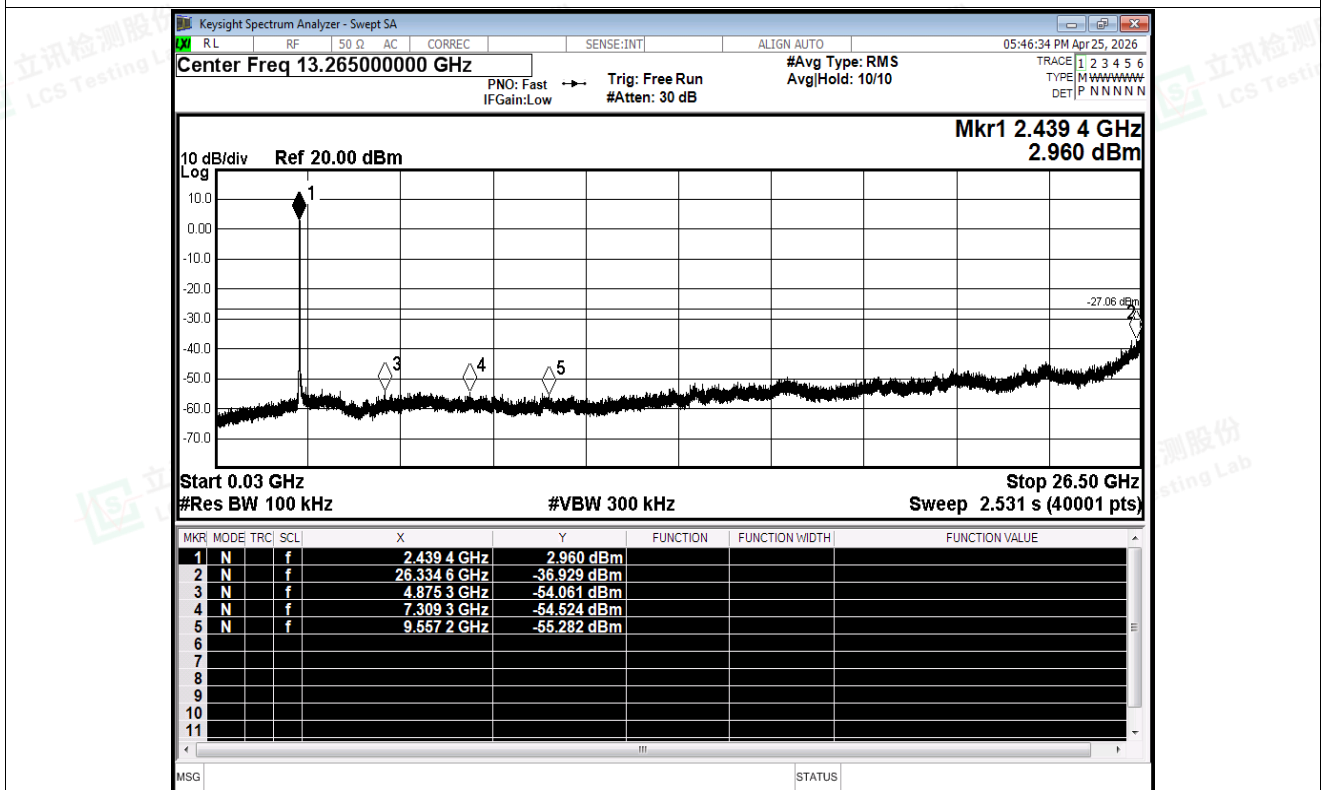
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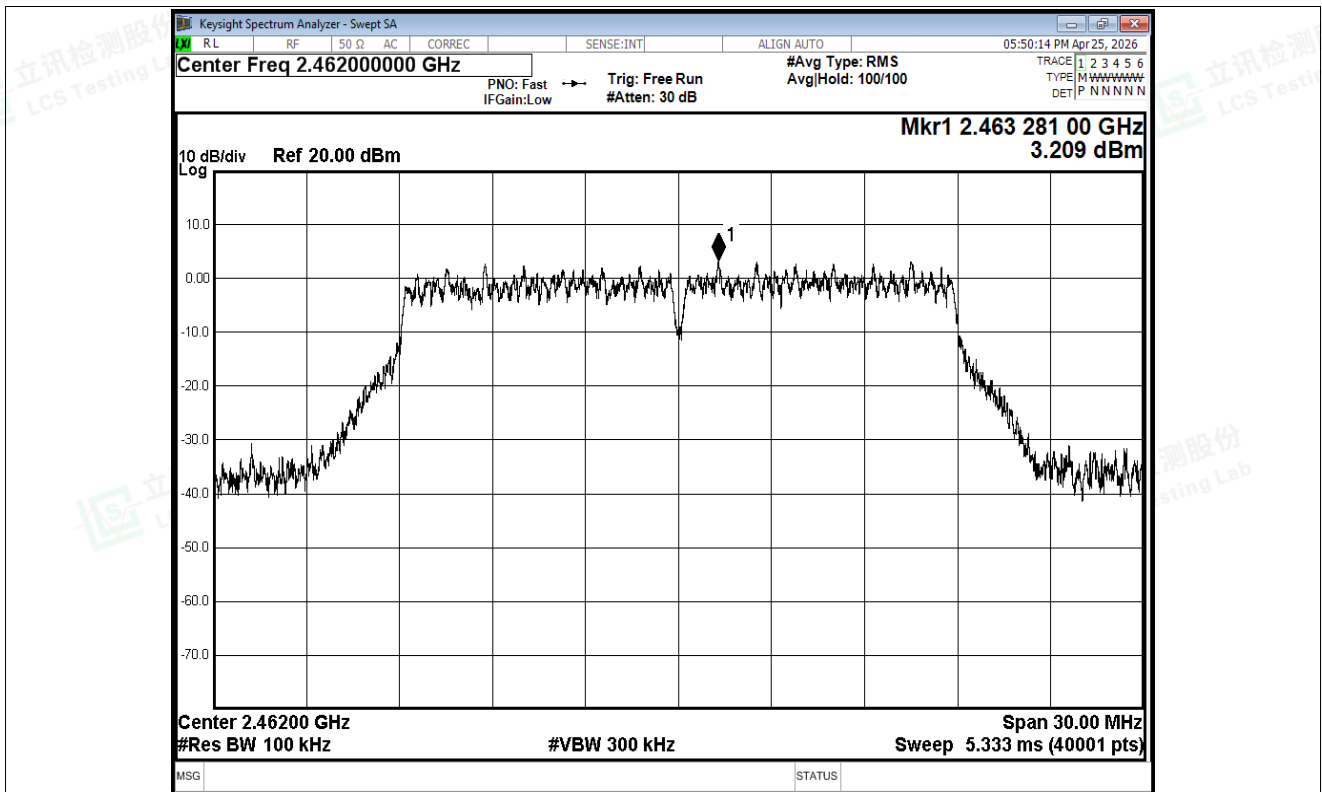
Tx. Spurious NVNT n20 2412MHz Ant1 Emission



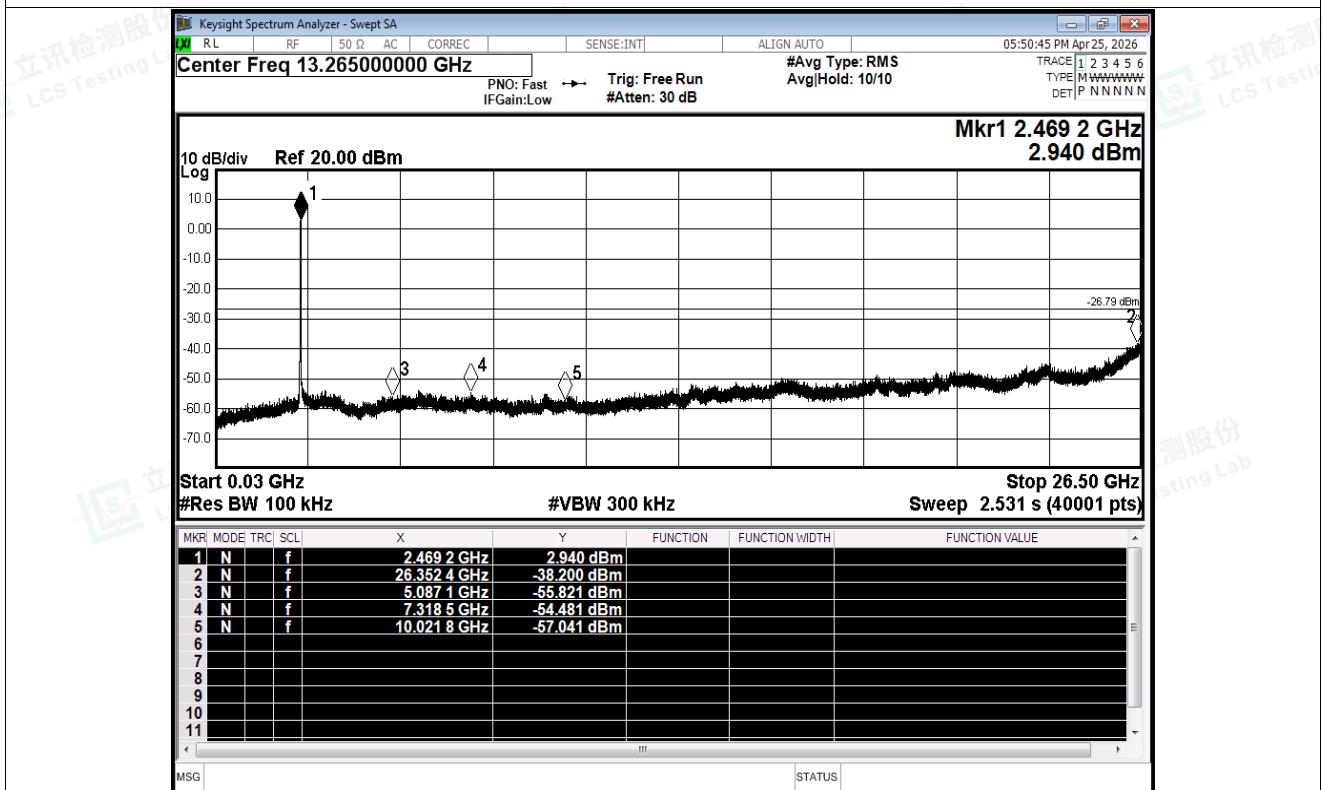
Tx. Spurious NVNT n20 2437MHz Ant1 Ref



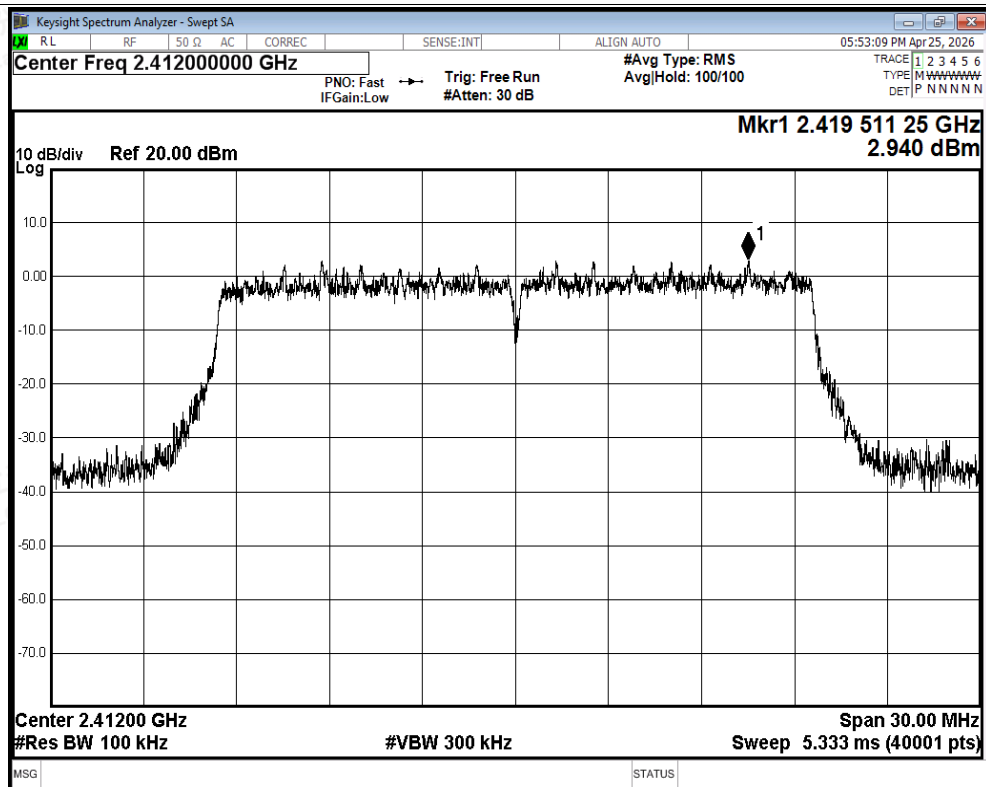
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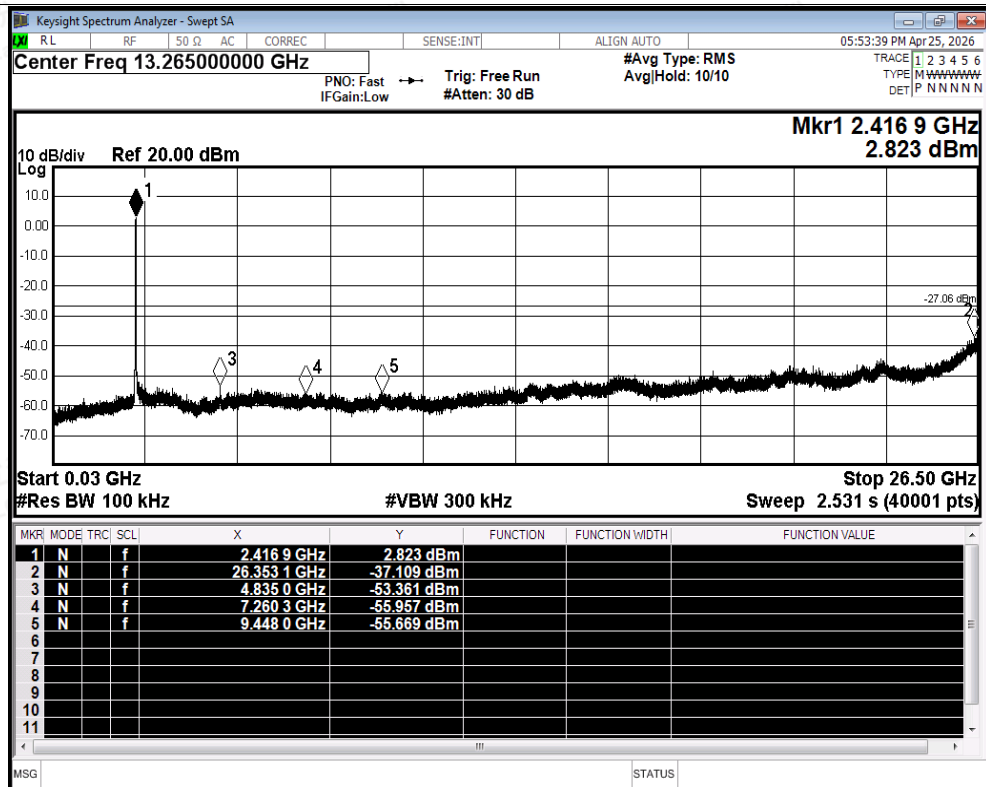
Tx. Spurious NVNT n20 2462MHz Ant1 Ref



Tx. Spurious NVNT n20 2462MHz Ant1 Emission



Tx. Spurious NVNT ax20 2412MHz Ant1 Ref



Tx. Spurious NVNT ax20 2412MHz Ant1 Emission