



Appendix B

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: MUZIM L1 Data Hub

Test Model: MUZIM-L1

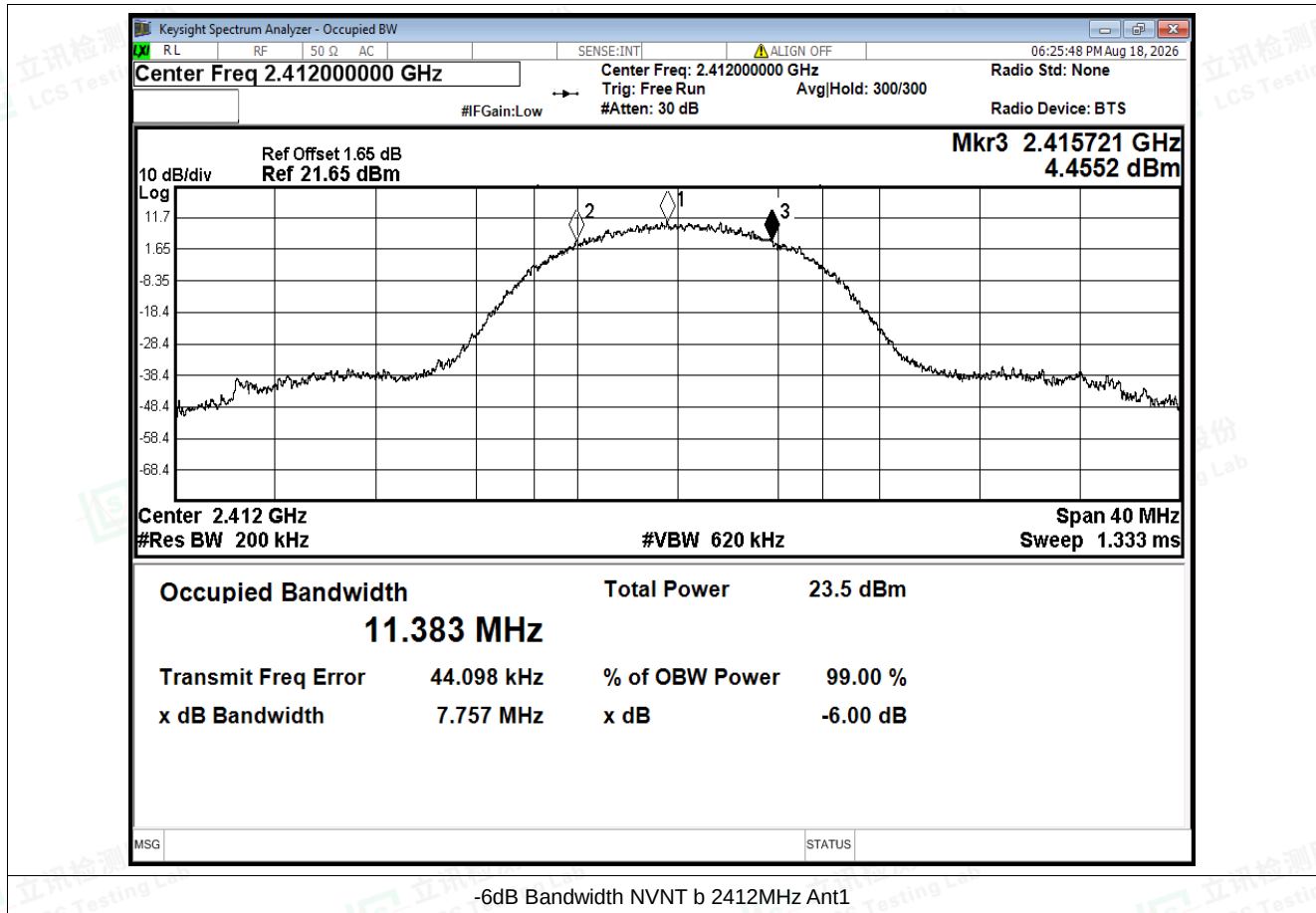
Environmental Conditions

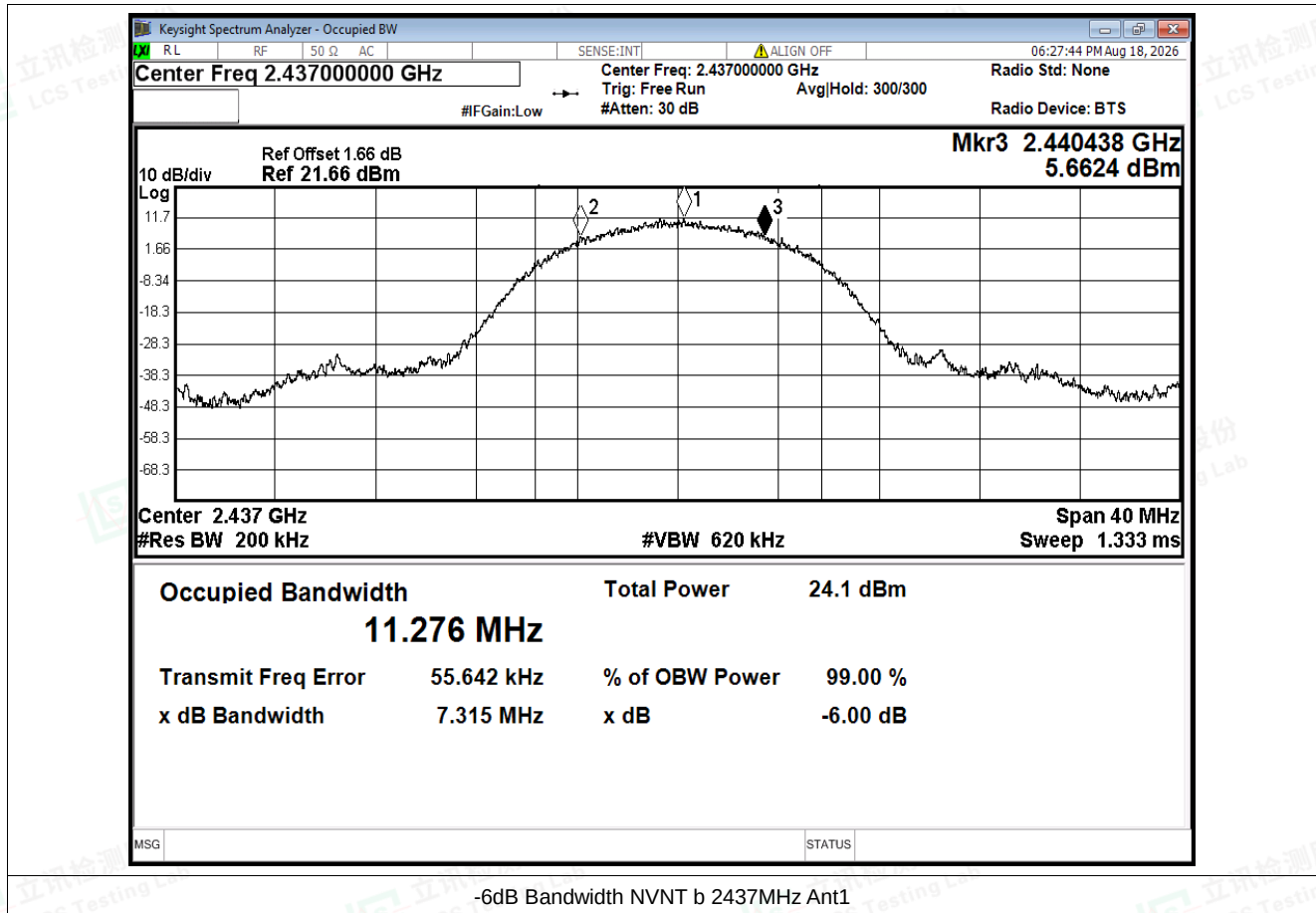
Temperature:	24.2°C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Faith Li
Supervised by:	Can Kun

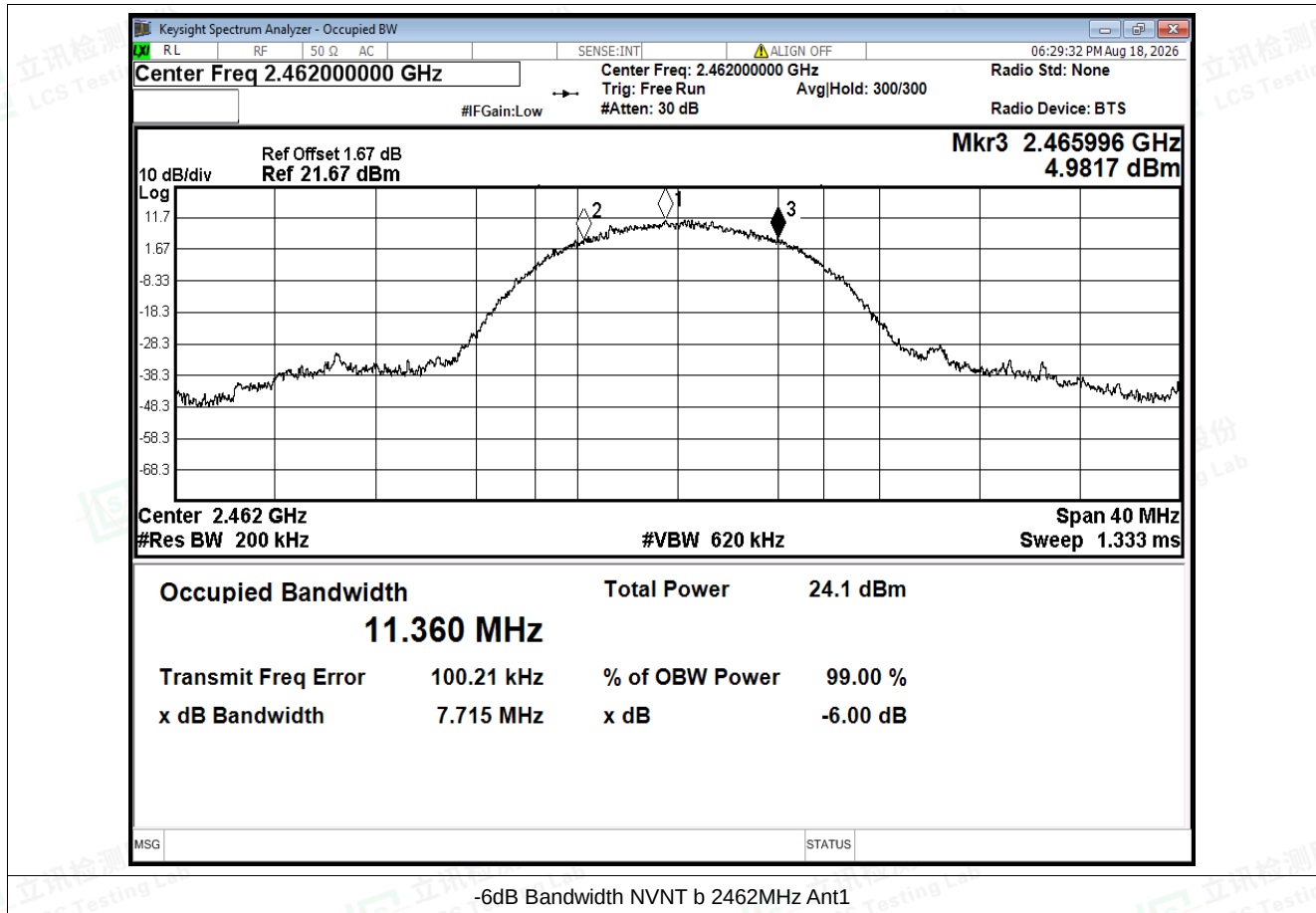


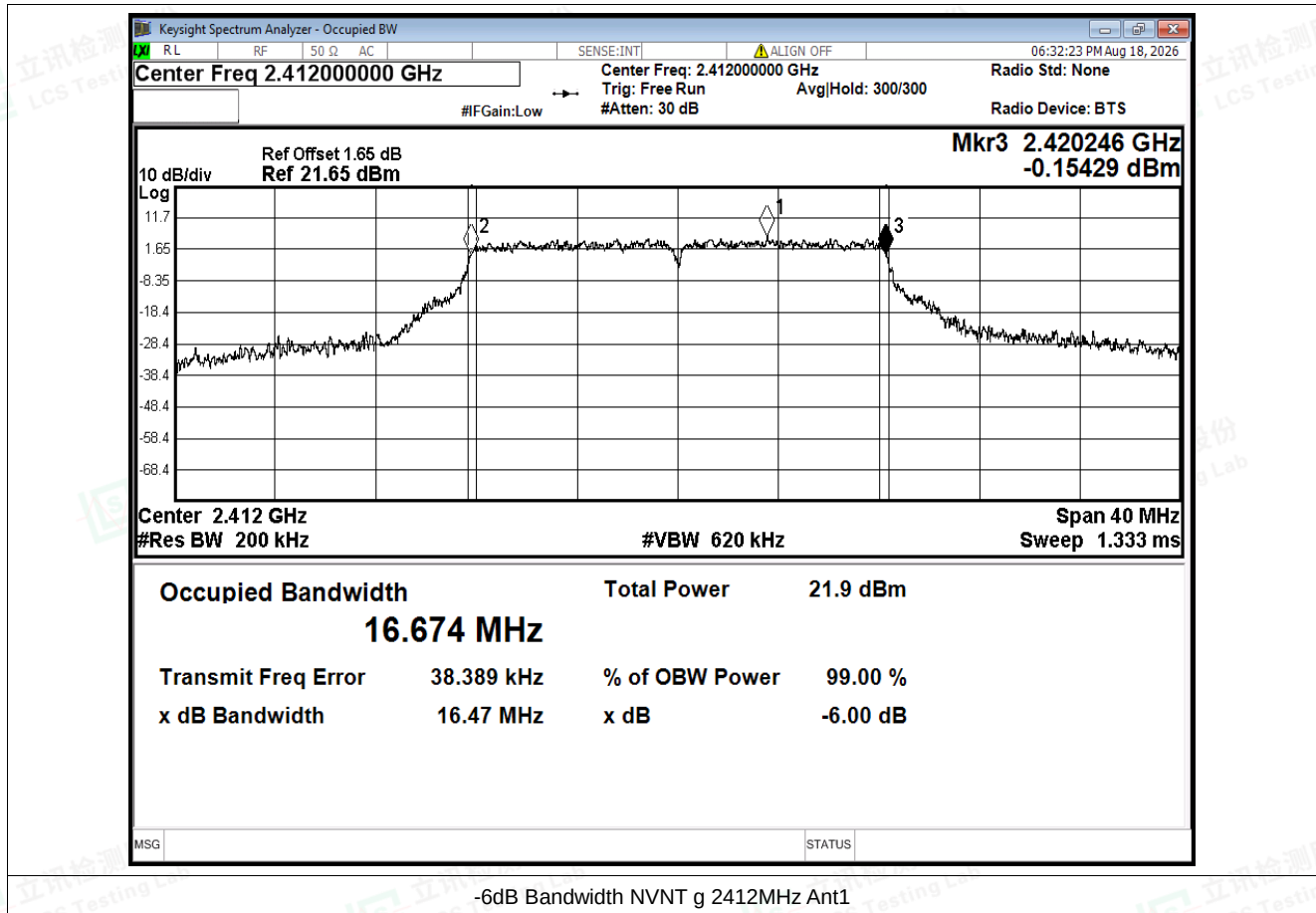
B.1 -6dB Bandwidth

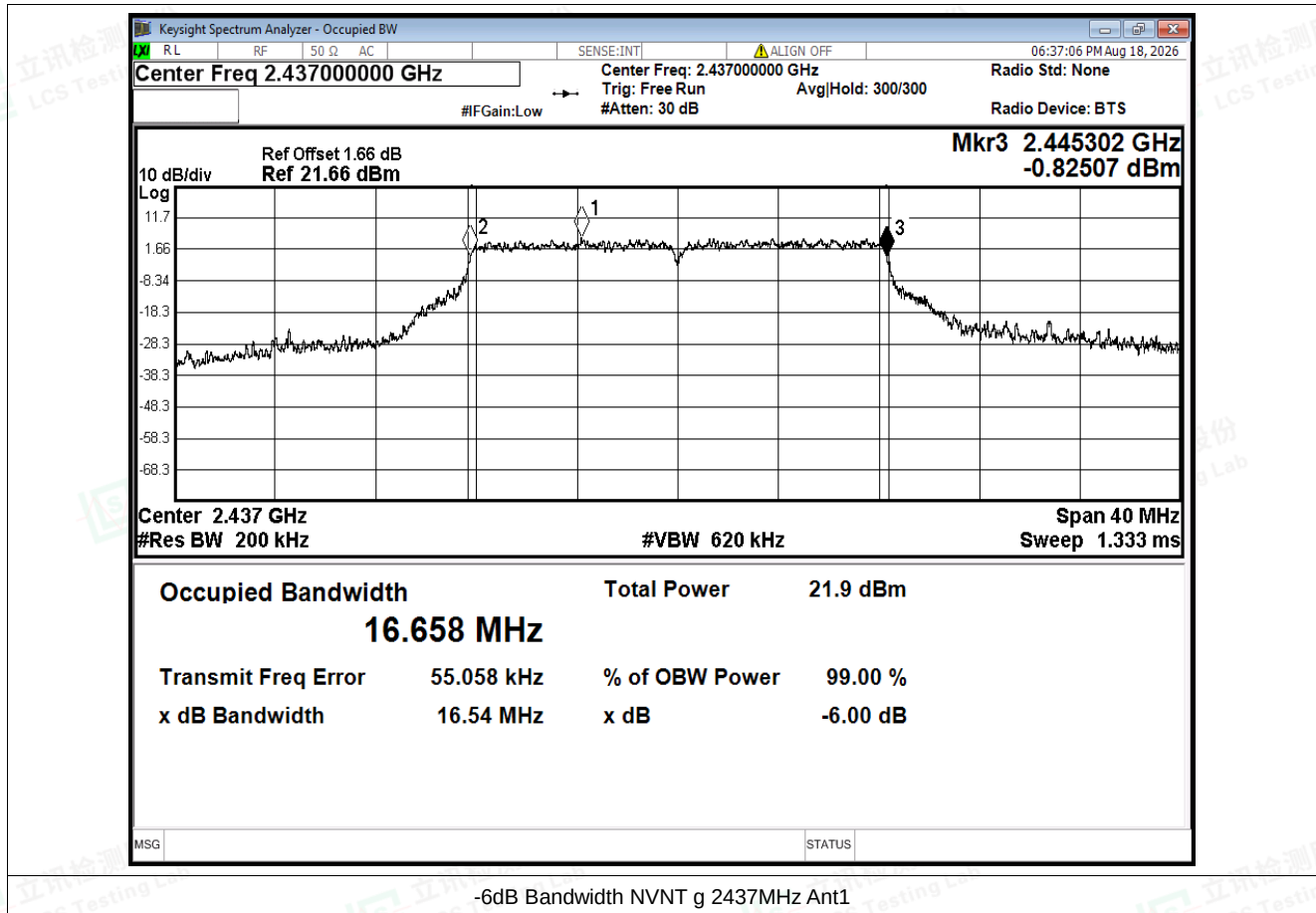
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	7.757	0.5	Pass
NVNT	b	2437	Ant1	7.315	0.5	Pass
NVNT	b	2462	Ant1	7.715	0.5	Pass
NVNT	g	2412	Ant1	16.47	0.5	Pass
NVNT	g	2437	Ant1	16.54	0.5	Pass
NVNT	g	2462	Ant1	16.58	0.5	Pass
NVNT	n20	2412	Ant1	17.73	0.5	Pass
NVNT	n20	2437	Ant1	17.83	0.5	Pass
NVNT	n20	2462	Ant1	17.75	0.5	Pass
NVNT	ax20	2412	Ant1	19.08	0.5	Pass
NVNT	ax20	2437	Ant1	19.12	0.5	Pass
NVNT	ax20	2462	Ant1	19.14	0.5	Pass

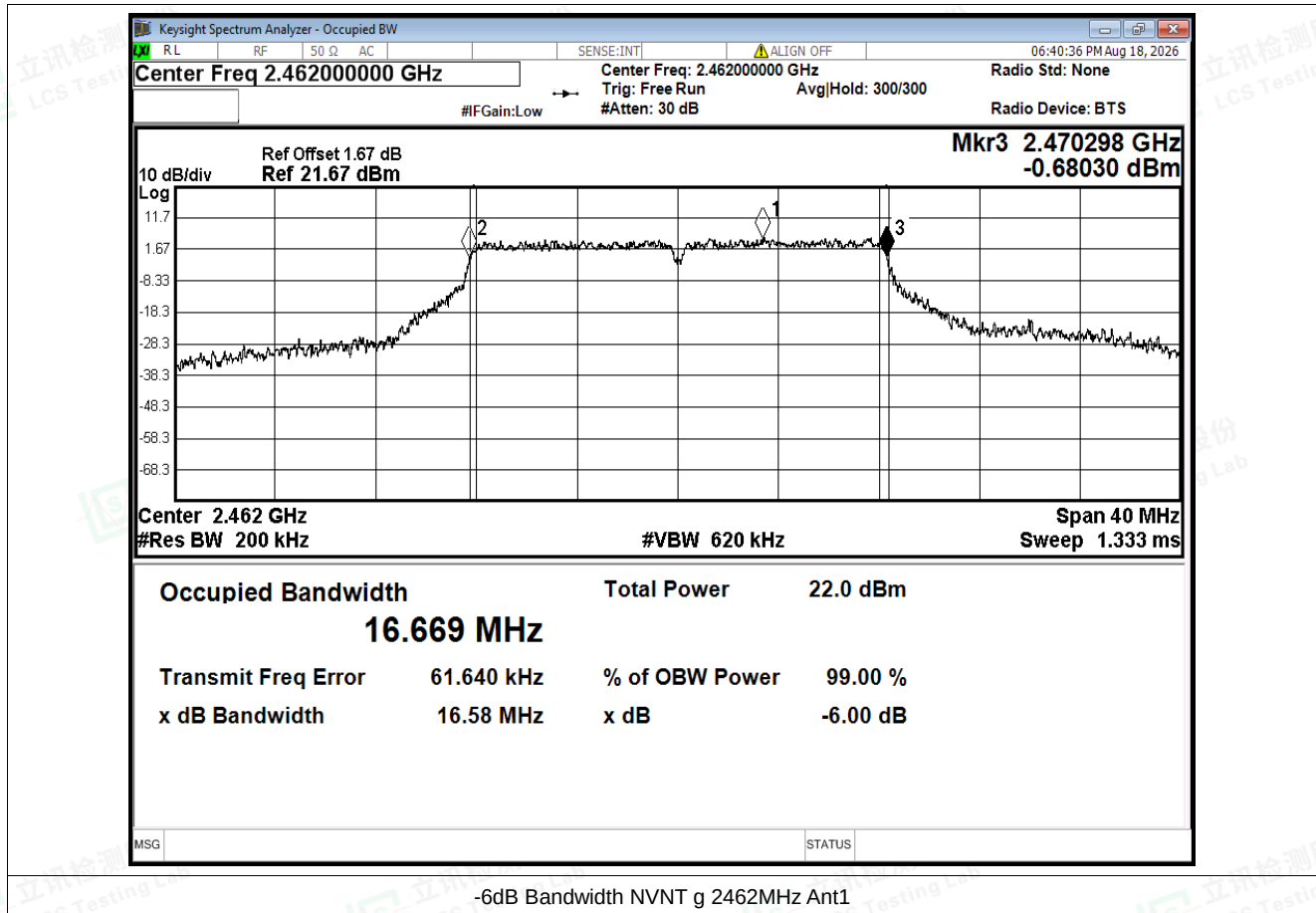


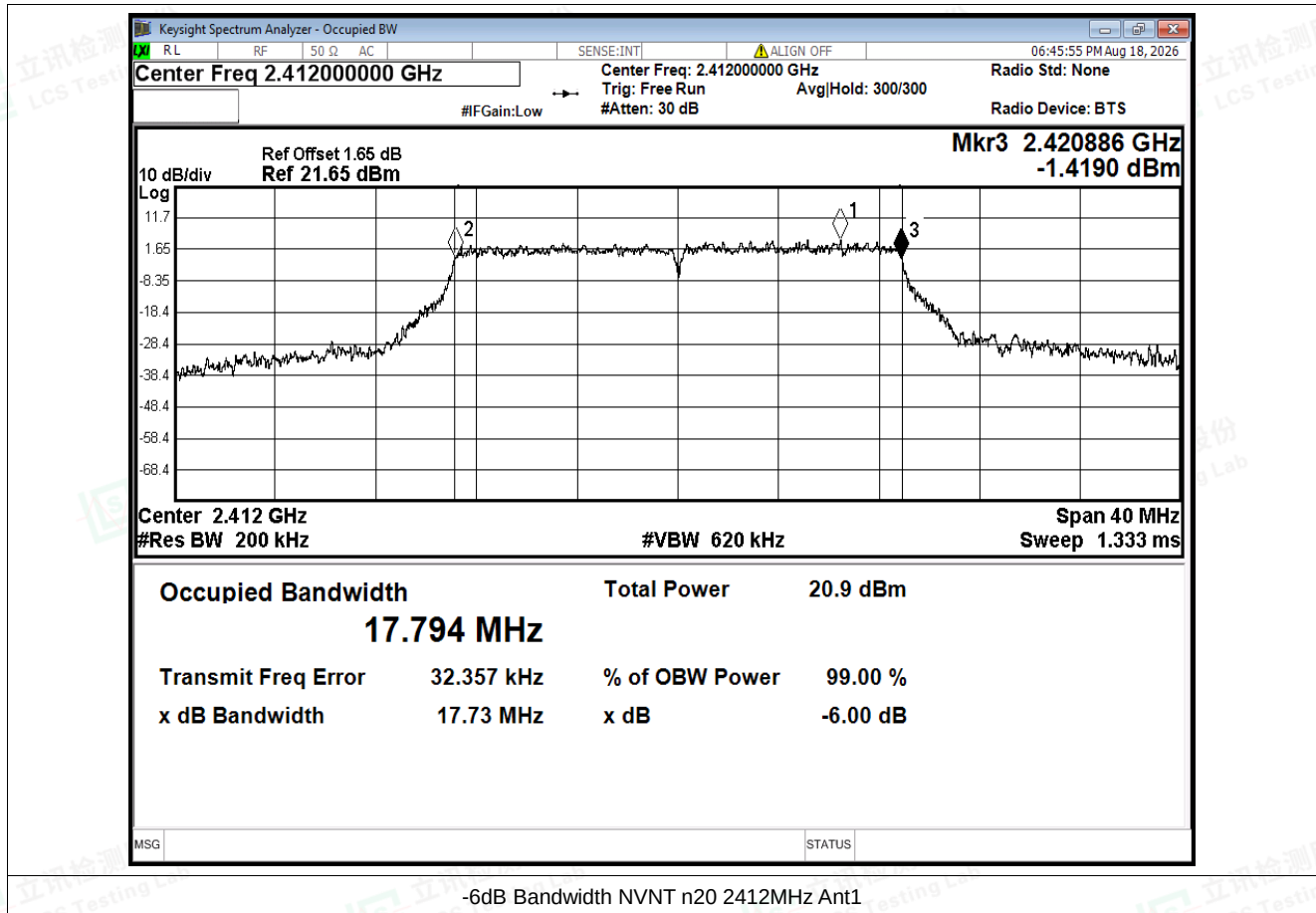


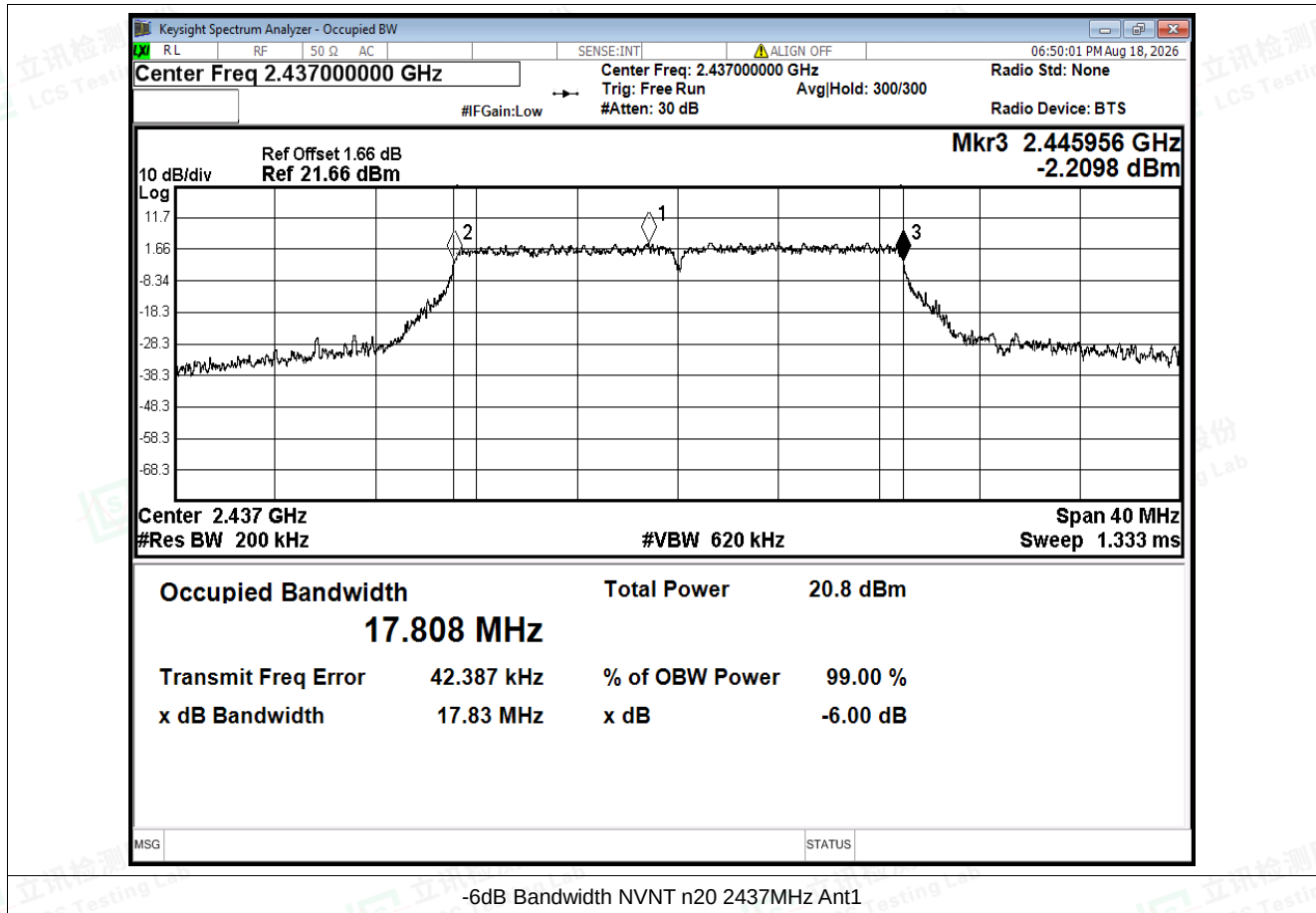


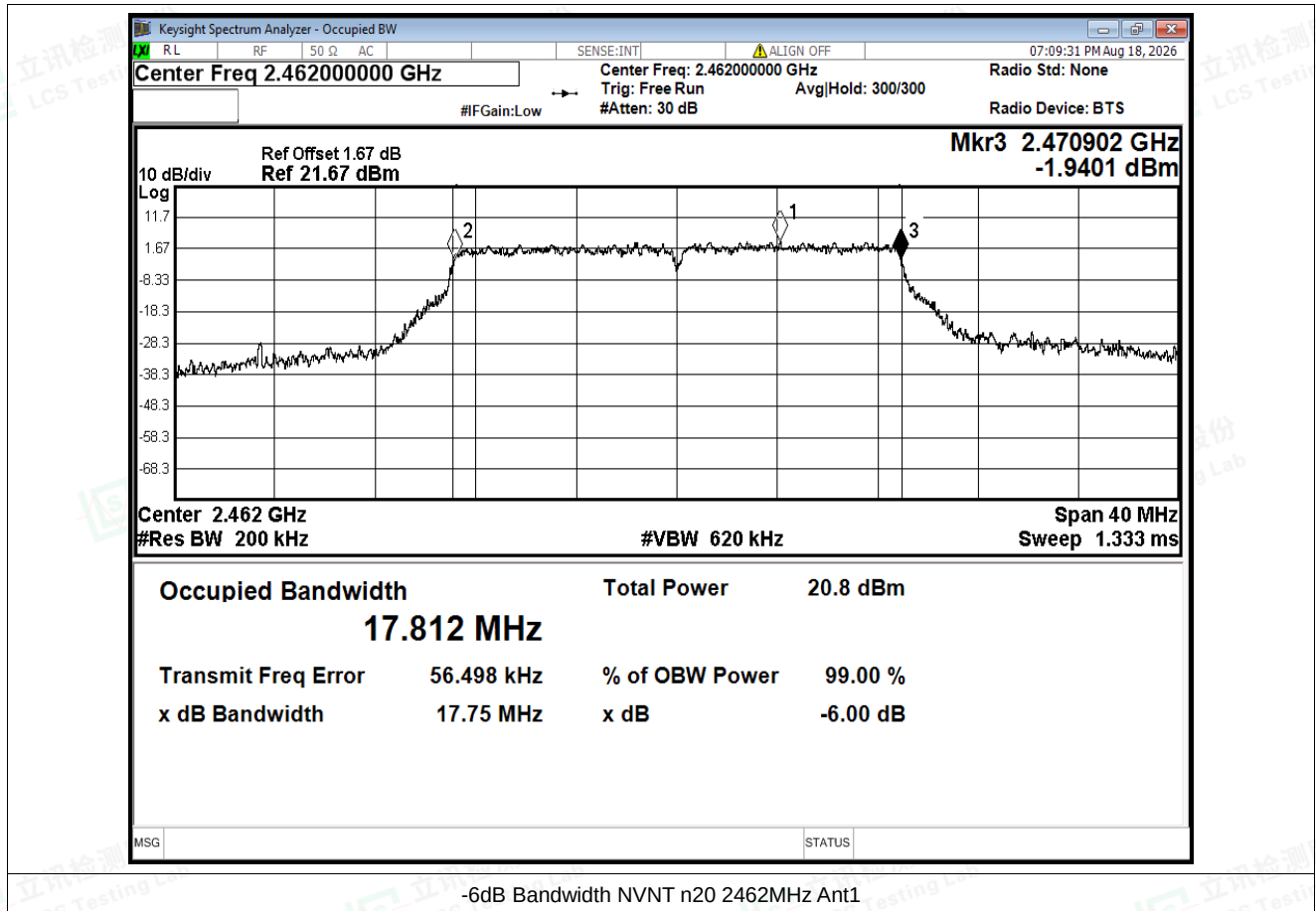


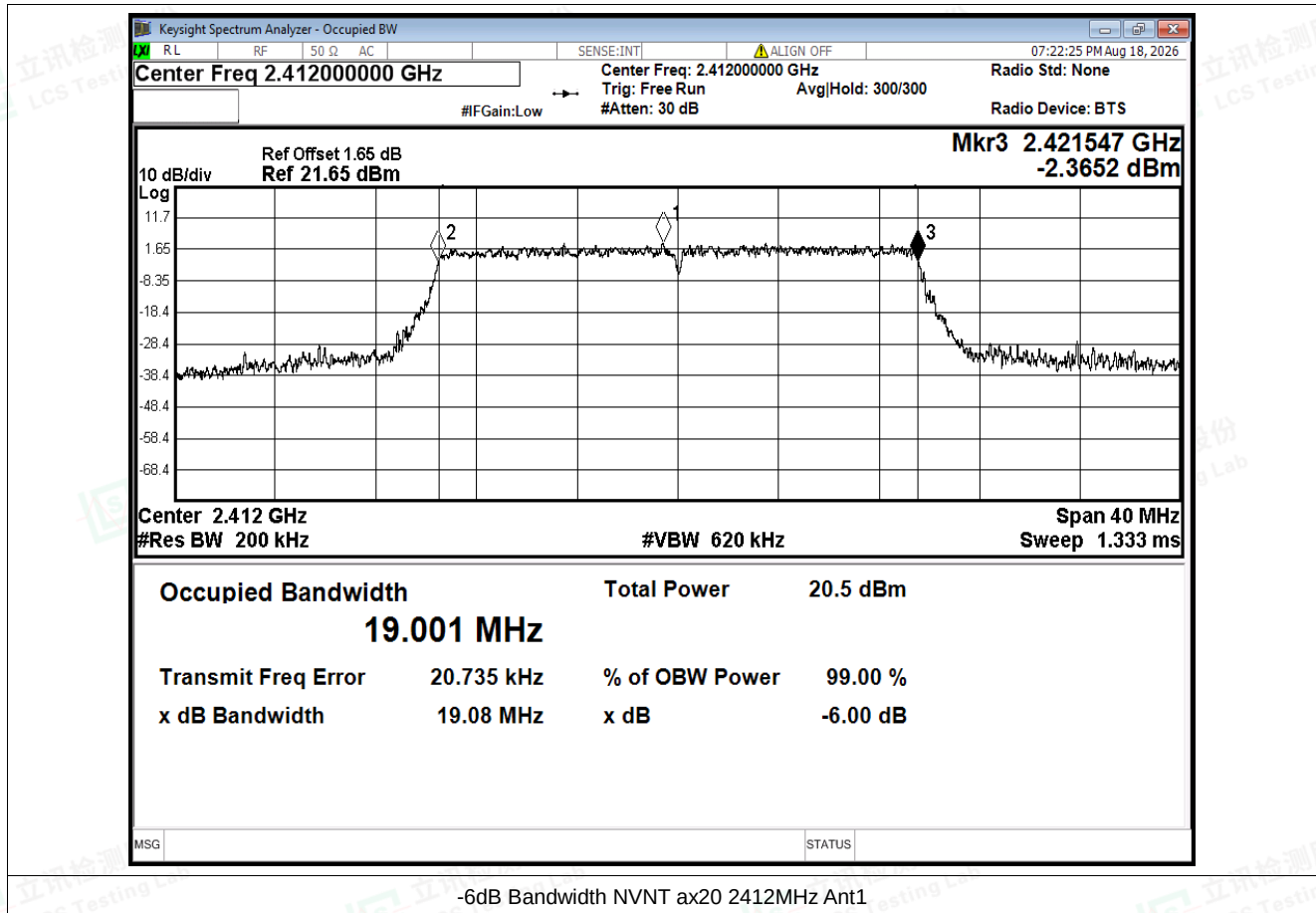


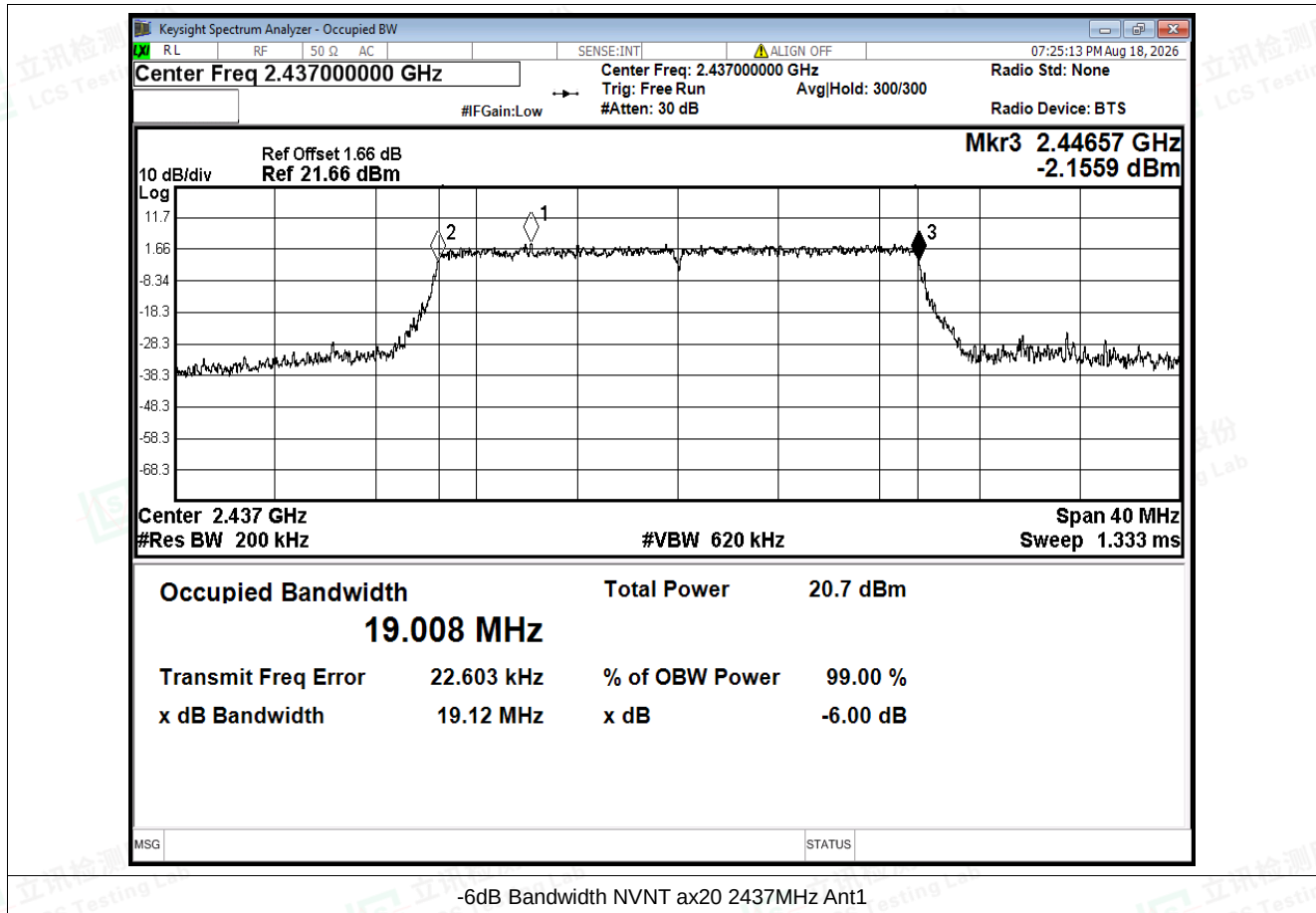


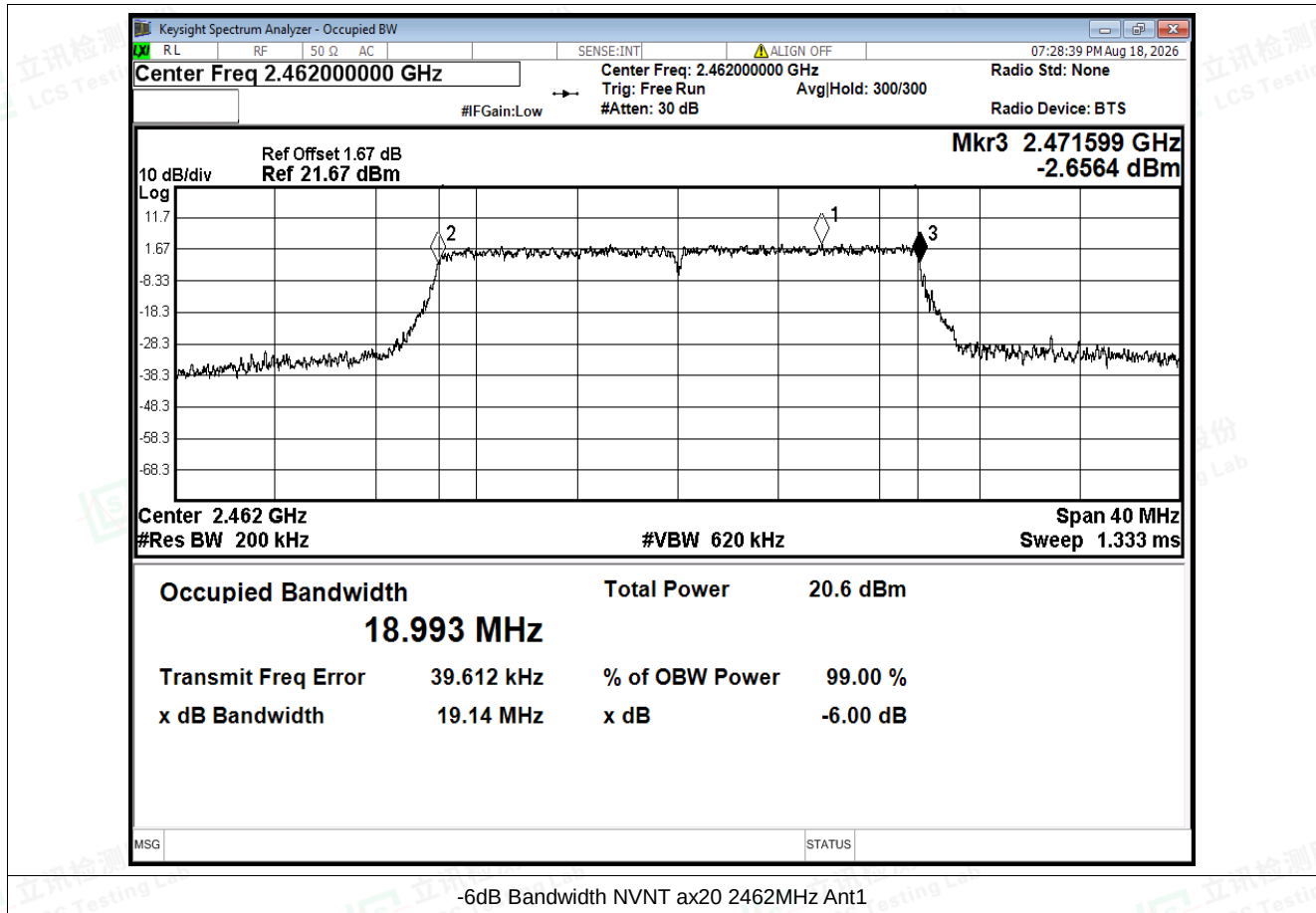






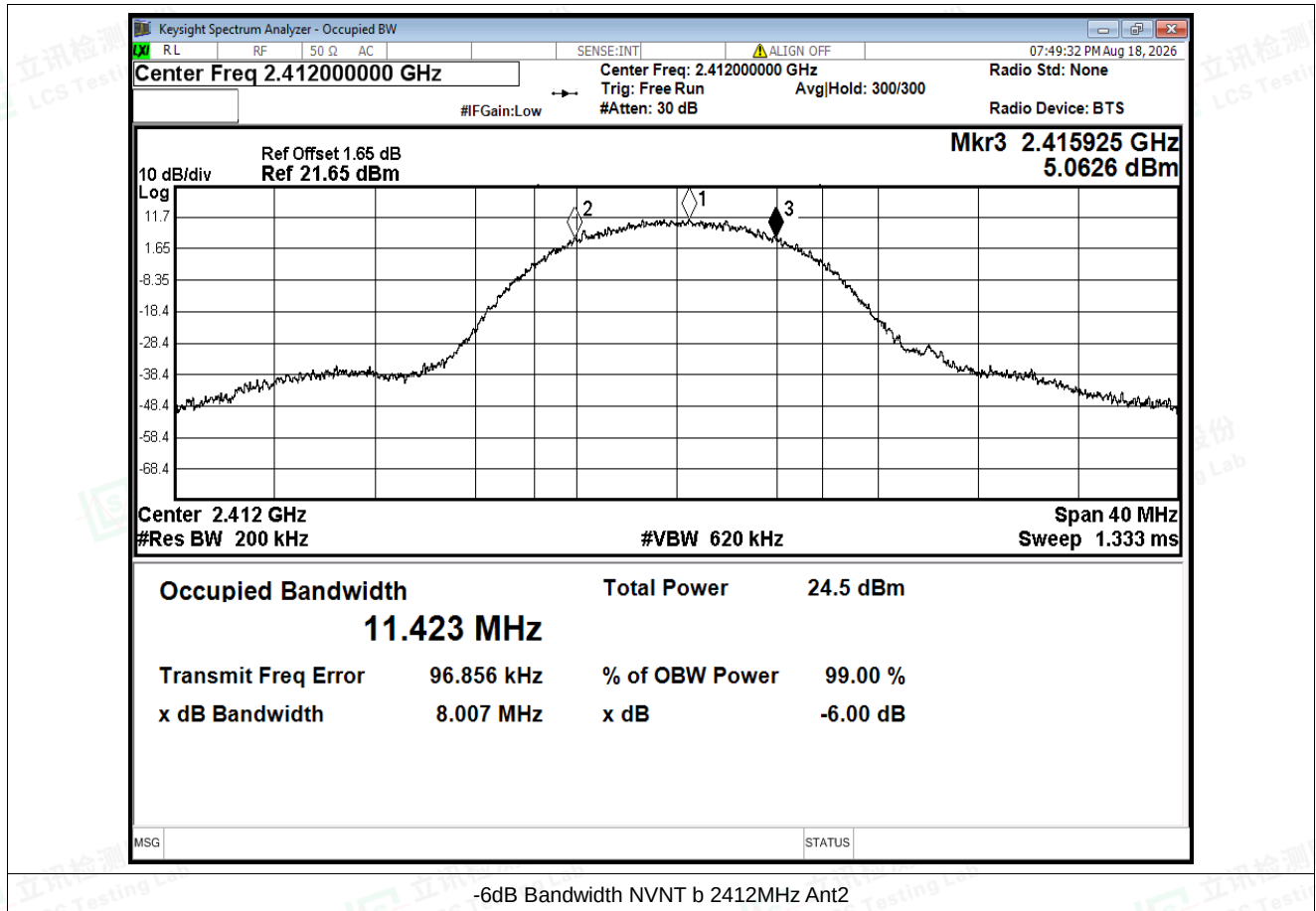


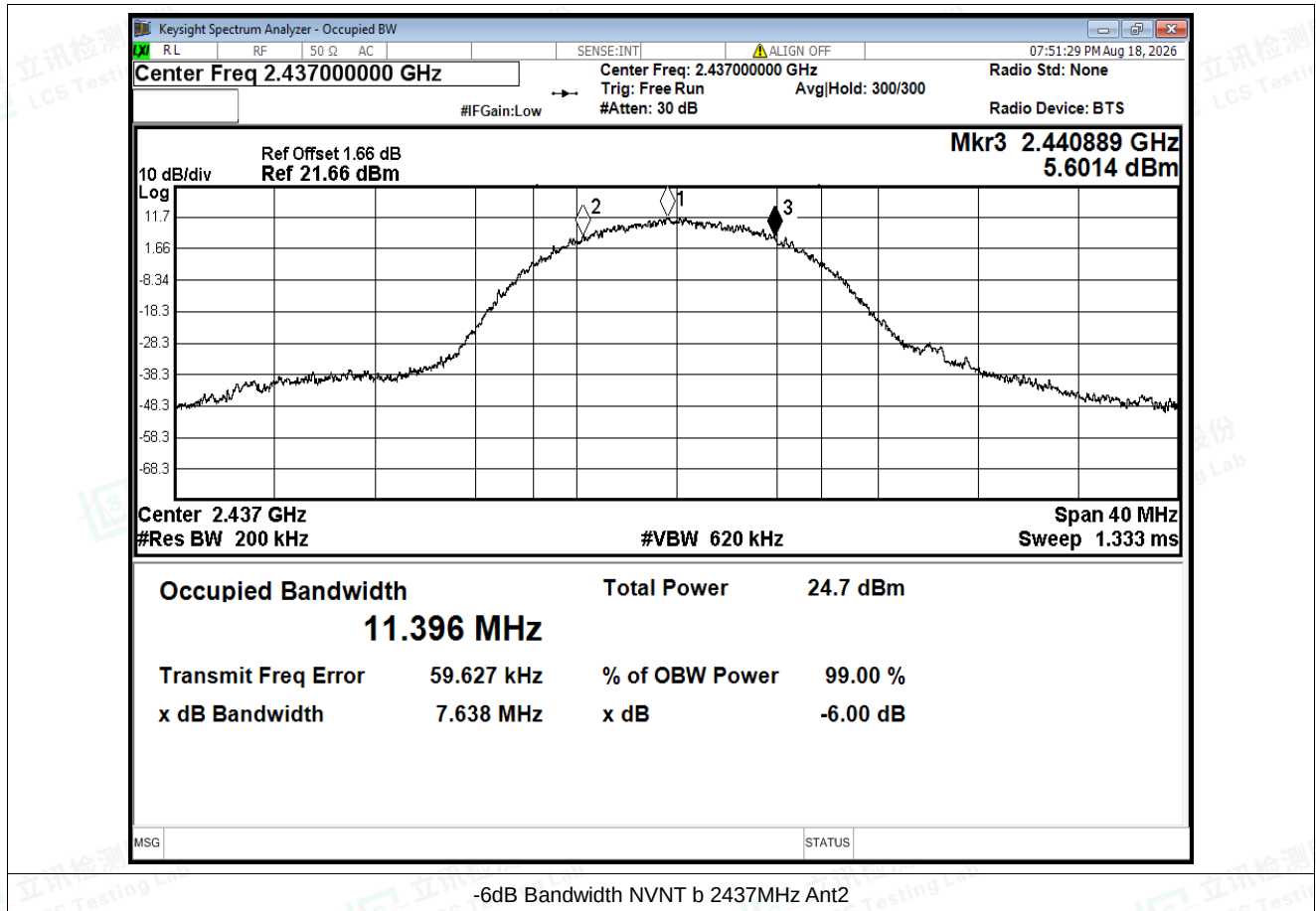


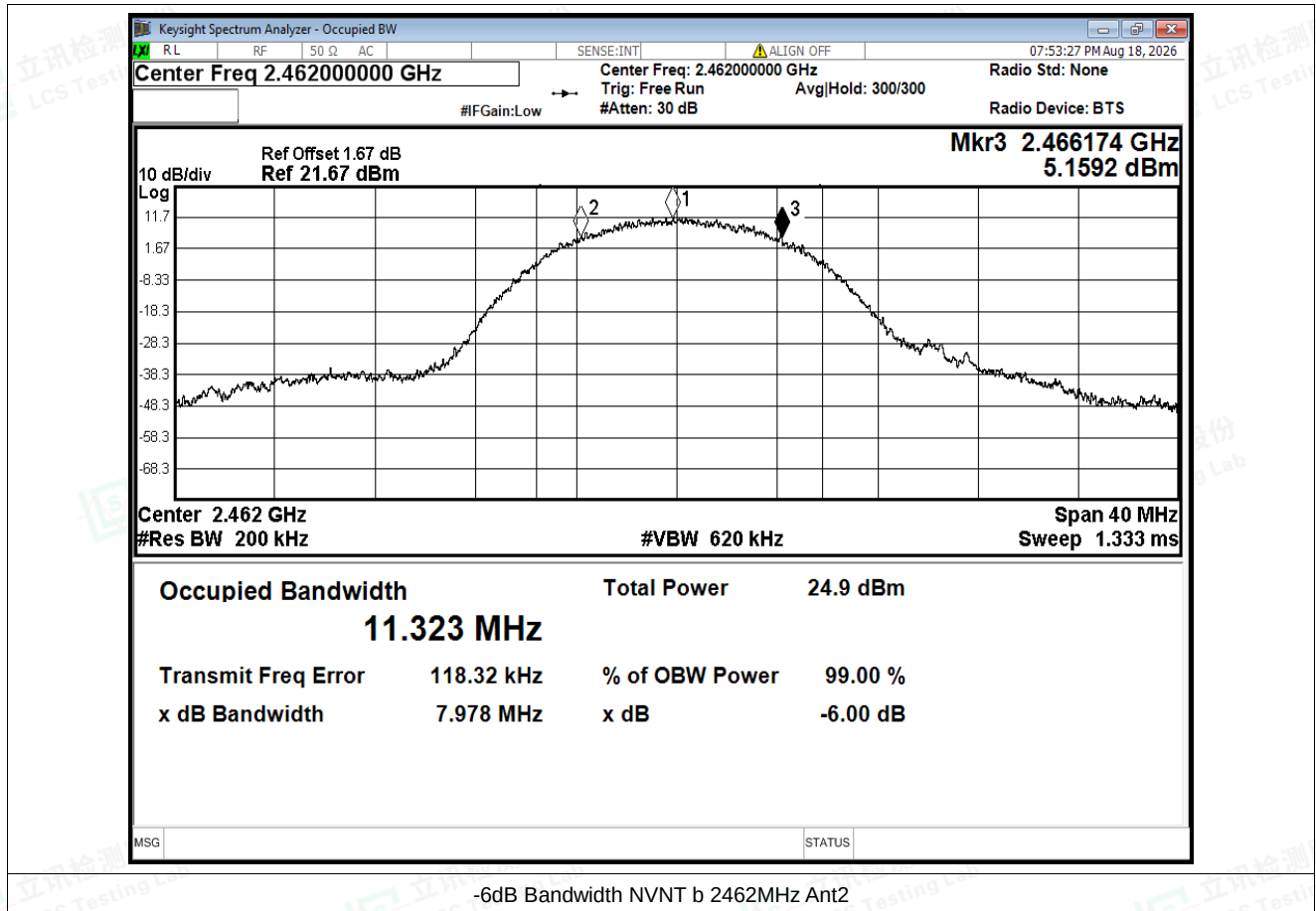


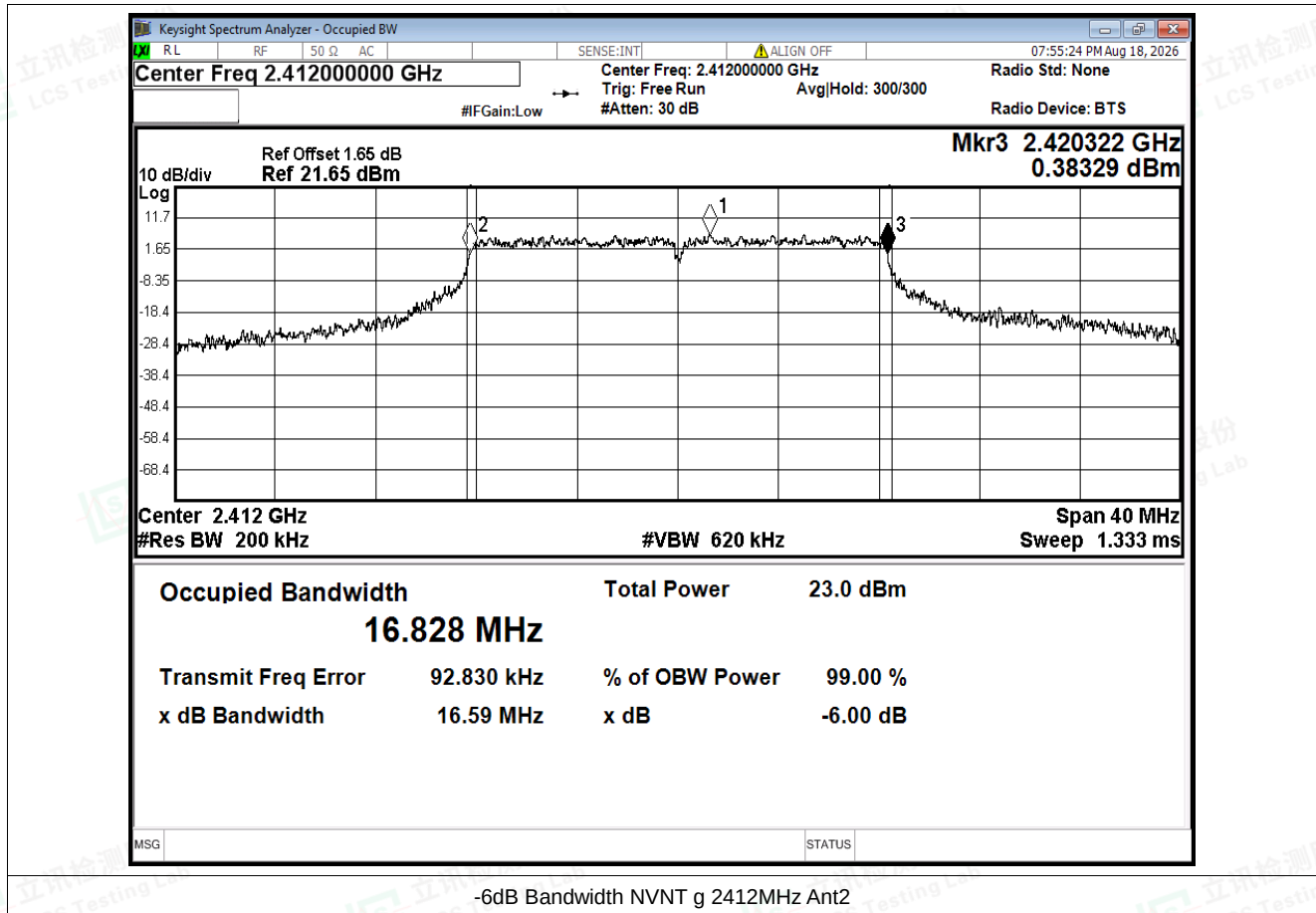


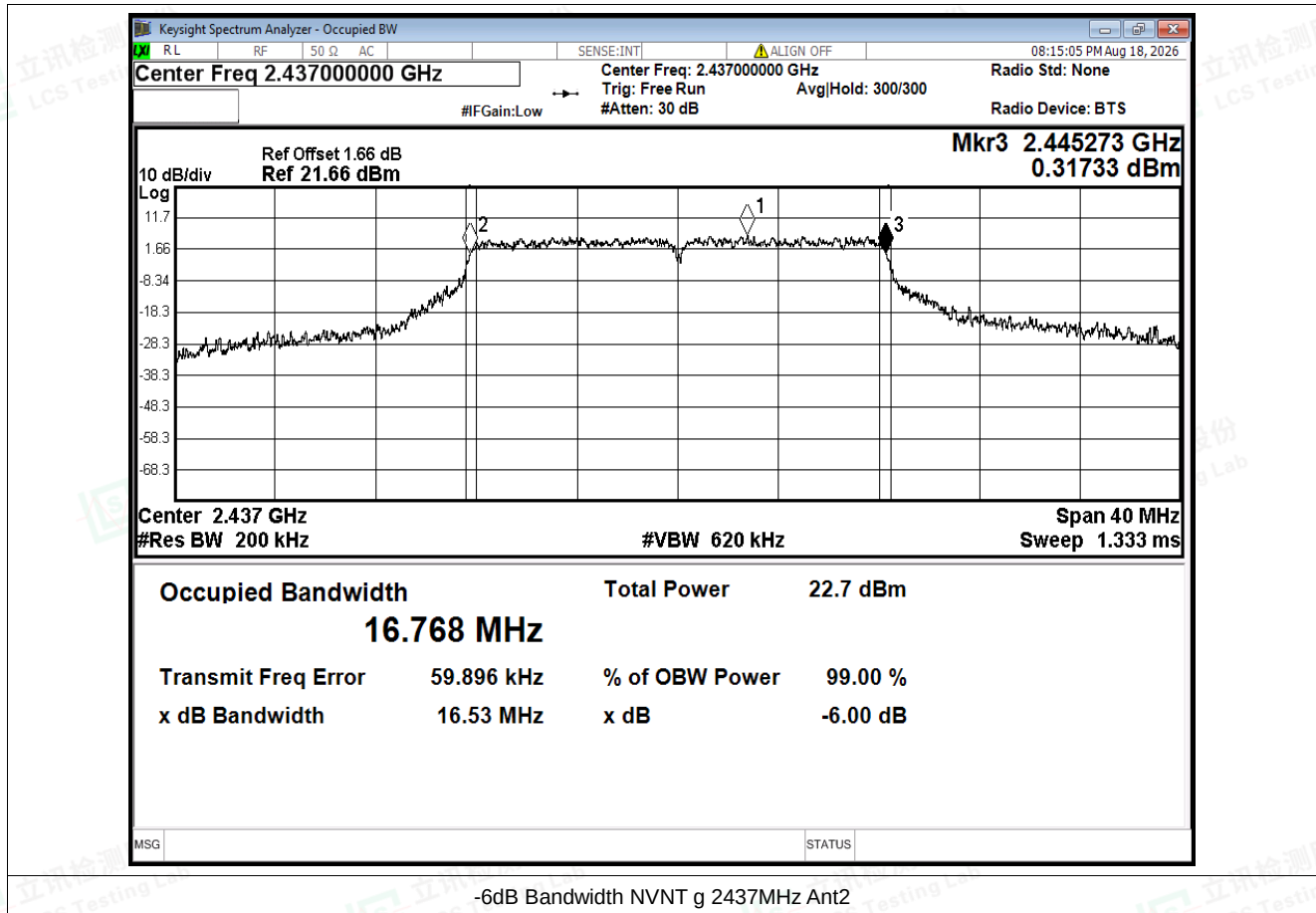
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant2	8.007	0.5	Pass
NVNT	b	2437	Ant2	7.638	0.5	Pass
NVNT	b	2462	Ant2	7.978	0.5	Pass
NVNT	g	2412	Ant2	16.59	0.5	Pass
NVNT	g	2437	Ant2	16.53	0.5	Pass
NVNT	g	2462	Ant2	16.62	0.5	Pass
NVNT	n20	2412	Ant2	17.82	0.5	Pass
NVNT	n20	2437	Ant2	17.79	0.5	Pass
NVNT	n20	2462	Ant2	17.81	0.5	Pass
NVNT	ax20	2412	Ant2	19.14	0.5	Pass
NVNT	ax20	2437	Ant2	17.81	0.5	Pass
NVNT	ax20	2462	Ant2	17.79	0.5	Pass

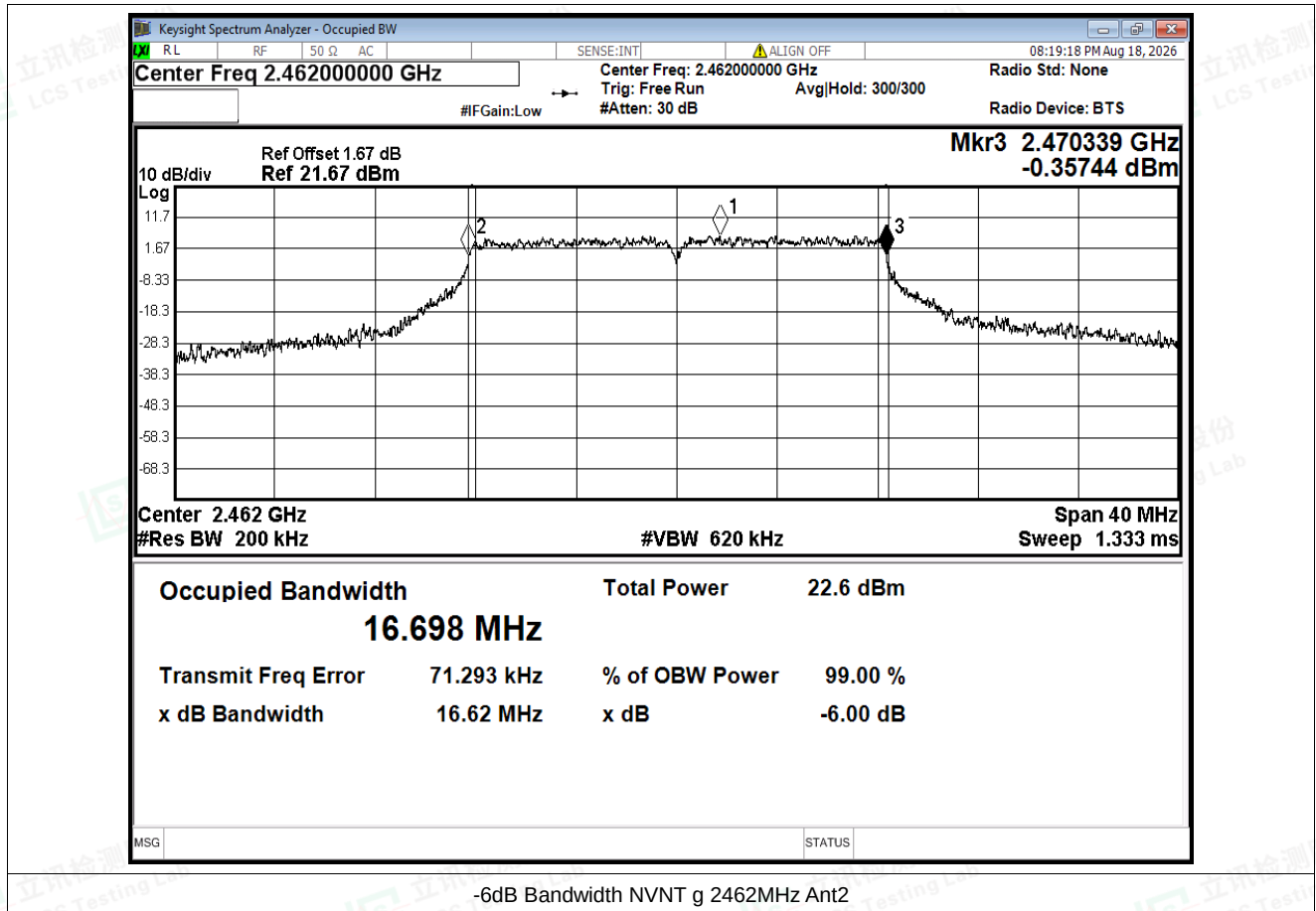


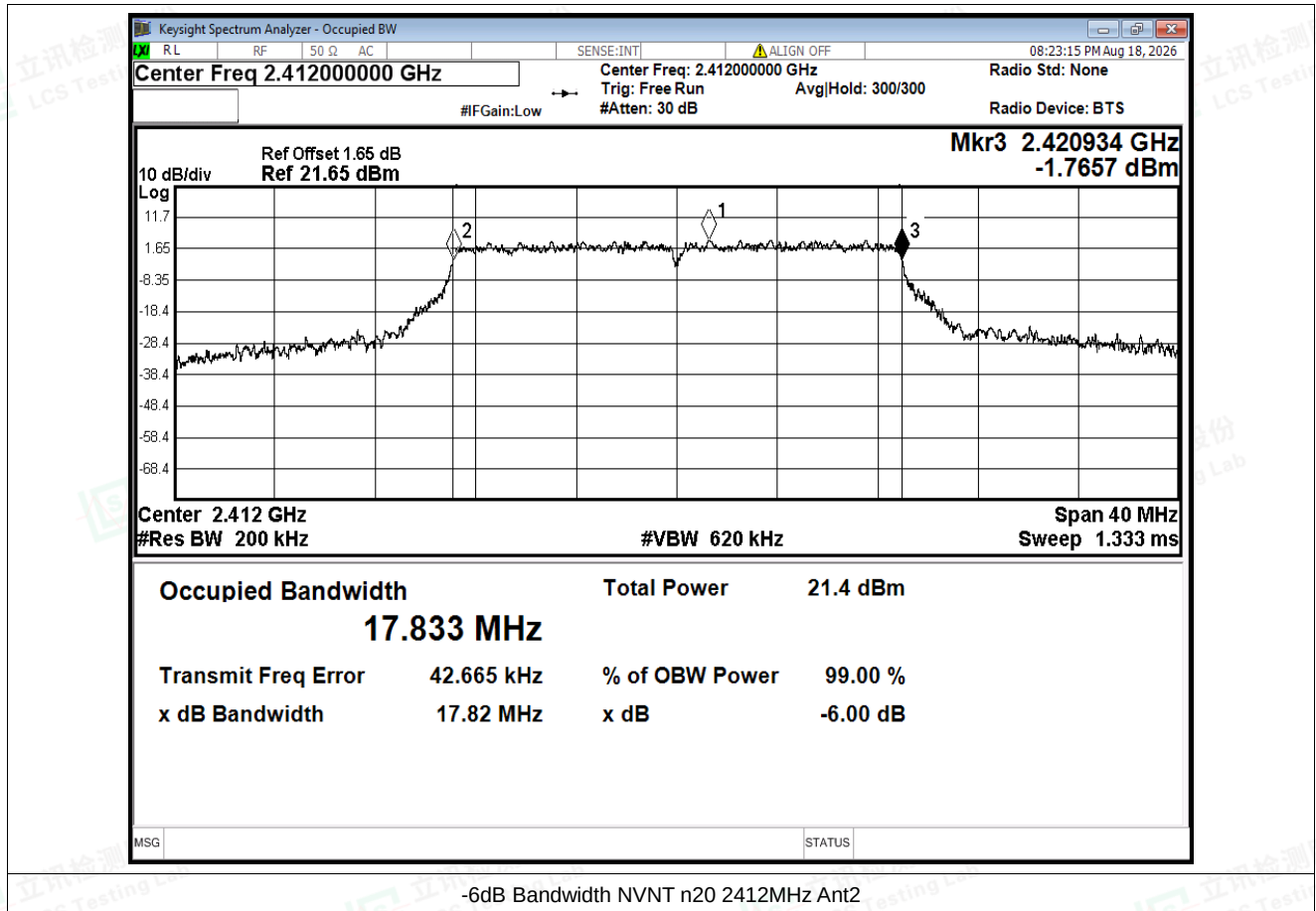


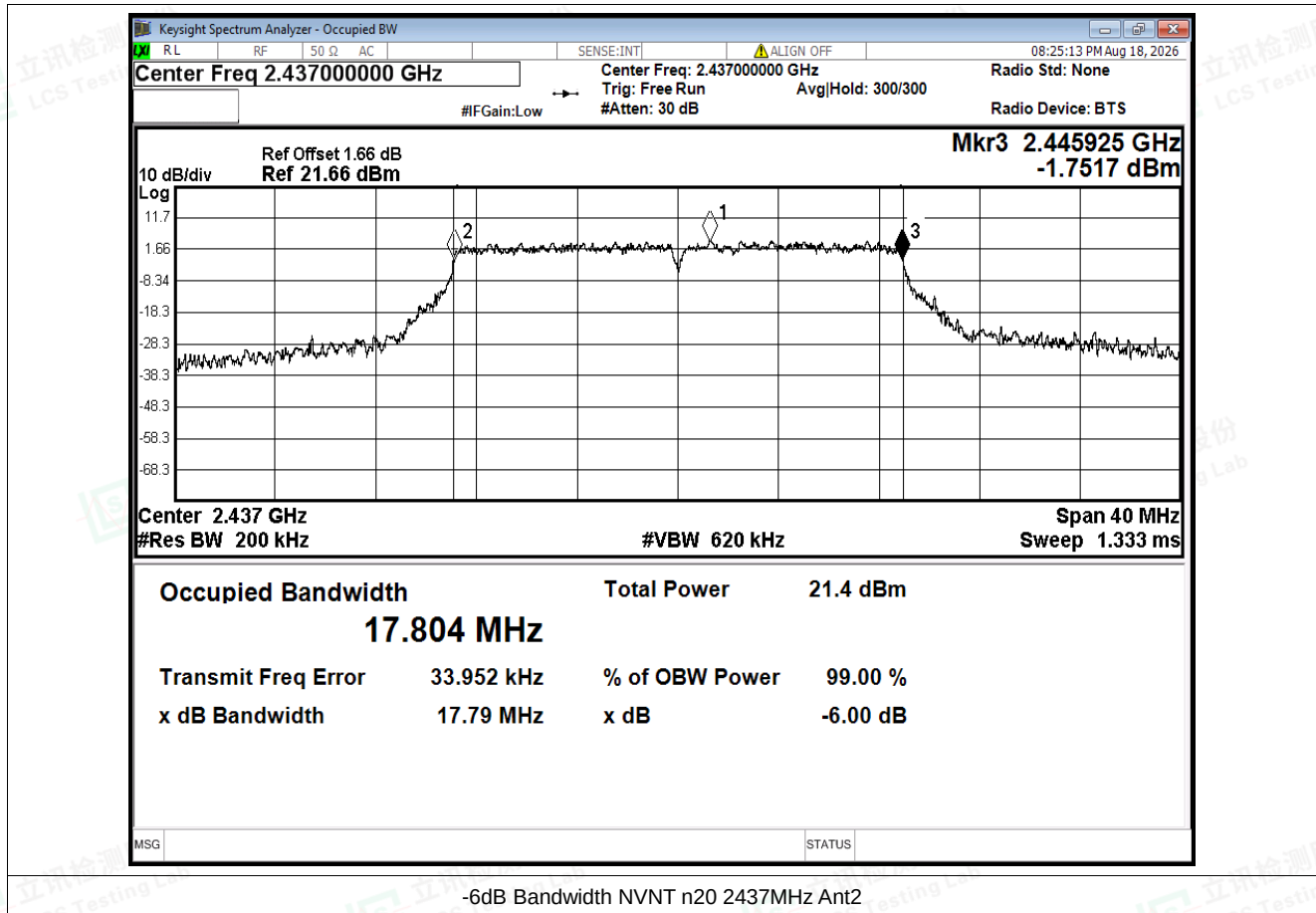


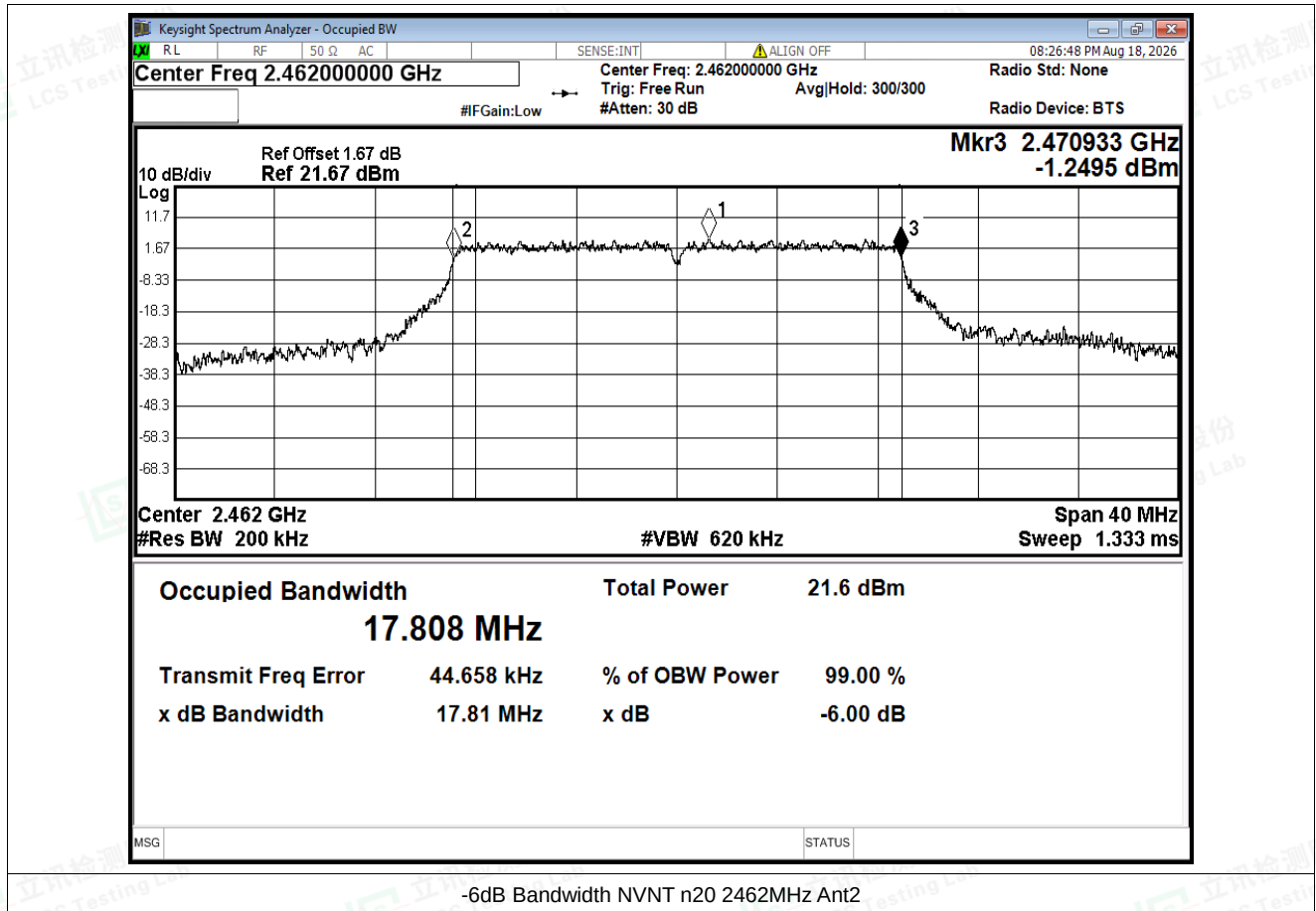


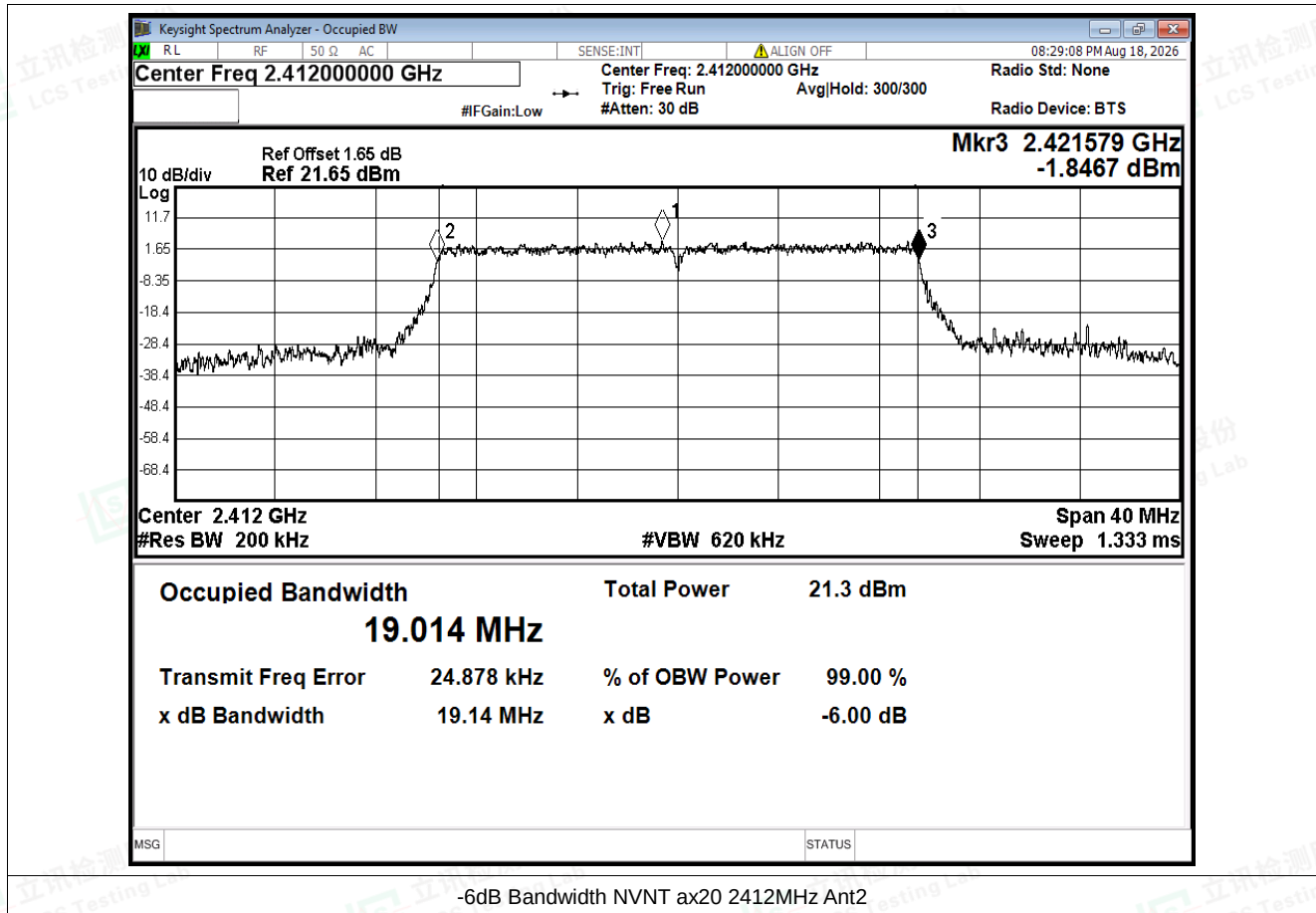


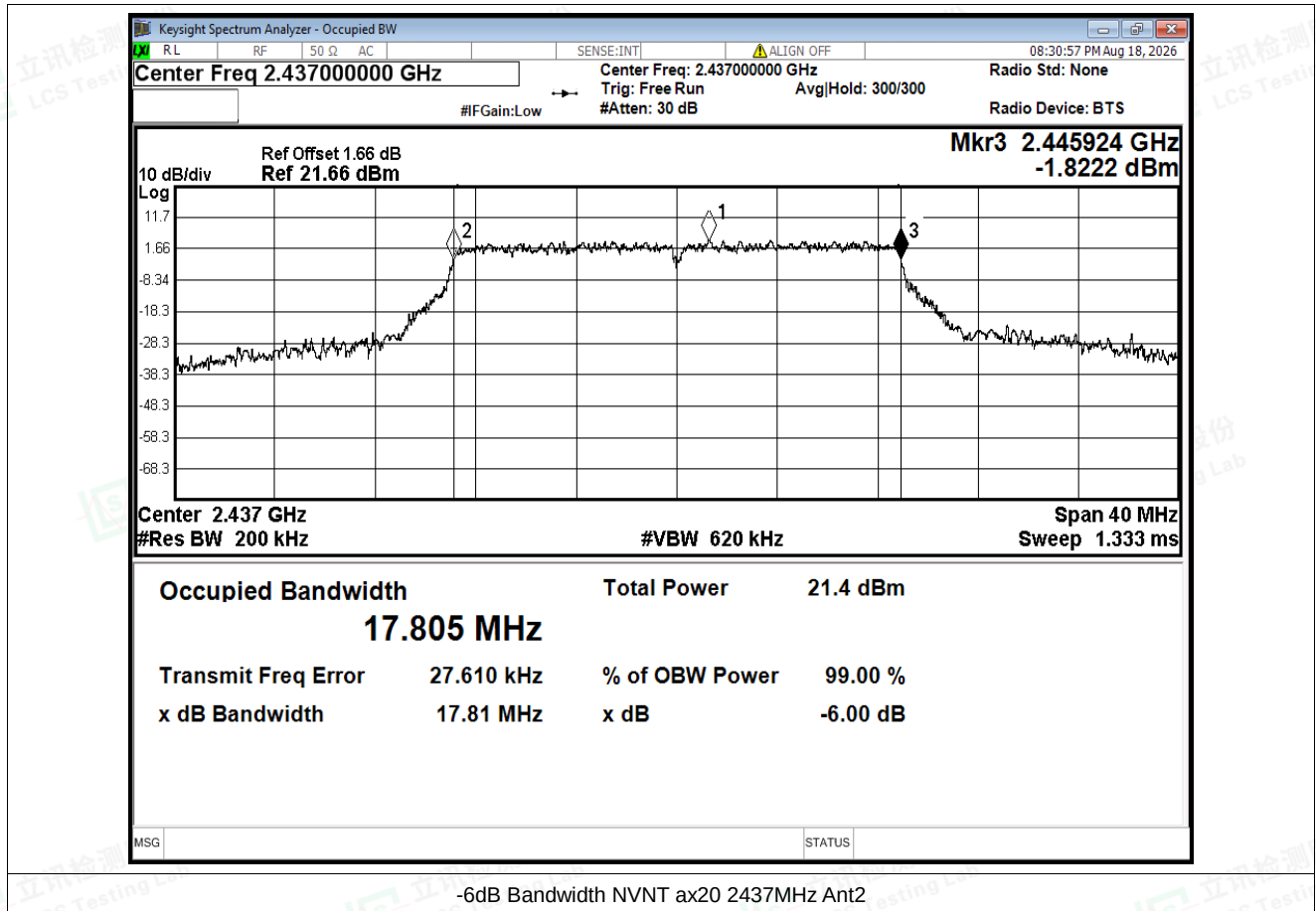


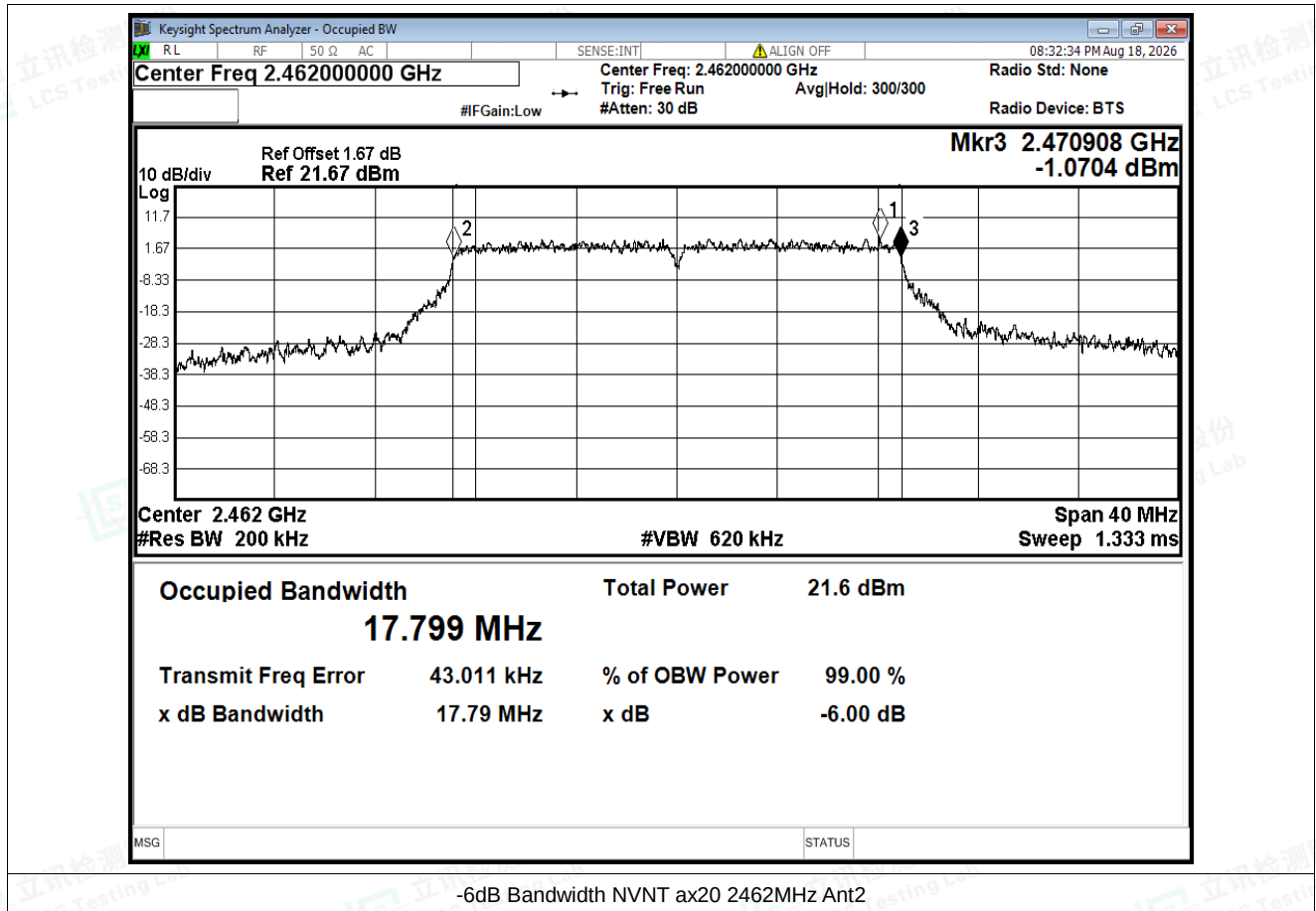














B.2 Maximum Average Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Conducted Power (dBm)	Limit Conducted(dBm)	Verdict
NVNT	b	2412	Ant1	15.66	0.46	16.12	30	Pass
NVNT	b	2437	Ant1	16.3	0.45	16.75	30	Pass
NVNT	b	2462	Ant1	16.47	0.46	16.93	30	Pass
NVNT	g	2412	Ant1	13.73	1.43	15.16	30	Pass
NVNT	g	2437	Ant1	13.69	1.42	15.11	30	Pass
NVNT	g	2462	Ant1	13.79	1.42	15.21	30	Pass
NVNT	n20	2412	Ant1	12.04	2.01	14.05	30	Pass
NVNT	n20	2437	Ant1	12.1	2.03	14.13	30	Pass
NVNT	n20	2462	Ant1	12.02	2.01	14.03	30	Pass
NVNT	ax20	2412	Ant1	11.1	2.33	13.43	30	Pass
NVNT	ax20	2437	Ant1	11.18	2.37	13.55	30	Pass
NVNT	ax20	2462	Ant1	11.16	2.33	13.49	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	16.77	0.46	17.23	30	Pass
NVNT	b	2437	Ant2	16.87	0.45	17.32	30	Pass
NVNT	b	2462	Ant2	17.13	0.45	17.58	30	Pass
NVNT	g	2412	Ant2	14.76	1.44	16.2	30	Pass
NVNT	g	2437	Ant2	14.6	1.42	16.02	30	Pass
NVNT	g	2462	Ant2	14.56	1.42	15.98	30	Pass
NVNT	n20	2412	Ant2	12.79	2.07	14.86	30	Pass
NVNT	n20	2437	Ant2	12.65	2.01	14.66	30	Pass
NVNT	n20	2462	Ant2	12.81	2.07	14.88	30	Pass
NVNT	ax20	2412	Ant2	11.67	2.39	14.06	30	Pass
NVNT	ax20	2437	Ant2	12.59	2.01	14.6	30	Pass
NVNT	ax20	2462	Ant2	12.85	2.07	14.92	30	Pass

MIMO

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)			Limit (dBm)	Verdict
			Ant1	Ant2	Ant1+Ant2		
NVNT	n20	2412	14.05	14.86	17.48	30	Pass
NVNT	n20	2437	14.13	14.66	17.41	30	Pass
NVNT	n20	2462	14.03	14.88	17.49	30	Pass
NVNT	ax20	2412	13.43	14.06	16.77	30	Pass
NVNT	ax20	2437	13.55	14.6	17.12	30	Pass
NVNT	ax20	2462	13.49	14.92	17.27	30	Pass

Shenzhen LCS Compliance Testing Laboratory Ltd.

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B.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/30kHz)	Duty Factor (dB)	Total PSD (dBm/30kHz)	Result[dBm/3kHz]	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-5.7	0.46	-5.24	-15.24	8	Pass
NVNT	b	2437	Ant1	-5.17	0.45	-4.72	-14.72	8	Pass
NVNT	b	2462	Ant1	-5.19	0.46	-4.73	-14.73	8	Pass
NVNT	g	2412	Ant1	-9.53	1.43	-8.1	-18.1	8	Pass
NVNT	g	2437	Ant1	-9.74	1.42	-8.32	-18.32	8	Pass
NVNT	g	2462	Ant1	-9.4	1.42	-7.98	-17.98	8	Pass
NVNT	n20	2412	Ant1	-10.2	2.01	-8.19	-18.19	8	Pass
NVNT	n20	2437	Ant1	-9.99	2.03	-7.96	-17.96	8	Pass
NVNT	n20	2462	Ant1	-9.85	2.01	-7.84	-17.84	8	Pass
NVNT	ax20	2412	Ant1	-10.27	2.33	-7.94	-17.94	8	Pass
NVNT	ax20	2437	Ant1	-10.7	2.37	-8.33	-18.33	8	Pass
NVNT	ax20	2462	Ant1	-10.67	2.33	-8.34	-18.34	8	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/30kHz)	Duty Factor (dB)	Total PSD (dBm/30kHz)	Result[dBm/3kHz]	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant2	-4.66	0.46	-4.2	-14.2	8	Pass
NVNT	b	2437	Ant2	-4.55	0.45	-4.1	-14.1	8	Pass
NVNT	b	2462	Ant2	-4.03	0.45	-3.58	-13.58	8	Pass
NVNT	g	2412	Ant2	-8.99	1.44	-7.55	-17.55	8	Pass
NVNT	g	2437	Ant2	-8.79	1.42	-7.37	-17.37	8	Pass
NVNT	g	2462	Ant2	-8.11	1.42	-6.69	-16.69	8	Pass
NVNT	n20	2412	Ant2	-8.67	2.07	-6.6	-16.6	8	Pass
NVNT	n20	2437	Ant2	-9.4	2.01	-7.39	-17.39	8	Pass
NVNT	n20	2462	Ant2	-9.87	2.07	-7.8	-17.8	8	Pass
NVNT	ax20	2412	Ant2	-9.67	2.39	-7.28	-17.28	8	Pass
NVNT	ax20	2437	Ant2	-10.05	2.01	-8.04	-18.04	8	Pass
NVNT	ax20	2462	Ant2	-9.71	2.07	-7.64	-17.64	8	Pass

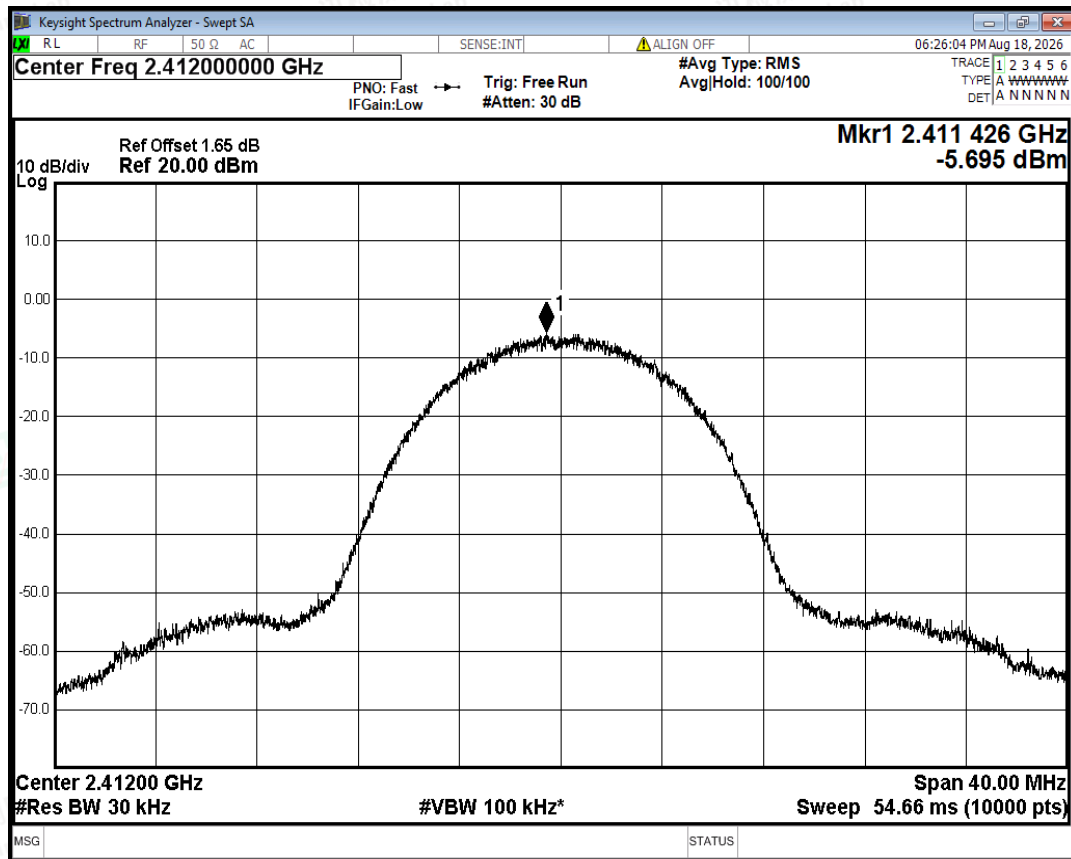
MIMO

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/3kHz)			Limit (dBm)	Verdict
			Ant1	Ant2	Ant1+Ant2		
NVNT	n20	2412	-18.19	-16.6	-14.31	7.72	Pass
NVNT	n20	2437	-17.96	-17.39	-14.66	7.72	Pass
NVNT	n20	2462	-17.84	-17.8	-14.81	7.72	Pass
NVNT	ax20	2412	-17.94	-17.28	-14.59	7.72	Pass
NVNT	ax20	2437	-18.33	-18.04	-15.17	7.72	Pass
NVNT	ax20	2462	-18.34	-17.64	-14.97	7.72	Pass

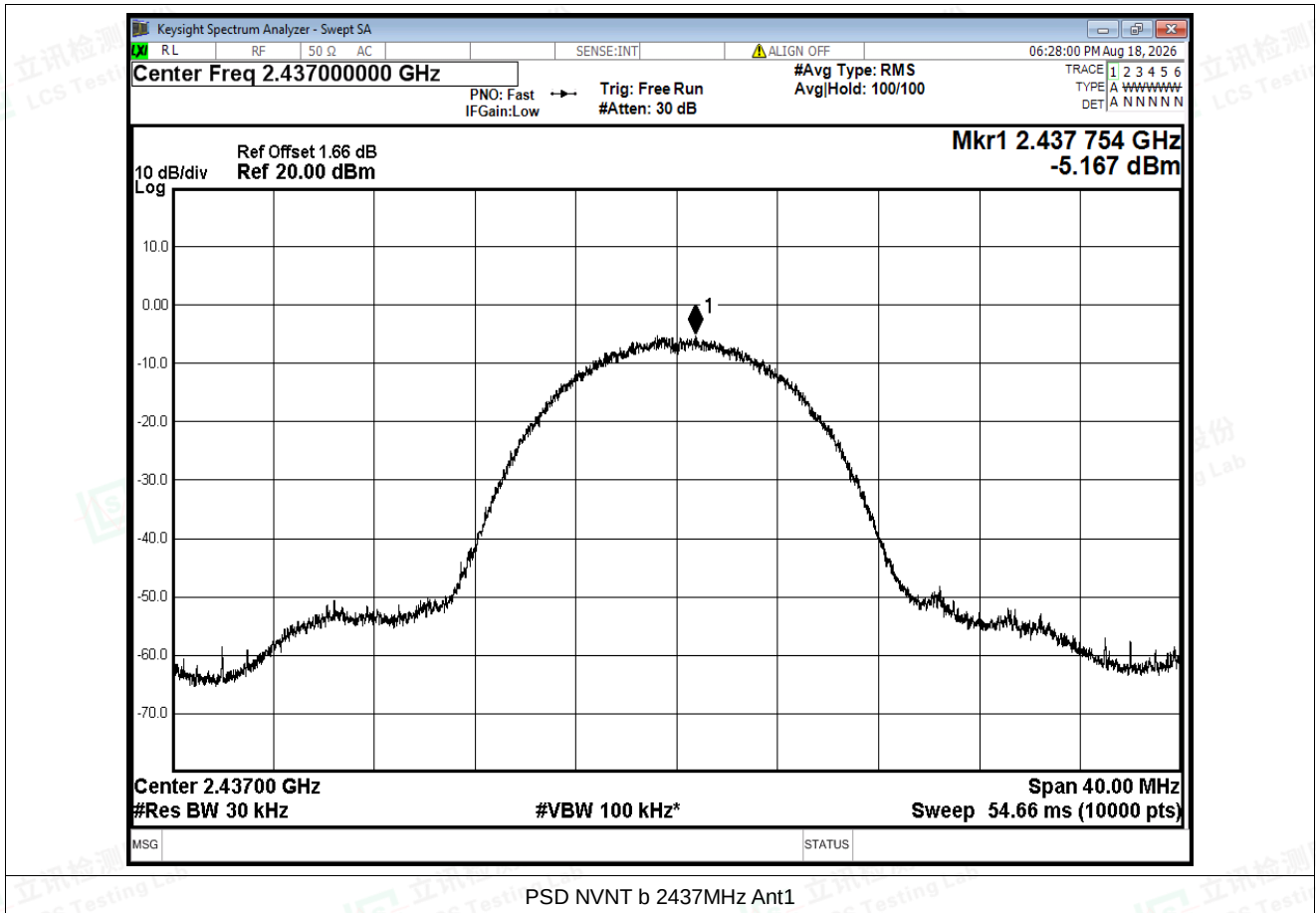
Shenzhen LCS Compliance Testing Laboratory Ltd.

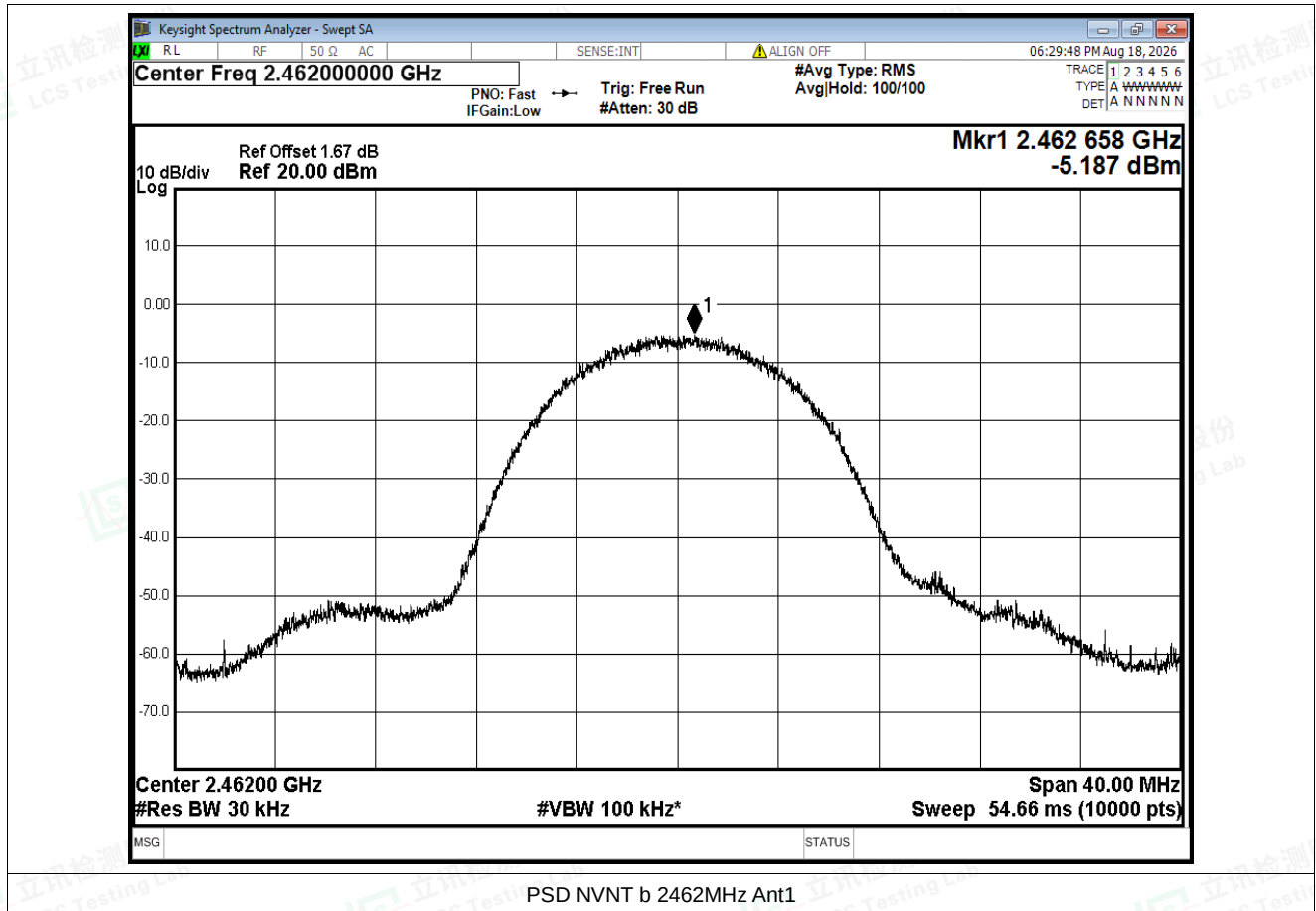
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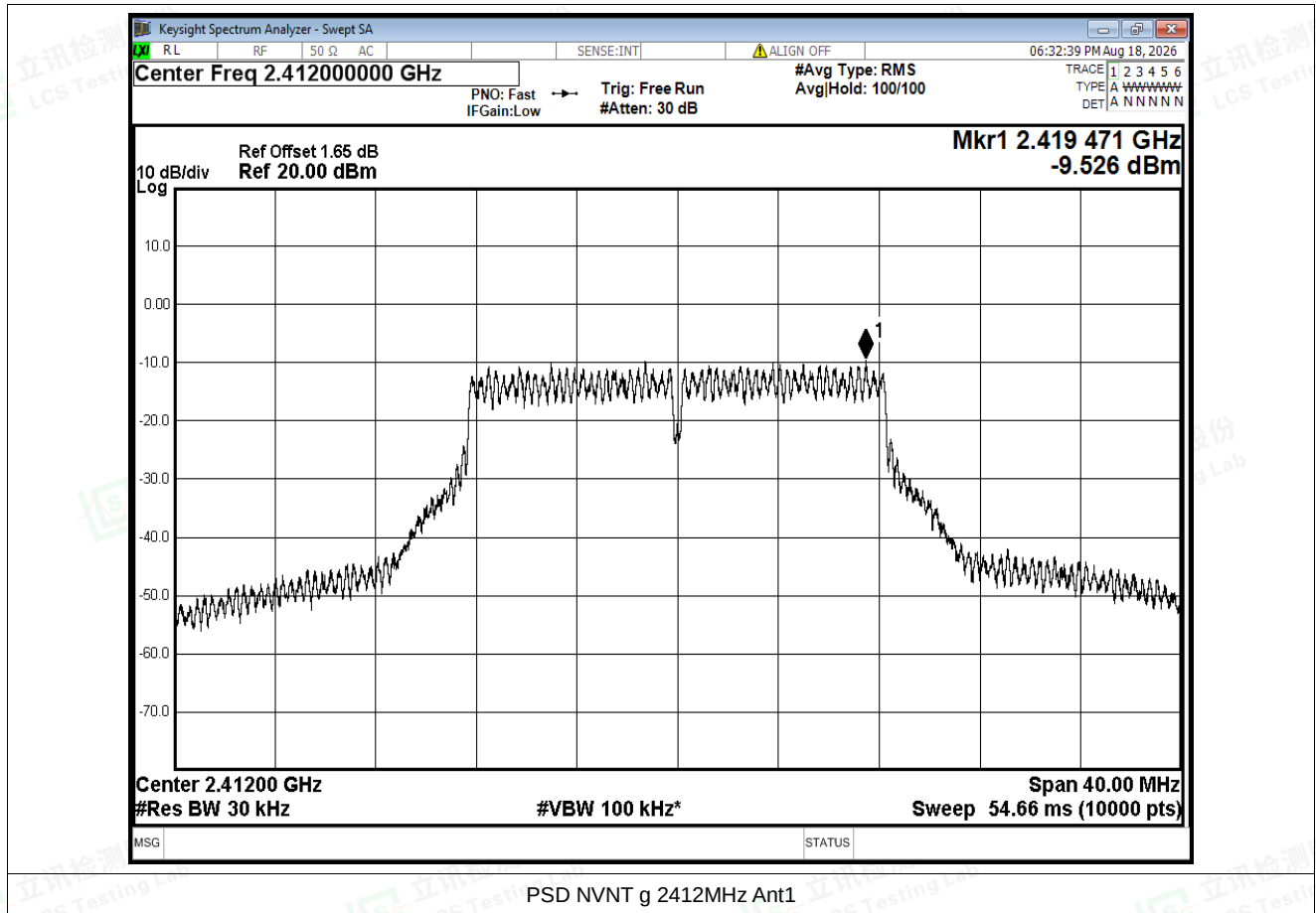
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

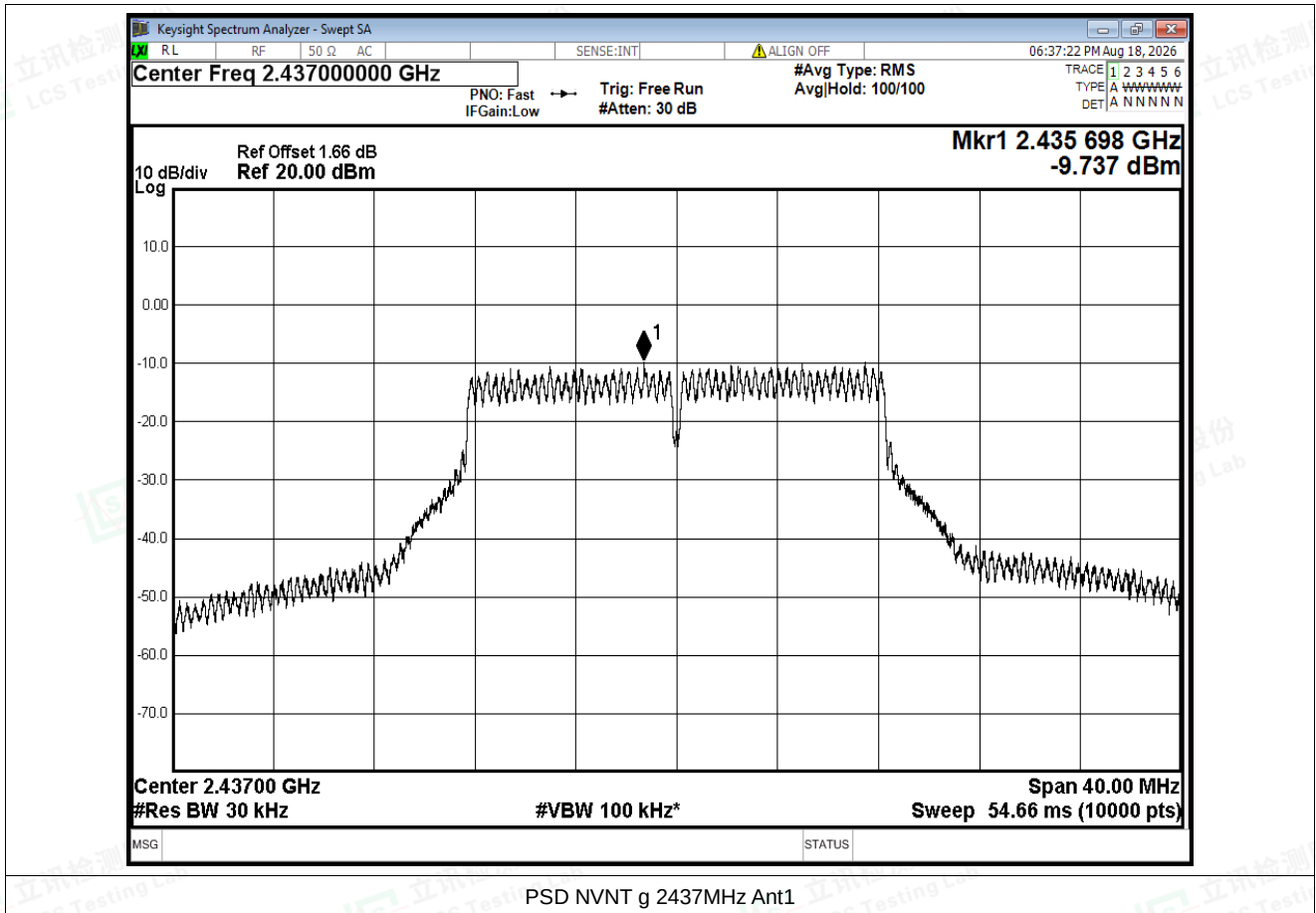


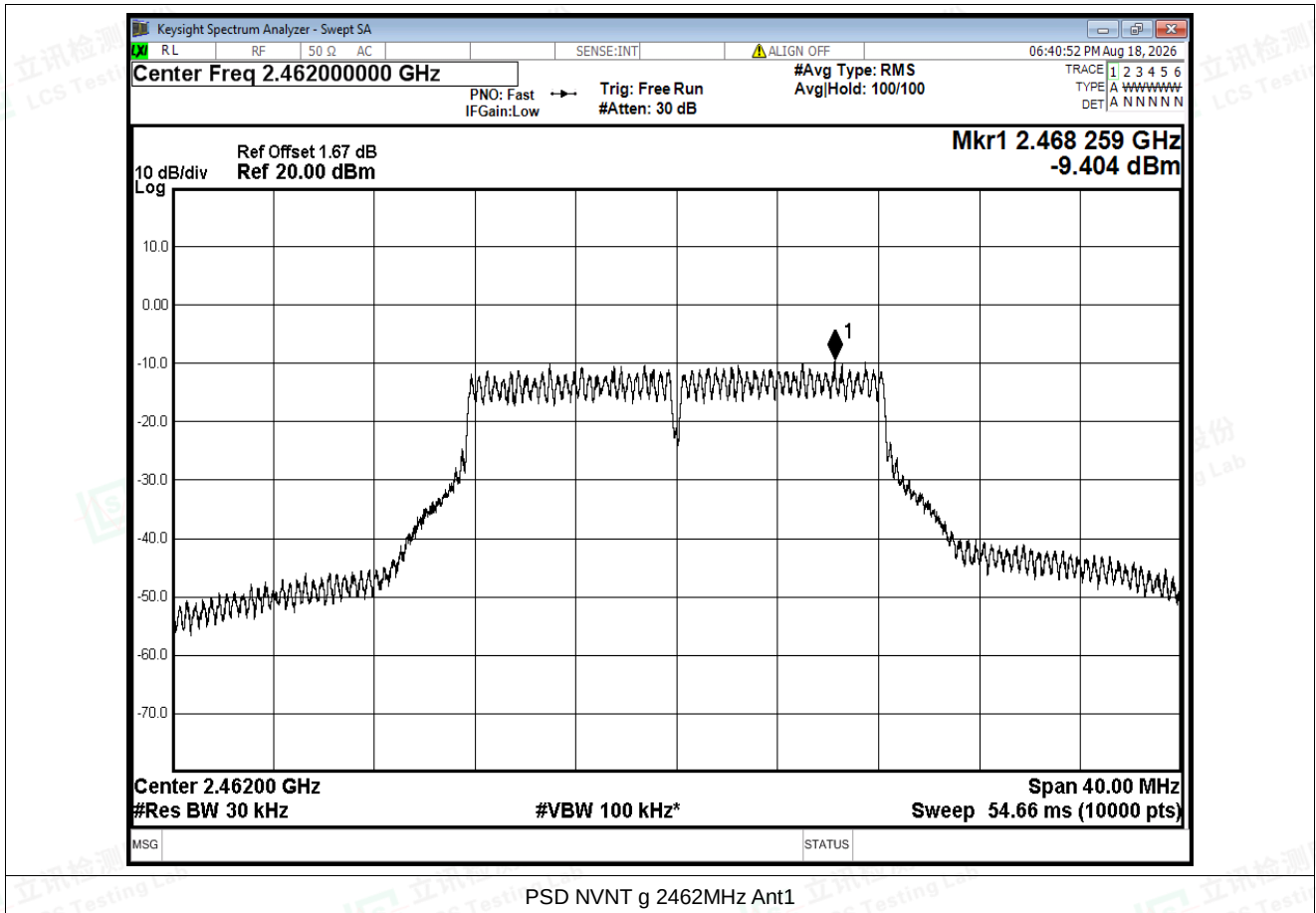
PSD NVNT b 2412MHz Ant1

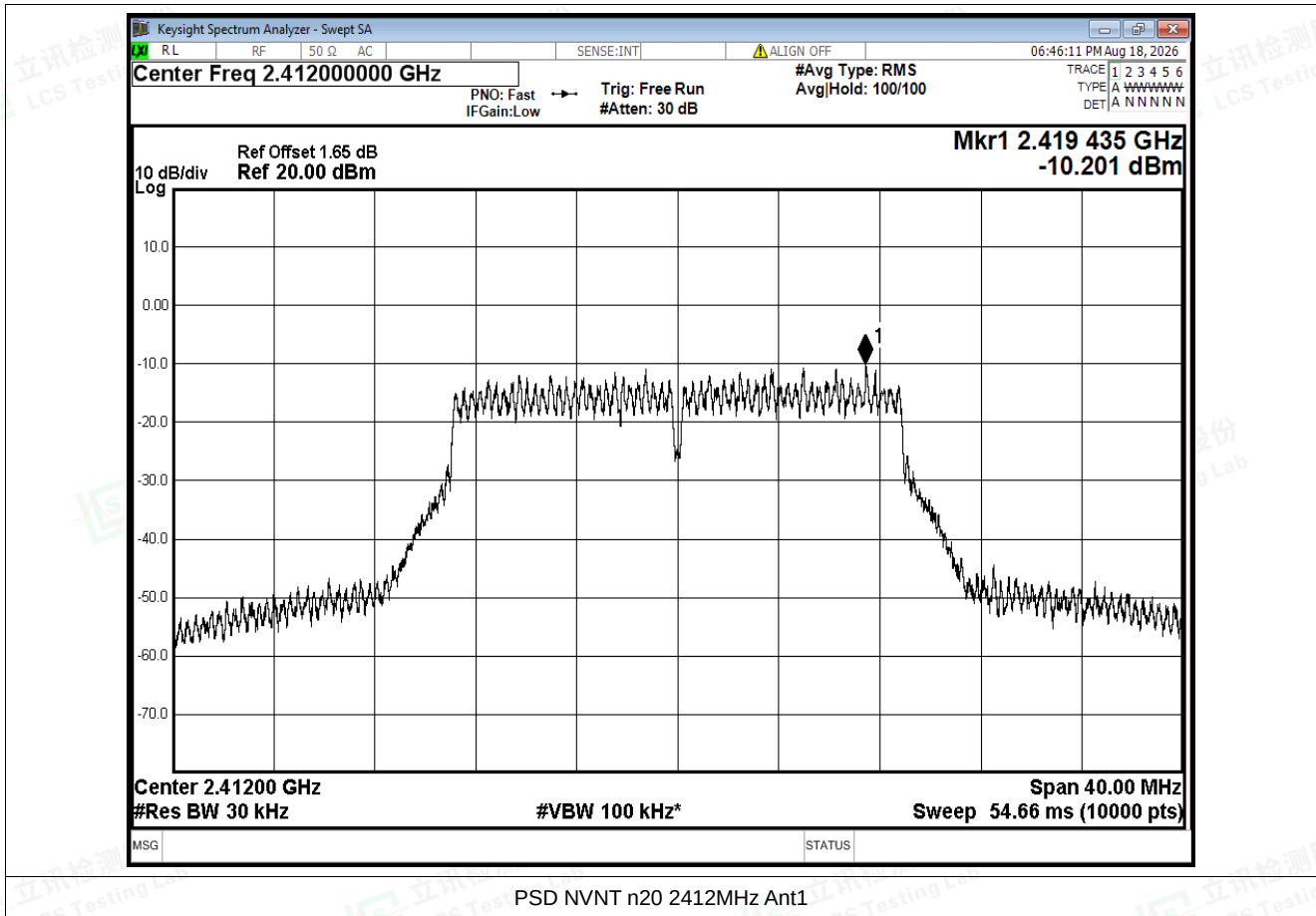


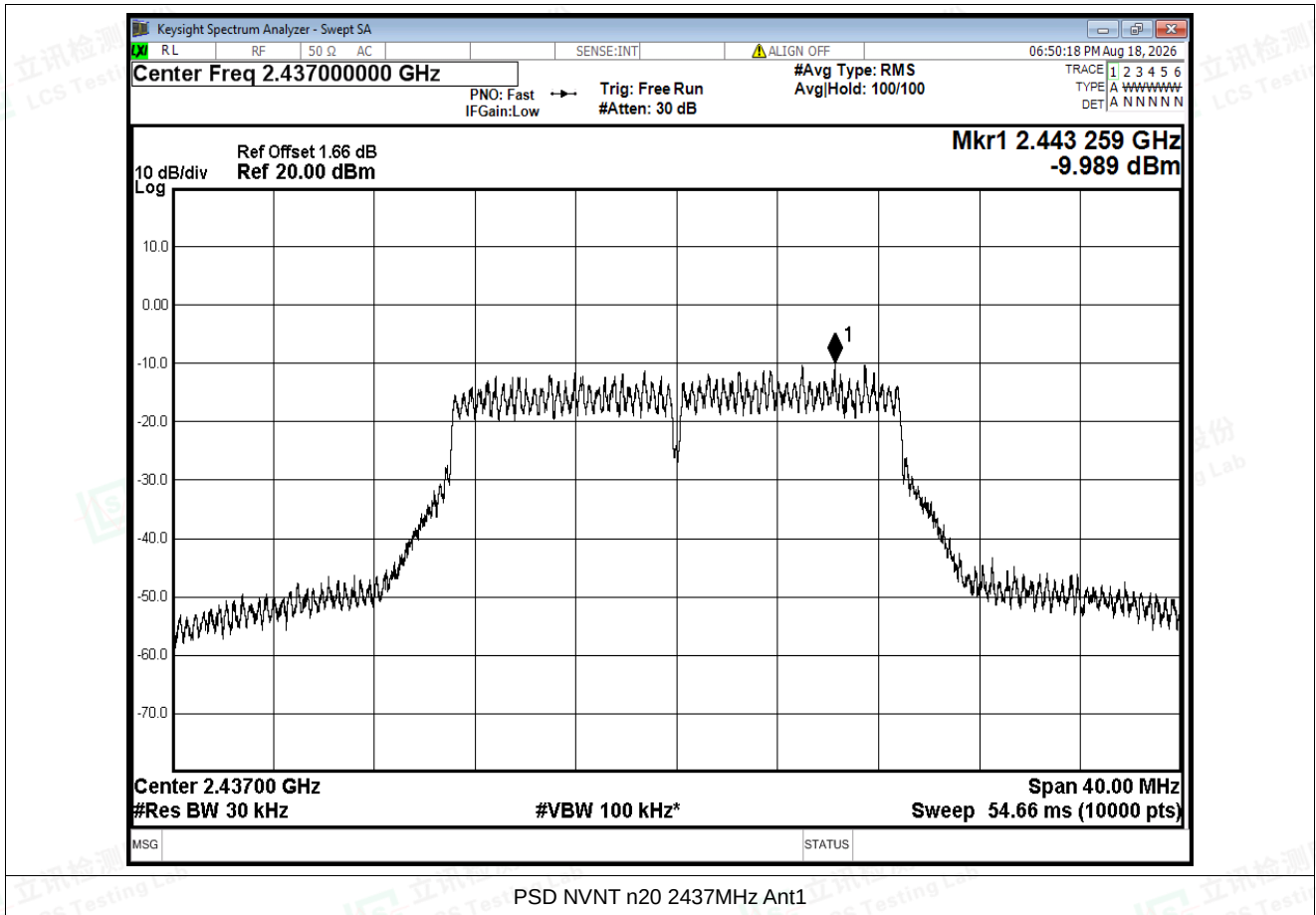


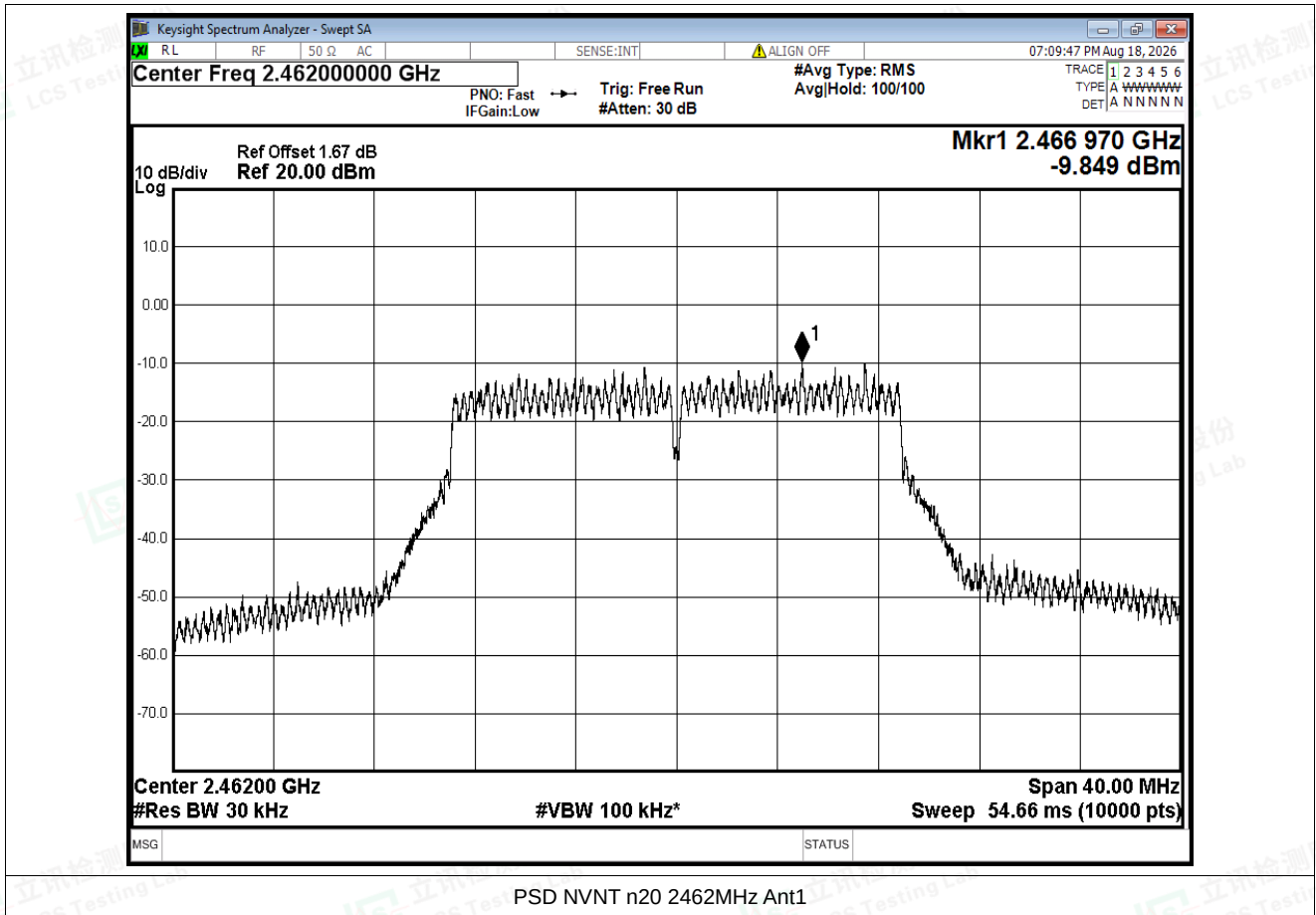


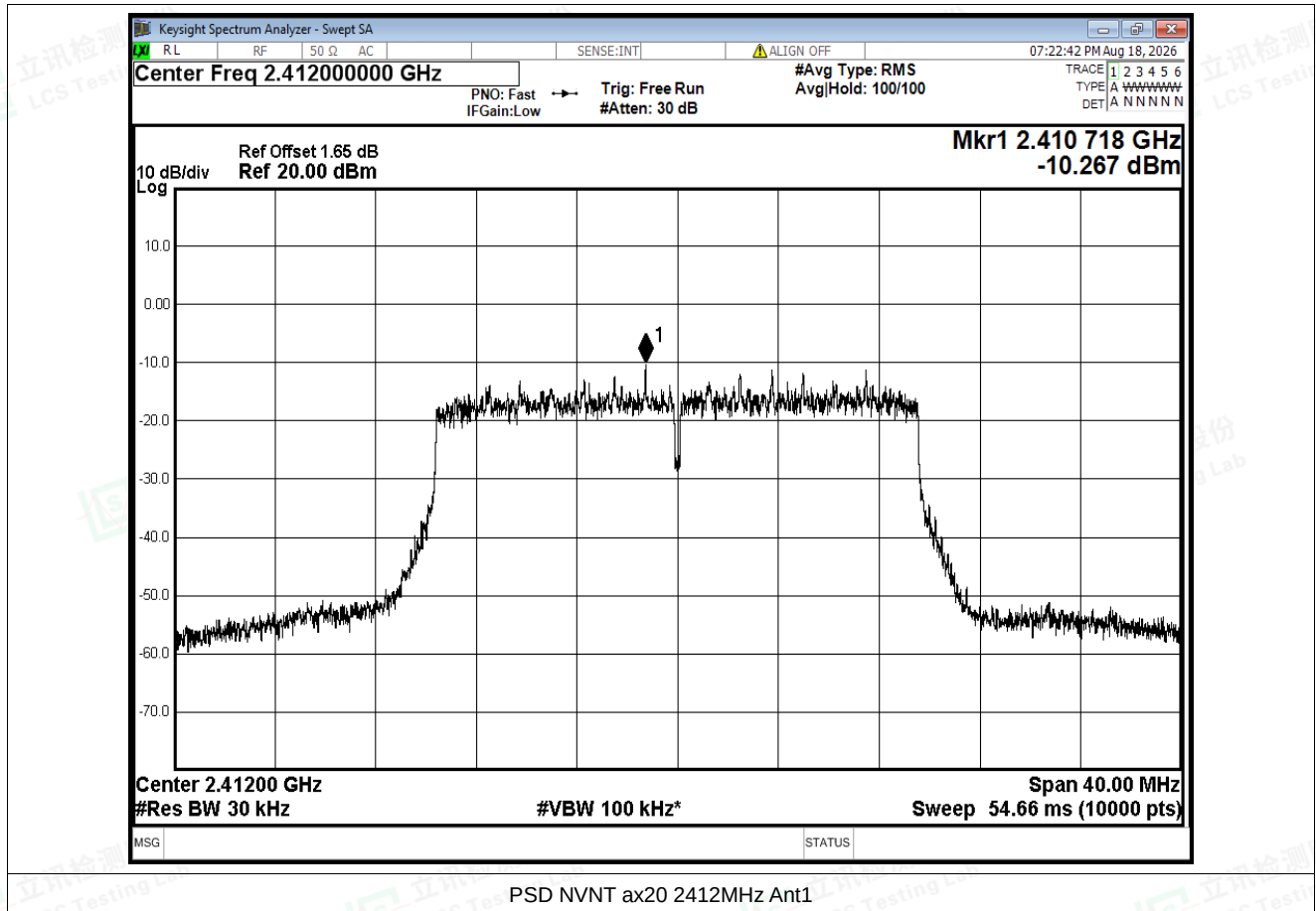


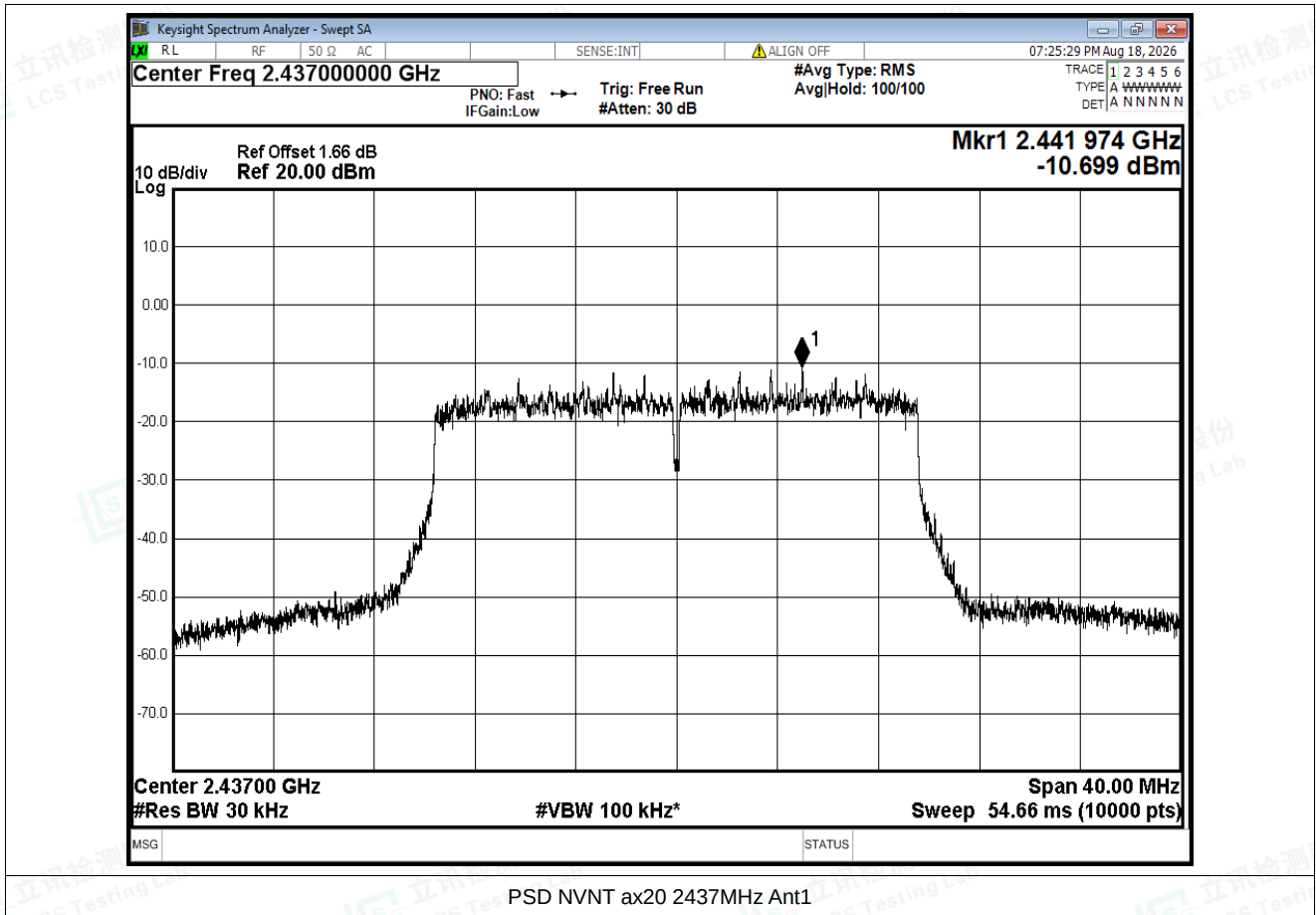


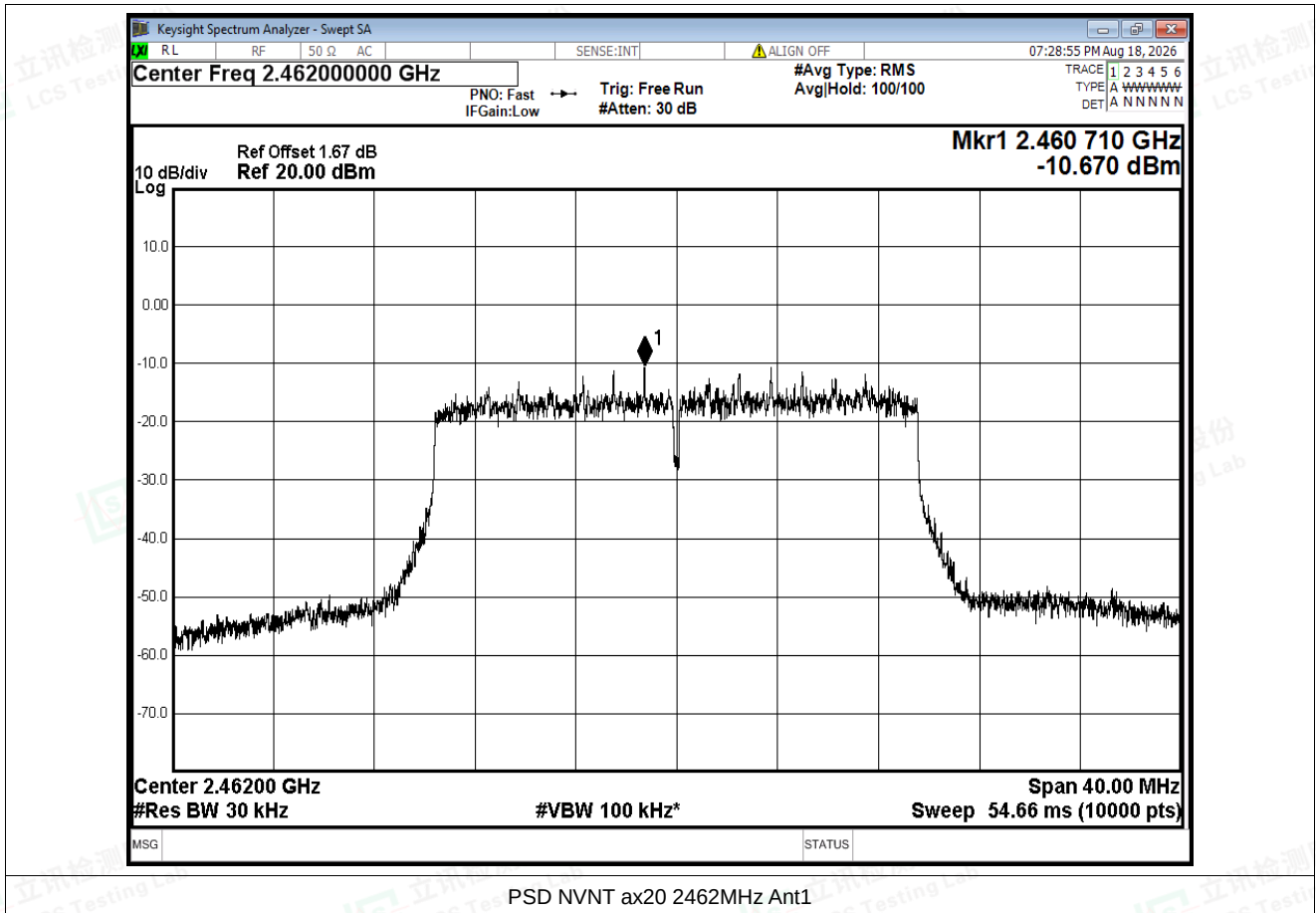


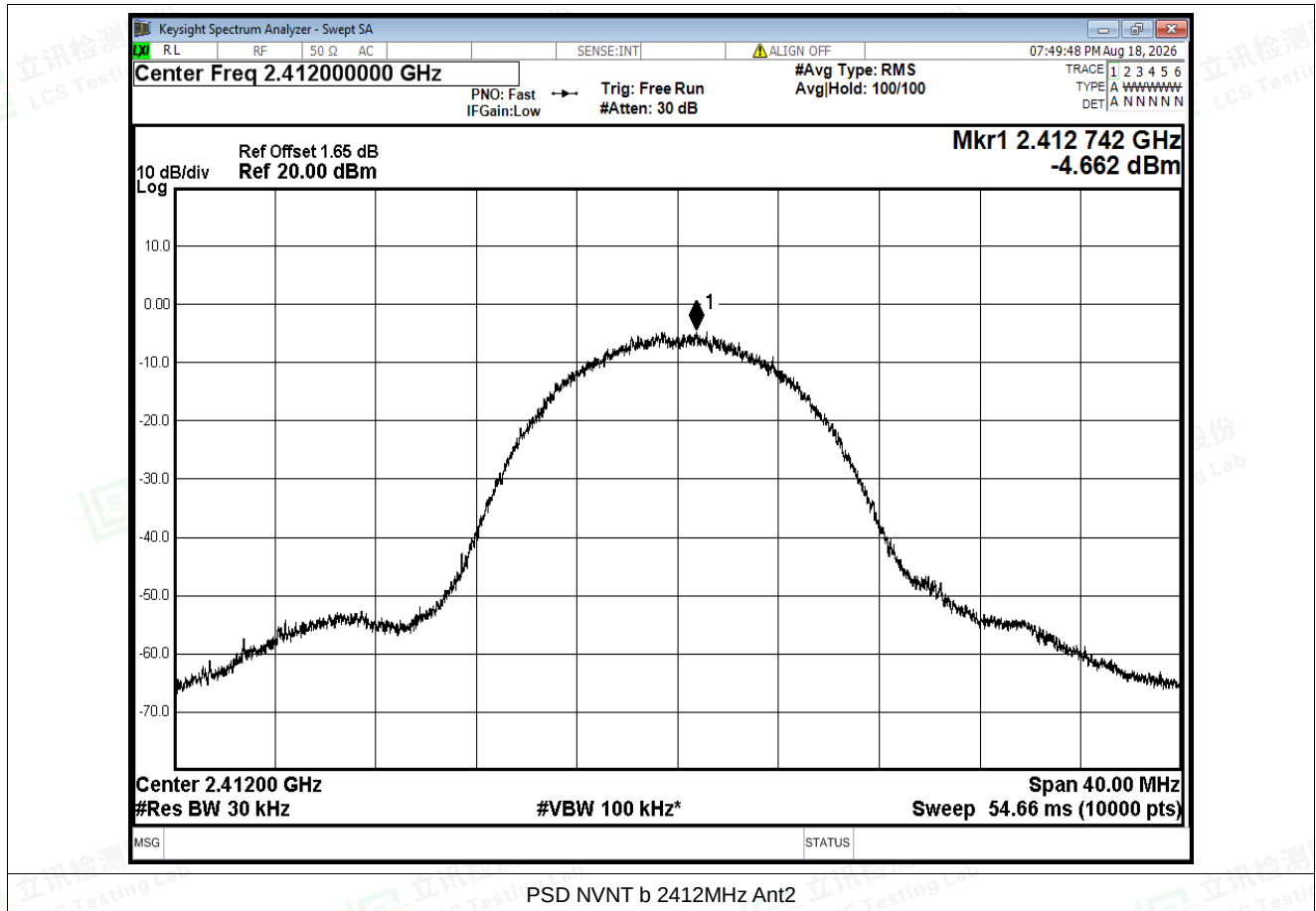


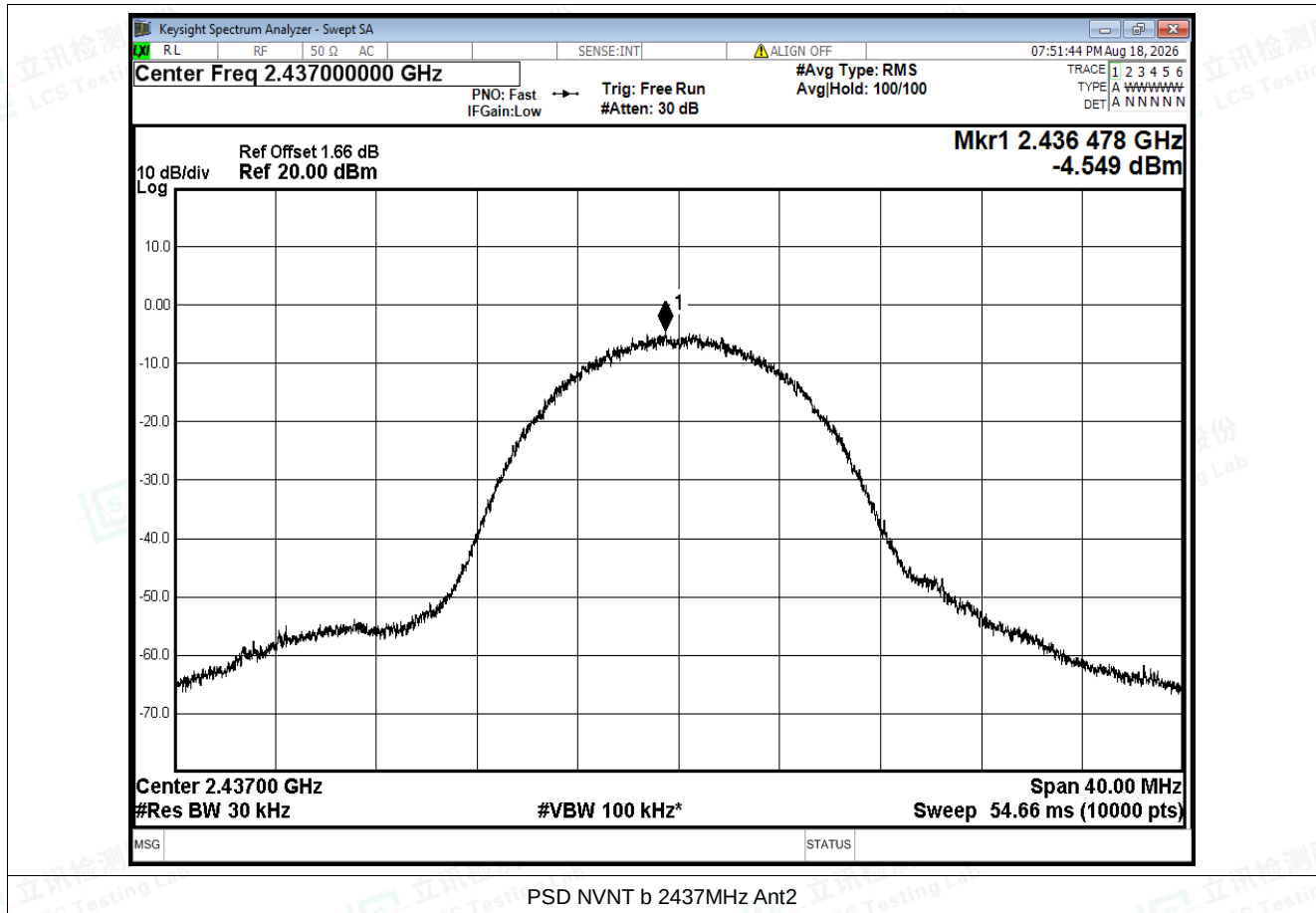


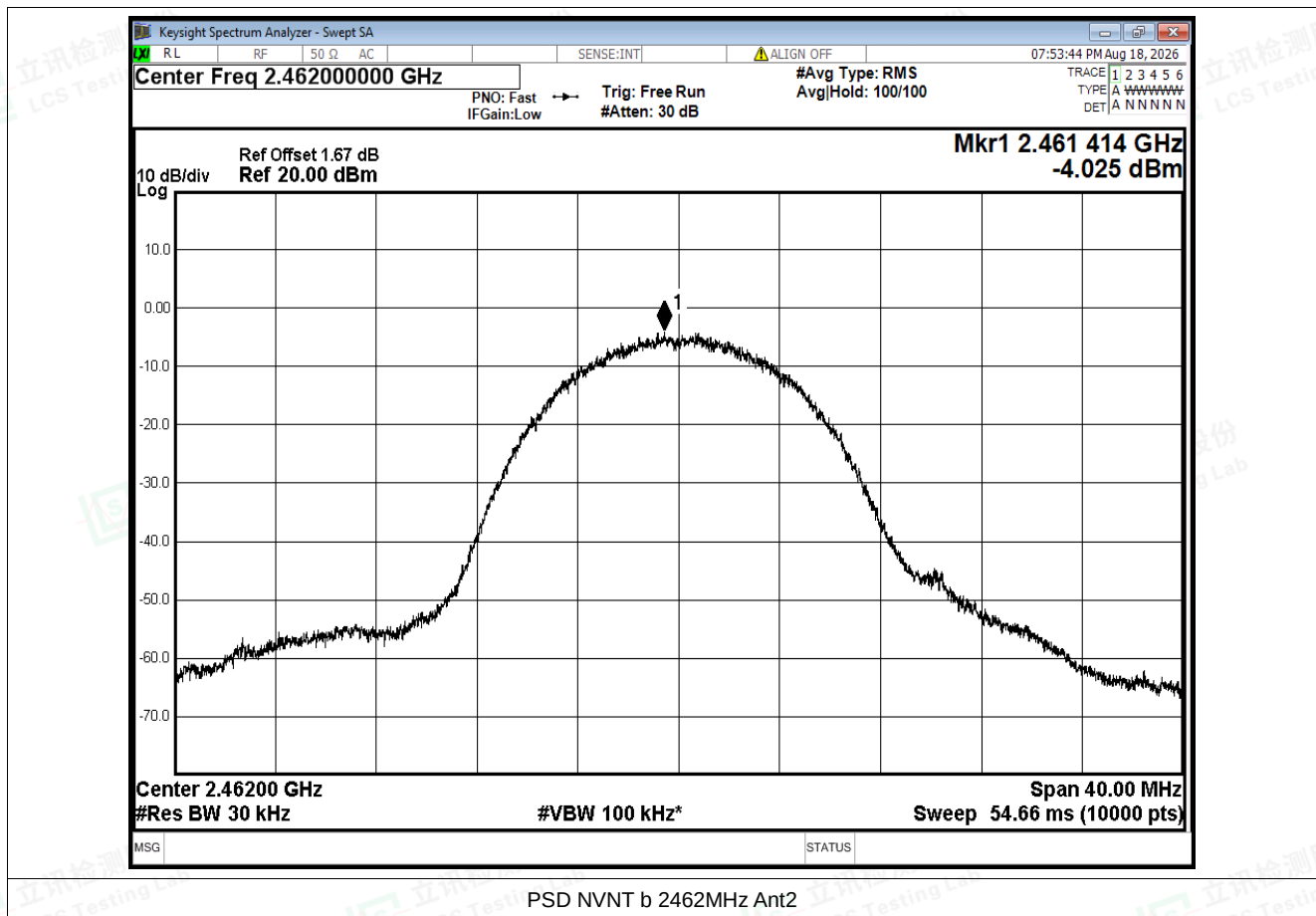


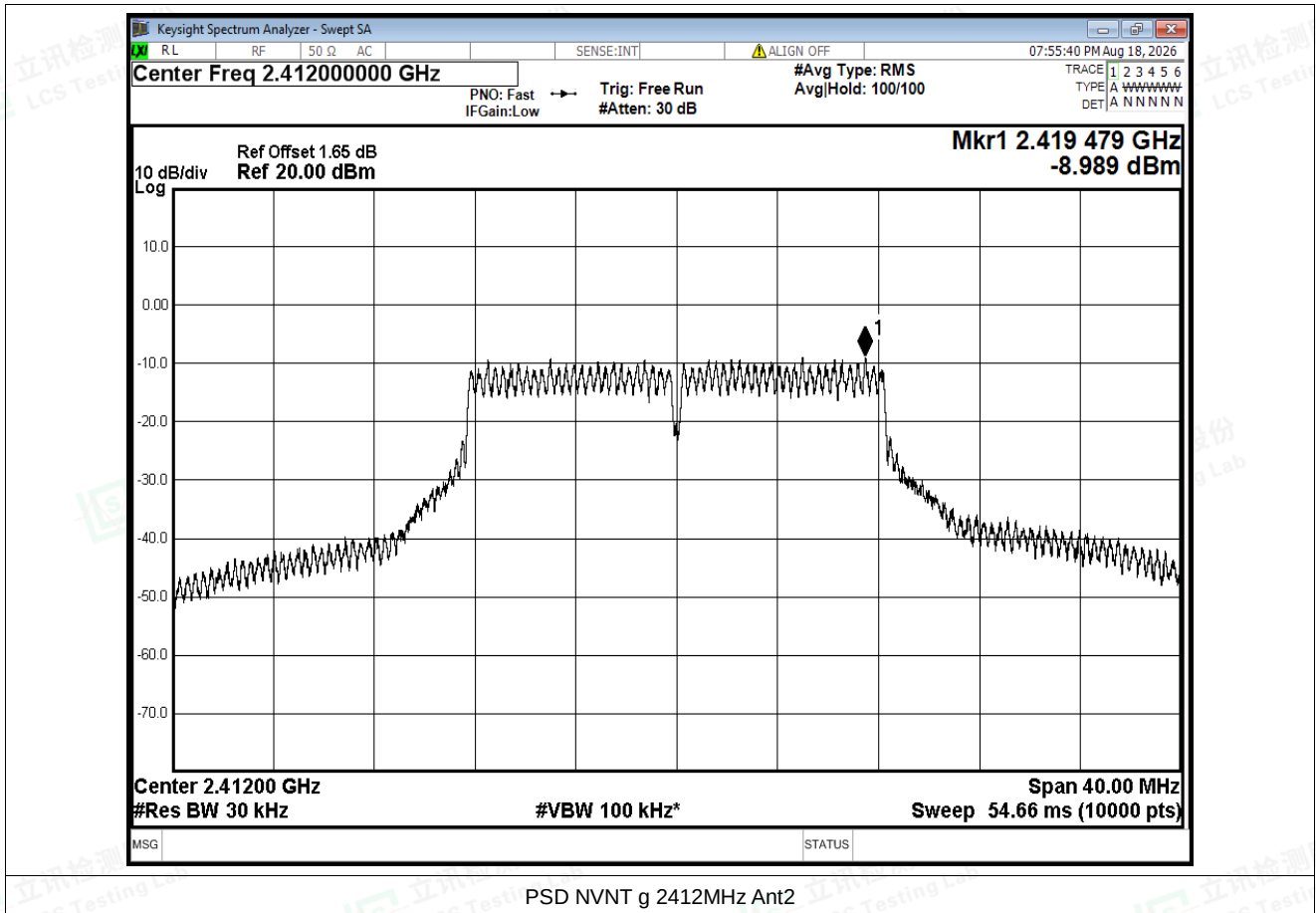


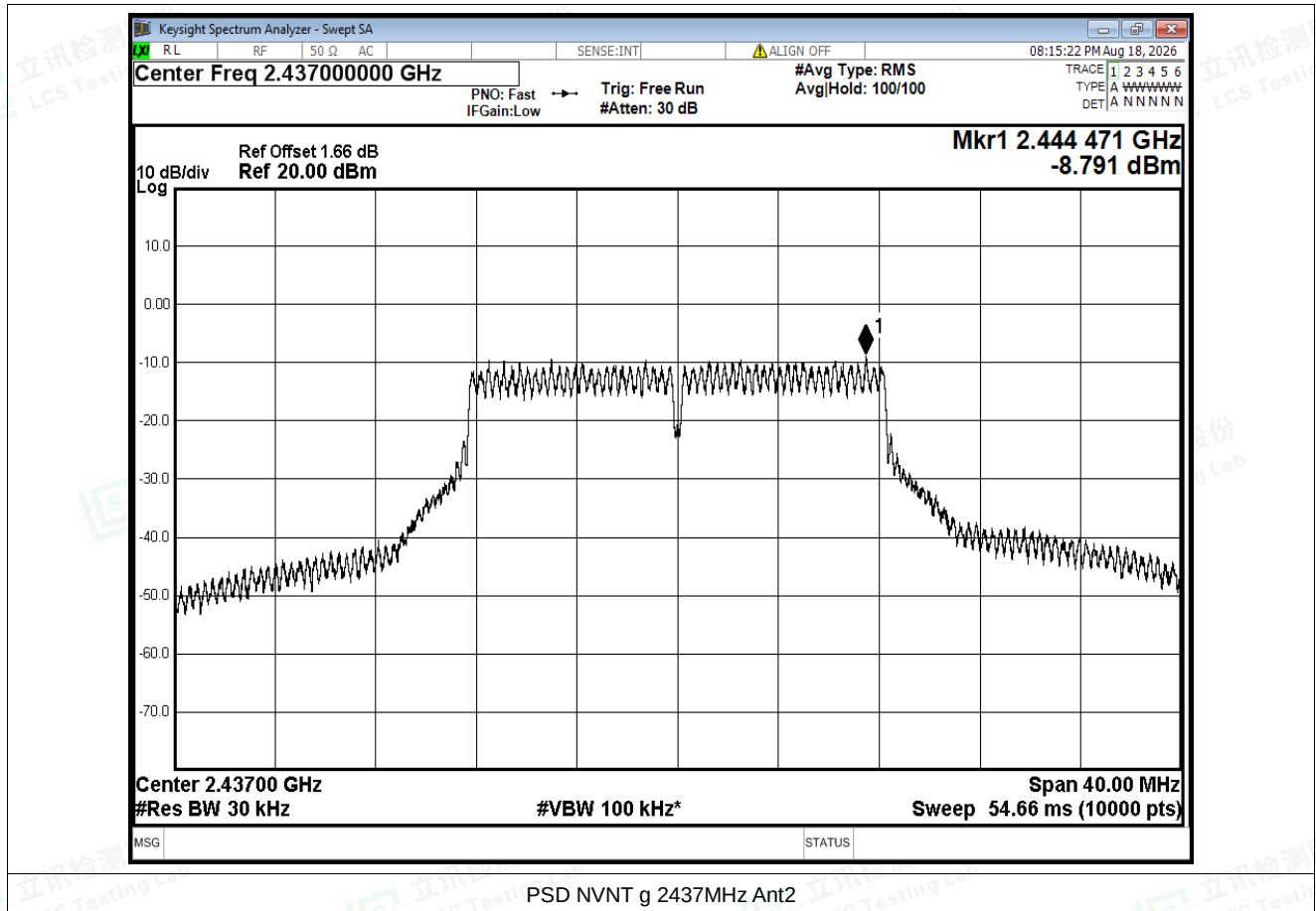


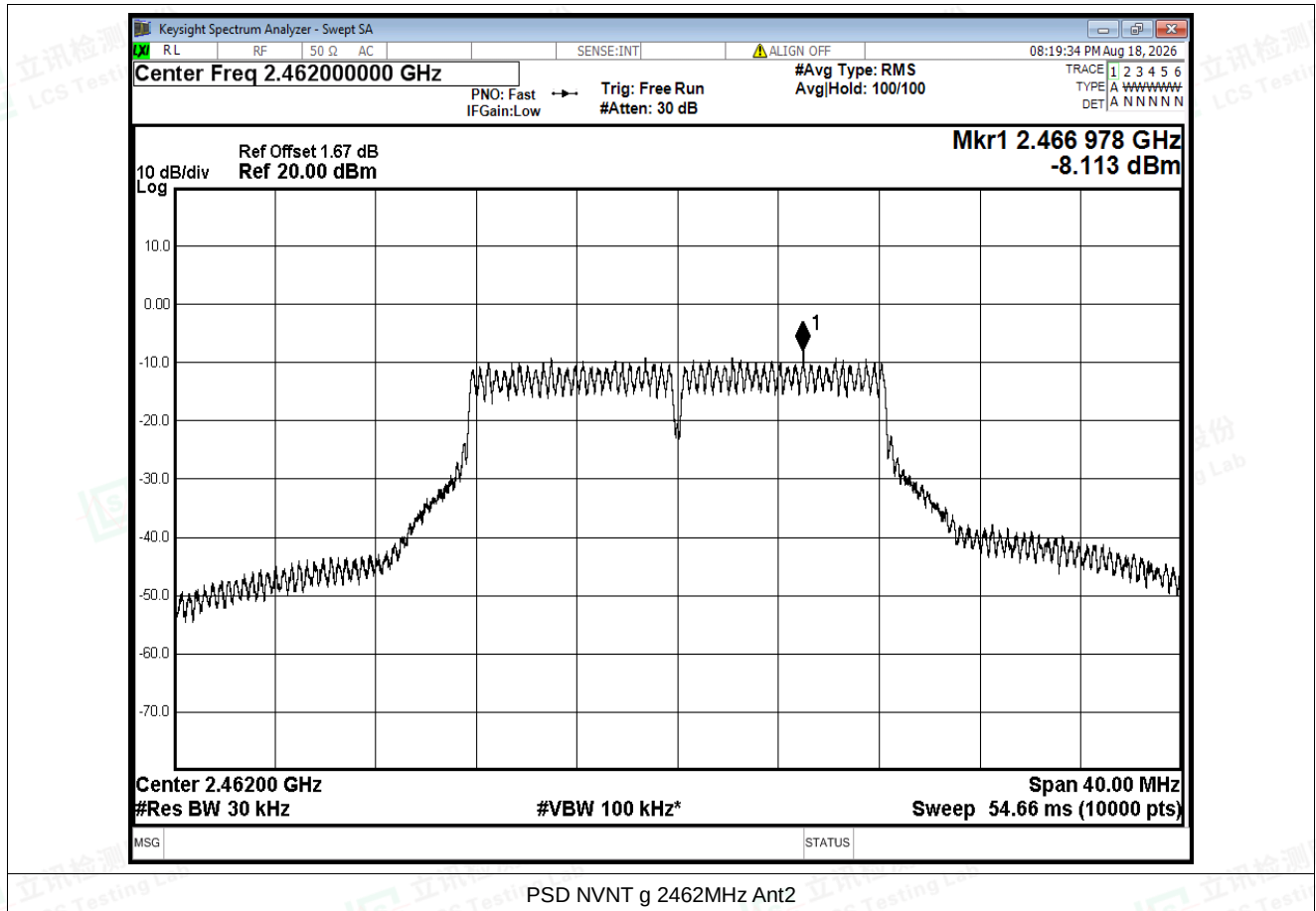


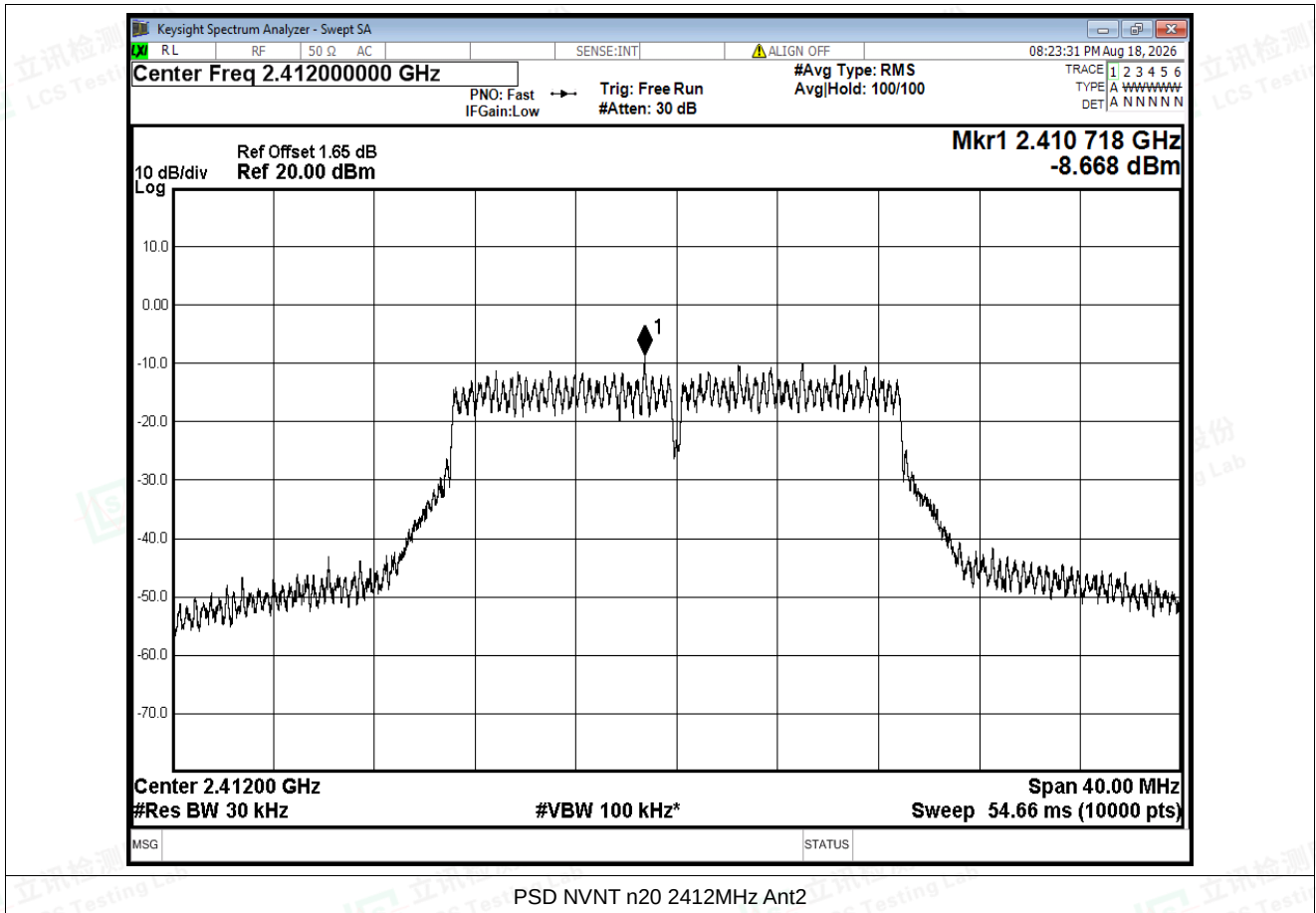


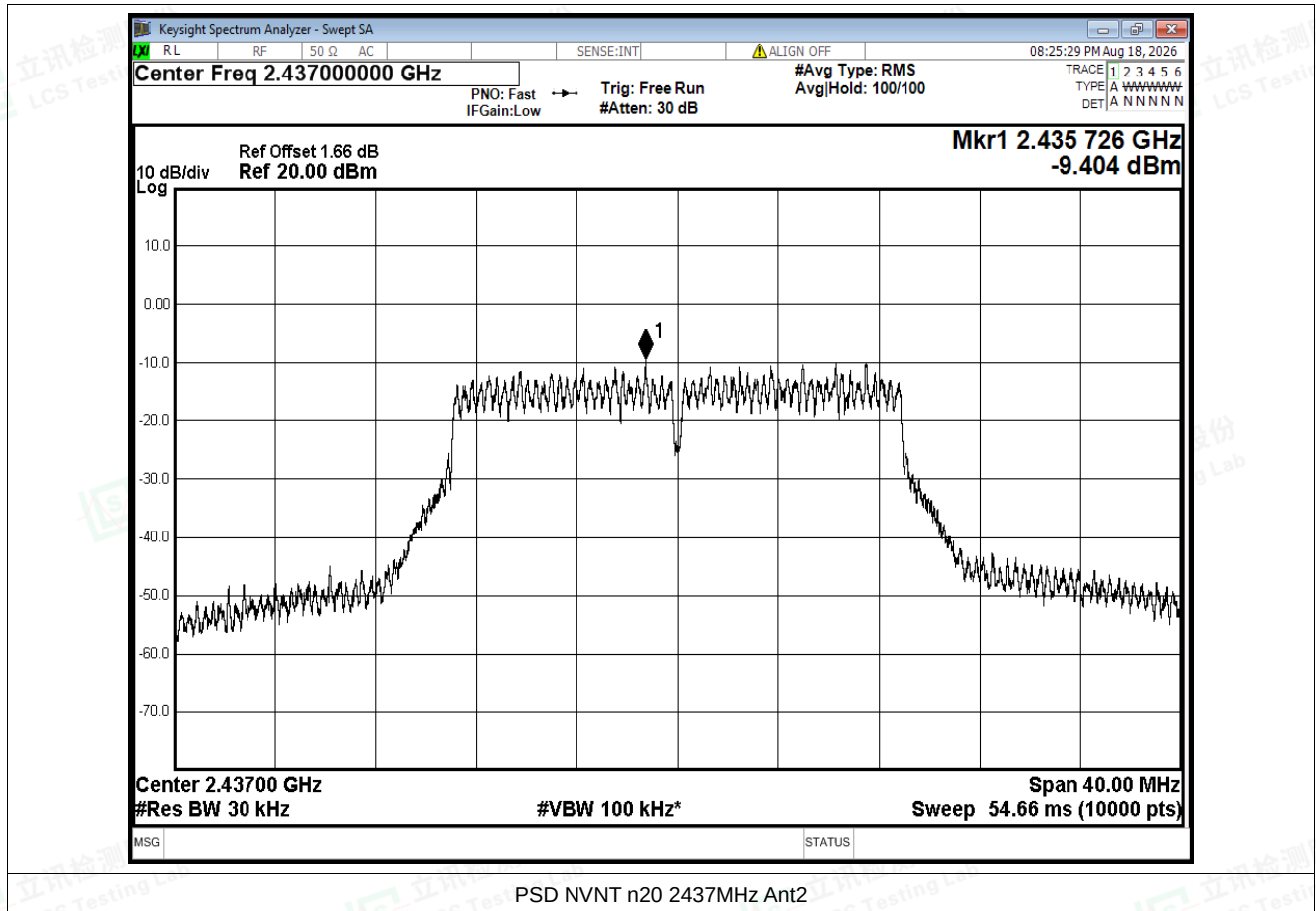


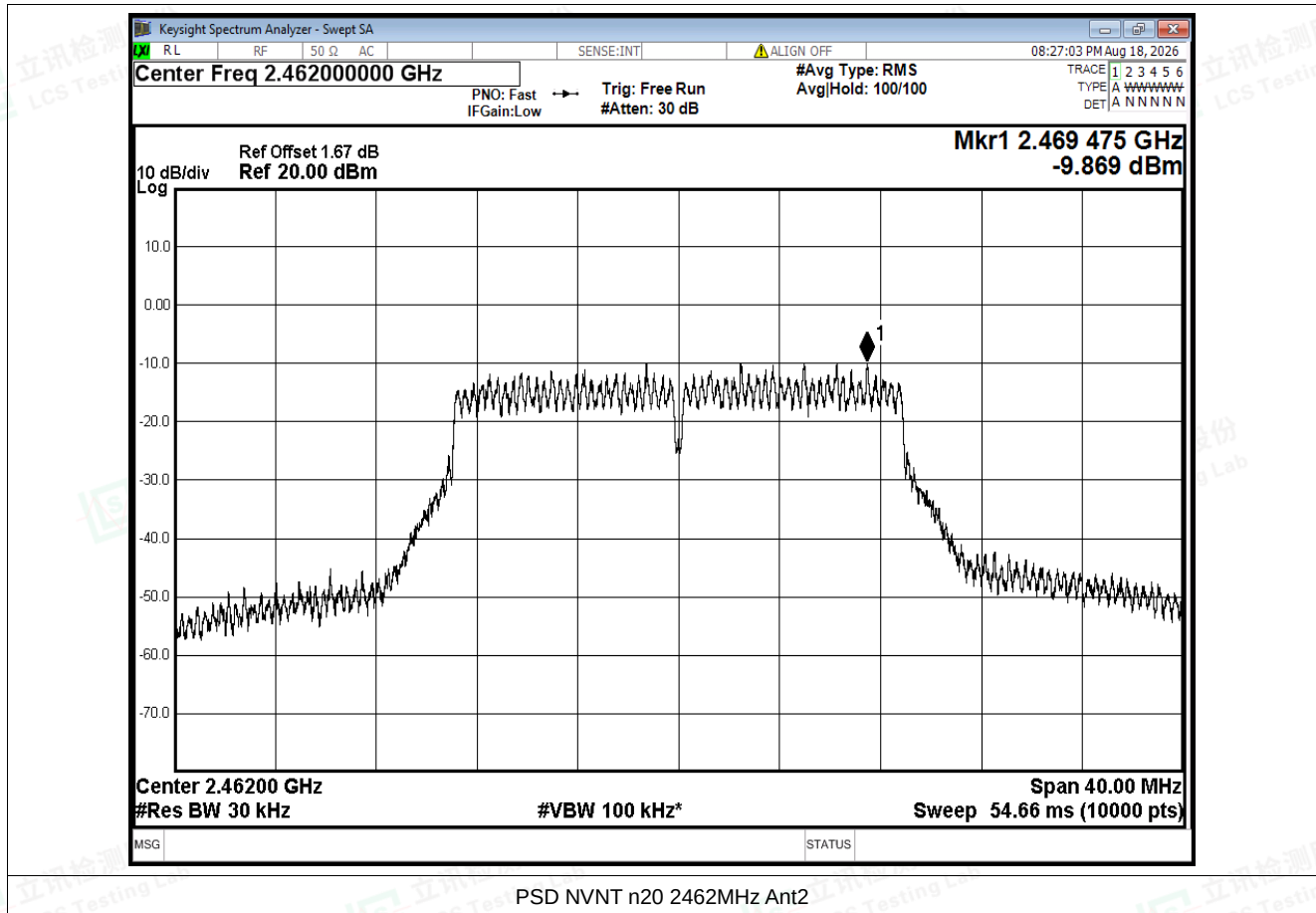


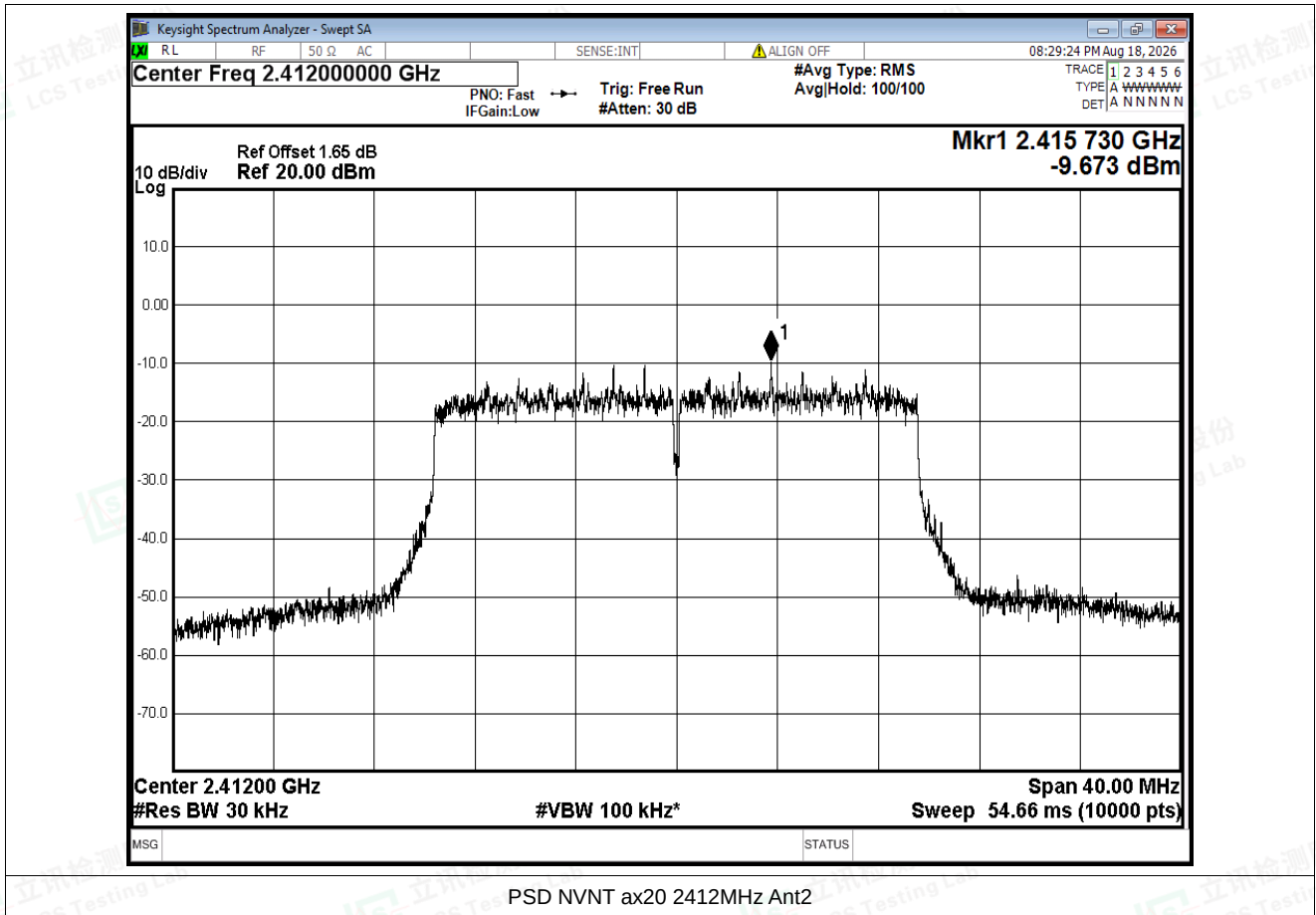


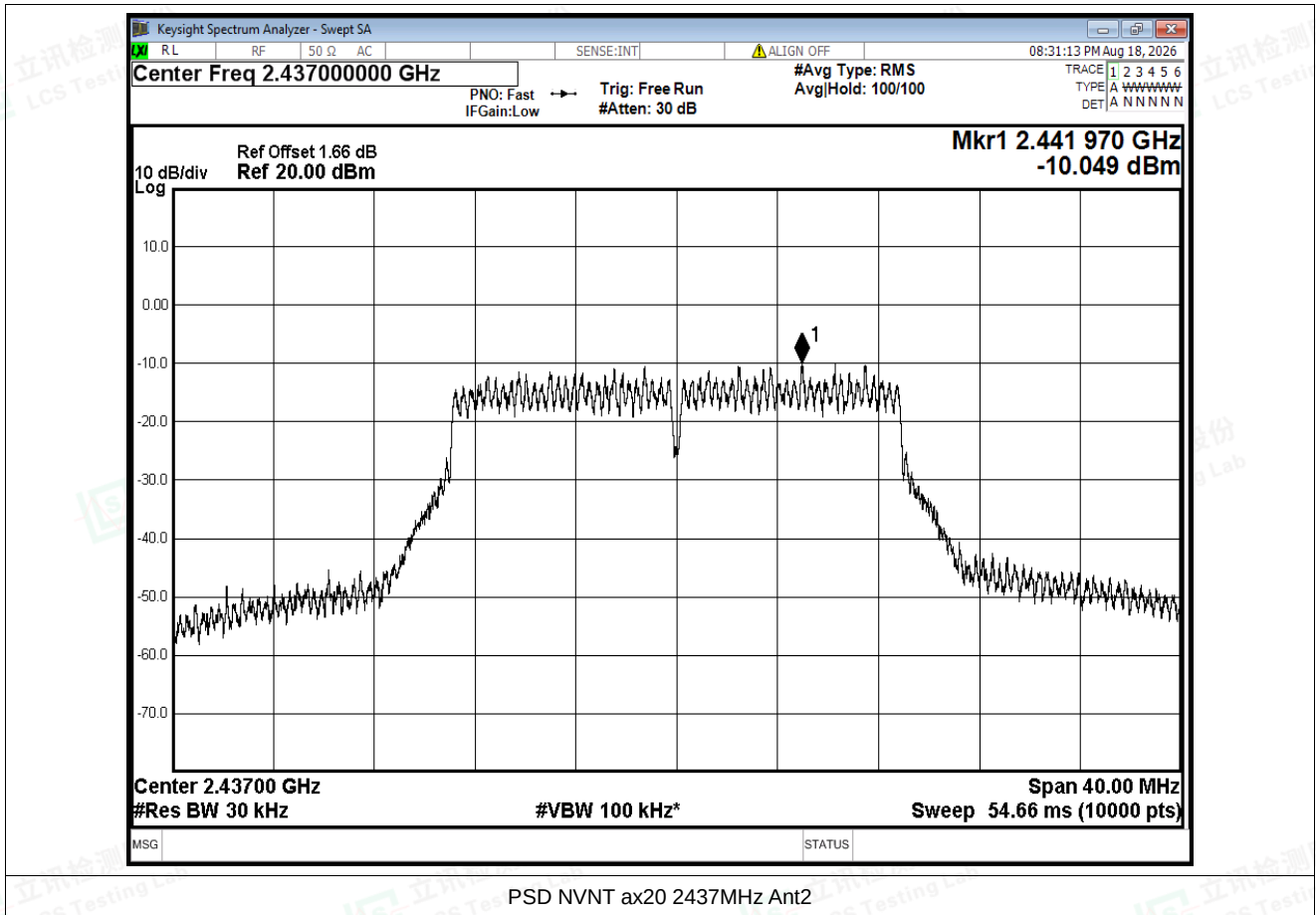


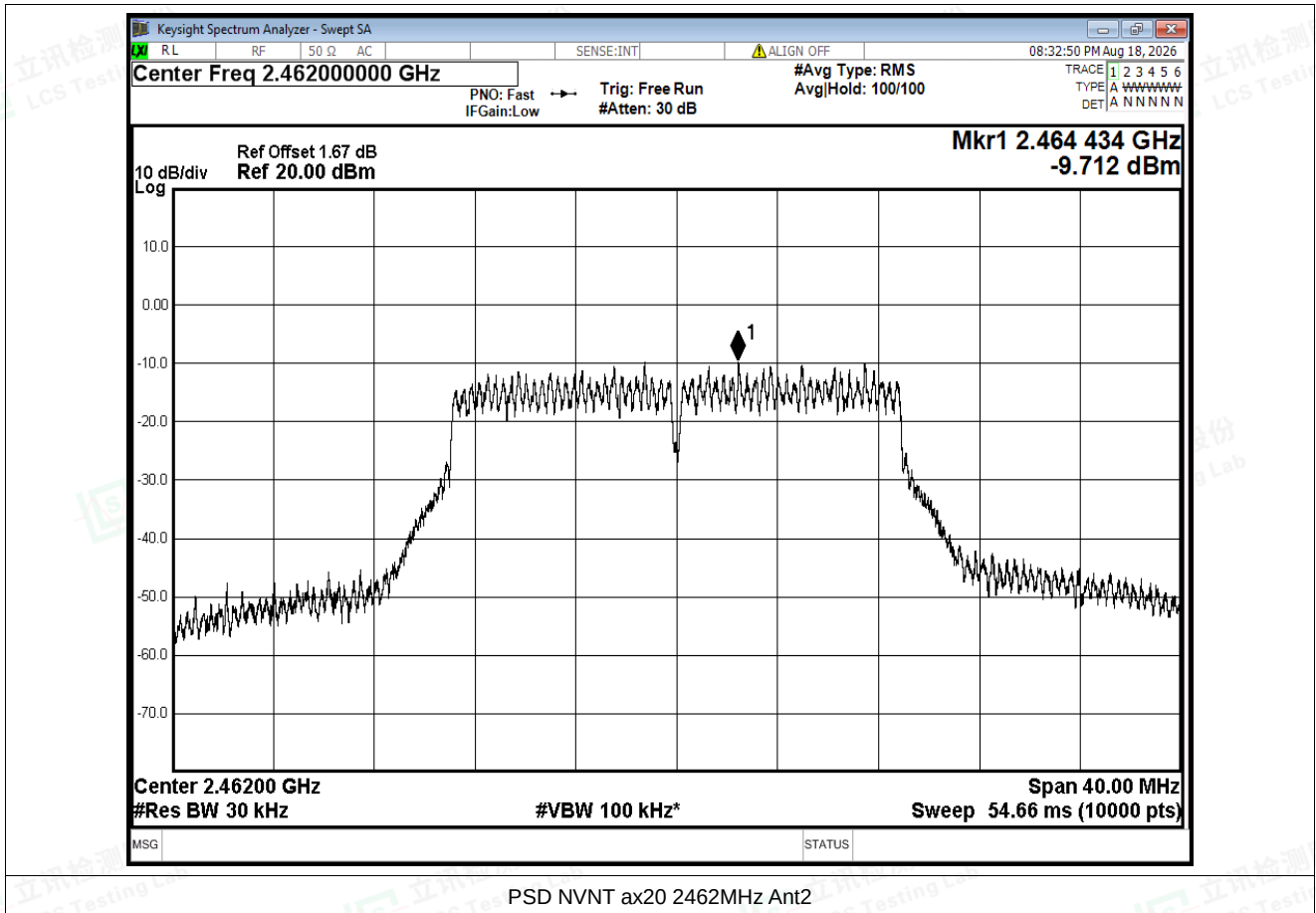








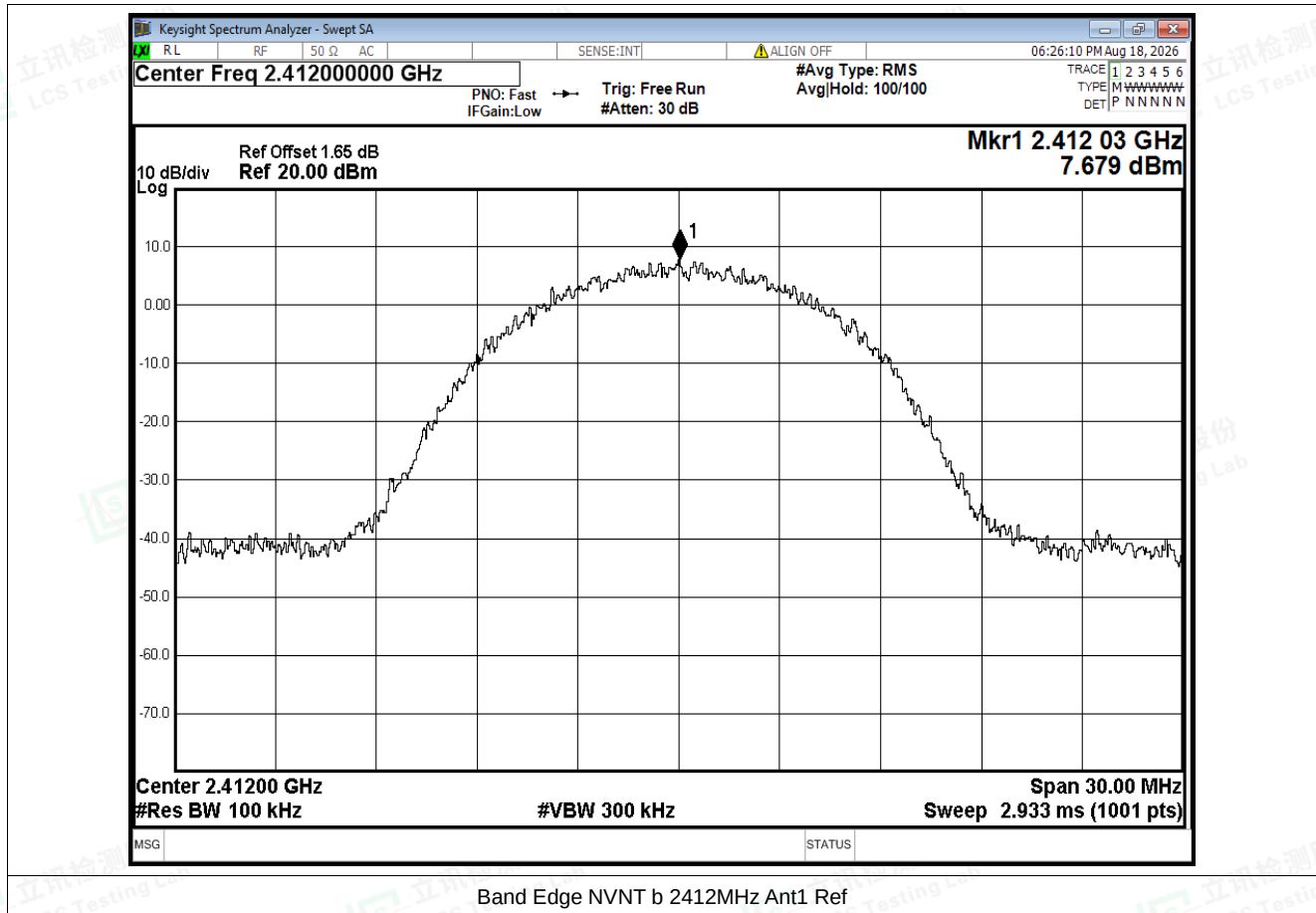


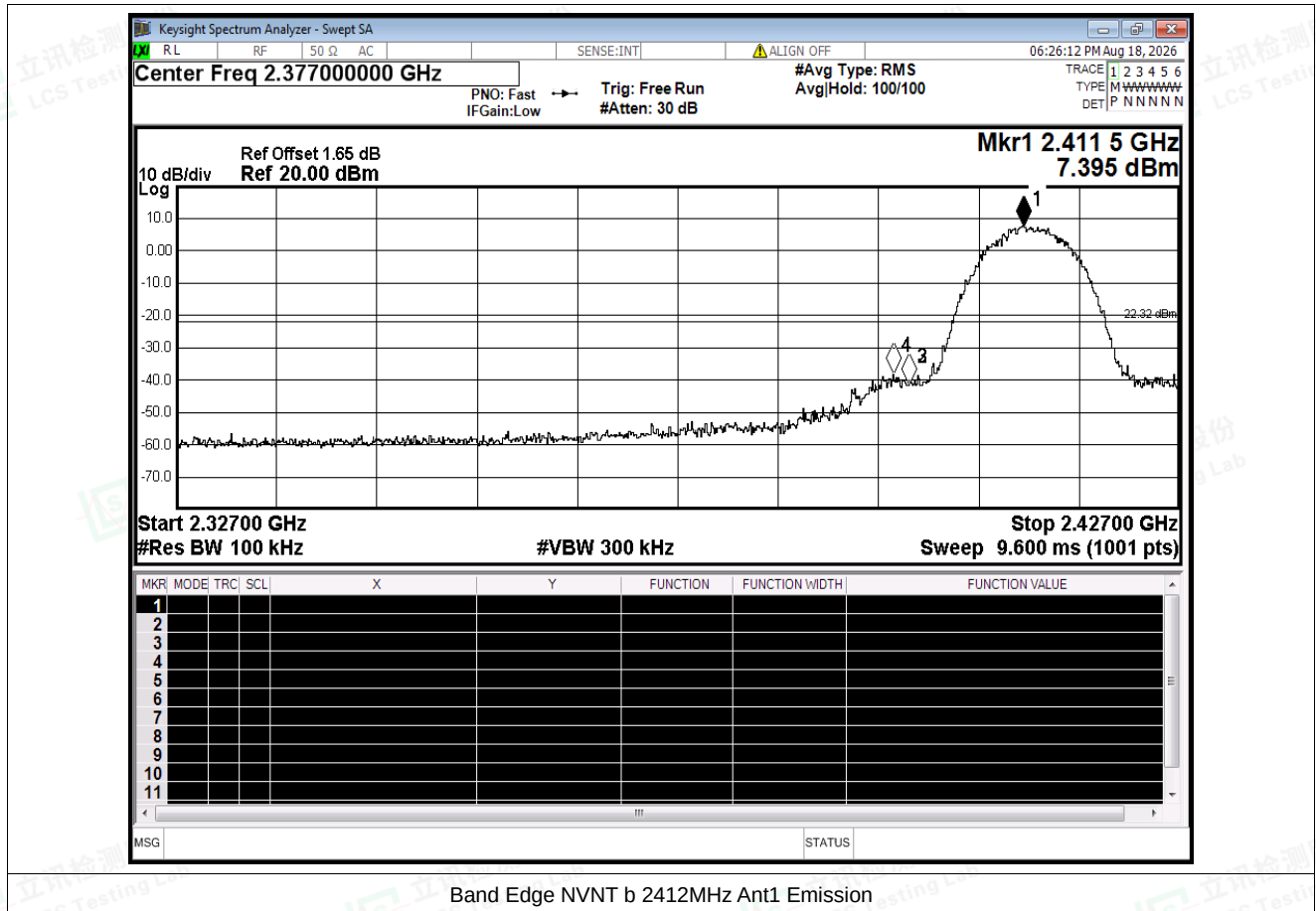


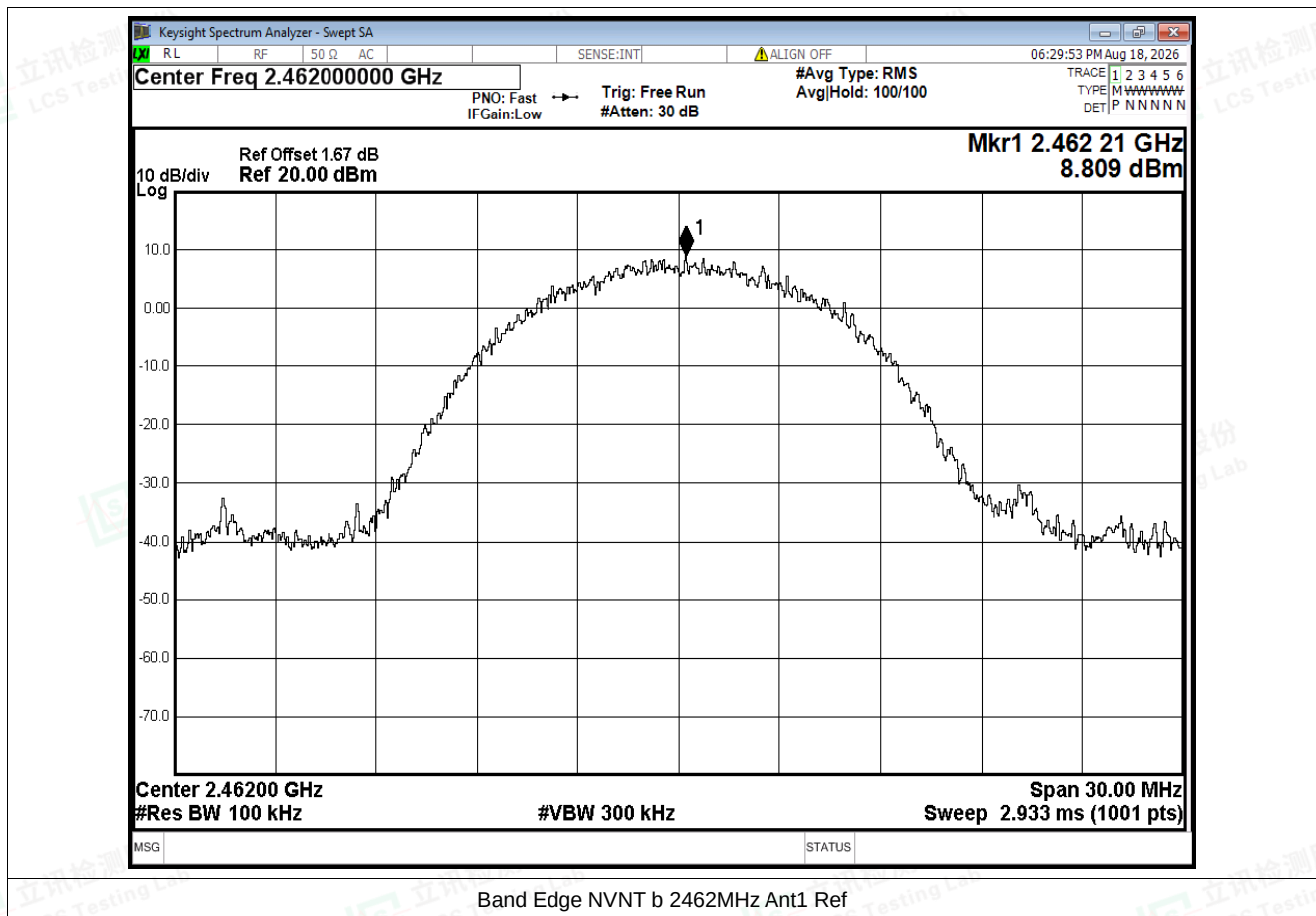


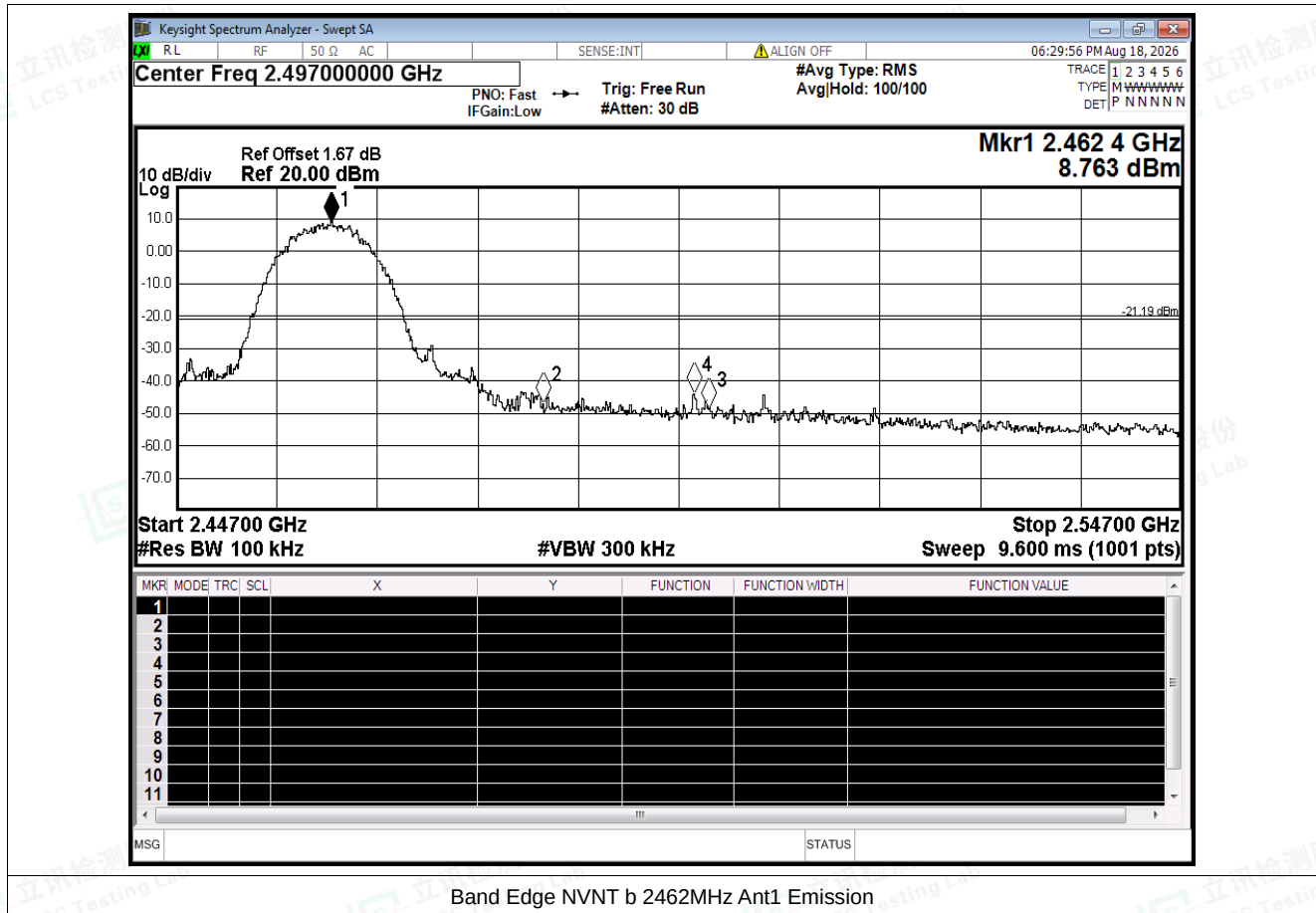
B.4 Band Edge

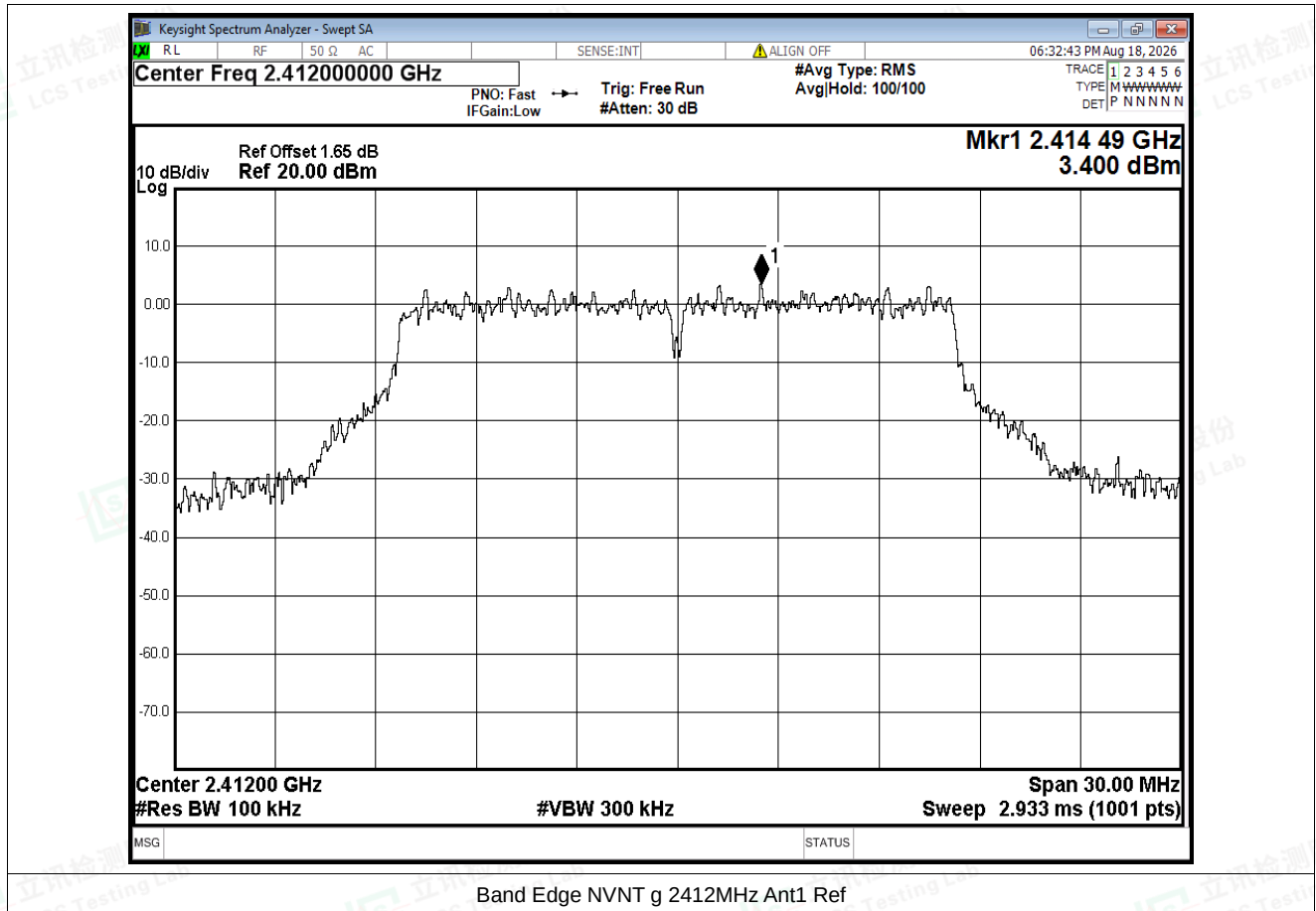
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-45.95	-30	Pass
NVNT	b	2462	Ant1	-52.83	-30	Pass
NVNT	g	2412	Ant1	-31.63	-30	Pass
NVNT	g	2462	Ant1	-39.58	-30	Pass
NVNT	n20	2412	Ant1	-32.24	-30	Pass
NVNT	n20	2462	Ant1	-37.91	-30	Pass
NVNT	ax20	2412	Ant1	-35.25	-30	Pass
NVNT	ax20	2462	Ant1	-36.82	-30	Pass

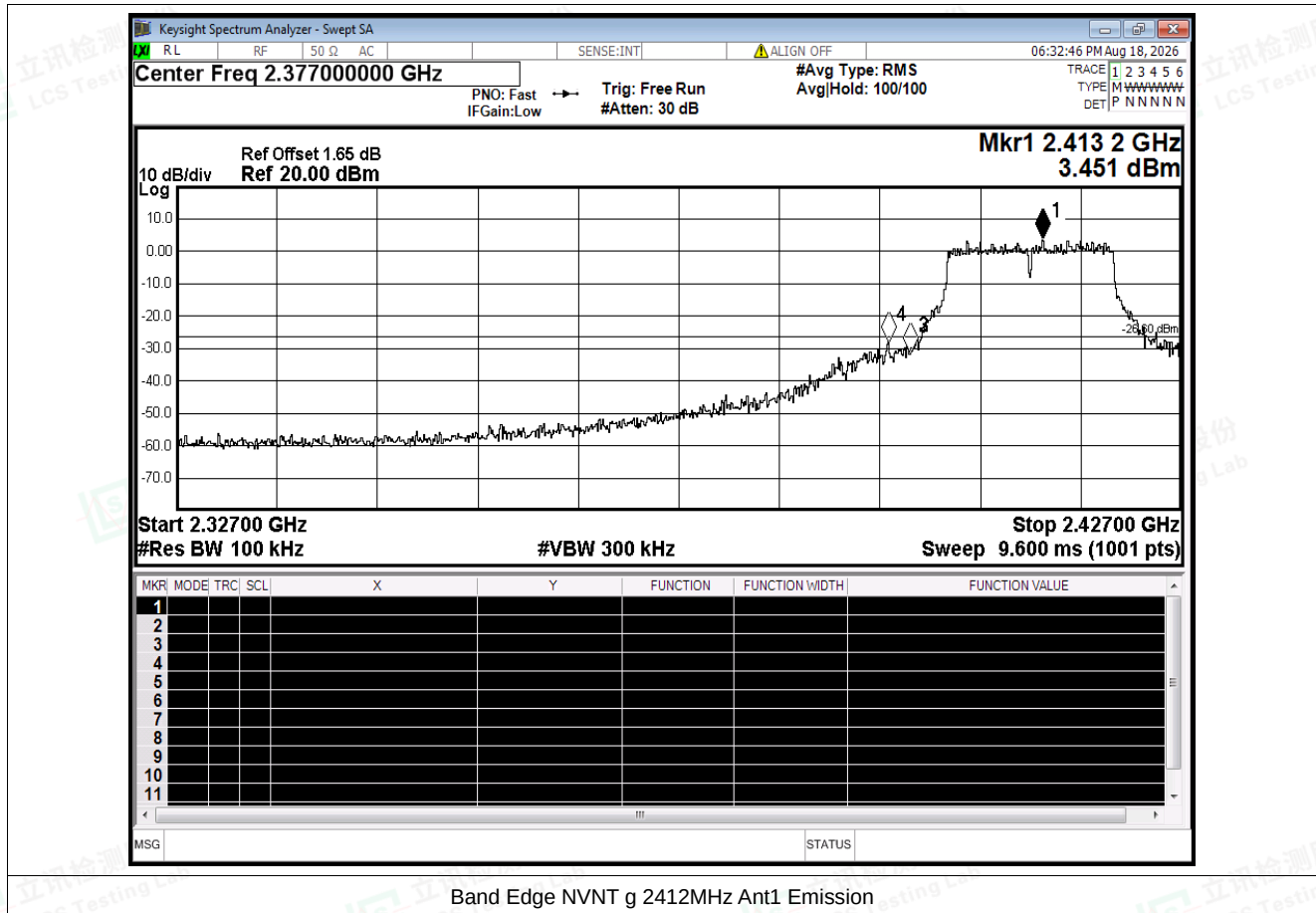


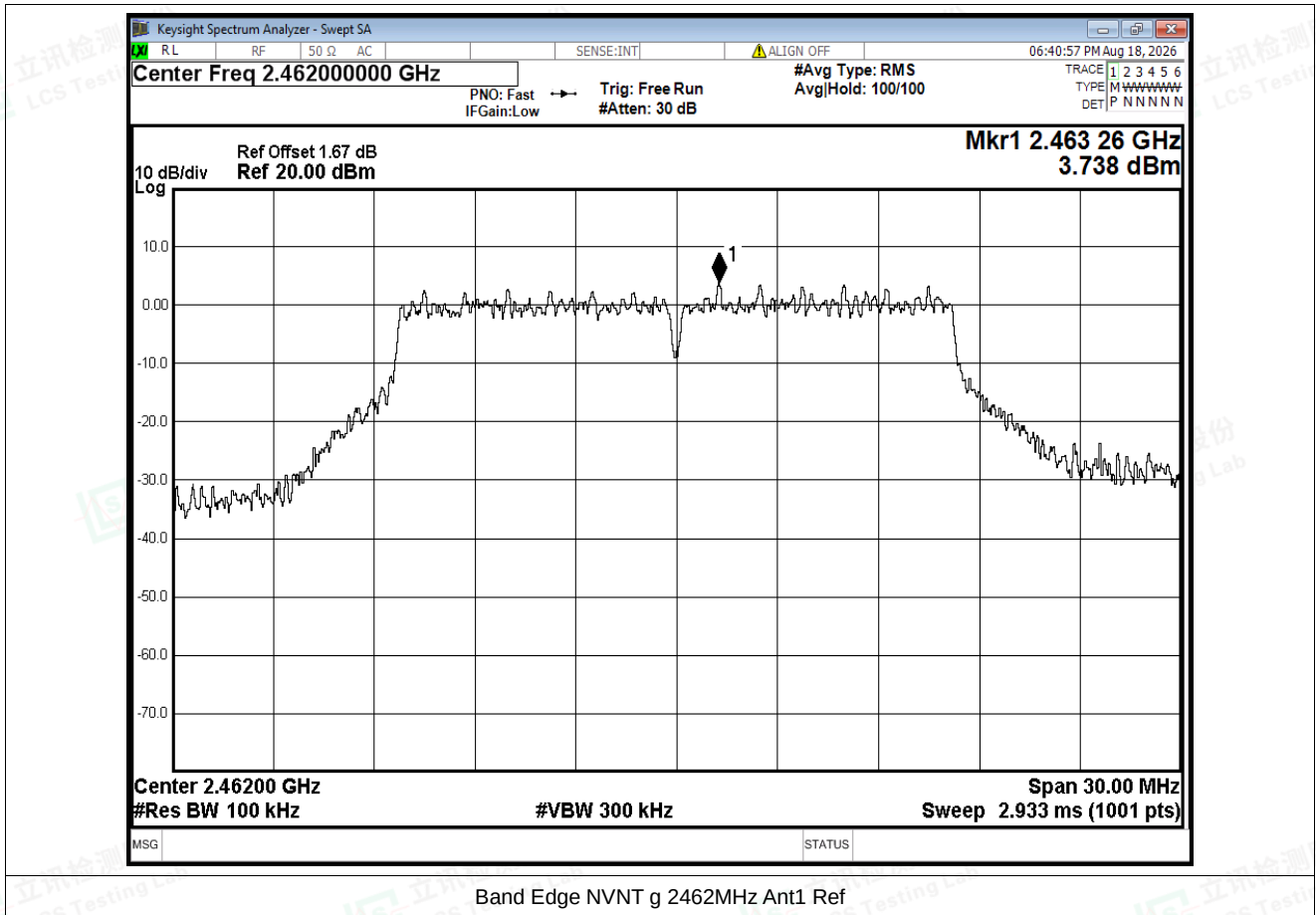


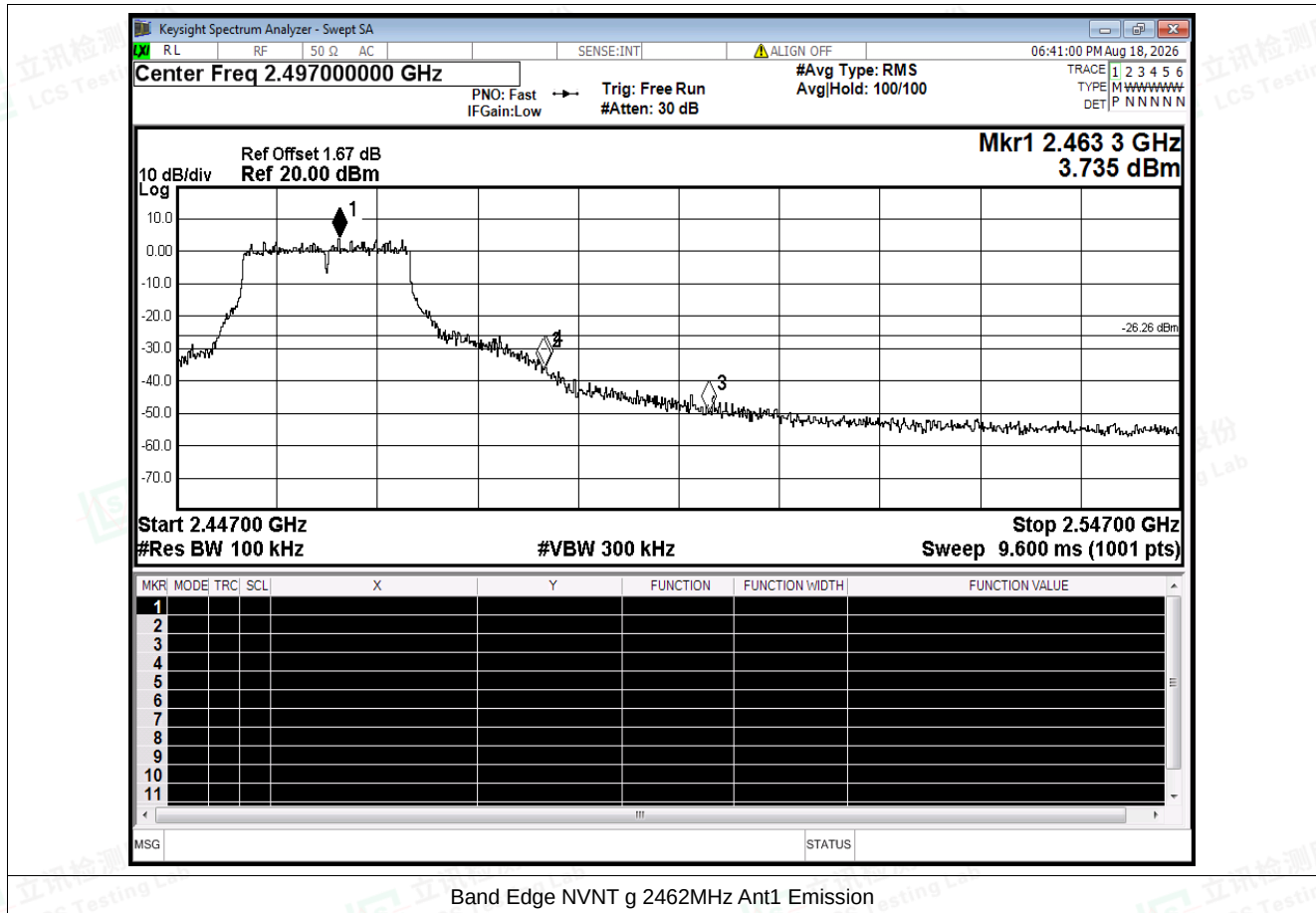


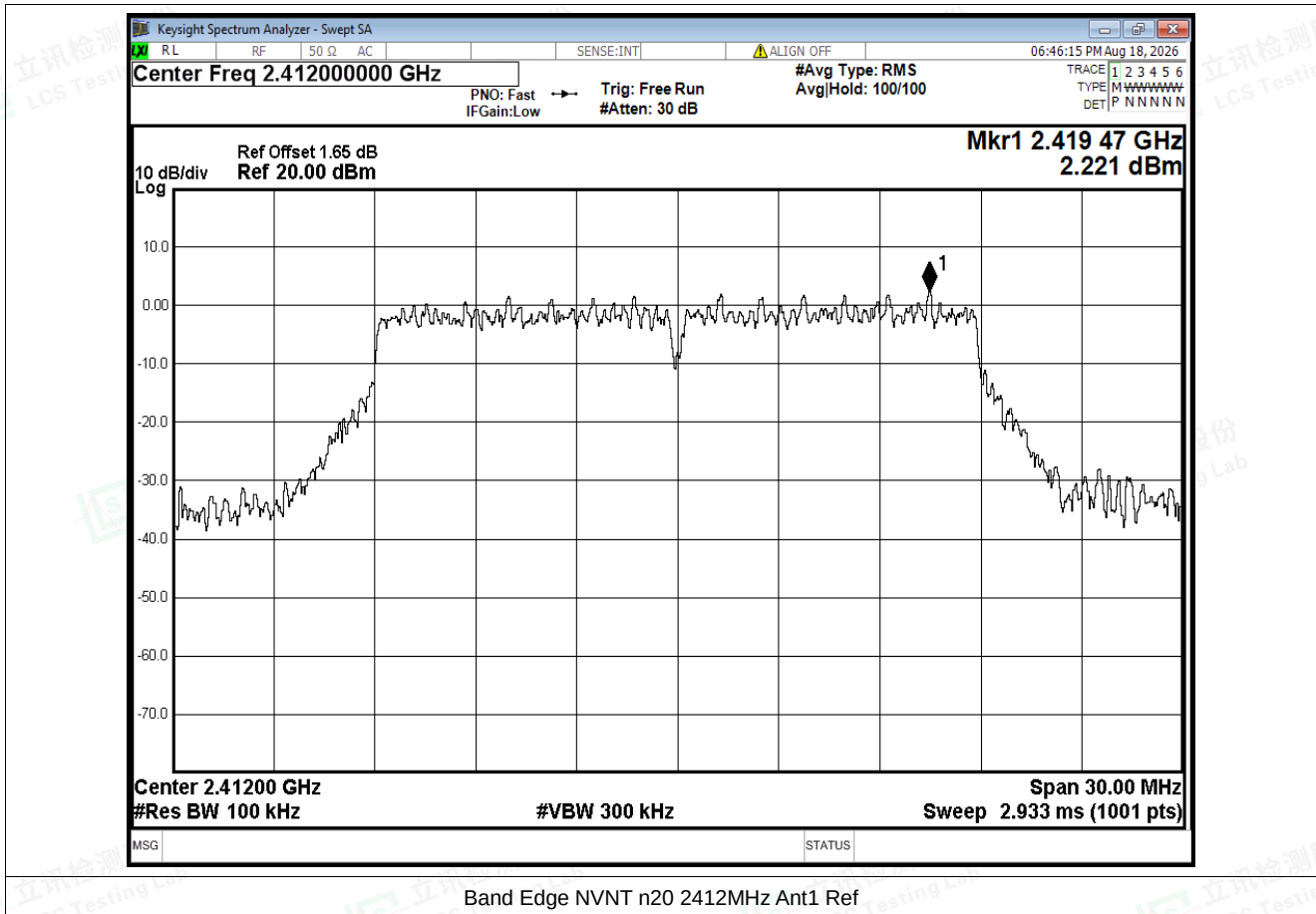


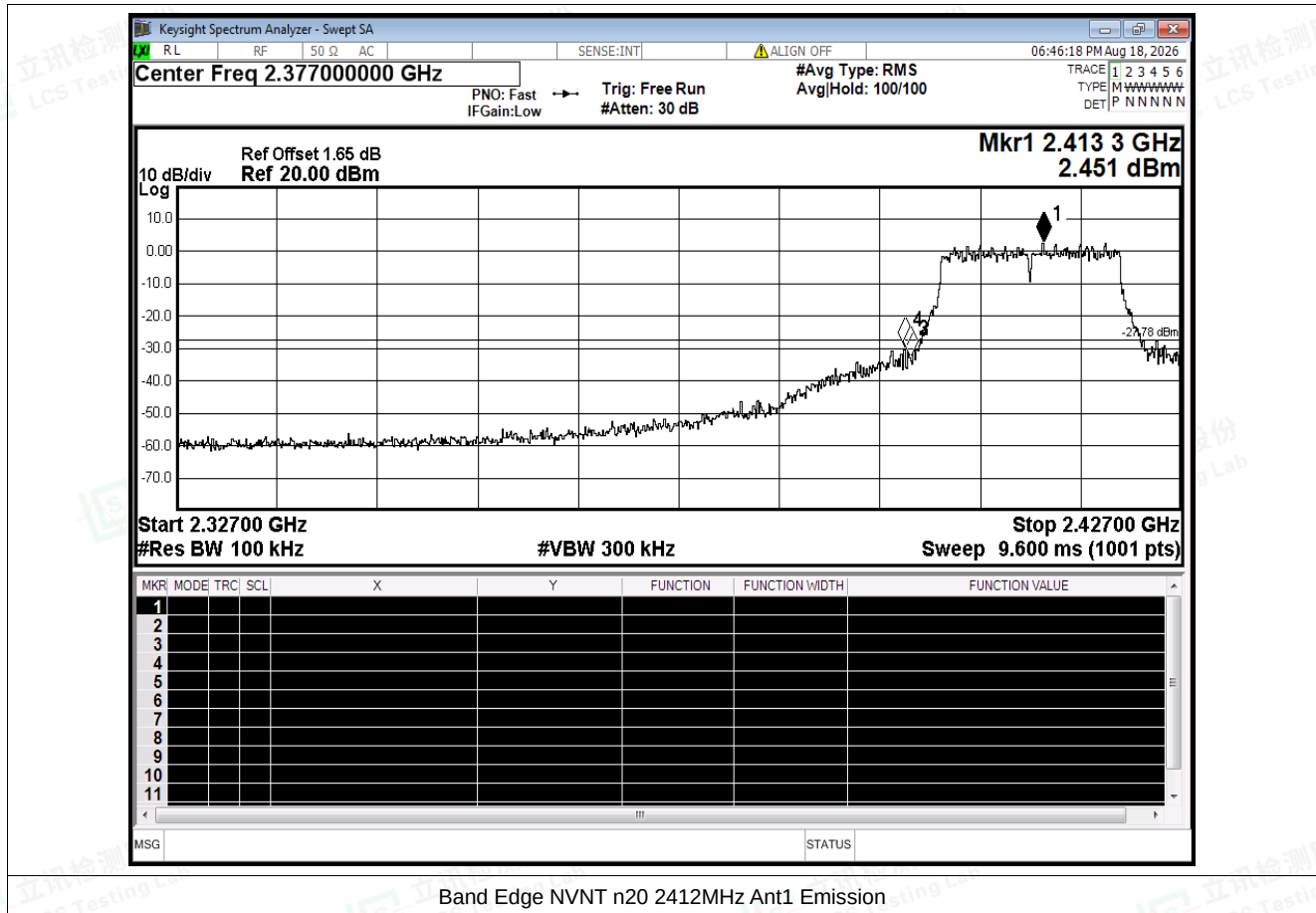


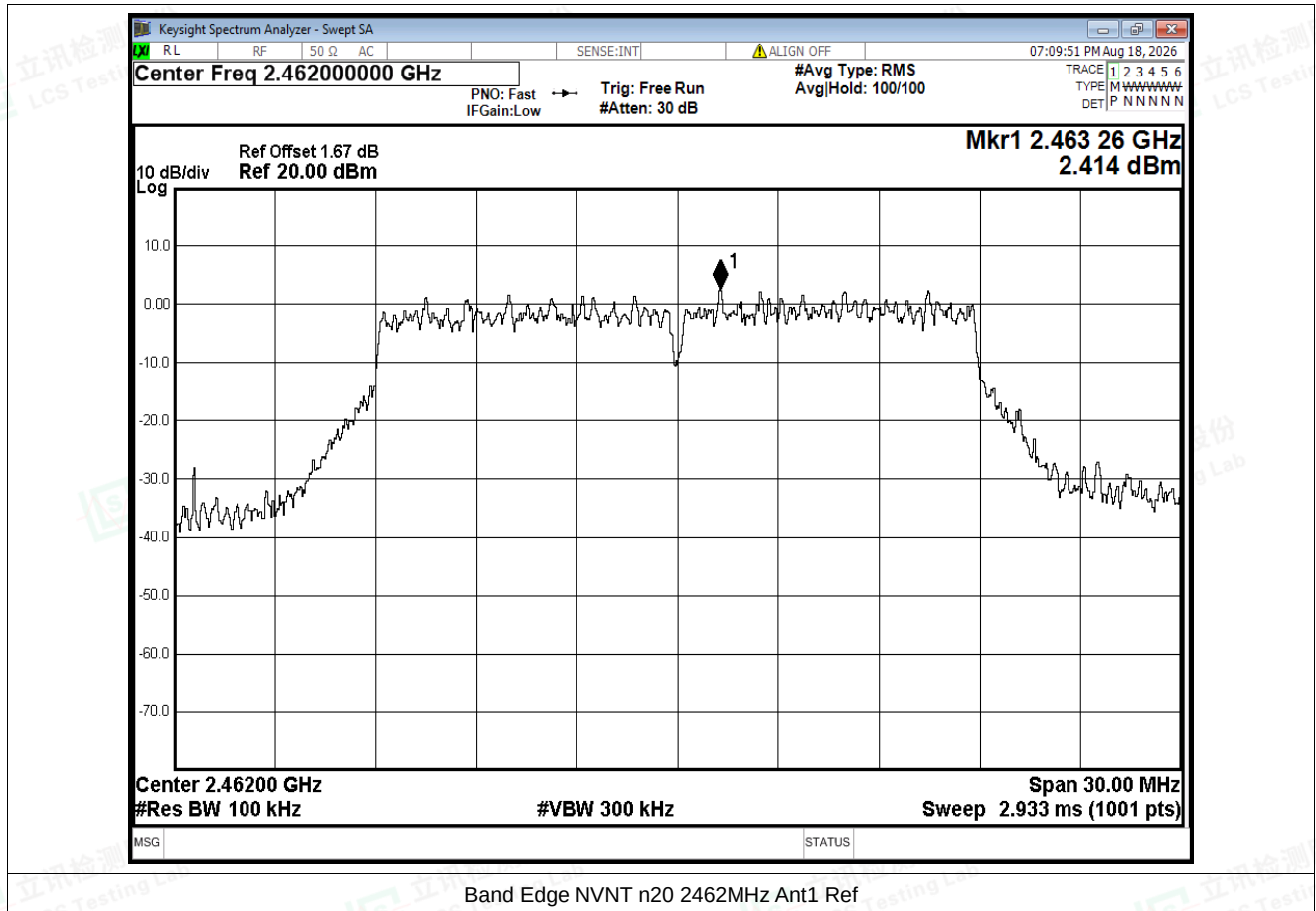


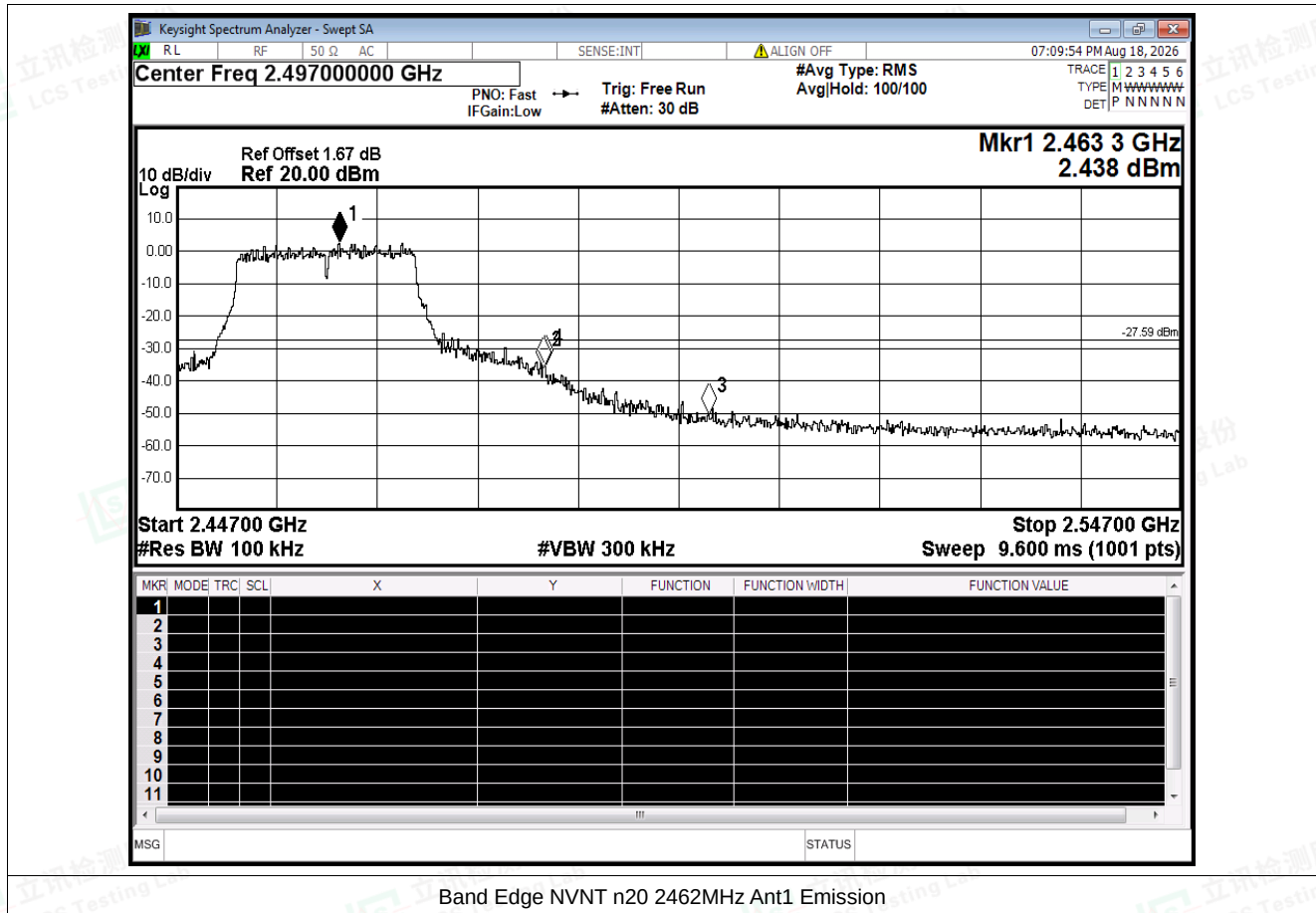


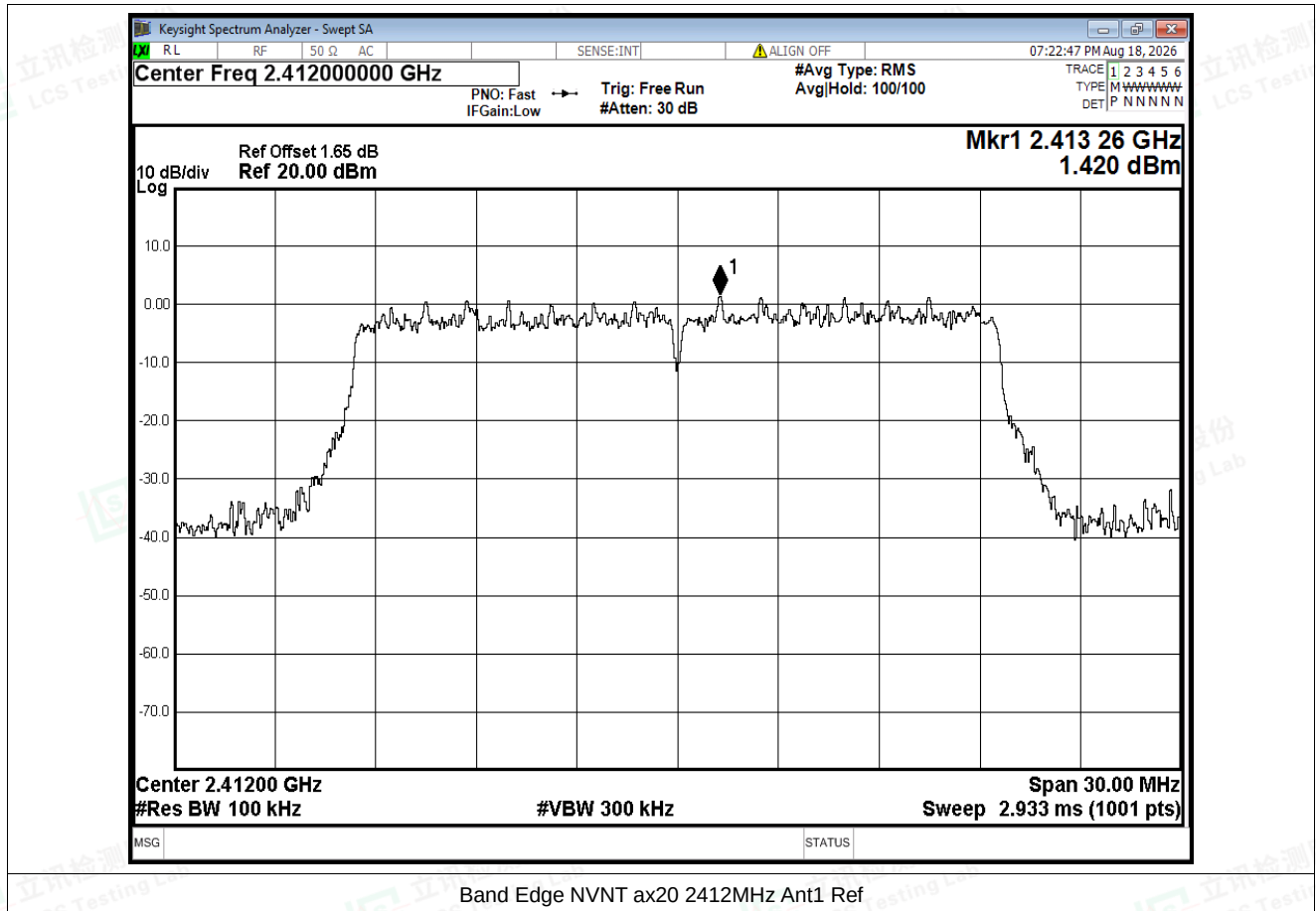


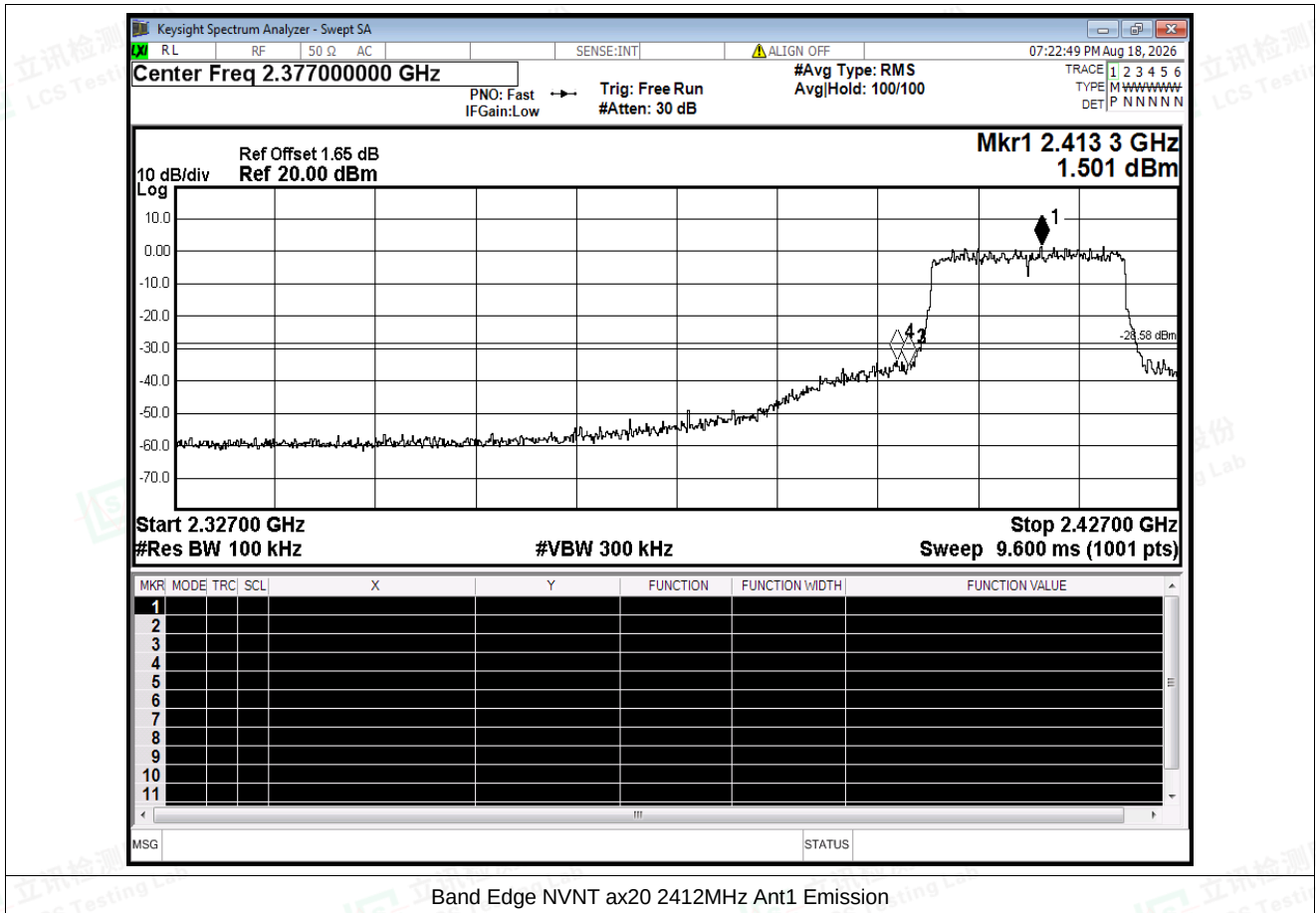


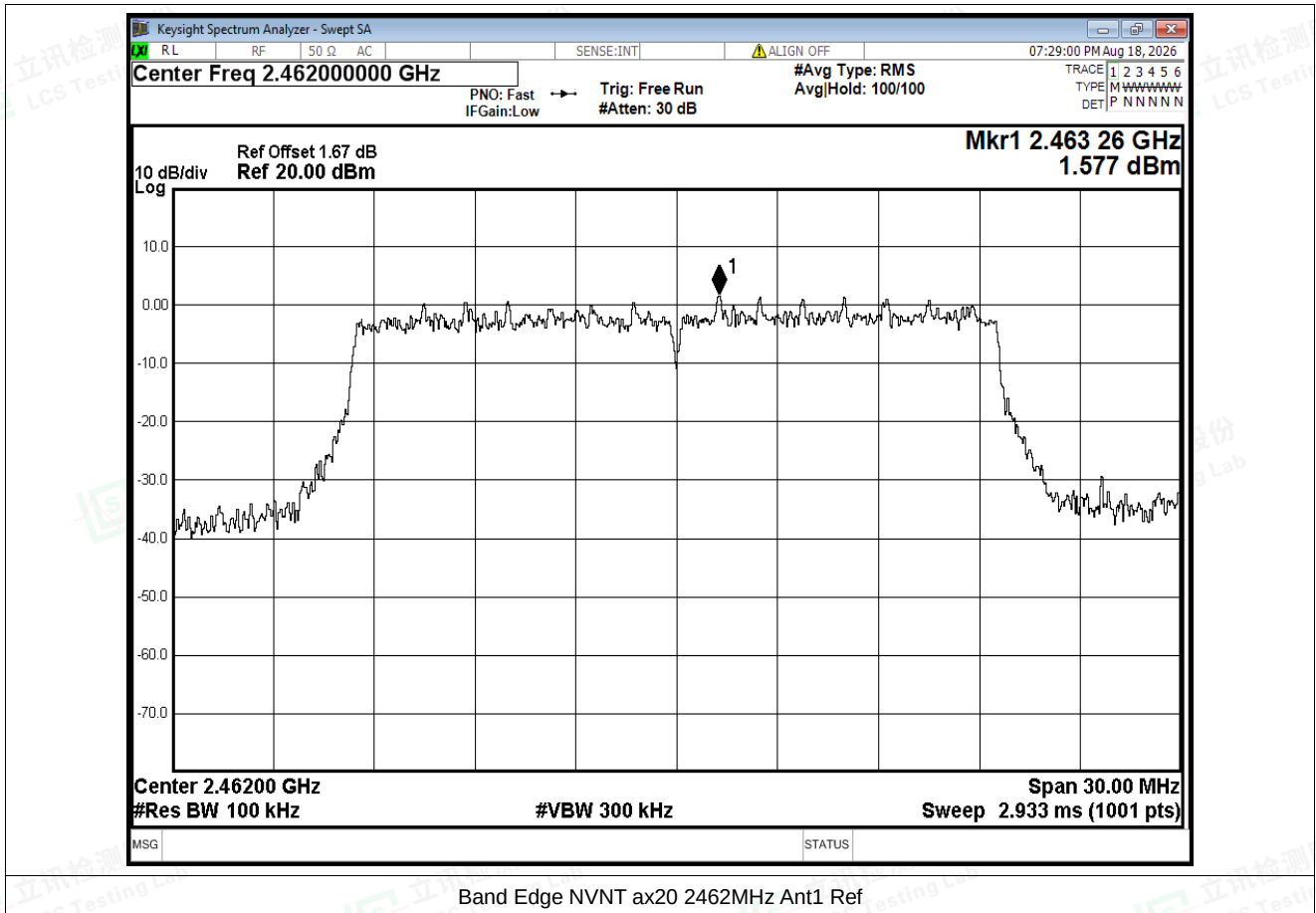


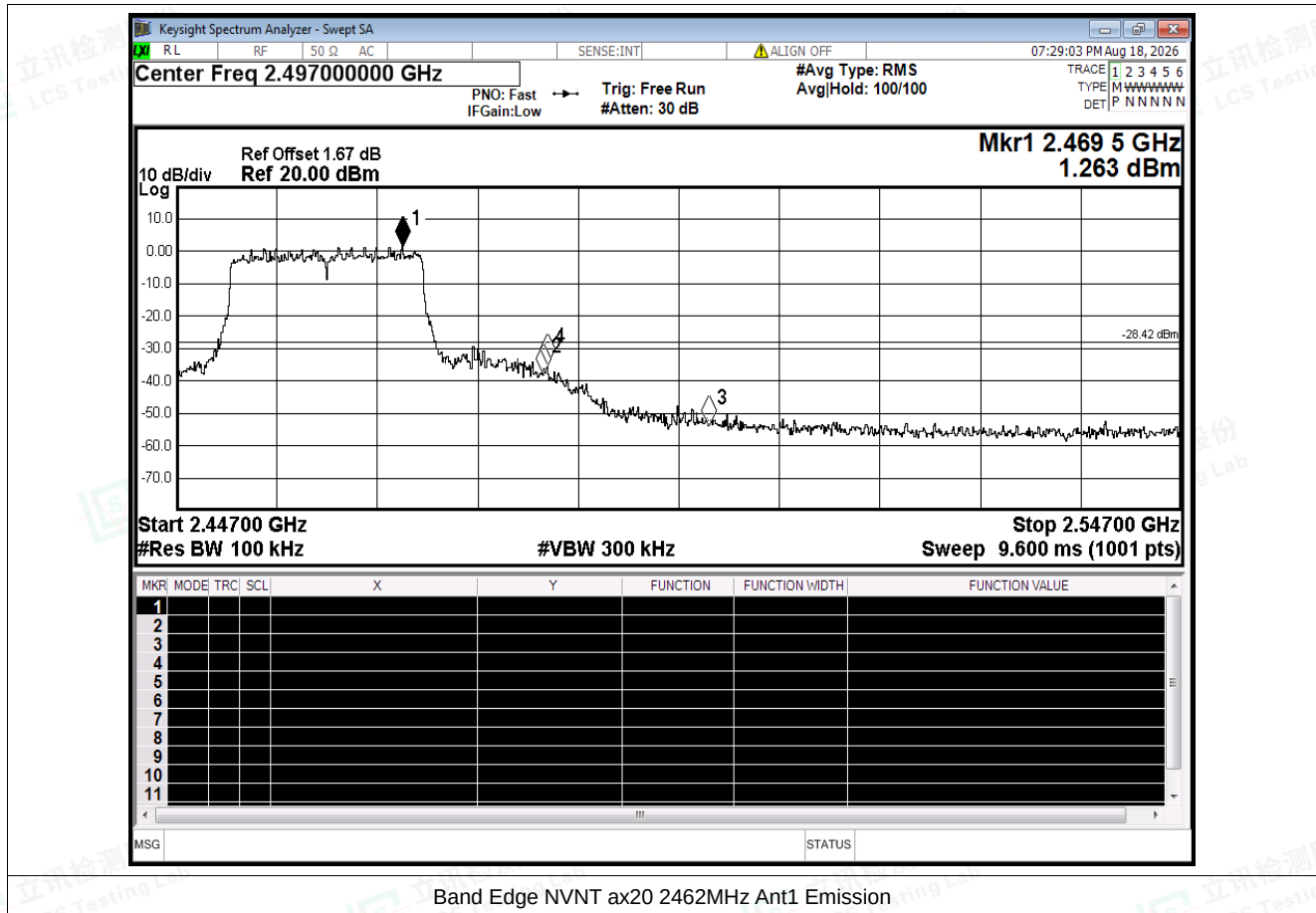






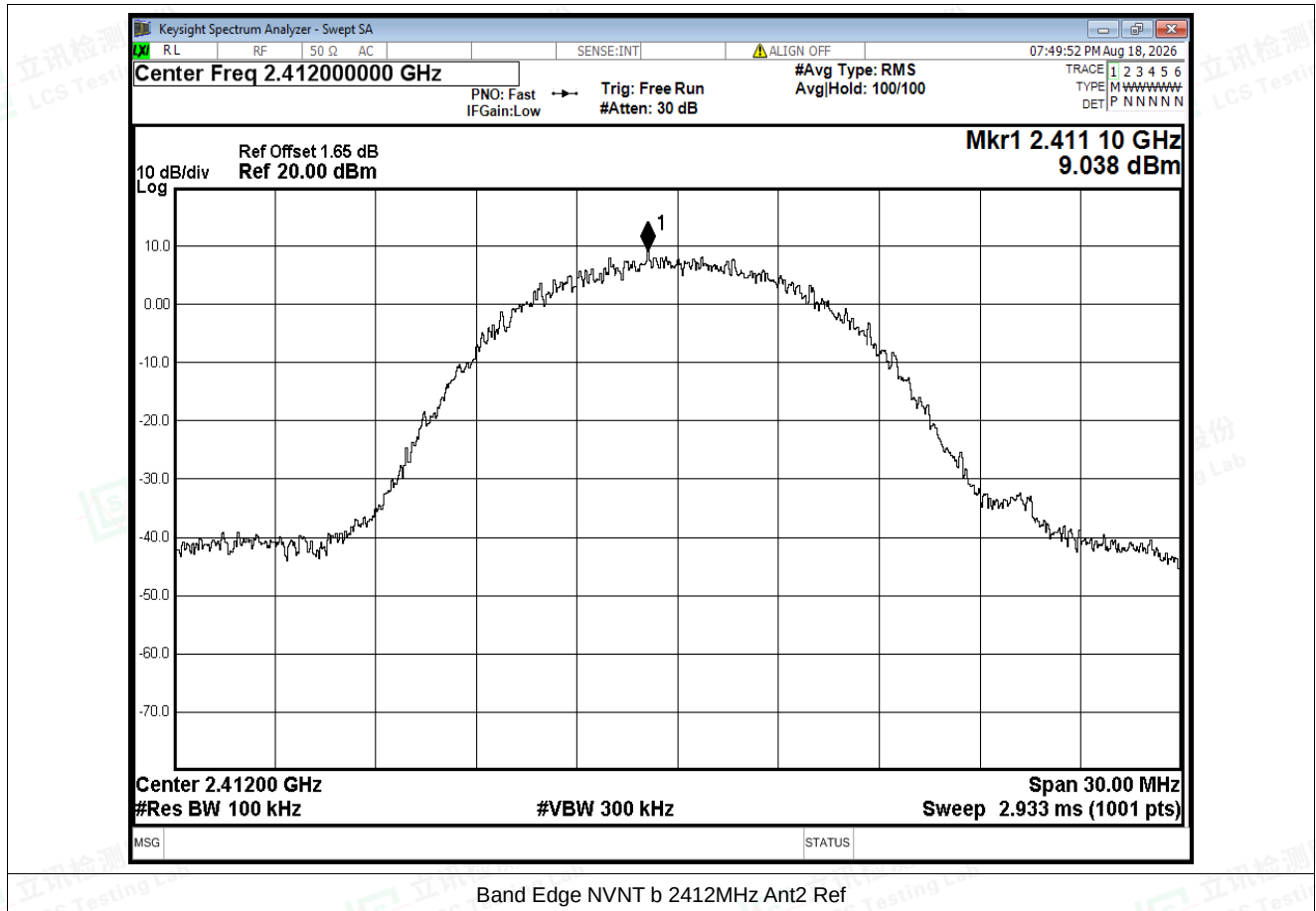


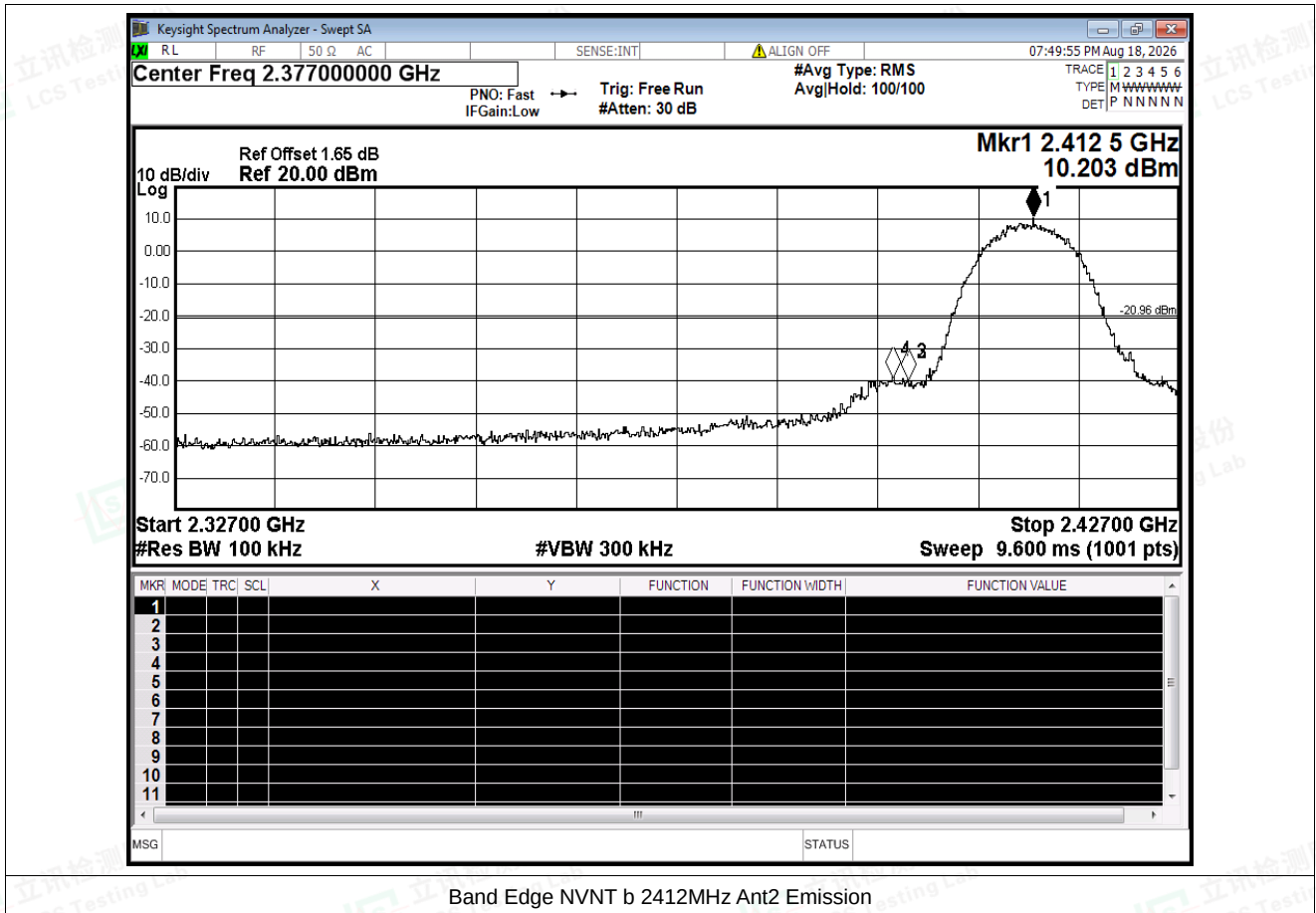


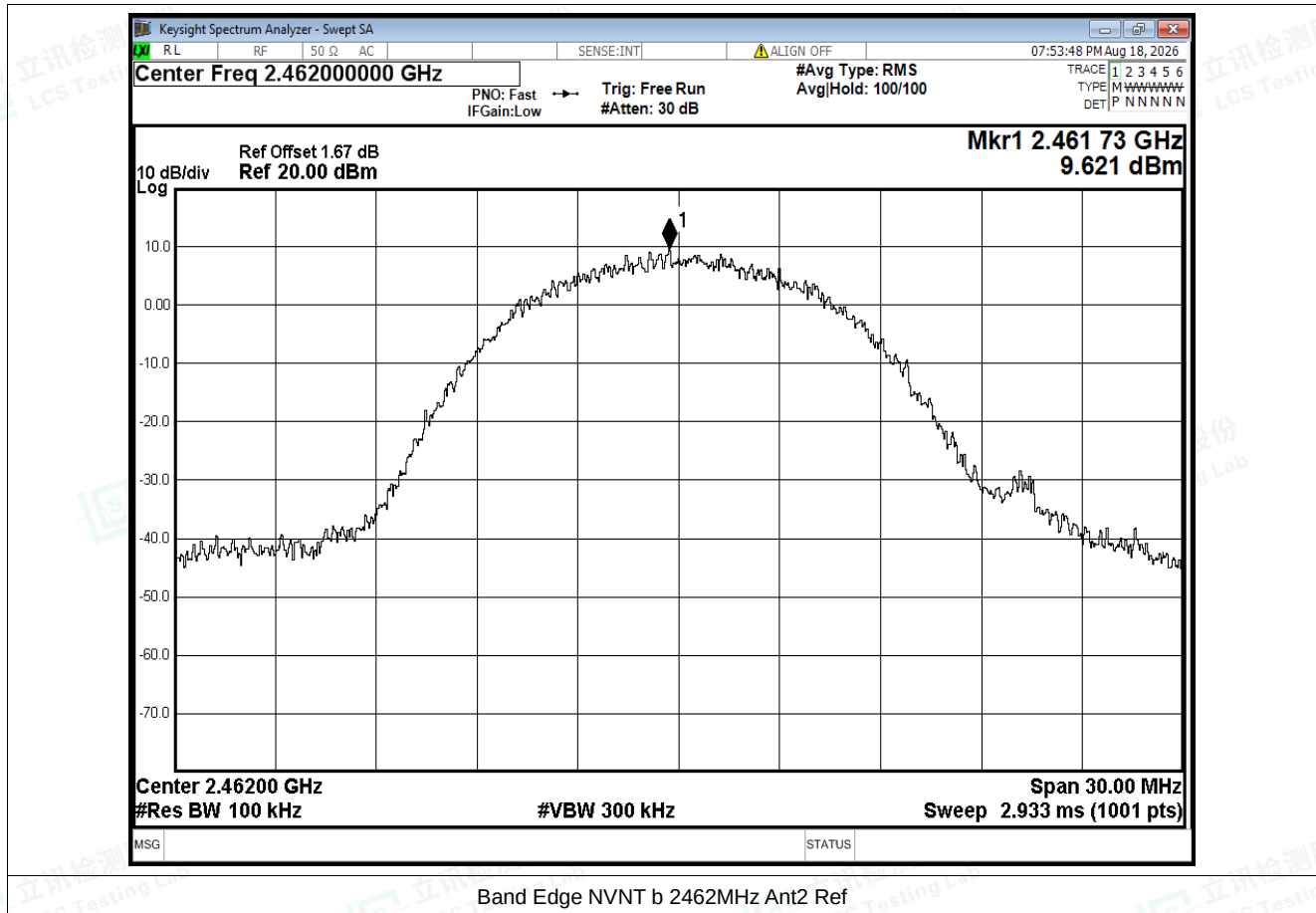


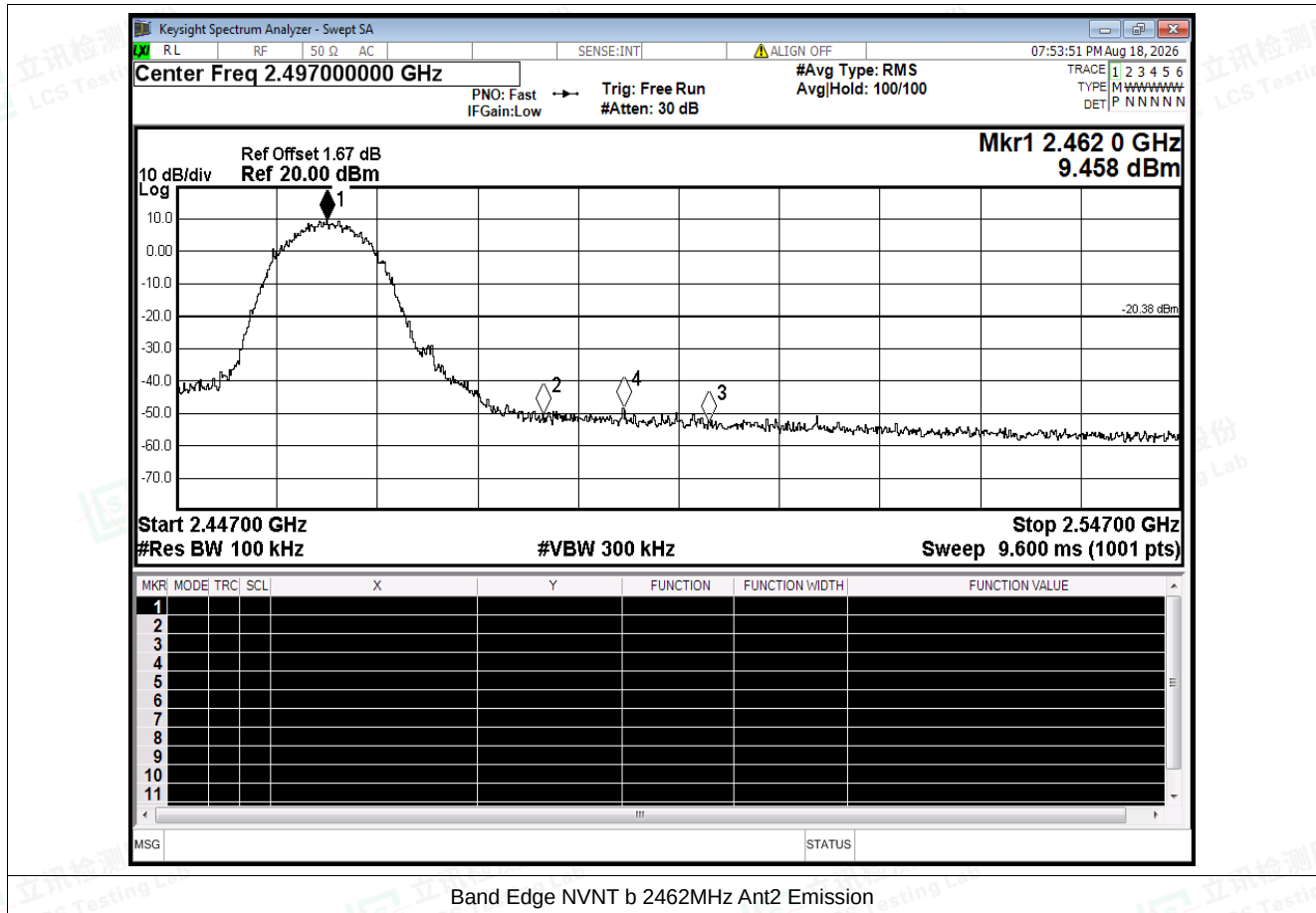


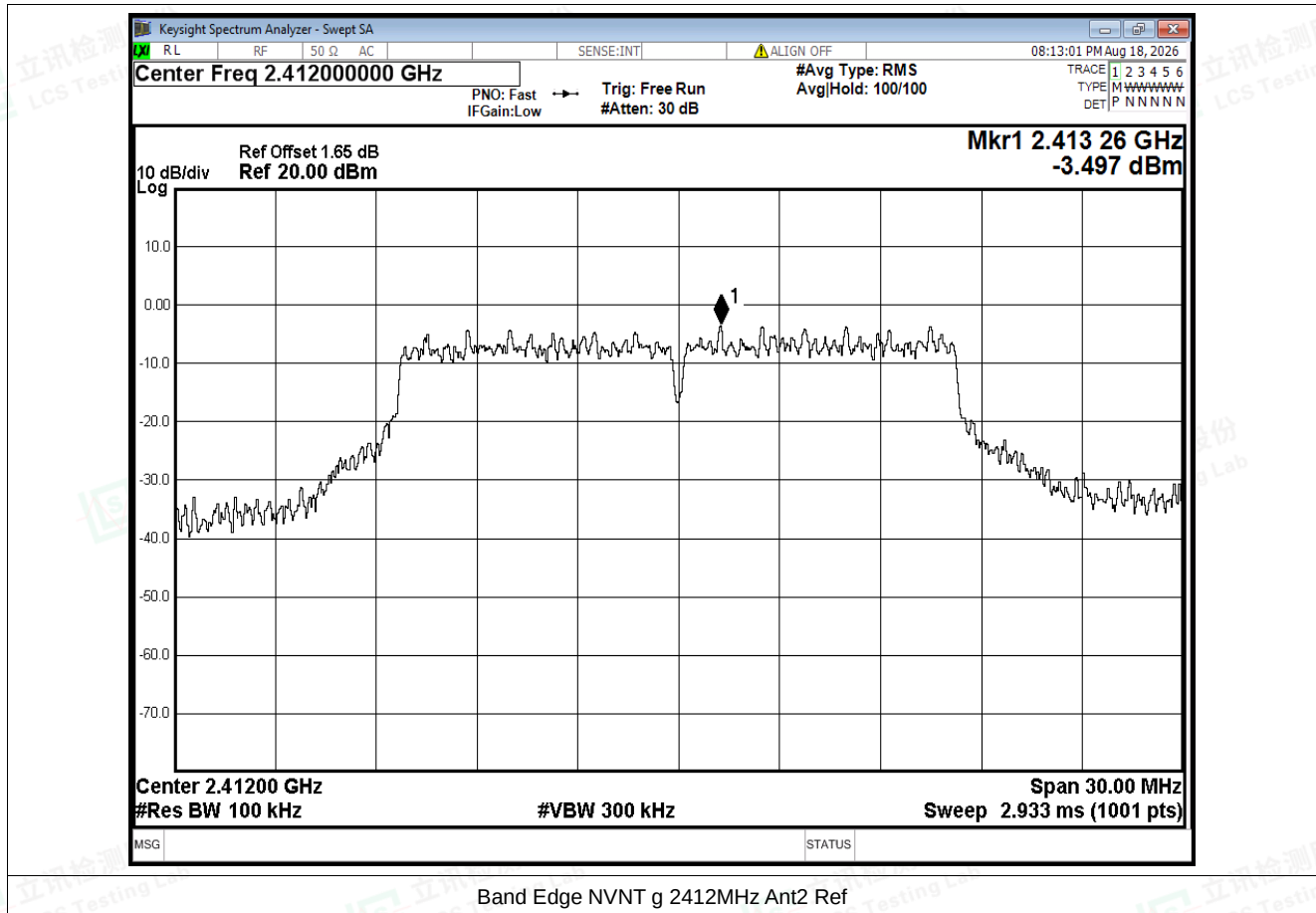
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant2	-48.11	-30	Pass
NVNT	b	2462	Ant2	-58	-30	Pass
NVNT	g	2412	Ant2	-30.16	-30	Pass
NVNT	g	2462	Ant2	-36.81	-30	Pass
NVNT	n20	2412	Ant2	-31.55	-30	Pass
NVNT	n20	2462	Ant2	-37.78	-30	Pass
NVNT	ax20	2412	Ant2	-32.86	-30	Pass
NVNT	ax20	2462	Ant2	-36.14	-30	Pass

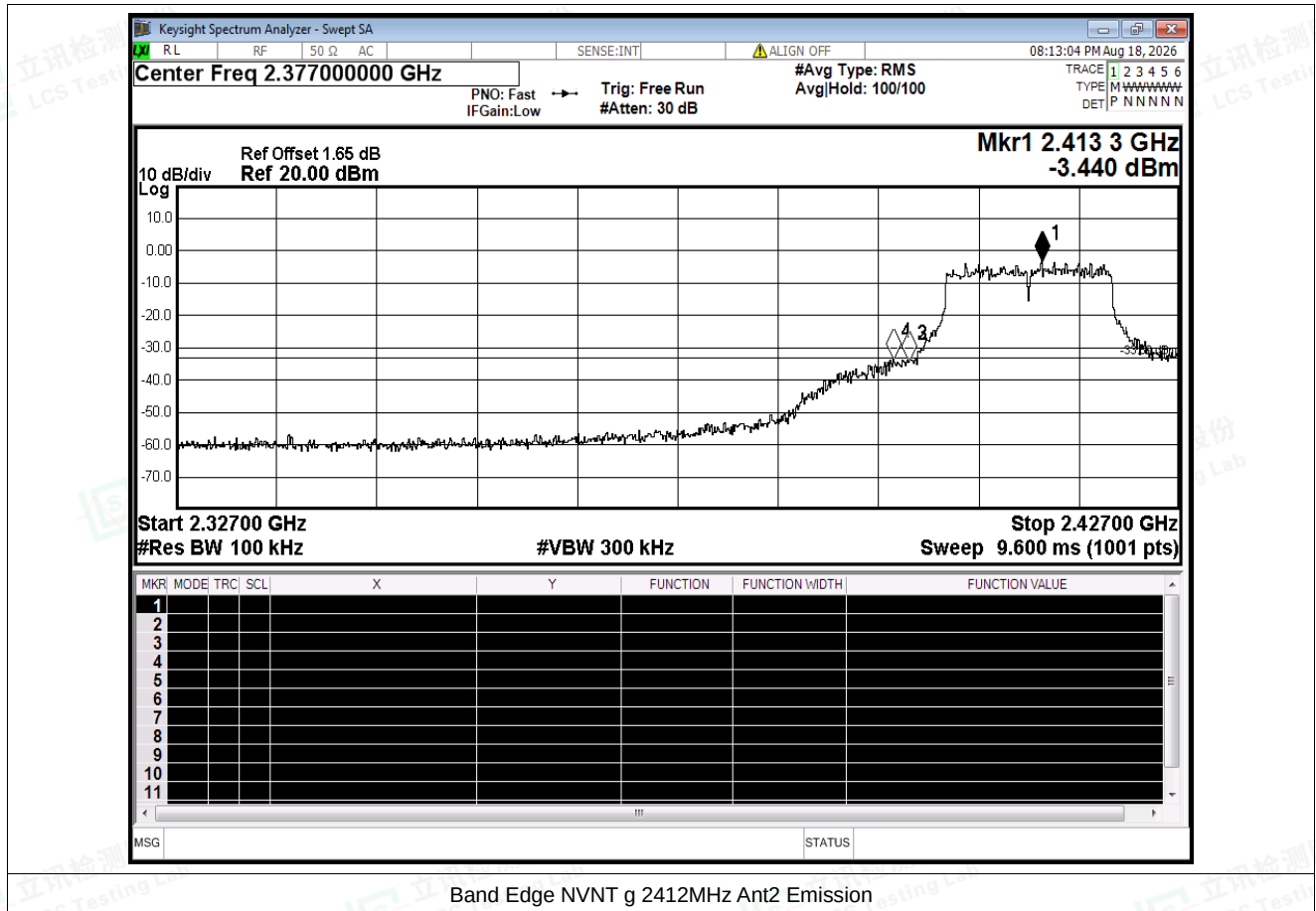


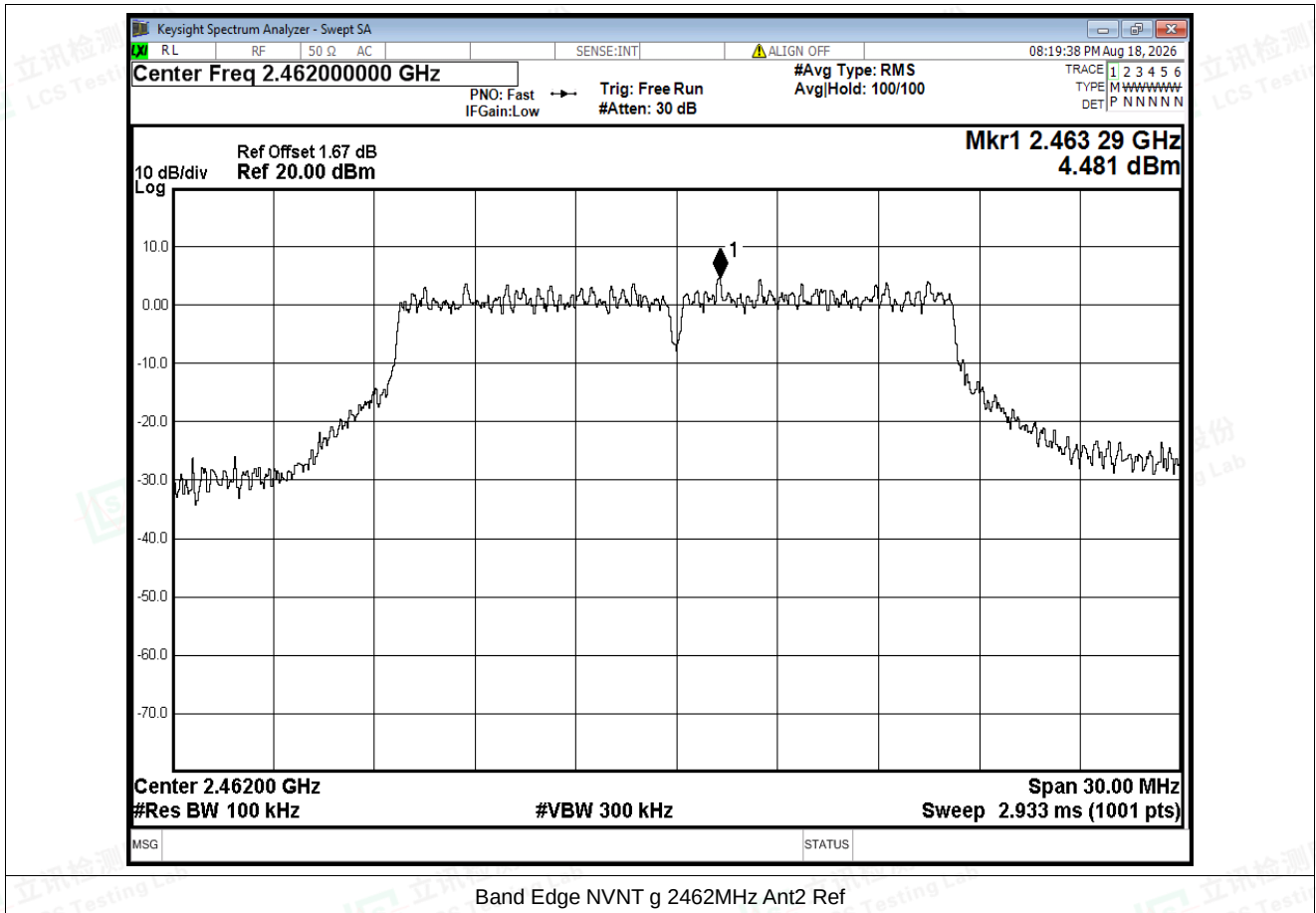


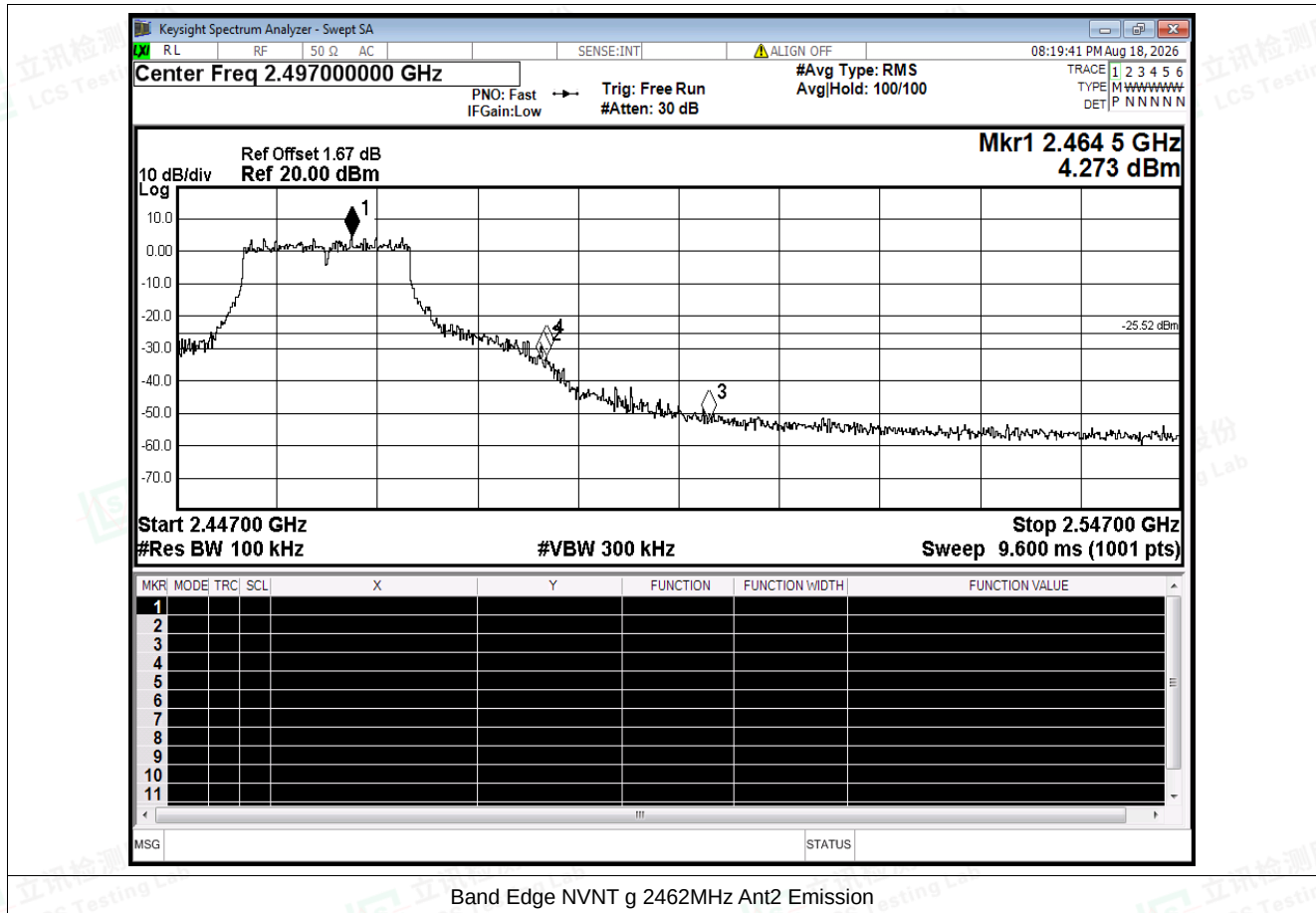


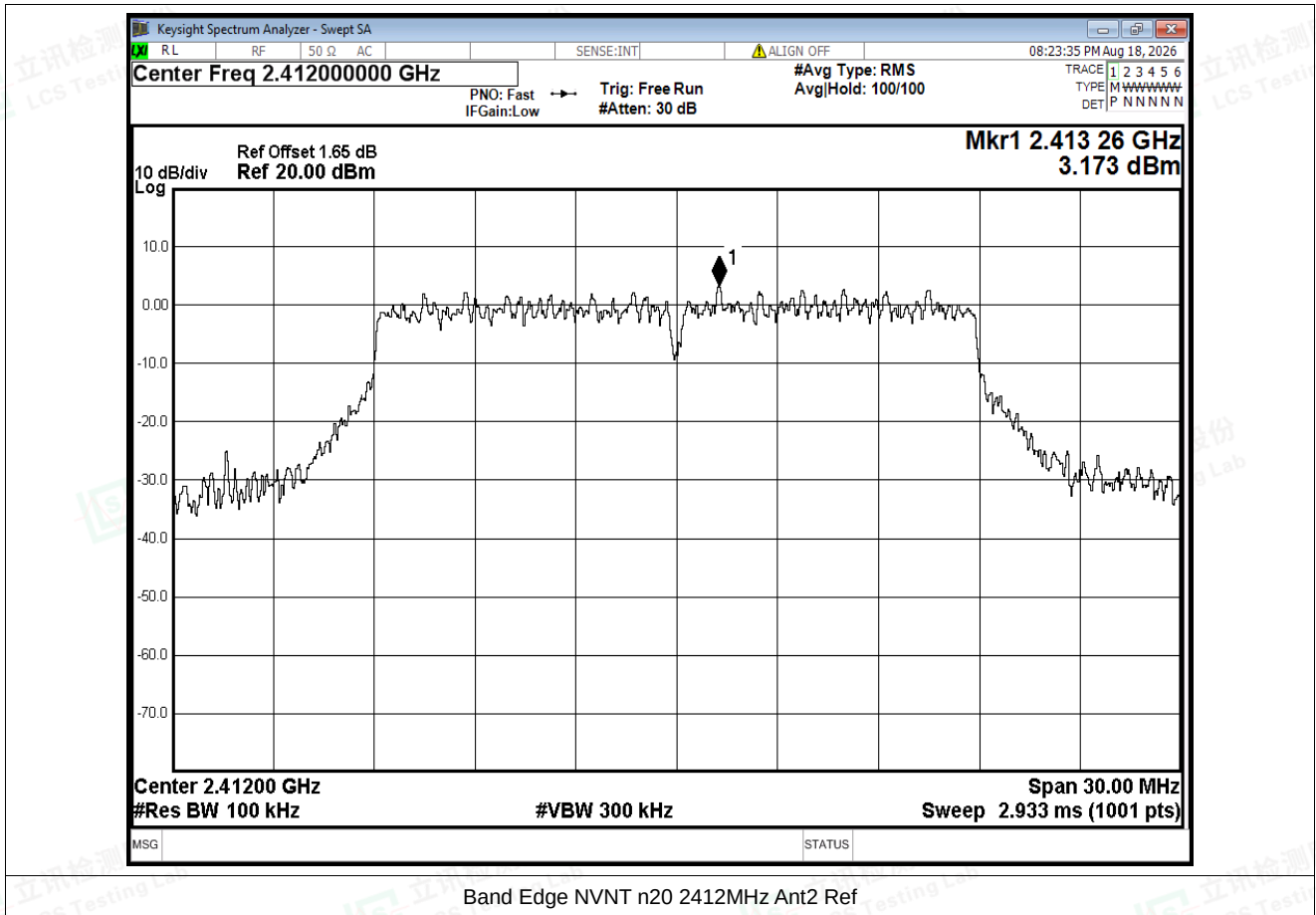


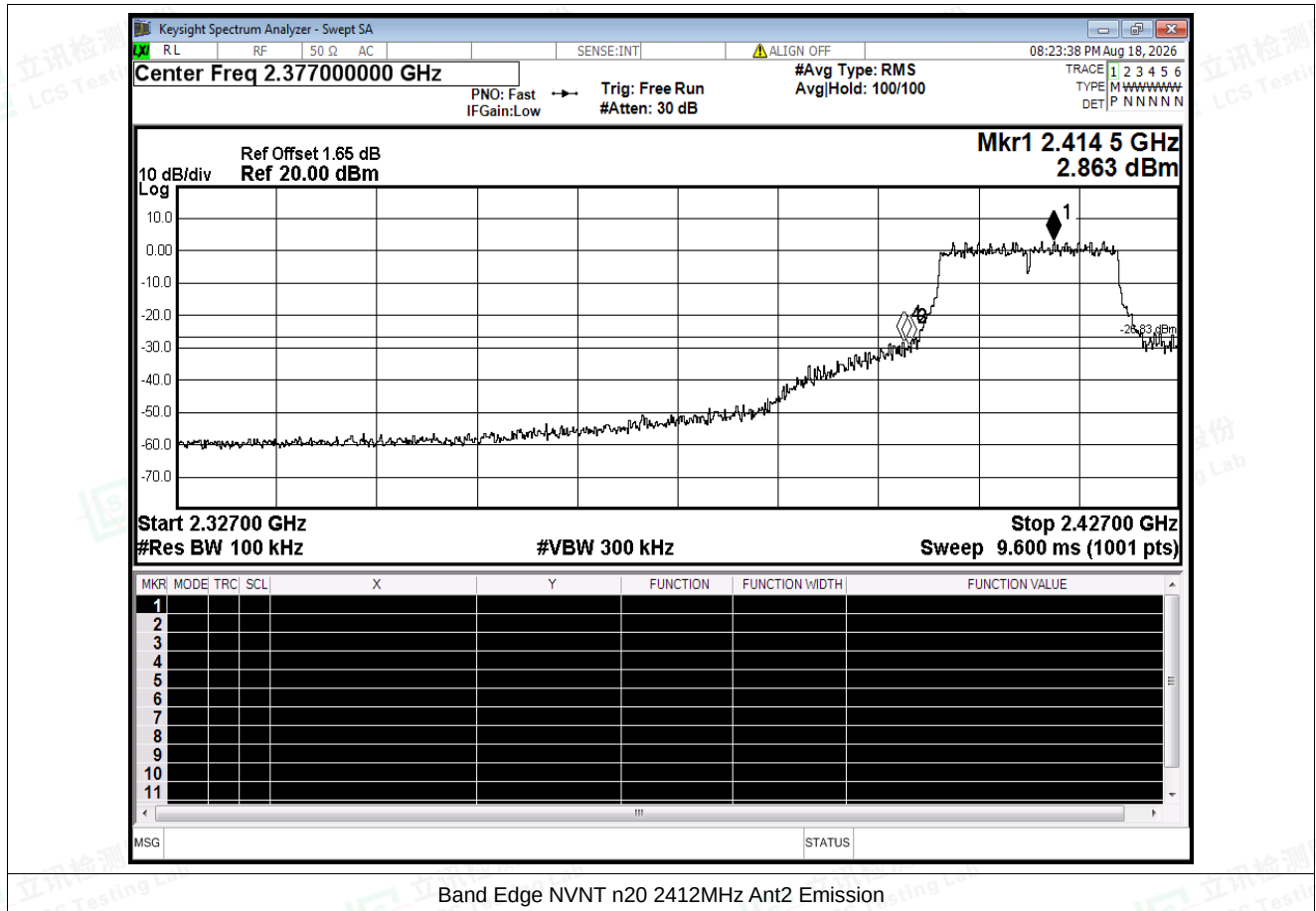


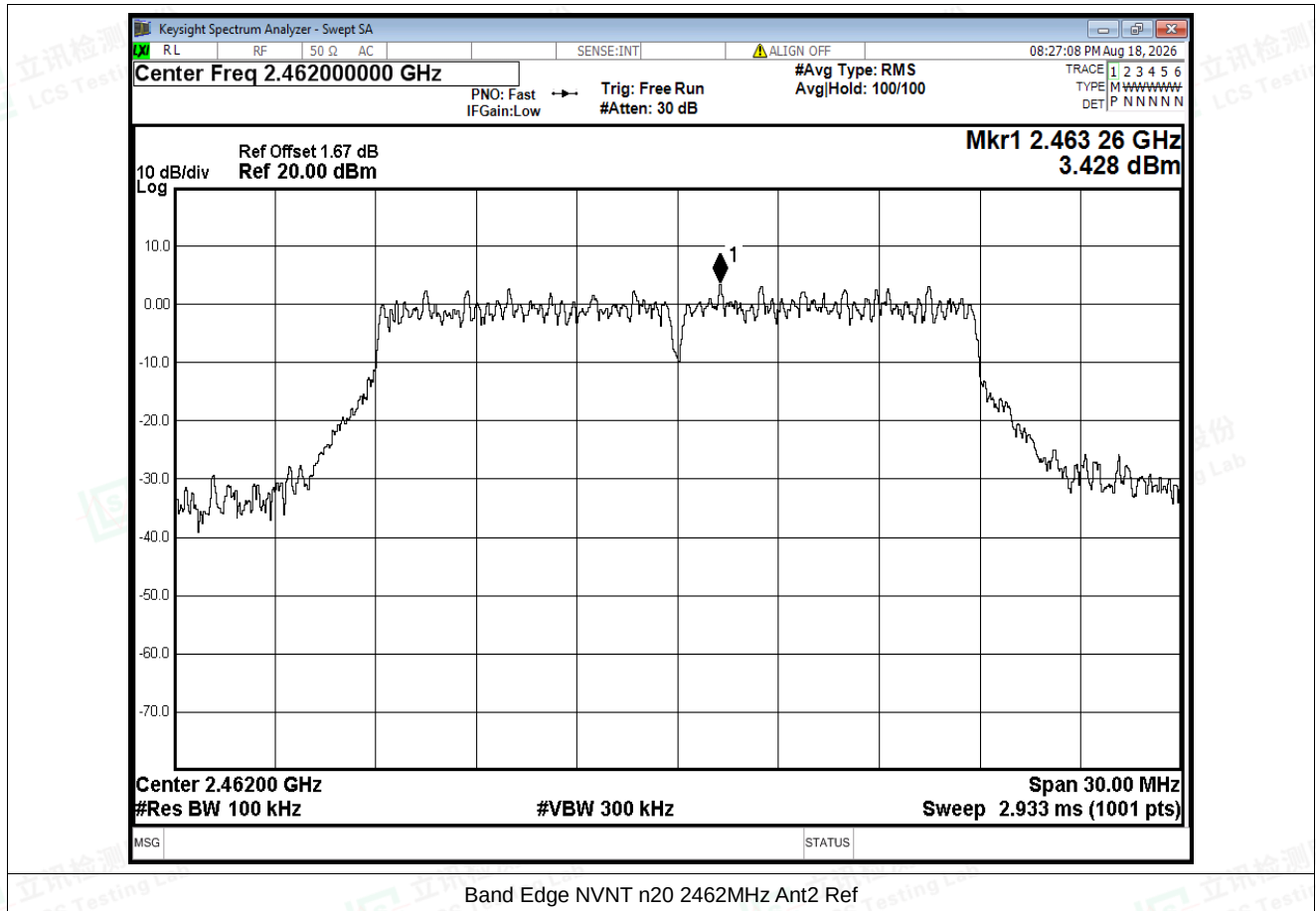


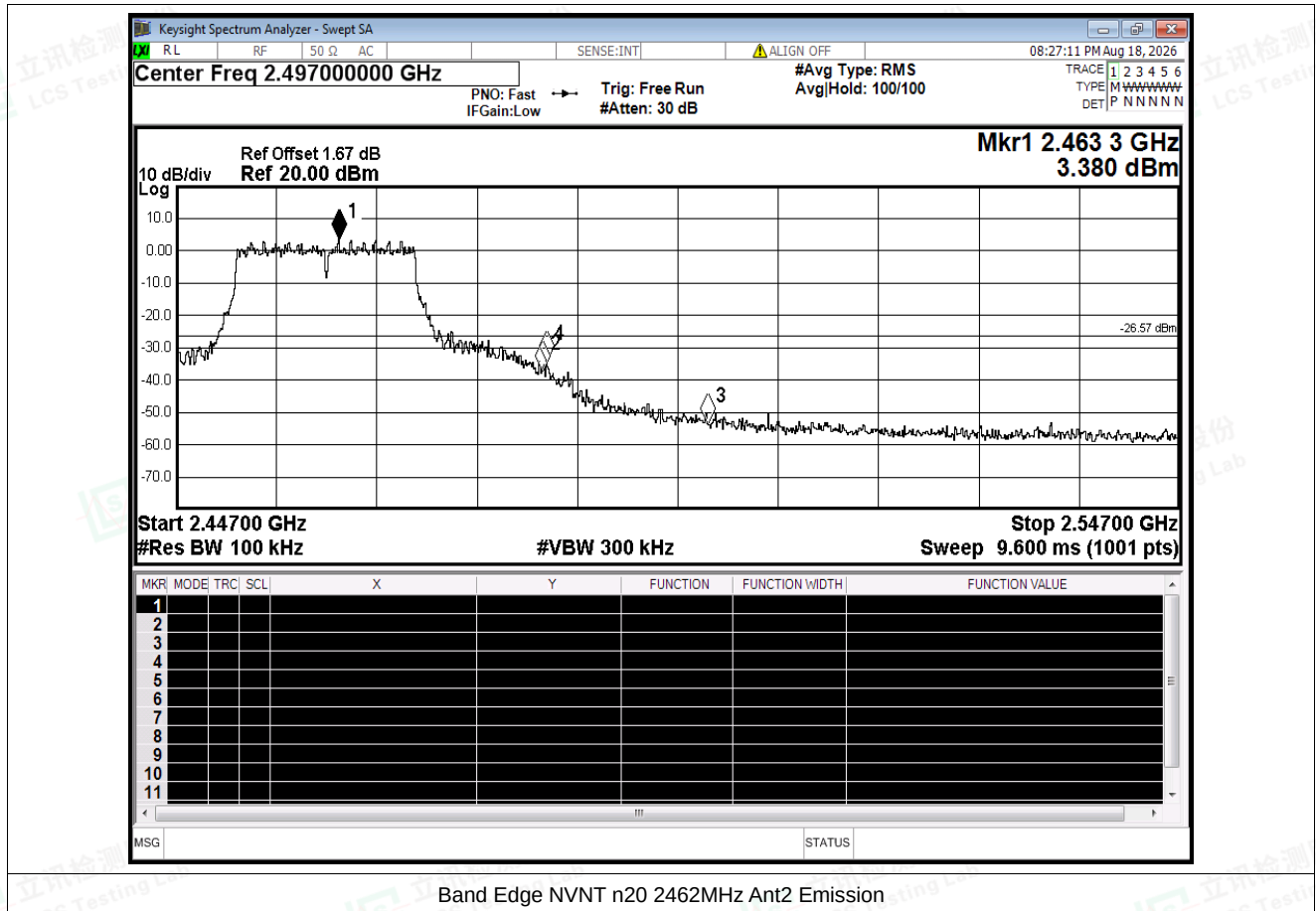


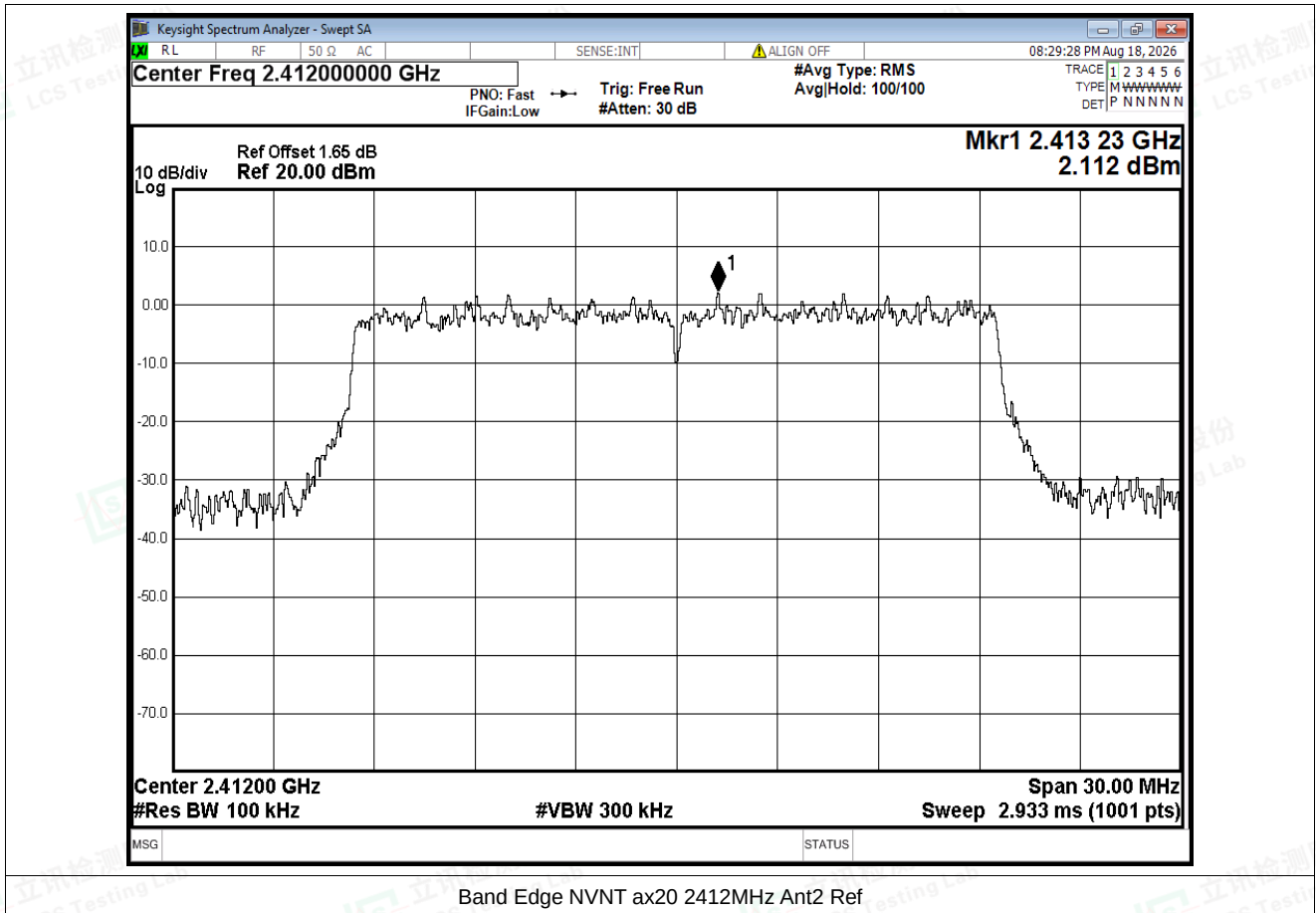


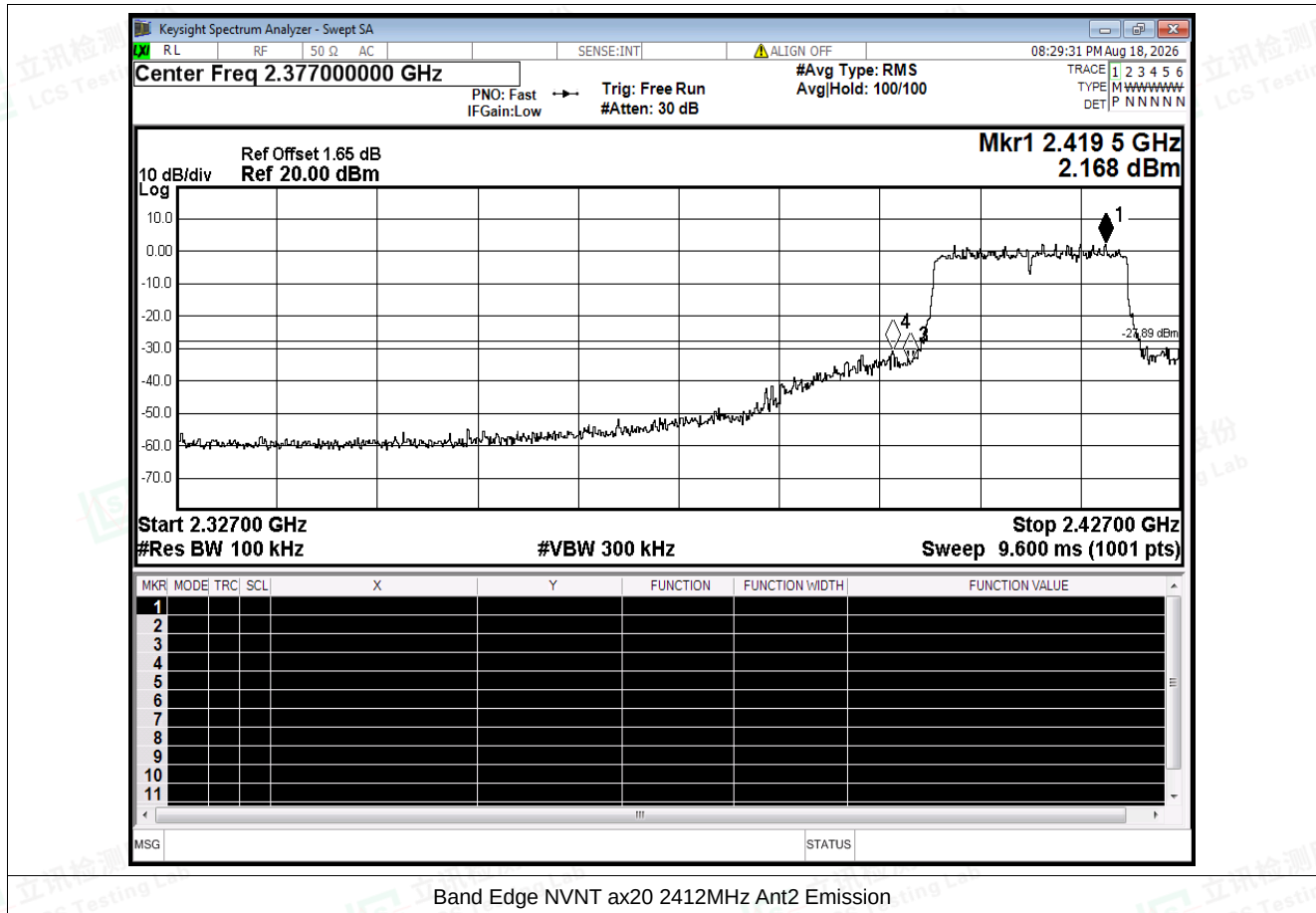


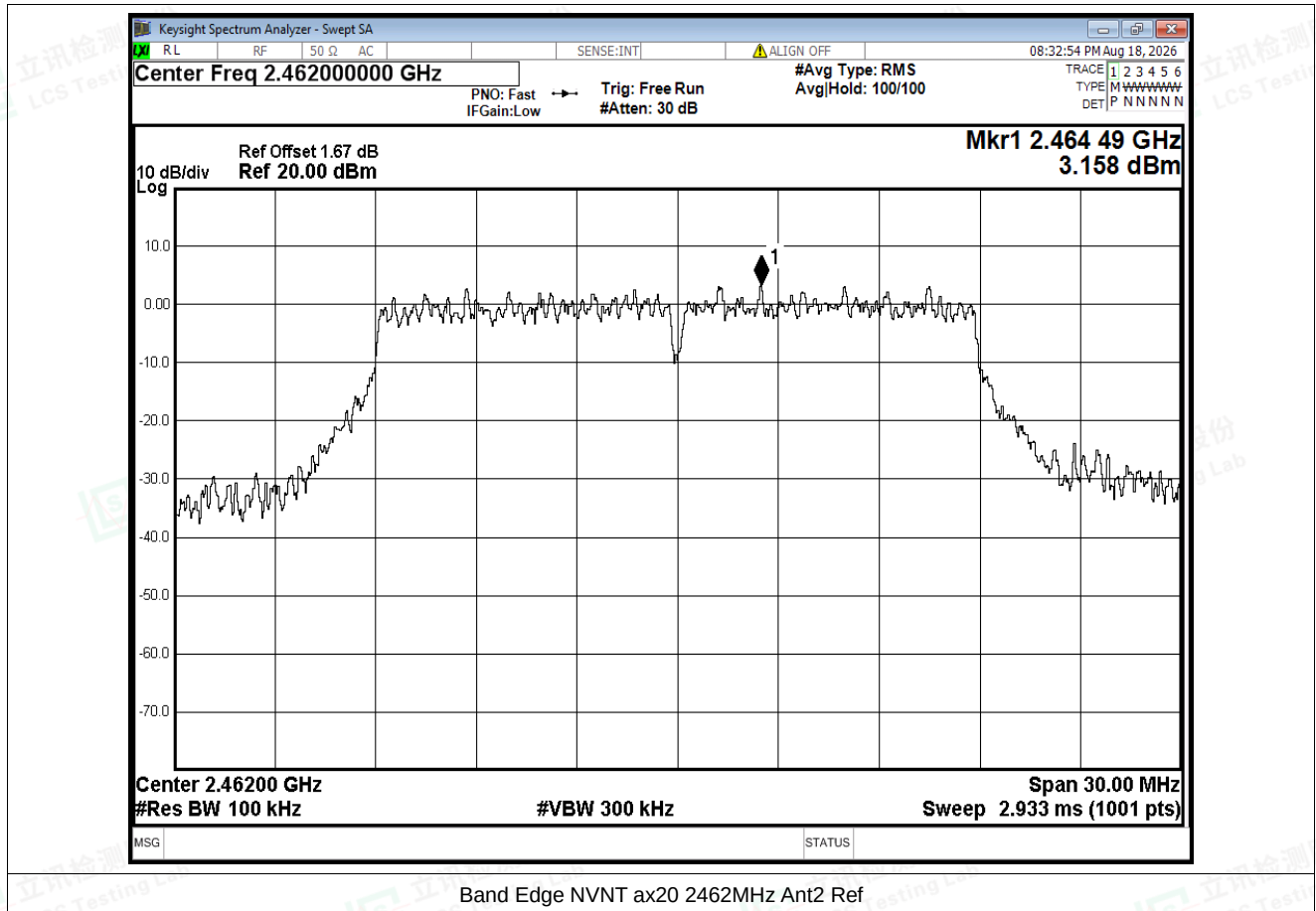


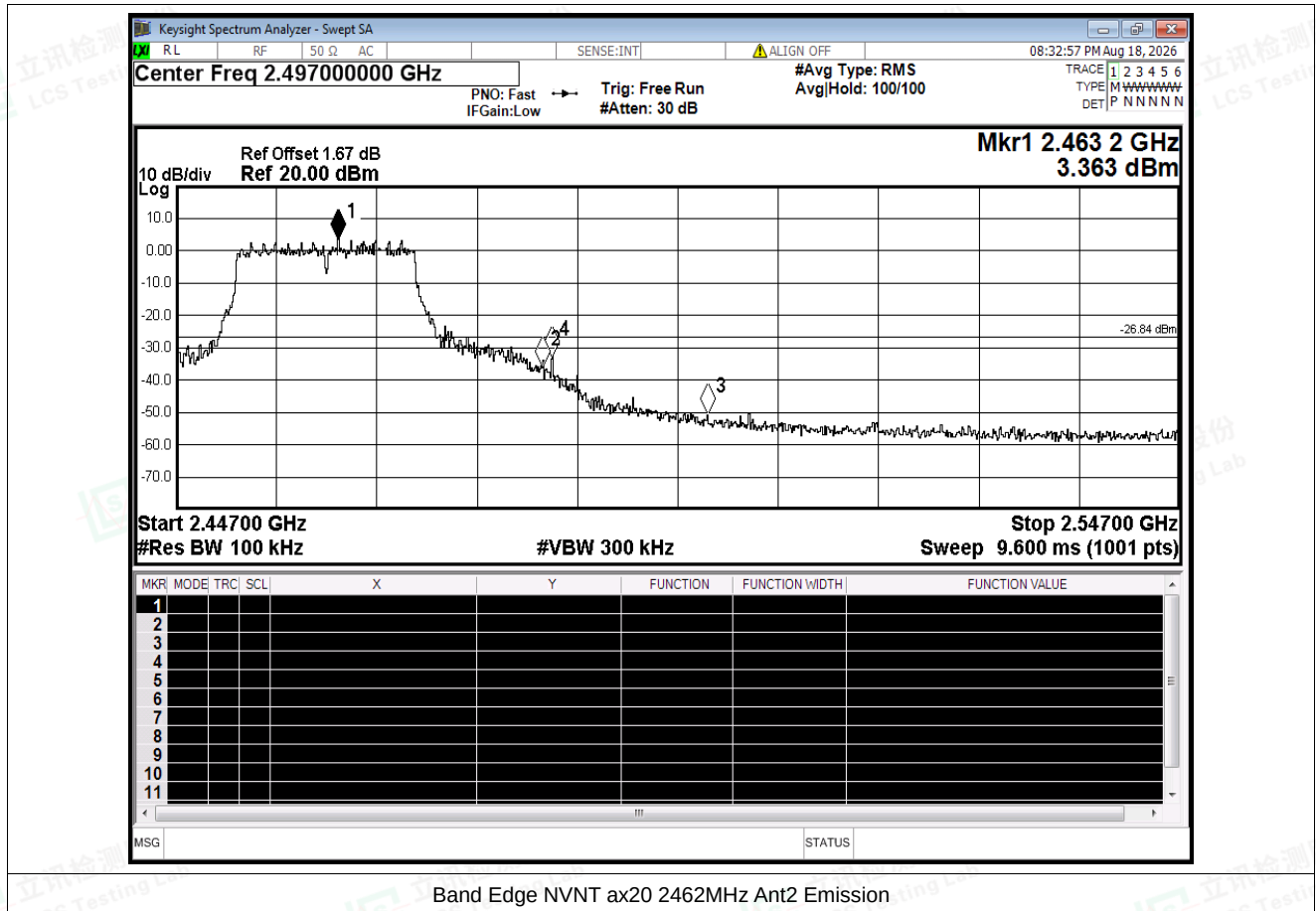














B.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-45.98	-30	Pass
NVNT	b	2437	Ant1	-46.7	-30	Pass
NVNT	b	2462	Ant1	-48.64	-30	Pass
NVNT	g	2412	Ant1	-41.04	-30	Pass
NVNT	g	2437	Ant1	-42.04	-30	Pass
NVNT	g	2462	Ant1	-42.58	-30	Pass
NVNT	n20	2412	Ant1	-41.06	-30	Pass
NVNT	n20	2437	Ant1	-41.13	-30	Pass
NVNT	n20	2462	Ant1	-41.46	-30	Pass
NVNT	ax20	2412	Ant1	-40.32	-30	Pass
NVNT	ax20	2437	Ant1	-39.55	-30	Pass
NVNT	ax20	2462	Ant1	-40.21	-30	Pass

