



Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Industrial 5G/4G/3G Router

Test Model: QUARTZ-GOLD-5G

Environmental Conditions

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





A.1 -6dB Bandwidth

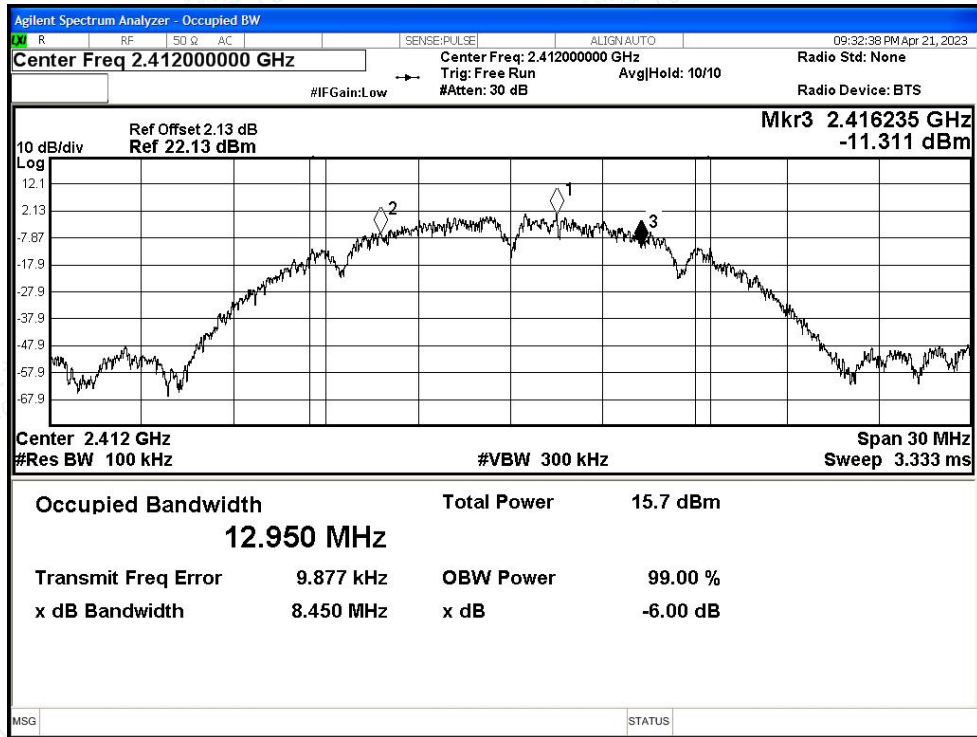
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	8.45	>=0.5	Pass
NVNT	b	2437	Ant1	7.442	>=0.5	Pass
NVNT	b	2462	Ant1	7.966	>=0.5	Pass
NVNT	g	2412	Ant1	14.731	>=0.5	Pass
NVNT	g	2437	Ant1	16.053	>=0.5	Pass
NVNT	g	2462	Ant1	16.046	>=0.5	Pass
NVNT	n20	2412	Ant1	17.593	>=0.5	Pass
NVNT	n20	2437	Ant1	17.132	>=0.5	Pass
NVNT	n20	2462	Ant1	17.332	>=0.5	Pass
NVNT	n40	2422	Ant1	35.043	>=0.5	Pass
NVNT	n40	2437	Ant1	33.847	>=0.5	Pass
NVNT	n40	2452	Ant1	32.631	>=0.5	Pass





Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



-6dB Bandwidth NVNT b 2437MHz Ant1

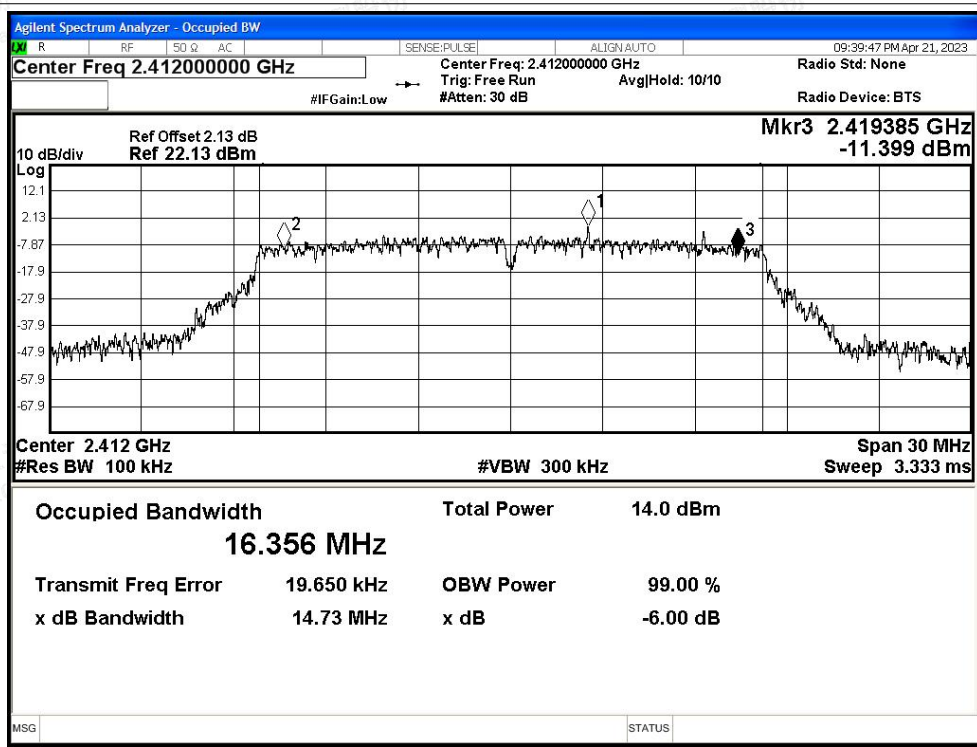




-6dB Bandwidth NVNT b 2462MHz Ant1

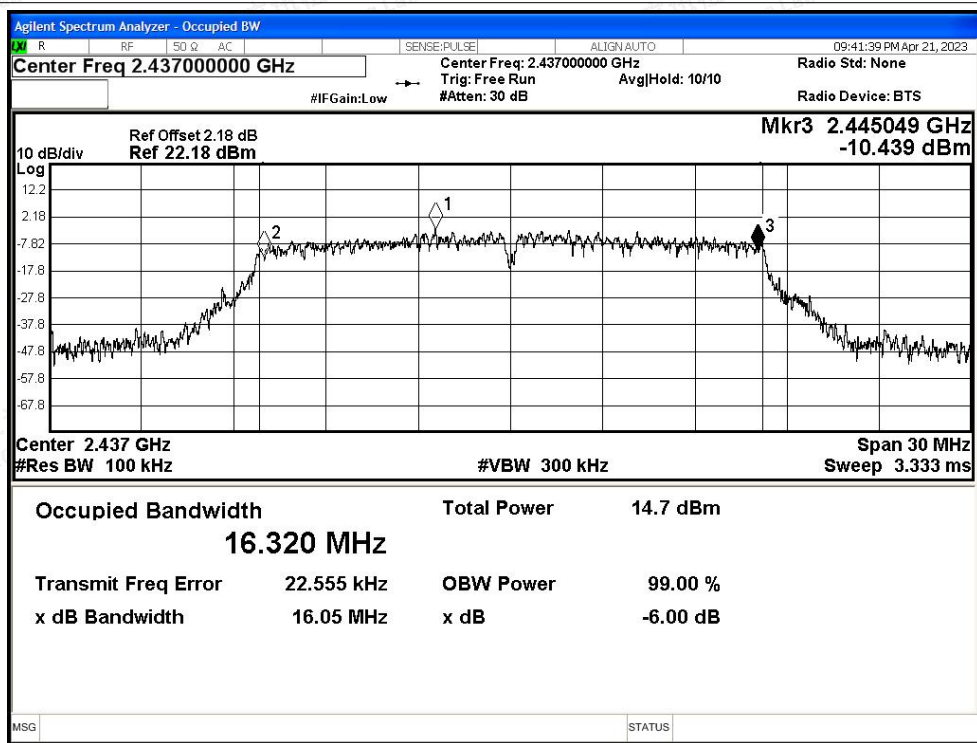


-6dB Bandwidth NVNT g 2412MHz Ant1

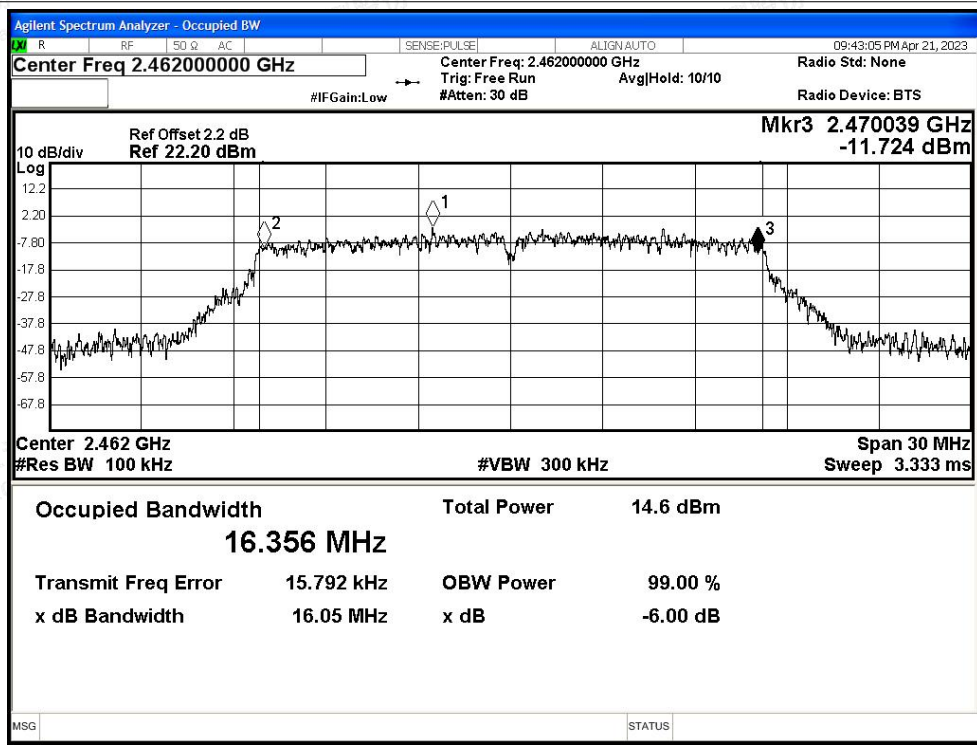




-6dB Bandwidth NVNT g 2437MHz Ant1

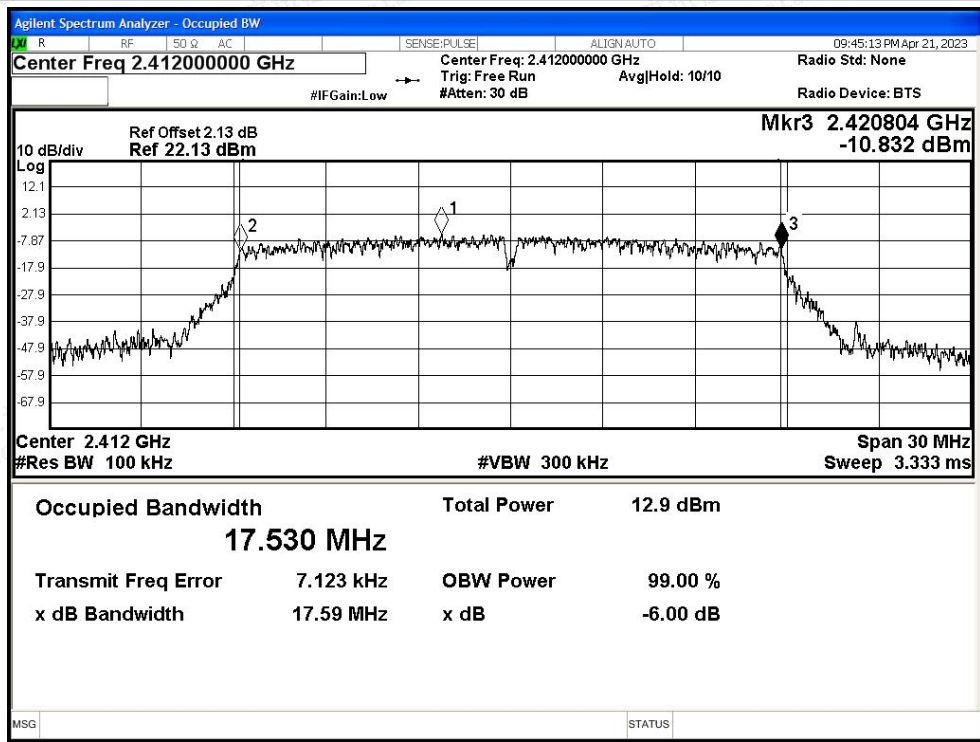


-6dB Bandwidth NVNT g 2462MHz Ant1

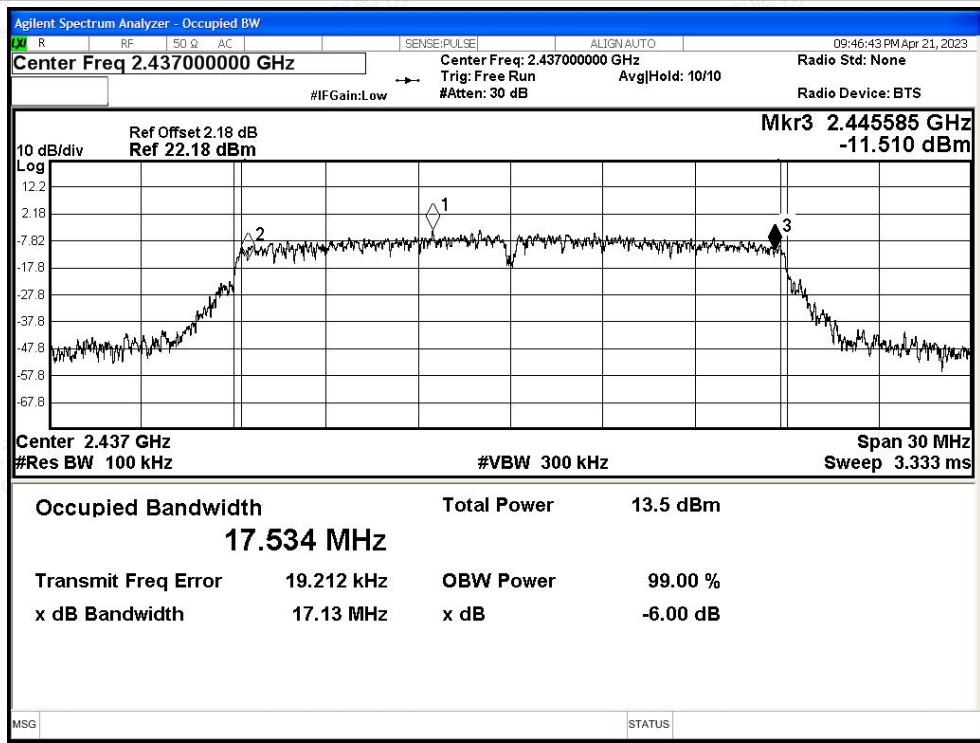




-6dB Bandwidth NVNT n20 2412MHz Ant1

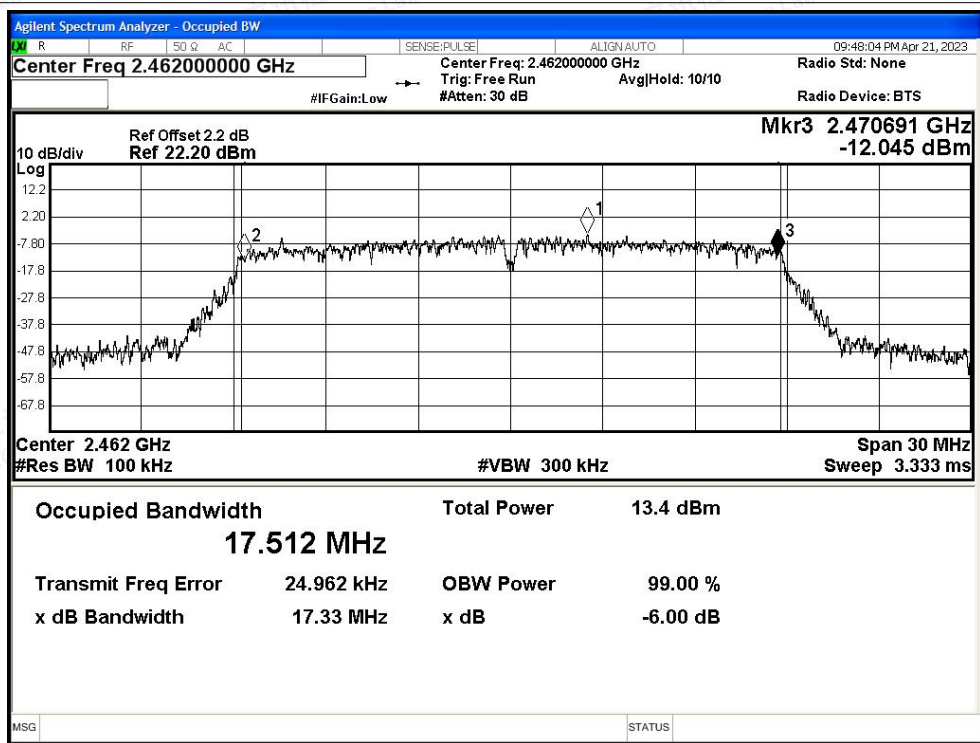


-6dB Bandwidth NVNT n20 2437MHz Ant1

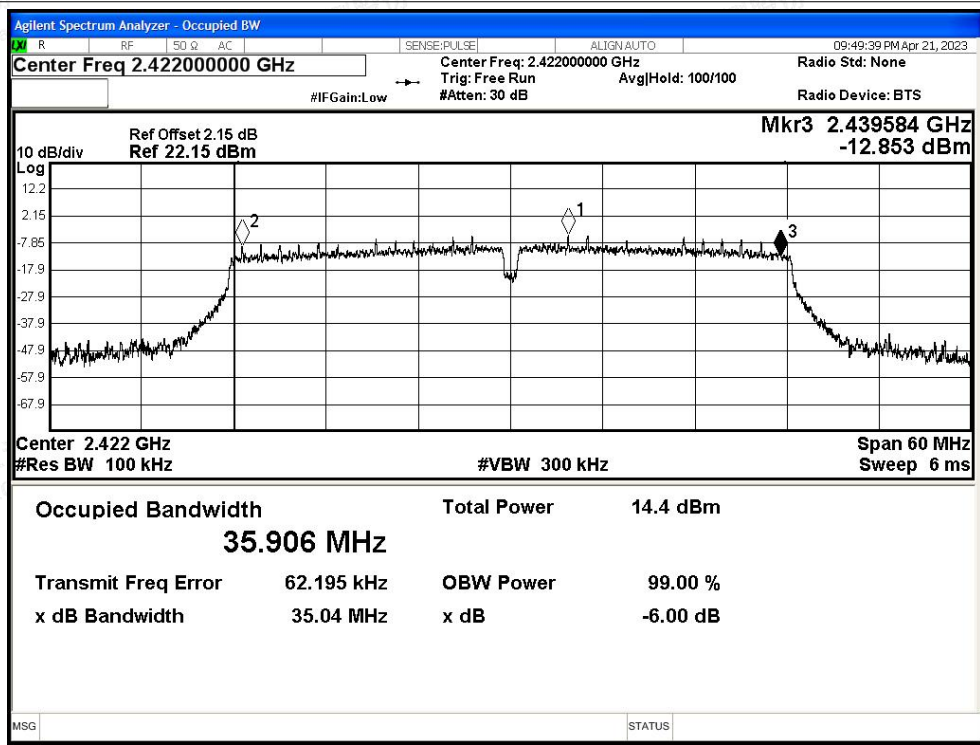




-6dB Bandwidth NVNT n20 2462MHz Ant1

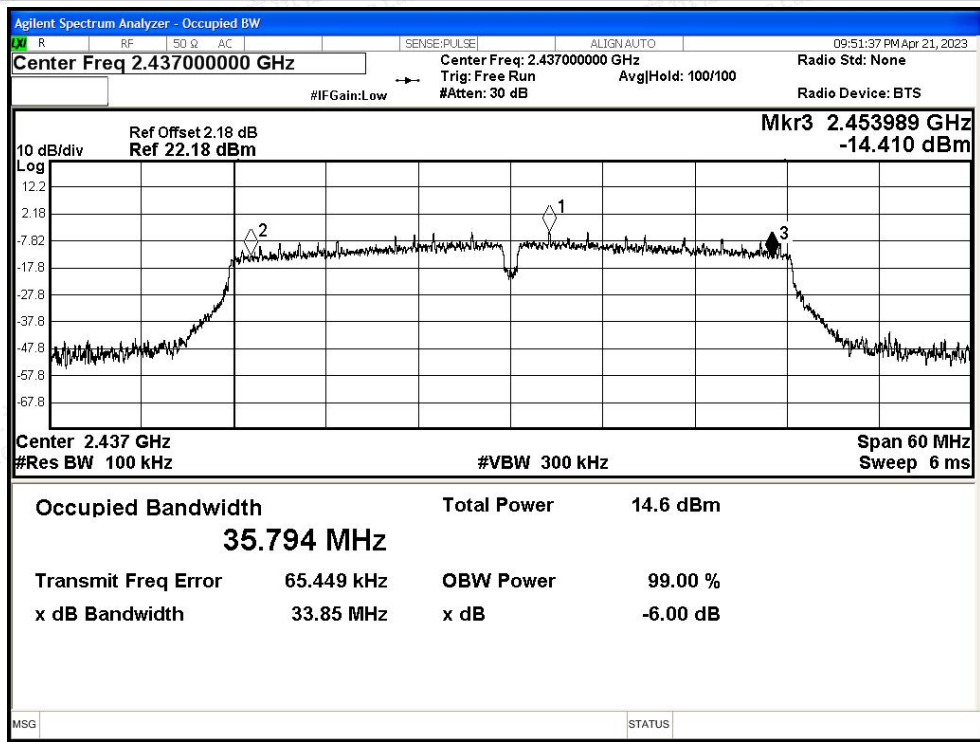


-6dB Bandwidth NVNT n40 2422MHz Ant1

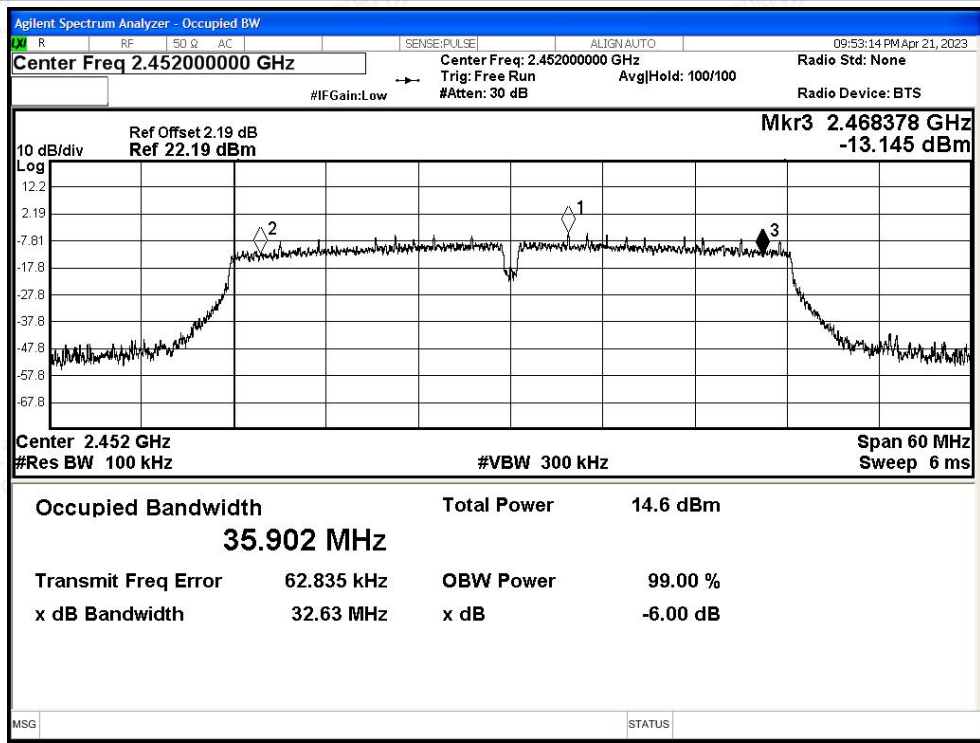




-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1





A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	12.28	30	Pass
NVNT	b	2437	Ant1	12.7	30	Pass
NVNT	b	2462	Ant1	12.8	30	Pass
NVNT	g	2412	Ant1	12.83	30	Pass
NVNT	g	2437	Ant1	13.23	30	Pass
NVNT	g	2462	Ant1	13.21	30	Pass
NVNT	n20	2412	Ant1	11.82	30	Pass
NVNT	n20	2437	Ant1	12.15	30	Pass
NVNT	n20	2462	Ant1	13.84	30	Pass
NVNT	n40	2422	Ant1	12.83	30	Pass
NVNT	n40	2437	Ant1	13.04	30	Pass
NVNT	n40	2452	Ant1	13.13	30	Pass





A.3 Maximum Power Spectral Density Level

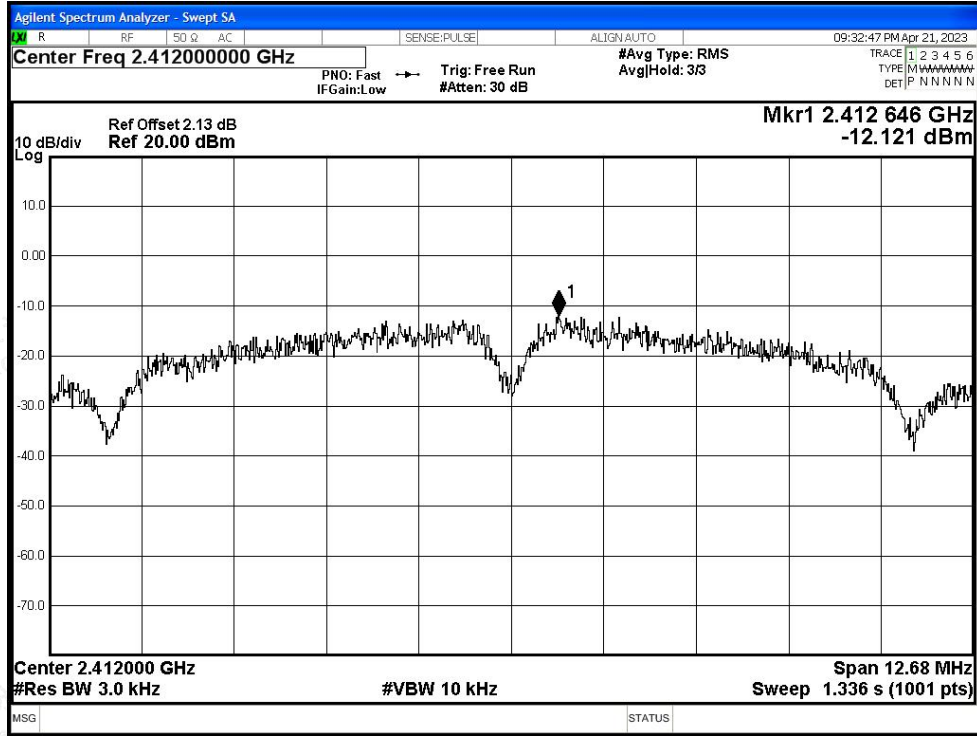
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-12.12	-12.12	8	Pass
NVNT	b	2437	Ant1	-11.86	-11.86	8	Pass
NVNT	b	2462	Ant1	-10.34	-10.34	8	Pass
NVNT	g	2412	Ant1	-13.17	-13.17	8	Pass
NVNT	g	2437	Ant1	-13.89	-13.89	8	Pass
NVNT	g	2462	Ant1	-14.02	-14.02	8	Pass
NVNT	n20	2412	Ant1	-15.36	-15.36	8	Pass
NVNT	n20	2437	Ant1	-14.82	-14.82	8	Pass
NVNT	n20	2462	Ant1	-15.82	-15.82	8	Pass
NVNT	n40	2422	Ant1	-19.46	-19.46	8	Pass
NVNT	n40	2437	Ant1	-18.85	-18.85	8	Pass
NVNT	n40	2452	Ant1	-18.59	-18.59	8	Pass



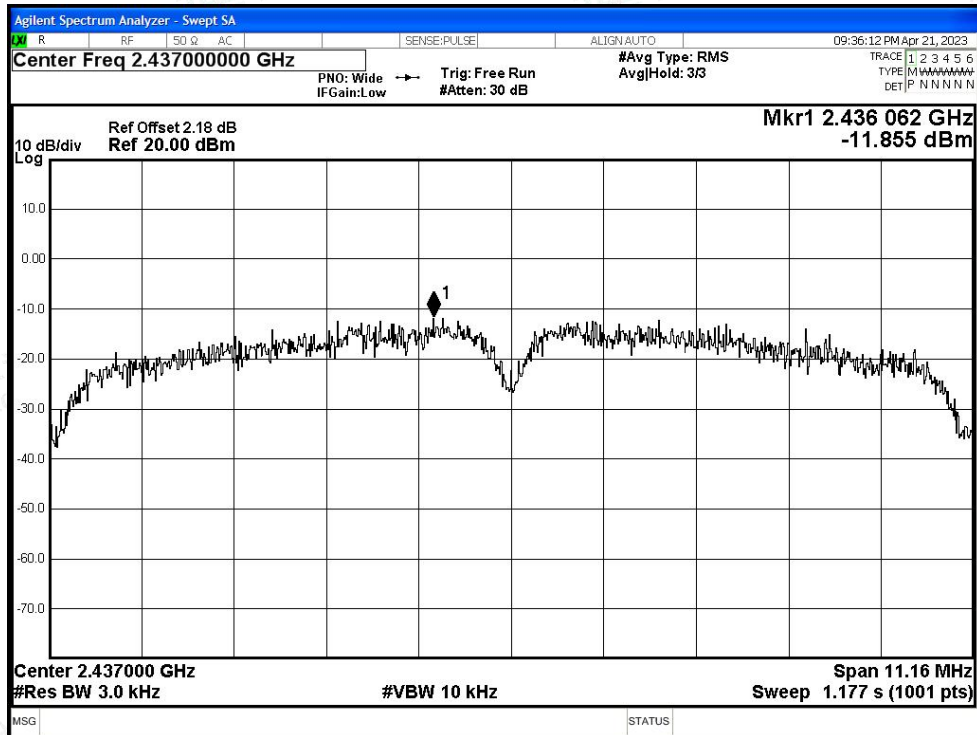


Test Graphs

PSD NVNT b 2412MHz Ant1

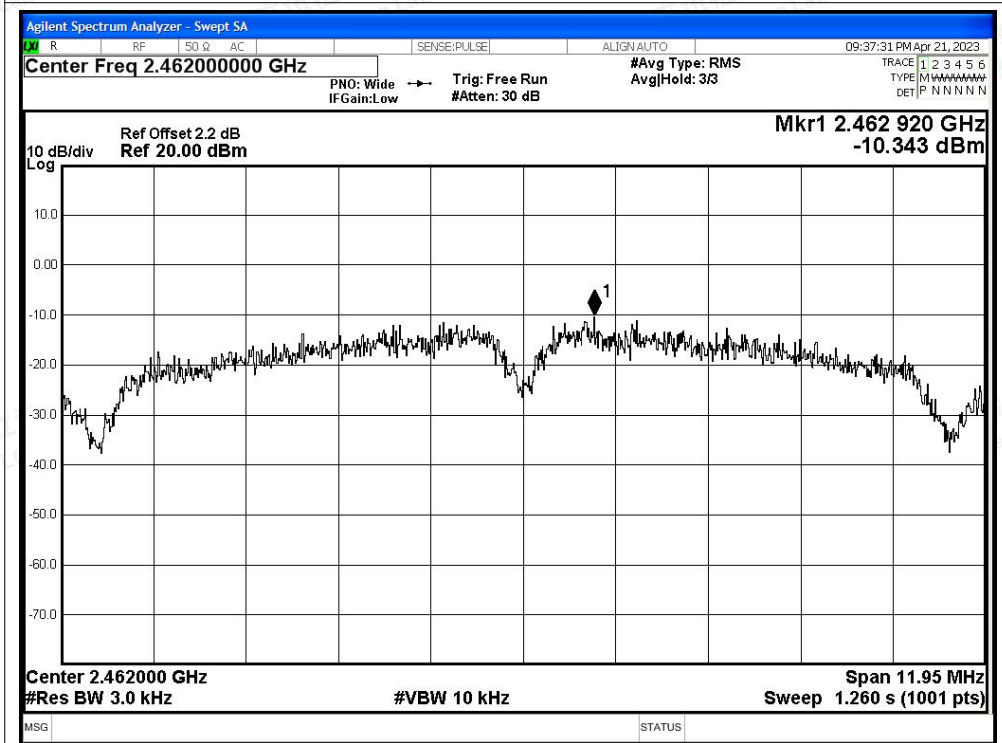


PSD NVNT b 2437MHz Ant1

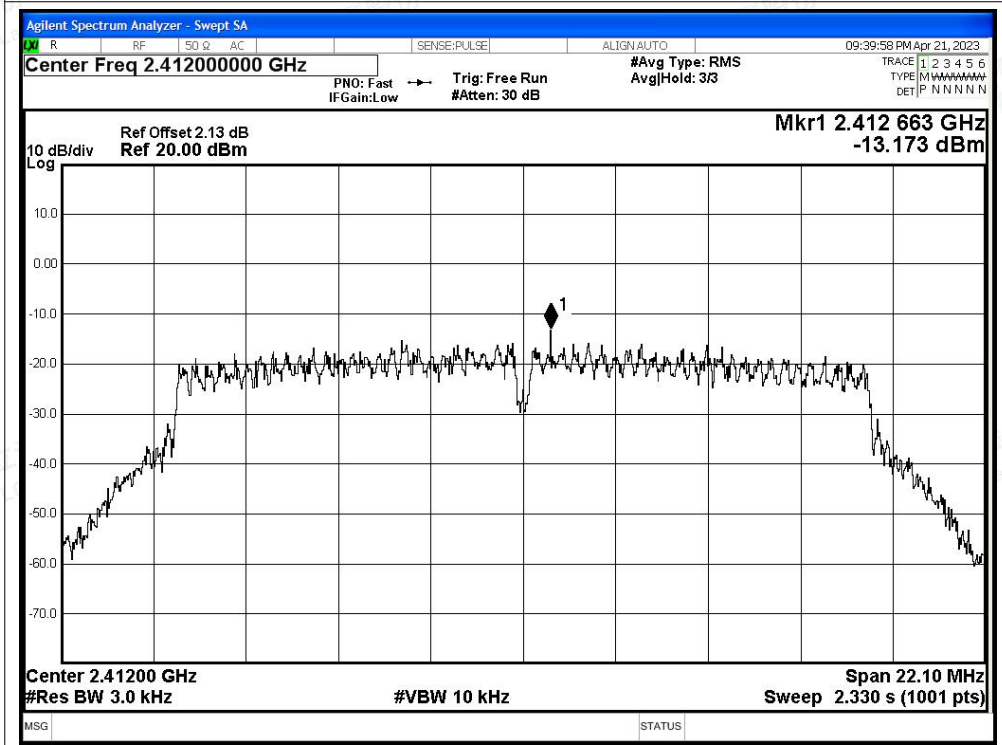




PSD NVNT b 2462MHz Ant1

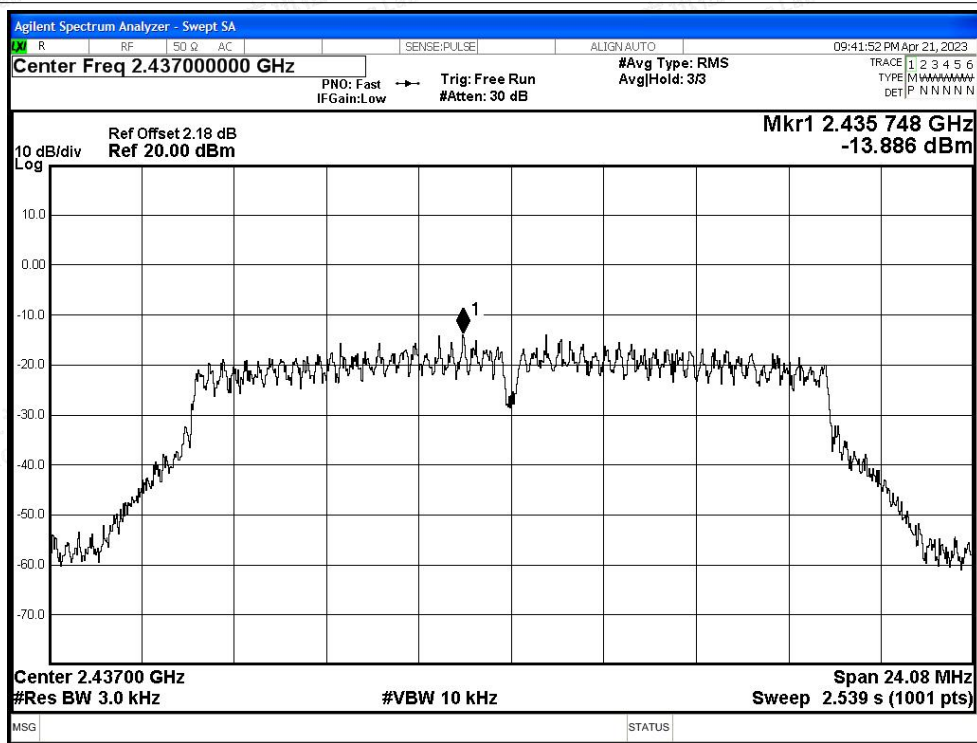


PSD NVNT g 2412MHz Ant1

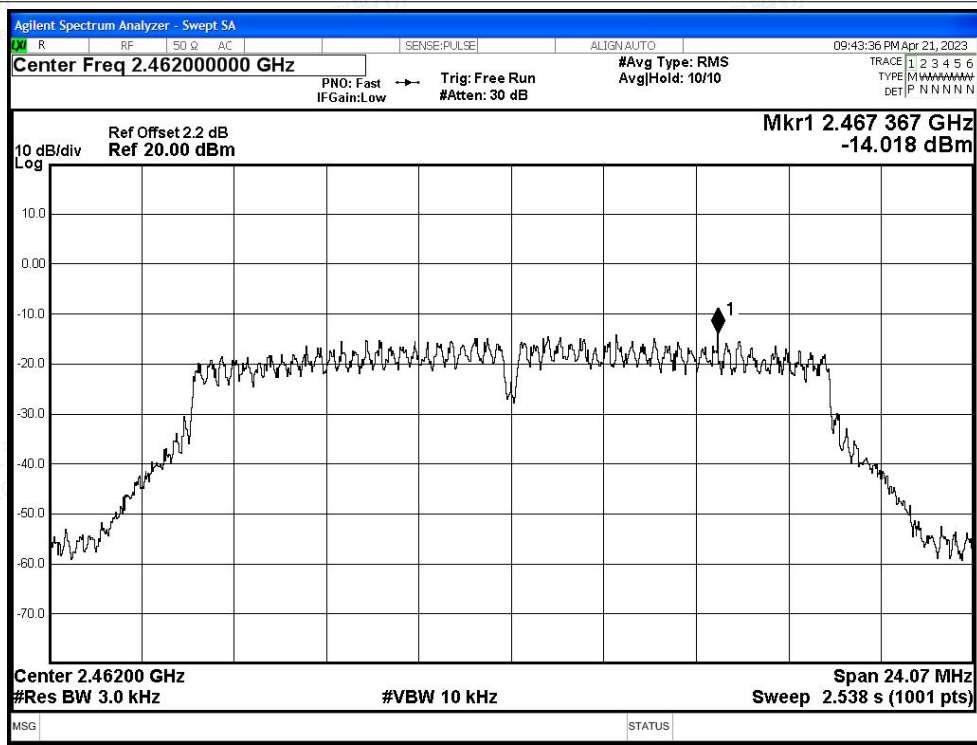


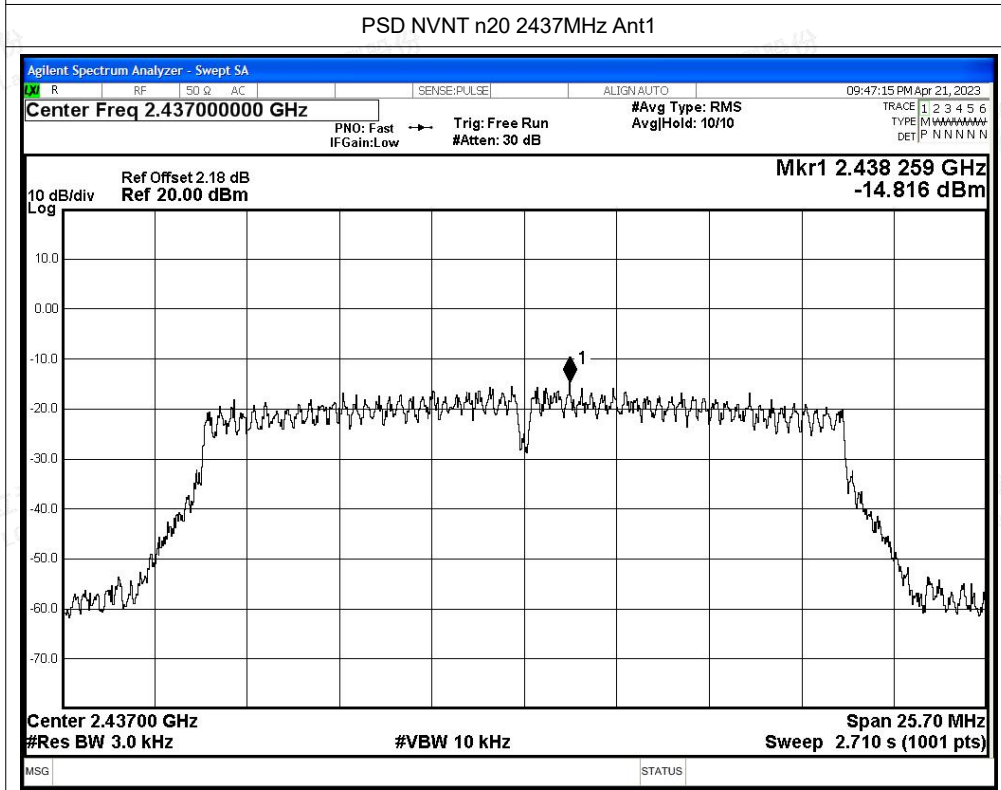
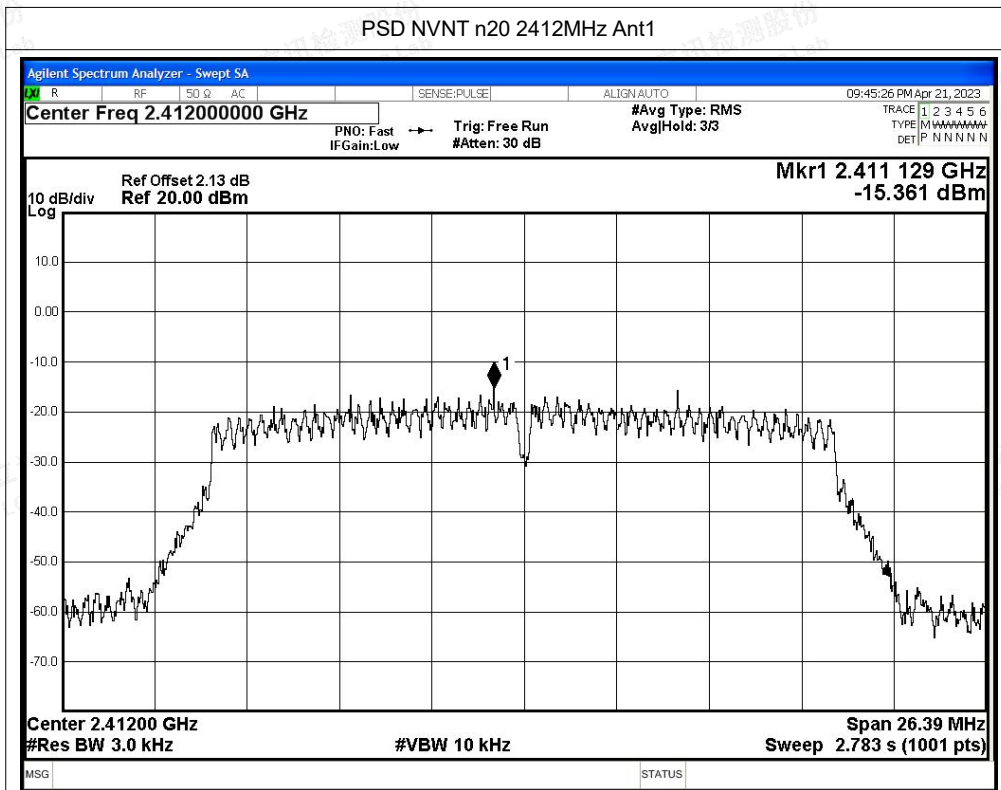


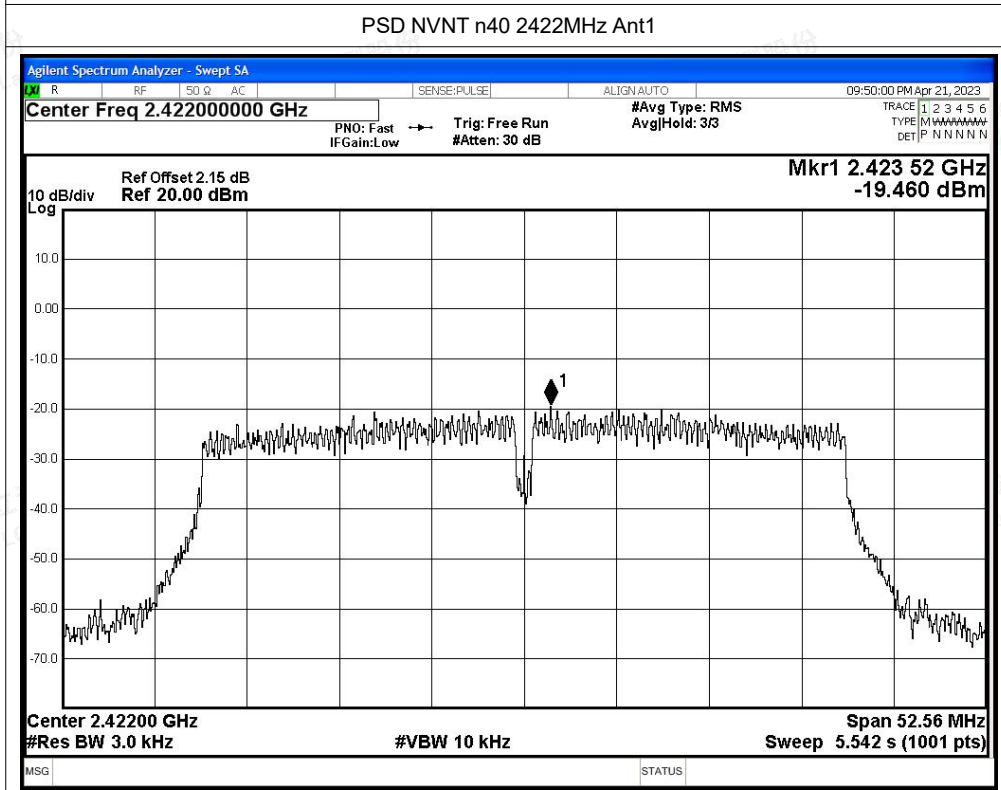
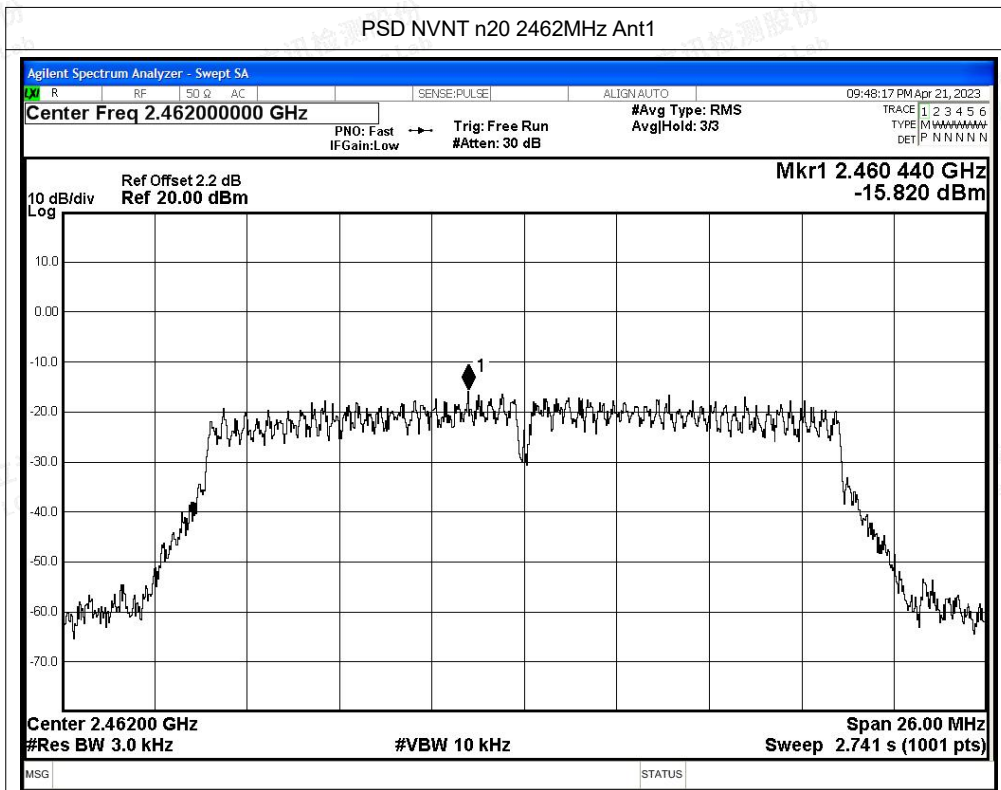
PSD NVNT g 2437MHz Ant1

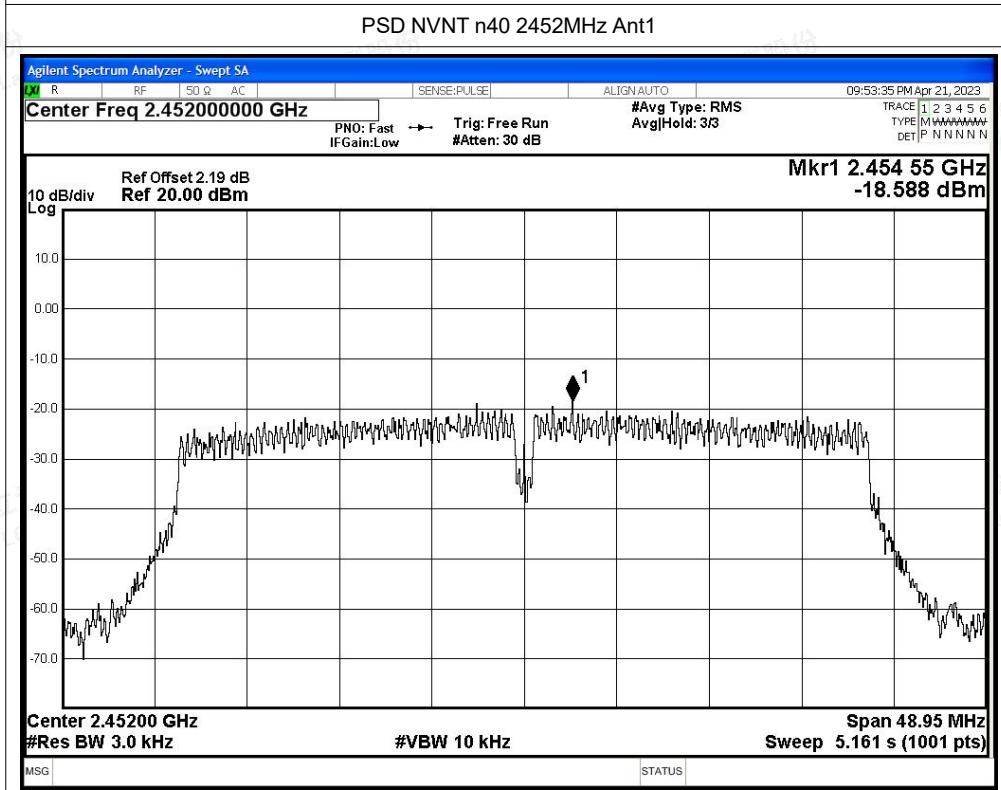
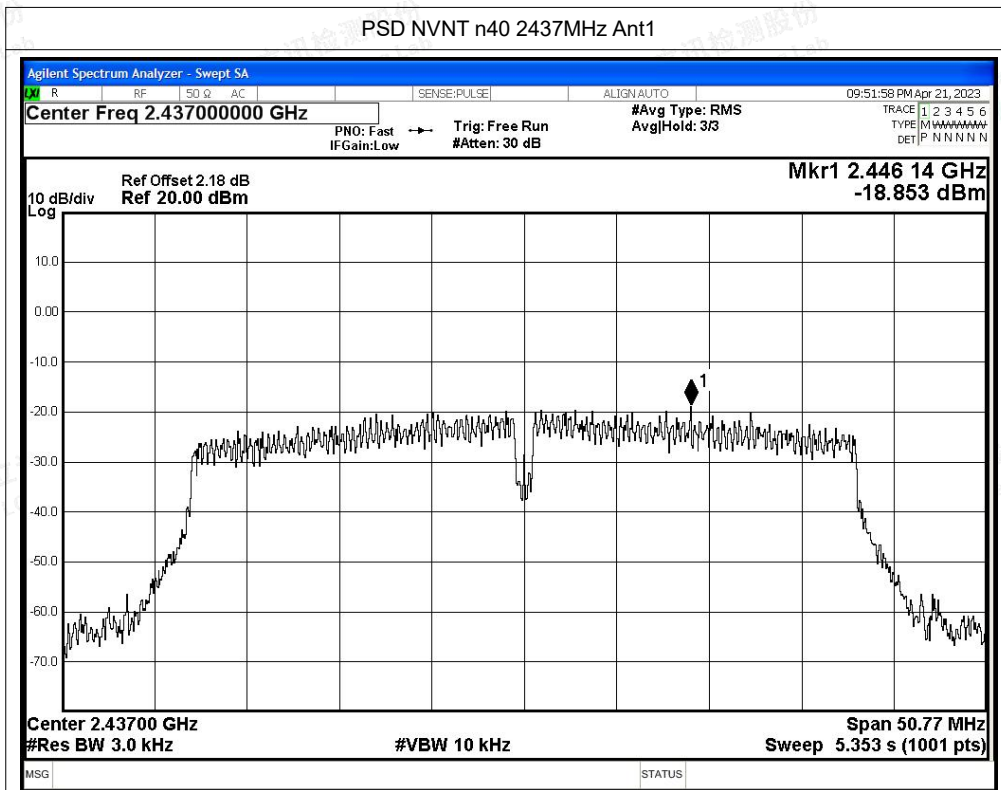


PSD NVNT g 2462MHz Ant1











A.4 Band Edge

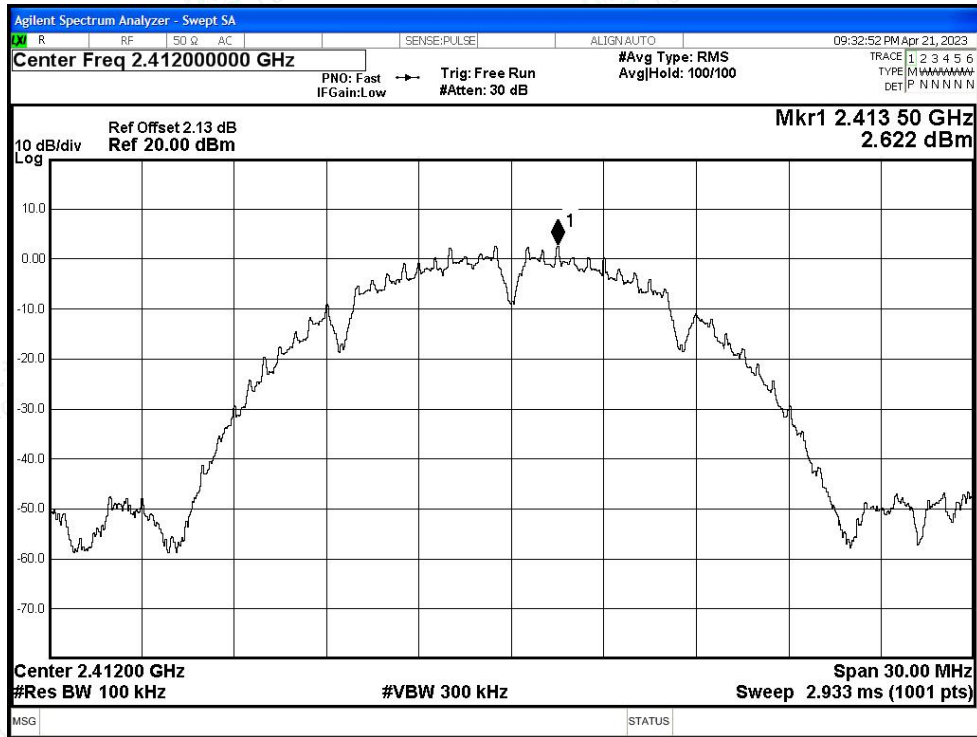
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-51.87	-20	Pass
NVNT	b	2462	Ant1	-60.48	-20	Pass
NVNT	g	2412	Ant1	-37.03	-20	Pass
NVNT	g	2462	Ant1	-52.52	-20	Pass
NVNT	n20	2412	Ant1	-40.26	-20	Pass
NVNT	n20	2462	Ant1	-52.03	-20	Pass
NVNT	n40	2422	Ant1	-37.38	-20	Pass
NVNT	n40	2452	Ant1	-41.45	-20	Pass



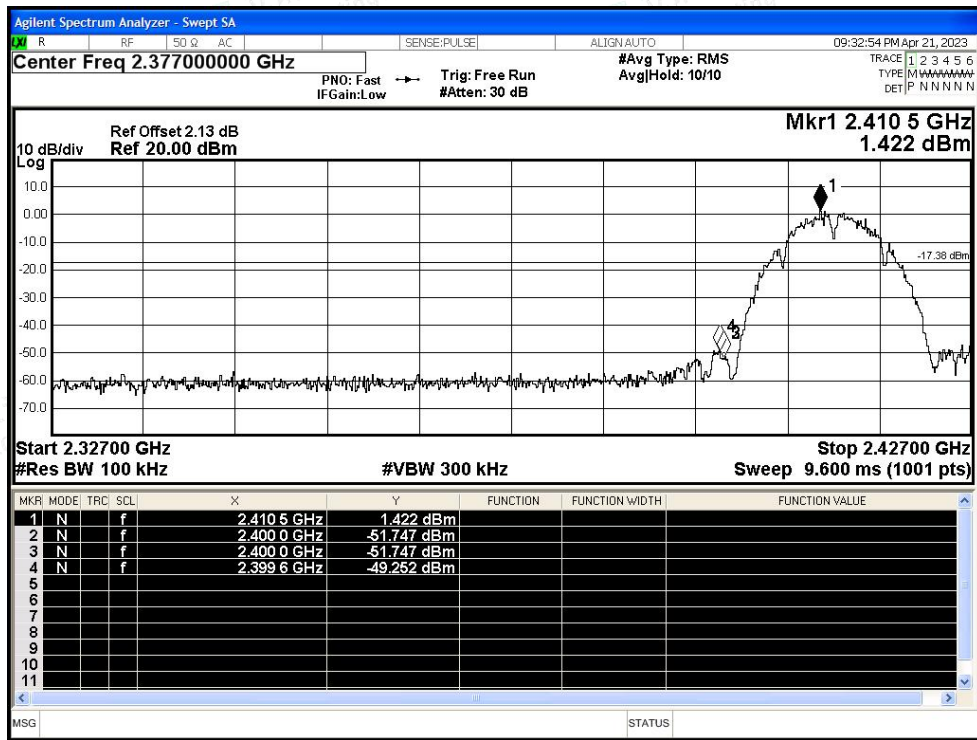


Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref

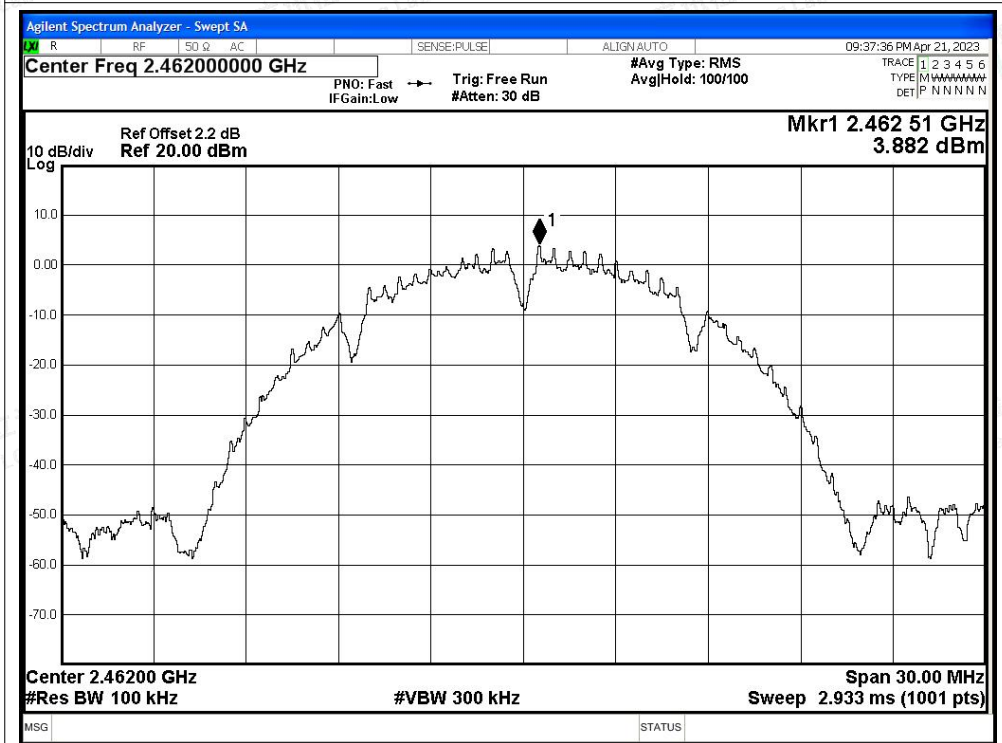


Band Edge NVNT b 2412MHz Ant1 Emission

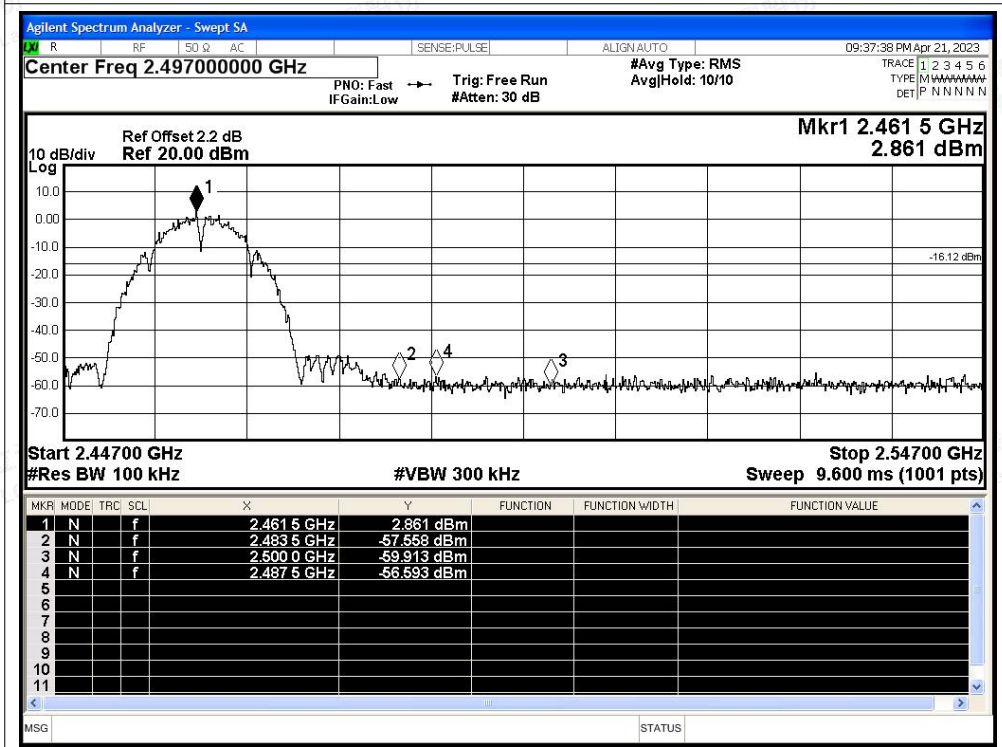


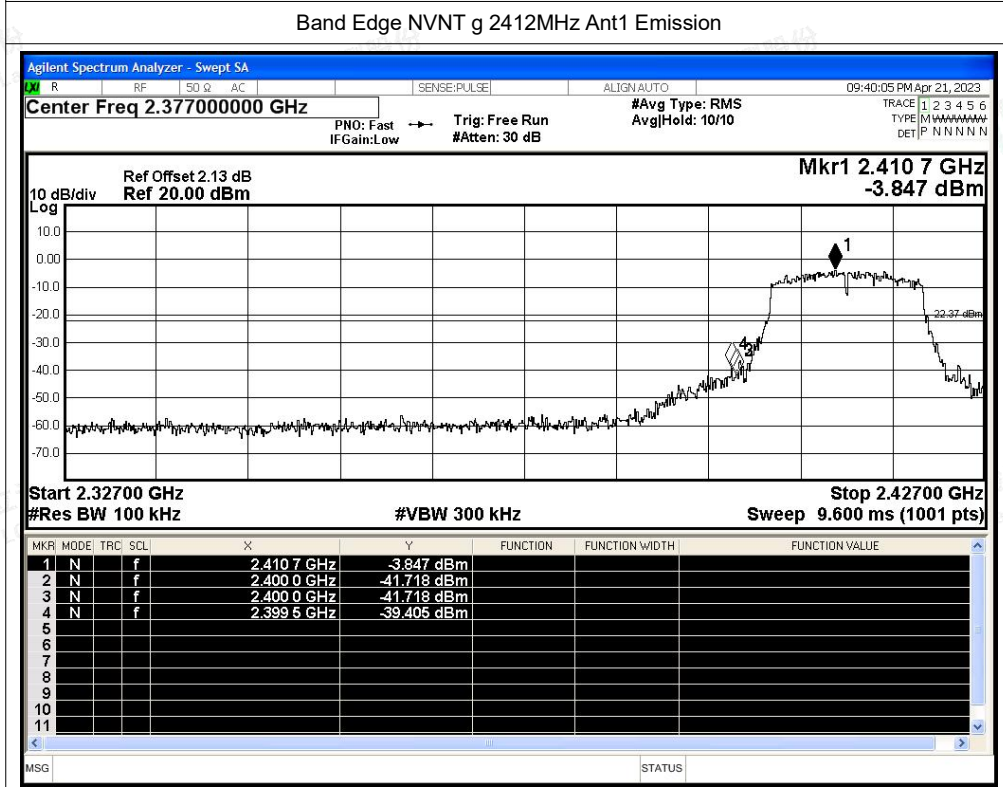
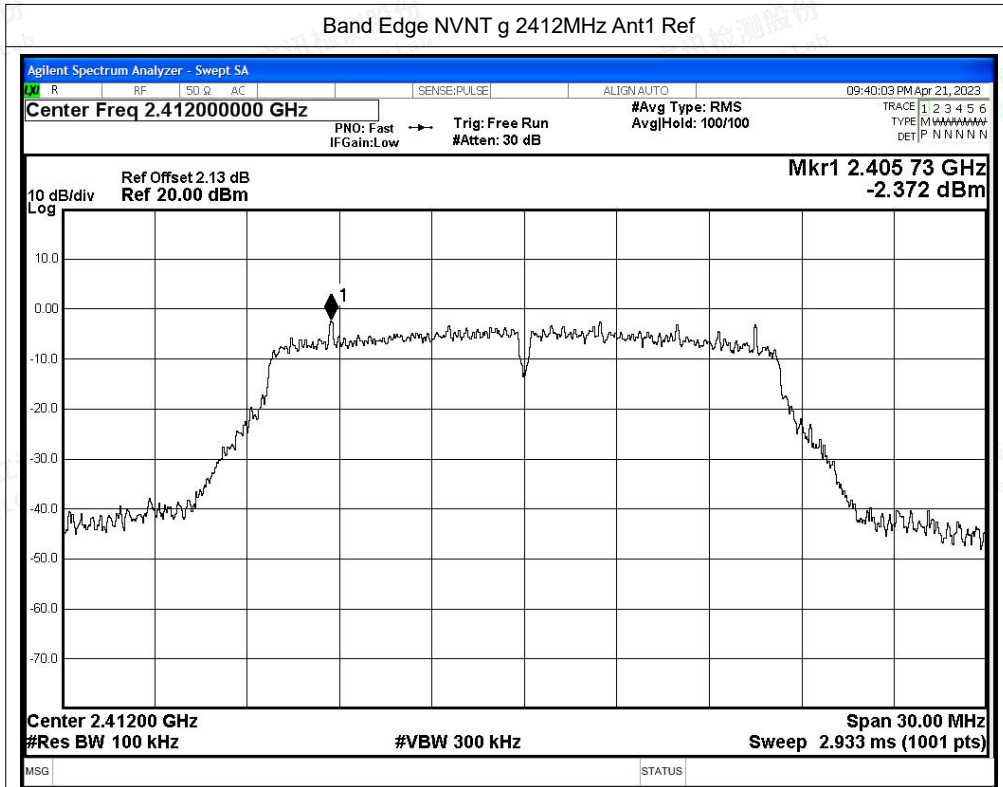


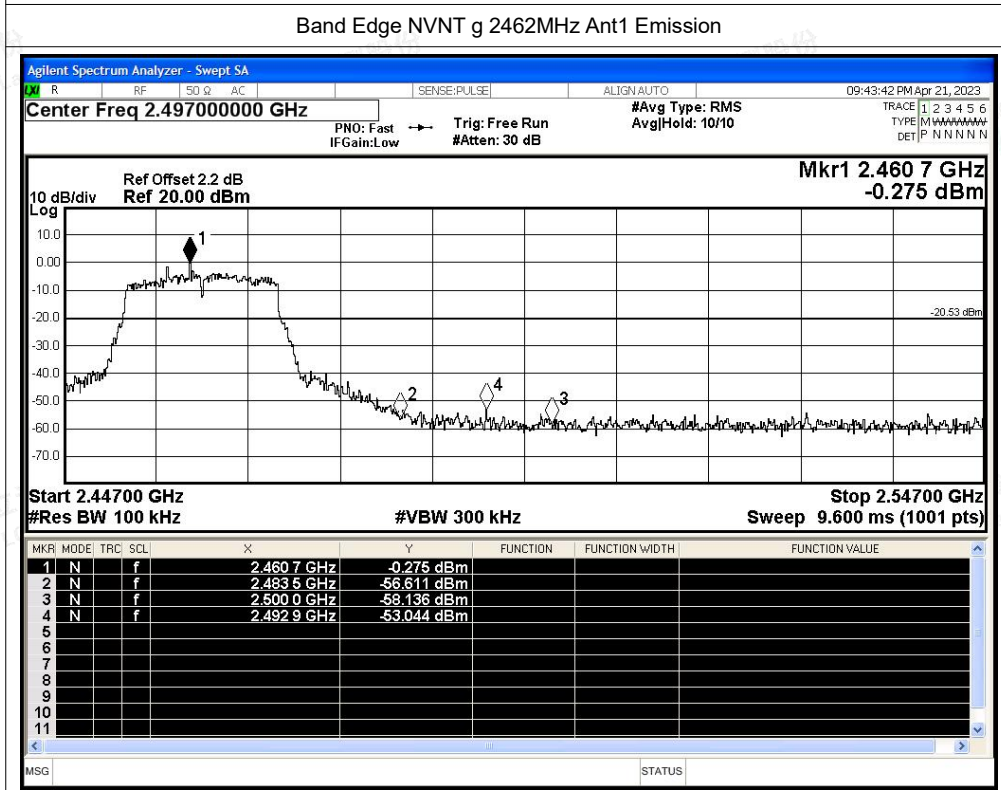
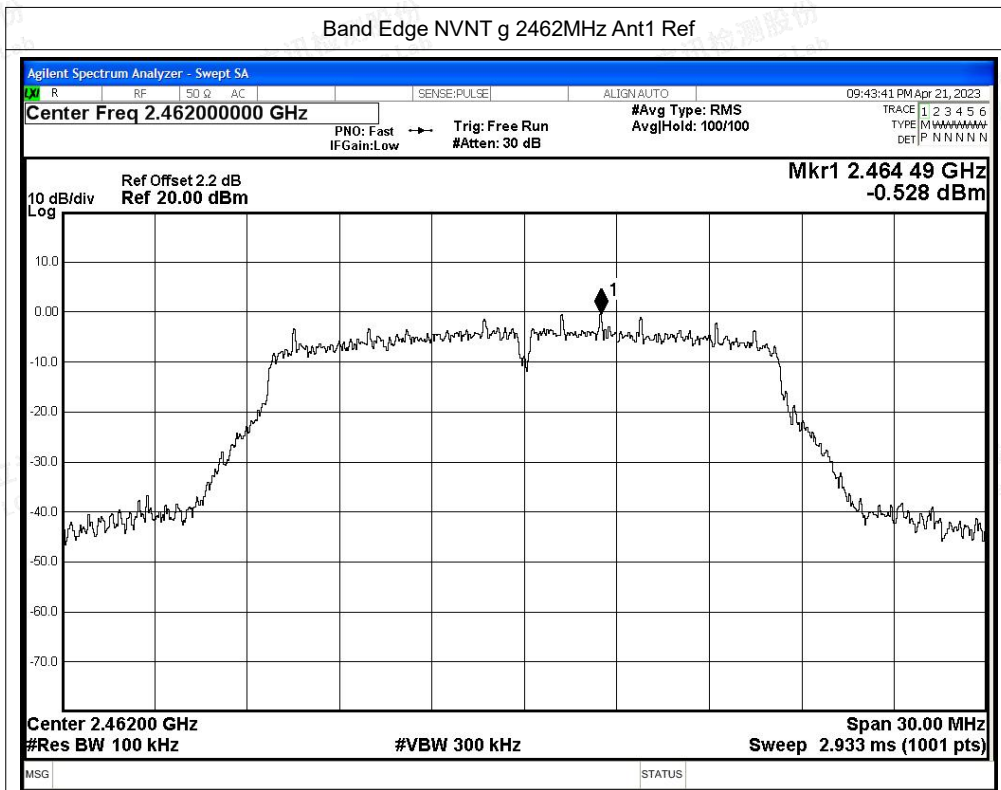
Band Edge NVNT b 2462MHz Ant1 Ref

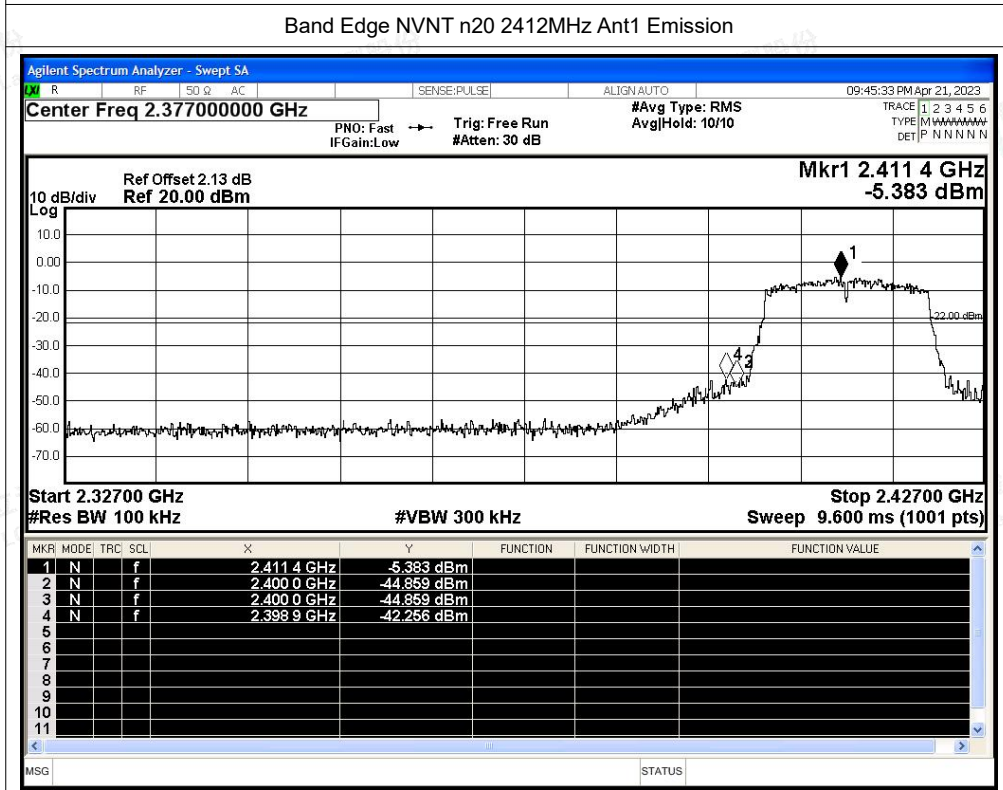
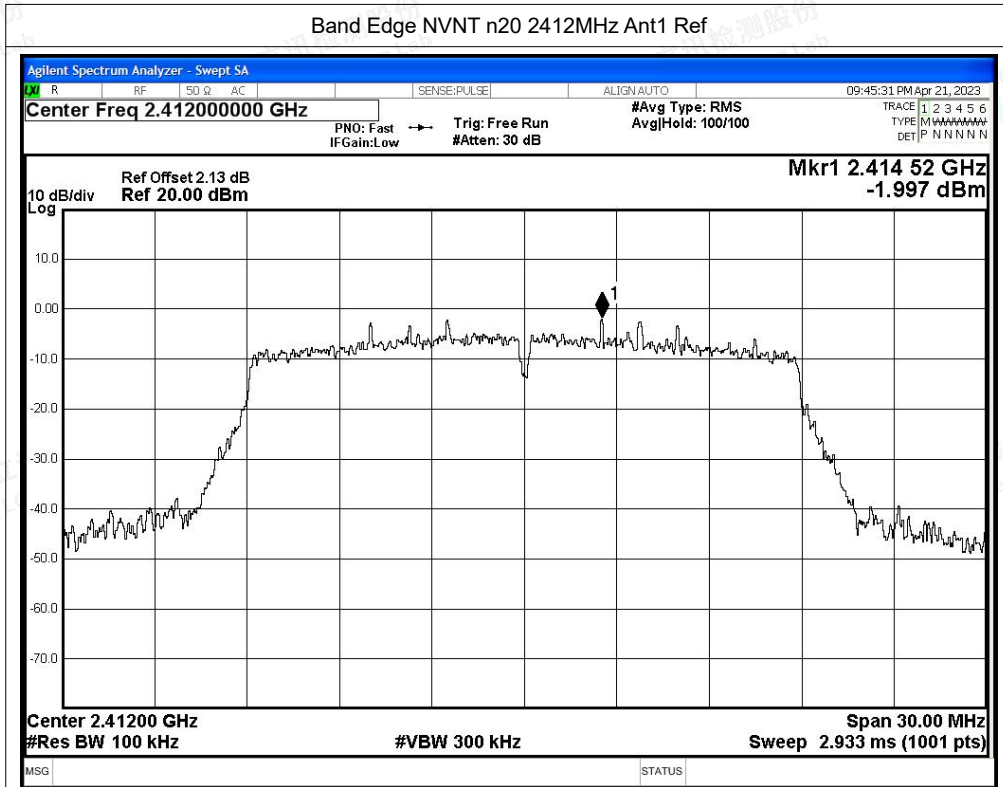


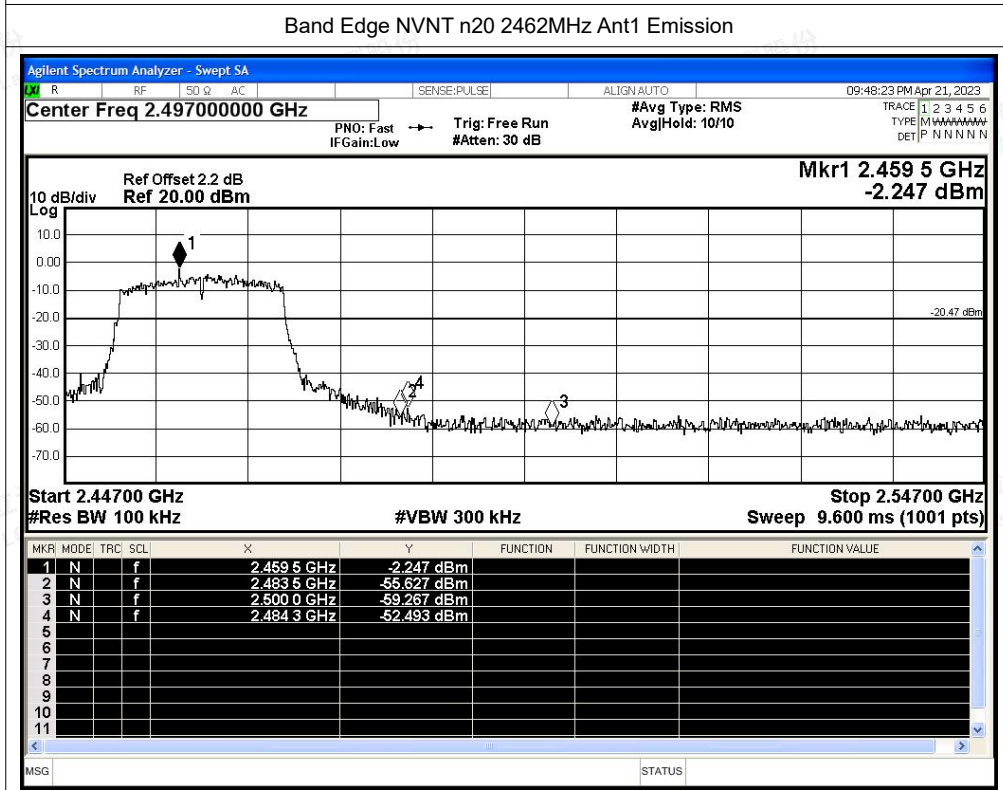
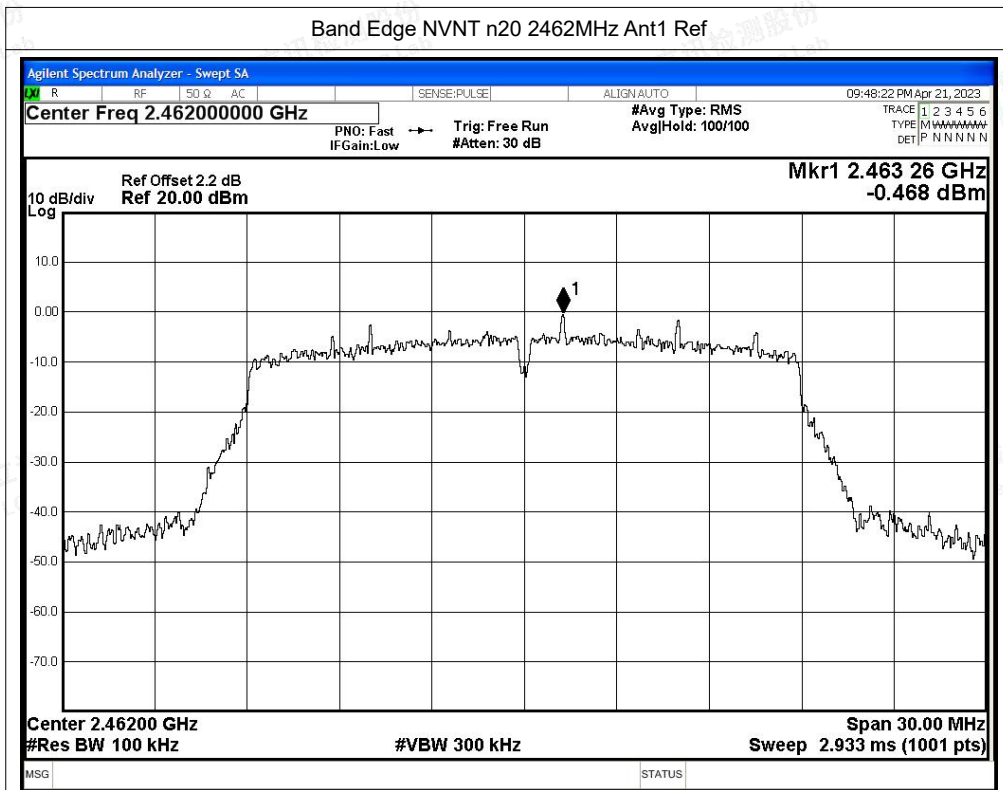
Band Edge NVNT b 2462MHz Ant1 Emission

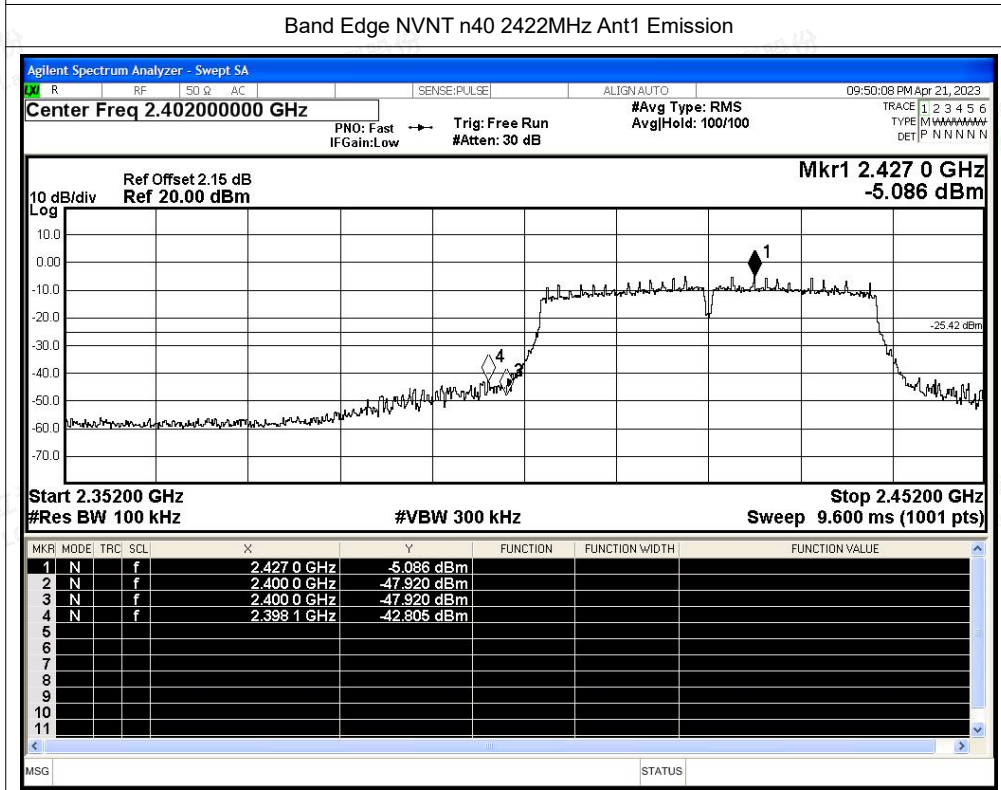
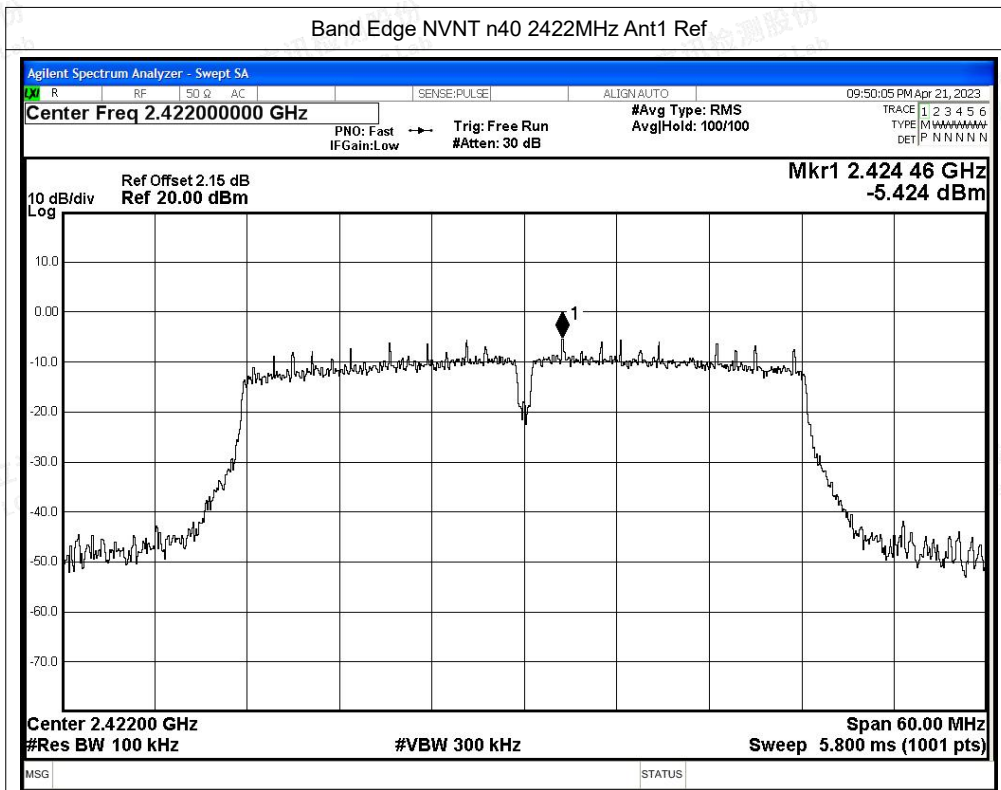


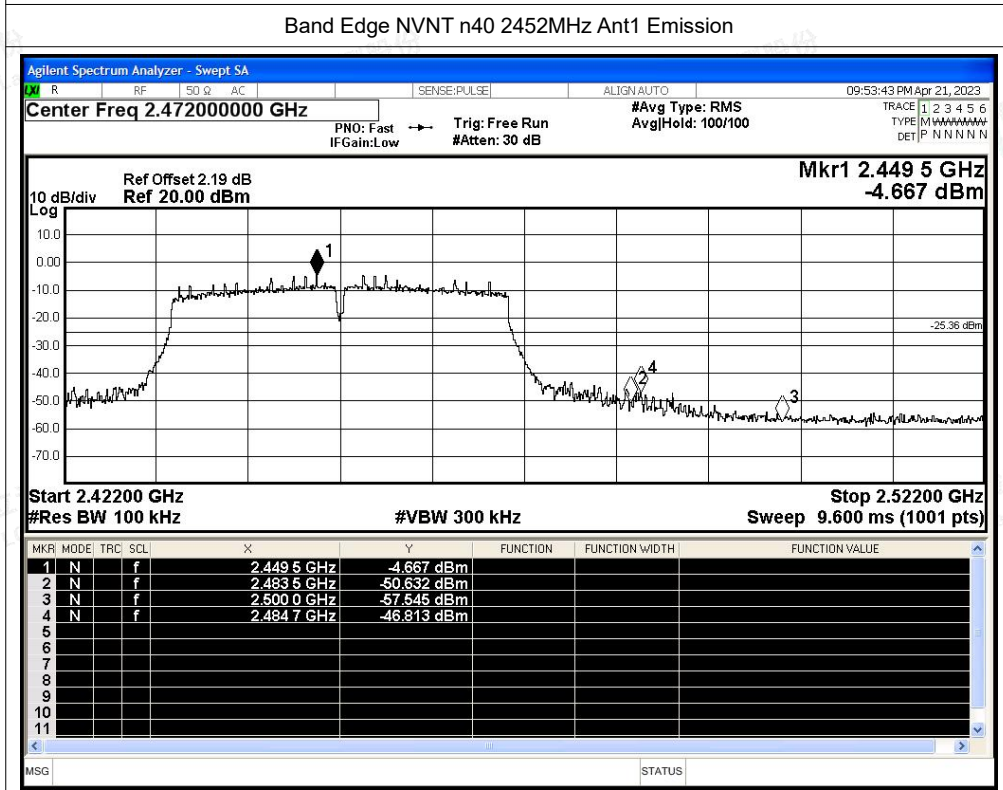
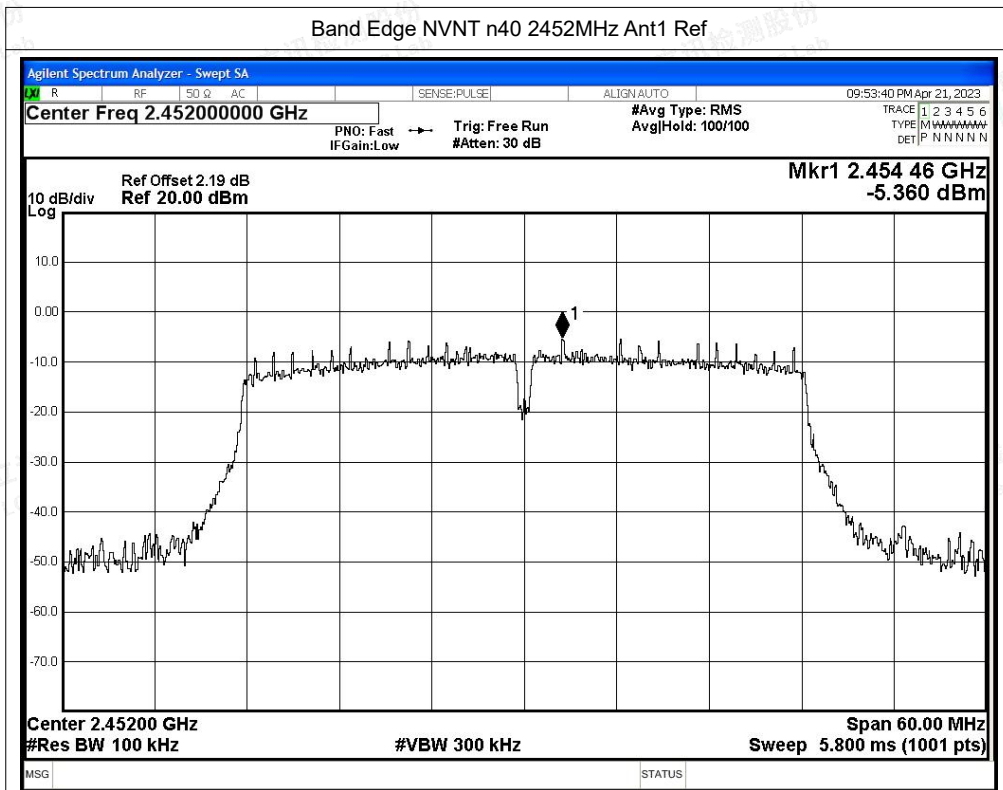














A.5 Conducted RF Spurious Emission

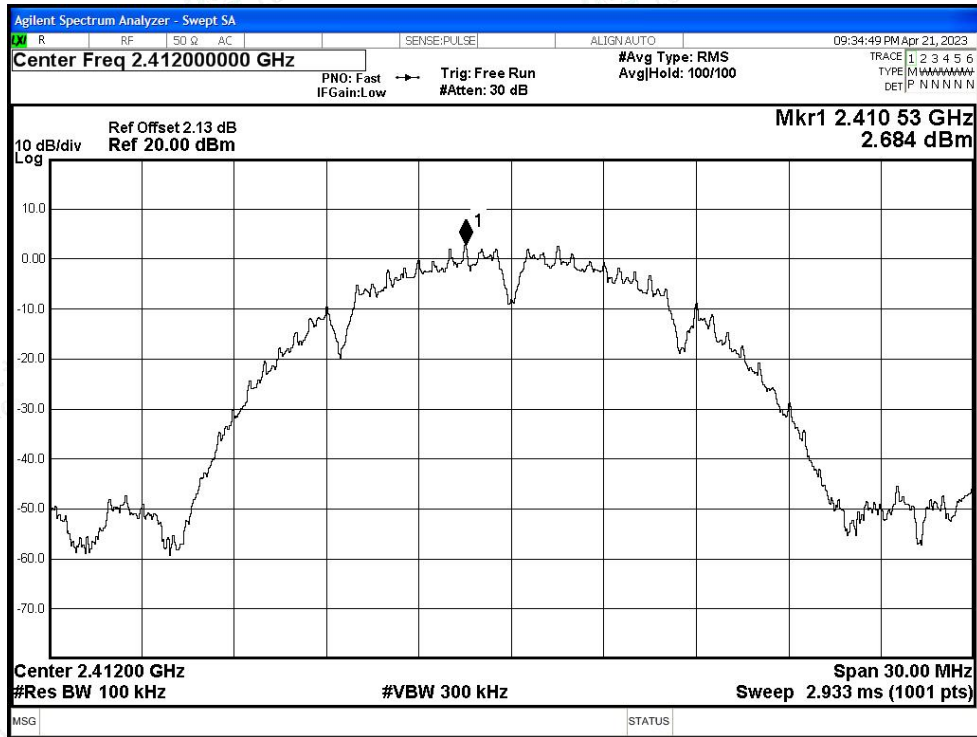
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-47.79	-20	Pass
NVNT	b	2437	Ant1	-47.83	-20	Pass
NVNT	b	2462	Ant1	-48.2	-20	Pass
NVNT	g	2412	Ant1	-44.03	-20	Pass
NVNT	g	2437	Ant1	-44.93	-20	Pass
NVNT	g	2462	Ant1	-44.96	-20	Pass
NVNT	n20	2412	Ant1	-44.46	-20	Pass
NVNT	n20	2437	Ant1	-46.06	-20	Pass
NVNT	n20	2462	Ant1	-44.27	-20	Pass
NVNT	n40	2422	Ant1	-40.27	-20	Pass
NVNT	n40	2437	Ant1	-41.03	-20	Pass
NVNT	n40	2452	Ant1	-40.38	-20	Pass



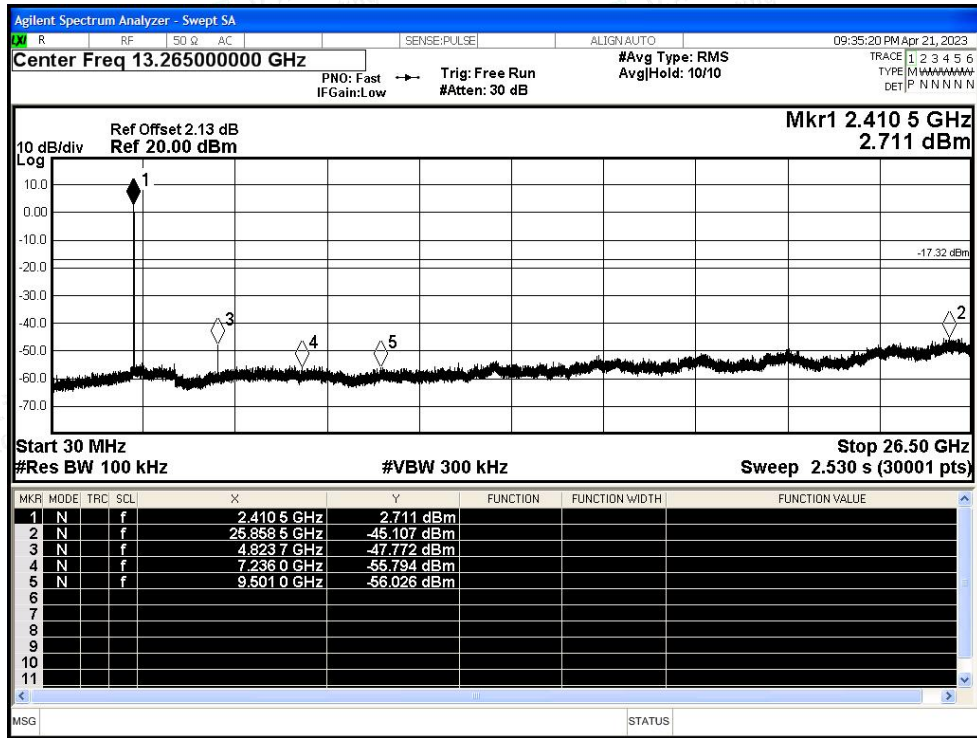


Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref

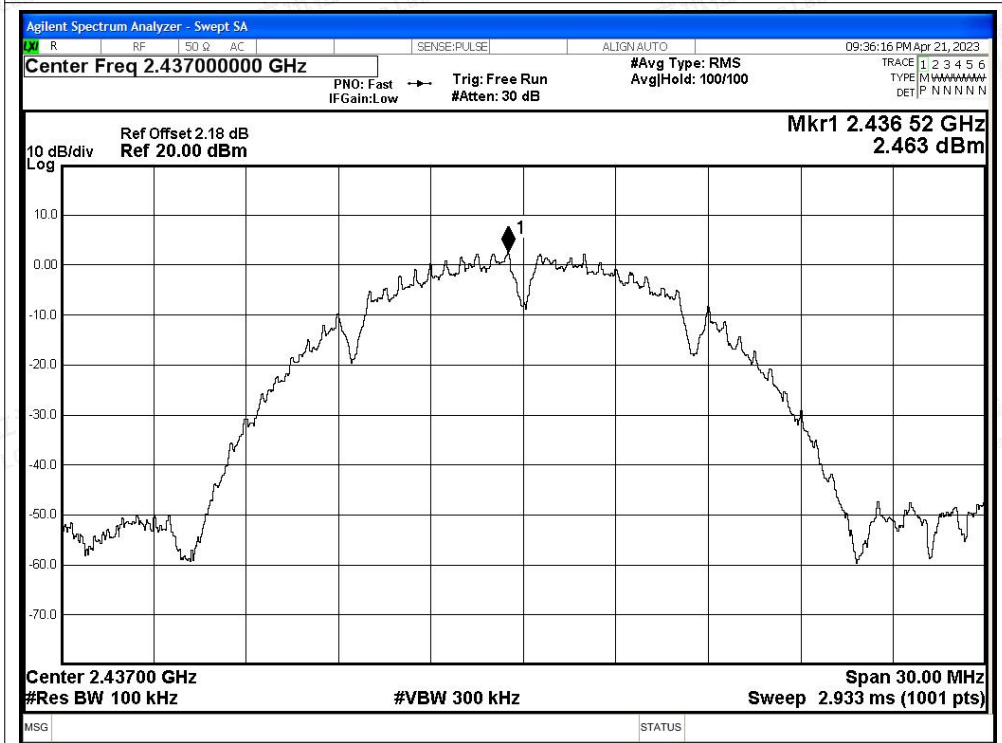


Tx. Spurious NVNT b 2412MHz Ant1 Emission





Tx. Spurious NVNT b 2437MHz Ant1 Ref



Tx. Spurious NVNT b 2437MHz Ant1 Emission

