



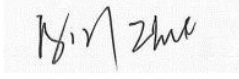
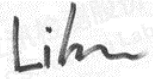
Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Smart switch

Test Model: Shelly Plus 1

Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	 Bill Zhu
Supervised by:	 Li Huan





C.1 -6dB Bandwidth

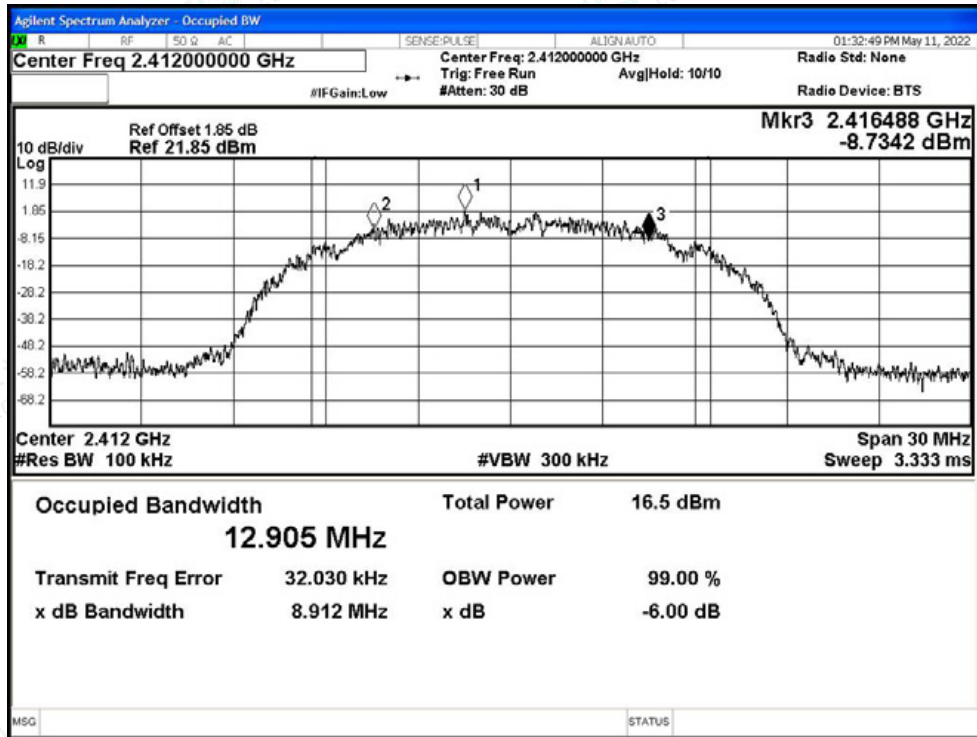
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	8.912	0.5	Pass
NVNT	b	2437	Ant1	8.171	0.5	Pass
NVNT	b	2462	Ant1	9.836	0.5	Pass
NVNT	g	2412	Ant1	16.339	0.5	Pass
NVNT	g	2437	Ant1	16.07	0.5	Pass
NVNT	g	2462	Ant1	16.32	0.5	Pass
NVNT	n20	2412	Ant1	16.947	0.5	Pass
NVNT	n20	2437	Ant1	16.929	0.5	Pass
NVNT	n20	2462	Ant1	17.006	0.5	Pass
NVNT	n40	2422	Ant1	32.793	0.5	Pass
NVNT	n40	2437	Ant1	32.549	0.5	Pass
NVNT	n40	2452	Ant1	32.533	0.5	Pass



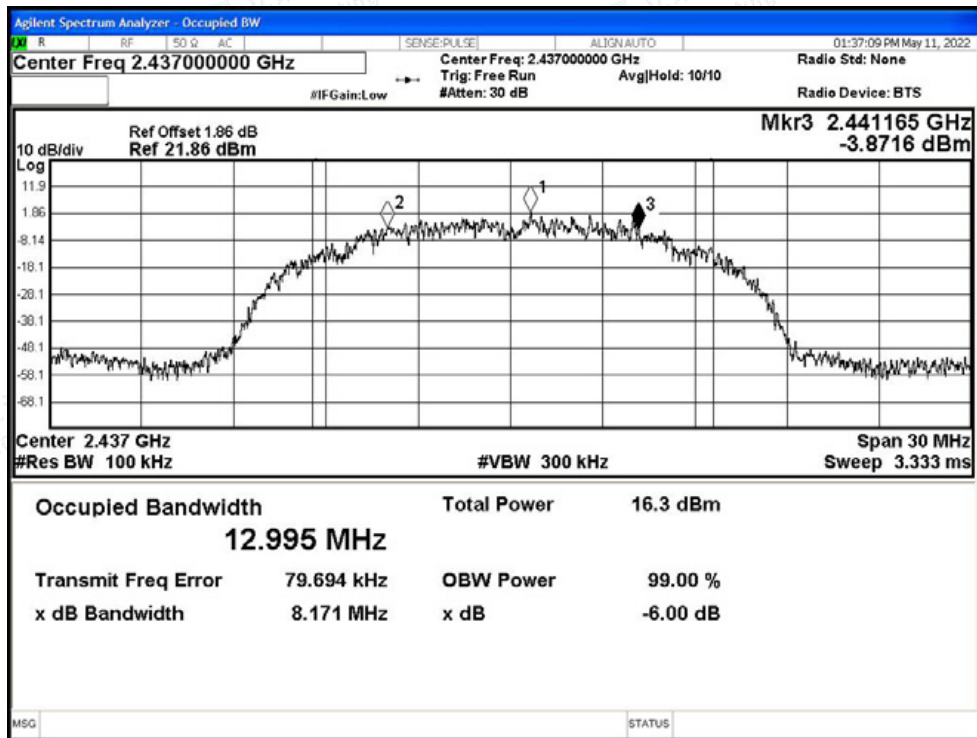


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1

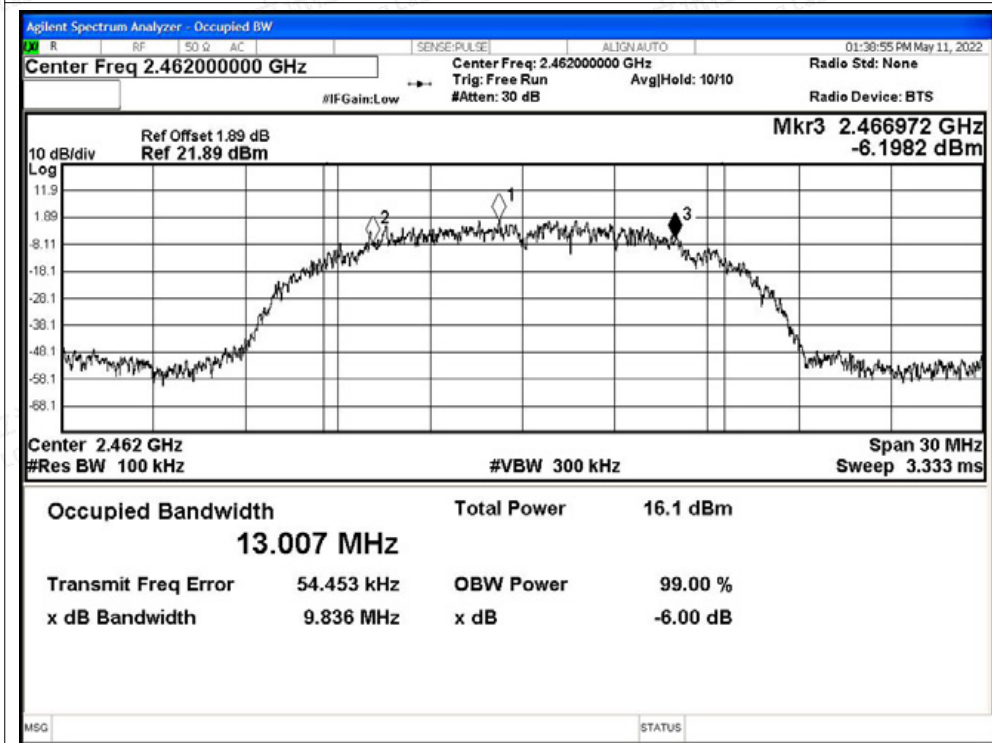


-6dB Bandwidth NVNT b 2437MHz Ant1

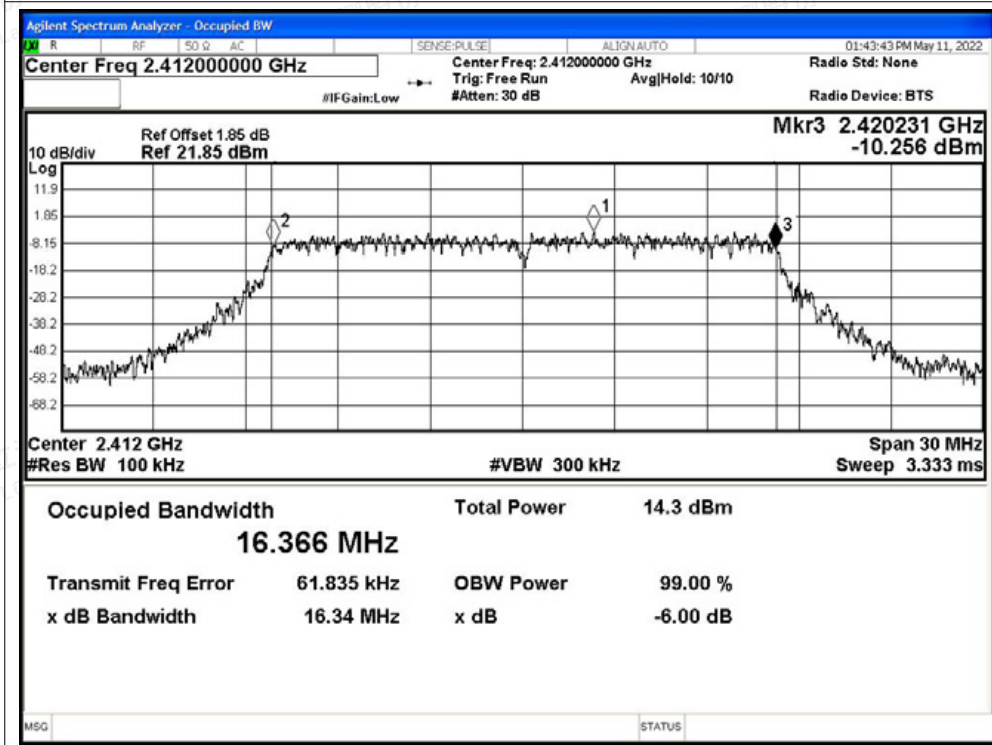




-6dB Bandwidth NVNT b 2462MHz Ant1

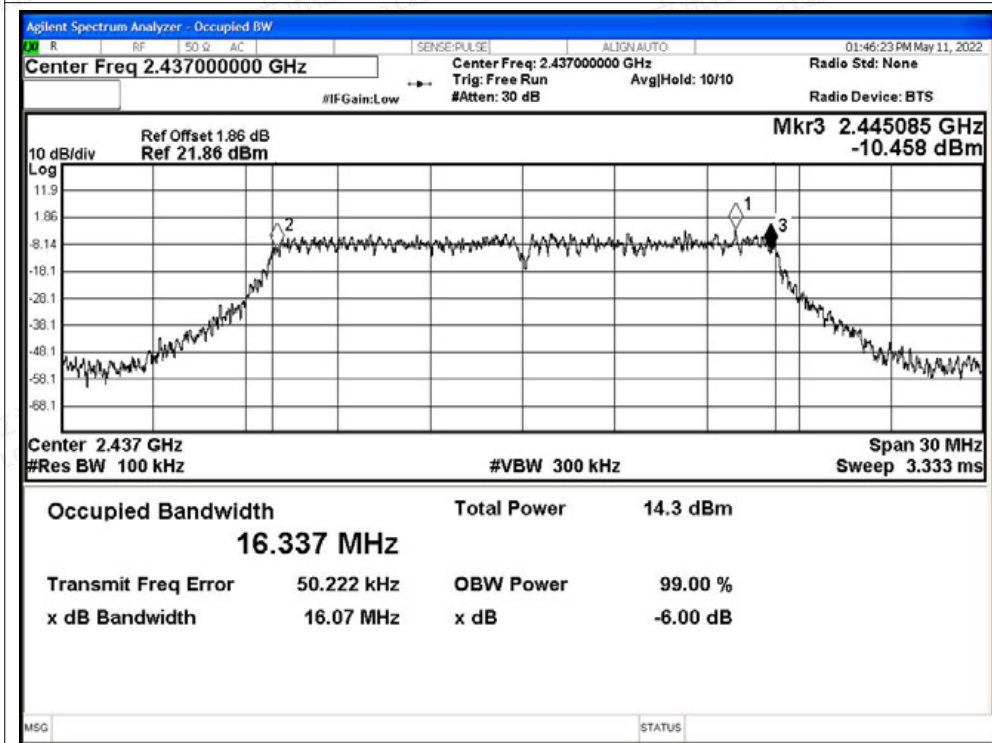


-6dB Bandwidth NVNT g 2412MHz Ant1

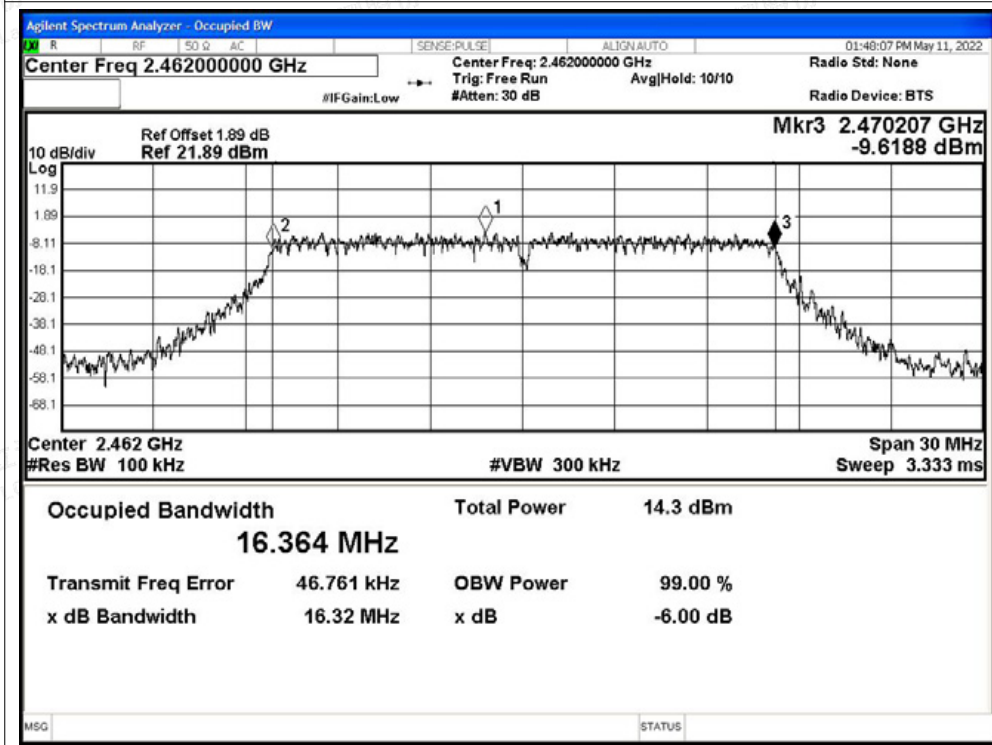




-6dB Bandwidth NVNT g 2437MHz Ant1

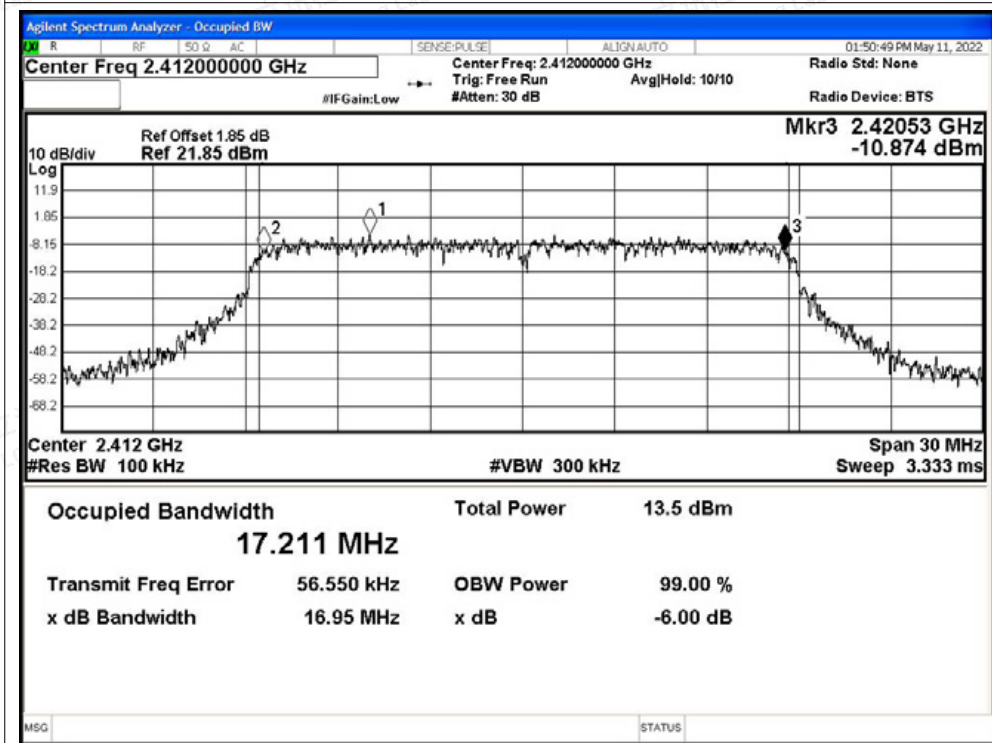


-6dB Bandwidth NVNT g 2462MHz Ant1

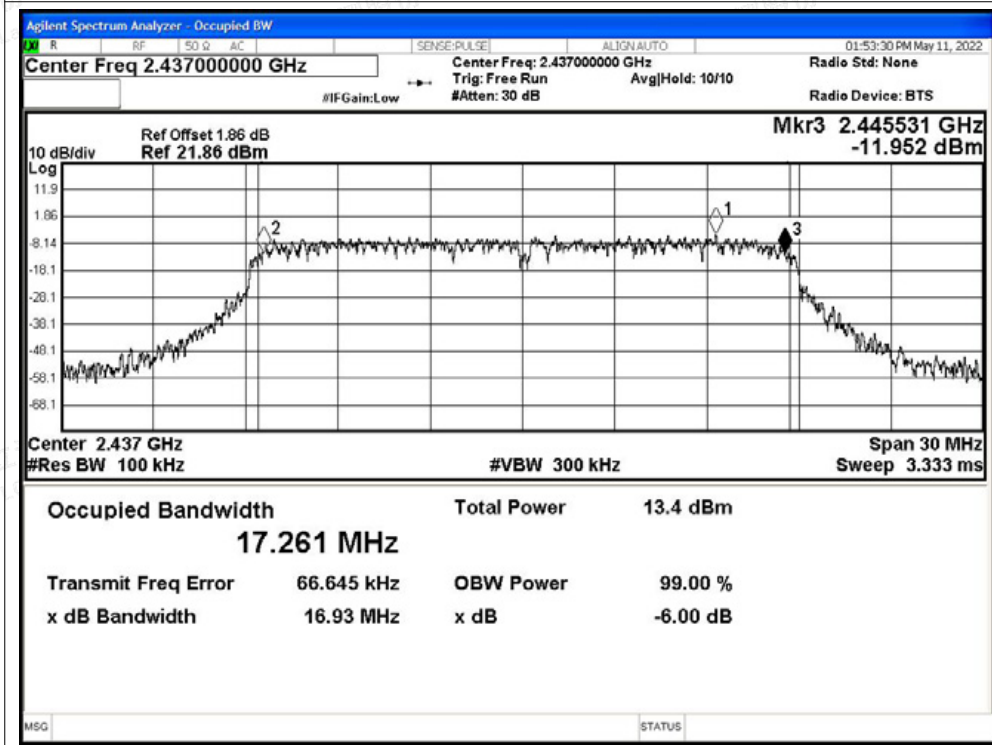




-6dB Bandwidth NVNT n20 2412MHz Ant1

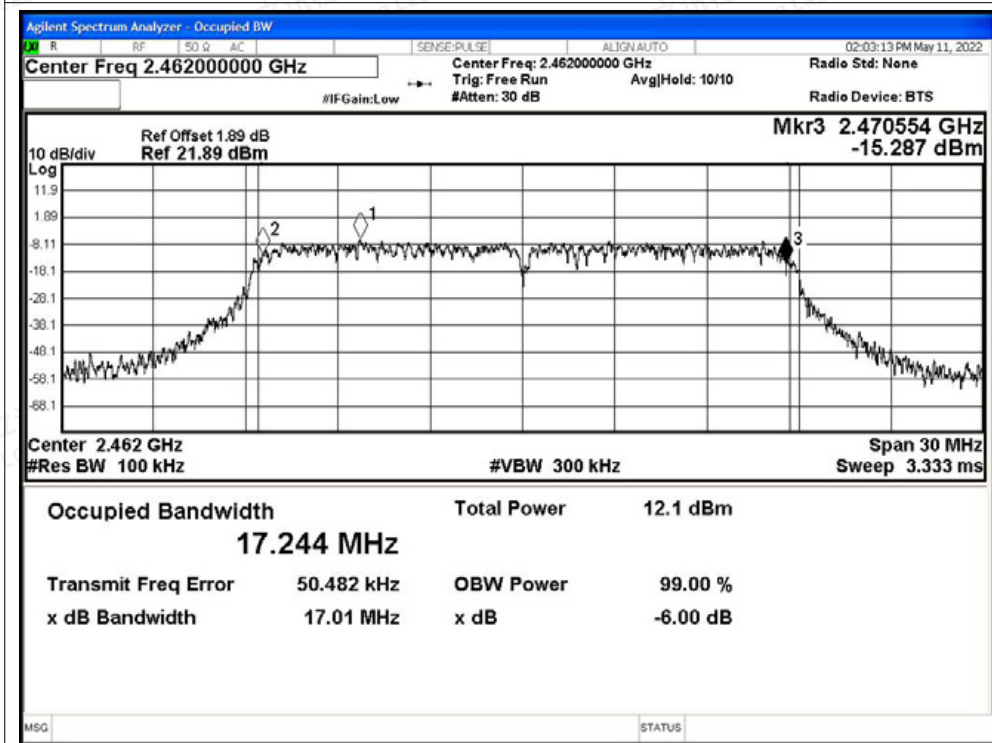


-6dB Bandwidth NVNT n20 2437MHz Ant1

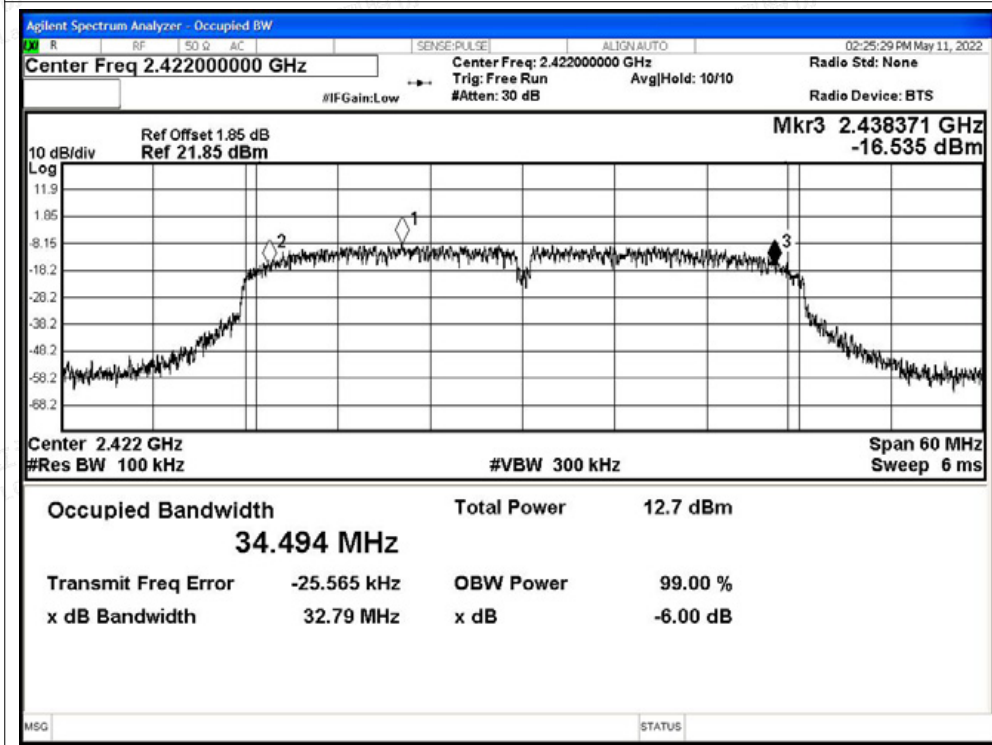




-6dB Bandwidth NVNT n20 2462MHz Ant1

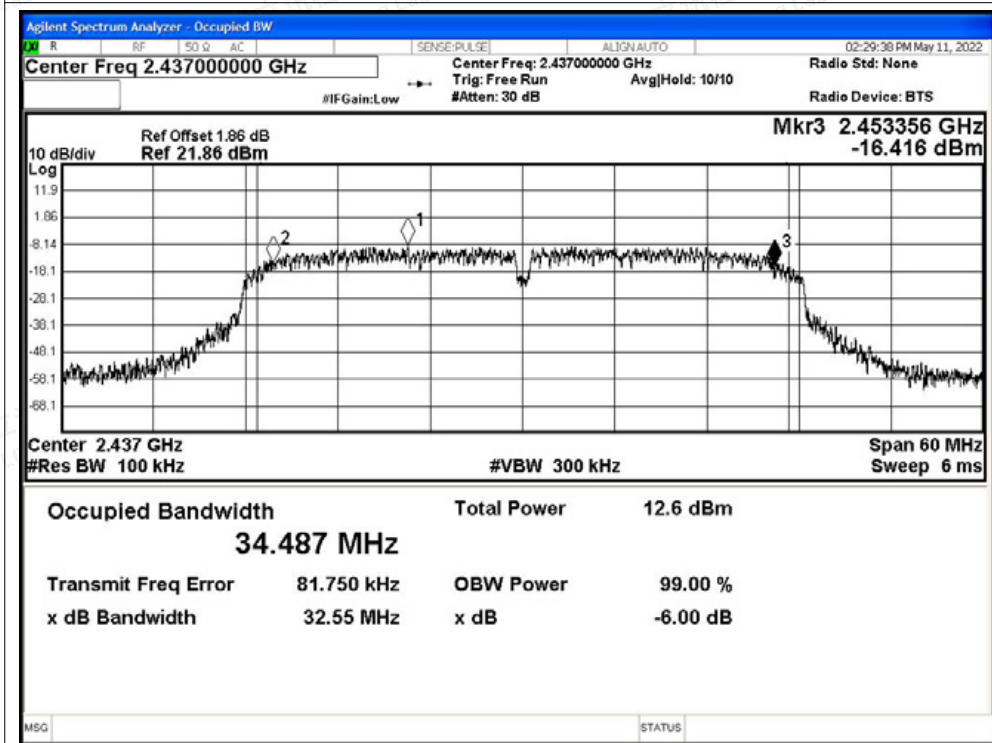


-6dB Bandwidth NVNT n40 2422MHz Ant1

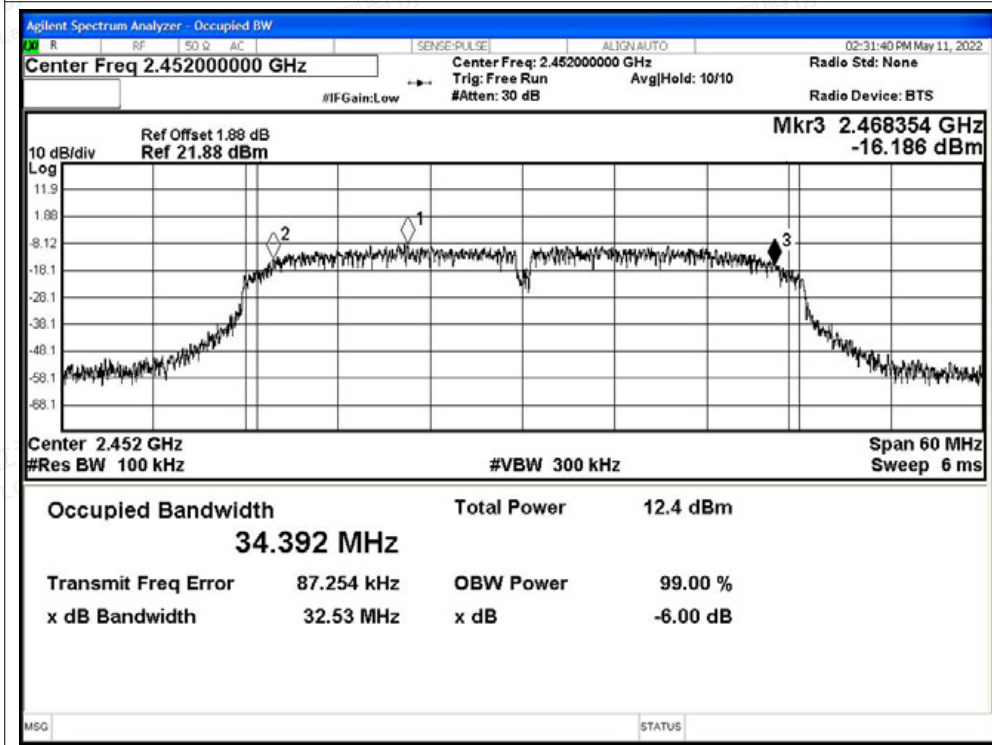




-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1





C.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	14.58	30	Pass
NVNT	b	2437	Ant1	14.27	30	Pass
NVNT	b	2462	Ant1	14.26	30	Pass
NVNT	g	2412	Ant1	13.51	30	Pass
NVNT	g	2437	Ant1	13.43	30	Pass
NVNT	g	2462	Ant1	13.28	30	Pass
NVNT	n20	2412	Ant1	12.36	30	Pass
NVNT	n20	2437	Ant1	12.33	30	Pass
NVNT	n20	2462	Ant1	12.56	30	Pass
NVNT	n40	2422	Ant1	11.47	30	Pass
NVNT	n40	2437	Ant1	11.25	30	Pass
NVNT	n40	2452	Ant1	11.19	30	Pass





C.3 Maximum Power Spectral Density Level

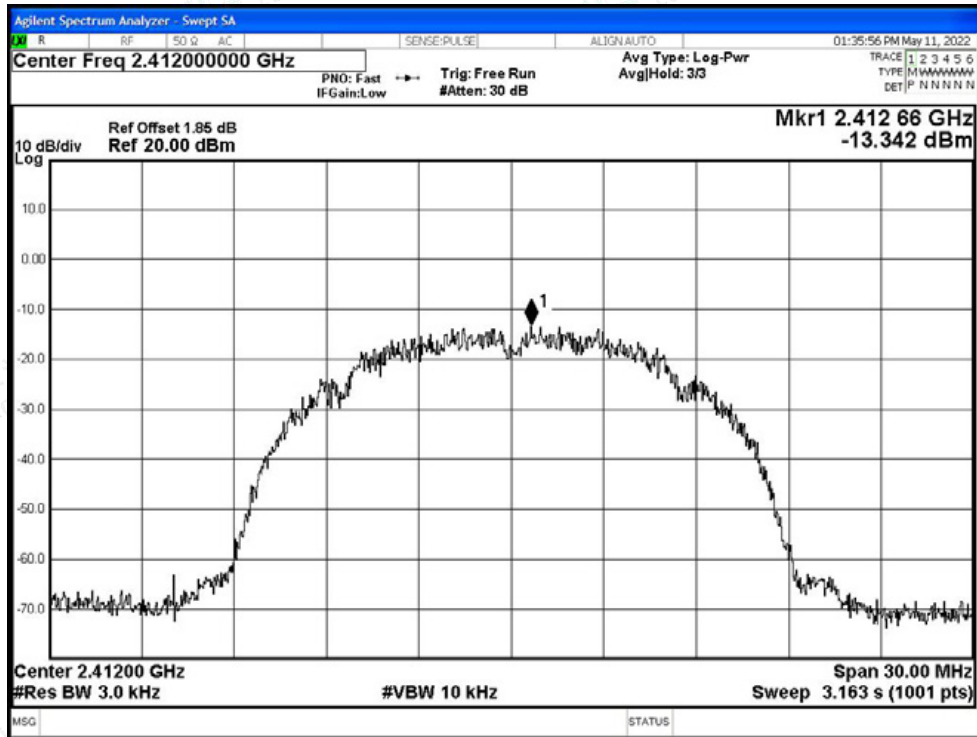
Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-13.34	8	Pass
NVNT	b	2437	Ant1	-12.92	8	Pass
NVNT	b	2462	Ant1	-12.93	8	Pass
NVNT	g	2412	Ant1	-17.18	8	Pass
NVNT	g	2437	Ant1	-17.74	8	Pass
NVNT	g	2462	Ant1	-17.54	8	Pass
NVNT	n20	2412	Ant1	-18.73	8	Pass
NVNT	n20	2437	Ant1	-18.71	8	Pass
NVNT	n20	2462	Ant1	-20.09	8	Pass
NVNT	n40	2422	Ant1	-21.73	8	Pass
NVNT	n40	2437	Ant1	-21.4	8	Pass
NVNT	n40	2452	Ant1	-21.52	8	Pass



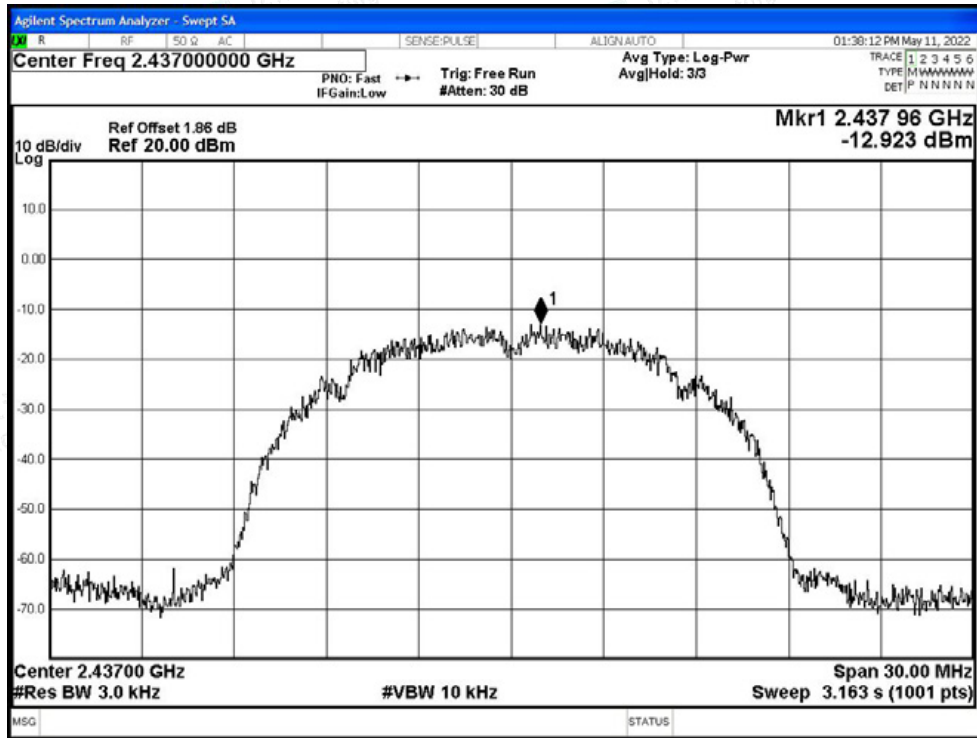


Test Graphs

PSD NVNT b 2412MHz Ant1

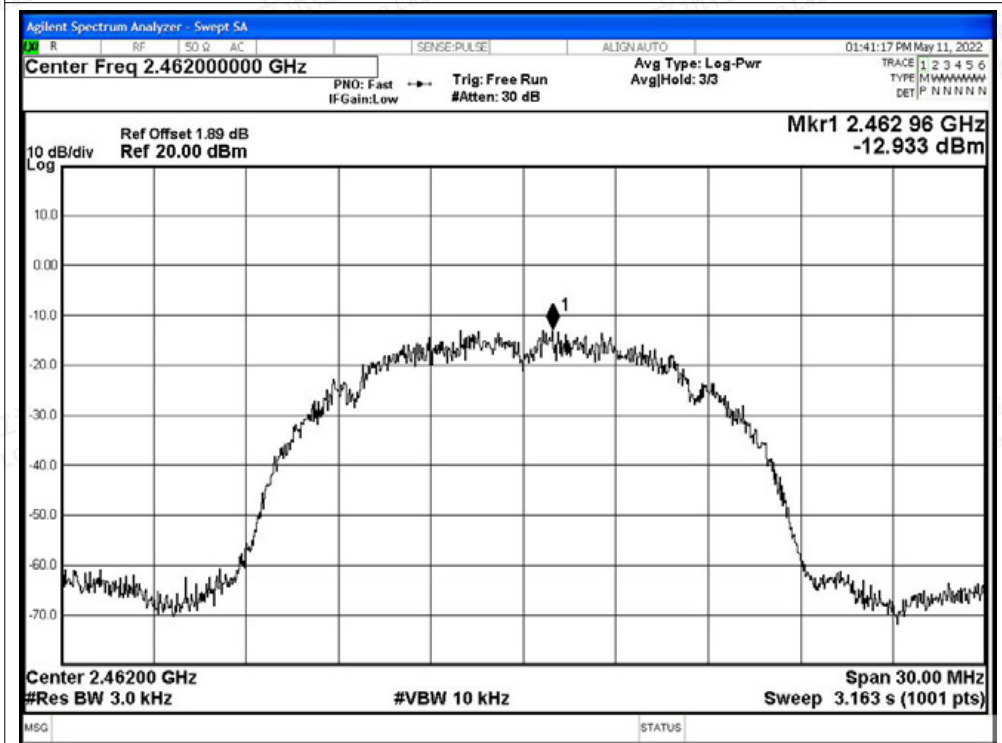


PSD NVNT b 2437MHz Ant1

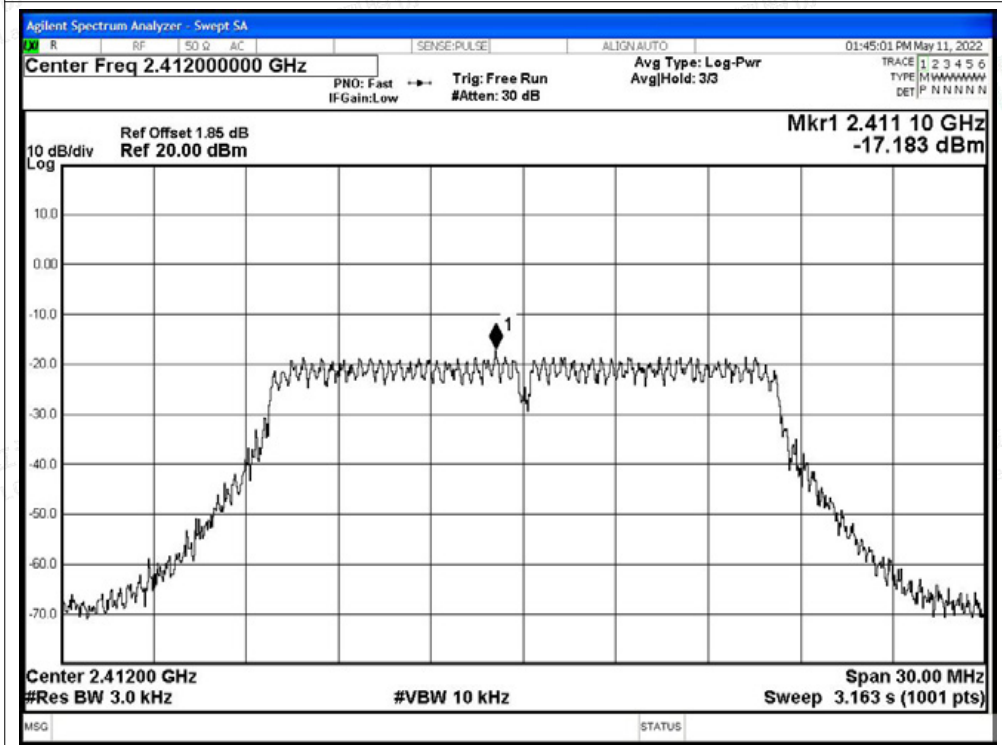




PSD NVNT b 2462MHz Ant1

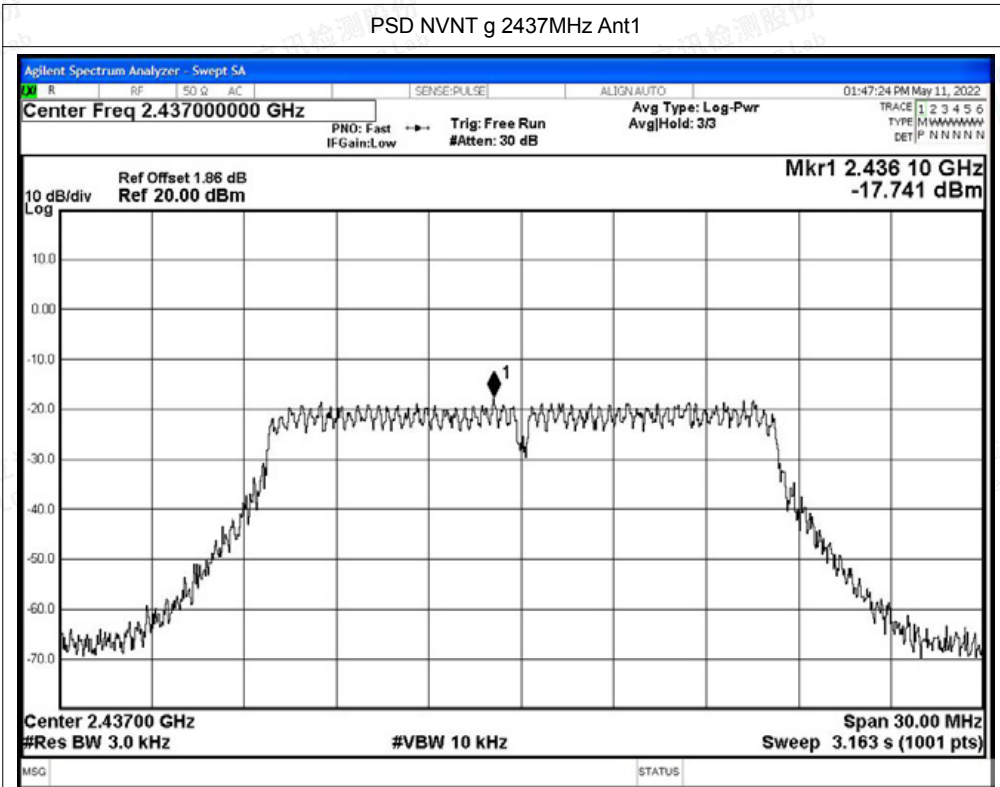


PSD NVNT g 2412MHz Ant1

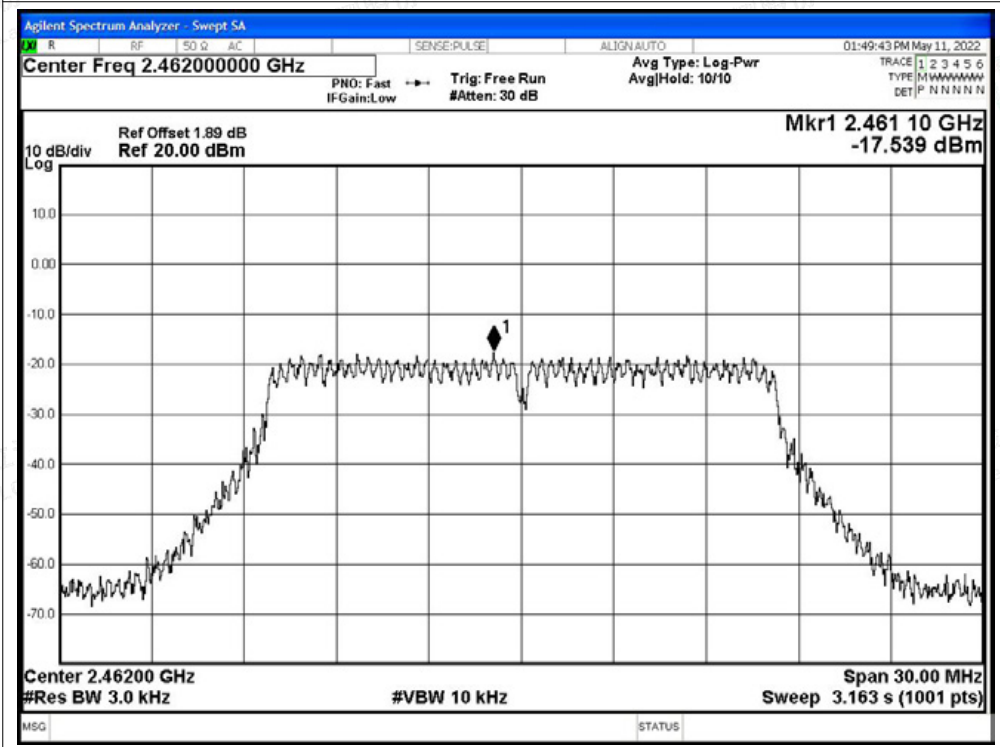




PSD NVNT g 2437MHz Ant1

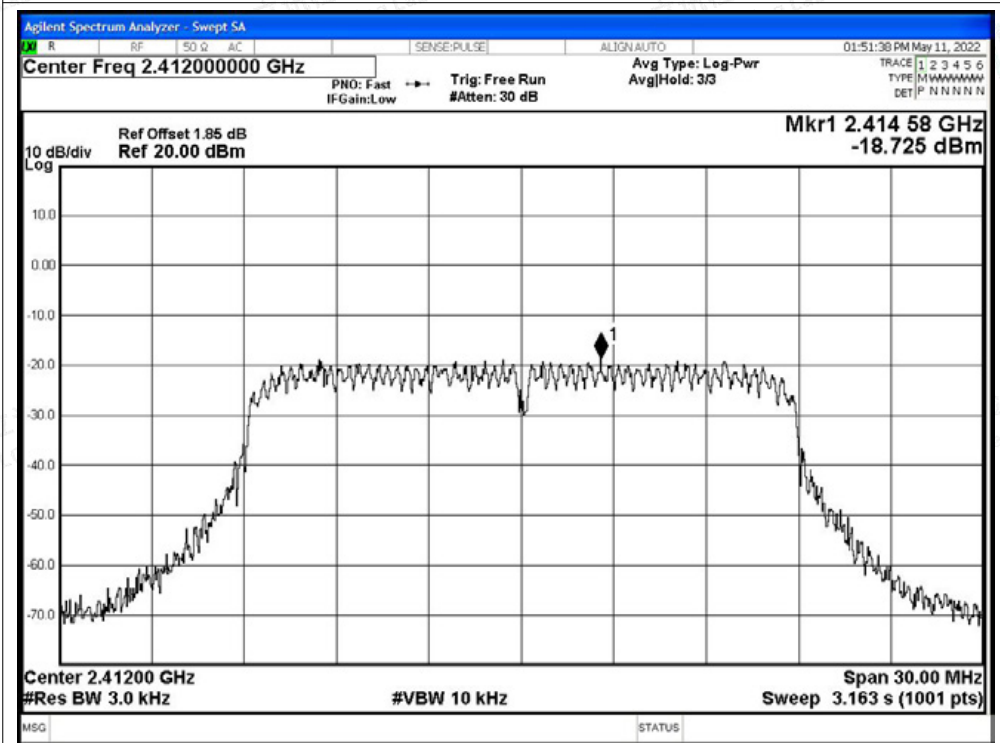


PSD NVNT g 2462MHz Ant1

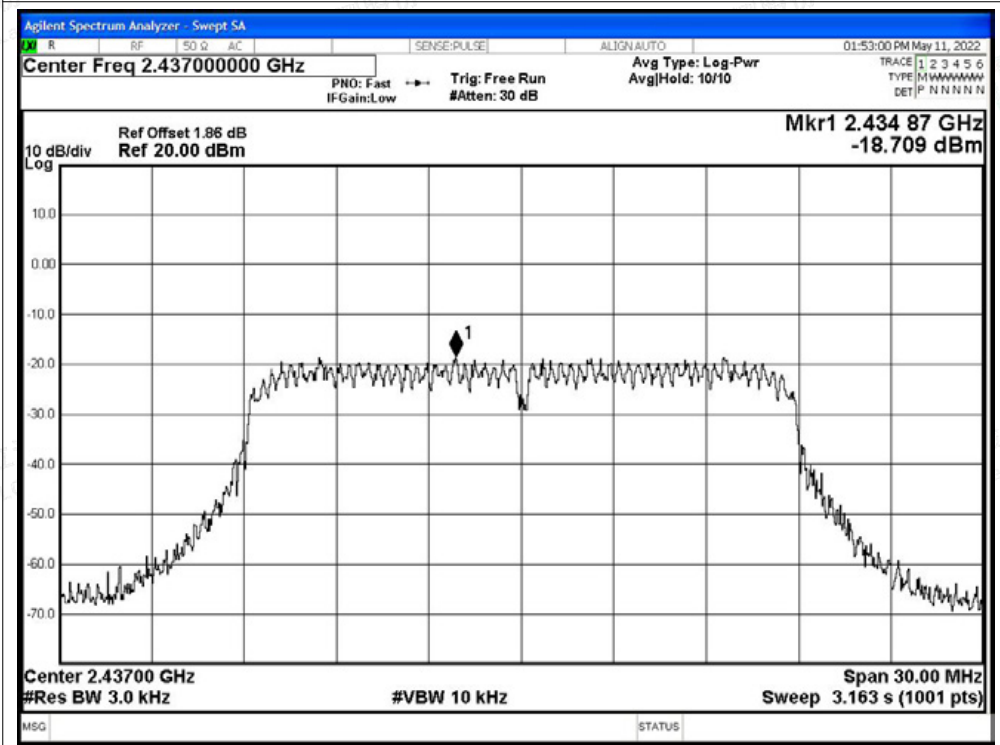




PSD NVNT n20 2412MHz Ant1

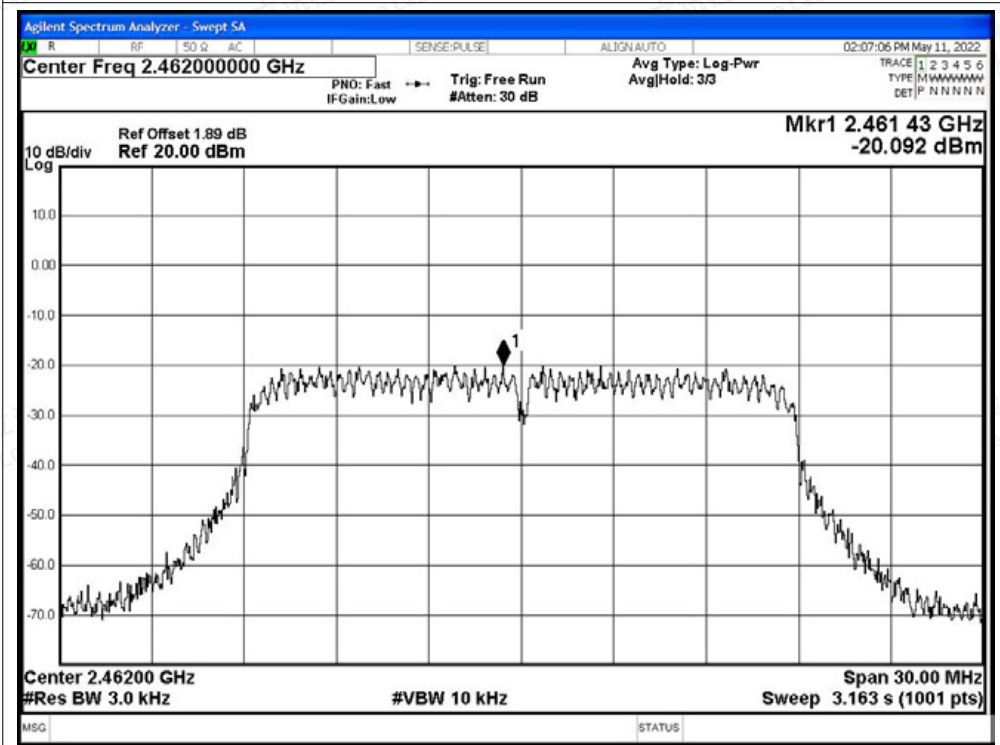


PSD NVNT n20 2437MHz Ant1

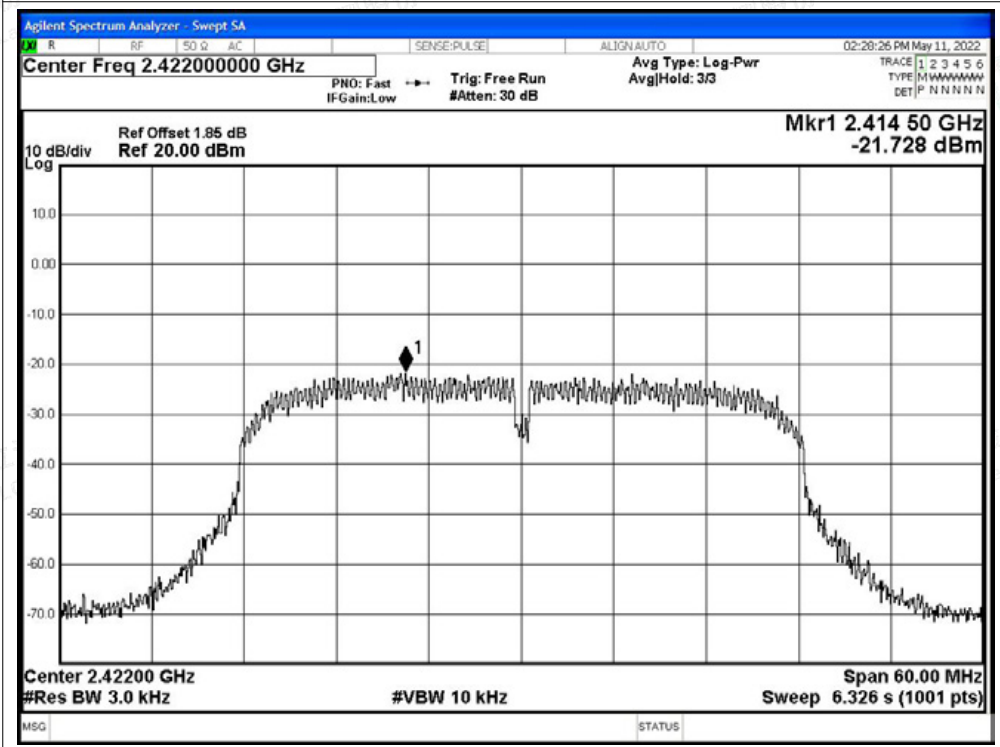




PSD NVNT n20 2462MHz Ant1

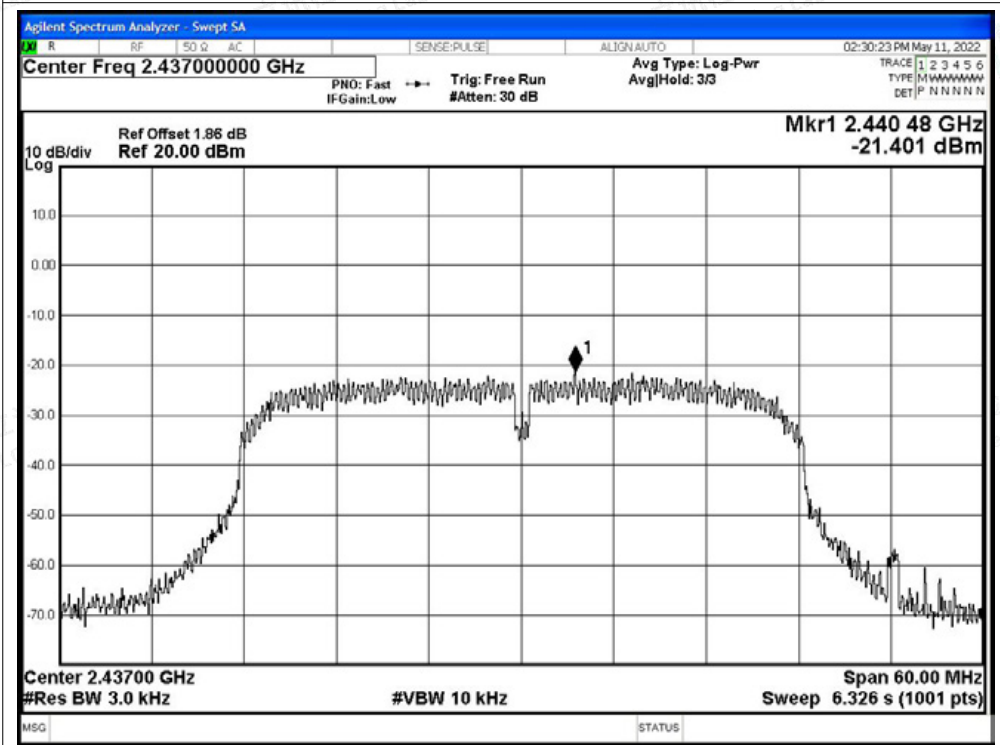


PSD NVNT n40 2422MHz Ant1

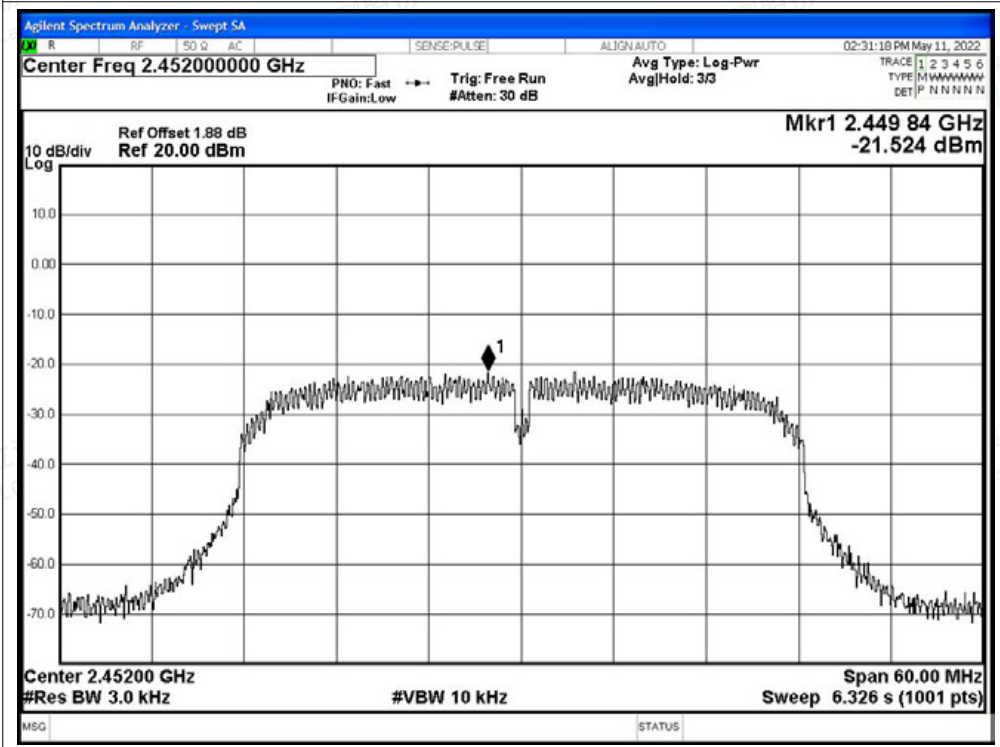




PSD NVNT n40 2437MHz Ant1



PSD NVNT n40 2452MHz Ant1





C.4 Band Edge

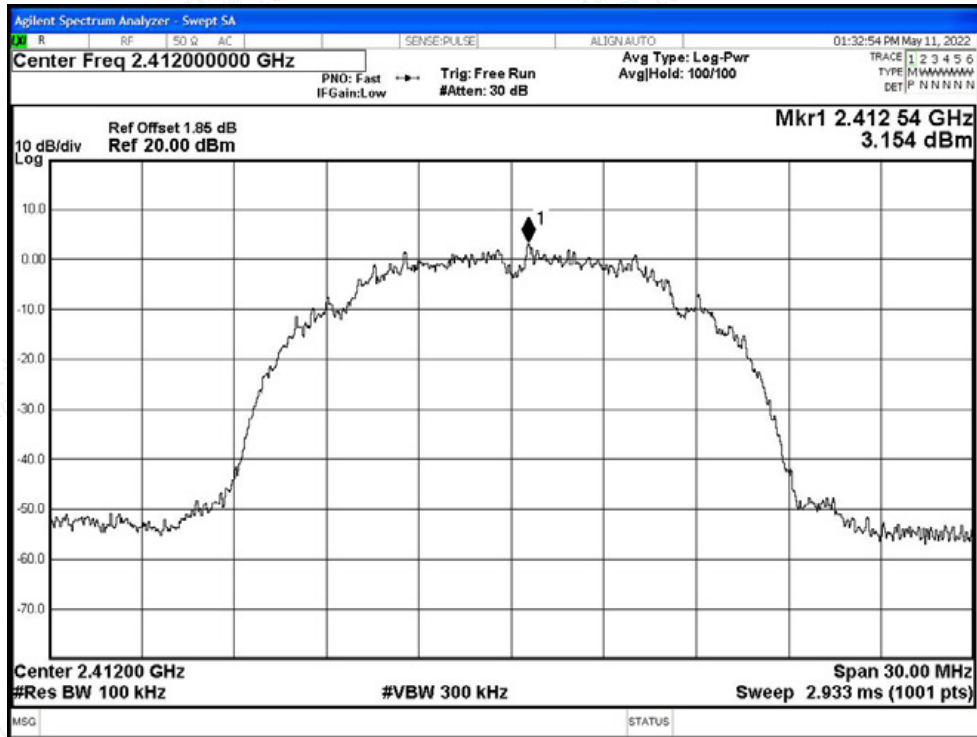
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-54.84	-20	Pass
NVNT	b	2462	Ant1	-57.47	-20	Pass
NVNT	g	2412	Ant1	-45.73	-20	Pass
NVNT	g	2462	Ant1	-51.36	-20	Pass
NVNT	n20	2412	Ant1	-43.15	-20	Pass
NVNT	n20	2462	Ant1	-49.3	-20	Pass
NVNT	n40	2422	Ant1	-40.1	-20	Pass
NVNT	n40	2452	Ant1	-44.78	-20	Pass



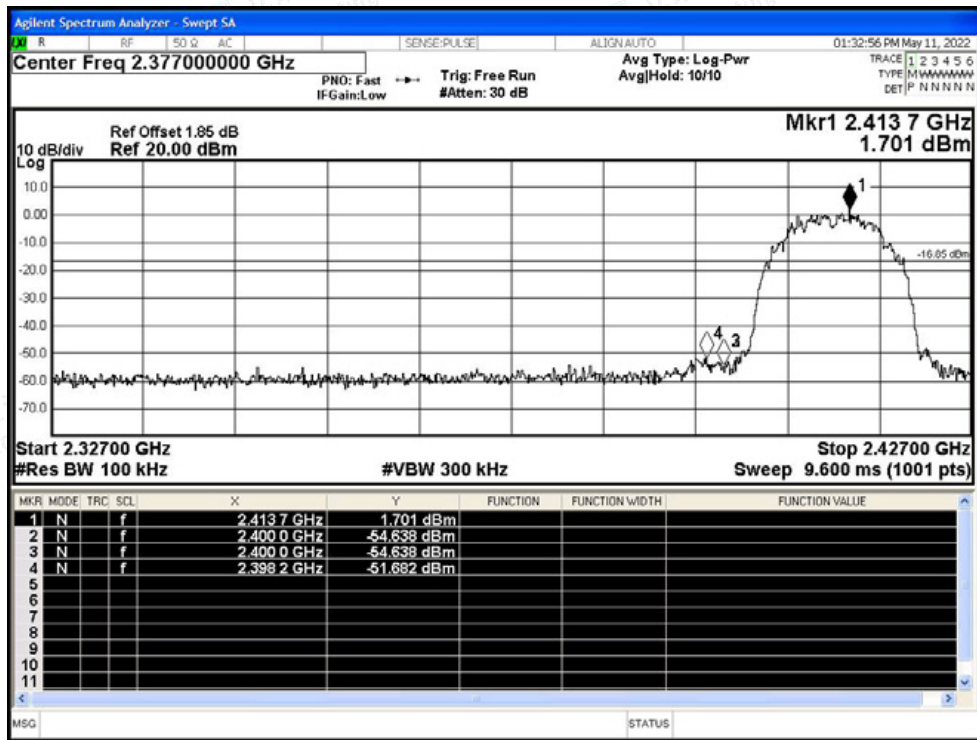


Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref

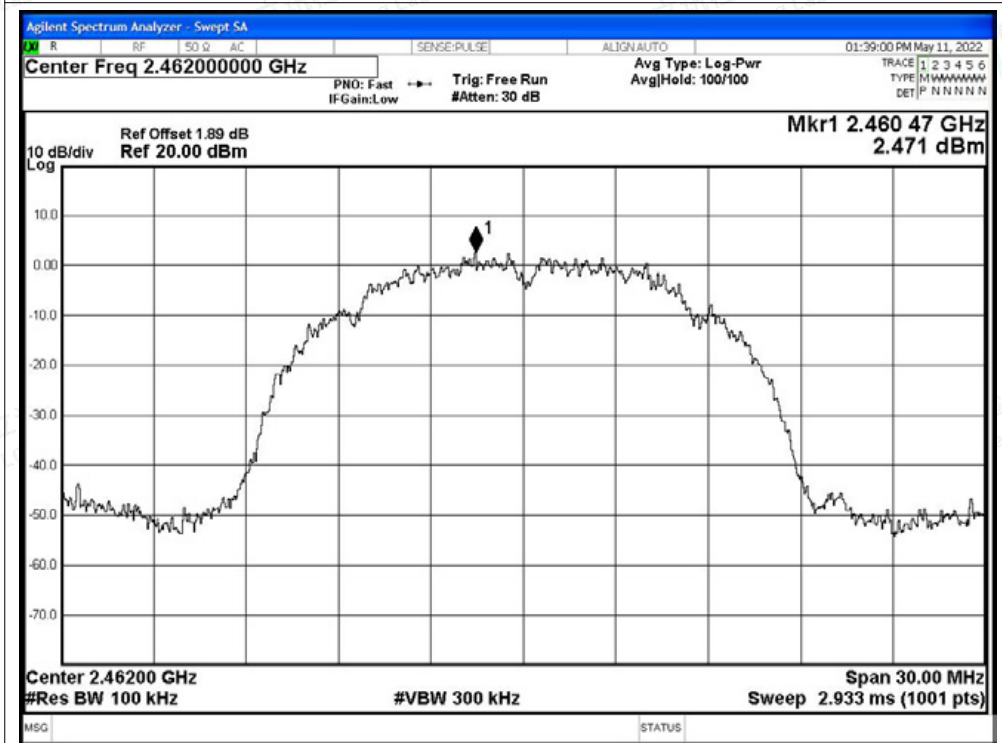


Band Edge NVNT b 2412MHz Ant1 Emission

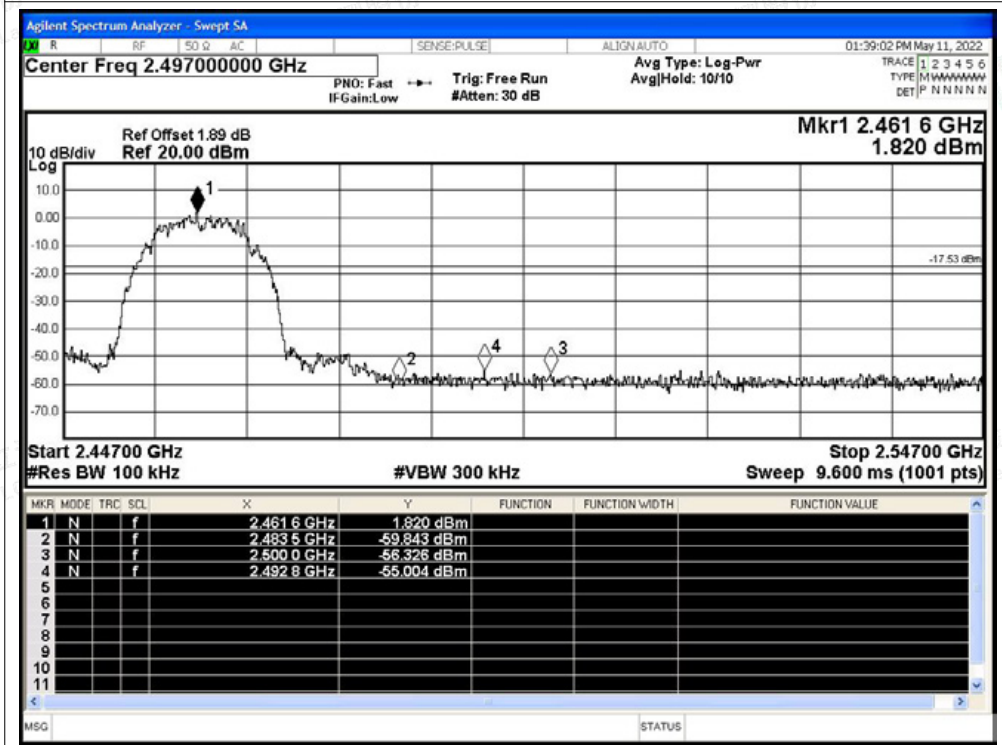




Band Edge NVNT b 2462MHz Ant1 Ref

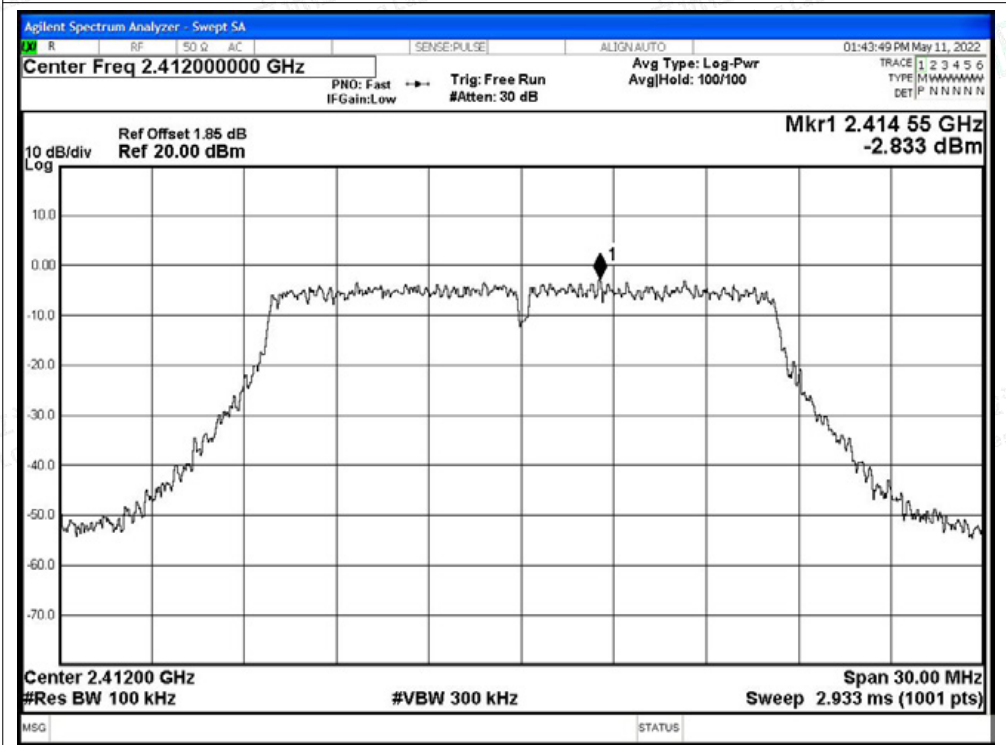


Band Edge NVNT b 2462MHz Ant1 Emission

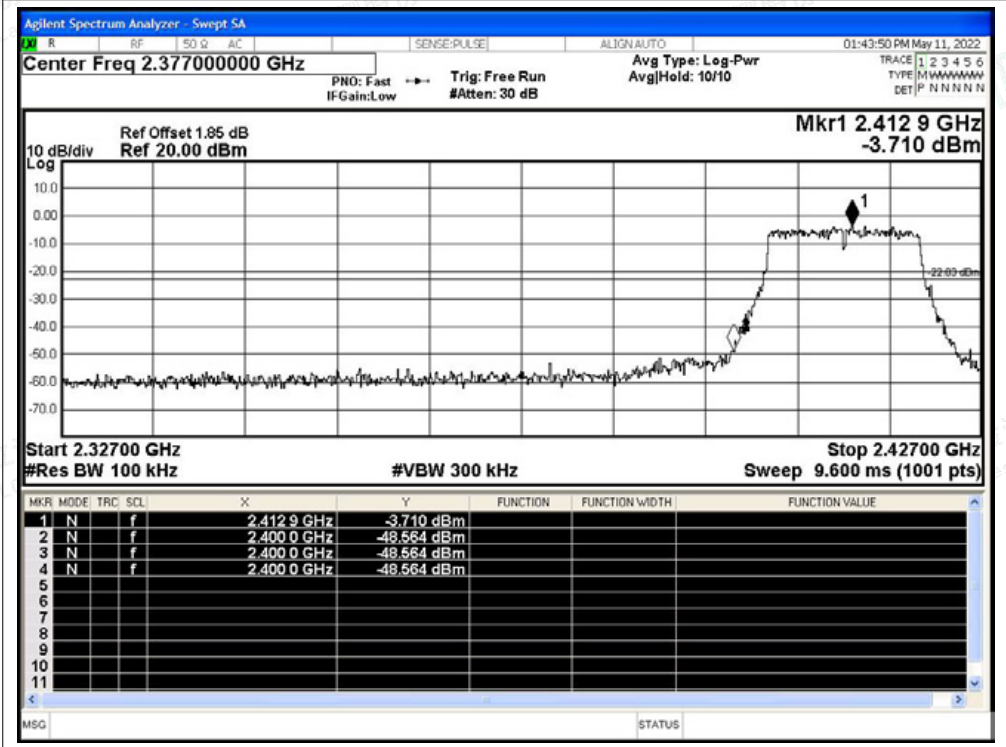




Band Edge NVNT g 2412MHz Ant1 Ref

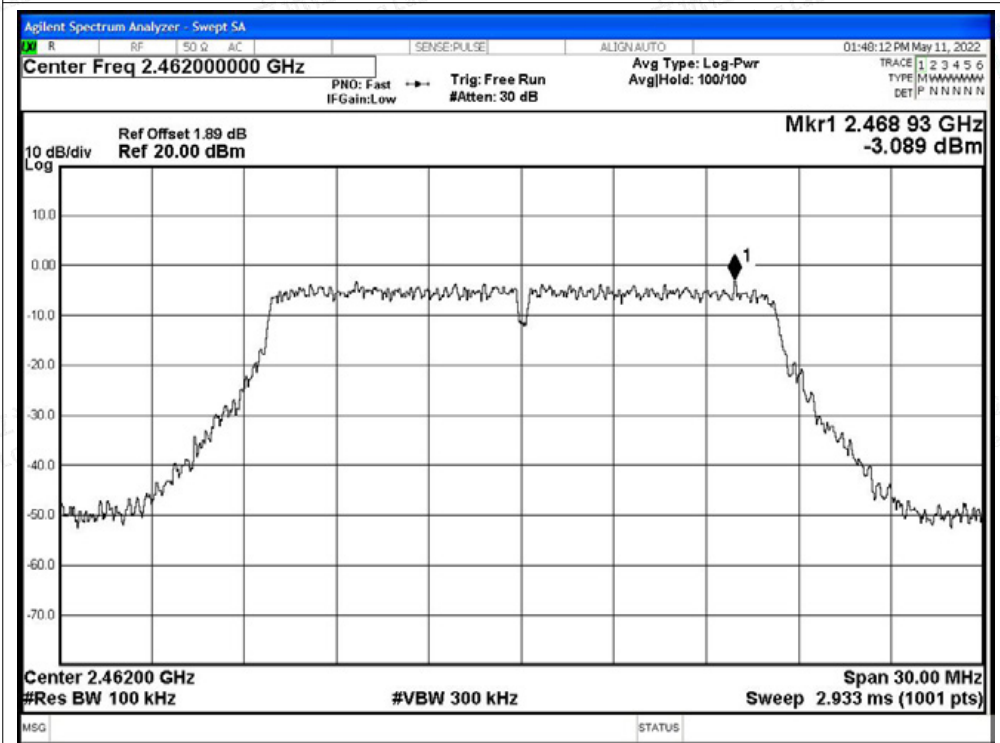


Band Edge NVNT g 2412MHz Ant1 Emission

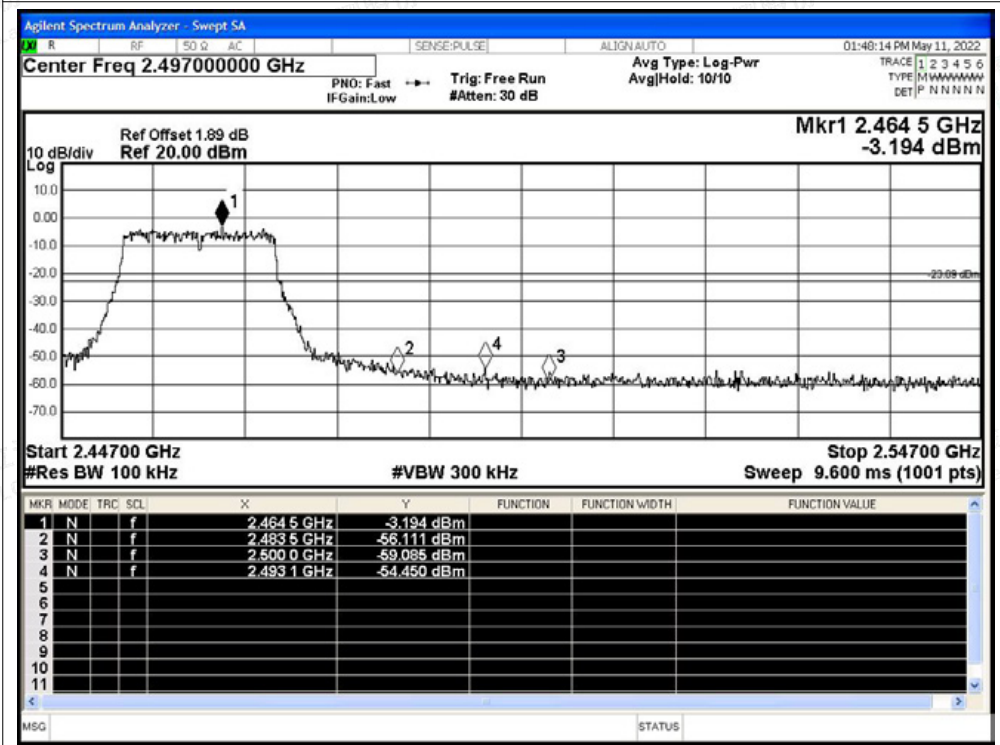




Band Edge NVNT g 2462MHz Ant1 Ref

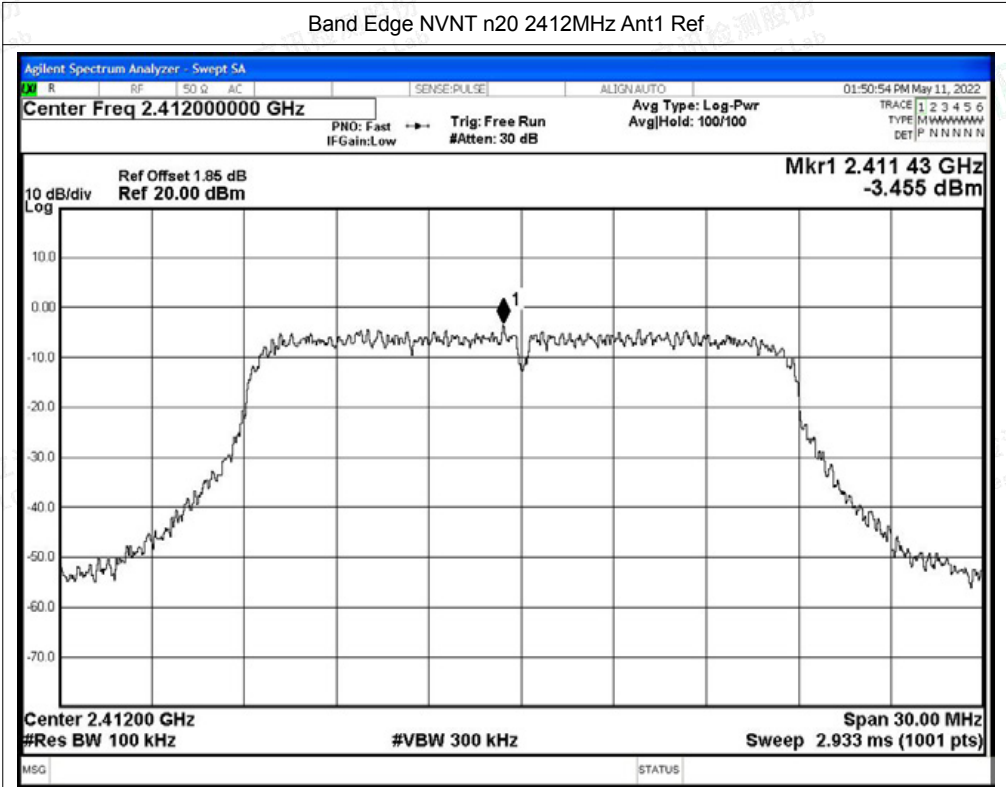


Band Edge NVNT g 2462MHz Ant1 Emission

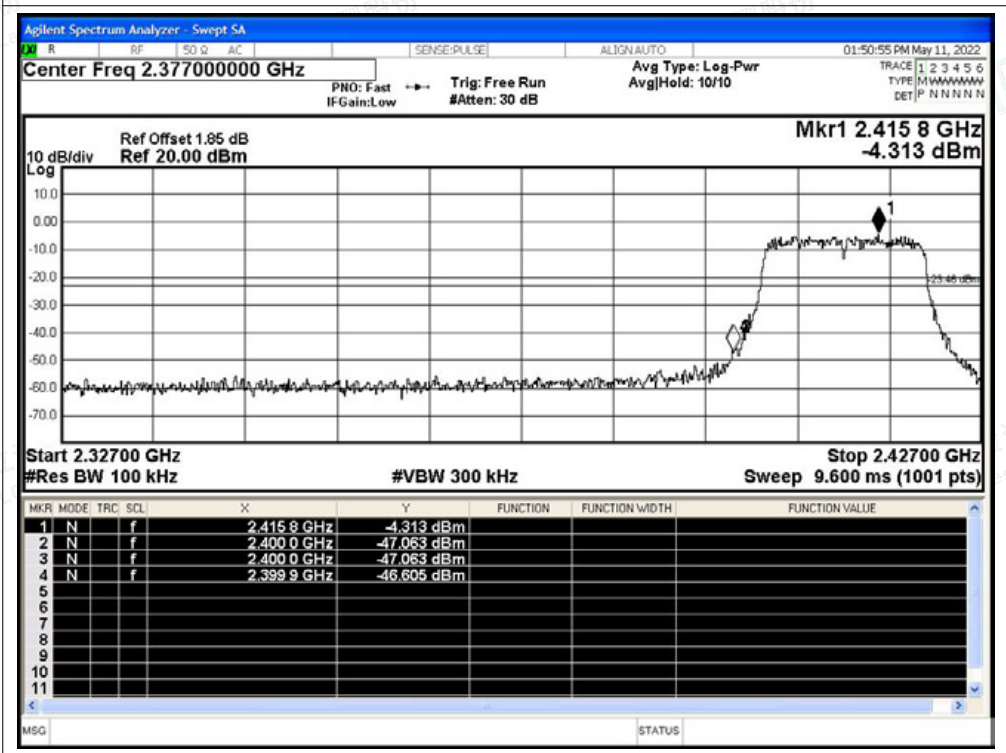




Band Edge NVNT n20 2412MHz Ant1 Ref

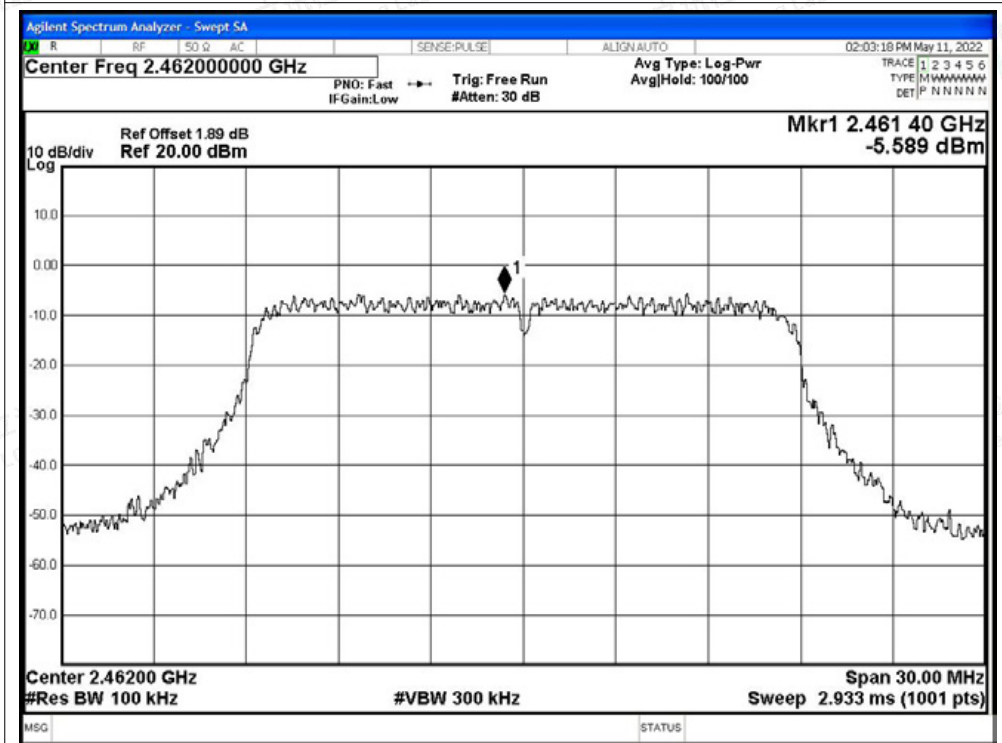


Band Edge NVNT n20 2412MHz Ant1 Emission

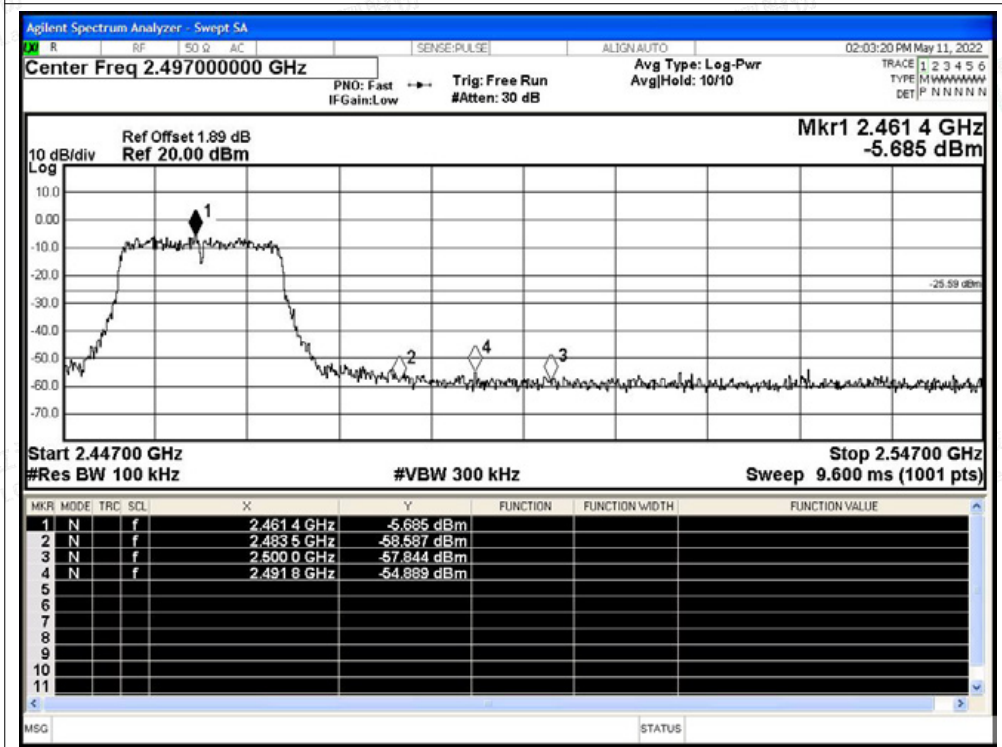




Band Edge NVNT n20 2462MHz Ant1 Ref

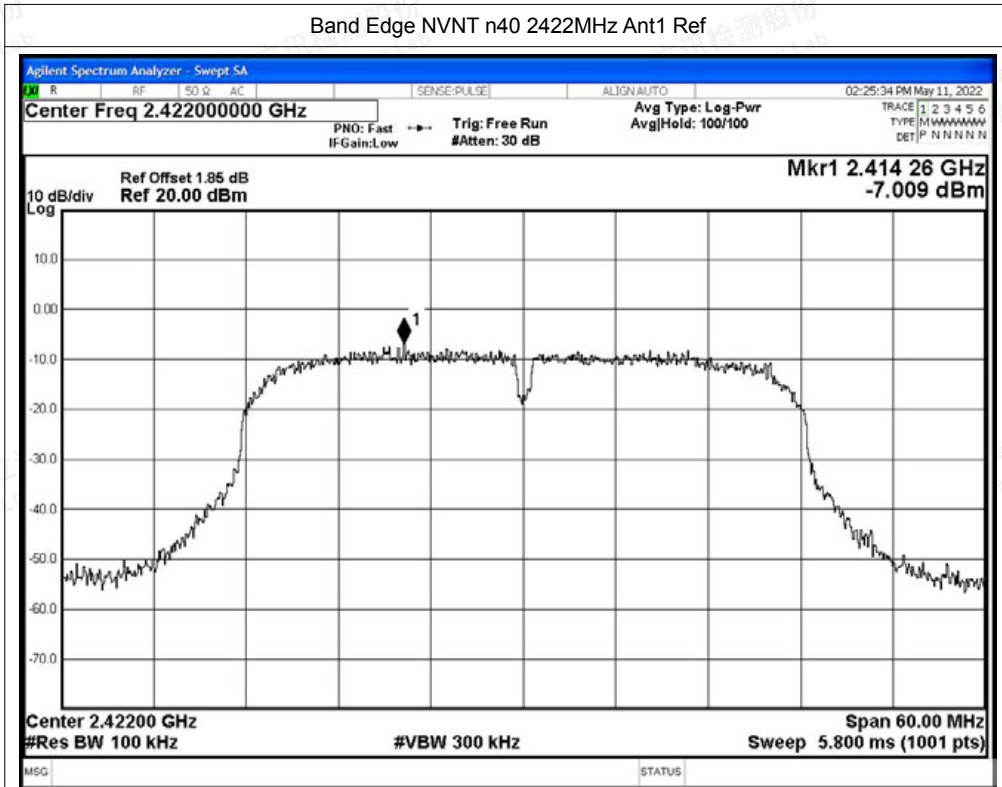


Band Edge NVNT n20 2462MHz Ant1 Emission

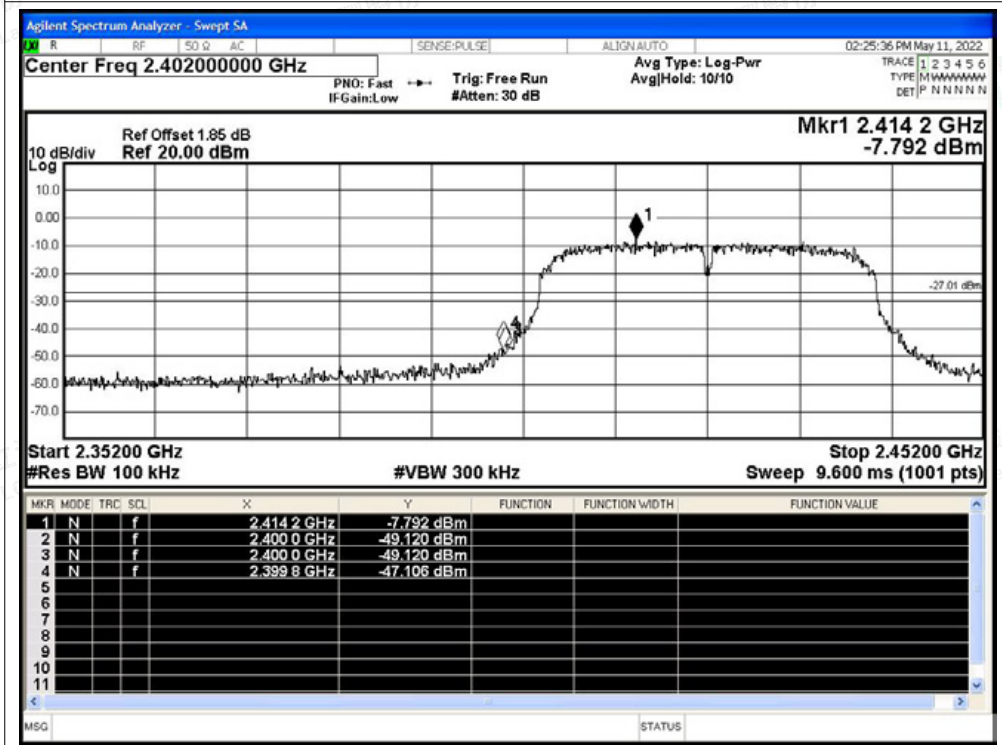




Band Edge NVNT n40 2422MHz Ant1 Ref

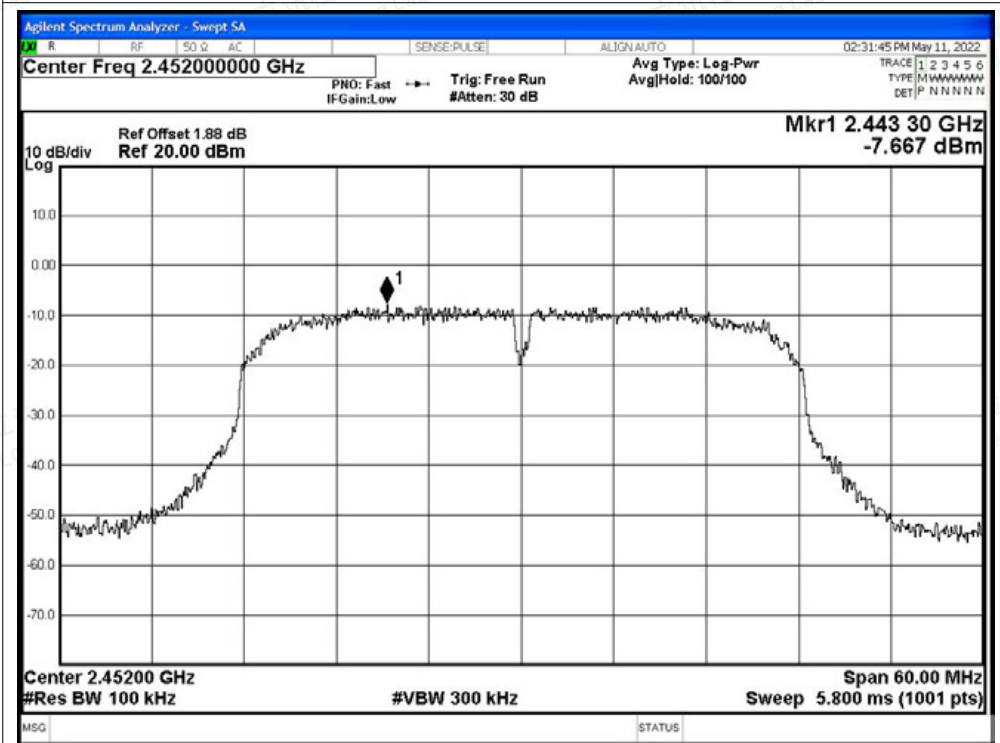


Band Edge NVNT n40 2422MHz Ant1 Emission

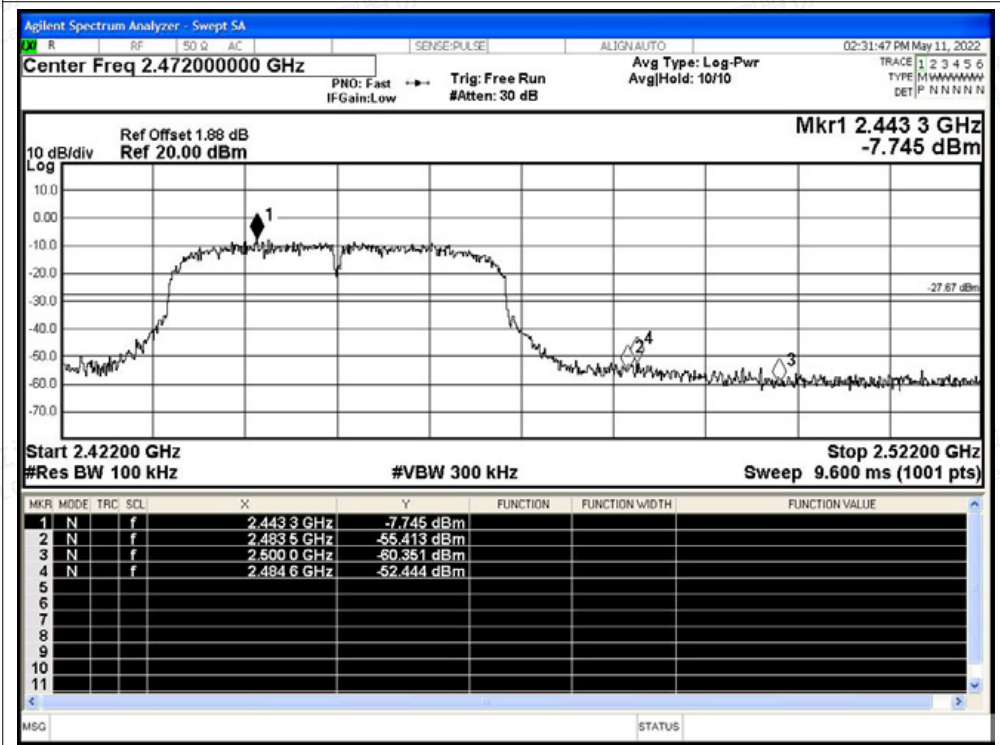




Band Edge NVNT n40 2452MHz Ant1 Ref



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	Ant1	-48.95	-20	Pass
NVNT	b	2437	Ant1	-48.18	-20	Pass
NVNT	b	2462	Ant1	-47.96	-20	Pass
NVNT	g	2412	Ant1	-43.31	-20	Pass
NVNT	g	2437	Ant1	-42.34	-20	Pass
NVNT	g	2462	Ant1	-43.06	-20	Pass
NVNT	n20	2412	Ant1	-41.81	-20	Pass
NVNT	n20	2437	Ant1	-42.15	-20	Pass
NVNT	n20	2462	Ant1	-41.35	-20	Pass
NVNT	n40	2422	Ant1	-40.01	-20	Pass
NVNT	n40	2437	Ant1	-39.25	-20	Pass
NVNT	n40	2452	Ant1	-37.36	-20	Pass

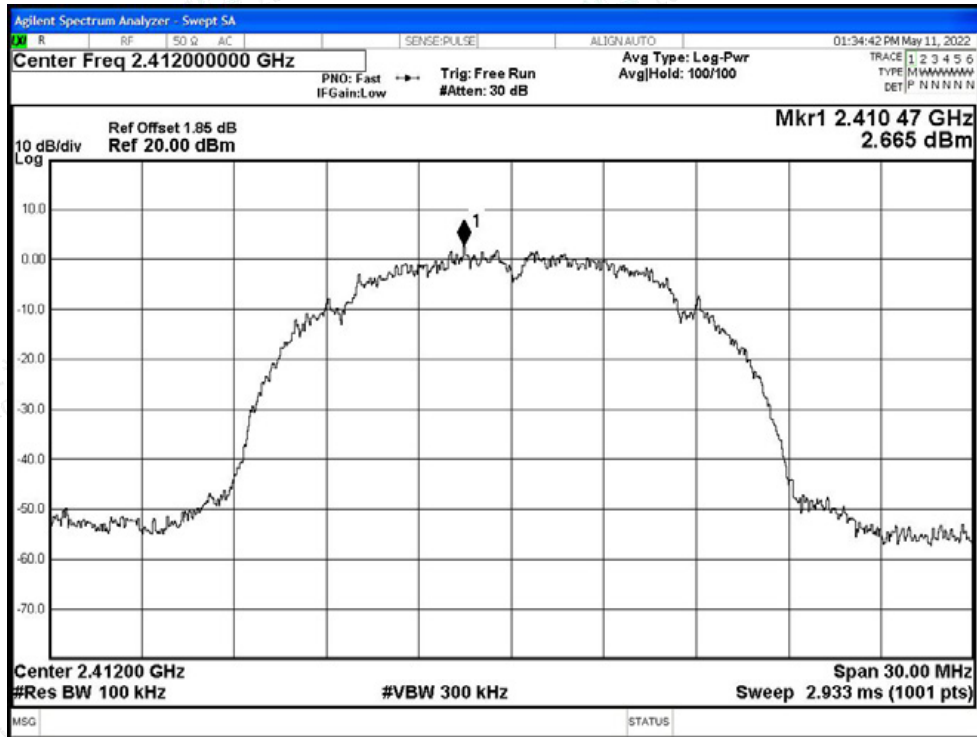


Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

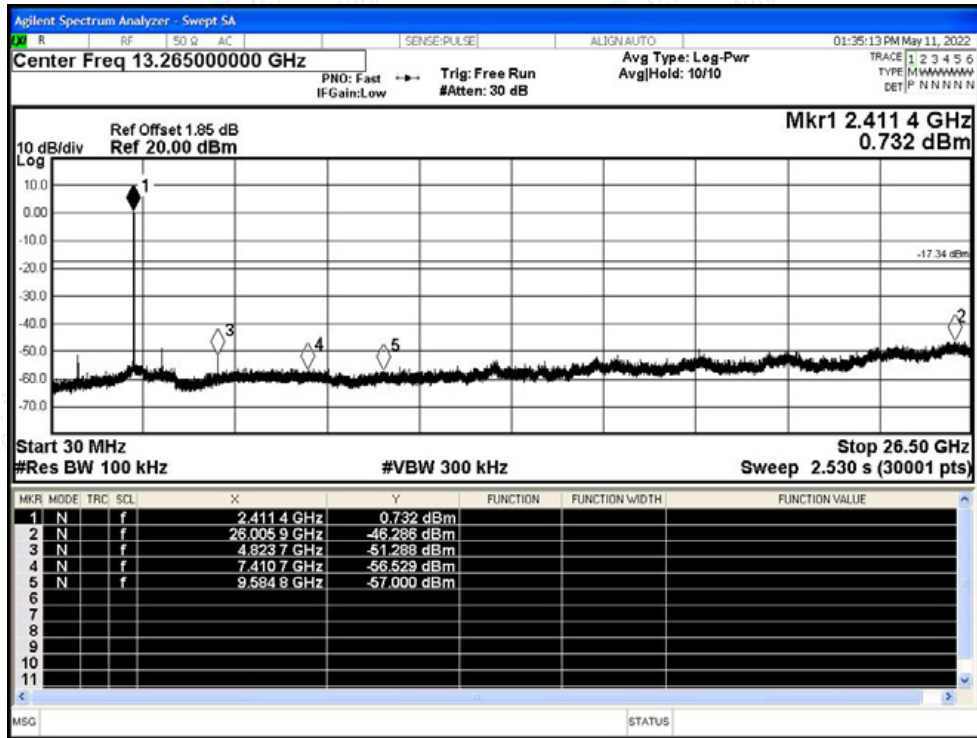


Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref

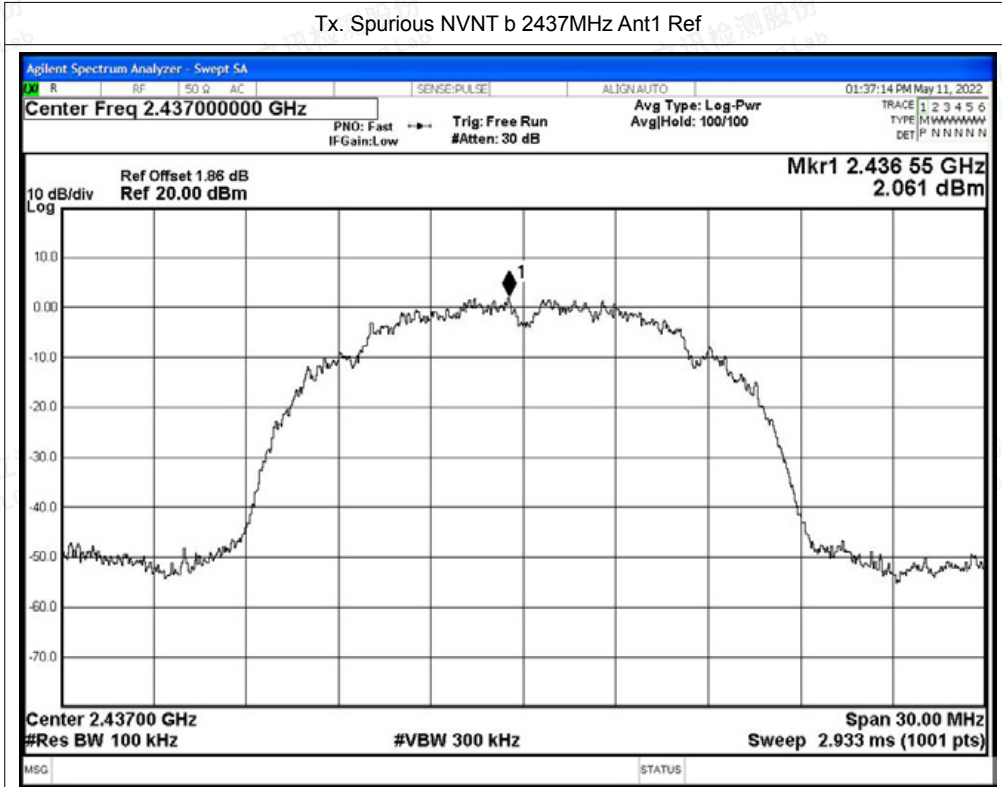


Tx. Spurious NVNT b 2412MHz Ant1 Emission

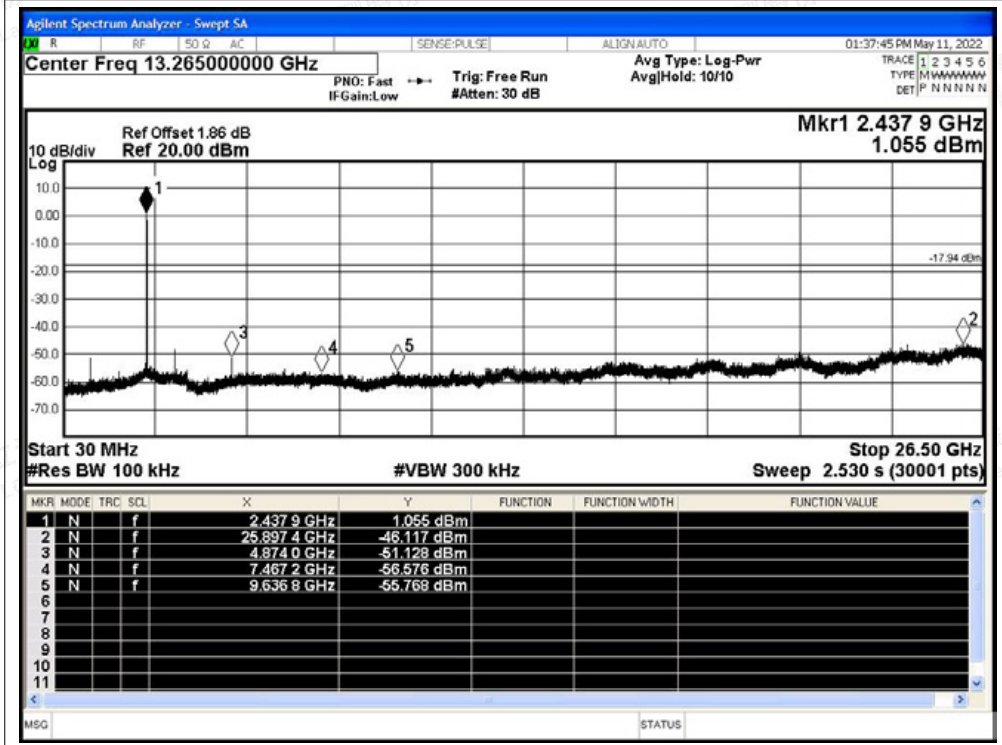




Tx. Spurious NVNT b 2437MHz Ant1 Ref

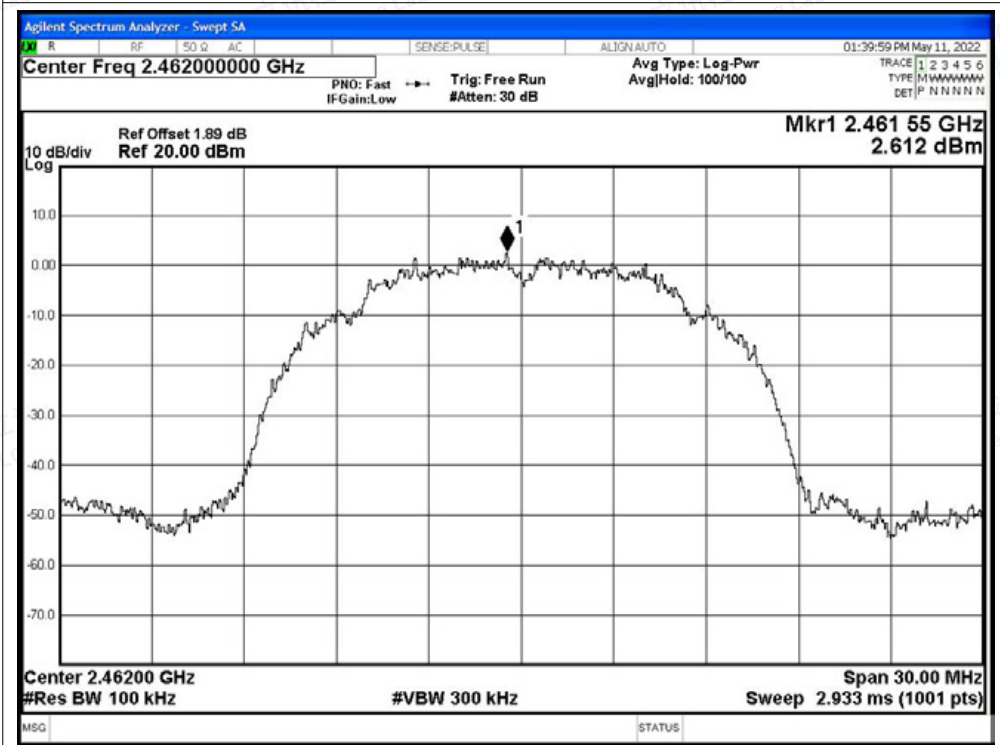


Tx. Spurious NVNT b 2437MHz Ant1 Emission

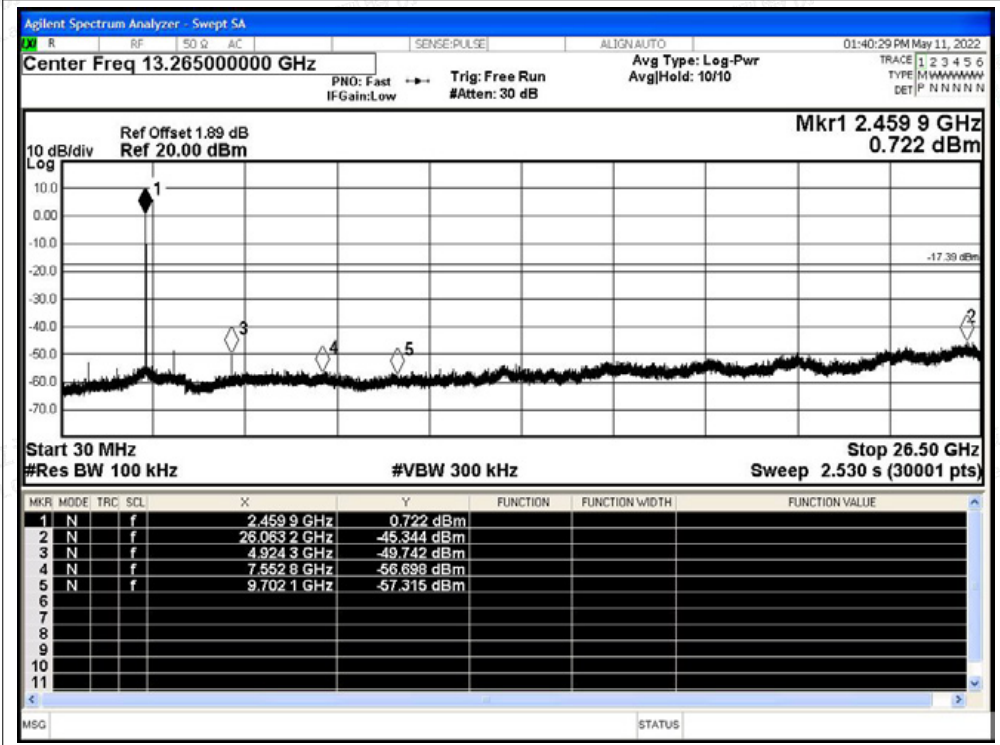




Tx. Spurious NVNT b 2462MHz Ant1 Ref

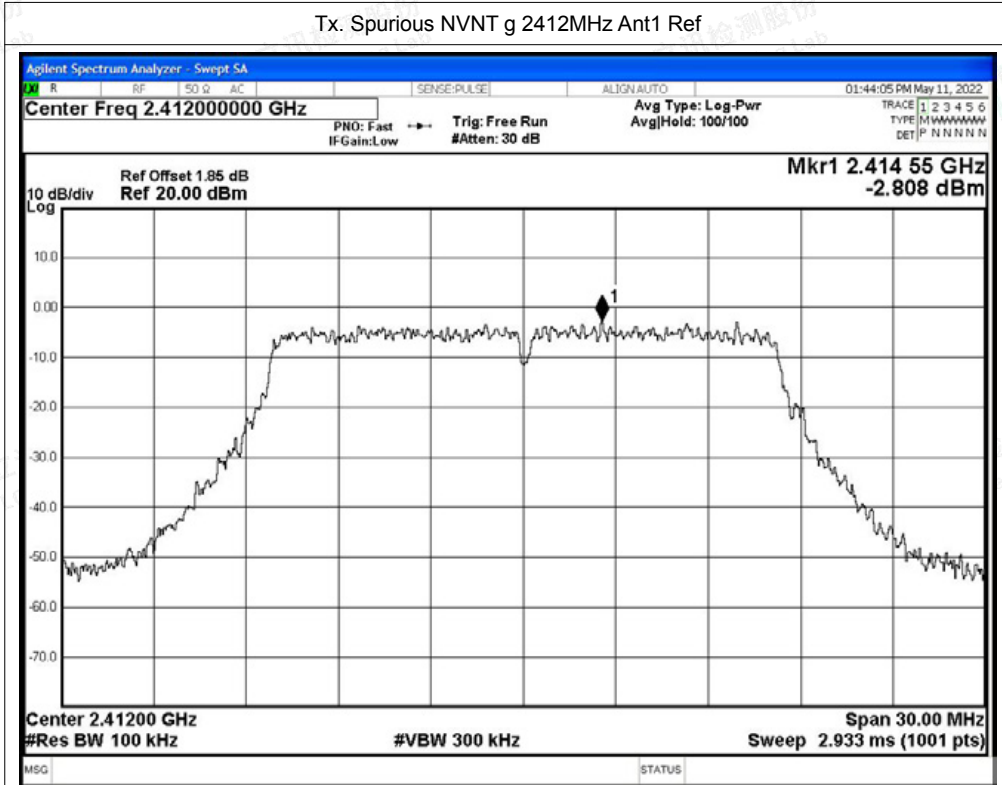


Tx. Spurious NVNT b 2462MHz Ant1 Emission

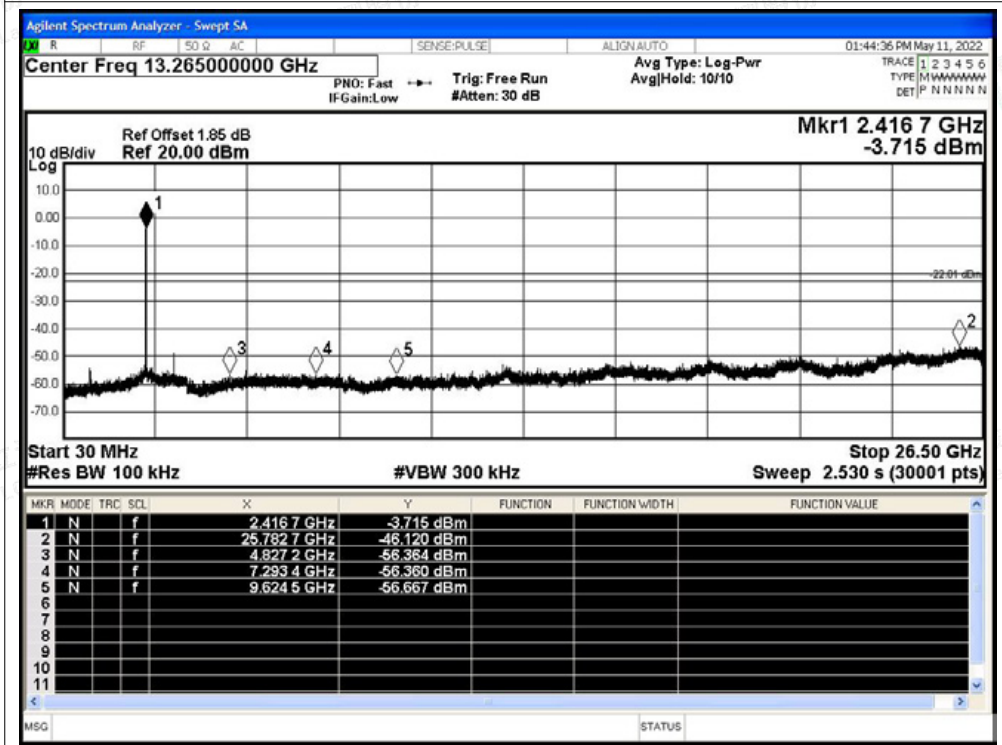




Tx. Spurious NVNT g 2412MHz Ant1 Ref

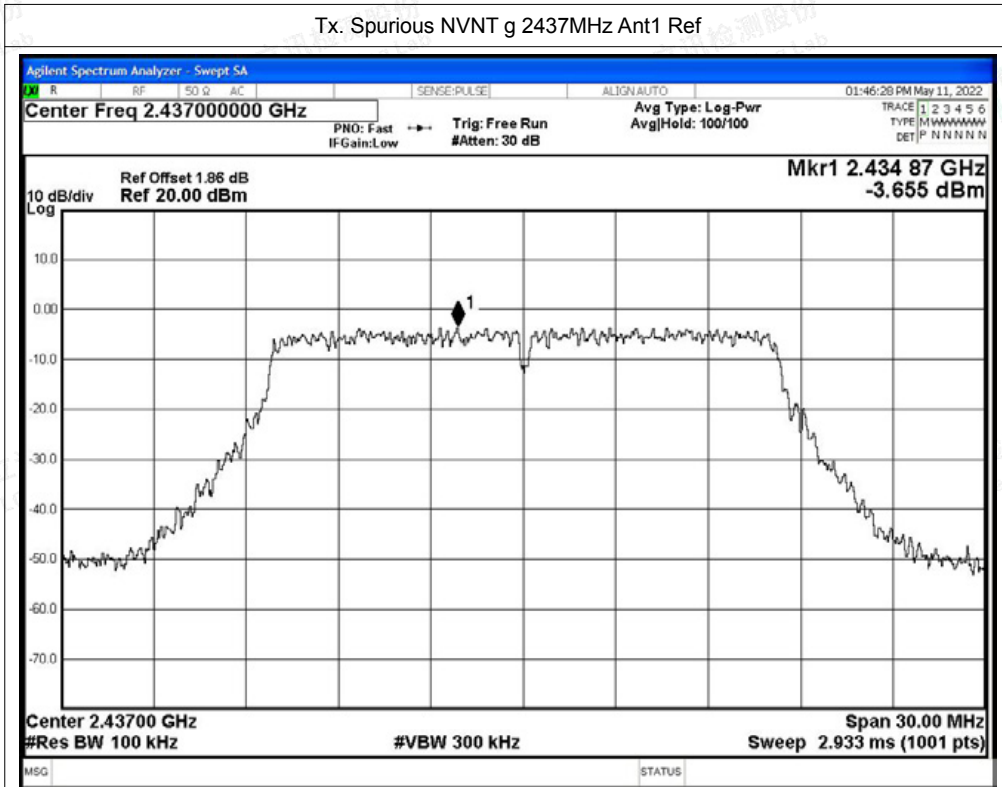


Tx. Spurious NVNT g 2412MHz Ant1 Emission

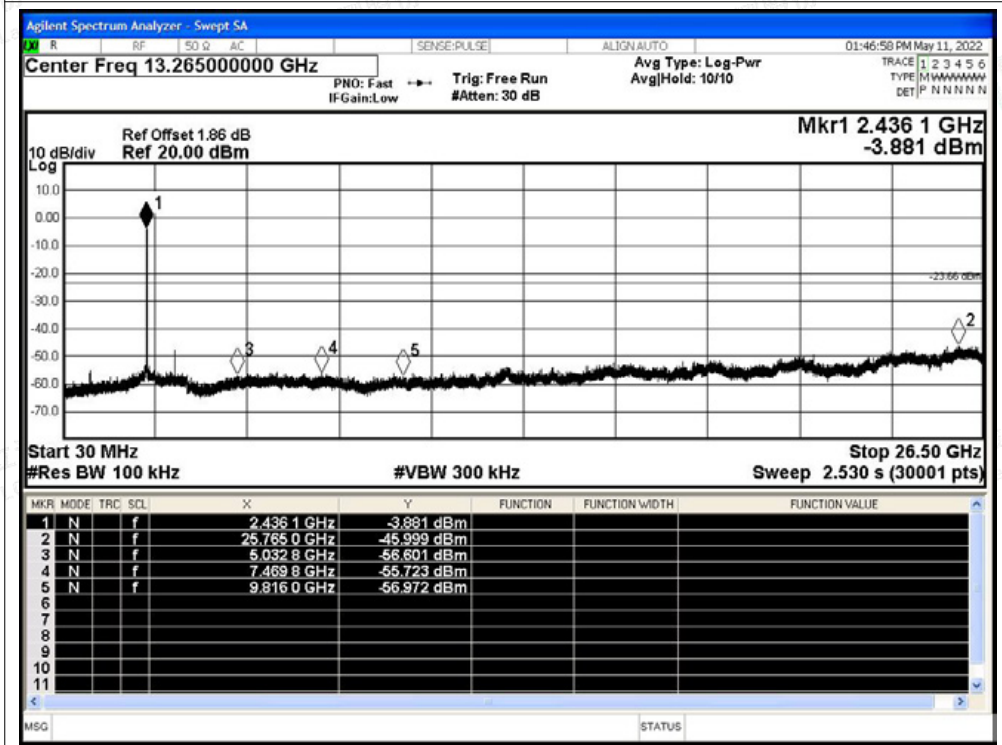




Tx. Spurious NVNT g 2437MHz Ant1 Ref

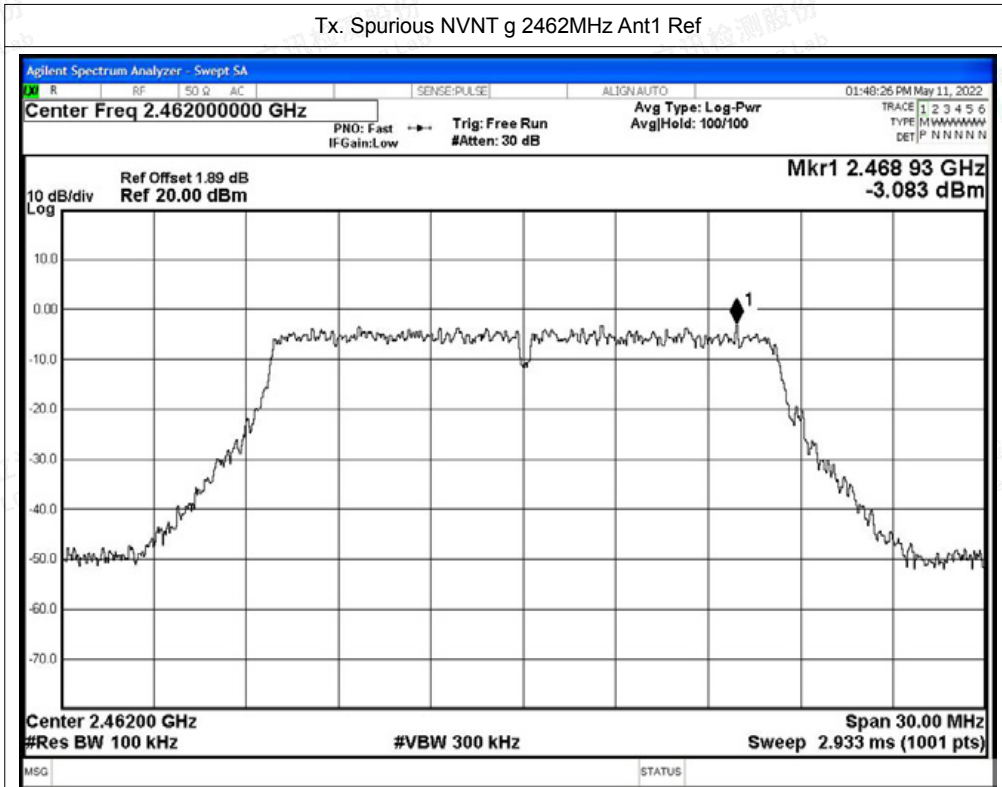


Tx. Spurious NVNT g 2437MHz Ant1 Emission





Tx. Spurious NVNT g 2462MHz Ant1 Ref



Tx. Spurious NVNT g 2462MHz Ant1 Emission

