



Appendix A

RF Test Data for 2.4G WIFI (Conducted Measurement)

Product Name: Building Blocks Toys

Test Model: 71101

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>Nick Peng</i> Nick Peng
Supervised by:	<i>Li Huan</i> Li Huan





A.1 -6dB Bandwidth

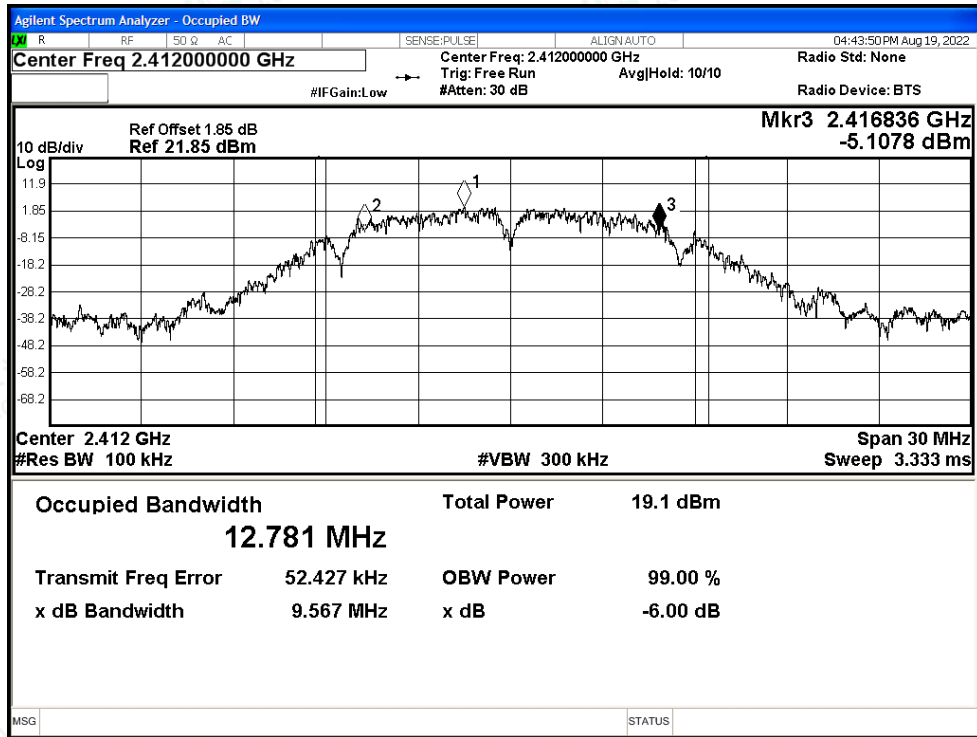
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.567	≥ 0.5	Pass
NVNT	b	2437	Ant1	8.372	≥ 0.5	Pass
NVNT	b	2462	Ant1	9.507	≥ 0.5	Pass



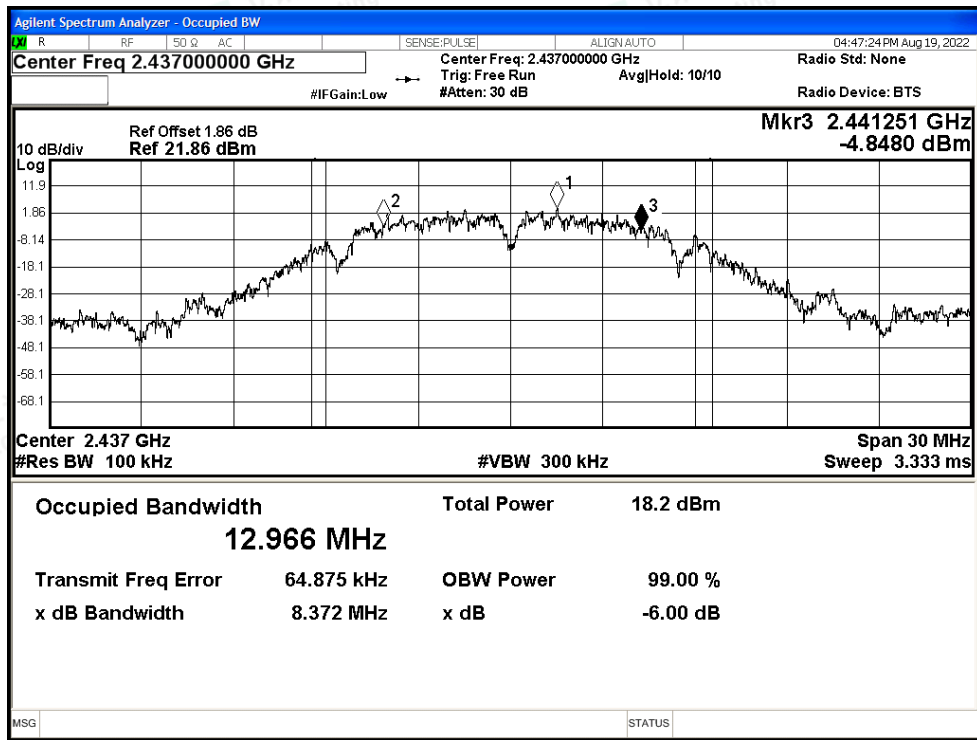


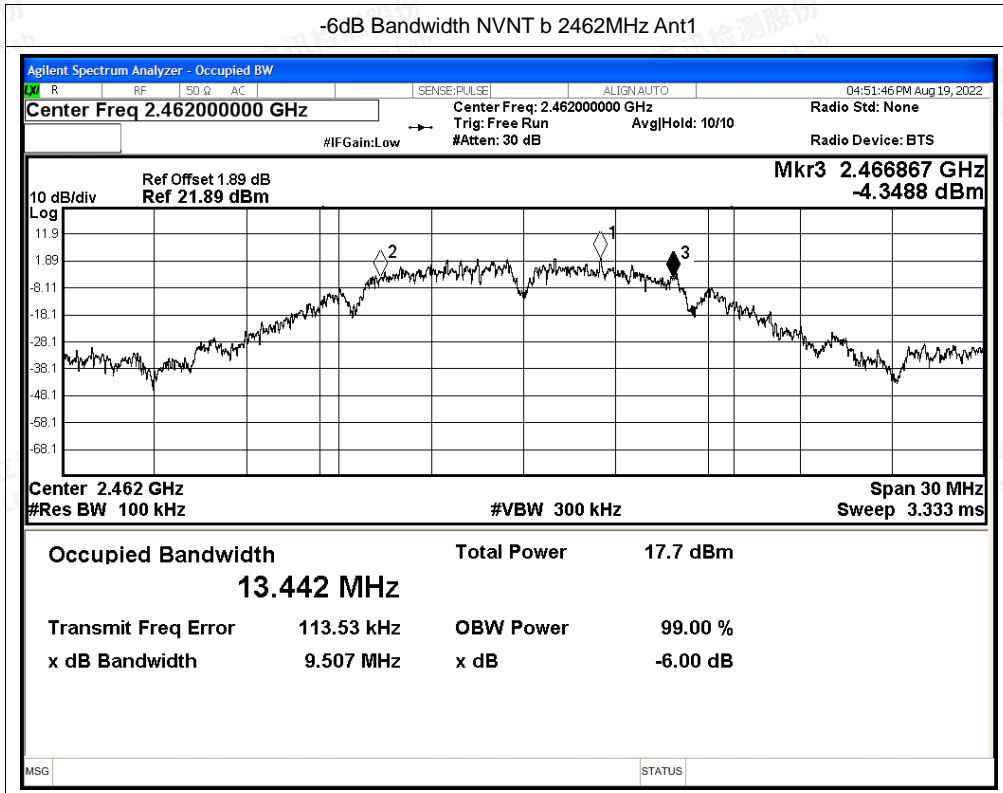
Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



-6dB Bandwidth NVNT b 2437MHz Ant1







A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	15.77	0	15.77	30	Pass
NVNT	b	2437	Ant1	14.39	0	14.39	30	Pass
NVNT	b	2462	Ant1	14.21	0	14.21	30	Pass





A.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-9.31	0	-9.31	8	Pass
NVNT	b	2437	Ant1	-8.43	0	-8.43	8	Pass
NVNT	b	2462	Ant1	-10.52	0	-10.52	8	Pass

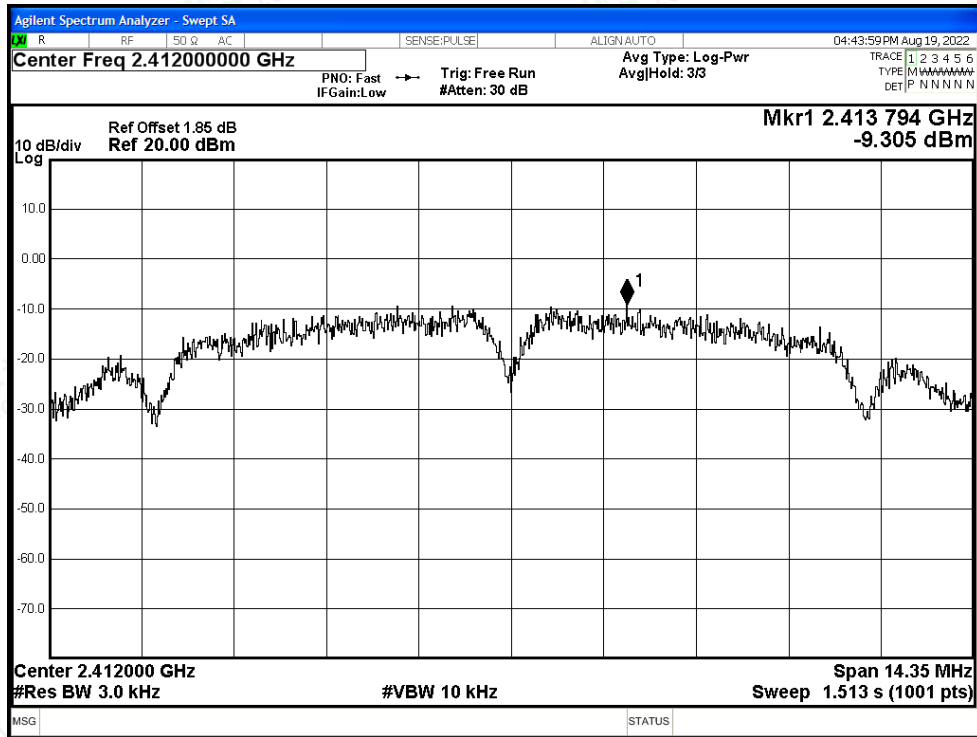


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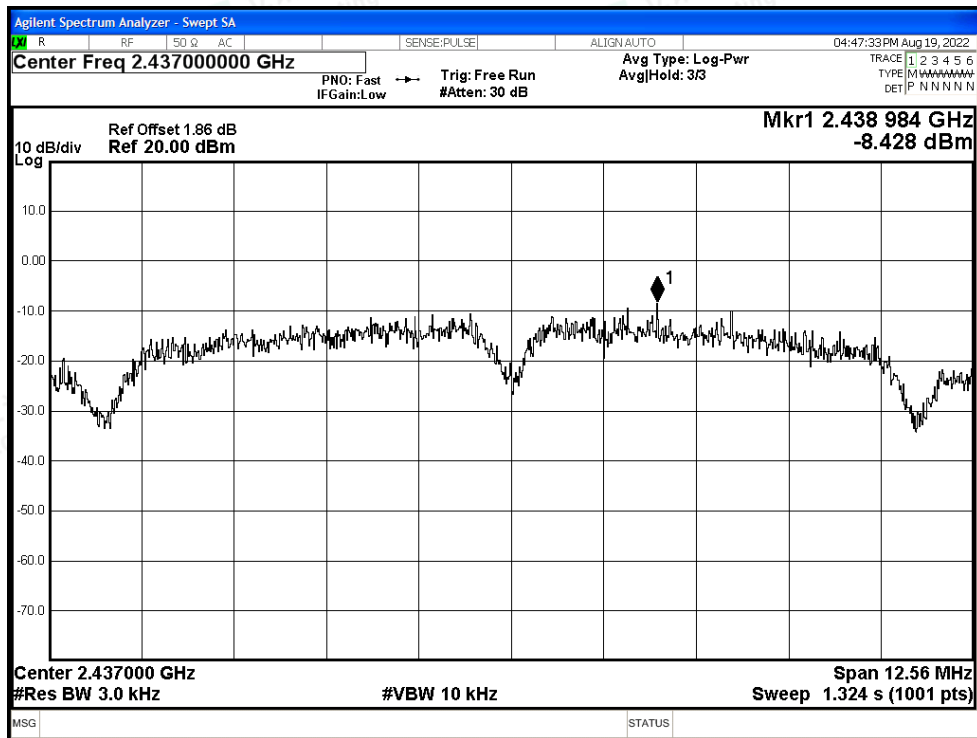


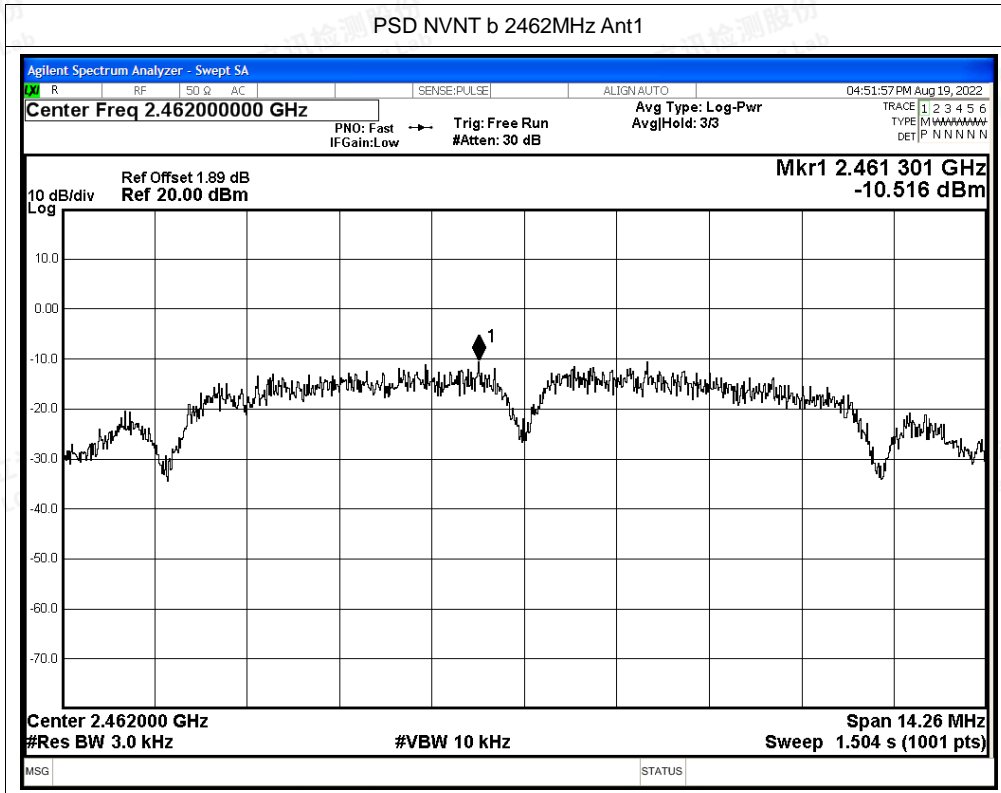
Test Graphs

PSD NVNT b 2412MHz Ant1



PSD NVNT b 2437MHz Ant1







A.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-41.15	-20	Pass
NVNT	b	2462	Ant1	-56.76	-20	Pass

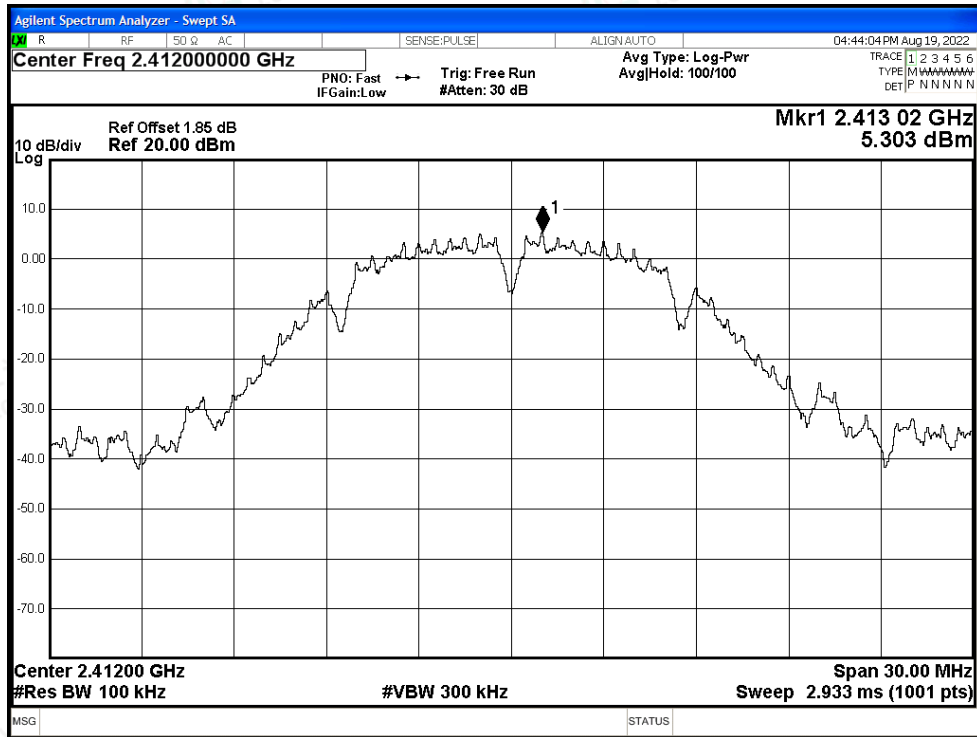


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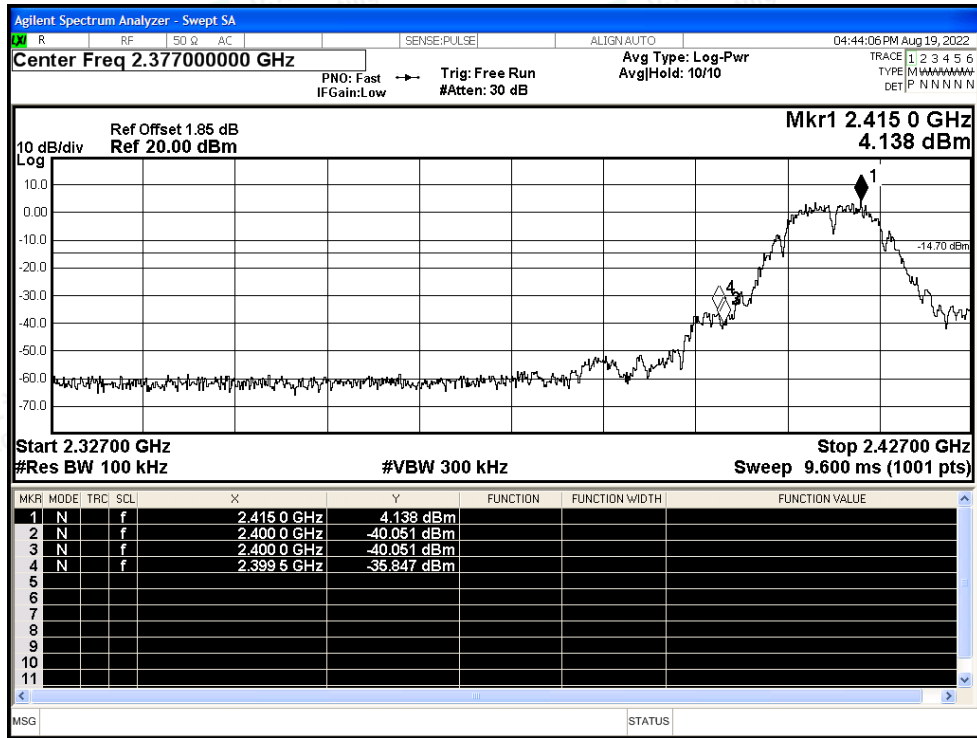


Test Graphs

Band Edge NVNT b 2412MHz Ant1 Ref

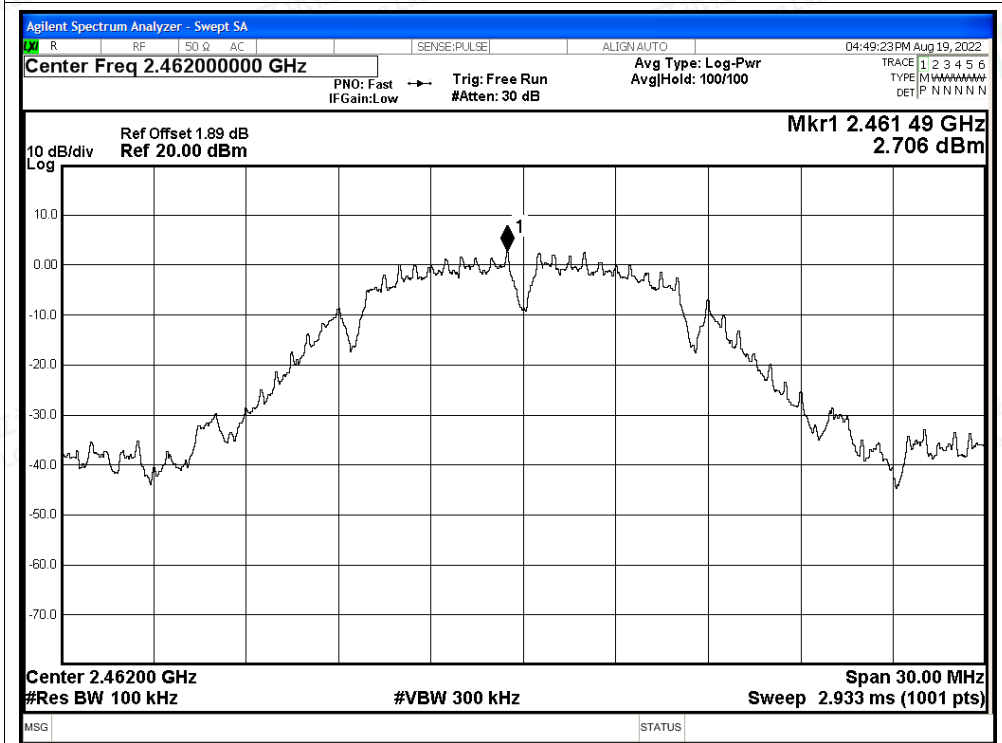


Band Edge NVNT b 2412MHz Ant1 Emission

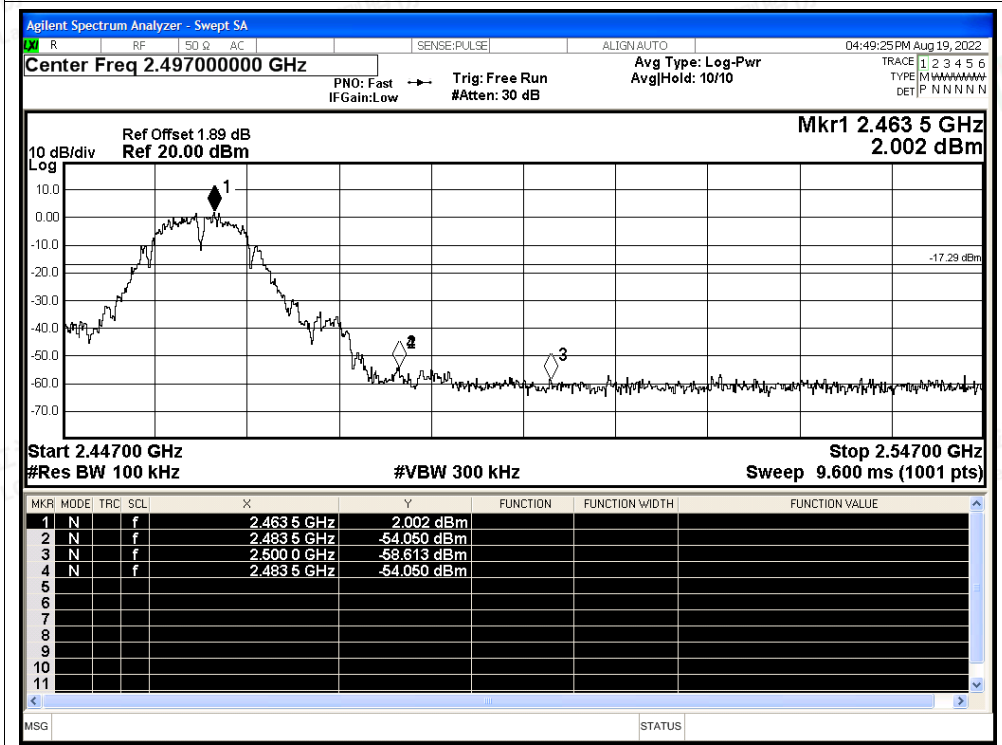




Band Edge NVNT b 2462MHz Ant1 Ref



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	-51.57	-20	Pass
NVNT	b	2437	Ant1	-49.73	-20	Pass
NVNT	b	2462	Ant1	-47.46	-20	Pass

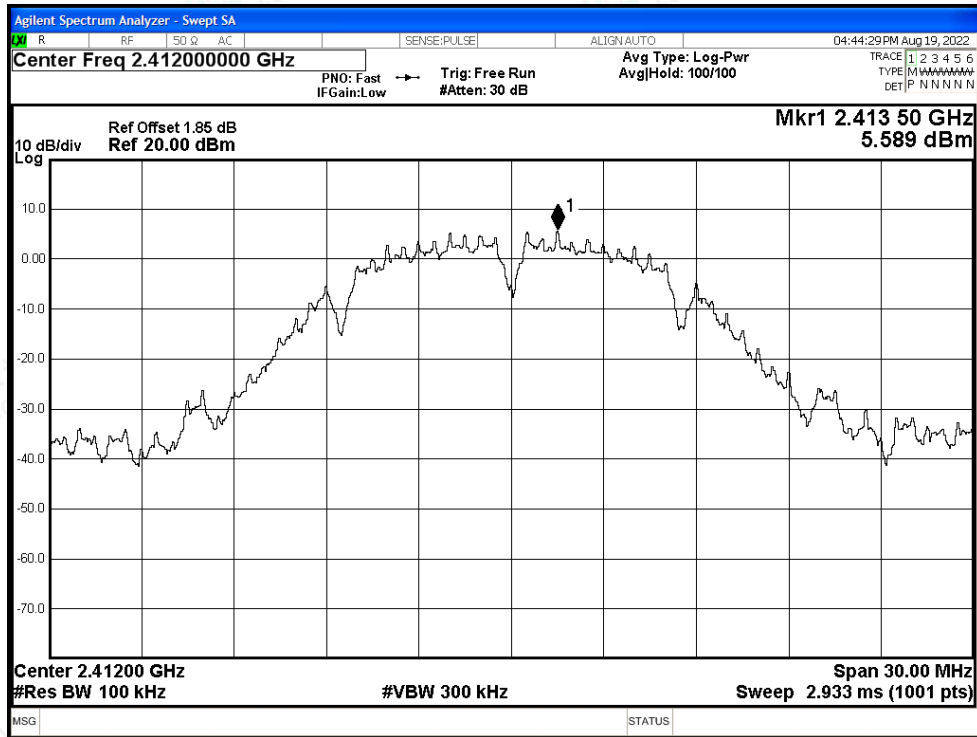


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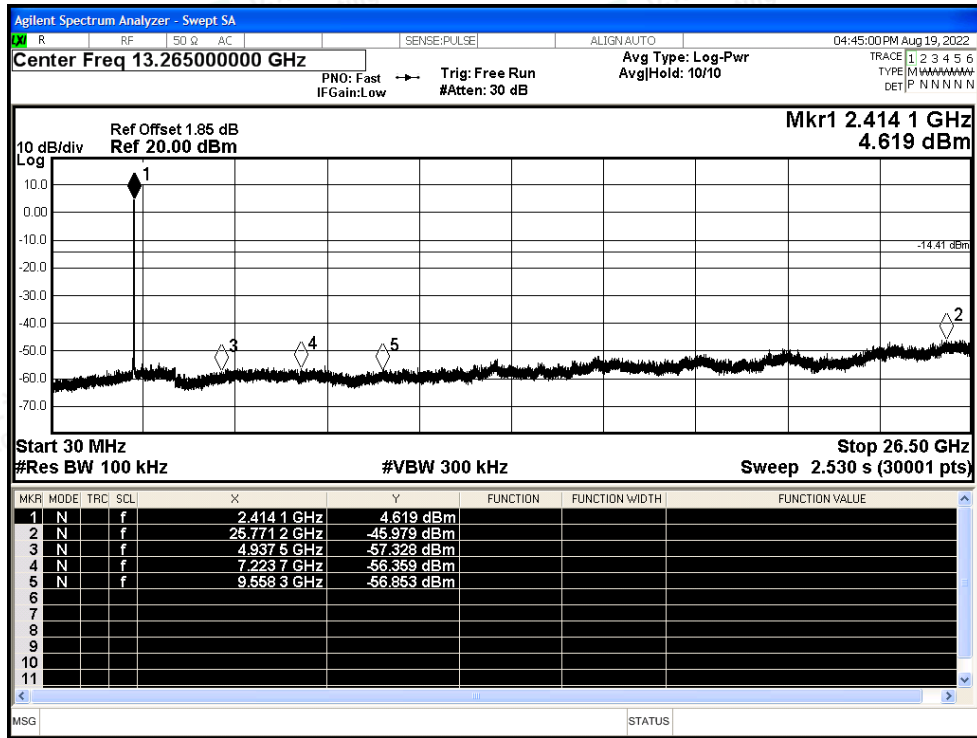


Test Graphs

Tx. Spurious NVNT b 2412MHz Ant1 Ref

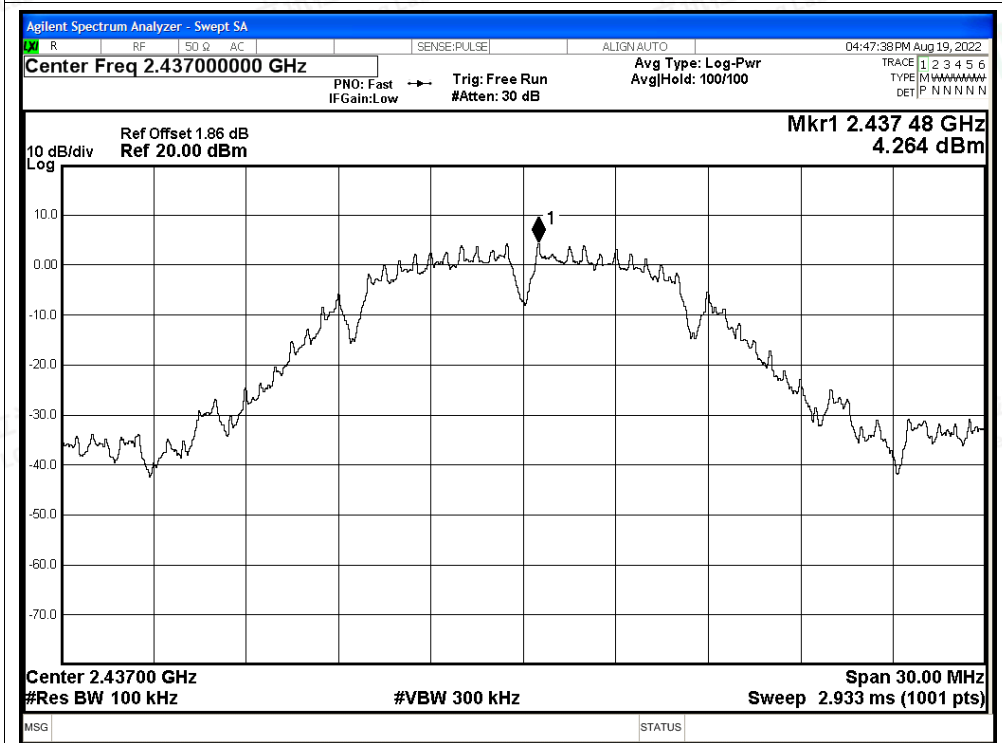


Tx. Spurious NVNT b 2412MHz Ant1 Emission

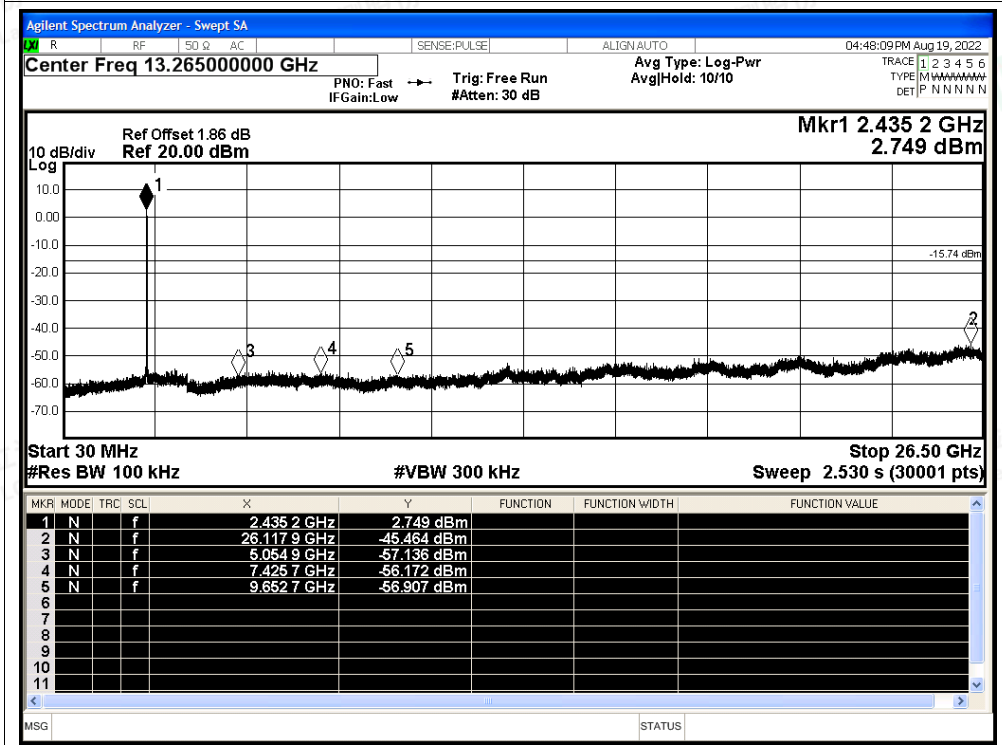




Tx. Spurious NVNT b 2437MHz Ant1 Ref

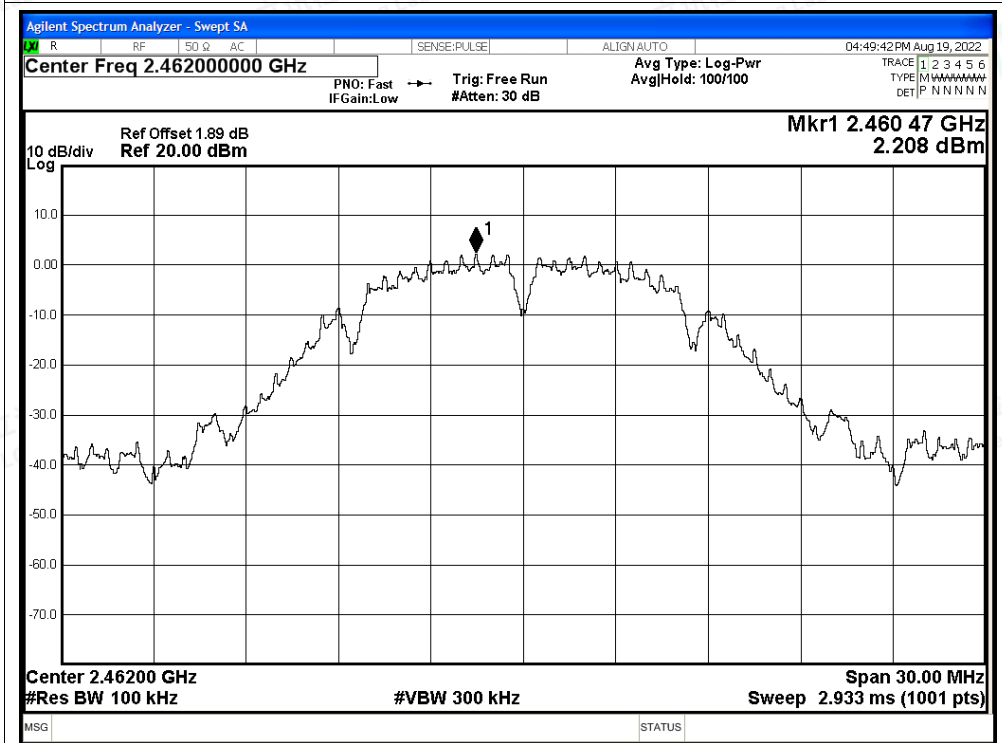


Tx. Spurious NVNT b 2437MHz Ant1 Emission

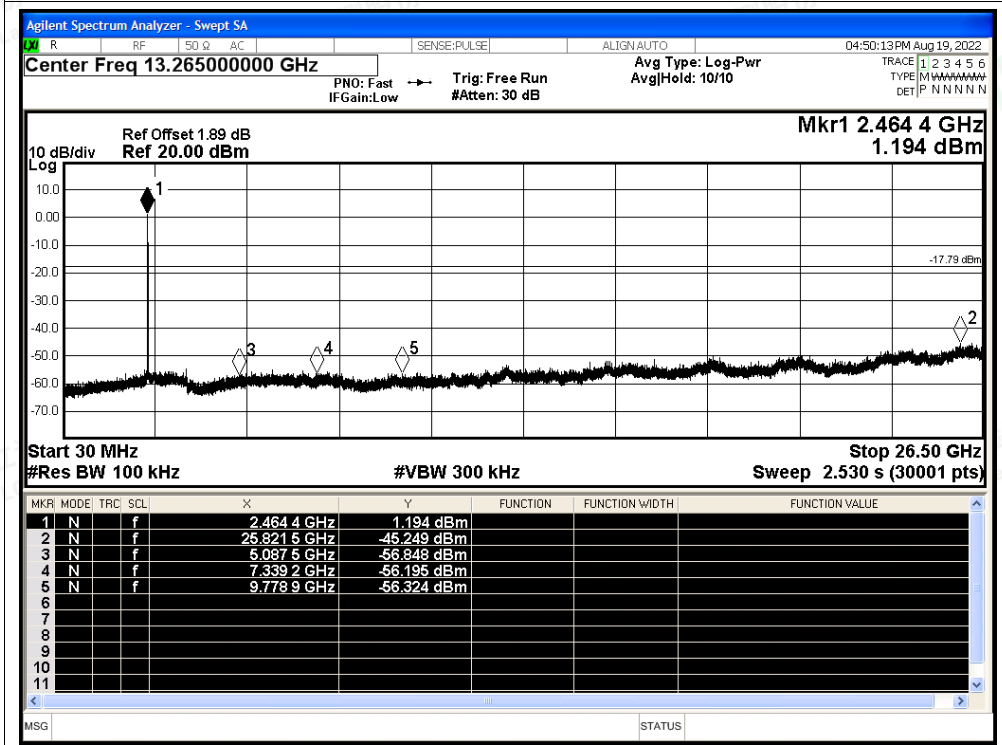




Tx. Spurious NVNT b 2462MHz Ant1 Ref



Tx. Spurious NVNT b 2462MHz Ant1 Emission





A.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	99.67	0	0.12
NVNT	b	2437	Ant1	99.67	0	0.12
NVNT	b	2462	Ant1	99.67	0	0.12

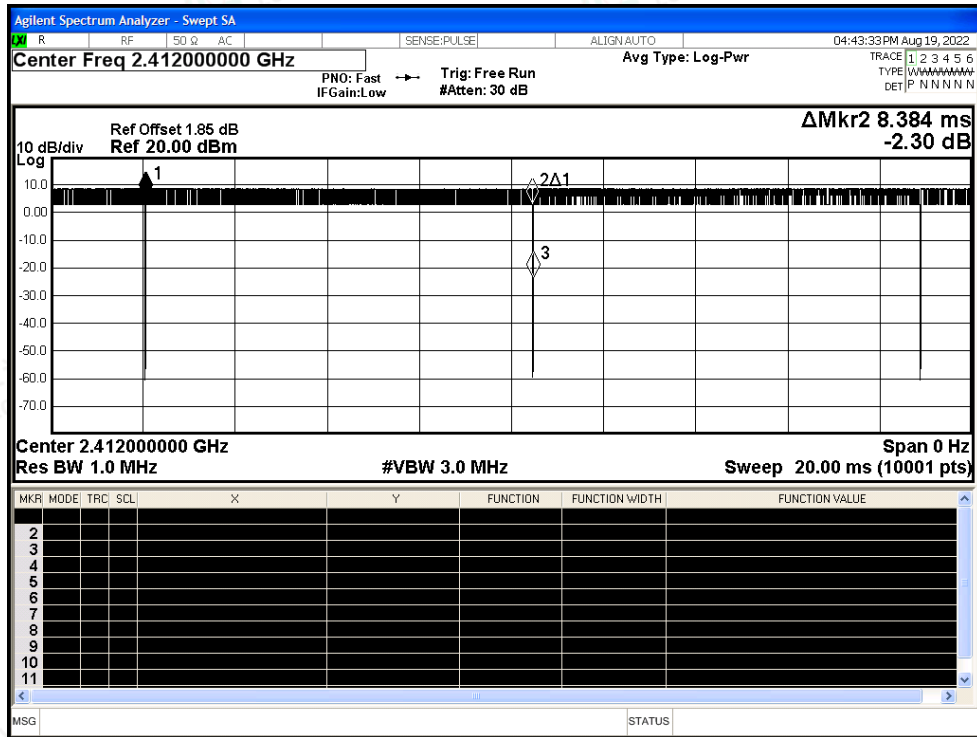


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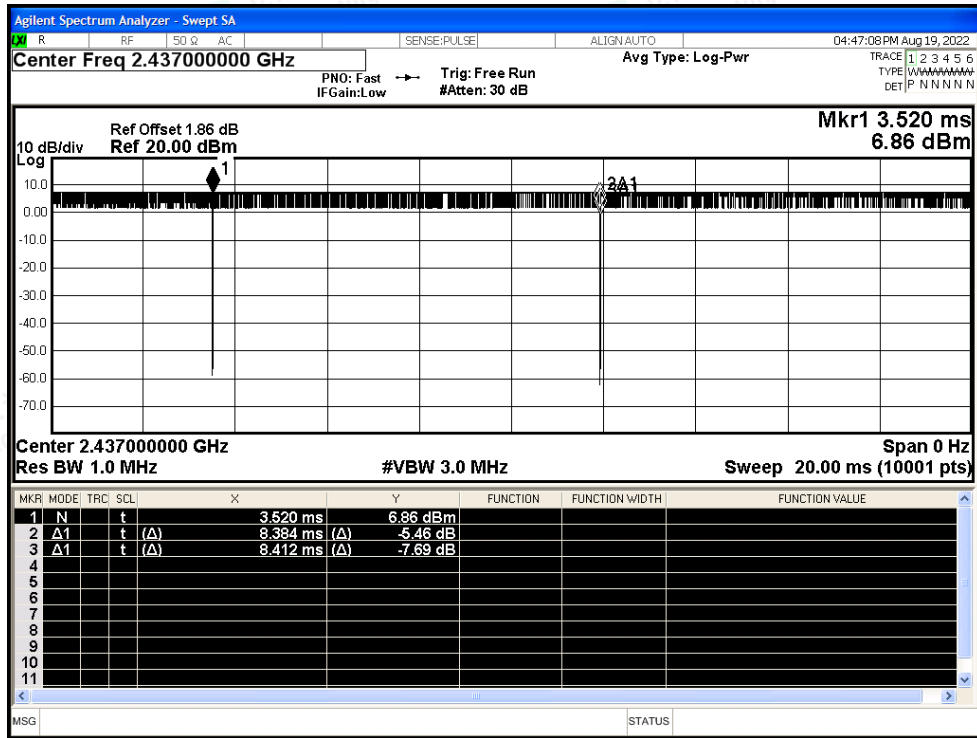


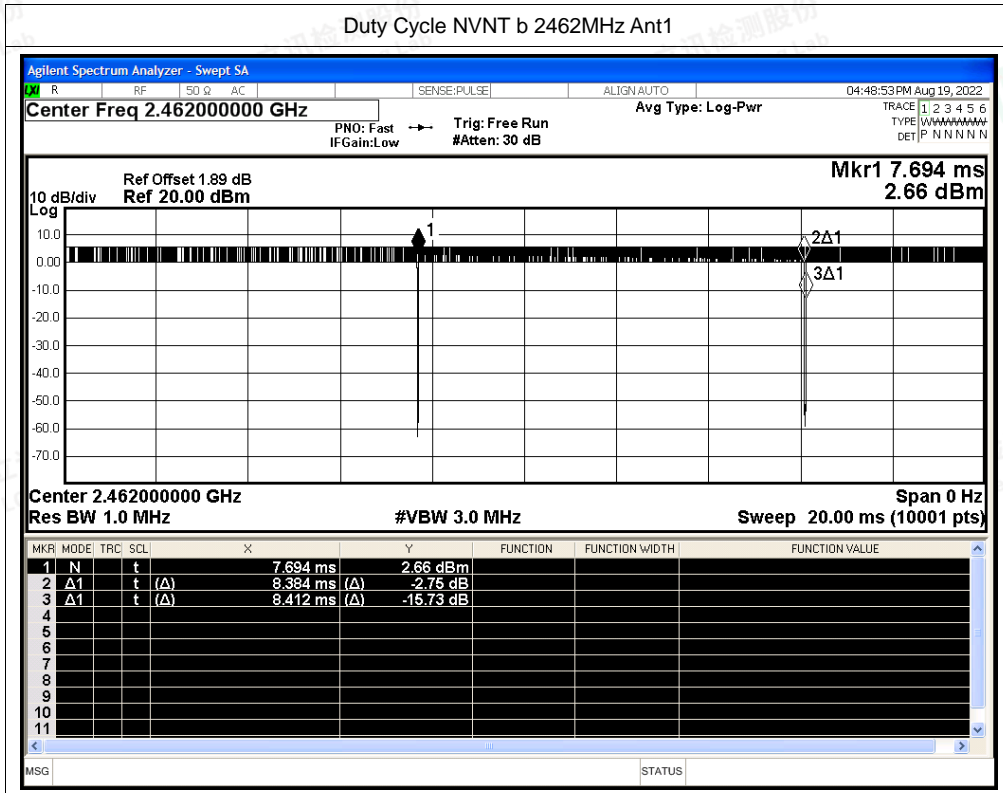
Test Graphs

Duty Cycle NVNT b 2412MHz Ant1



Duty Cycle NVNT b 2437MHz Ant1







A.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	b	2412	Ant1	2310	-50.41	2	46.85	Peak	74	Pass
NVNT	b	2412	Ant1	2310	-60.48	2	36.78	Average	54	Pass
NVNT	b	2412	Ant1	2388.039	-42.77	2	54.49	Peak	74	Pass
NVNT	b	2412	Ant1	2387.22	-50.38	2	46.88	Average	54	Pass
NVNT	b	2412	Ant1	2390	-47.21	2	50.05	Peak	74	Pass
NVNT	b	2412	Ant1	2390	-55.68	2	41.58	Average	54	Pass
NVNT	b	2462	Ant1	2483.5	-46.15	2	51.11	Peak	74	Pass
NVNT	b	2462	Ant1	2483.5	-53.28	2	43.98	Average	54	Pass
NVNT	b	2462	Ant1	2486.326	-44.71	2	52.55	Peak	74	Pass
NVNT	b	2462	Ant1	2483.517	-53.28	2	43.98	Average	54	Pass
NVNT	b	2462	Ant1	2500	-50.03	2	47.23	Peak	74	Pass
NVNT	b	2462	Ant1	2500	-59.37	2	37.89	Average	54	Pass

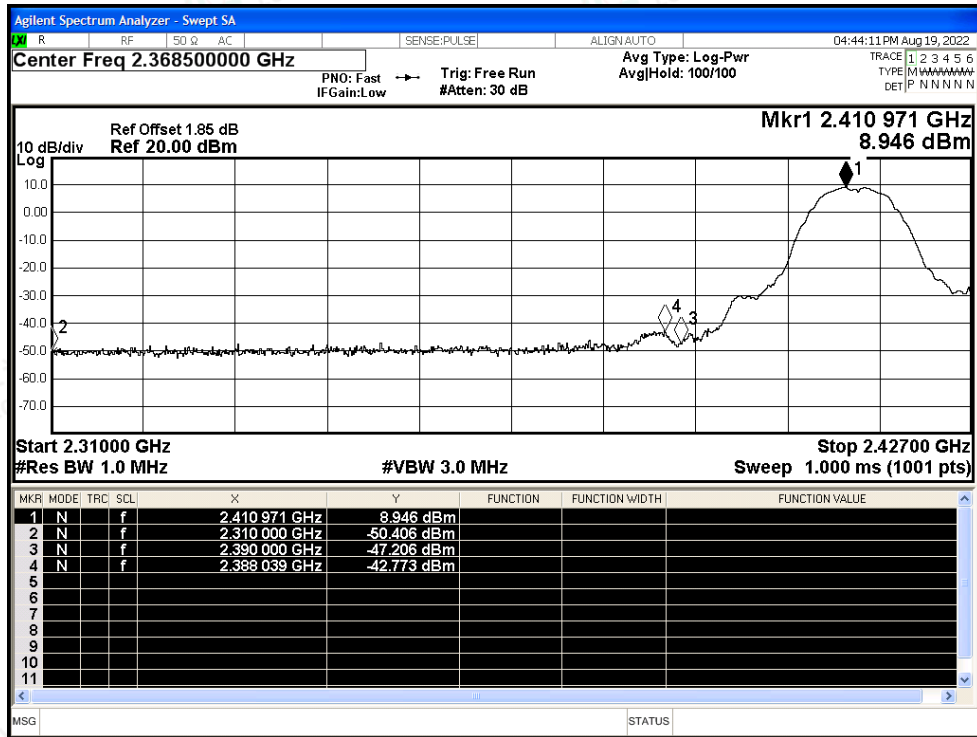


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Test Graphs

Restrict Band NVNT b 2412MHz Ant1 Peak



Restrict Band NVNT b 2412MHz Ant1 Average

