

Appendix RF test data for BLE

Product Name: Smart Battery Camera

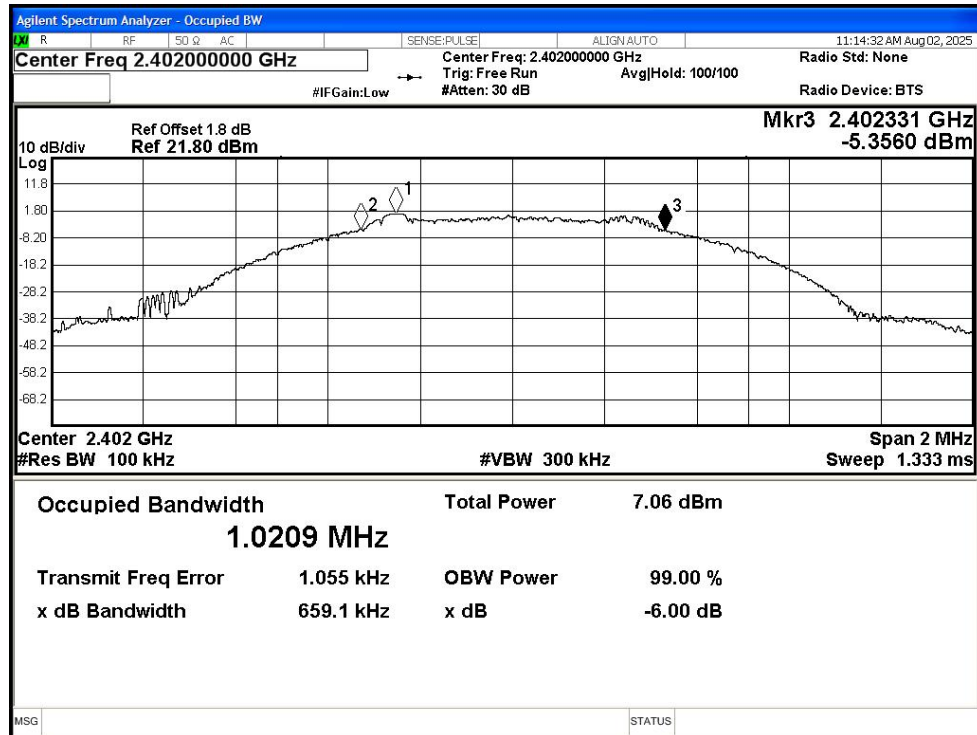
Test Model: Q12

-6dB Bandwidth

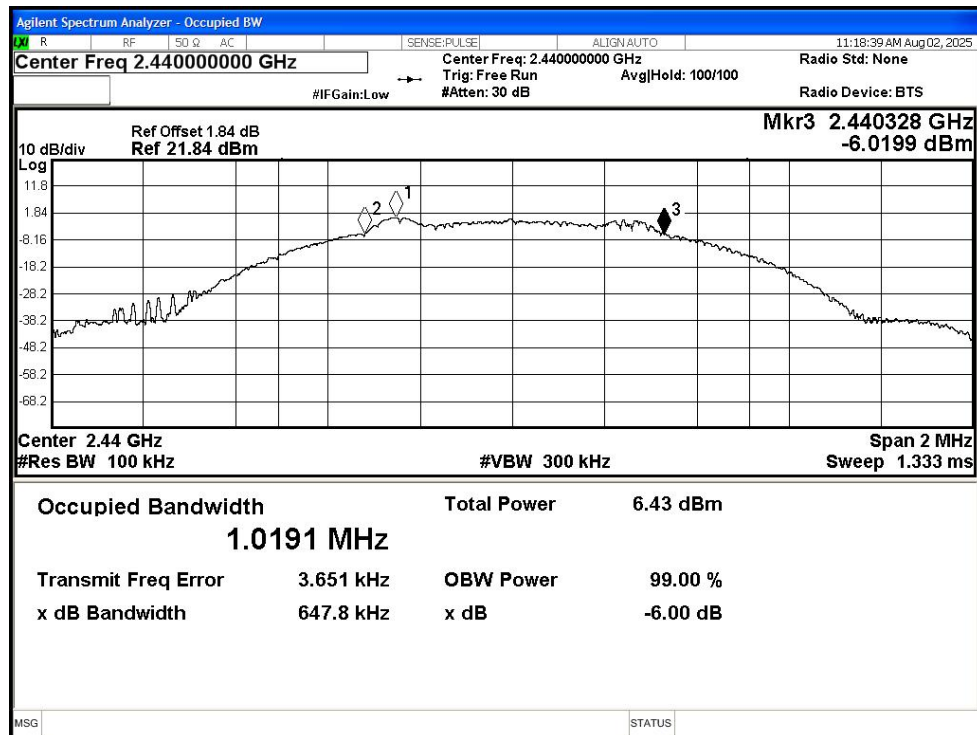
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.659	≥ 0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.648	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.649	≥ 0.5	Pass
NVNT	BLE 2M	2402	Ant1	1.161	≥ 0.5	Pass
NVNT	BLE 2M	2440	Ant1	1.14	≥ 0.5	Pass
NVNT	BLE 2M	2480	Ant1	1.125	≥ 0.5	Pass

Test Graphs

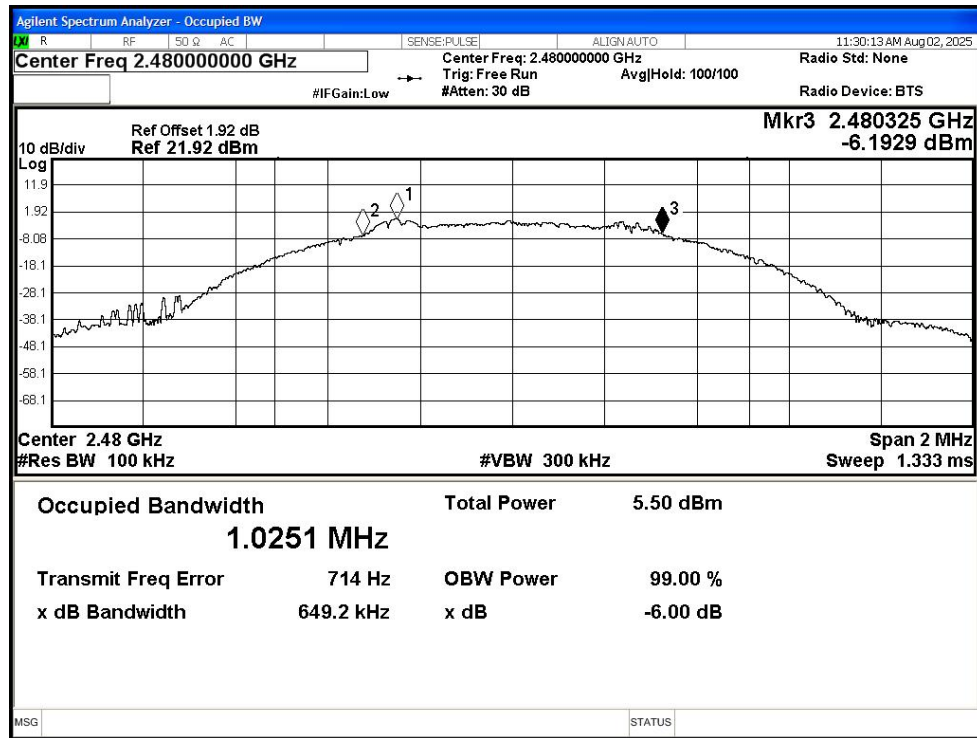
-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



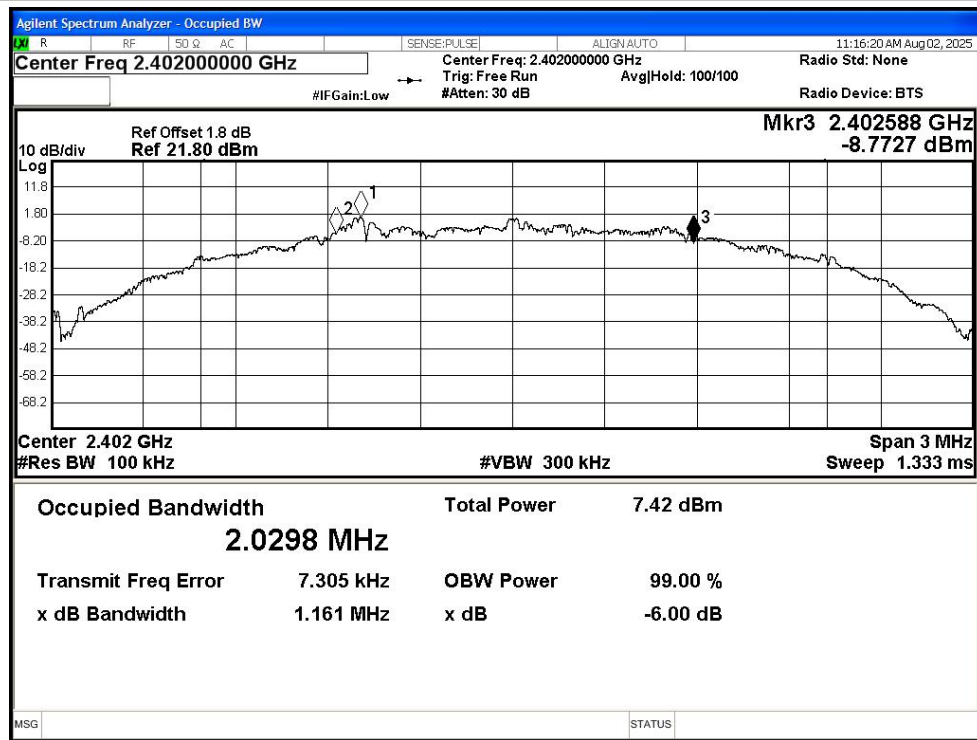
-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1



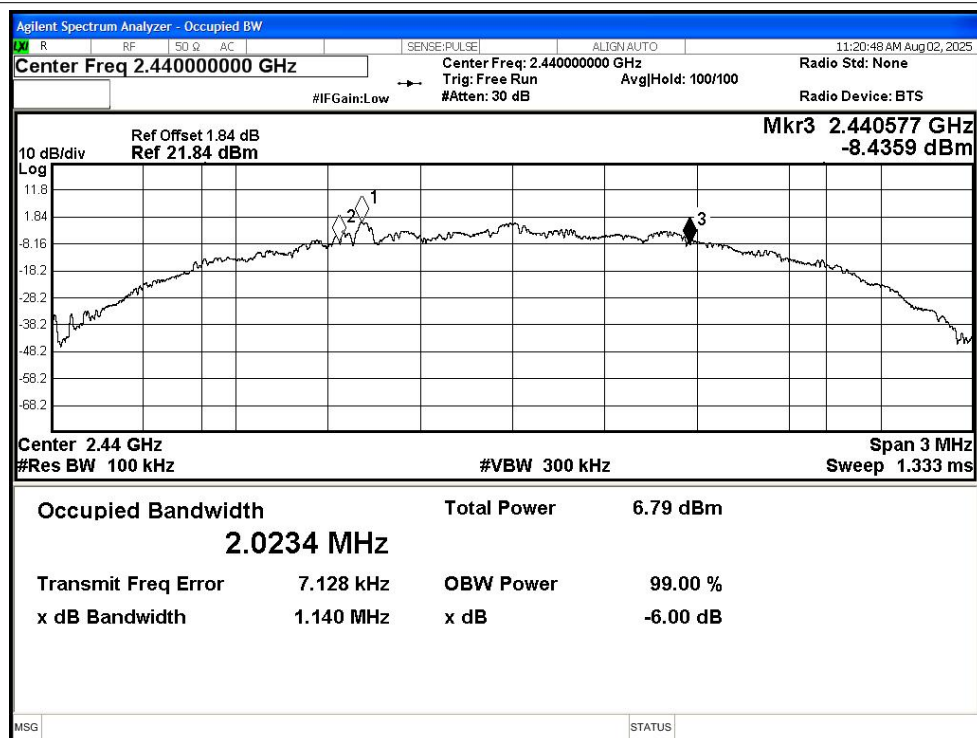
-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



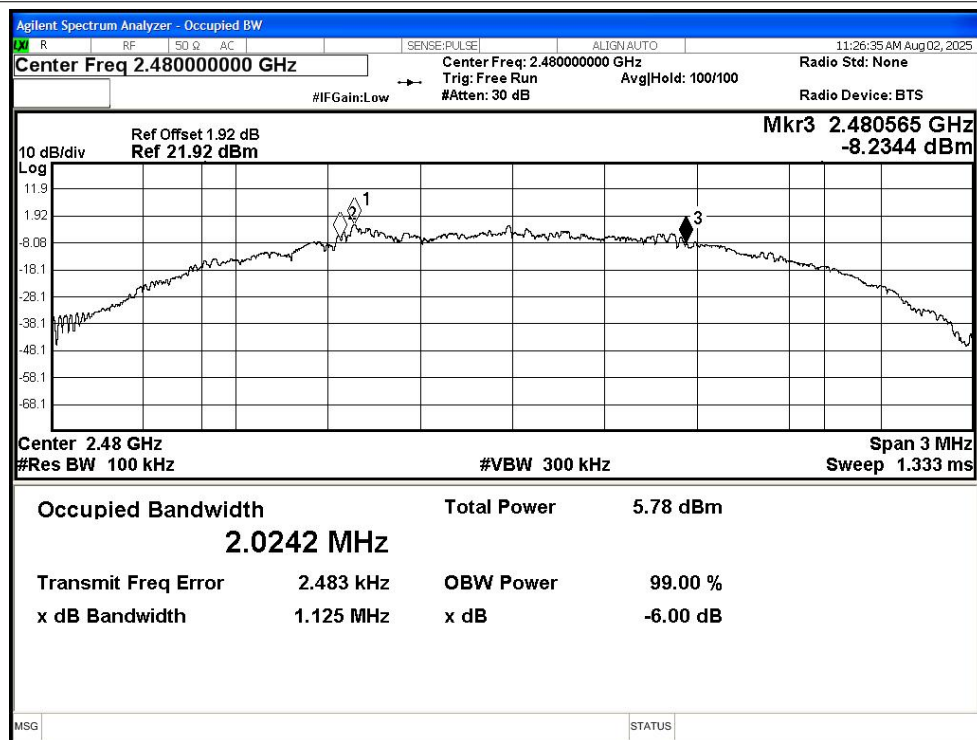
-6dB Bandwidth NVNT BLE 2M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2480MHz Ant1

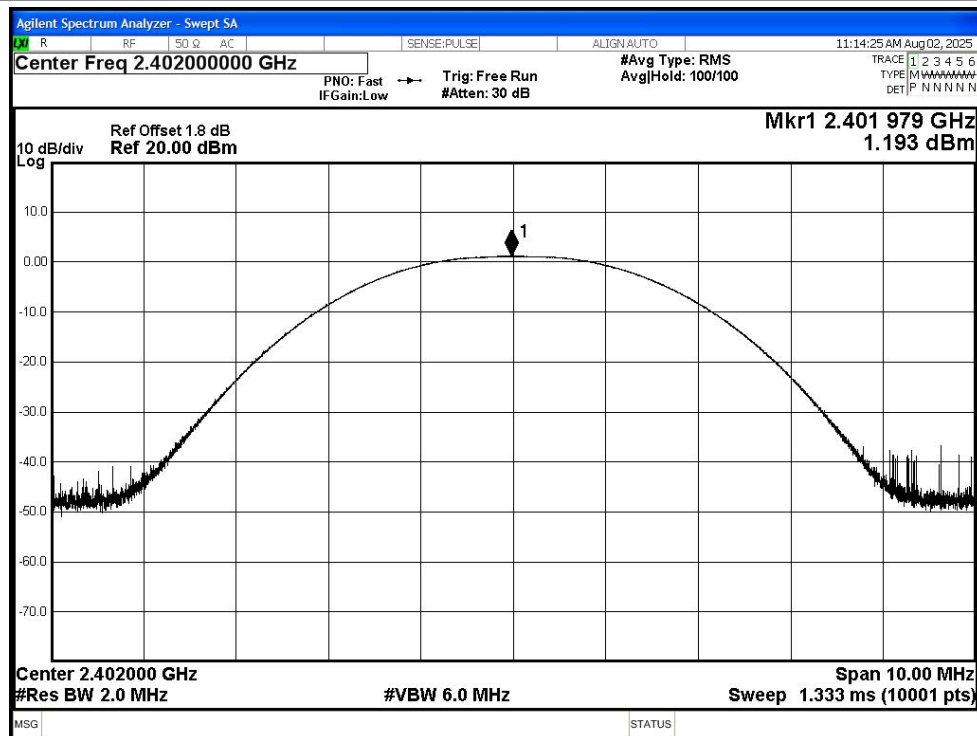


Maximum Peak Conducted Output Power

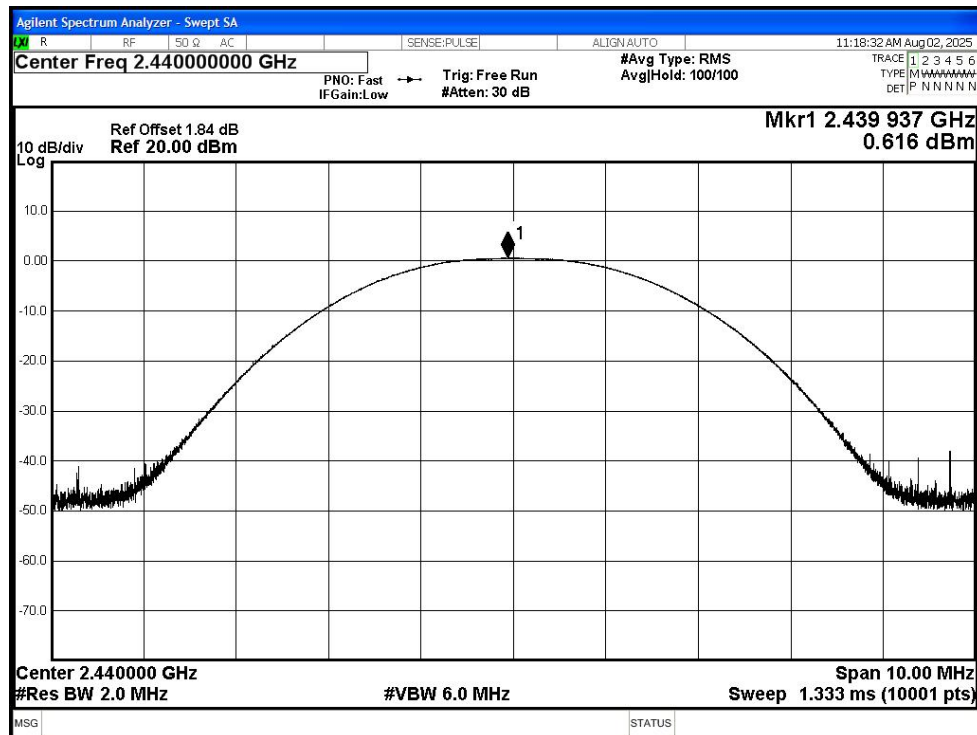
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	1.19	30	Pass
NVNT	BLE 1M	2440	Ant1	0.62	30	Pass
NVNT	BLE 1M	2480	Ant1	-0.24	30	Pass
NVNT	BLE 2M	2402	Ant1	1.14	30	Pass
NVNT	BLE 2M	2440	Ant1	0.46	30	Pass
NVNT	BLE 2M	2480	Ant1	-0.39	30	Pass

Test Graphs

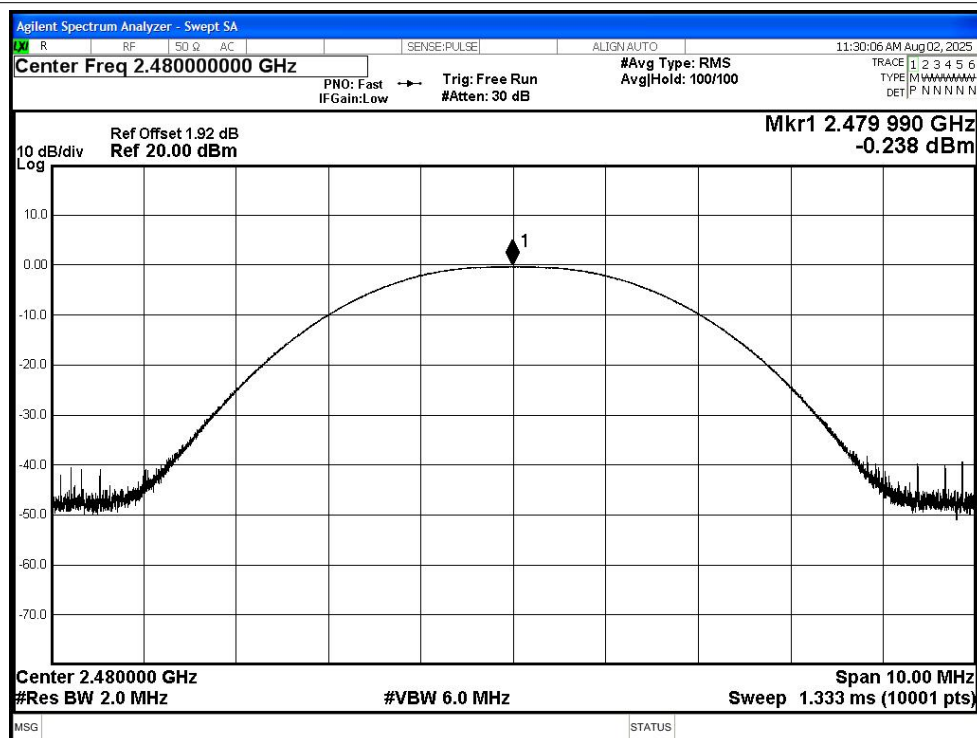
Power NVNT BLE 1M 2402MHz Ant1



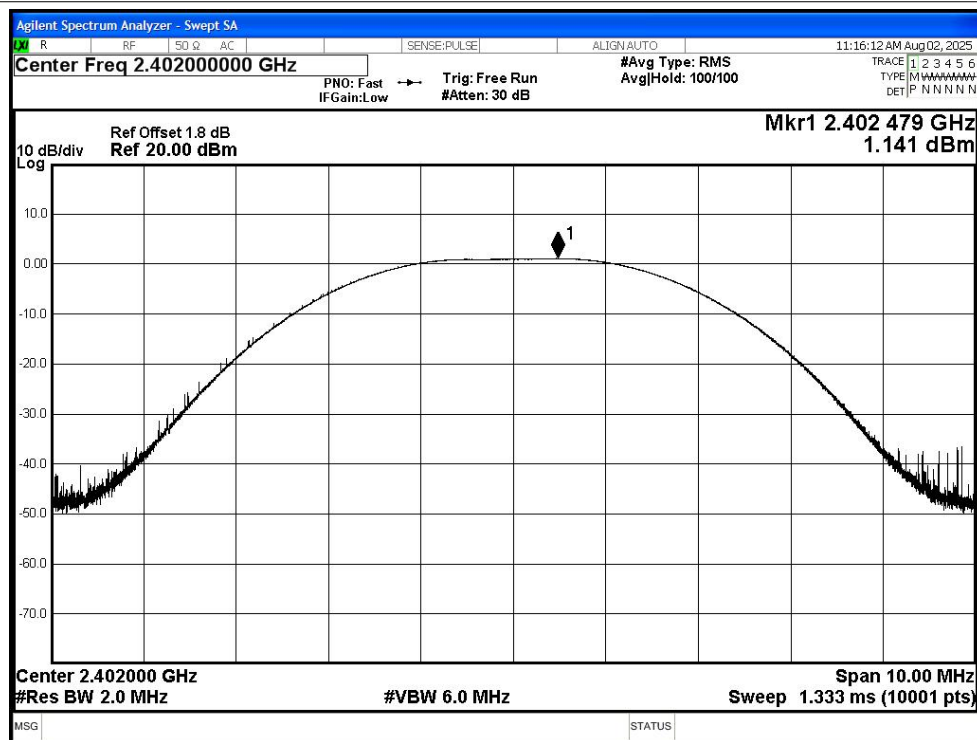
Power NVNT BLE 1M 2440MHz Ant1



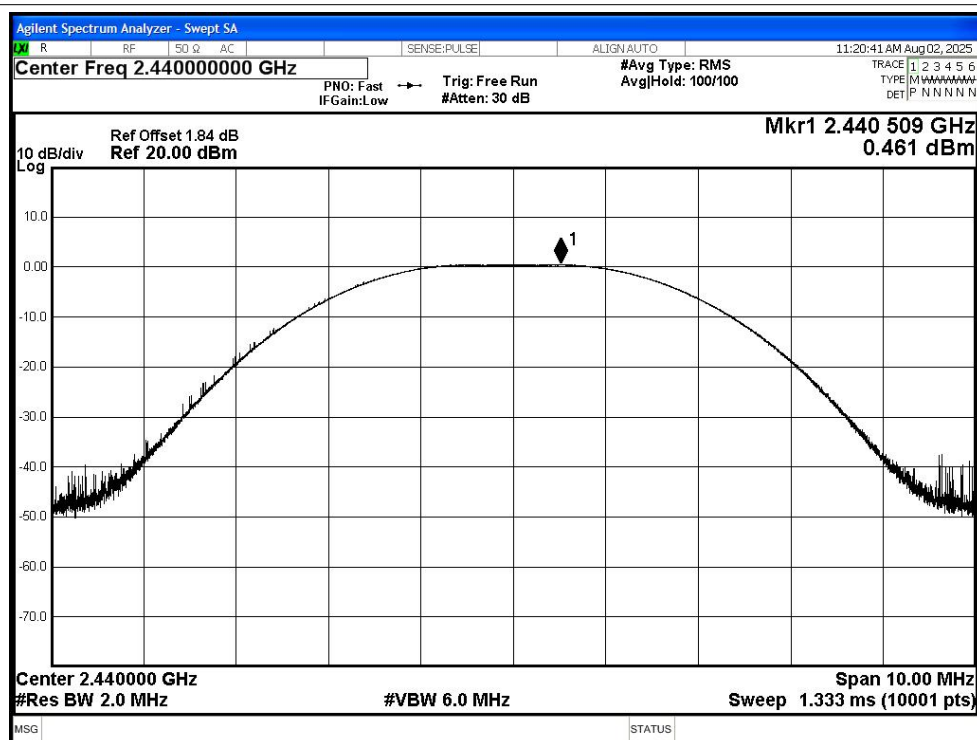
Power NVNT BLE 1M 2480MHz Ant1



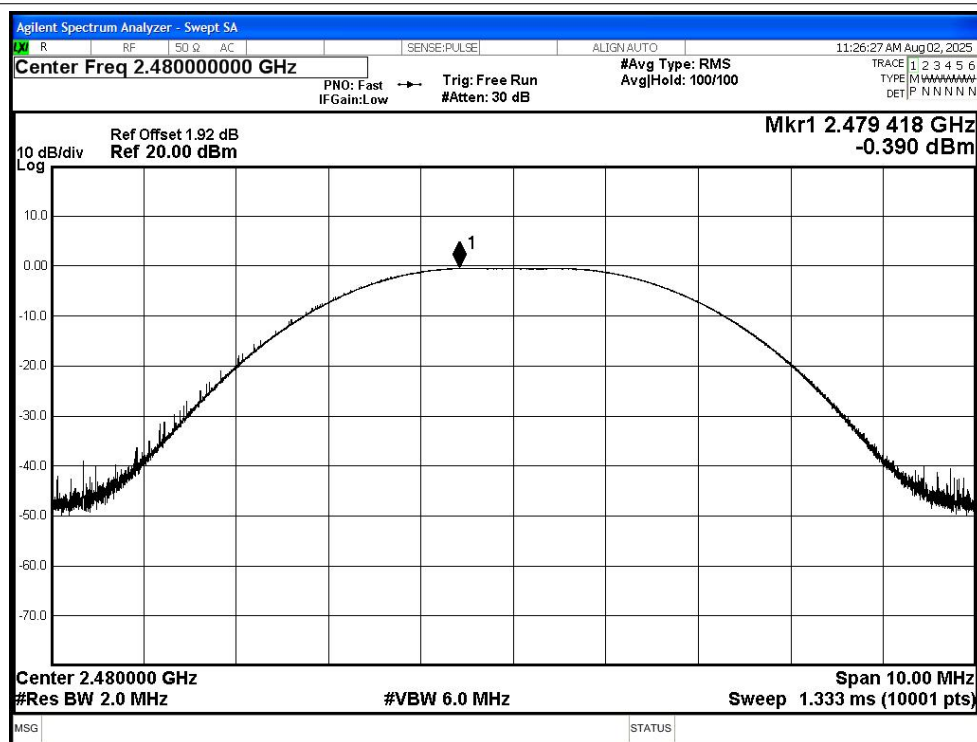
Power NVNT BLE 2M 2402MHz Ant1



Power NVNT BLE 2M 2440MHz Ant1



Power NVNT BLE 2M 2480MHz Ant1

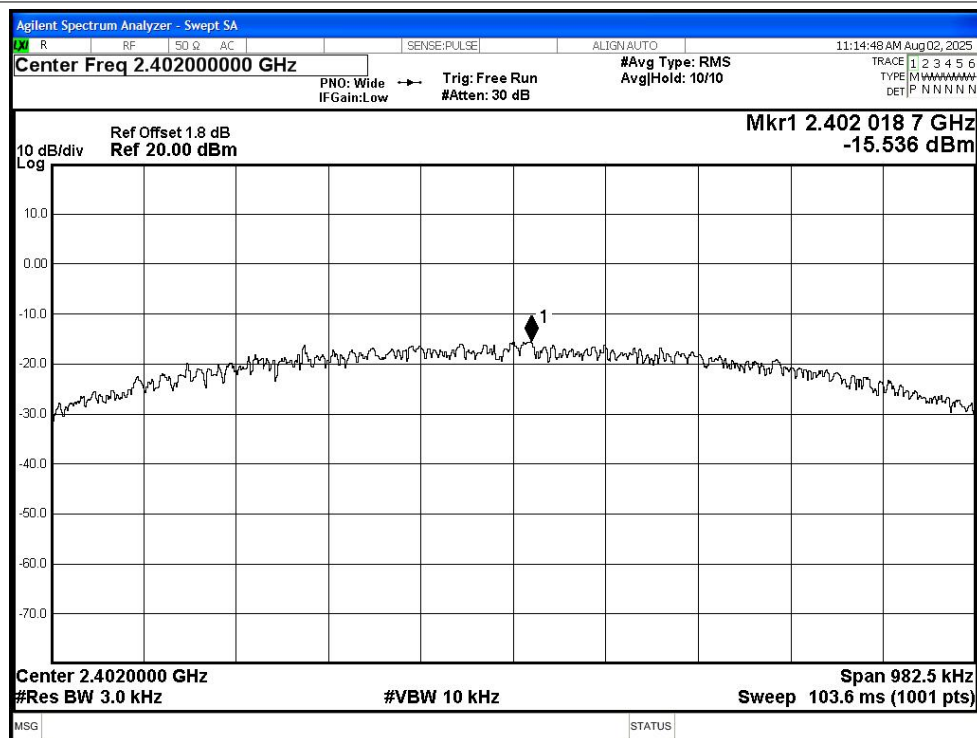


Maximum Power Spectral Density Level

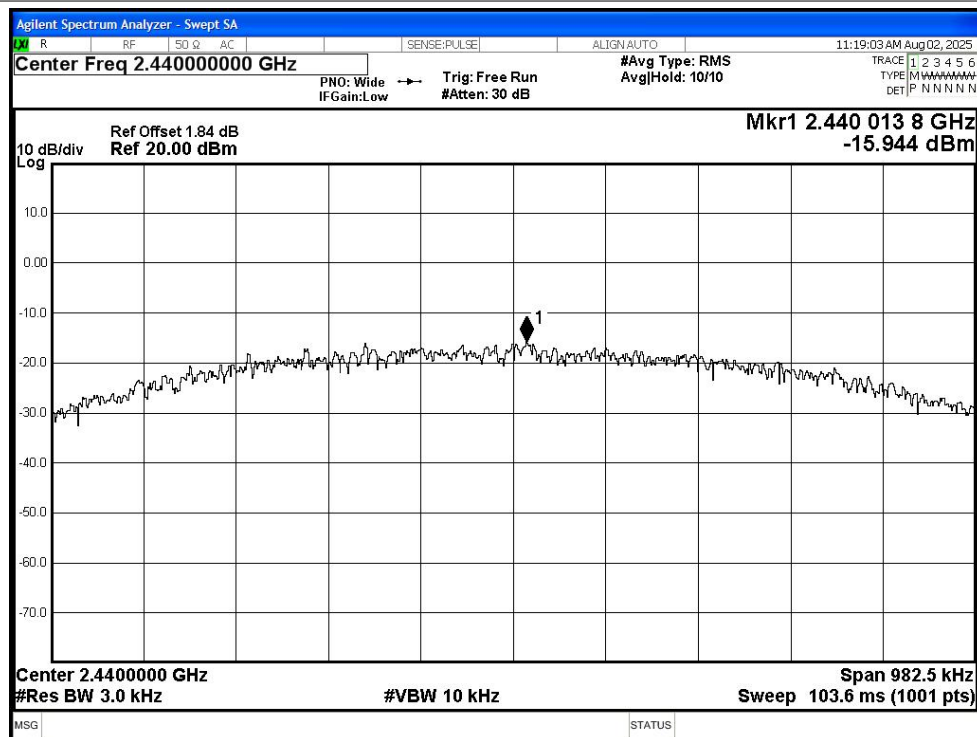
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-15.54	8	Pass
NVNT	BLE 1M	2440	Ant1	-15.94	8	Pass
NVNT	BLE 1M	2480	Ant1	-16.93	8	Pass
NVNT	BLE 2M	2402	Ant1	-18.81	8	Pass
NVNT	BLE 2M	2440	Ant1	-19.51	8	Pass
NVNT	BLE 2M	2480	Ant1	-19.93	8	Pass

Test Graphs

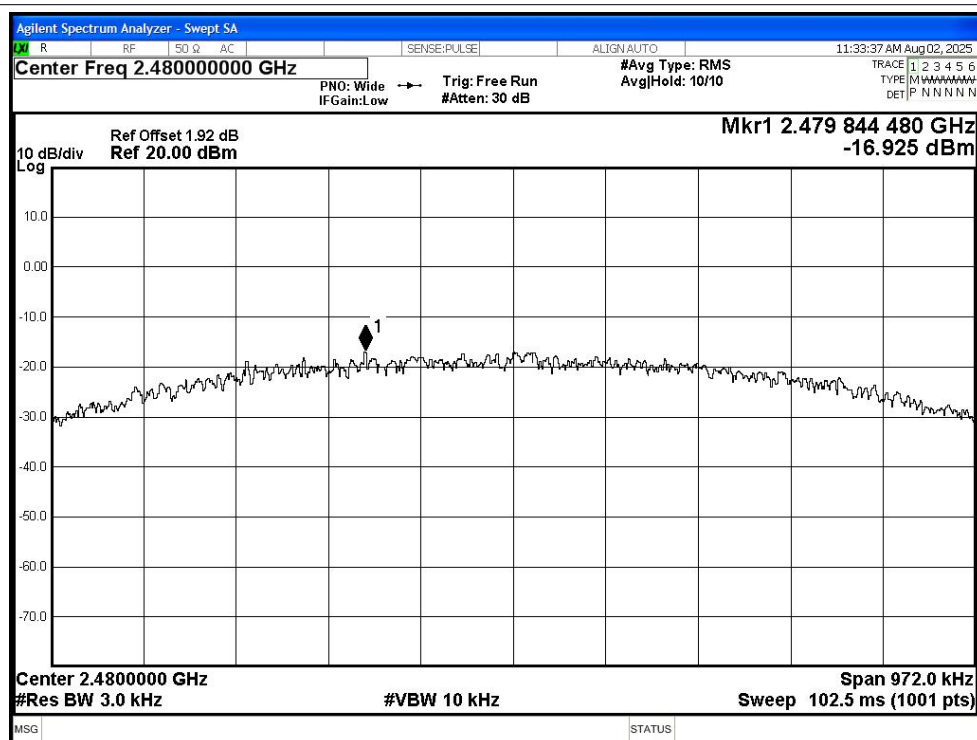
PSD NVNT BLE 1M 2402MHz Ant1



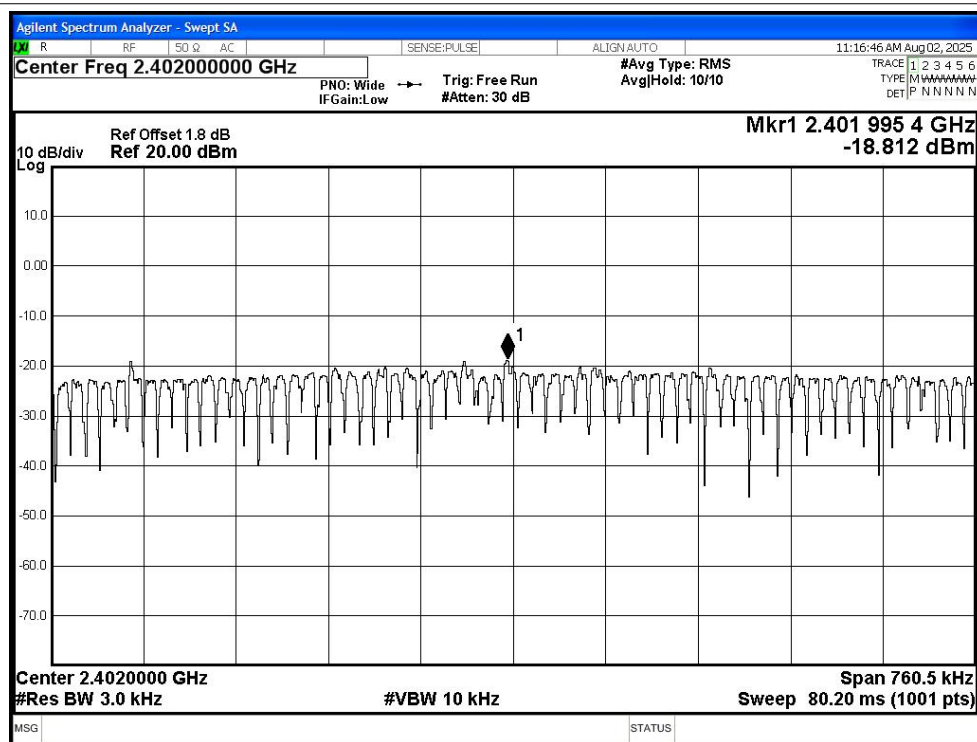
PSD NVNT BLE 1M 2440MHz Ant1



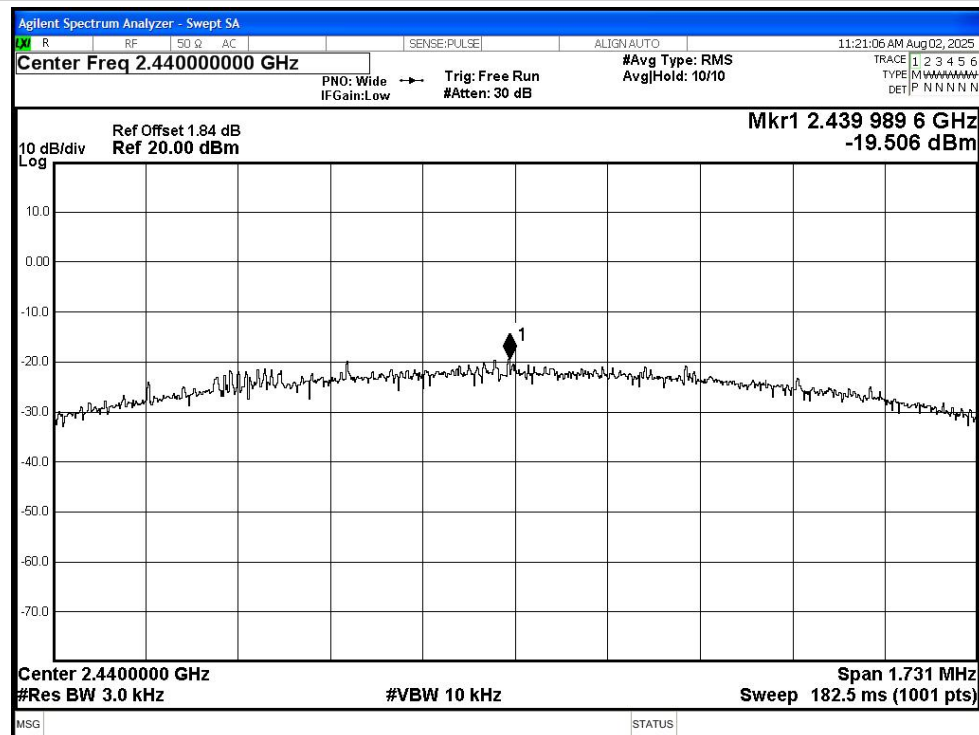
PSD NVNT BLE 1M 2480MHz Ant1



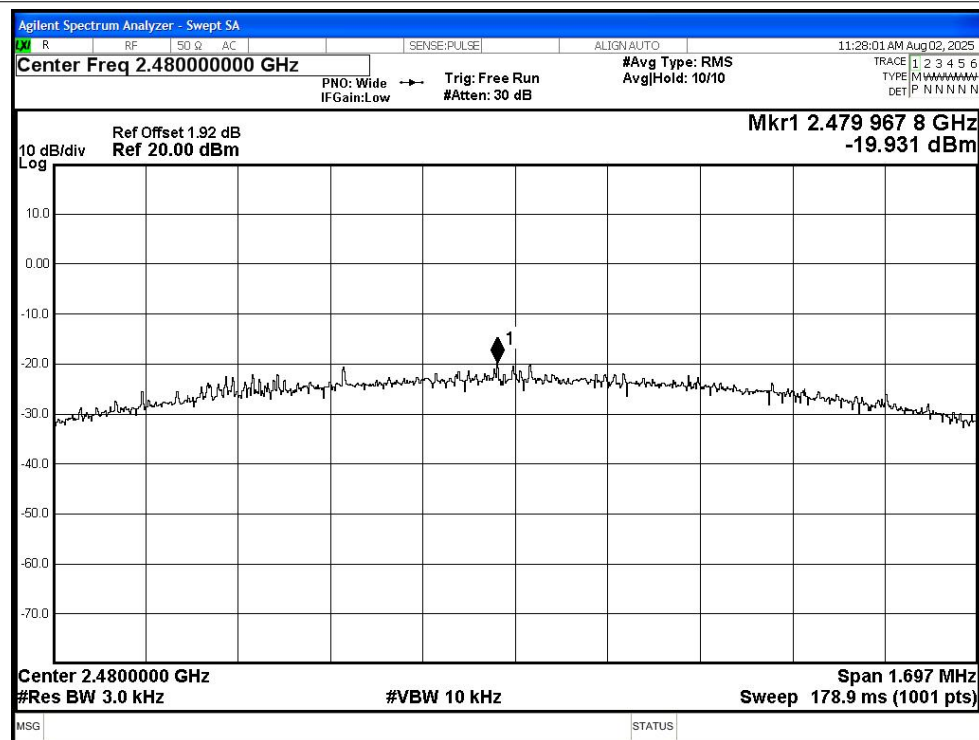
PSD NVNT BLE 2M 2402MHz Ant1



PSD NVNT BLE 2M 2440MHz Ant1



PSD NVNT BLE 2M 2480MHz Ant1

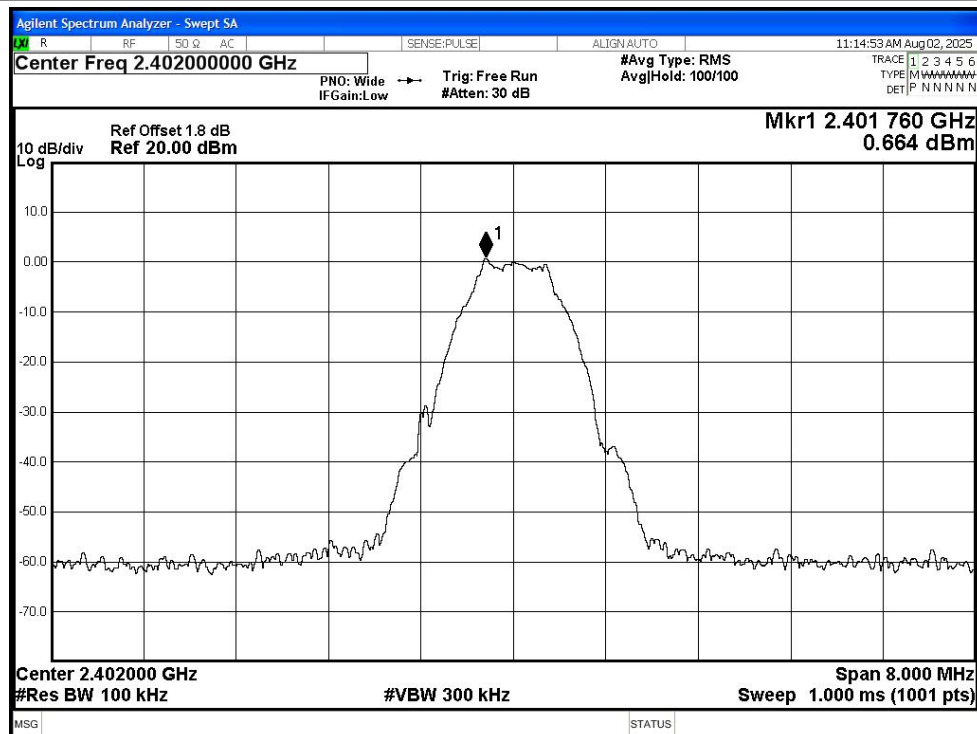


Band Edge

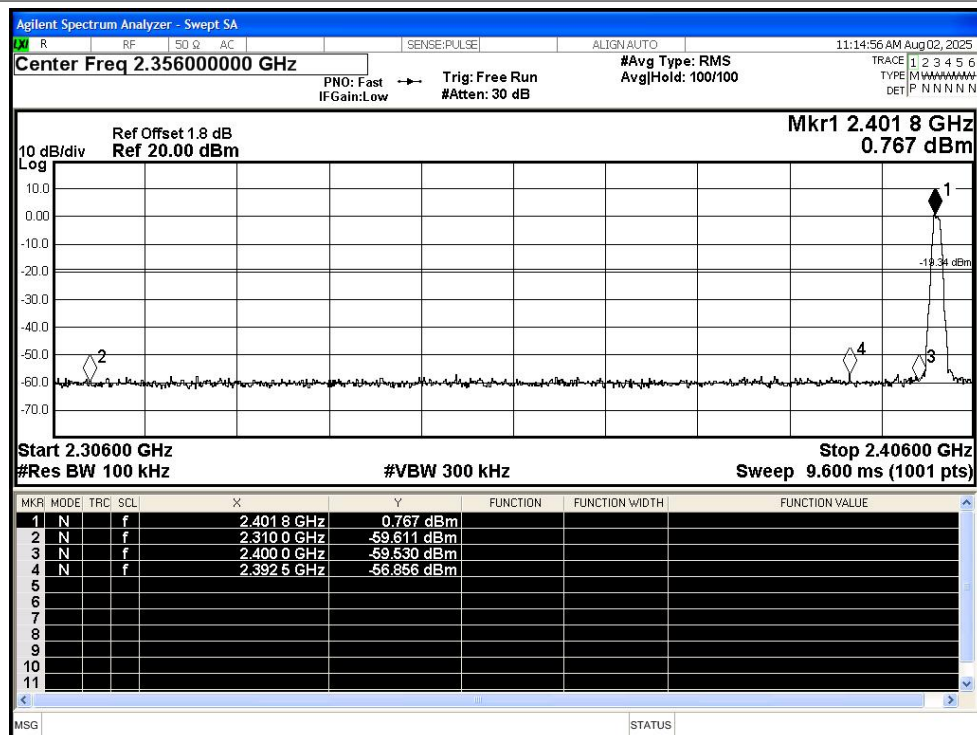
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-57.52	-20	Pass
NVNT	BLE 1M	2480	Ant1	-56.71	-20	Pass
NVNT	BLE 2M	2402	Ant1	-44.97	-20	Pass
NVNT	BLE 2M	2480	Ant1	-54.9	-20	Pass

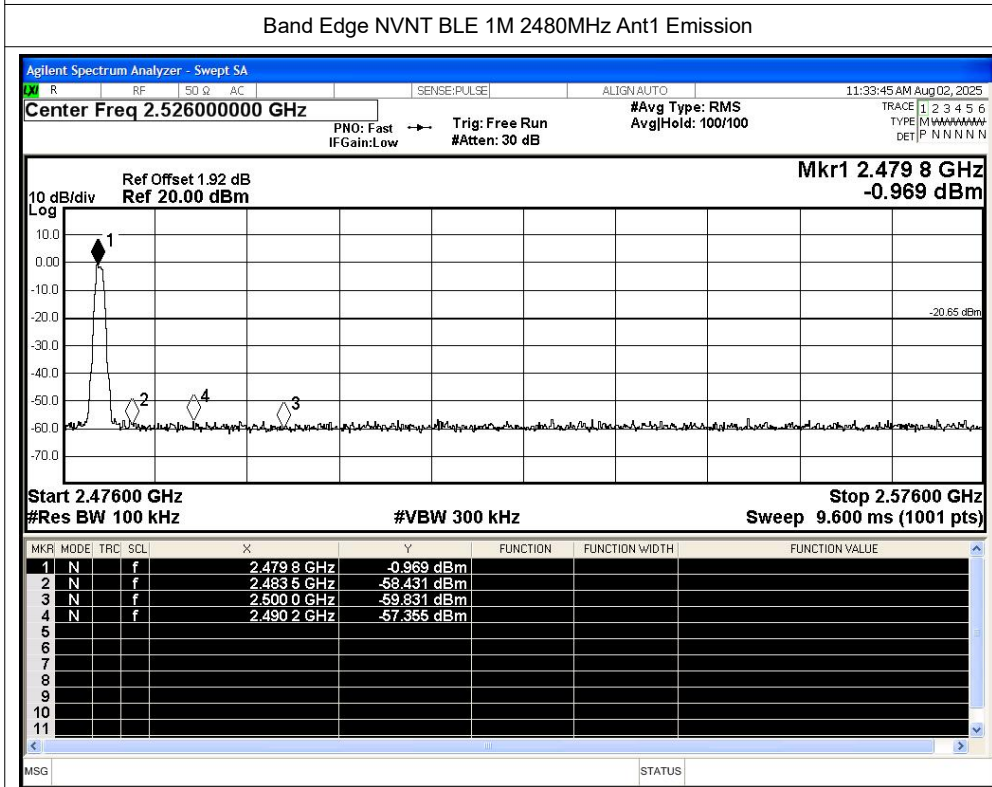
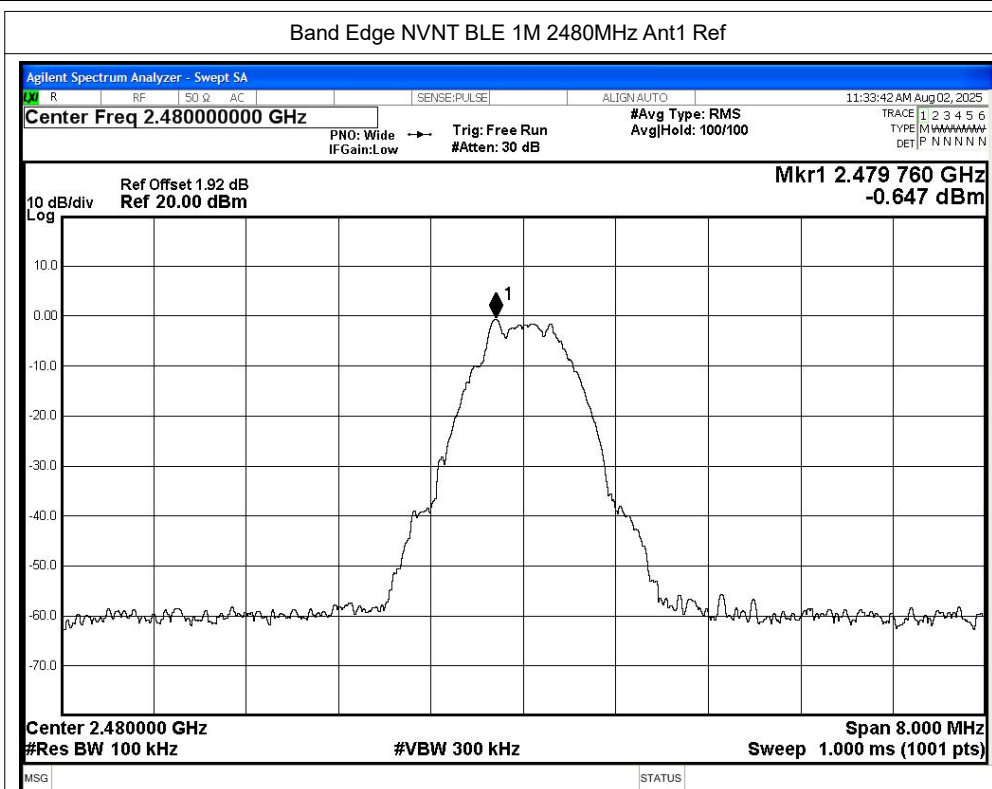
Test Graphs

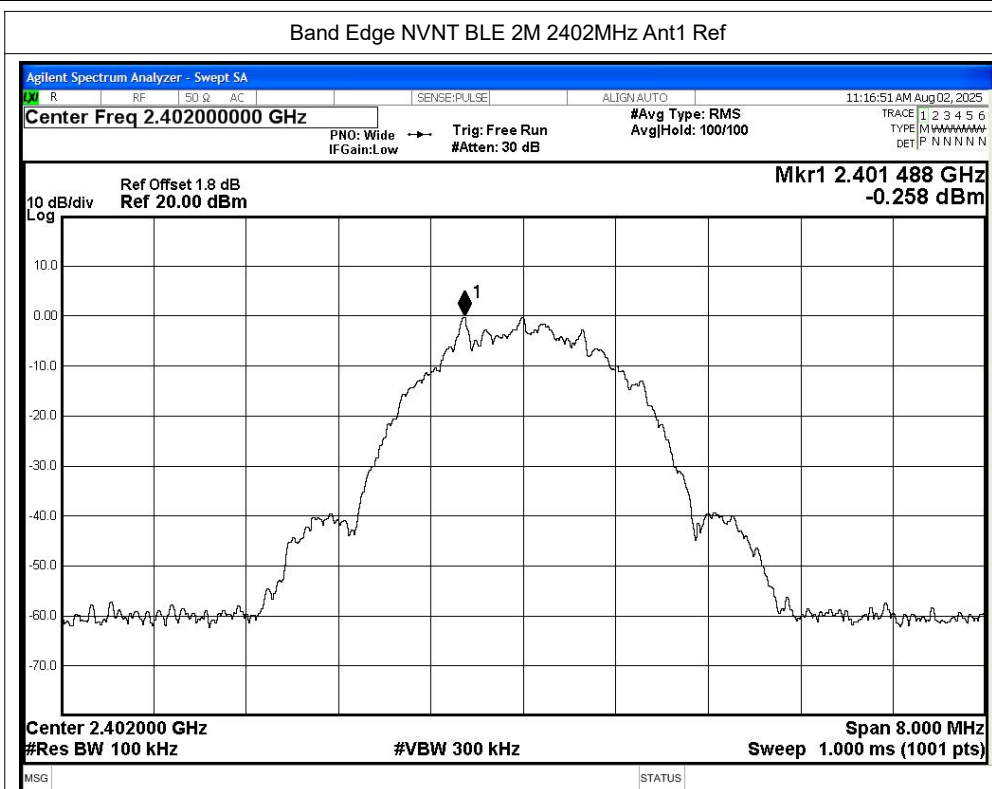
Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



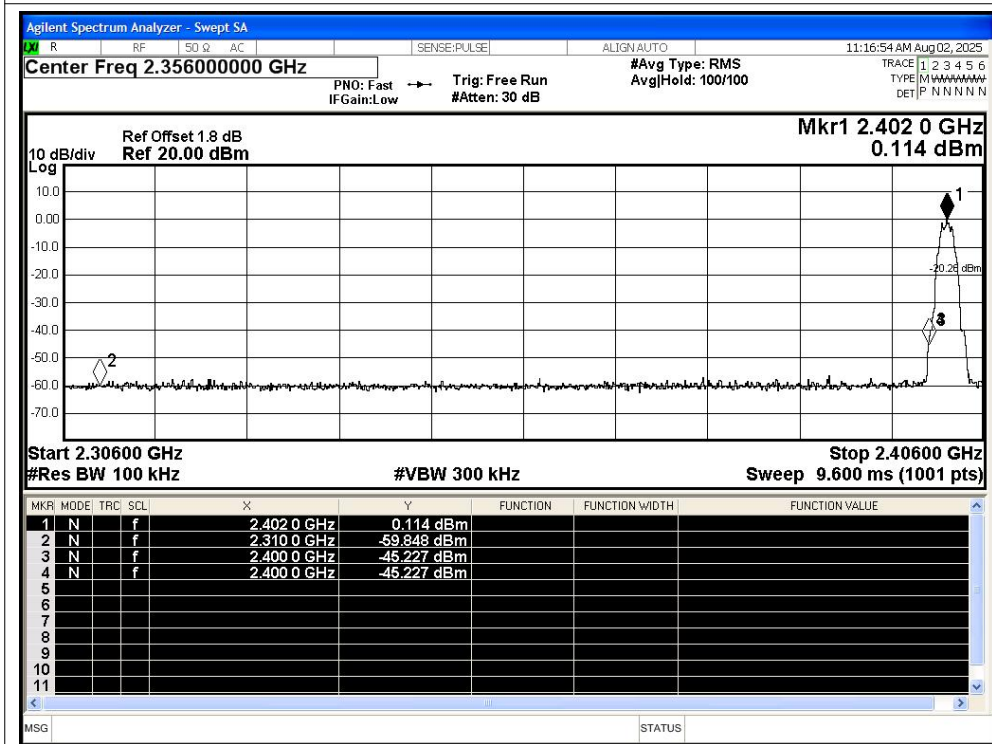
Band Edge NVNT BLE 1M 2402MHz Ant1 Emission

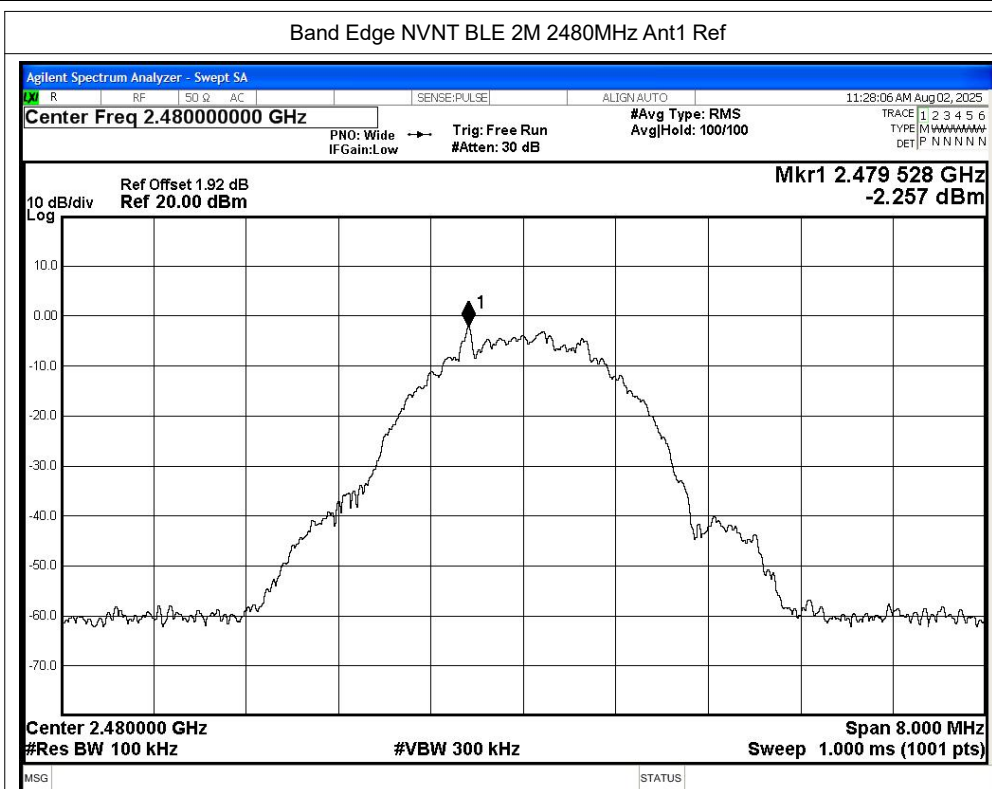




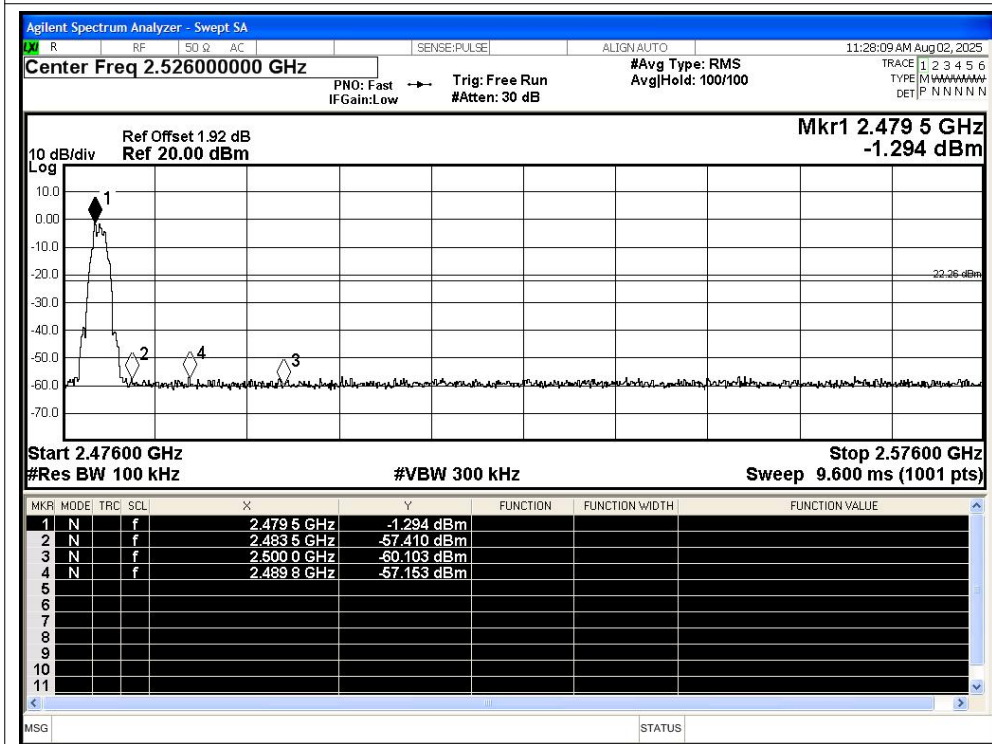


Band Edge NVNT BLE 2M 2402MHz Ant1 Emission





Band Edge NVNT BLE 2M 2480MHz Ant1 Emission

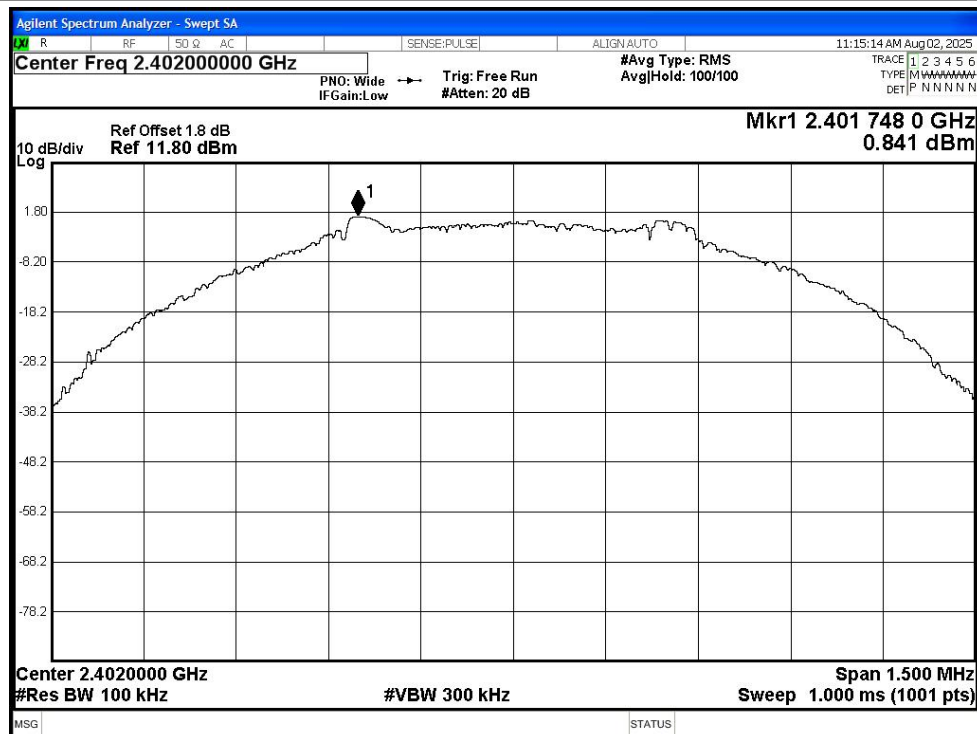


Conducted RF Spurious Emission

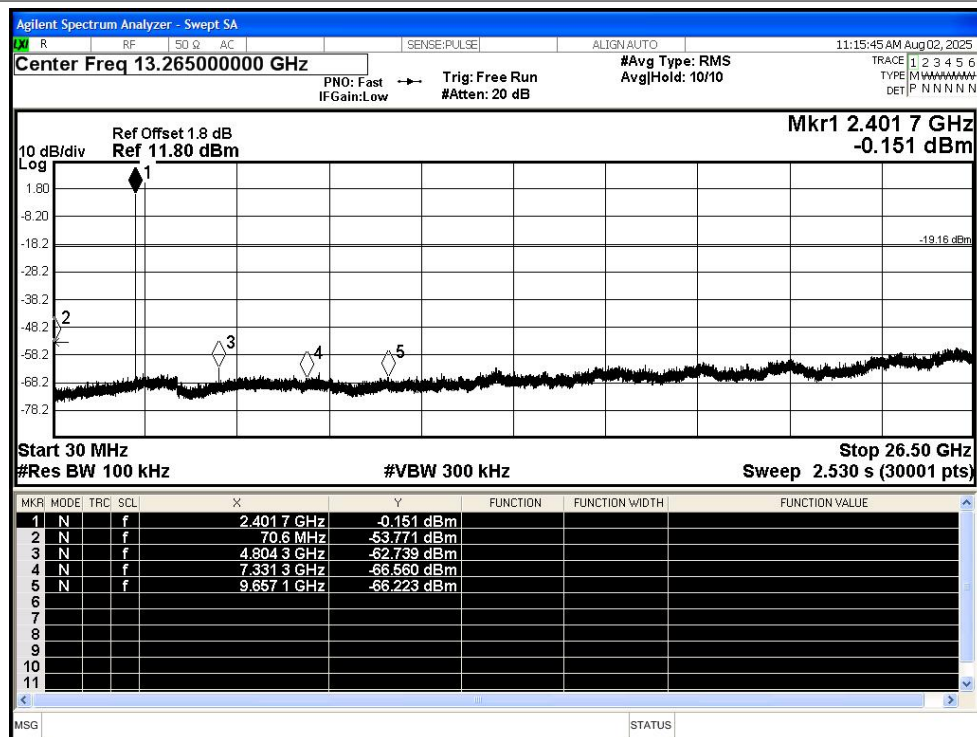
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-54.61	-20	Pass
NVNT	BLE 1M	2440	Ant1	-55.18	-20	Pass
NVNT	BLE 1M	2480	Ant1	-54.48	-20	Pass
NVNT	BLE 2M	2402	Ant1	-53.43	-20	Pass
NVNT	BLE 2M	2440	Ant1	-54.51	-20	Pass
NVNT	BLE 2M	2480	Ant1	-53.75	-20	Pass

Test Graphs

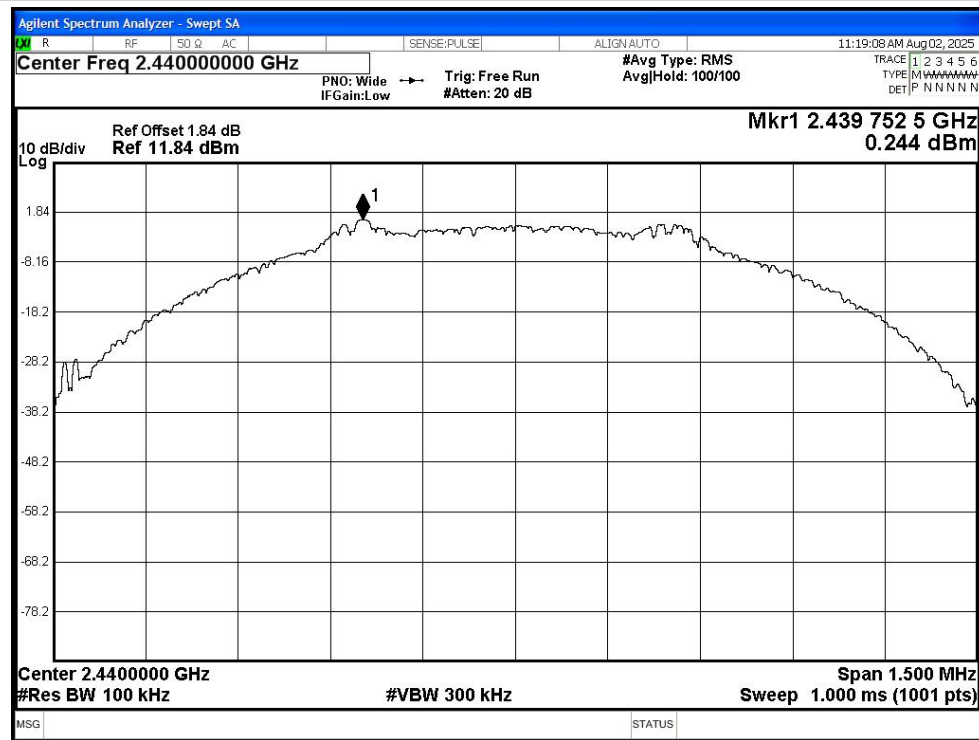
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



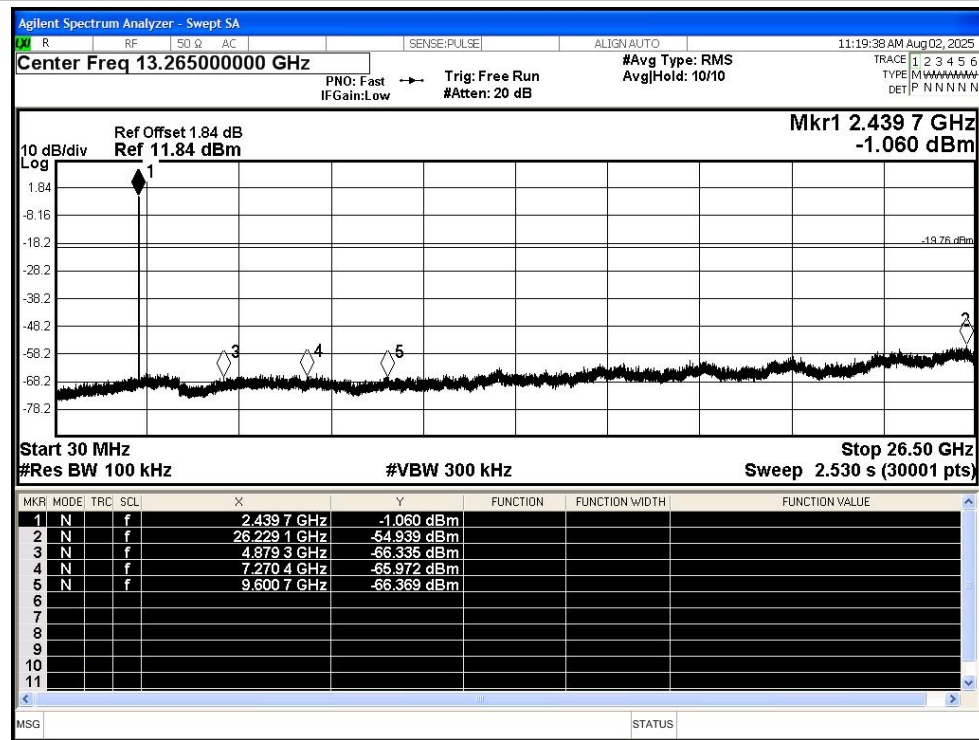
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission

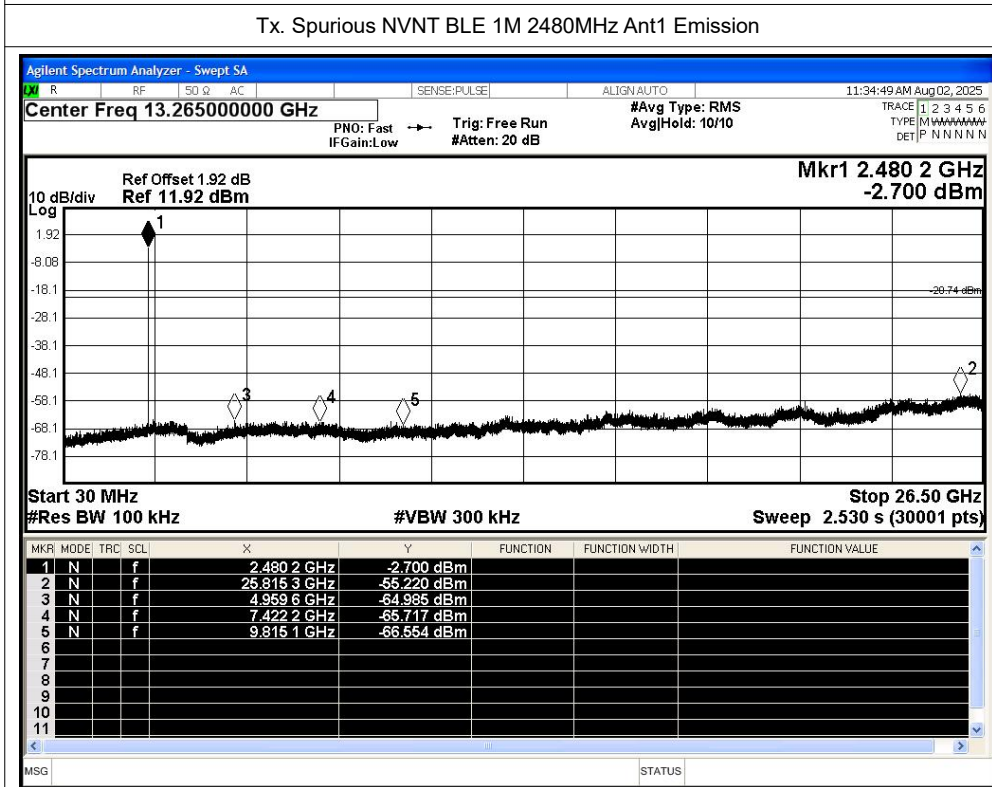
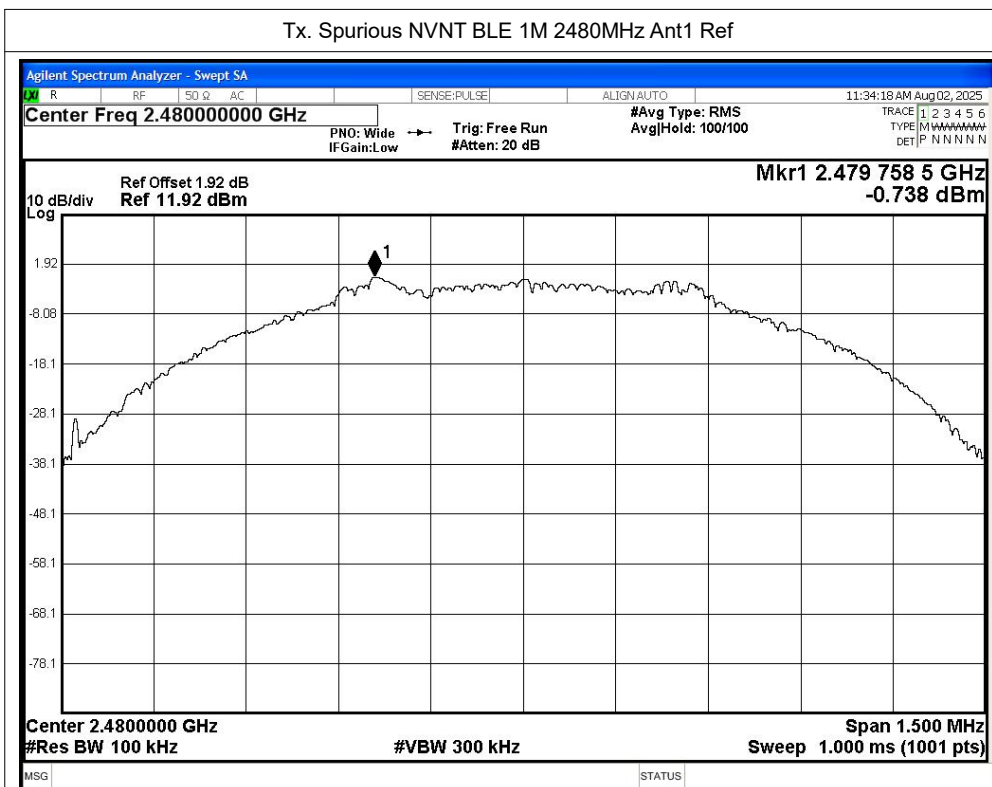


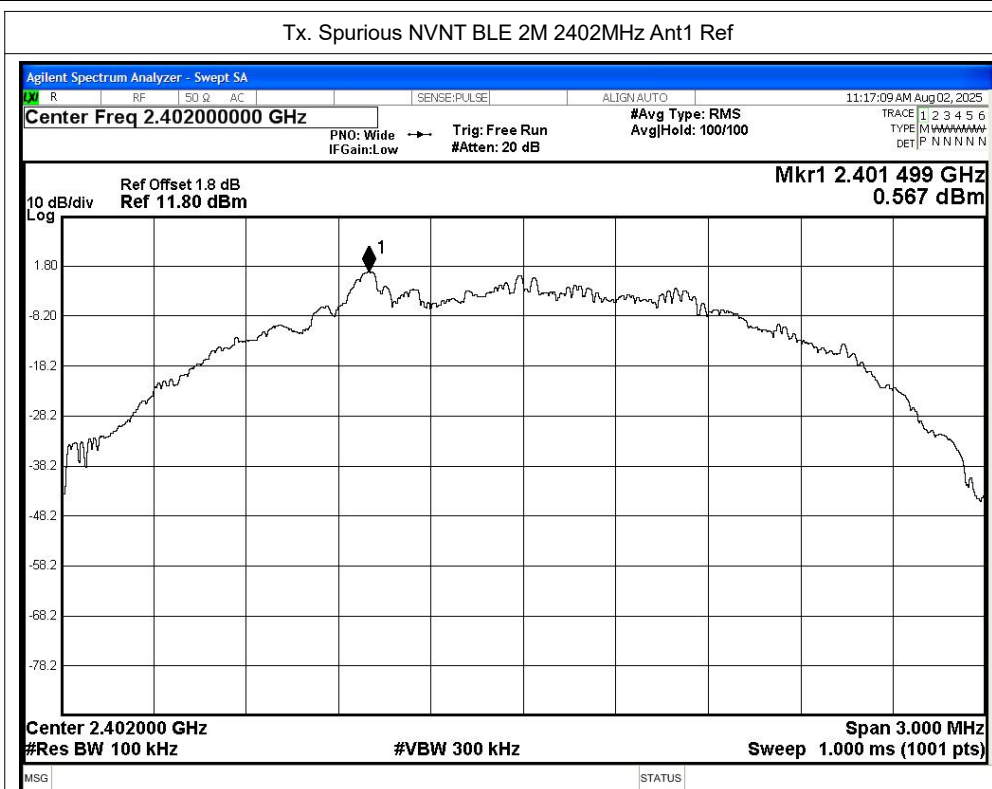
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



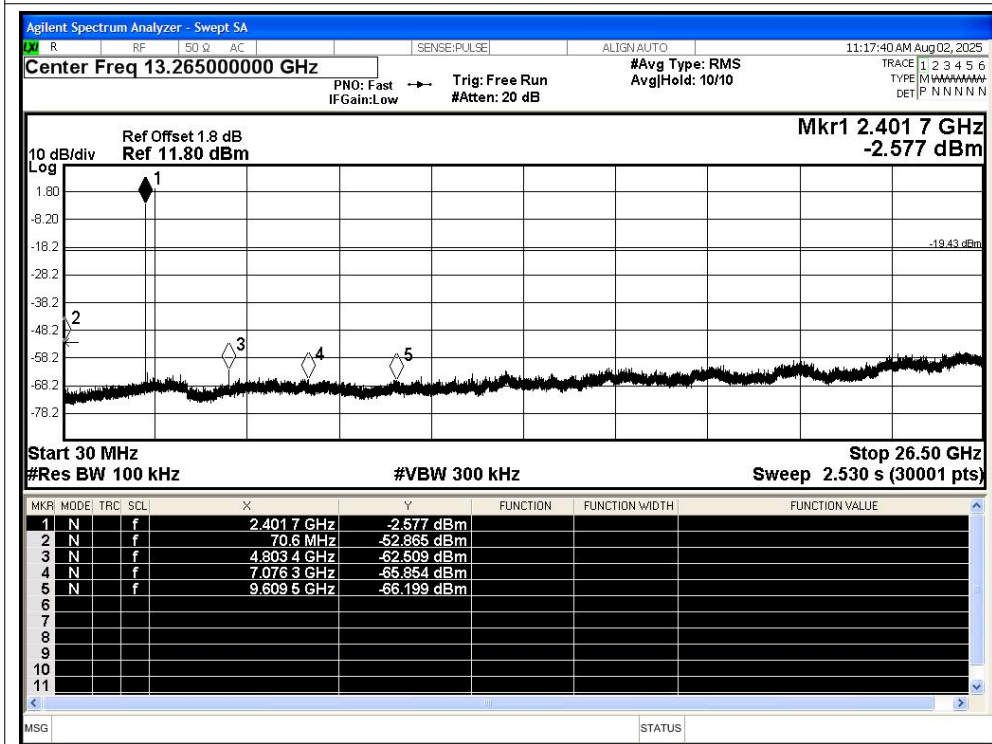
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission

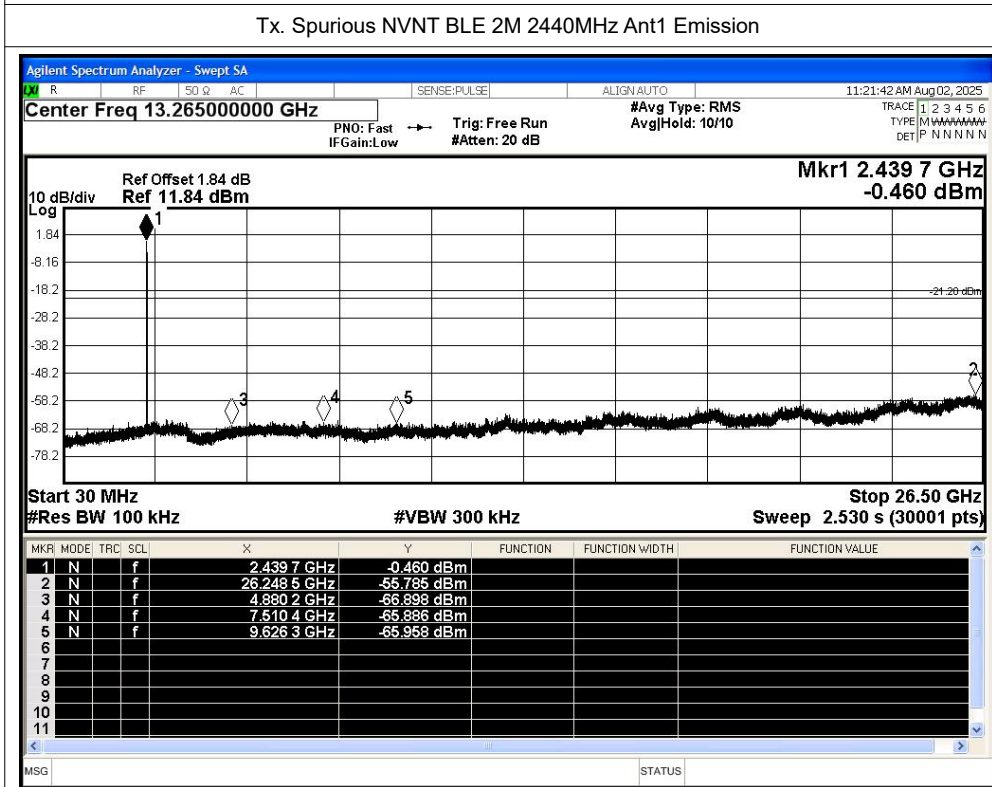
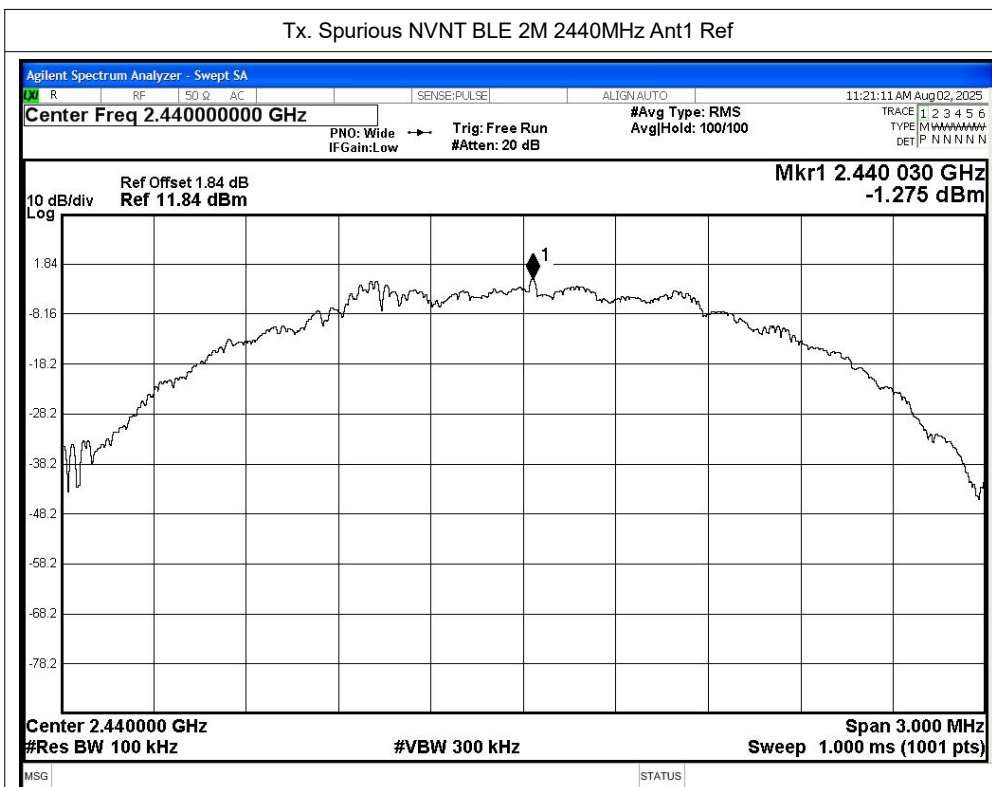


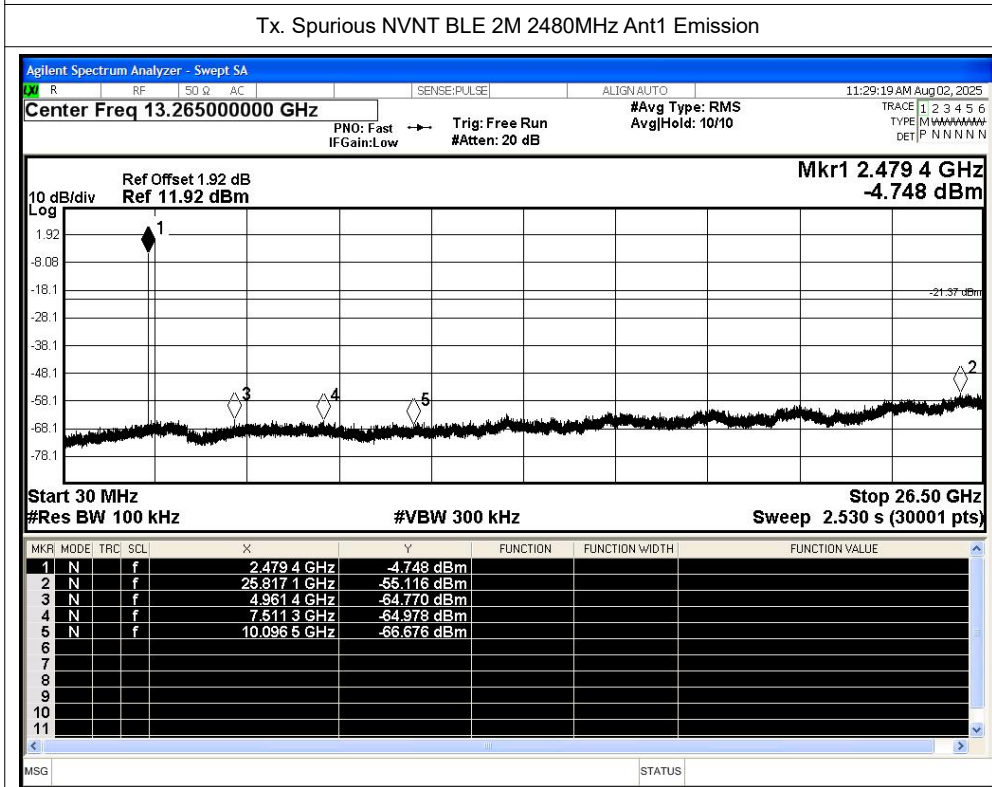
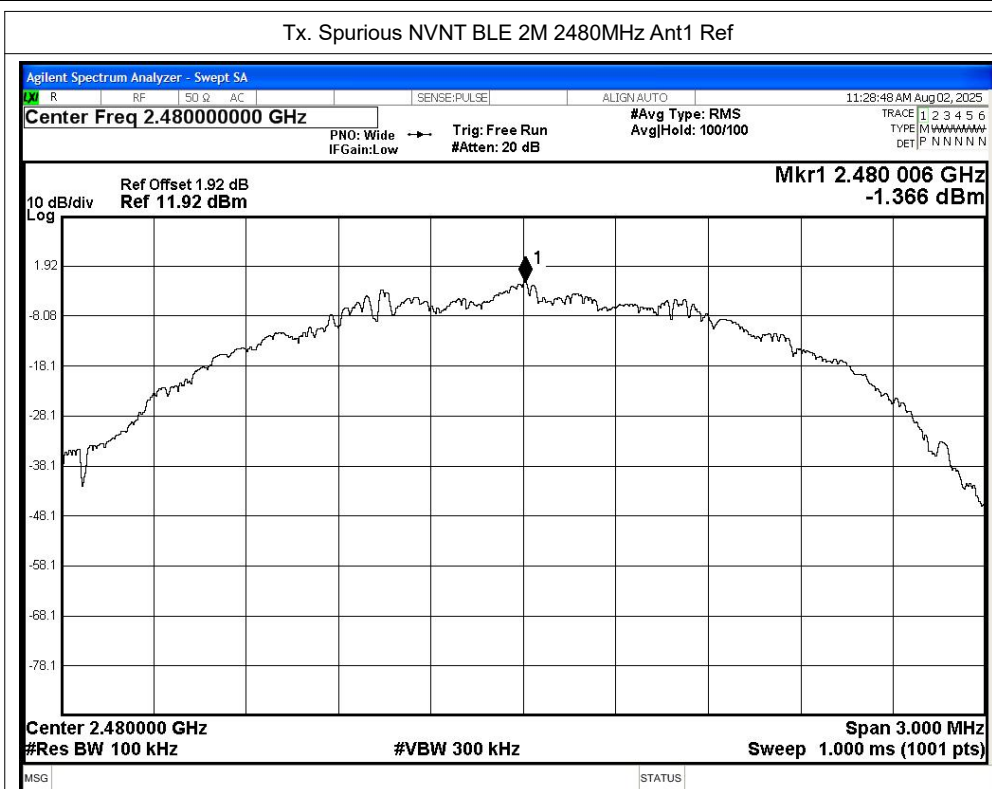




Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission





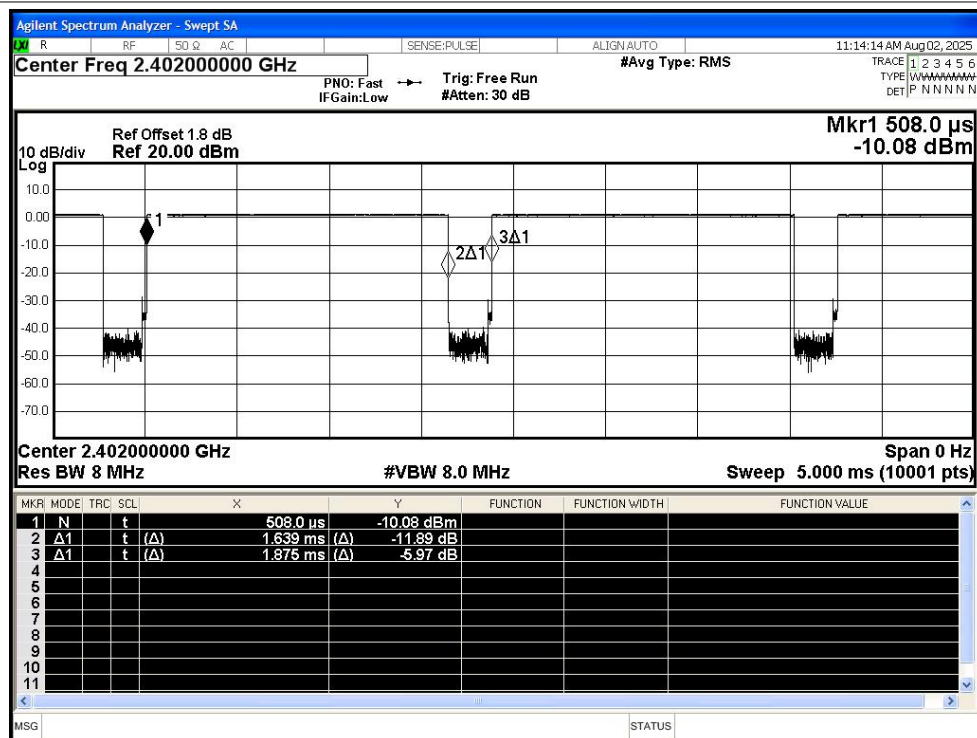


Duty Cycle

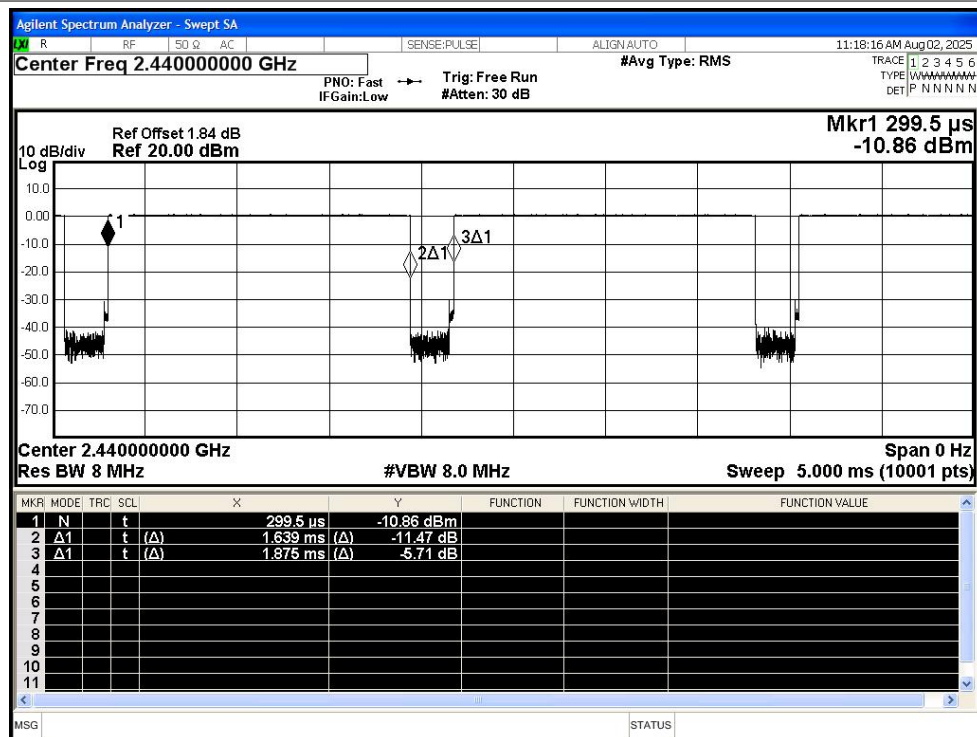
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	87.39	0.59	0.61
NVNT	BLE 1M	2440	Ant1	87.39	0.59	0.61
NVNT	BLE 1M	2480	Ant1	87.41	0.58	0.61
NVNT	BLE 2M	2402	Ant1	66.35	1.78	1.21
NVNT	BLE 2M	2440	Ant1	65.92	1.81	1.21
NVNT	BLE 2M	2480	Ant1	65.96	1.81	1.21

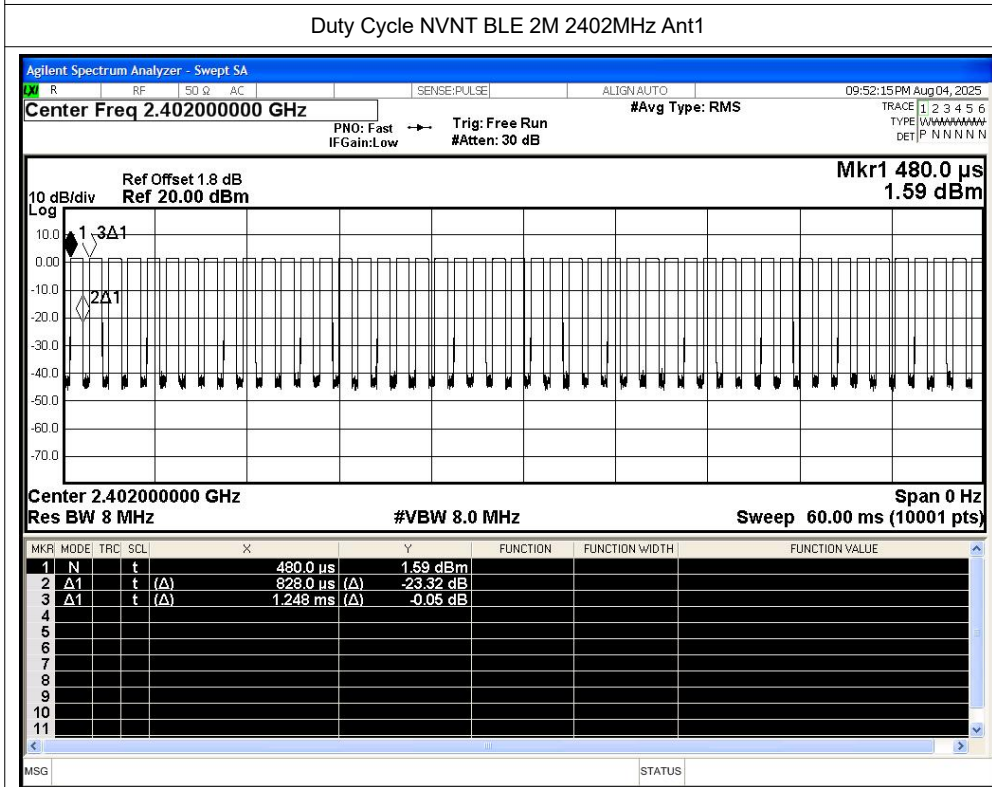
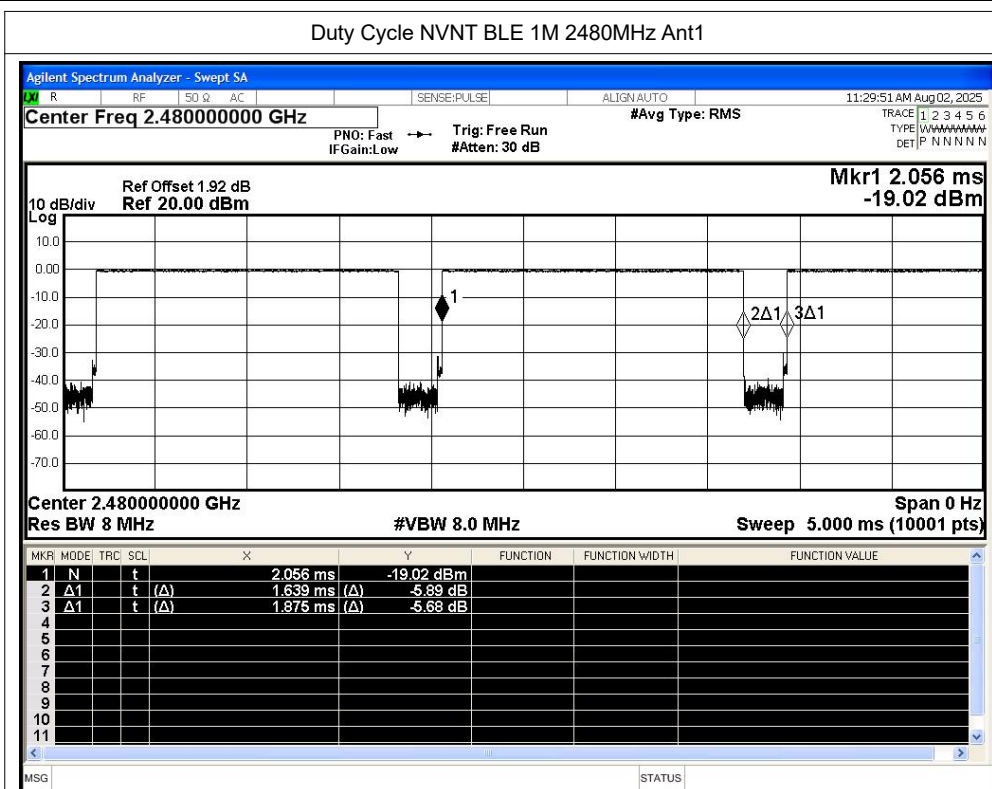
Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1

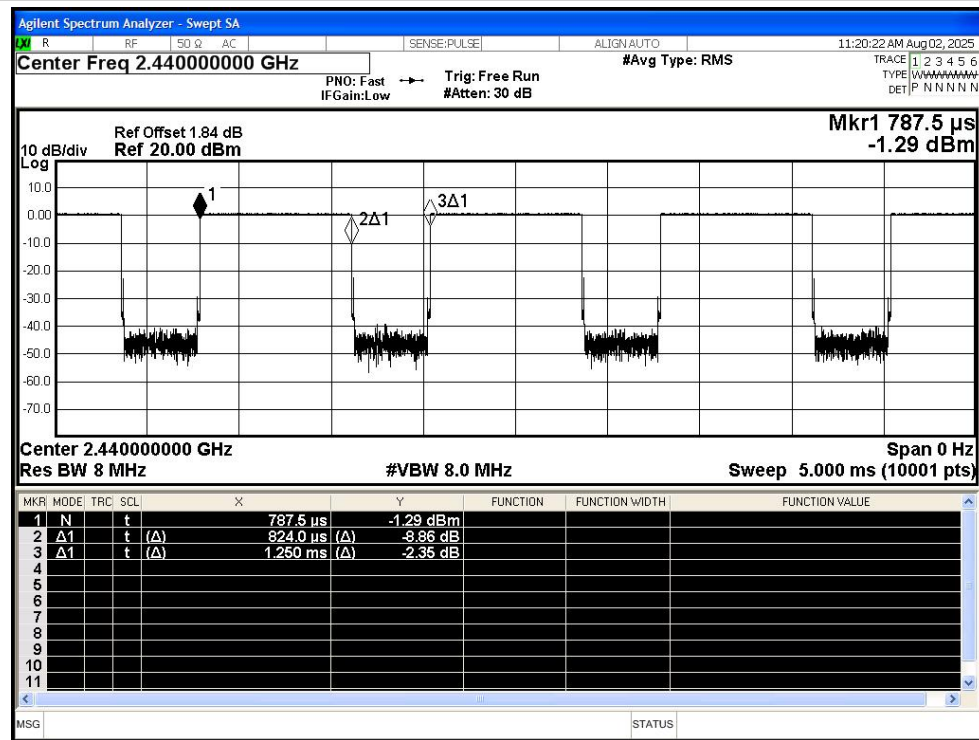


Duty Cycle NVNT BLE 1M 2440MHz Ant1

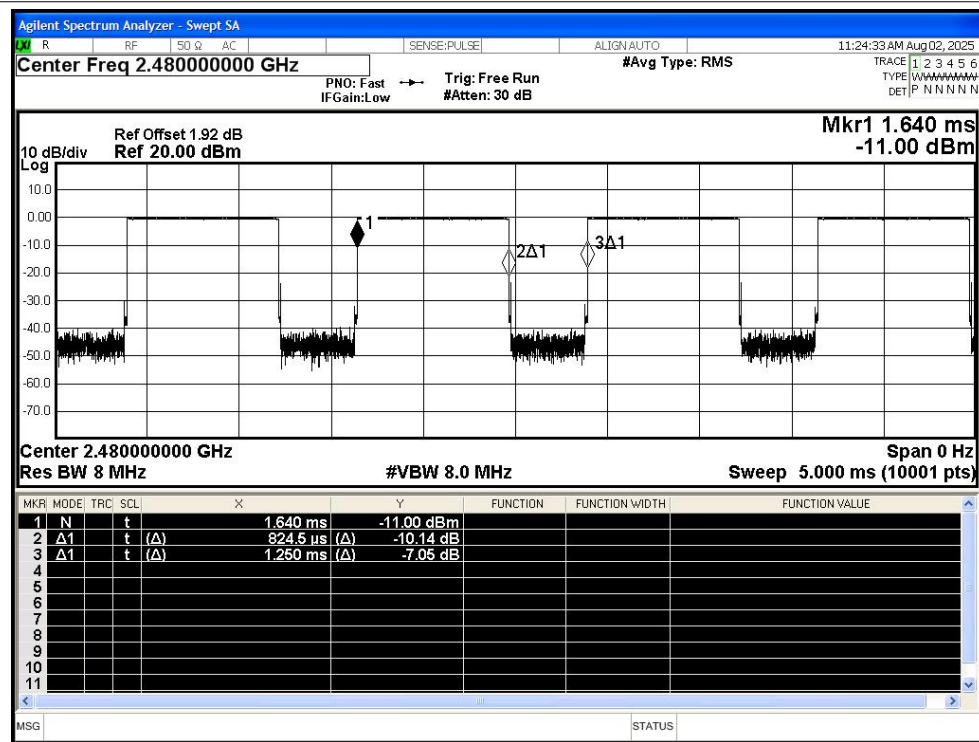




Duty Cycle NVNT BLE 2M 2440MHz Ant1



Duty Cycle NVNT BLE 2M 2480MHz Ant1



***** End of Report *****