

Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: LED Matrix Panel
Test Model: ZJ-BPSB3-RGB2-9616-CS-S

Environmental Conditions

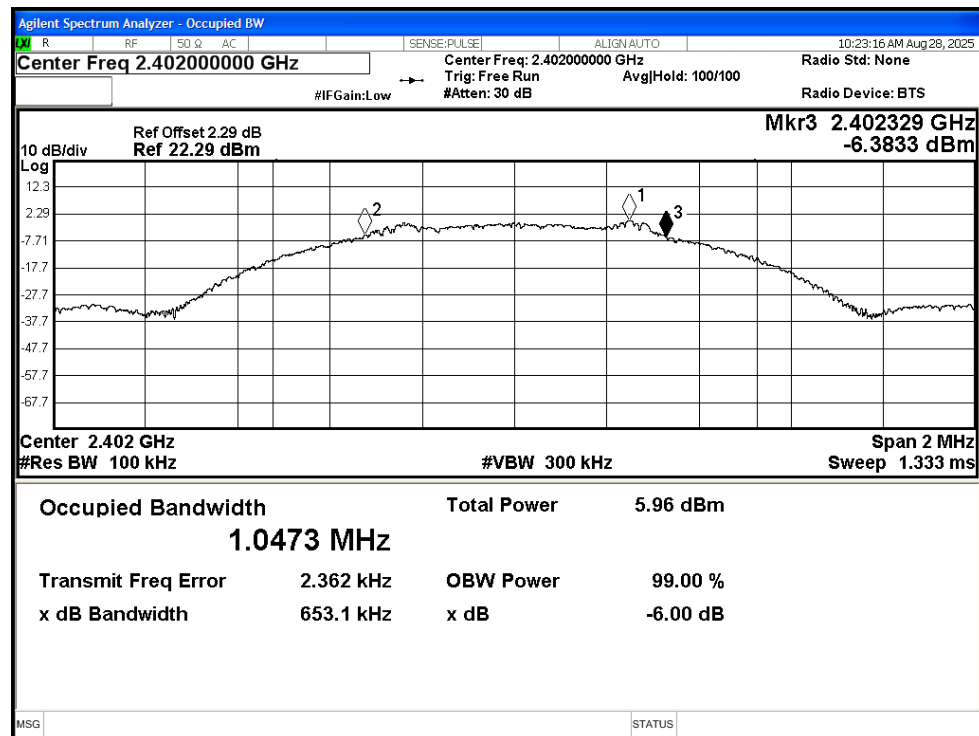
Temperature:	23.6°C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Suichao Lai
Supervised by:	Yan Chen

A.1 -6dB Bandwidth

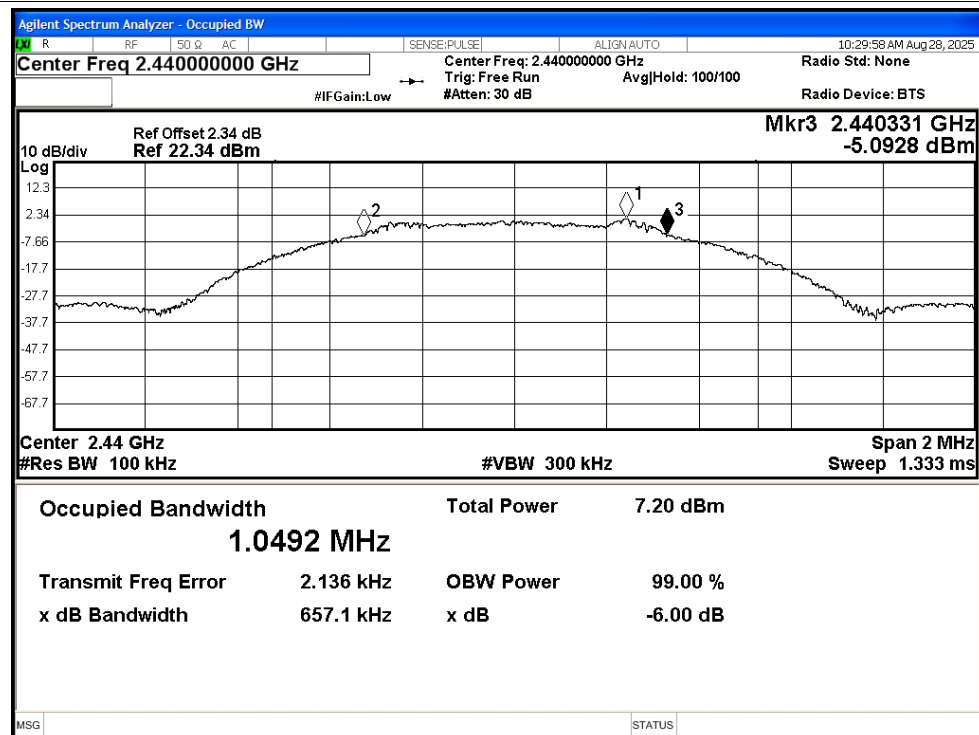
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE	2402	Ant	0.653	≥ 0.5	Pass
NVNT	BLE	2440	Ant	0.657	≥ 0.5	Pass
NVNT	BLE	2480	Ant	0.668	≥ 0.5	Pass

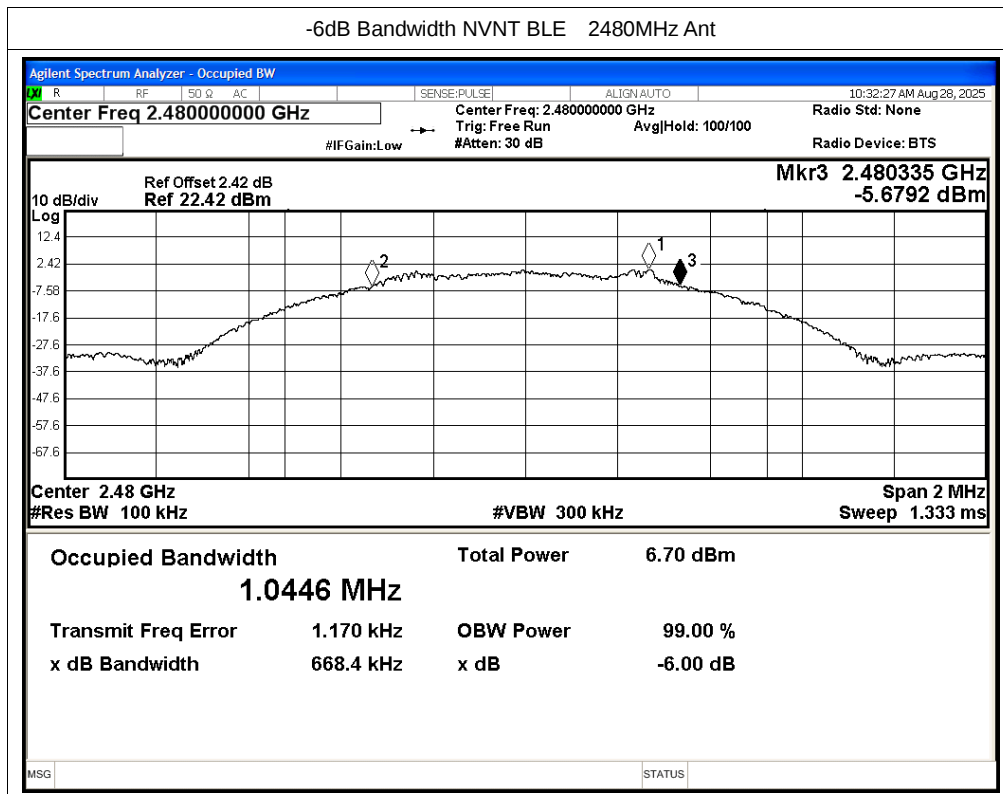
Test Graphs

-6dB Bandwidth NVNT BLE 2402MHz Ant



-6dB Bandwidth NVNT BLE 2440MHz Ant



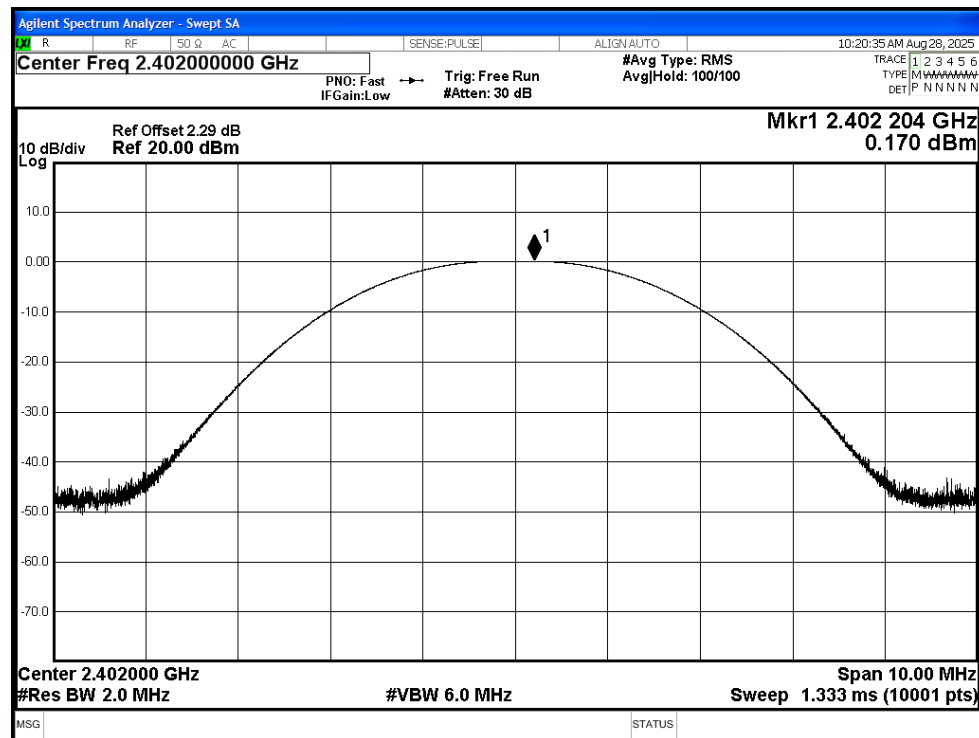


A.2 Maximum Peak Conducted Output Power

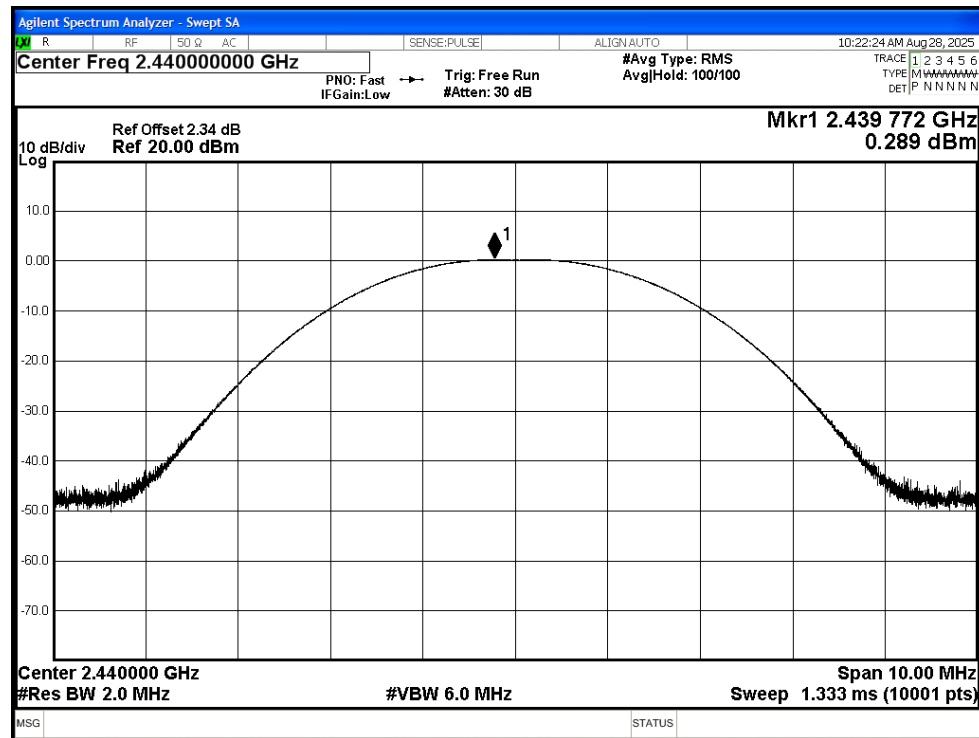
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant	0.17	30	Pass
NVNT	BLE	2440	Ant	0.29	30	Pass
NVNT	BLE	2480	Ant	0.81	30	Pass

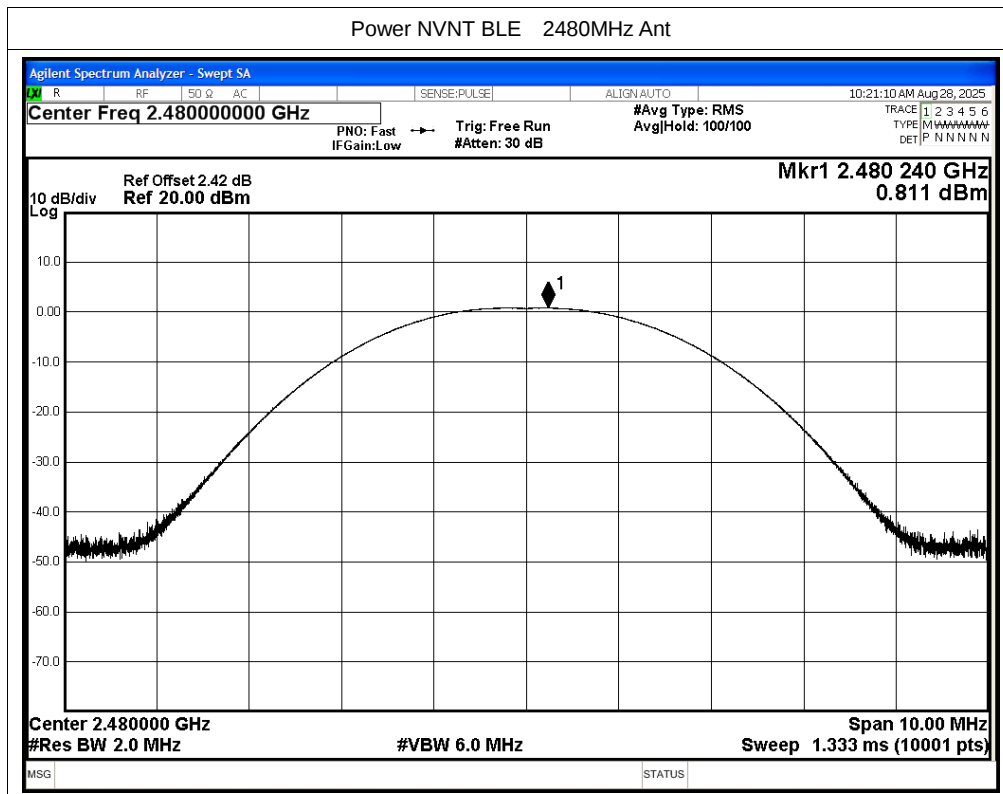
Test Graphs

Power NVNT BLE 2402MHz Ant



Power NVNT BLE 2440MHz Ant



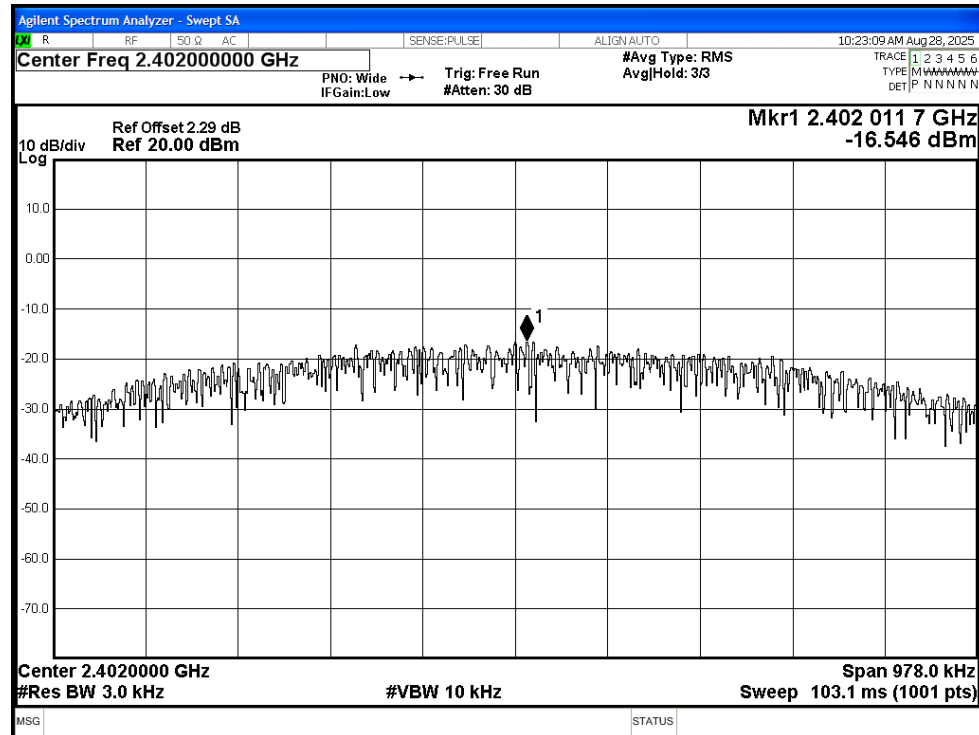


A.3 Maximum Power Spectral Density Level

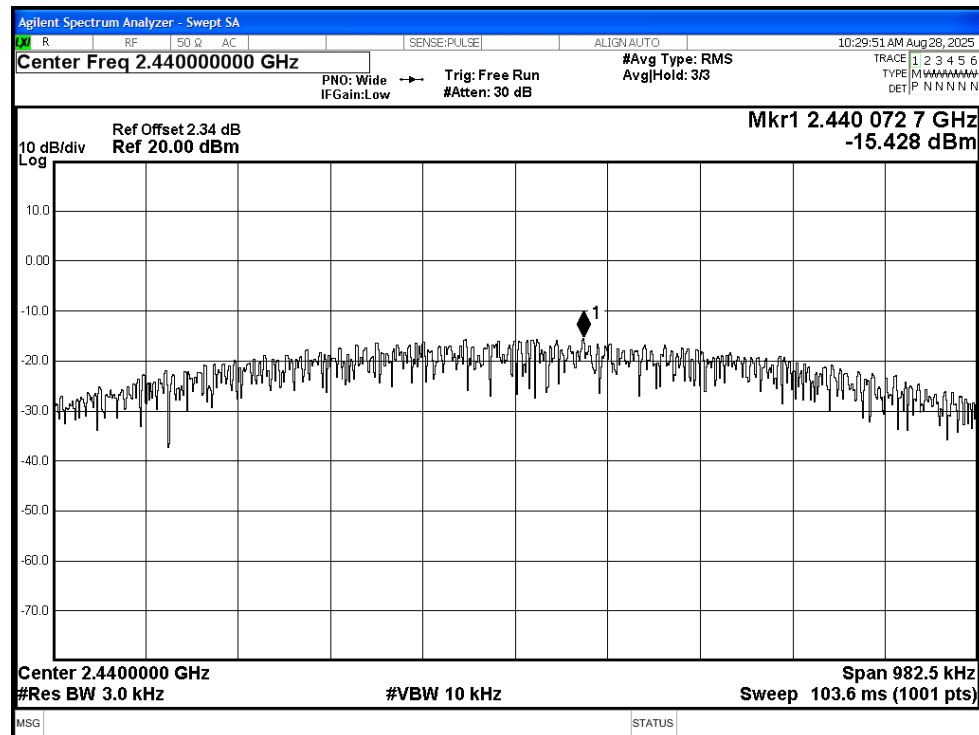
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE	2402	Ant	-16.55	8	Pass
NVNT	BLE	2440	Ant	-15.43	8	Pass
NVNT	BLE	2480	Ant	-15.94	8	Pass

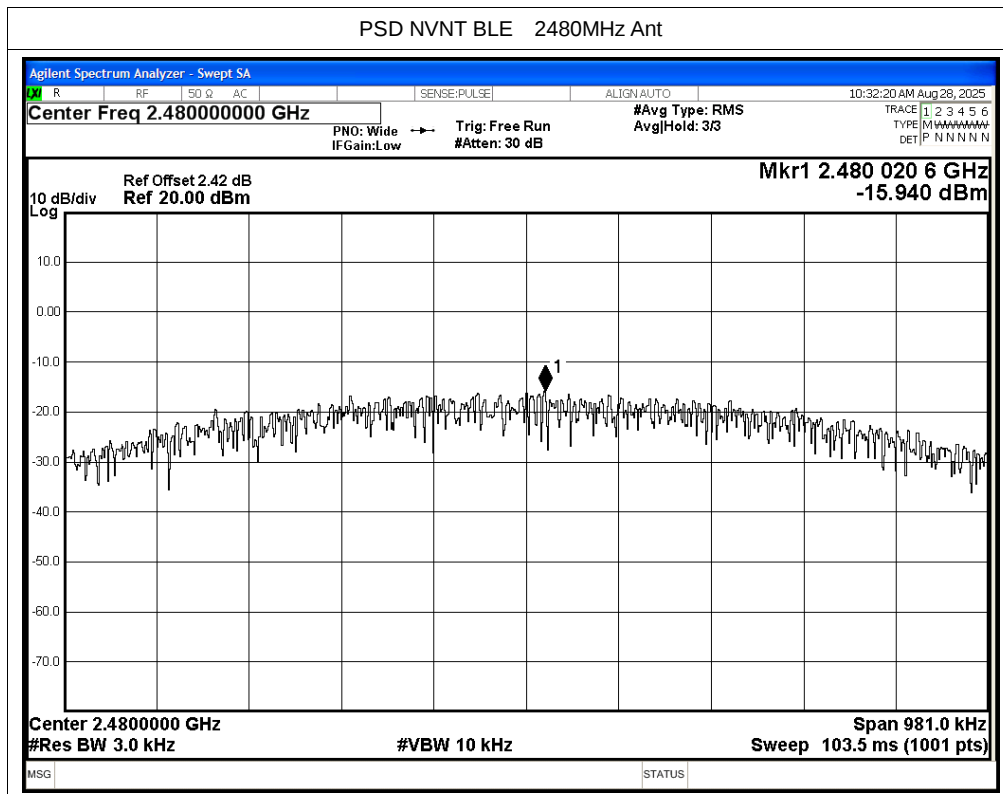
Test Graphs

PSD NVNT BLE 2402MHz Ant



PSD NVNT BLE 2440MHz Ant



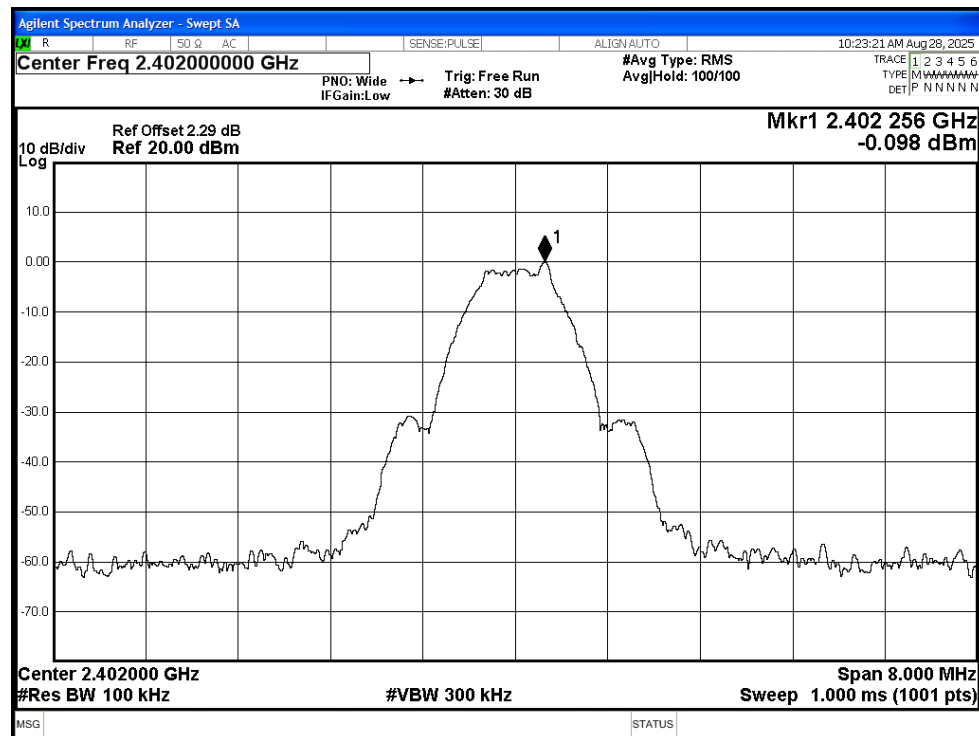


A.4 Band Edge

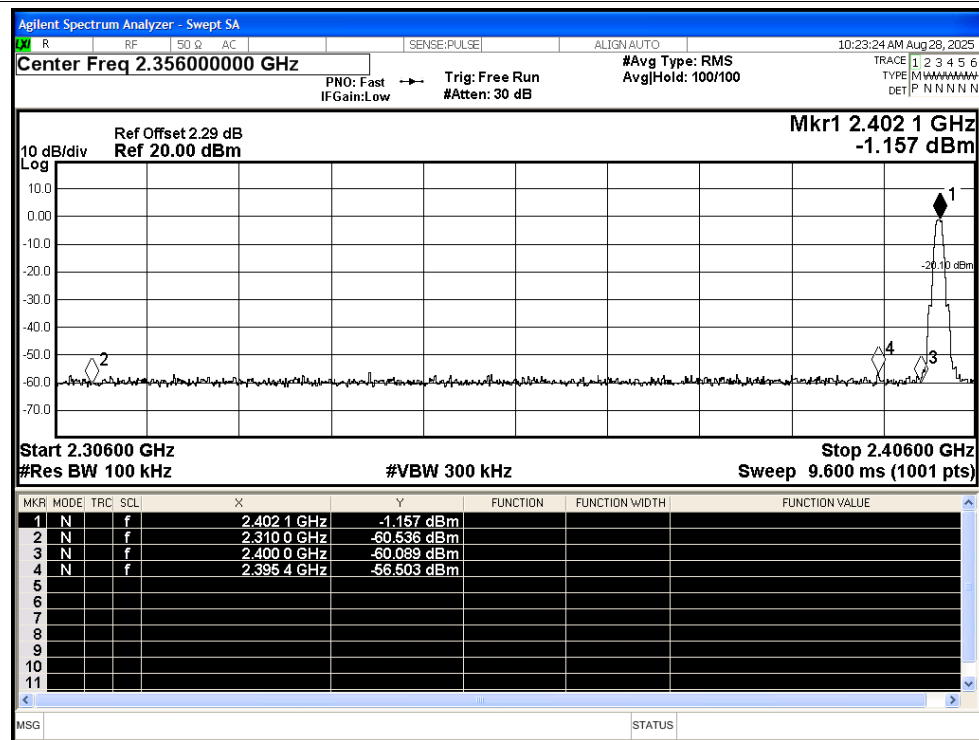
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant	-56.41	-20	Pass
NVNT	BLE	2480	Ant	-56.01	-20	Pass

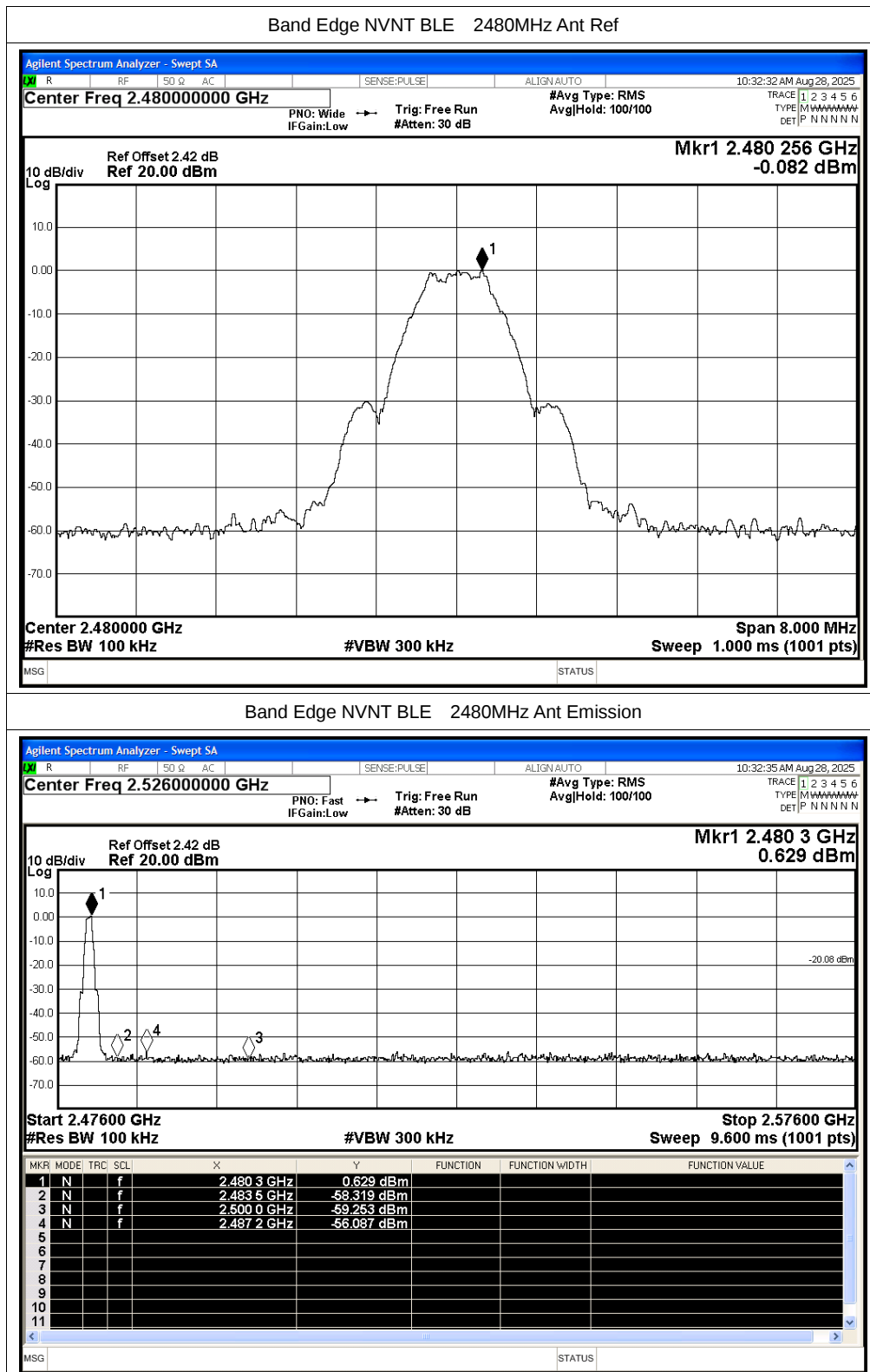
Test Graphs

Band Edge NVNT BLE 2402MHz Ant Ref



Band Edge NVNT BLE 2402MHz Ant Emission



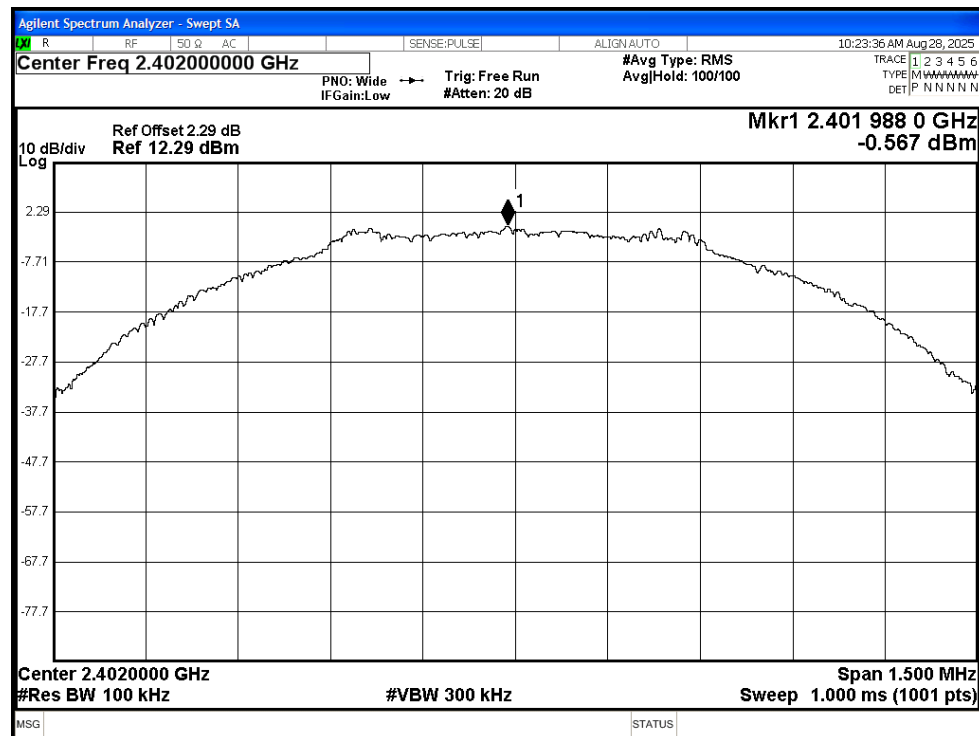


A.5 Conducted RF Spurious Emission

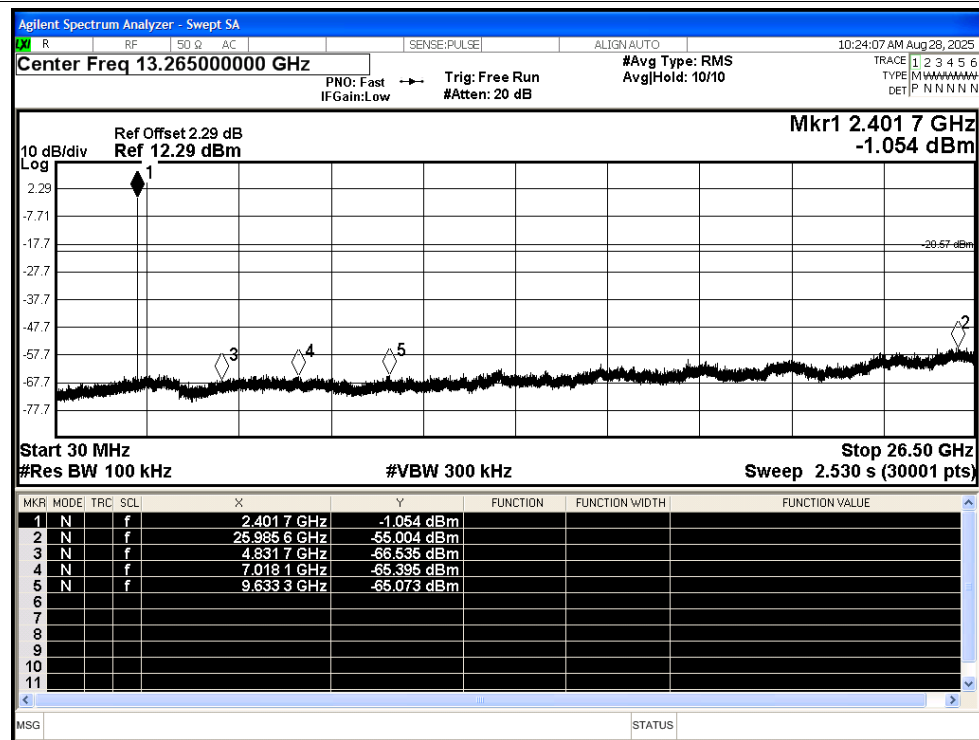
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant	-54.44	-20	Pass
NVNT	BLE	2440	Ant	-55.29	-20	Pass
NVNT	BLE	2480	Ant	-54.44	-20	Pass

Test Graphs

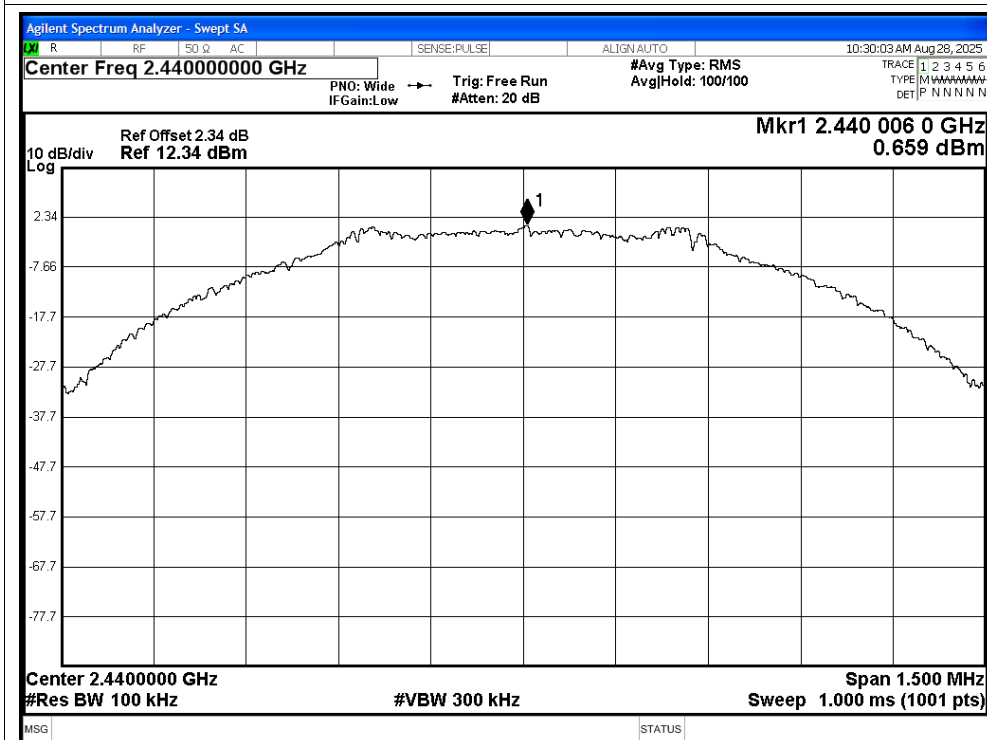
Tx. Spurious NVNT BLE 2402MHz Ant Ref



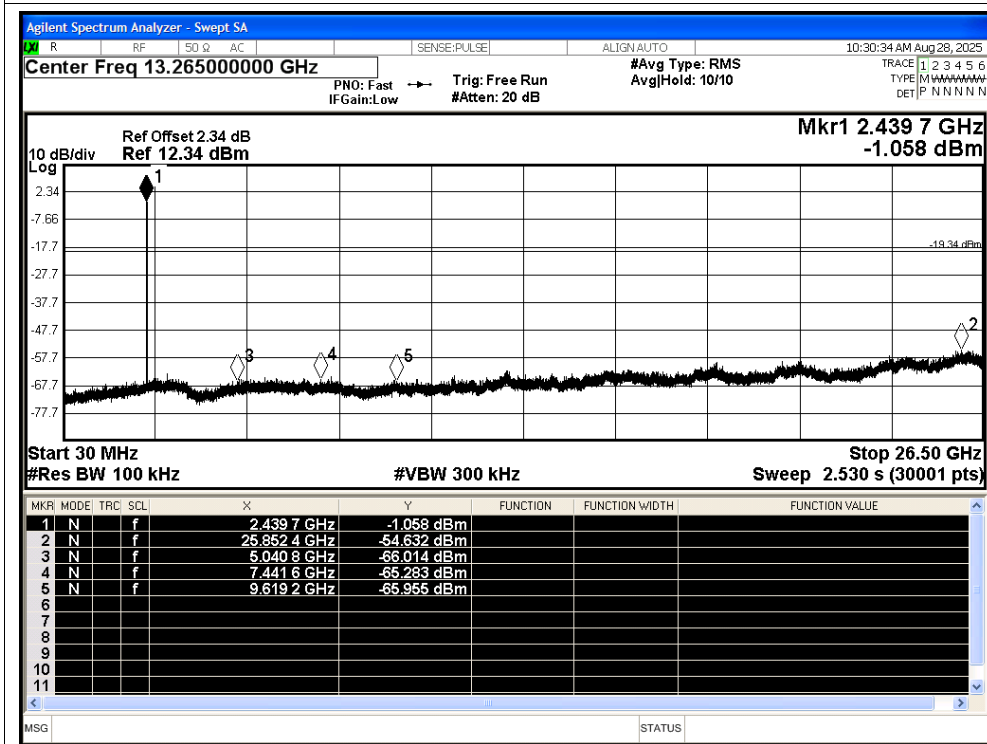
Tx. Spurious NVNT BLE 2402MHz Ant Emission



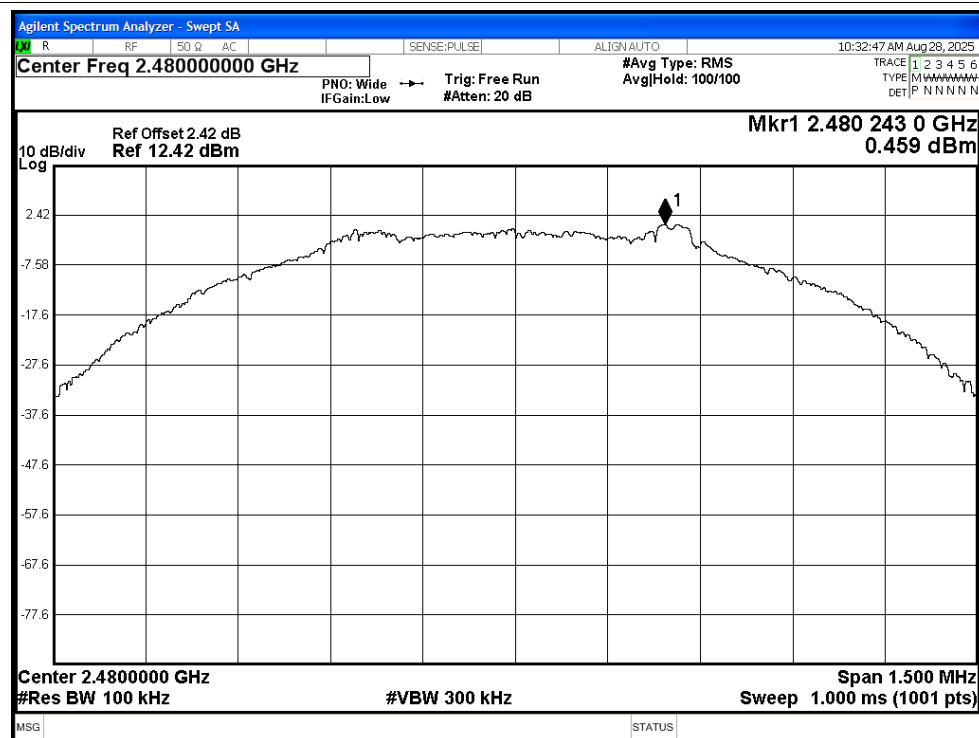
Tx. Spurious NVNT BLE 2440MHz Ant Ref



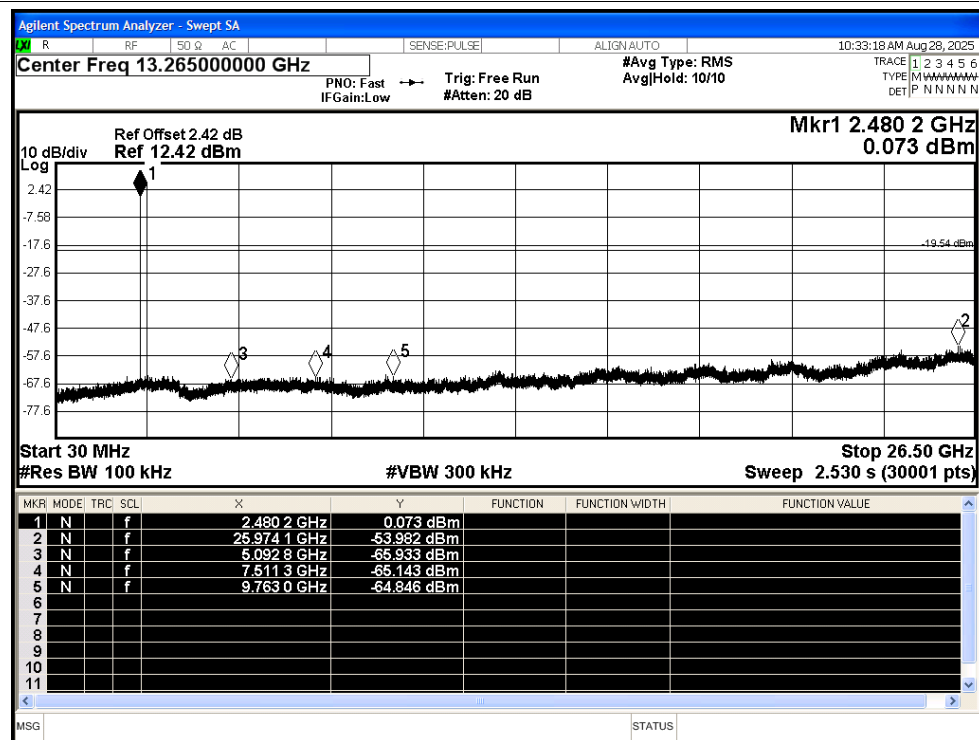
Tx. Spurious NVNT BLE 2440MHz Ant Emission



Tx. Spurious NVNT BLE 2480MHz Ant Ref



Tx. Spurious NVNT BLE 2480MHz Ant Emission

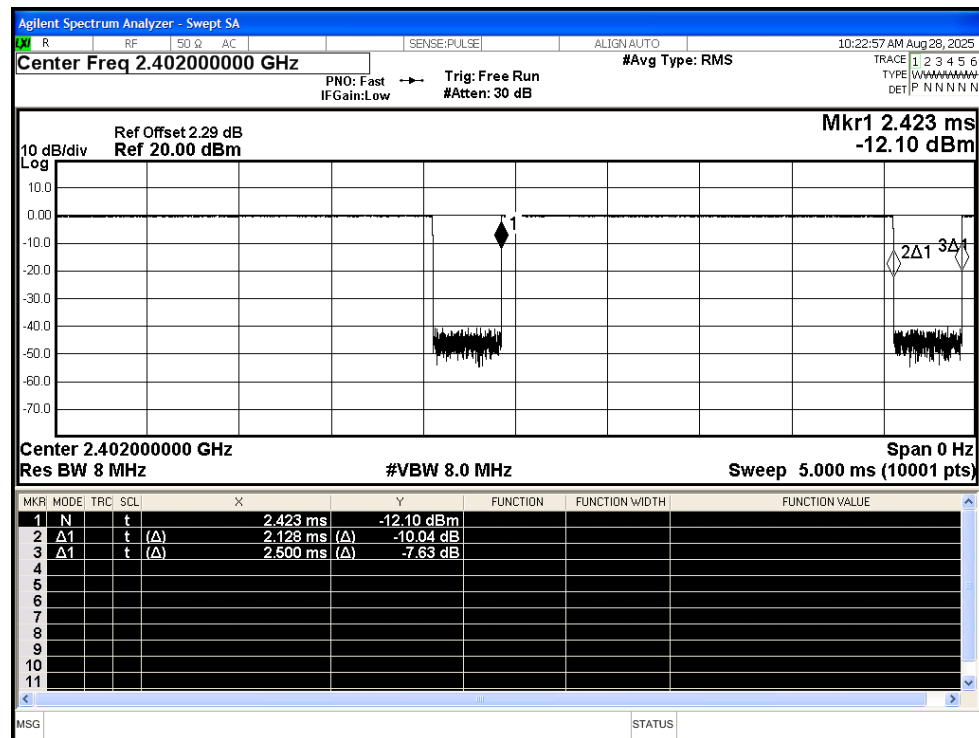


A.6 Duty Cycle

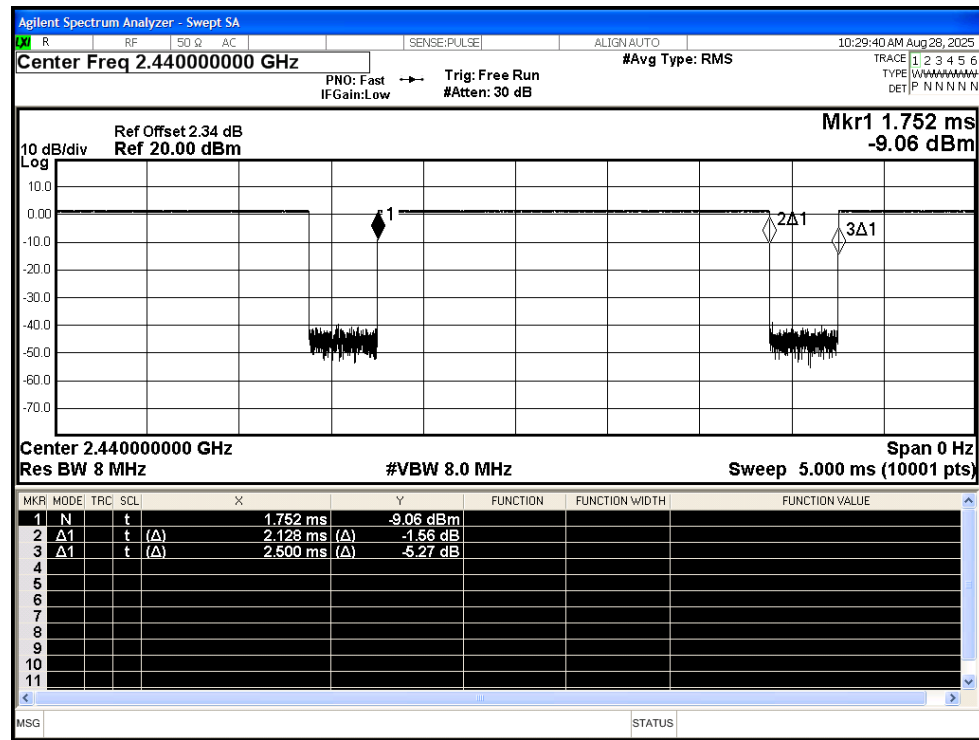
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE	2402	Ant	85.12	0.7	0.47
NVNT	BLE	2440	Ant	85.1	0.7	0.47
NVNT	BLE	2480	Ant	85.12	0.7	0.47

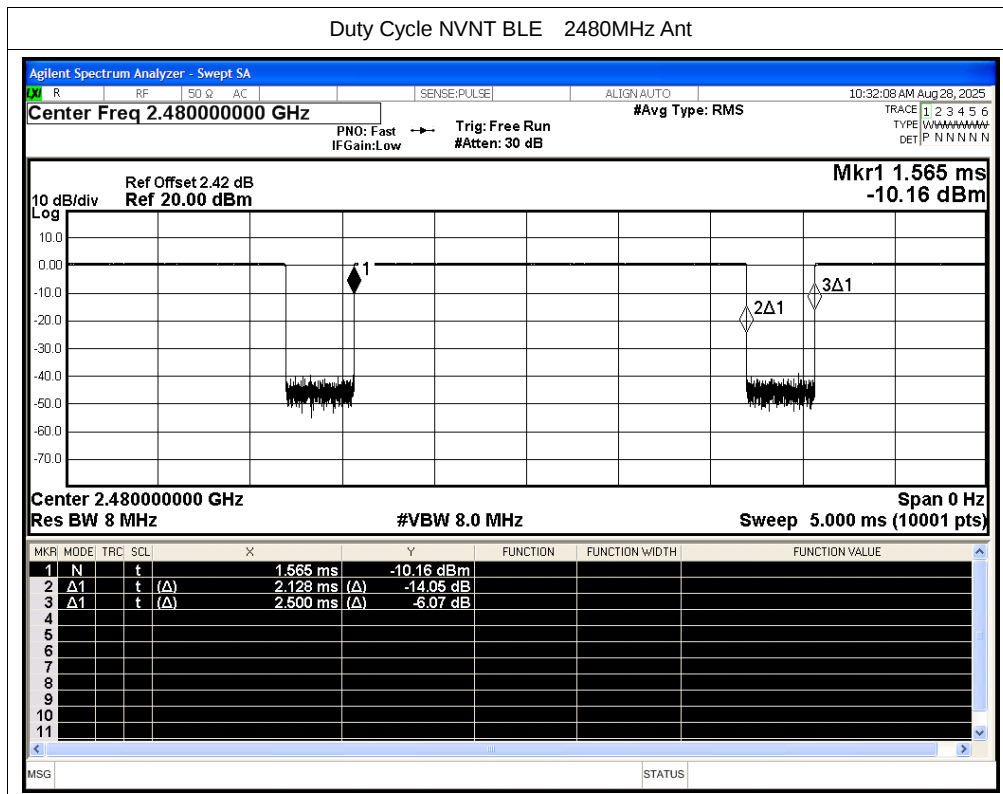
Test Graphs

Duty Cycle NVNT BLE 2402MHz Ant



Duty Cycle NVNT BLE 2440MHz Ant



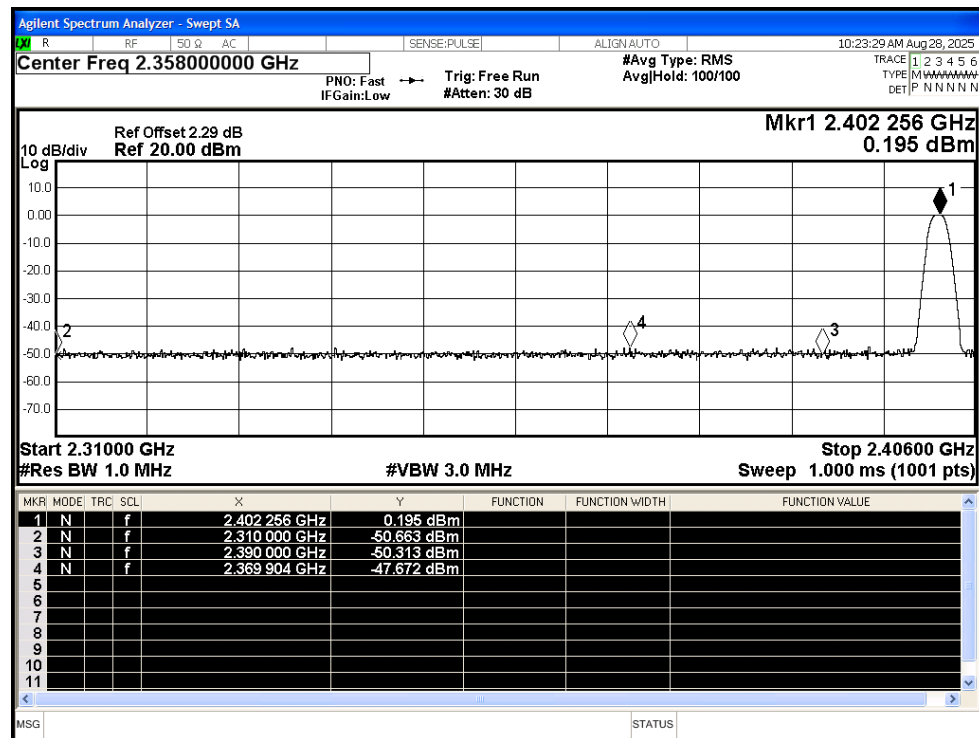


A.7 Restrict Band

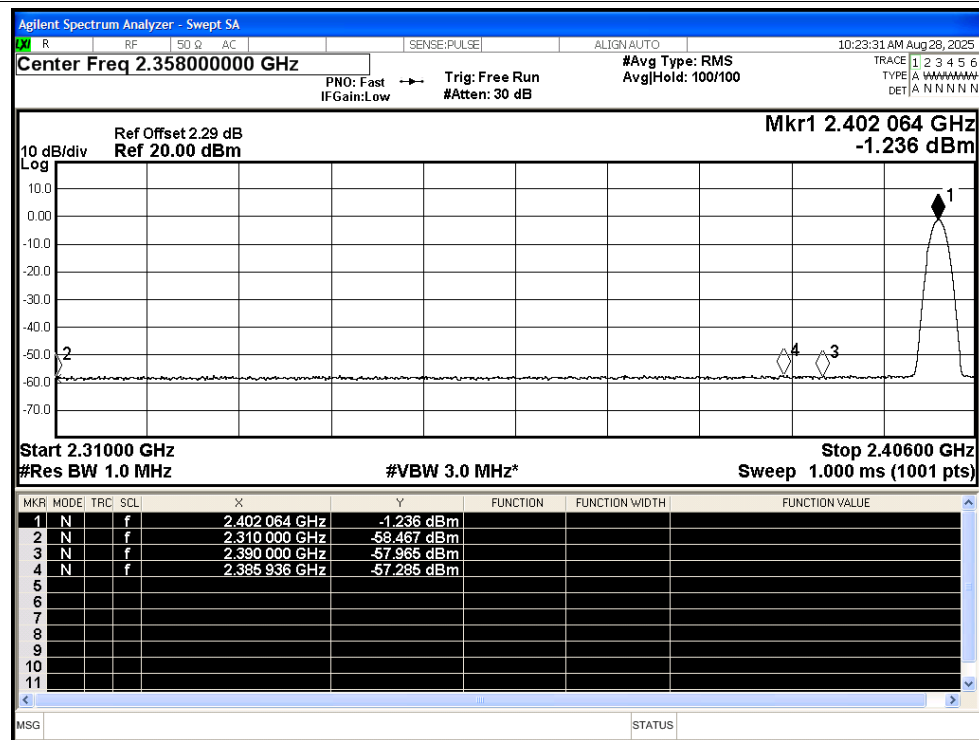
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE	2402	Ant	2310	-50.66	3.06	-	47.66	Peak	74	Pass
NVNT	BLE	2402	Ant	2310	-58.47	3.06	0.7	40.55	Average	54	Pass
NVNT	BLE	2402	Ant	2369.904	-47.67	3.06	-	50.65	Peak	74	Pass
NVNT	BLE	2402	Ant	2385.936	-57.29	3.06	0.7	41.73	Average	54	Pass
NVNT	BLE	2402	Ant	2390	-50.31	3.06	-	48.01	Peak	74	Pass
NVNT	BLE	2402	Ant	2390	-57.97	3.06	0.7	41.05	Average	54	Pass
NVNT	BLE	2480	Ant	2483.5	-49.23	3.06	-	49.09	Peak	74	Pass
NVNT	BLE	2480	Ant	2483.5	-57.21	3.06	0.7	41.81	Average	54	Pass
NVNT	BLE	2480	Ant	2487.448	-46.14	3.06	-	52.18	Peak	74	Pass
NVNT	BLE	2480	Ant	2496.328	-56.86	3.06	0.7	42.16	Average	54	Pass
NVNT	BLE	2480	Ant	2500	-49.95	3.06	-	48.37	Peak	74	Pass
NVNT	BLE	2480	Ant	2500	-57.52	3.06	0.7	41.50	Average	54	Pass

Test Graphs

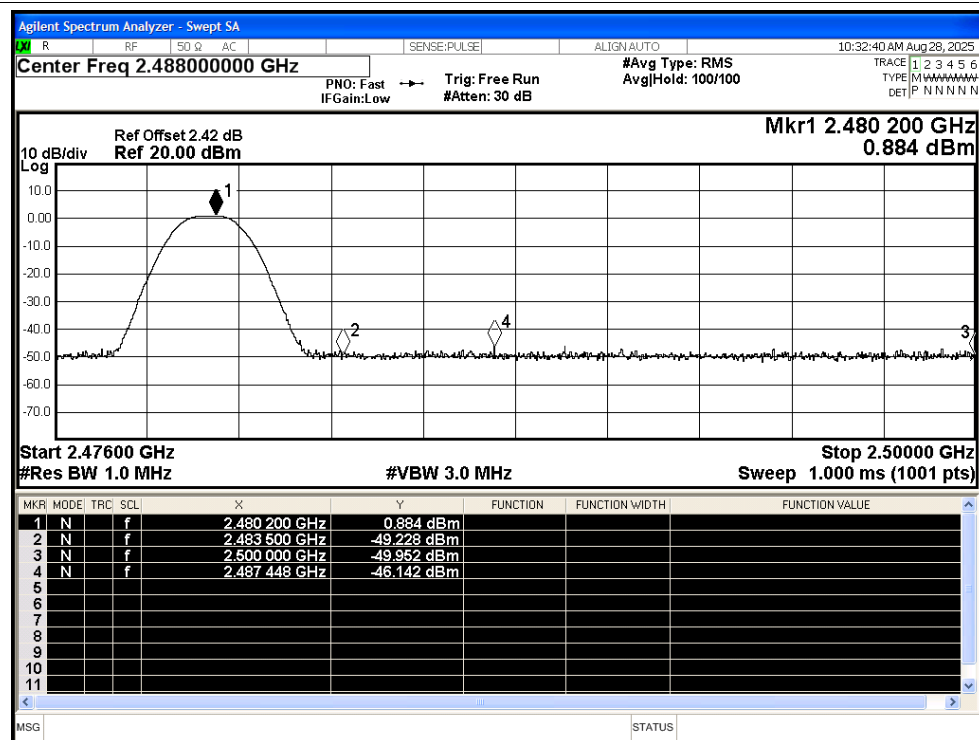
Restrict Band NVNT BLE 2402MHz Ant Peak



Restrict Band NVNT BLE 2402MHz Ant Average



Restrict Band NVNT BLE 2480MHz Ant Peak



Restrict Band NVNT BLE 2480MHz Ant Average

