



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: BrightCare Smart Light Bulb

Test Model: BB-01

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Luo
Supervised by:	Nick Peng



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A.1 -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.644	≥ 0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.661	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.655	≥ 0.5	Pass

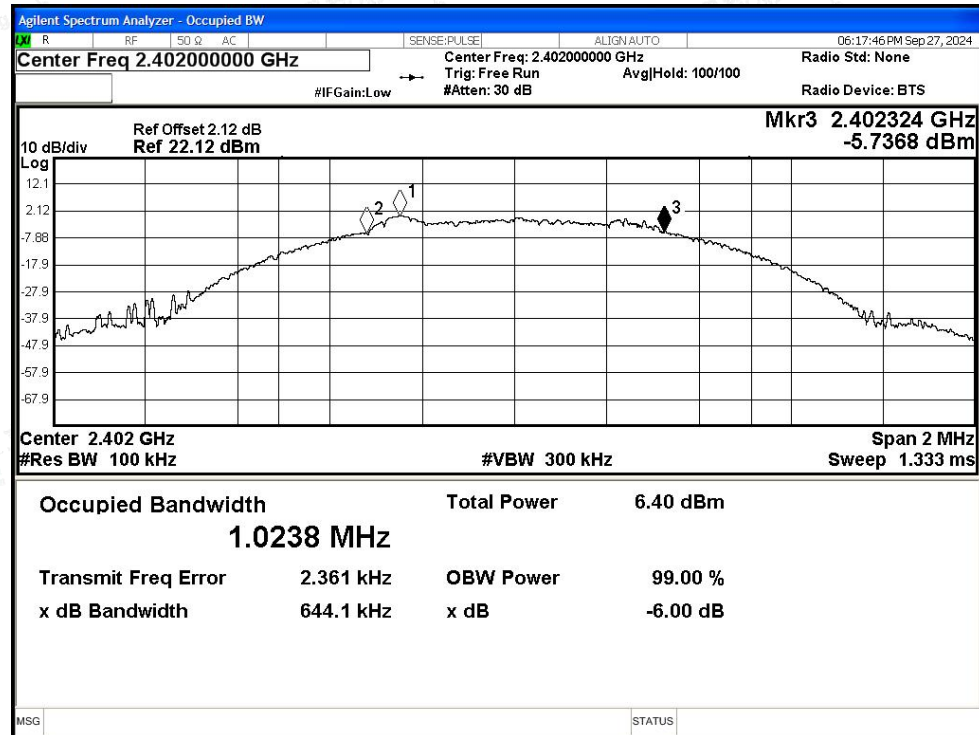


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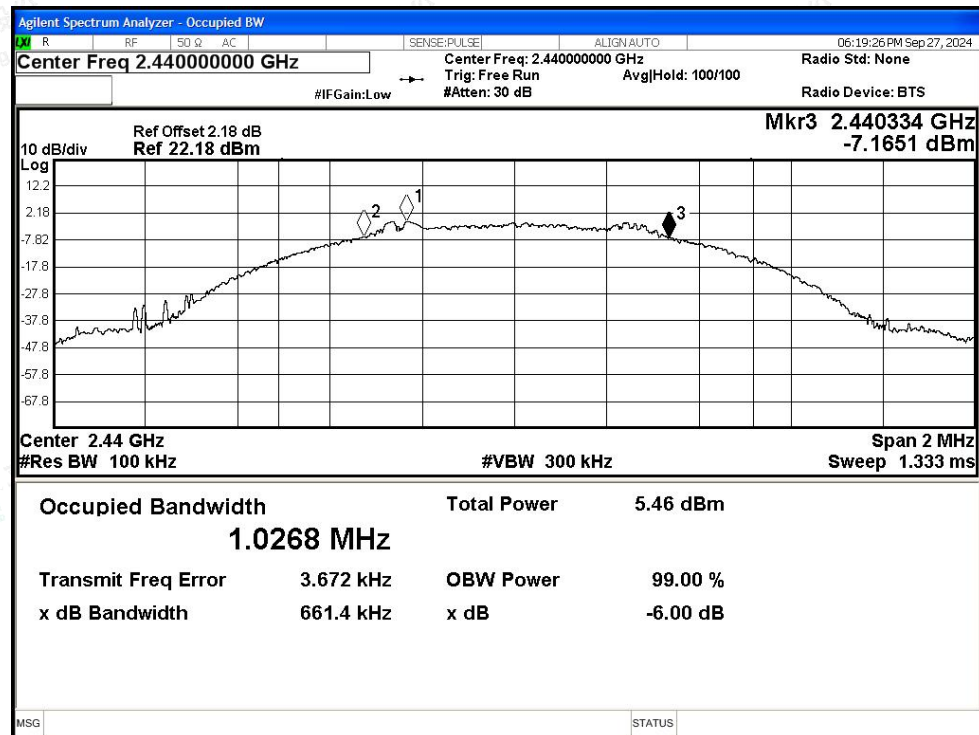


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

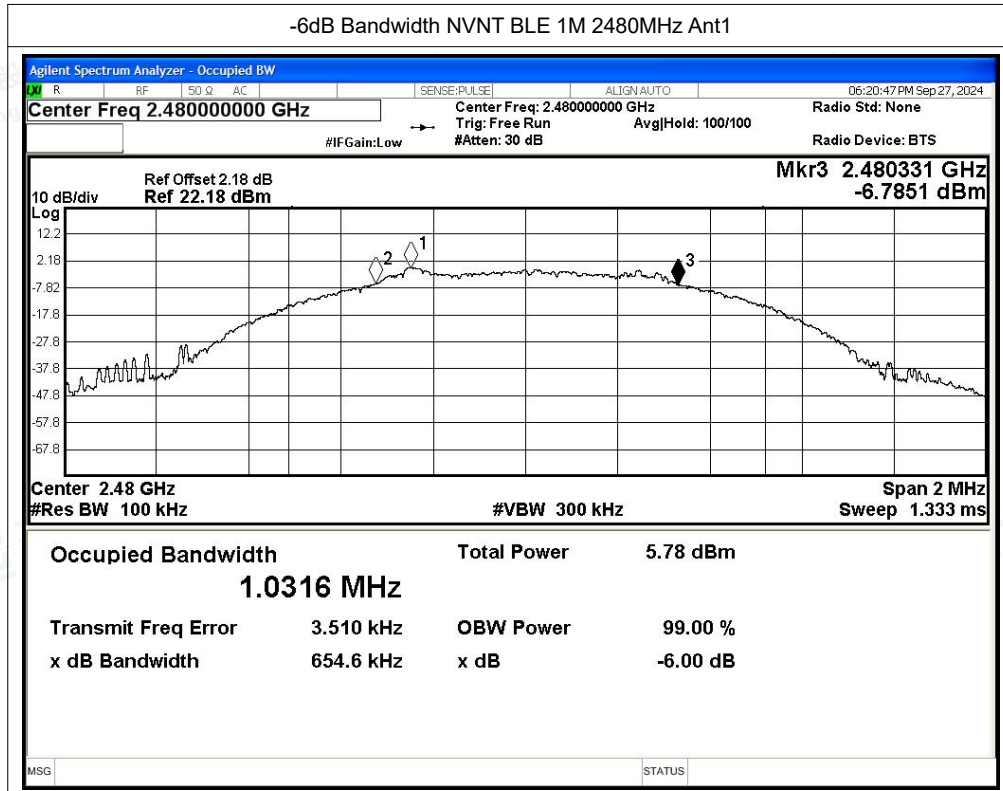


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A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	0.71	30	Pass
NVNT	BLE 1M	2440	Ant1	-0.18	30	Pass
NVNT	BLE 1M	2480	Ant1	0.13	30	Pass

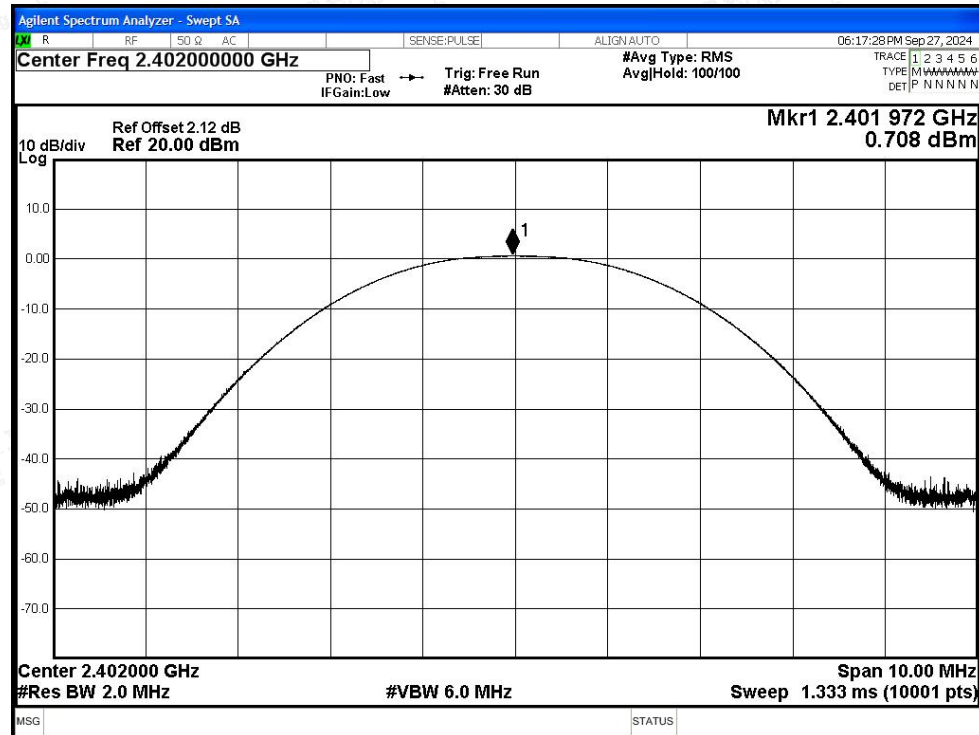


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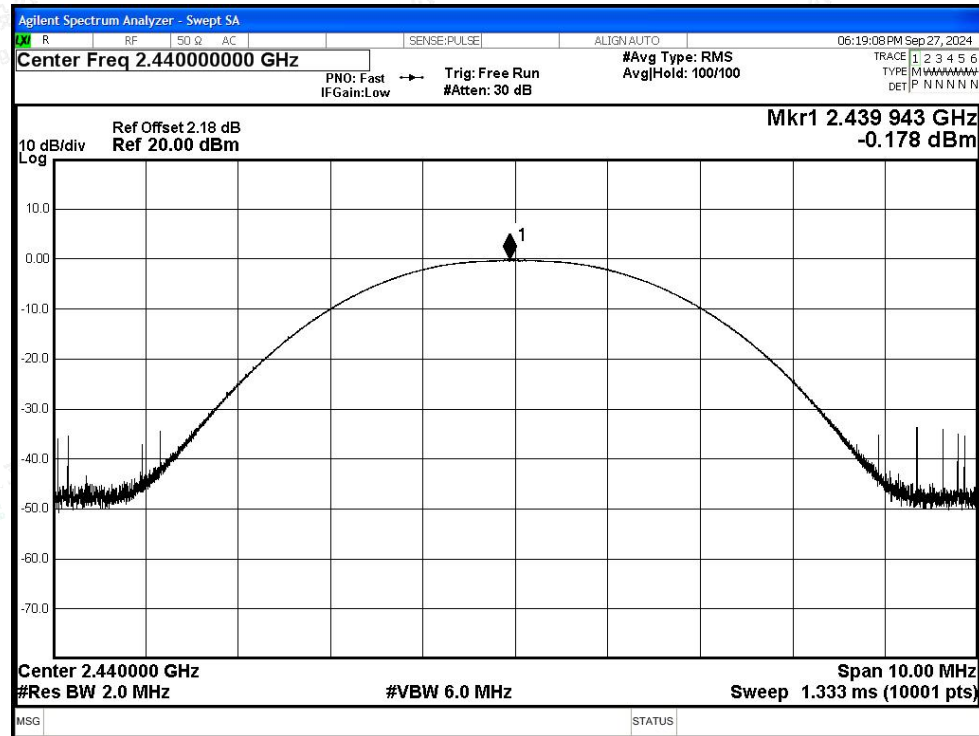


Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

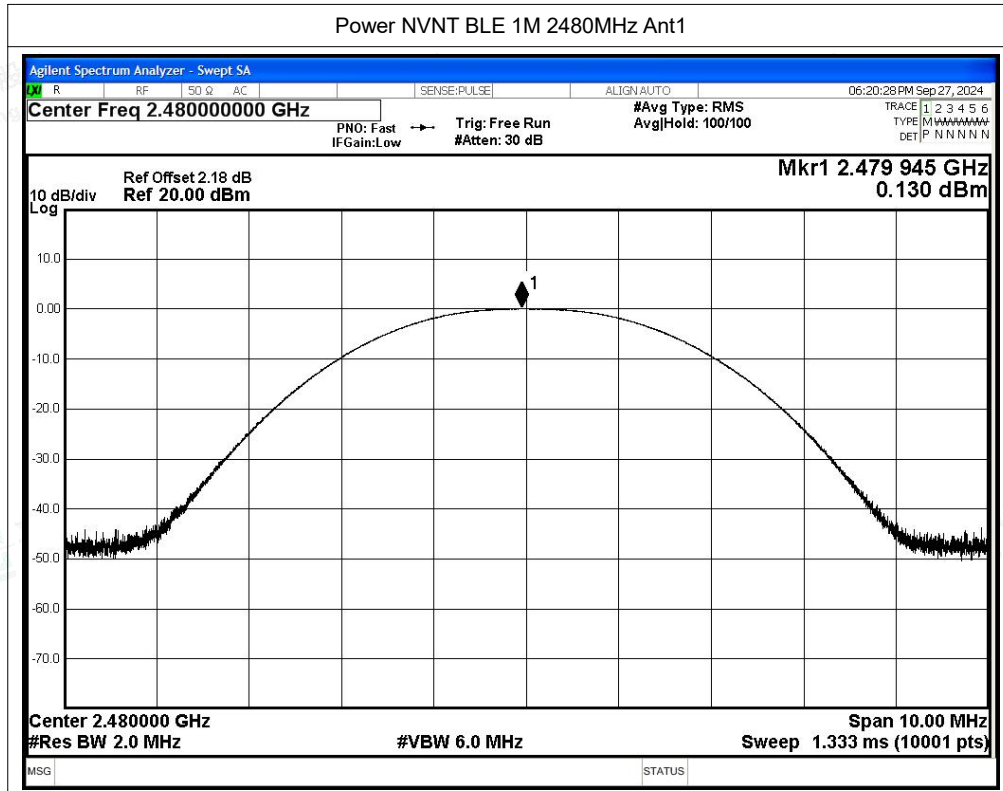


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A.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-15.99	8	Pass
NVNT	BLE 1M	2440	Ant1	-17.14	8	Pass
NVNT	BLE 1M	2480	Ant1	-16.81	8	Pass

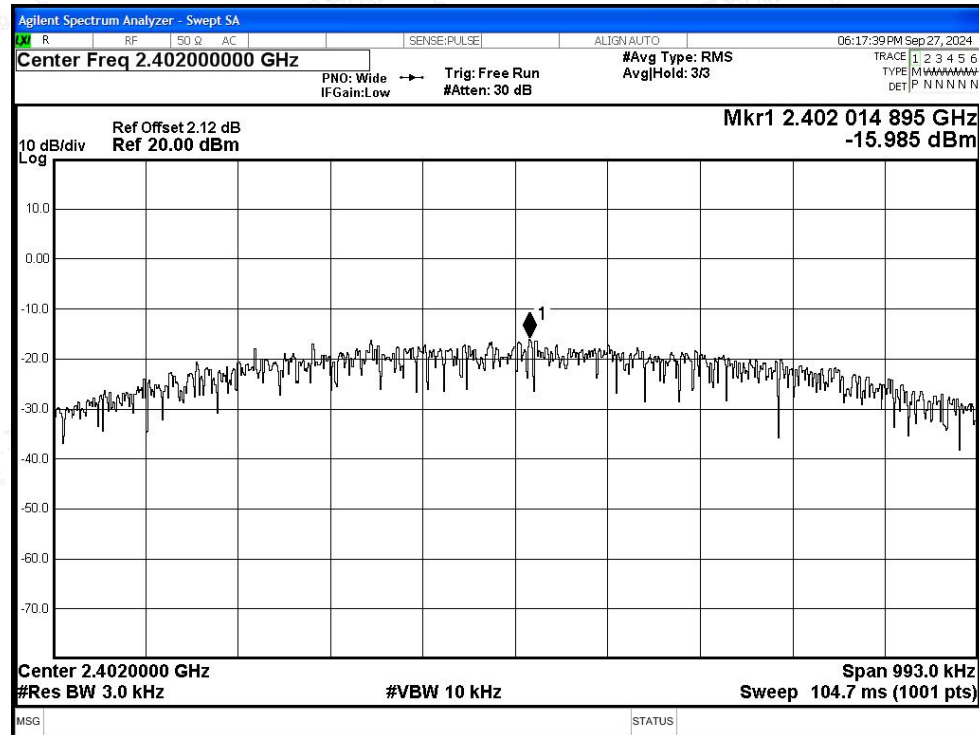


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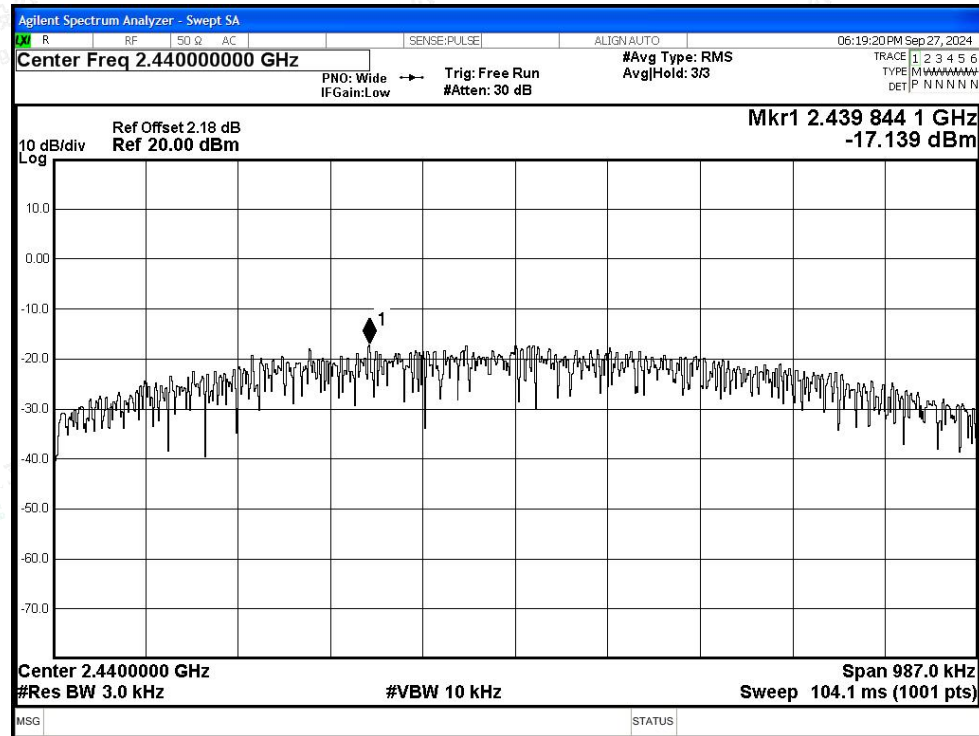


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1

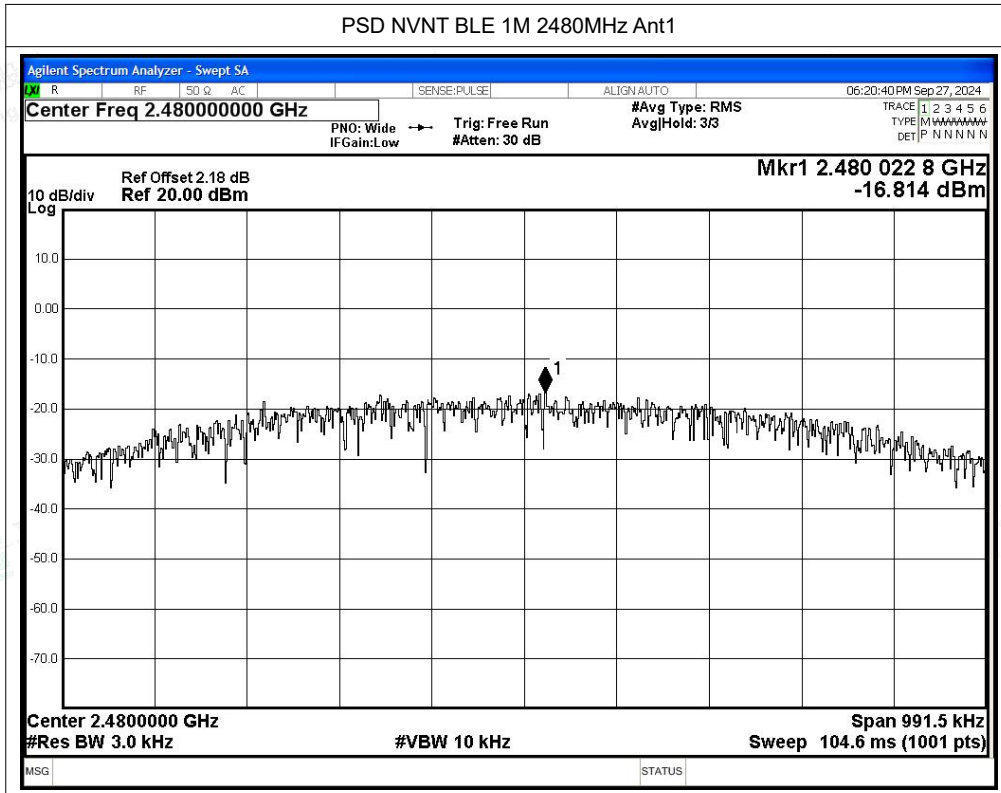


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A.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-57.06	-20	Pass
NVNT	BLE 1M	2480	Ant1	-56.18	-20	Pass

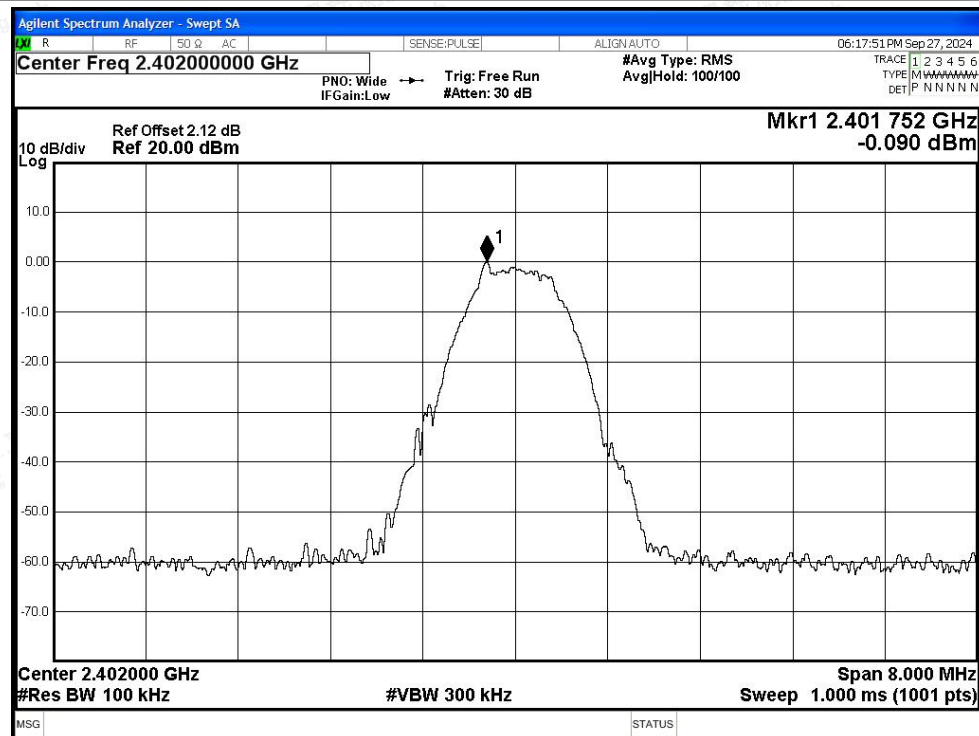


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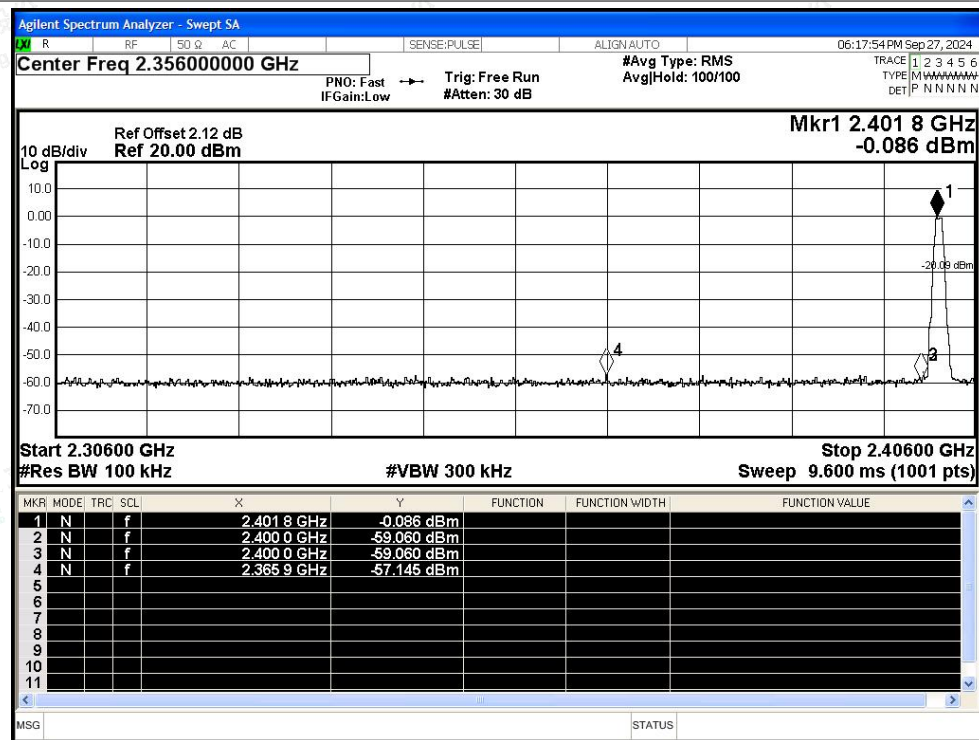


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



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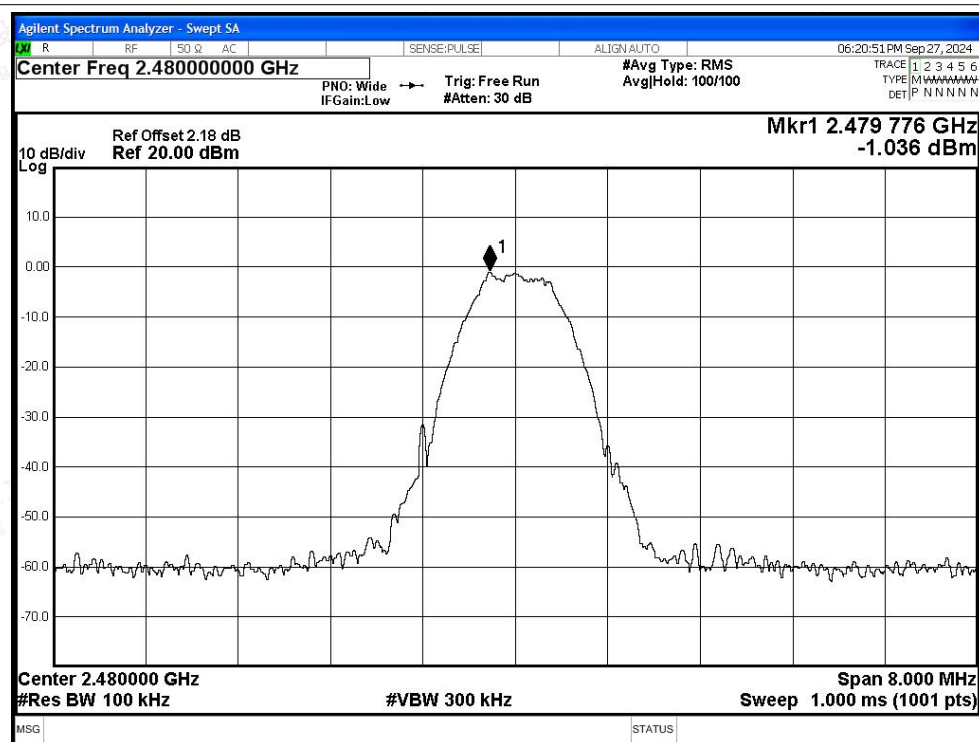
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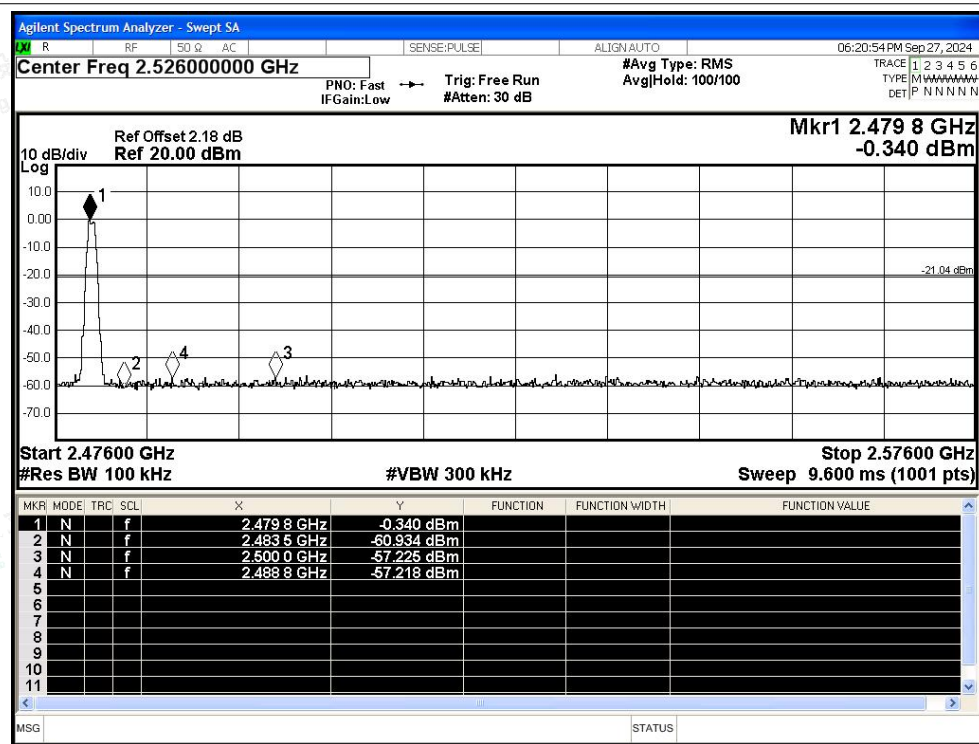
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Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



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A.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-55.57	-20	Pass
NVNT	BLE 1M	2440	Ant1	-55.24	-20	Pass
NVNT	BLE 1M	2480	Ant1	-54.79	-20	Pass

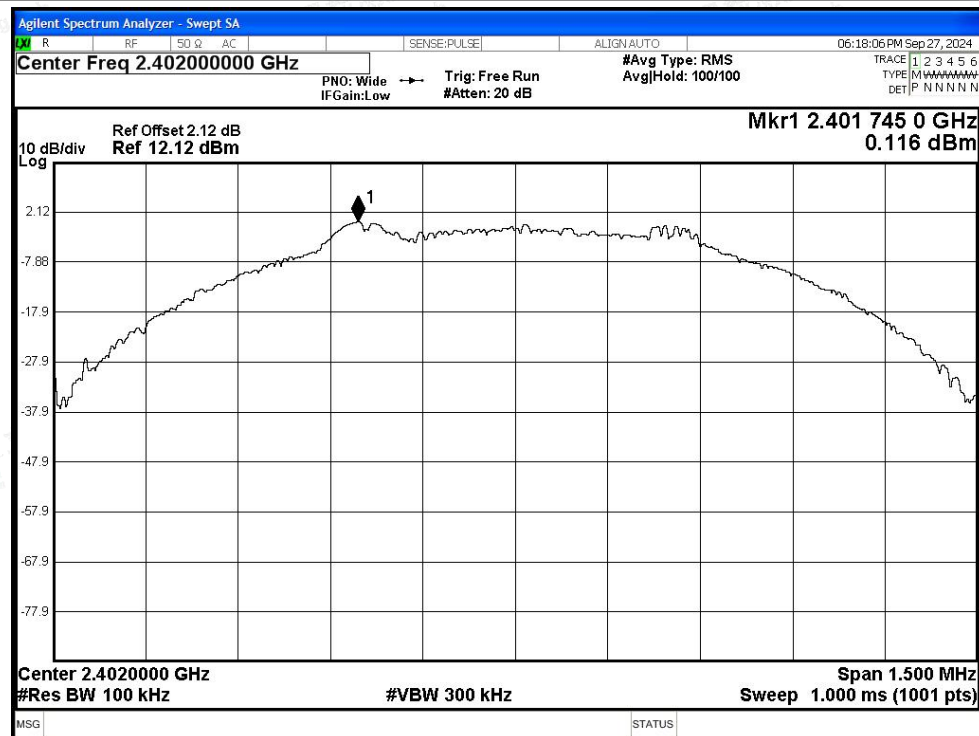


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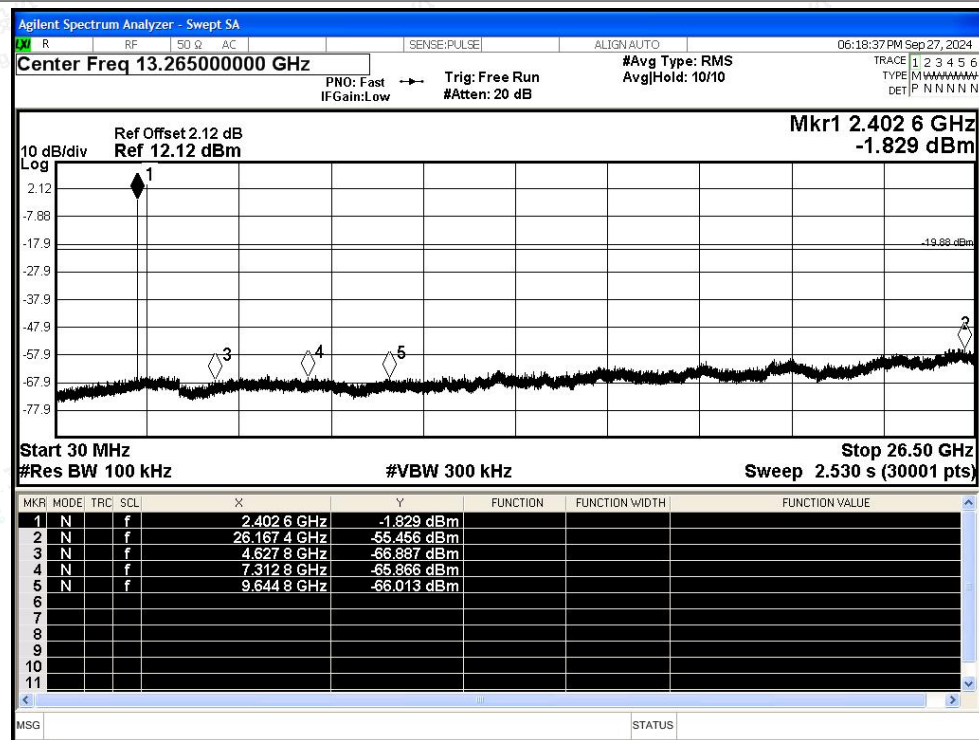


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



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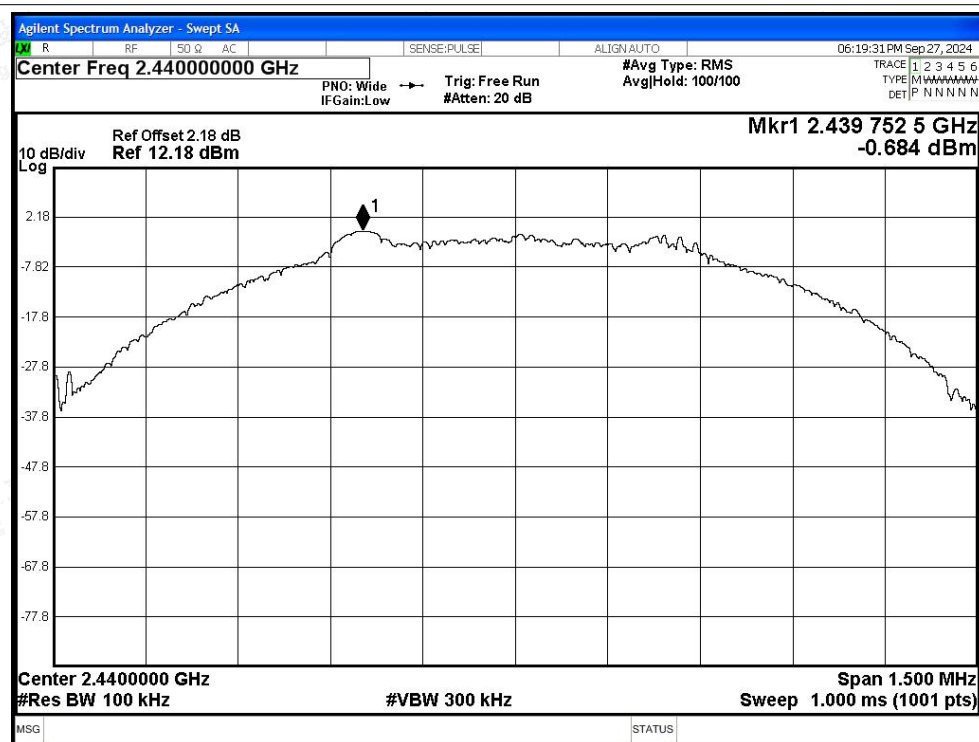
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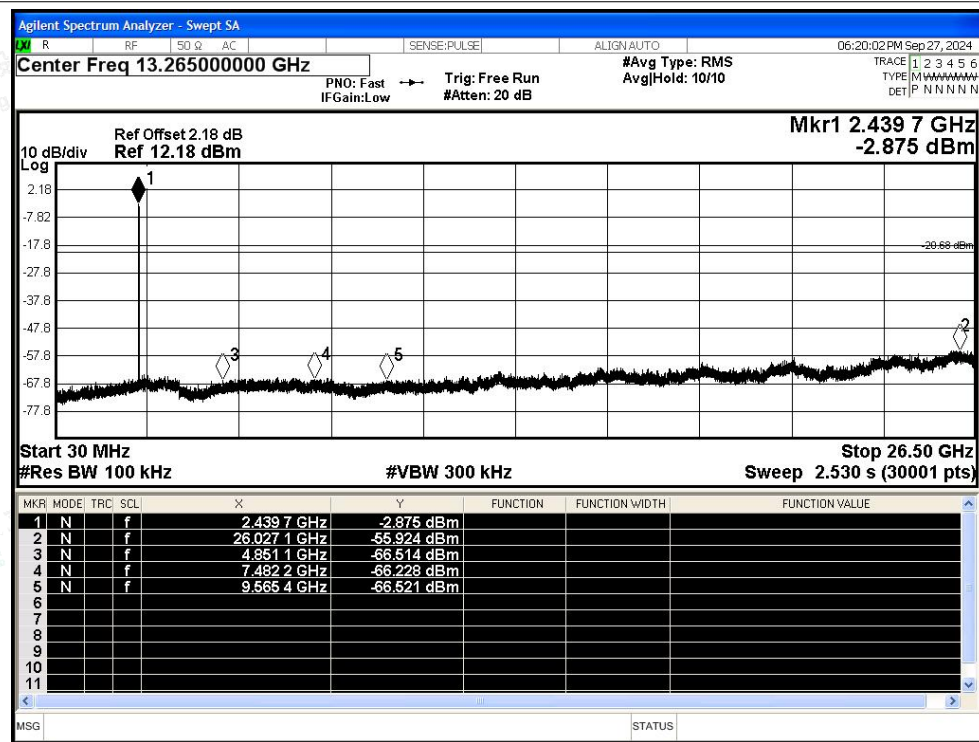
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Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



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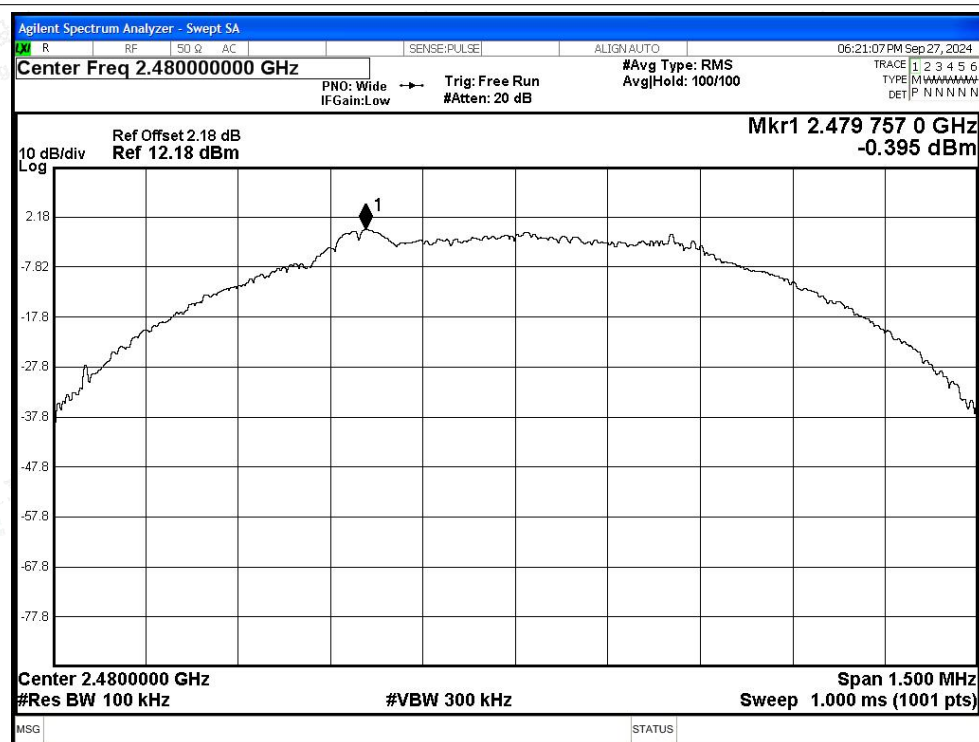
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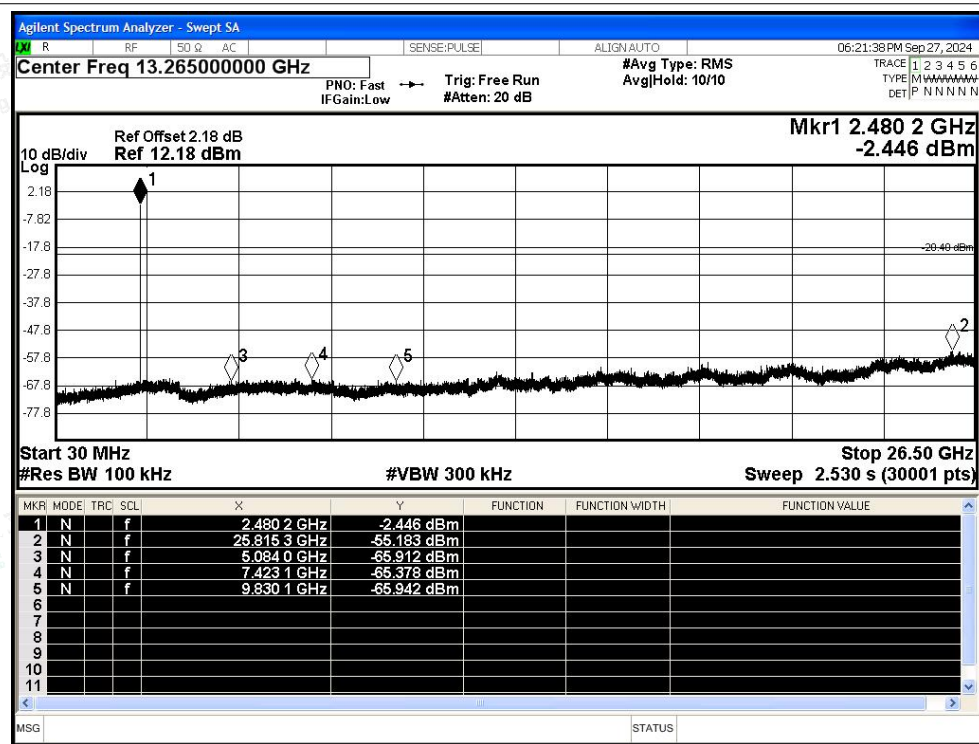
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Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



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A.6 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

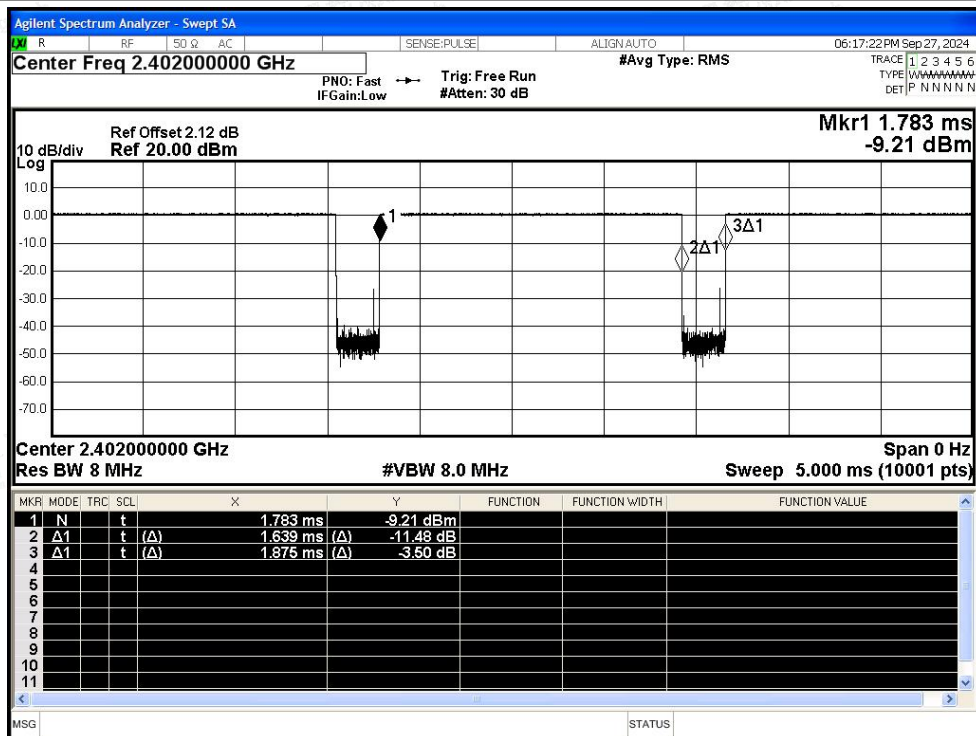


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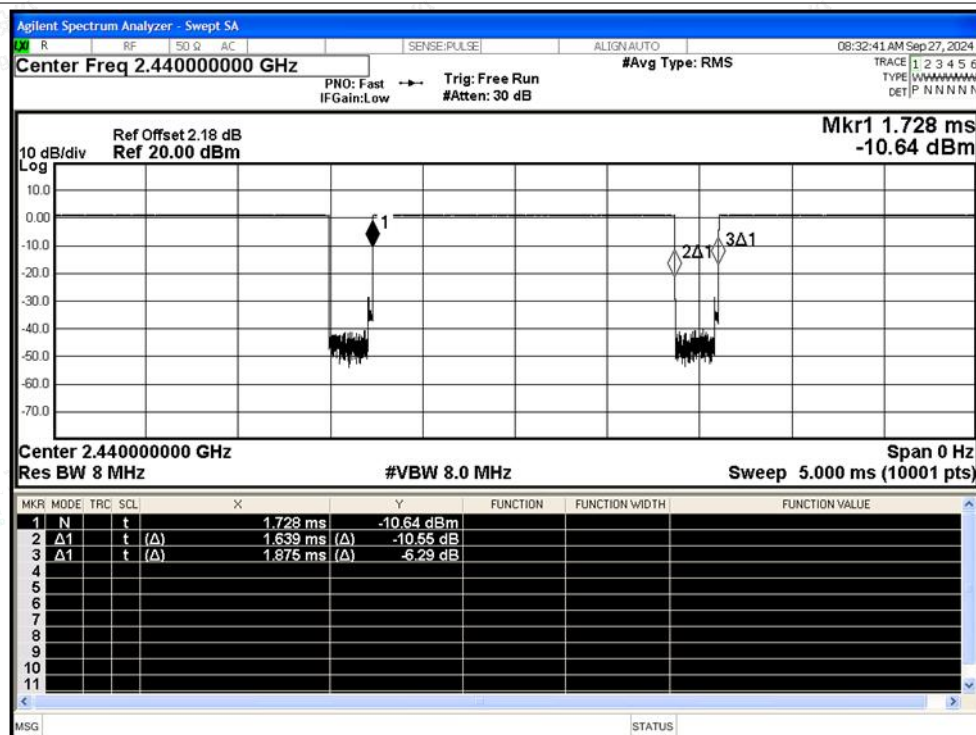


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1

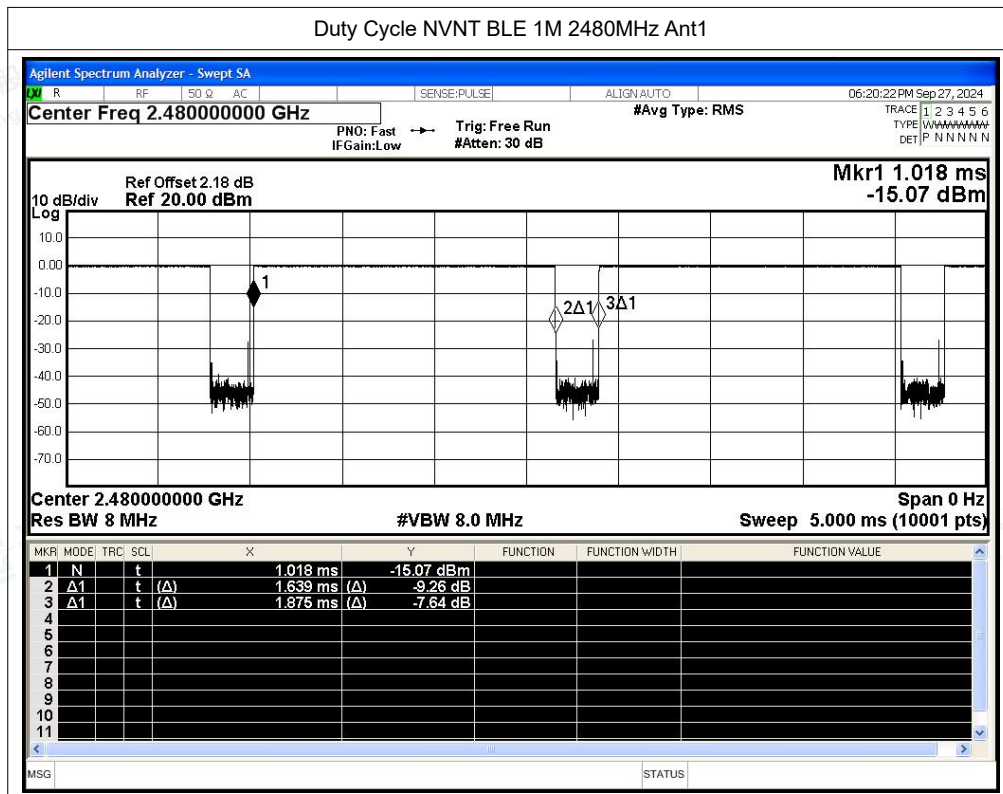


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A.7 Restrict Band

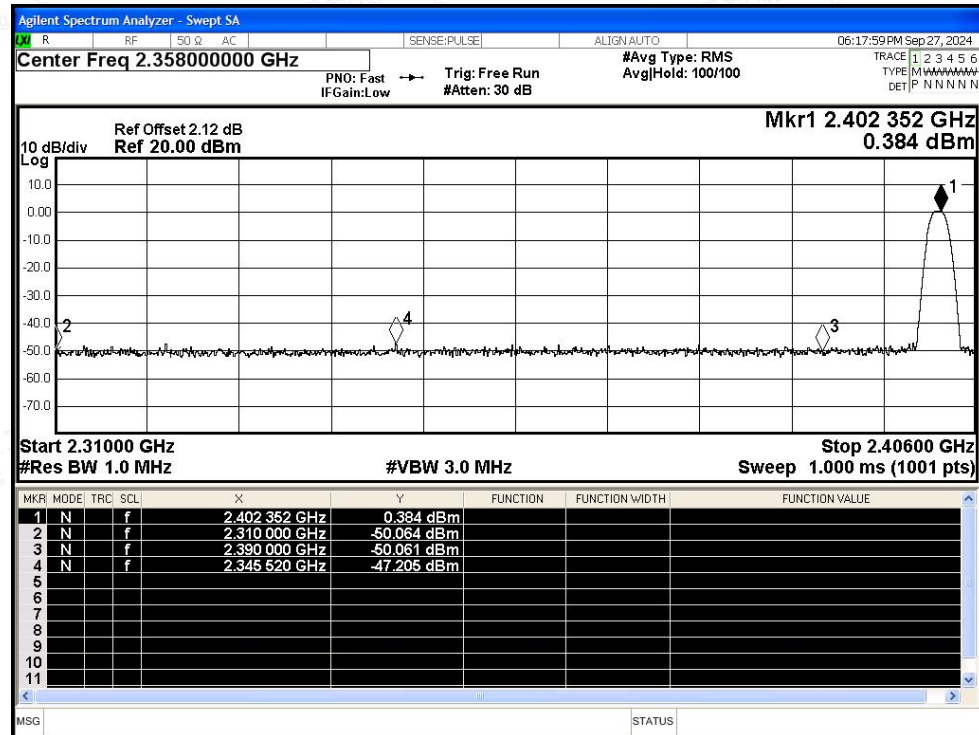
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1M	2402	Ant1	2310	-50.06	2.00	-	47.20	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-59.1	2.00	0.59	38.75	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2345.52	-47.21	2.00	-	50.05	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2357.712	-57.66	2.00	0.59	40.19	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-50.06	2.00	-	47.20	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-57.78	2.00	0.59	40.07	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-48.78	2.00	-	48.48	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-58	2.00	0.58	39.84	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.704	-47.19	2.00	-	50.07	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2497.36	-57.2	2.00	0.58	40.64	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-51.85	2.00	-	45.41	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-58.62	2.00	0.58	39.22	Average	54	Pass



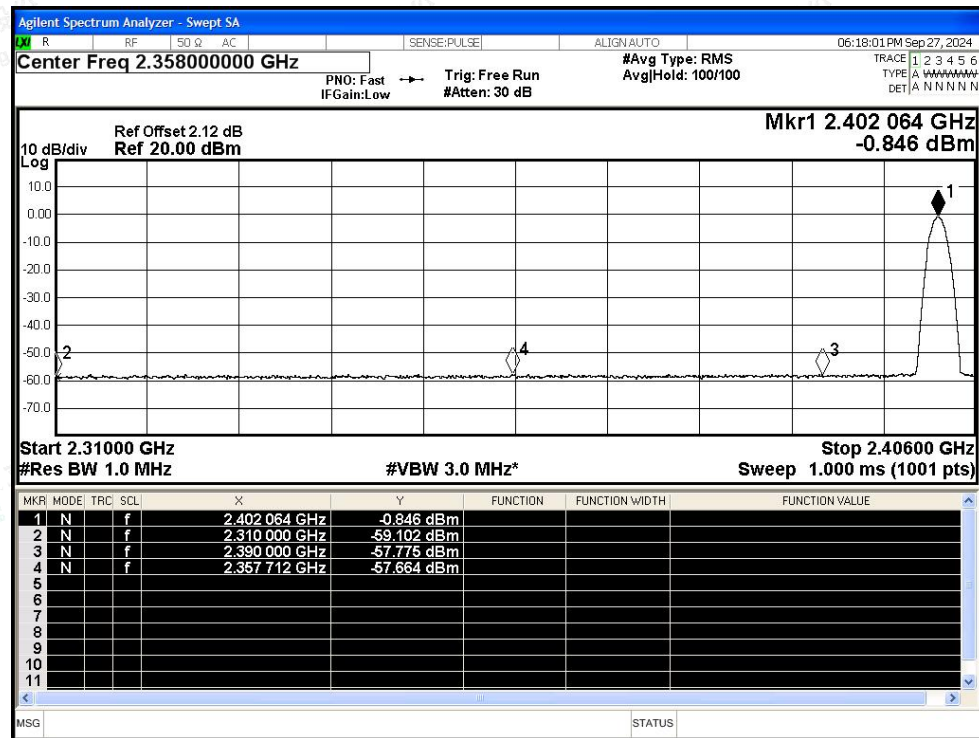


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average



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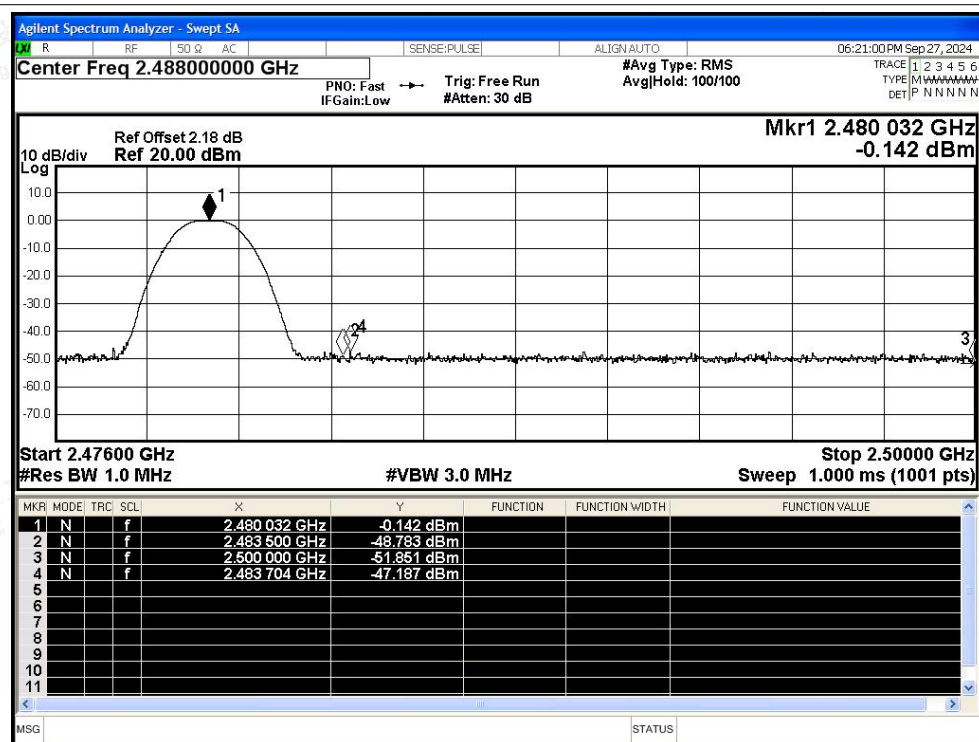
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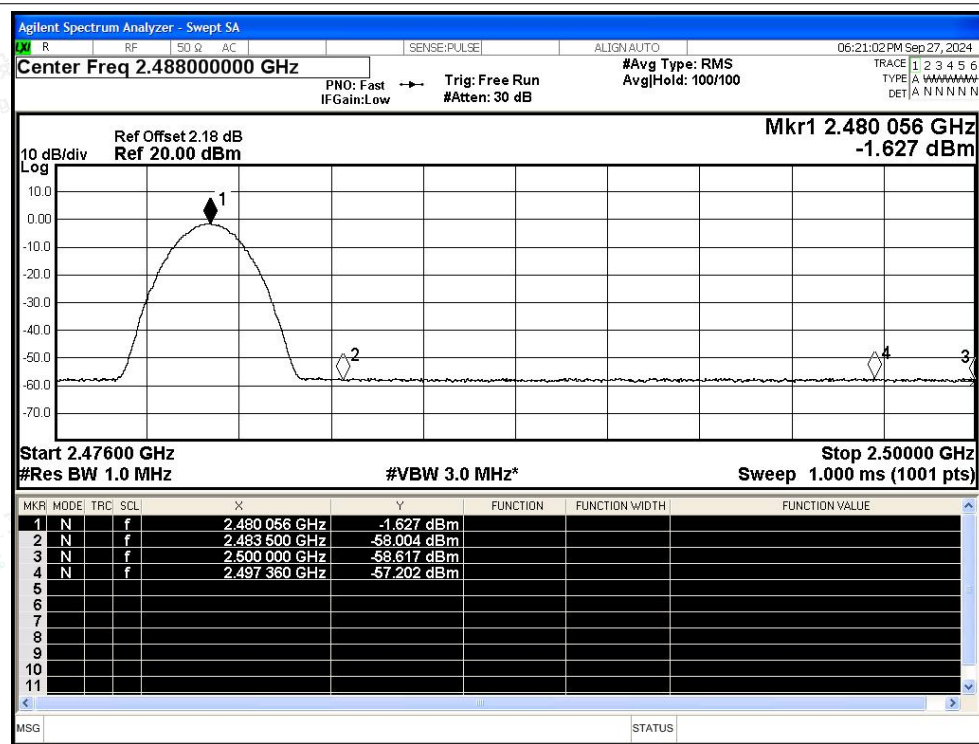
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Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average



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