



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Chromagic Smart Light Bulb

Test Model: BB-02

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

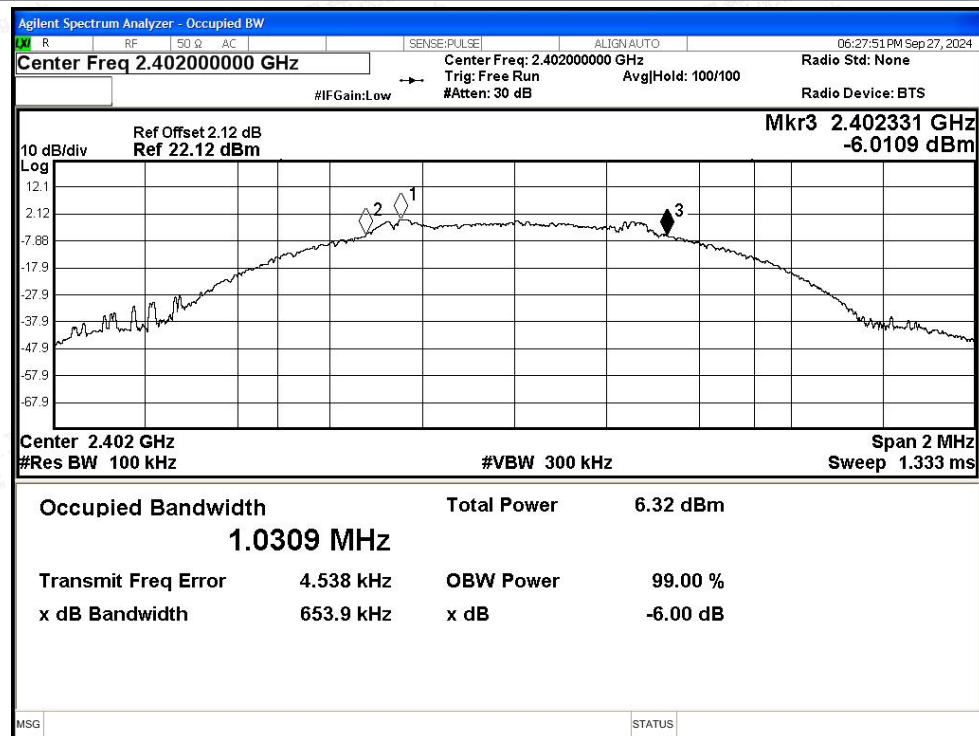
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.654	≥ 0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.655	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.665	≥ 0.5	Pass



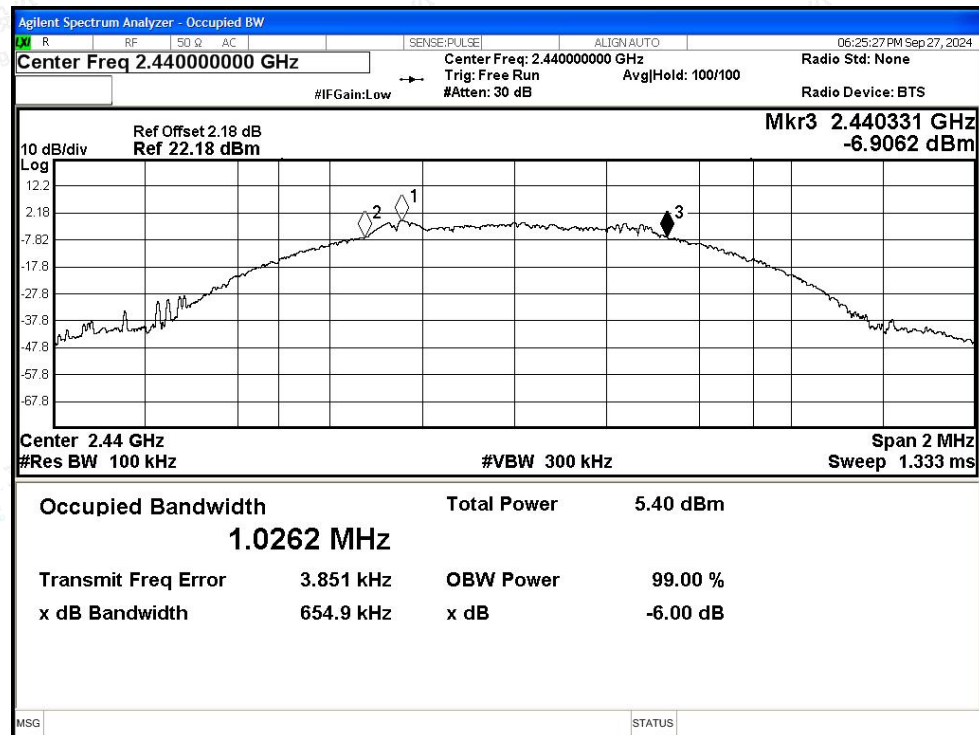


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

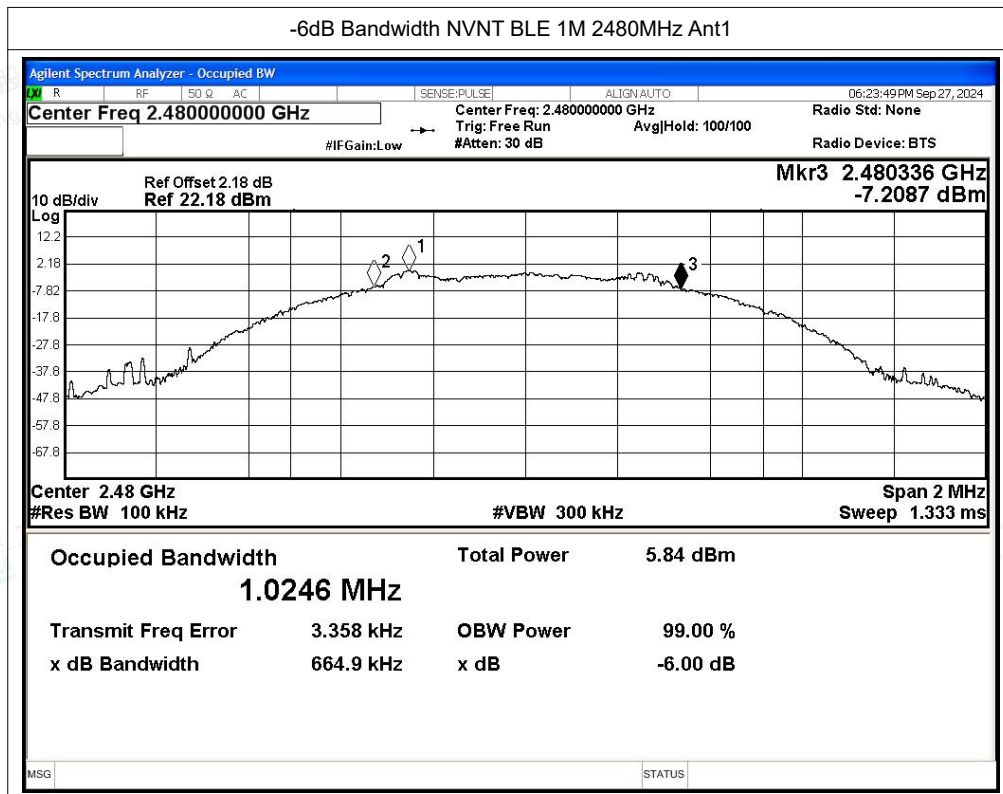


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A.2 Maximum Peak Conducted Output Power

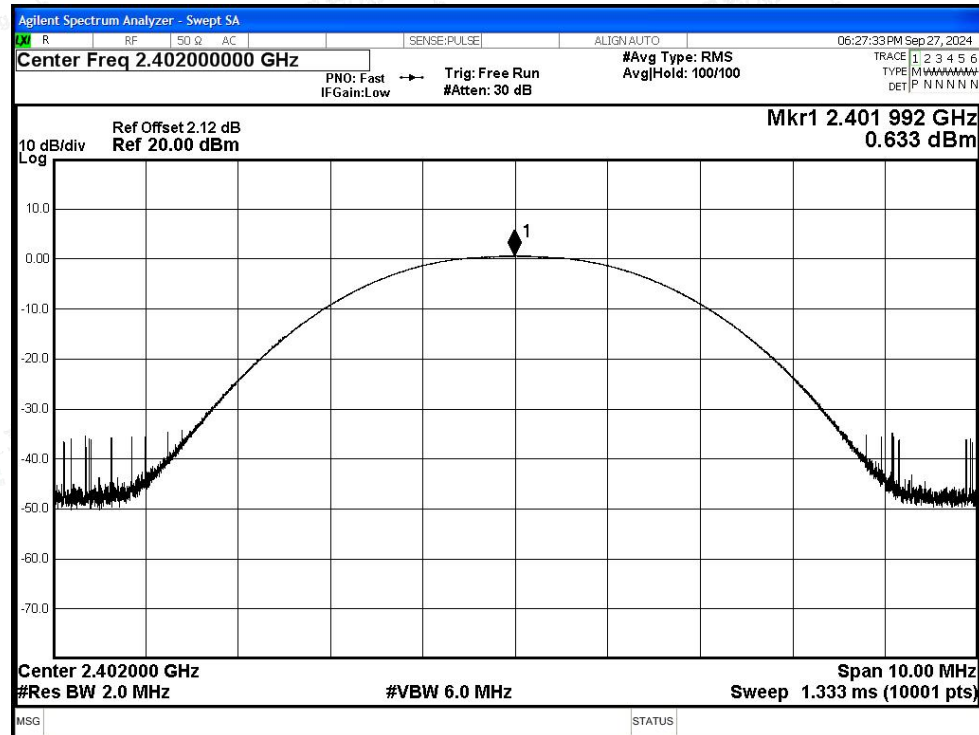
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	0.63	30	Pass
NVNT	BLE 1M	2440	Ant1	-0.2	30	Pass
NVNT	BLE 1M	2480	Ant1	0.12	30	Pass



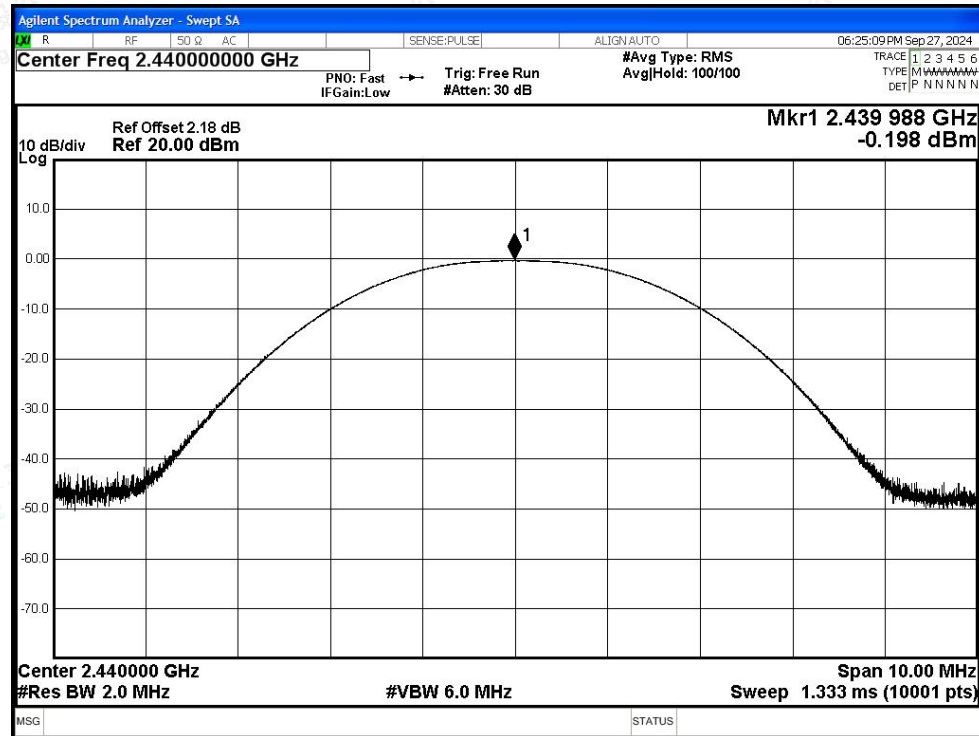


Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

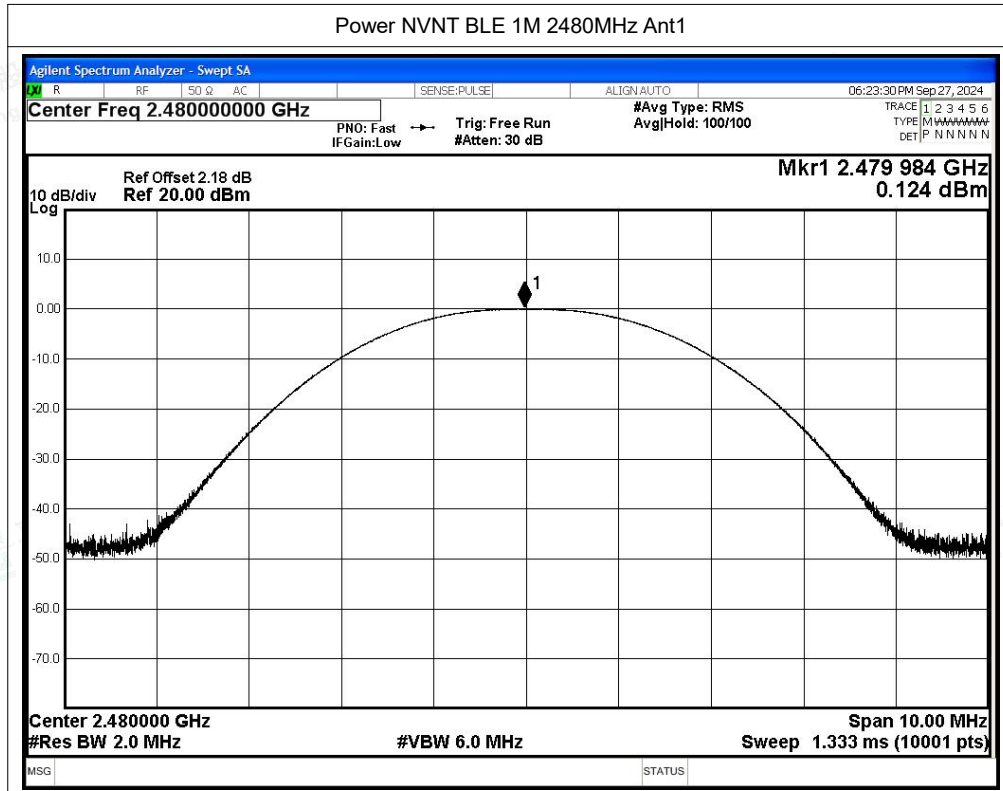


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A.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-16.36	8	Pass
NVNT	BLE 1M	2440	Ant1	-17.23	8	Pass
NVNT	BLE 1M	2480	Ant1	-17.09	8	Pass

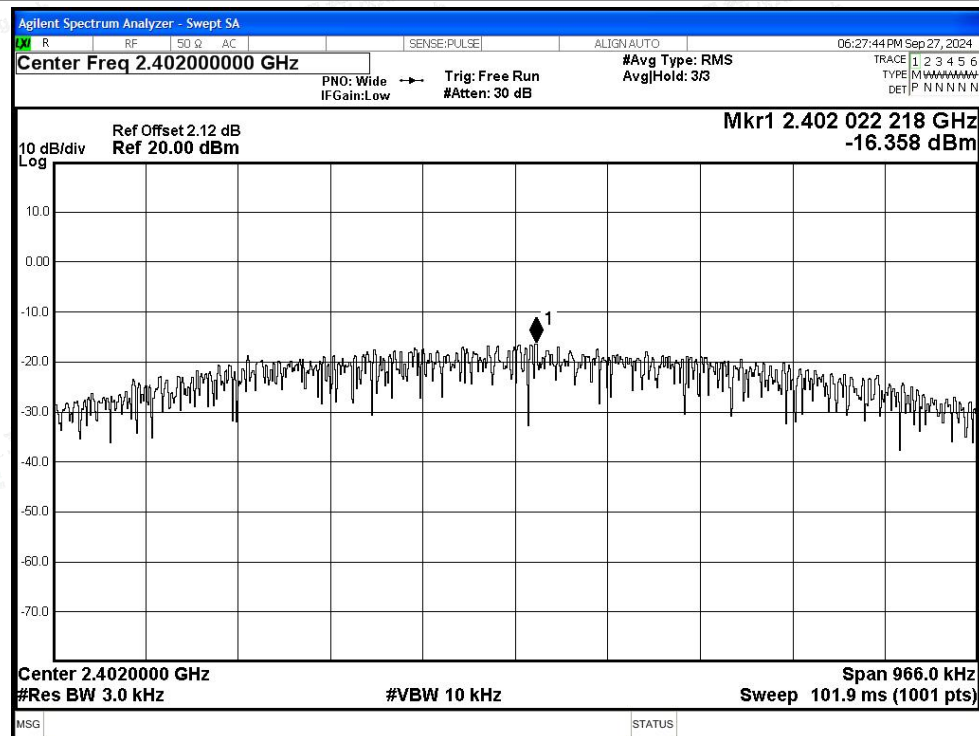


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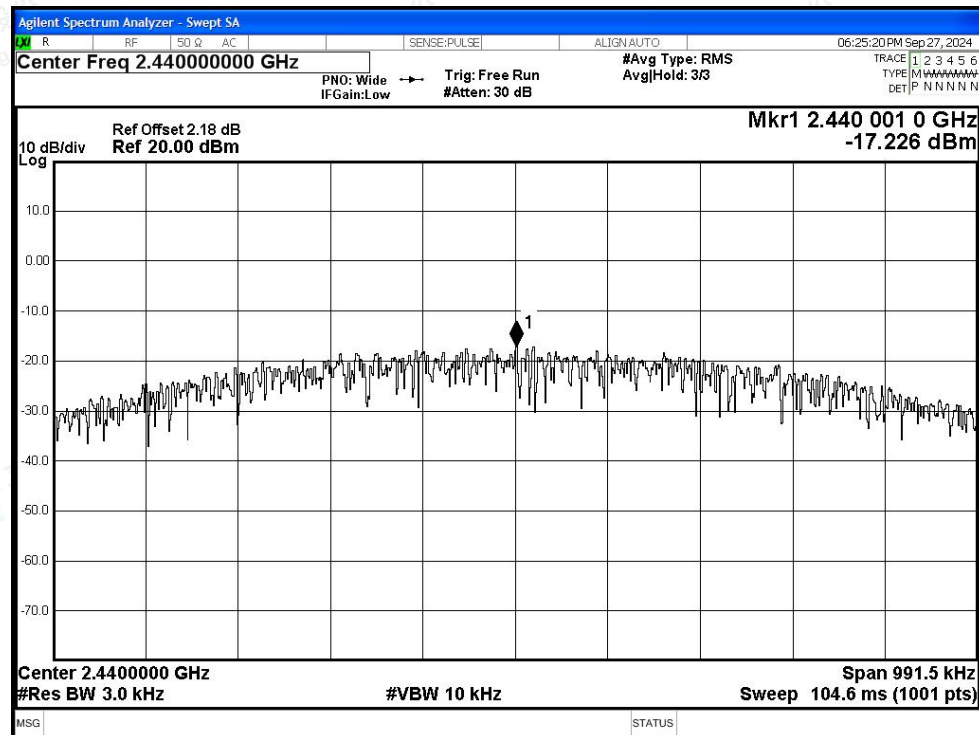


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1

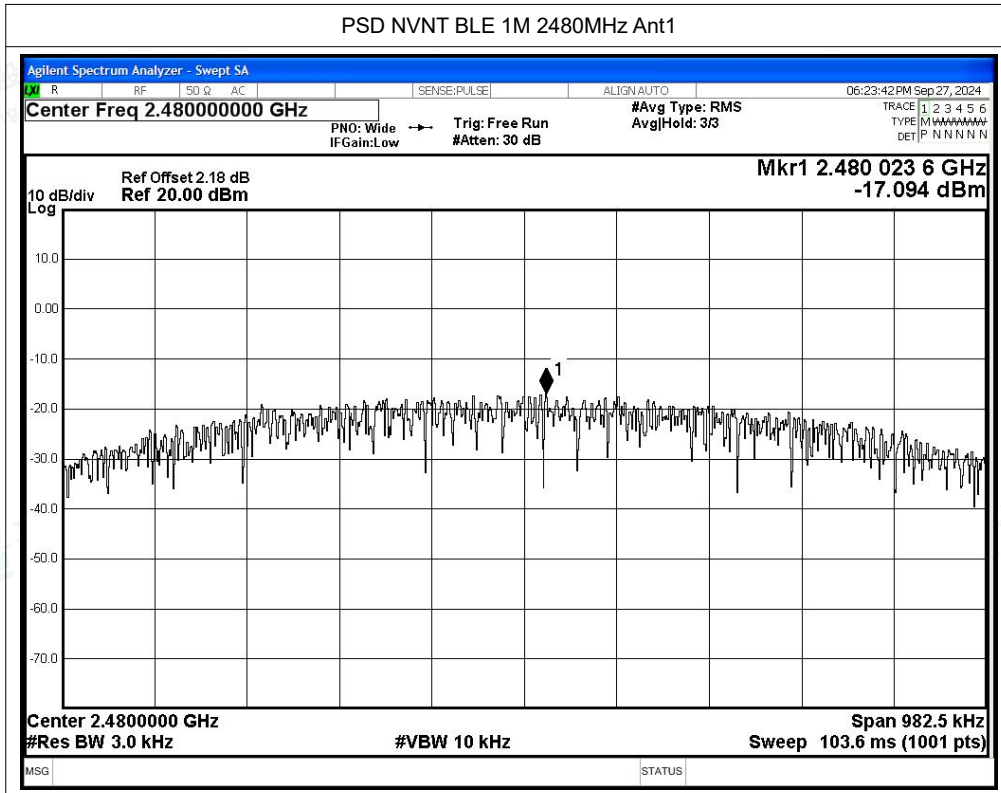


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A.4 Band Edge

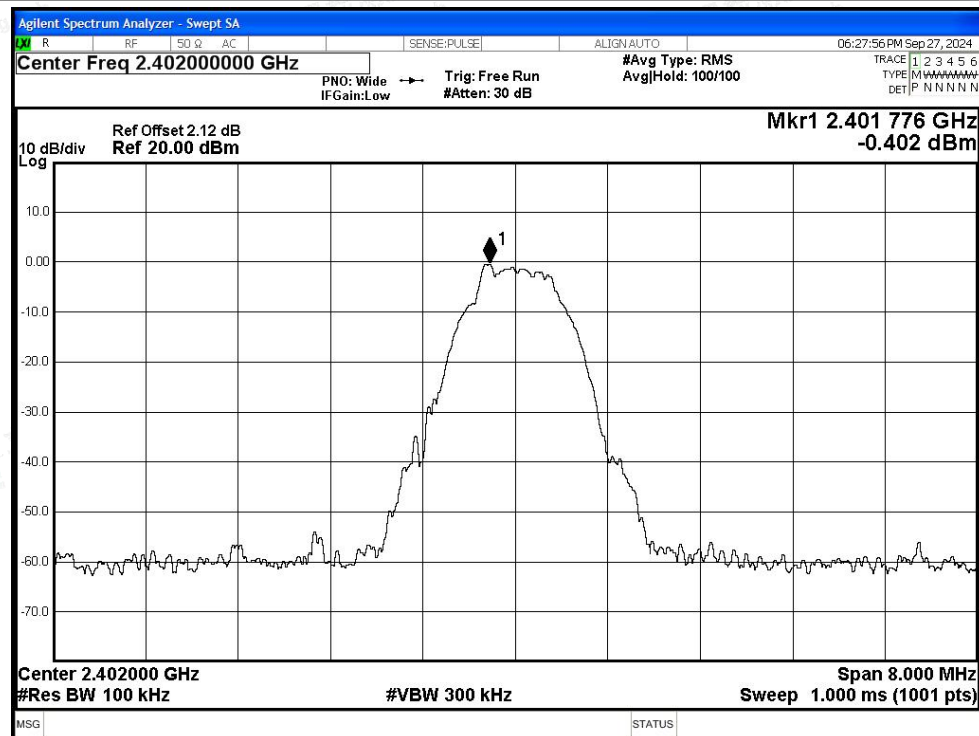
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-55.5	-20	Pass
NVNT	BLE 1M	2480	Ant1	-56.52	-20	Pass



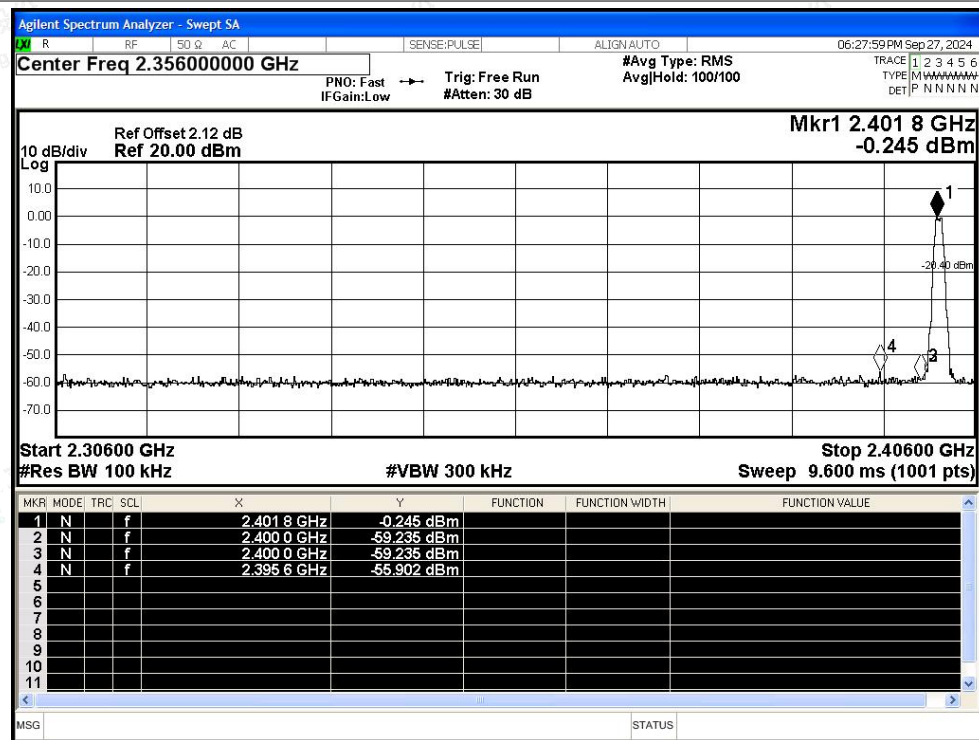


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



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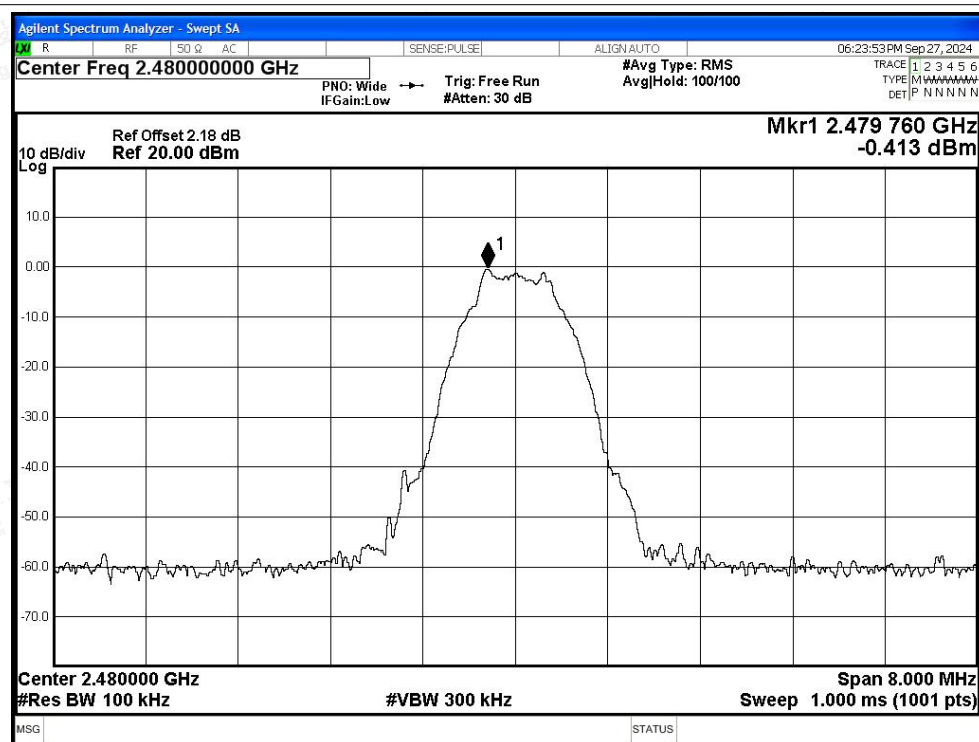
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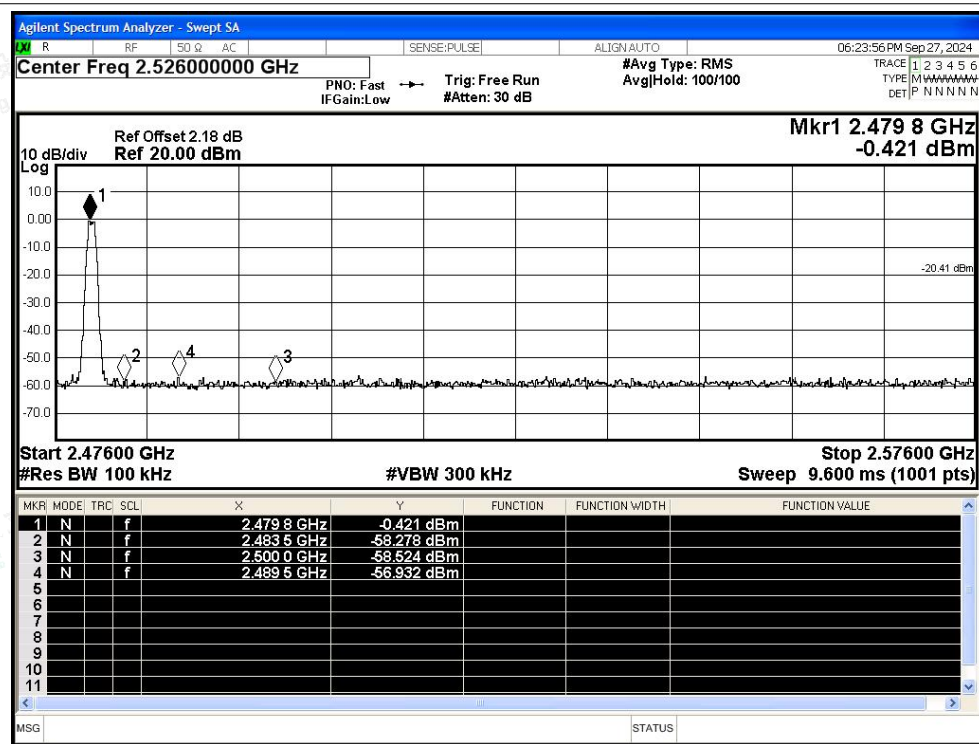
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Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



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	-55.3	-20	Pass
NVNT	BLE 1M	2440	Ant1	-54.8	-20	Pass
NVNT	BLE 1M	2480	Ant1	-54.76	-20	Pass

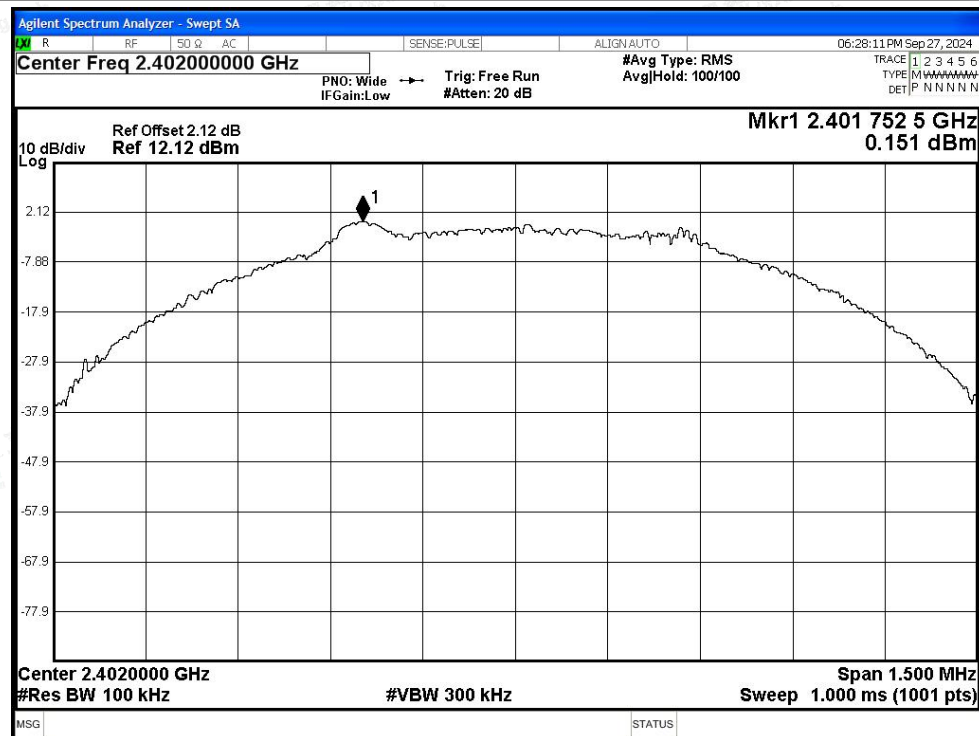


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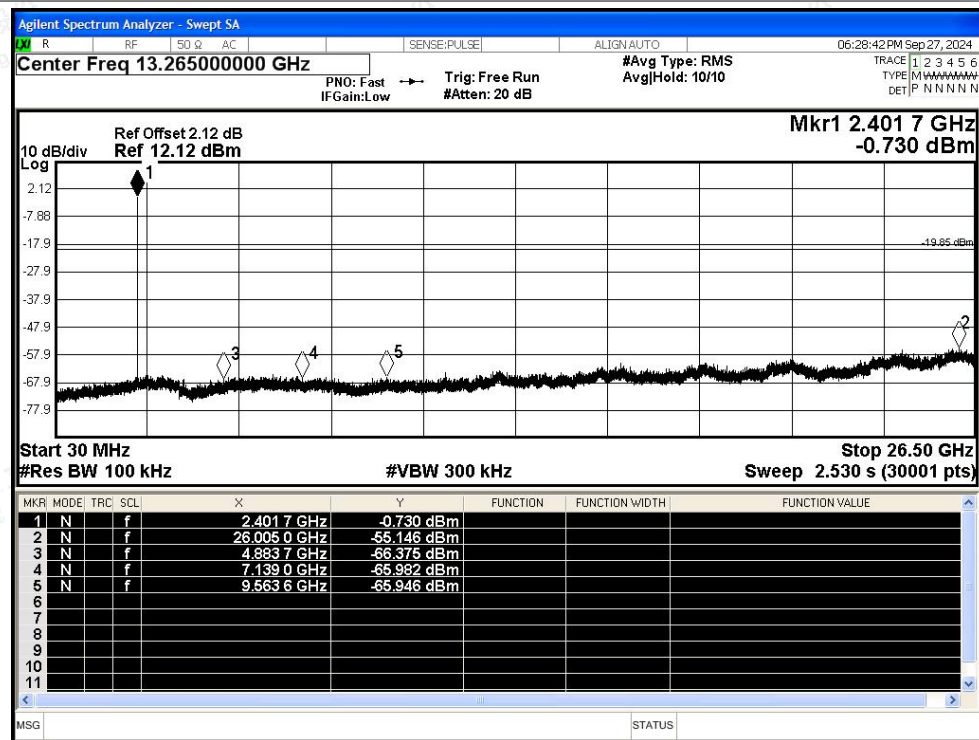


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



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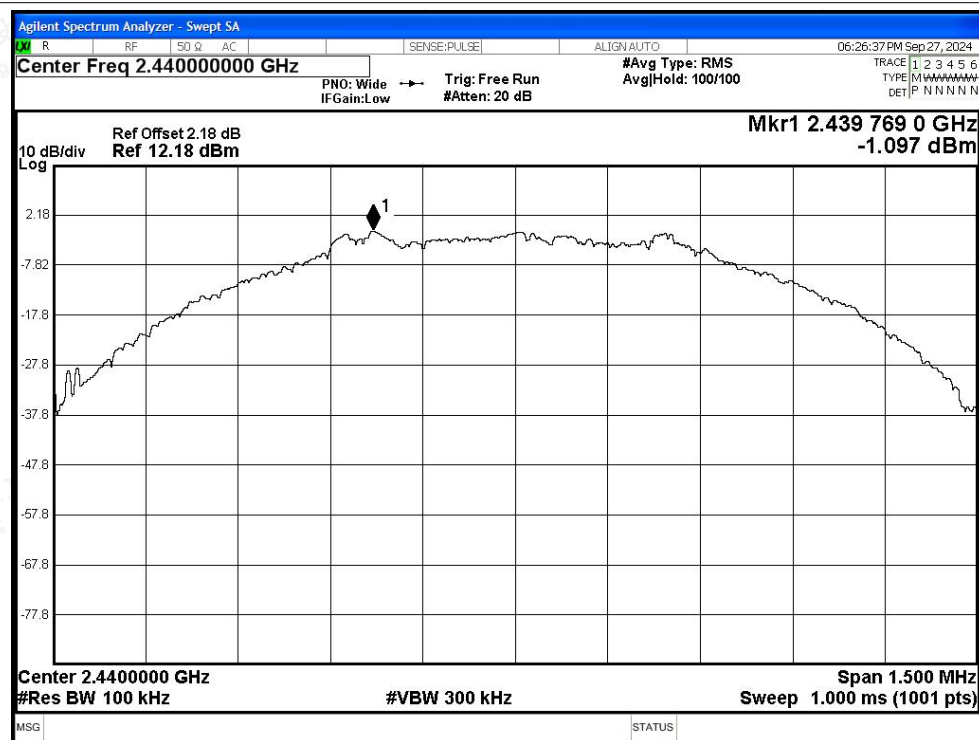
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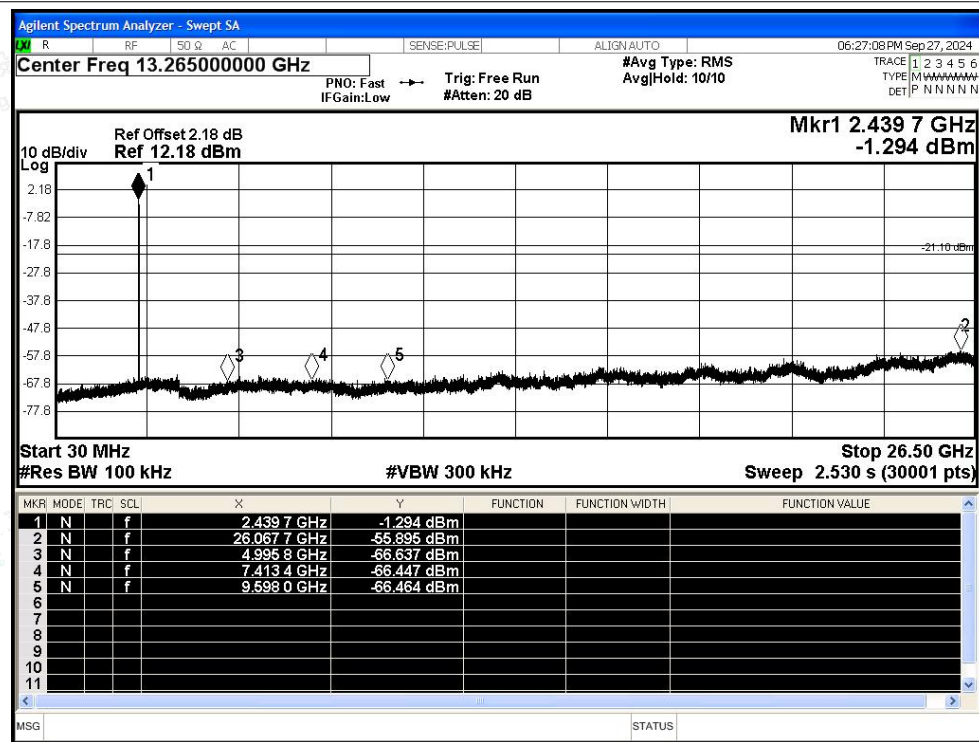
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Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



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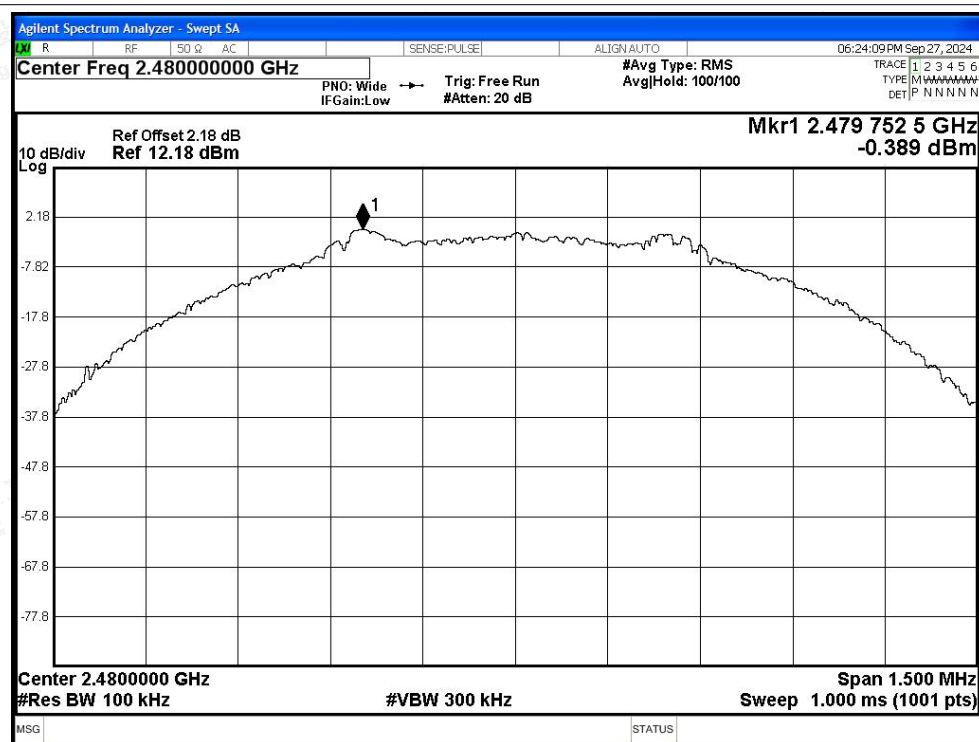
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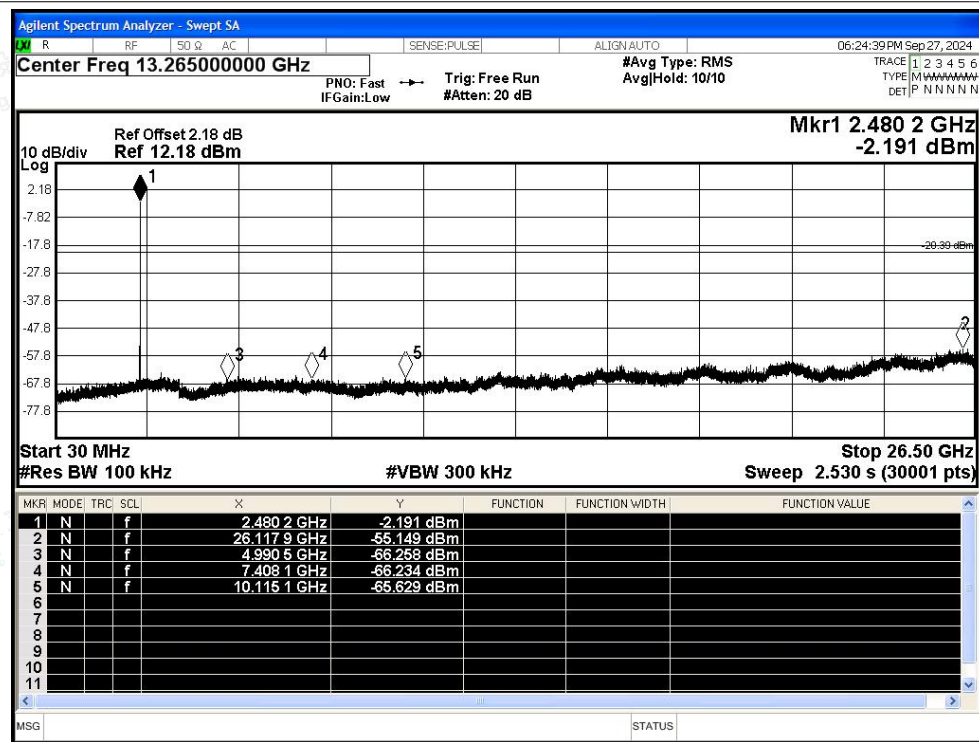
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Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



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	0	0	∞
NVNT	BLE 1M	2440	Ant1	87.39	0.59	0.61
NVNT	BLE 1M	2480	Ant1	87.39	0.59	0.61

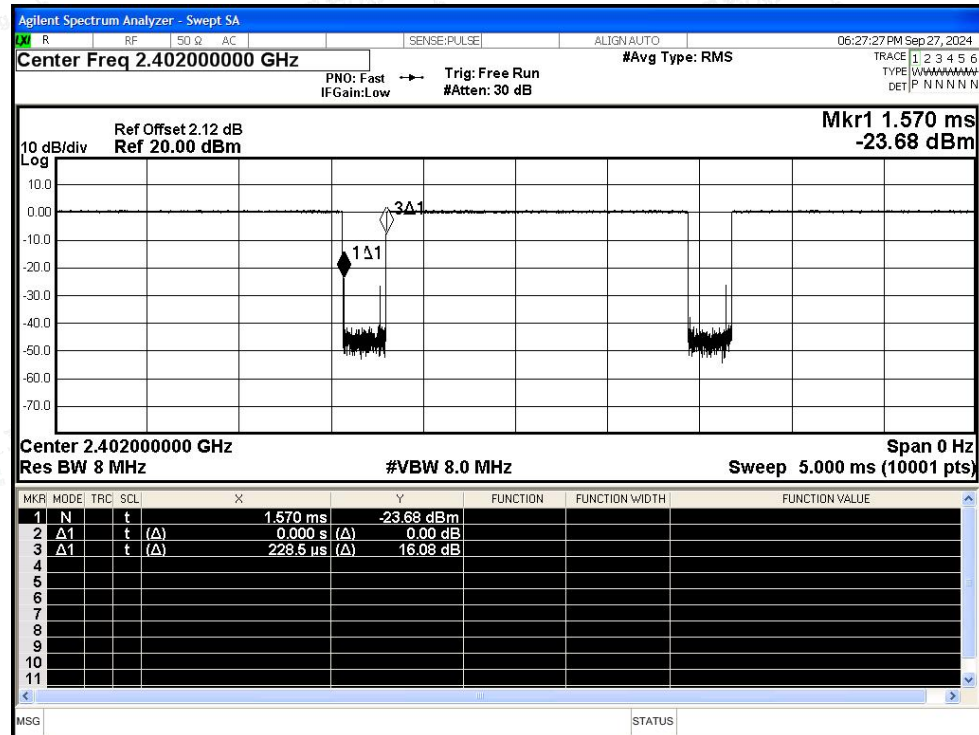


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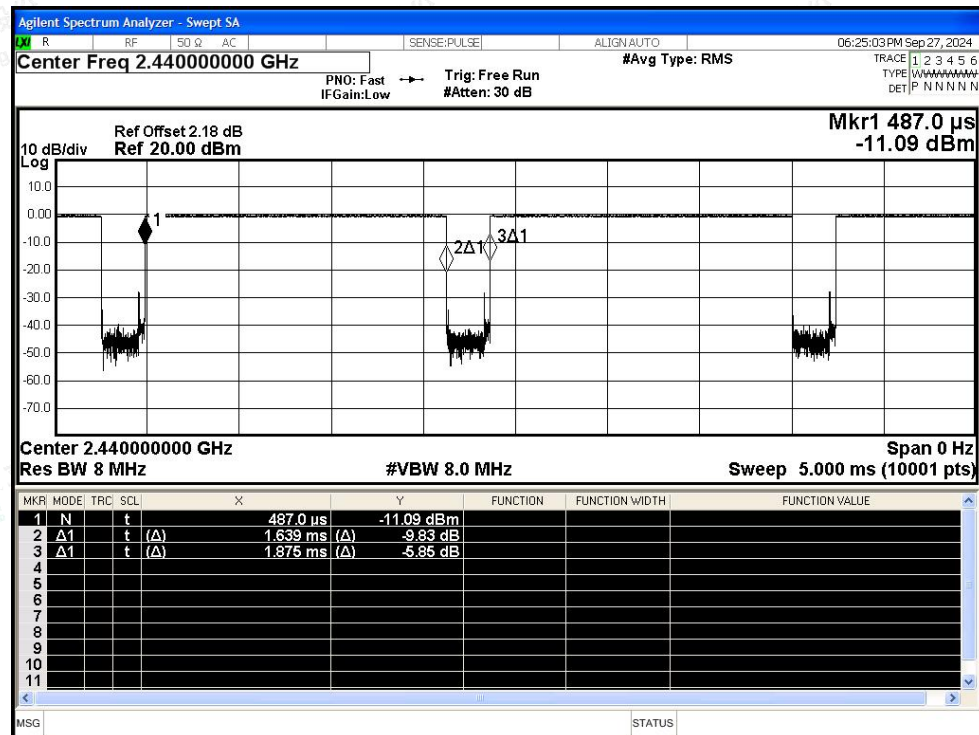


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1

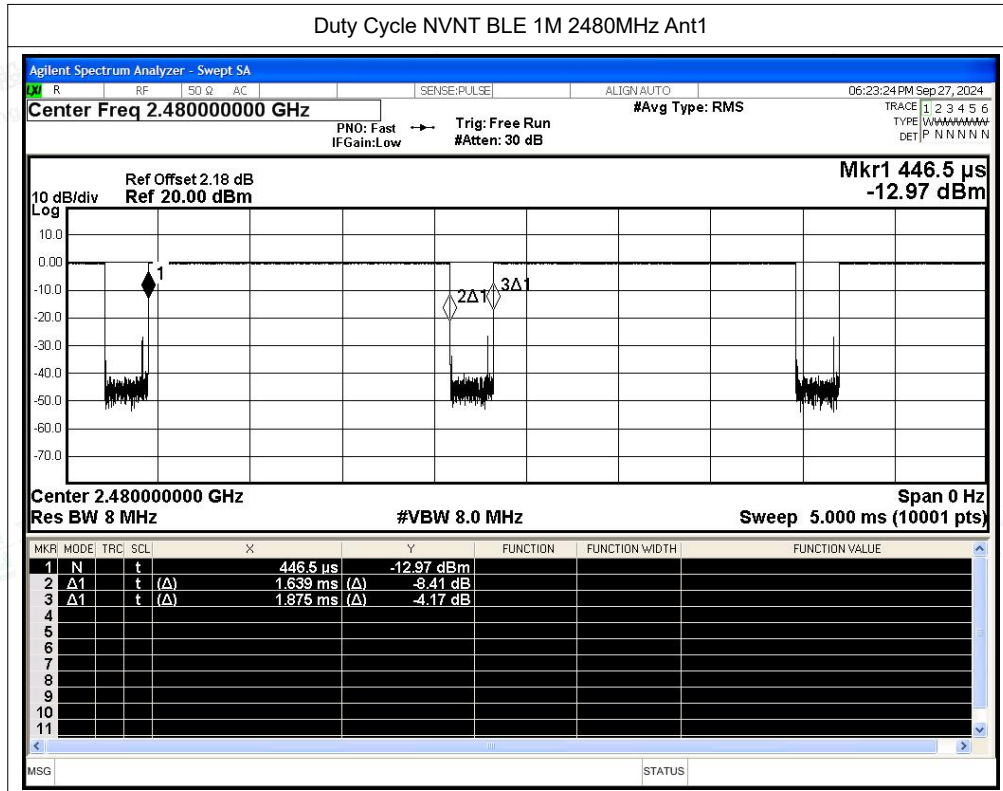


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A.7 Restrict Band

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	-50.73	2.00	-	46.53	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-58.67	2.00	0	38.59	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2389.008	-47.32	2.00	-	49.94	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2388.624	-57.73	2.00	0	39.53	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-50.62	2.00	-	46.64	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-58.41	2.00	0	38.85	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-48.93	2.00	-	48.33	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-58.54	2.00	0.59	39.31	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2497.264	-47.41	2.00	-	49.85	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2495.8	-57.07	2.00	0.59	40.78	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-50.13	2.00	-	47.13	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-57.98	2.00	0.59	39.87	Average	54	Pass



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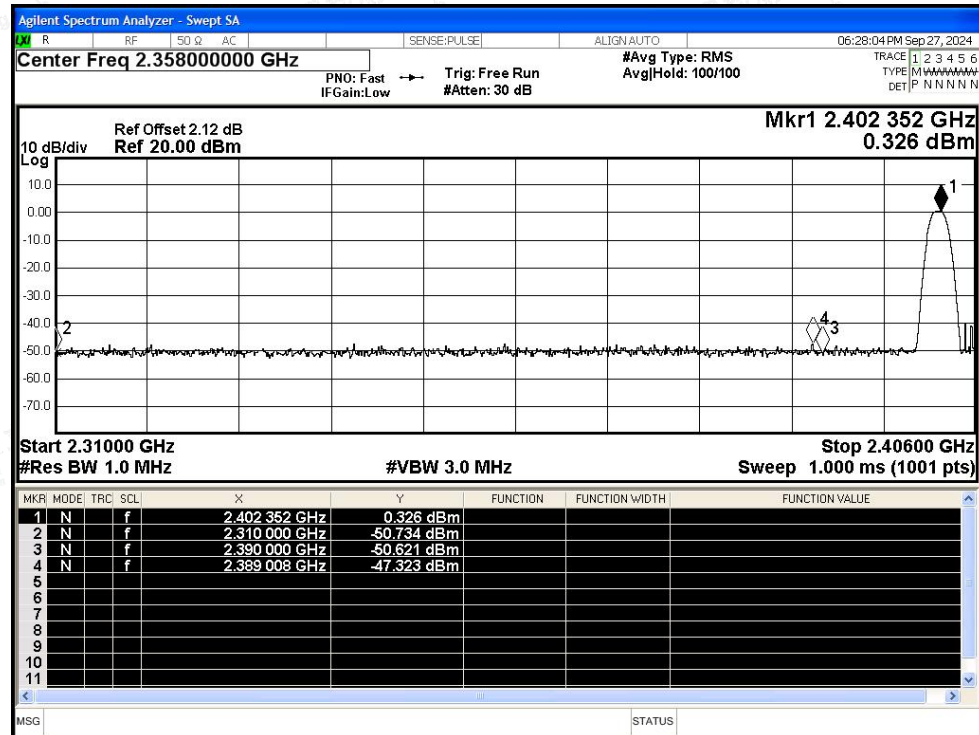
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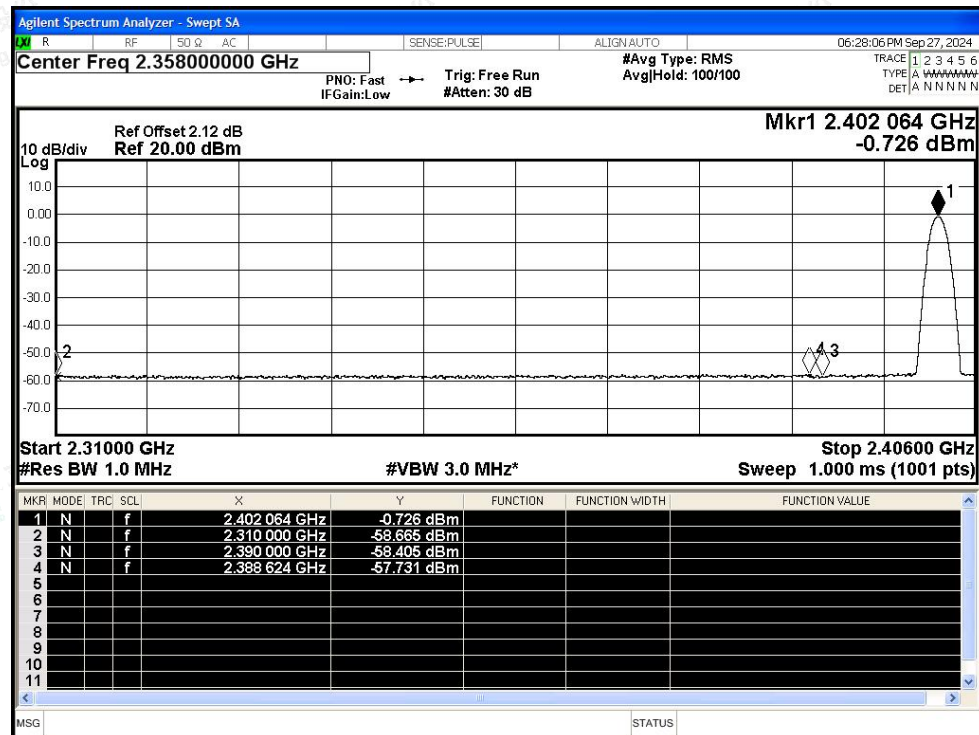


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average



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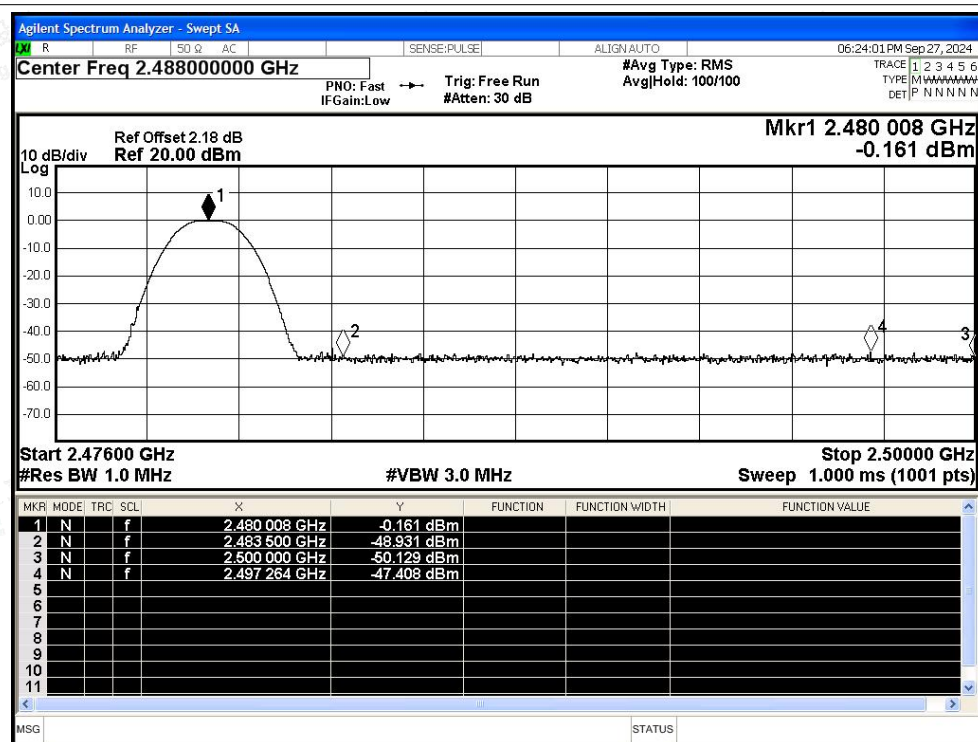
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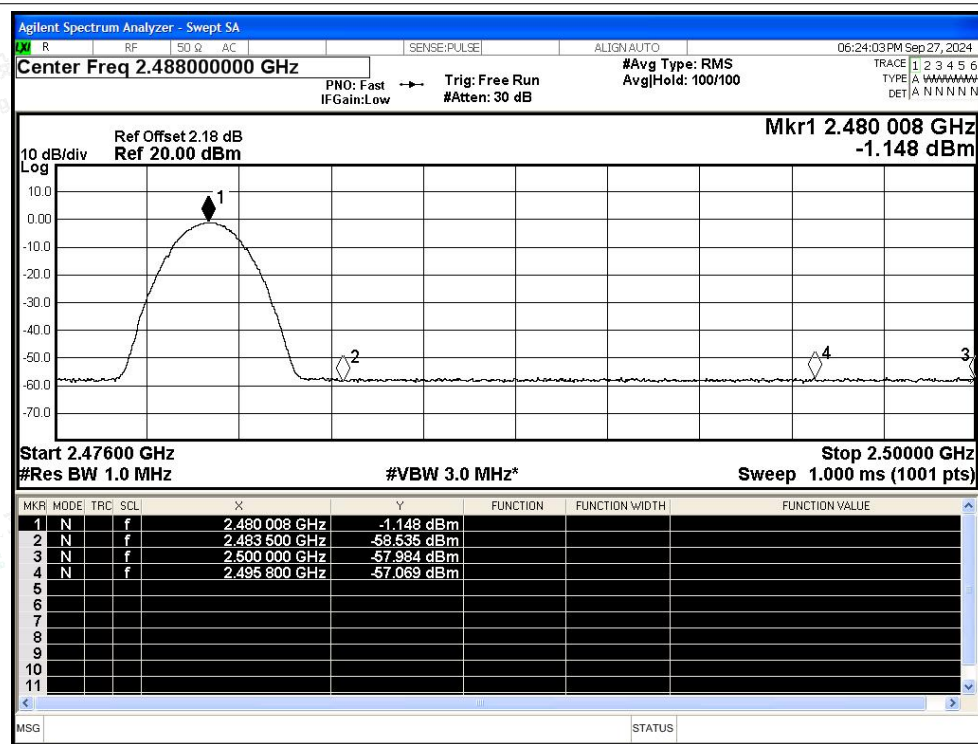
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Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average



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