



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Permanent Outdoor lights

Test Model: S107F

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Jerry Chu
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	0.665	≥ 0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.657	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.647	≥ 0.5	Pass



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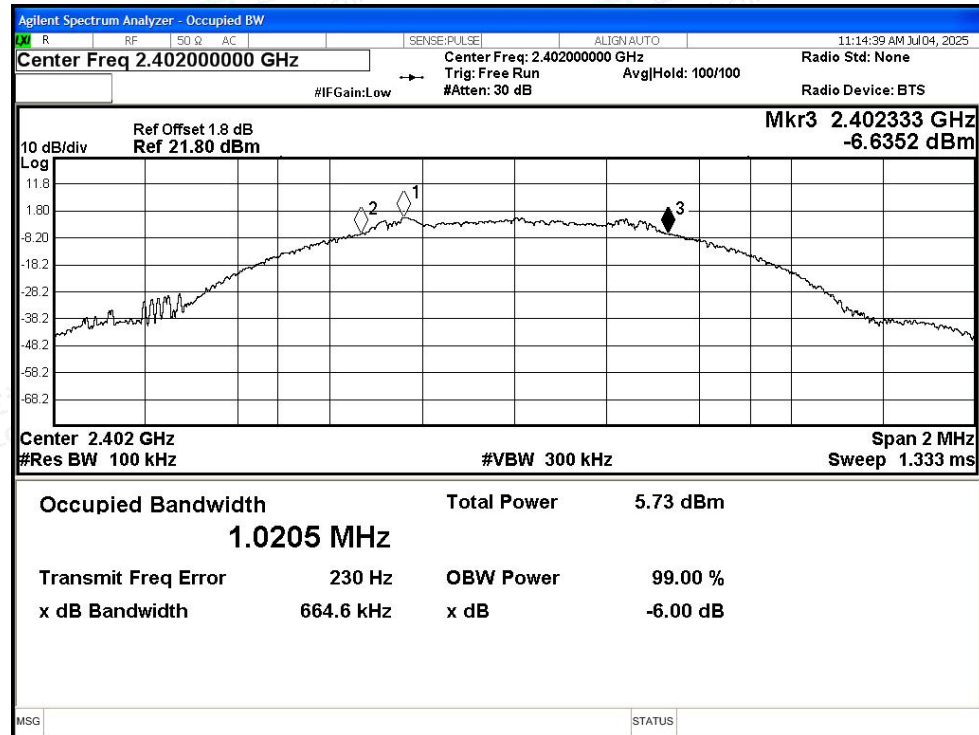
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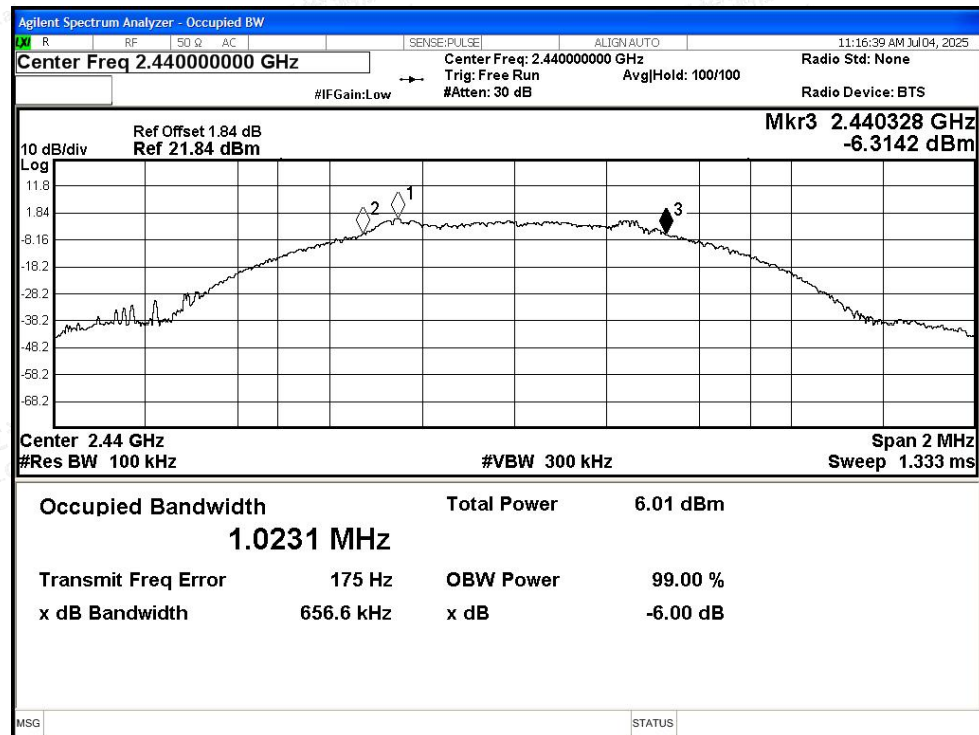


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

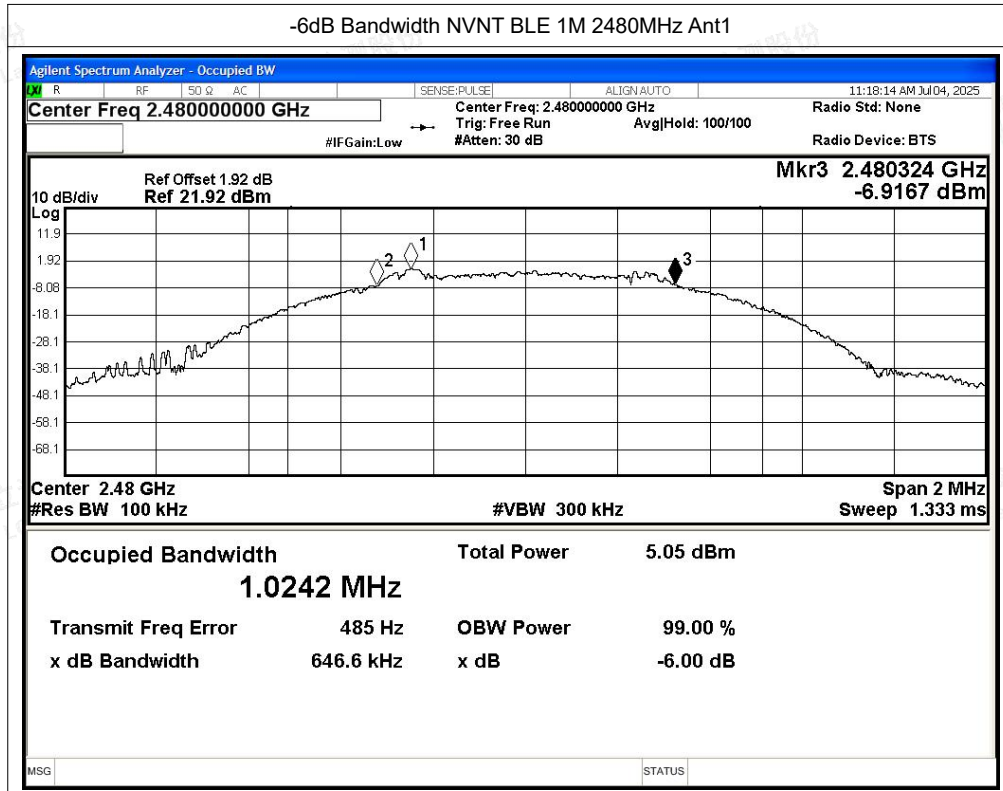


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A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-0.09	30	Pass
NVNT	BLE 1M	2440	Ant1	0.24	30	Pass
NVNT	BLE 1M	2480	Ant1	-0.74	30	Pass



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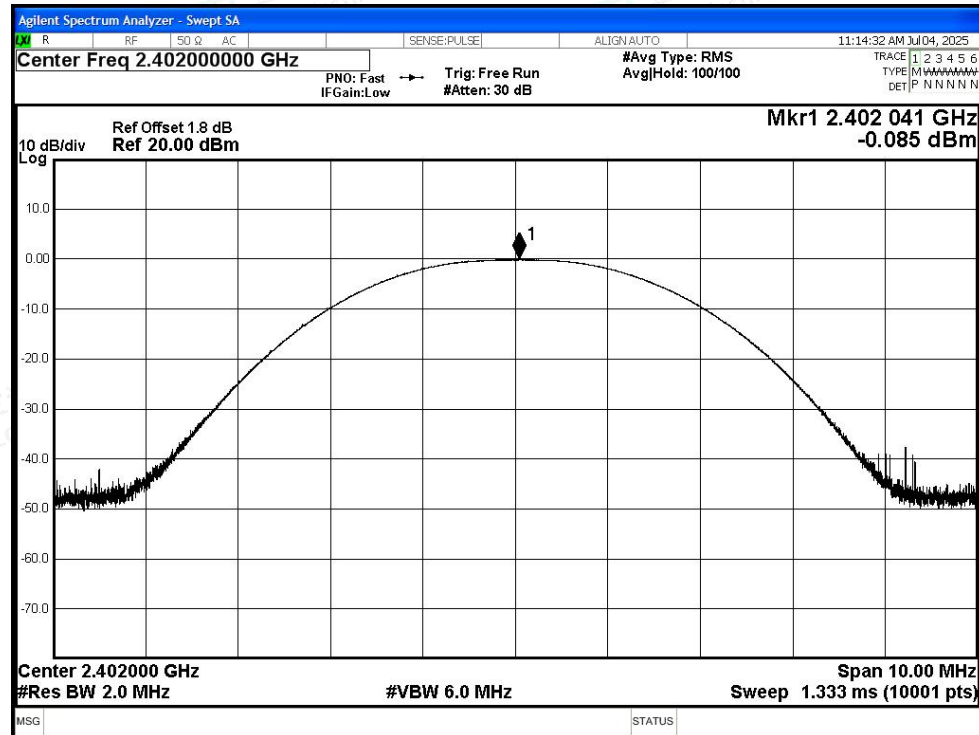
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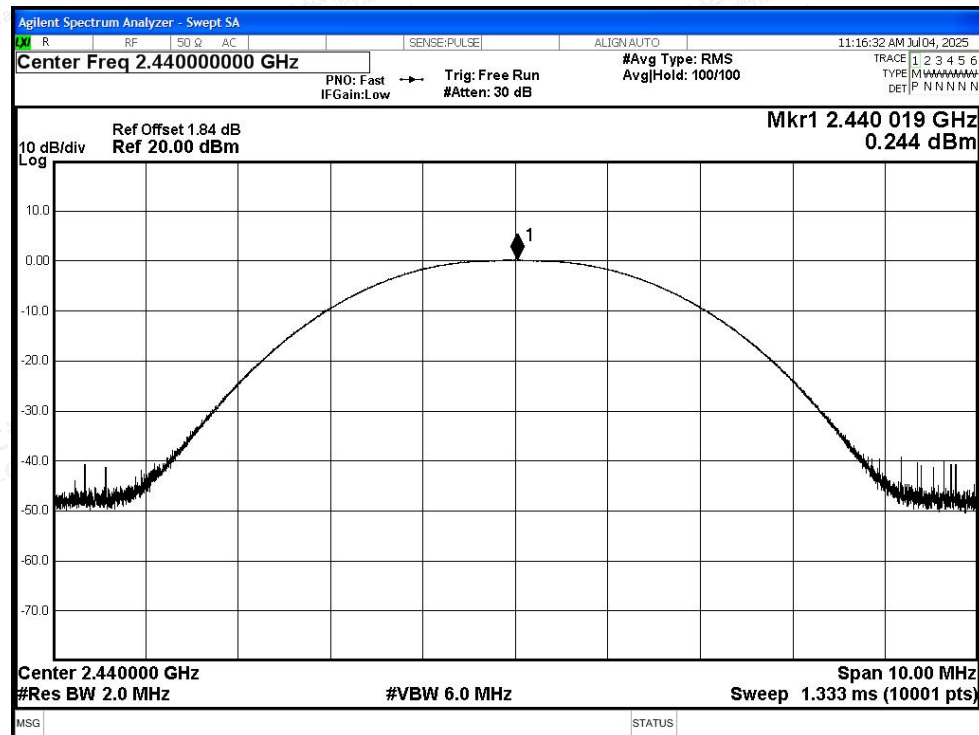


Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

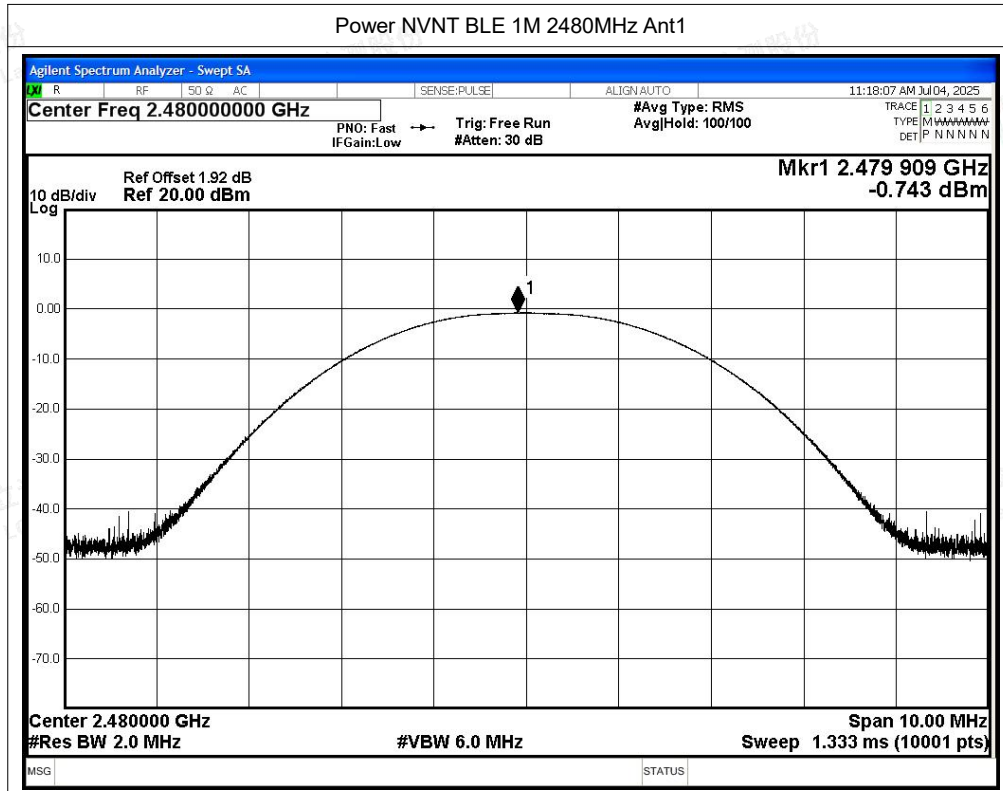


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A.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-16.69	8	Pass
NVNT	BLE 1M	2440	Ant1	-16.44	8	Pass
NVNT	BLE 1M	2480	Ant1	-17.36	8	Pass



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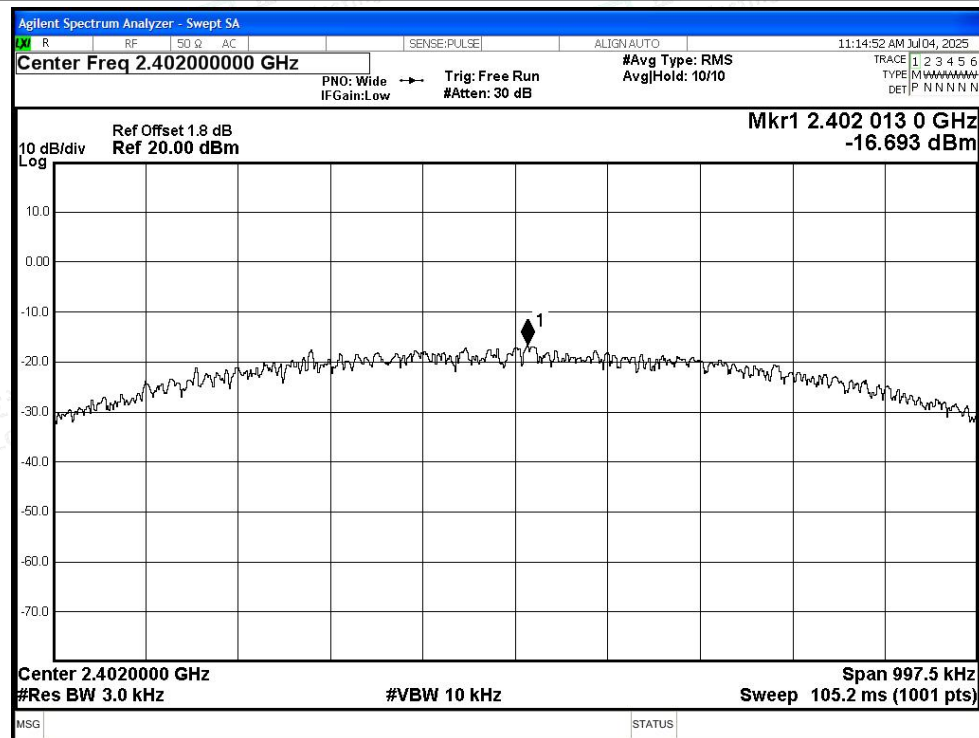
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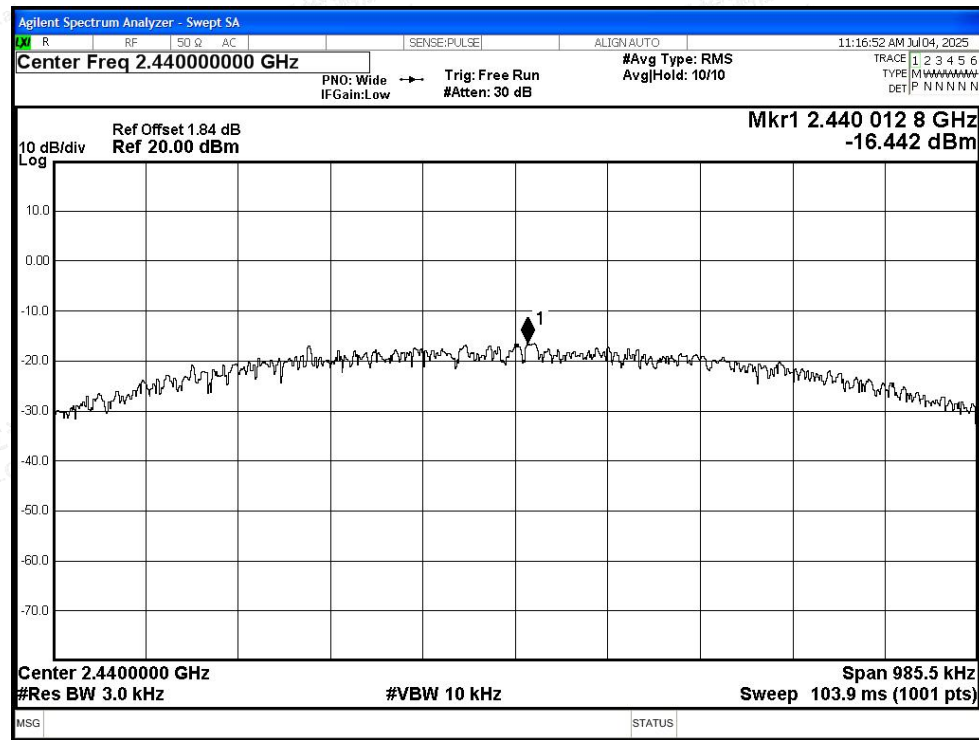


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1

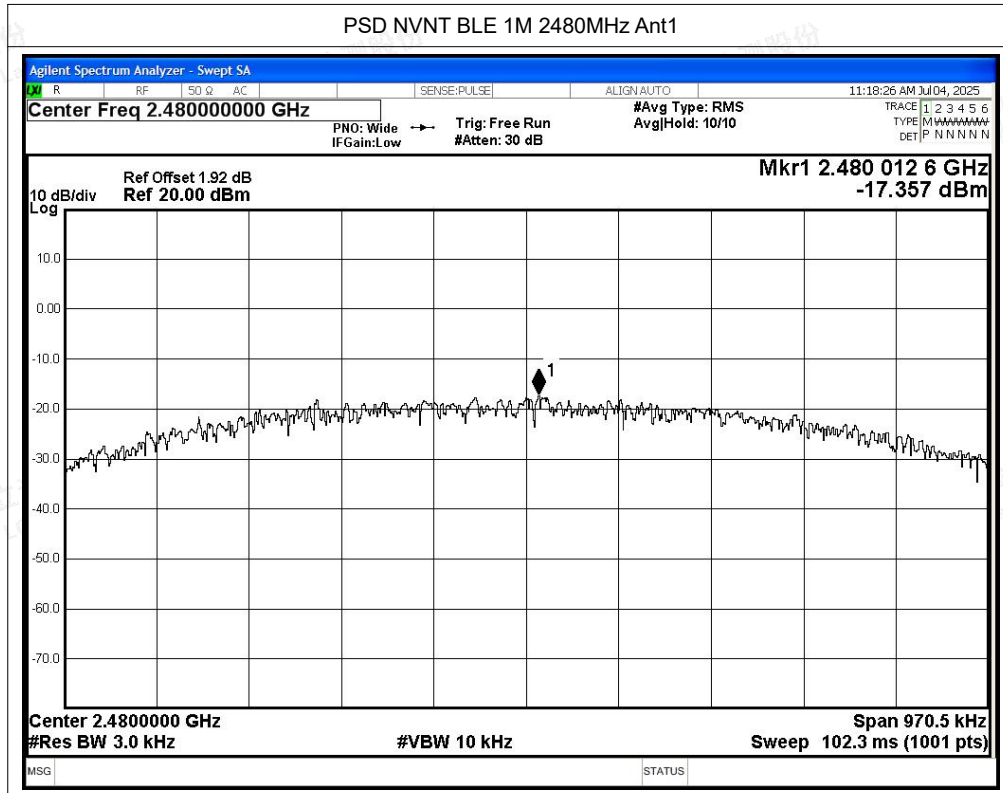


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A.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-56.31	-20	Pass
NVNT	BLE 1M	2480	Ant1	-55.36	-20	Pass



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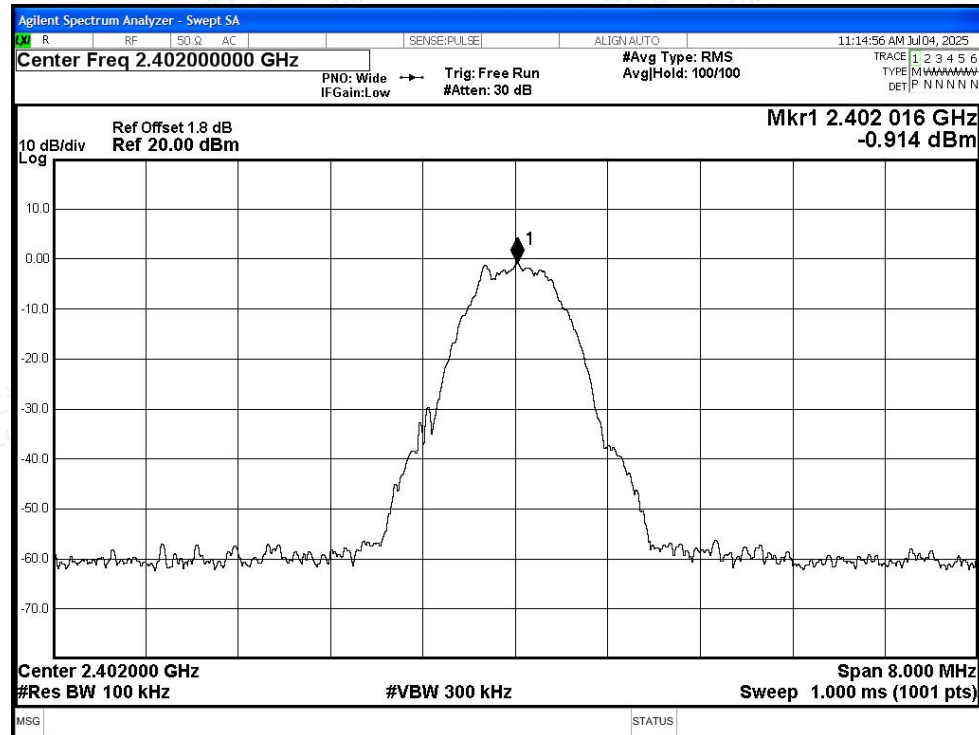
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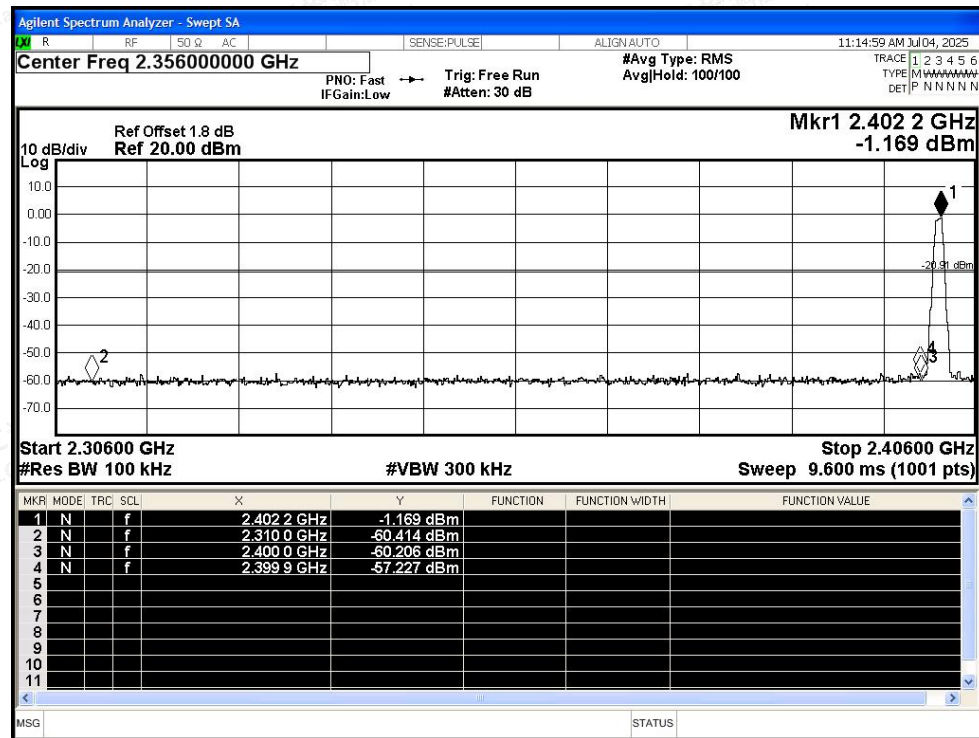


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



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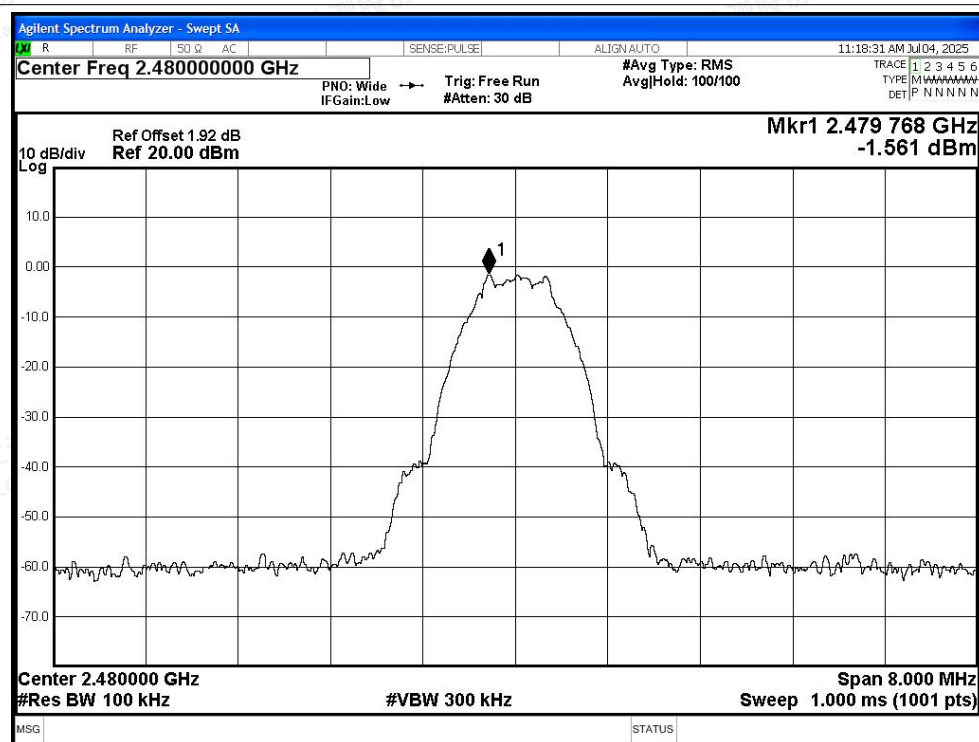
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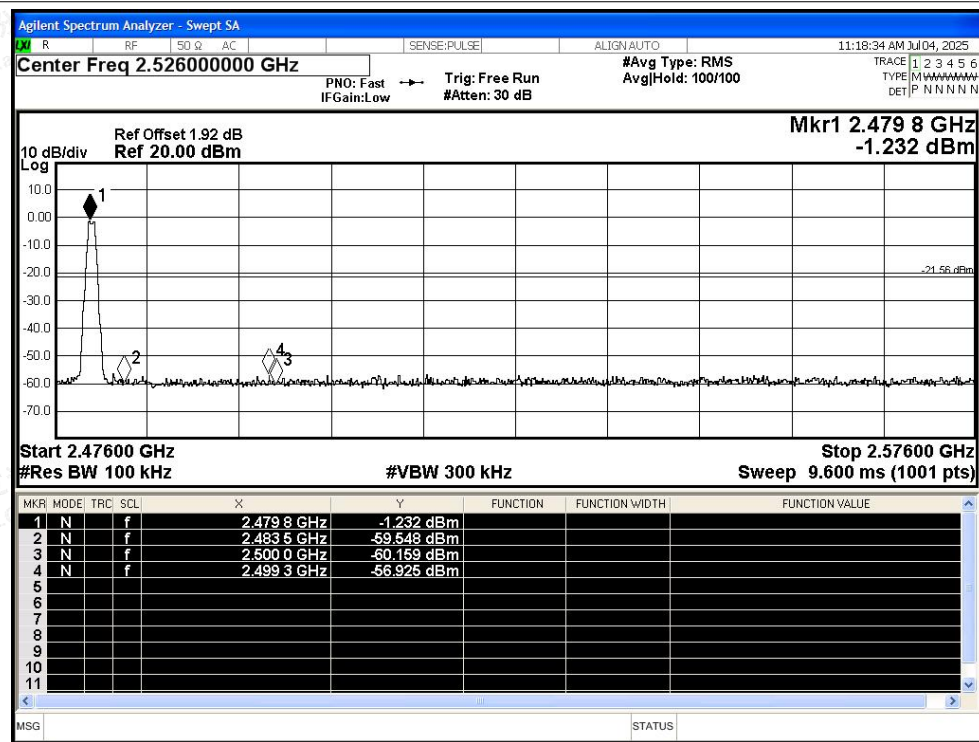
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Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



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	-54.65	-20	Pass
NVNT	BLE 1M	2440	Ant1	-55.32	-20	Pass
NVNT	BLE 1M	2480	Ant1	-54.6	-20	Pass



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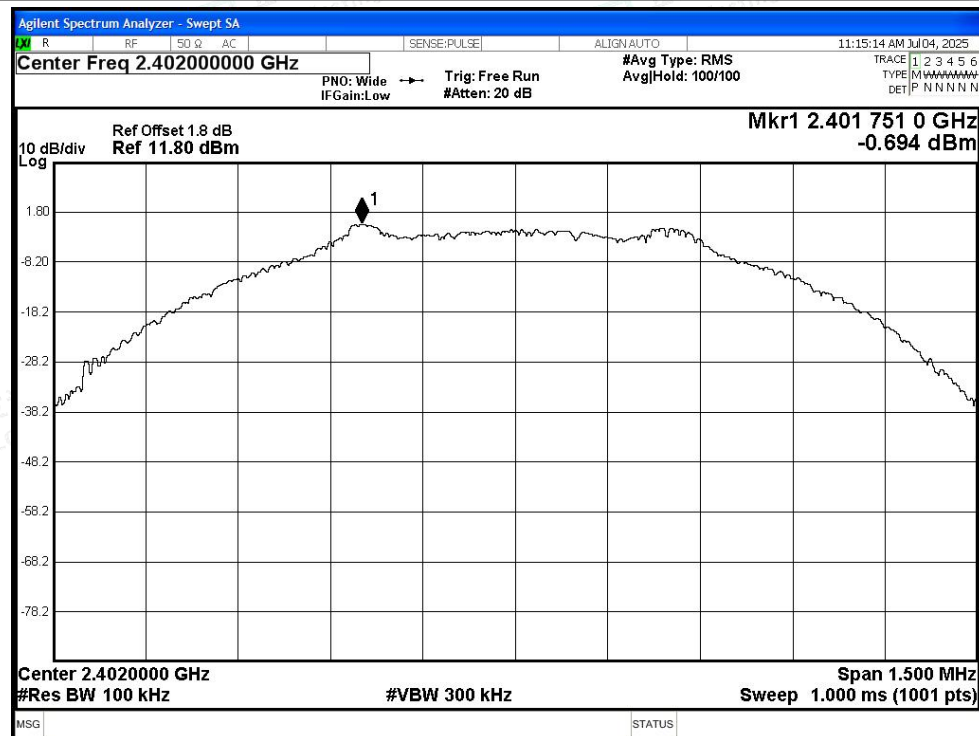
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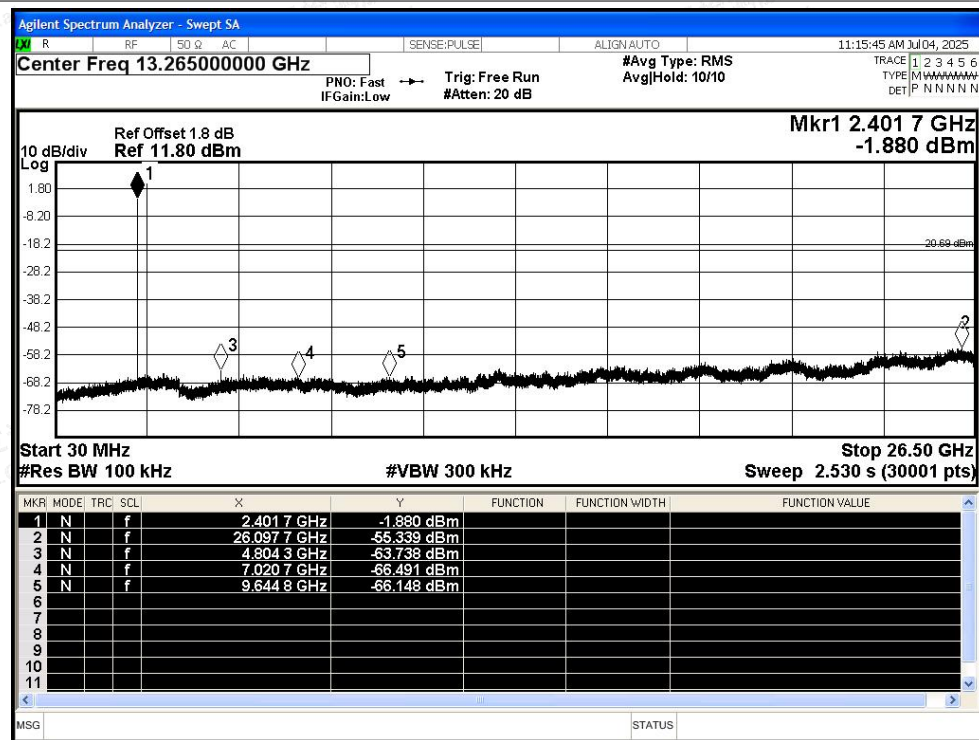


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



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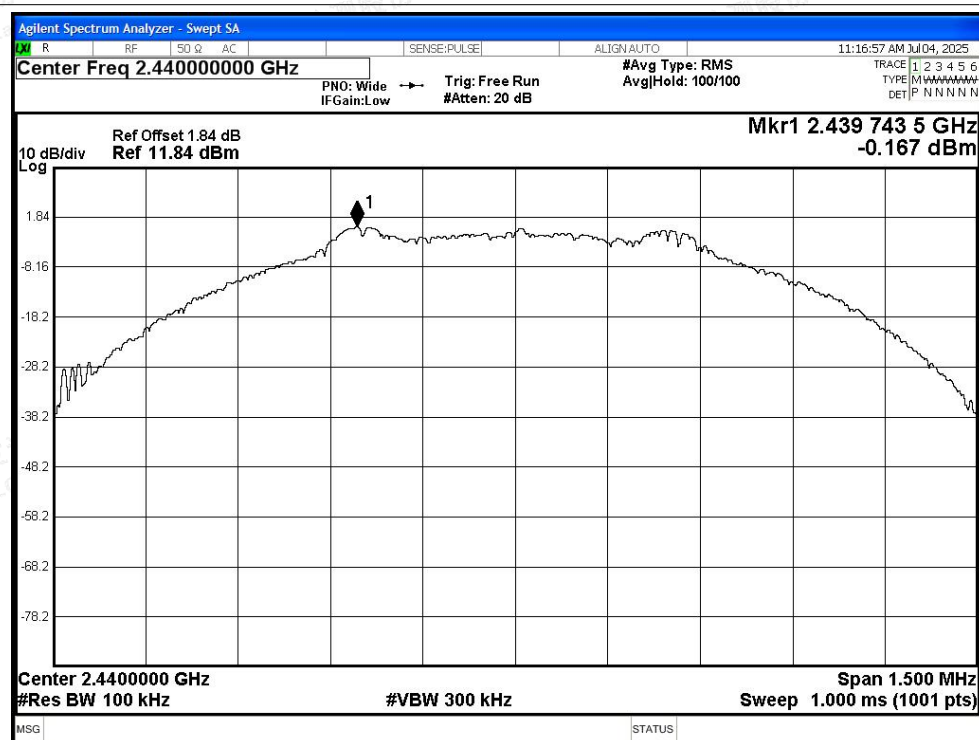
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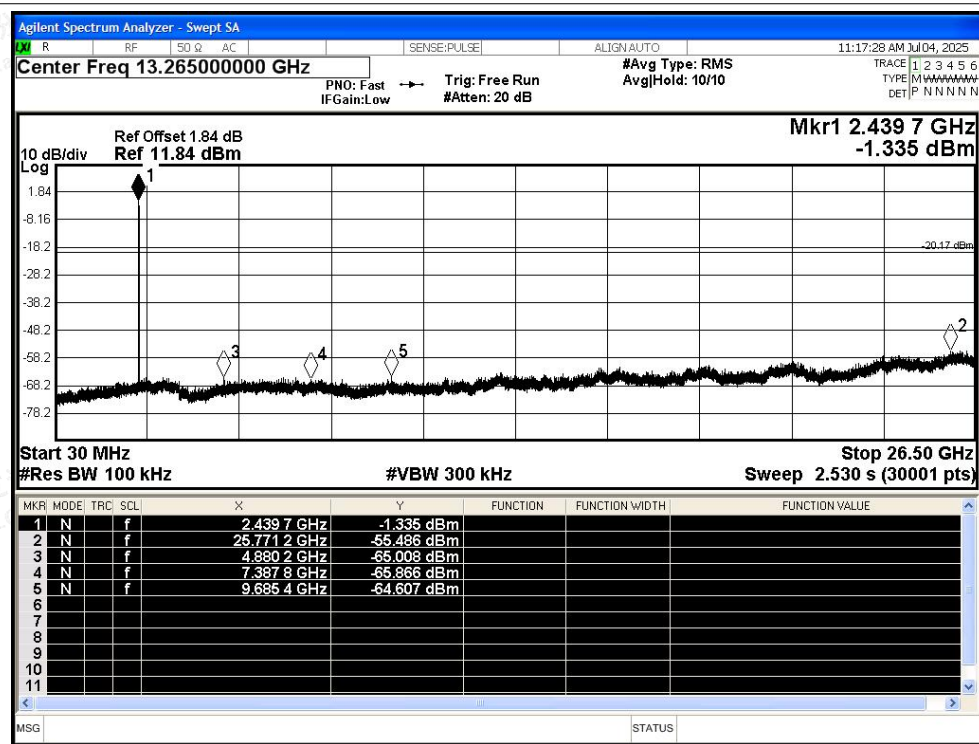
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Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



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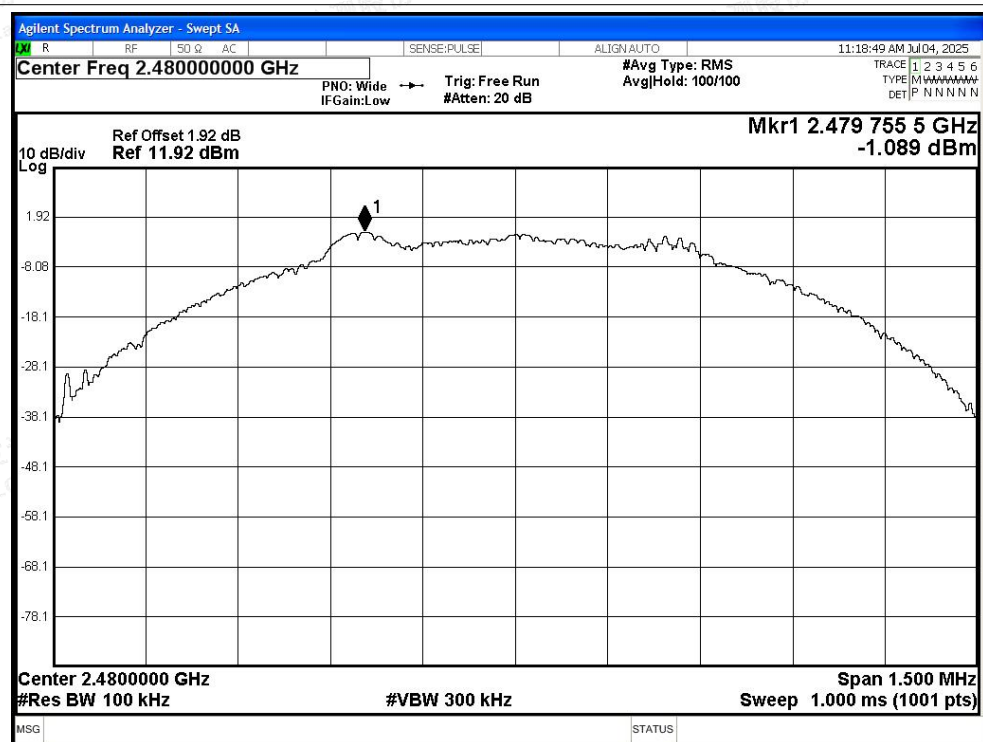
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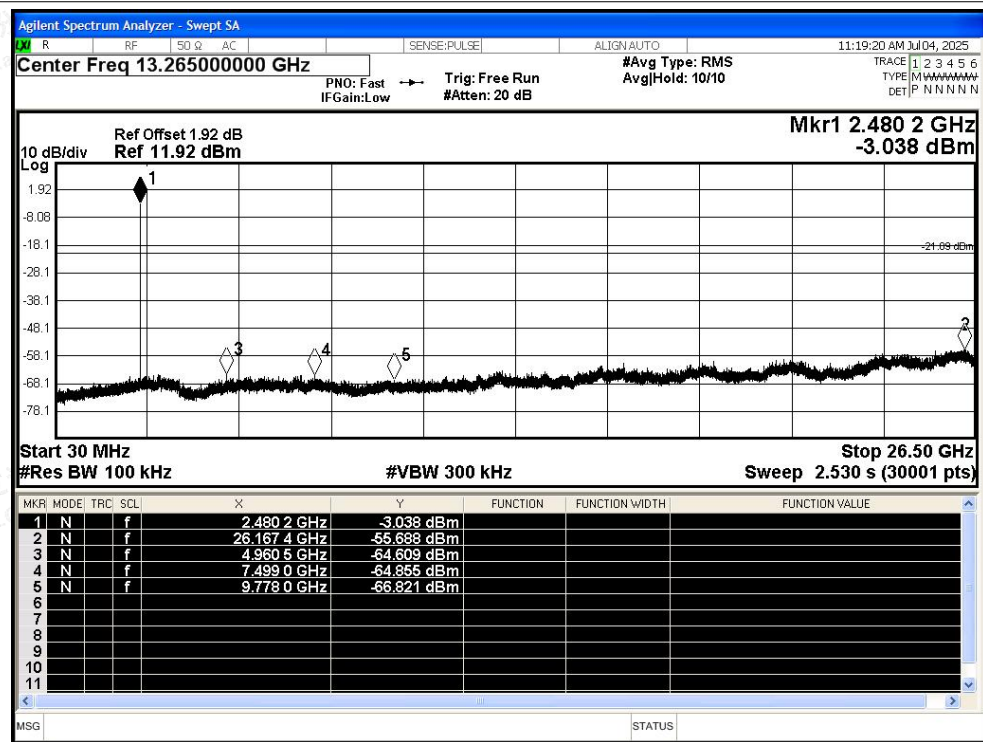
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Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



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	87.39	0.59	0.61



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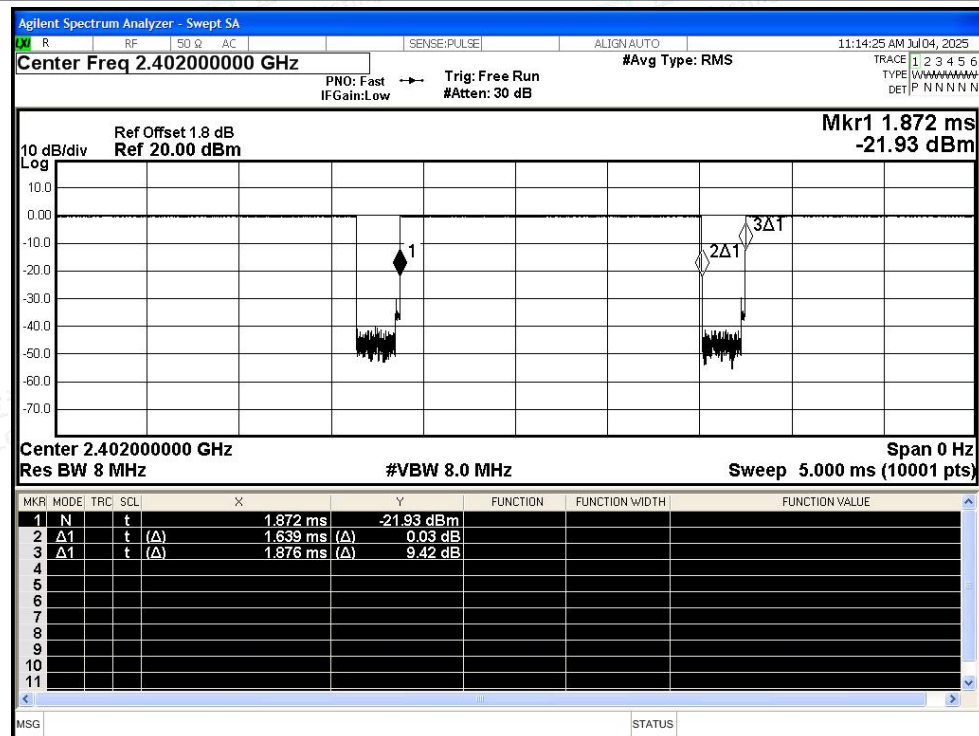
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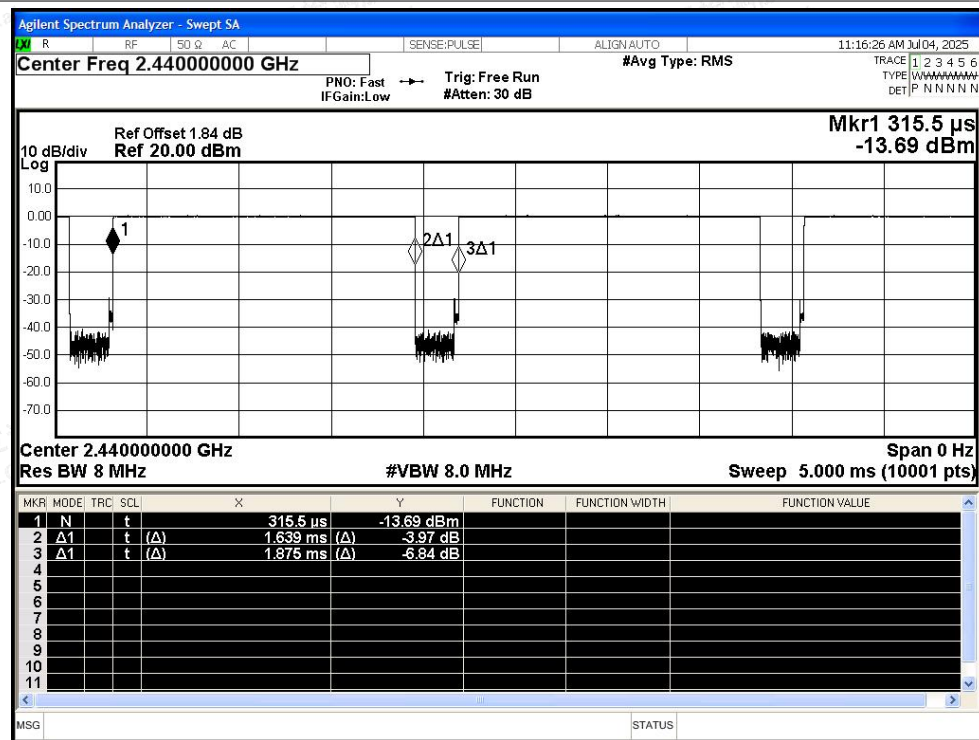


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1

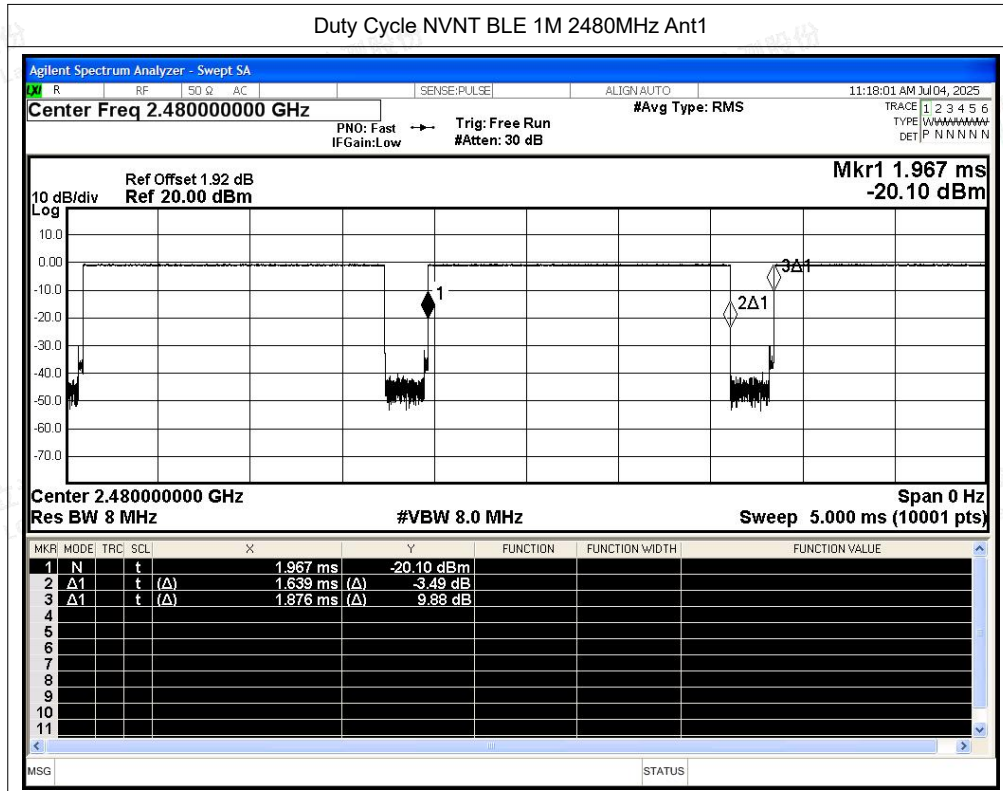


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A.7 Restrict Band

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	-51.94	2.2	-	45.52	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-58.94	2.2	0.59	39.11	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2386.32	-47.27	2.2	-	50.19	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2376.624	-58.26	2.2	0.59	39.79	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-49.66	2.2	-	47.80	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-58.3	2.2	0.59	39.75	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-49.39	2.2	-	48.07	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-58	2.2	0.59	40.05	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.68	-46.46	2.2	-	51.00	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.848	-57.63	2.2	0.59	40.42	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-49.25	2.2	-	48.21	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-58.04	2.2	0.59	40.01	Average	54	Pass



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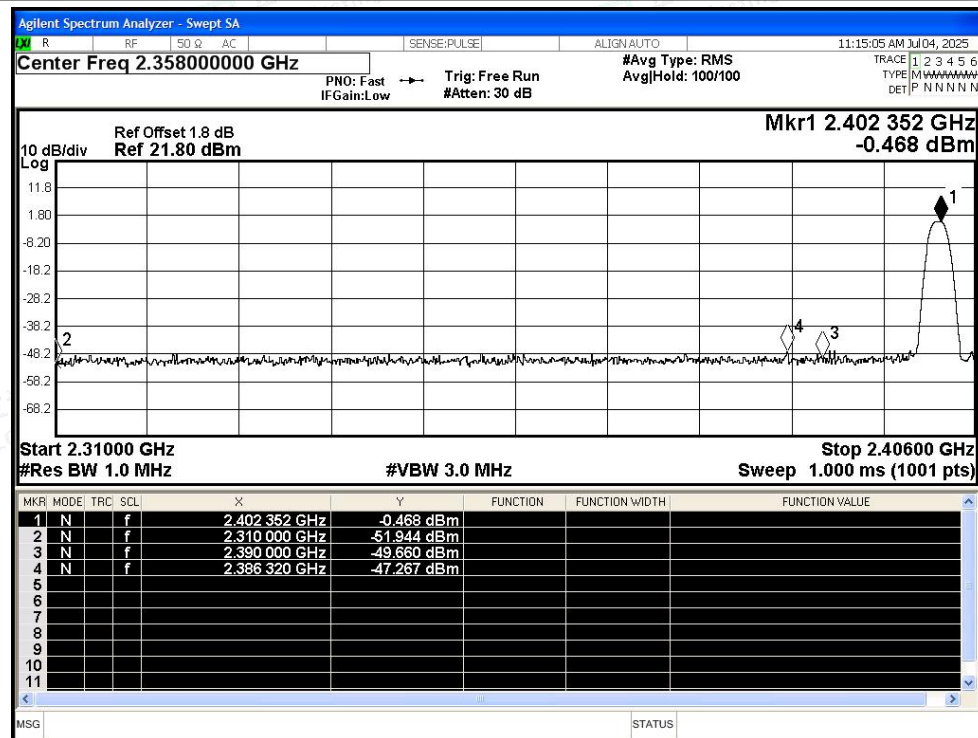
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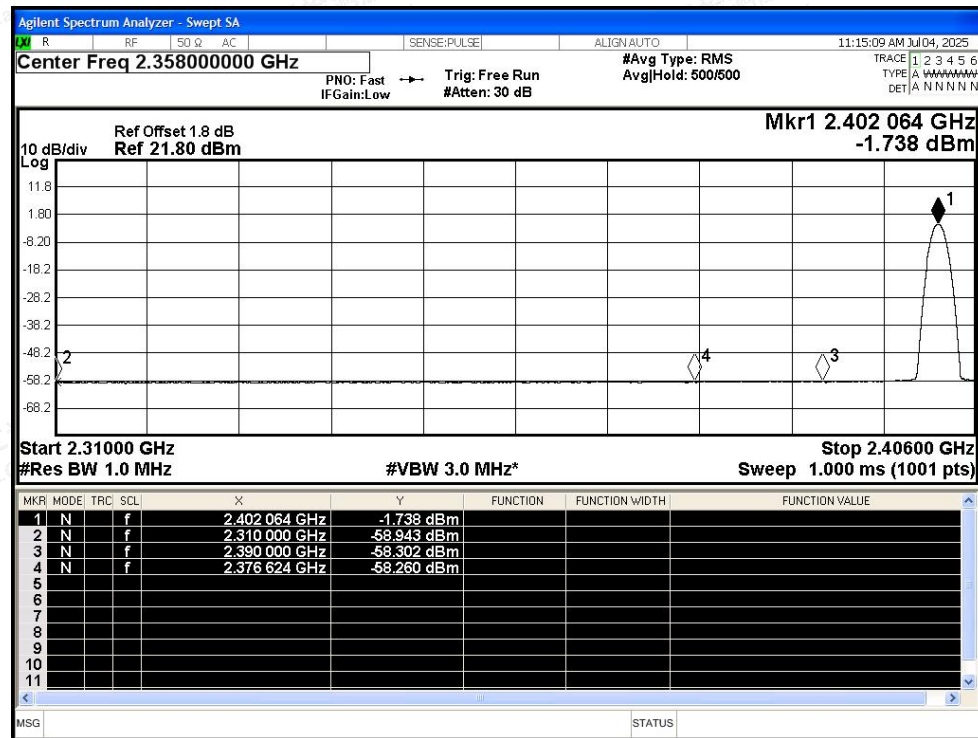


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average



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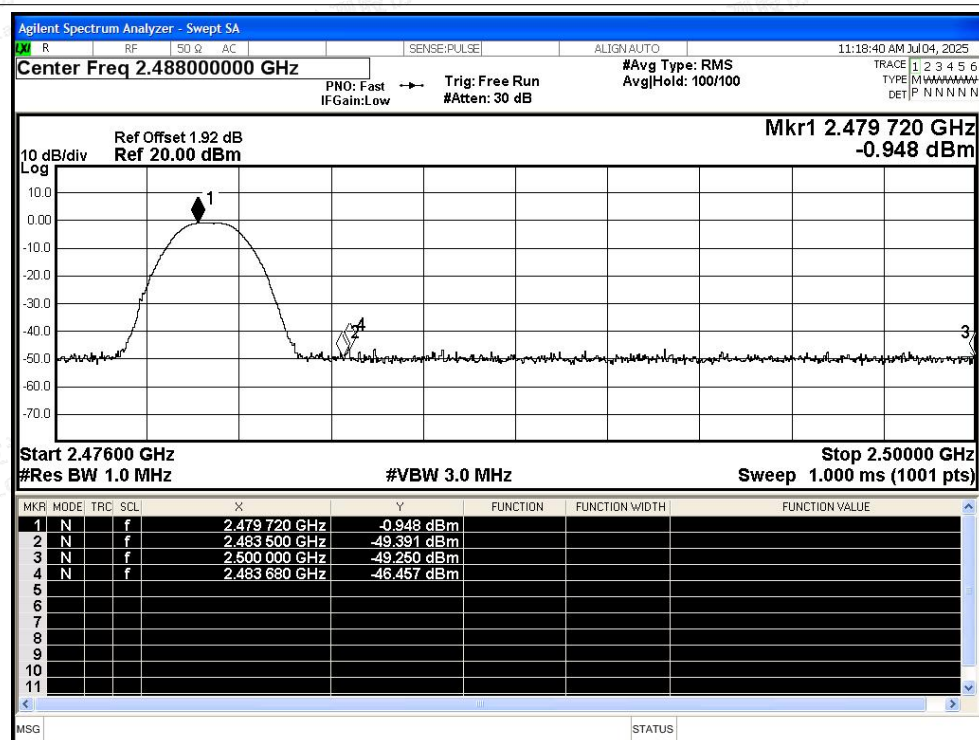
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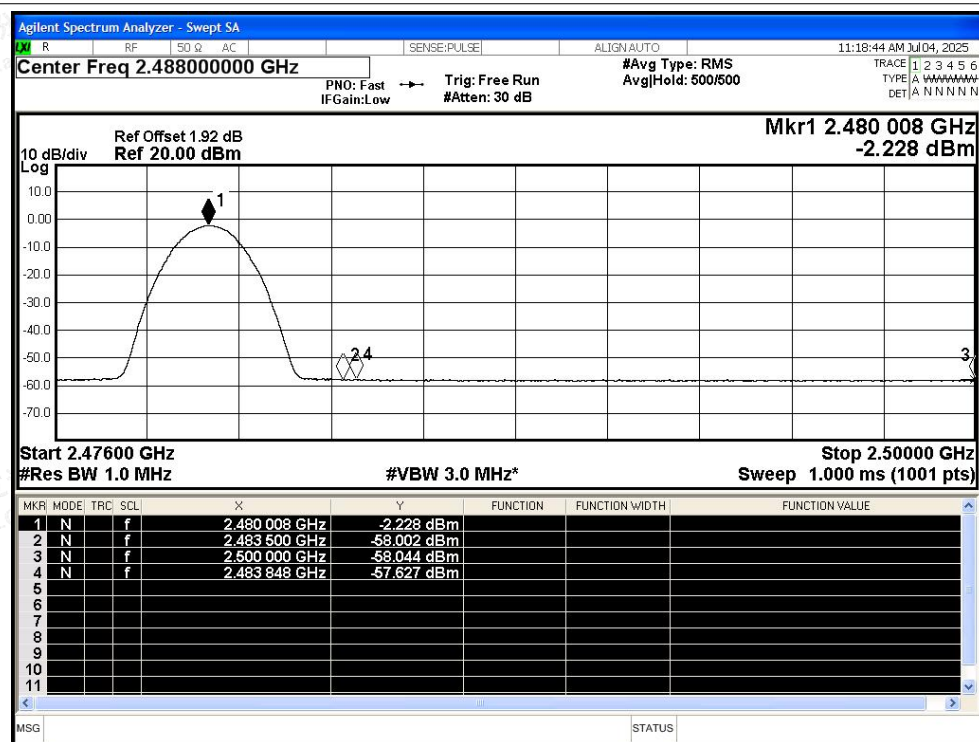
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Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average



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