



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: Davek Loss Alert Sensor

Test Model: Davek Loss Alert Sensor

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Nick Peng
	<i>Nick Peng</i>
Supervised by:	Li huan
	<i>Li huan</i>



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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	2402	Ant	0.653	≥ 0.5	Pass
NVNT	BLE	2440	Ant	0.643	≥ 0.5	Pass
NVNT	BLE	2480	Ant	0.657	≥ 0.5	Pass



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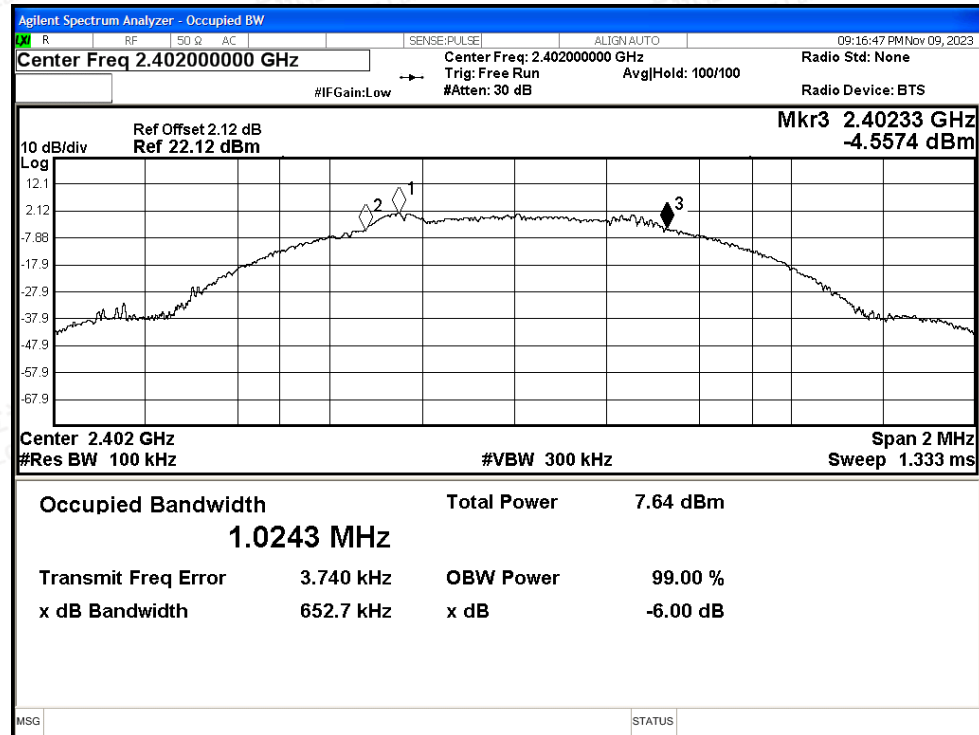
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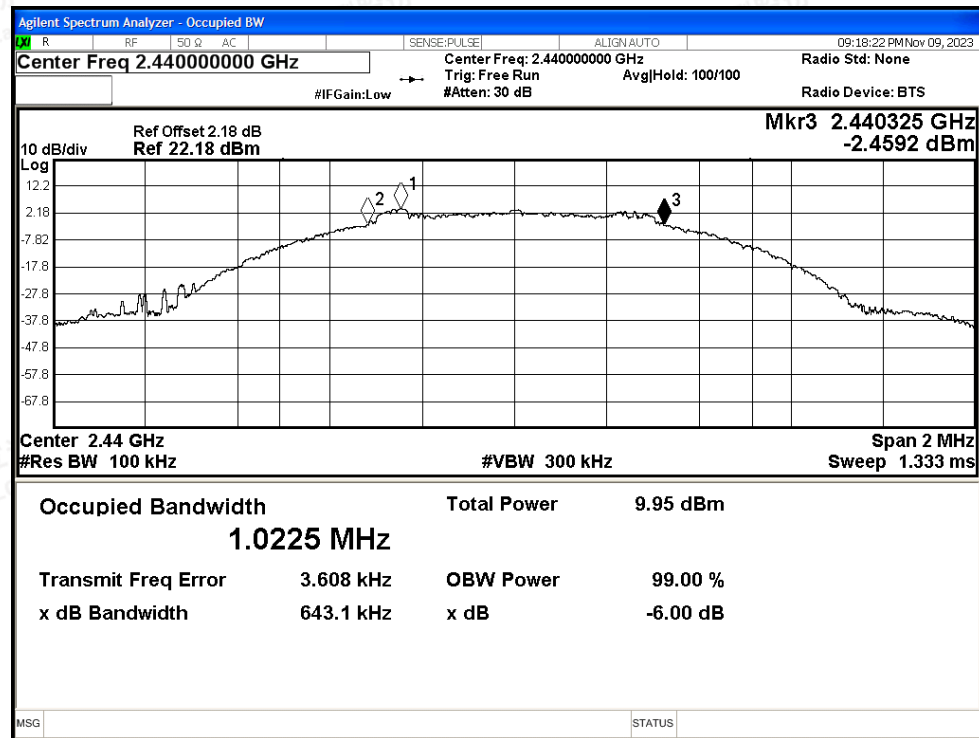


Test Graphs

-6dB Bandwidth NVNT BLE 2402MHz Ant



-6dB Bandwidth NVNT BLE 2440MHz Ant

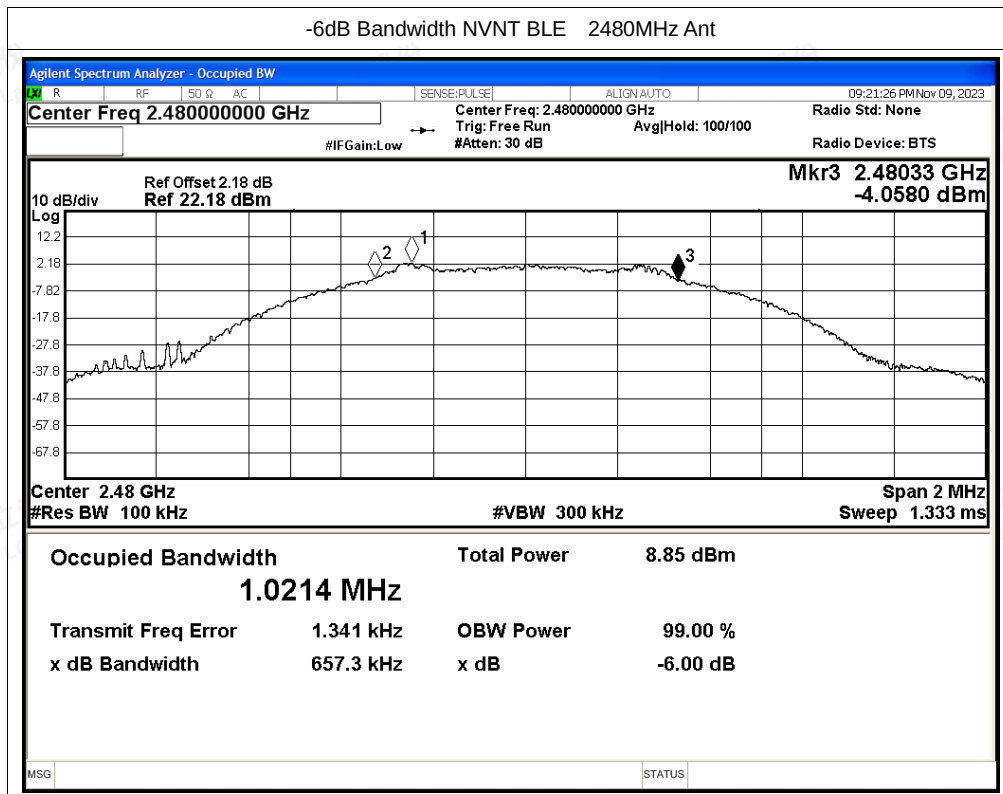


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A.2 Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2402	Ant	1.017
NVNT	BLE	2440	Ant	1.023
NVNT	BLE	2480	Ant	1.016



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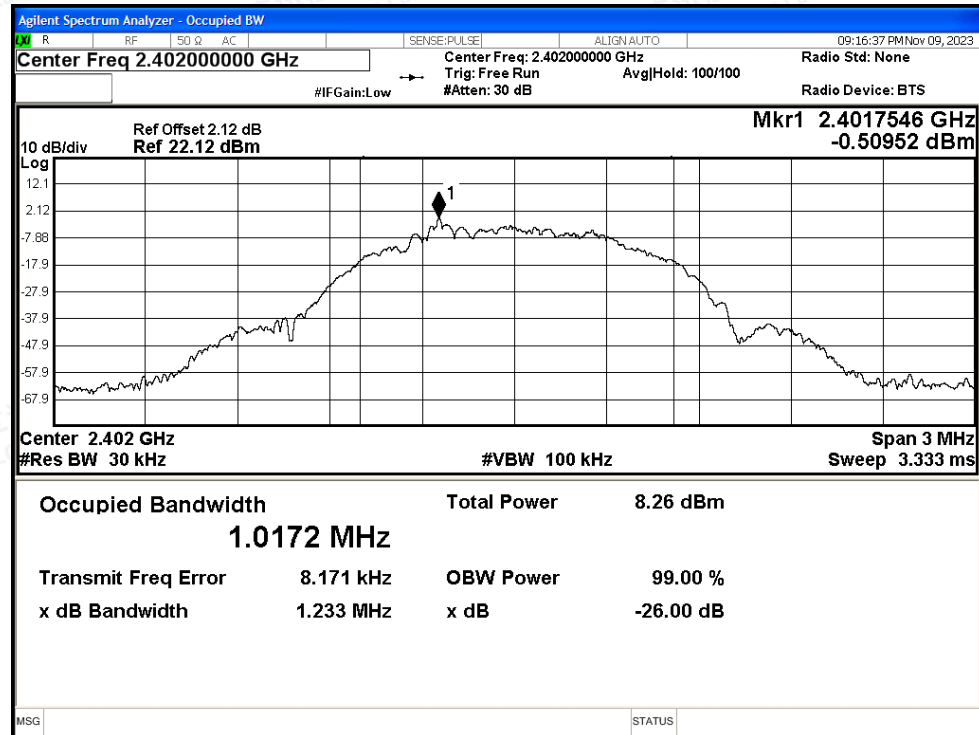
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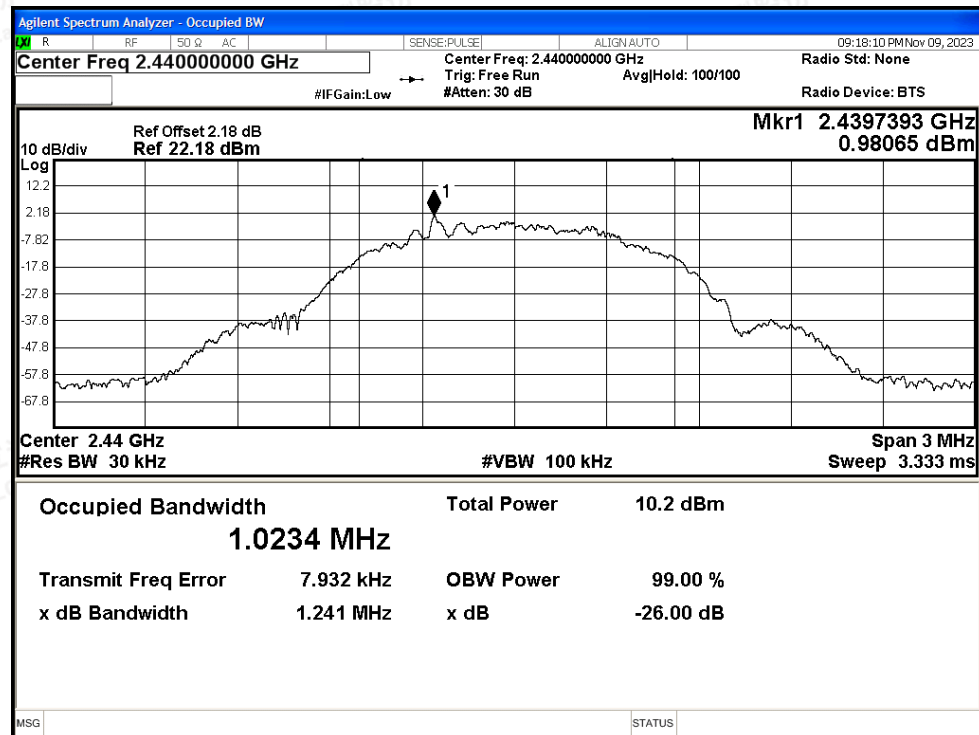


Test Graphs

OBW NVNT BLE 2402MHz Ant



OBW NVNT BLE 2440MHz Ant

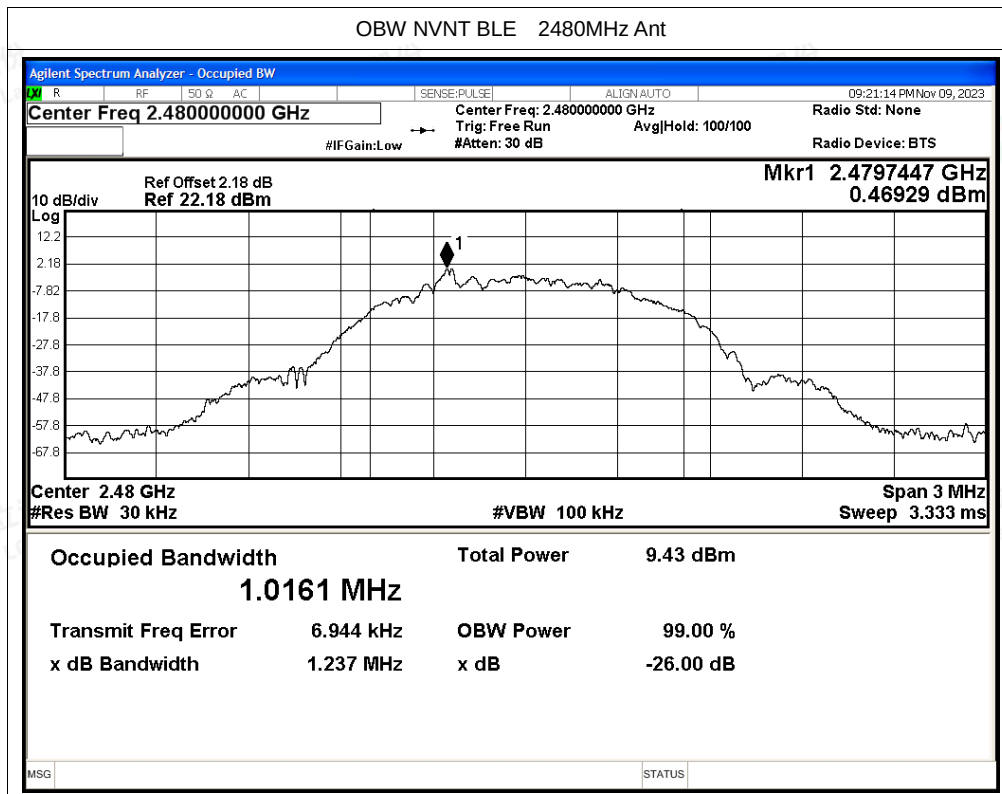


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A.3 Maximum peak conducted output power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant	1.83	30	Pass
NVNT	BLE	2440	Ant	3.99	30	Pass
NVNT	BLE	2480	Ant	3.02	30	Pass



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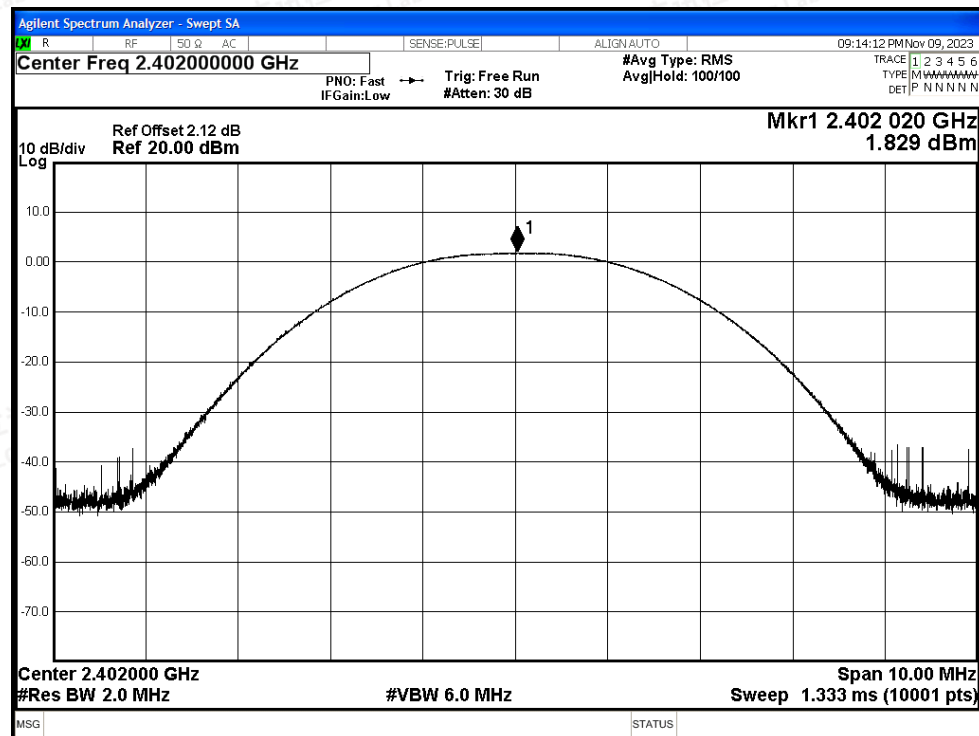
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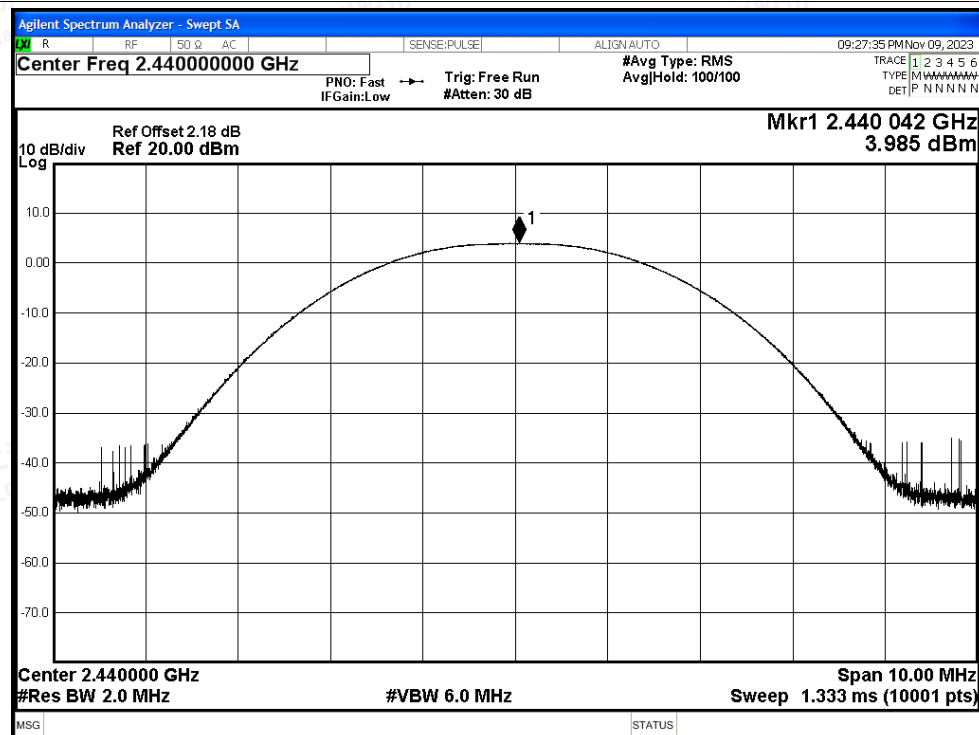


Test Graphs

Power NVNT BLE 2402MHz Ant



Power NVNT BLE 2440MHz Ant

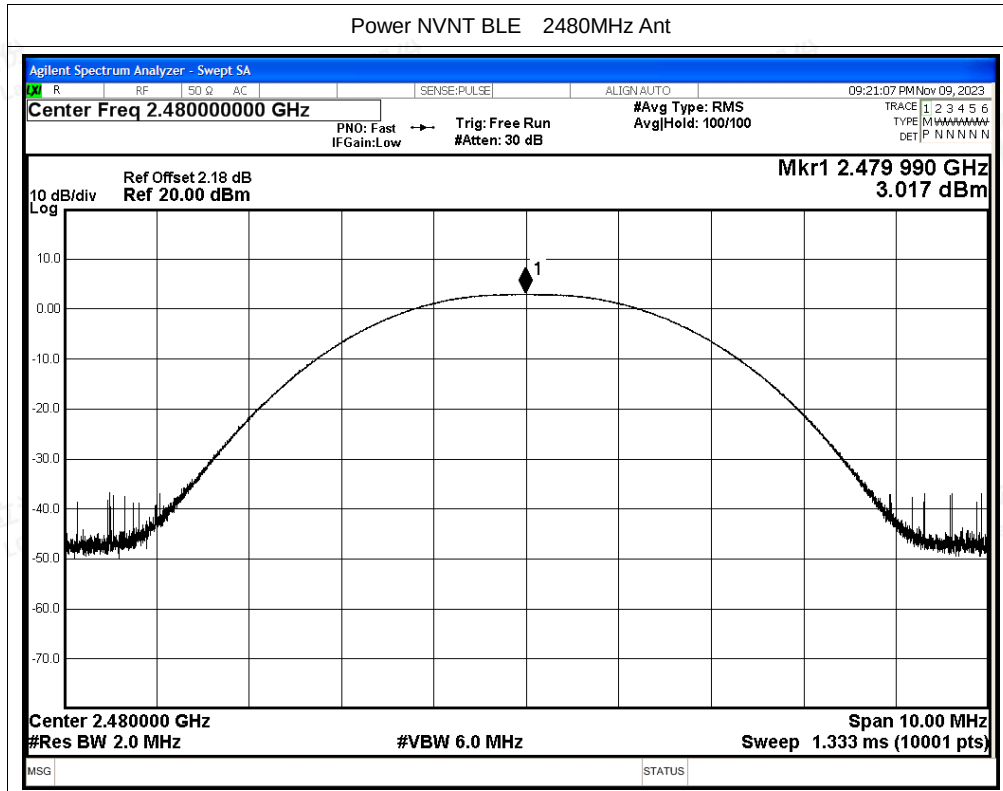


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A.4 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE	2402	Ant	-13.77	8	Pass
NVNT	BLE	2440	Ant	-12.49	8	Pass
NVNT	BLE	2480	Ant	-13.58	8	Pass



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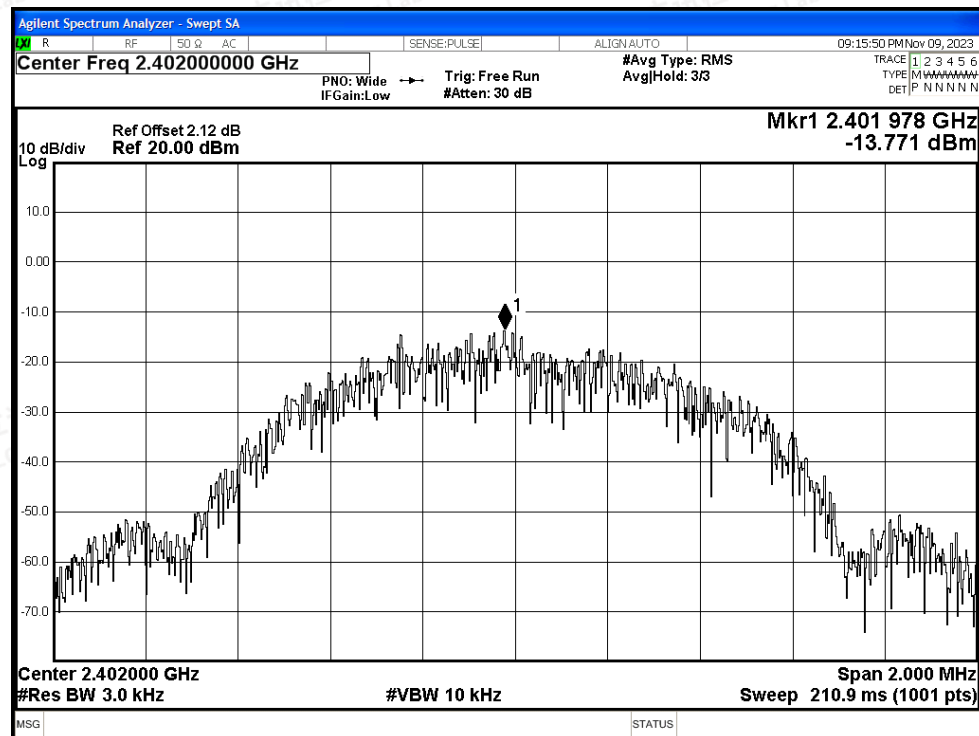
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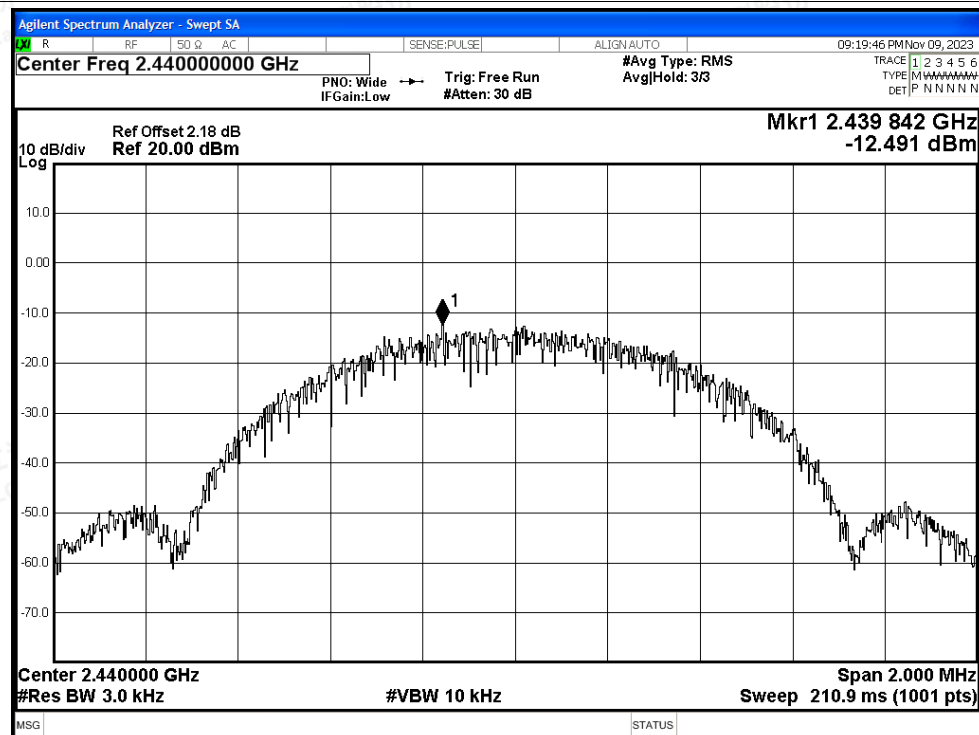


Test Graphs

PSD NVNT BLE 2402MHz Ant



PSD NVNT BLE 2440MHz Ant

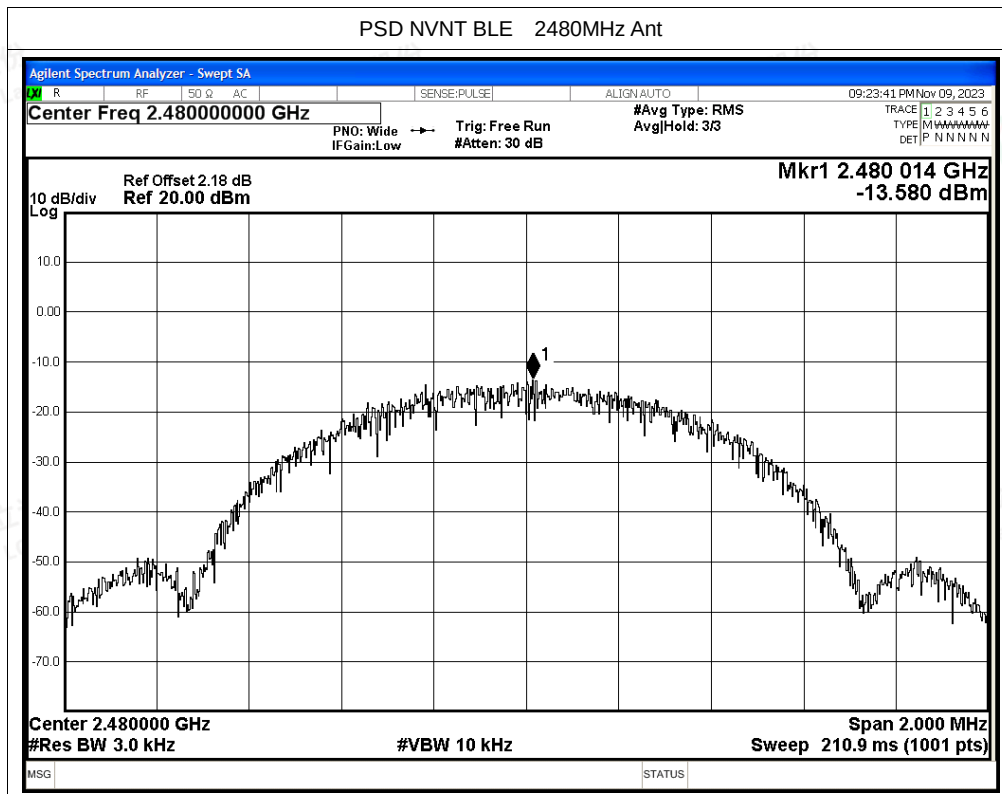


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A.5 Band Edge

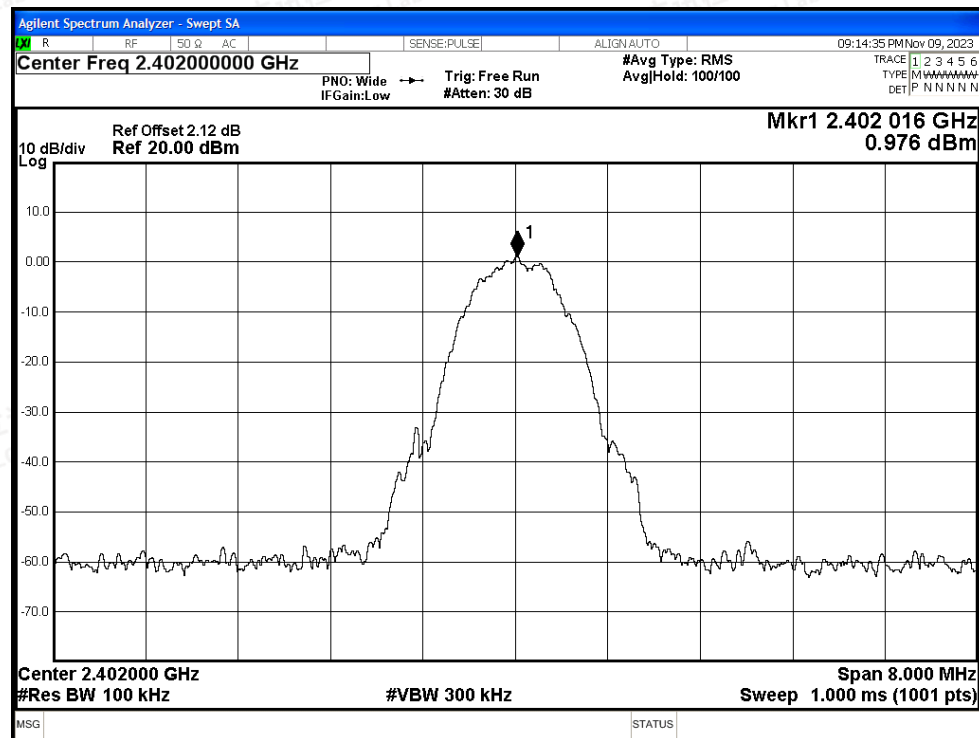
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant	-57.53	-20	Pass
NVNT	BLE	2480	Ant	-59	-20	Pass



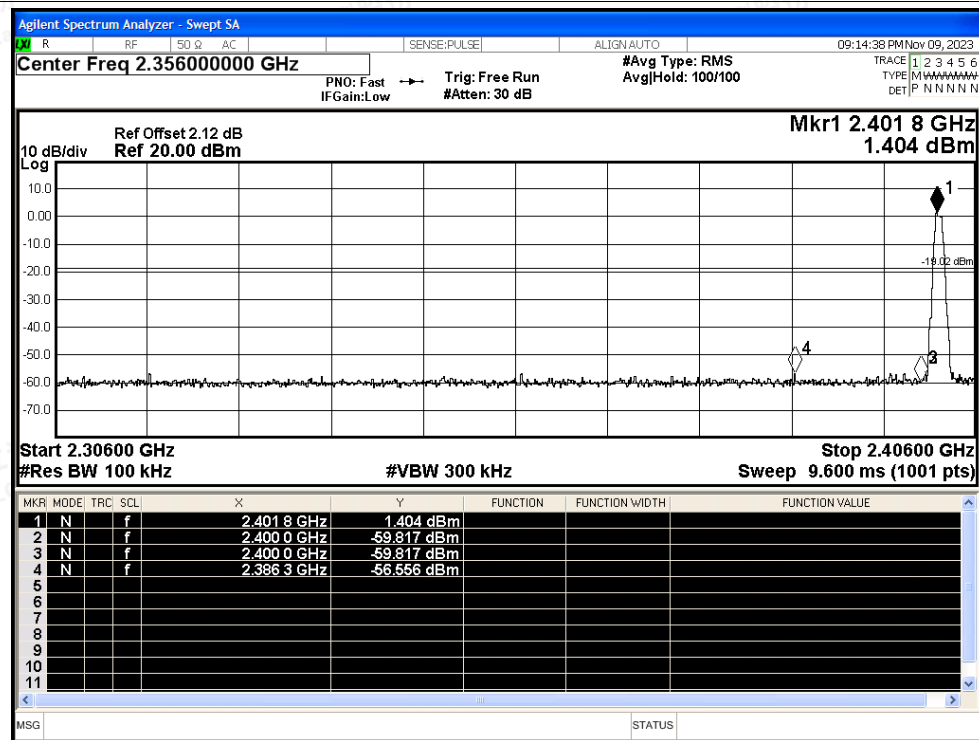


Test Graphs

Band Edge NVNT BLE 2402MHz Ant Ref



Band Edge NVNT BLE 2402MHz Ant Emission

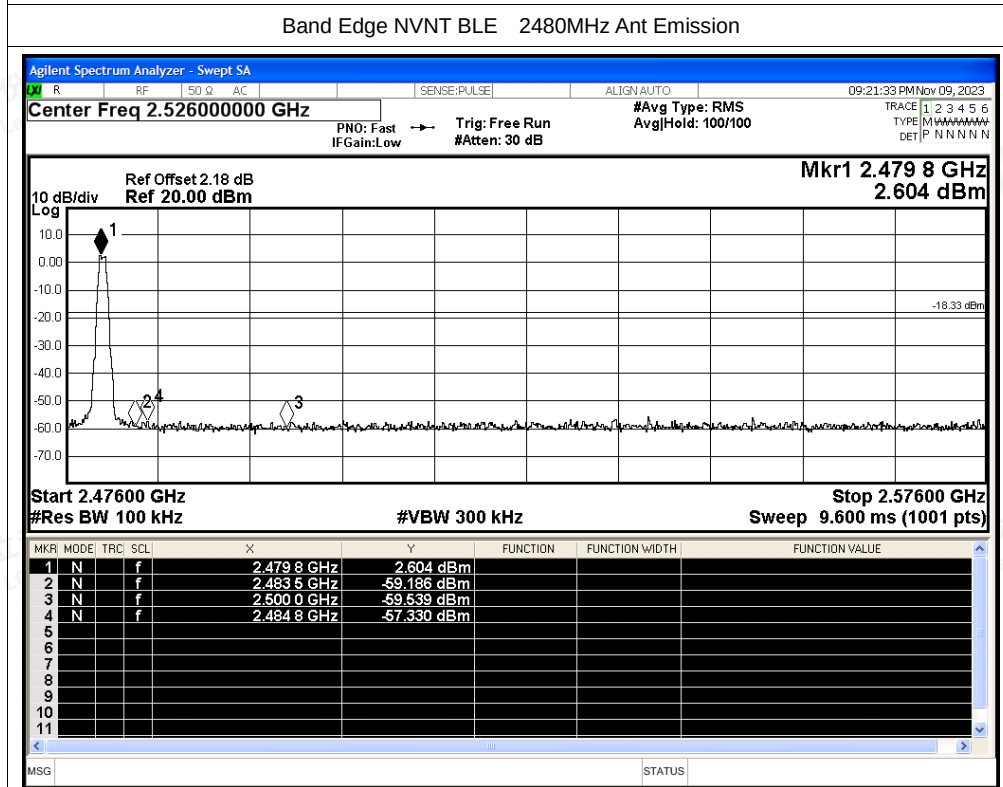
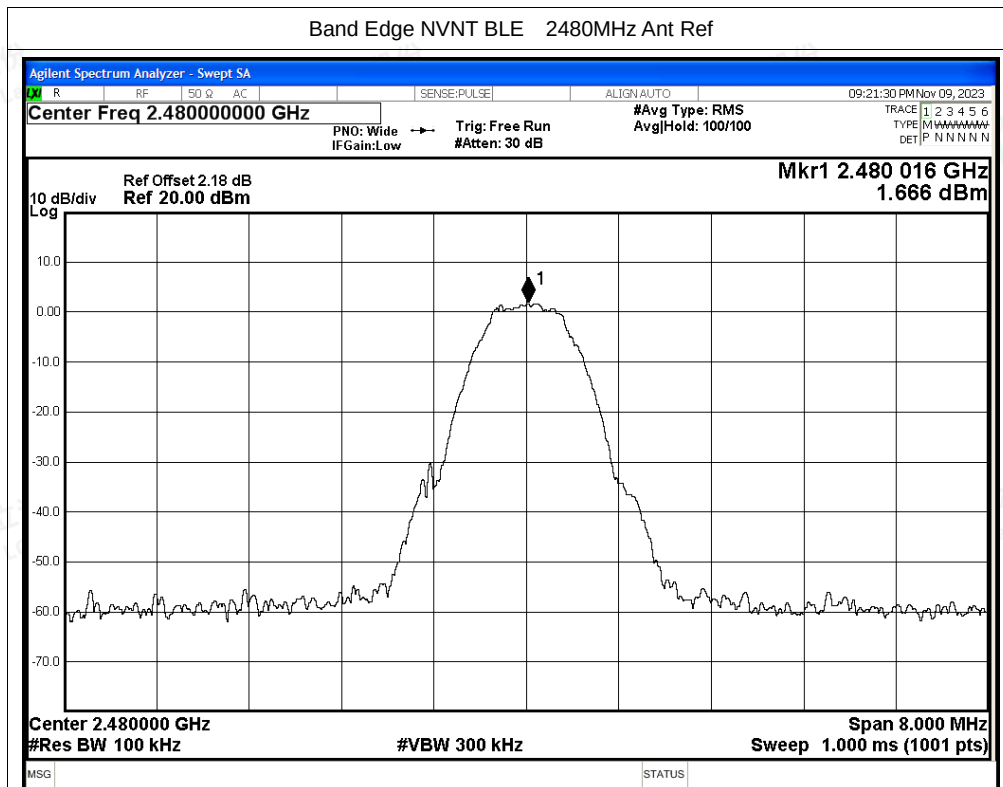


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A.6 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant	-57.08	-20	Pass
NVNT	BLE	2440	Ant	-59.23	-20	Pass
NVNT	BLE	2480	Ant	-57.75	-20	Pass



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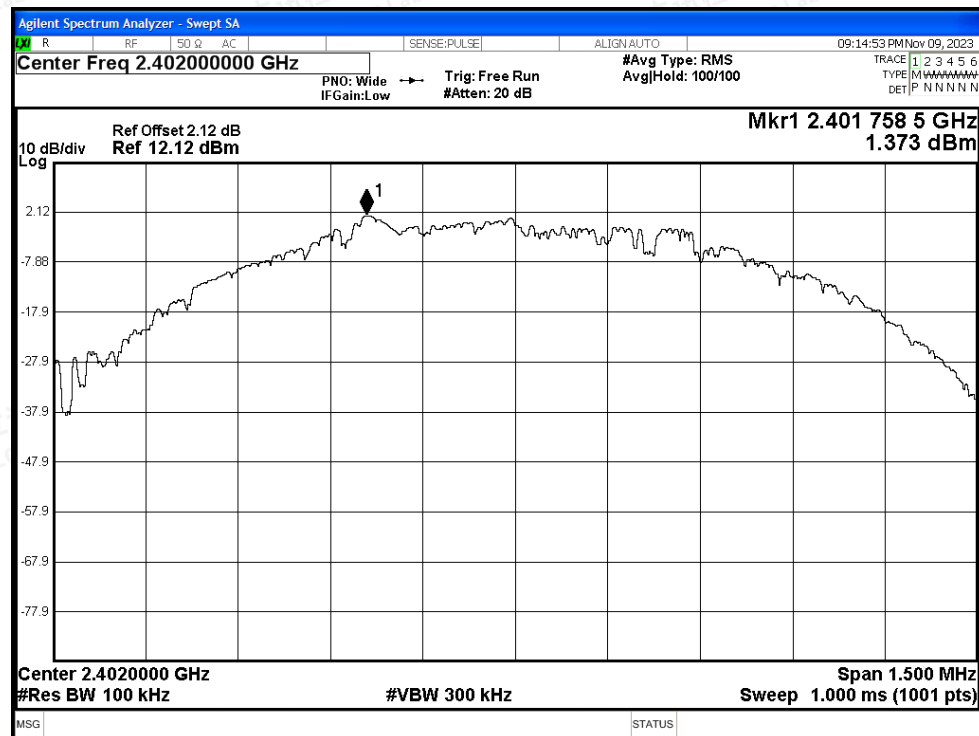
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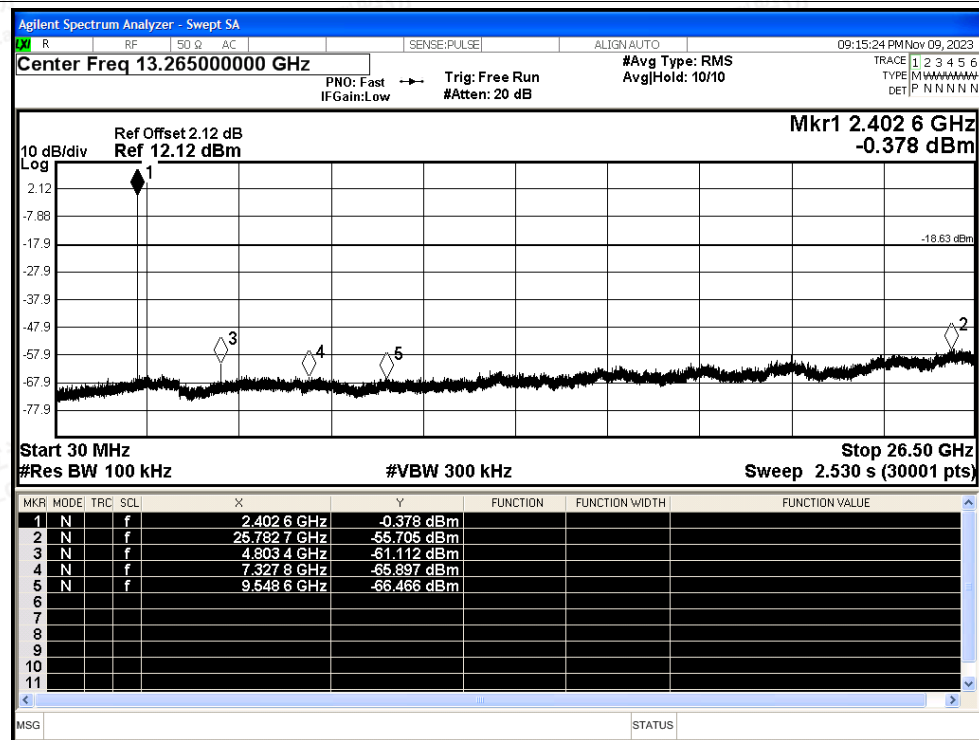


Test Graphs

Tx. Spurious NVNT BLE 2402MHz Ant Ref



Tx. Spurious NVNT BLE 2402MHz Ant Emission



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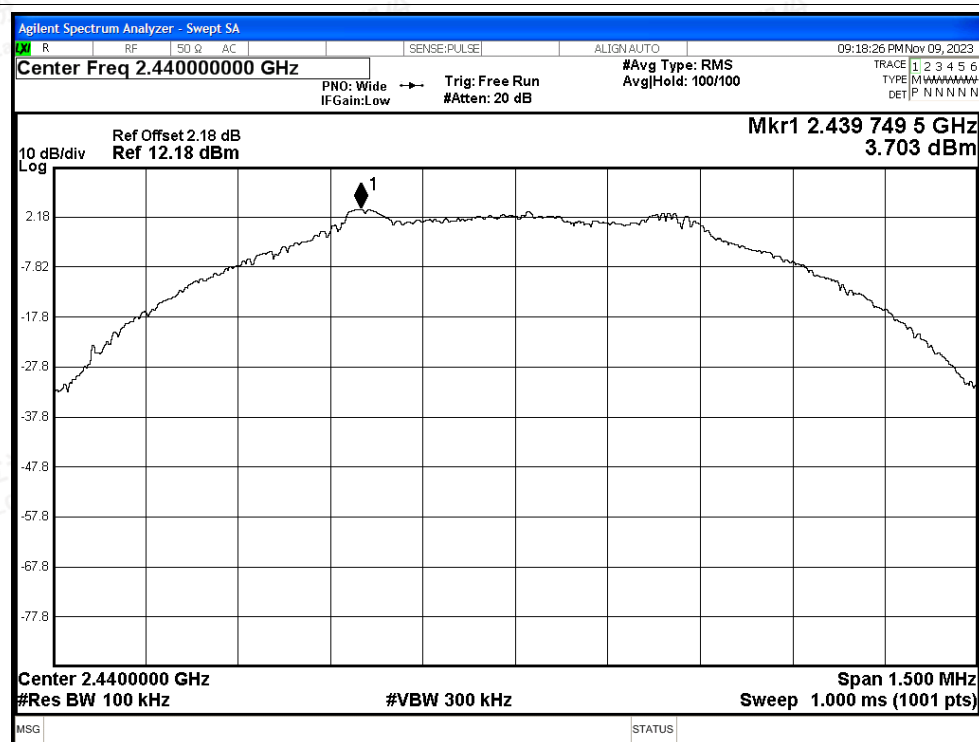
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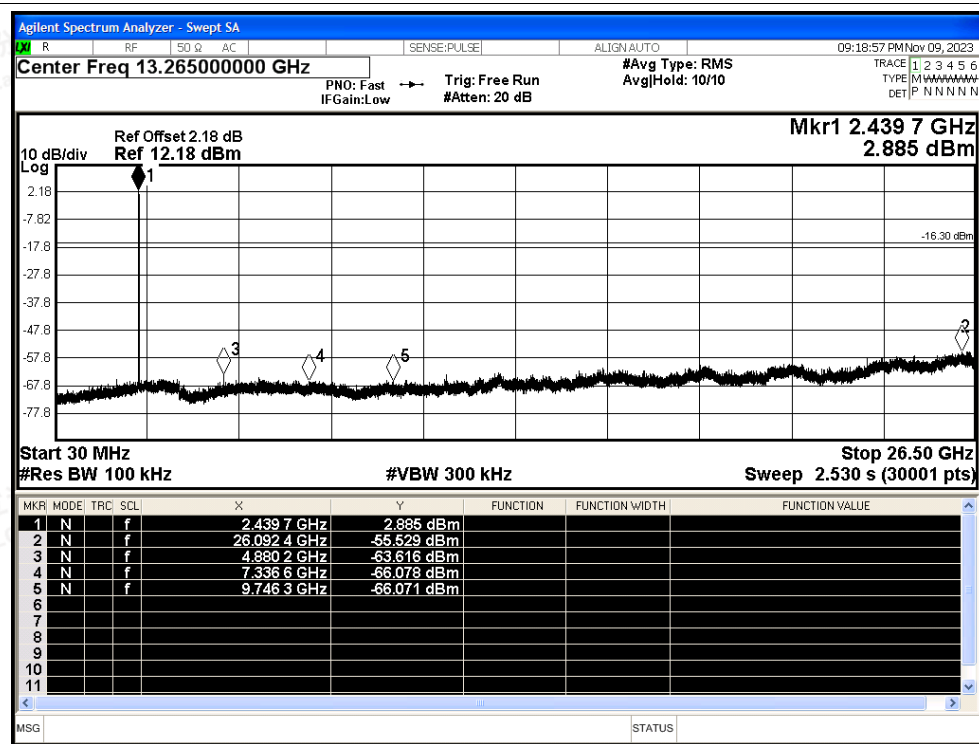
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Tx. Spurious NVNT BLE 2440MHz Ant Ref



Tx. Spurious NVNT BLE 2440MHz Ant Emission



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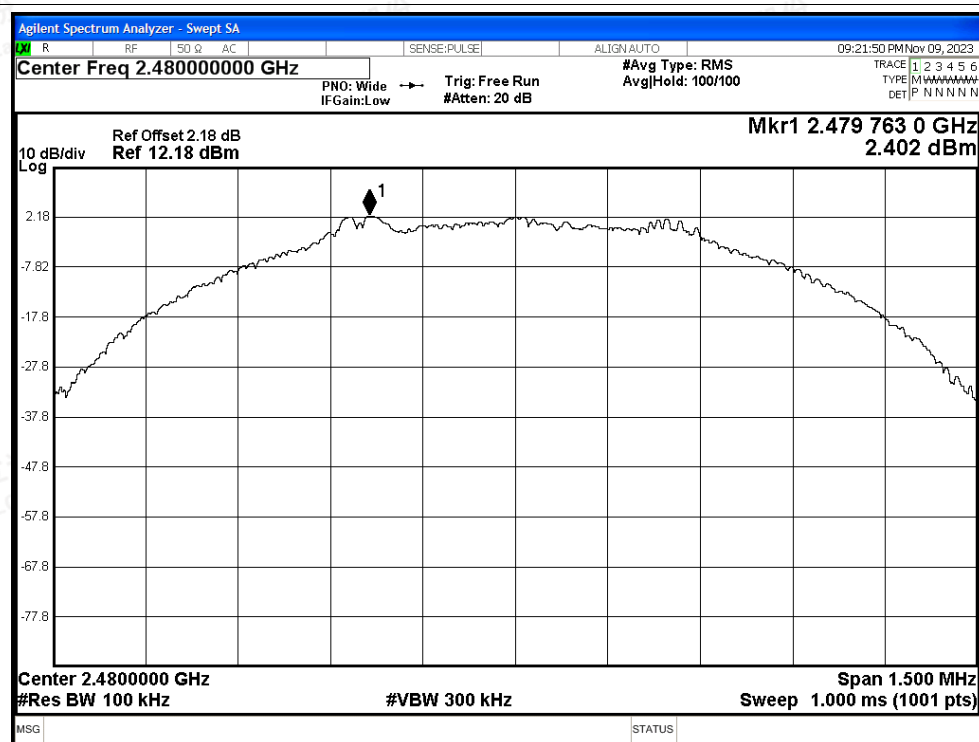
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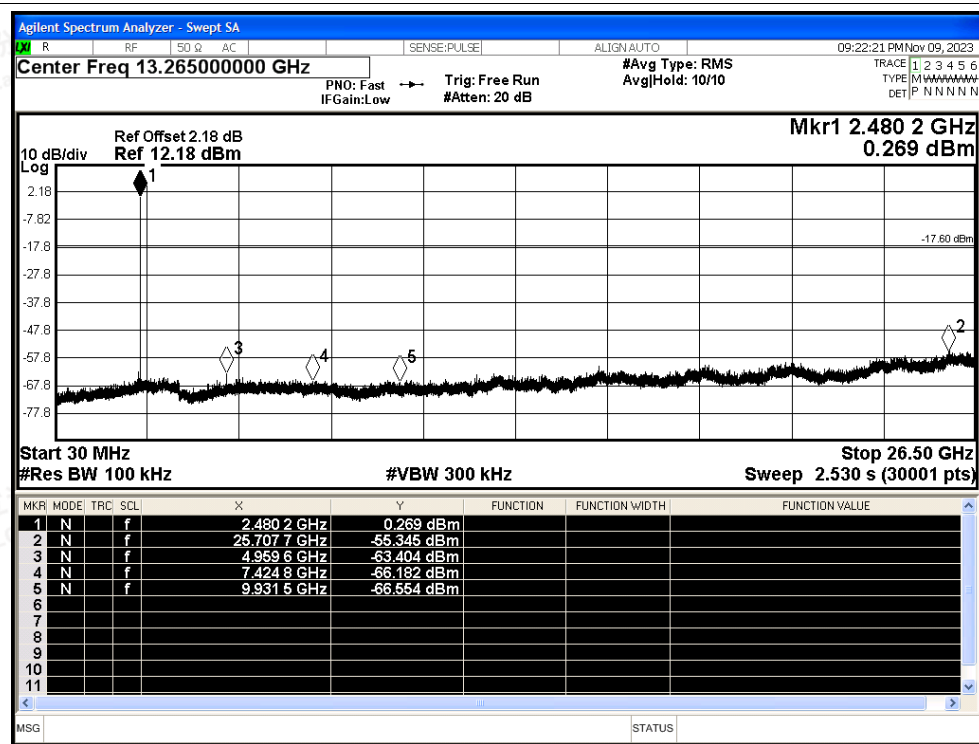
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Tx. Spurious NVNT BLE 2480MHz Ant Ref



Tx. Spurious NVNT BLE 2480MHz Ant Emission



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A.7 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE	2402	Ant	87.41	0.58	0.61
NVNT	BLE	2440	Ant	87.39	0.59	0.61
NVNT	BLE	2480	Ant	87.39	0.59	0.61



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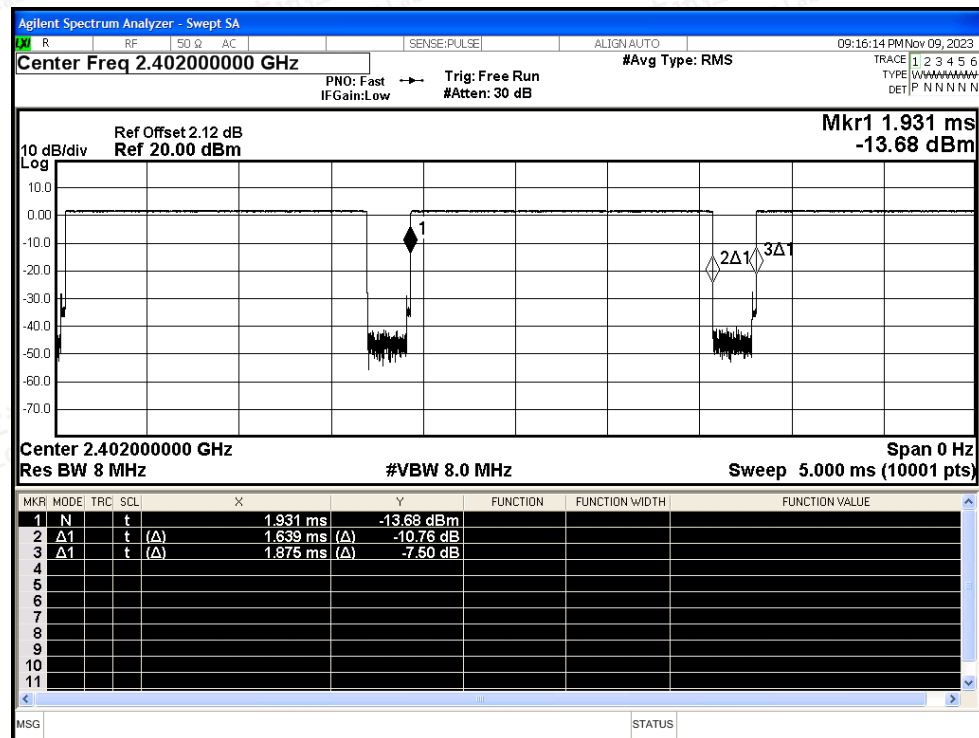
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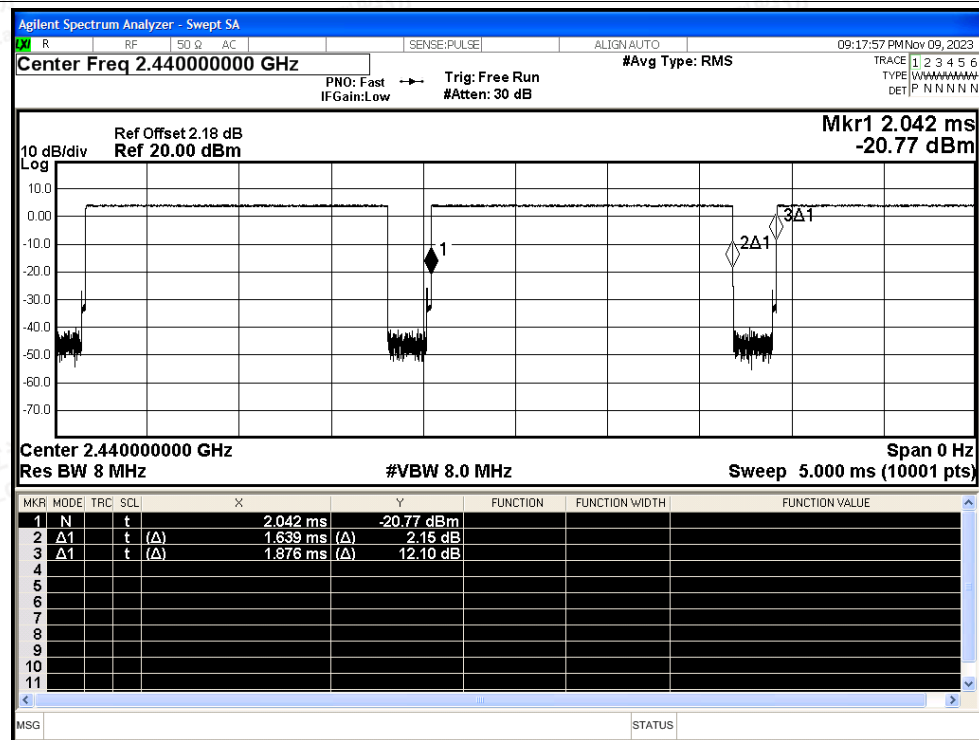


Test Graphs

Duty Cycle NVNT BLE 2402MHz Ant



Duty Cycle NVNT BLE 2440MHz Ant

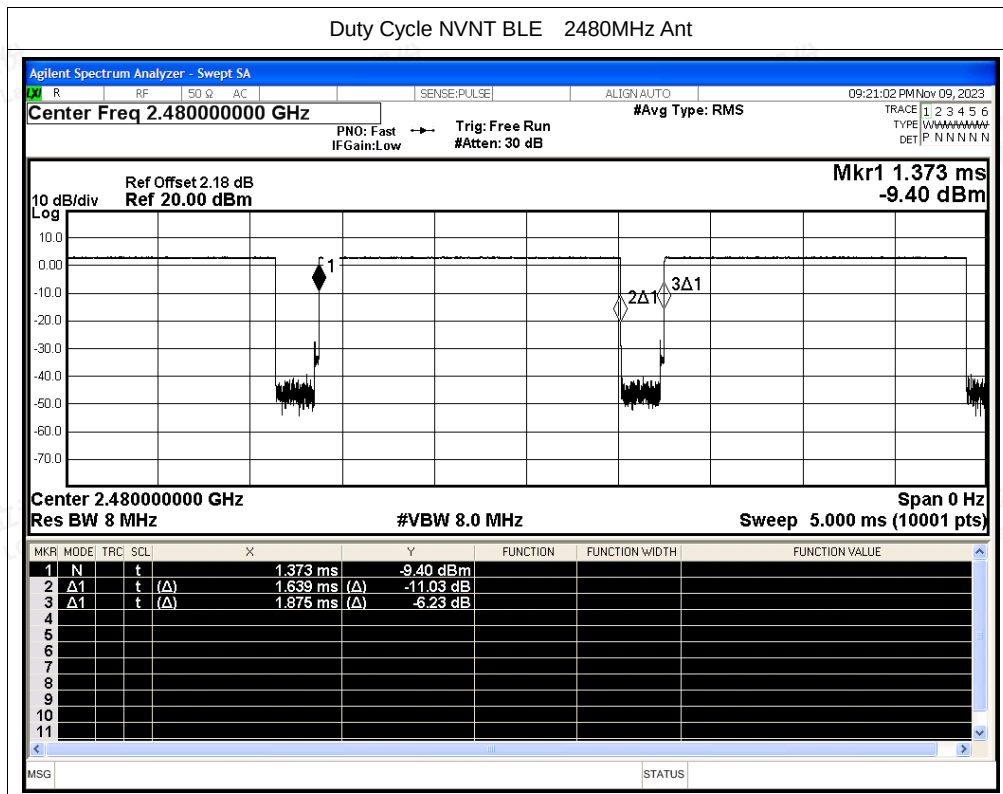


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A.8 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE	2402	Ant	2310	-50.93	2	46.33	Peak	74	Pass
NVNT	BLE	2402	Ant	2310	-57.7	2	39.56	Average	54	Pass
NVNT	BLE	2402	Ant	2328.336	-47.53	2	49.73	Peak	74	Pass
NVNT	BLE	2402	Ant	2383.152	-57.17	2	40.09	Average	54	Pass
NVNT	BLE	2402	Ant	2390	-51.14	2	46.12	Peak	74	Pass
NVNT	BLE	2402	Ant	2390	-57.39	2	39.87	Average	54	Pass
NVNT	BLE	2480	Ant	2483.5	-48.58	2	48.68	Peak	74	Pass
NVNT	BLE	2480	Ant	2483.5	-53.75	2	43.51	Average	54	Pass
NVNT	BLE	2480	Ant	2483.656	-42.11	2	55.15	Peak	74	Pass
NVNT	BLE	2480	Ant	2483.512	-53.75	2	43.51	Average	54	Pass
NVNT	BLE	2480	Ant	2500	-49.92	2	47.34	Peak	74	Pass
NVNT	BLE	2480	Ant	2500	-57.11	2	40.15	Average	54	Pass



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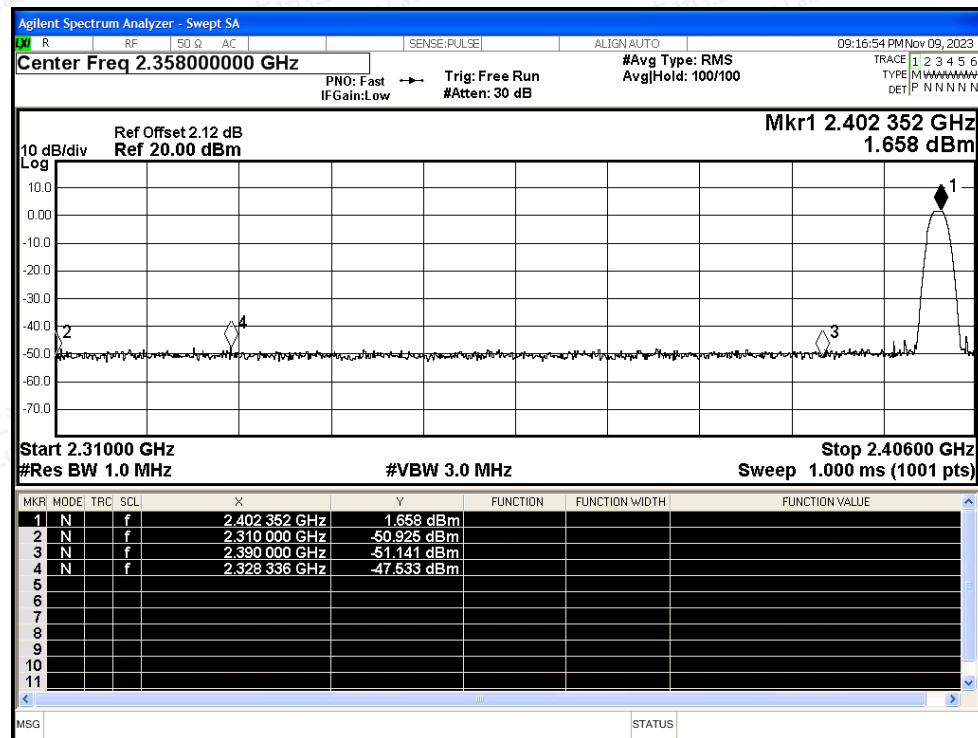
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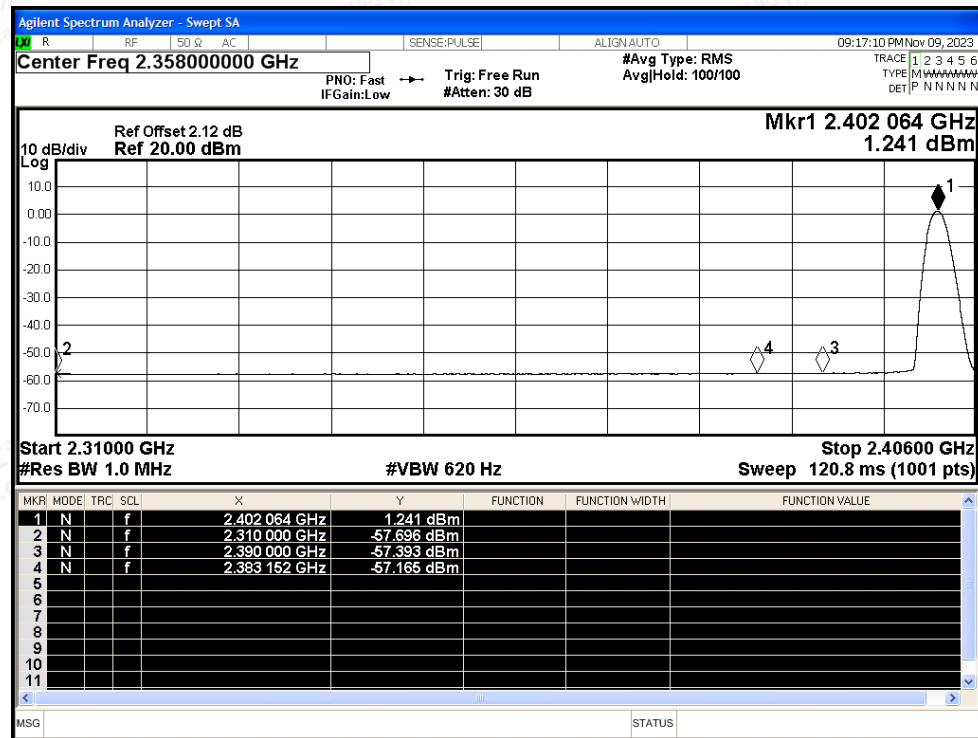


Test Graphs

Restrict Band NVNT BLE 2402MHz Ant Peak



Restrict Band NVNT BLE 2402MHz Ant Average



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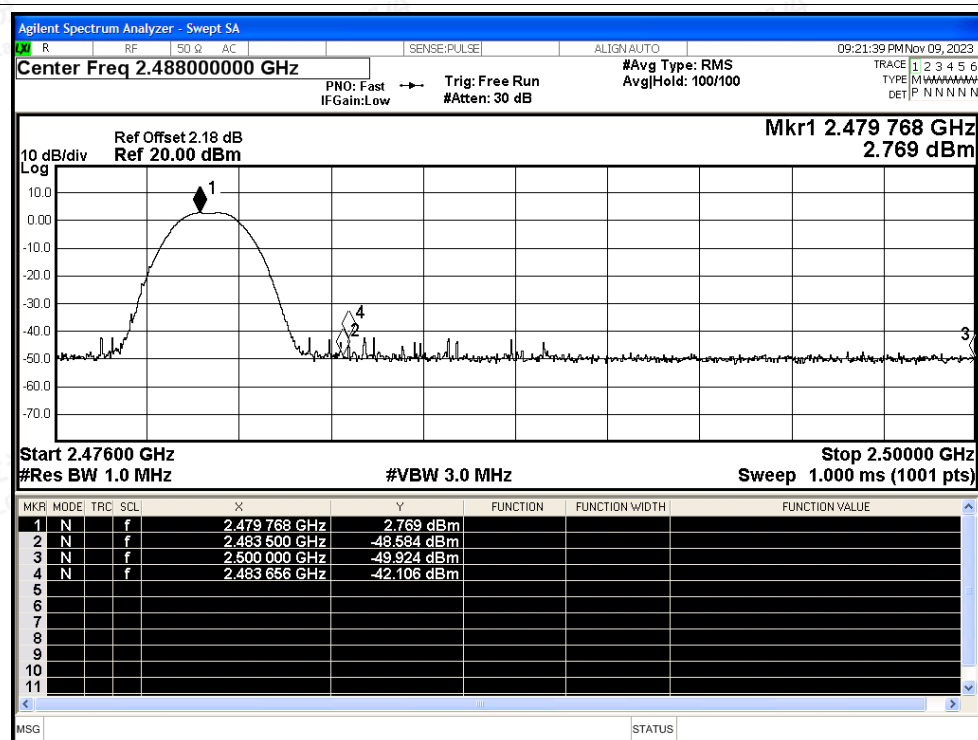
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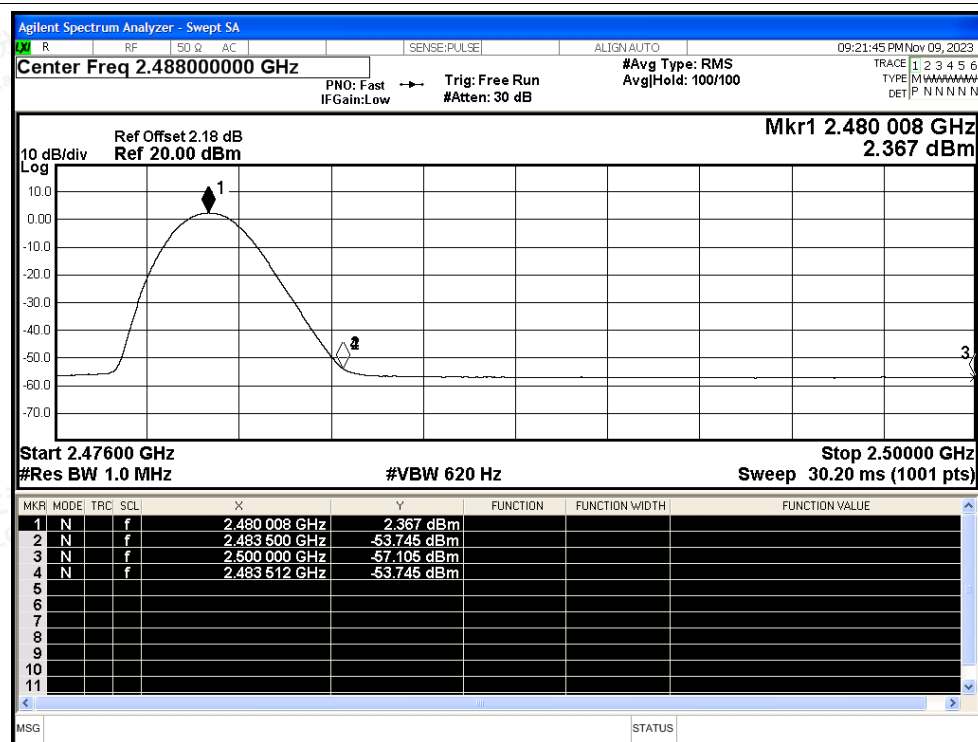
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Restrict Band NVNT BLE 2480MHz Ant Peak



Restrict Band NVNT BLE 2480MHz Ant Average



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