



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Smart Lock

Test Model: OLBSD572

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
Supervised by:	Nick Peng





B.1 -6dB Bandwidth

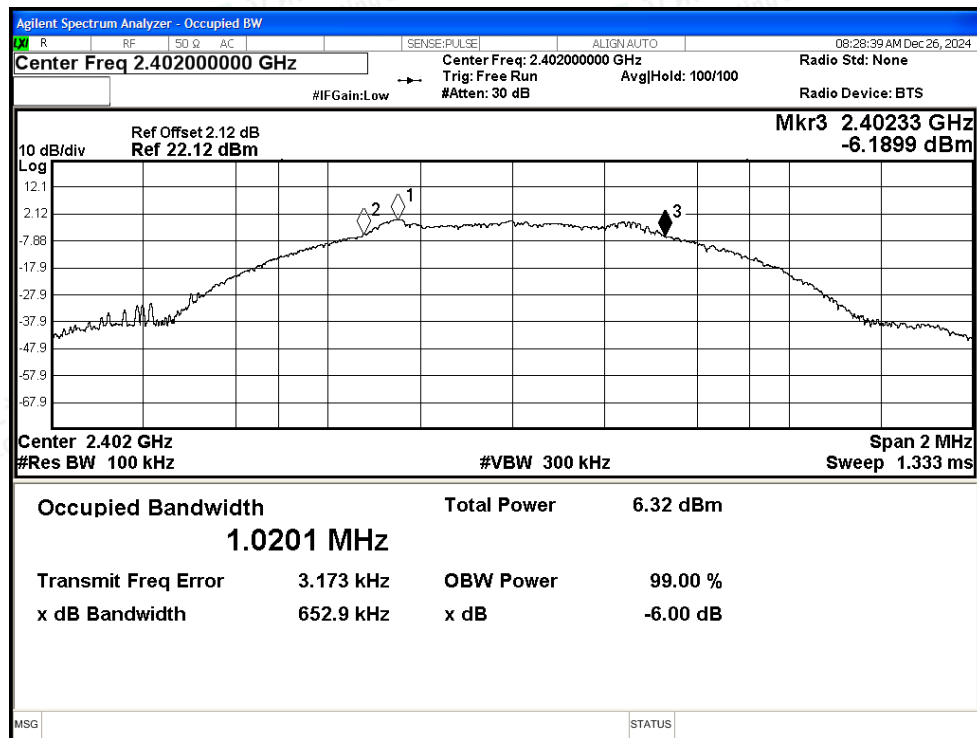
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.653	≥ 0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.654	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.658	≥ 0.5	Pass



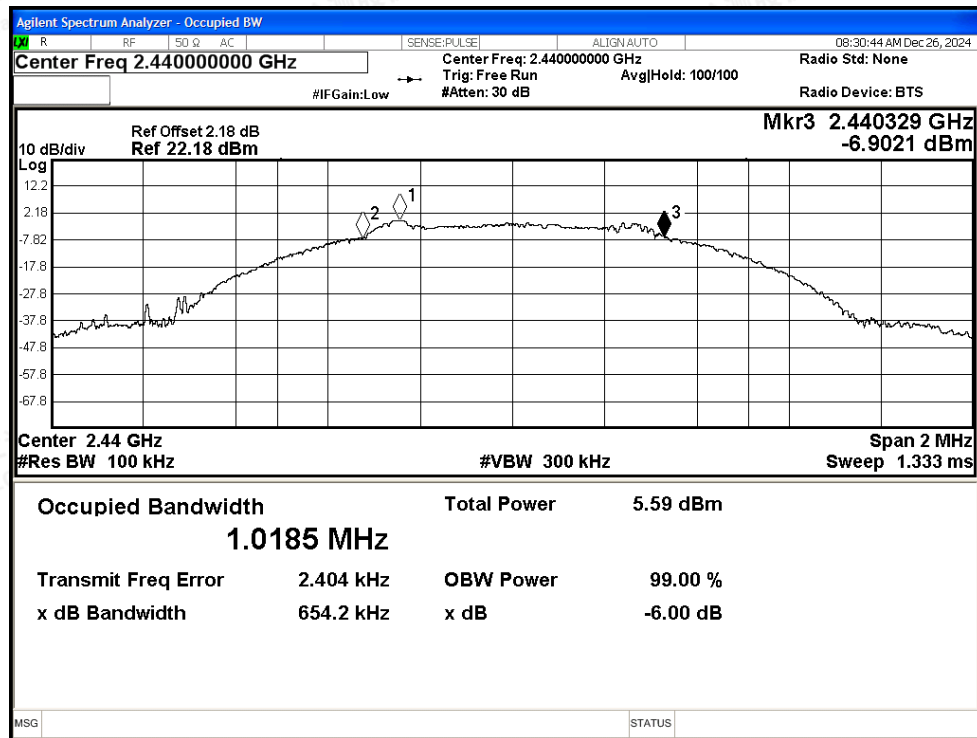


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

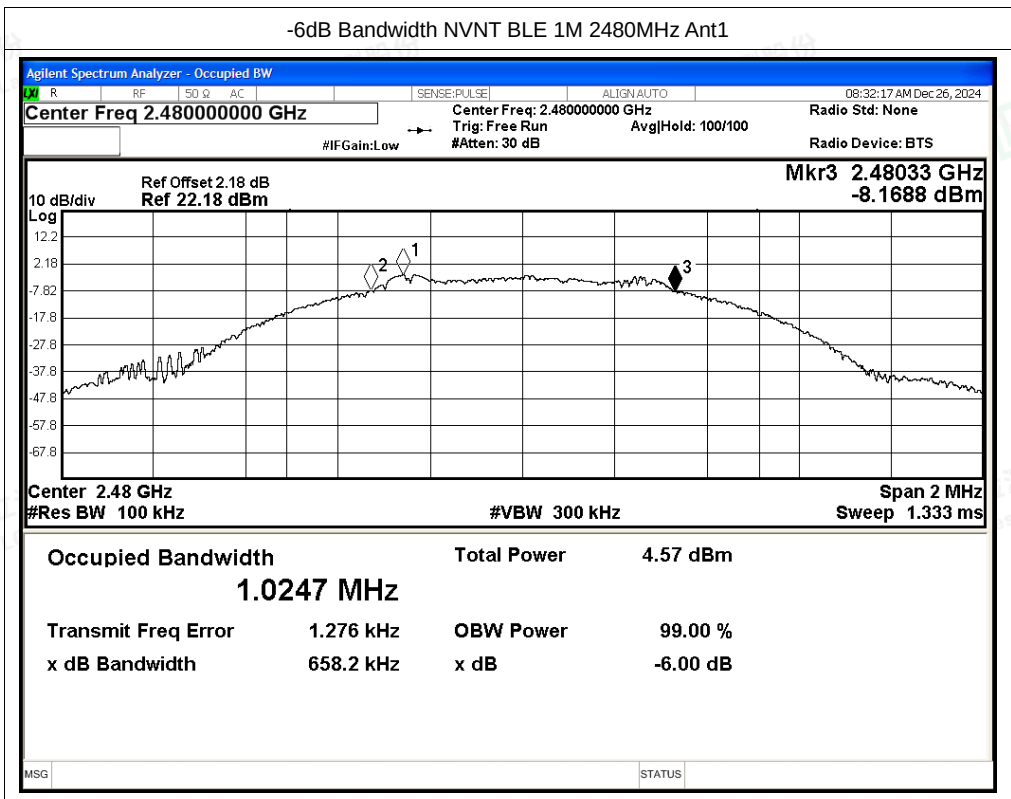


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B.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	0.36	30	Pass
NVNT	BLE 1M	2440	Ant1	-0.27	30	Pass
NVNT	BLE 1M	2480	Ant1	-1.29	30	Pass

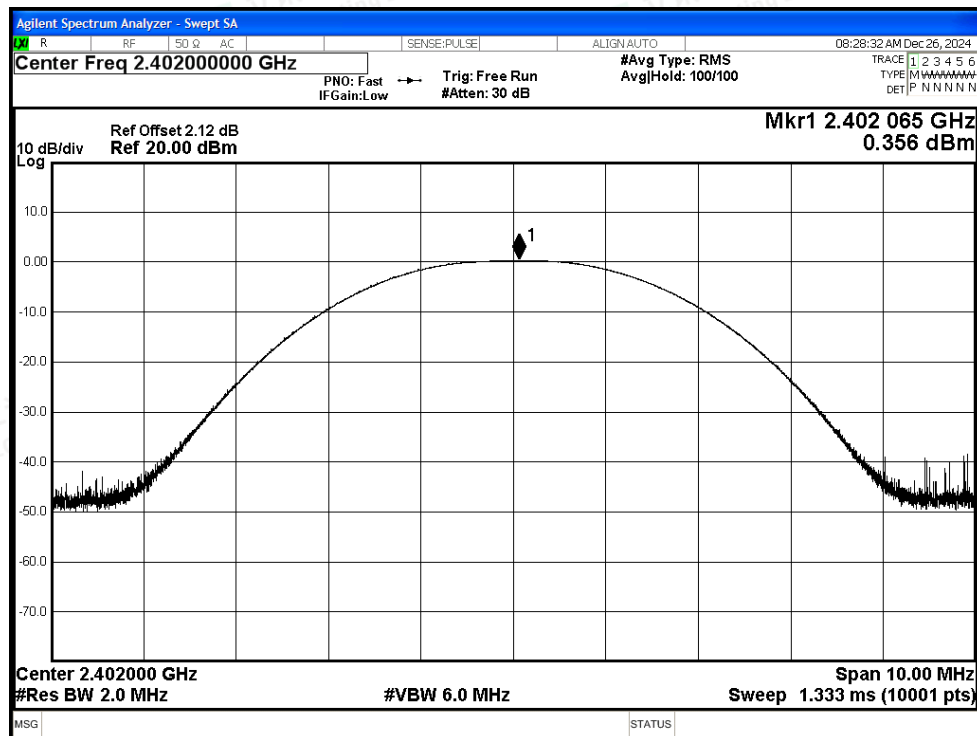


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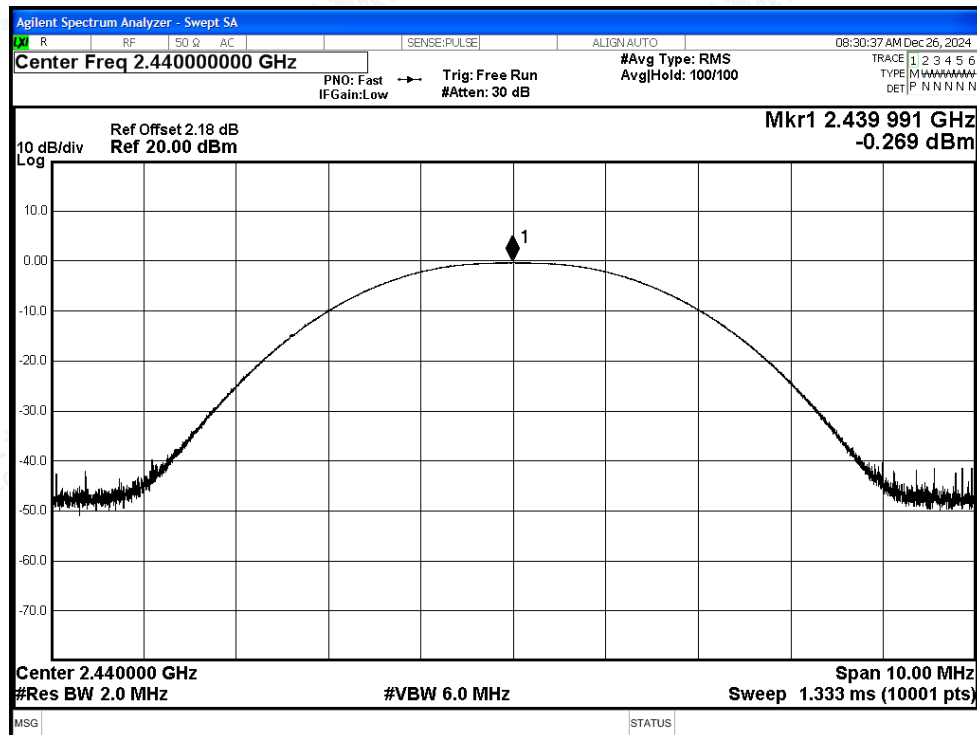


Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

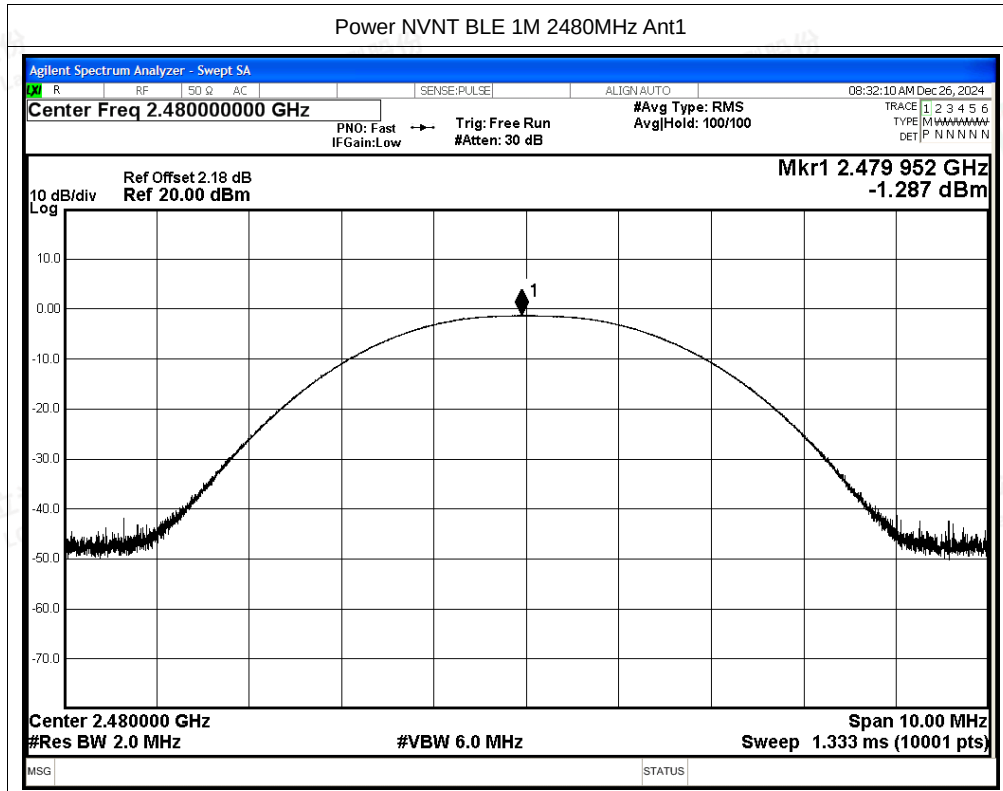


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B.3 Maximum Power Spectral Density Level

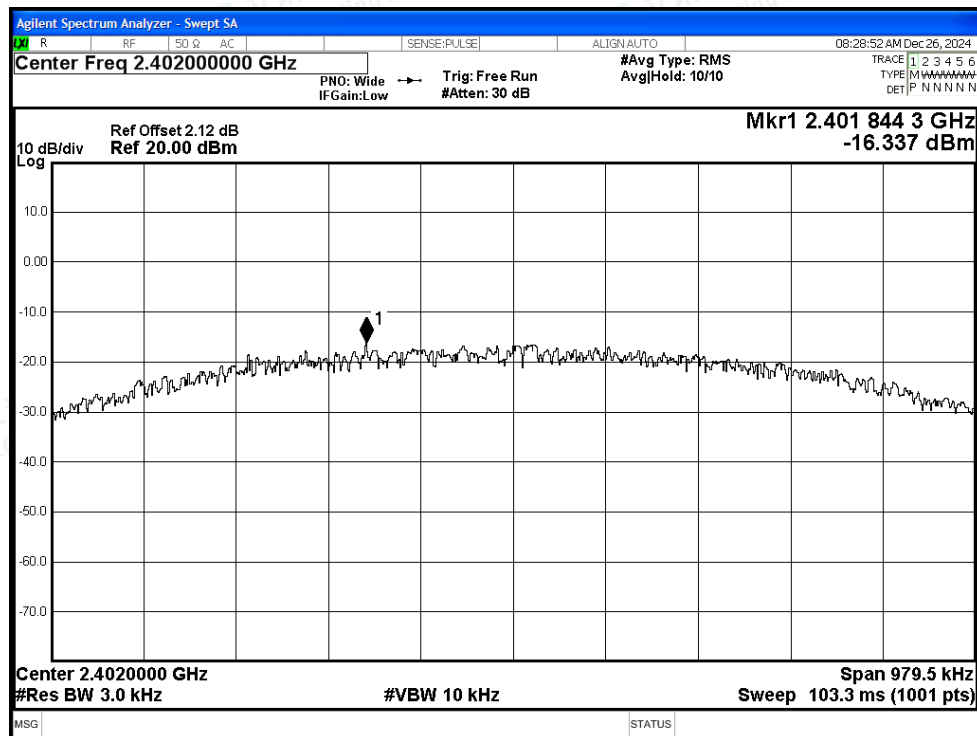
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-16.34	8	Pass
NVNT	BLE 1M	2440	Ant1	-16.81	8	Pass
NVNT	BLE 1M	2480	Ant1	-17.72	8	Pass



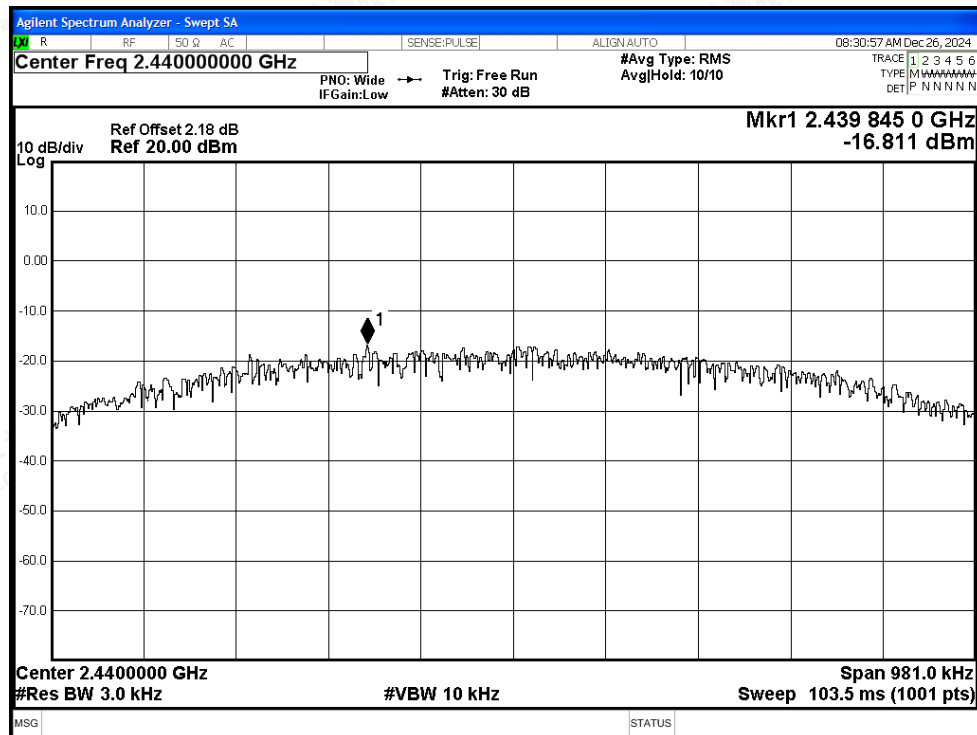


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1

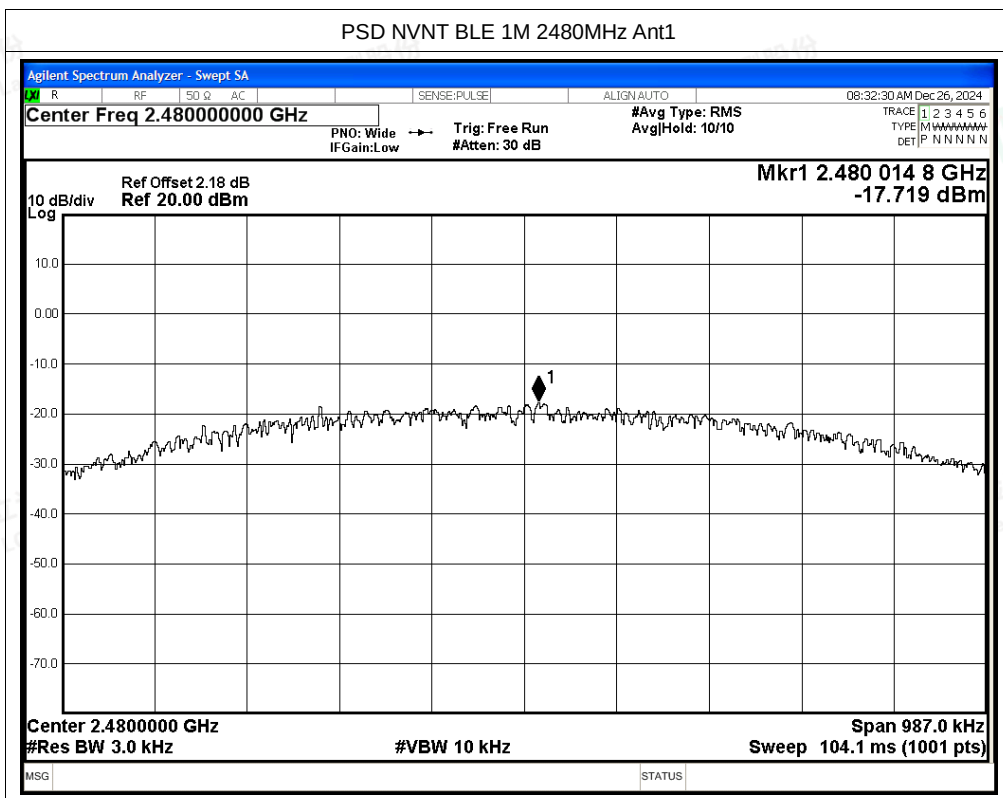


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B.4 Band Edge

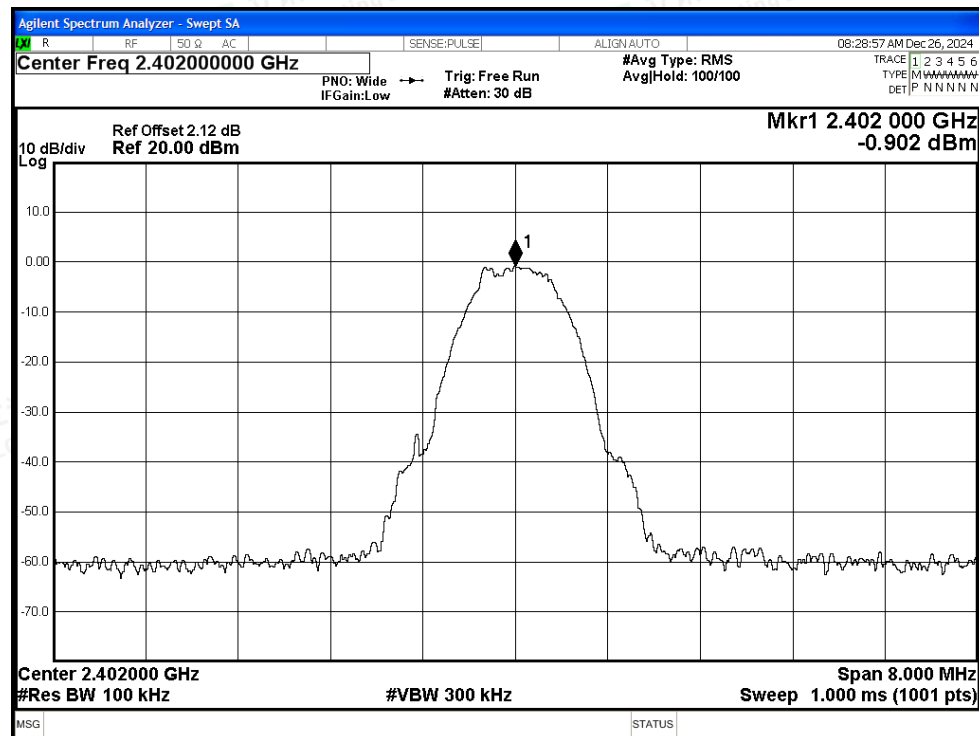
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-56.5	-20	Pass
NVNT	BLE 1M	2480	Ant1	-55.21	-20	Pass



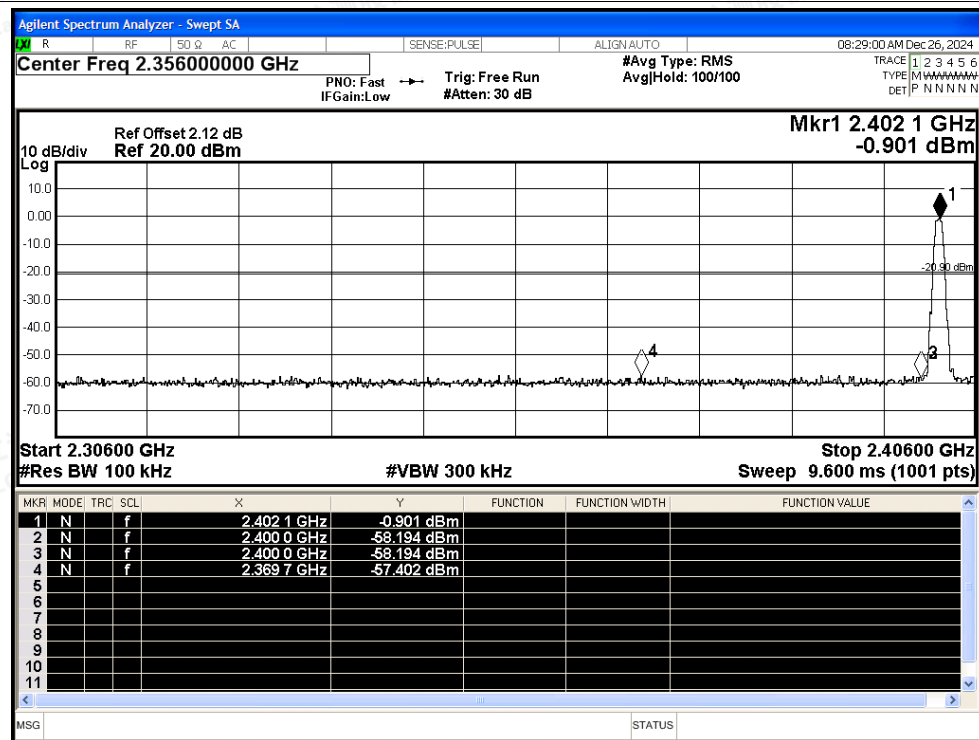


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



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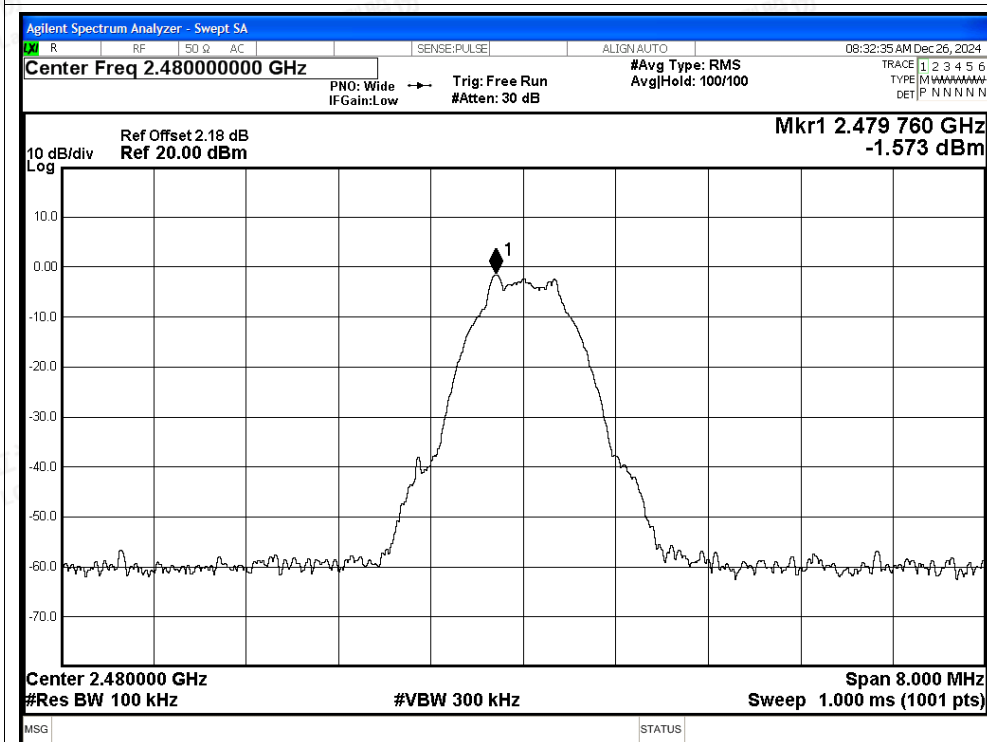
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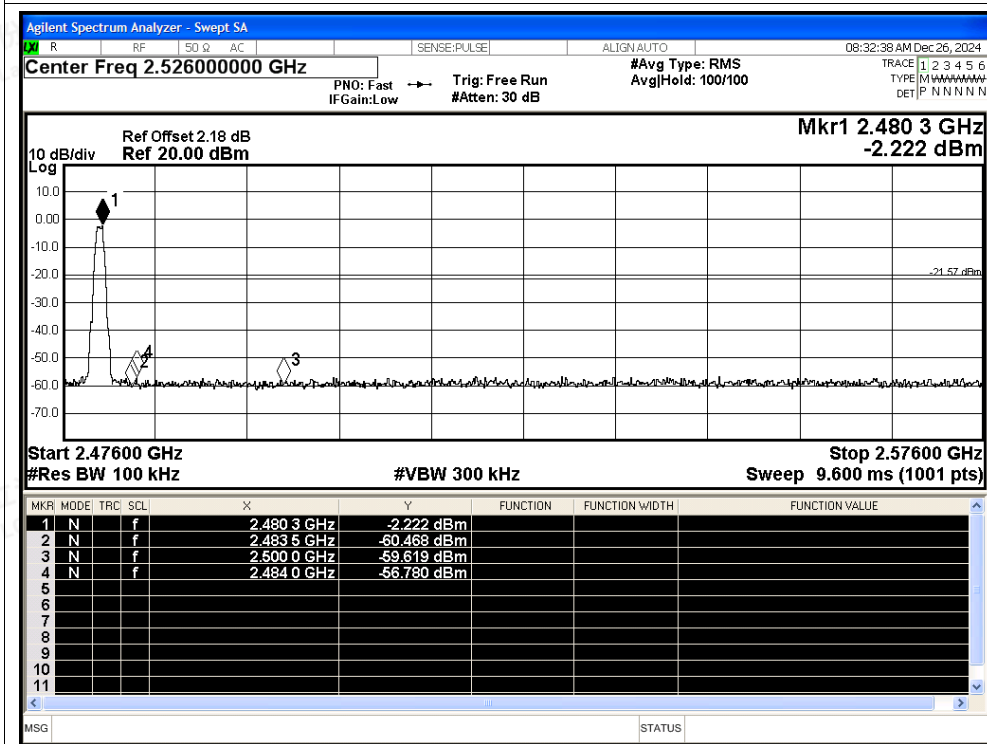
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Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



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B.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-55.8	-20	Pass
NVNT	BLE 1M	2440	Ant1	-54.19	-20	Pass
NVNT	BLE 1M	2480	Ant1	-53.68	-20	Pass

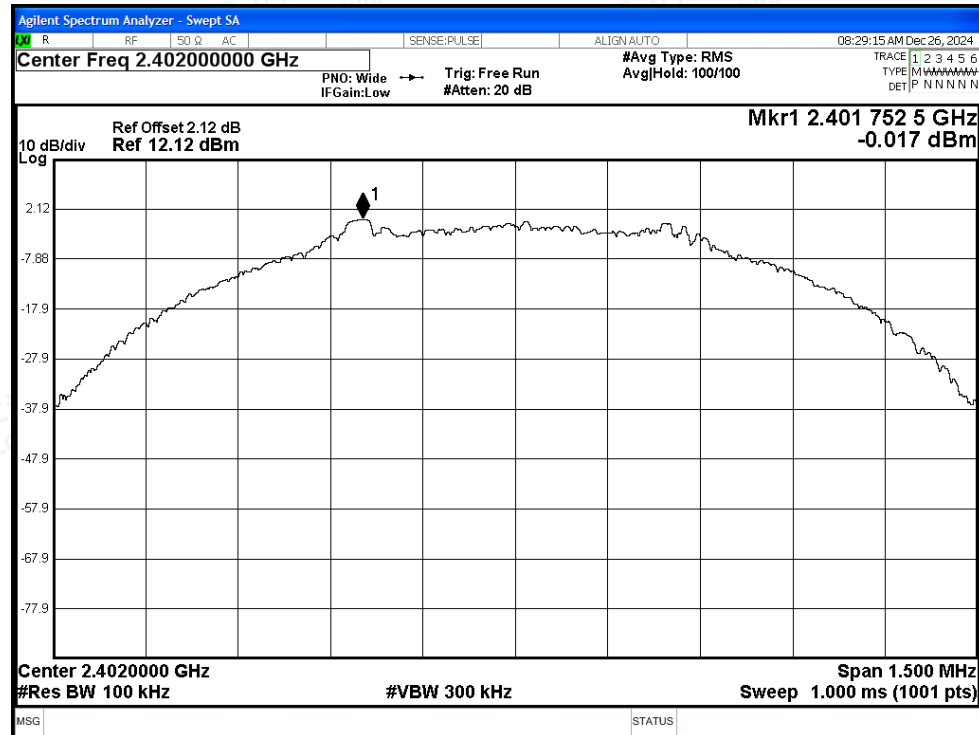


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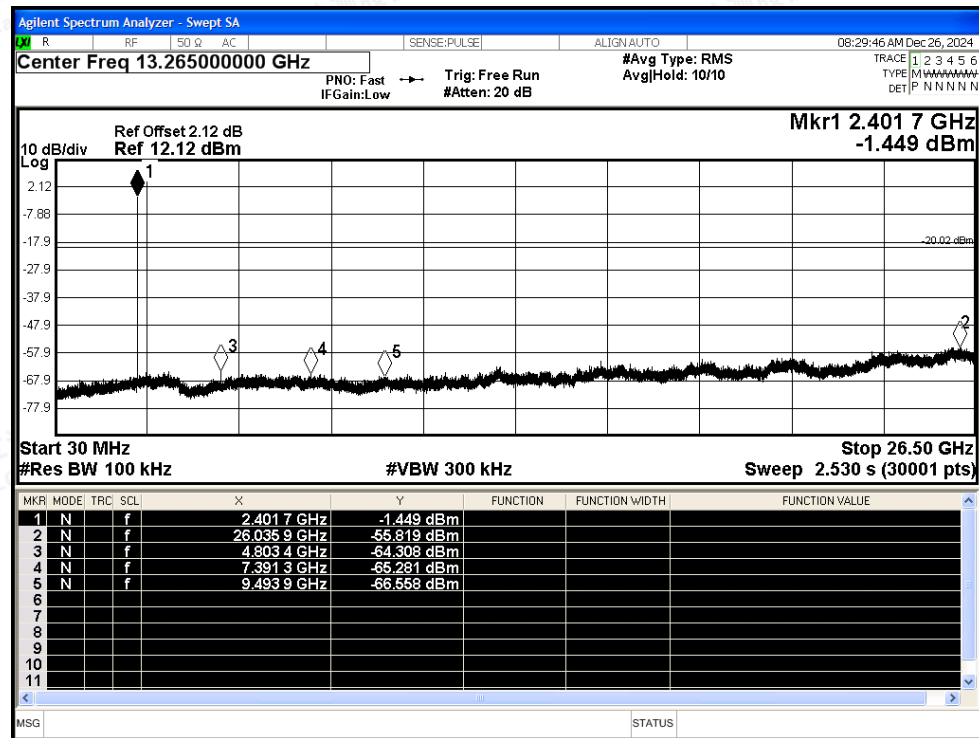


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



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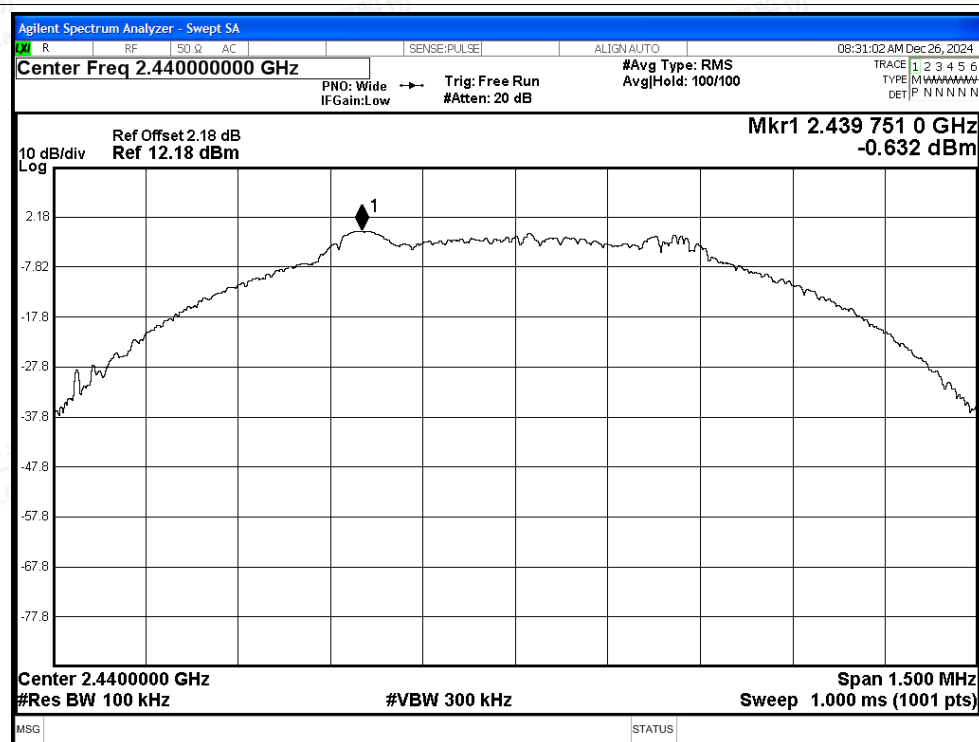
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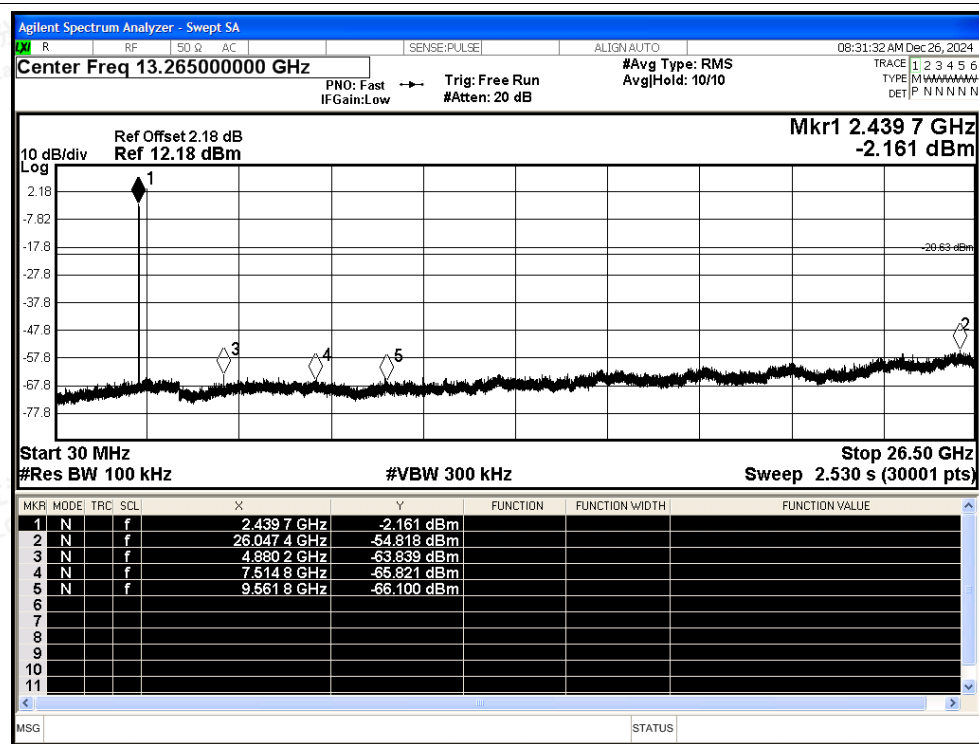
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Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



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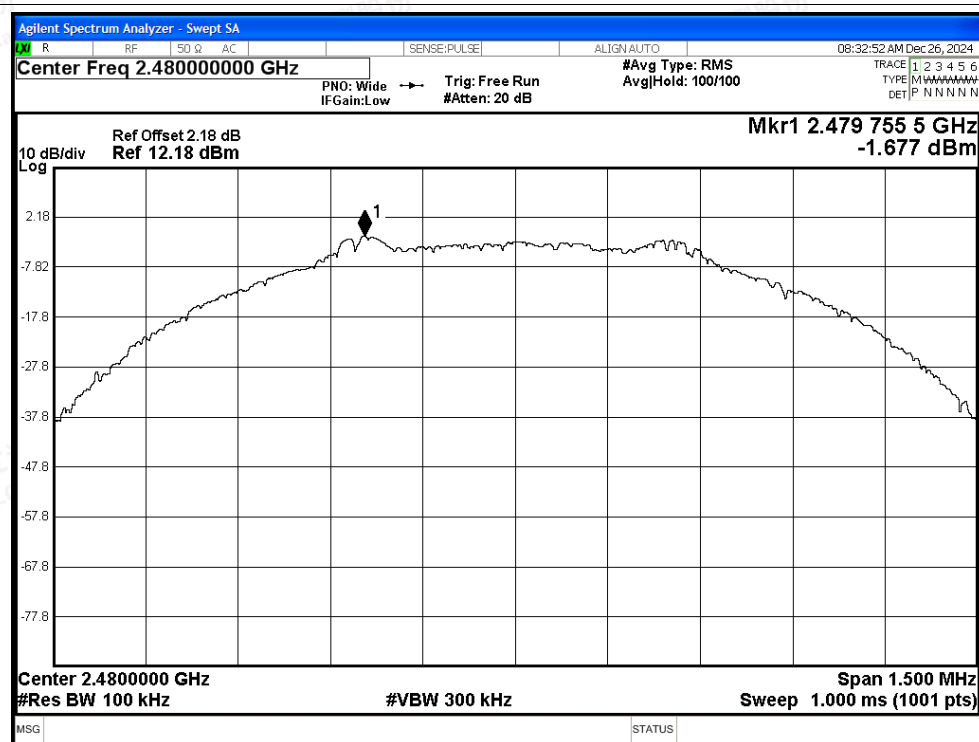
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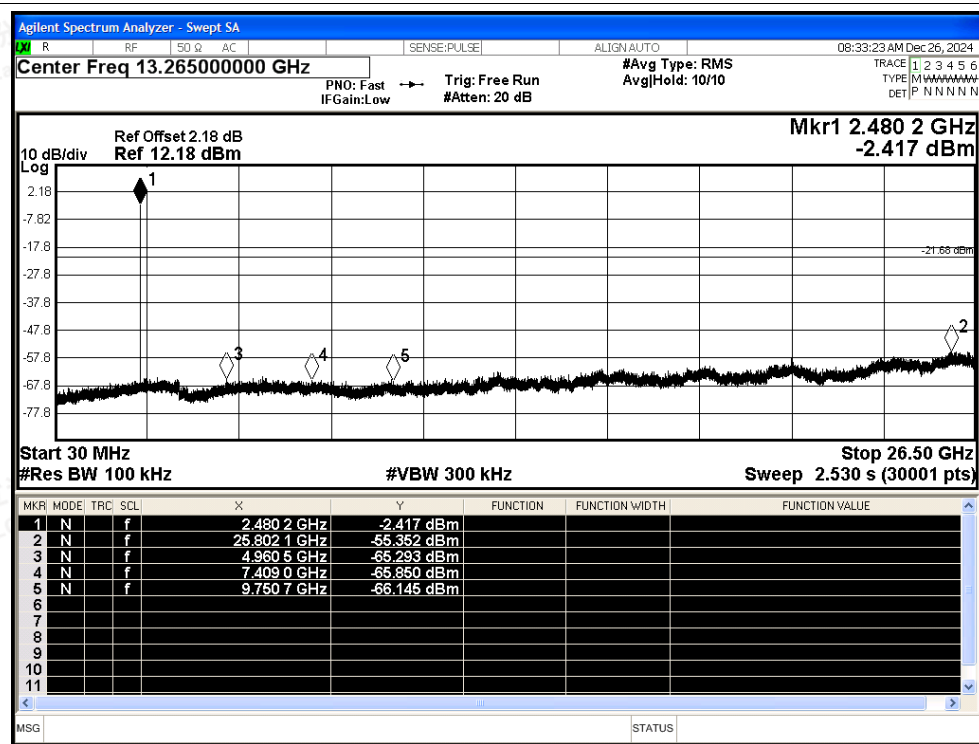
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Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



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B.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

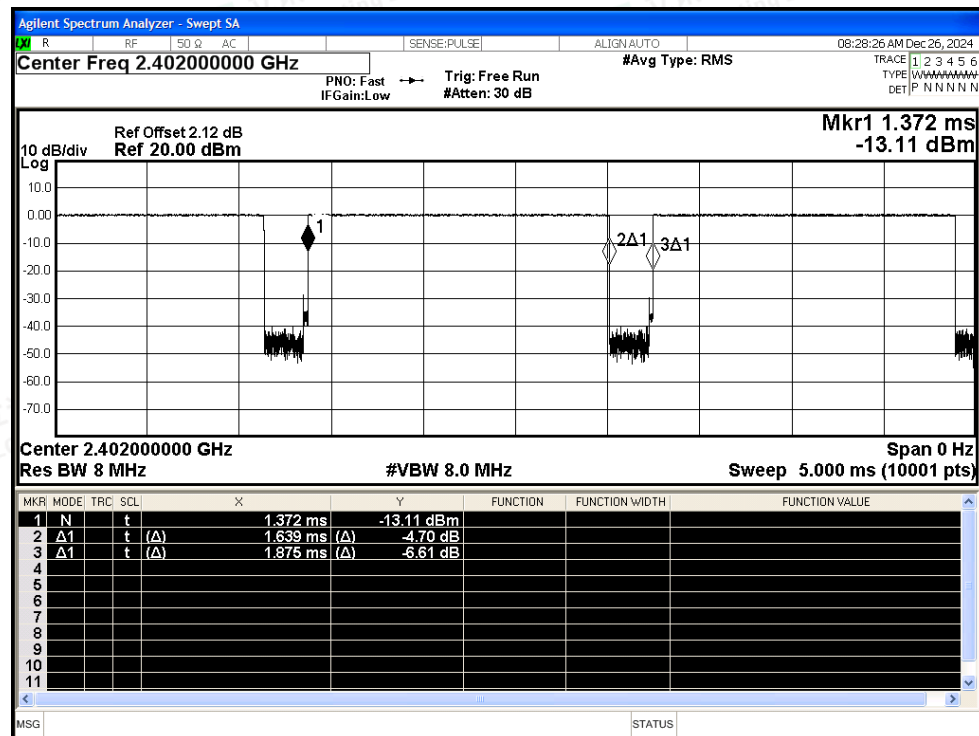


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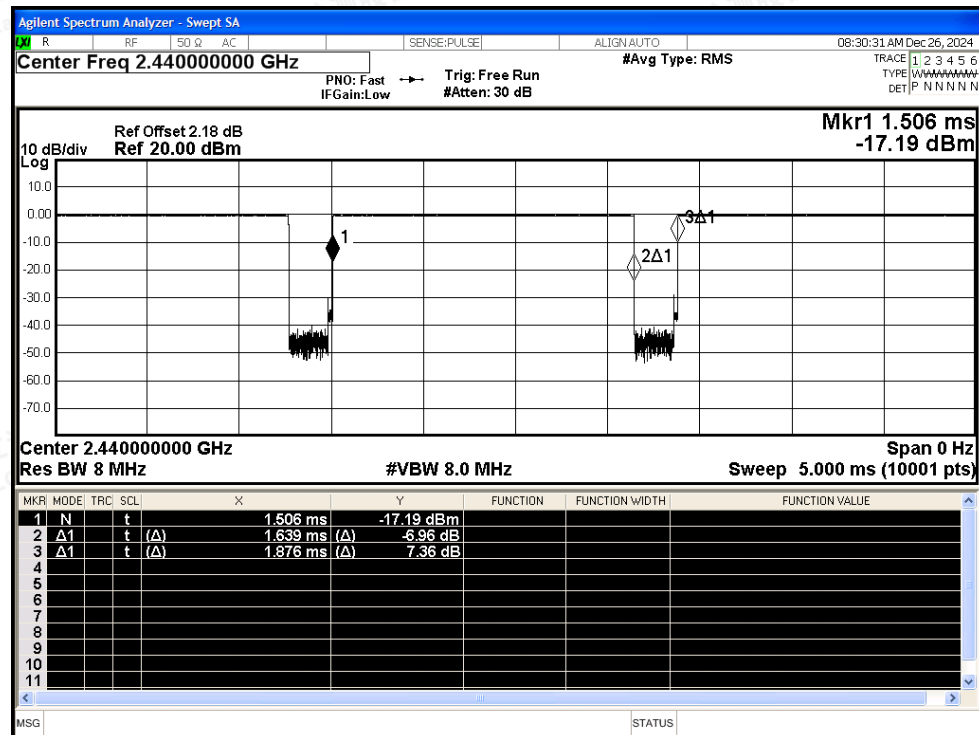


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1

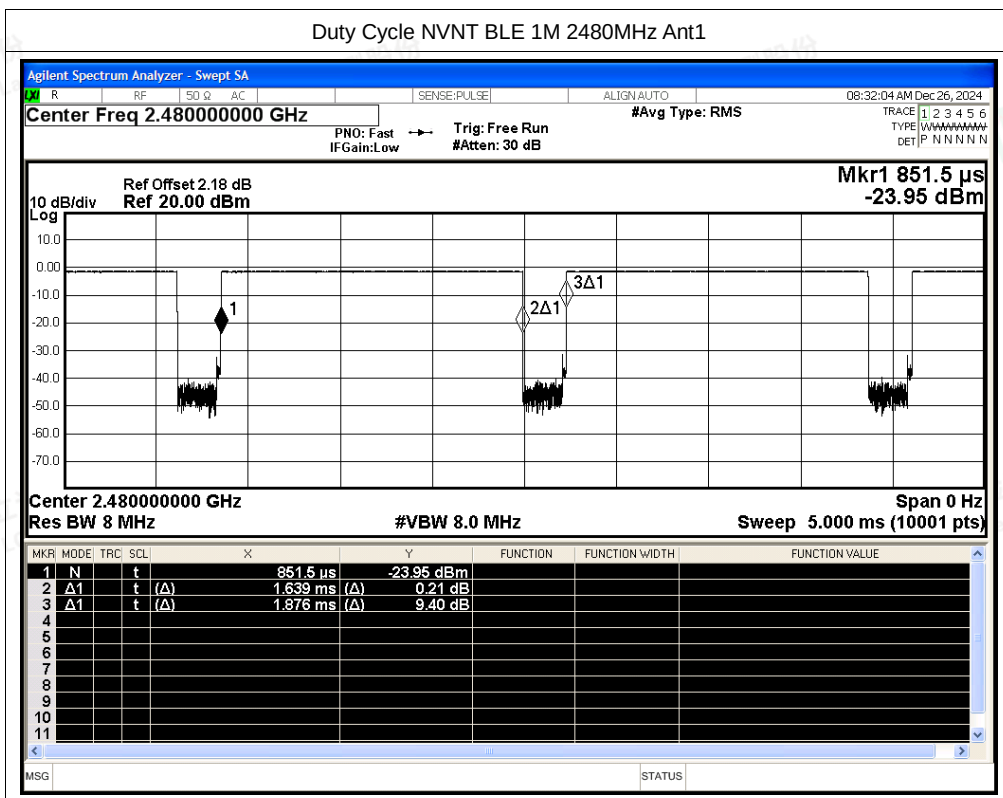


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B.7 Restrict Band

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	-51.03	2.24	-	46.47	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-58.55	2.24	0.59	39.54	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2331.024	-47.46	2.24	-	50.04	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2382.48	-58.01	2.24	0.59	40.08	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-51.64	2.24	-	45.86	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-58.18	2.24	0.59	39.91	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-50.18	2.24	-	47.32	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-57.5	2.24	0.59	40.59	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2486.416	-46.11	2.24	-	51.39	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.512	-57.5	2.24	0.59	40.59	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-51.02	2.24	-	46.48	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-57.97	2.24	0.59	40.12	Average	54	Pass



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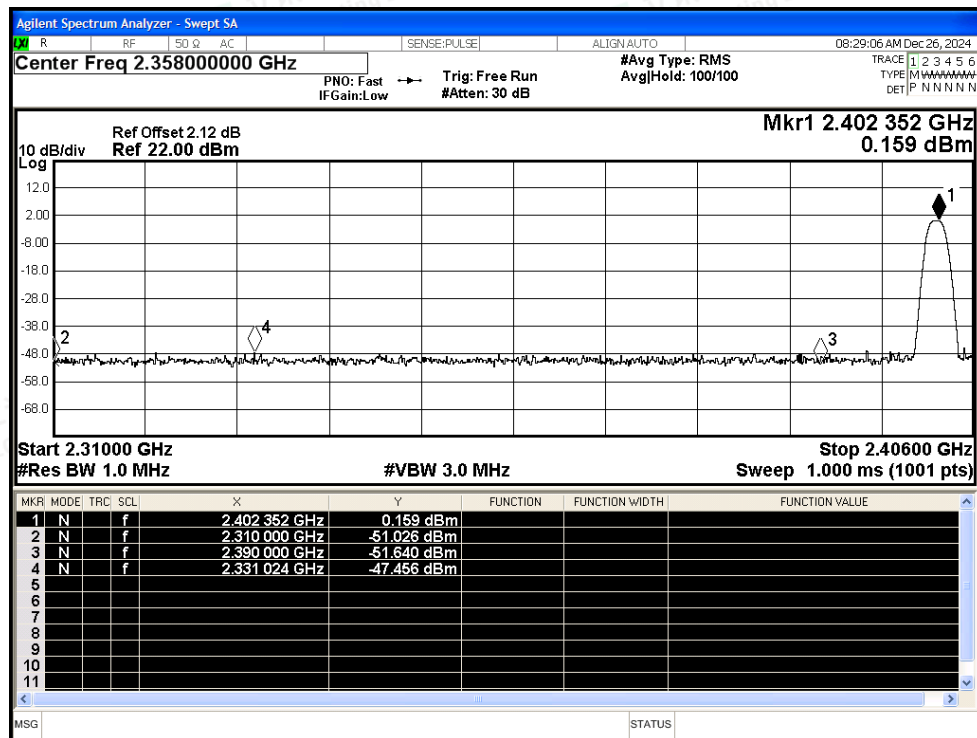
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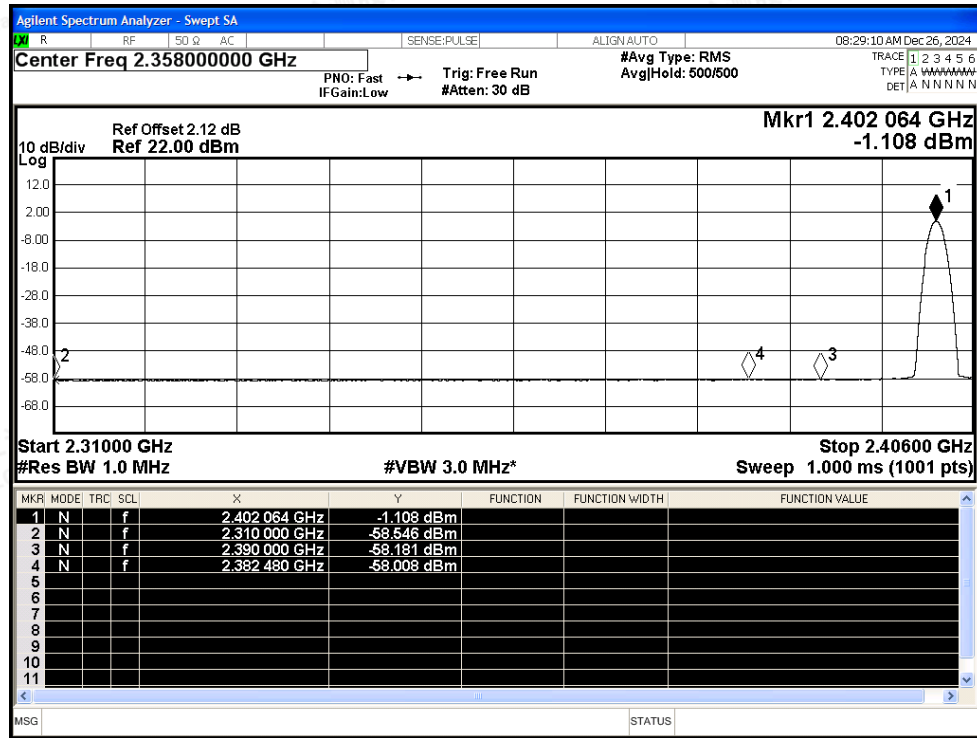


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average



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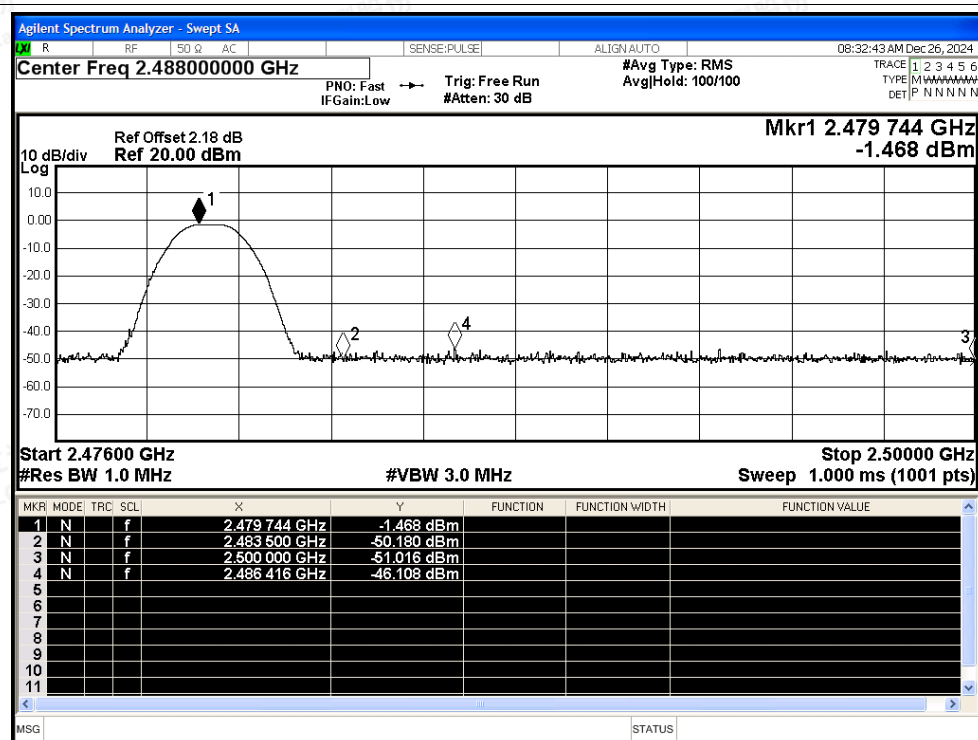
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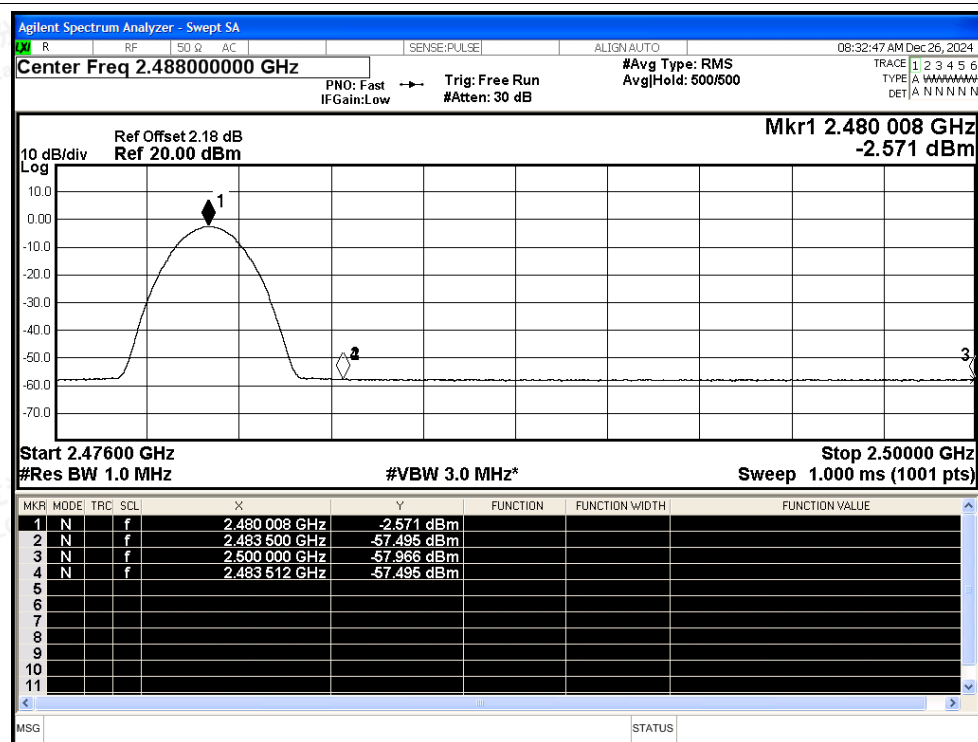
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Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average



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