



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Portable Speaker

Test Model: CrystalSound212

Environmental Conditions

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



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B.1 -6dB Bandwidth

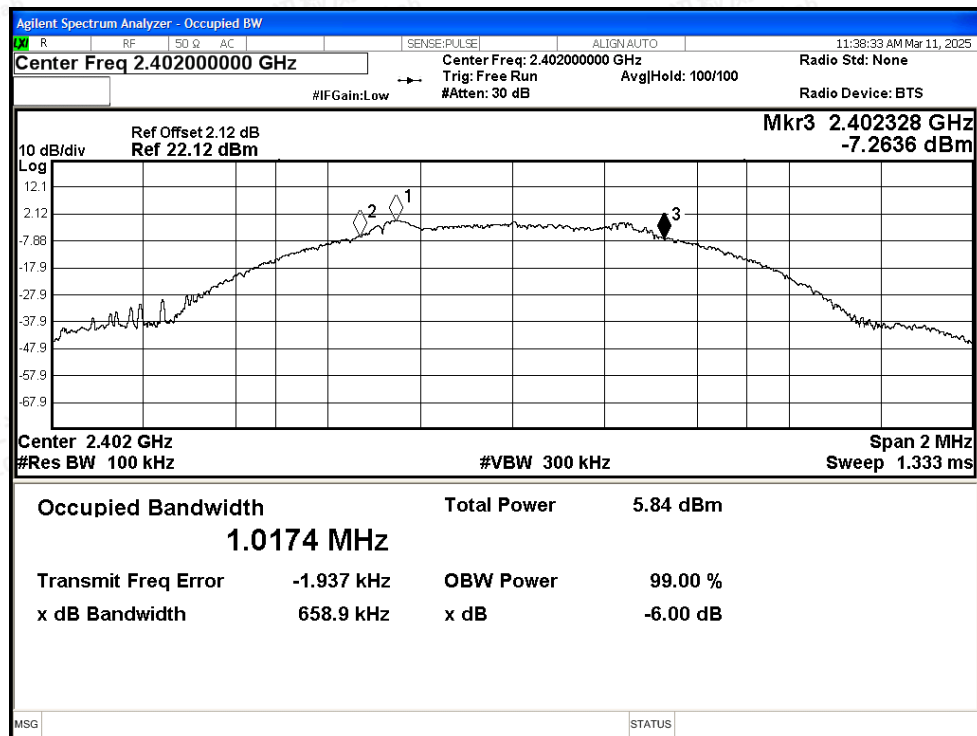
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.659	≥ 0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.662	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.656	≥ 0.5	Pass



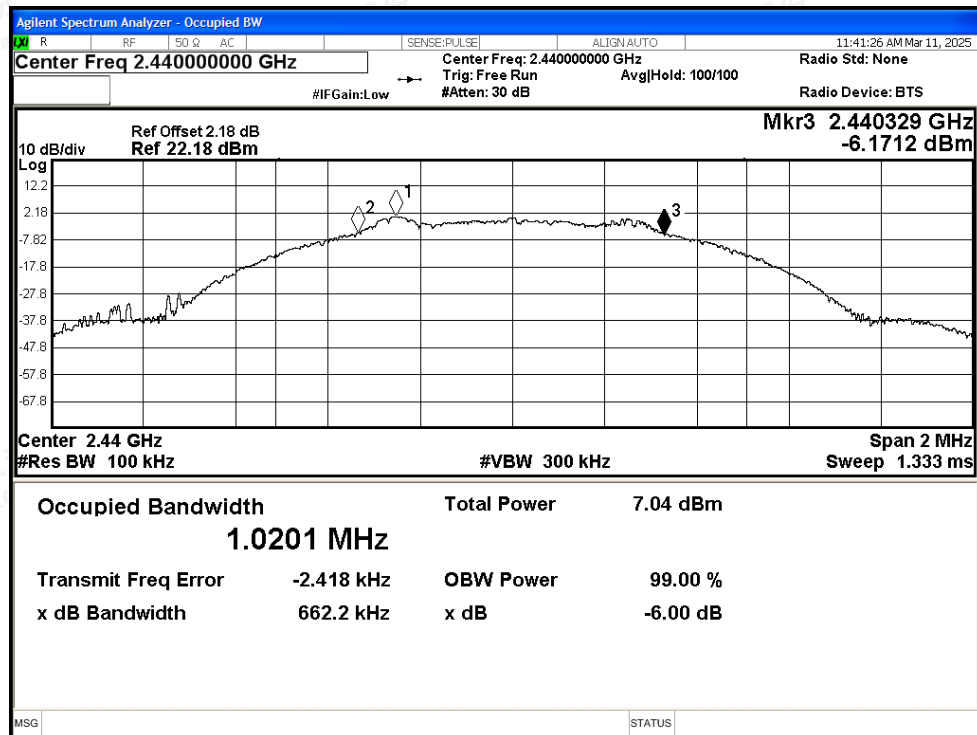


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1



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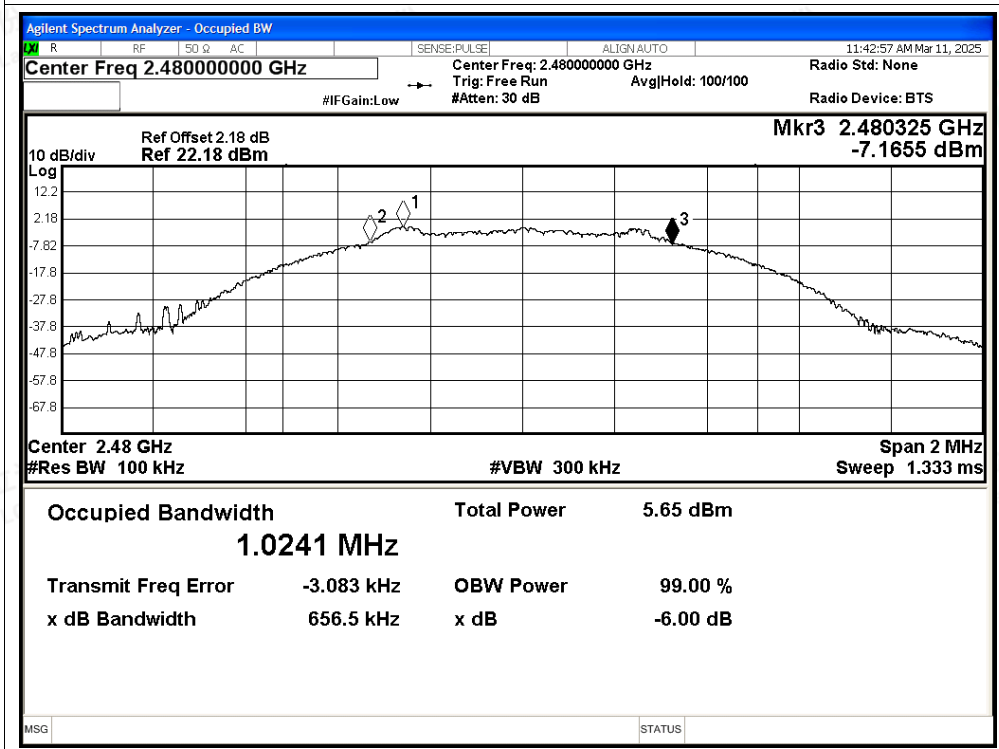
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-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



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B.2 Maximum Peak Conducted Output Power

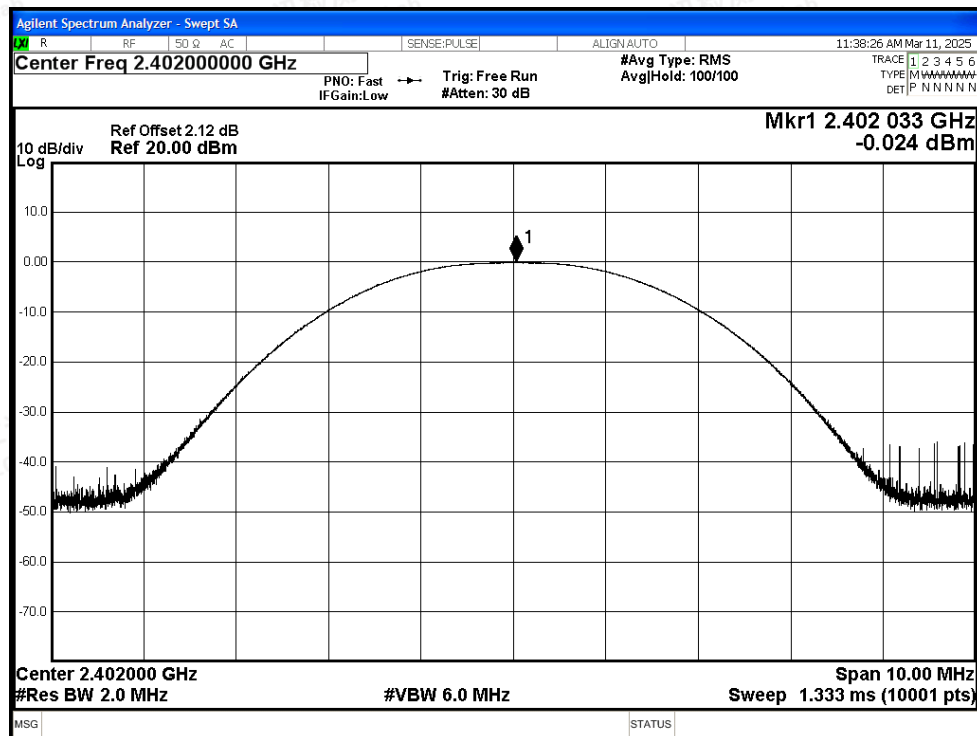
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-0.02	30	Pass
NVNT	BLE 1M	2440	Ant1	1.09	30	Pass
NVNT	BLE 1M	2480	Ant1	-0.25	30	Pass



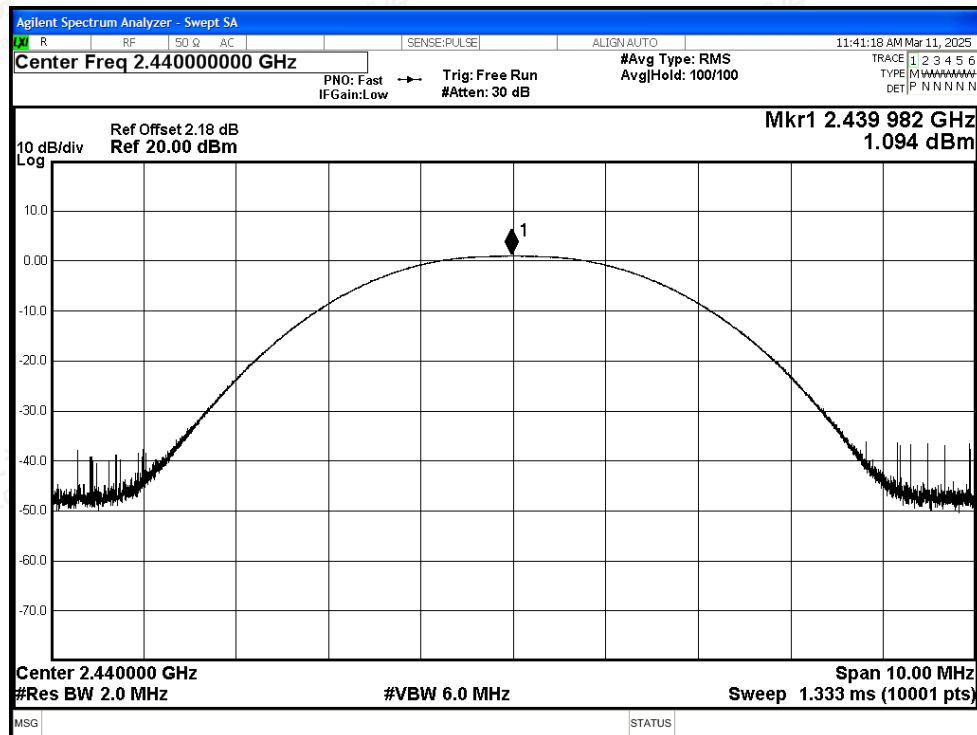


Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

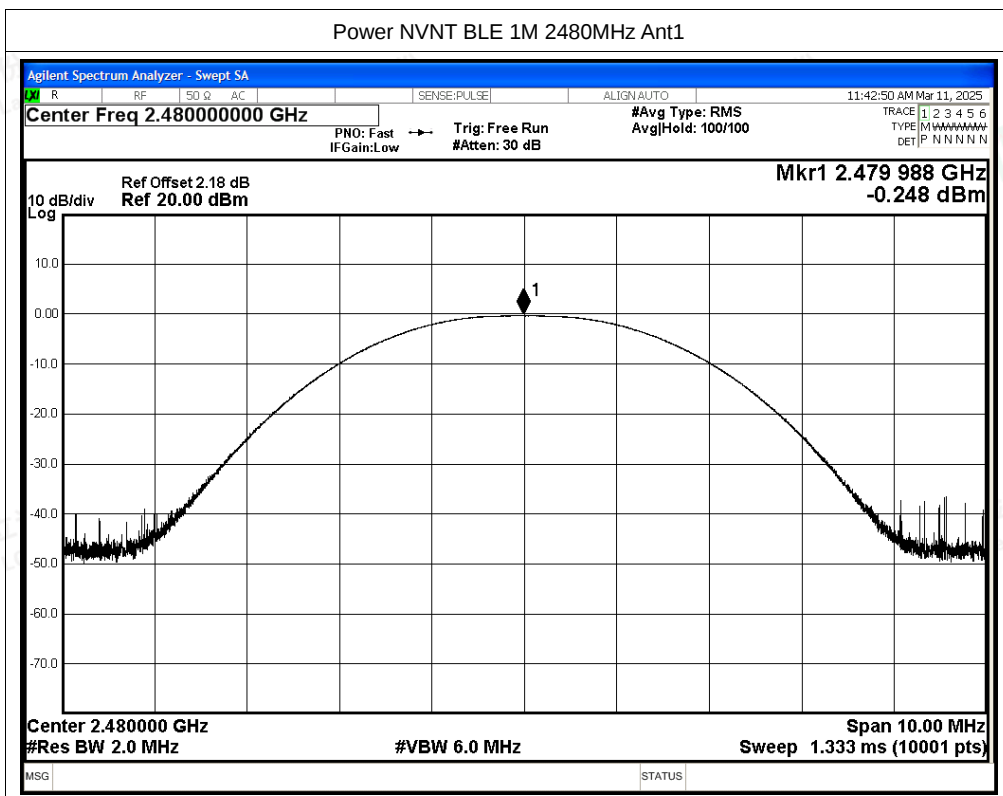


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B.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-16.59	8	Pass
NVNT	BLE 1M	2440	Ant1	-15.6	8	Pass
NVNT	BLE 1M	2480	Ant1	-16.9	8	Pass

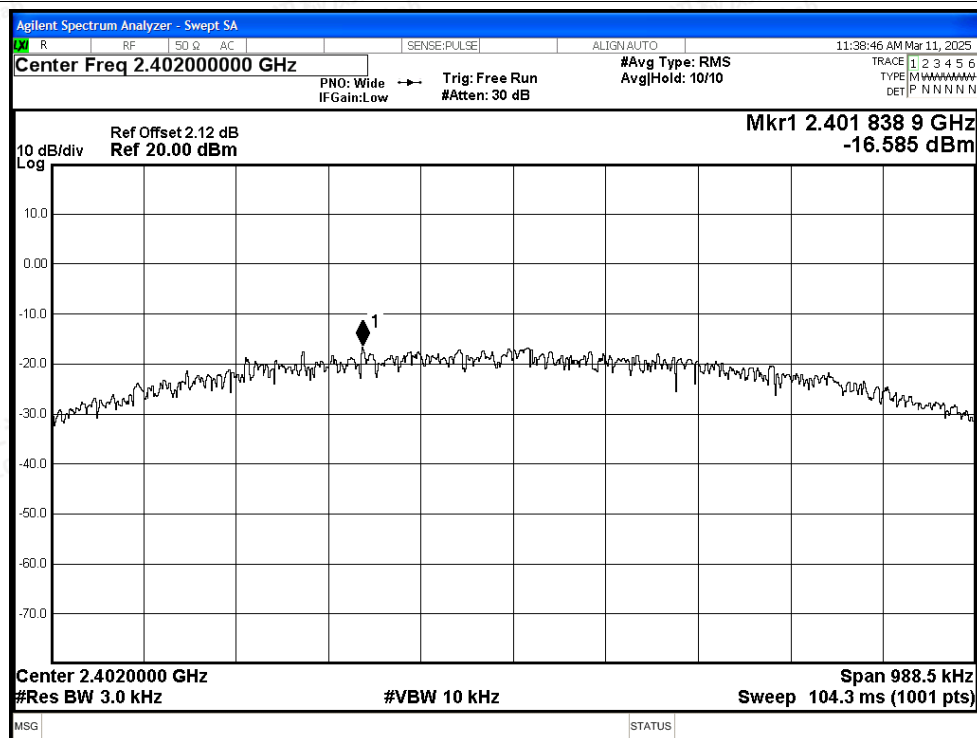


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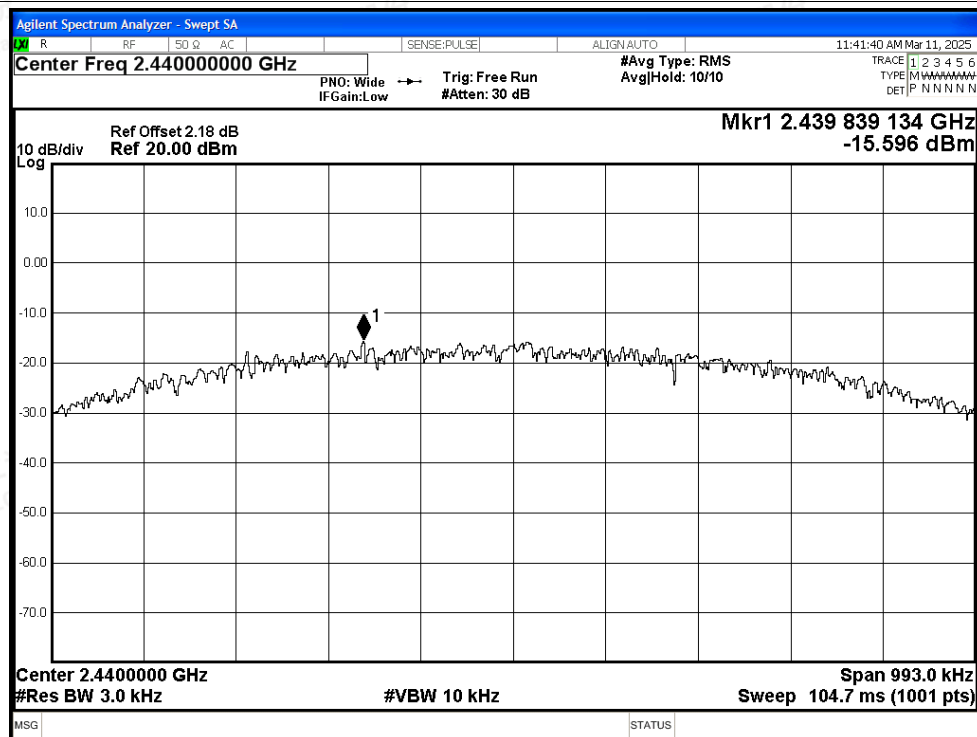


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1

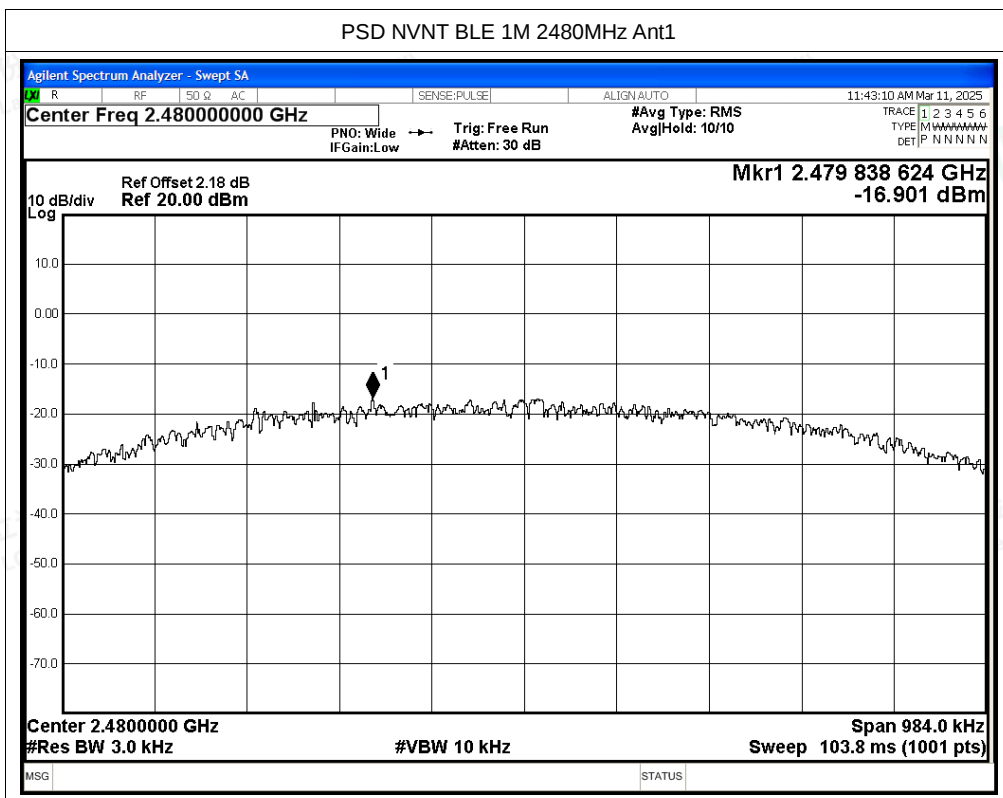


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B.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-56.27	-20	Pass
NVNT	BLE 1M	2480	Ant1	-56.09	-20	Pass

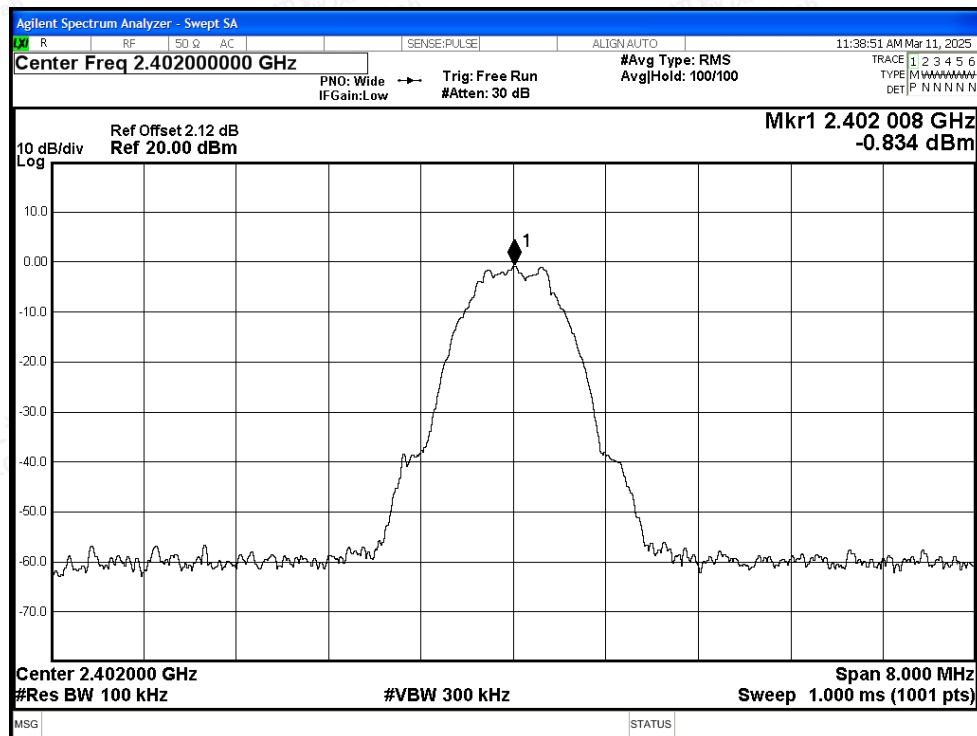


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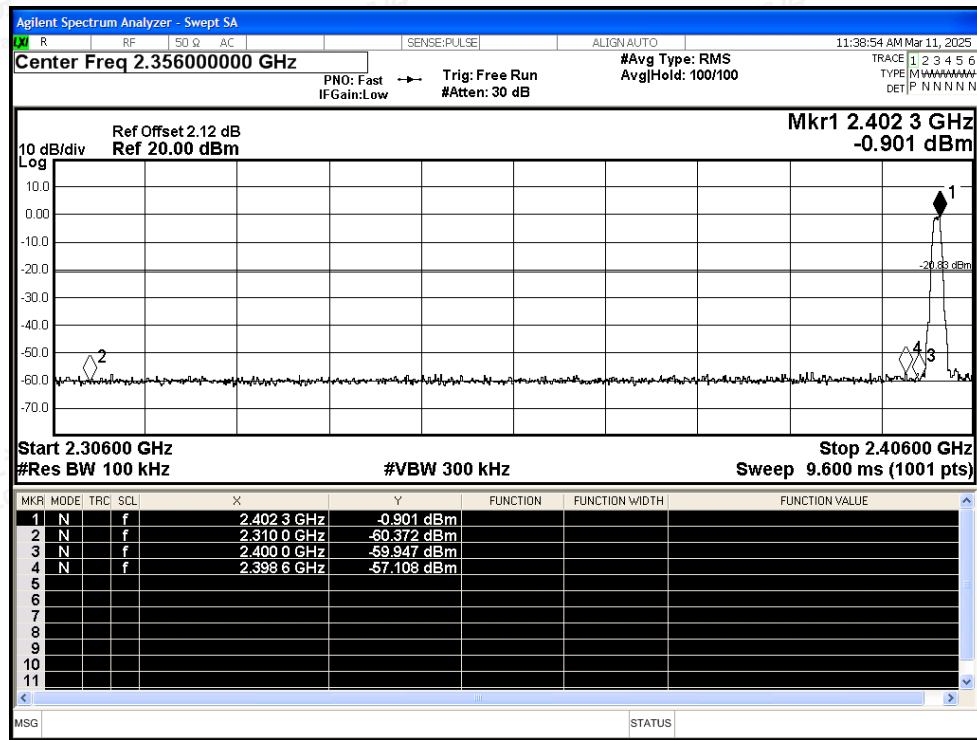


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



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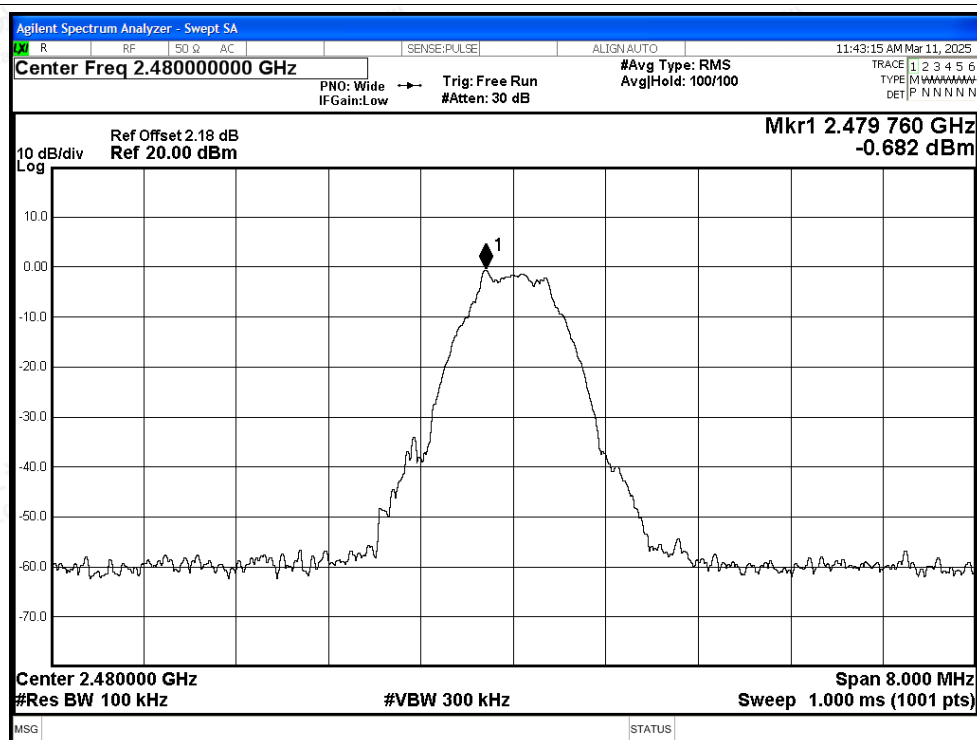
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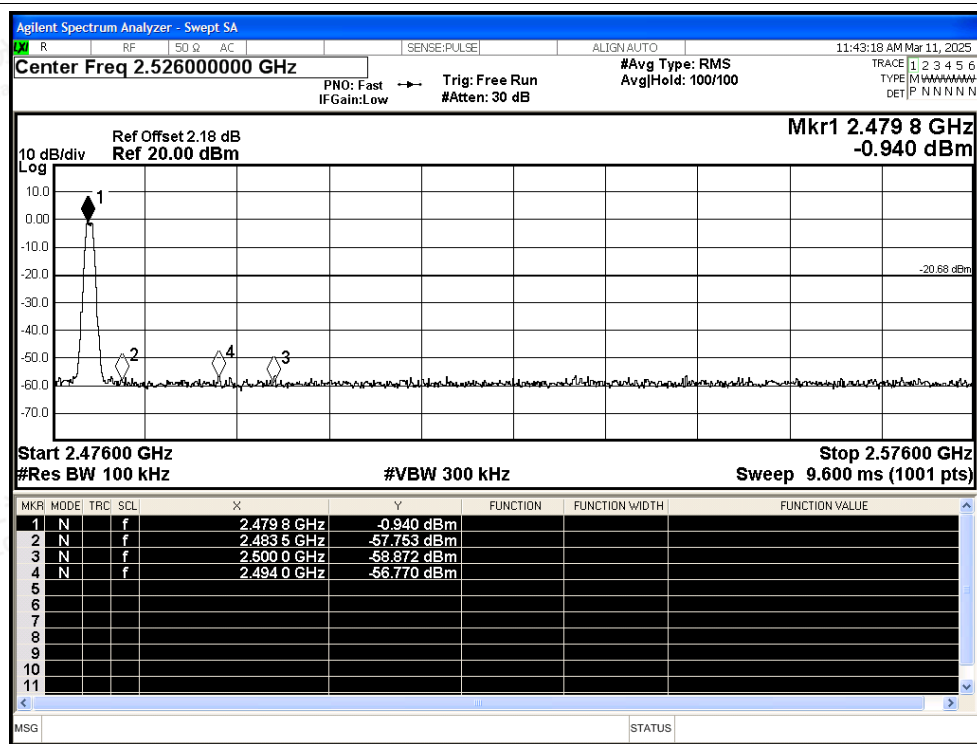
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Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



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B.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-54.67	-20	Pass
NVNT	BLE 1M	2440	Ant1	-55.79	-20	Pass
NVNT	BLE 1M	2480	Ant1	-54.46	-20	Pass

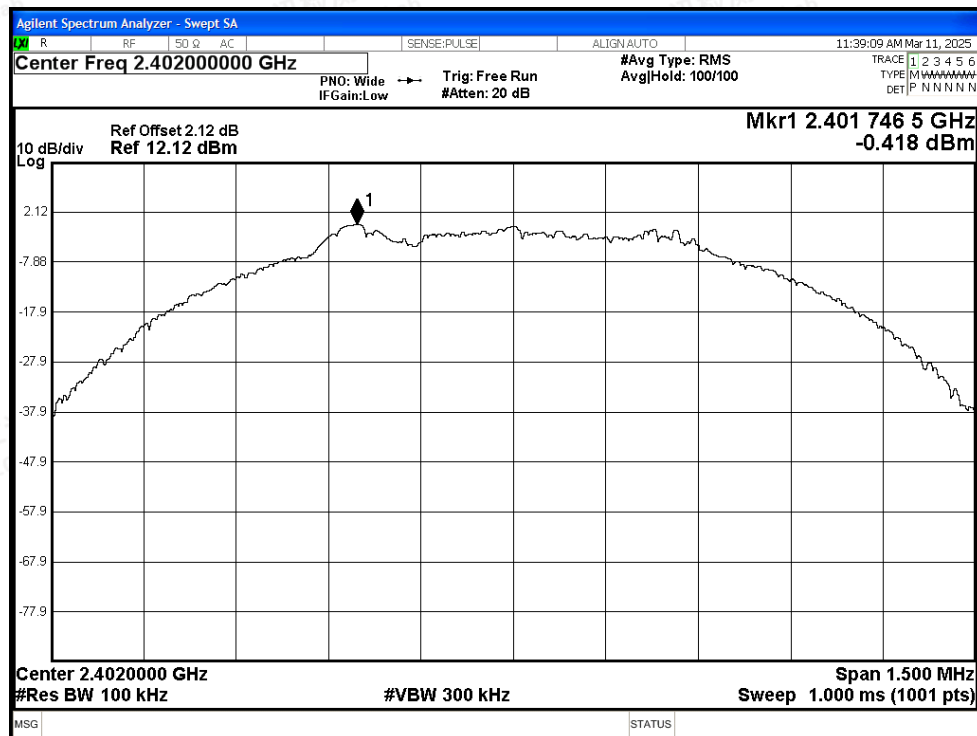


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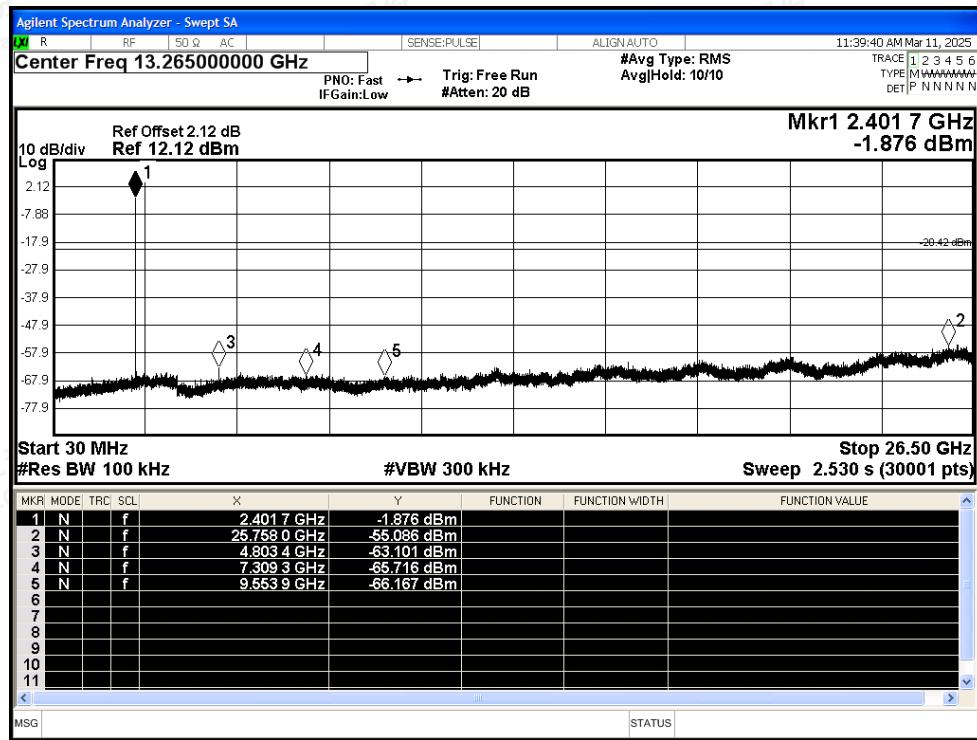


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

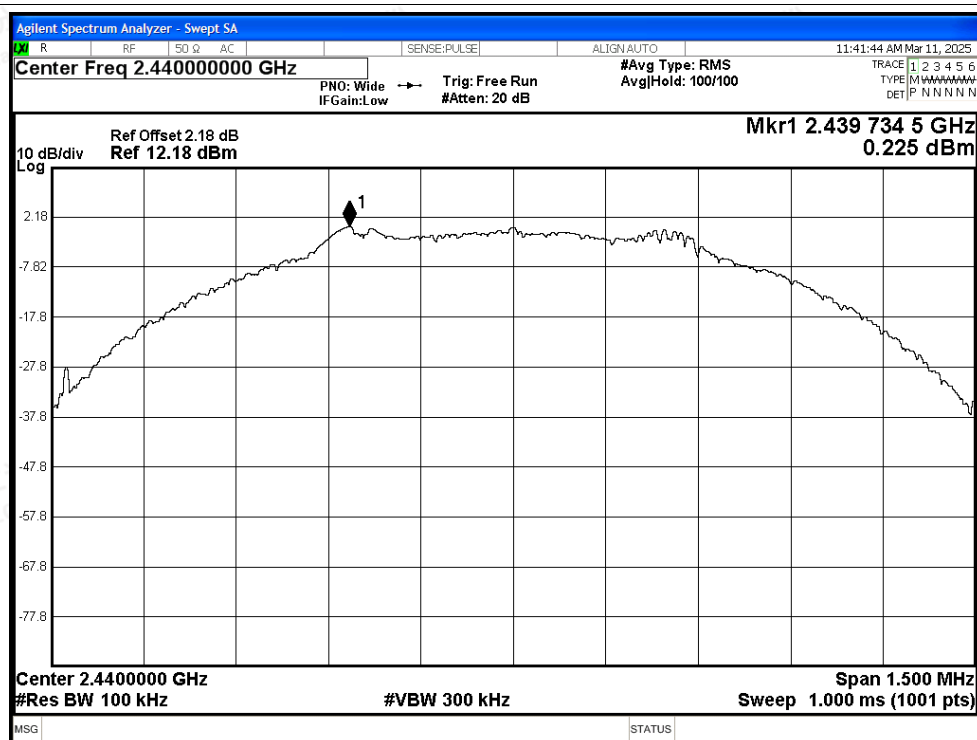
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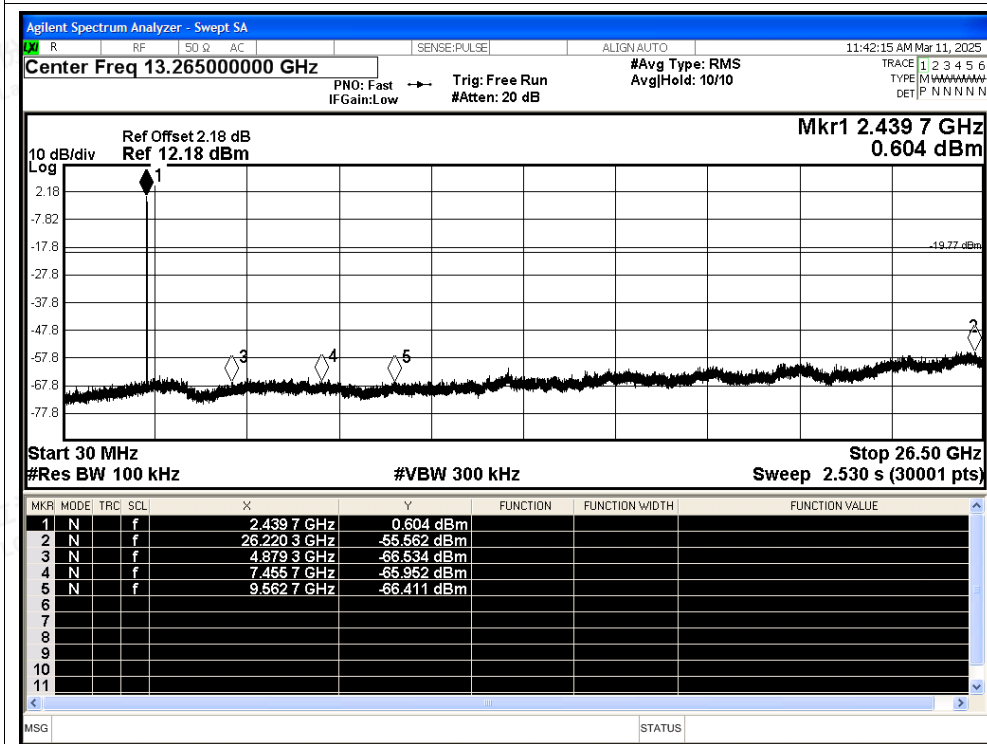
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Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



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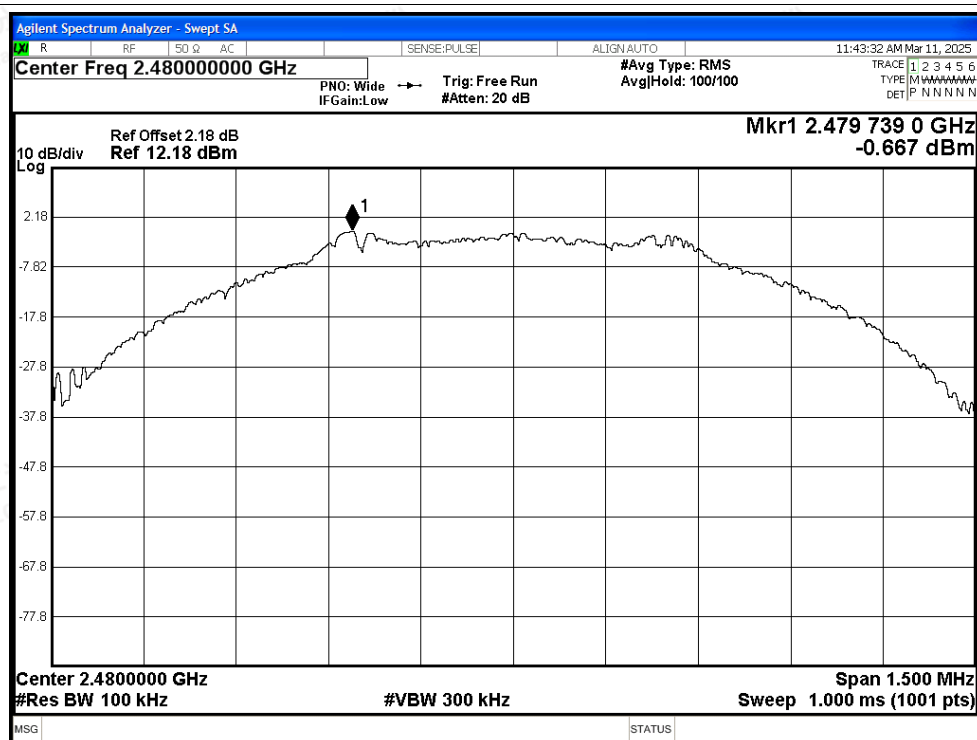
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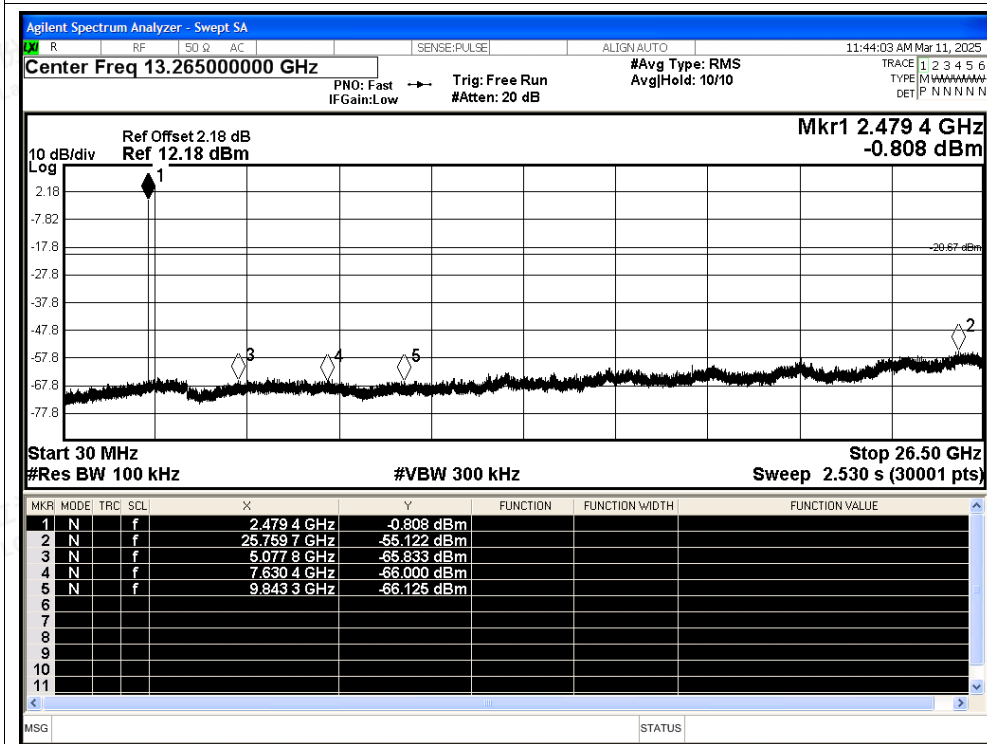
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Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



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

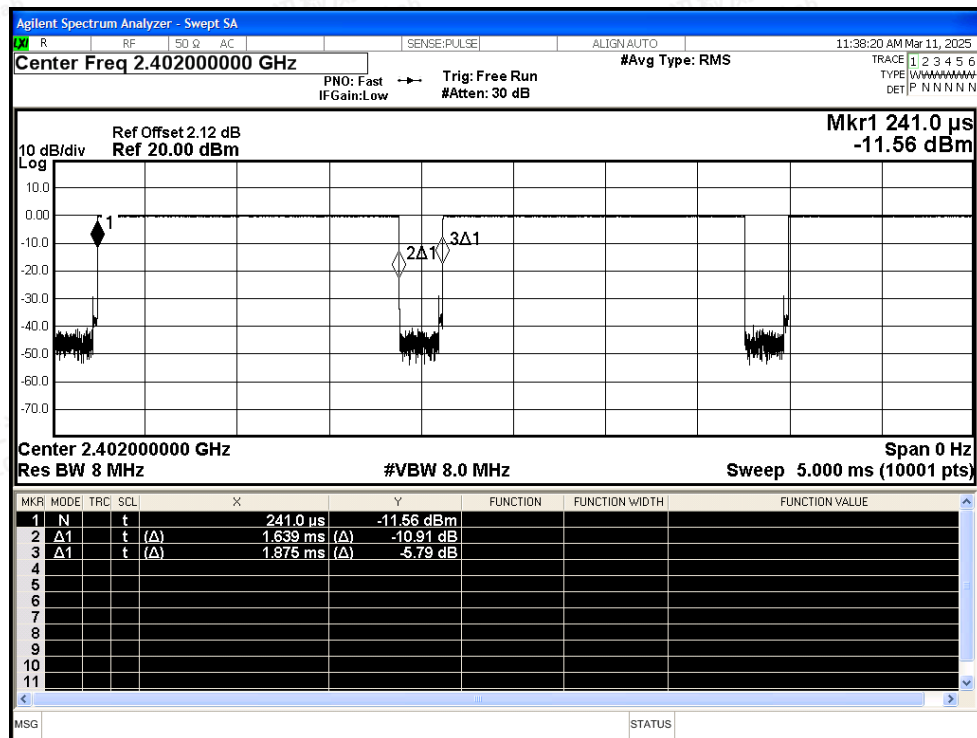


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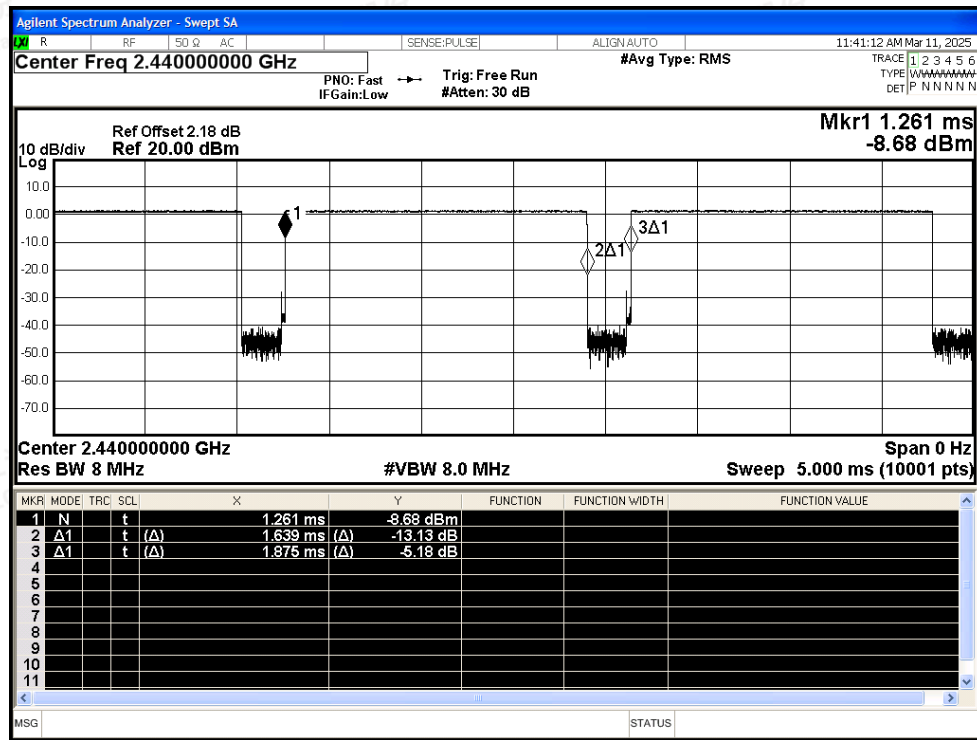


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1

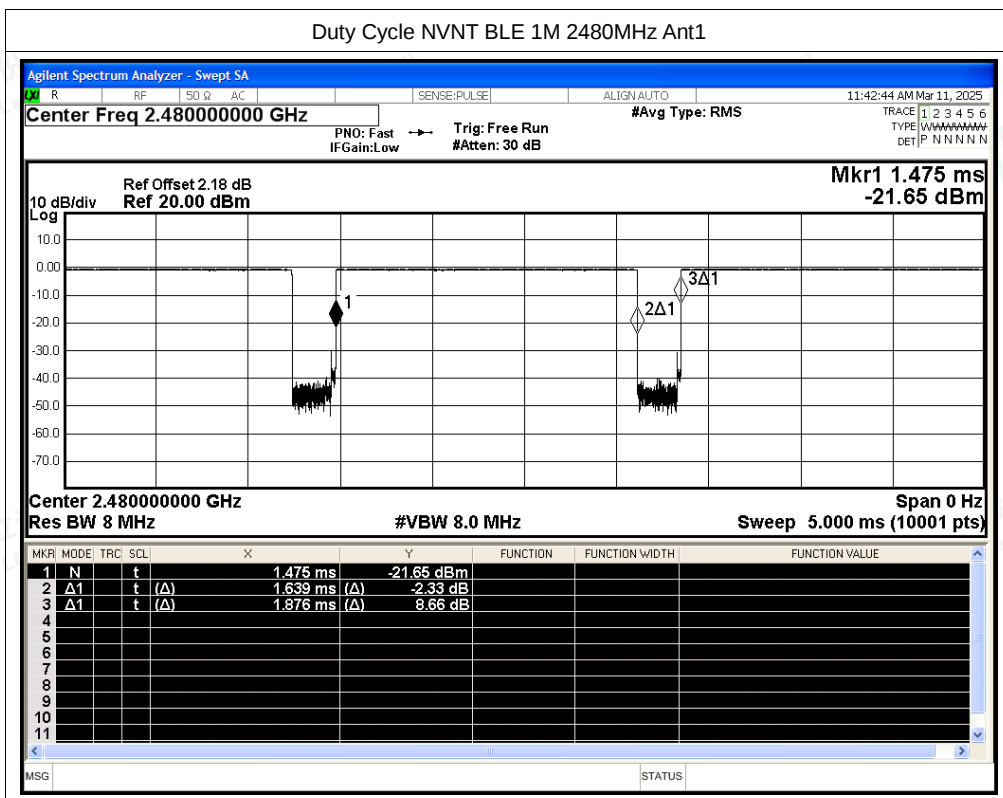


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B.7 Restrict Band

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	-51.05	2	-	46.21	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-58.4	2	0.59	39.45	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2335.344	-47.45	2	-	49.81	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2381.232	-57.99	2	0.59	39.86	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-49.26	2	-	48	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-58.46	2	0.59	39.39	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-49.71	2	-	47.55	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-57.48	2	0.59	40.37	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2484.688	-42.65	2	-	54.61	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.752	-57.44	2	0.59	40.41	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-50.83	2	-	46.43	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-57.9	2	0.59	39.95	Average	54	Pass



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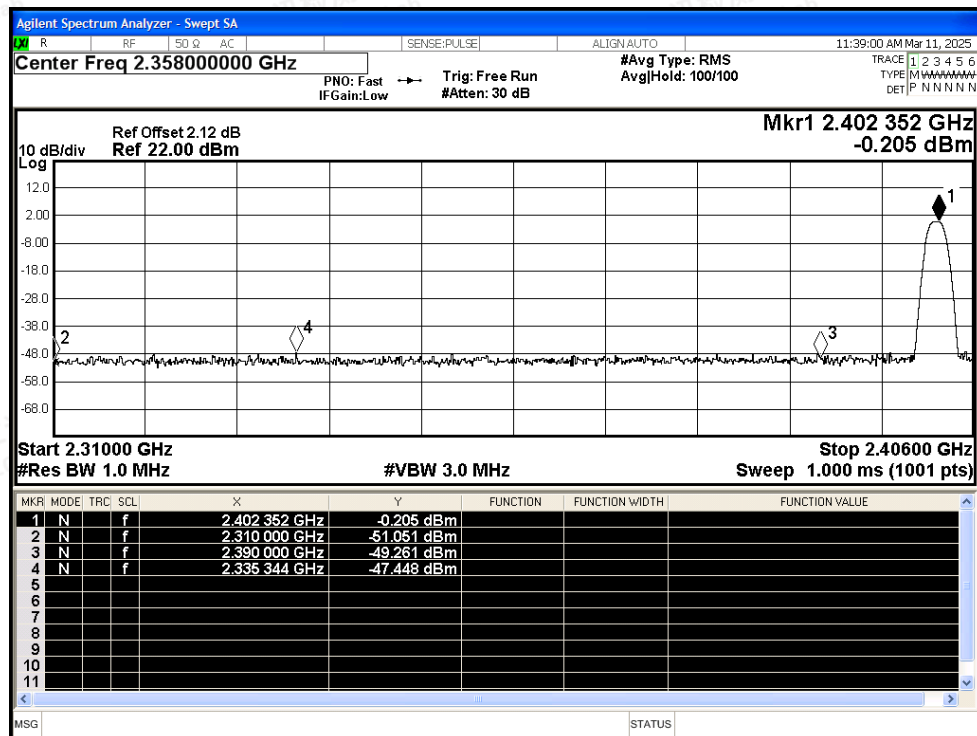
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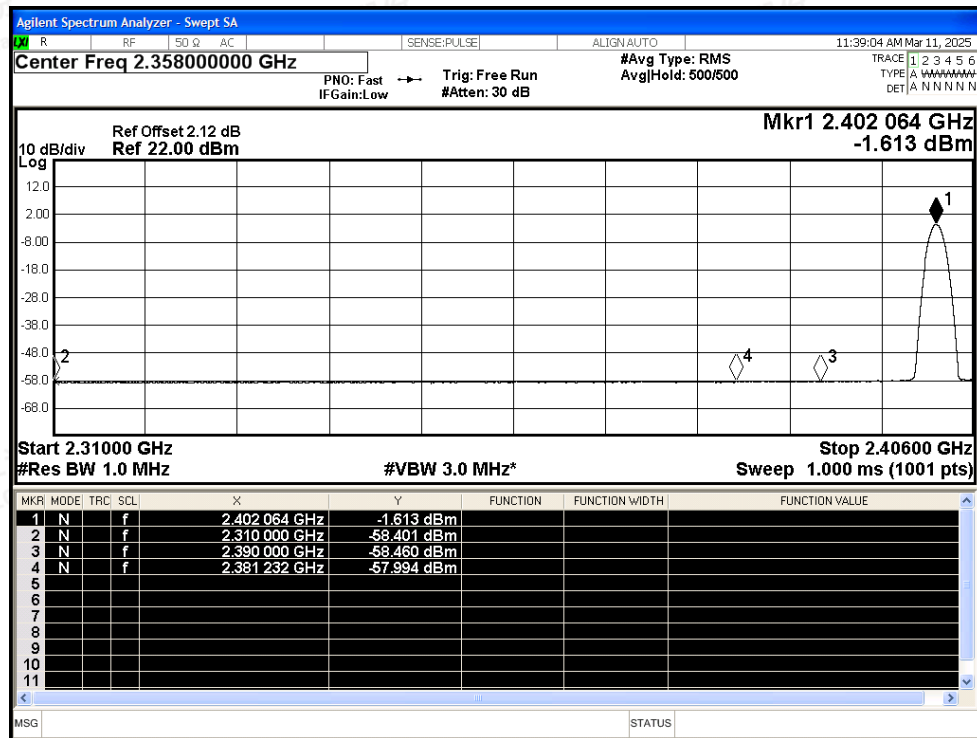


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average



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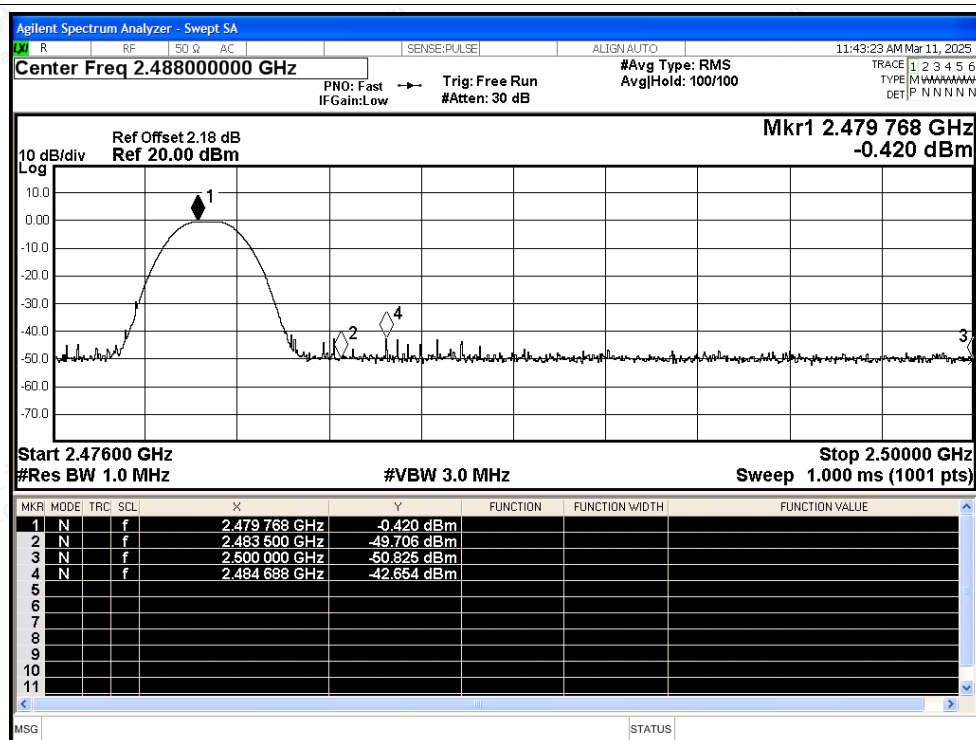
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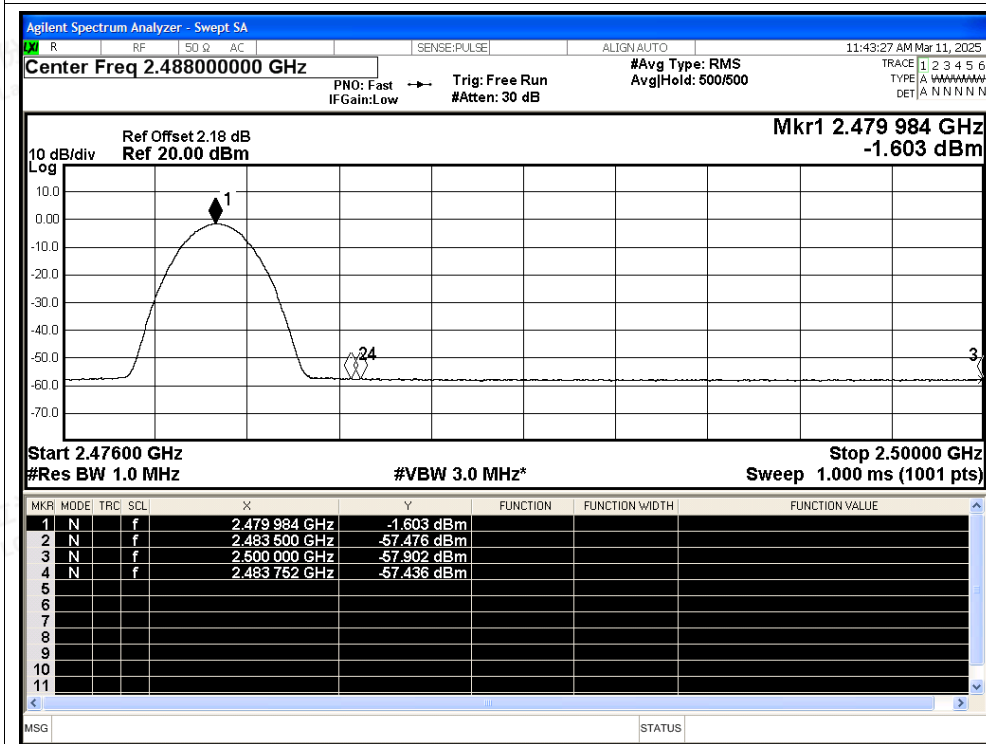
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Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average



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