



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Mini Karaoke Speaker with Microphones

Test Model: CQL2281-B-MIC

Environmental Conditions

Temperature:	23.6°C
Relative Humidity:	52.1%
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	0.651	≥ 0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.677	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.655	≥ 0.5	Pass

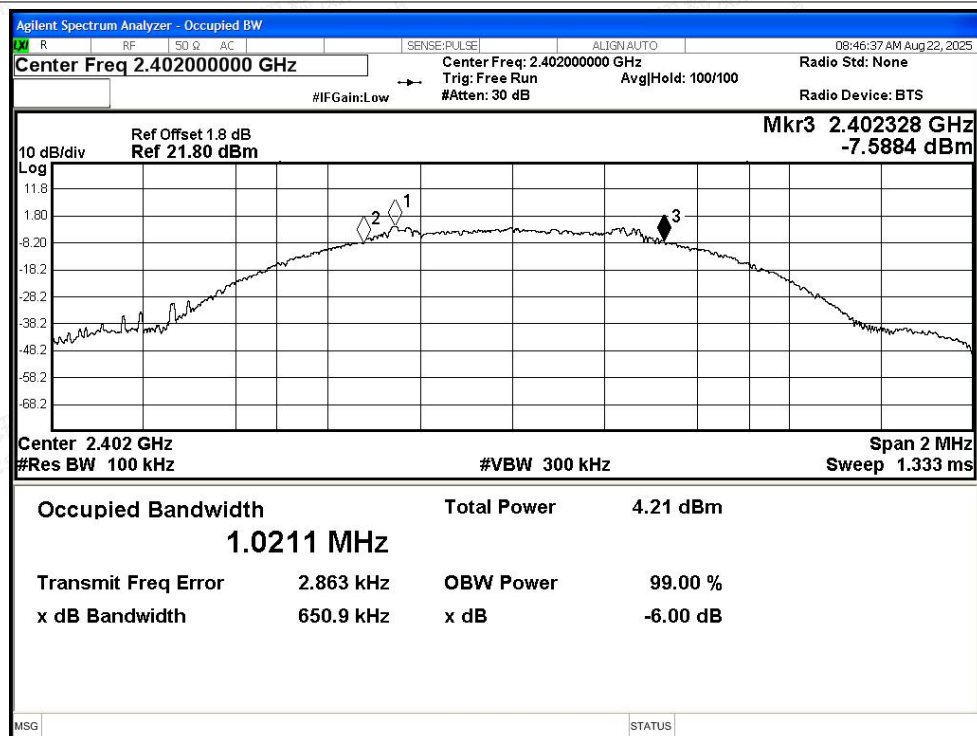


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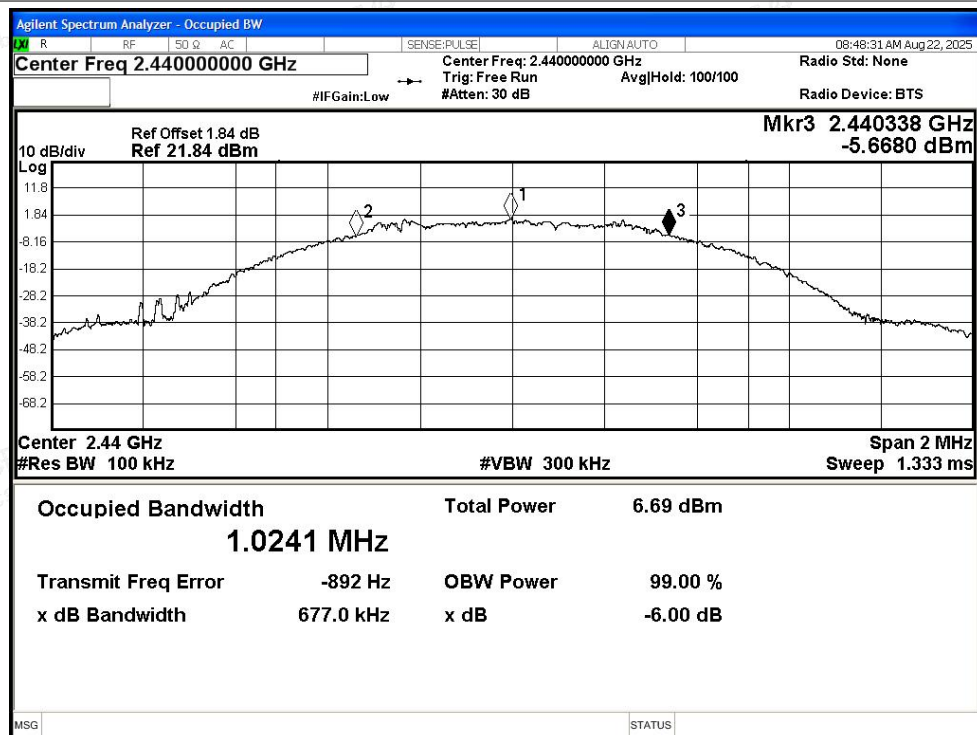


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

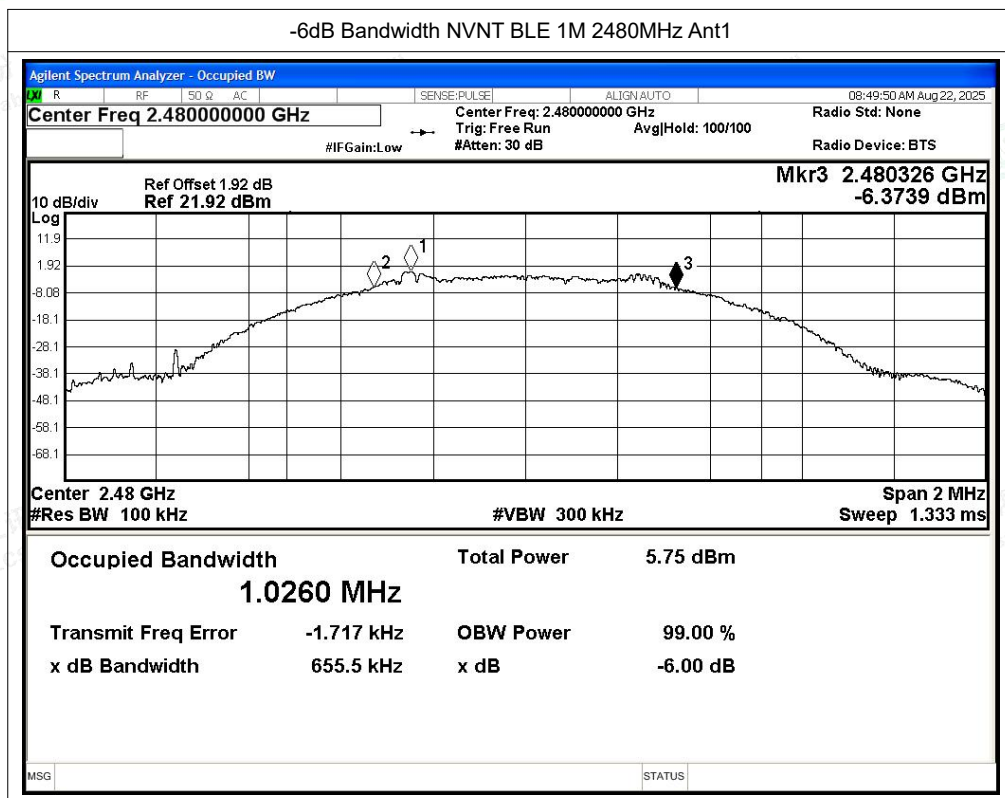


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A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-1.45	30	Pass
NVNT	BLE 1M	2440	Ant1	1.14	30	Pass
NVNT	BLE 1M	2480	Ant1	0.17	30	Pass

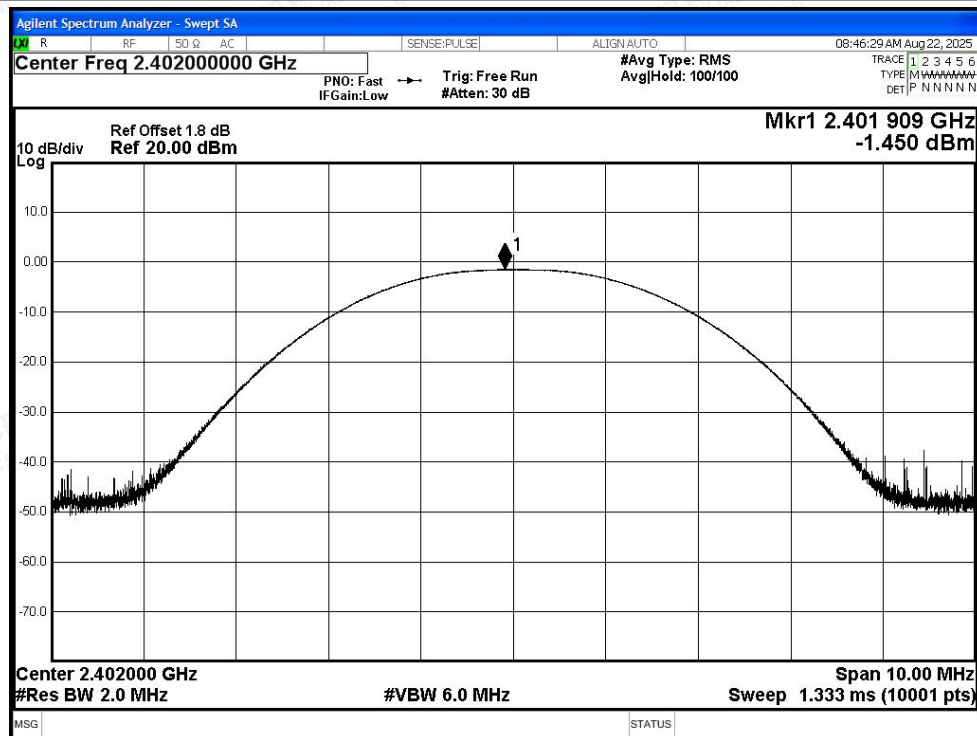


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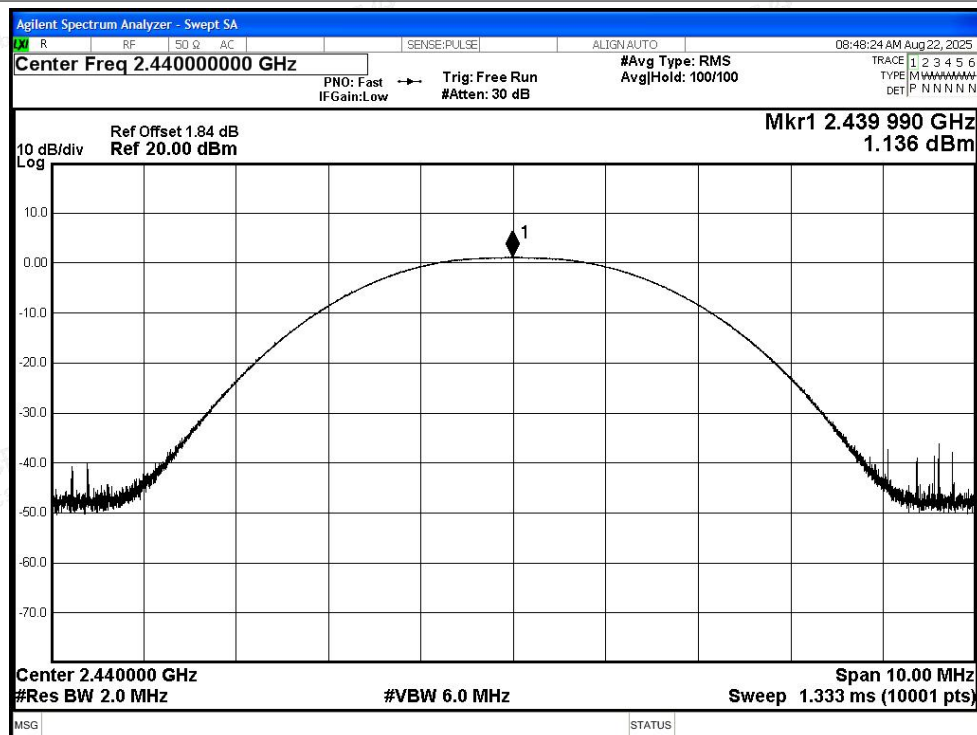


Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

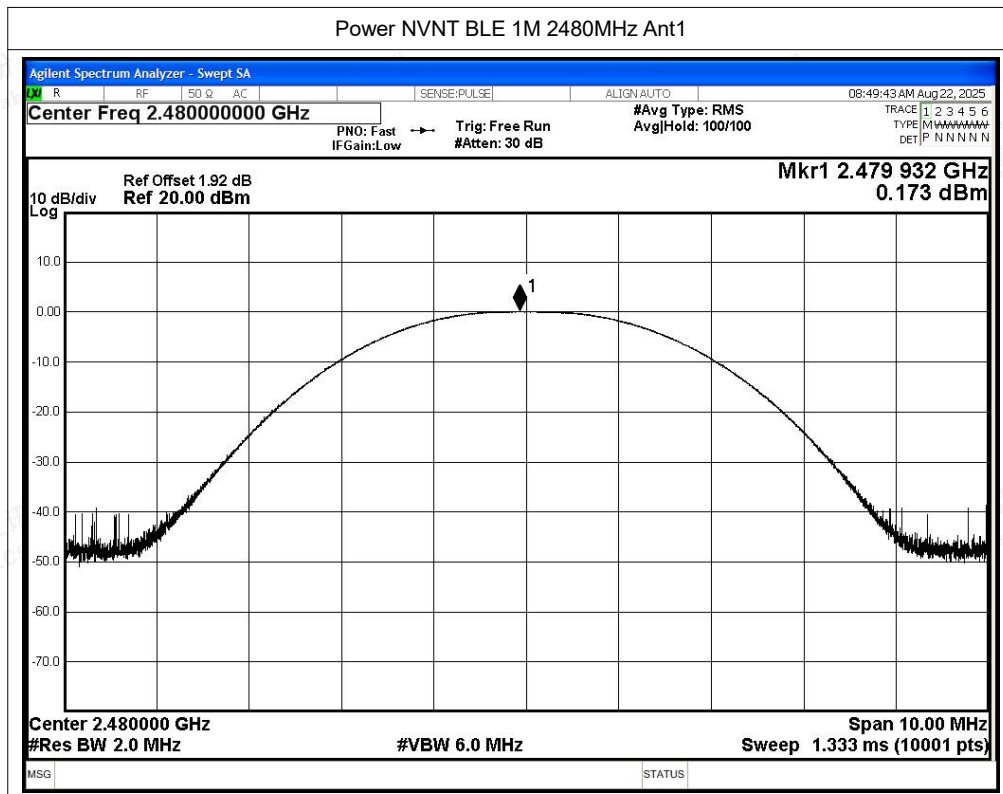


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A.3 Maximum Power Spectral Density Level

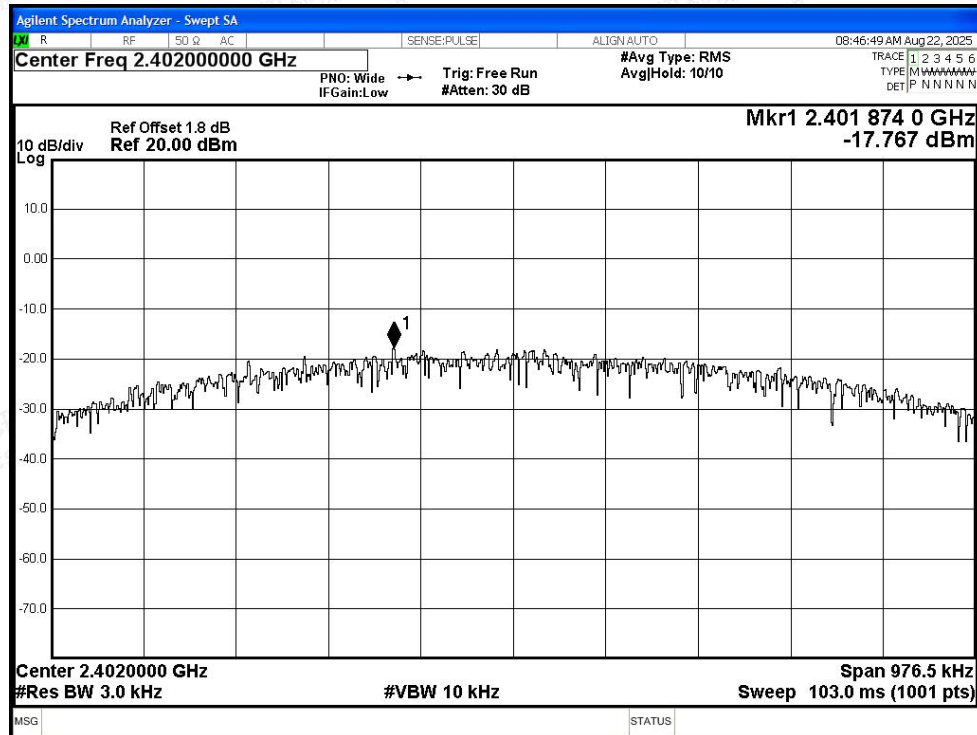
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-17.77	8	Pass
NVNT	BLE 1M	2440	Ant1	-15.24	8	Pass
NVNT	BLE 1M	2480	Ant1	-16.01	8	Pass



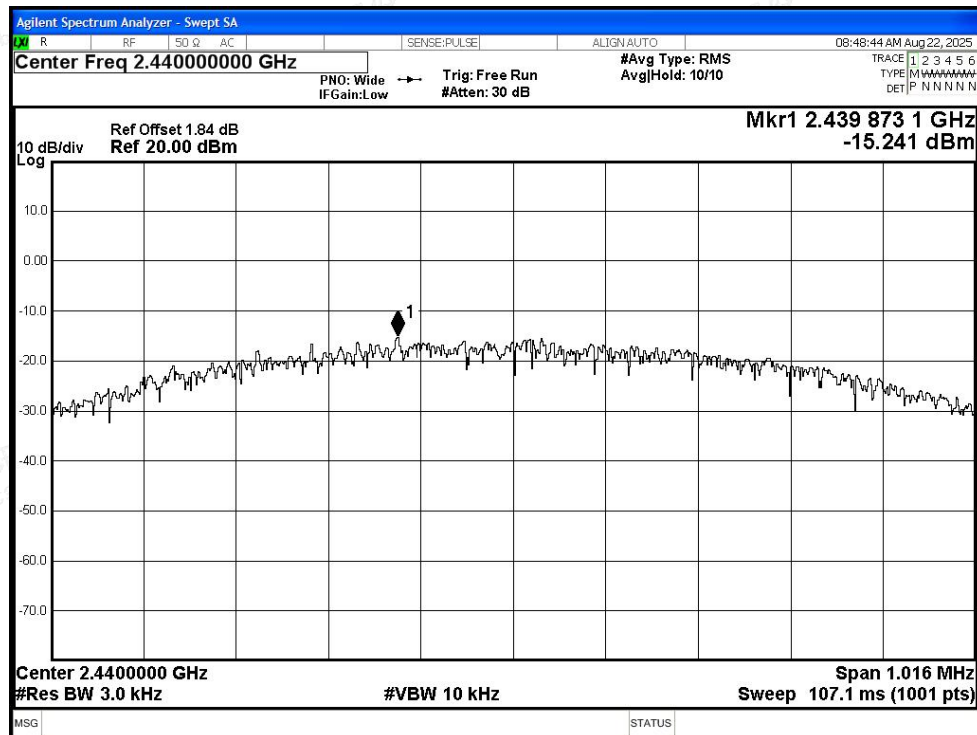


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1

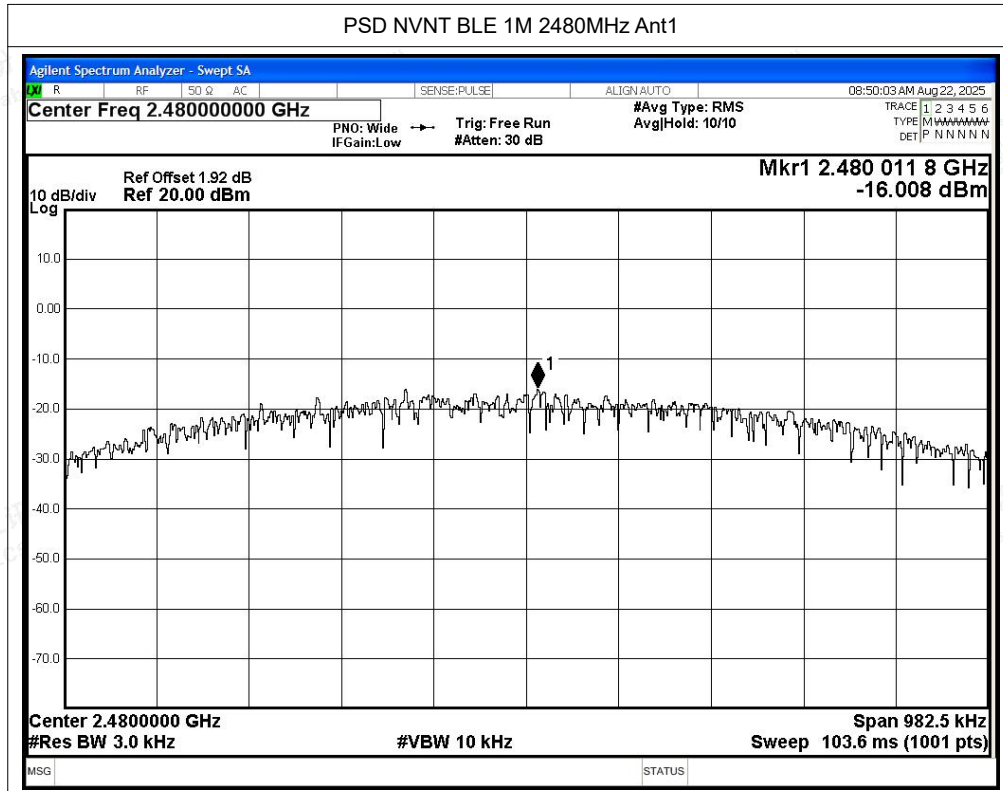


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A.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-55.33	-20	Pass
NVNT	BLE 1M	2480	Ant1	-56.35	-20	Pass

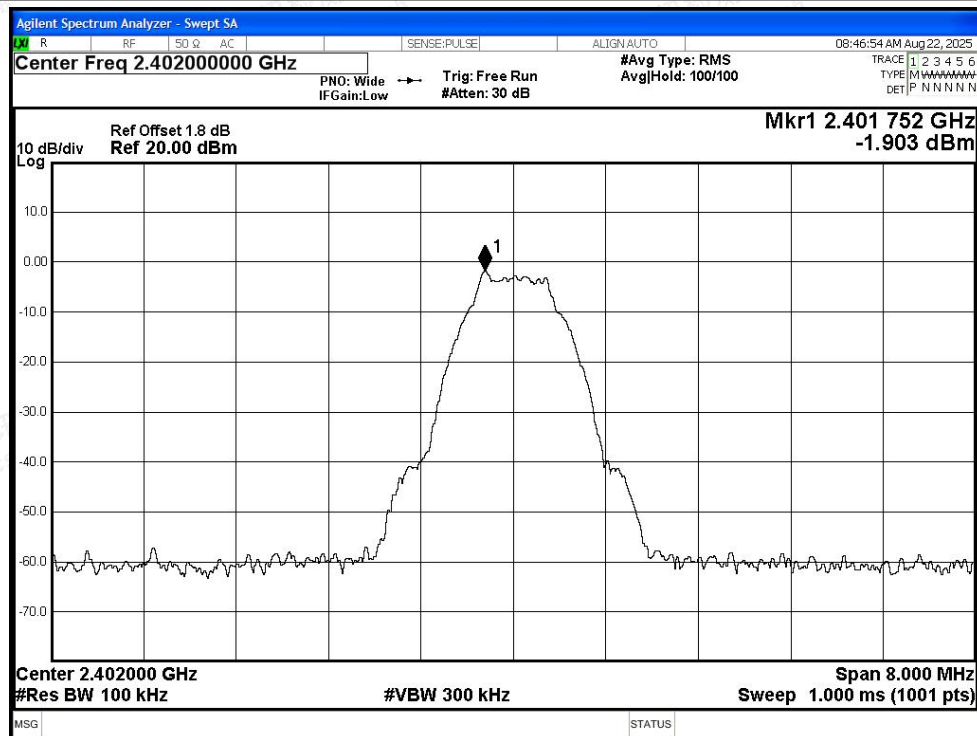


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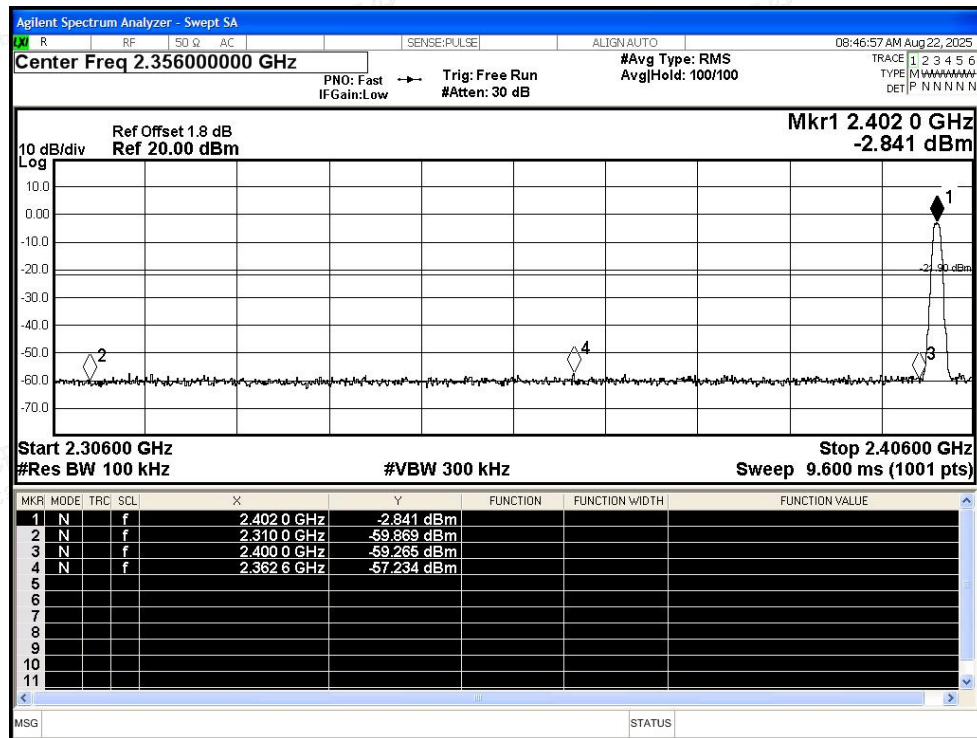


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

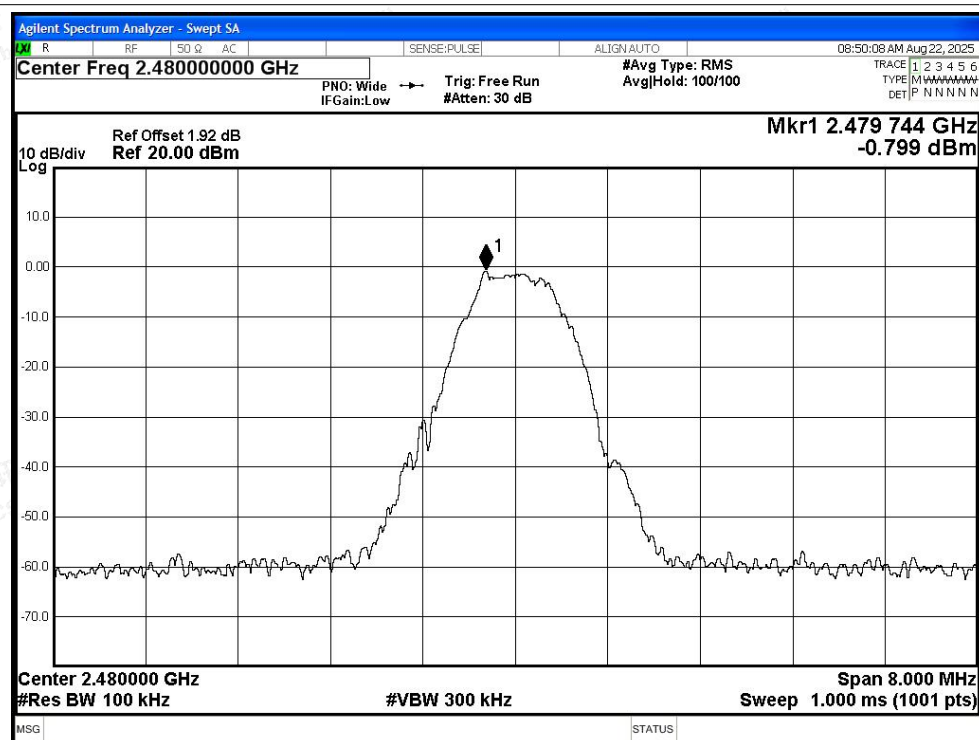
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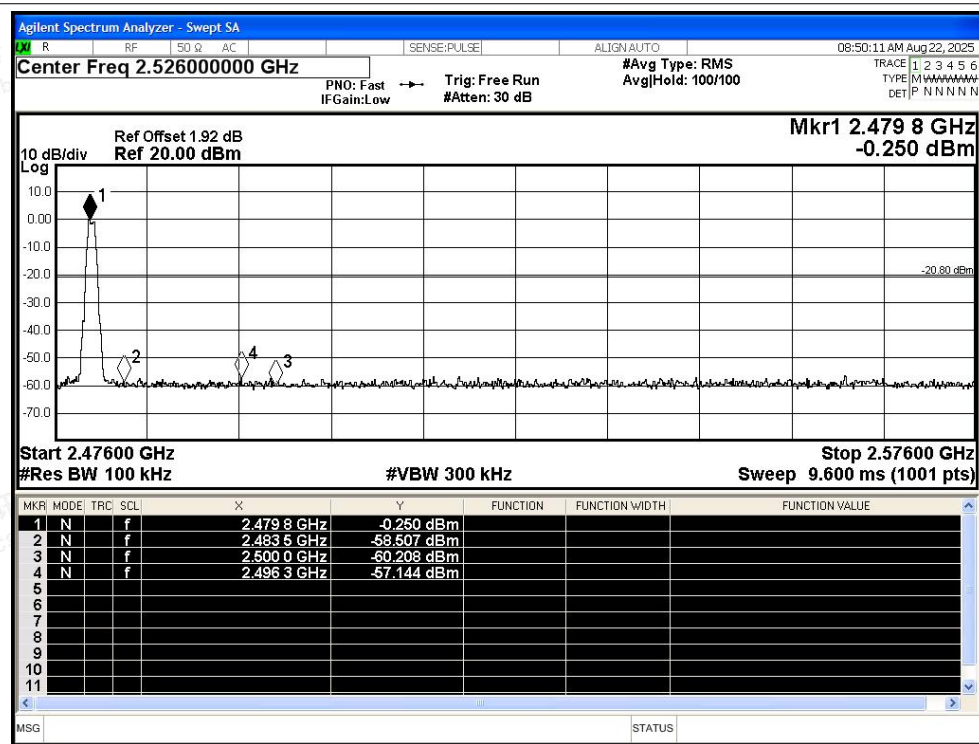
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Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



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A.5 Conducted RF Spurious Emission

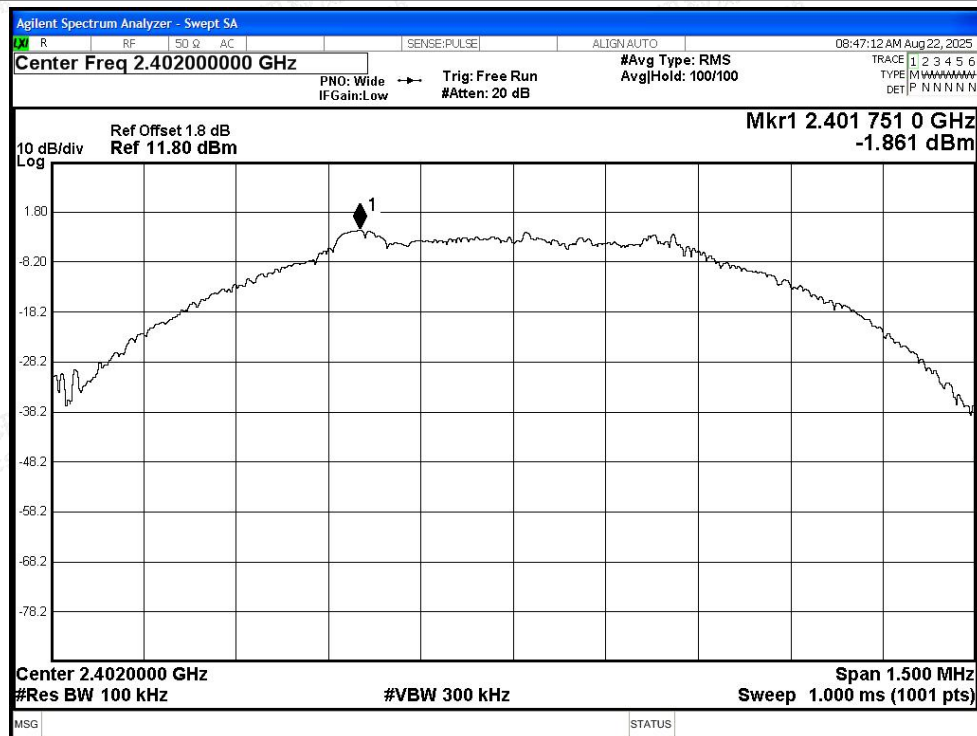
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-53.48	-20	Pass
NVNT	BLE 1M	2440	Ant1	-55.29	-20	Pass
NVNT	BLE 1M	2480	Ant1	-53.72	-20	Pass



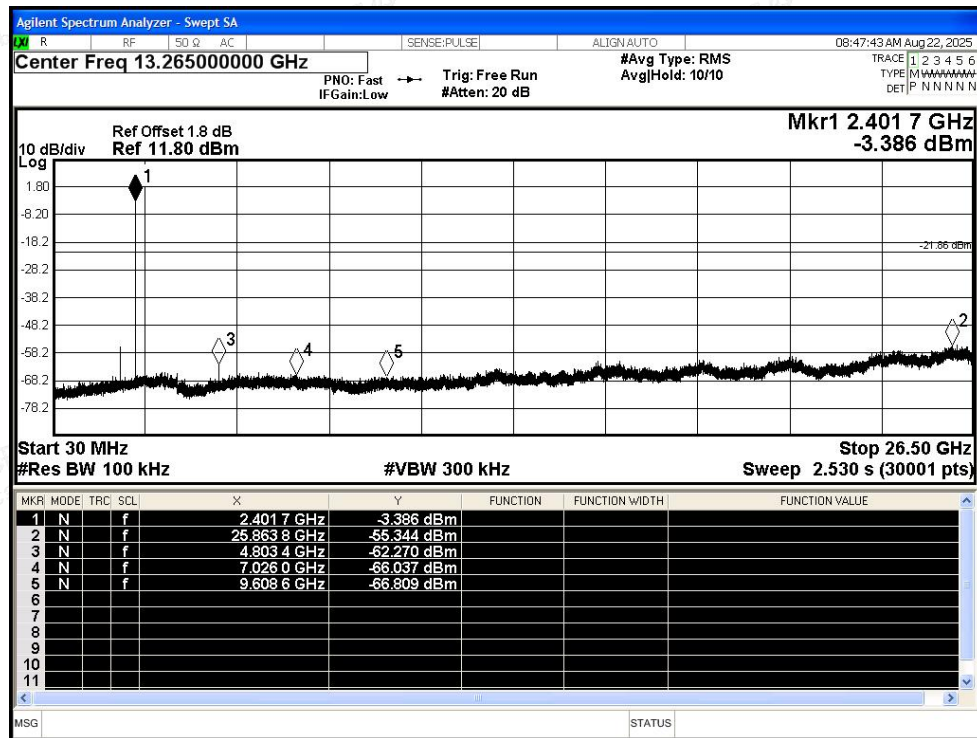


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

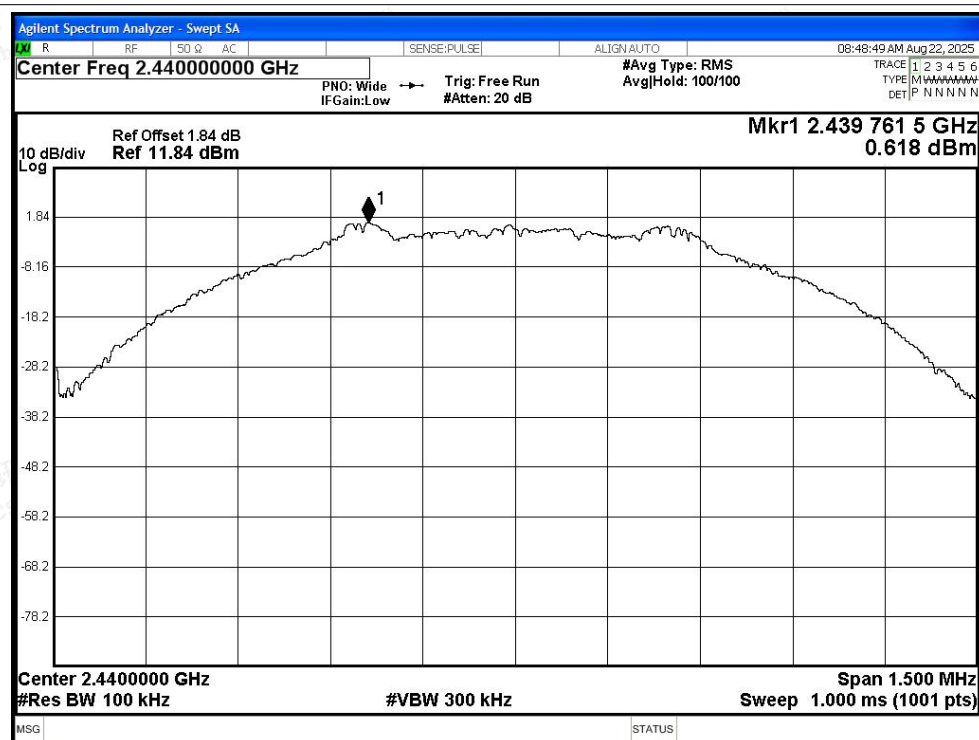
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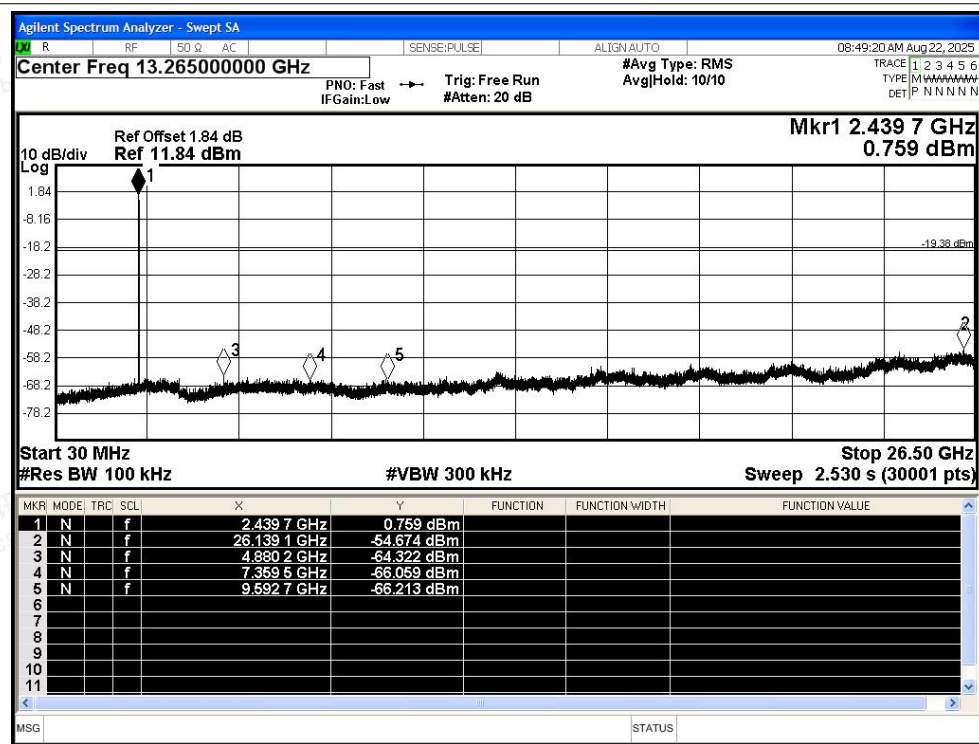
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Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



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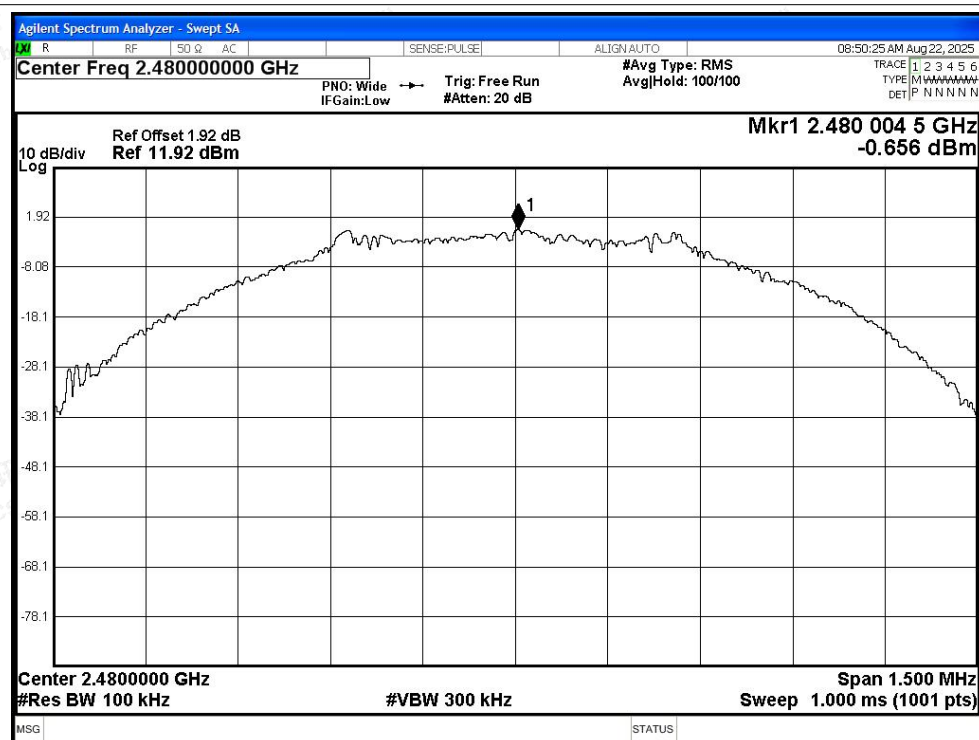
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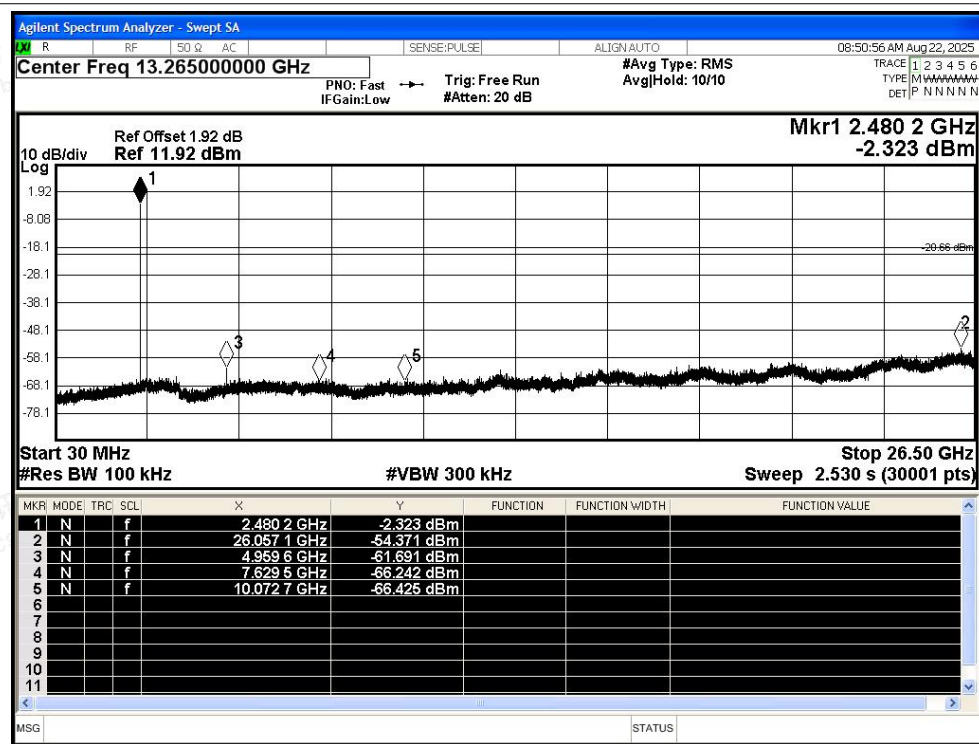
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Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



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A.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	72.03	1.42	0.74
NVNT	BLE 1M	2440	Ant1	72.03	1.42	0.74
NVNT	BLE 1M	2480	Ant1	72.03	1.42	0.74

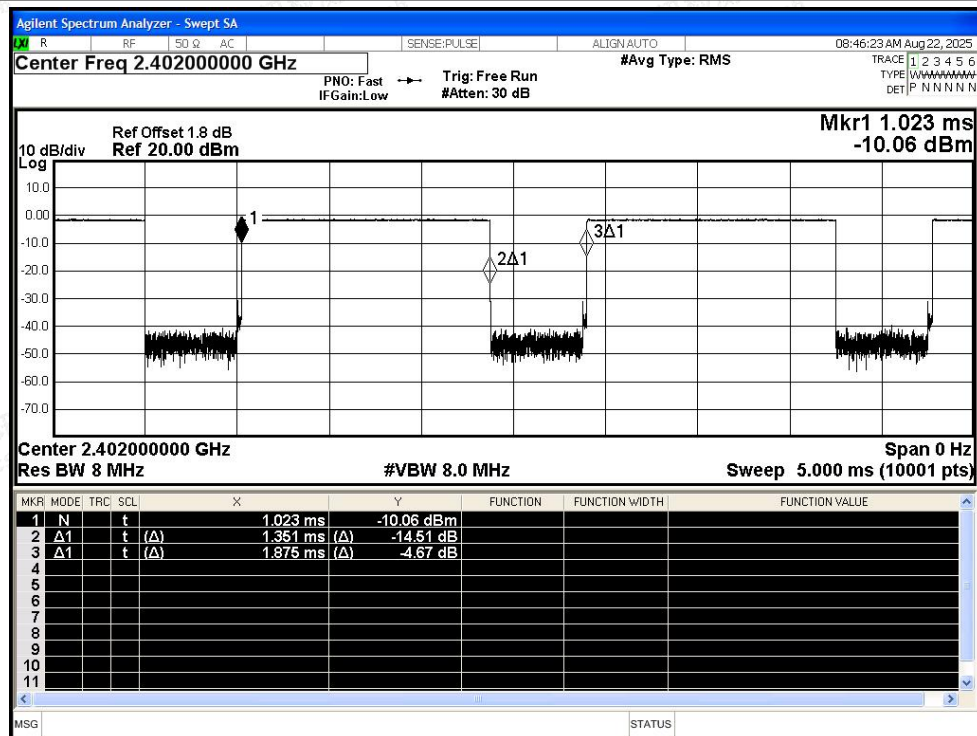


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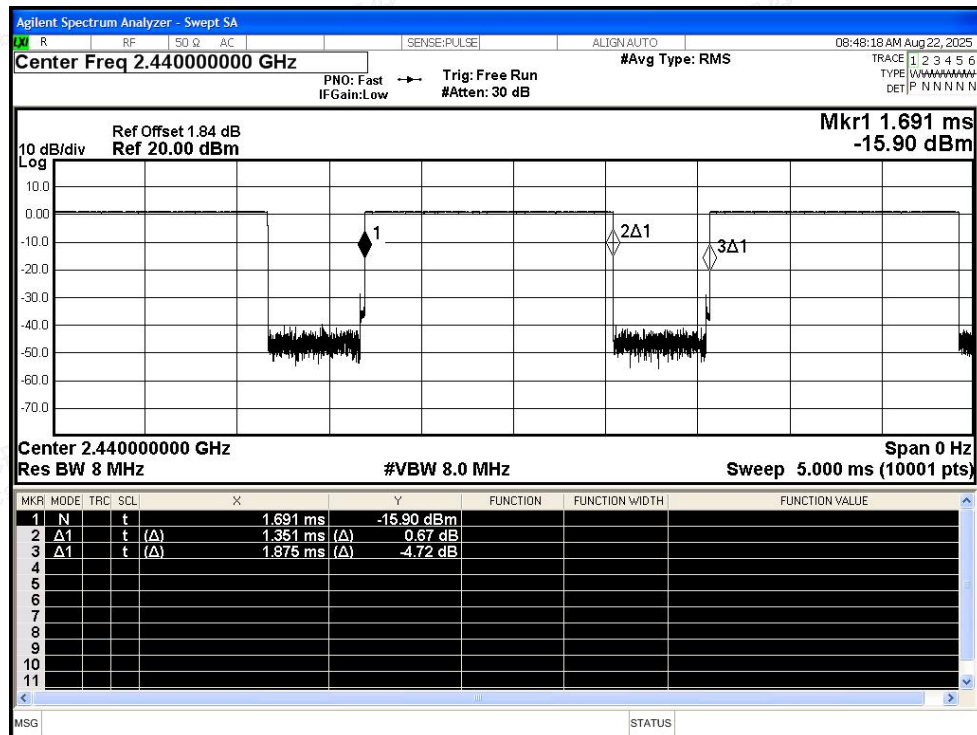


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1

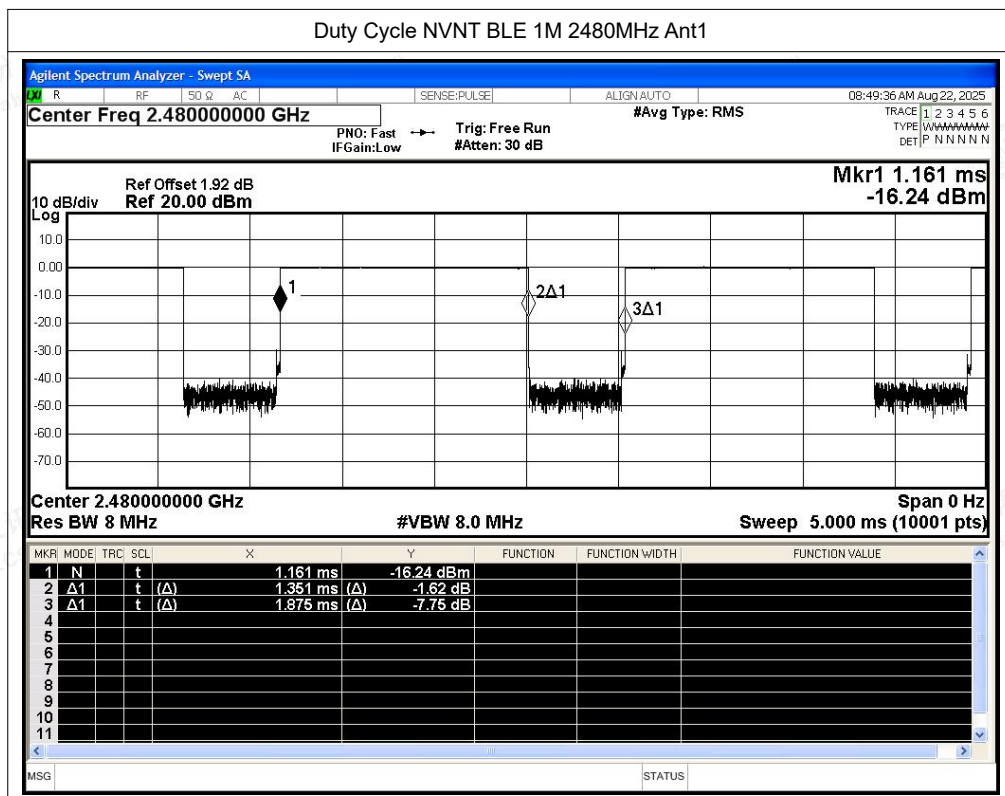


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A.7 Restrict Band

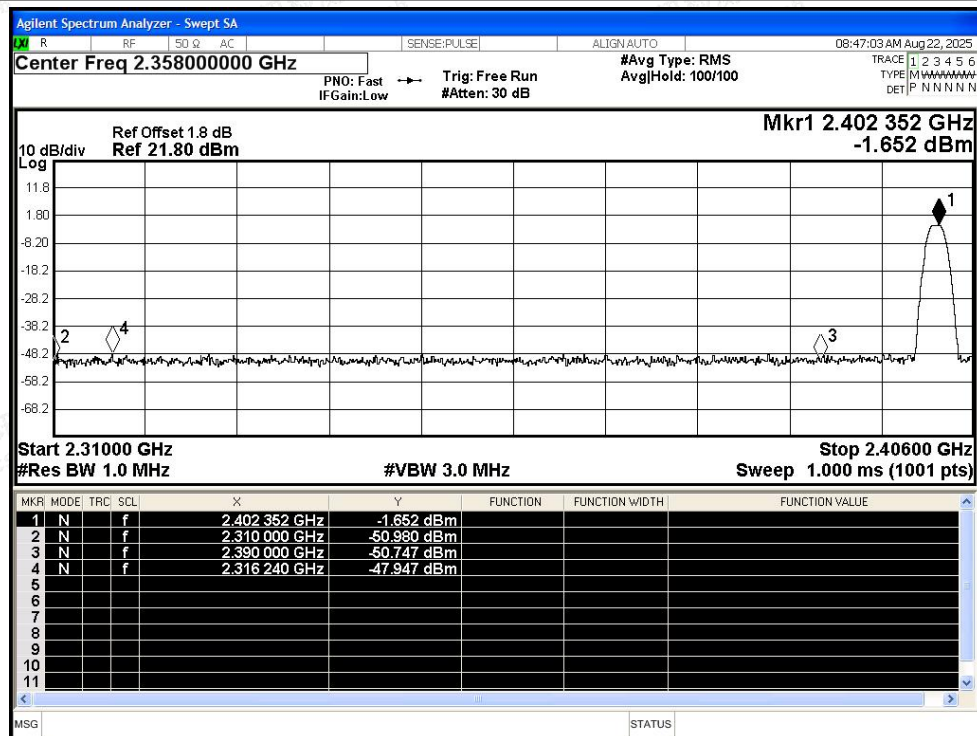
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1M	2402	Ant1	2310	-50.98	2	-	46.28	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-58.91	2	1.42	39.77	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2316.24	-47.95	2	-	49.31	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2385.072	-58.34	2	1.42	40.34	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-50.75	2	-	46.51	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-58.49	2	1.42	40.19	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-49.86	2	-	47.4	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-58.09	2	1.42	40.59	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2485.72	-43.97	2	-	53.29	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2484.568	-57.67	2	1.42	41.01	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-50.71	2	-	46.55	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-58.11	2	1.42	40.57	Average	54	Pass



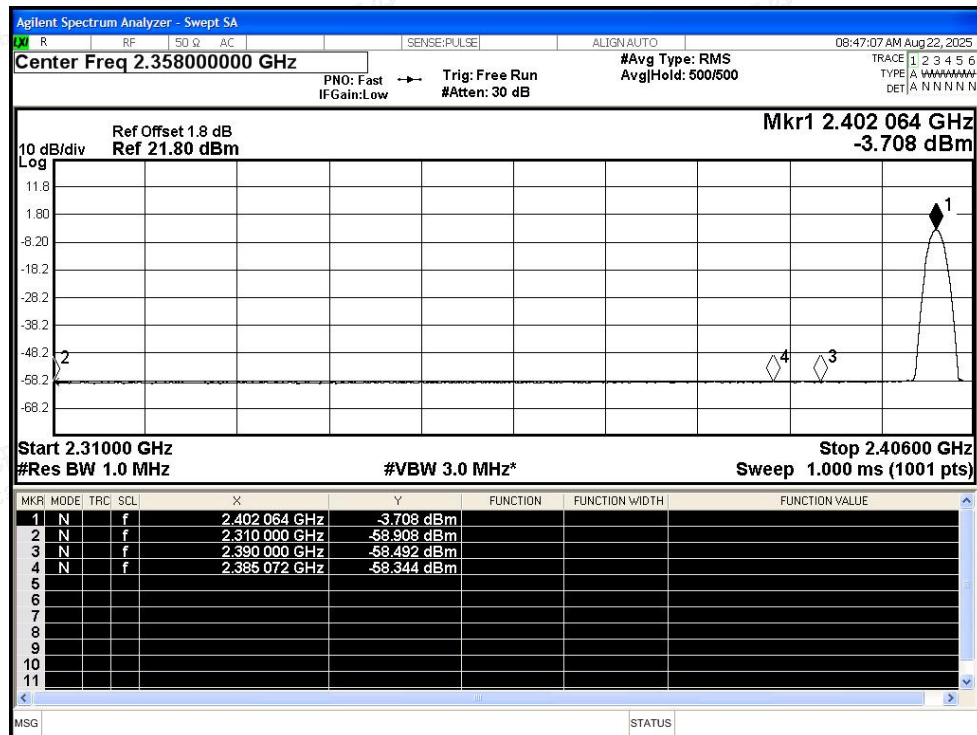


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average



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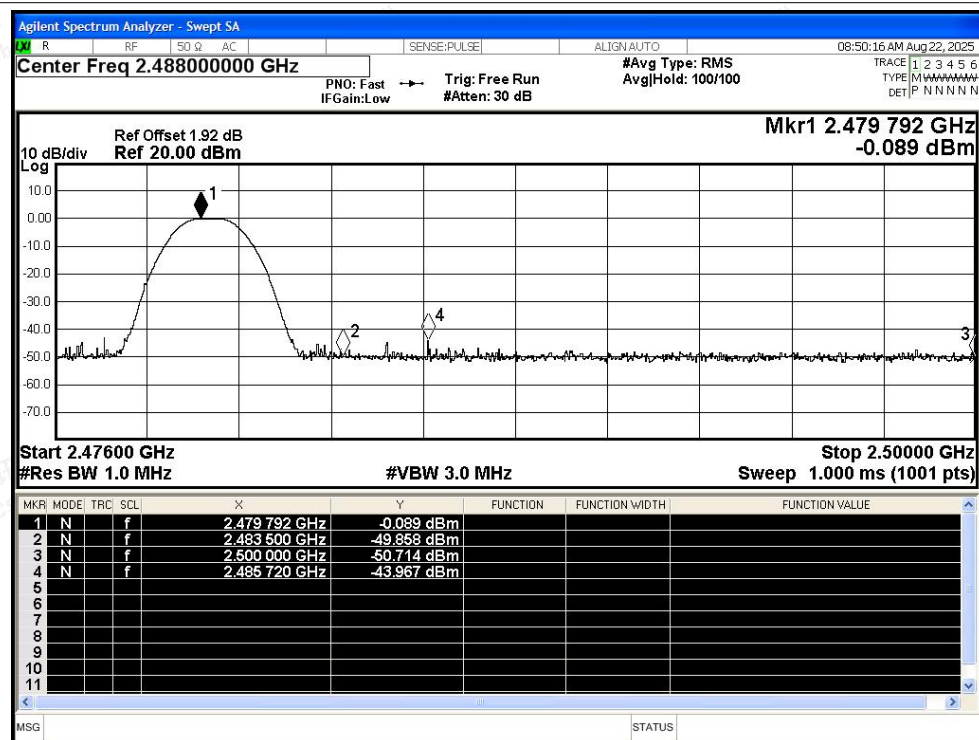
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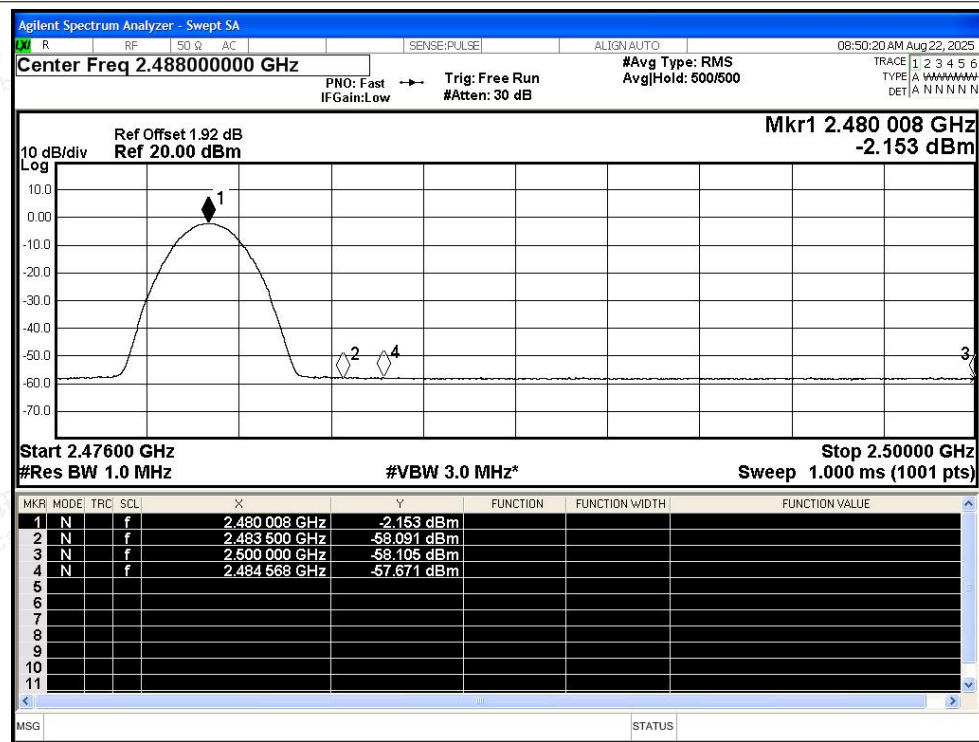
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Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average



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