



Appendix B

RF Test Data for BLE (Conducted Measurement)

Product Name: Smart Watch

Test Model: boAt Ultima Connect

Environmental Conditions

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



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B.1 -6dB Bandwidth

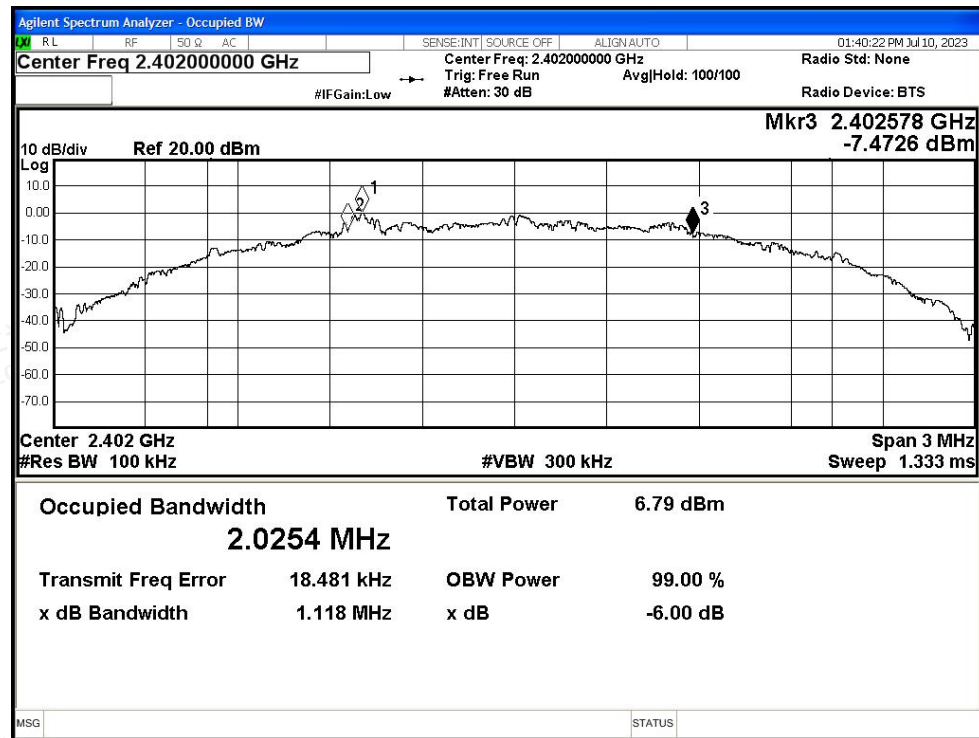
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 2M	2402	Ant1	1.118	0.5	Pass
NVNT	BLE 2M	2440	Ant1	1.149	0.5	Pass
NVNT	BLE 2M	2480	Ant1	1.141	0.5	Pass



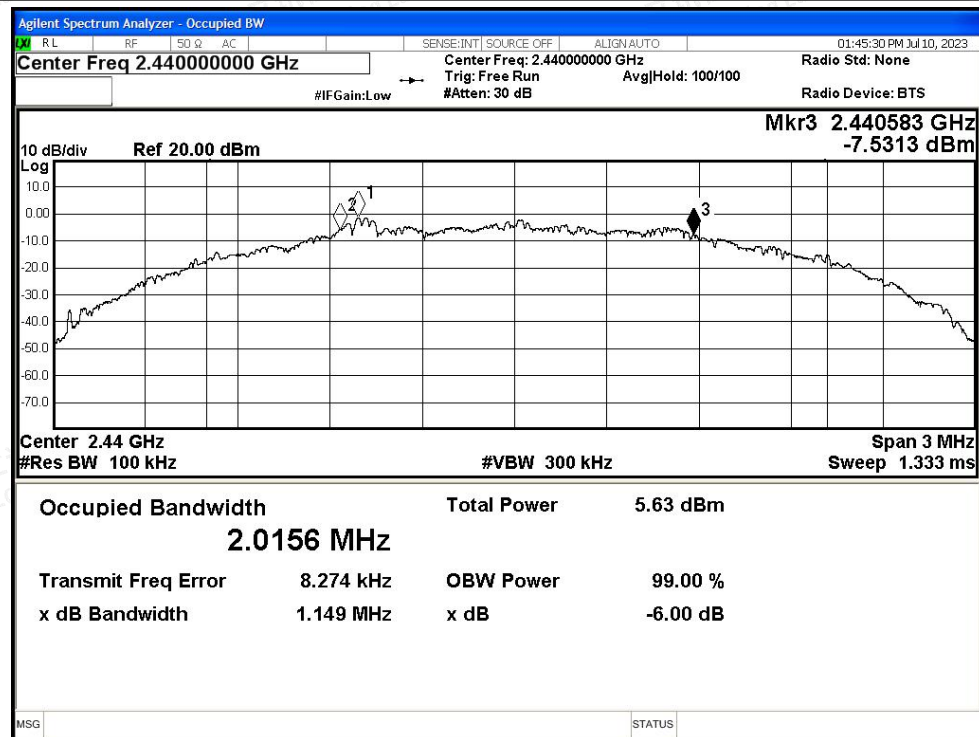


Test Graphs

-6dB Bandwidth NVNT BLE 2M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1

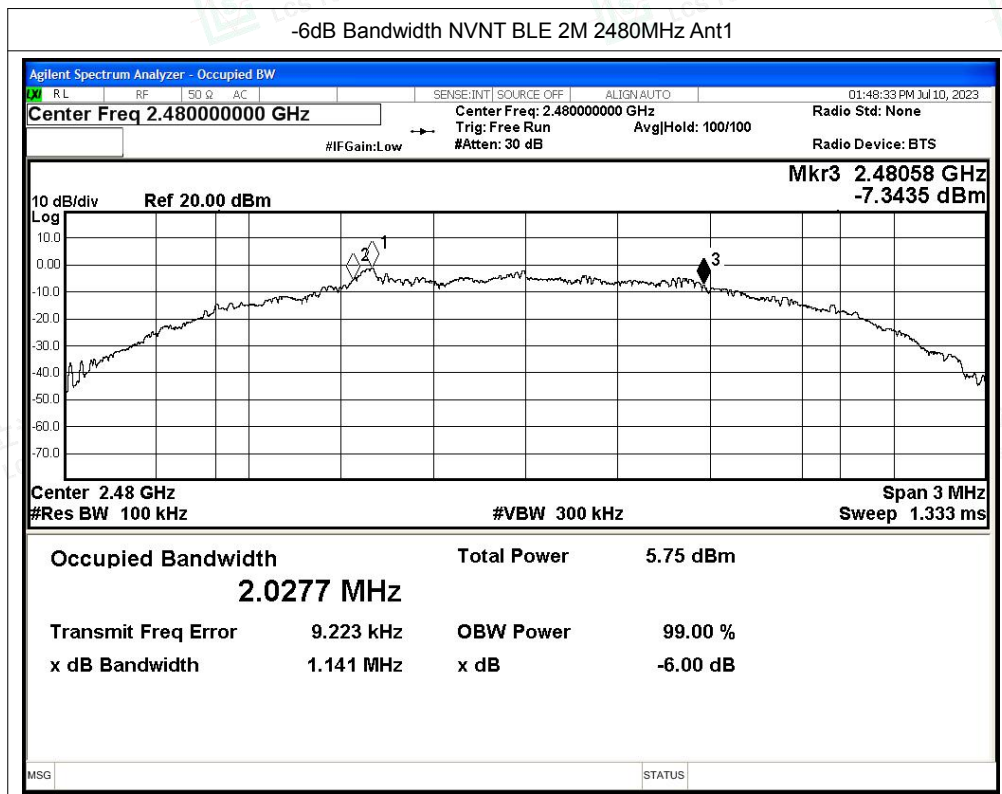


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B.2 Maximum Conducted Output Power

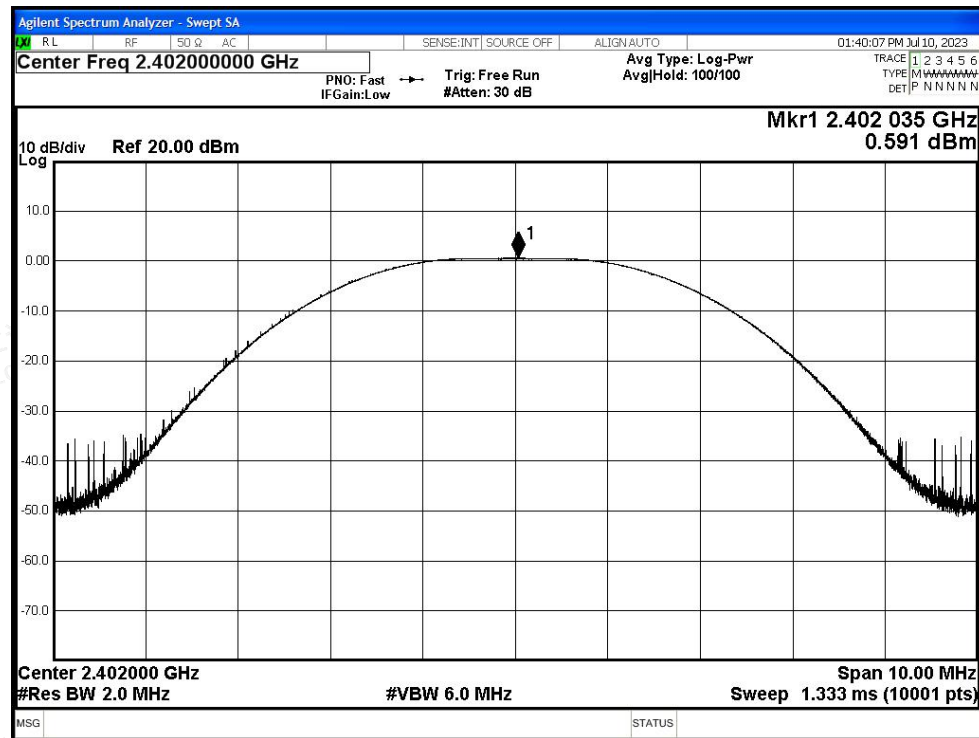
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 2M	2402	Ant1	0.59	30	Pass
NVNT	BLE 2M	2440	Ant1	-0.64	30	Pass
NVNT	BLE 2M	2480	Ant1	-0.42	30	Pass



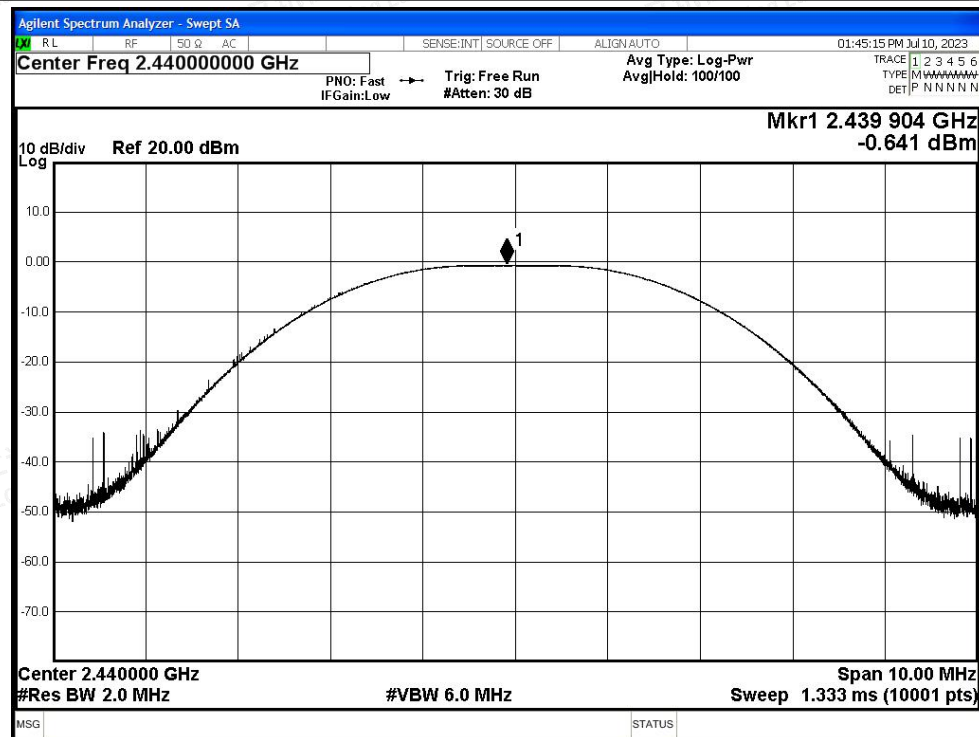


Test Graphs

Power NVNT BLE 2M 2402MHz Ant1



Power NVNT BLE 2M 2440MHz Ant1

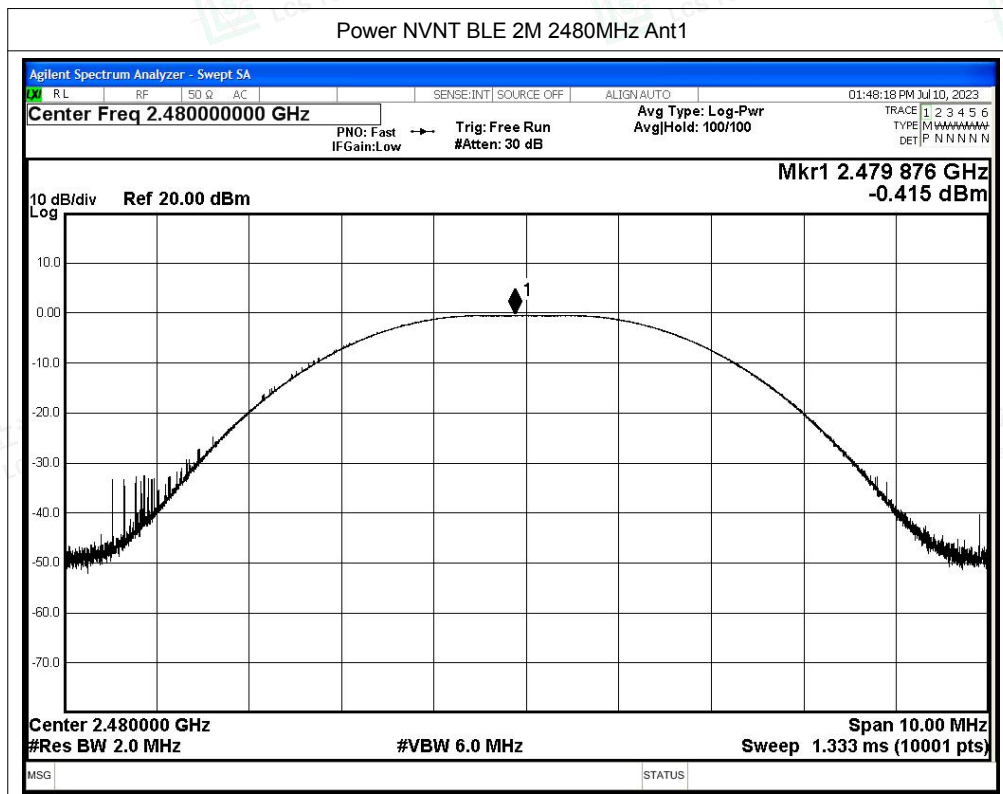


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B.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 2M	2402	Ant1	-19.59	8	Pass
NVNT	BLE 2M	2440	Ant1	-20.57	8	Pass
NVNT	BLE 2M	2480	Ant1	-20.19	8	Pass



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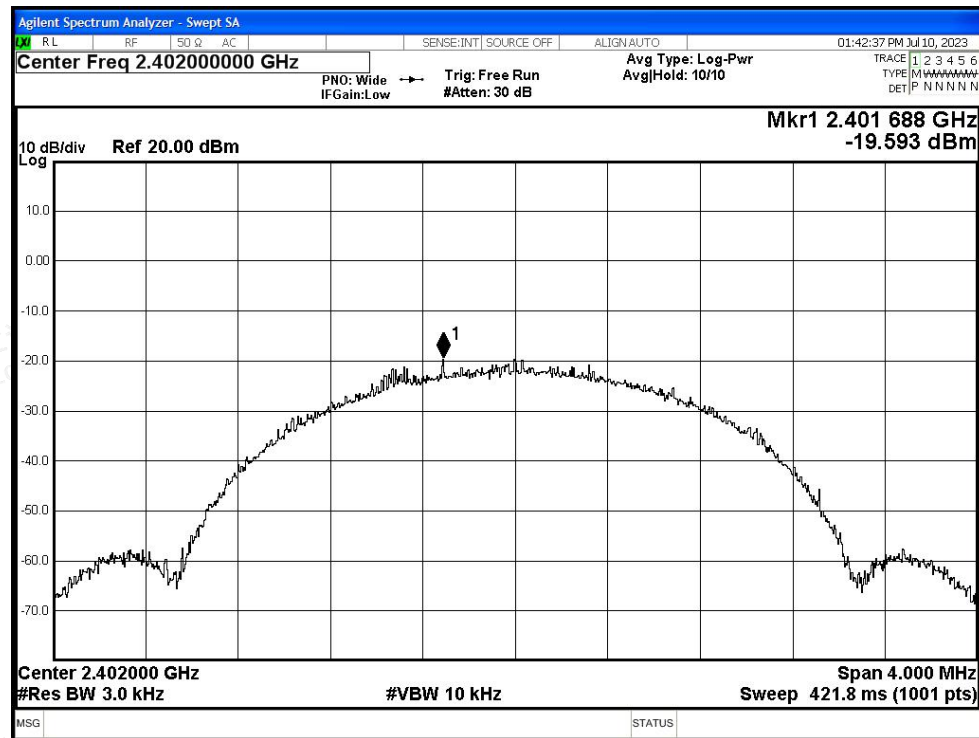
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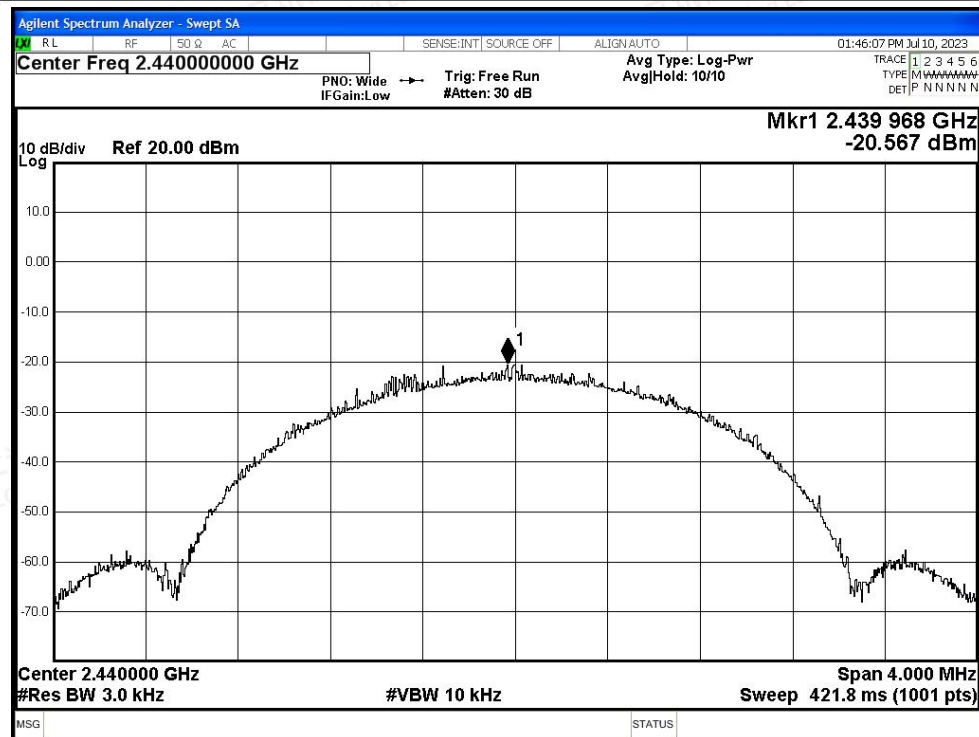


Test Graphs

PSD NVNT BLE 2M 2402MHz Ant1



PSD NVNT BLE 2M 2440MHz Ant1

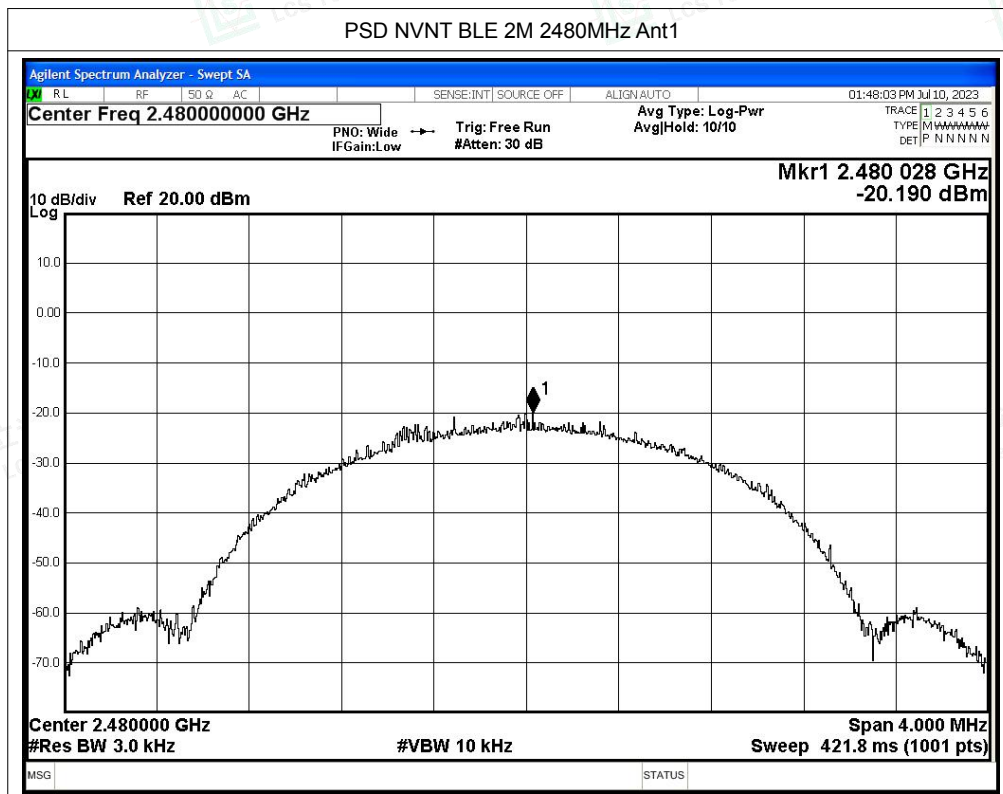


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B.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 2M	2402	Ant1	-46.77	-20	Pass
NVNT	BLE 2M	2480	Ant1	-55.64	-20	Pass



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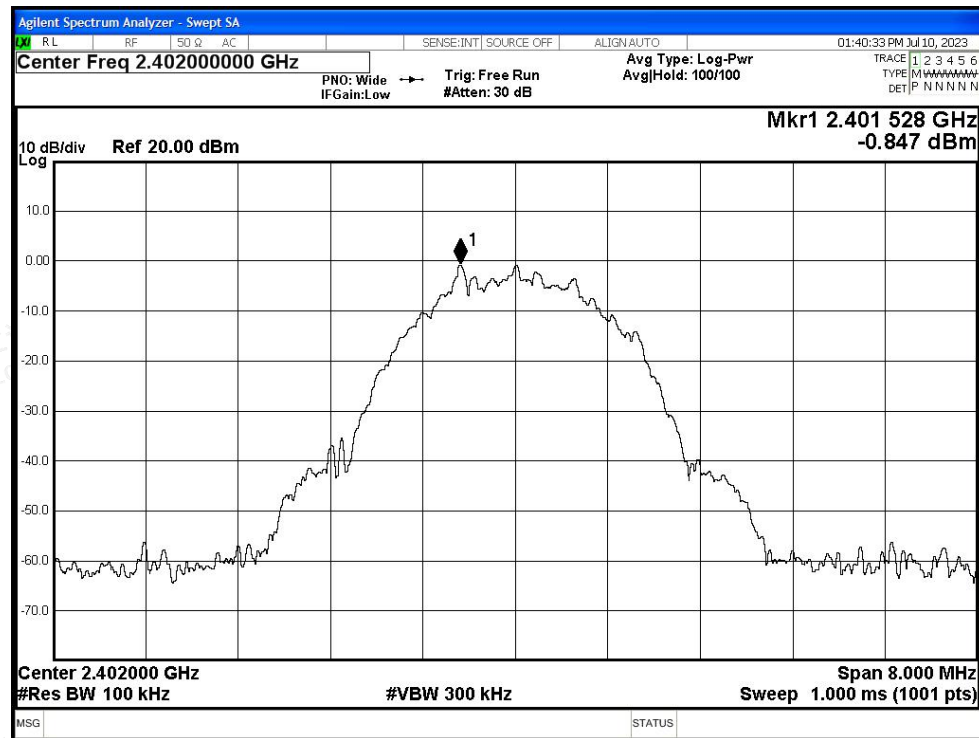
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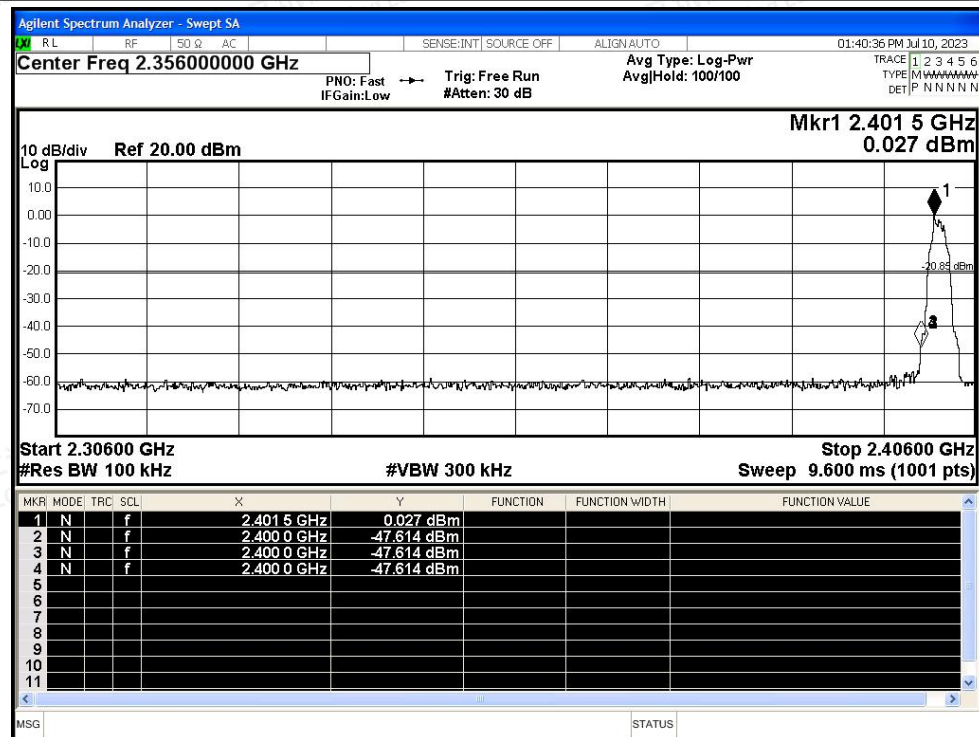


Test Graphs

Band Edge NVNT BLE 2M 2402MHz Ant1 Ref



Band Edge NVNT BLE 2M 2402MHz Ant1 Emission



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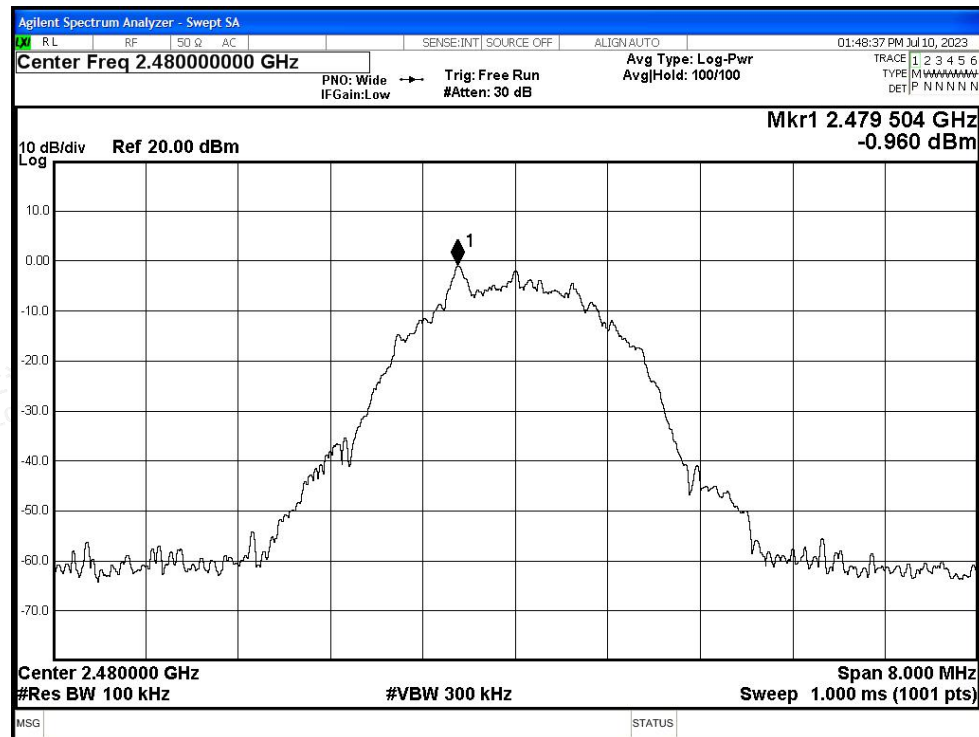
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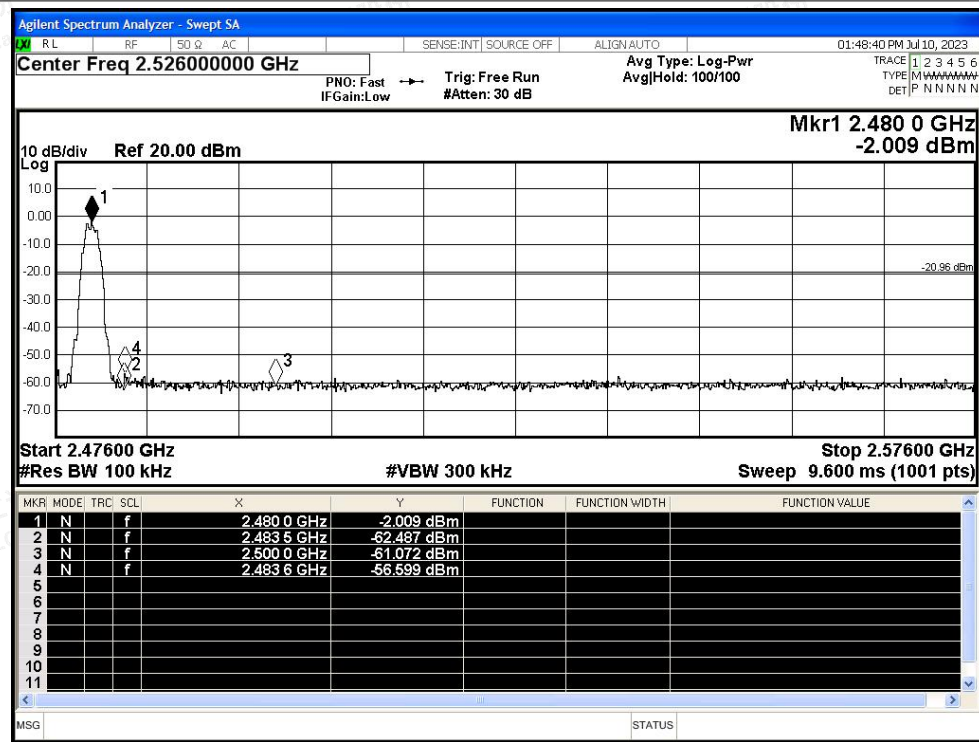
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Band Edge NVNT BLE 2M 2480MHz Ant1 Ref



Band Edge NVNT BLE 2M 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 2M	2402	Ant1	-43.06	-20	Pass
NVNT	BLE 2M	2440	Ant1	-53.44	-20	Pass
NVNT	BLE 2M	2480	Ant1	-55.77	-20	Pass



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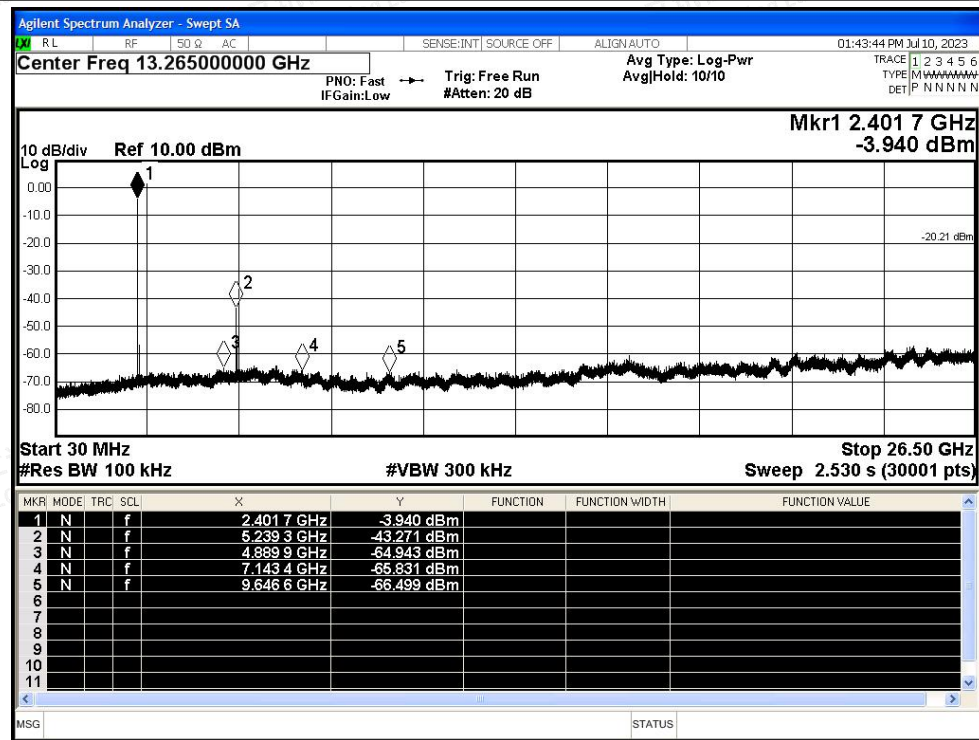


Test Graphs

Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

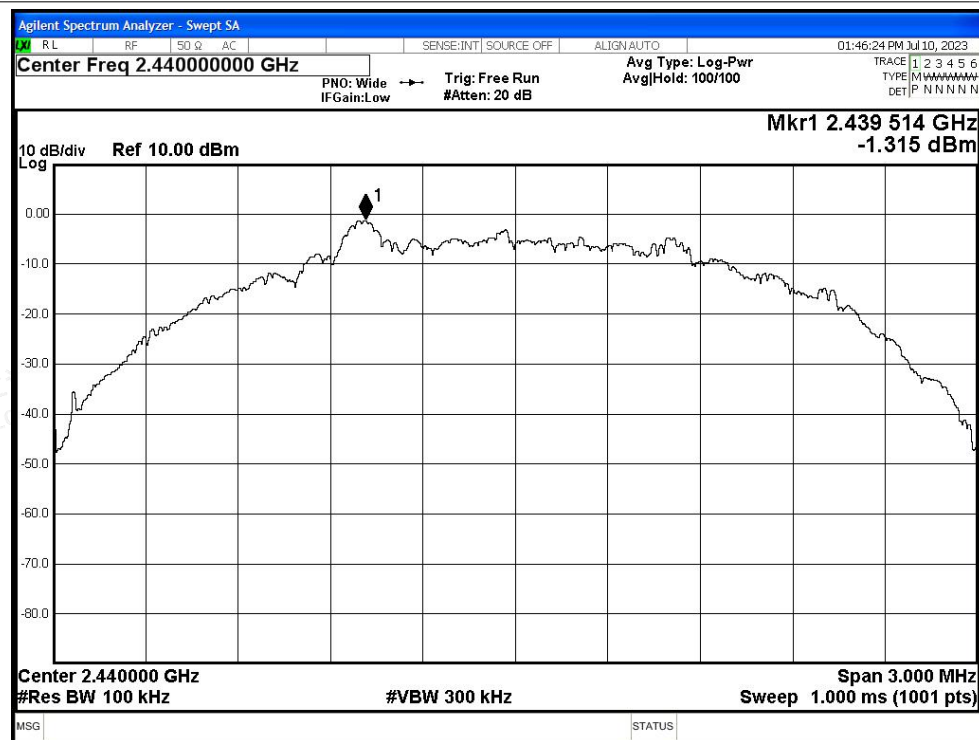
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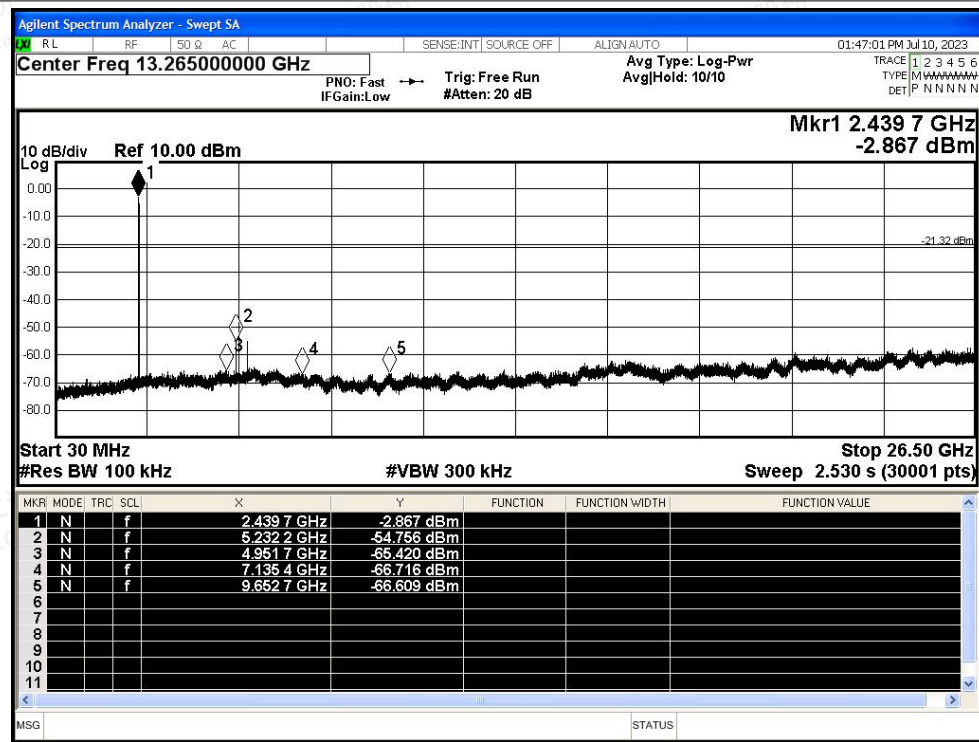
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Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Emission



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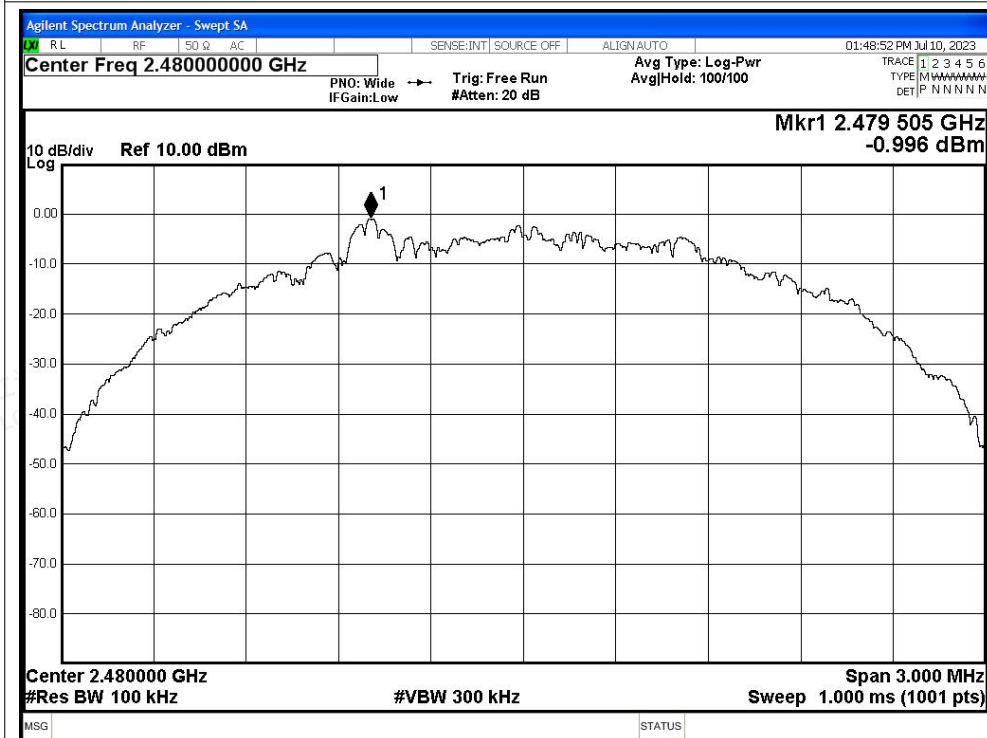
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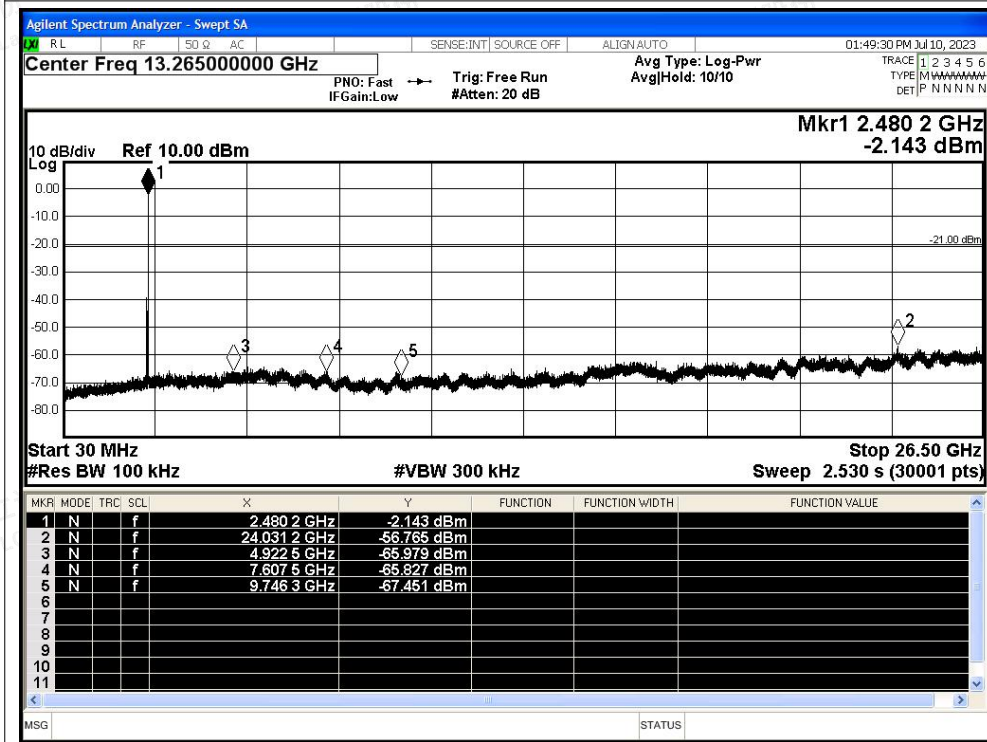
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Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 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 2M	2402	Ant1	65.92	1.81	1.21
NVNT	BLE 2M	2440	Ant1	98.1	0	1.21
NVNT	BLE 2M	2480	Ant1	98.1	0	1.21



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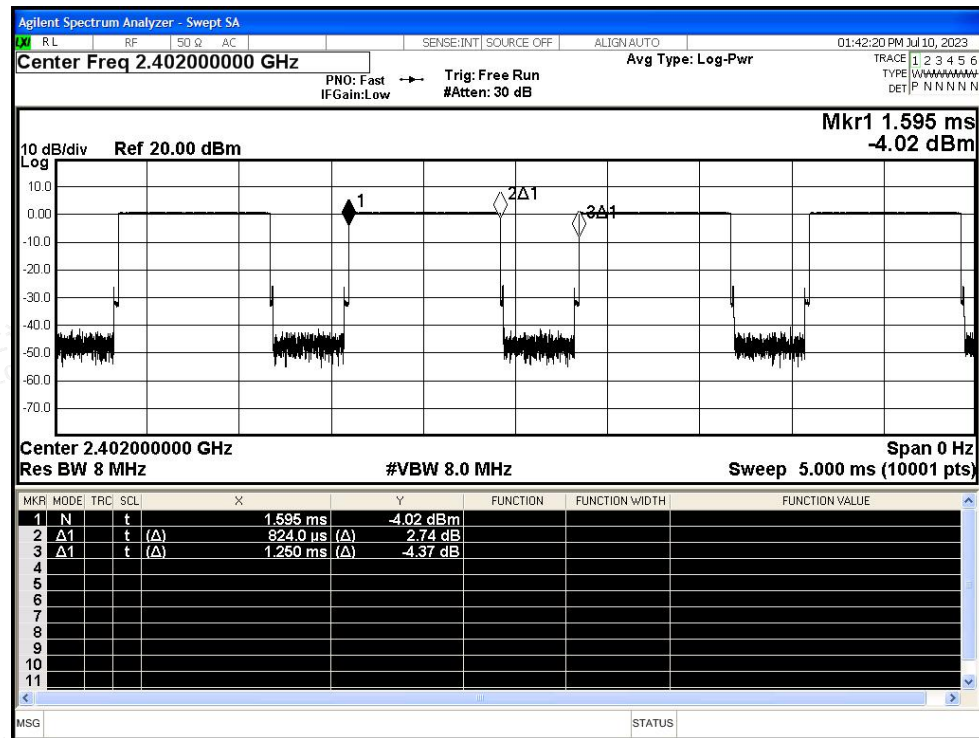
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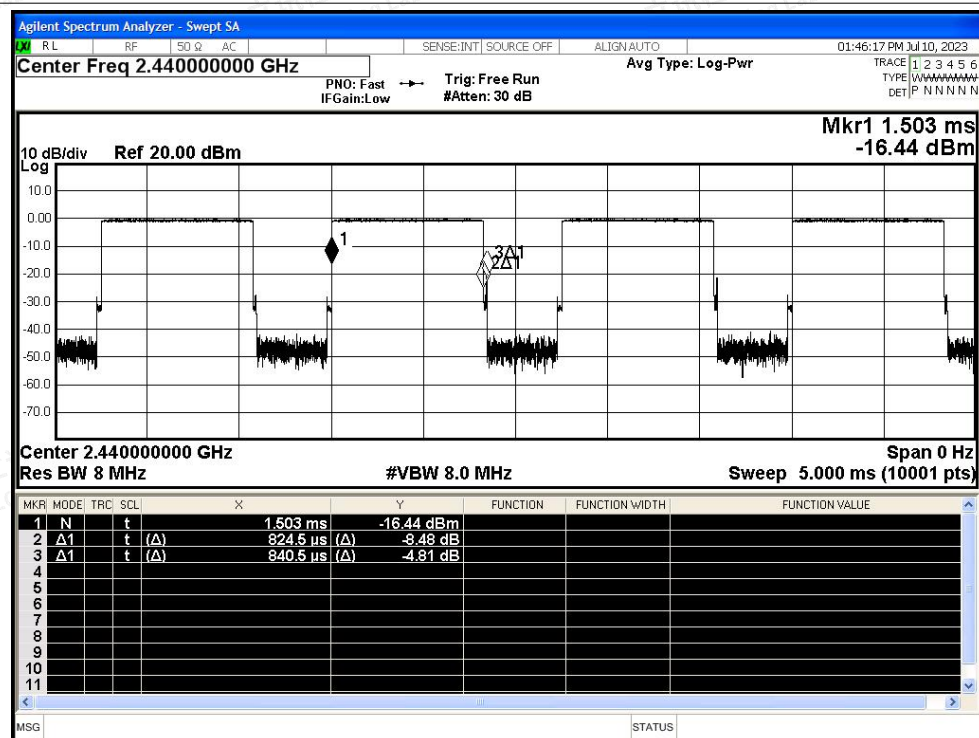


Test Graphs

Duty Cycle NVNT BLE 2M 2402MHz Ant1



Duty Cycle NVNT BLE 2M 2440MHz Ant1

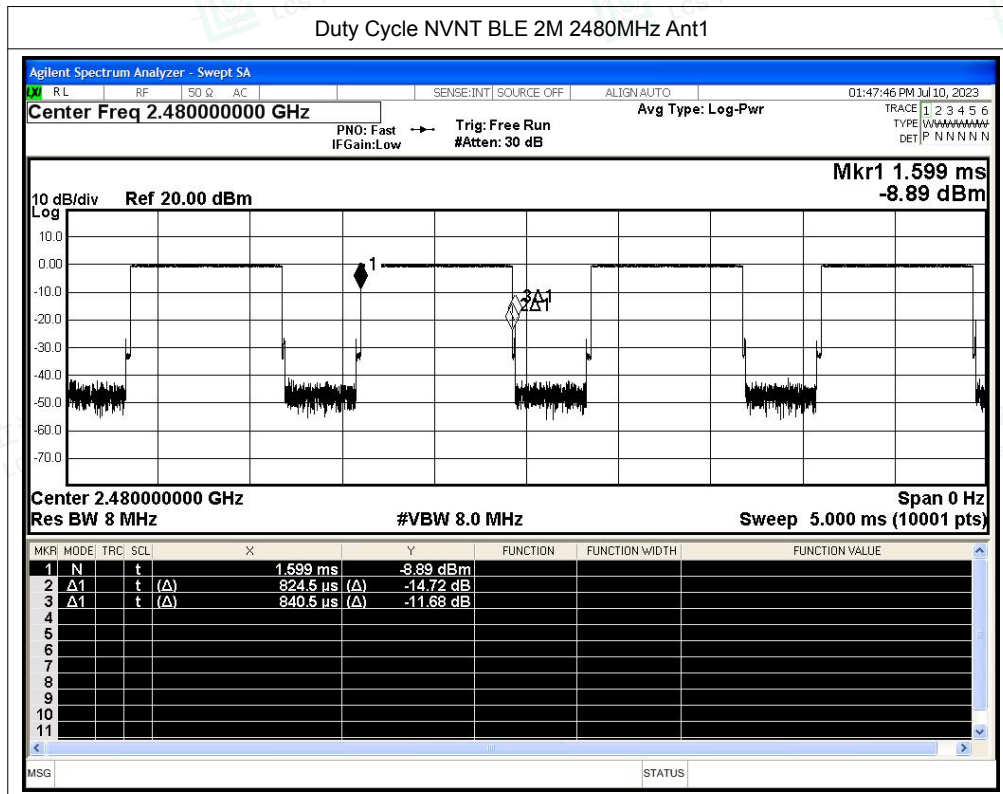


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B.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 2M	2402	Ant1	2310	-51.84	2	45.42	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2310	-61.53	2	35.73	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2363.088	-49.27	2	47.99	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2380.464	-60.78	2	36.48	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2390	-52.11	2	45.15	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2390	-61.22	2	36.04	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-49.98	2	47.28	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-60.46	2	36.8	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2483.992	-38.49	2	58.77	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2490.496	-59.96	2	37.3	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2500	-52.5	2	44.76	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2500	-61.29	2	35.97	Average	54	Pass



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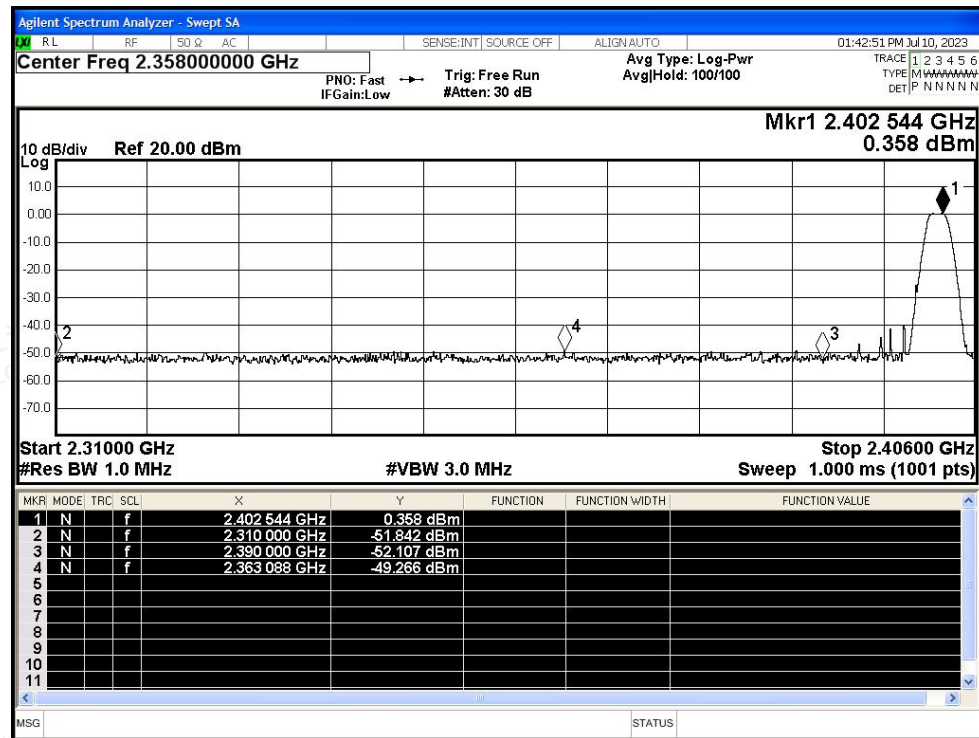
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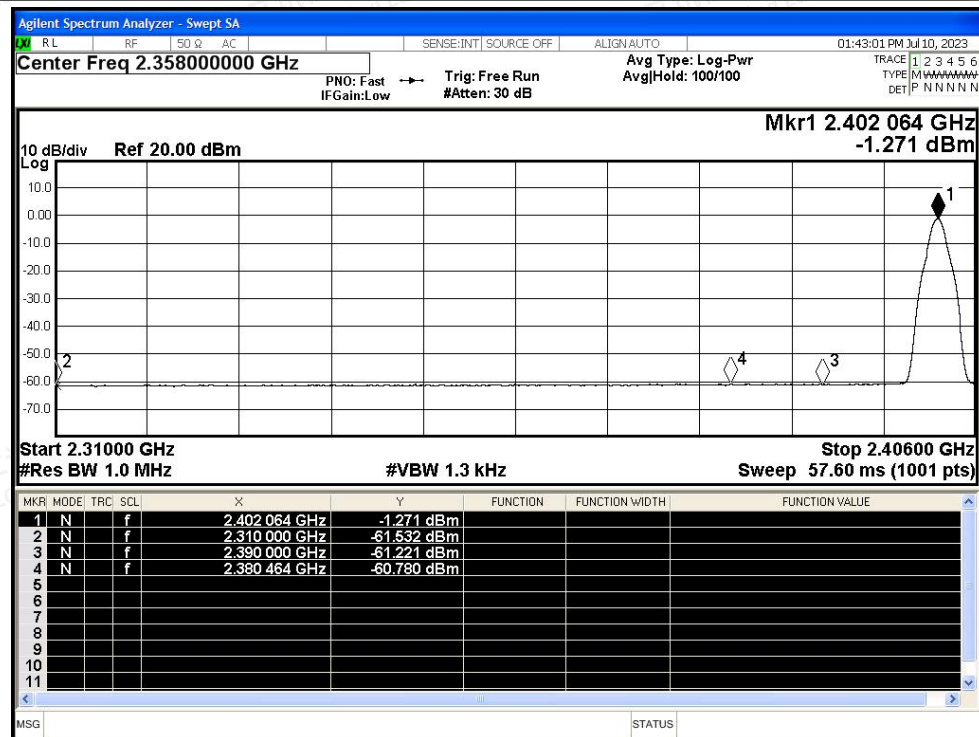


Test Graphs

Restrict Band NVNT BLE 2M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2402MHz Ant1 Average



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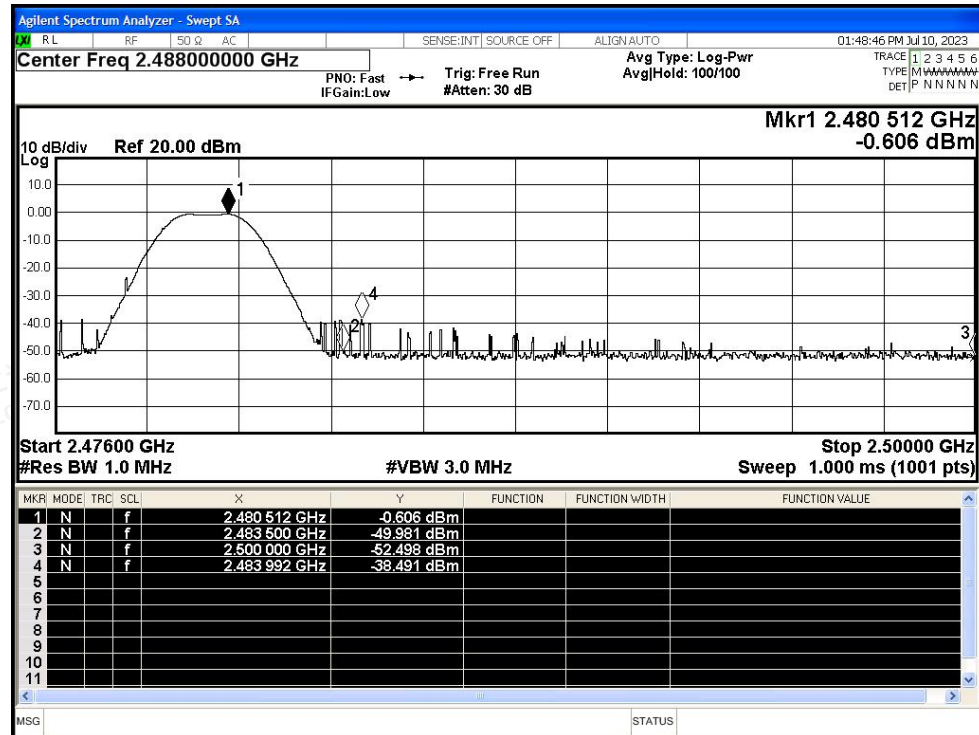
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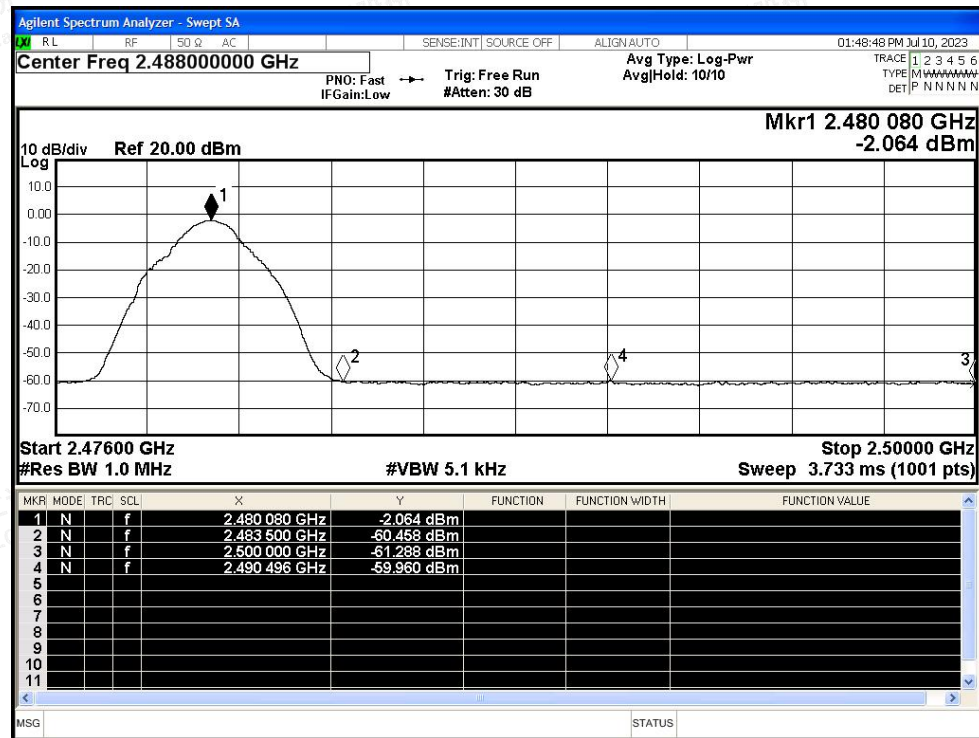
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Restrict Band NVNT BLE 2M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2480MHz Ant1 Average



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