Appendix: Bluetooth LE

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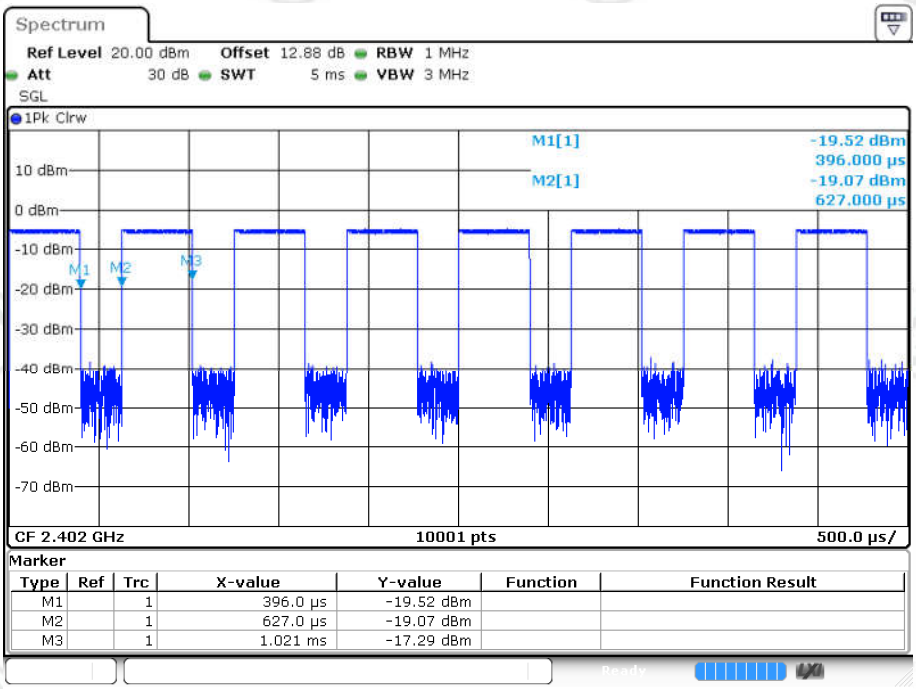
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	63.04	2	2.54
NVNT	BLE 1M	2440	Ant1	63.04	2	2.54
NVNT	BLE 1M	2480	Ant1	63.04	2	2.54

Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



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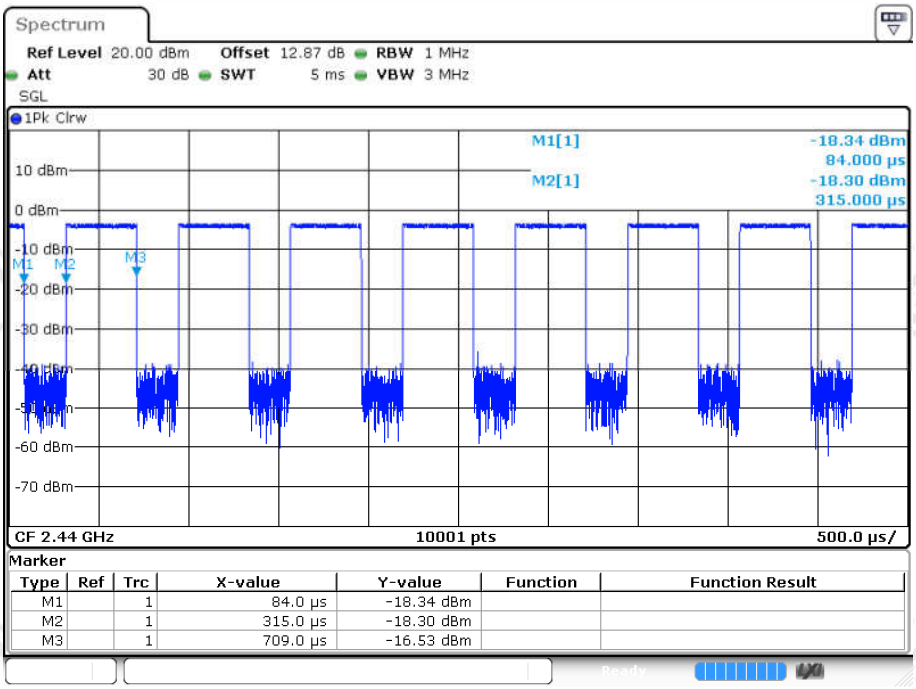
Duty Cycle NVNT BLE 1M 2440MHz Ant1



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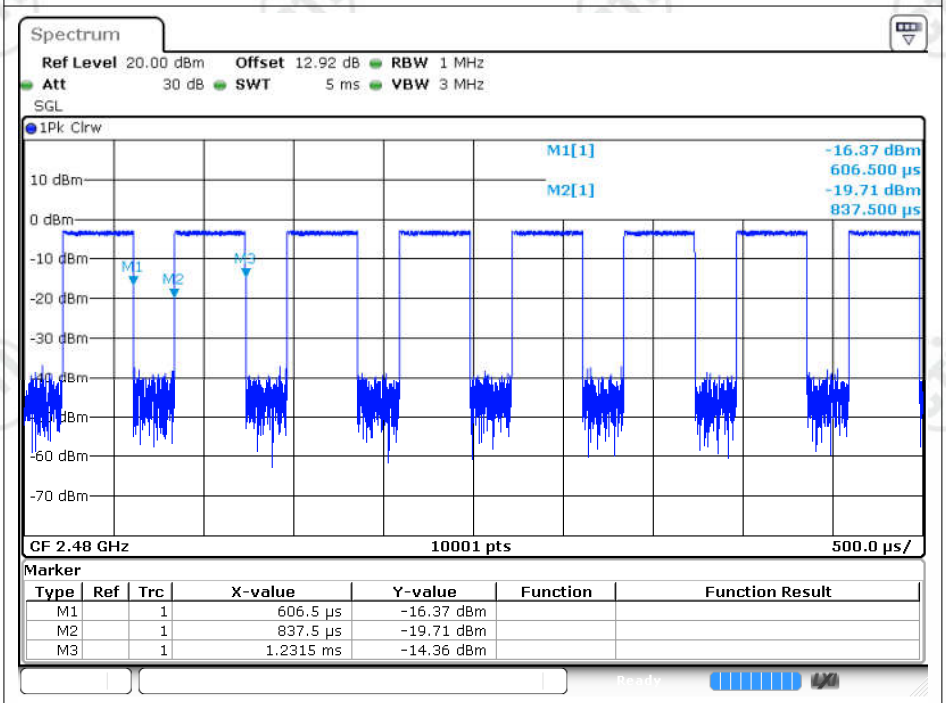
Duty Cycle NVNT BLE 1M 2480MHz Ant1



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	606.5 µs	-16.37 dBm		
M2		1	837.5 µs	-19.71 dBm		
M3		1	1.2315 ms	-14.36 dBm		

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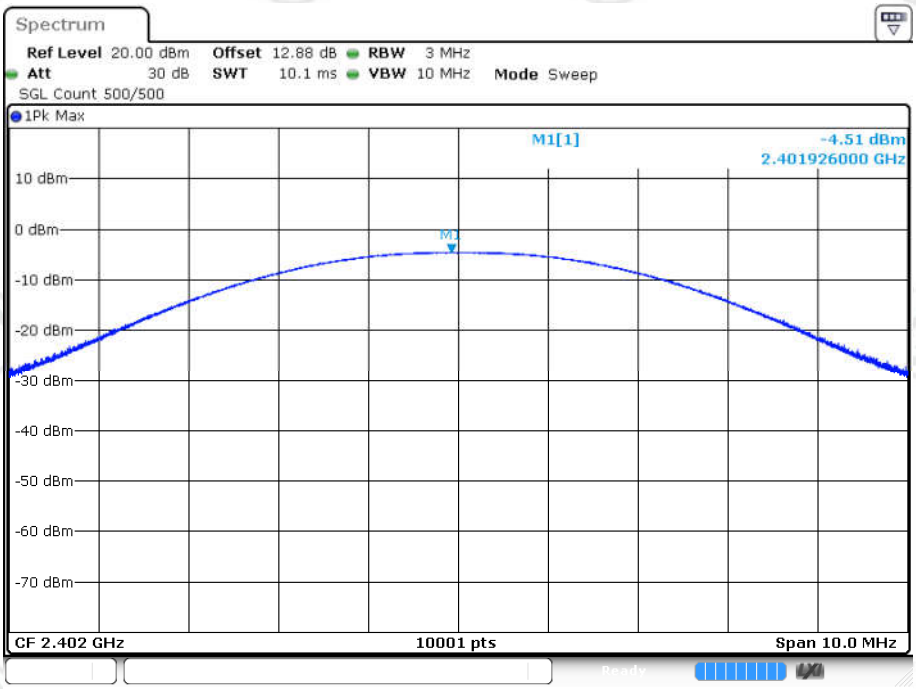
Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-4.51	30	Pass
NVNT	BLE 1M	2440	Ant1	-3.22	30	Pass
NVNT	BLE 1M	2480	Ant1	-2.72	30	Pass

Test Graphs

Peak Power NVNT BLE 1M 2402MHz Ant1



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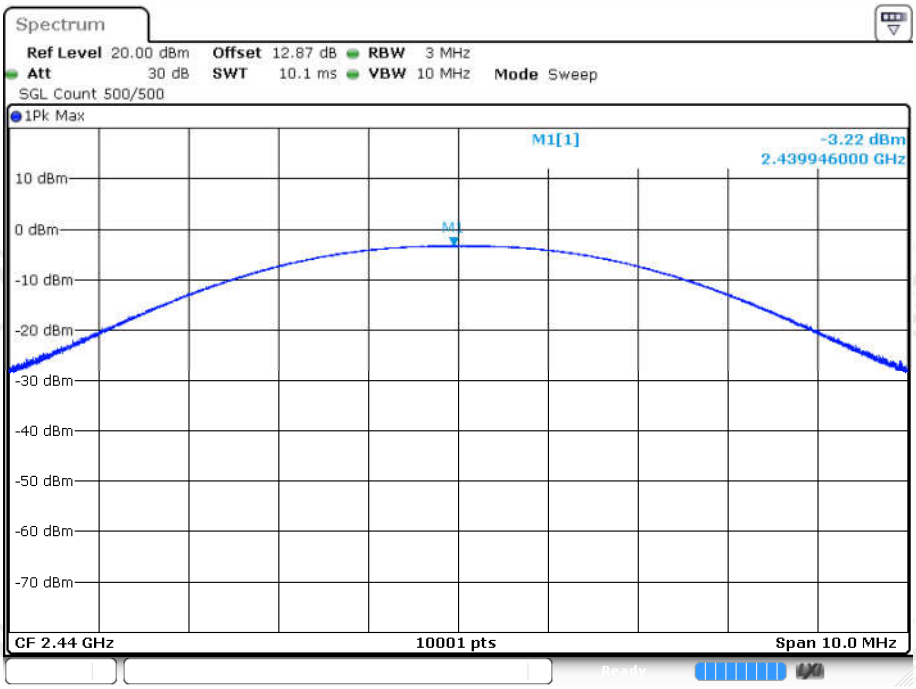
Peak Power NVNT BLE 1M 2440MHz Ant1



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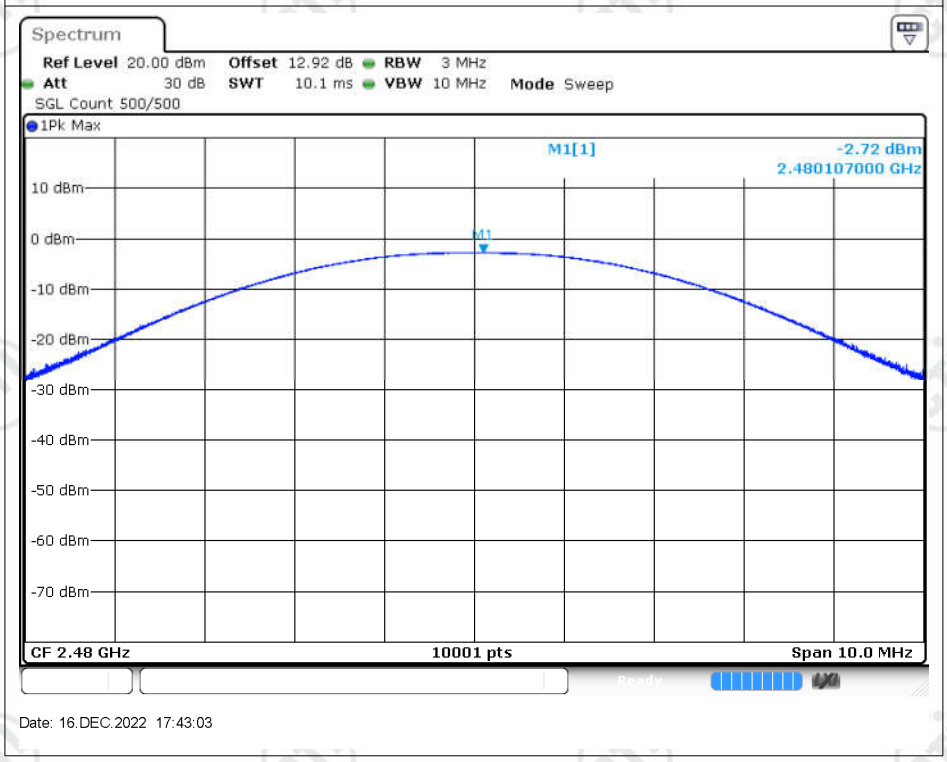
Peak Power NVNT BLE 1M 2480MHz Ant1

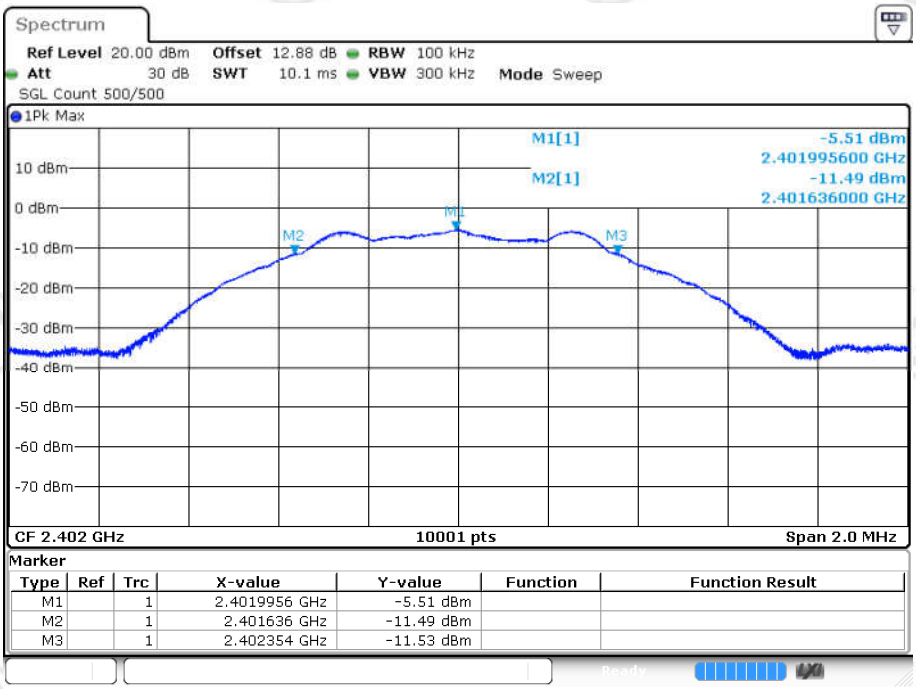


-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.719	0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.71	0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.714	0.5	Pass

Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



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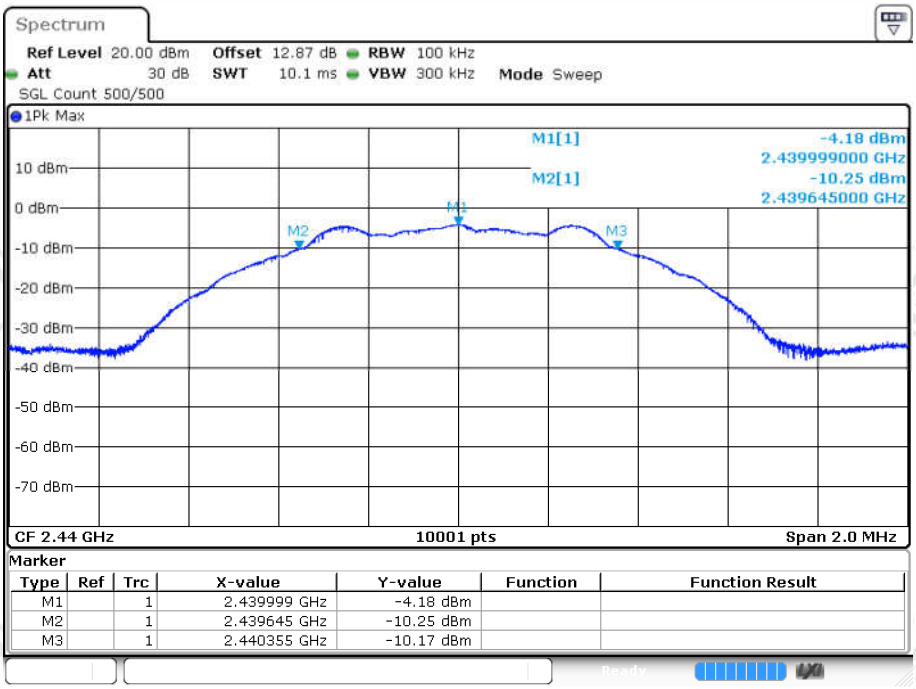
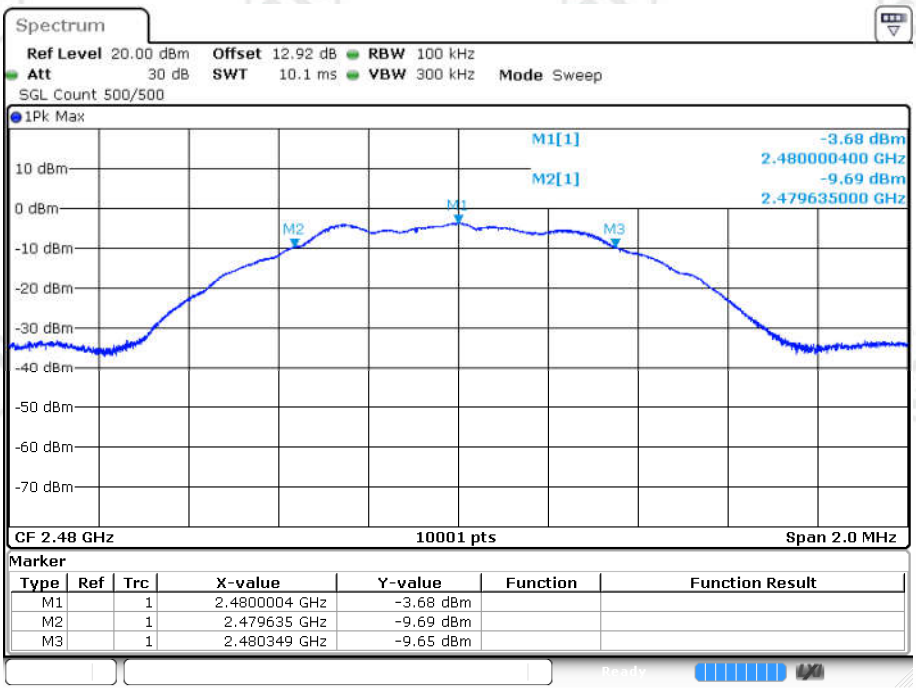
-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1



Date: 16.DEC.2022 17:41:53

-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1

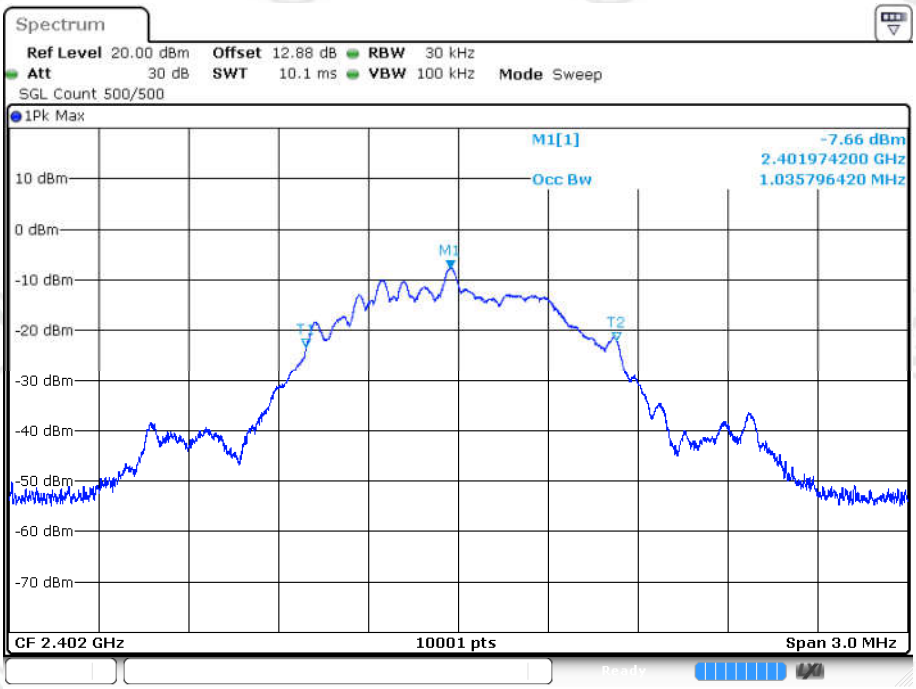


Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1M	2402	Ant1	1.036
NVNT	BLE 1M	2440	Ant1	1.046
NVNT	BLE 1M	2480	Ant1	1.041

Test Graphs

OBW NVNT BLE 1M 2402MHz Ant1



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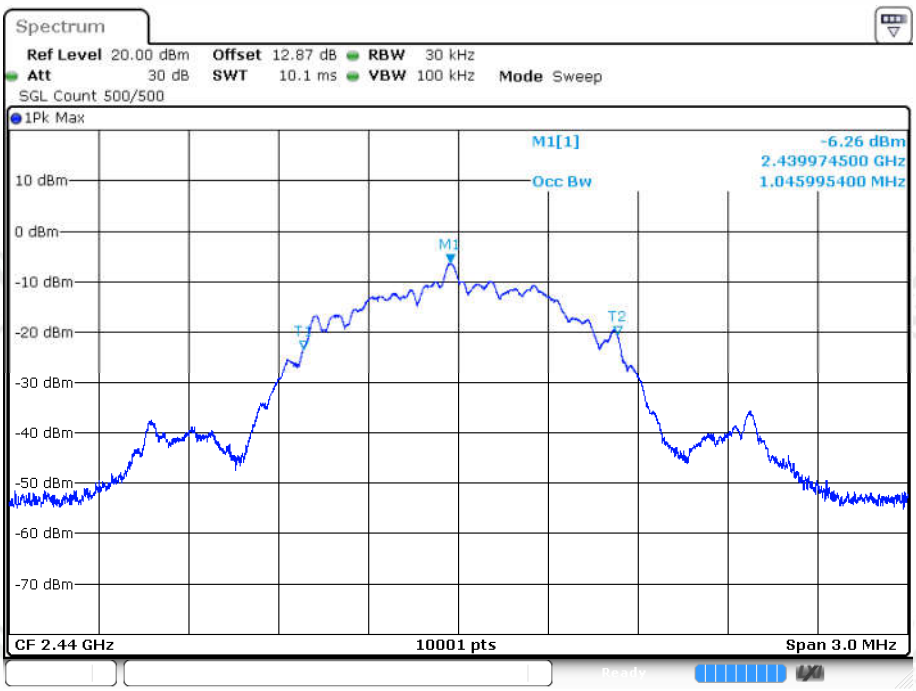
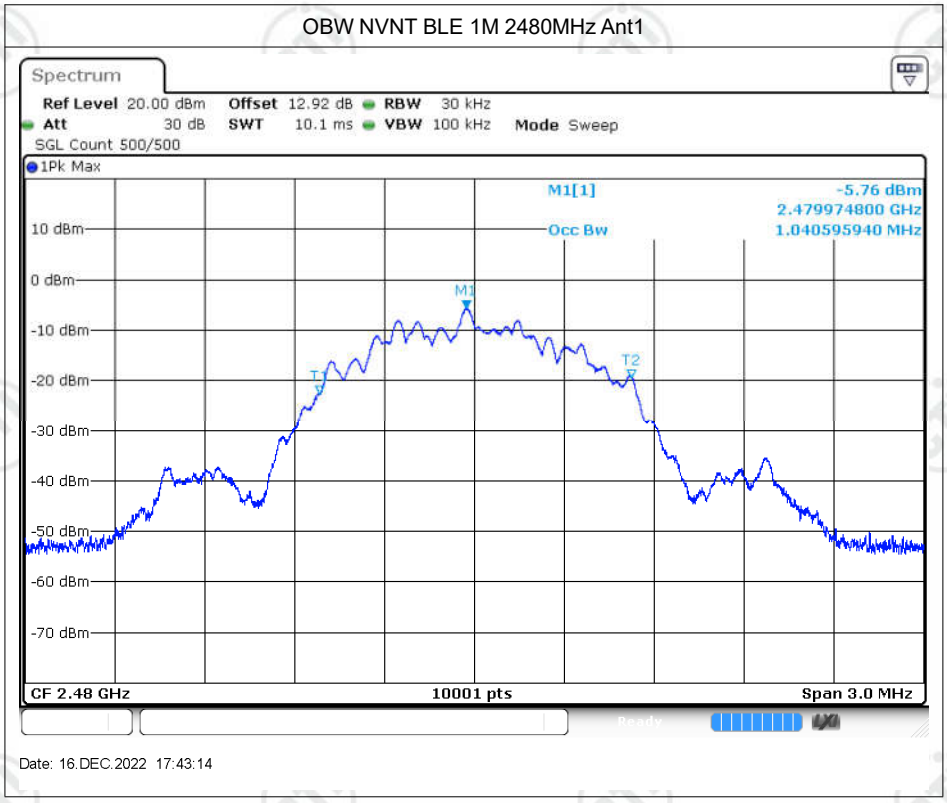
OBW NVNT BLE 1M 2440MHz Ant1



Date: 16.DEC.2022 17:41:42

OBW NVNT BLE 1M 2480MHz Ant1

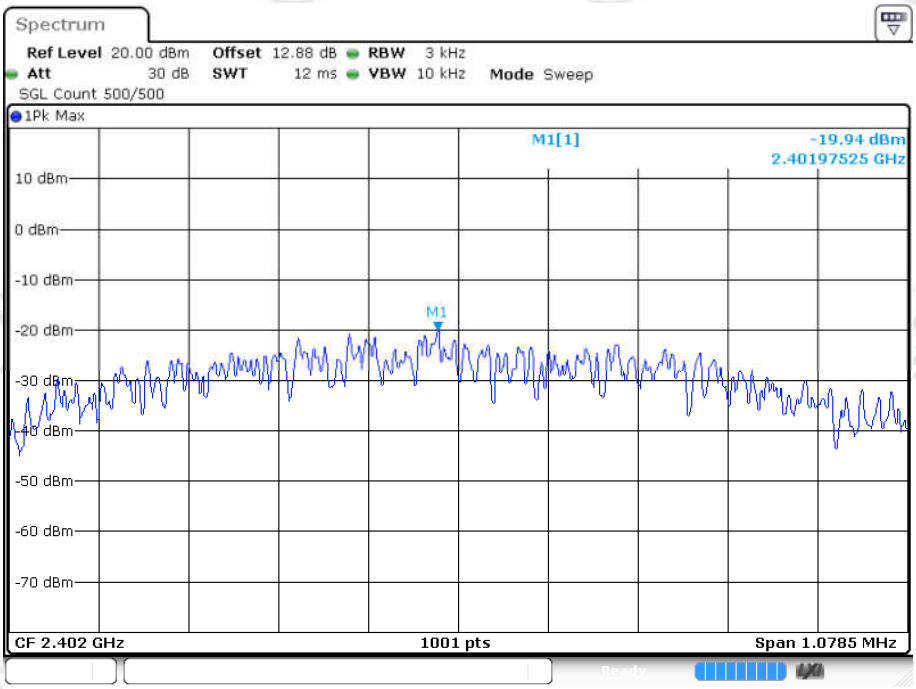


Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-19.94	0	-19.94	8	Pass
NVNT	BLE 1M	2440	Ant1	-18.68	0	-18.68	8	Pass
NVNT	BLE 1M	2480	Ant1	-18.43	0	-18.43	8	Pass

Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



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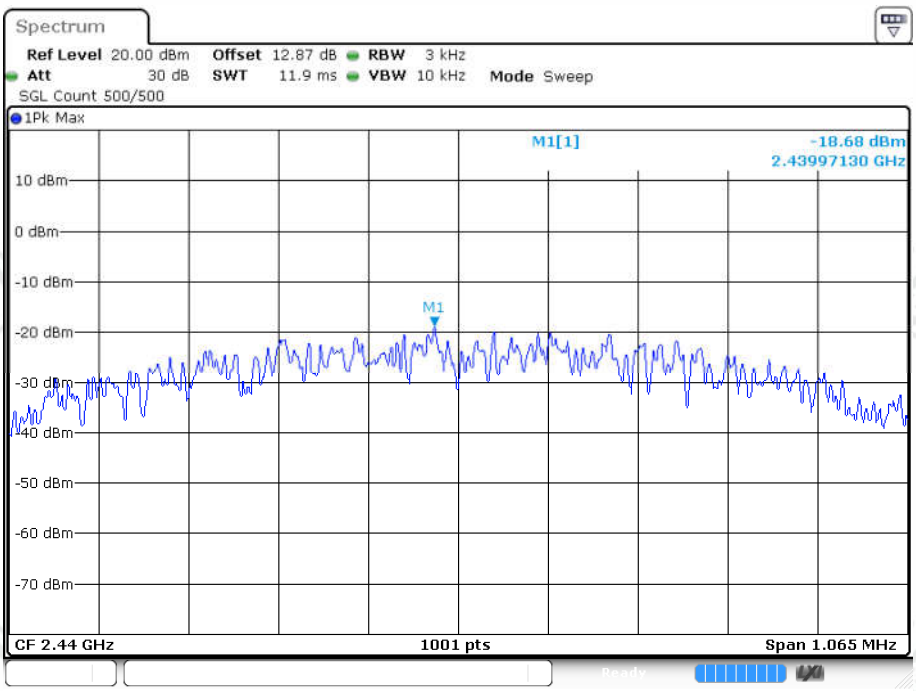
PSD NVNT BLE 1M 2440MHz Ant1



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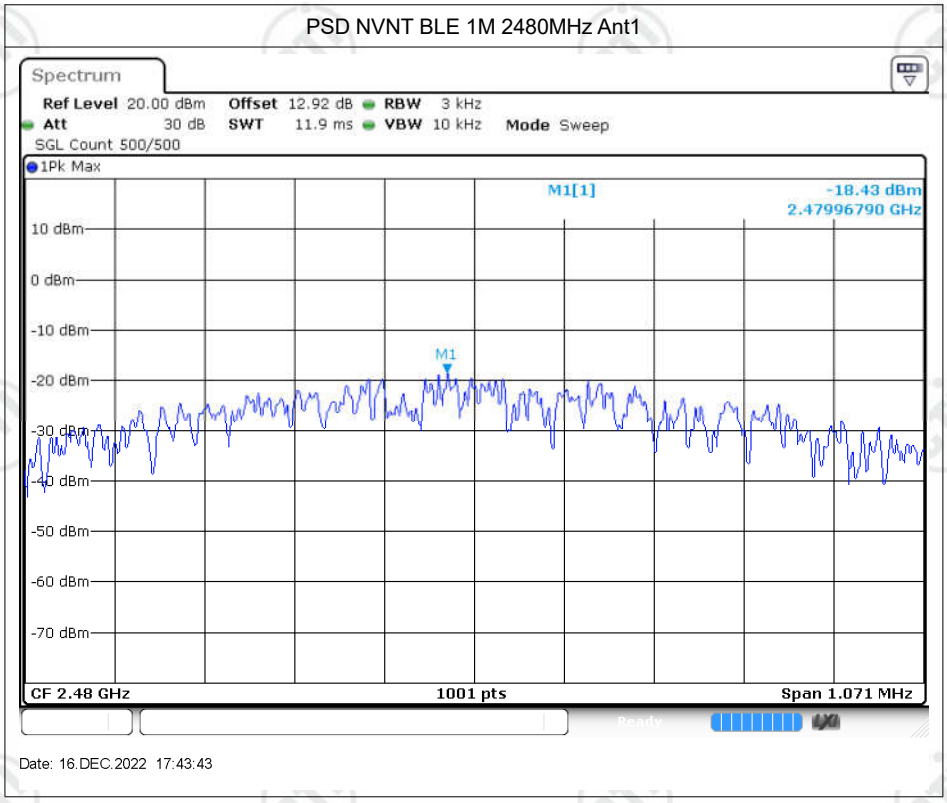
PSD NVNT BLE 1M 2480MHz Ant1

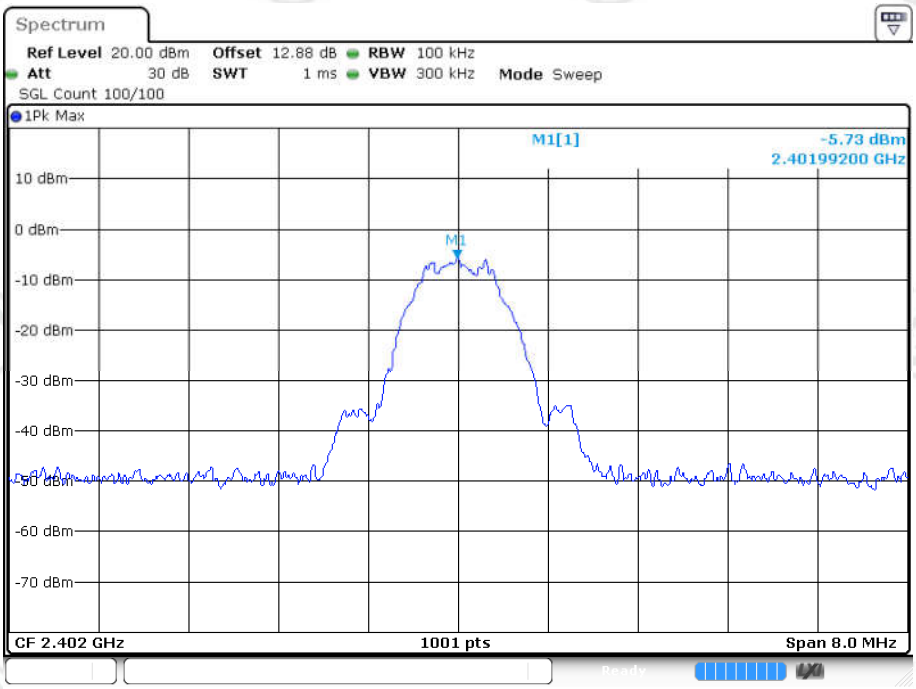


Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-39.24	-20	Pass
NVNT	BLE 1M	2480	Ant1	-41.73	-20	Pass

Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



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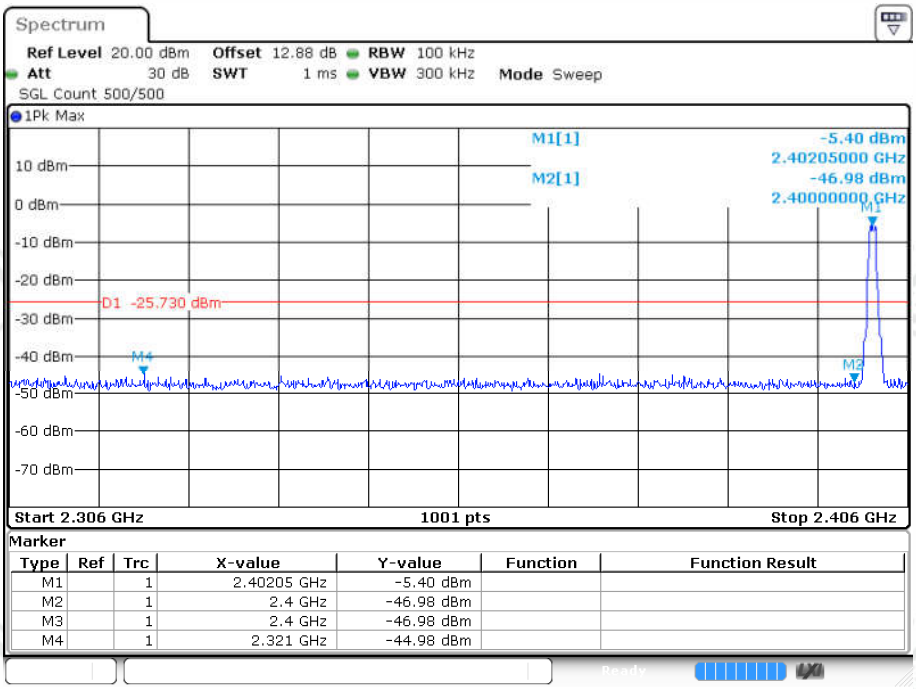
Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40205 GHz	-5.40 dBm		
M2		1	2.4 GHz	-46.98 dBm		
M3		1	2.4 GHz	-46.98 dBm		
M4		1	2.321 GHz	-44.98 dBm		

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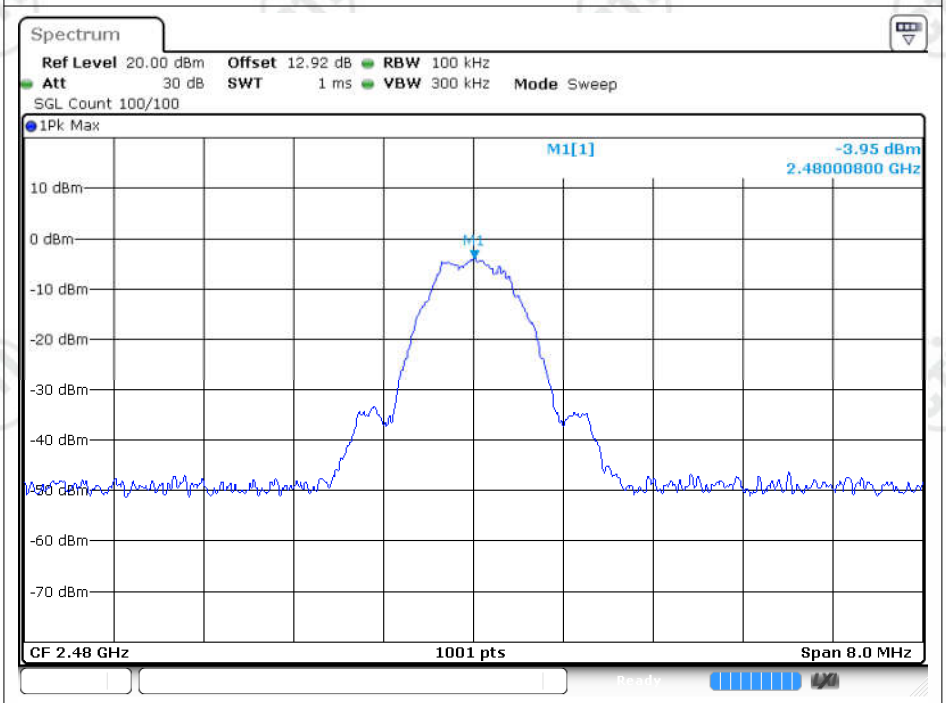
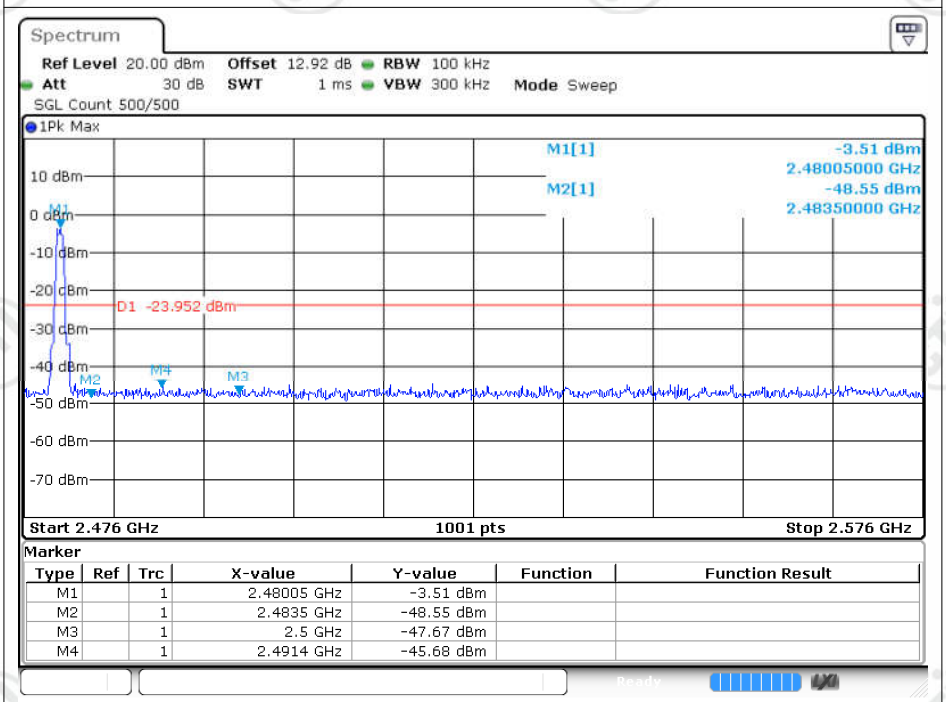
Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Date: 16.DEC.2022 17:43:45

Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.48005 GHz	-3.51 dBm		
M2		1	2.4835 GHz	-48.55 dBm		
M3		1	2.5 GHz	-47.67 dBm		
M4		1	2.4914 GHz	-45.68 dBm		

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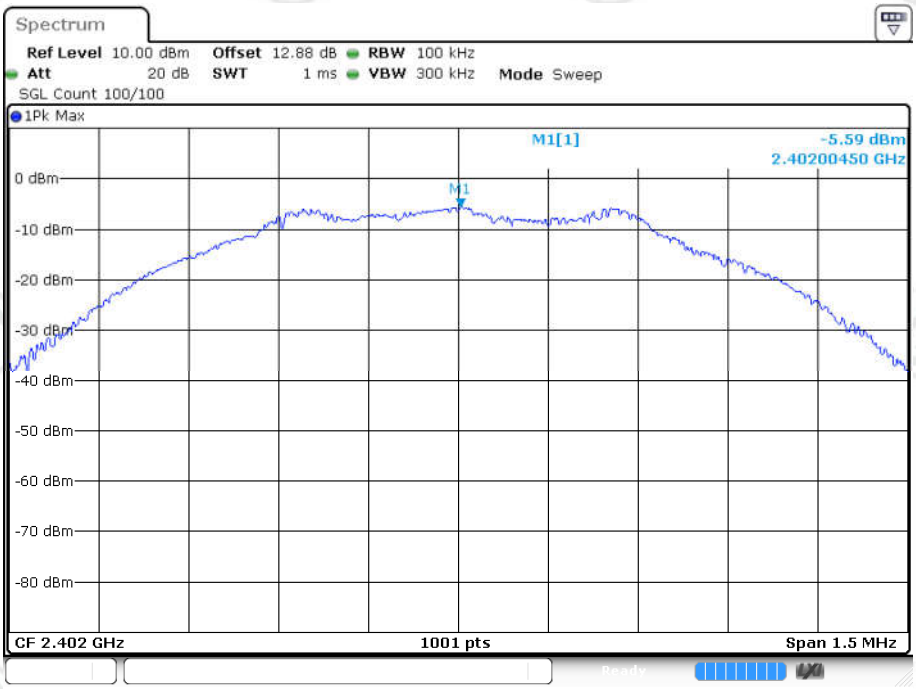
Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-43.25	-20	Pass
NVNT	BLE 1M	2440	Ant1	-44.18	-20	Pass
NVNT	BLE 1M	2480	Ant1	-44.63	-20	Pass

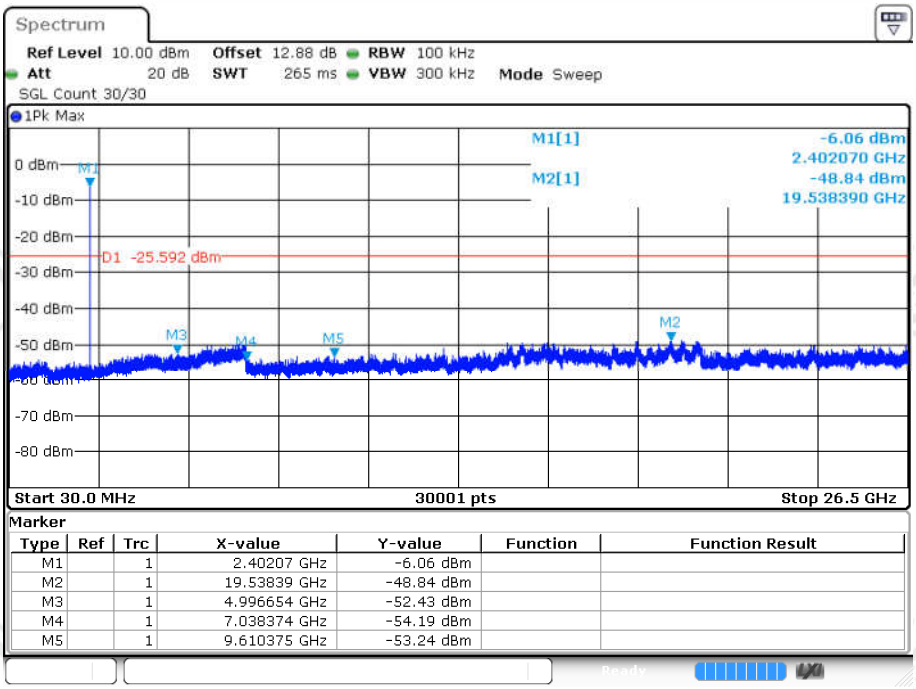
Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Date: 16.DEC.2022 17:40:45

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.40207 GHz	-6.06 dBm		
M2		1	19.53839 GHz	-48.84 dBm		
M3		1	4.996654 GHz	-52.43 dBm		
M4		1	7.038374 GHz	-54.19 dBm		
M5		1	9.610375 GHz	-53.24 dBm		

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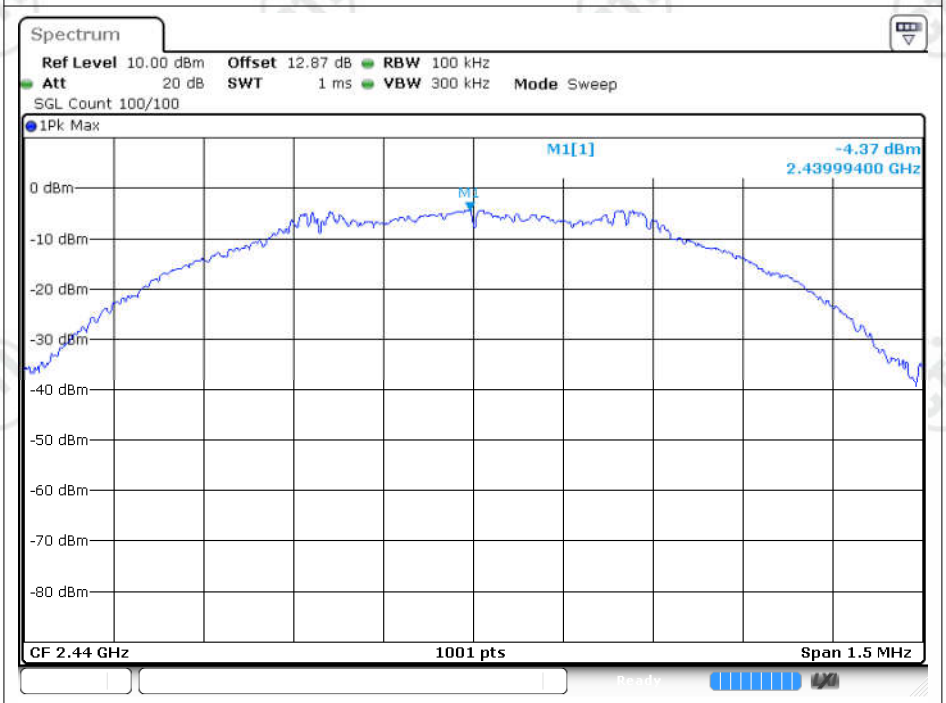
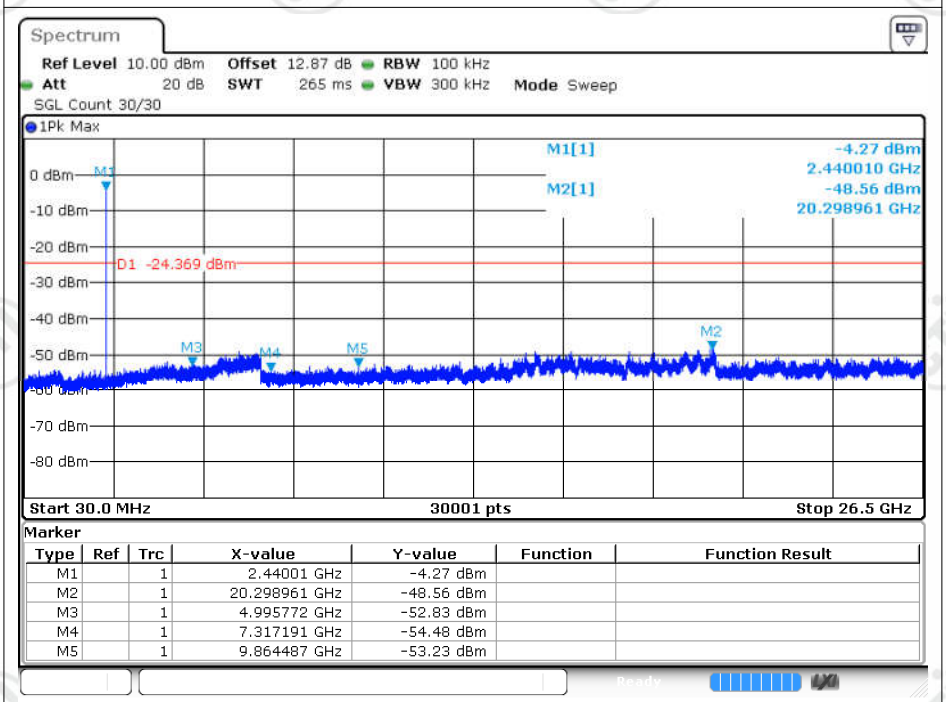
Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Date: 16.DEC.2022 17:42:14

Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.44001 GHz	-4.27 dBm		
M2		1	20.298961 GHz	-48.56 dBm		
M3		1	4.995772 GHz	-52.83 dBm		
M4		1	7.317191 GHz	-54.48 dBm		
M5		1	9.864487 GHz	-53.23 dBm		

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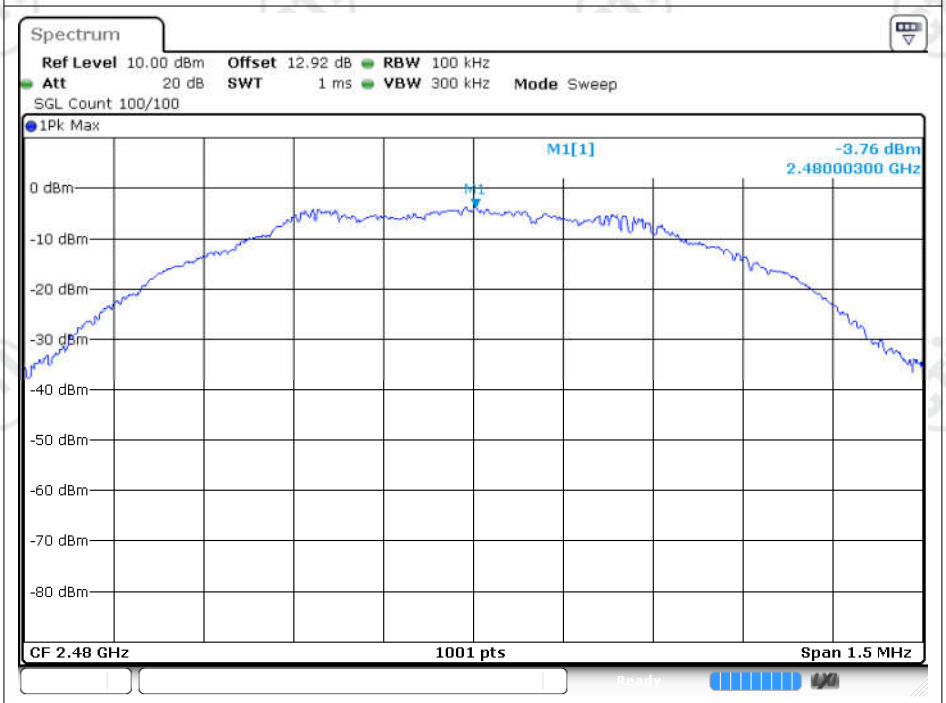
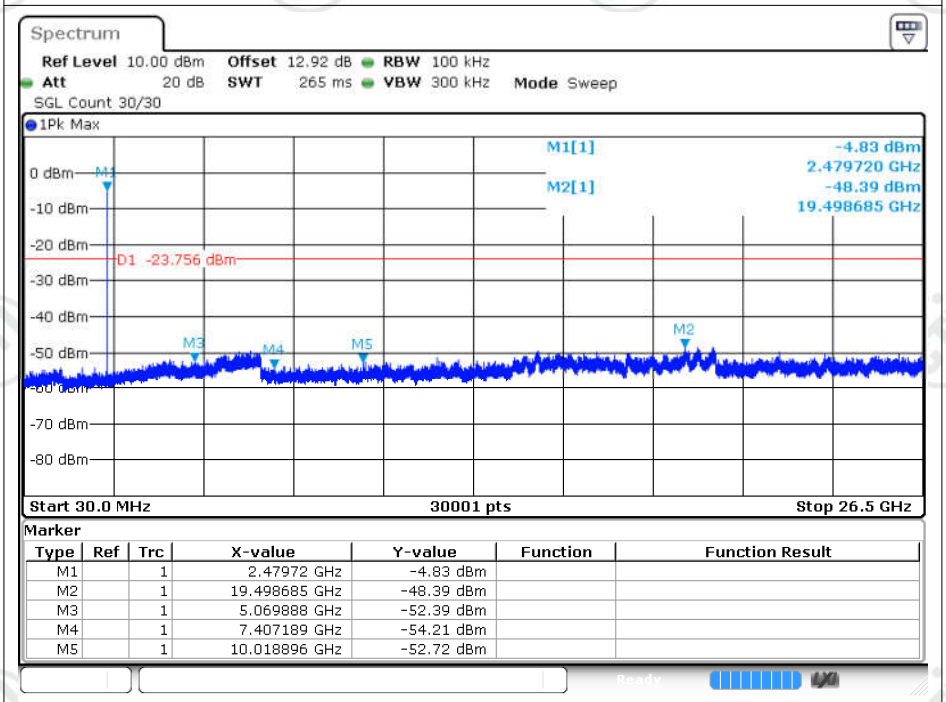
Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Date: 16.DEC.2022 17:43:51

Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47972 GHz	-4.83 dBm		
M2		1	19.498685 GHz	-48.39 dBm		
M3		1	5.069888 GHz	-52.39 dBm		
M4		1	7.407189 GHz	-54.21 dBm		
M5		1	10.018896 GHz	-52.72 dBm		

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*** End of Report ***