



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: Intrinsically safe type Beacon

Test Model: CJ-IB10-EX

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker Hu
Supervised by:	Ling Zhu





A.1 -6dB Bandwidth

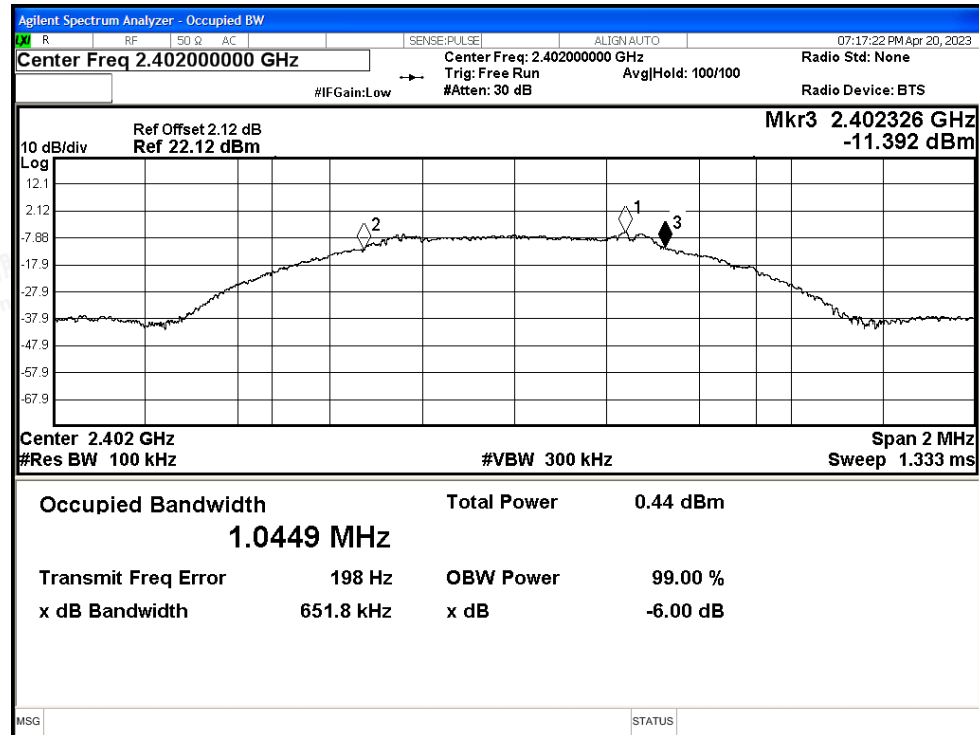
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.652	>=0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.662	>=0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.652	>=0.5	Pass



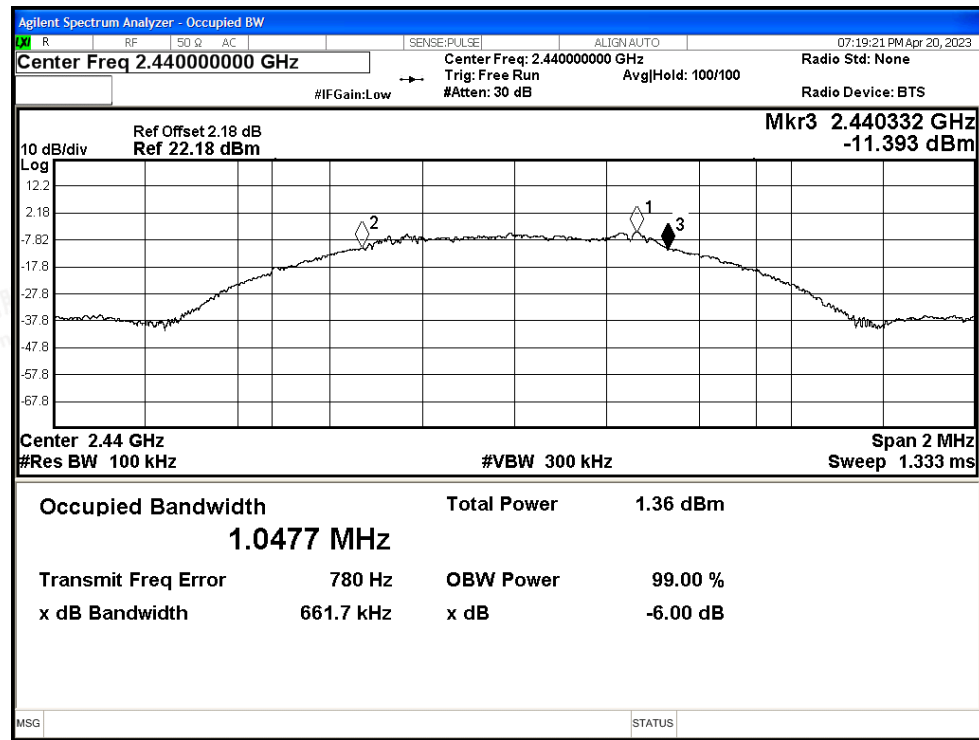


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1

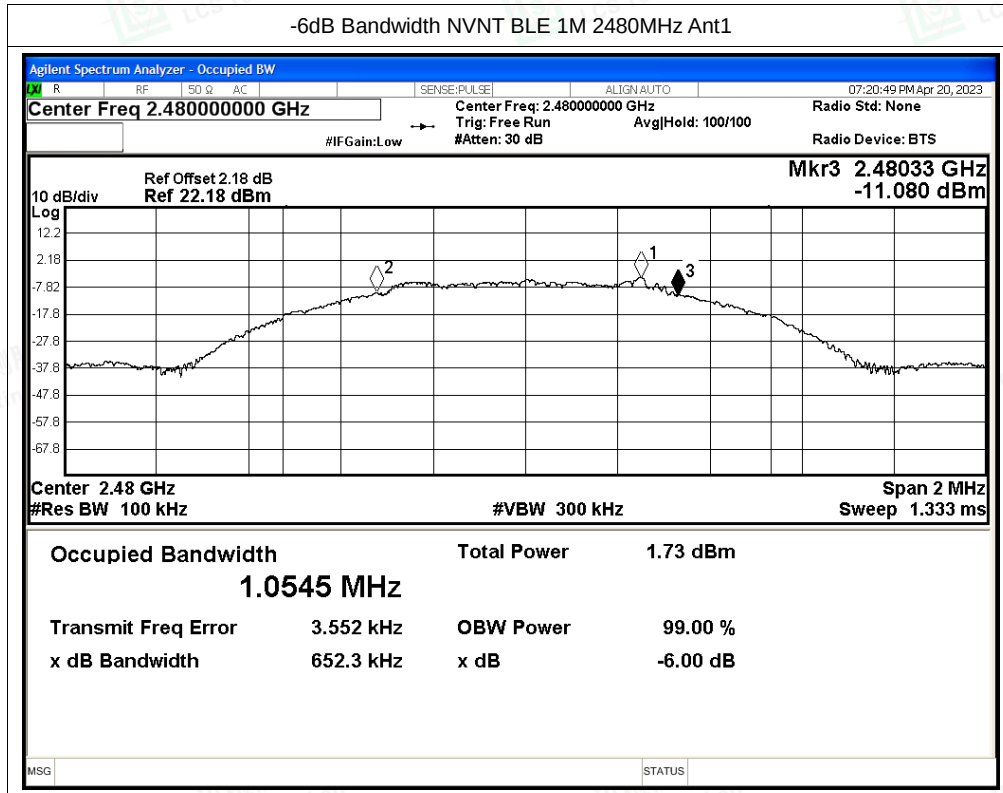


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A.2 Maximum Conducted Output Power

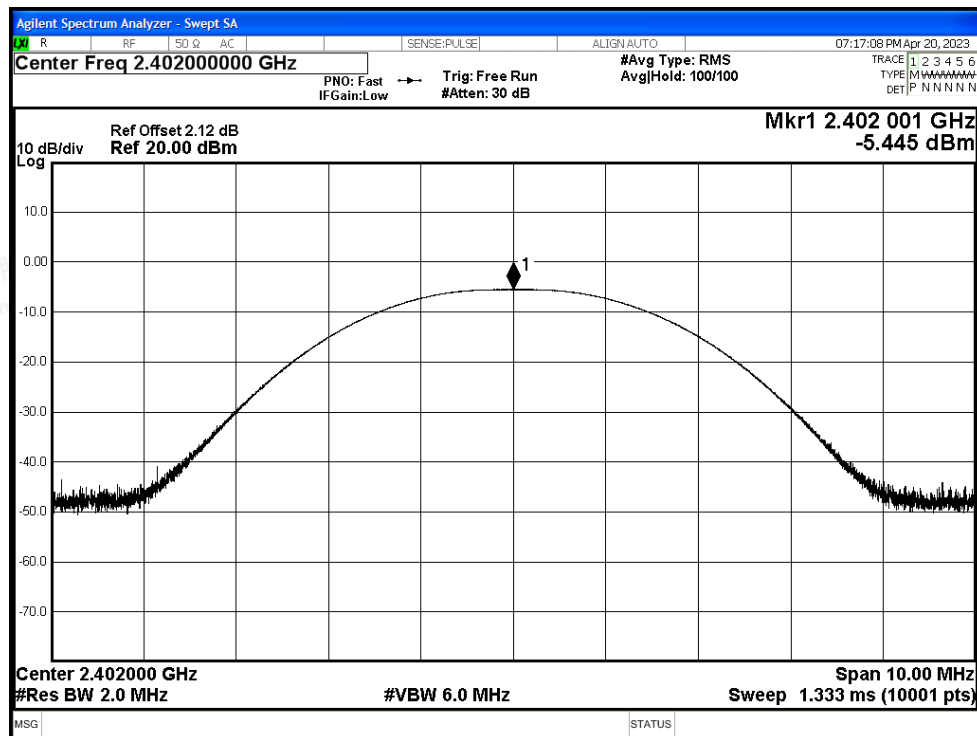
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-5.45	30	Pass
NVNT	BLE 1M	2440	Ant1	-4.53	30	Pass
NVNT	BLE 1M	2480	Ant1	-4.10	30	Pass



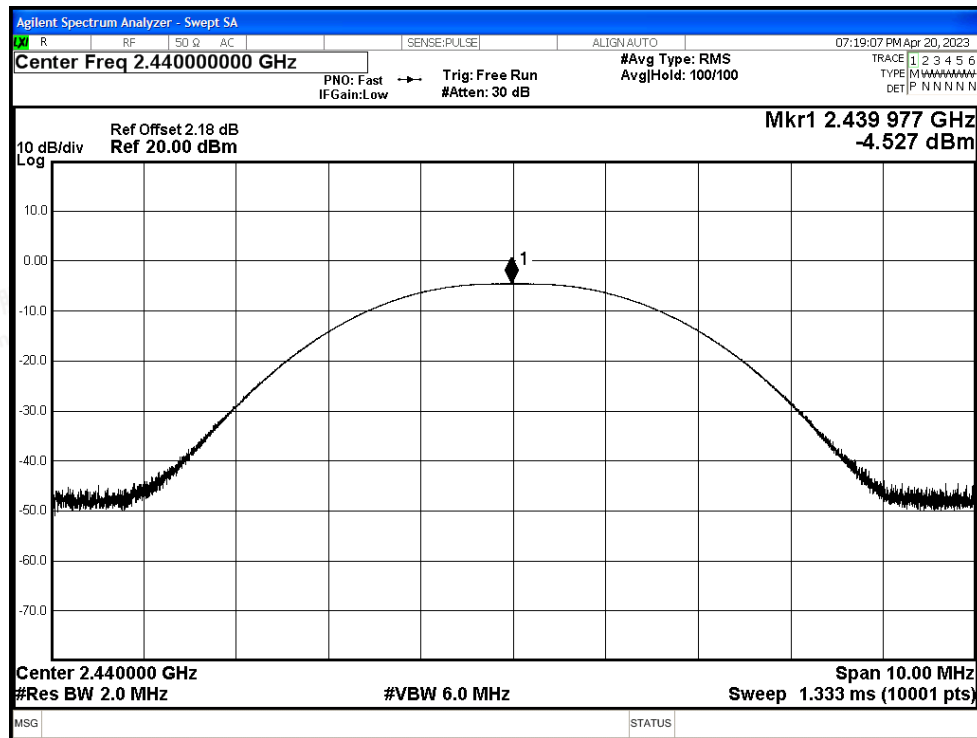


Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

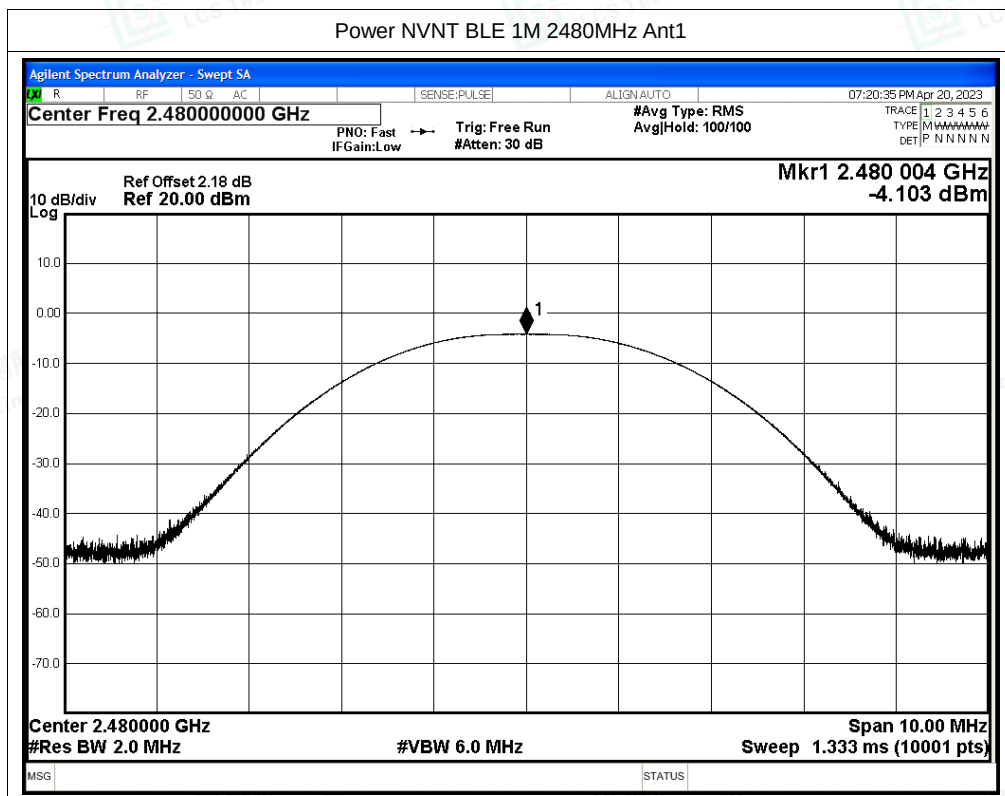


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A.3 Maximum Power Spectral Density Level

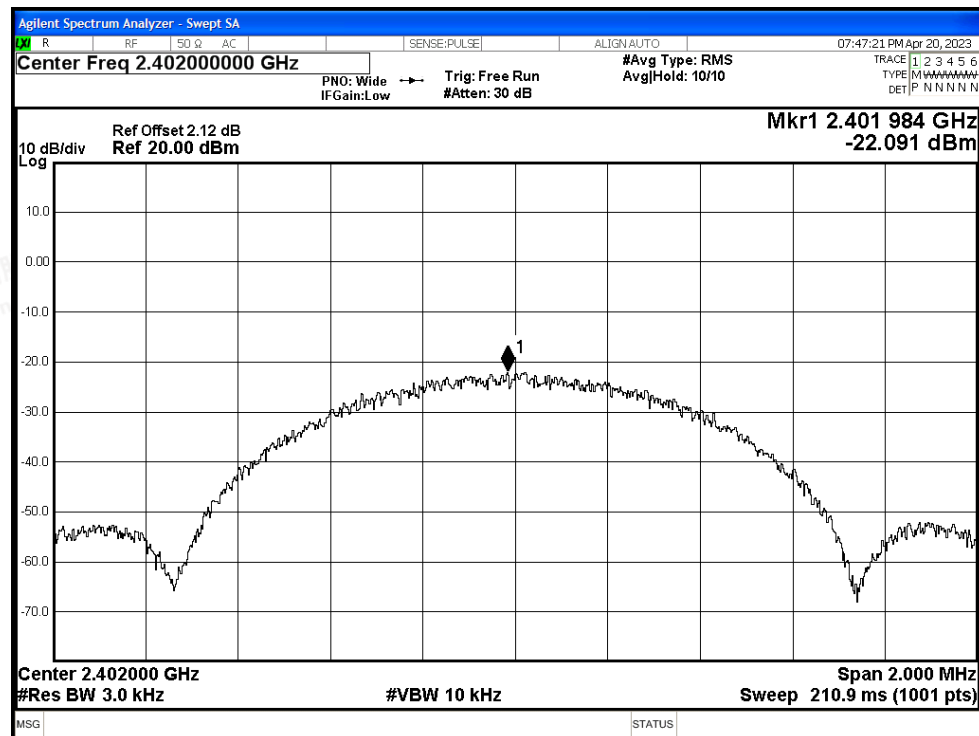
Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-22.09	8	Pass
NVNT	BLE 1M	2440	Ant1	-20.7	8	Pass
NVNT	BLE 1M	2480	Ant1	-20.39	8	Pass



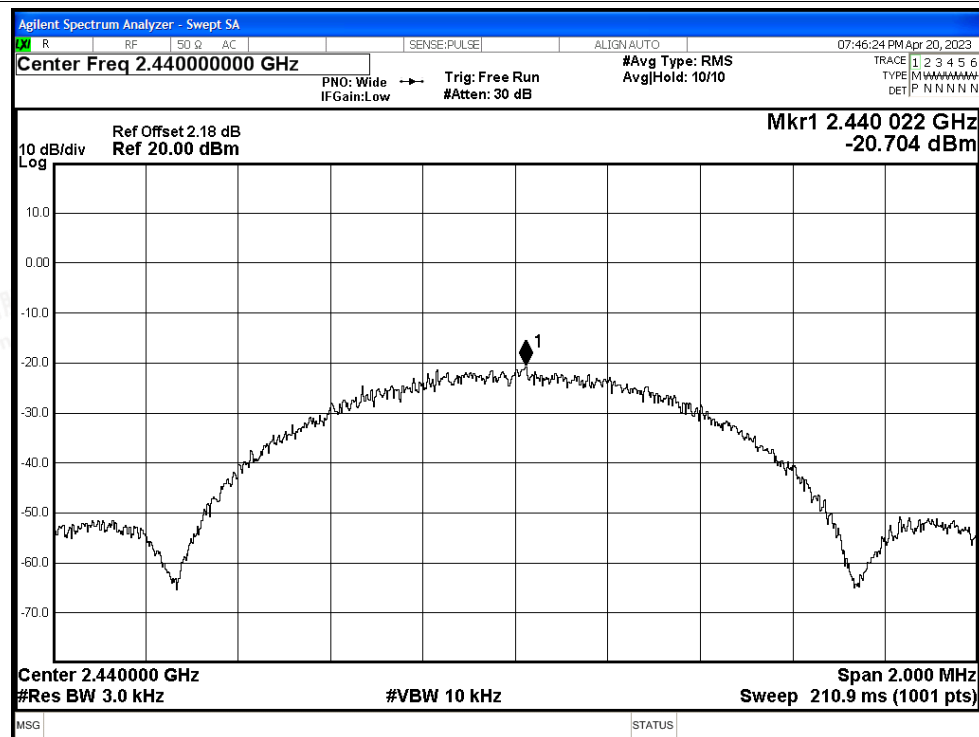


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1

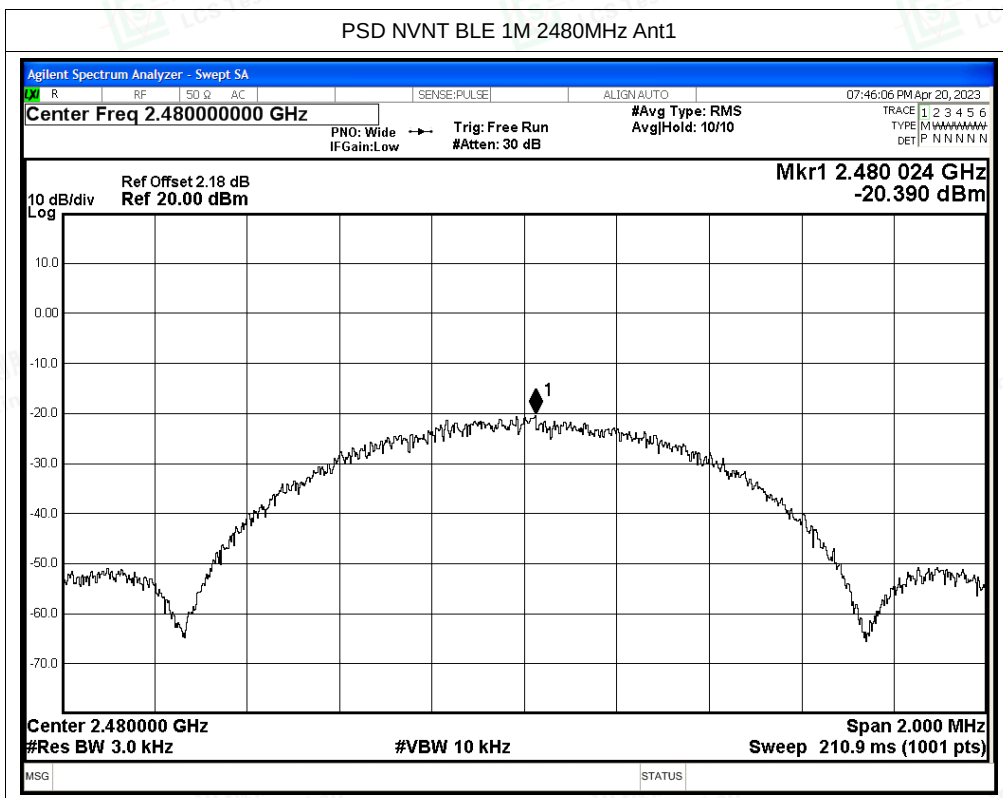


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A.4 Band Edge

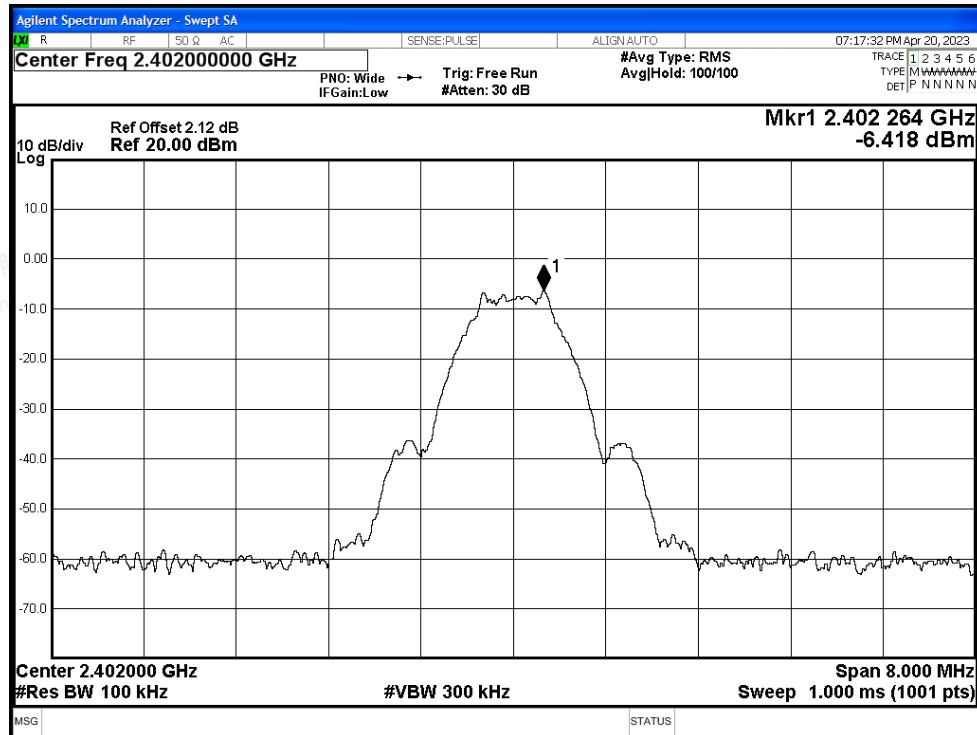
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-50.47	-20	Pass
NVNT	BLE 1M	2480	Ant1	-52.13	-20	Pass



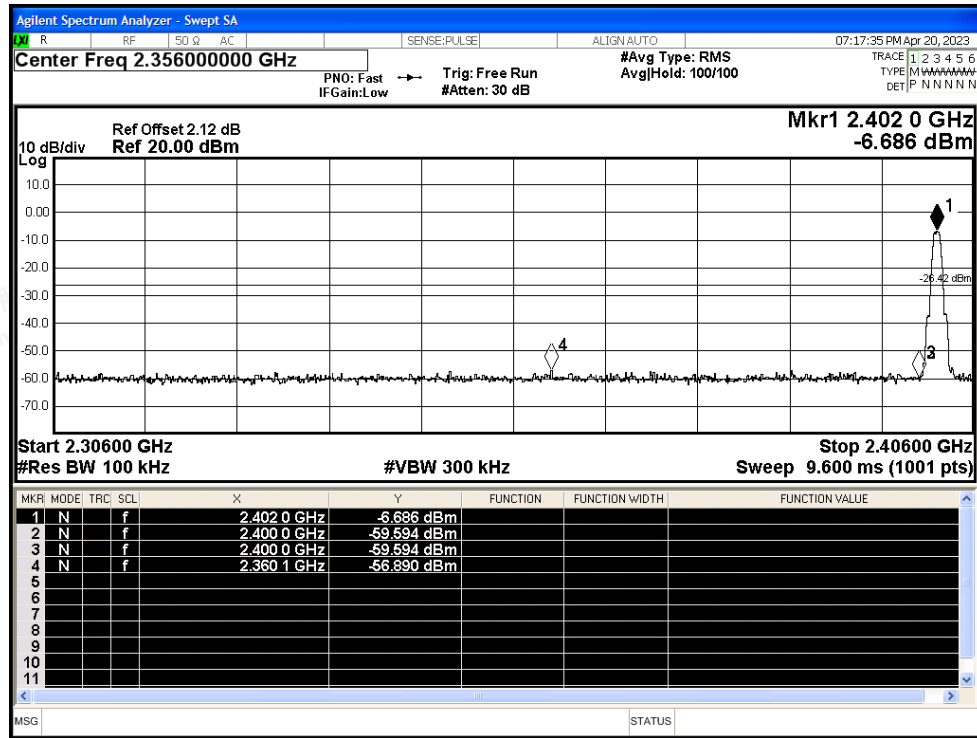


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission

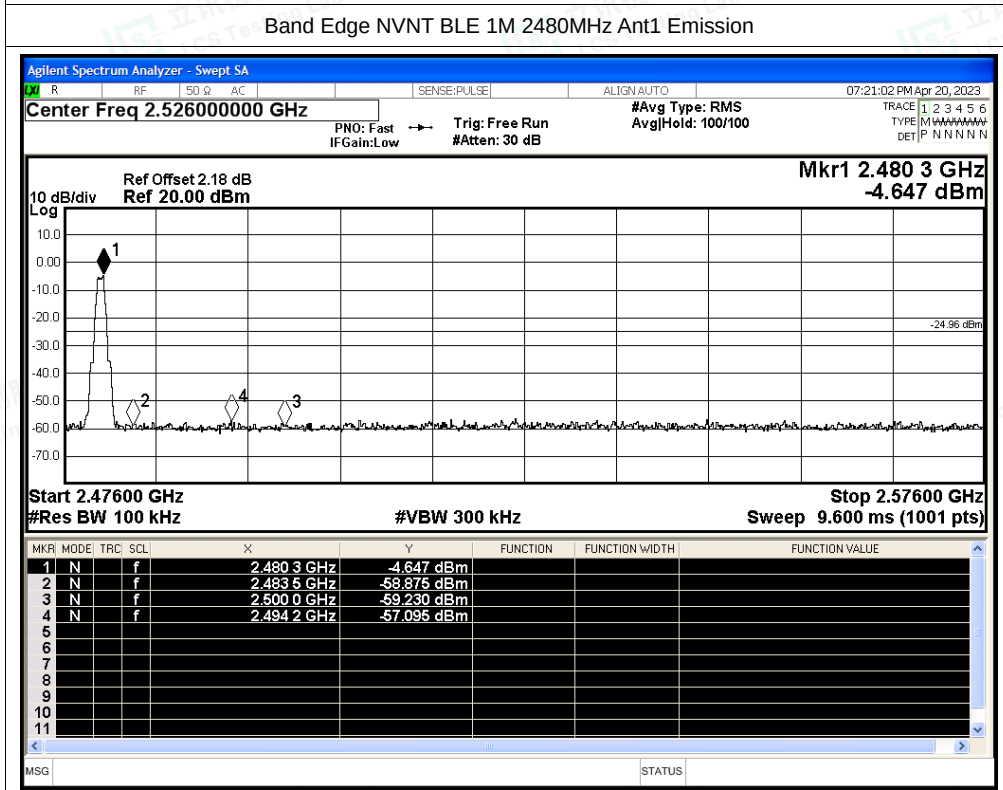
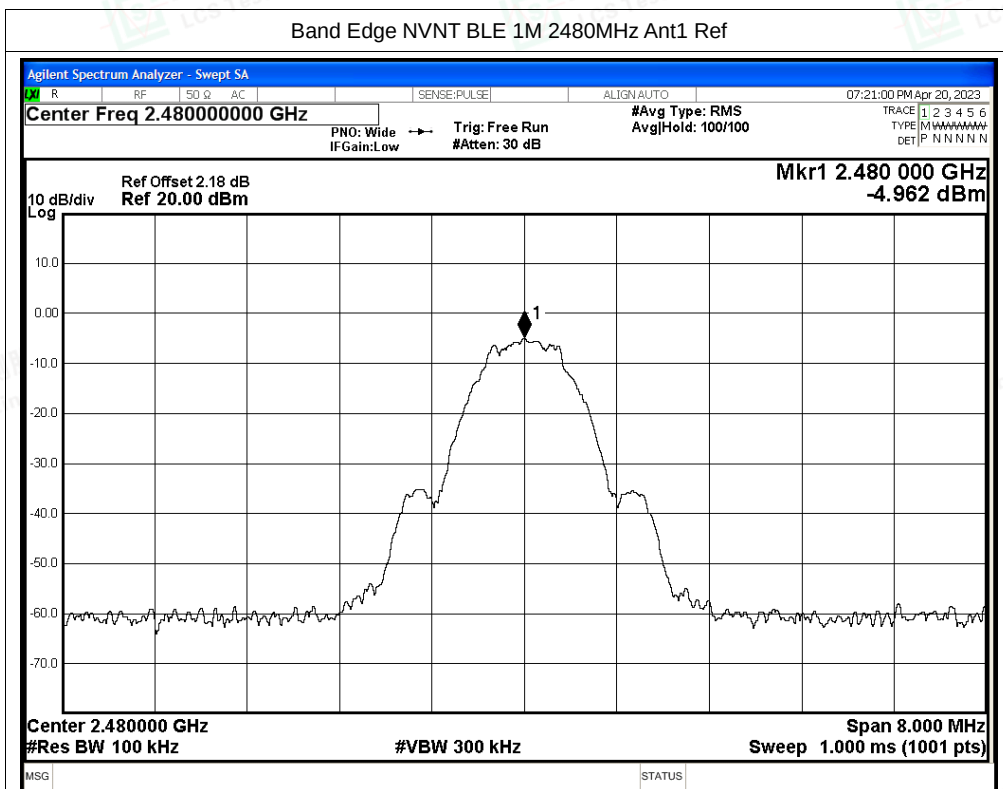


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A.5 Conducted RF Spurious Emission

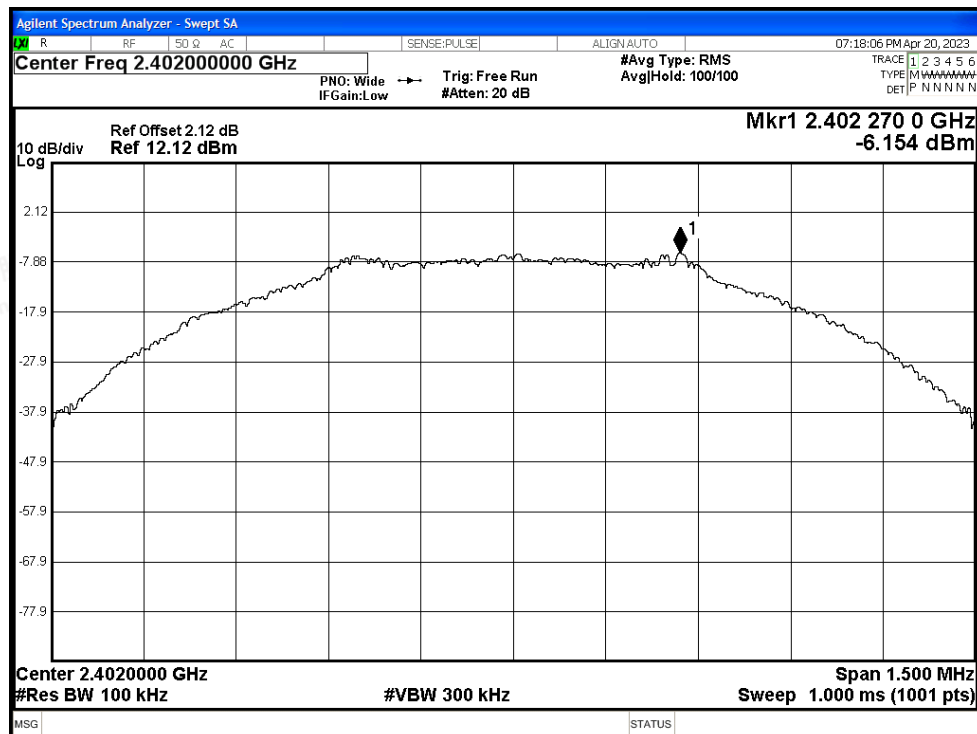
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-49.39	-20	Pass
NVNT	BLE 1M	2440	Ant1	-50.19	-20	Pass
NVNT	BLE 1M	2480	Ant1	-46.17	-20	Pass



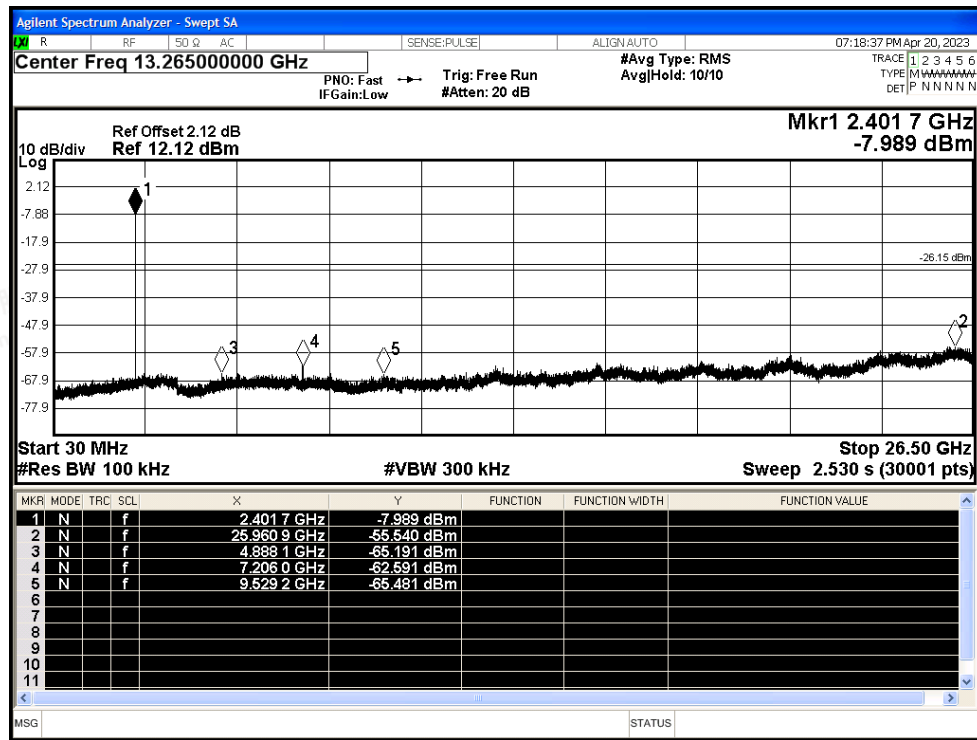


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission

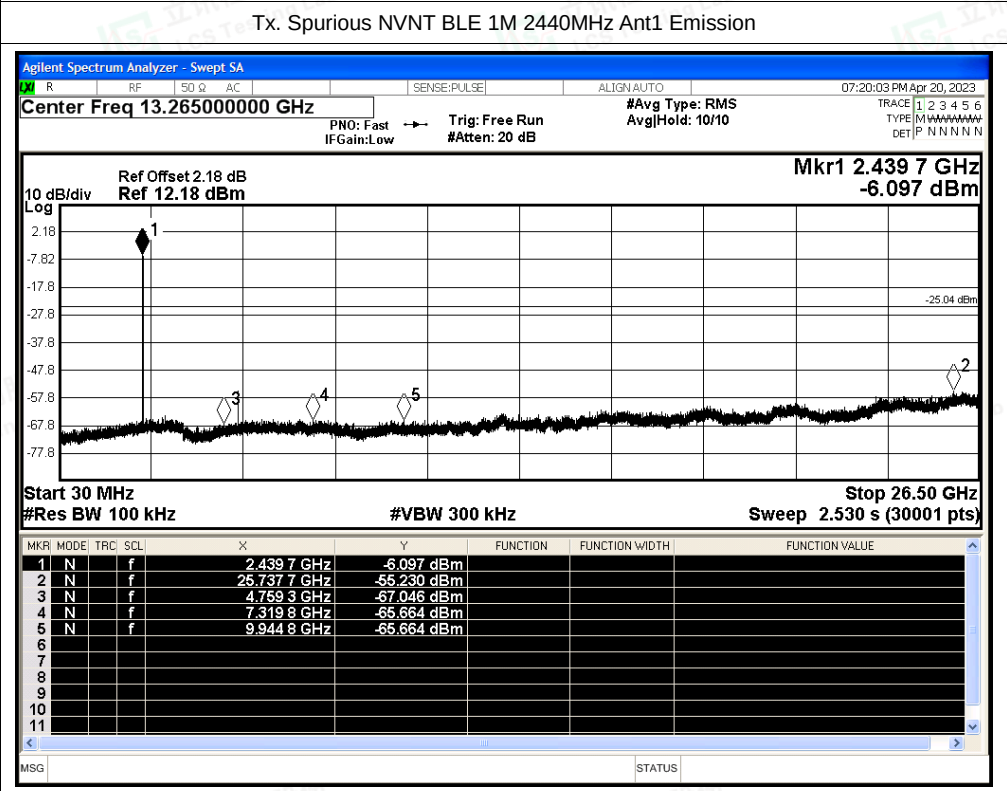
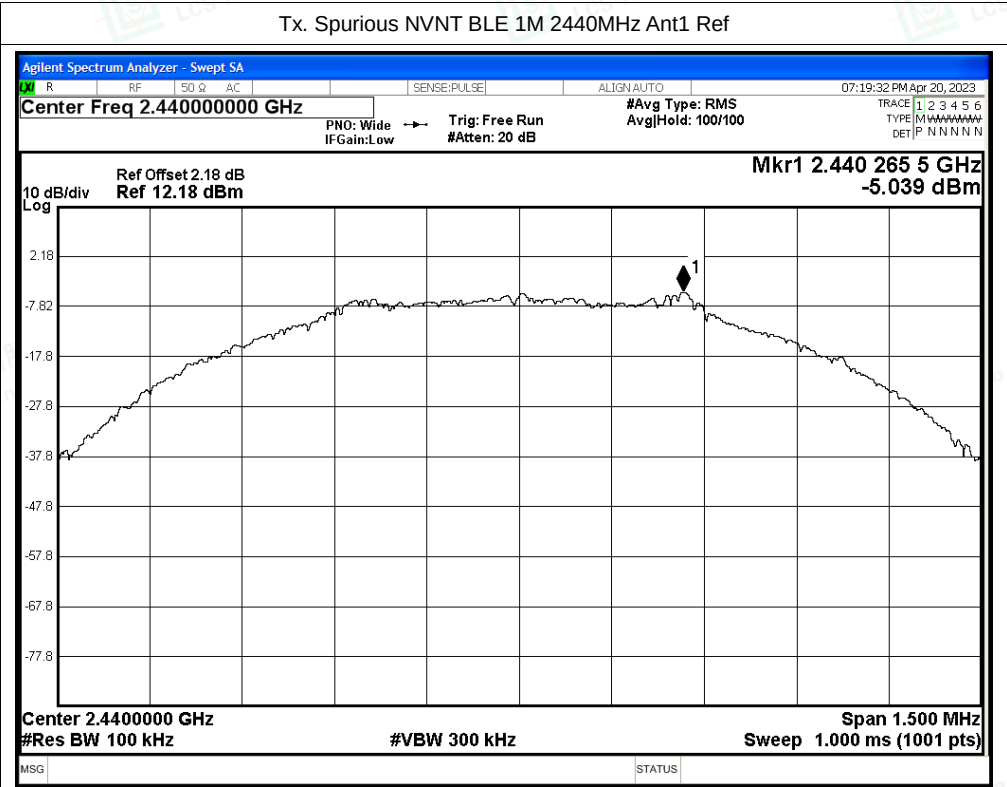


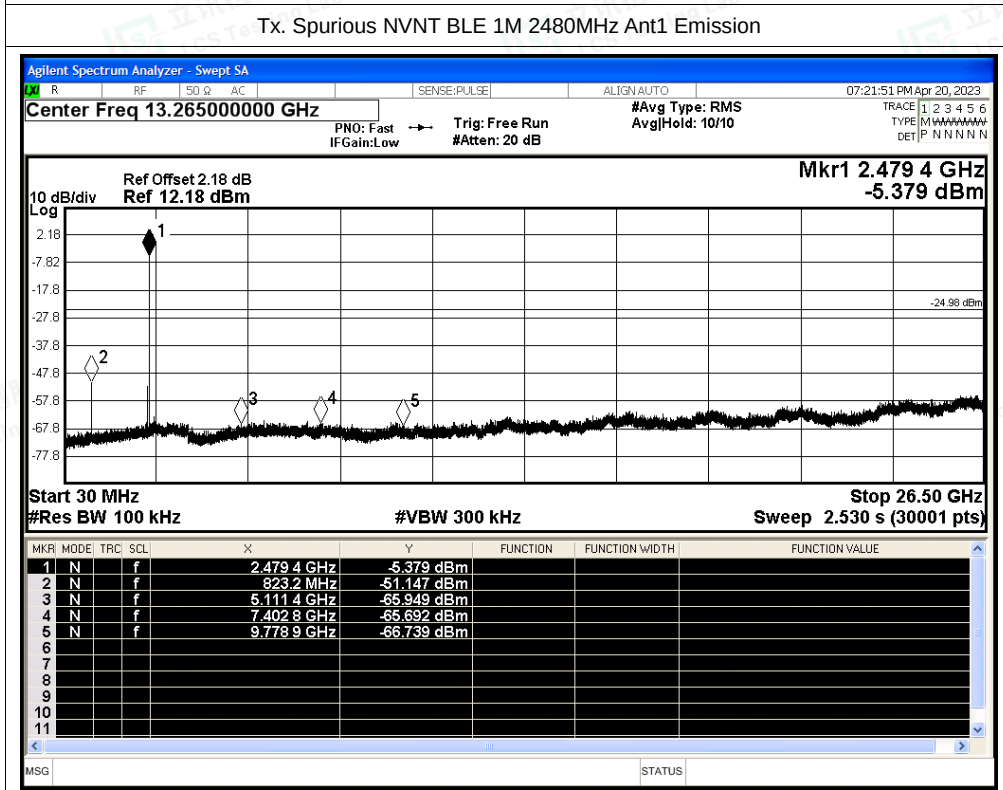
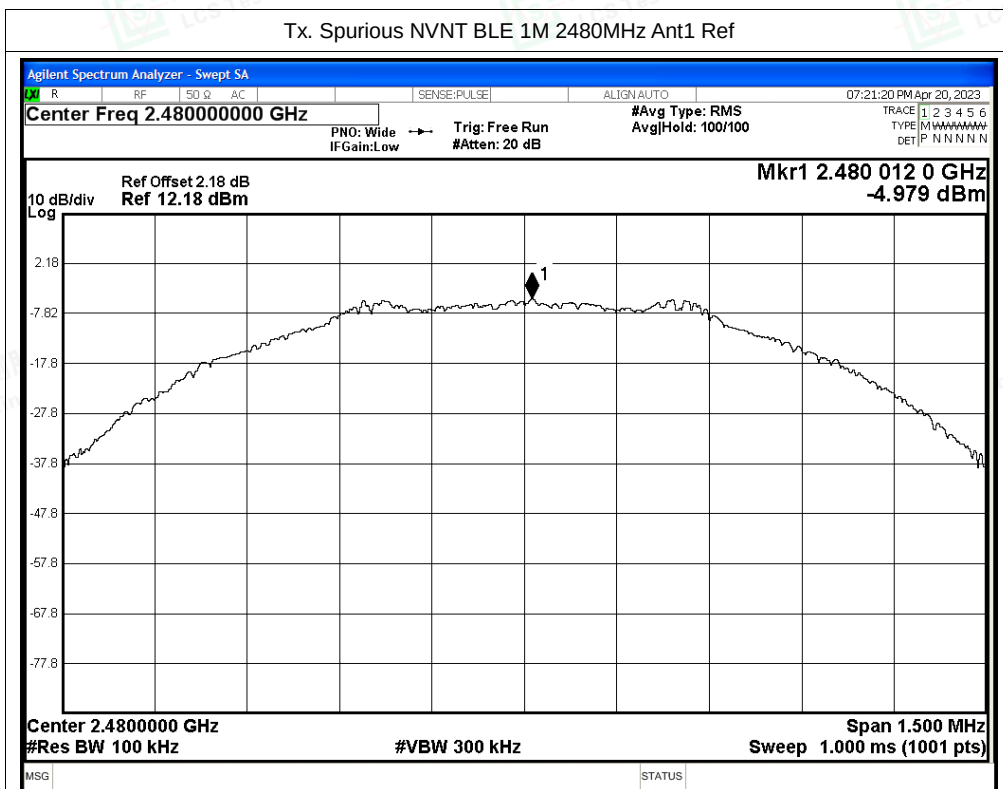
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A.6 Duty Cycle

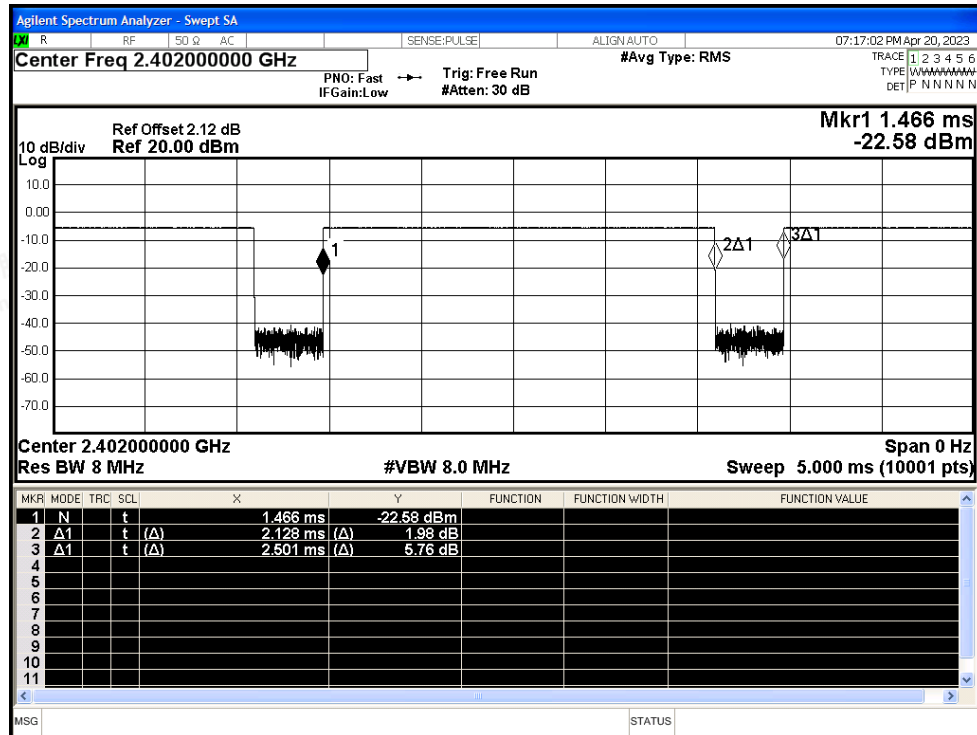
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	85.1	0.7	0.47
NVNT	BLE 1M	2440	Ant1	85.12	0.7	0
NVNT	BLE 1M	2480	Ant1	85.1	0.7	0.47



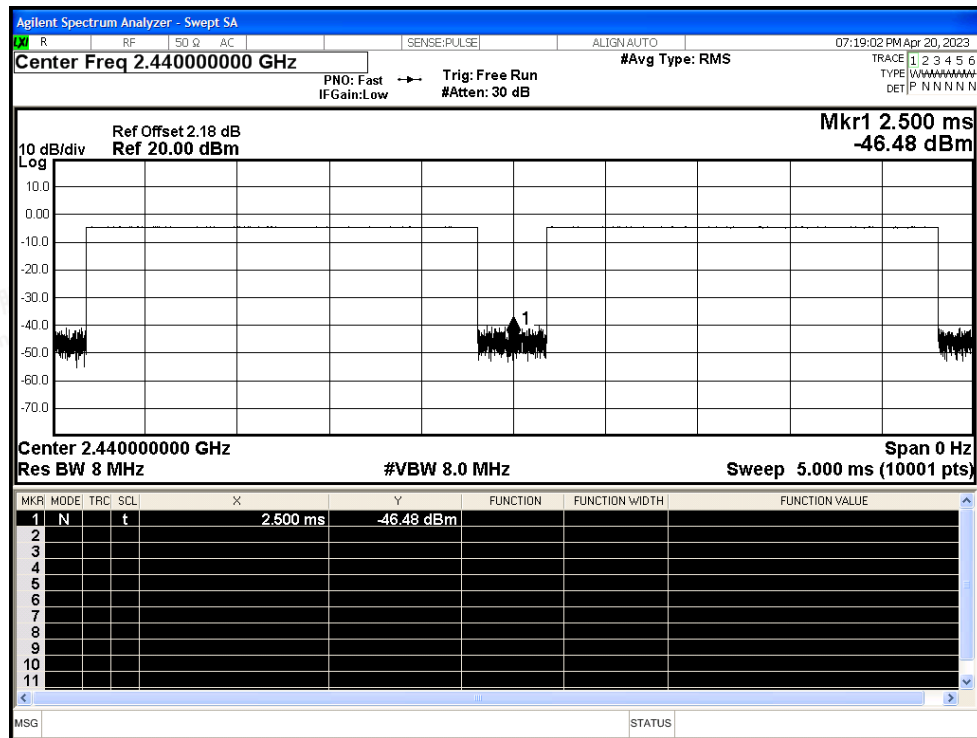


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1

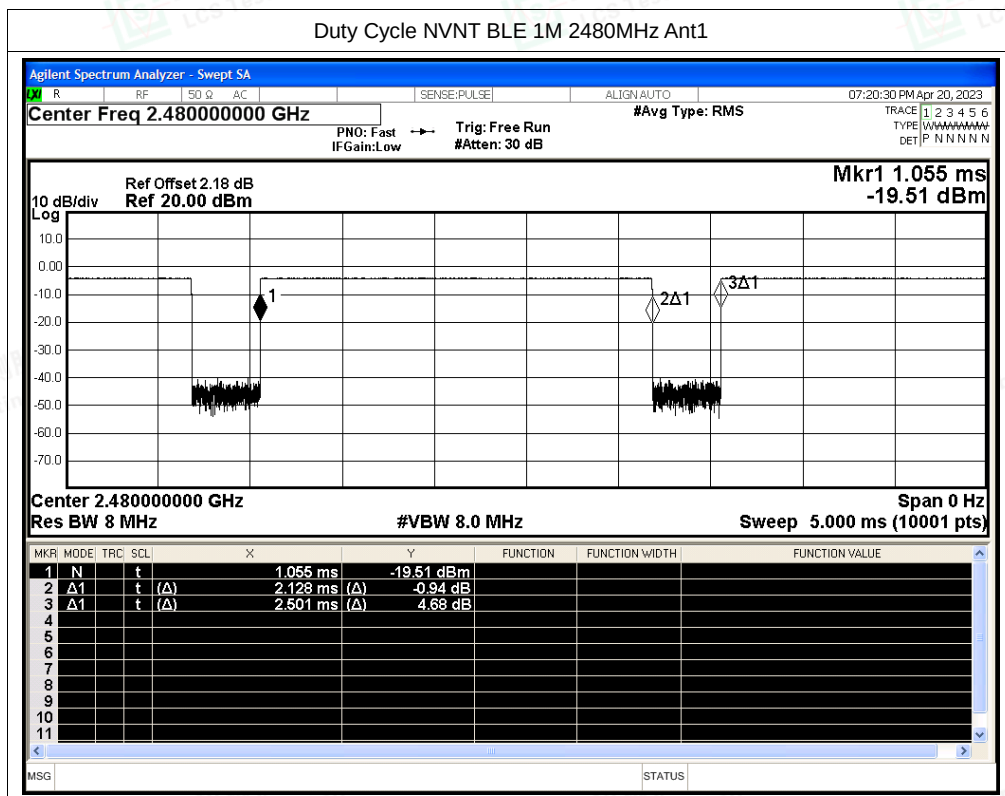


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A.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1M	2402	Ant1	2310	-51.85	4.3	47.68	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-57.88	4.3	41.65	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2338.8	-47.07	4.3	52.46	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2386.704	-57.3	4.3	42.23	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-50.45	4.3	49.08	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-57.38	4.3	42.15	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-49.37	4.3	50.16	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-56.33	4.3	43.20	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2486.56	-46.77	4.3	52.76	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.512	-56.33	4.3	43.20	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-48.58	4.3	50.95	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-57.06	4.3	42.47	Average	54	Pass



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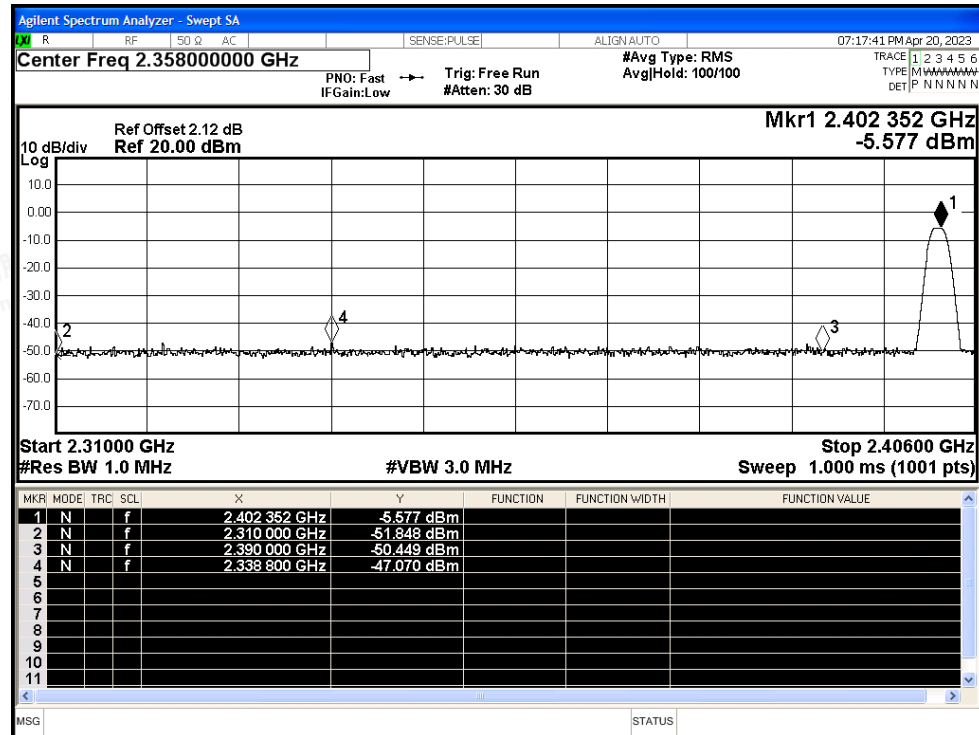
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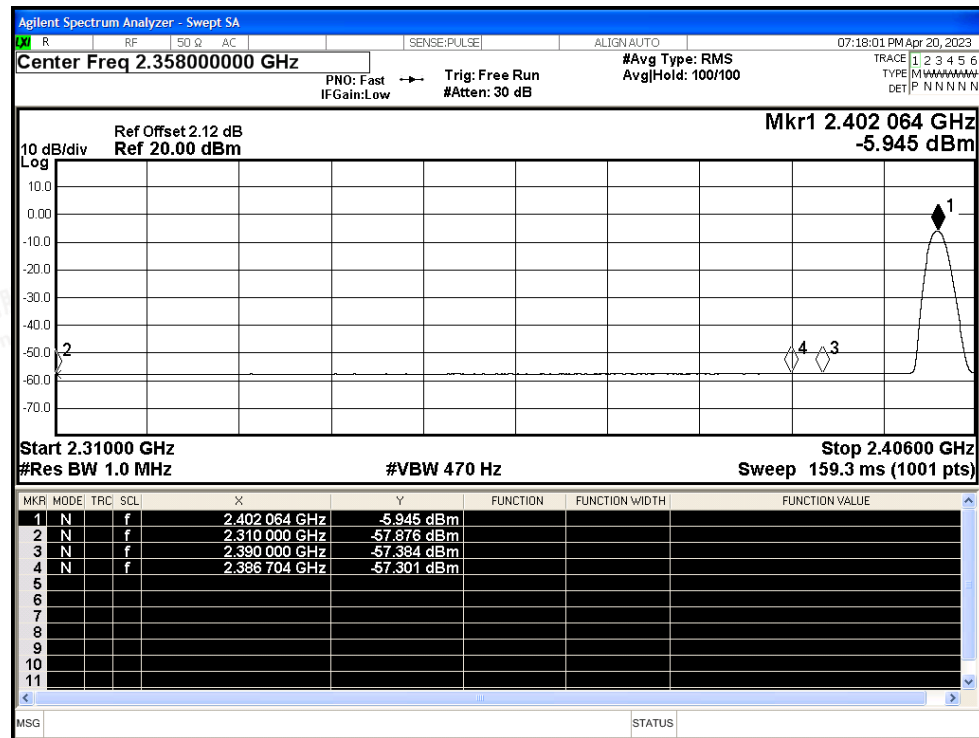


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average

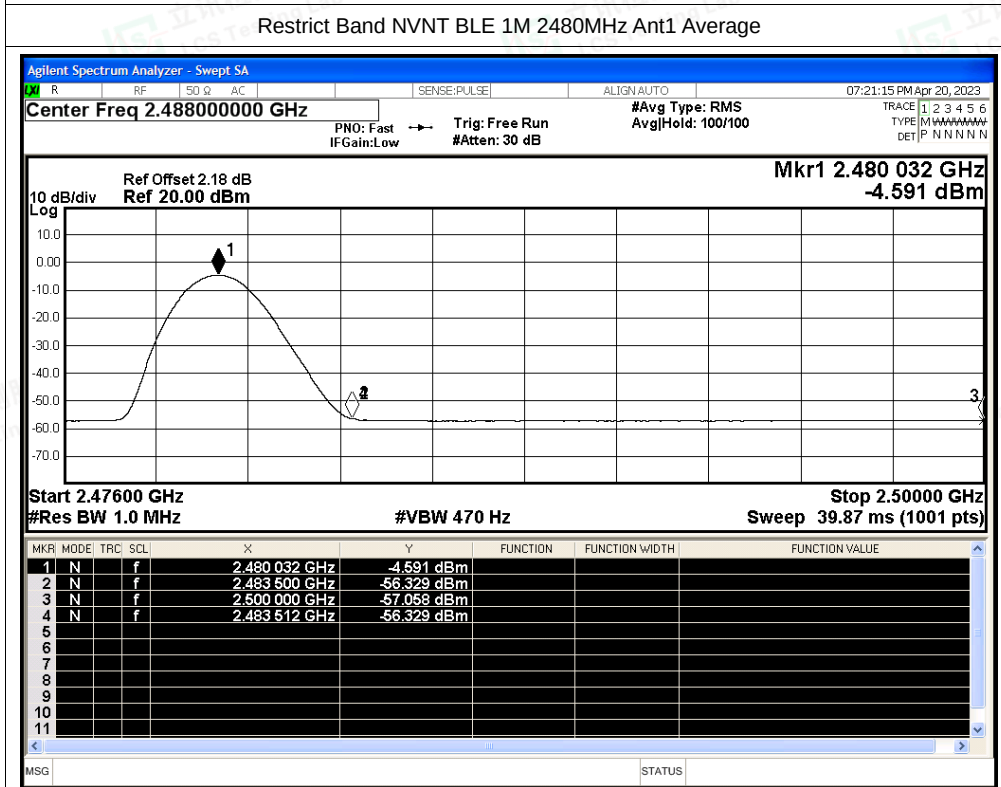
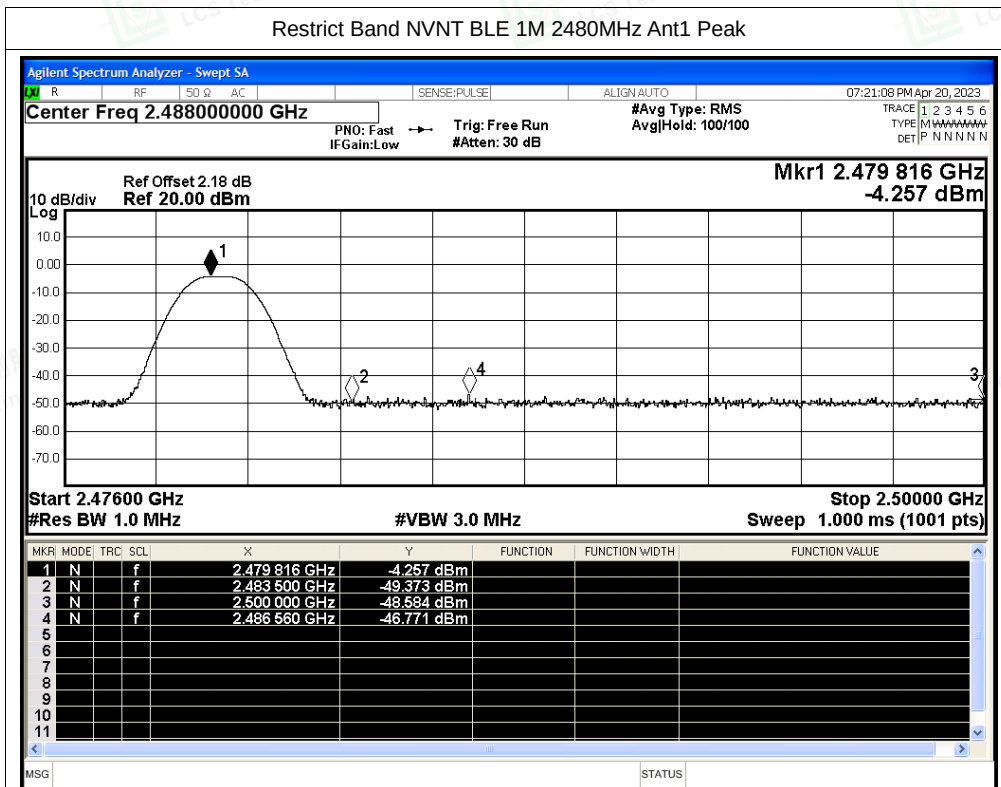


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