



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Touch Panel

Test Model: TOUCHPAD.One

Environmental Conditions

Temperature:	23.1°C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
Supervised by:	Nick Peng





B.1 -6dB Bandwidth

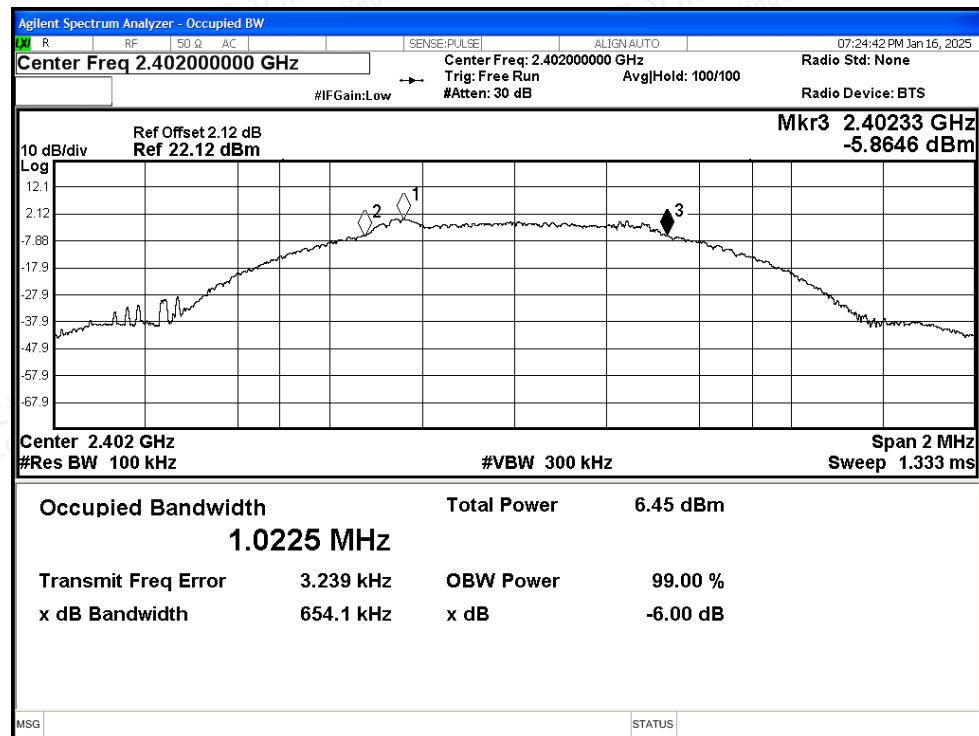
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant	0.654	≥ 0.5	Pass
NVNT	BLE 1M	2440	Ant	0.652	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant	0.651	≥ 0.5	Pass
NVNT	BLE 2M	2402	Ant	1.137	≥ 0.5	Pass
NVNT	BLE 2M	2440	Ant	1.14	≥ 0.5	Pass
NVNT	BLE 2M	2480	Ant	1.168	≥ 0.5	Pass



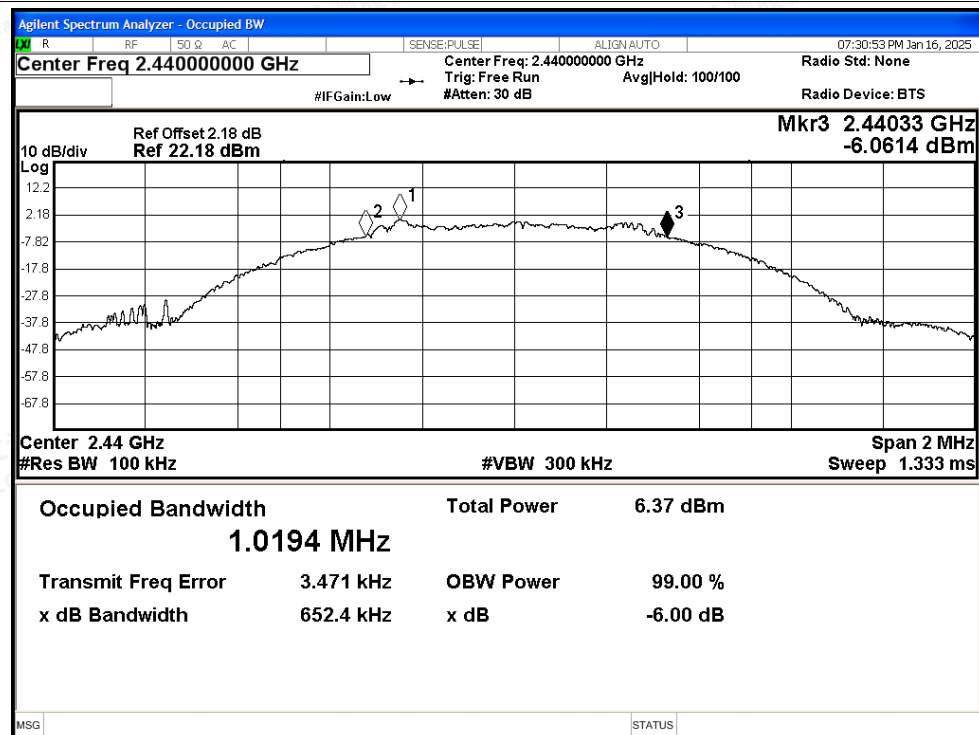


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant



Shenzhen LCS Compliance Testing Laboratory Ltd.

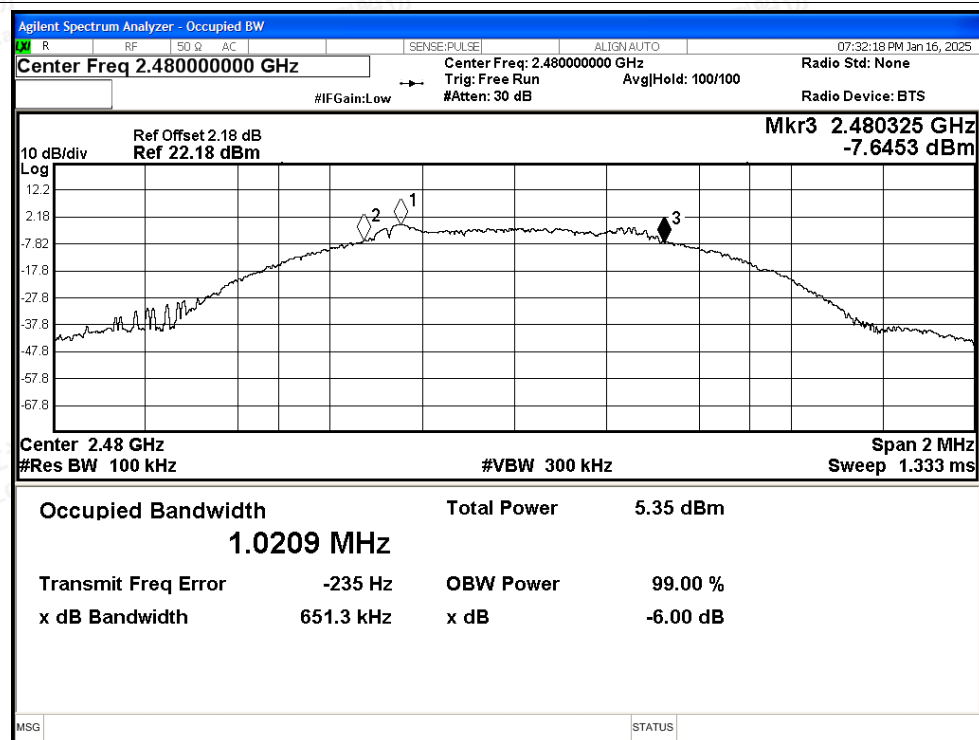
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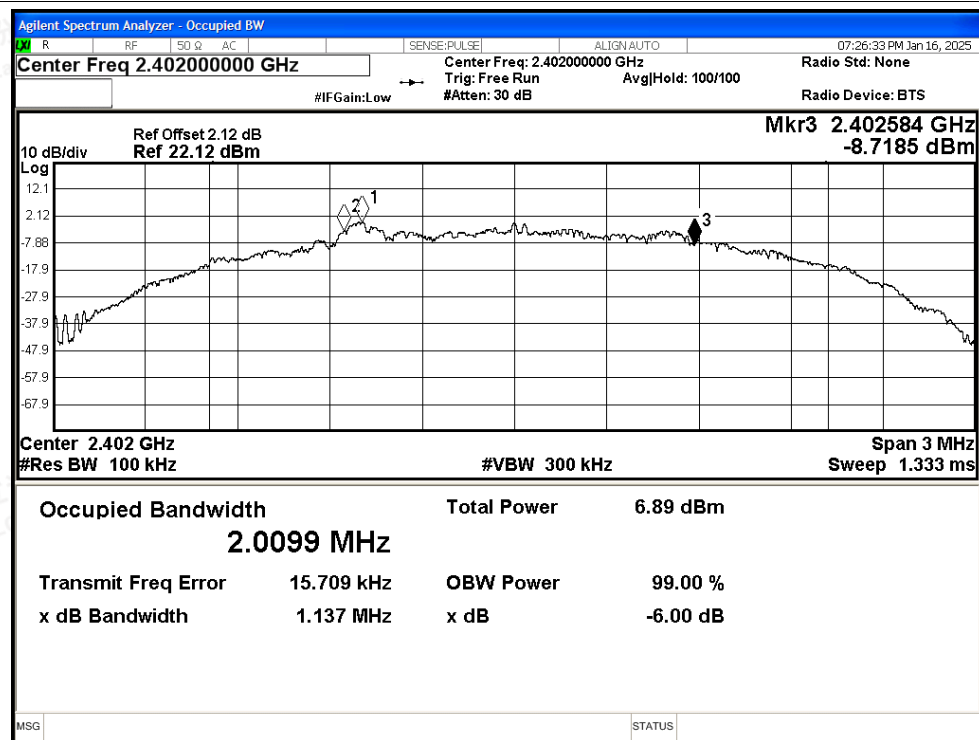
Scan code to check authenticity



-6dB Bandwidth NVNT BLE 1M 2480MHz Ant



-6dB Bandwidth NVNT BLE 2M 2402MHz Ant



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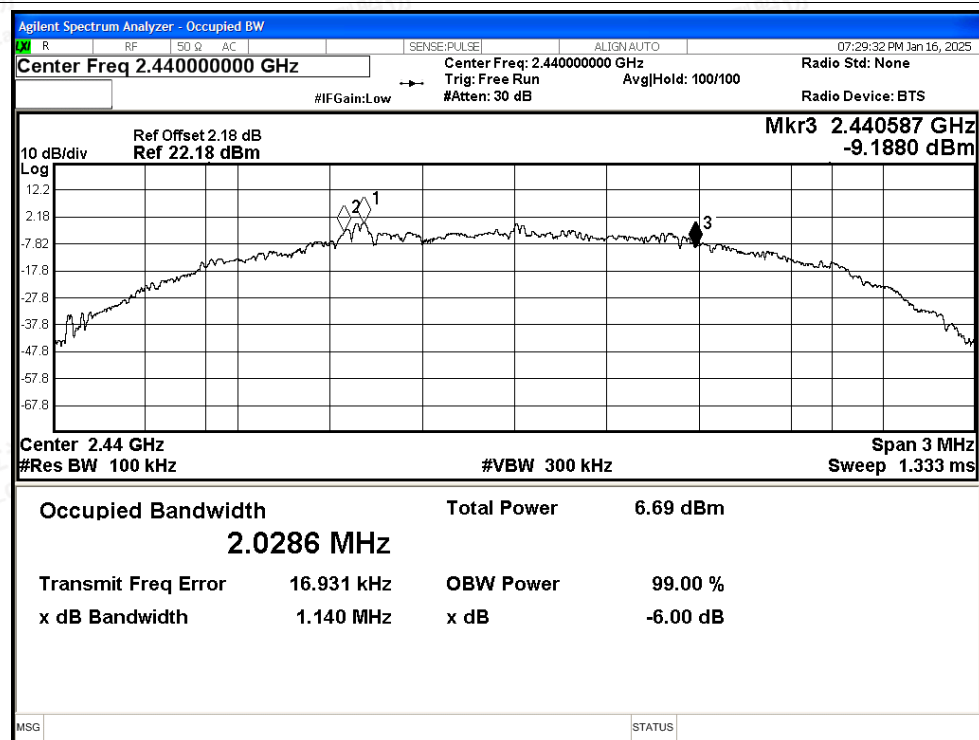
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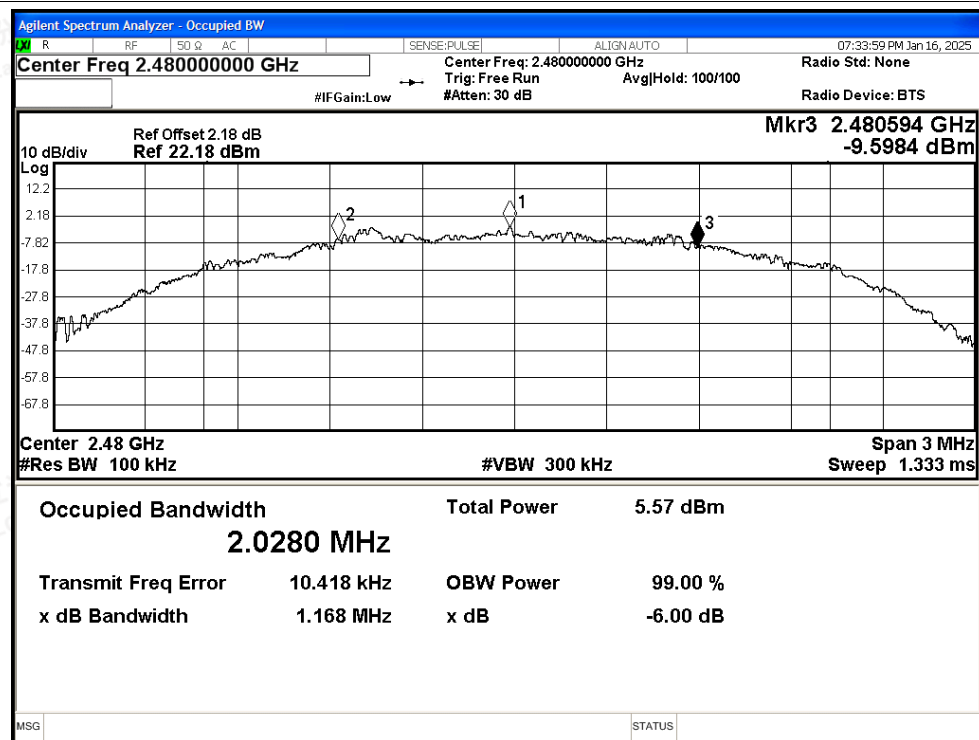
Scan code to check authenticity



-6dB Bandwidth NVNT BLE 2M 2440MHz Ant



-6dB Bandwidth NVNT BLE 2M 2480MHz Ant





B.2 Maximum Peak Conducted Output Power

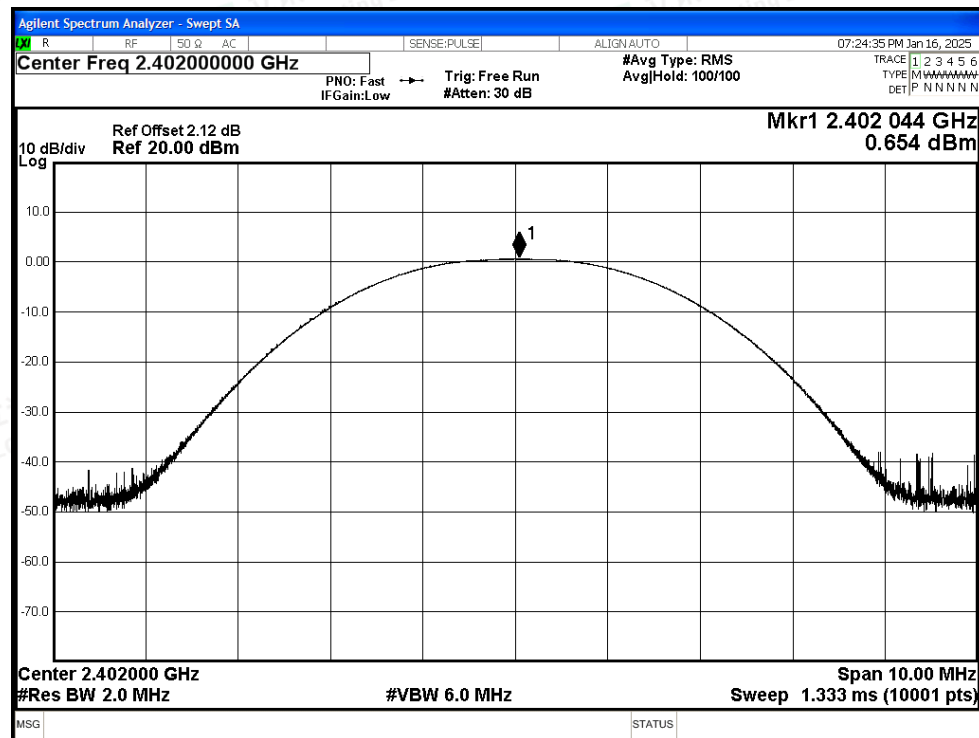
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant	0.65	30	Pass
NVNT	BLE 1M	2440	Ant	0.58	30	Pass
NVNT	BLE 1M	2480	Ant	-0.47	30	Pass
NVNT	BLE 2M	2402	Ant	0.58	30	Pass
NVNT	BLE 2M	2440	Ant	0.43	30	Pass
NVNT	BLE 2M	2480	Ant	-0.64	30	Pass



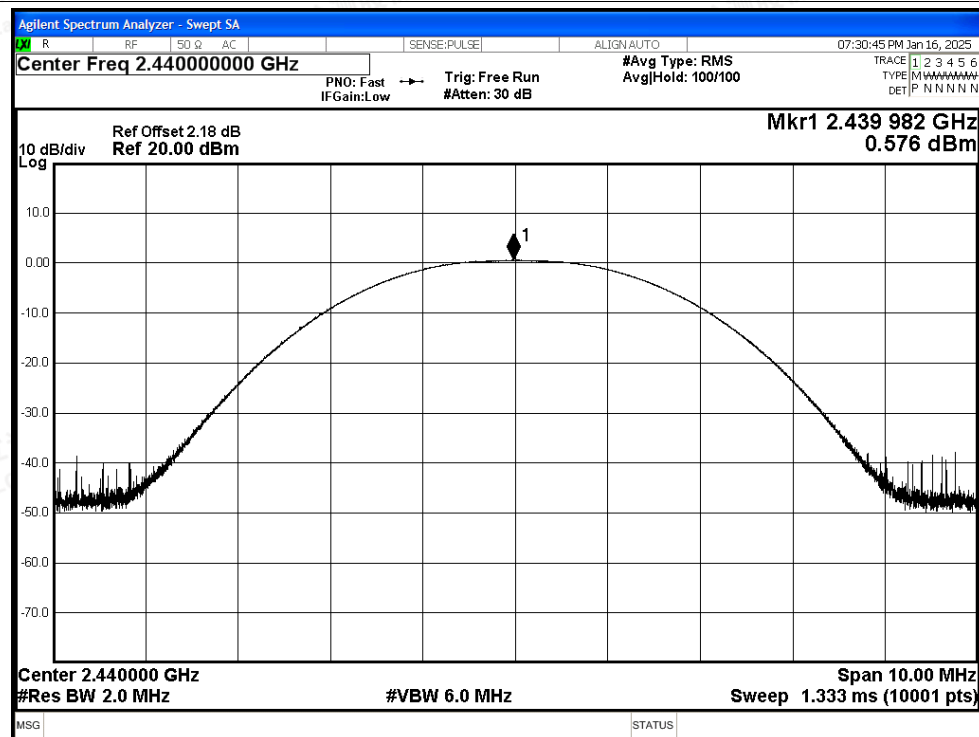


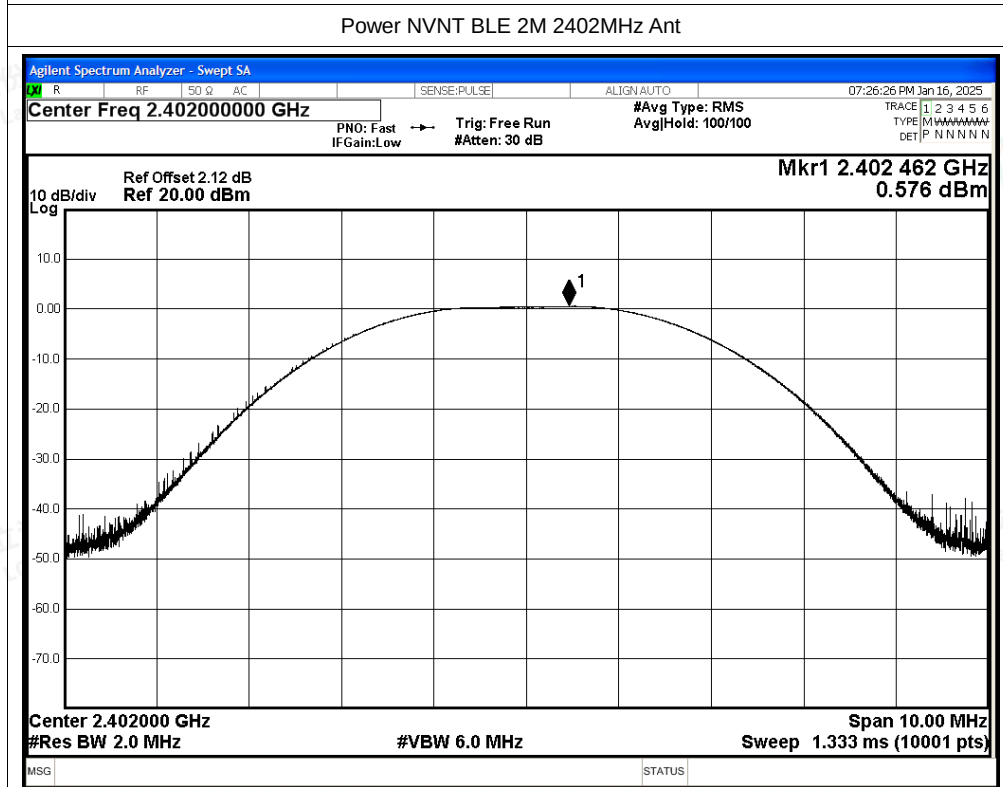
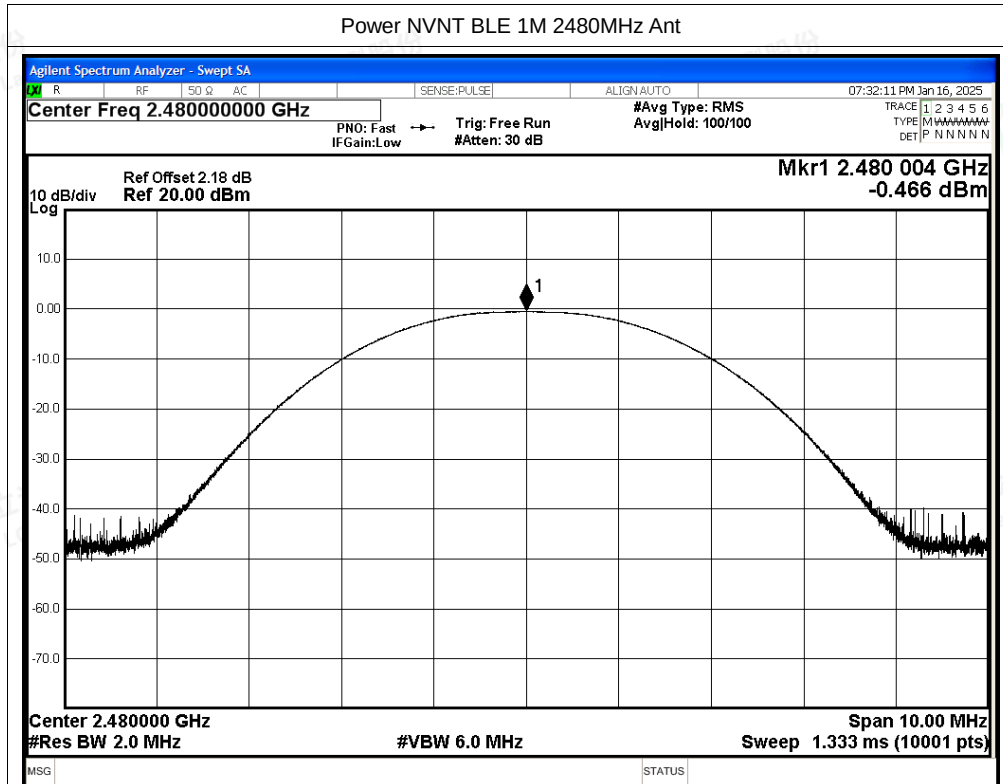
Test Graphs

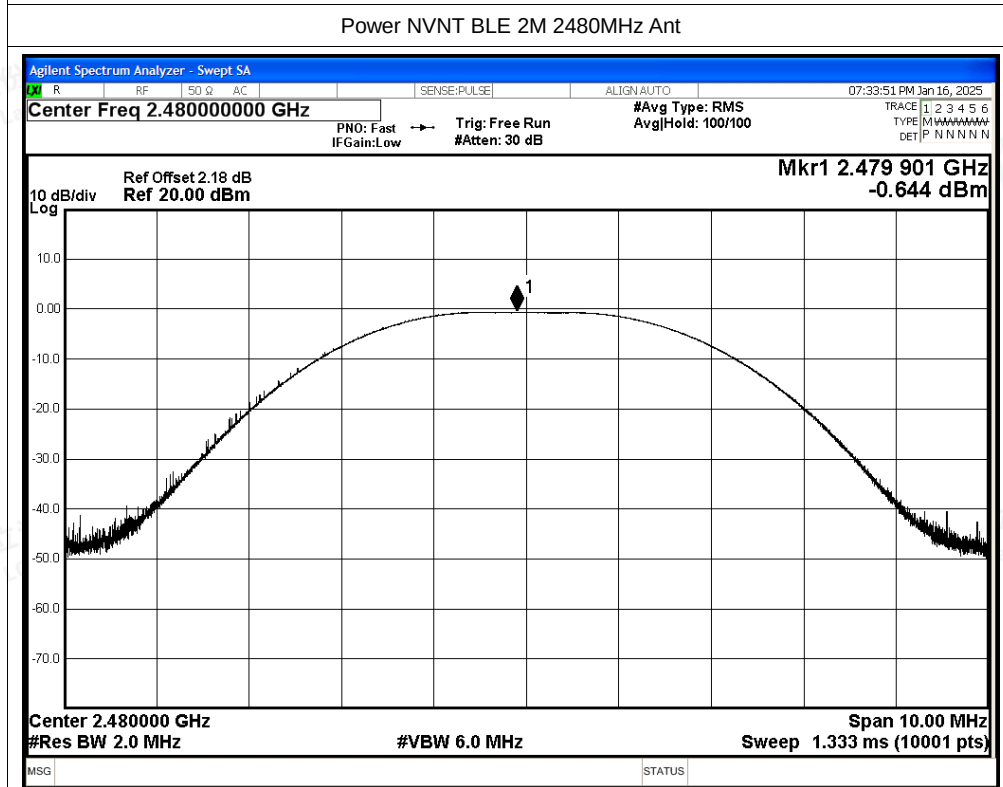
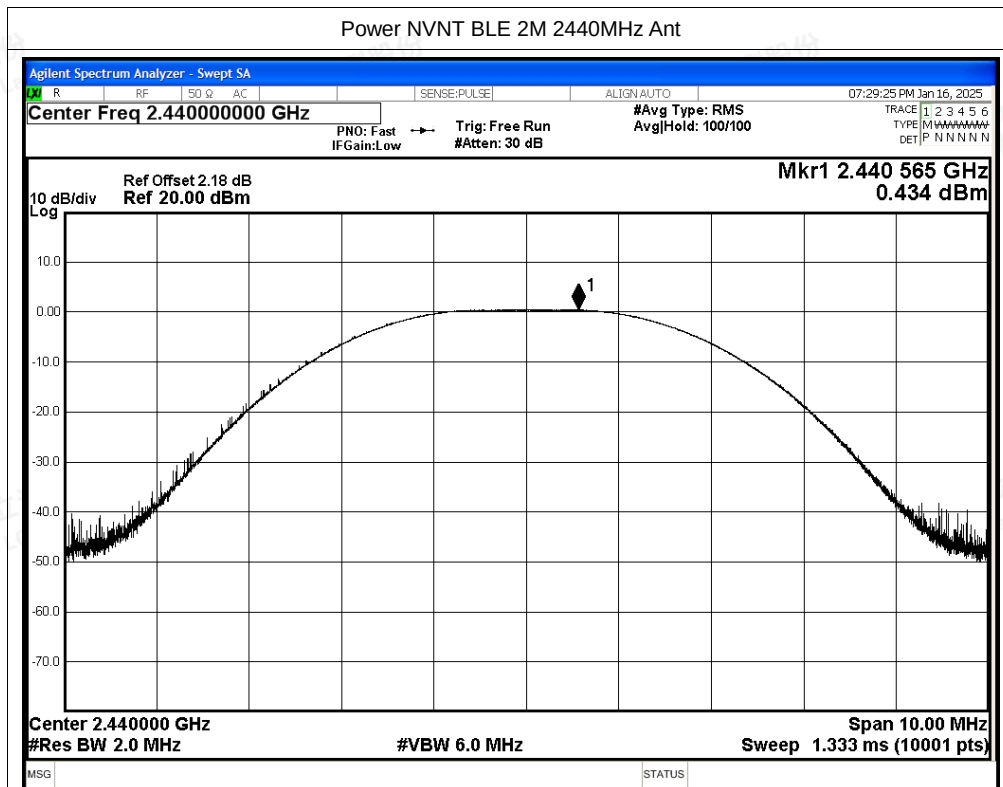
Power NVNT BLE 1M 2402MHz Ant



Power NVNT BLE 1M 2440MHz Ant









B.3 Maximum Power Spectral Density Level

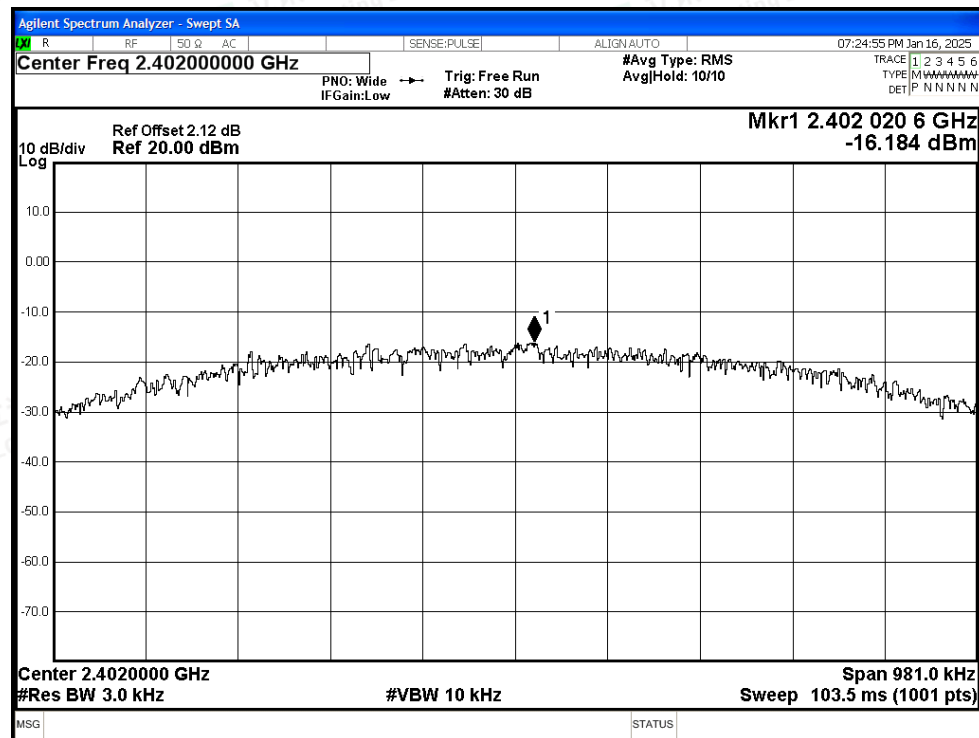
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant	-16.18	8	Pass
NVNT	BLE 1M	2440	Ant	-16.07	8	Pass
NVNT	BLE 1M	2480	Ant	-16.91	8	Pass
NVNT	BLE 2M	2402	Ant	-19.23	8	Pass
NVNT	BLE 2M	2440	Ant	-19.4	8	Pass
NVNT	BLE 2M	2480	Ant	-20.28	8	Pass



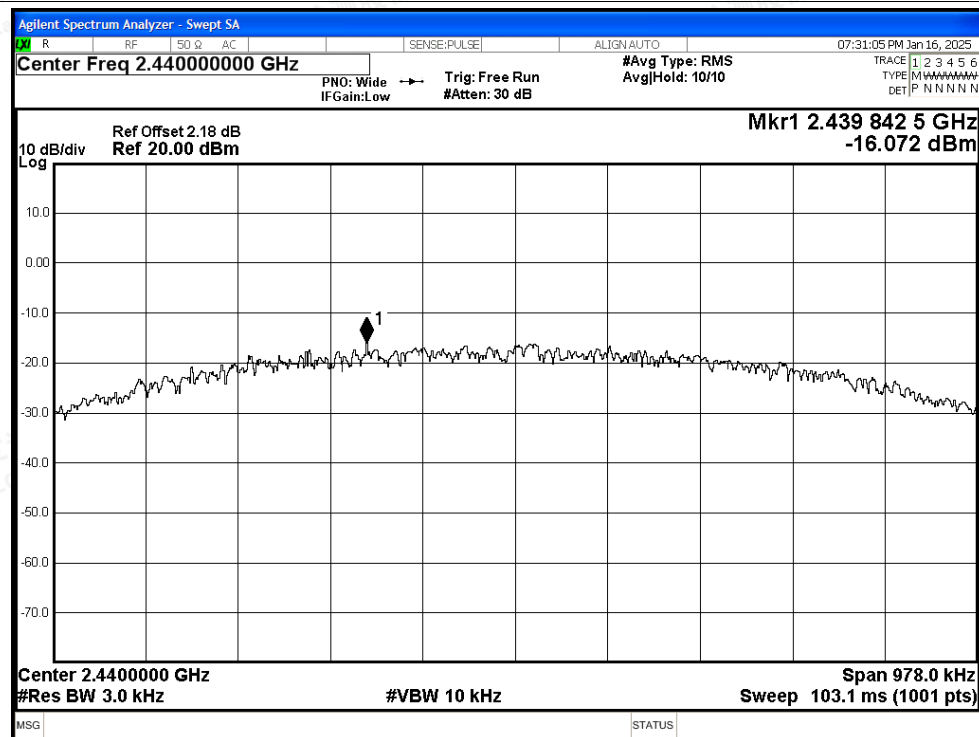


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant



PSD NVNT BLE 1M 2440MHz Ant

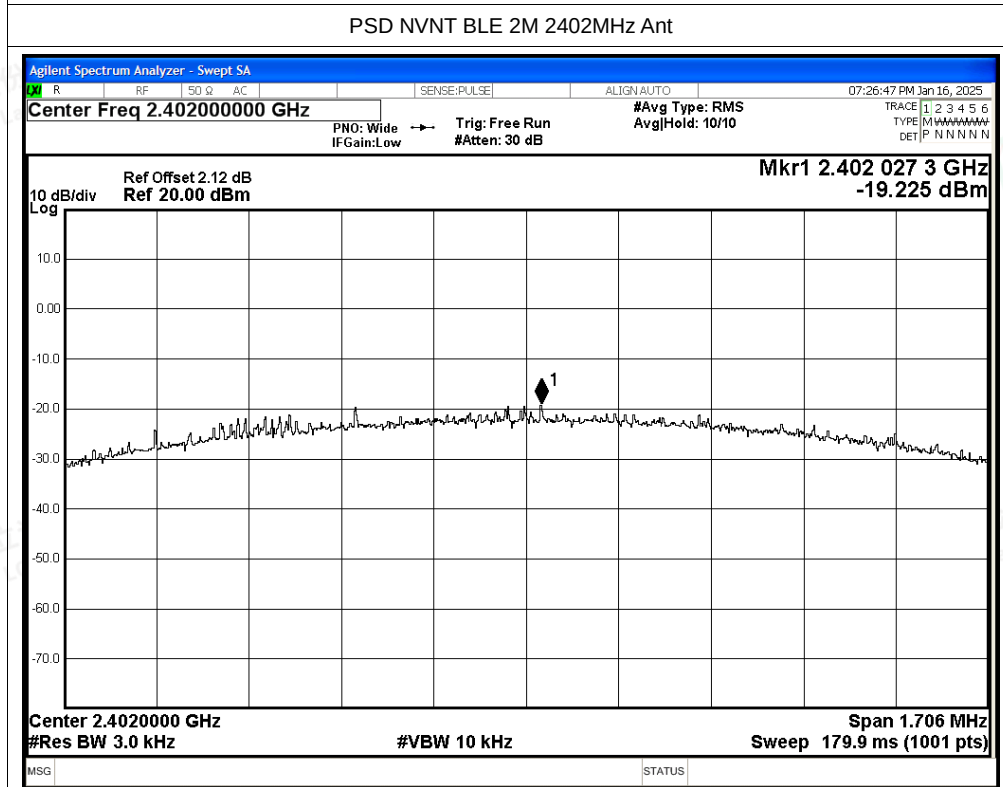
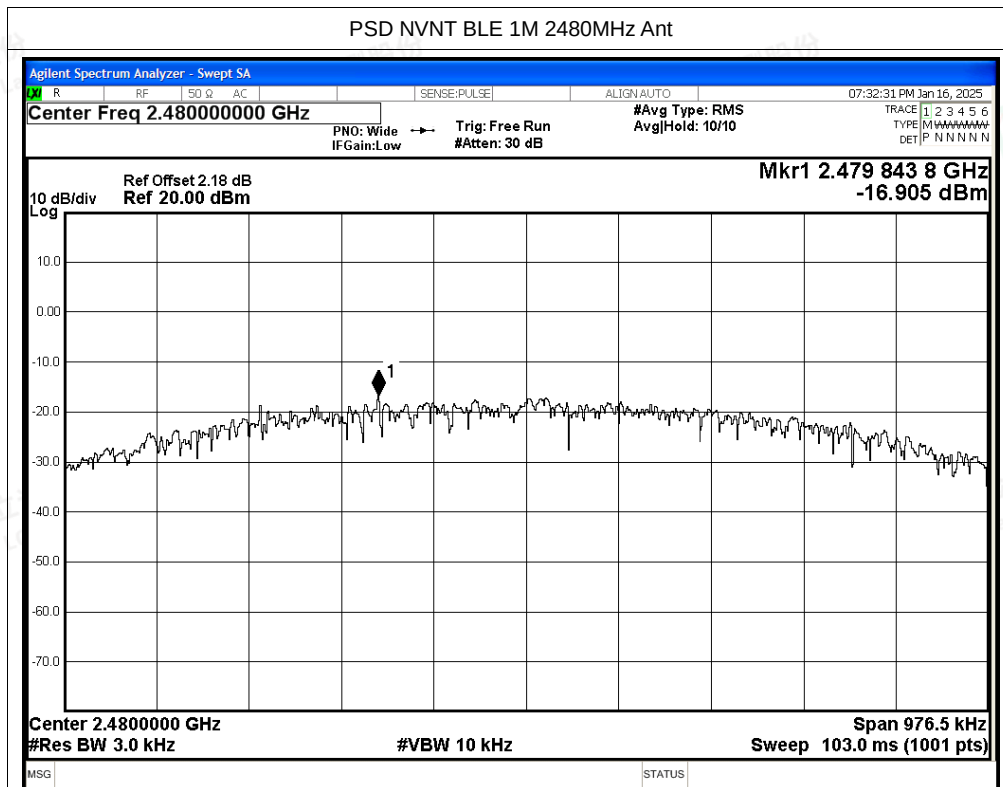


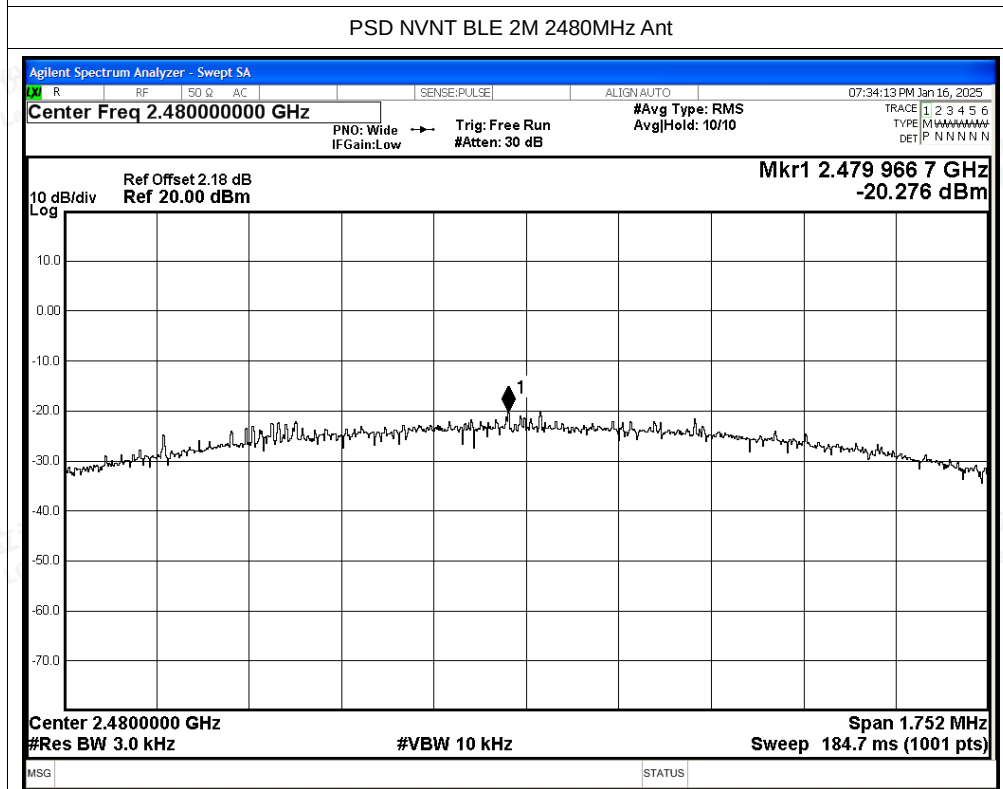
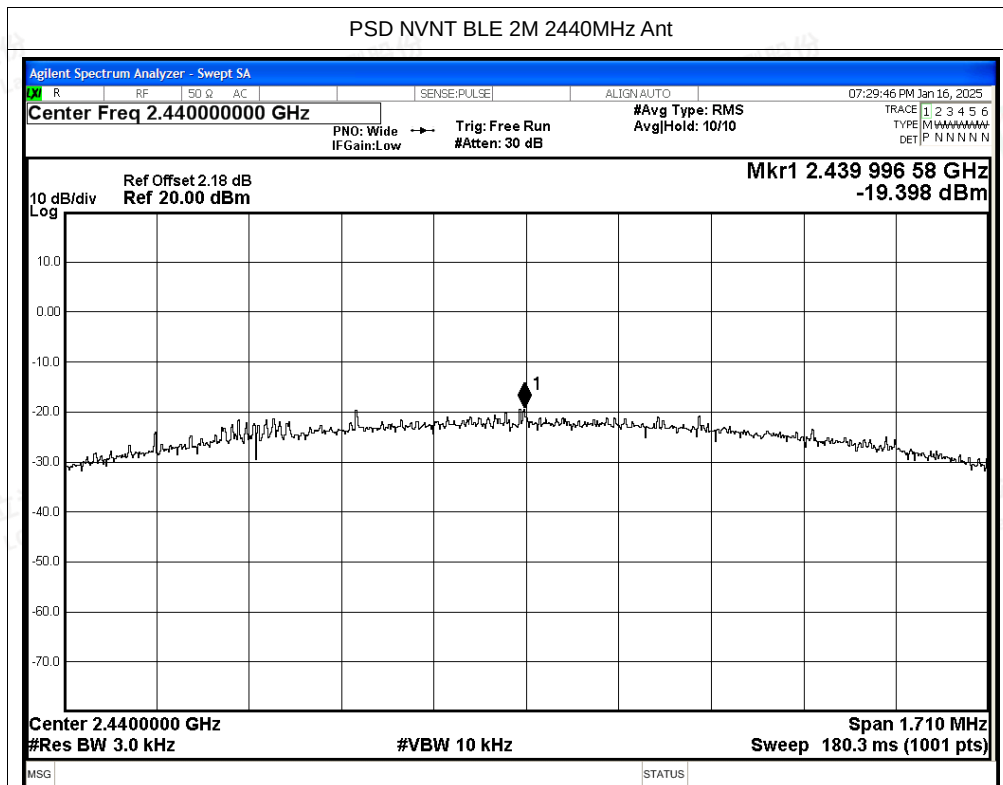
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B.4 Band Edge

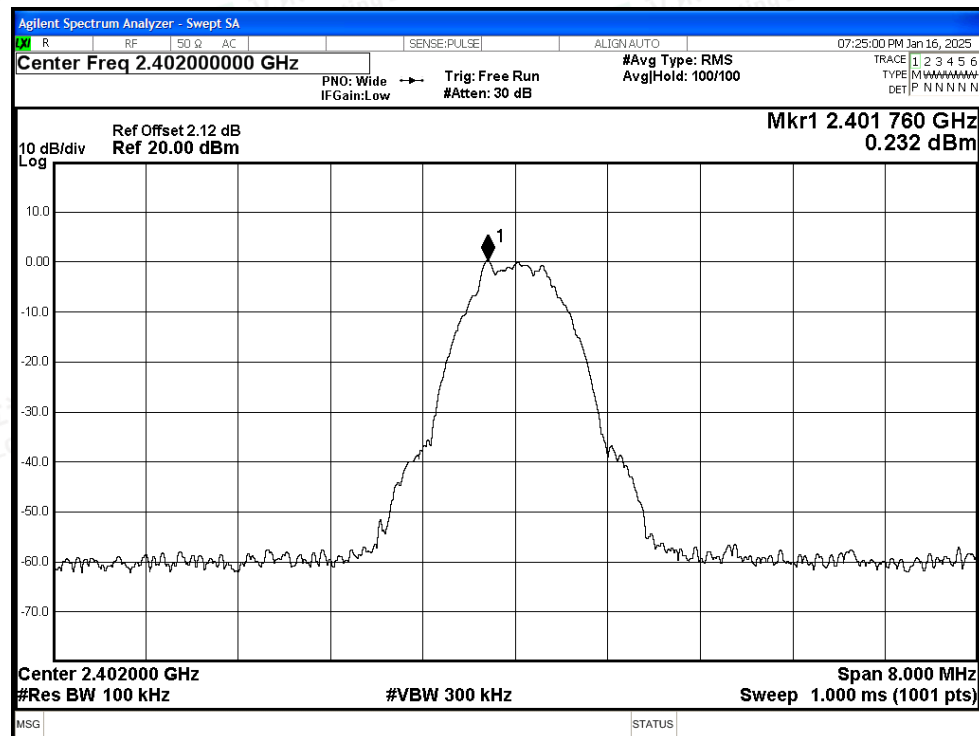
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant	-57.46	-20	Pass
NVNT	BLE 1M	2480	Ant	-54.28	-20	Pass
NVNT	BLE 2M	2402	Ant	-43.51	-20	Pass
NVNT	BLE 2M	2480	Ant	-56.14	-20	Pass



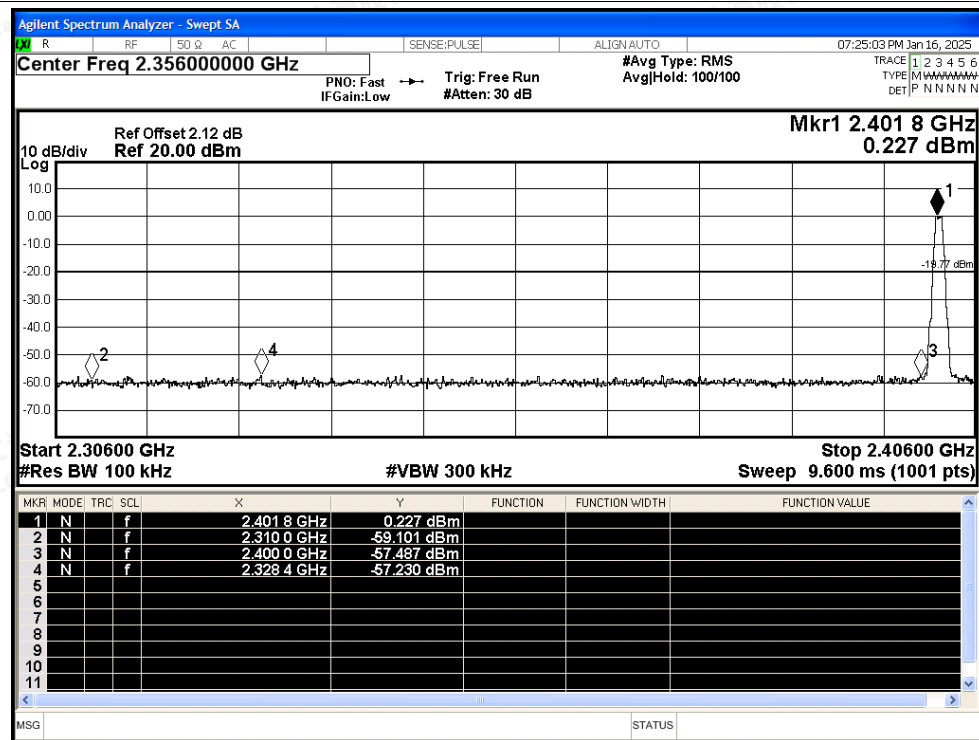


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant Ref



Band Edge NVNT BLE 1M 2402MHz Ant Emission

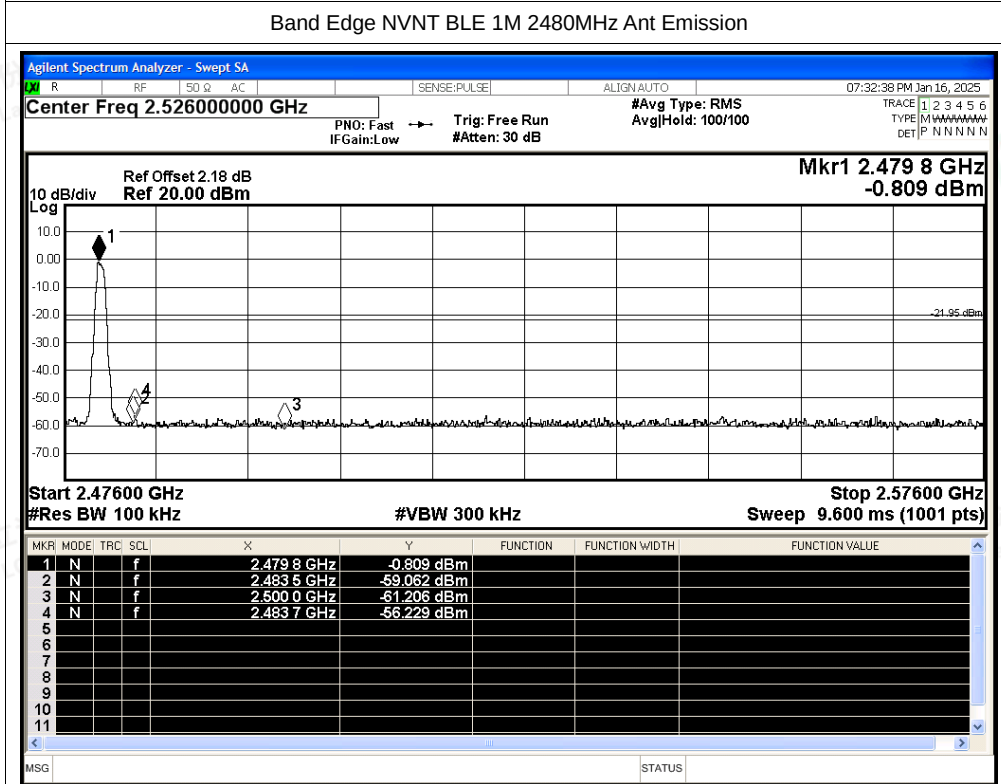
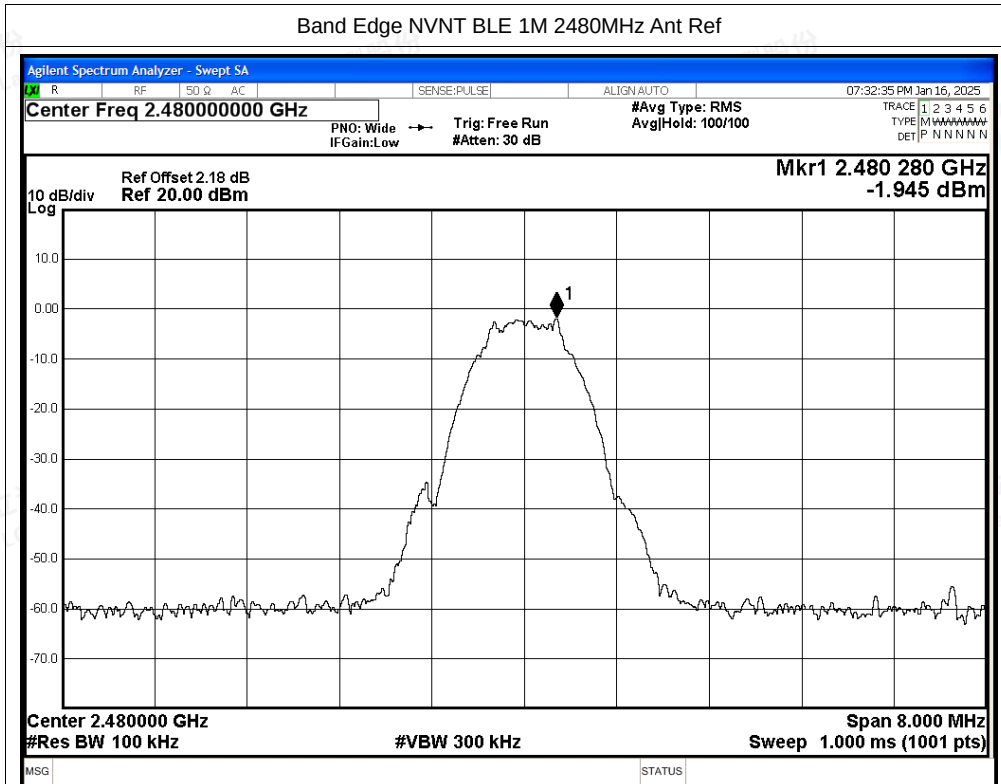


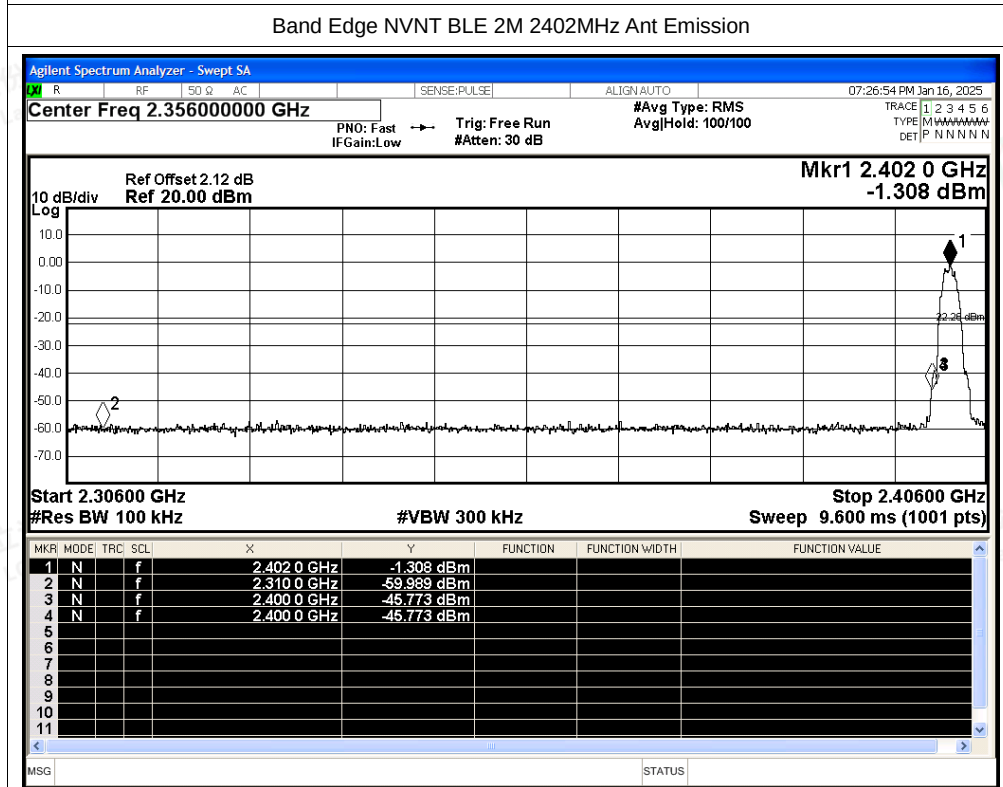
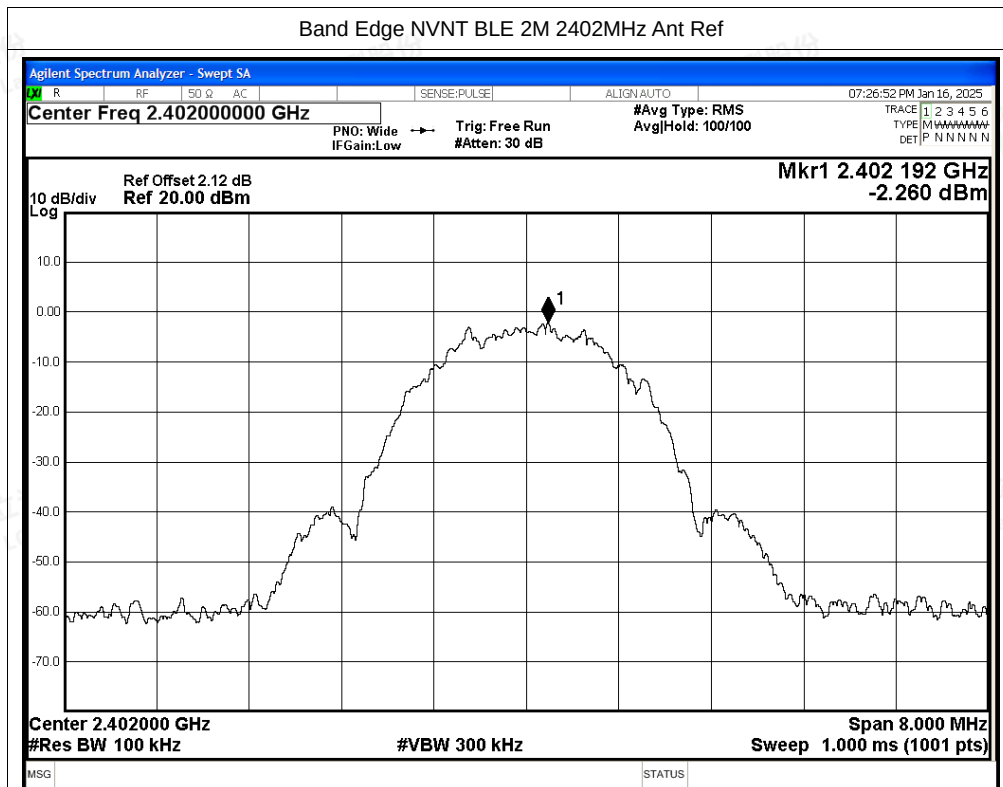
Shenzhen LCS Compliance Testing Laboratory Ltd.

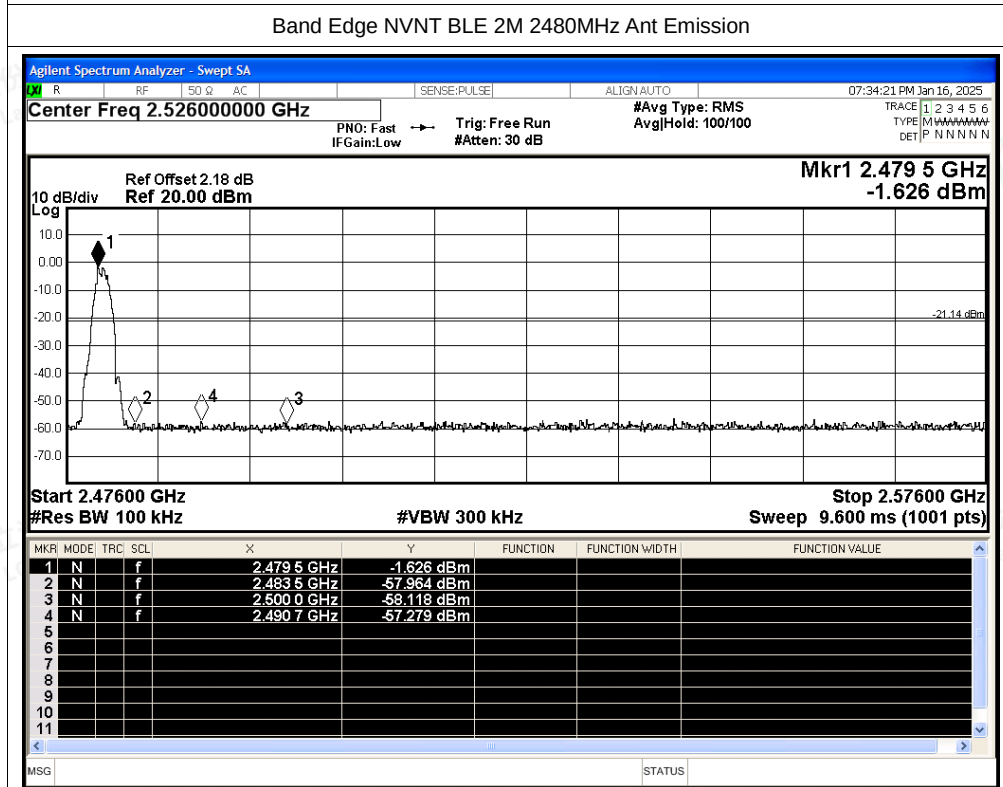
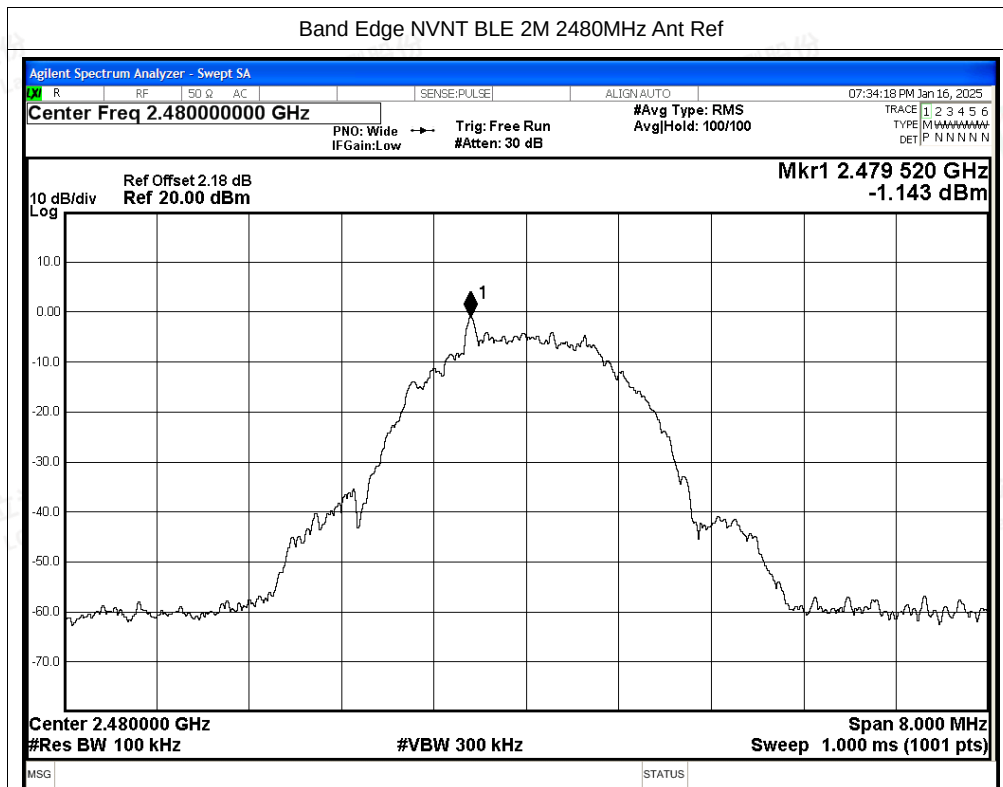
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B.5 Conducted RF Spurious Emission

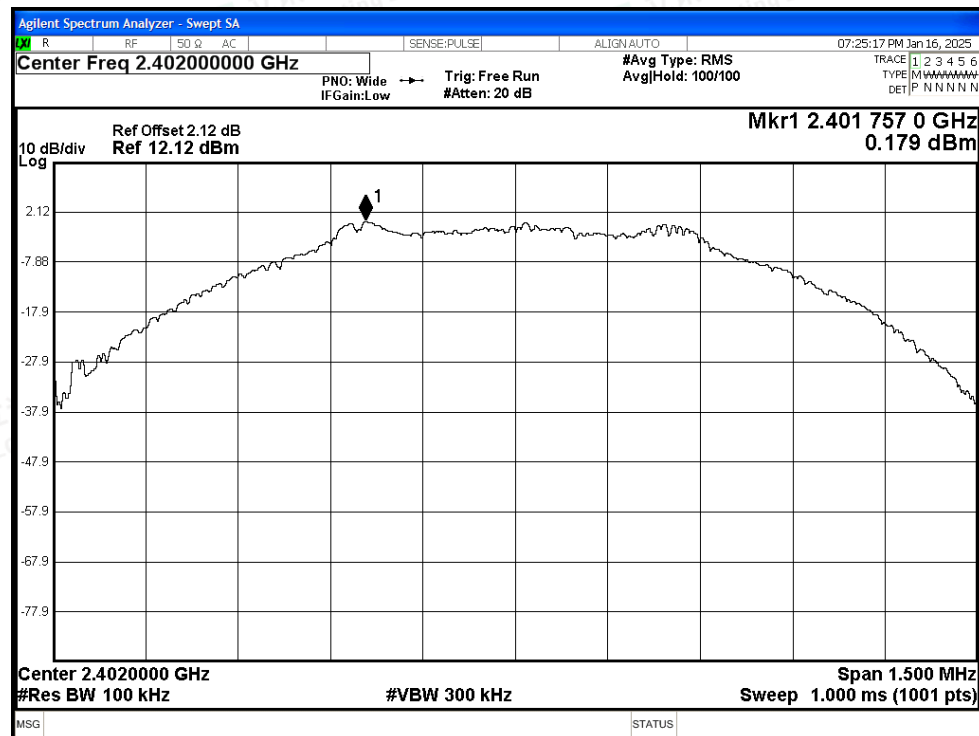
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant	-55.93	-20	Pass
NVNT	BLE 1M	2440	Ant	-55.67	-20	Pass
NVNT	BLE 1M	2480	Ant	-53.83	-20	Pass
NVNT	BLE 2M	2402	Ant	-55.18	-20	Pass
NVNT	BLE 2M	2440	Ant	-54.58	-20	Pass
NVNT	BLE 2M	2480	Ant	-53.97	-20	Pass



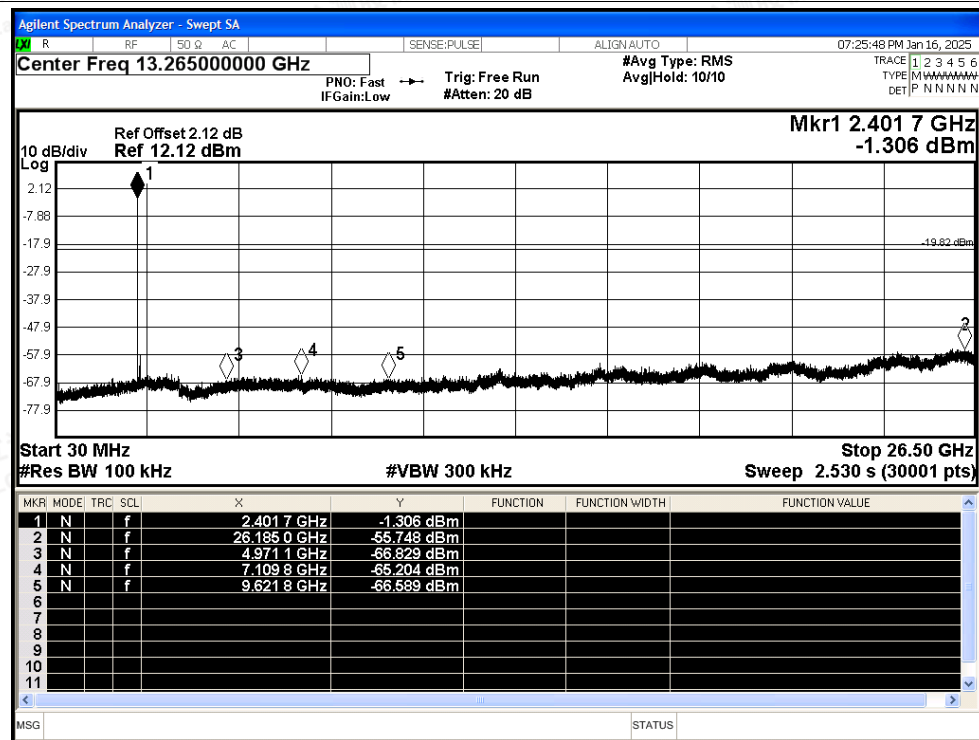


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant Ref

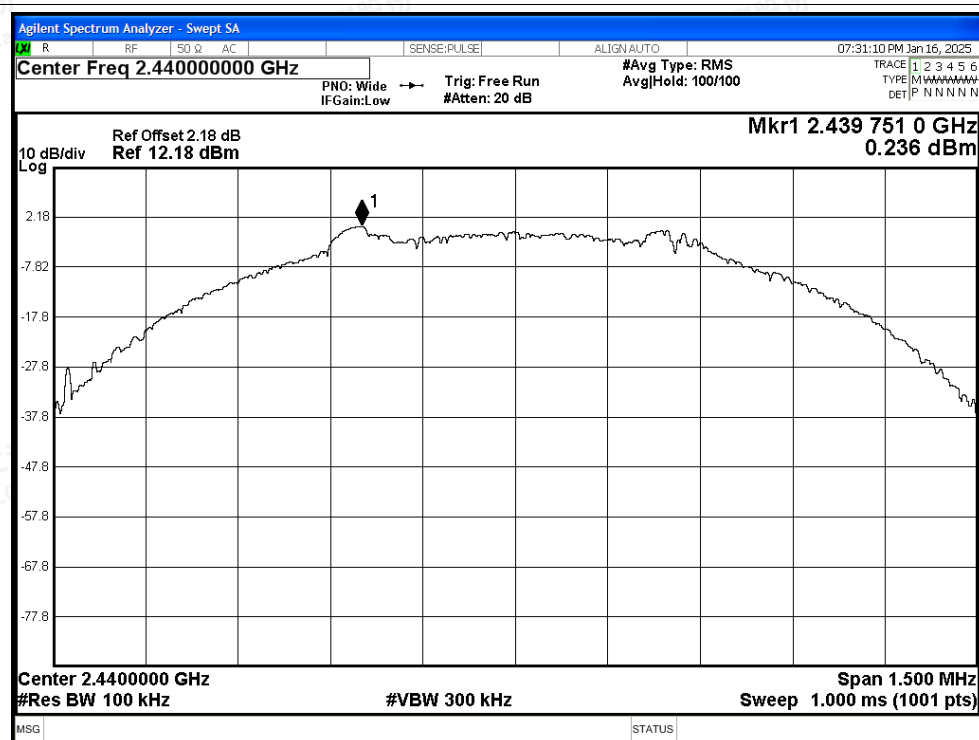


Tx. Spurious NVNT BLE 1M 2402MHz Ant Emission

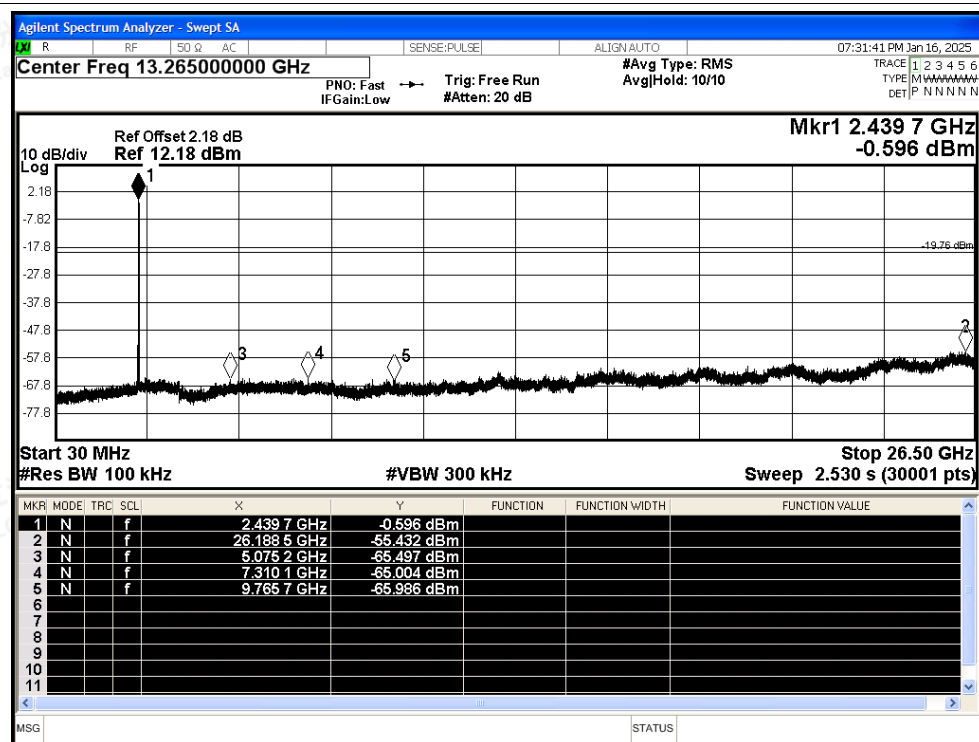




Tx. Spurious NVNT BLE 1M 2440MHz Ant Ref

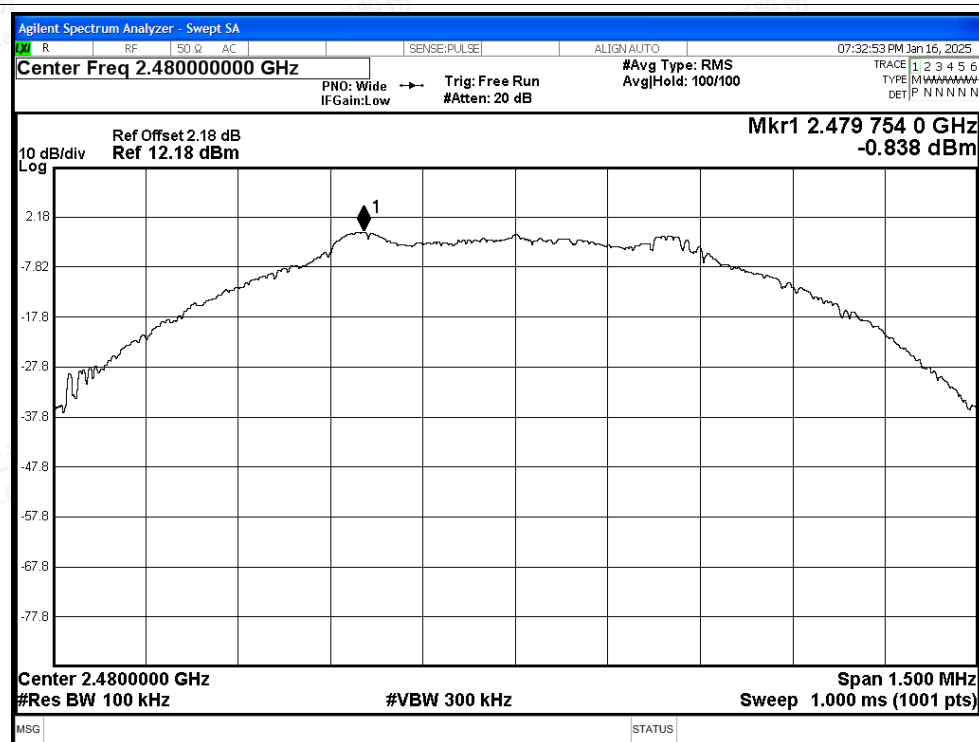


Tx. Spurious NVNT BLE 1M 2440MHz Ant Emission

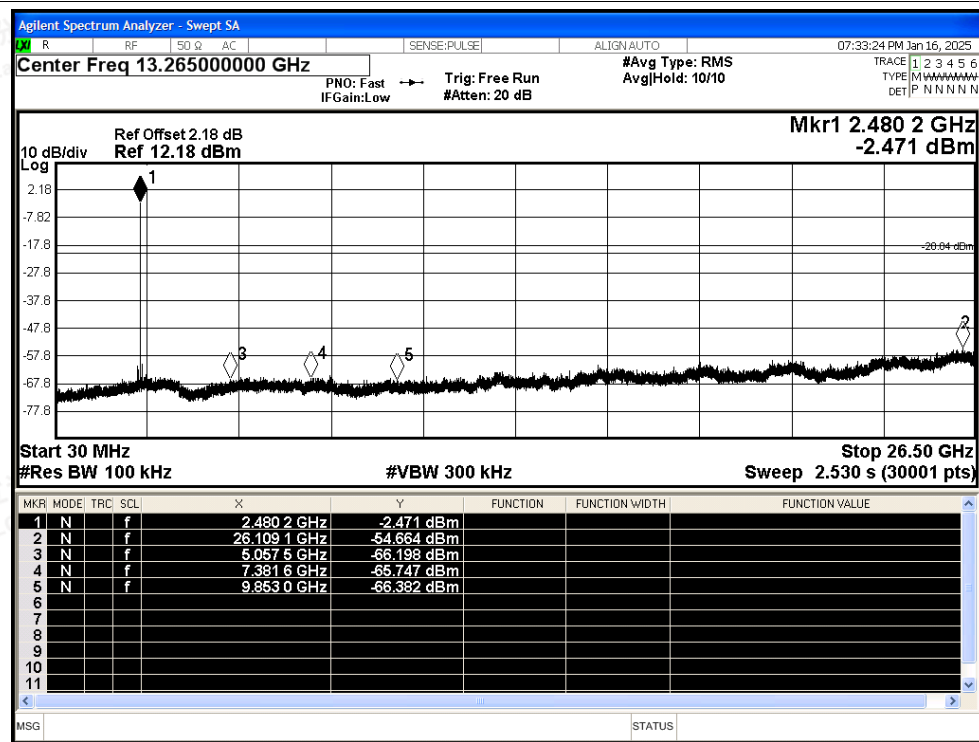




Tx. Spurious NVNT BLE 1M 2480MHz Ant Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant Emission

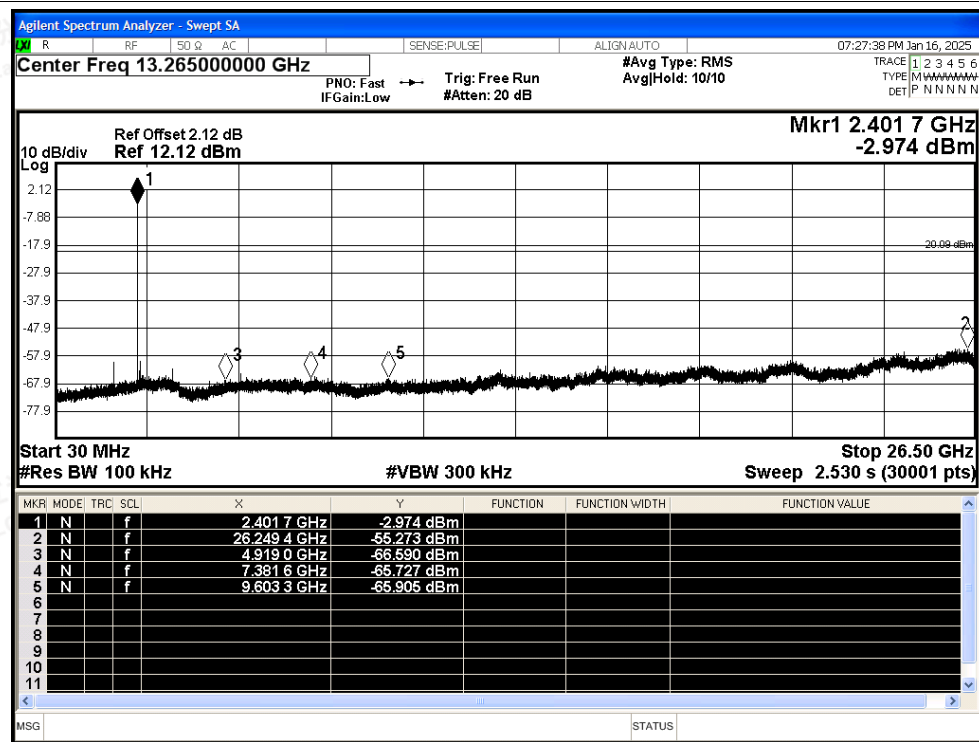




Tx. Spurious NVNT BLE 2M 2402MHz Ant Ref

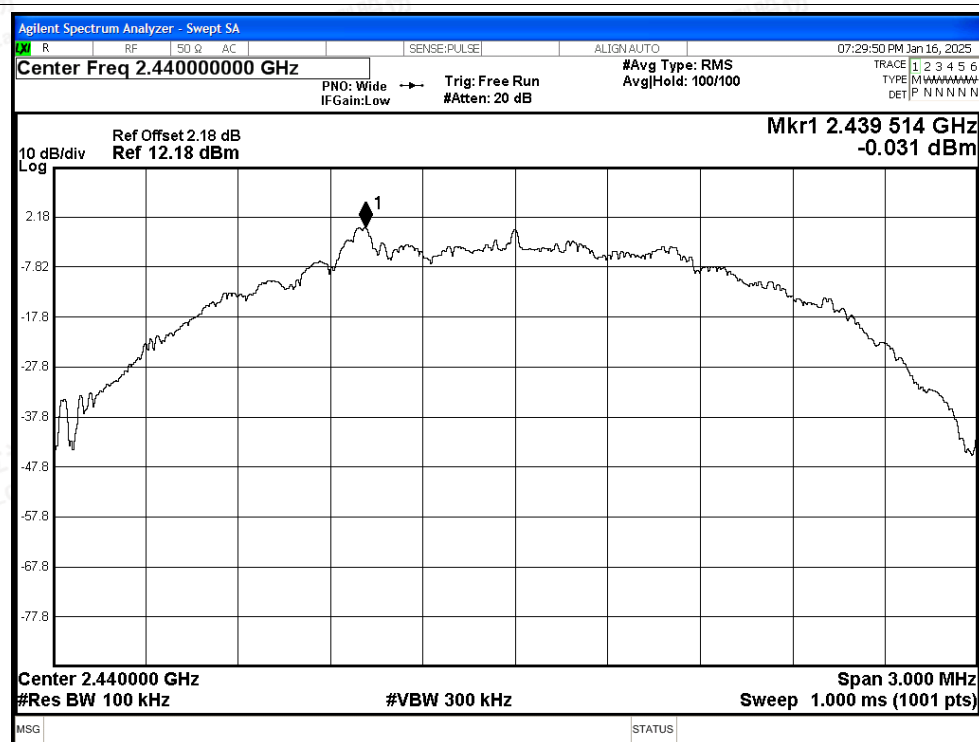


Tx. Spurious NVNT BLE 2M 2402MHz Ant Emission

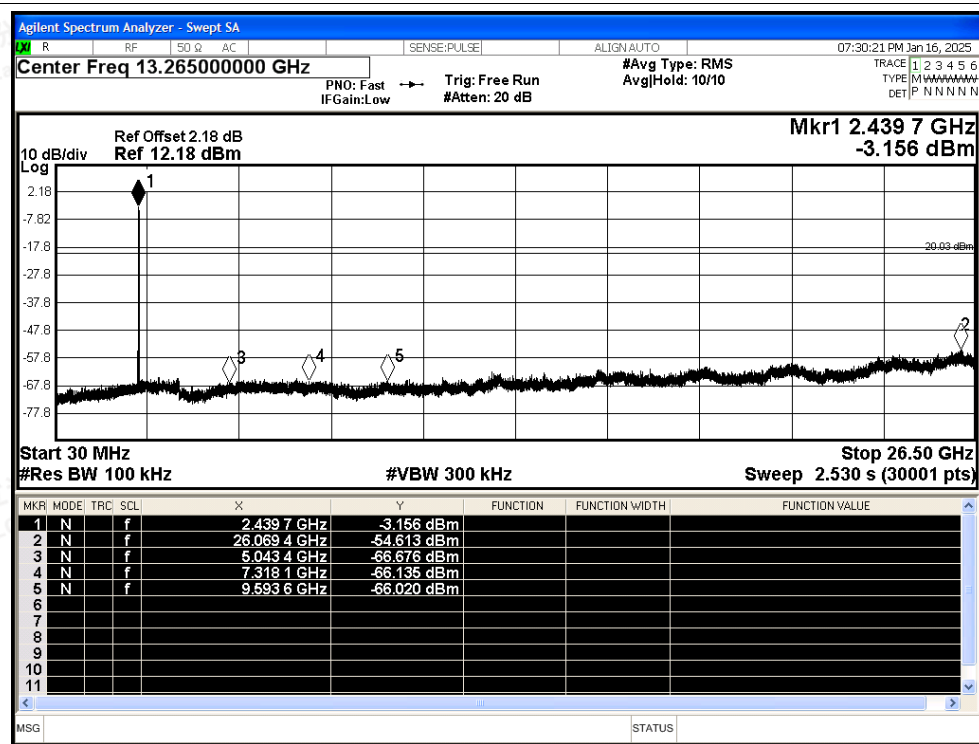




Tx. Spurious NVNT BLE 2M 2440MHz Ant Ref

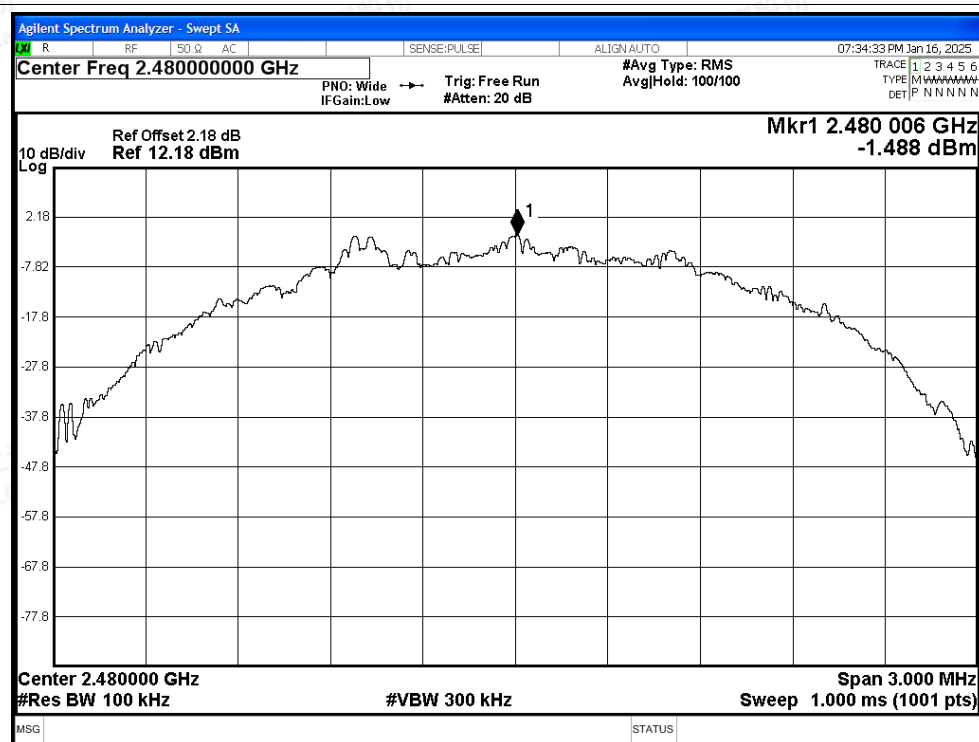


Tx. Spurious NVNT BLE 2M 2440MHz Ant Emission

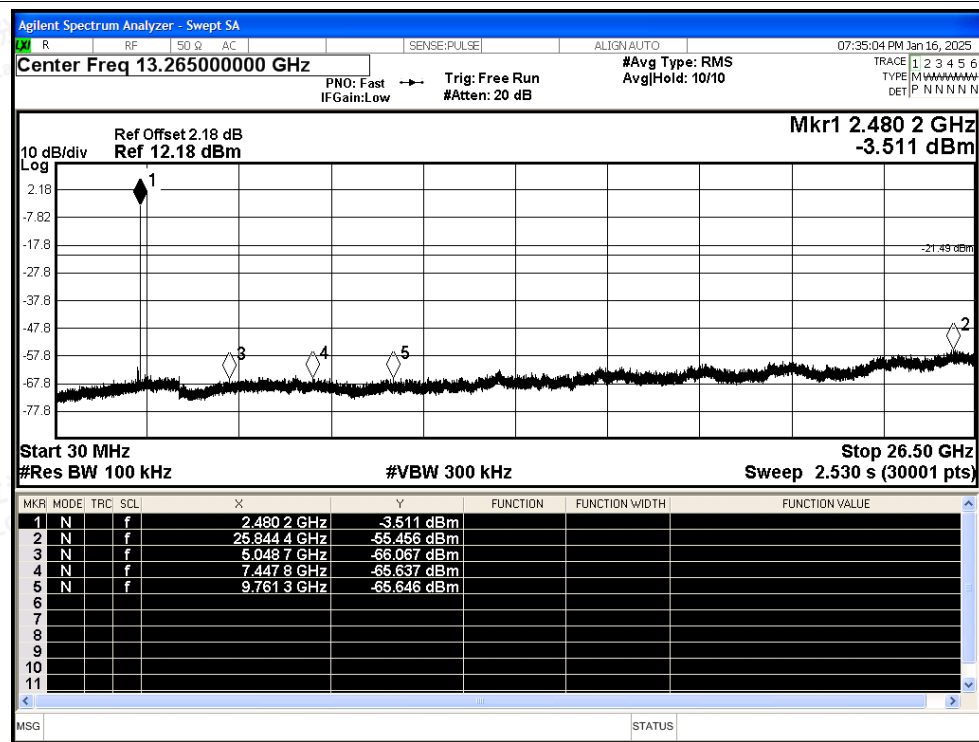




Tx. Spurious NVNT BLE 2M 2480MHz Ant Ref



Tx. Spurious NVNT BLE 2M 2480MHz Ant Emission





B.6 Duty Cycle

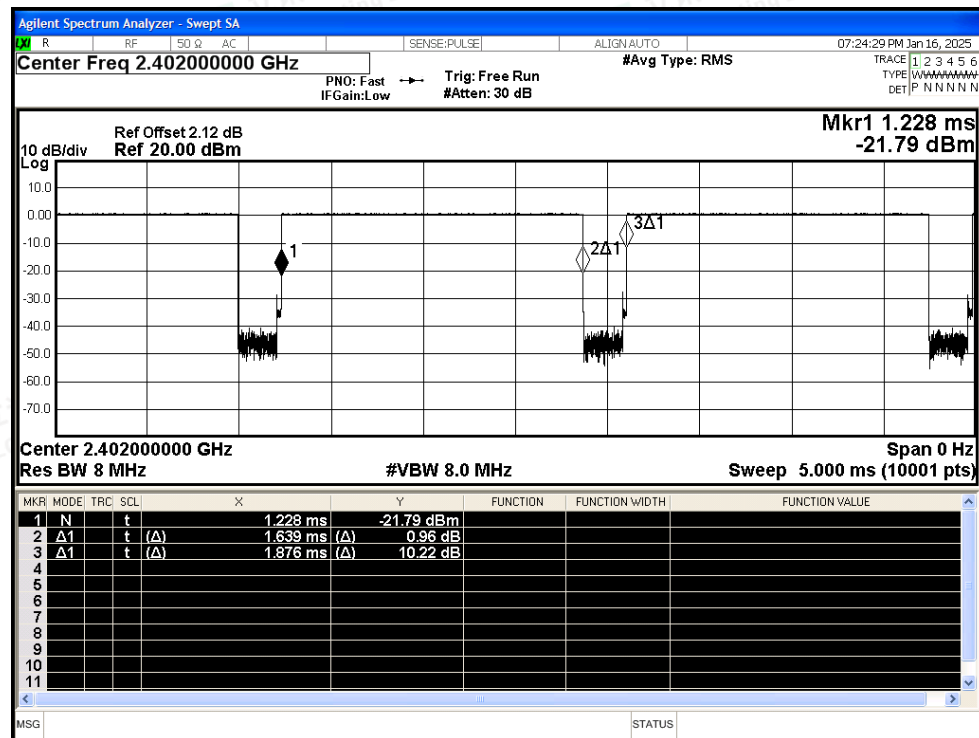
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant	87.39	0.59	0.61
NVNT	BLE 1M	2440	Ant	87.39	0.59	0.61
NVNT	BLE 1M	2480	Ant	87.39	0.59	0.61
NVNT	BLE 2M	2402	Ant	65.92	1.81	1.21
NVNT	BLE 2M	2440	Ant	65.96	1.81	1.21
NVNT	BLE 2M	2480	Ant	65.96	1.81	1.21



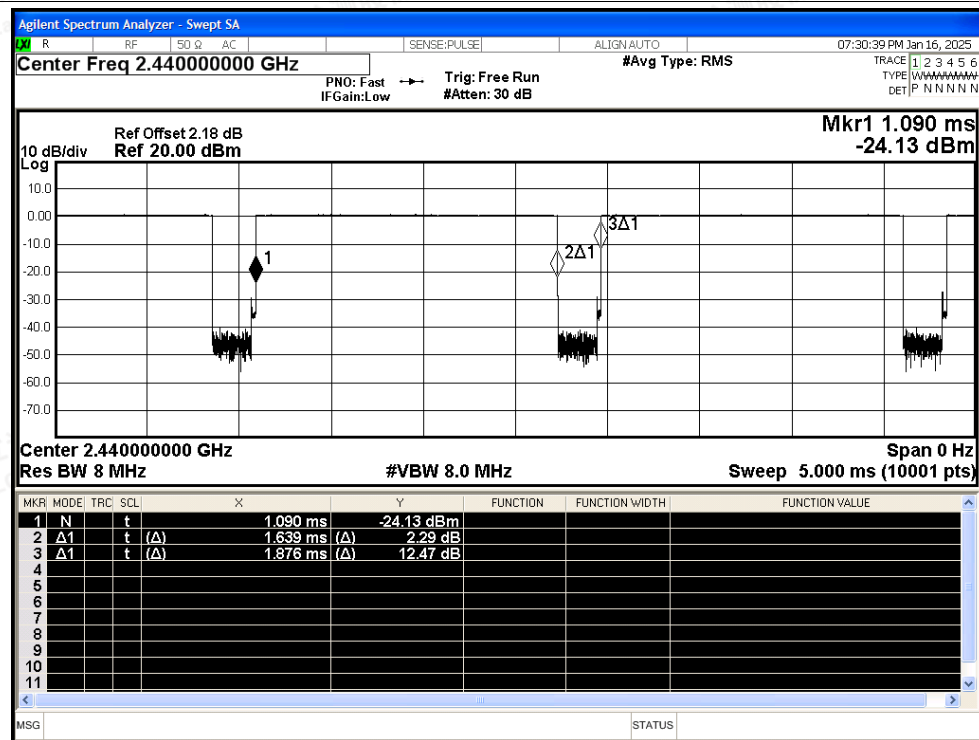


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant



Duty Cycle NVNT BLE 1M 2440MHz Ant

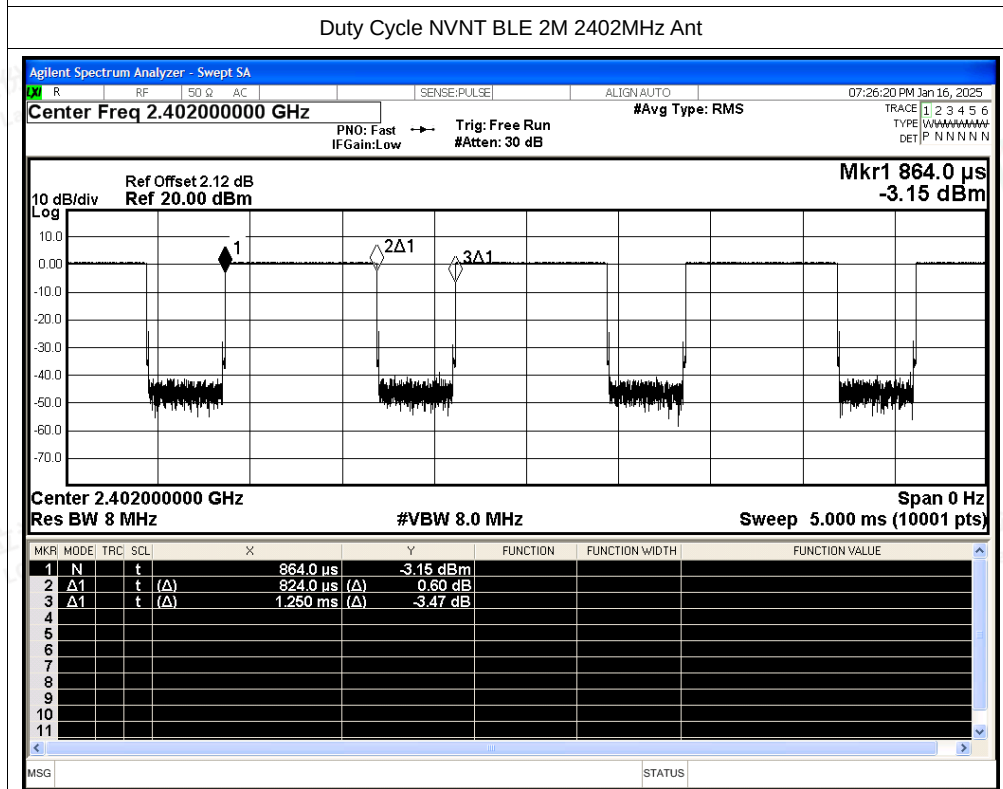
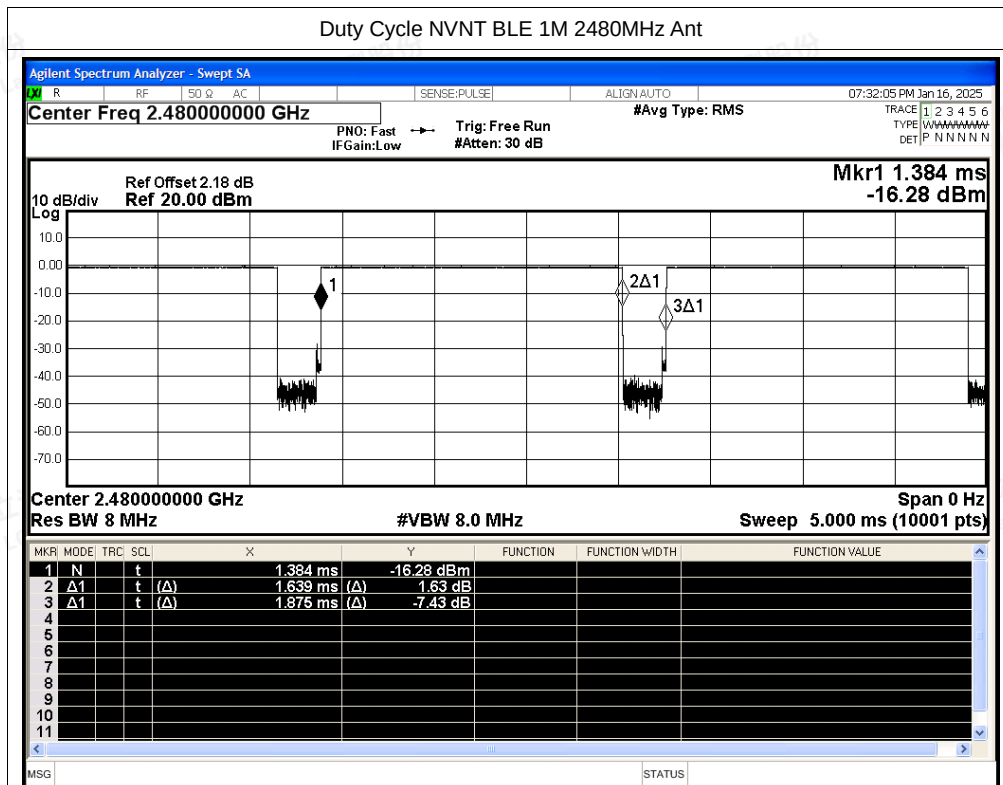


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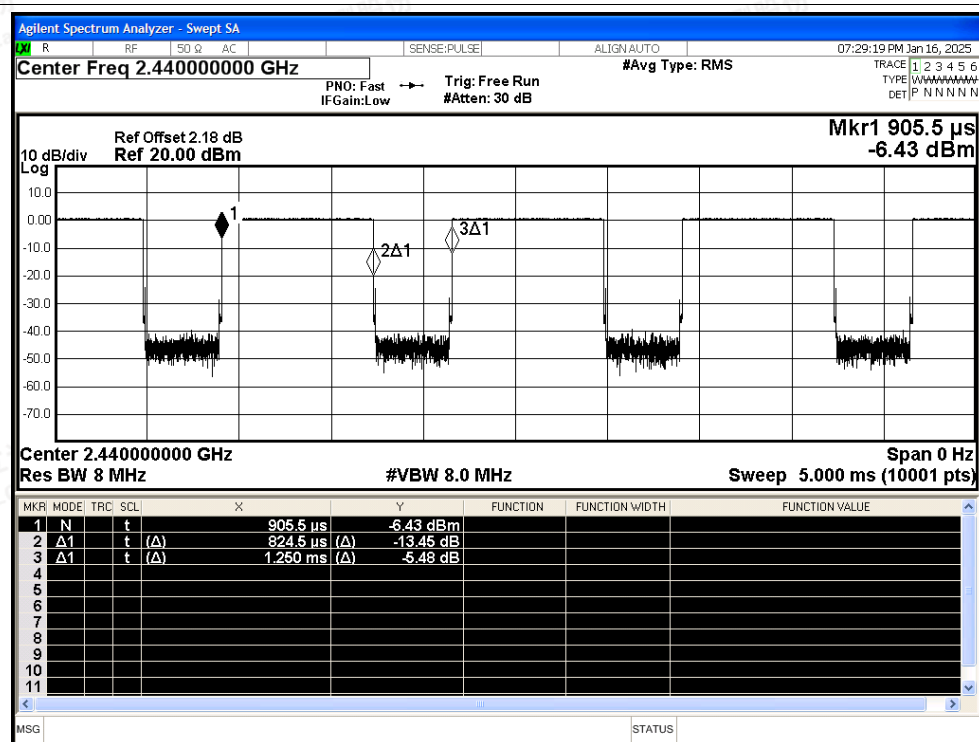
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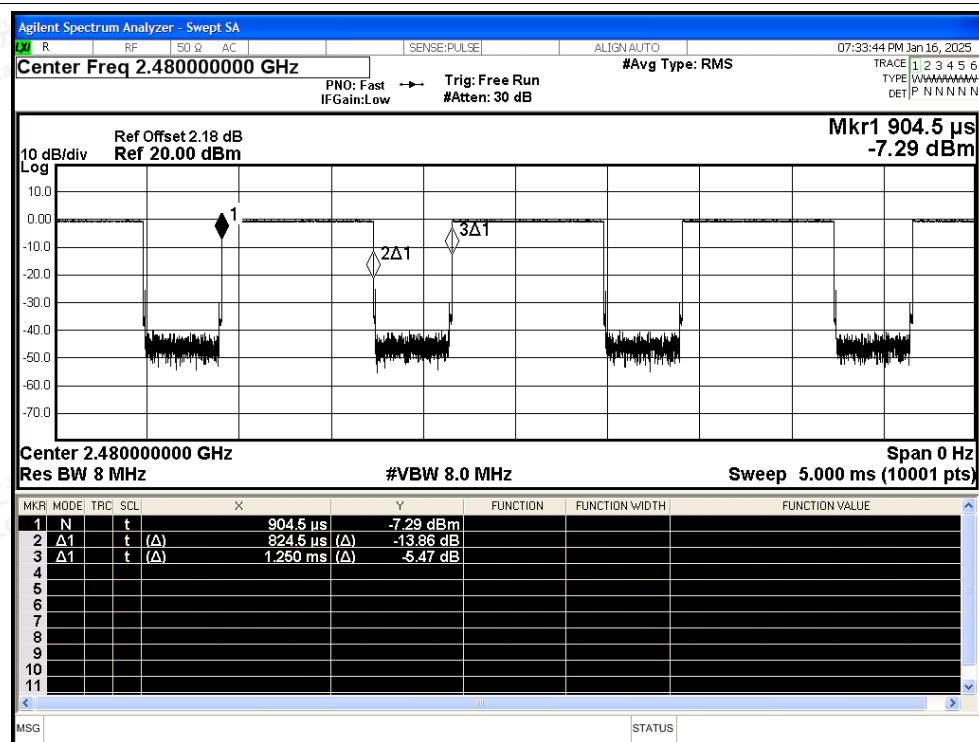




Duty Cycle NVNT BLE 2M 2440MHz Ant



Duty Cycle NVNT BLE 2M 2480MHz Ant





B.7 Restrict Band

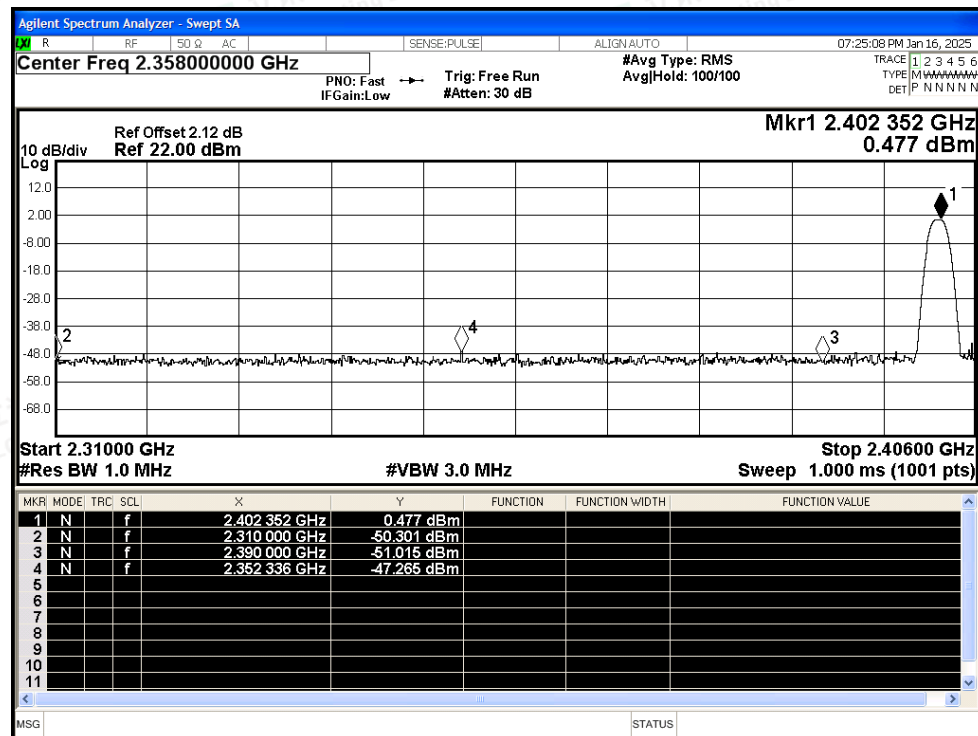
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1M	2402	Ant	2310	-50.3	2	-	46.96	Peak	74	Pass
NVNT	BLE 1M	2402	Ant	2310	-58.51	2	0.59	39.34	Average	54	Pass
NVNT	BLE 1M	2402	Ant	2352.336	-47.27	2	-	49.99	Peak	74	Pass
NVNT	BLE 1M	2402	Ant	2387.184	-58.03	2	0.59	39.82	Average	54	Pass
NVNT	BLE 1M	2402	Ant	2390	-51.02	2	-	46.24	Peak	74	Pass
NVNT	BLE 1M	2402	Ant	2390	-58.49	2	0.59	39.36	Average	54	Pass
NVNT	BLE 1M	2480	Ant	2483.5	-49.04	2	-	48.22	Peak	74	Pass
NVNT	BLE 1M	2480	Ant	2483.5	-57.72	2	0.59	40.13	Average	54	Pass
NVNT	BLE 1M	2480	Ant	2485.504	-44.05	2	-	53.21	Peak	74	Pass
NVNT	BLE 1M	2480	Ant	2483.704	-57.49	2	0.59	40.36	Average	54	Pass
NVNT	BLE 1M	2480	Ant	2500	-49.06	2	-	48.2	Peak	74	Pass
NVNT	BLE 1M	2480	Ant	2500	-57.89	2	0.59	39.96	Average	54	Pass
NVNT	BLE 2M	2402	Ant	2310	-50.25	2	-	47.01	Peak	74	Pass
NVNT	BLE 2M	2402	Ant	2310	-58.45	2	1.81	40.62	Average	54	Pass
NVNT	BLE 2M	2402	Ant	2341.872	-46.79	2	-	50.47	Peak	74	Pass
NVNT	BLE 2M	2402	Ant	2389.2	-57.54	2	1.81	41.53	Average	54	Pass
NVNT	BLE 2M	2402	Ant	2390	-51.13	2	-	46.13	Peak	74	Pass
NVNT	BLE 2M	2402	Ant	2390	-58.3	2	1.81	40.77	Average	54	Pass
NVNT	BLE 2M	2480	Ant	2483.5	-47.21	2	-	50.05	Peak	74	Pass
NVNT	BLE 2M	2480	Ant	2483.5	-57.73	2	1.81	41.34	Average	54	Pass
NVNT	BLE 2M	2480	Ant	2484.472	-43.38	2	-	53.88	Peak	74	Pass
NVNT	BLE 2M	2480	Ant	2488.432	-57.29	2	1.81	41.78	Average	54	Pass
NVNT	BLE 2M	2480	Ant	2500	-50.31	2	-	46.95	Peak	74	Pass
NVNT	BLE 2M	2480	Ant	2500	-57.98	2	1.81	41.09	Average	54	Pass



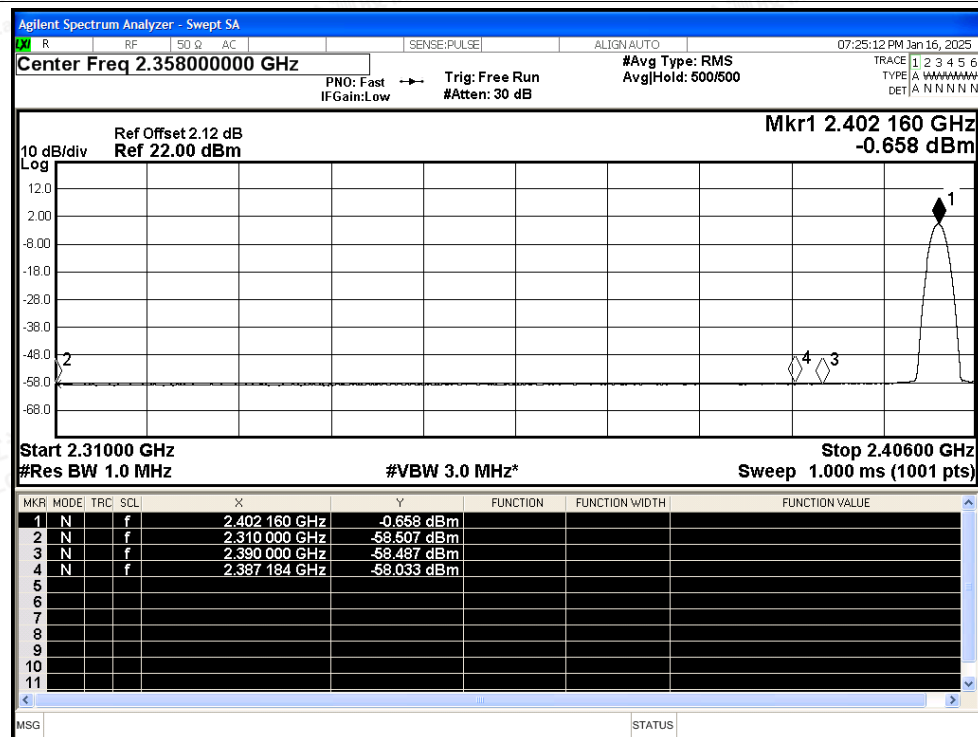


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant Peak

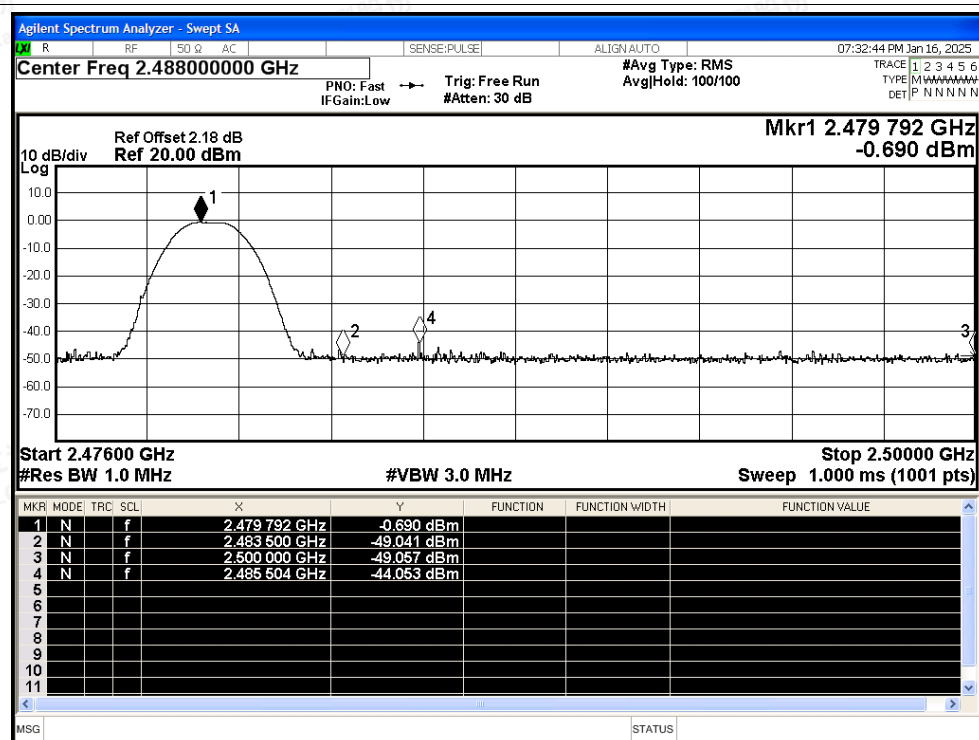


Restrict Band NVNT BLE 1M 2402MHz Ant Average

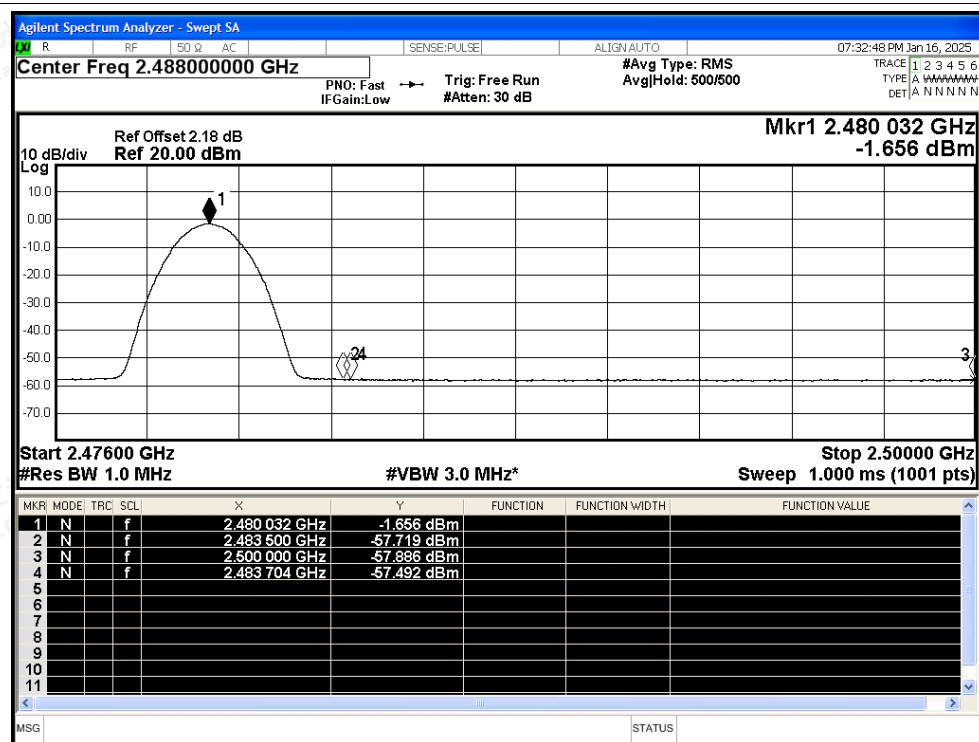


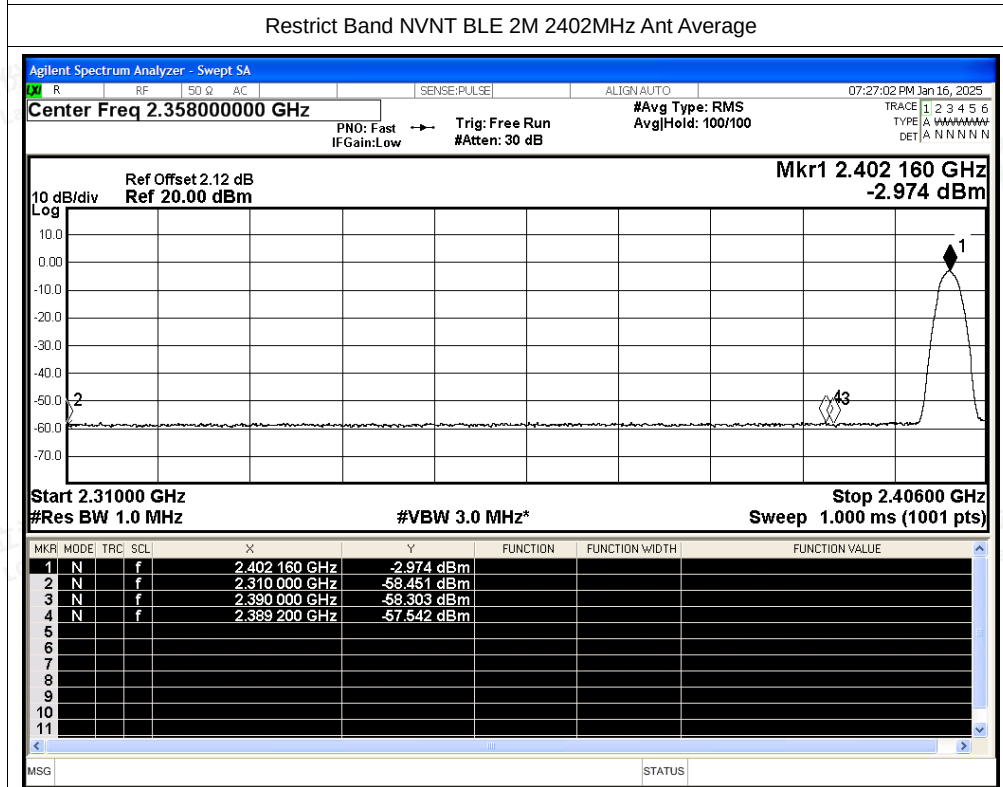
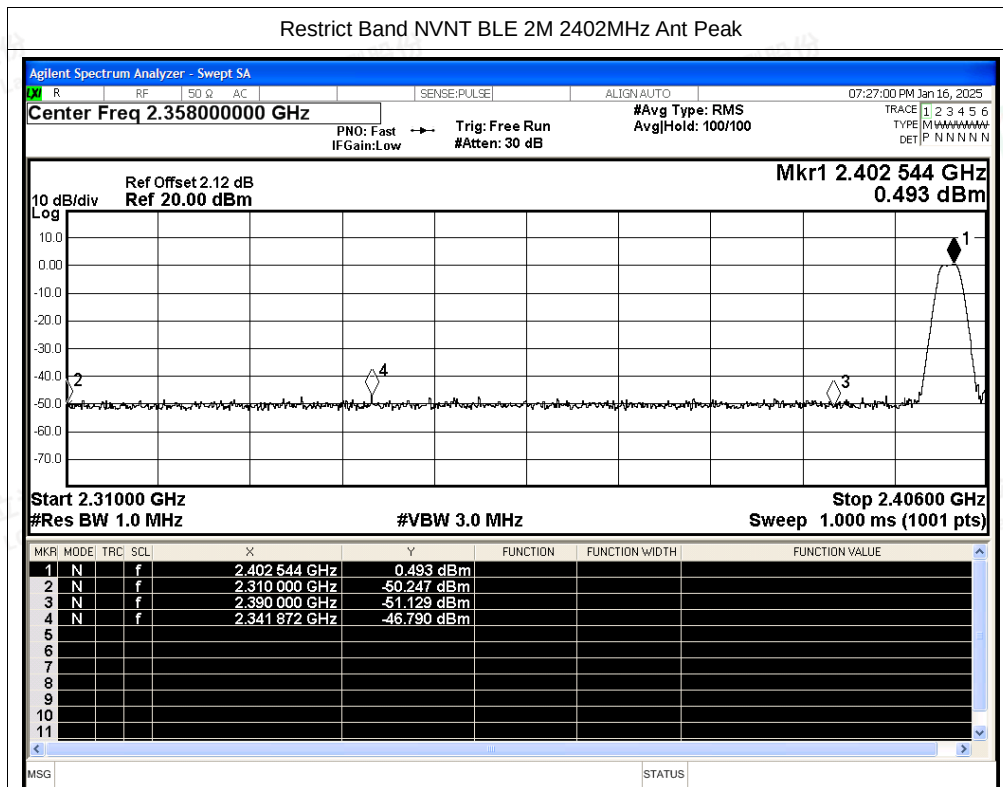


Restrict Band NVNT BLE 1M 2480MHz Ant Peak



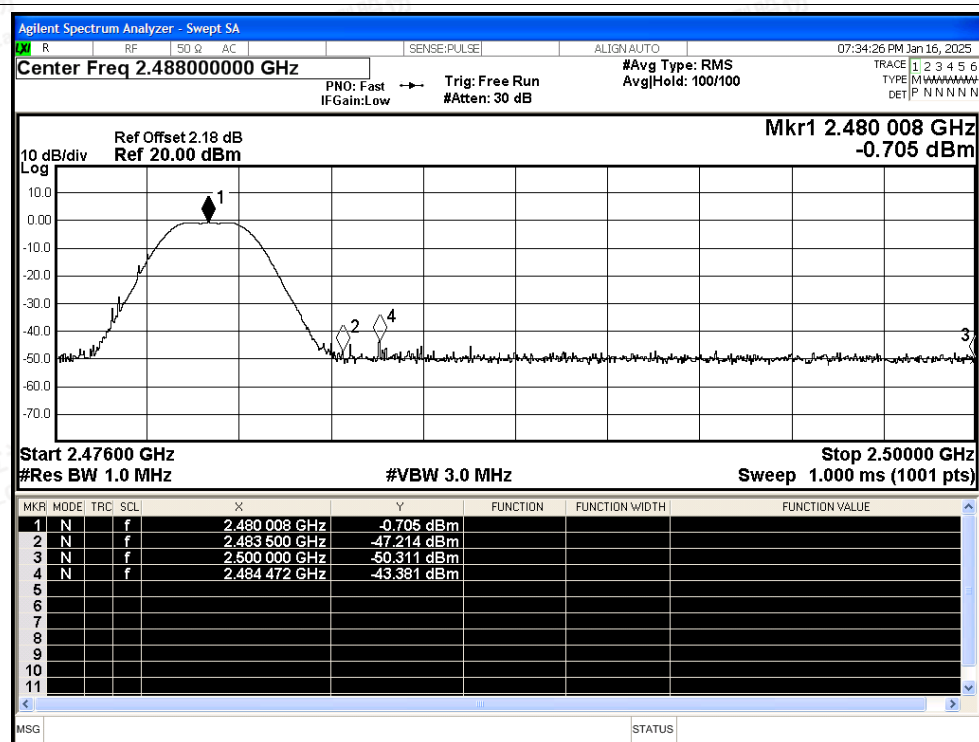
Restrict Band NVNT BLE 1M 2480MHz Ant Average







Restrict Band NVNT BLE 2M 2480MHz Ant Peak



Restrict Band NVNT BLE 2M 2480MHz Ant Average

