



Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Avilon

Test Model: AVL-002

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Andre Tan
Supervised by:	Nick Peng



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A.1 -6dB Bandwidth

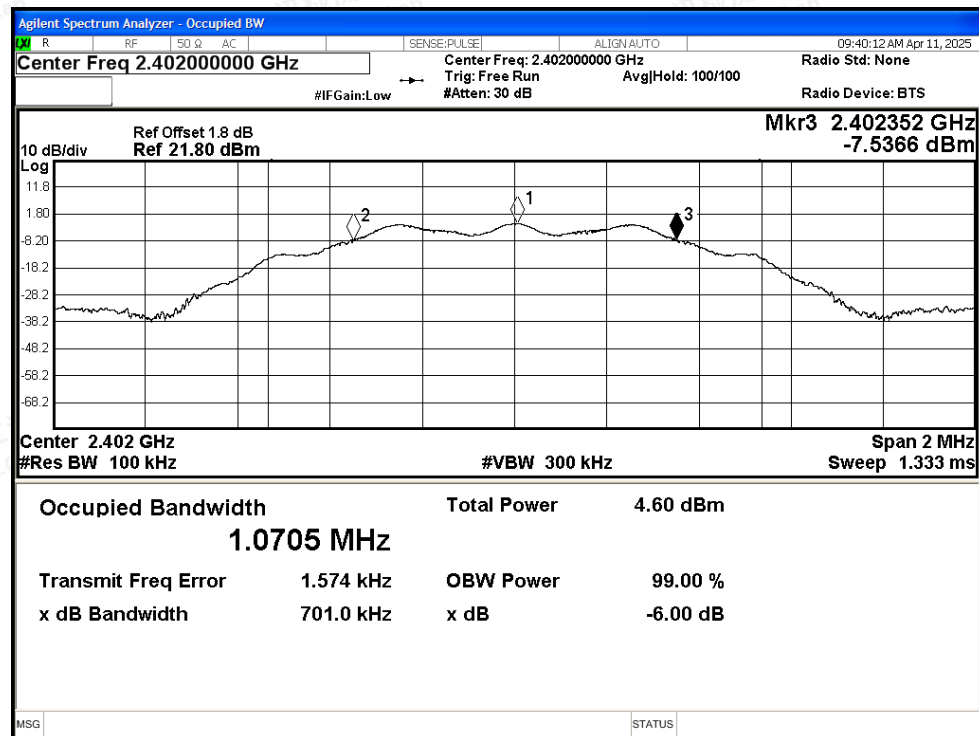
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 125Kbps	2402	Ant1	0.701	≥ 0.5	Pass
NVNT	BLE 125Kbps	2440	Ant1	0.609	≥ 0.5	Pass
NVNT	BLE 125Kbps	2480	Ant1	0.724	≥ 0.5	Pass



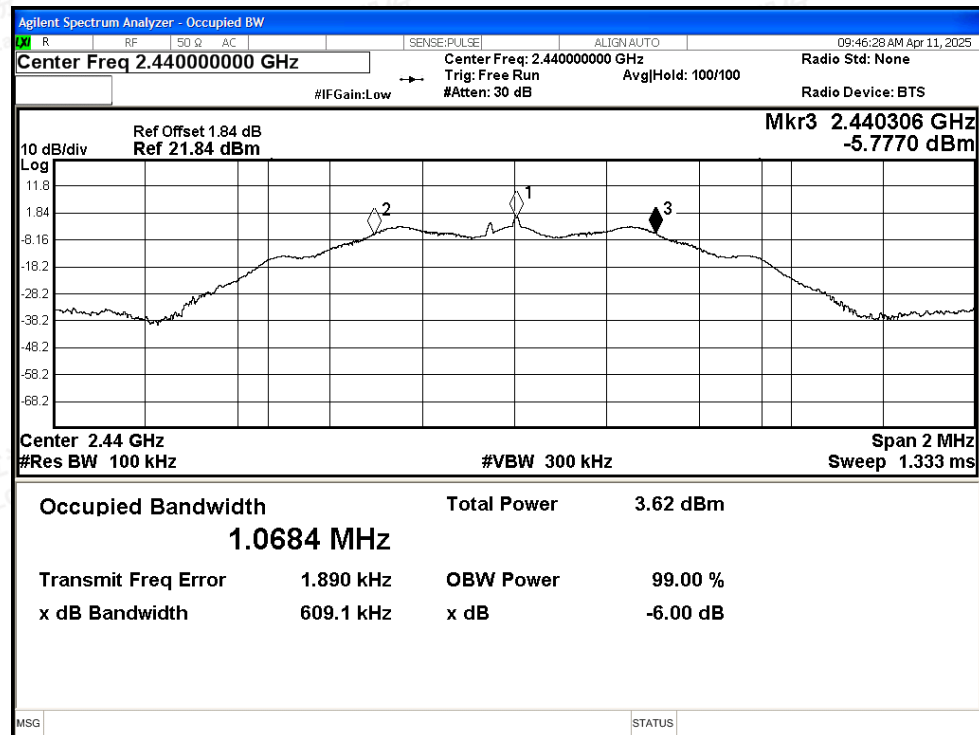


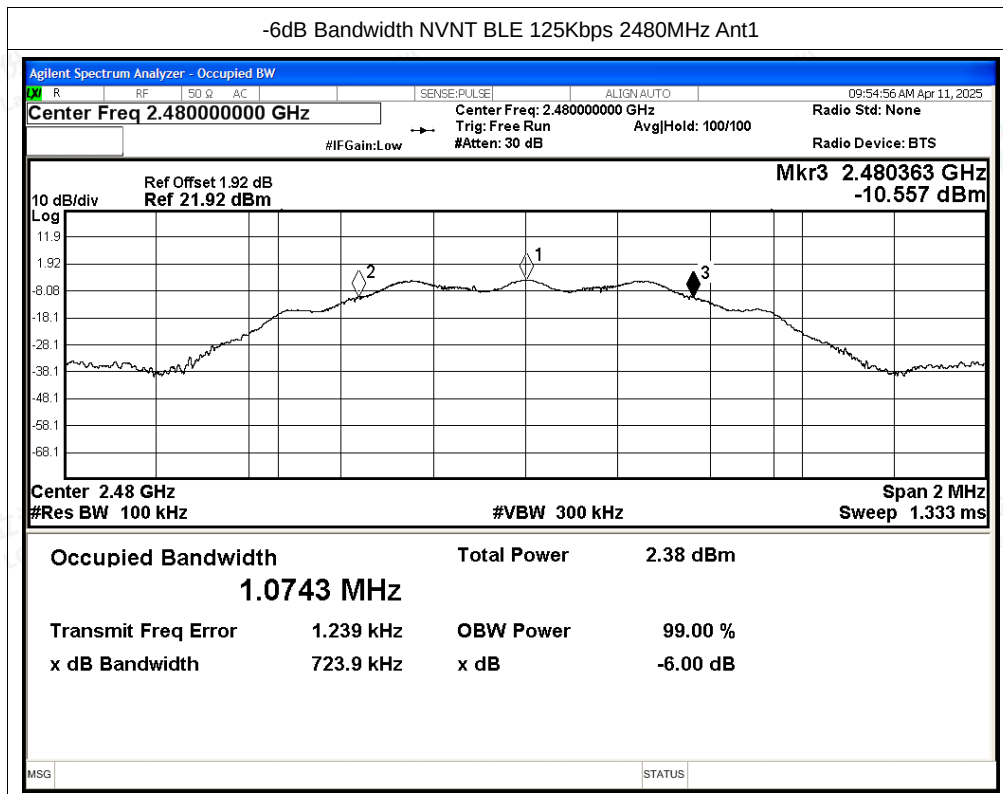
Test Graphs

-6dB Bandwidth NVNT BLE 125Kbps 2402MHz Ant1



-6dB Bandwidth NVNT BLE 125Kbps 2440MHz Ant1







A.2 Maximum Peak Conducted Output Power

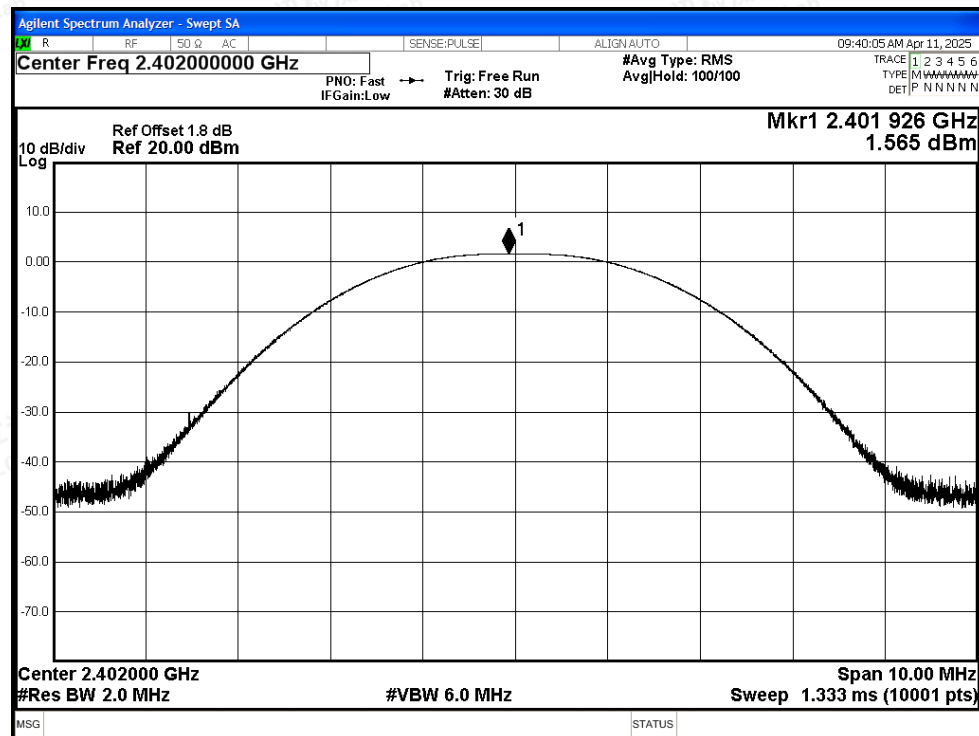
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 125Kbps	2402	Ant1	1.57	30	Pass
NVNT	BLE 125Kbps	2440	Ant1	0.44	30	Pass
NVNT	BLE 125Kbps	2480	Ant1	-0.60	30	Pass



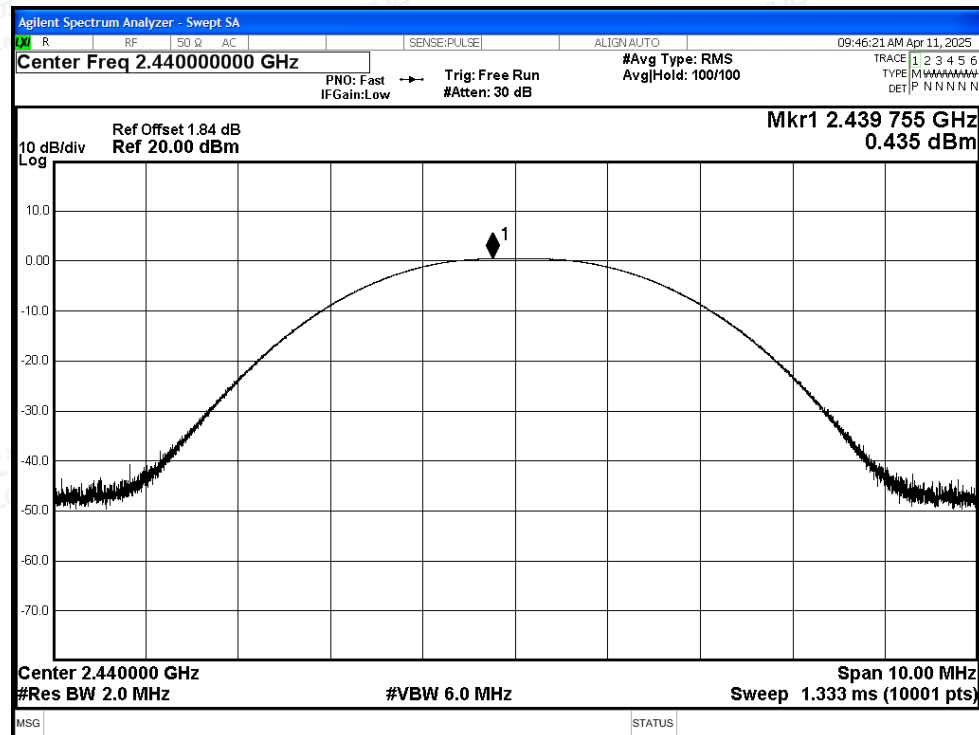


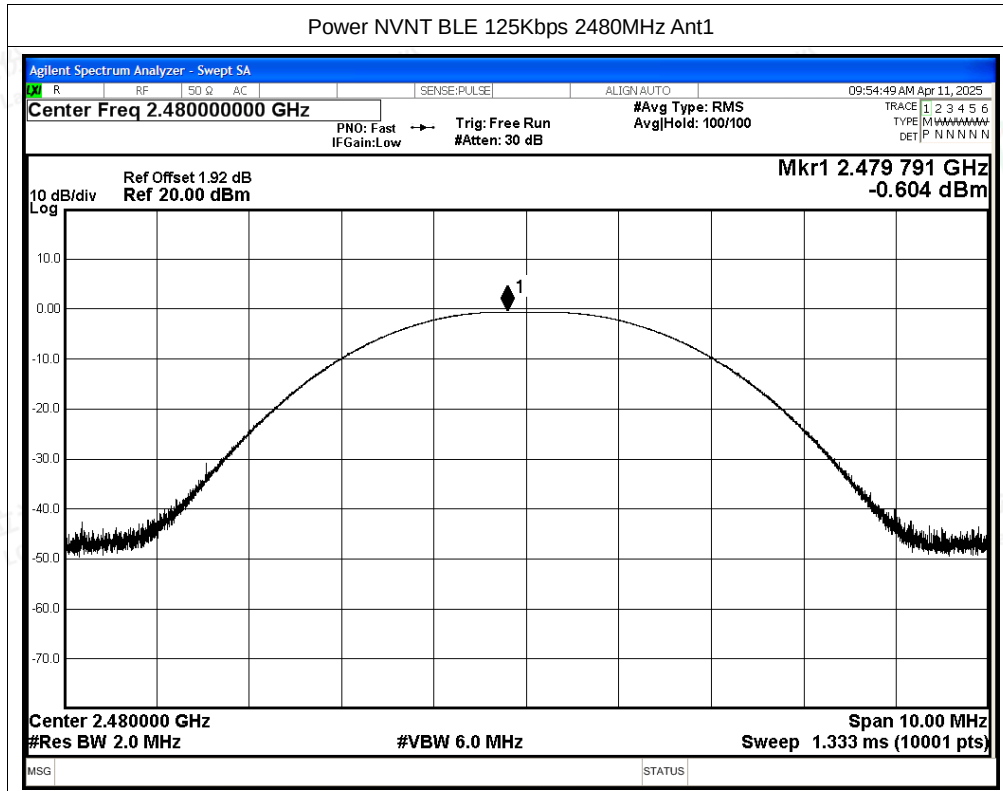
Test Graphs

Power NVNT BLE 125Kbps 2402MHz Ant1



Power NVNT BLE 125Kbps 2440MHz Ant1







A.3 Maximum Power Spectral Density Level

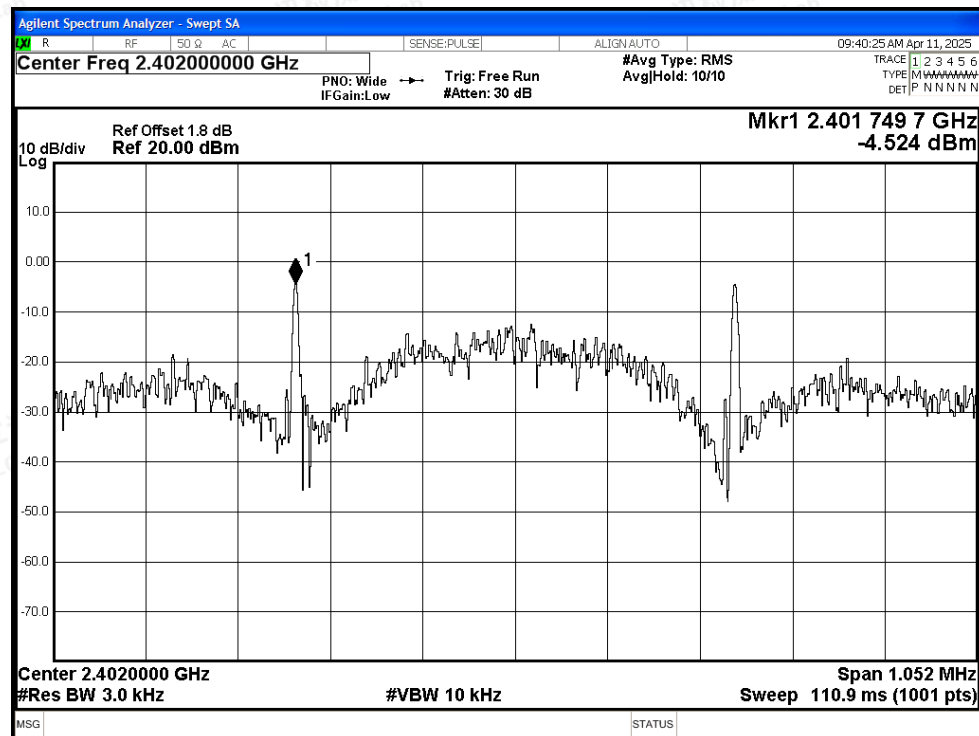
Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 125Kbps	2402	Ant1	-4.52	8	Pass
NVNT	BLE 125Kbps	2440	Ant1	-5.64	8	Pass
NVNT	BLE 125Kbps	2480	Ant1	-6.67	8	Pass



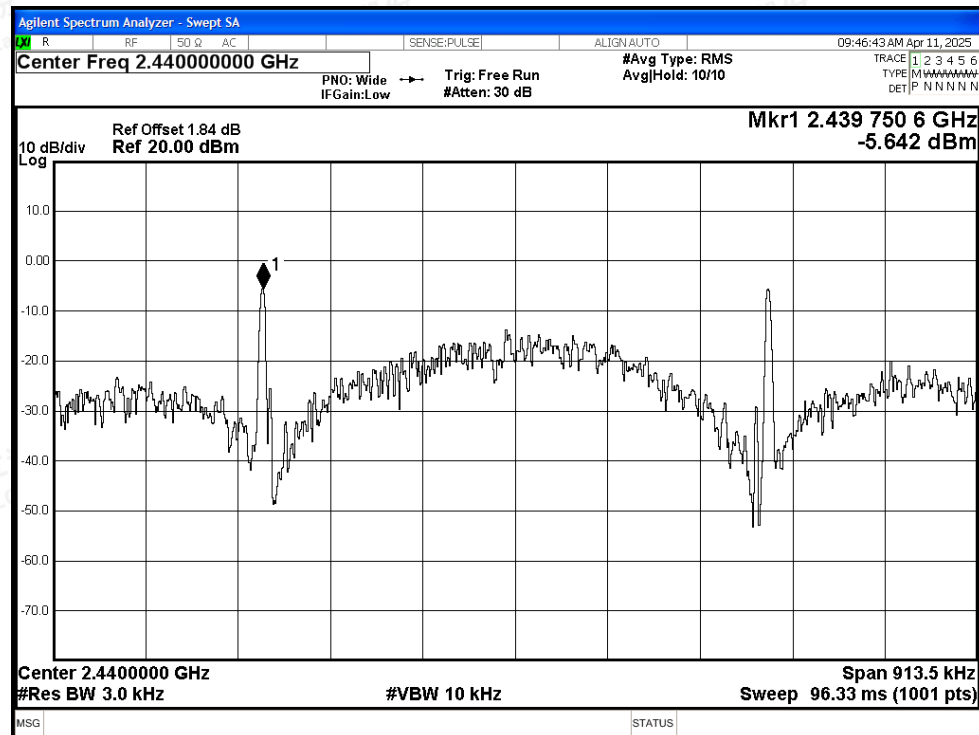


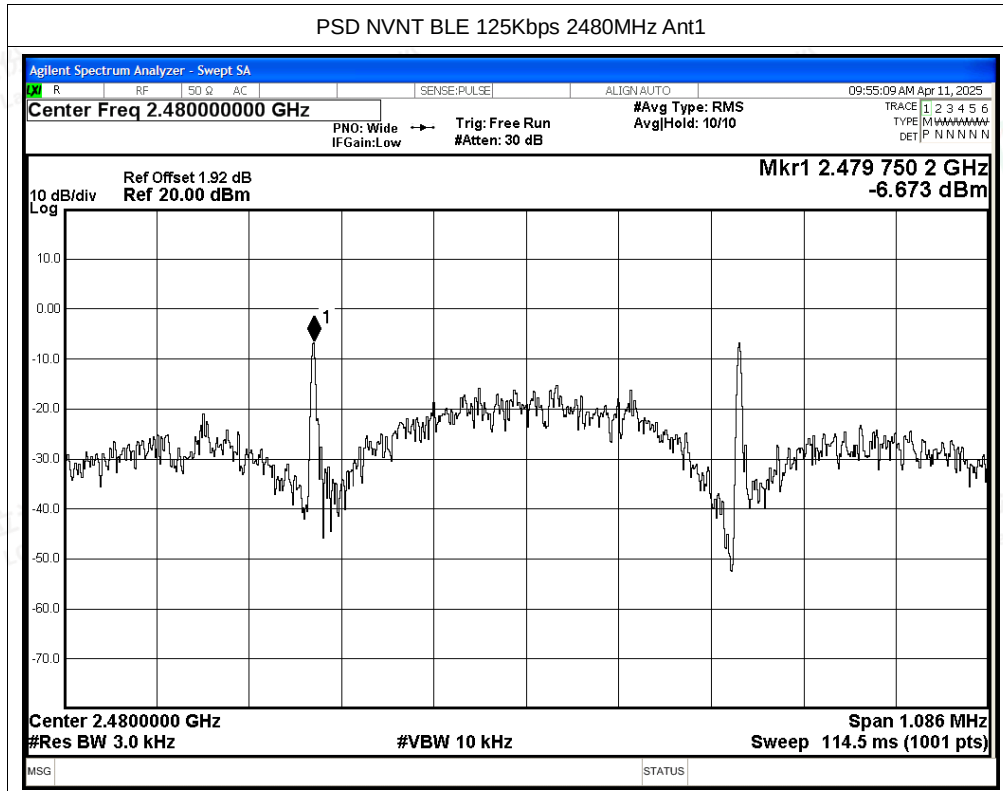
Test Graphs

PSD NVNT BLE 125Kbps 2402MHz Ant1



PSD NVNT BLE 125Kbps 2440MHz Ant1







A.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 125Kbps	2402	Ant1	-44.03	-20	Pass
NVNT	BLE 125Kbps	2480	Ant1	-52.03	-20	Pass



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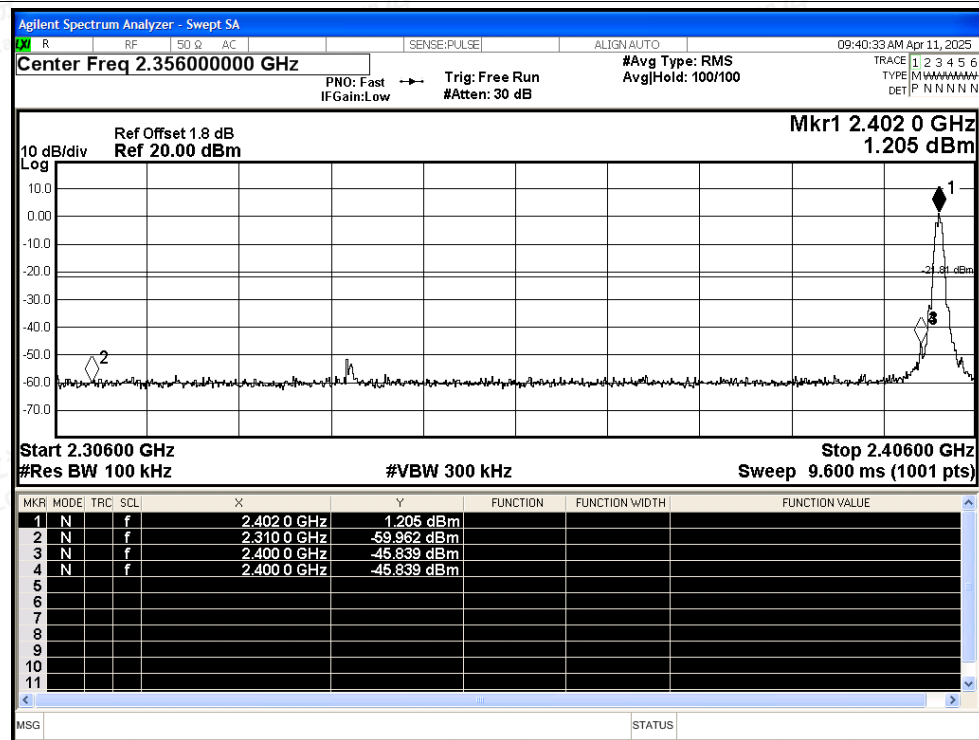


Test Graphs

Band Edge NVNT BLE 125Kbps 2402MHz Ant1 Ref



Band Edge NVNT BLE 125Kbps 2402MHz Ant1 Emission



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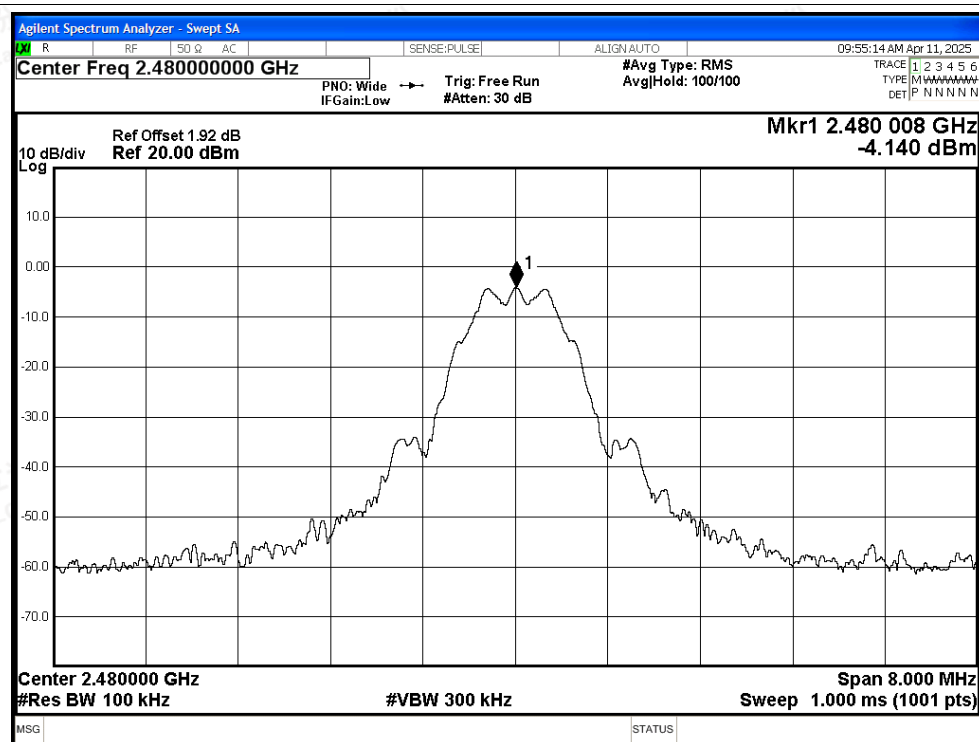
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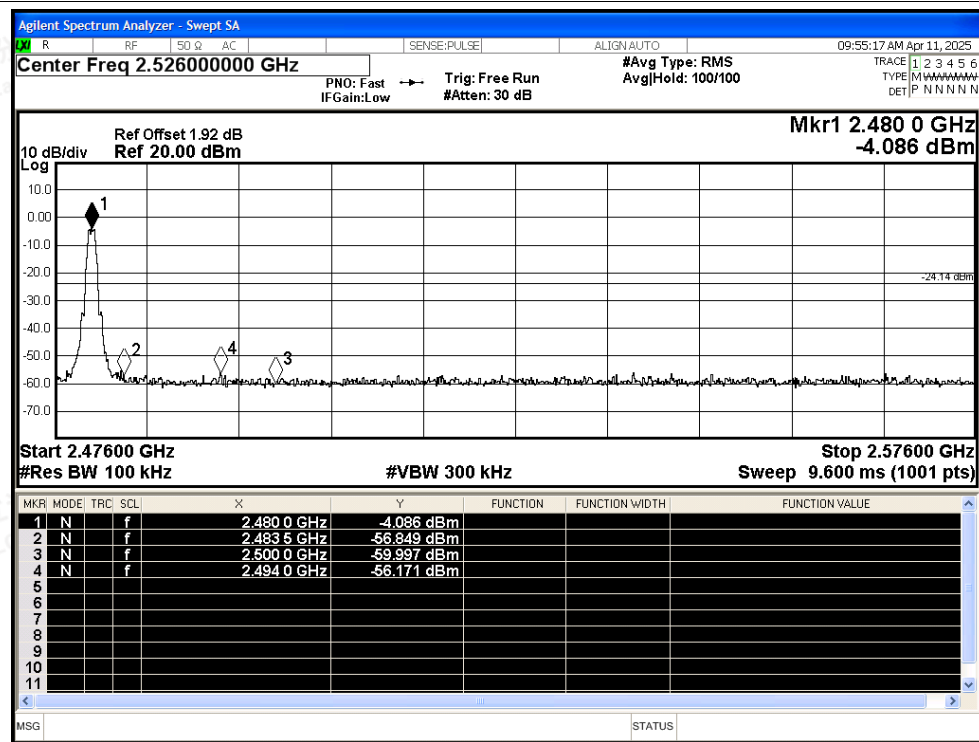
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Band Edge NVNT BLE 125Kbps 2480MHz Ant1 Ref



Band Edge NVNT BLE 125Kbps 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 125Kbps	2402	Ant1	-51.54	-20	Pass
NVNT	BLE 125Kbps	2440	Ant1	-43.17	-20	Pass
NVNT	BLE 125Kbps	2480	Ant1	-47.19	-20	Pass

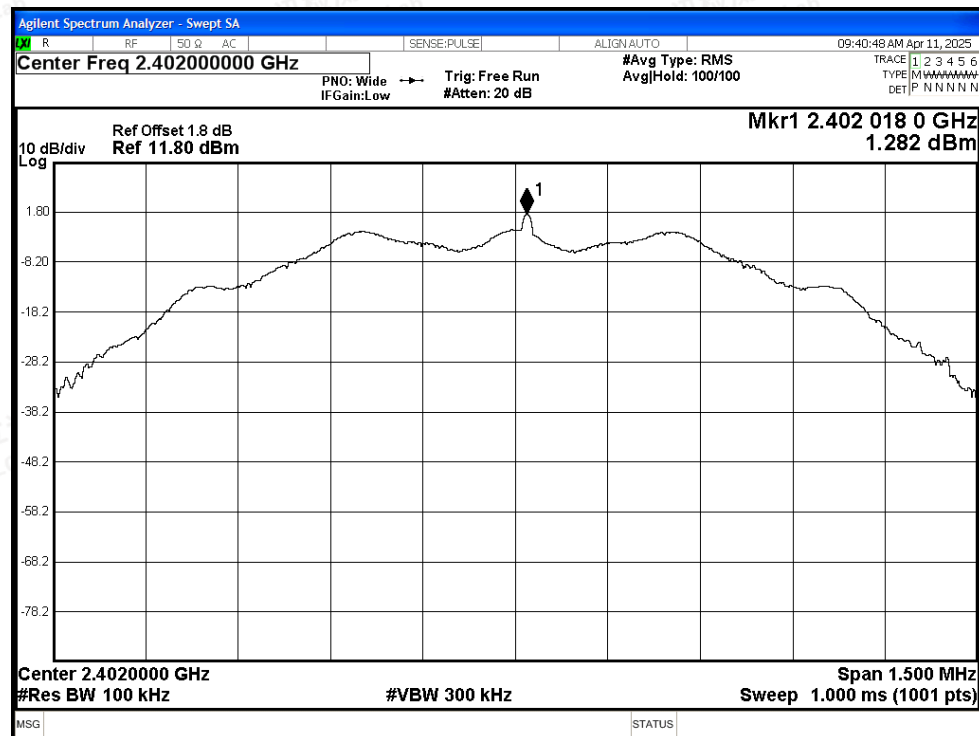


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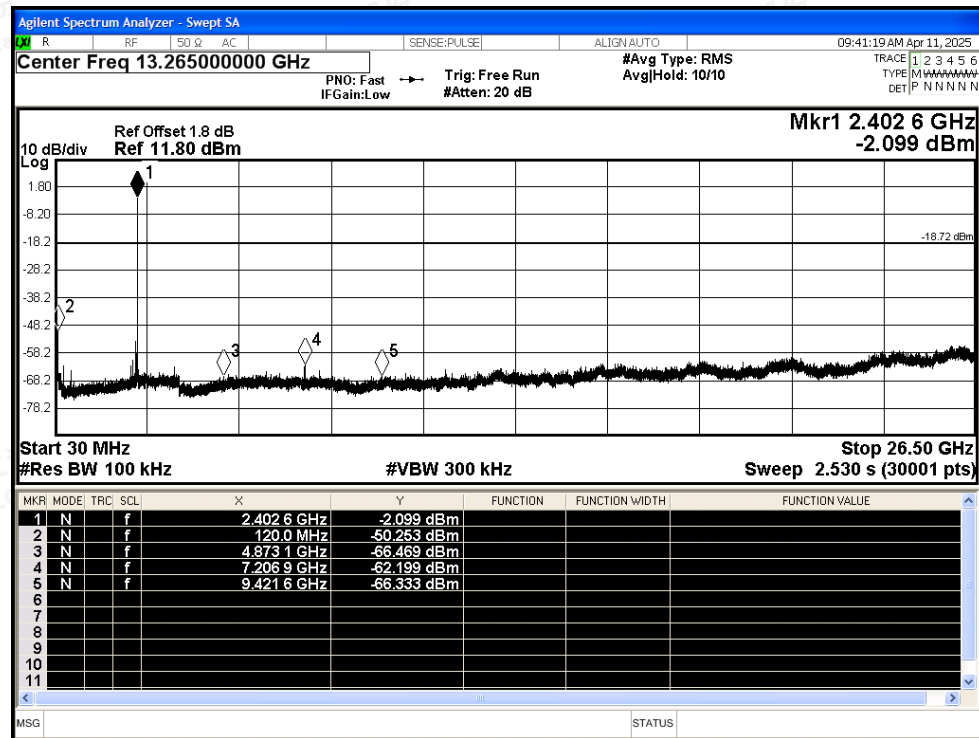


Test Graphs

Tx. Spurious NVNT BLE 125Kbps 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 125Kbps 2402MHz Ant1 Emission



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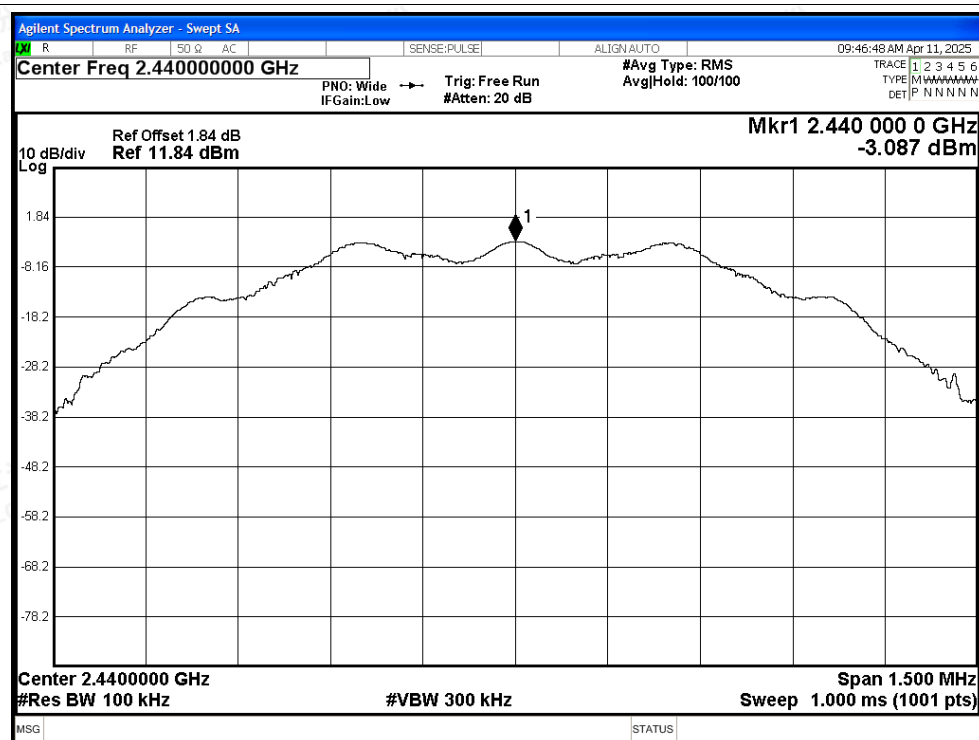
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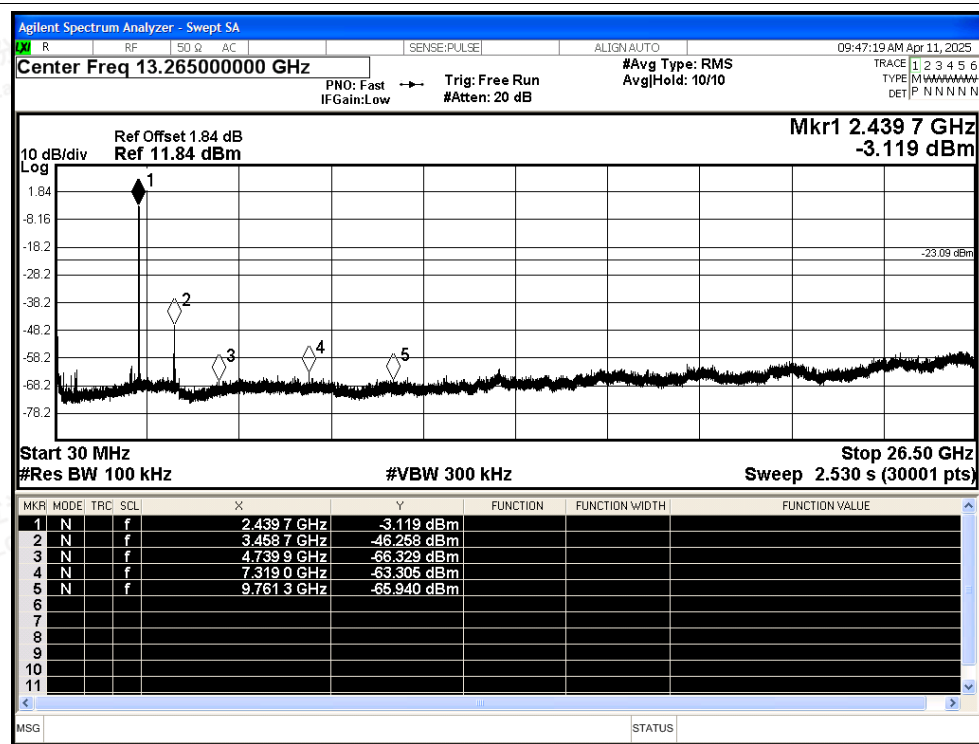
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Tx. Spurious NVNT BLE 125Kbps 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 125Kbps 2440MHz Ant1 Emission



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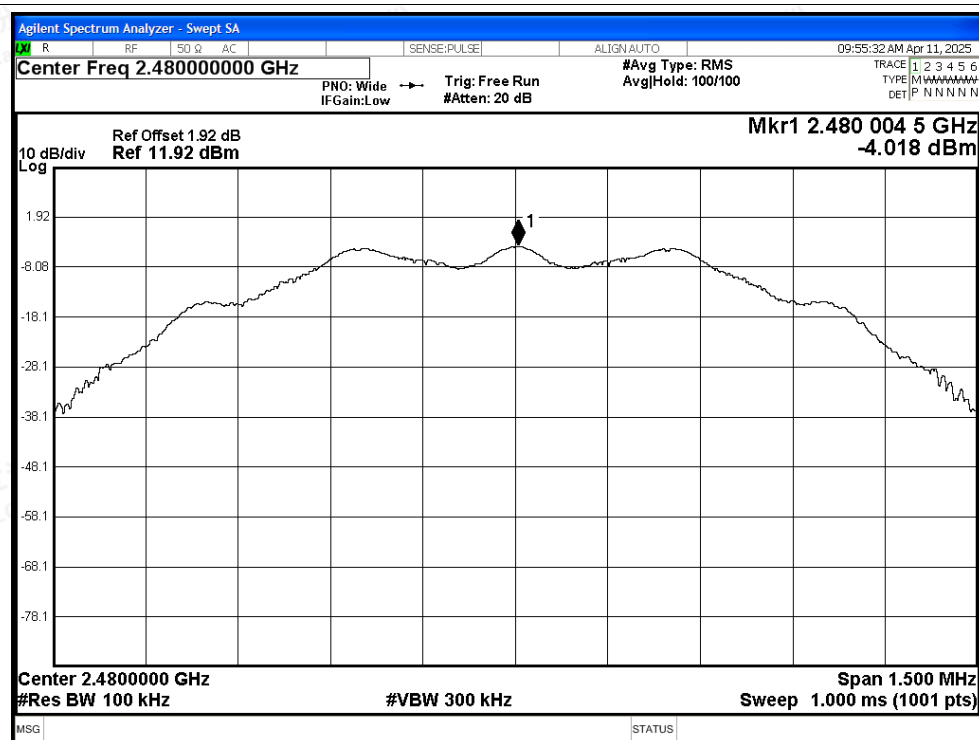
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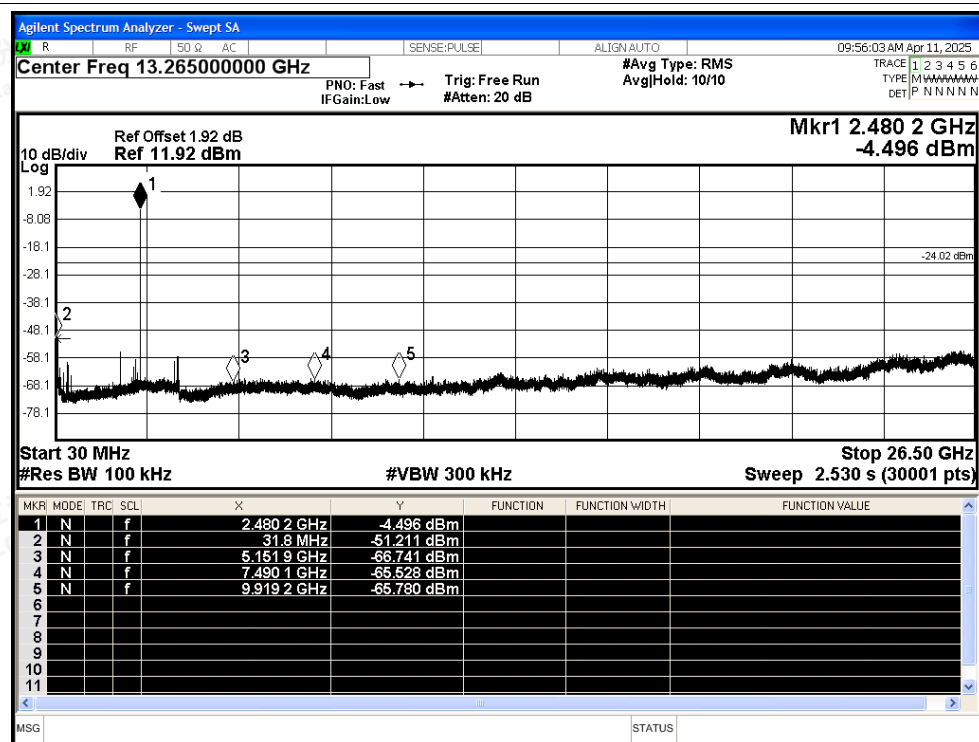
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Tx. Spurious NVNT BLE 125Kbps 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 125Kbps 2480MHz Ant1 Emission





A.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 125Kbps	2402	Ant1	47.77	3.21	0.06
NVNT	BLE 125Kbps	2440	Ant1	47.75	3.21	0.06
NVNT	BLE 125Kbps	2480	Ant1	47.74	3.21	0.06

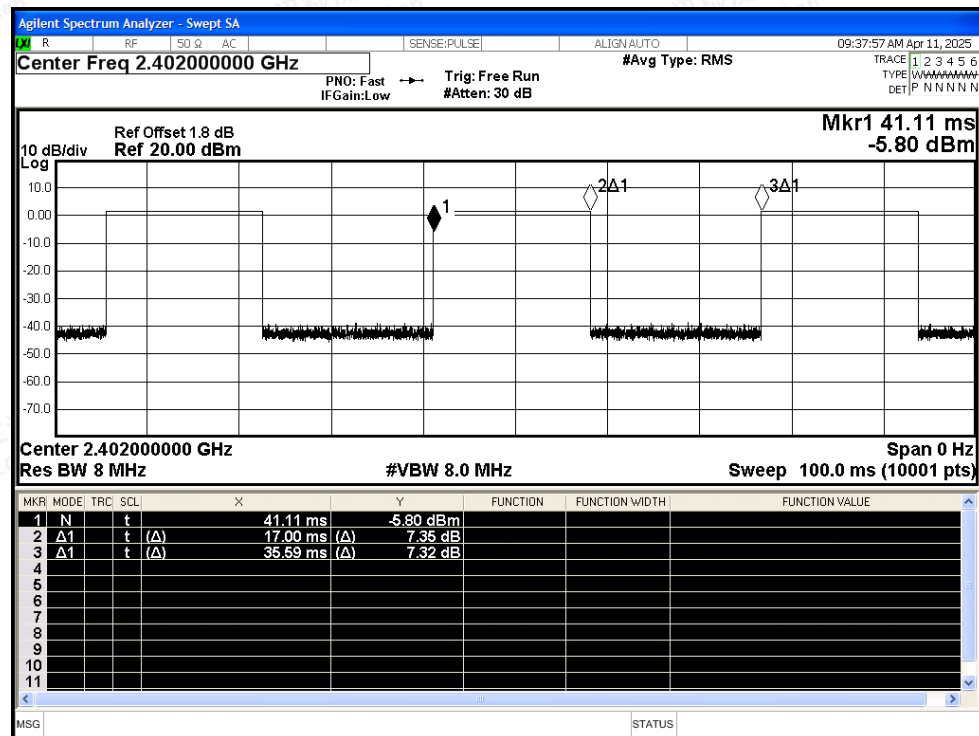


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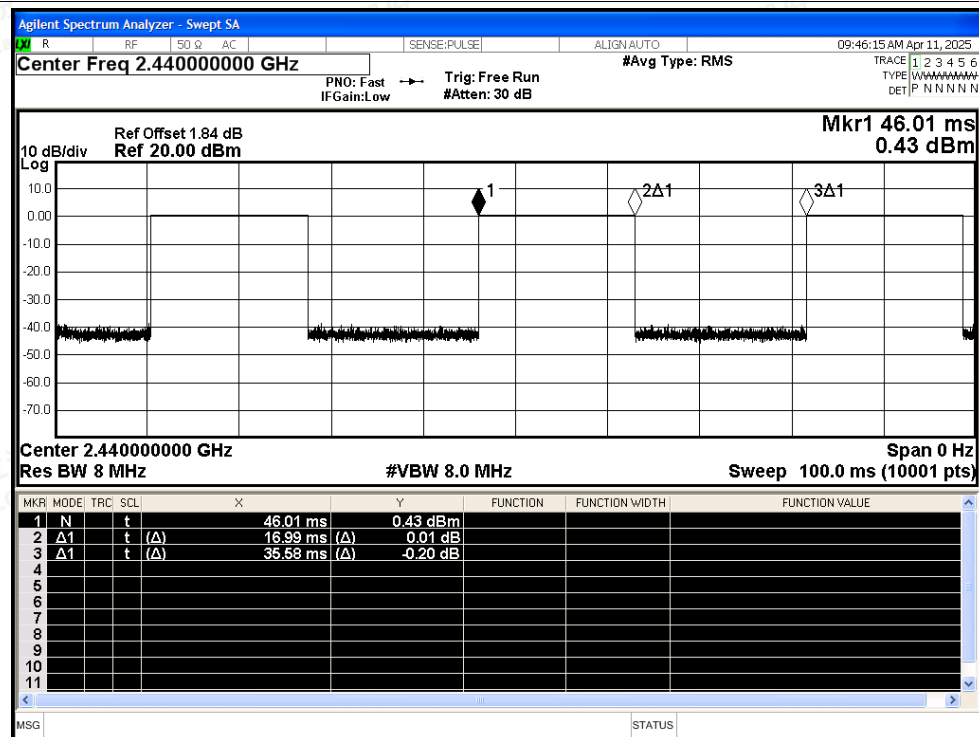


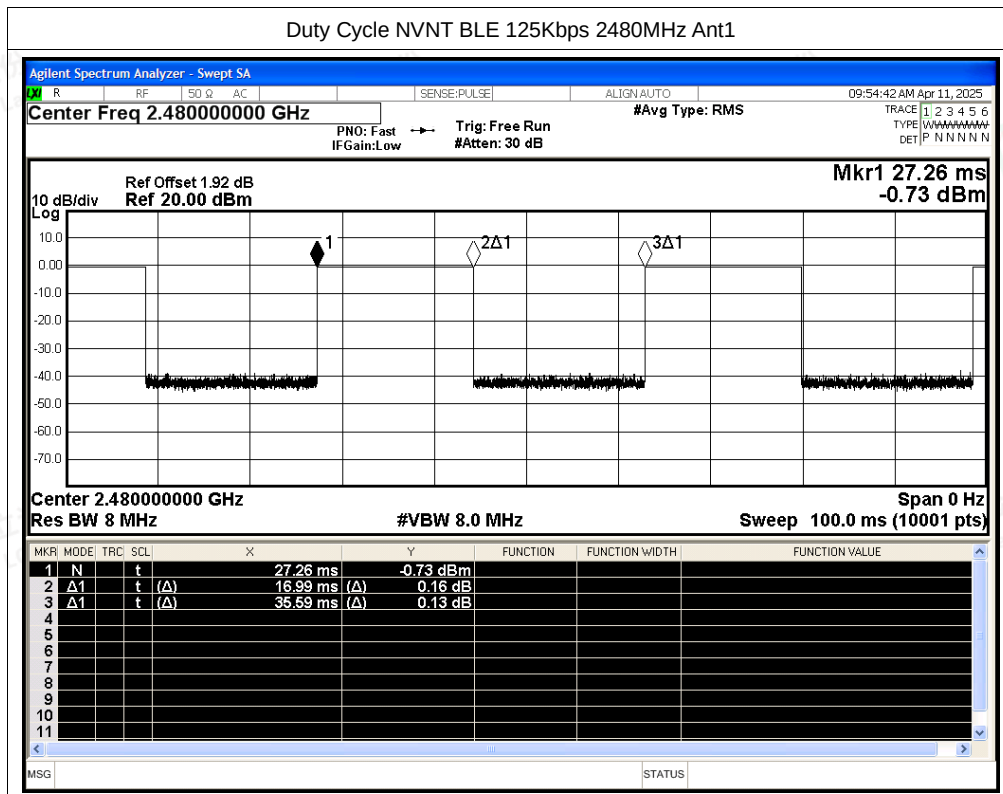
Test Graphs

Duty Cycle NVNT BLE 125Kbps 2402MHz Ant1



Duty Cycle NVNT BLE 125Kbps 2440MHz Ant1







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 125Kbps	2402	Ant1	2310	-50.76	2	-	46.5	Peak	74	Pass
NVNT	BLE 125Kbps	2402	Ant1	2310	-59	2	3.21	41.47	Average	54	Pass
NVNT	BLE 125Kbps	2402	Ant1	2370.288	-47.04	2	-	50.22	Peak	74	Pass
NVNT	BLE 125Kbps	2402	Ant1	2370.192	-57.99	2	3.21	42.48	Average	54	Pass
NVNT	BLE 125Kbps	2402	Ant1	2390	-50.21	2	-	47.05	Peak	74	Pass
NVNT	BLE 125Kbps	2402	Ant1	2390	-58.56	2	3.21	41.91	Average	54	Pass
NVNT	BLE 125Kbps	2480	Ant1	2483.5	-48.04	2	-	49.22	Peak	74	Pass
NVNT	BLE 125Kbps	2480	Ant1	2483.5	-57.06	2	3.21	43.41	Average	54	Pass
NVNT	BLE 125Kbps	2480	Ant1	2491.336	-46.46	2	-	50.8	Peak	74	Pass
NVNT	BLE 125Kbps	2480	Ant1	2483.512	-57.06	2	3.21	43.41	Average	54	Pass
NVNT	BLE 125Kbps	2480	Ant1	2500	-50.4	2	-	46.86	Peak	74	Pass
NVNT	BLE 125Kbps	2480	Ant1	2500	-58.15	2	3.21	42.32	Average	54	Pass

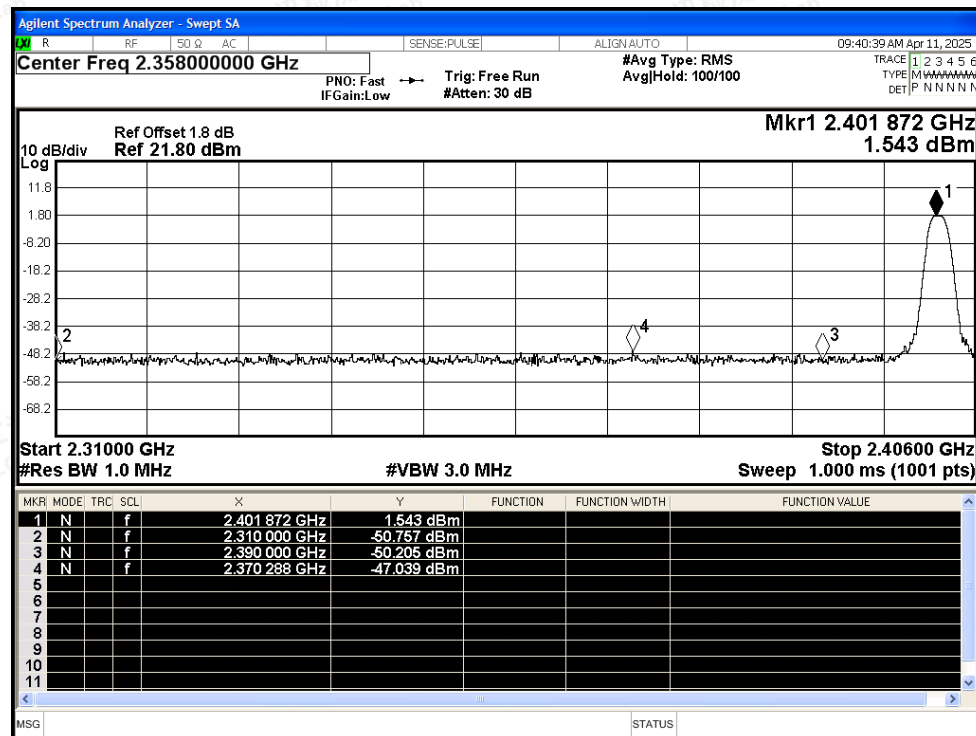


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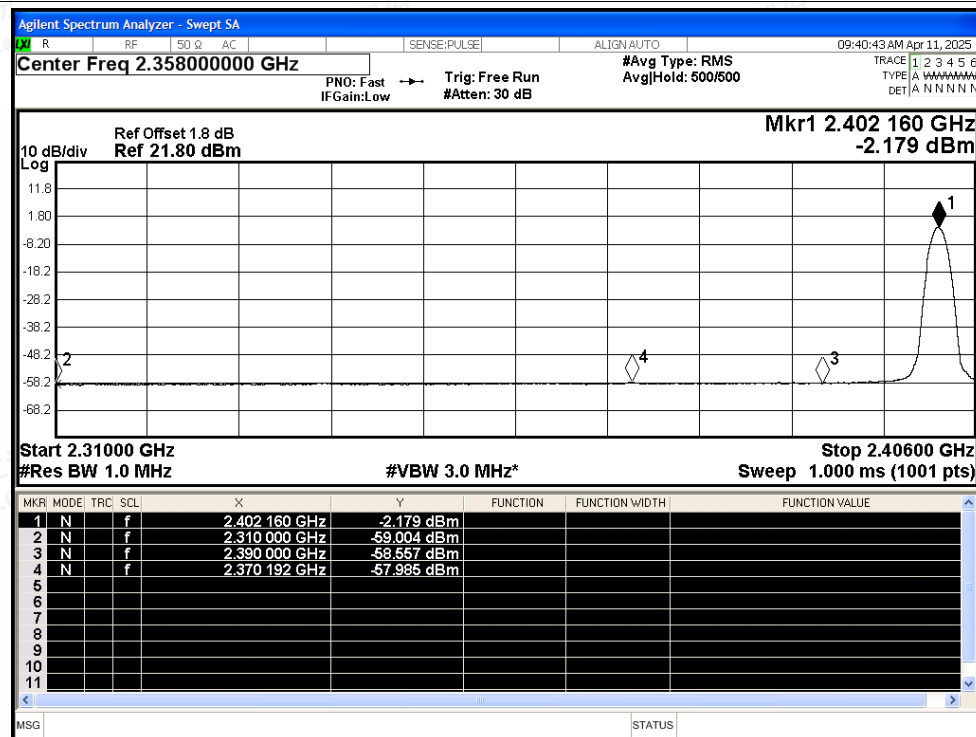


Test Graphs

Restrict Band NVNT BLE 125Kbps 2402MHz Ant1 Peak

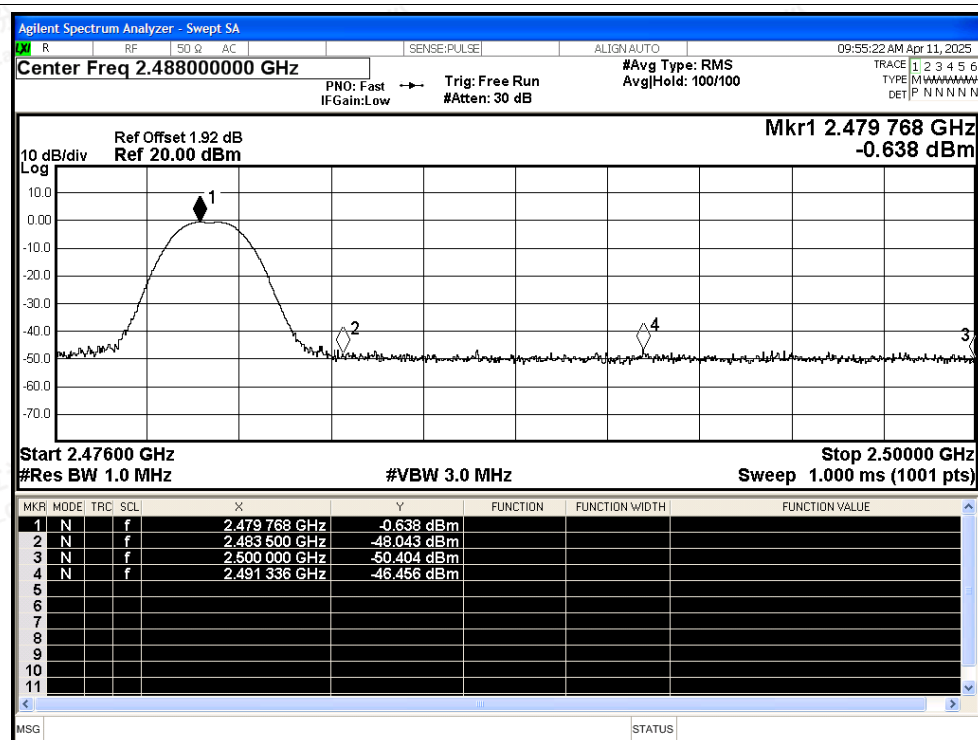


Restrict Band NVNT BLE 125Kbps 2402MHz Ant1 Average

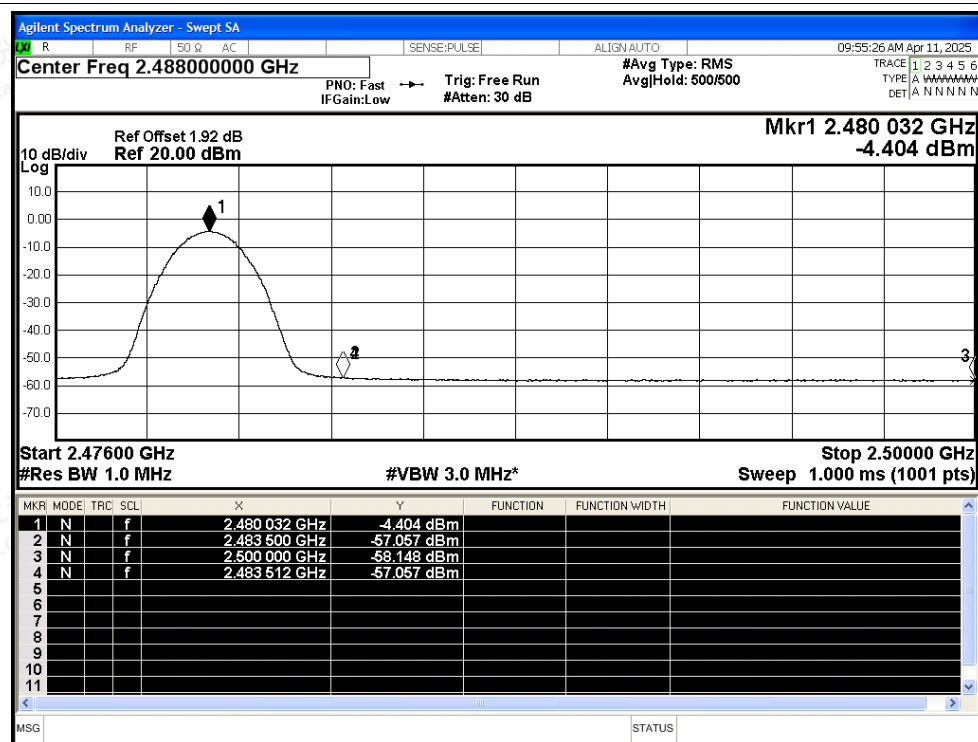




Restrict Band NVNT BLE 125Kbps 2480MHz Ant1 Peak



Restrict Band NVNT BLE 125Kbps 2480MHz Ant1 Average



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