



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: SEI900B4TV

Test Model: IPA2312HDW

Environmental Conditions

Temperature:	23.7° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Paddi Chen
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	0.653	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant	0.653	≥ 0.5	Pass
NVNT	BLE 2M	2402	Ant	1.112	≥ 0.5	Pass
NVNT	BLE 2M	2440	Ant	1.251	≥ 0.5	Pass
NVNT	BLE 2M	2480	Ant	1.145	≥ 0.5	Pass



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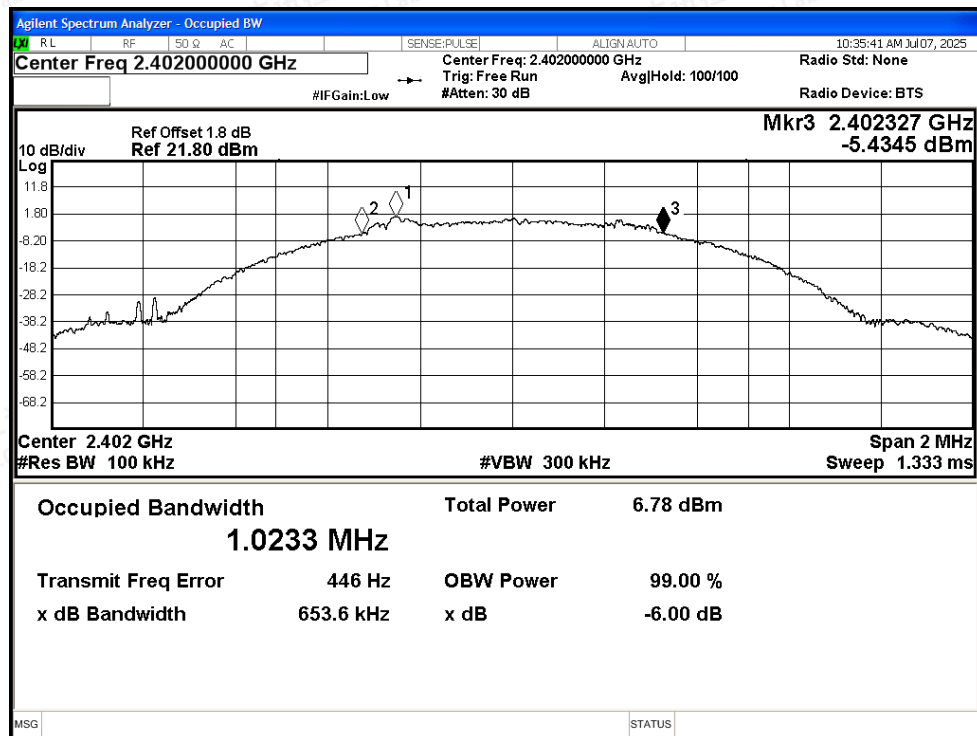
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

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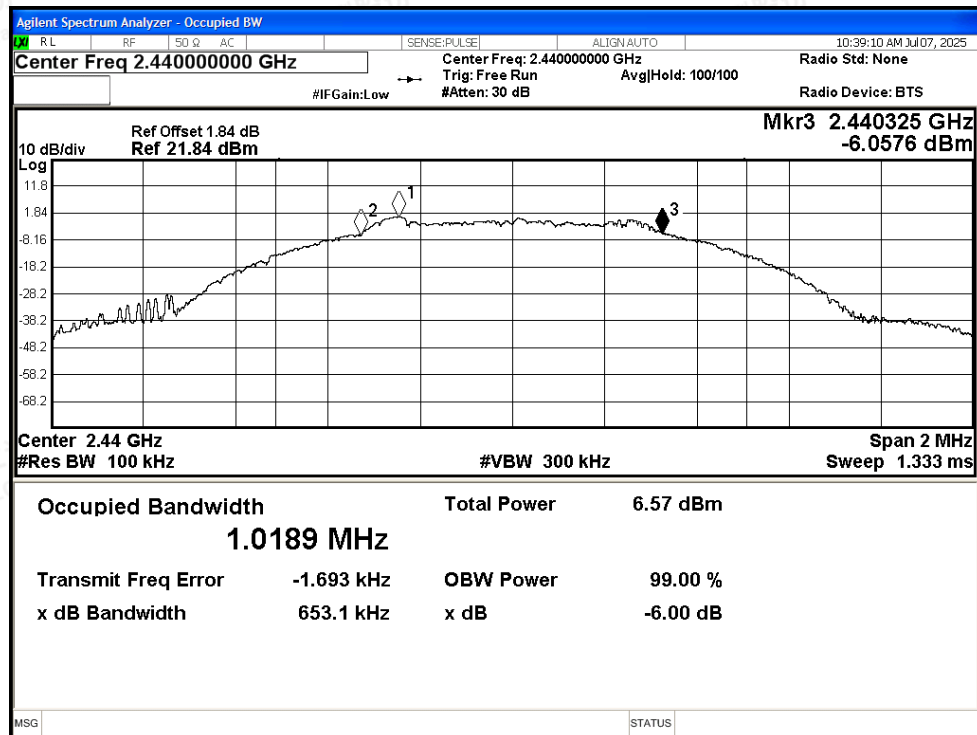


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant



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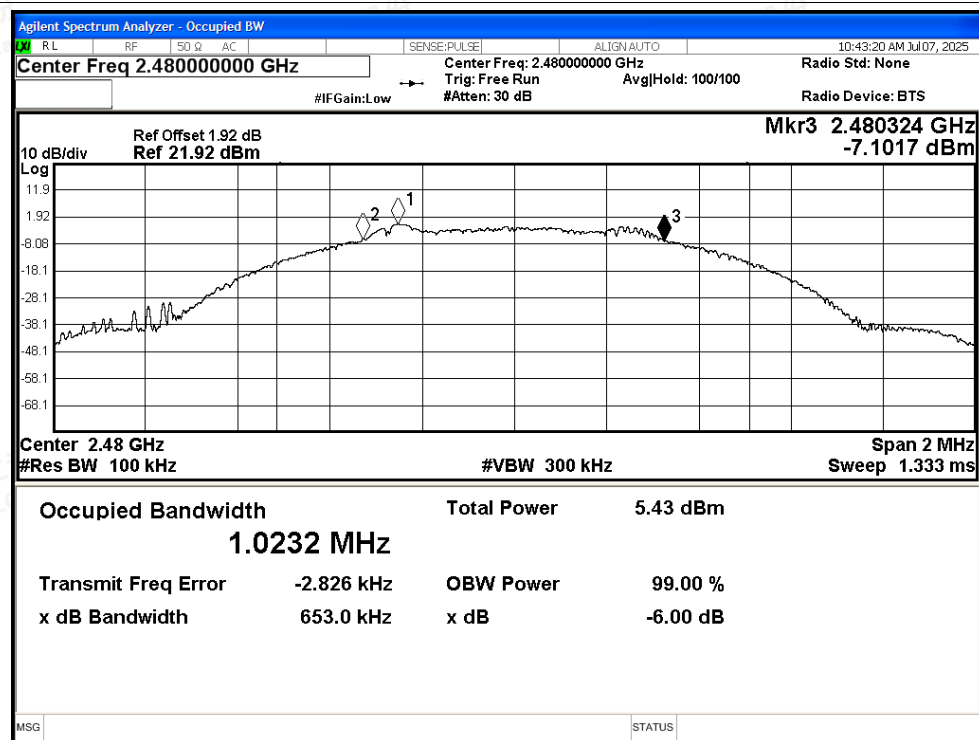
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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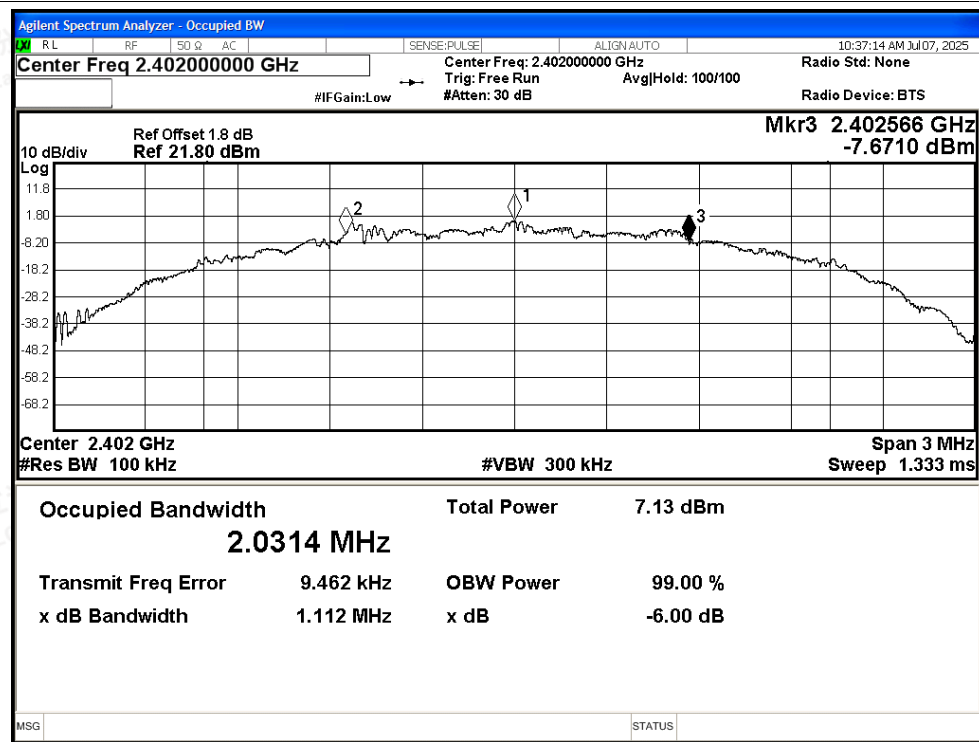
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-6dB Bandwidth NVNT BLE 1M 2480MHz Ant



-6dB Bandwidth NVNT BLE 2M 2402MHz Ant



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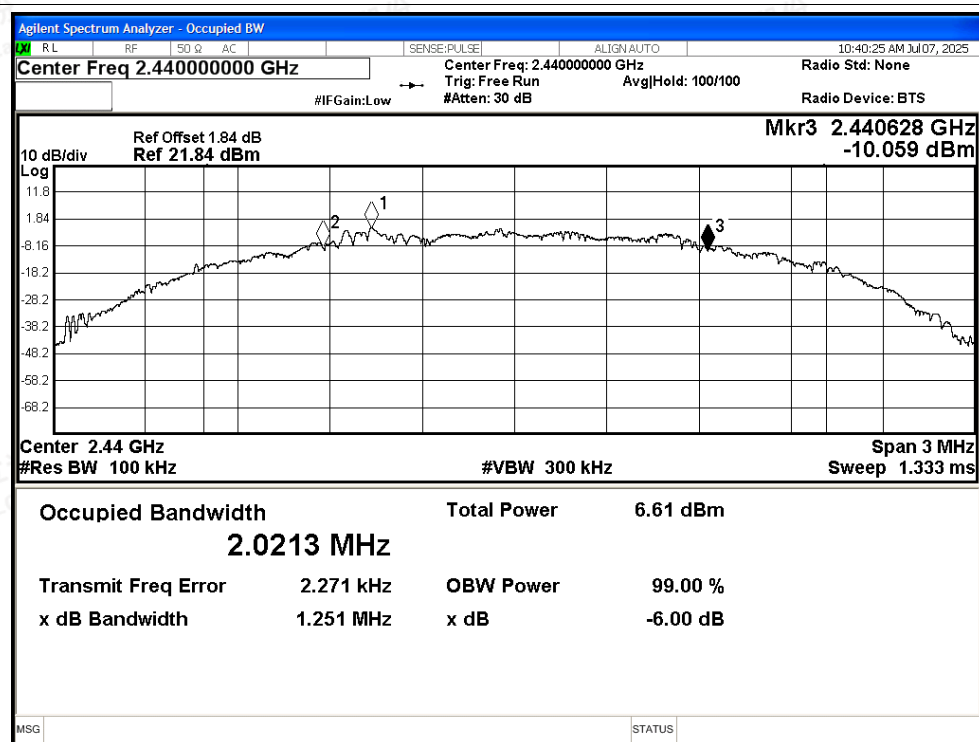
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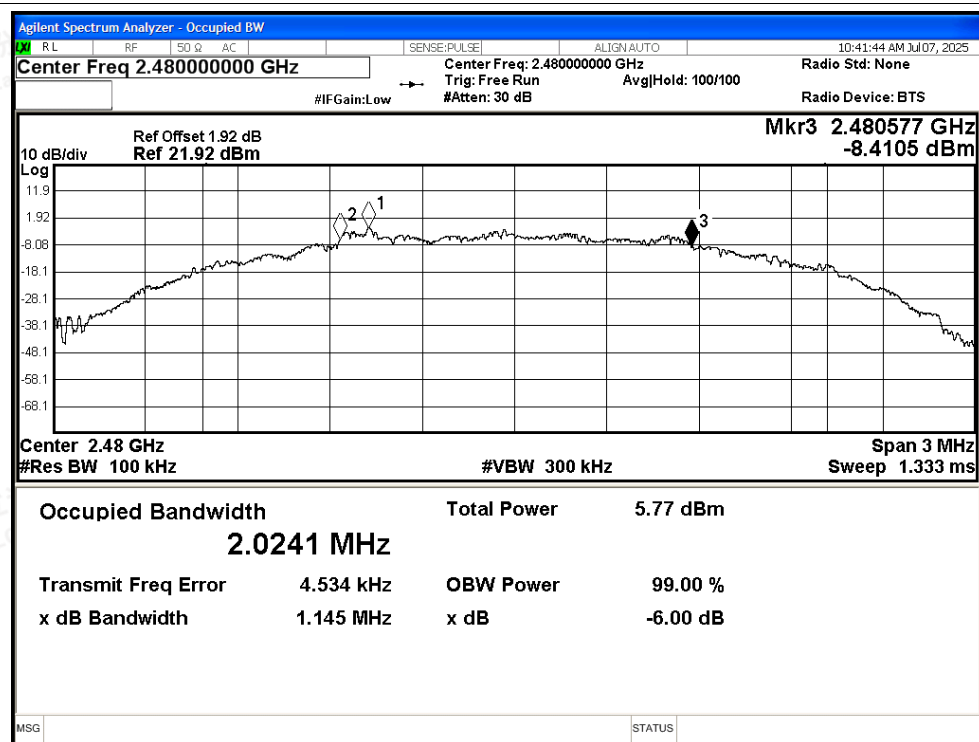
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-6dB Bandwidth NVNT BLE 2M 2440MHz Ant



-6dB Bandwidth NVNT BLE 2M 2480MHz Ant



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B.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant	1.01	30	Pass
NVNT	BLE 1M	2440	Ant	0.69	30	Pass
NVNT	BLE 1M	2480	Ant	-0.37	30	Pass
NVNT	BLE 2M	2402	Ant	0.89	30	Pass
NVNT	BLE 2M	2440	Ant	0.43	30	Pass
NVNT	BLE 2M	2480	Ant	-0.54	30	Pass



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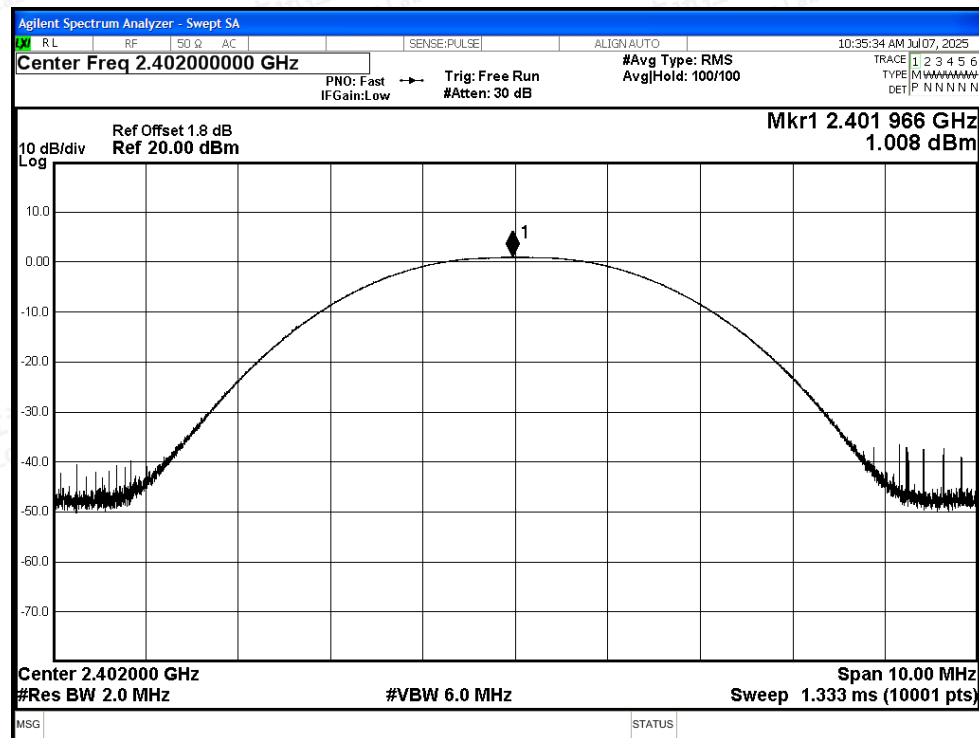
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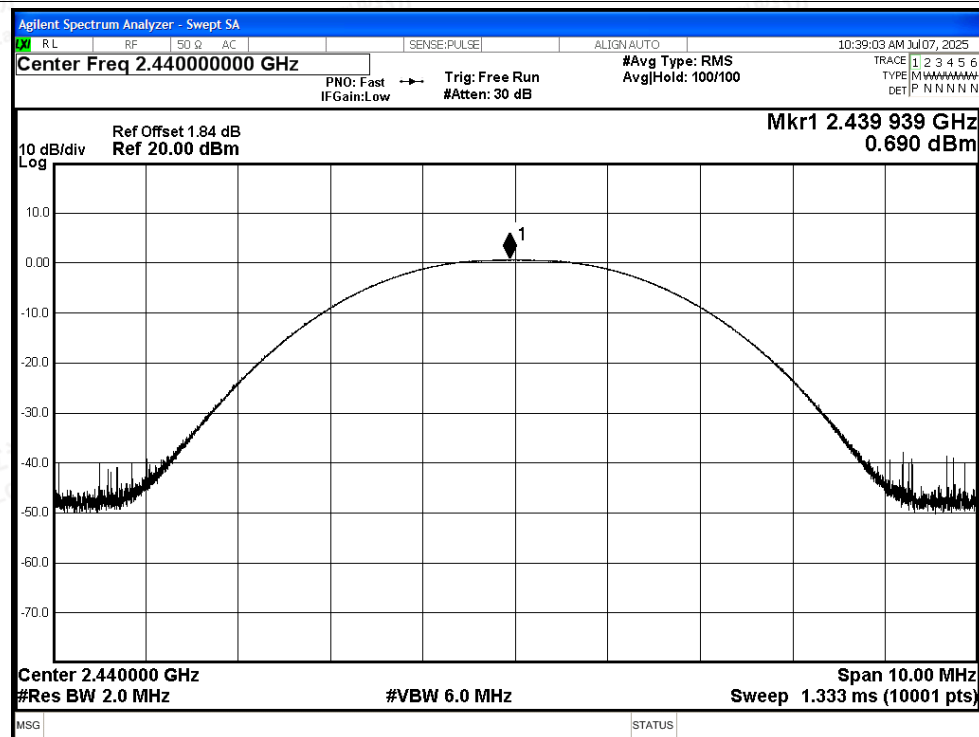


Test Graphs

Power NVNT BLE 1M 2402MHz Ant



Power NVNT BLE 1M 2440MHz Ant

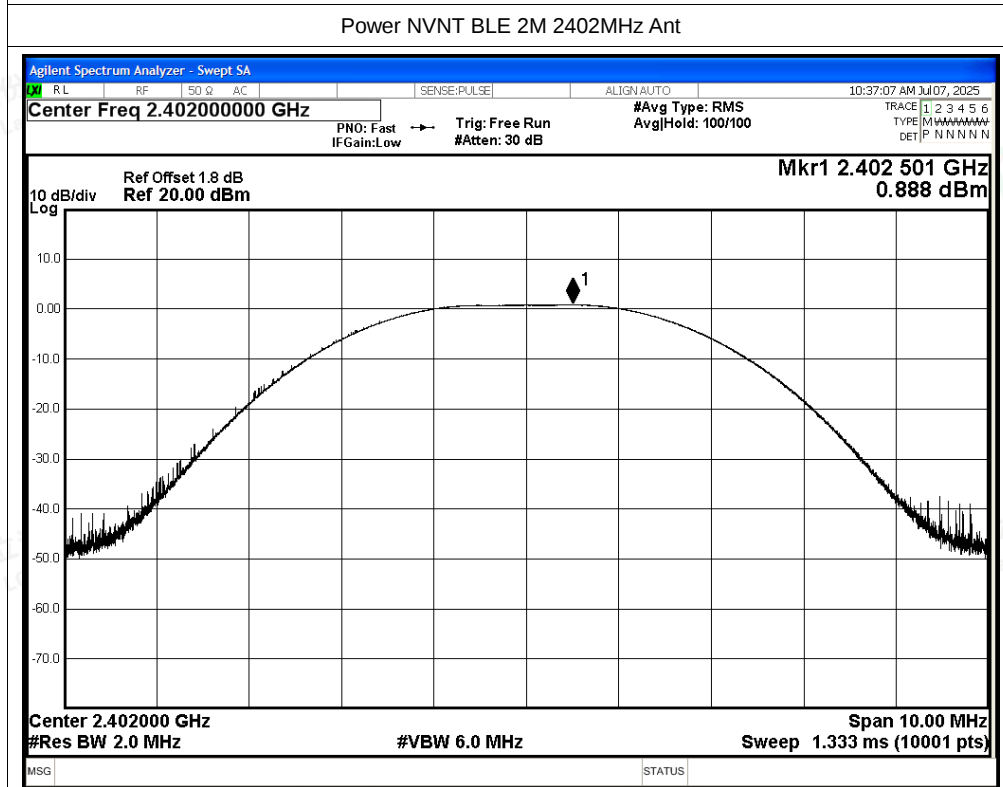
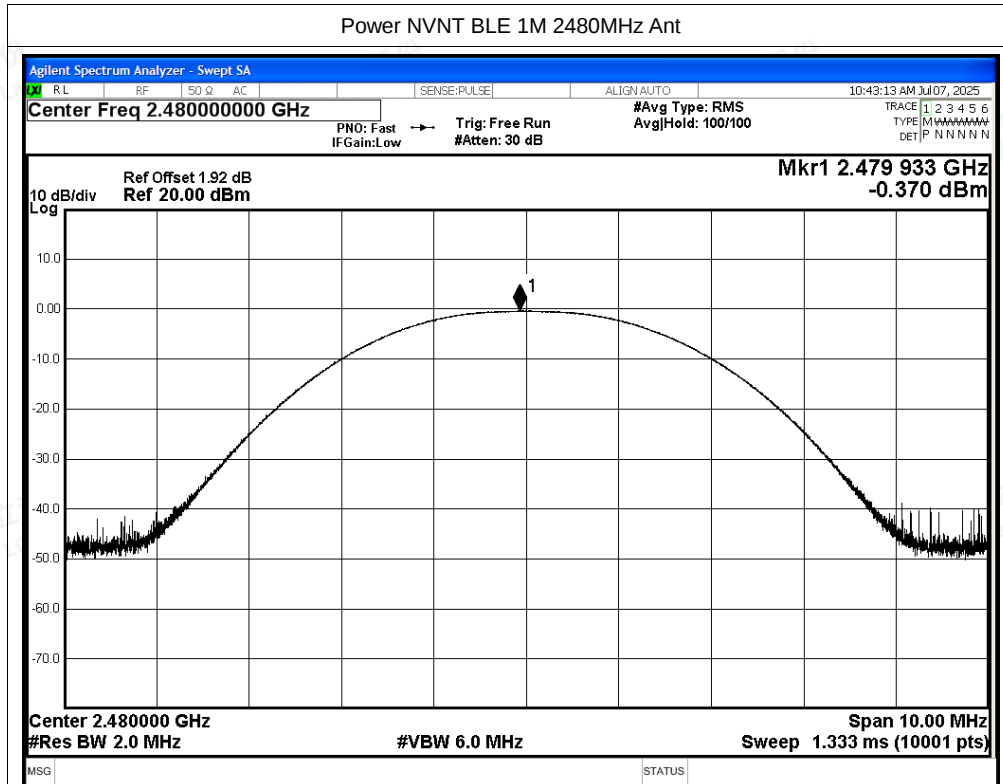


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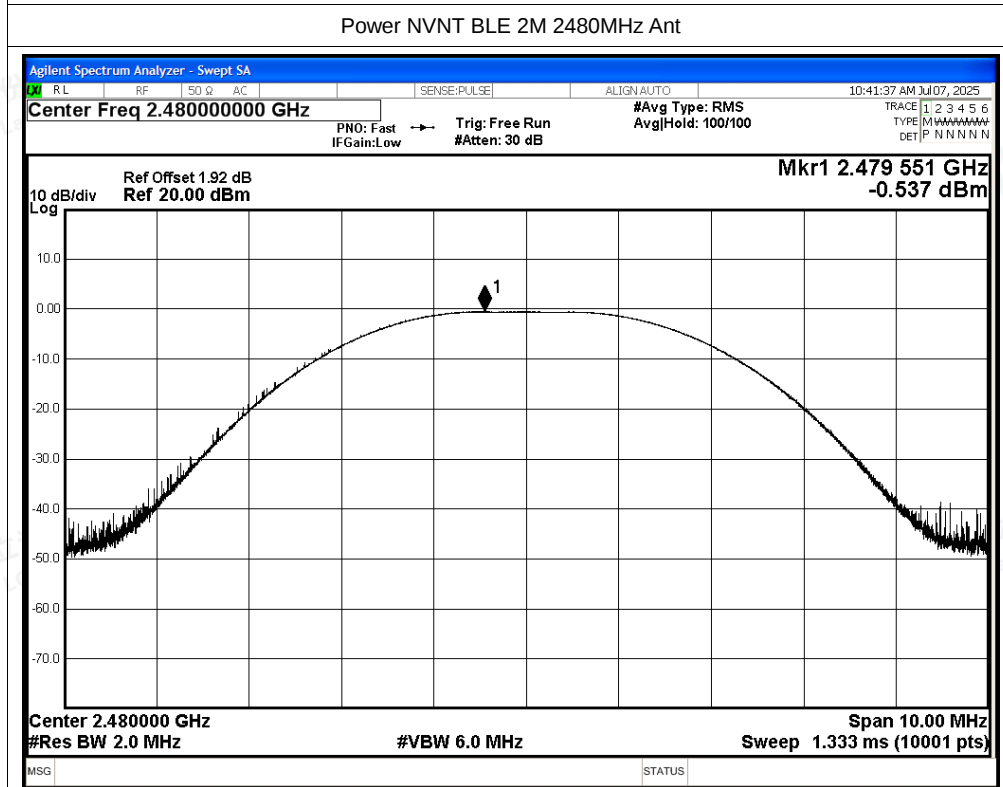
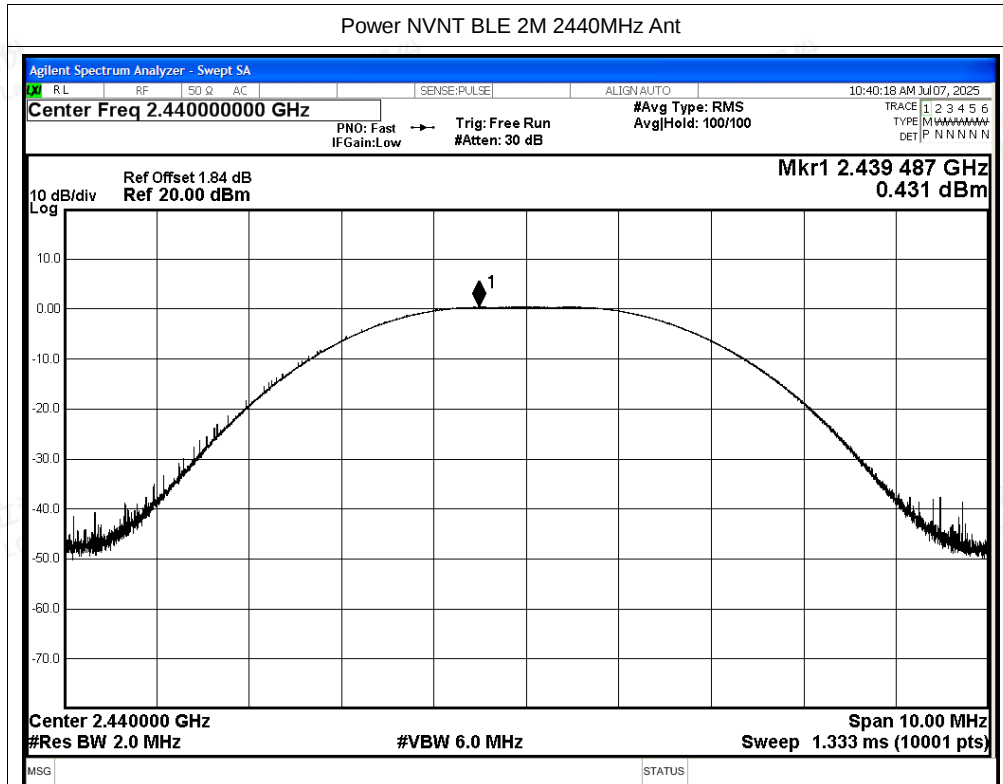


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B.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant	-15.7	8	Pass
NVNT	BLE 1M	2440	Ant	-15.9	8	Pass
NVNT	BLE 1M	2480	Ant	-16.98	8	Pass
NVNT	BLE 2M	2402	Ant	-18.7	8	Pass
NVNT	BLE 2M	2440	Ant	-19.64	8	Pass
NVNT	BLE 2M	2480	Ant	-20.19	8	Pass



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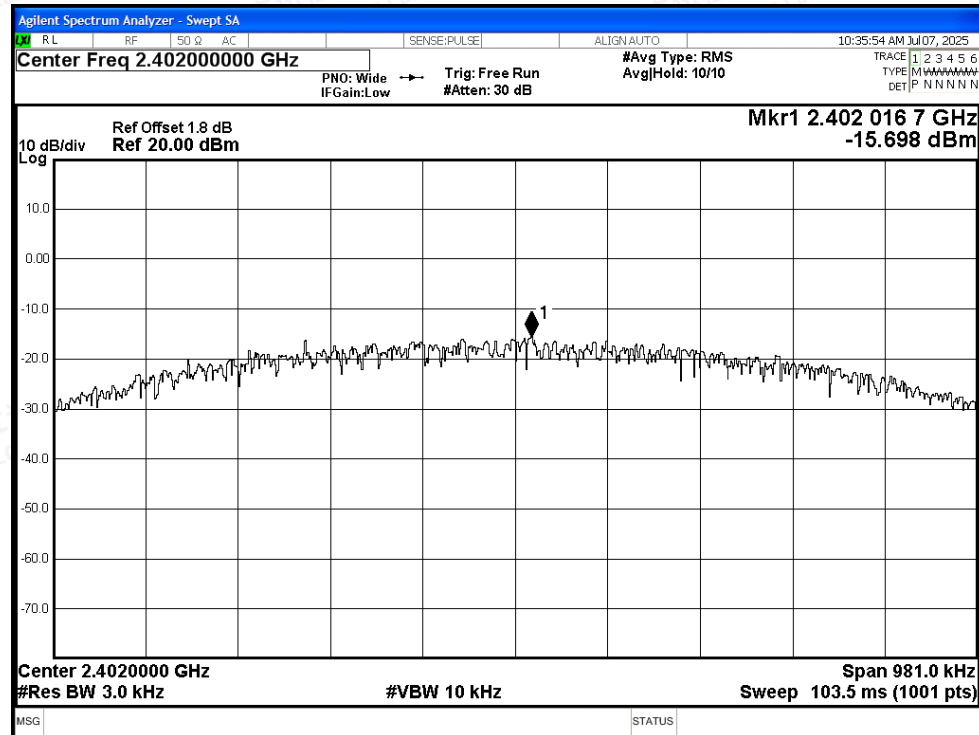
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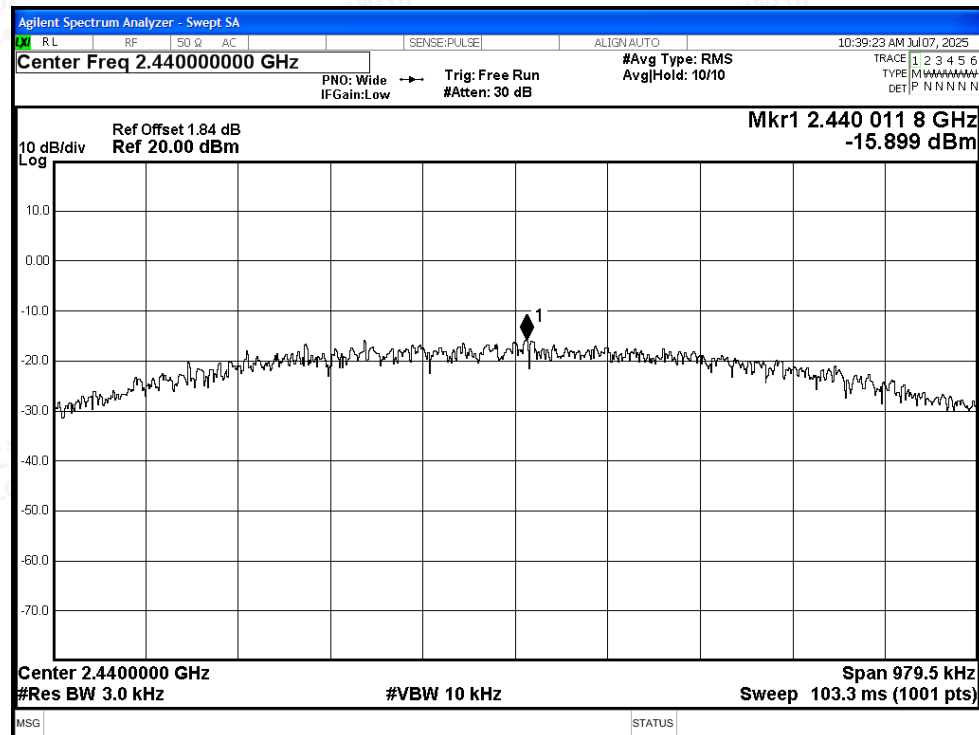


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant



PSD NVNT BLE 1M 2440MHz Ant



Shenzhen LCS Compliance Testing Laboratory Ltd.

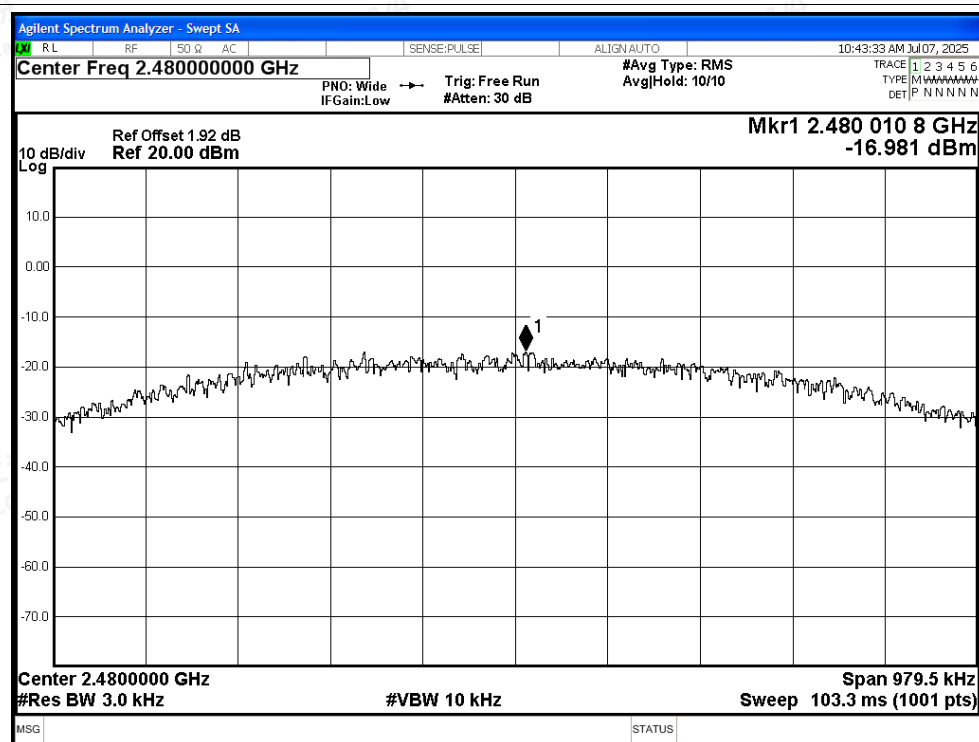
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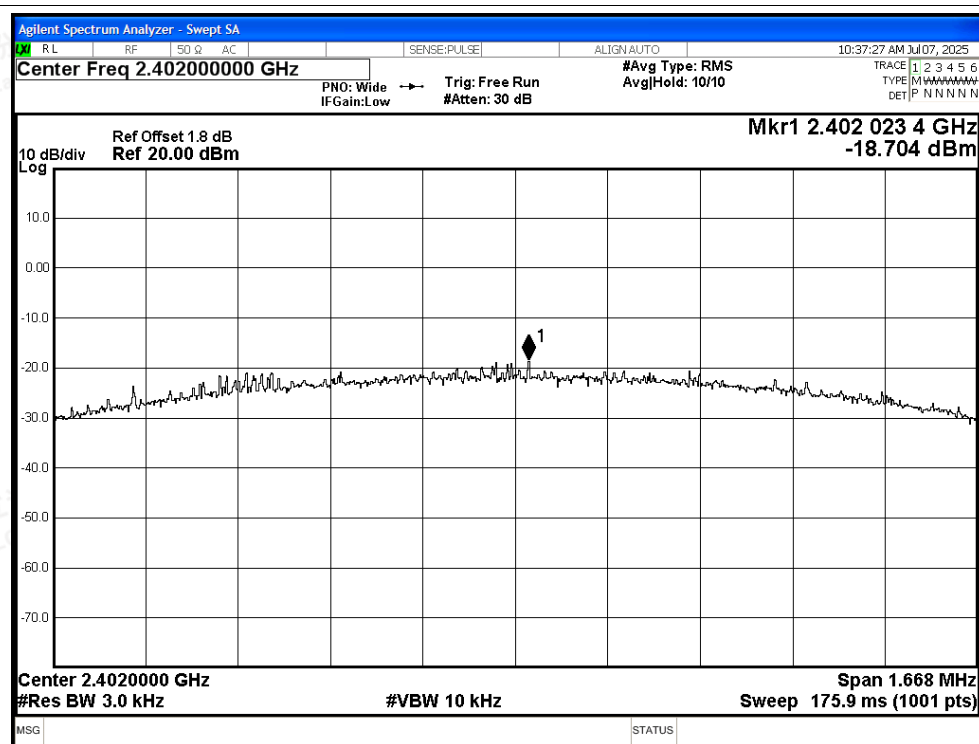
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PSD NVNT BLE 1M 2480MHz Ant



PSD NVNT BLE 2M 2402MHz Ant



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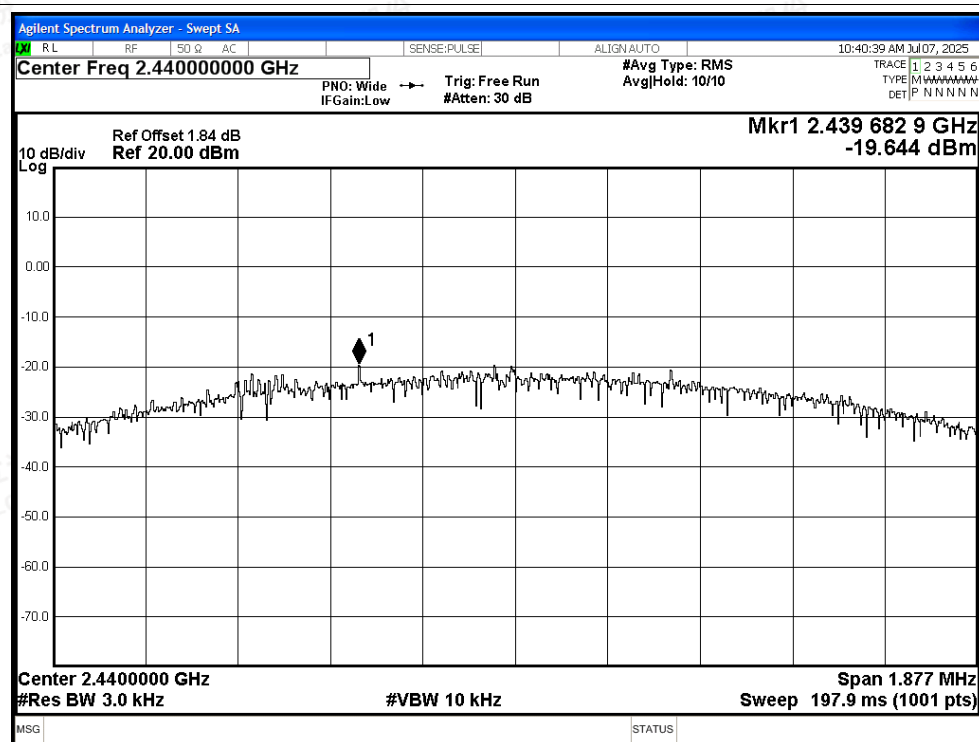
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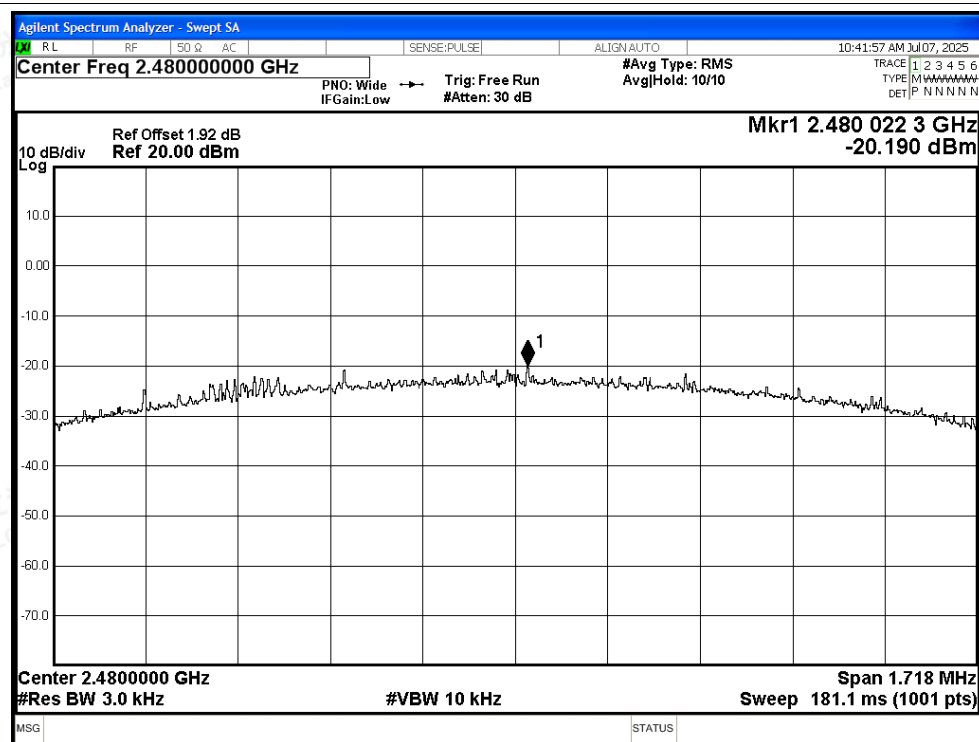
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PSD NVNT BLE 2M 2440MHz Ant



PSD NVNT BLE 2M 2480MHz 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	-57.36	-20	Pass
NVNT	BLE 1M	2480	Ant	-56.16	-20	Pass
NVNT	BLE 2M	2402	Ant	-45.62	-20	Pass
NVNT	BLE 2M	2480	Ant	-55.6	-20	Pass



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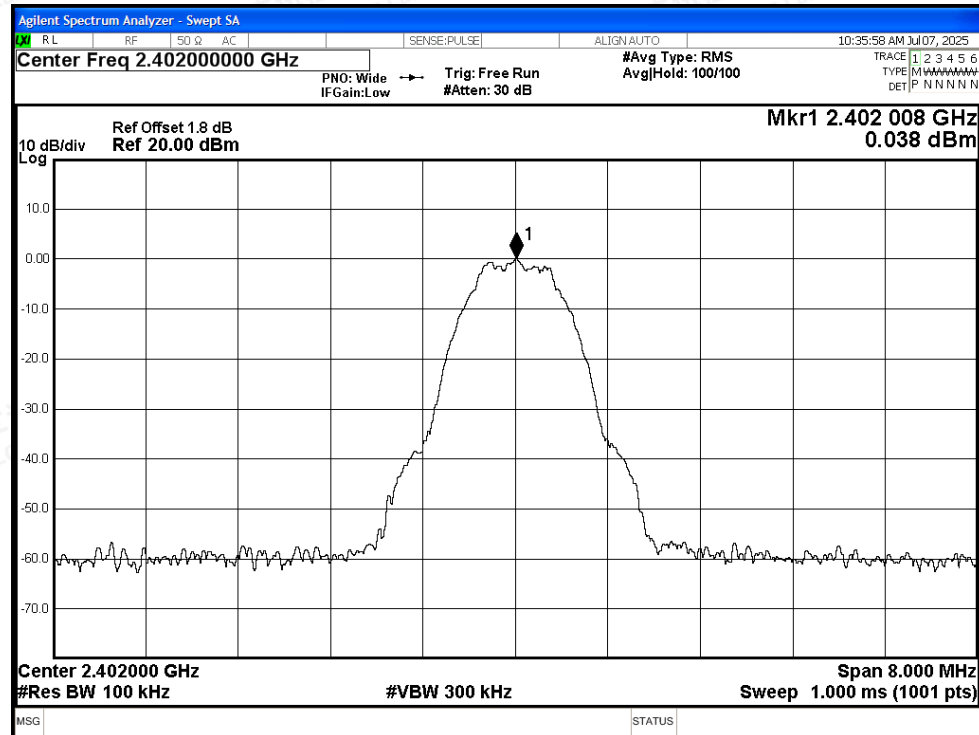
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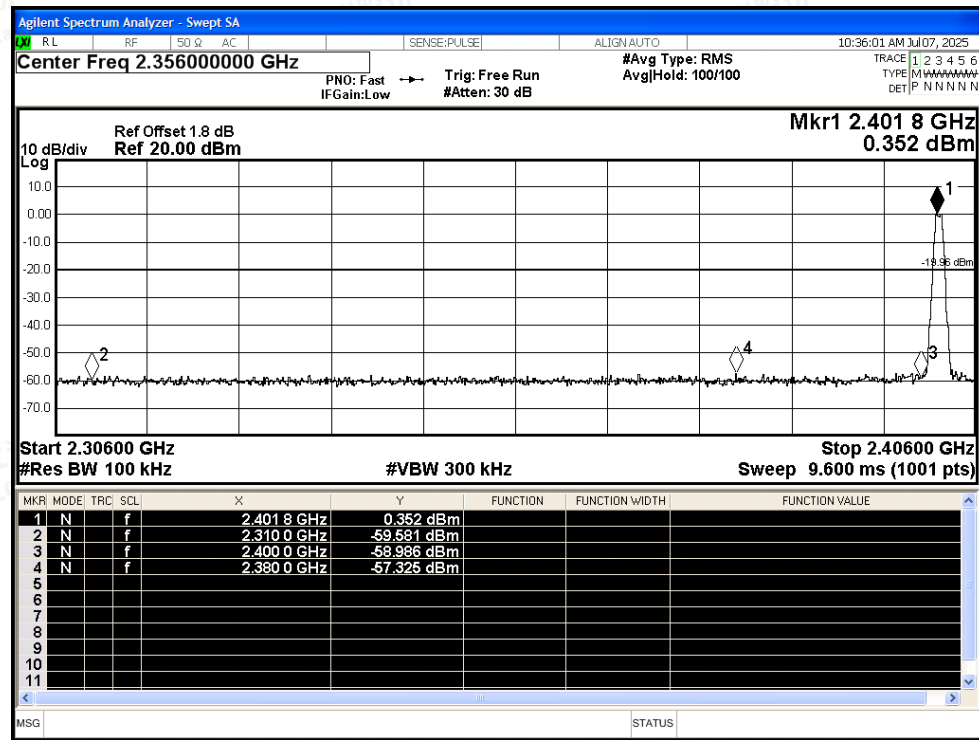


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant Ref



Band Edge NVNT BLE 1M 2402MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

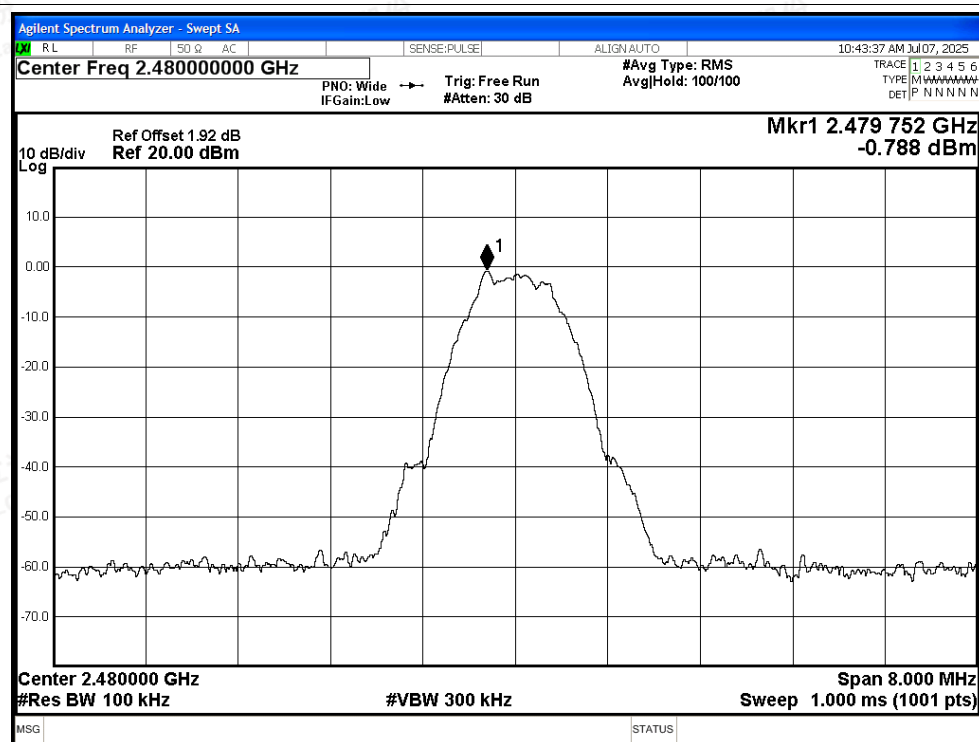
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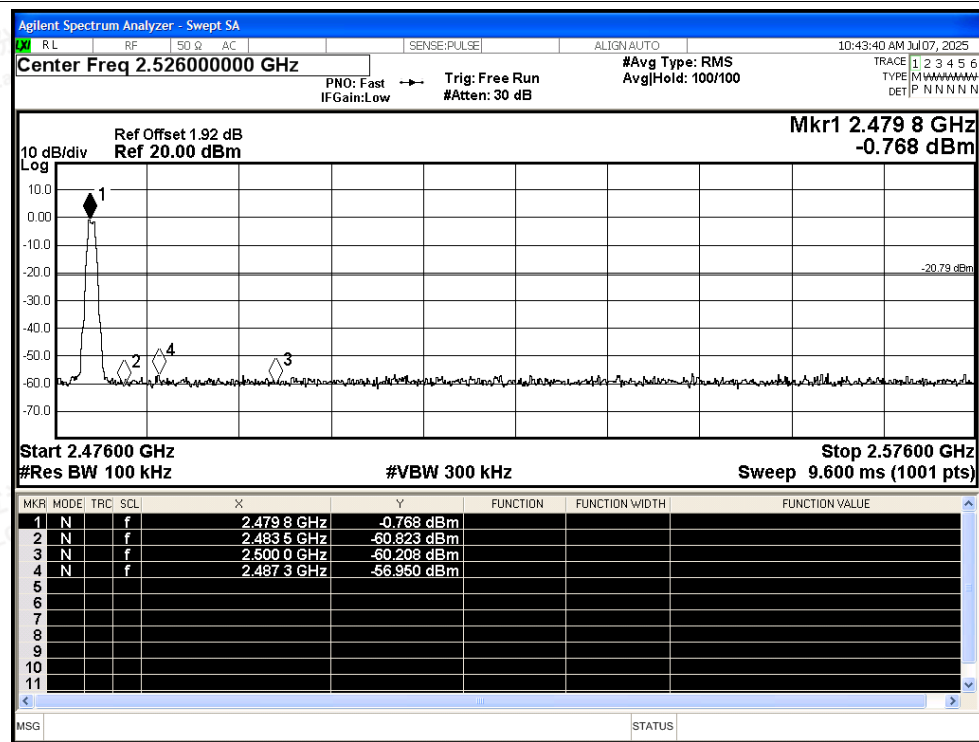
Scan code to check authenticity



Band Edge NVNT BLE 1M 2480MHz Ant Ref



Band Edge NVNT BLE 1M 2480MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

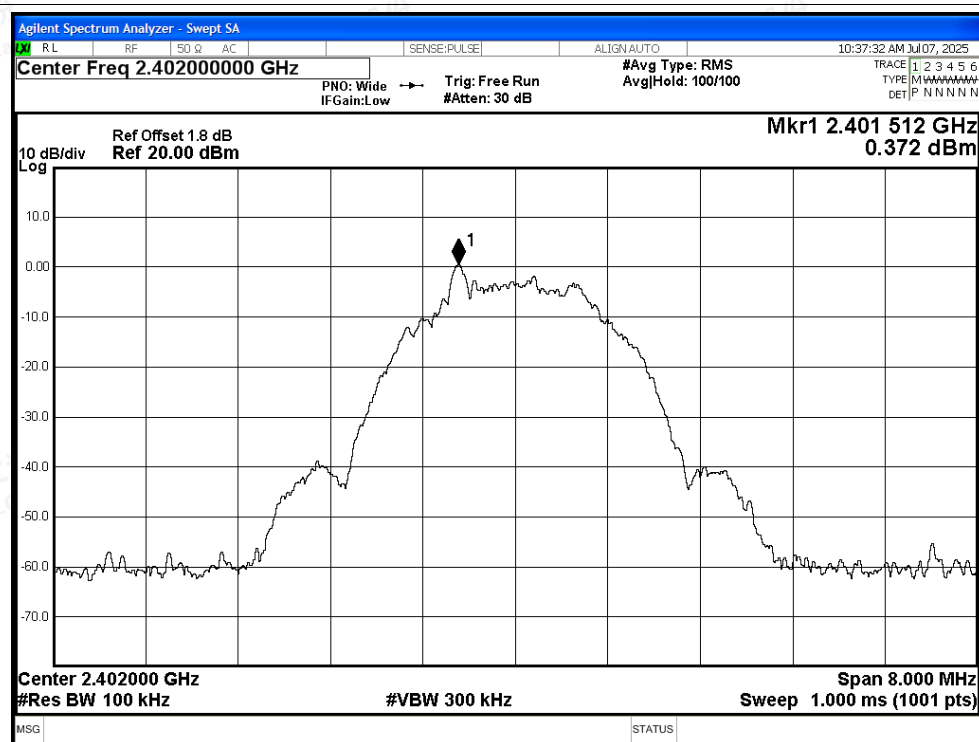
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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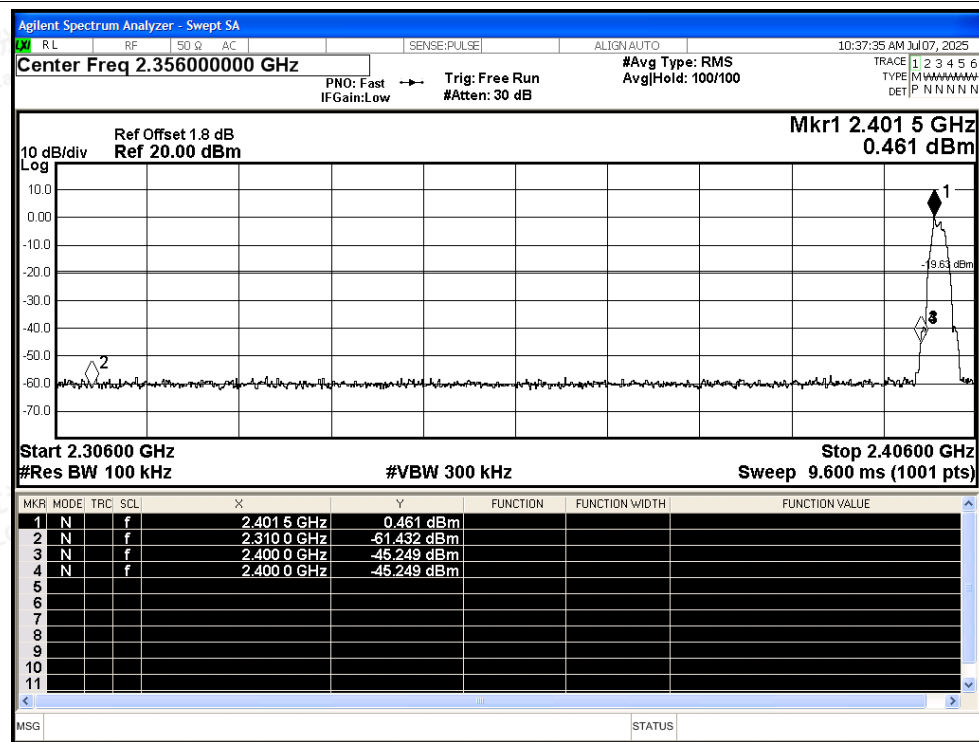
Scan code to check authenticity



Band Edge NVNT BLE 2M 2402MHz Ant Ref



Band Edge NVNT BLE 2M 2402MHz Ant Emission



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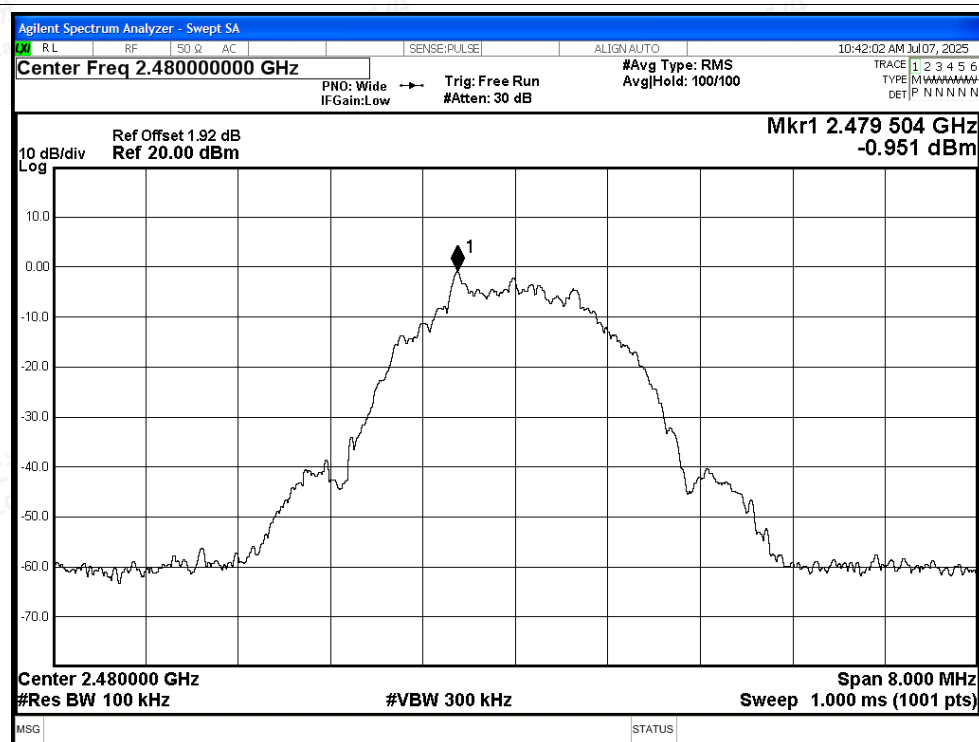
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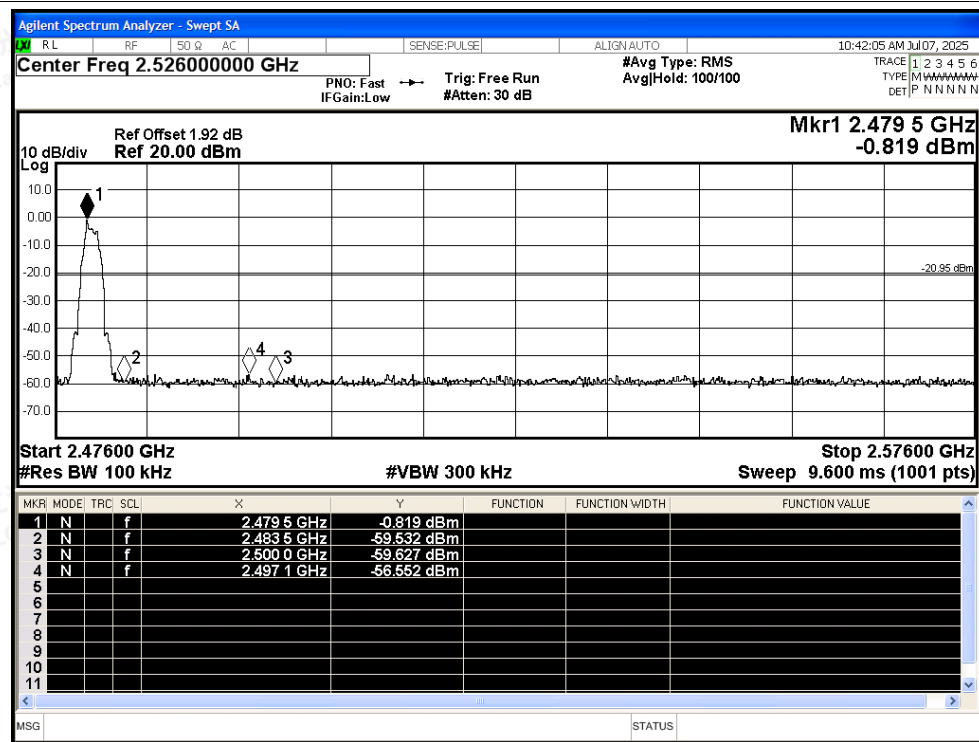
Scan code to check authenticity



Band Edge NVNT BLE 2M 2480MHz Ant Ref



Band Edge NVNT BLE 2M 2480MHz Ant Emission



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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	-55.06	-20	Pass
NVNT	BLE 1M	2480	Ant	-53.9	-20	Pass
NVNT	BLE 2M	2402	Ant	-55.53	-20	Pass
NVNT	BLE 2M	2440	Ant	-55.5	-20	Pass
NVNT	BLE 2M	2480	Ant	-54.03	-20	Pass



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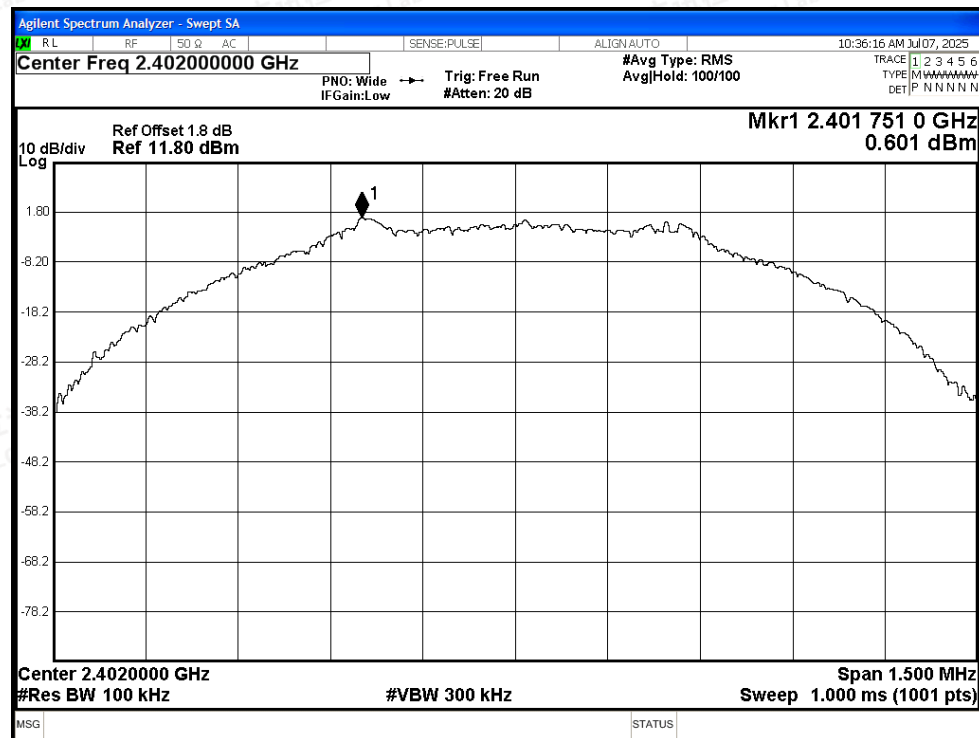
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

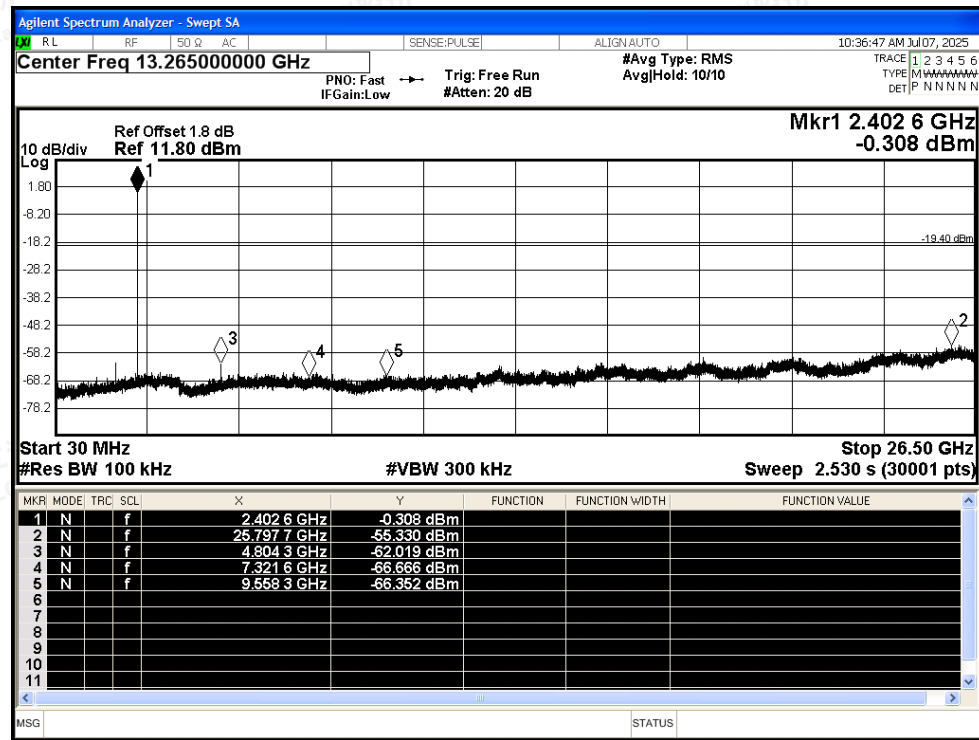


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant Emission



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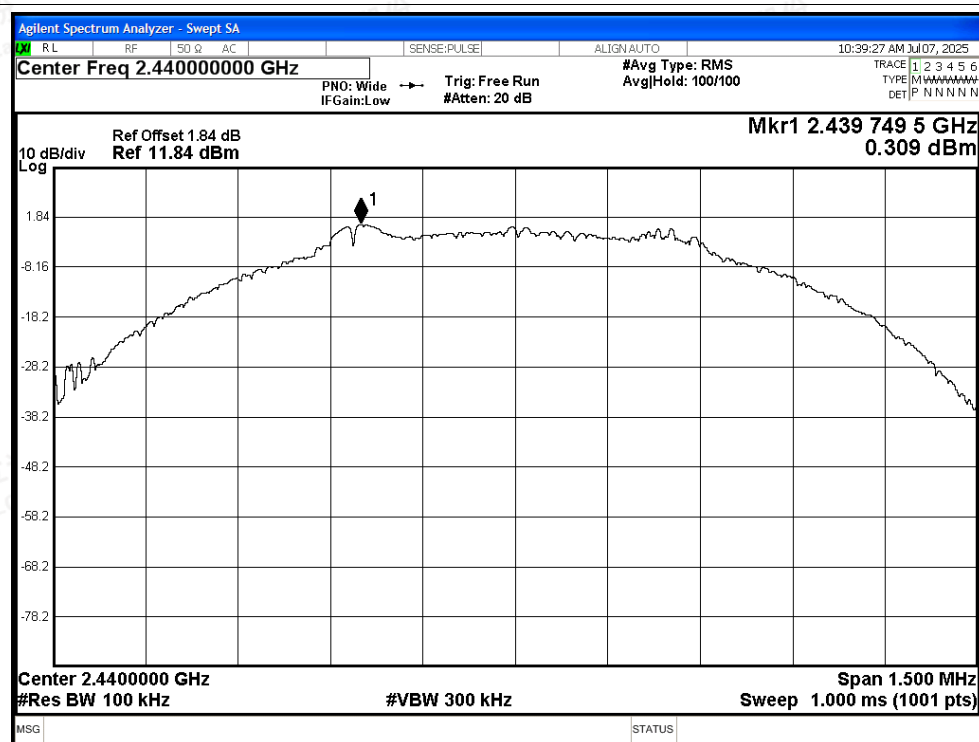
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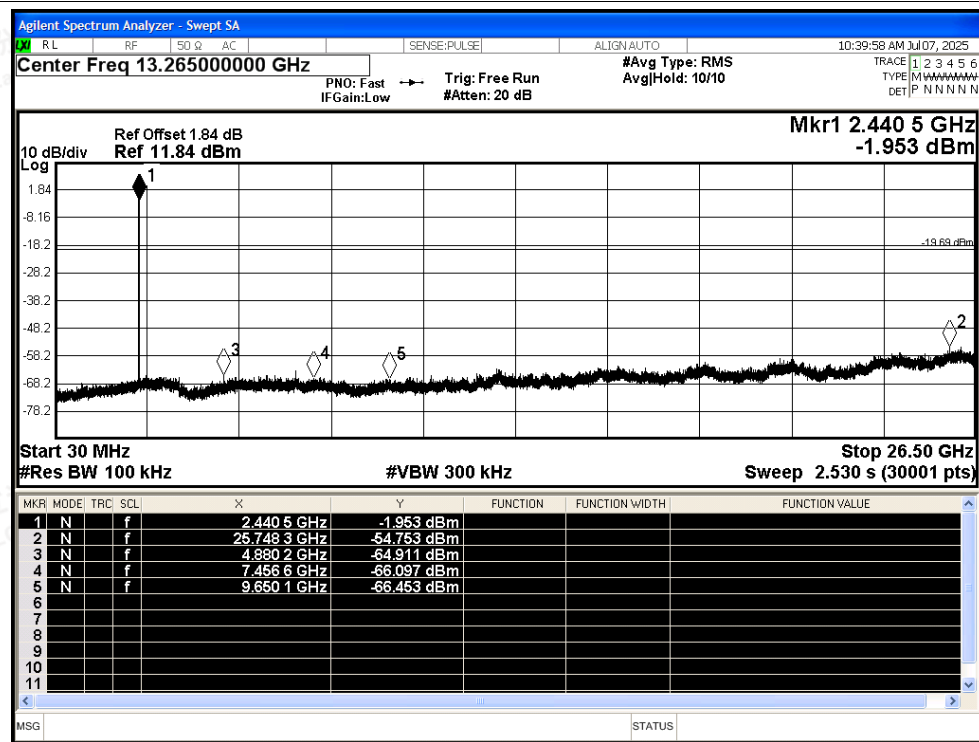
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Tx. Spurious NVNT BLE 1M 2440MHz Ant Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant Emission



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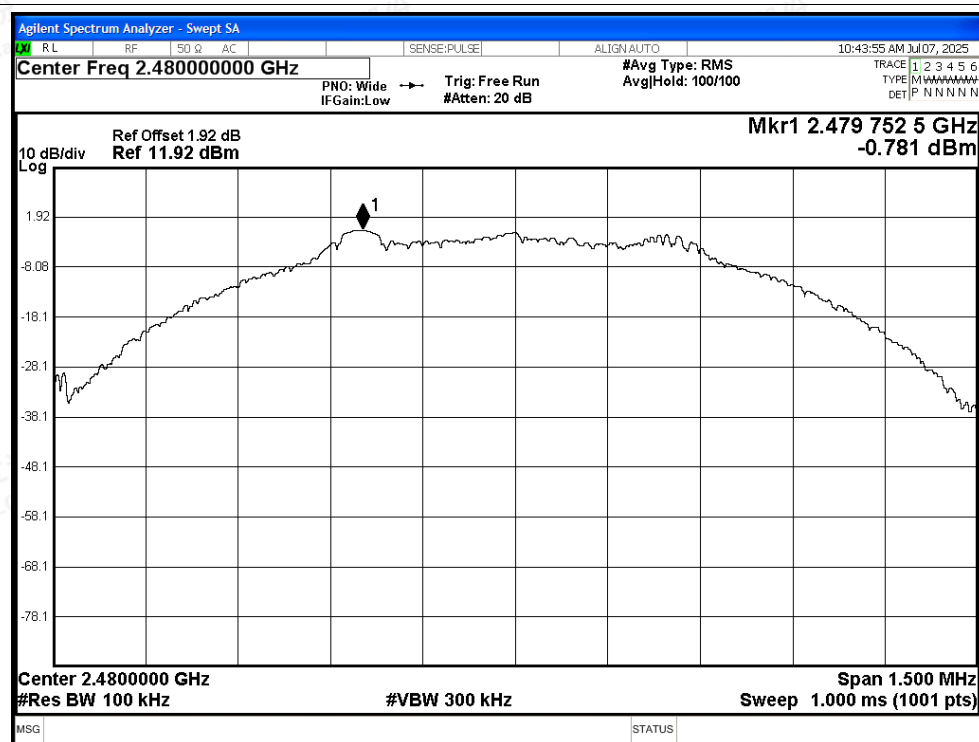
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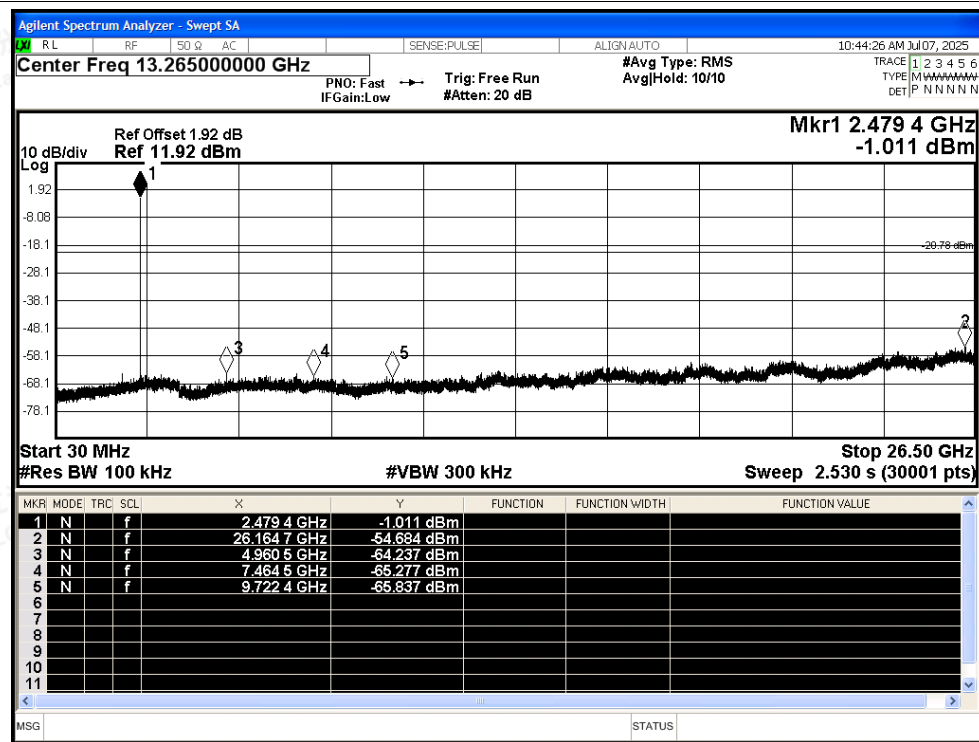
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Tx. Spurious NVNT BLE 1M 2480MHz Ant Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant Emission



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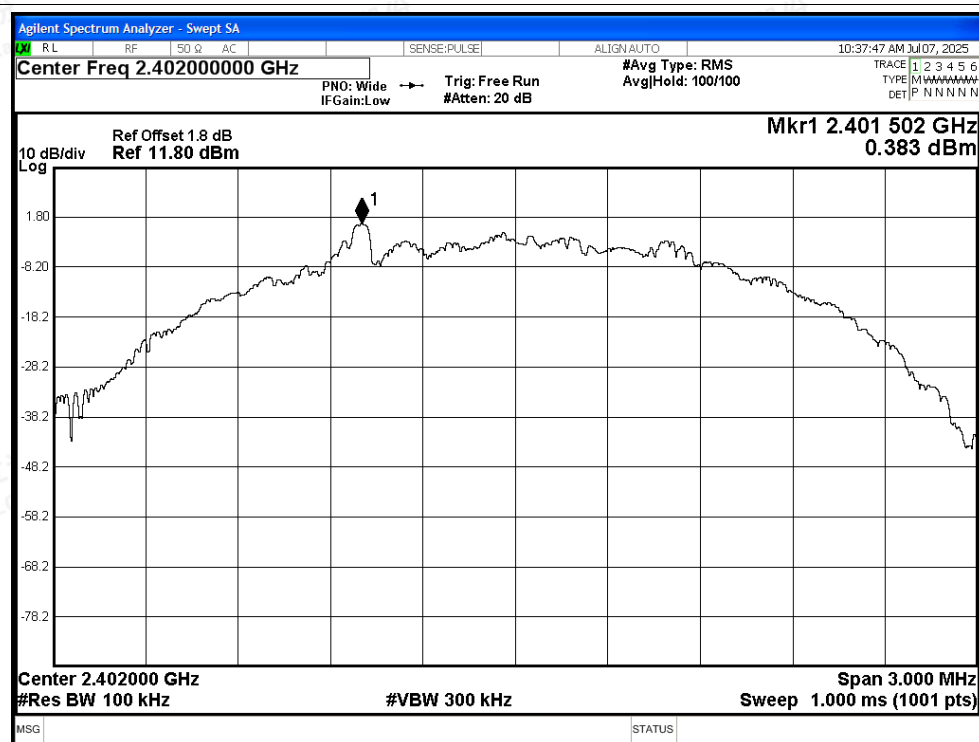
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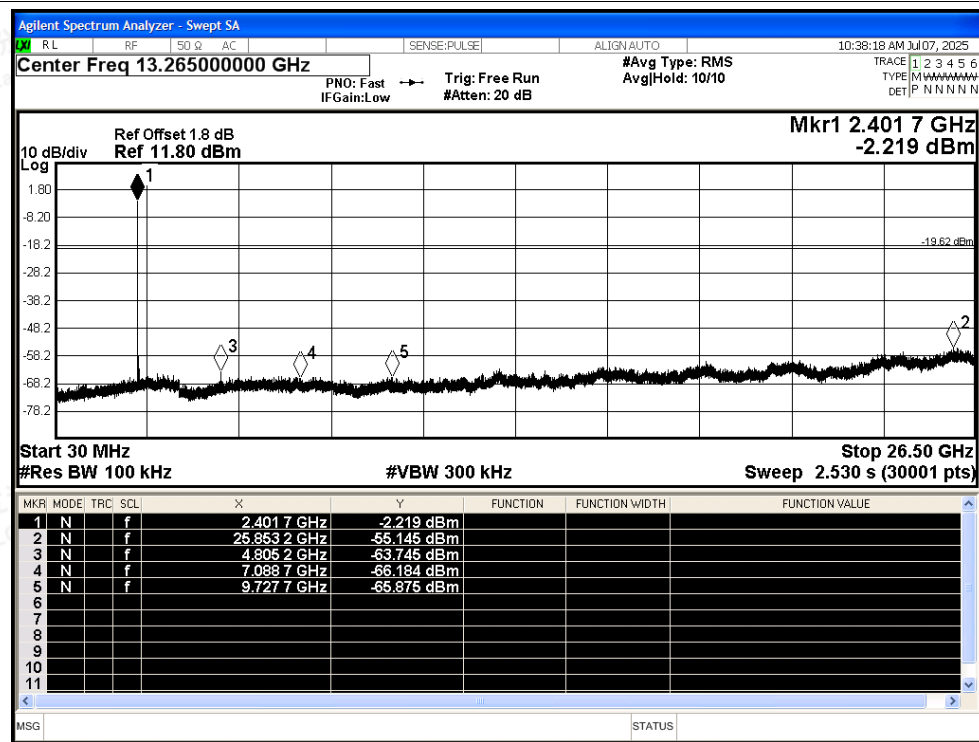
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Tx. Spurious NVNT BLE 2M 2402MHz Ant Ref



Tx. Spurious NVNT BLE 2M 2402MHz Ant Emission



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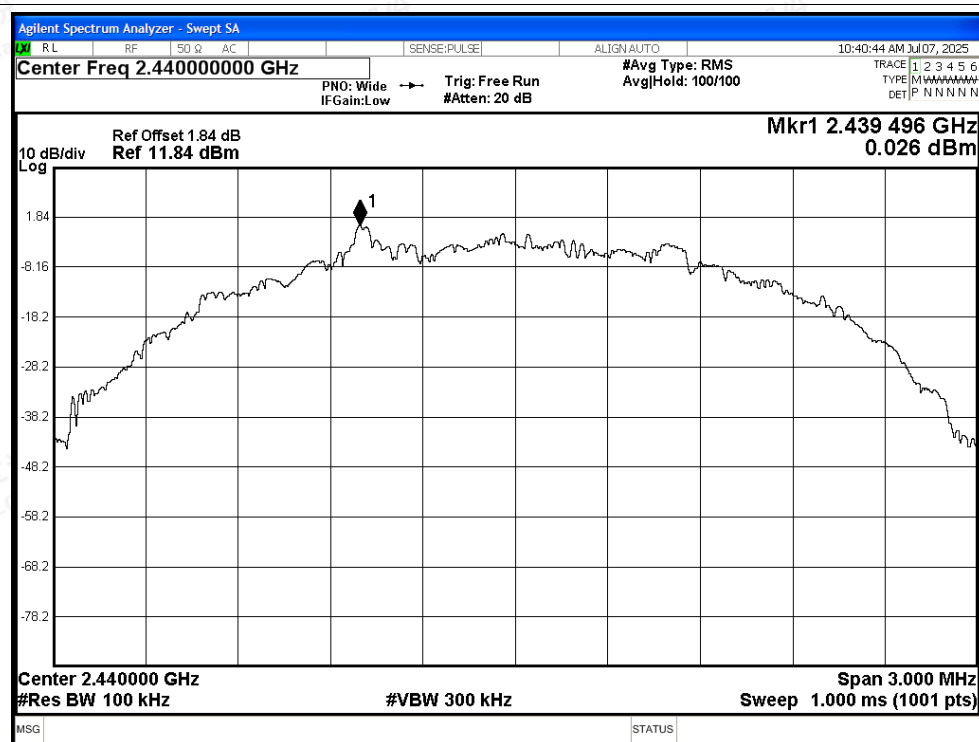
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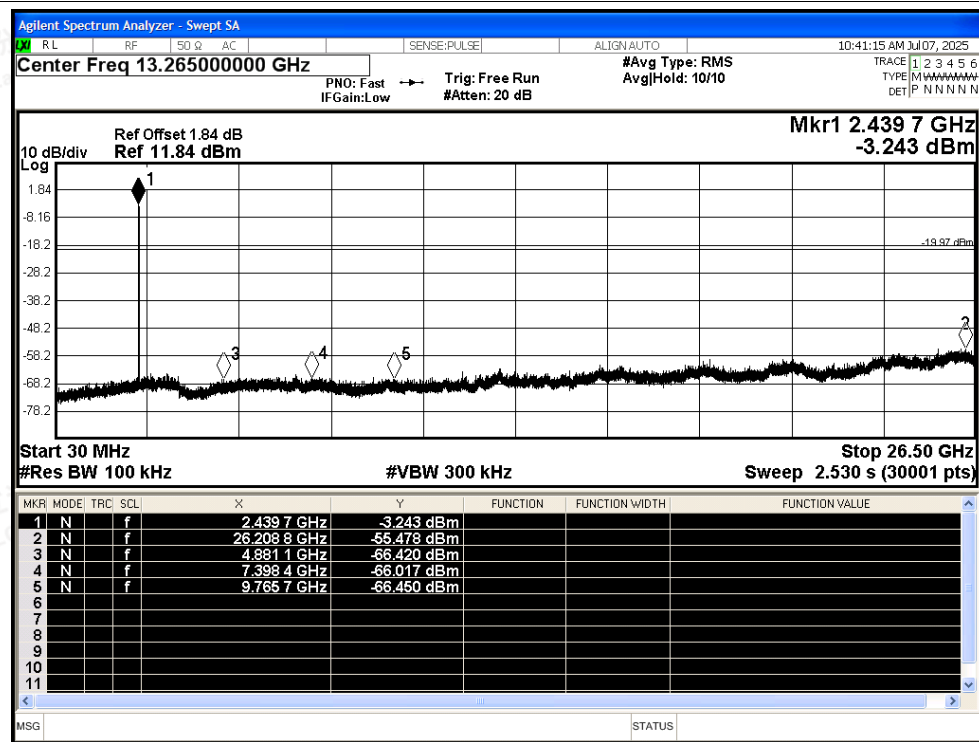
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Tx. Spurious NVNT BLE 2M 2440MHz Ant Ref



Tx. Spurious NVNT BLE 2M 2440MHz Ant Emission



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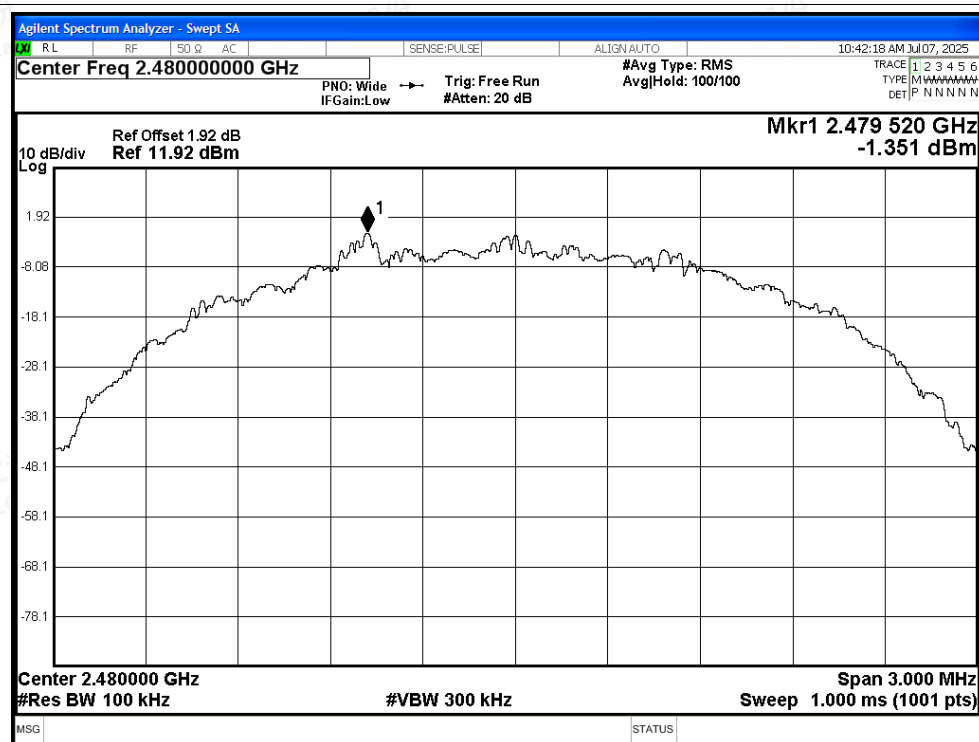
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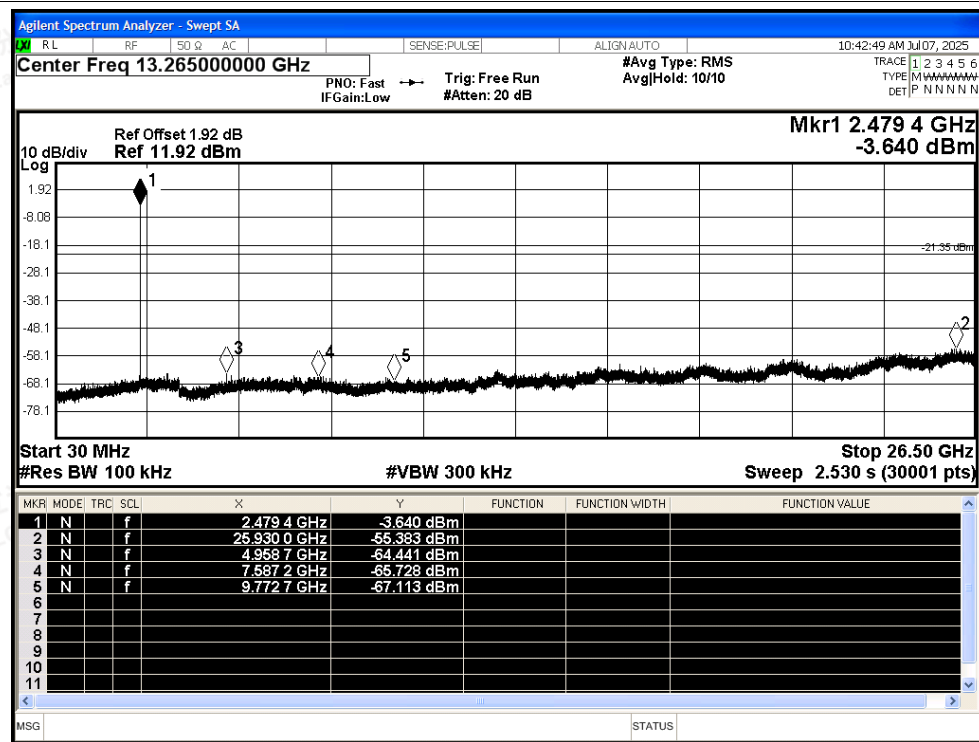
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Tx. Spurious NVNT BLE 2M 2480MHz Ant Ref



Tx. Spurious NVNT BLE 2M 2480MHz Ant Emission



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B.6 Duty Cycle

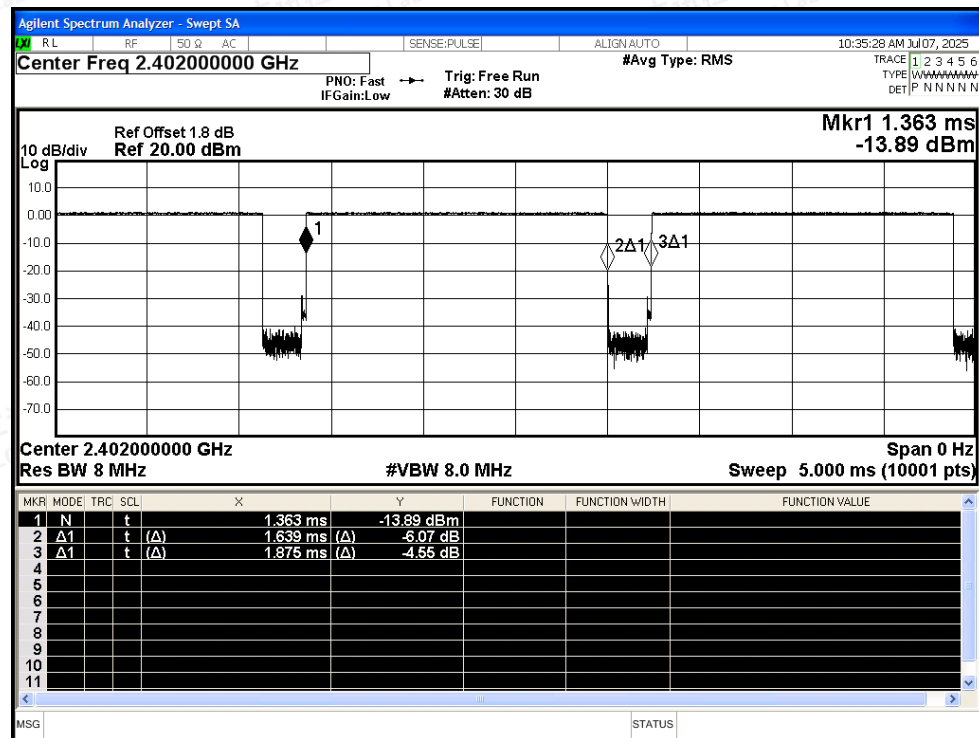
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant	87.39	0.59	0.61
NVNT	BLE 1M	2440	Ant	87.39	0.59	0.61
NVNT	BLE 1M	2480	Ant	87.39	0.59	0.61
NVNT	BLE 2M	2402	Ant	65.96	1.81	1.21
NVNT	BLE 2M	2440	Ant	65.96	1.81	1.21
NVNT	BLE 2M	2480	Ant	65.92	1.81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



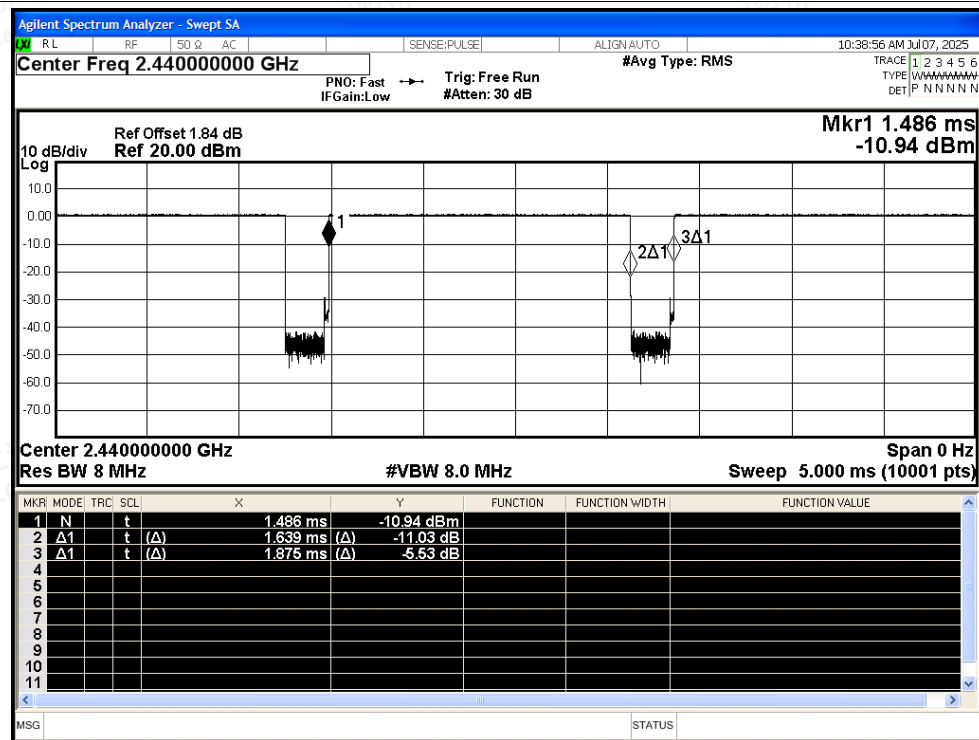


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant



Duty Cycle NVNT BLE 1M 2440MHz Ant



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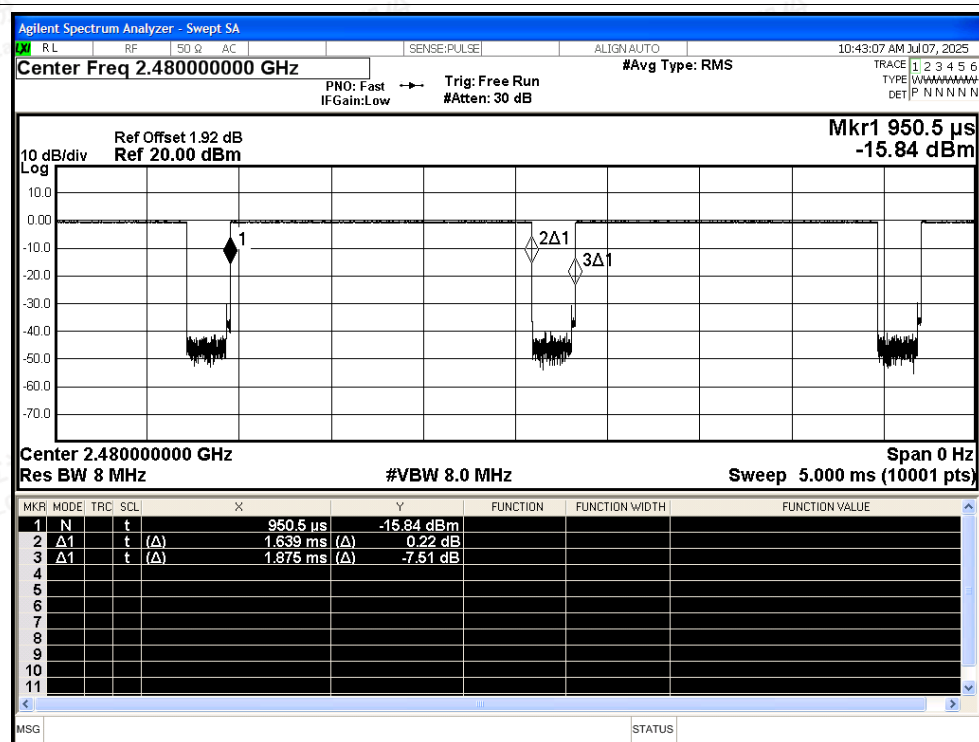
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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

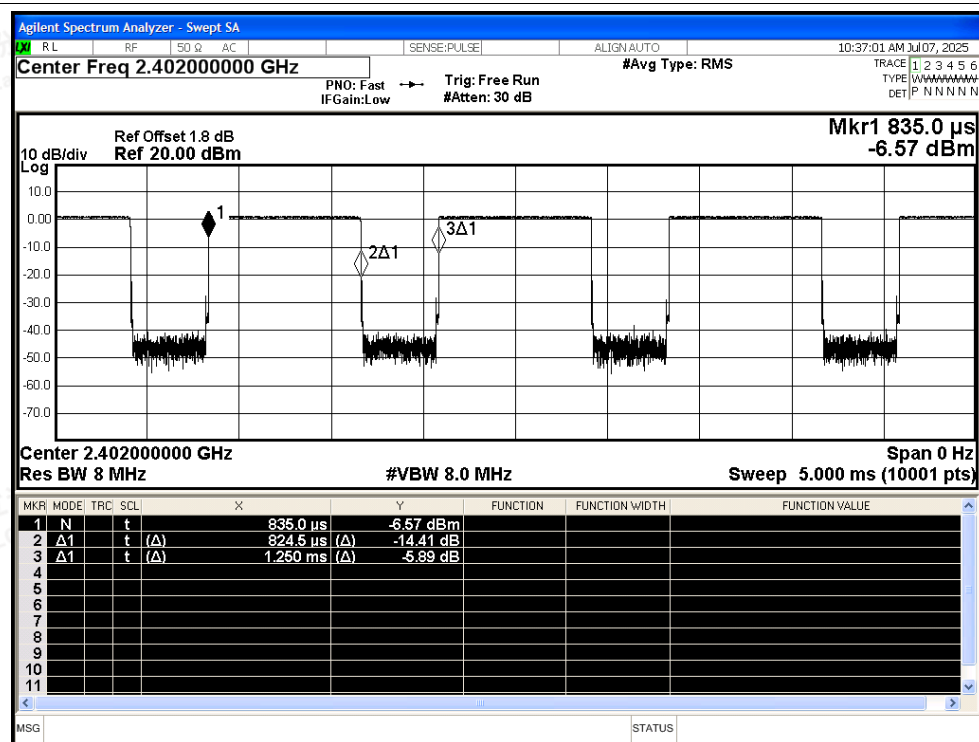
Scan code to check authenticity



Duty Cycle NVNT BLE 1M 2480MHz Ant



Duty Cycle NVNT BLE 2M 2402MHz Ant



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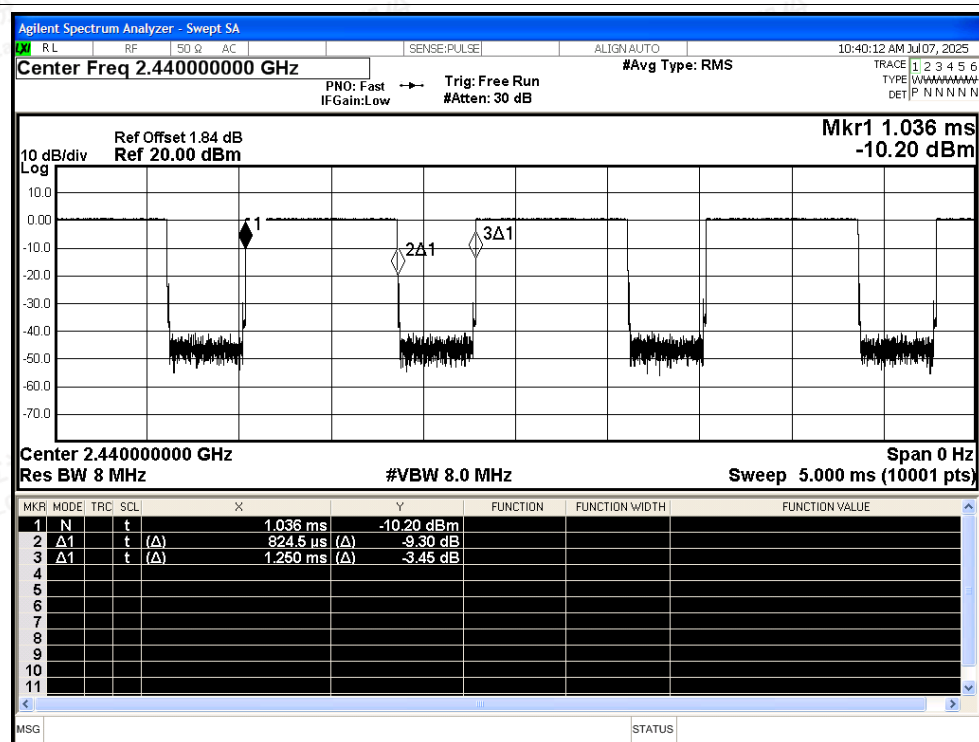
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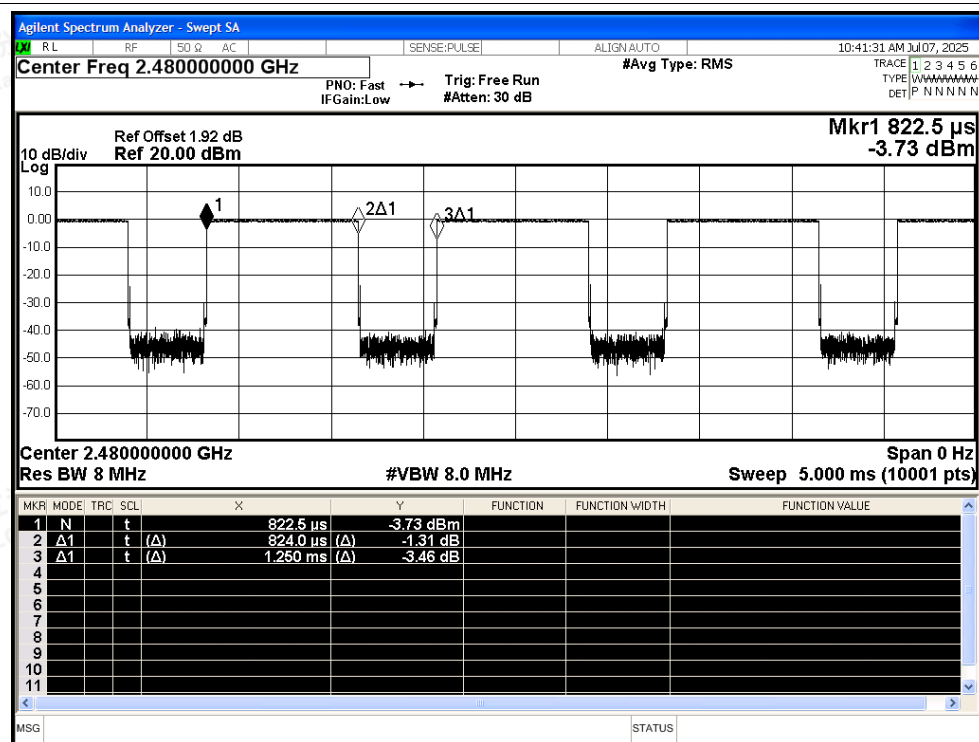
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Duty Cycle NVNT BLE 2M 2440MHz Ant



Duty Cycle NVNT BLE 2M 2480MHz Ant



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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	-51.01	3.56	-	47.81	Peak	74	Pass
NVNT	BLE 1M	2402	Ant	2310	-58.93	3.56	0.59	40.48	Average	54	Pass
NVNT	BLE 1M	2402	Ant	2374.704	-47.71	3.56	-	51.11	Peak	74	Pass
NVNT	BLE 1M	2402	Ant	2362.608	-58.22	3.56	0.59	41.19	Average	54	Pass
NVNT	BLE 1M	2402	Ant	2390	-48.17	3.56	-	50.65	Peak	74	Pass
NVNT	BLE 1M	2402	Ant	2390	-58.64	3.56	0.59	40.77	Average	54	Pass
NVNT	BLE 1M	2480	Ant	2483.5	-48.62	3.56	-	50.20	Peak	74	Pass
NVNT	BLE 1M	2480	Ant	2483.5	-57.76	3.56	0.59	41.65	Average	54	Pass
NVNT	BLE 1M	2480	Ant	2484.232	-44.91	3.56	-	53.91	Peak	74	Pass
NVNT	BLE 1M	2480	Ant	2484.016	-57.56	3.56	0.59	41.85	Average	54	Pass
NVNT	BLE 1M	2480	Ant	2500	-50.47	3.56	-	48.35	Peak	74	Pass
NVNT	BLE 1M	2480	Ant	2500	-58.23	3.56	0.59	41.18	Average	54	Pass
NVNT	BLE 2M	2402	Ant	2310	-51.53	3.56	-	47.29	Peak	74	Pass
NVNT	BLE 2M	2402	Ant	2310	-58.63	3.56	1.81	42.00	Average	54	Pass
NVNT	BLE 2M	2402	Ant	2385.744	-47.8	3.56	-	51.02	Peak	74	Pass
NVNT	BLE 2M	2402	Ant	2378.736	-57.77	3.56	1.81	42.86	Average	54	Pass
NVNT	BLE 2M	2402	Ant	2390	-48.84	3.56	-	49.98	Peak	74	Pass
NVNT	BLE 2M	2402	Ant	2390	-58.69	3.56	1.81	41.94	Average	54	Pass
NVNT	BLE 2M	2480	Ant	2483.5	-49.28	3.56	-	49.54	Peak	74	Pass
NVNT	BLE 2M	2480	Ant	2483.5	-56.91	3.56	1.81	43.72	Average	54	Pass
NVNT	BLE 2M	2480	Ant	2483.992	-45.5	3.56	-	53.32	Peak	74	Pass
NVNT	BLE 2M	2480	Ant	2483.512	-56.91	3.56	1.81	43.72	Average	54	Pass
NVNT	BLE 2M	2480	Ant	2500	-49.65	3.56	-	49.17	Peak	74	Pass
NVNT	BLE 2M	2480	Ant	2500	-58.48	3.56	1.81	42.15	Average	54	Pass



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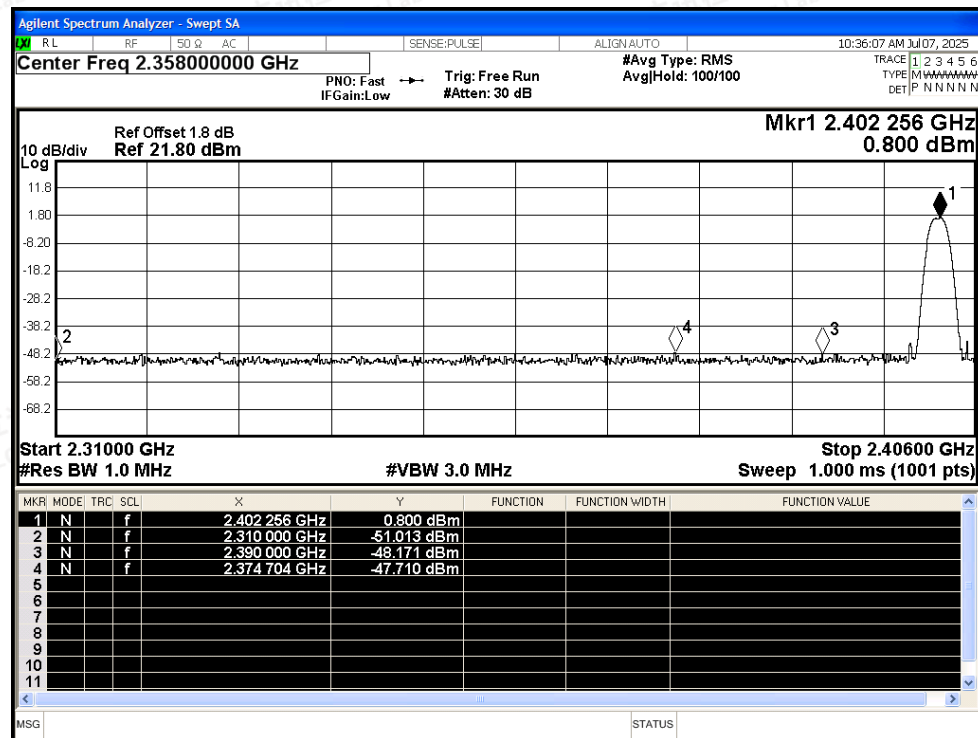
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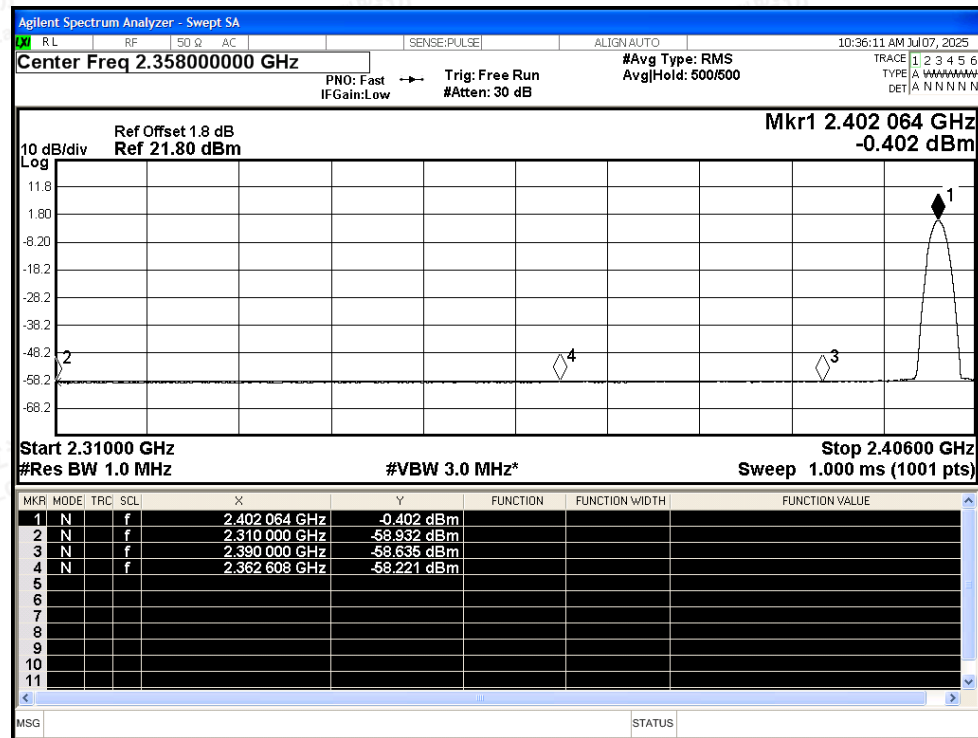


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant Peak



Restrict Band NVNT BLE 1M 2402MHz Ant Average



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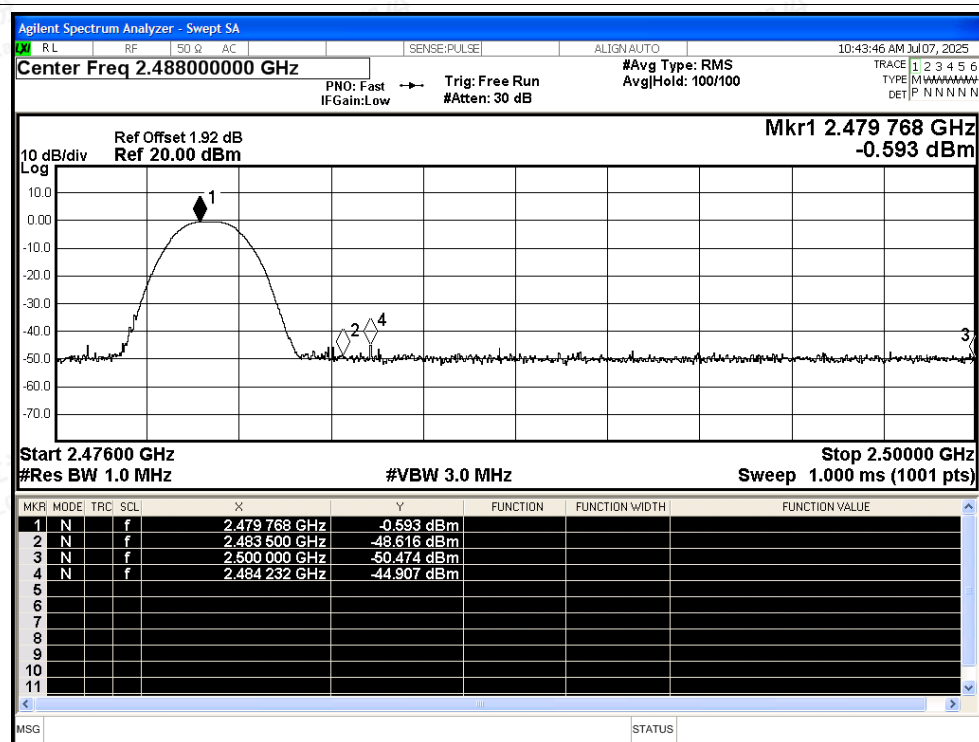
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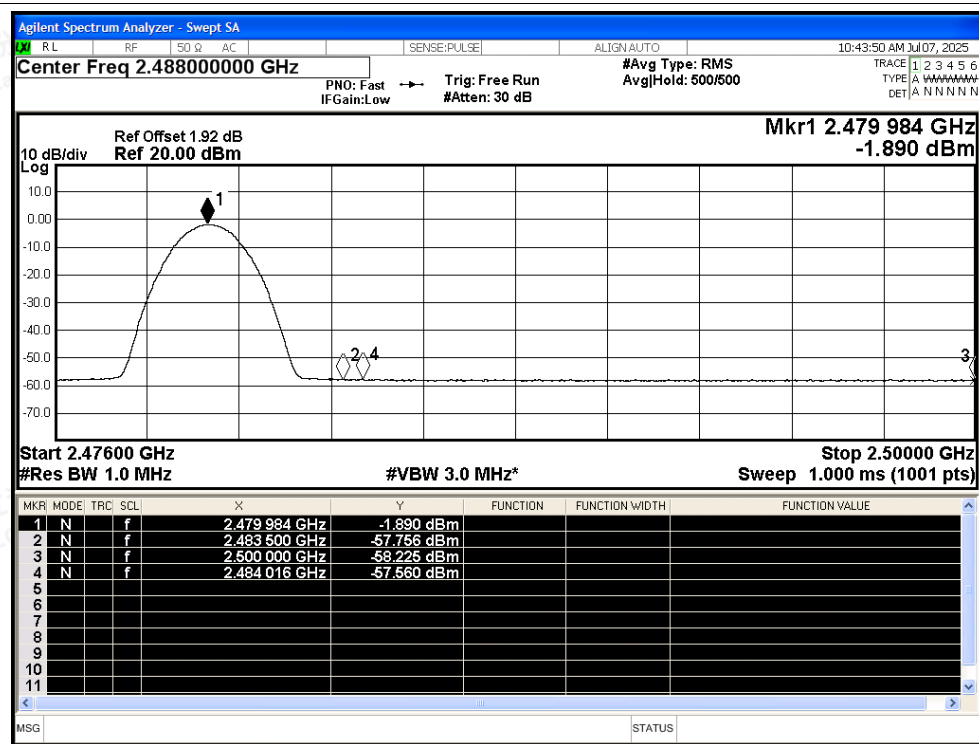
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Restrict Band NVNT BLE 1M 2480MHz Ant Peak



Restrict Band NVNT BLE 1M 2480MHz Ant Average



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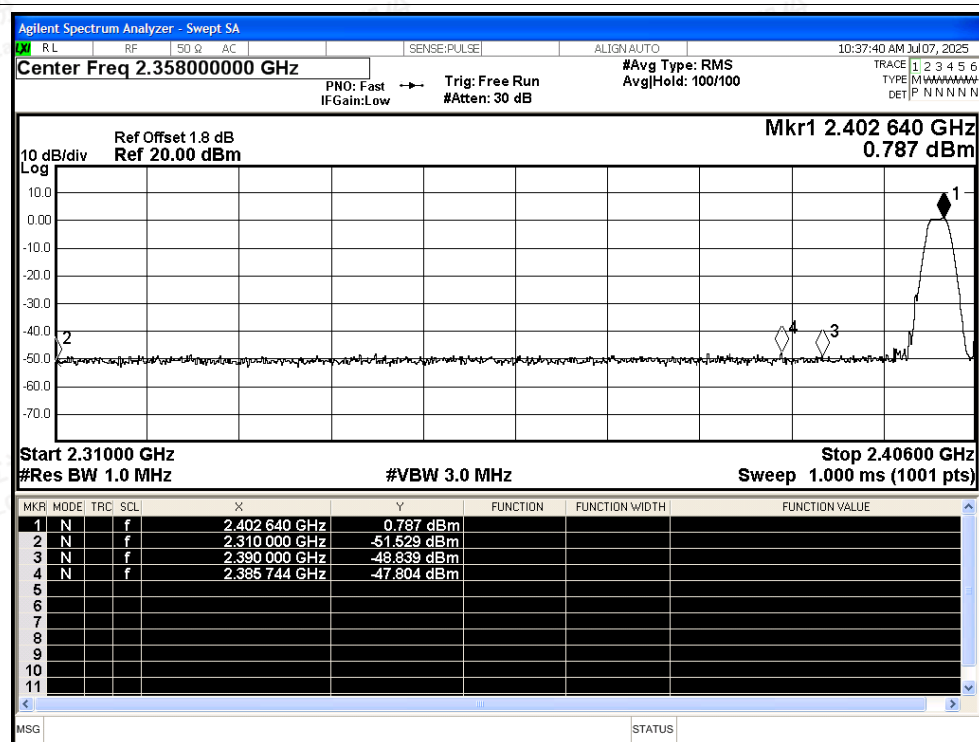
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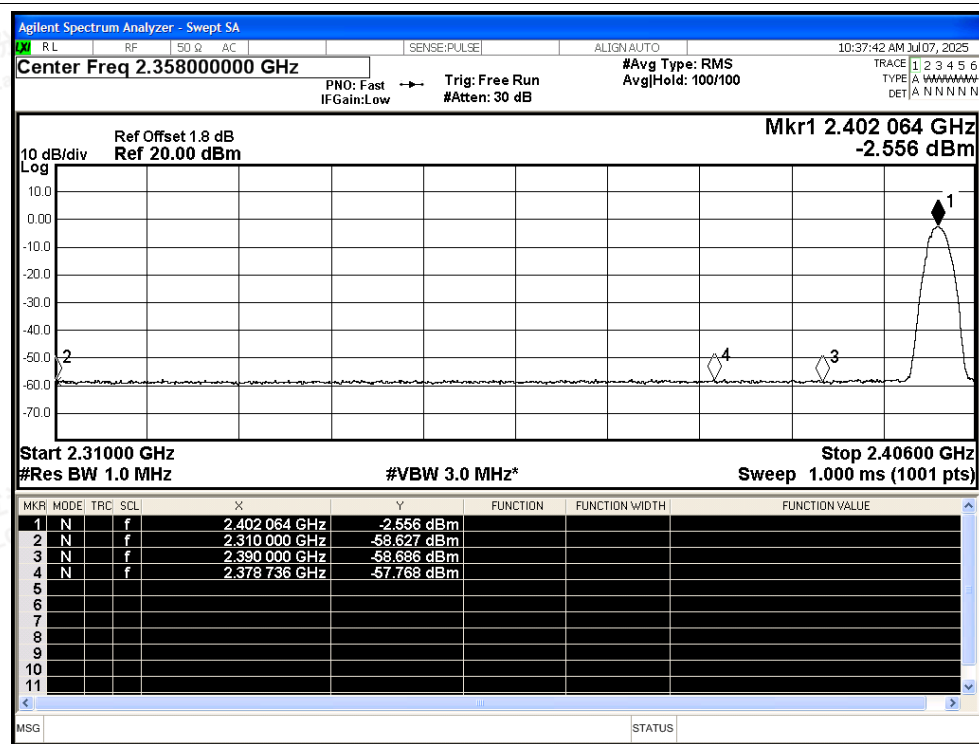
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Restrict Band NVNT BLE 2M 2402MHz Ant Peak



Restrict Band NVNT BLE 2M 2402MHz Ant Average



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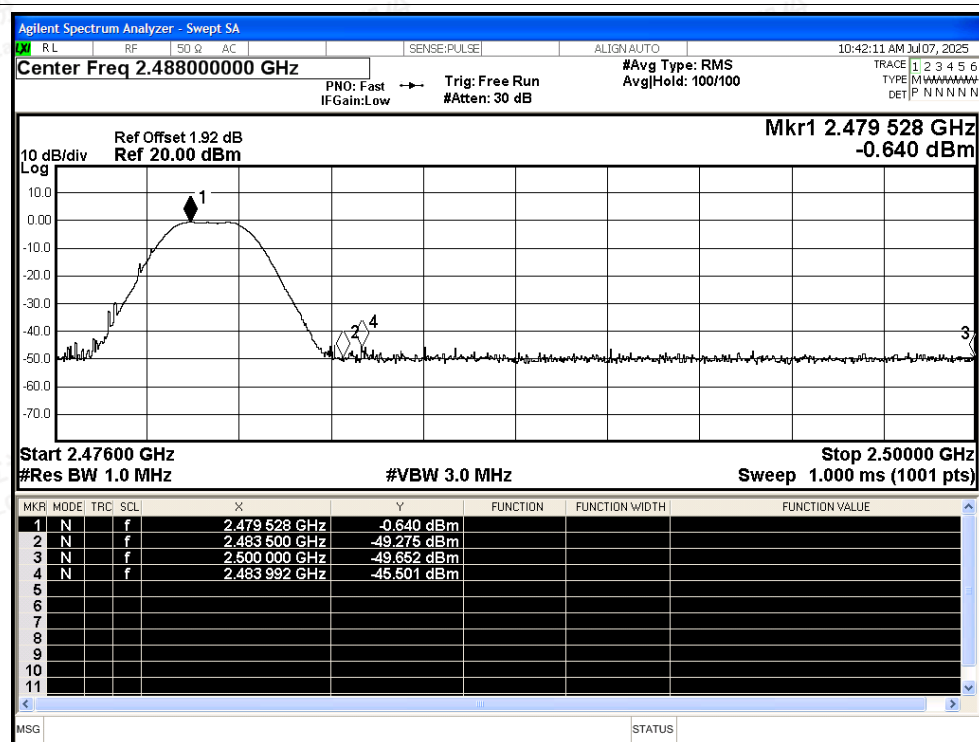
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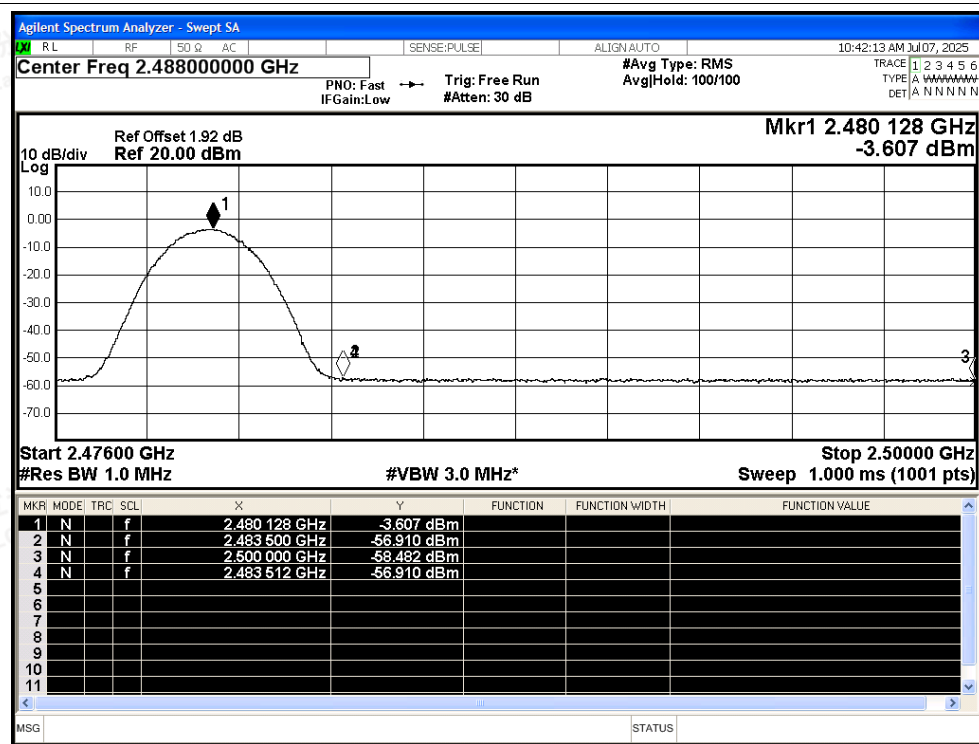
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Restrict Band NVNT BLE 2M 2480MHz Ant Peak



Restrict Band NVNT BLE 2M 2480MHz Ant Average



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