



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: Pixels Die

Test Model: PXL-D20-A

Environmental Conditions

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





A.1 -6dB Bandwidth

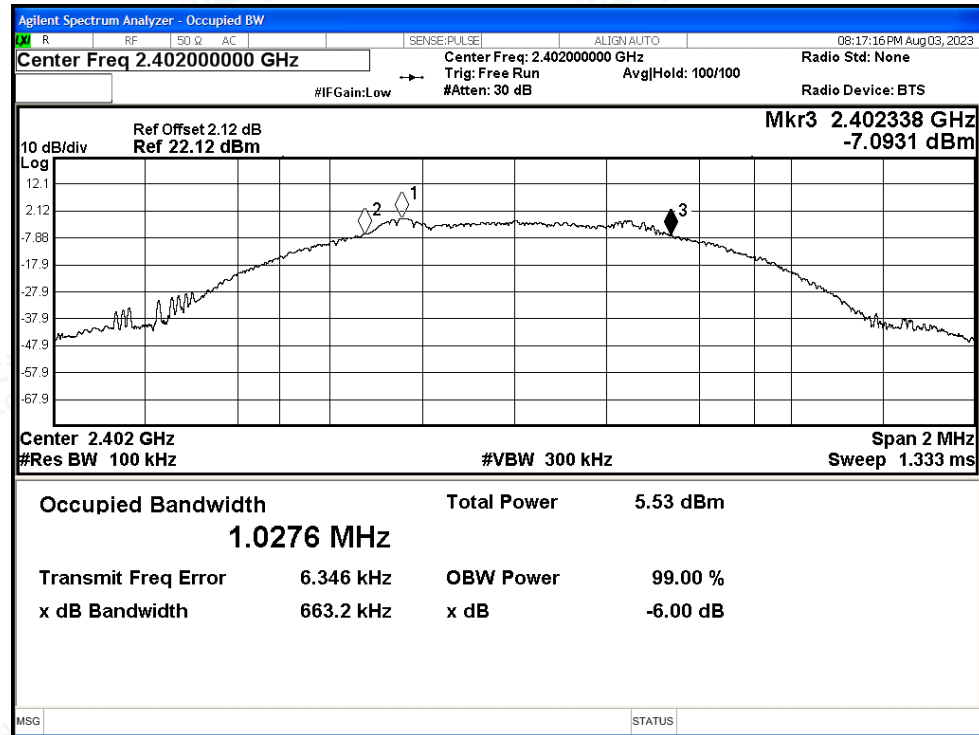
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.663	>=0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.656	>=0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.65	>=0.5	Pass
NVNT	BLE 2M	2402	Ant1	1.149	>=0.5	Pass
NVNT	BLE 2M	2440	Ant1	1.137	>=0.5	Pass
NVNT	BLE 2M	2480	Ant1	1.149	>=0.5	Pass



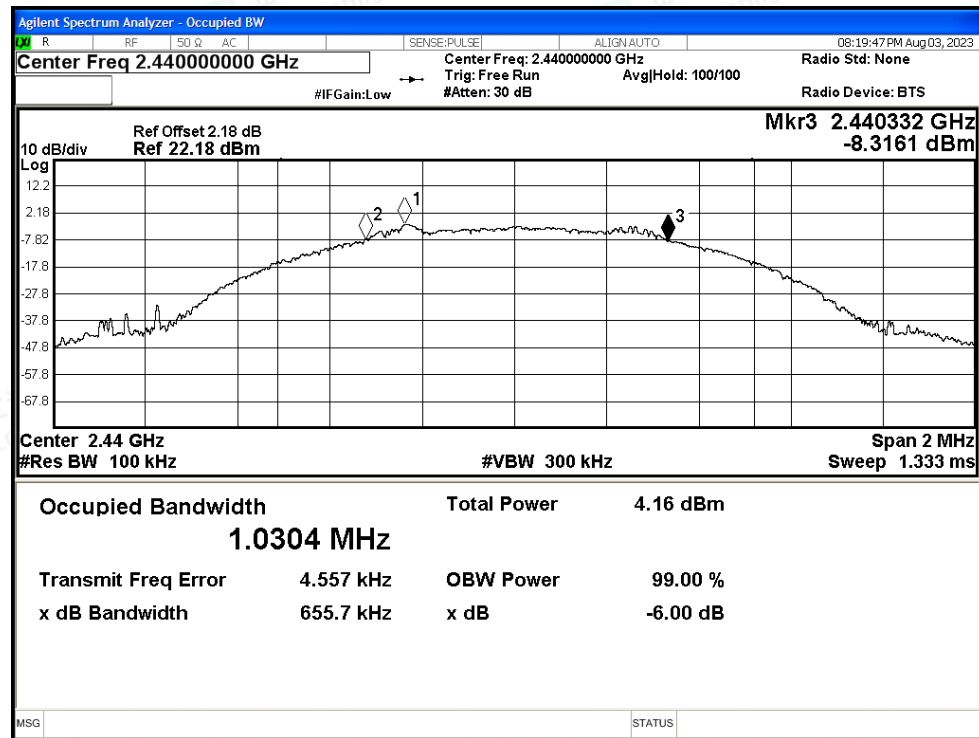


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant1



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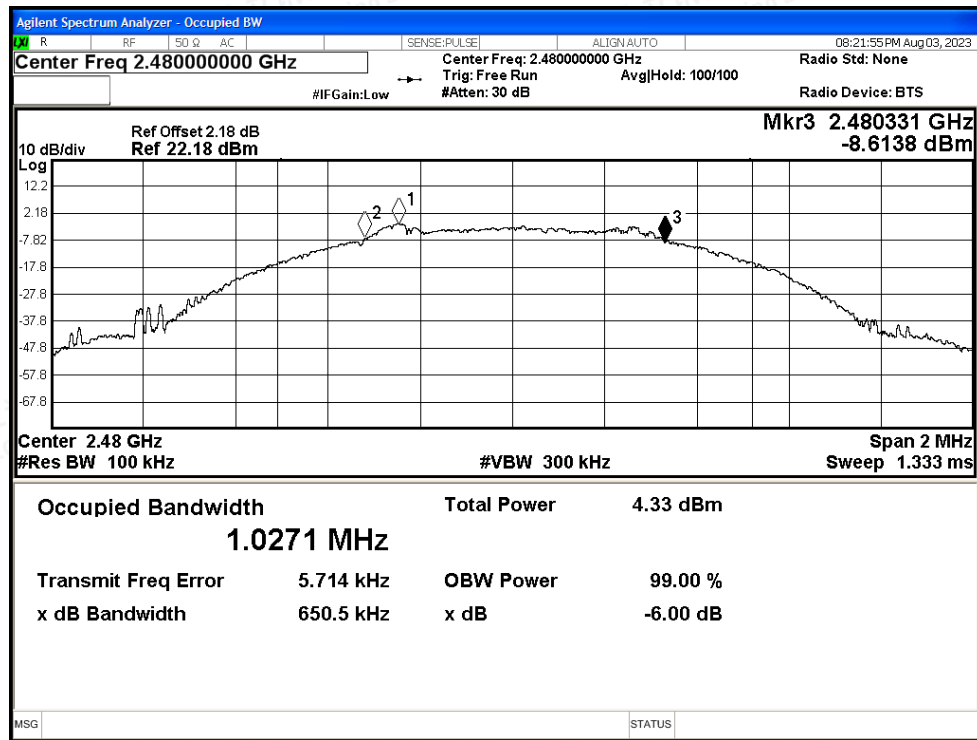
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

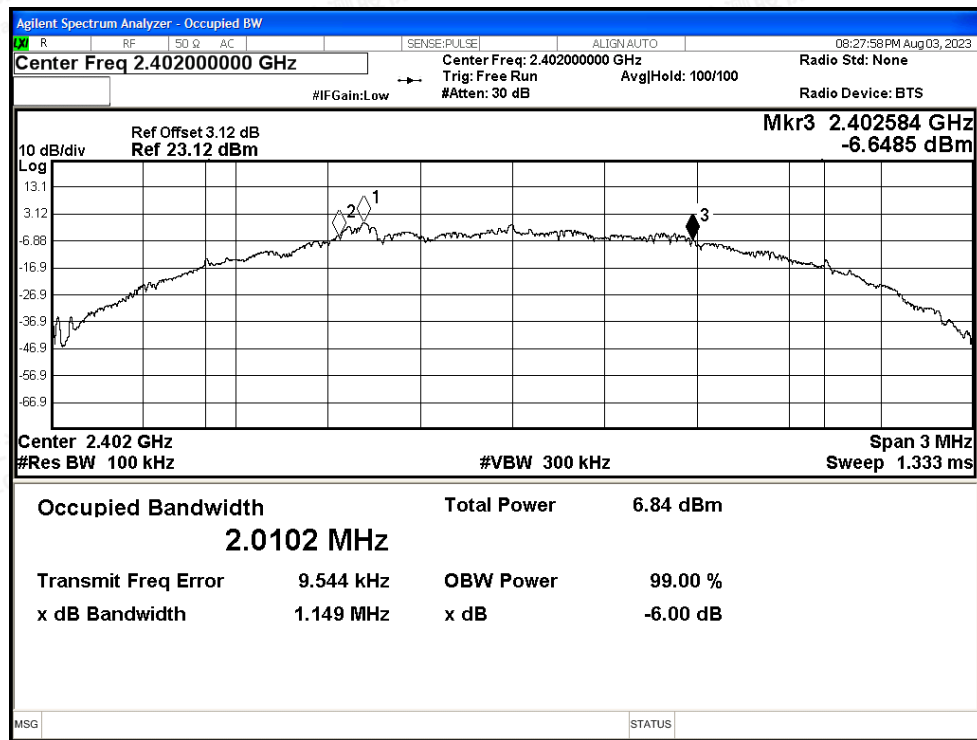
Scan code to check authenticity



-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2402MHz Ant1



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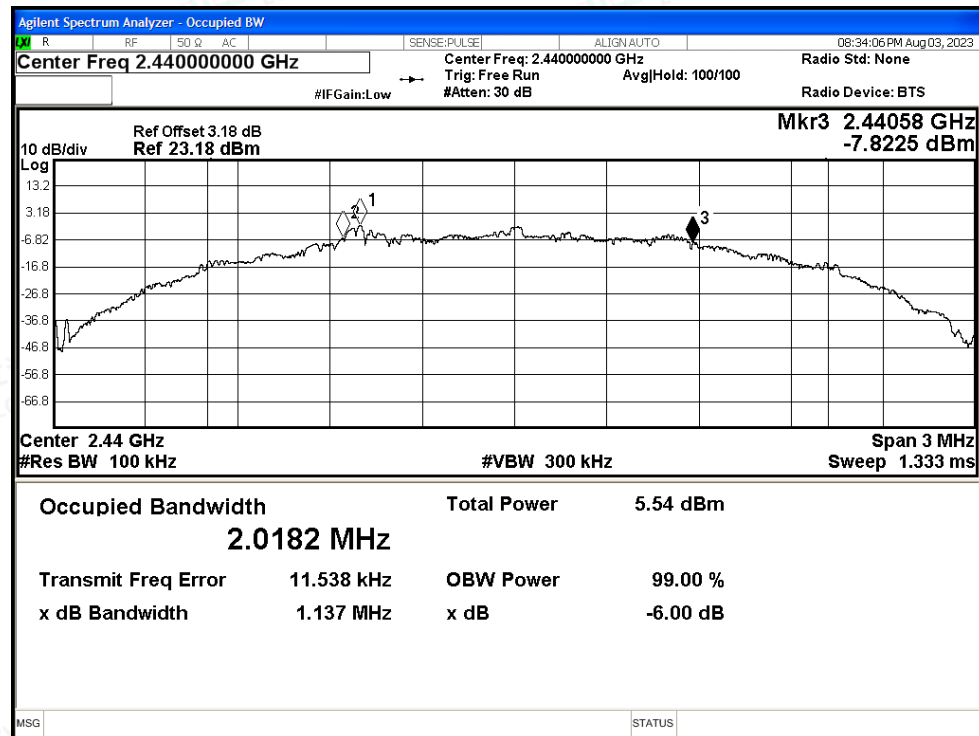
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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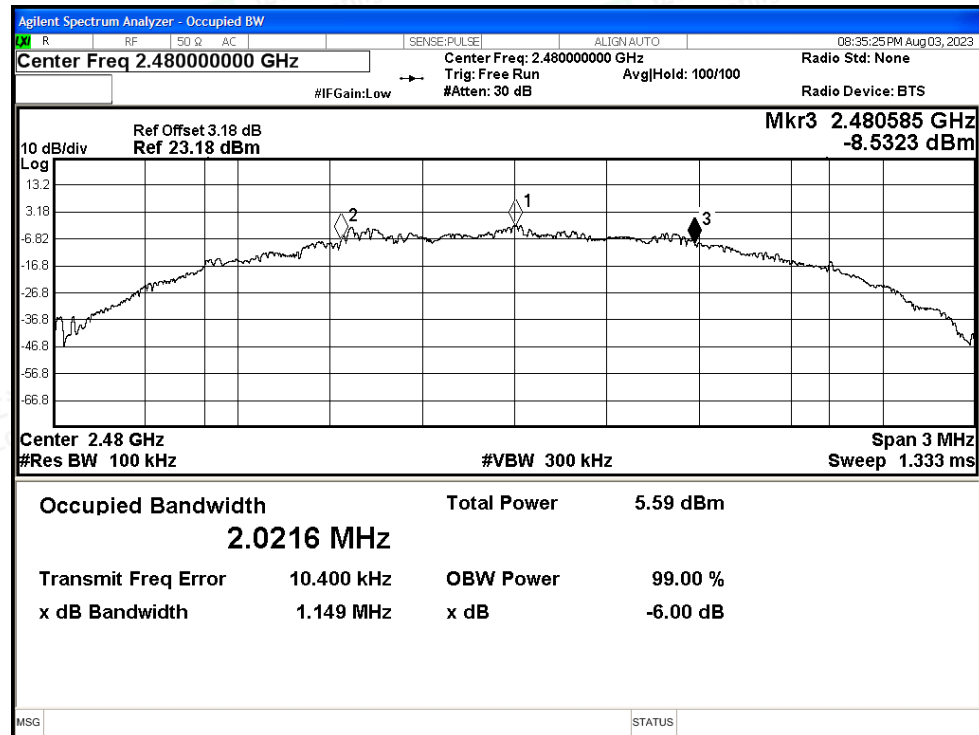
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-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2480MHz 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	-0.13	30	Pass
NVNT	BLE 1M	2440	Ant1	-1.43	30	Pass
NVNT	BLE 1M	2480	Ant1	-1.34	30	Pass
NVNT	BLE 2M	2402	Ant1	0.52	30	Pass
NVNT	BLE 2M	2440	Ant1	-0.72	30	Pass
NVNT	BLE 2M	2480	Ant1	-0.62	30	Pass

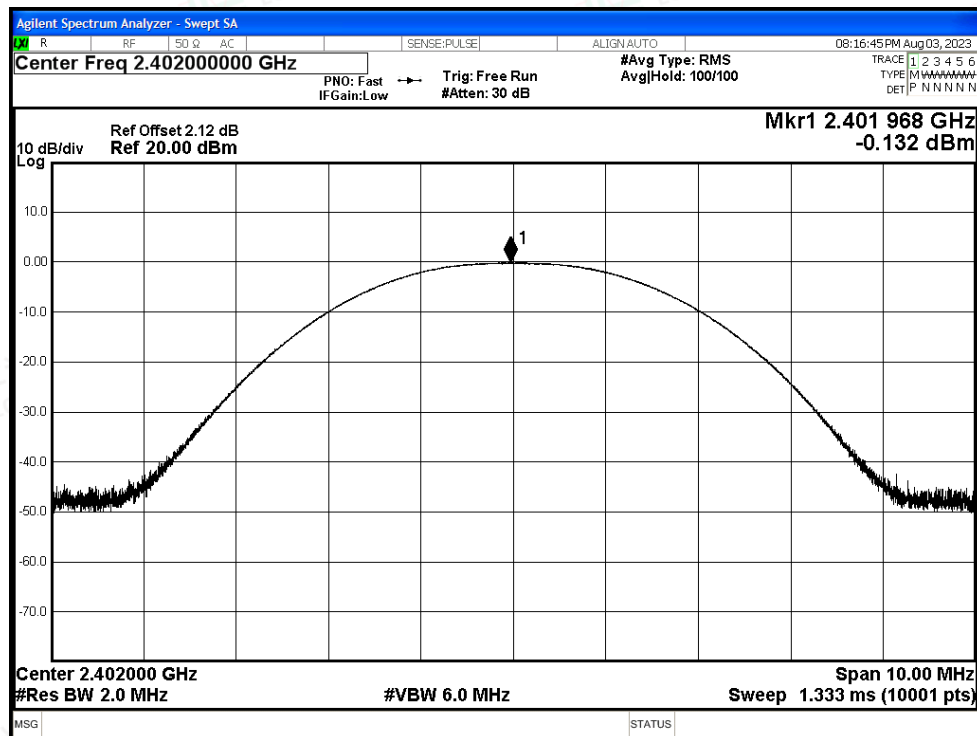


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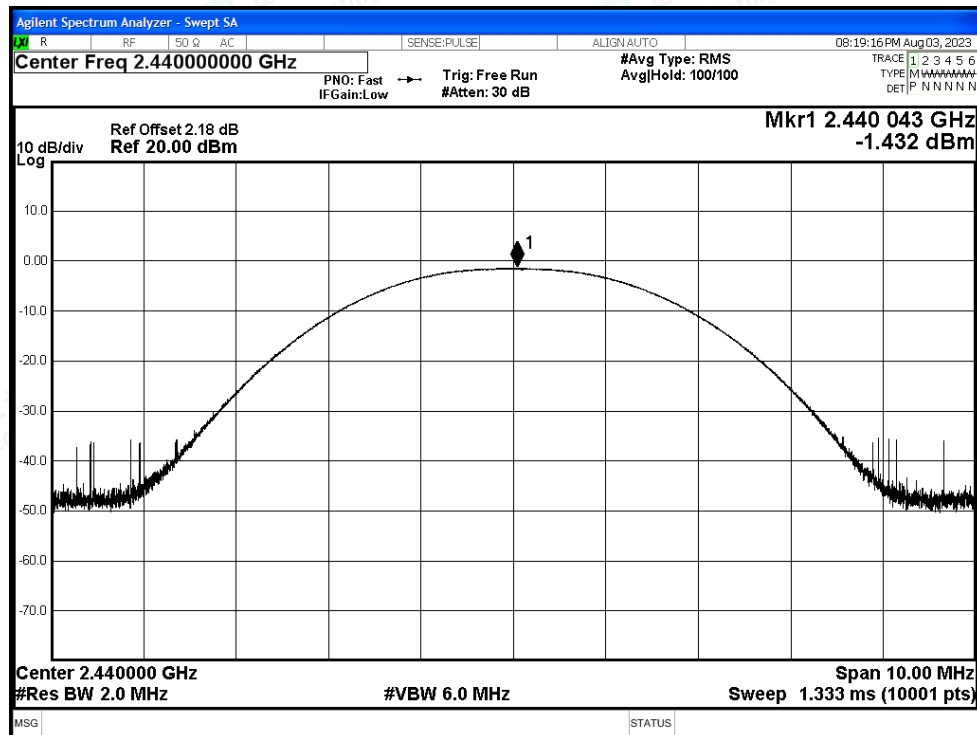


Test Graphs

Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2440MHz Ant1

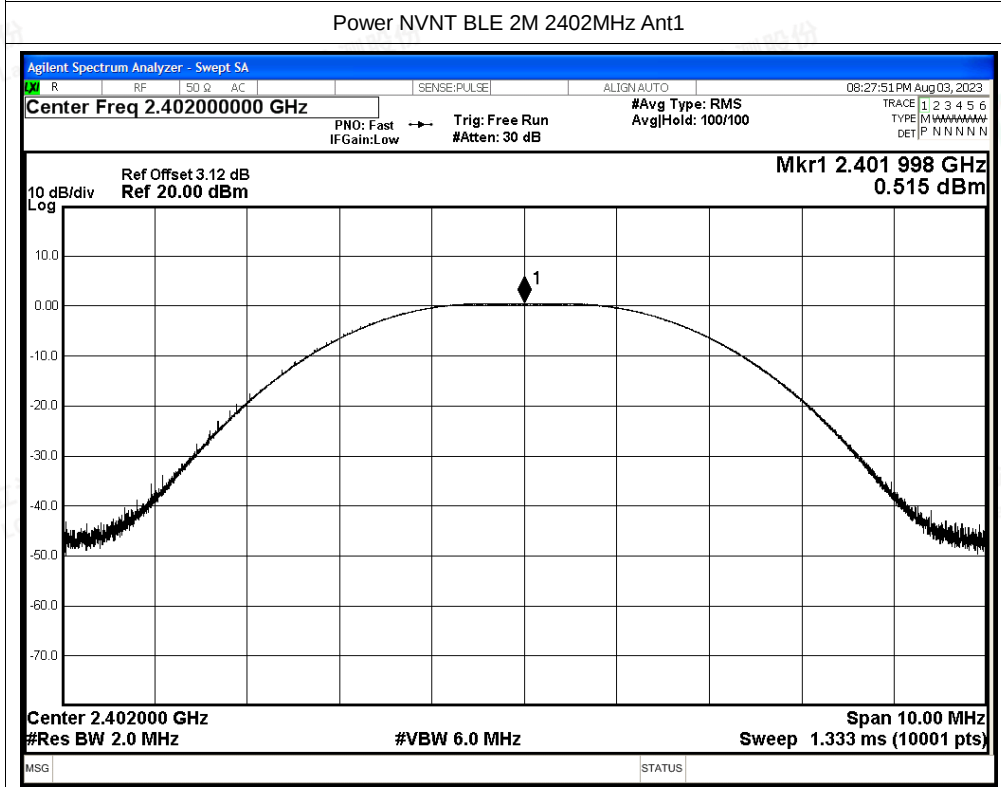
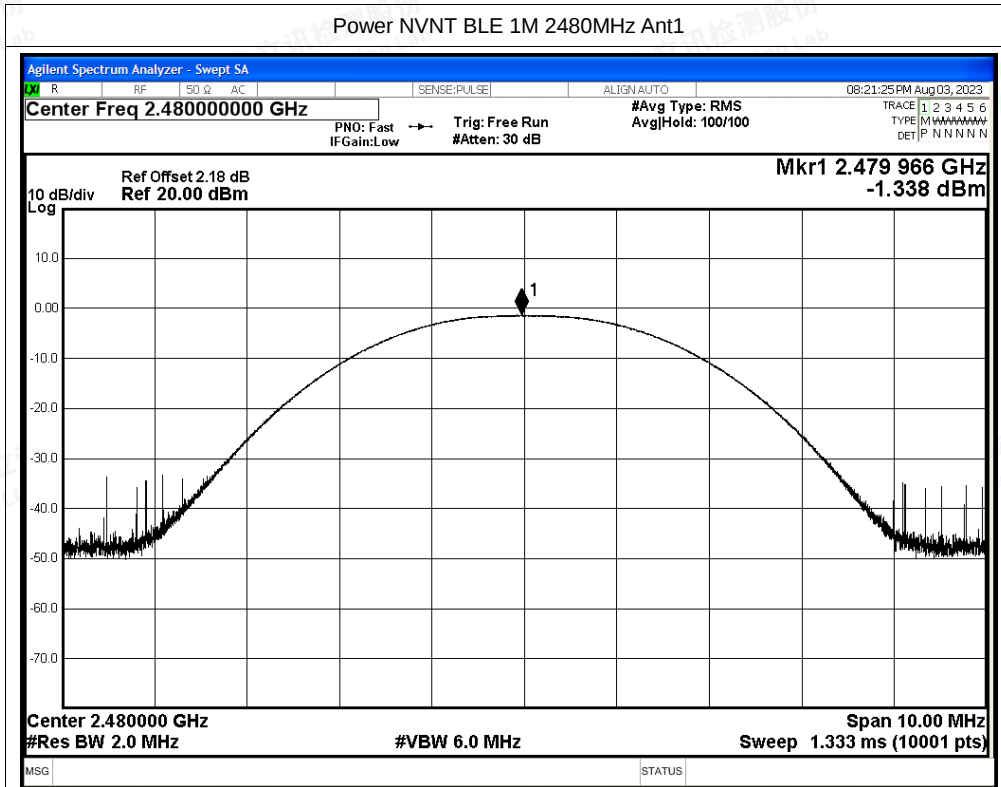


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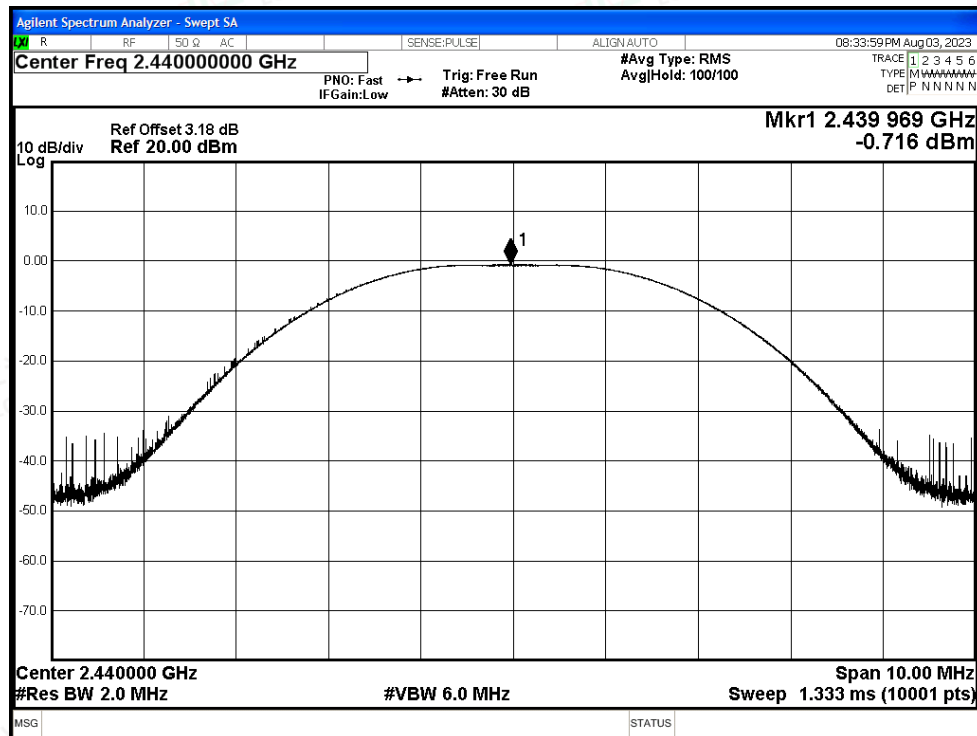
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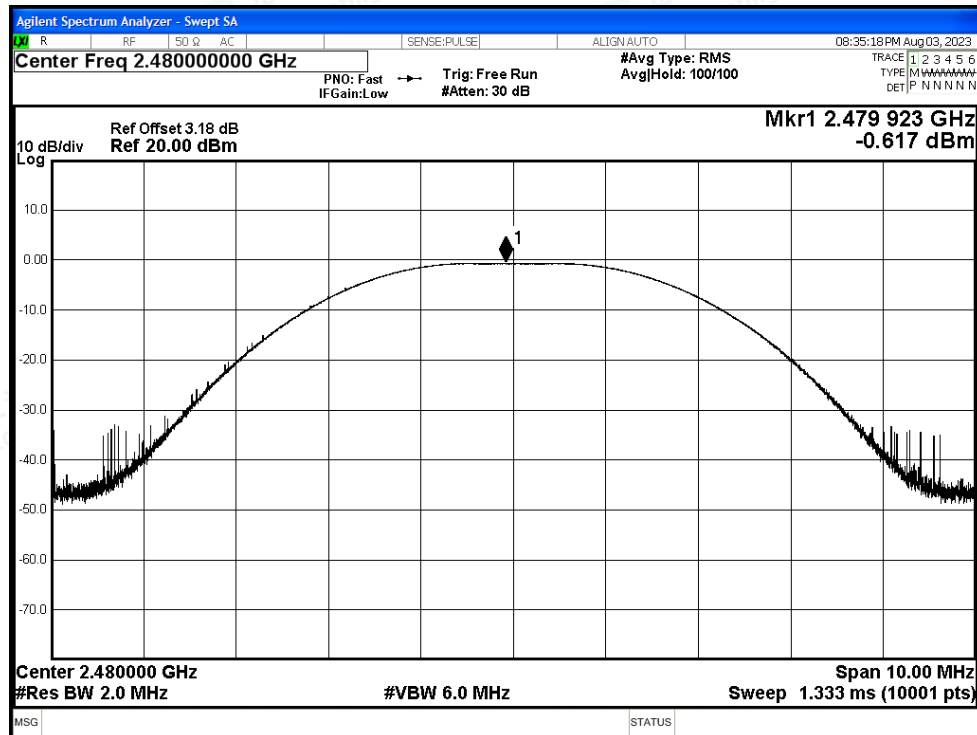
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Power NVNT BLE 2M 2440MHz Ant1



Power NVNT BLE 2M 2480MHz Ant1



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A.3 Maximum Power Spectral Density Level

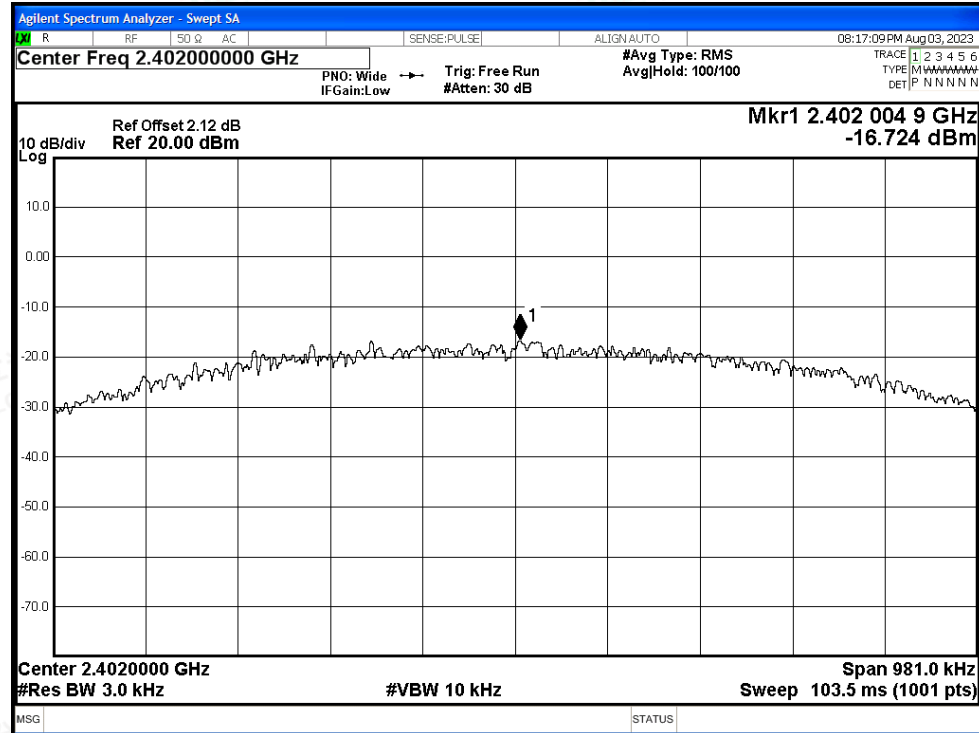
Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-16.72	8	Pass
NVNT	BLE 1M	2440	Ant1	-17.77	8	Pass
NVNT	BLE 1M	2480	Ant1	-17.96	8	Pass
NVNT	BLE 2M	2402	Ant1	-19.31	8	Pass
NVNT	BLE 2M	2440	Ant1	-20.54	8	Pass
NVNT	BLE 2M	2480	Ant1	-20.52	8	Pass



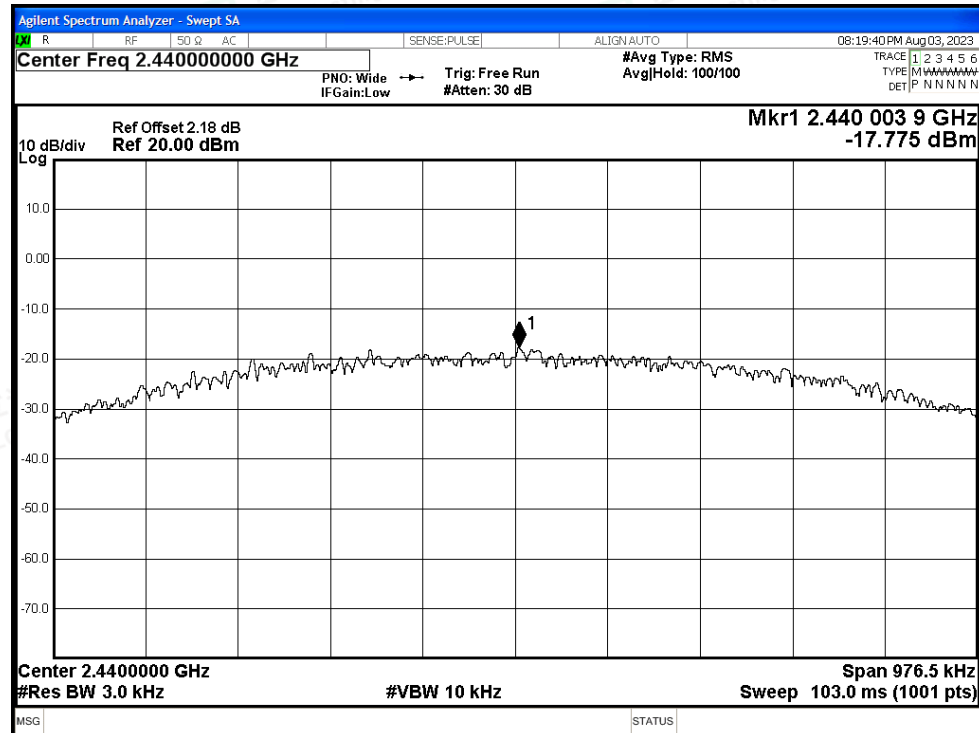


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant1



PSD NVNT BLE 1M 2440MHz Ant1



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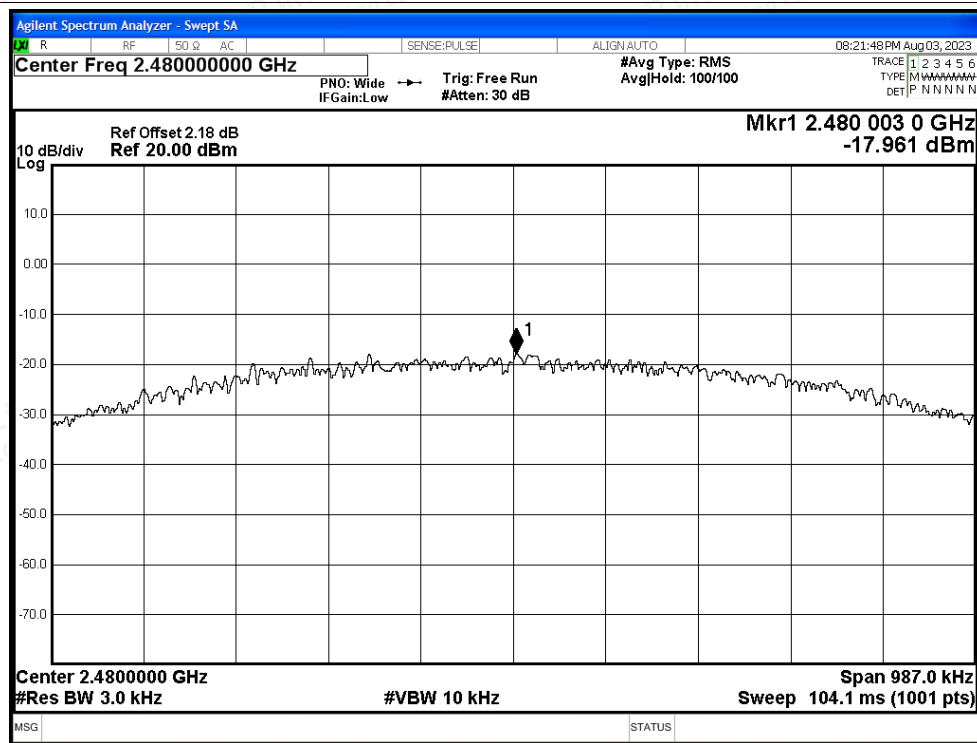
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

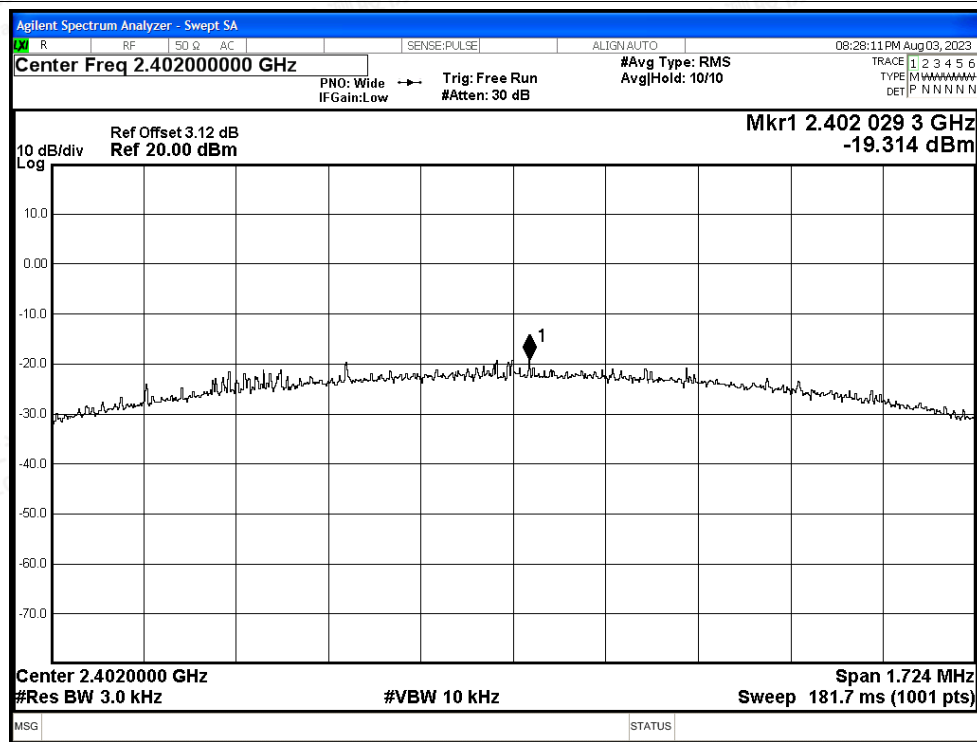
Scan code to check authenticity



PSD NVNT BLE 1M 2480MHz Ant1



PSD NVNT BLE 2M 2402MHz Ant1



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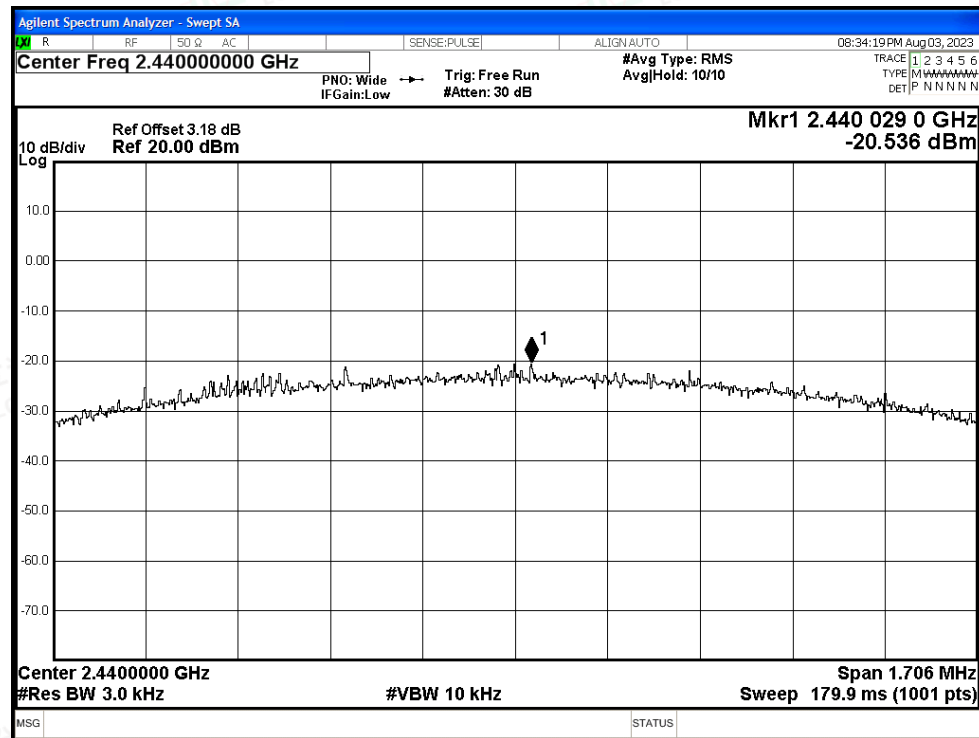
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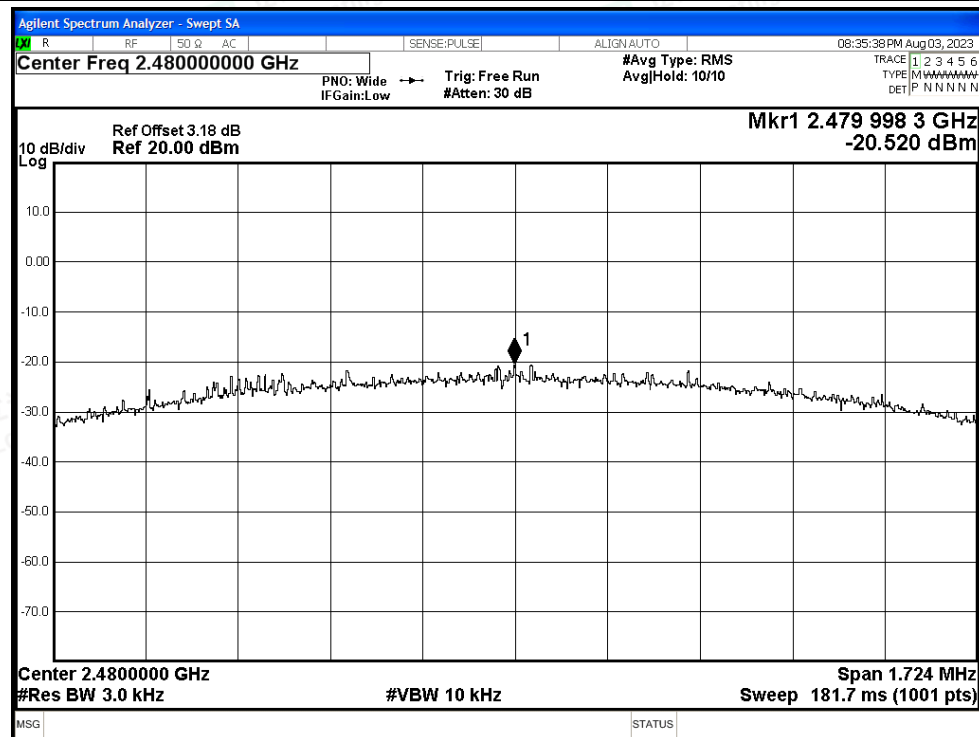
Scan code to check authenticity



PSD NVNT BLE 2M 2440MHz Ant1



PSD NVNT BLE 2M 2480MHz Ant1



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A.4 Band Edge

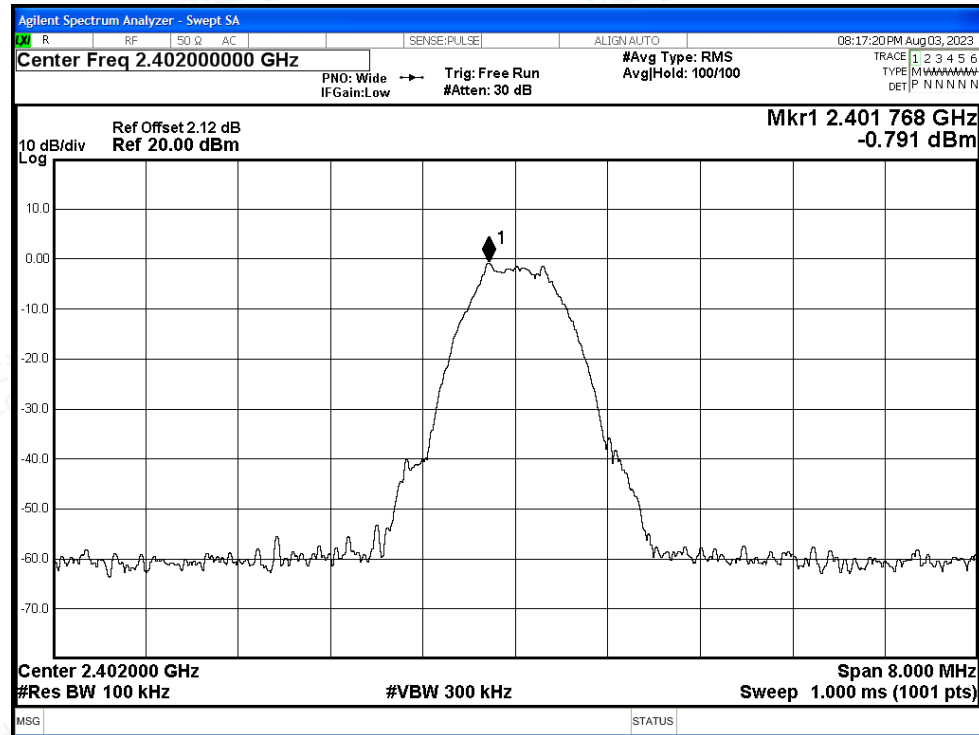
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-56.32	-20	Pass
NVNT	BLE 1M	2480	Ant1	-53.84	-20	Pass
NVNT	BLE 2M	2402	Ant1	-46.79	-20	Pass
NVNT	BLE 2M	2480	Ant1	-54.63	-20	Pass



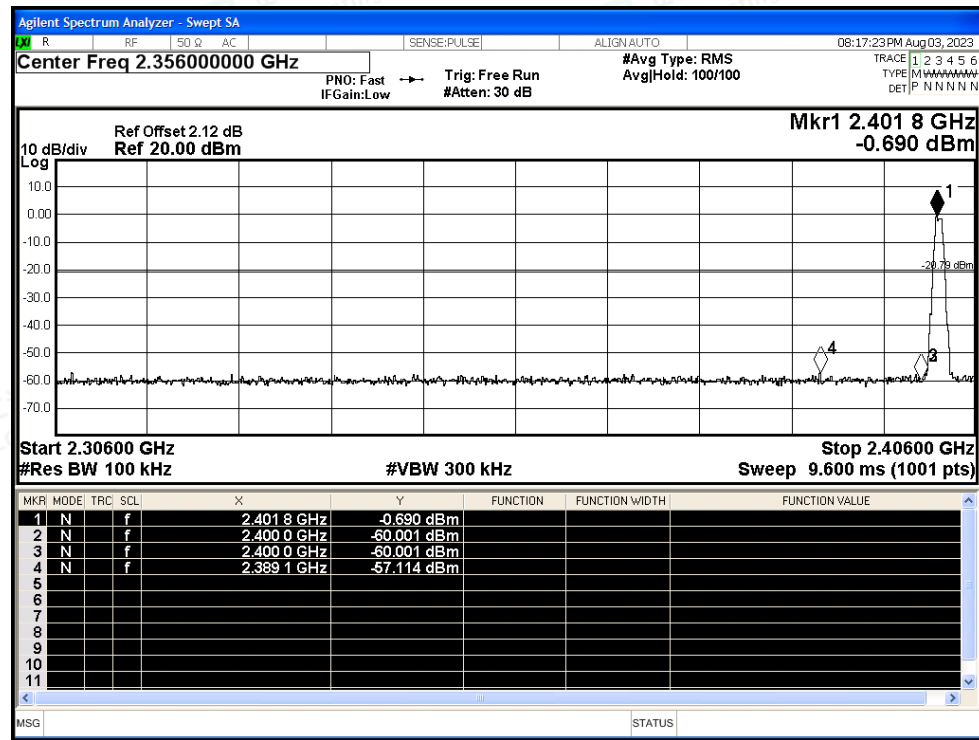


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



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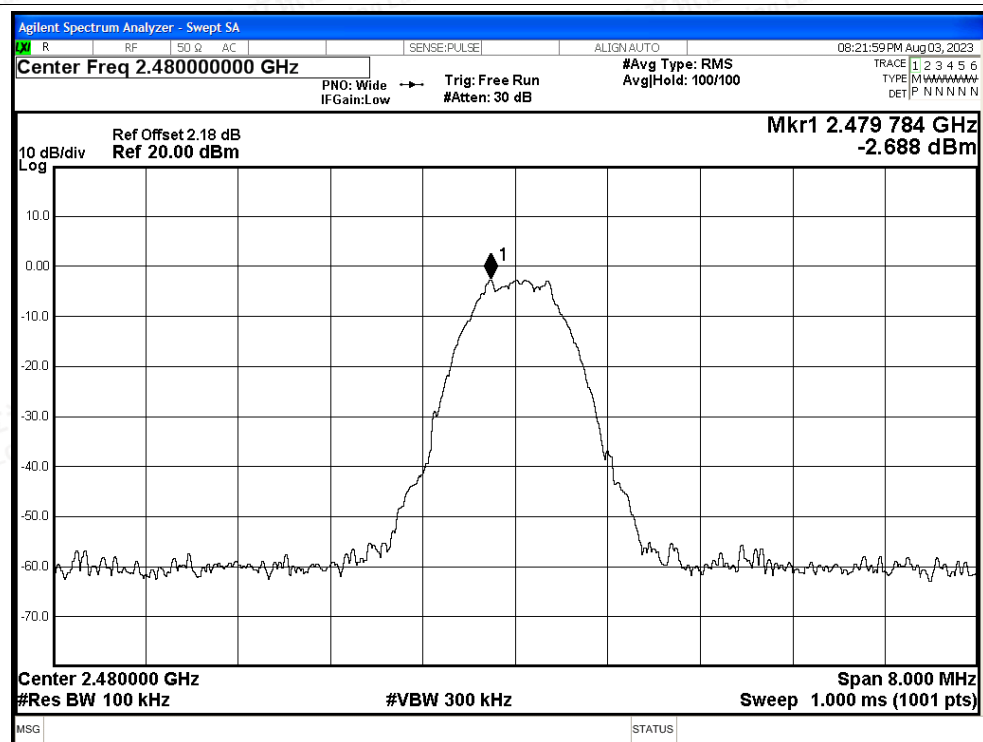
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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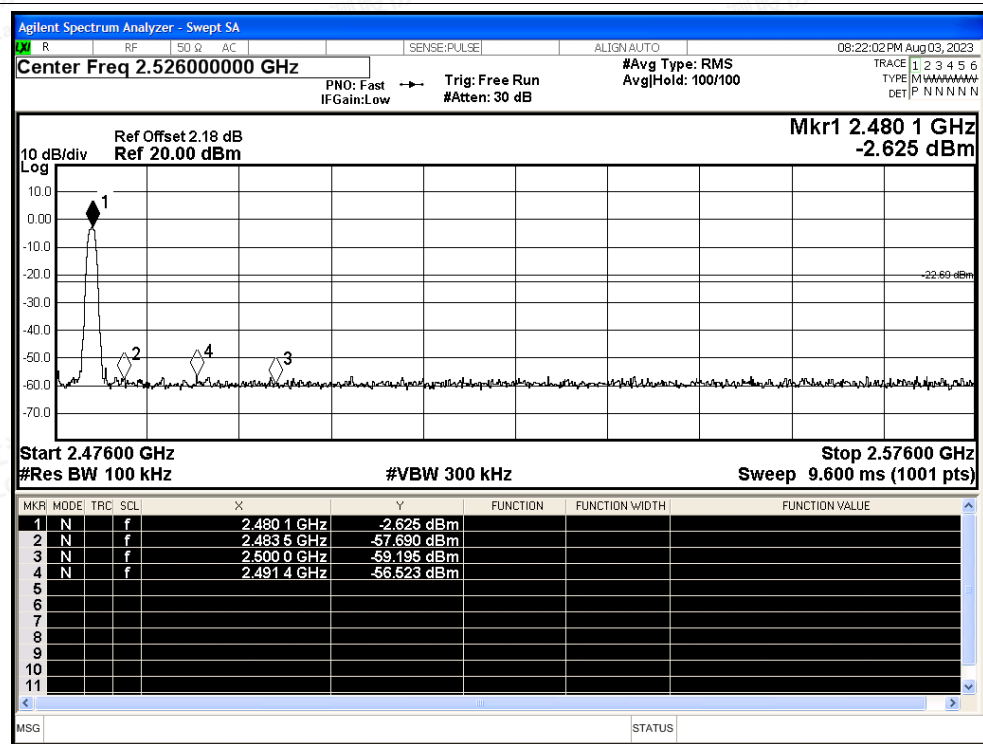
Scan code to check authenticity



Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

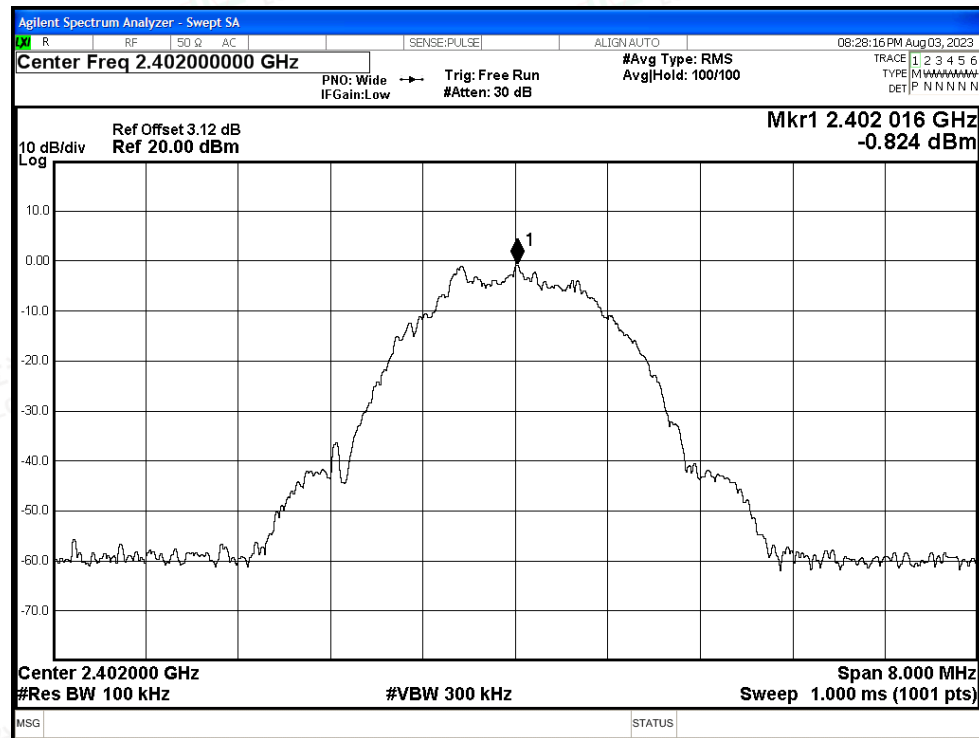
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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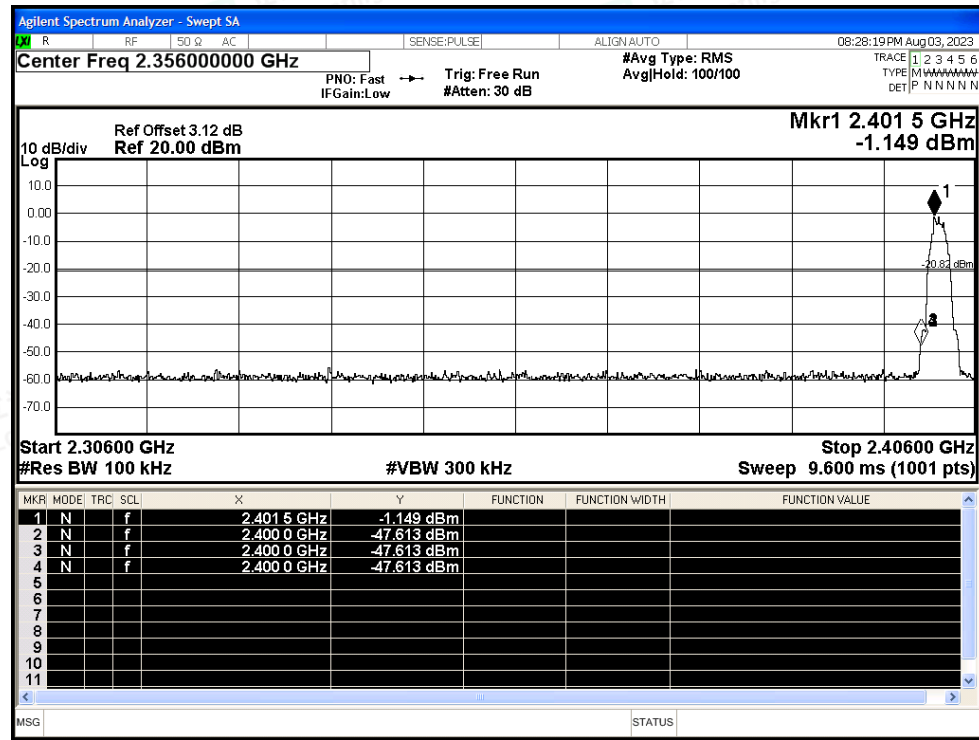
Scan code to check authenticity



Band Edge NVNT BLE 2M 2402MHz Ant1 Ref



Band Edge NVNT BLE 2M 2402MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

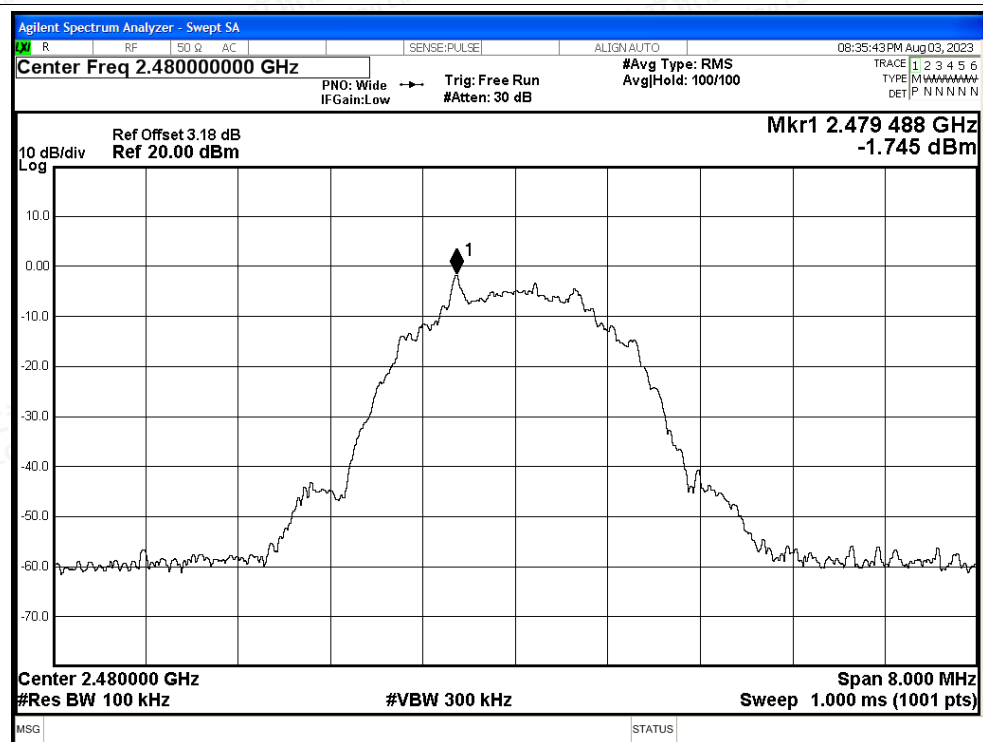
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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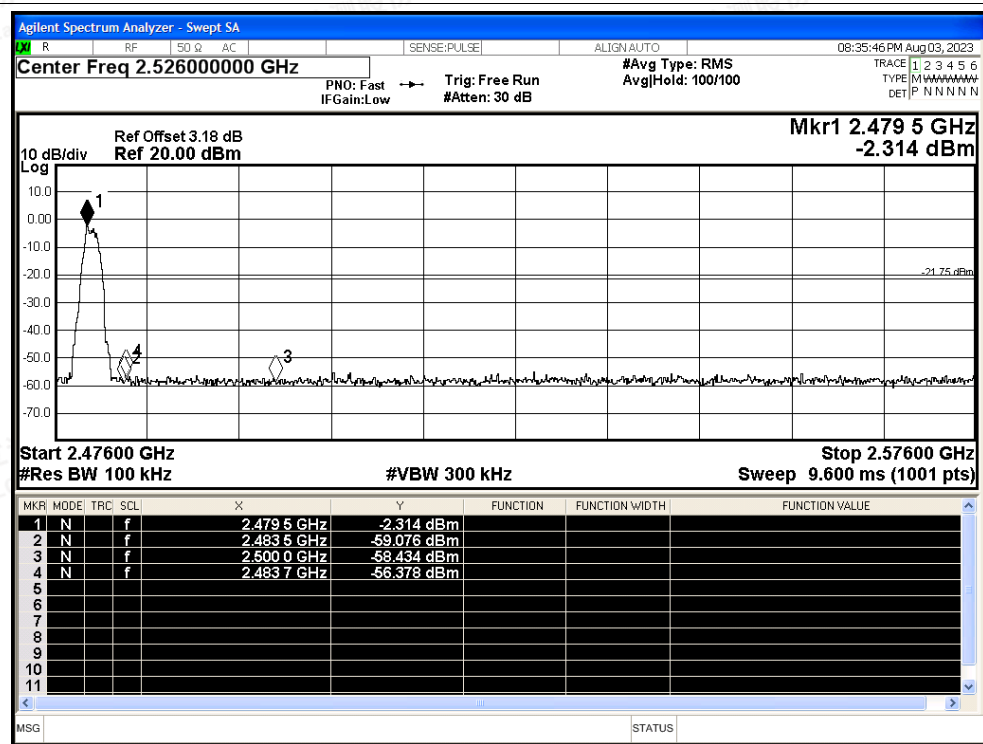
Scan code to check authenticity



Band Edge NVNT BLE 2M 2480MHz Ant1 Ref



Band Edge NVNT BLE 2M 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 1M	2402	Ant1	-45.89	-20	Pass
NVNT	BLE 1M	2440	Ant1	-45.99	-20	Pass
NVNT	BLE 1M	2480	Ant1	-48.44	-20	Pass
NVNT	BLE 2M	2402	Ant1	-49.05	-20	Pass
NVNT	BLE 2M	2440	Ant1	-53.04	-20	Pass
NVNT	BLE 2M	2480	Ant1	-46.89	-20	Pass

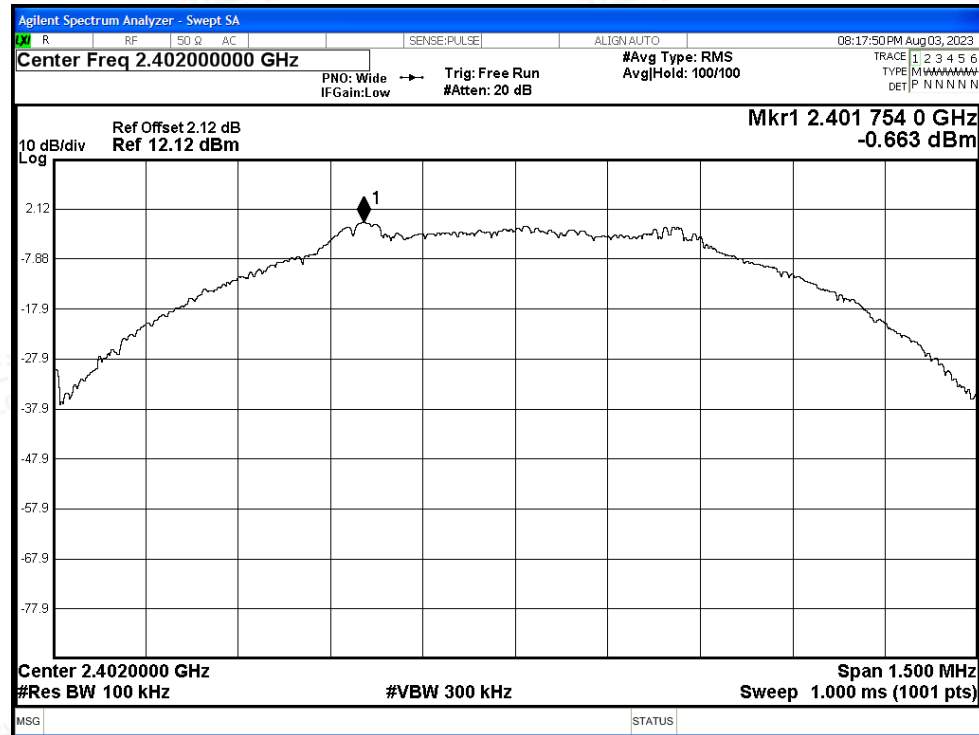


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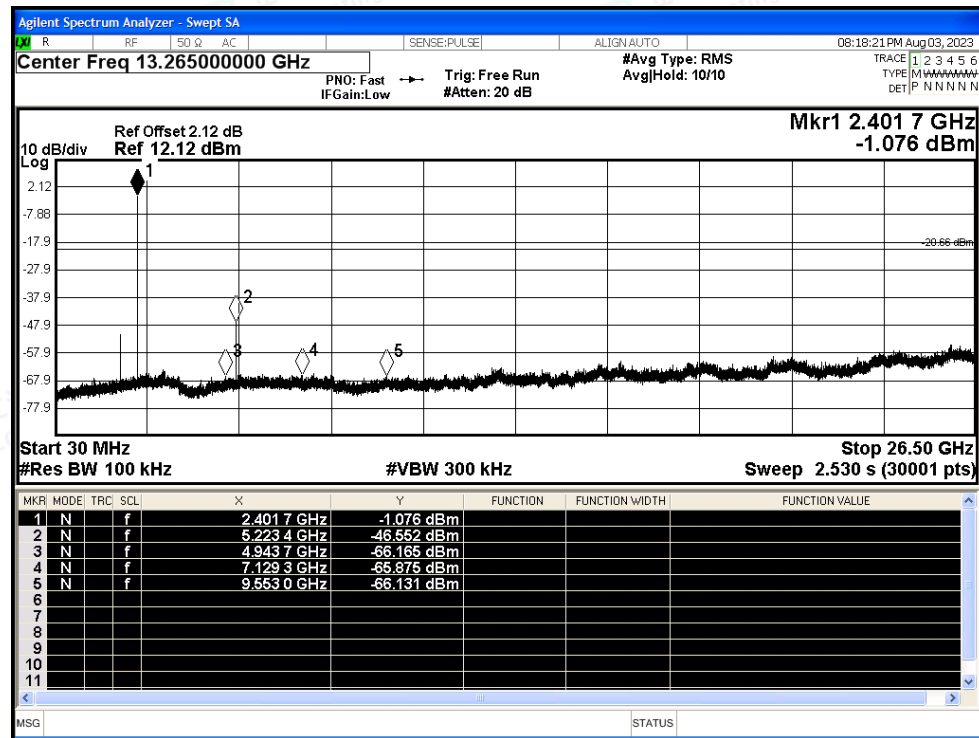


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



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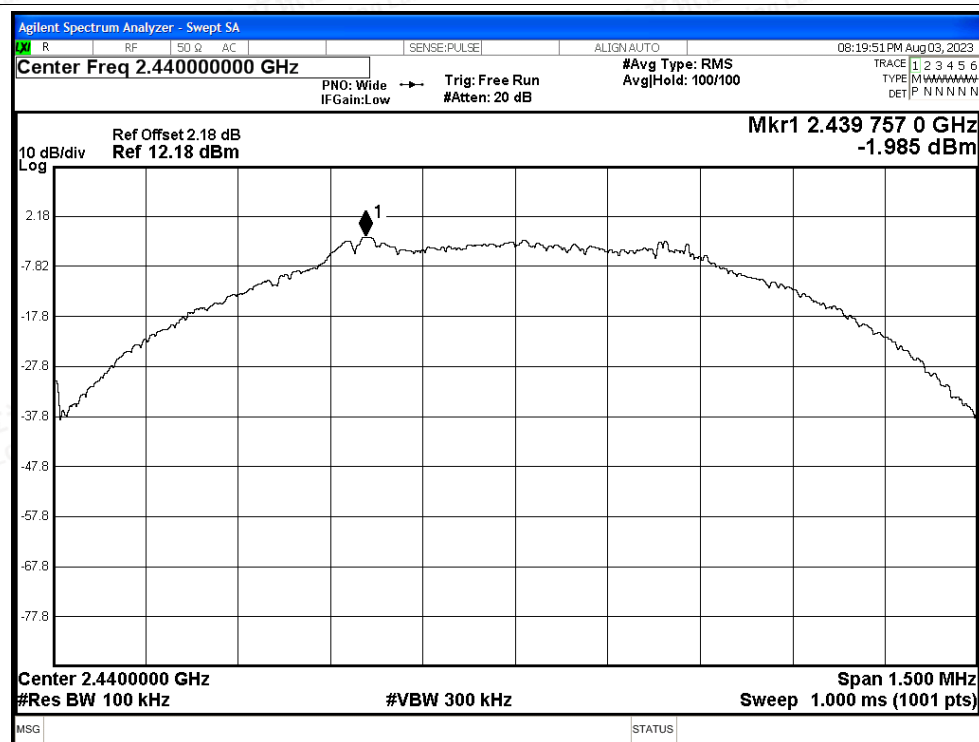
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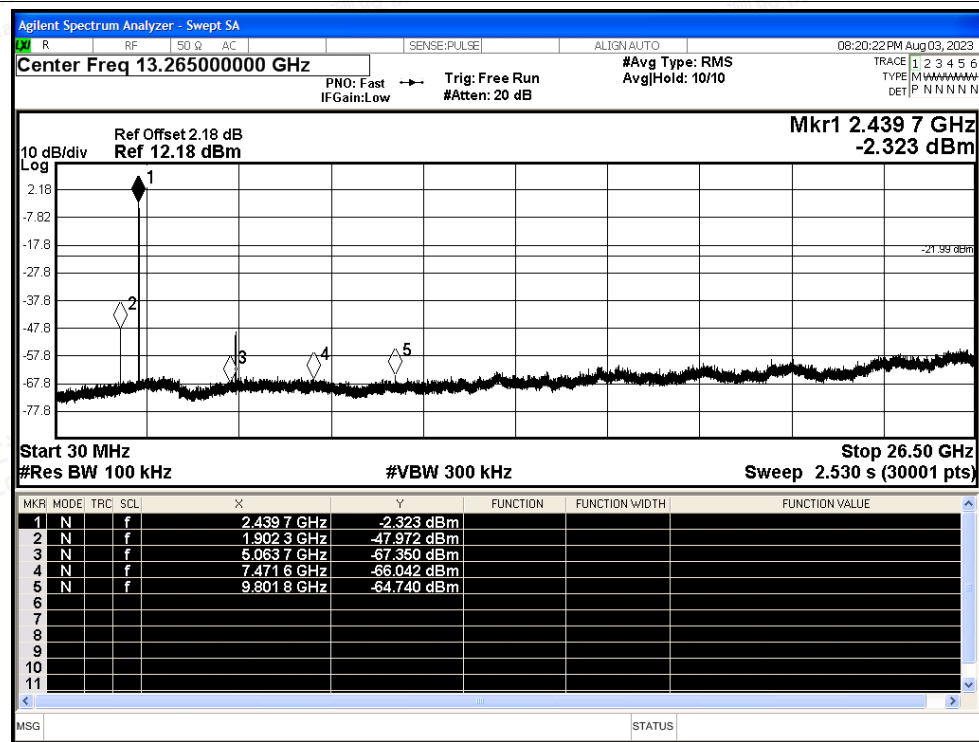
Scan code to check authenticity



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



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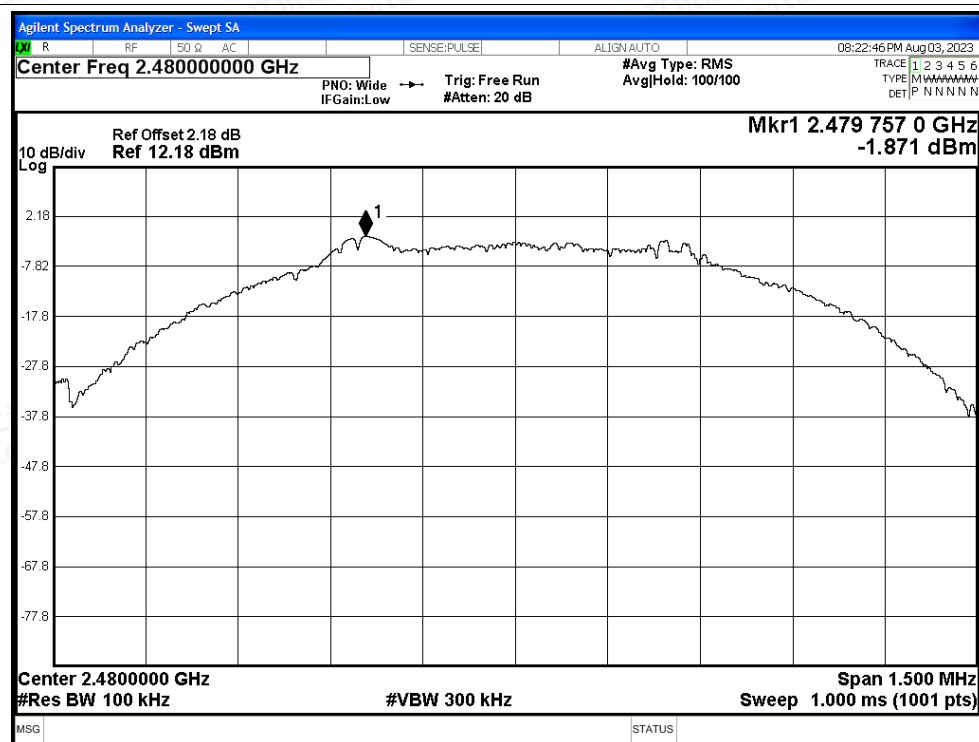
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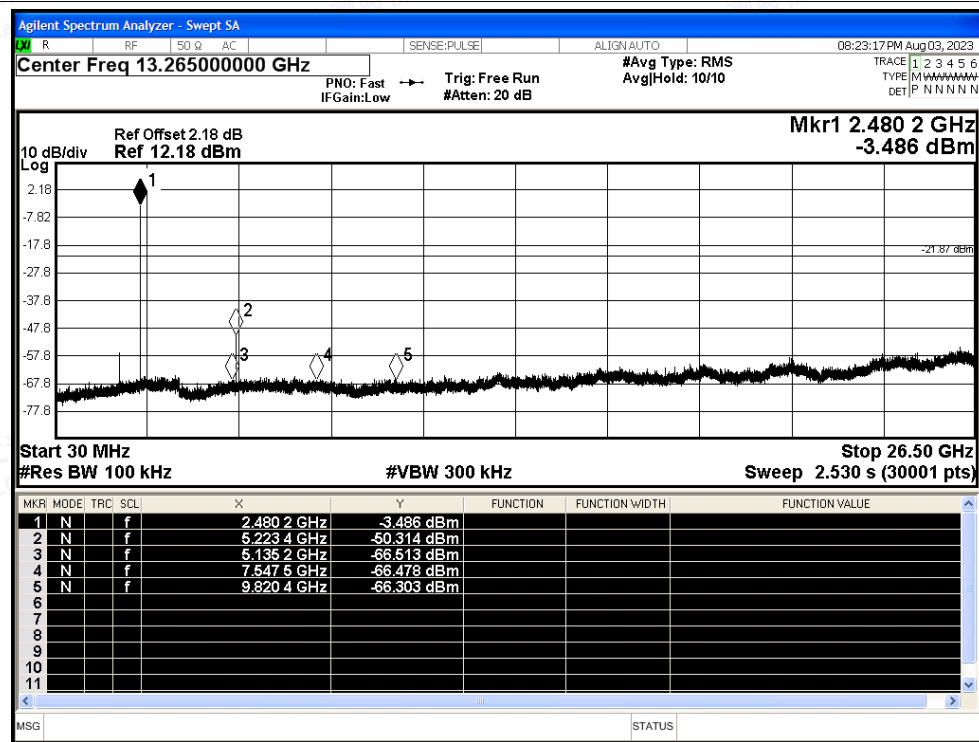
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Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



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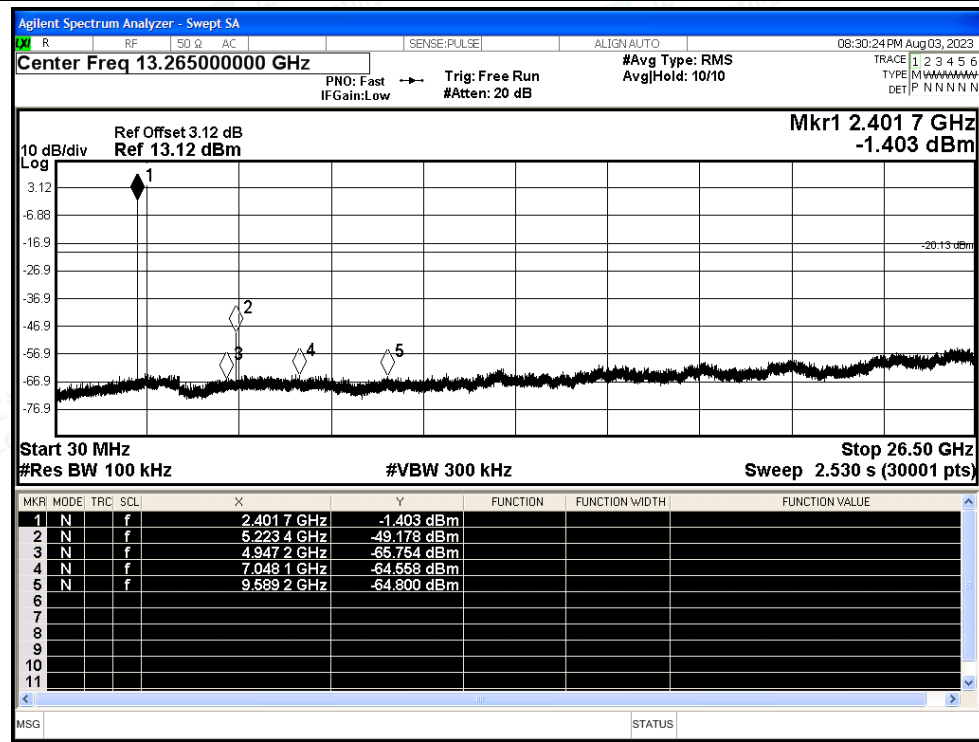
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission



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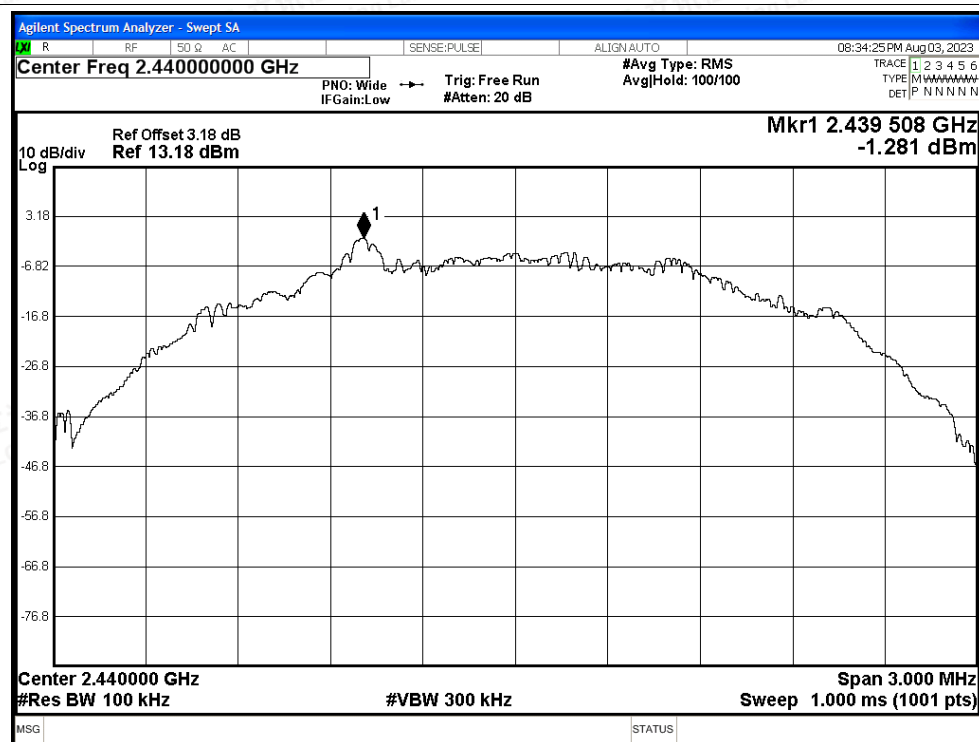
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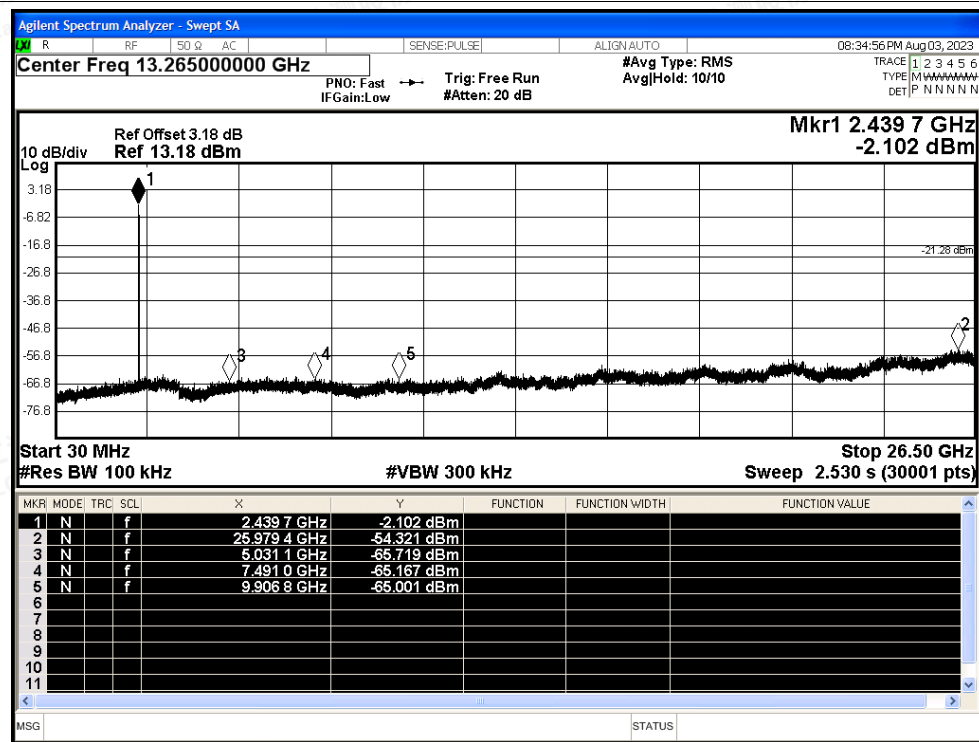
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Emission



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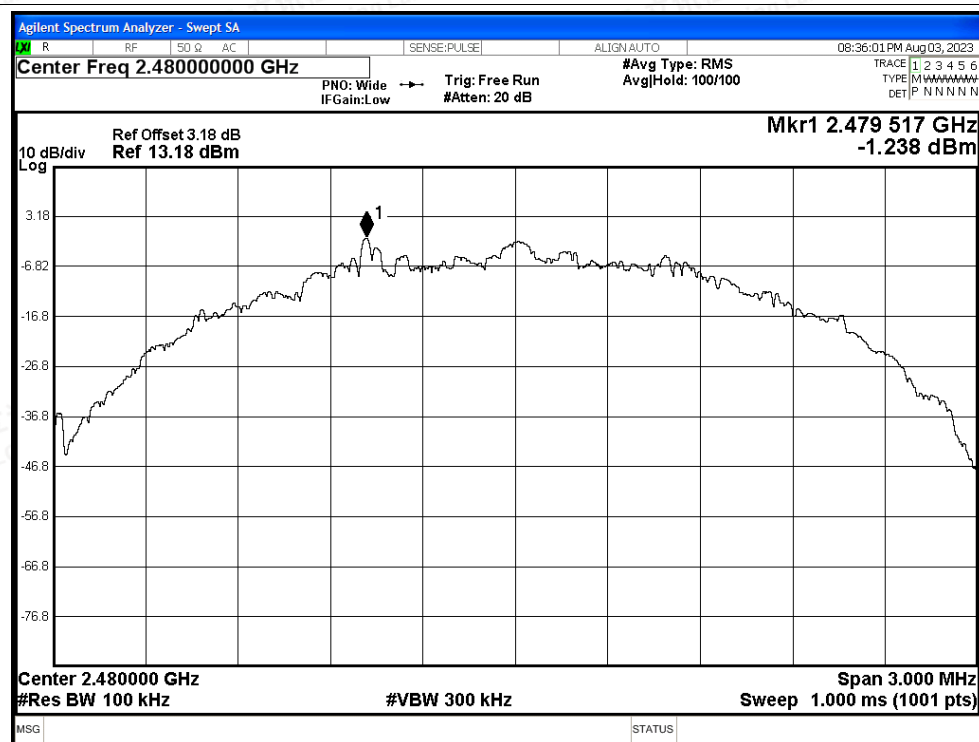
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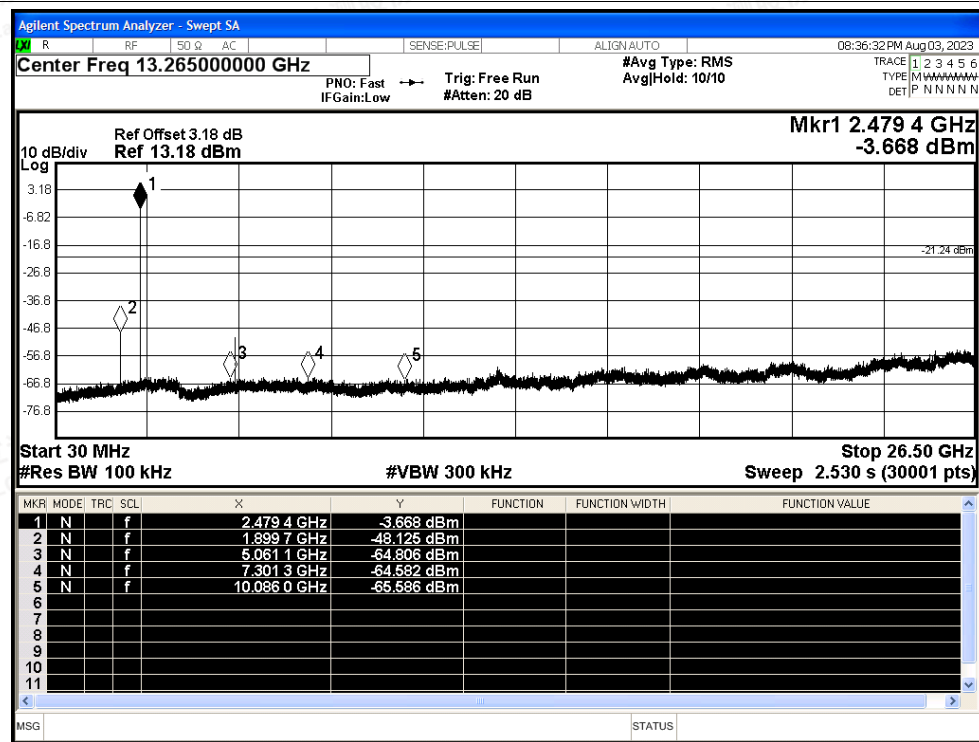
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2480MHz 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	87.39	0.59	0.61
NVNT	BLE 1M	2440	Ant1	87.39	0.59	0.61
NVNT	BLE 1M	2480	Ant1	87.39	0.59	0.61
NVNT	BLE 2M	2402	Ant1	98.1	0	1.21
NVNT	BLE 2M	2440	Ant1	0	0	1.21
NVNT	BLE 2M	2480	Ant1	65.96	1.81	1.21

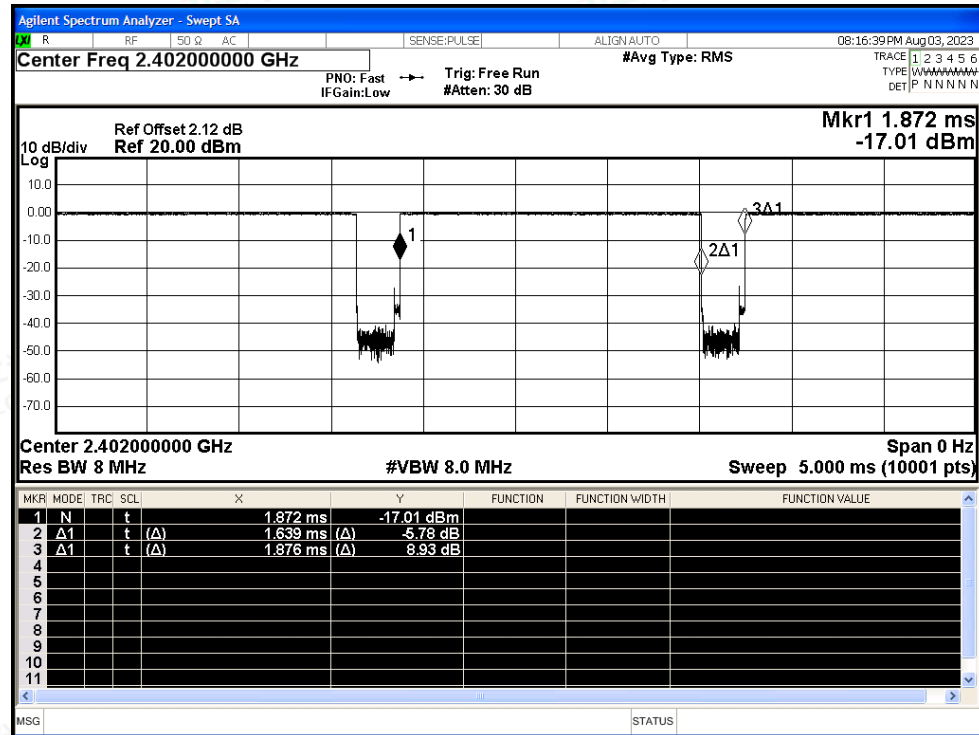


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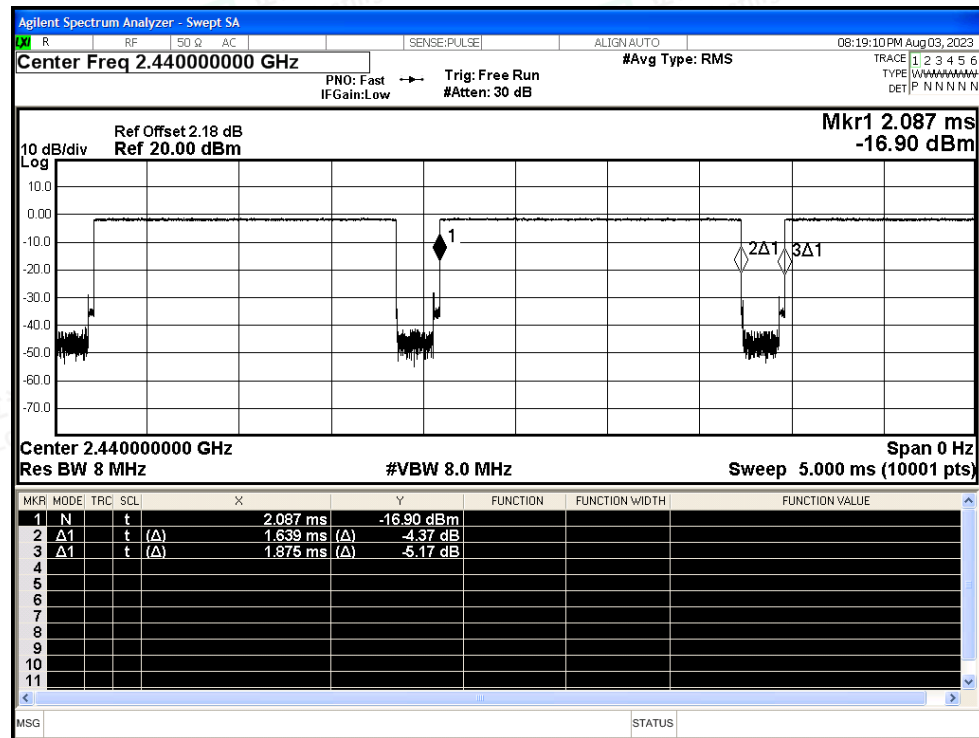


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant1



Duty Cycle NVNT BLE 1M 2440MHz Ant1



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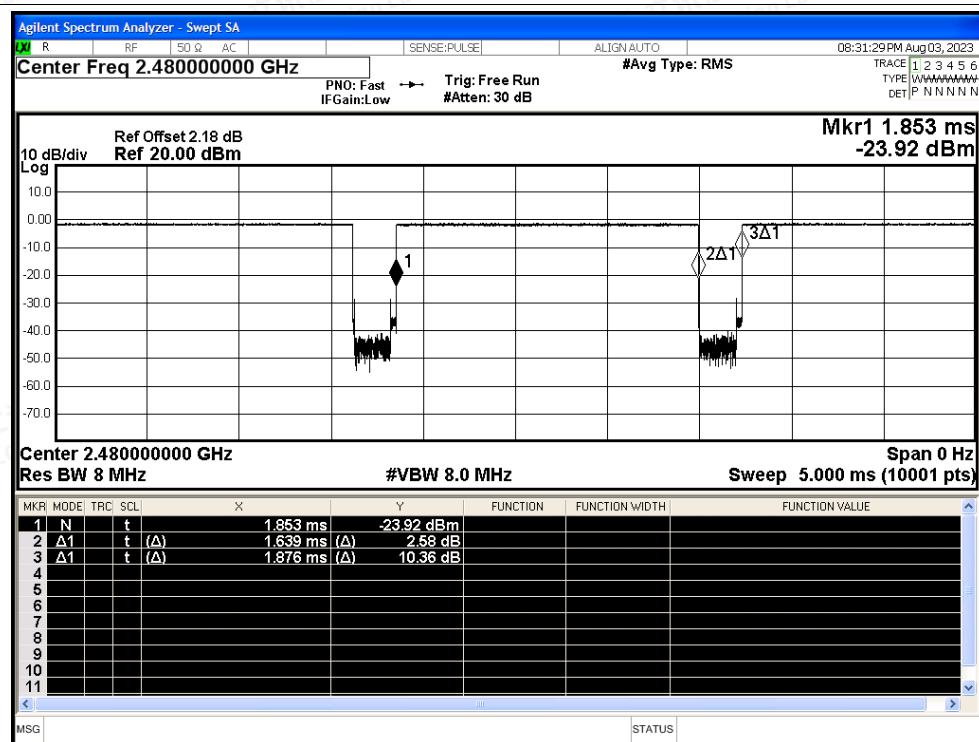
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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

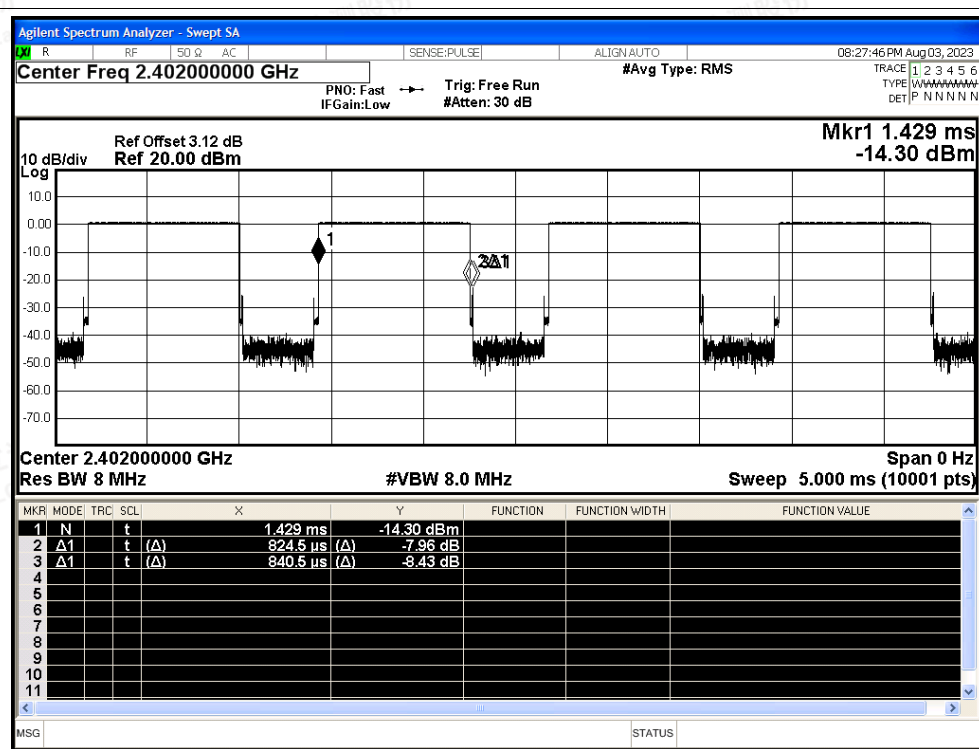
Scan code to check authenticity



Duty Cycle NVNT BLE 1M 2480MHz Ant1



Duty Cycle NVNT BLE 2M 2402MHz Ant1



Shenzhen LCS Compliance Testing Laboratory Ltd.

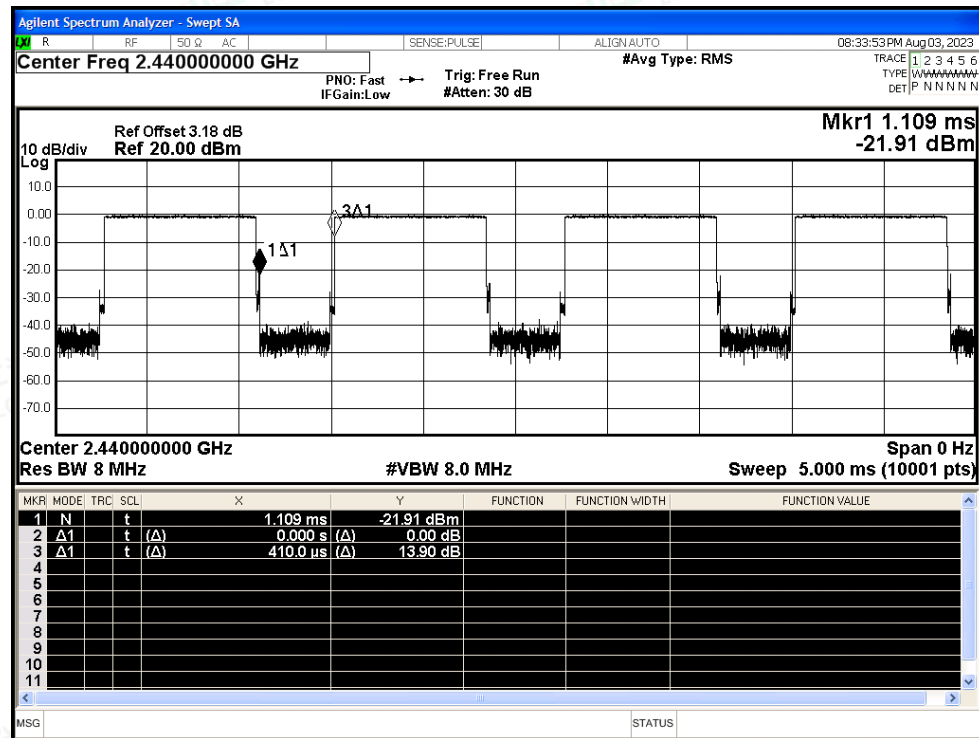
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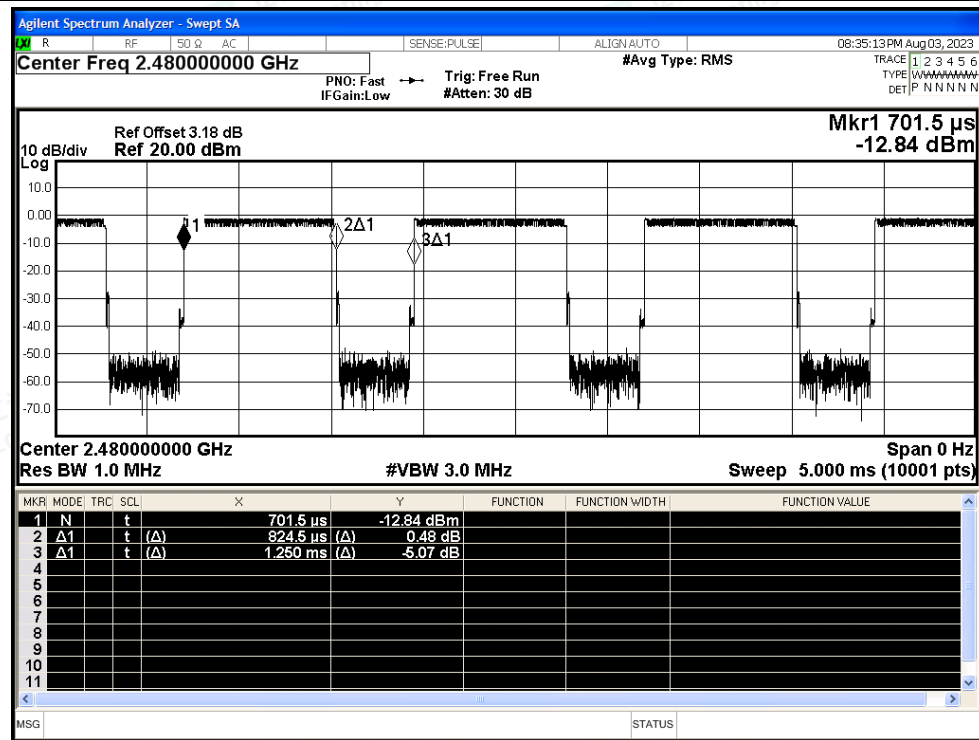
Scan code to check authenticity



Duty Cycle NVNT BLE 2M 2440MHz Ant1



Duty Cycle NVNT BLE 2M 2480MHz Ant1



Shenzhen LCS Compliance Testing Laboratory Ltd.

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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	-51.36	2	45.9	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-57.86	2	39.4	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2379.408	-46.73	2	50.53	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2389.968	-57.21	2	40.05	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-50.54	2	46.72	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-57.21	2	40.05	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-46.22	2	51.04	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-55.69	2	41.57	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2485.072	-40.66	2	56.6	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.536	-55.57	2	41.69	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-50.74	2	46.52	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-57.17	2	40.09	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2310	-50.54	2	46.72	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2310	-57.24	2	40.02	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2367.6	-46.64	2	50.62	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2386.896	-56.86	2	40.4	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2390	-50.05	2	47.21	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2390	-56.88	2	40.38	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-49.07	2	48.19	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-52.85	2	44.41	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2484.856	-40.39	2	56.87	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2483.512	-52.85	2	44.41	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2500	-49.13	2	48.13	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2500	-56.02	2	41.24	Average	54	Pass



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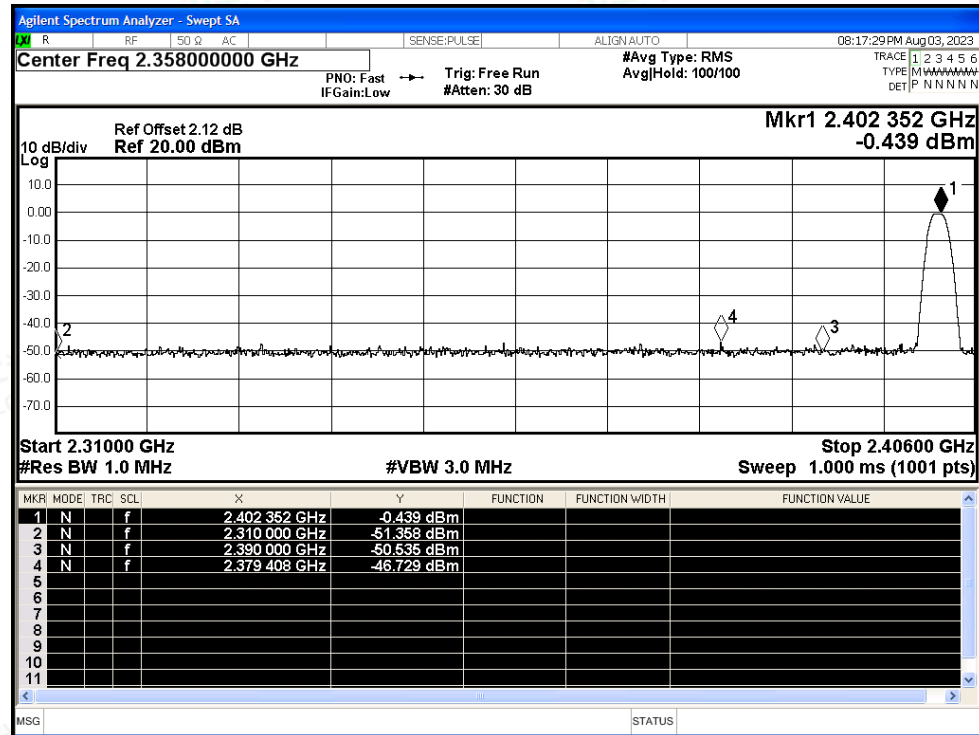
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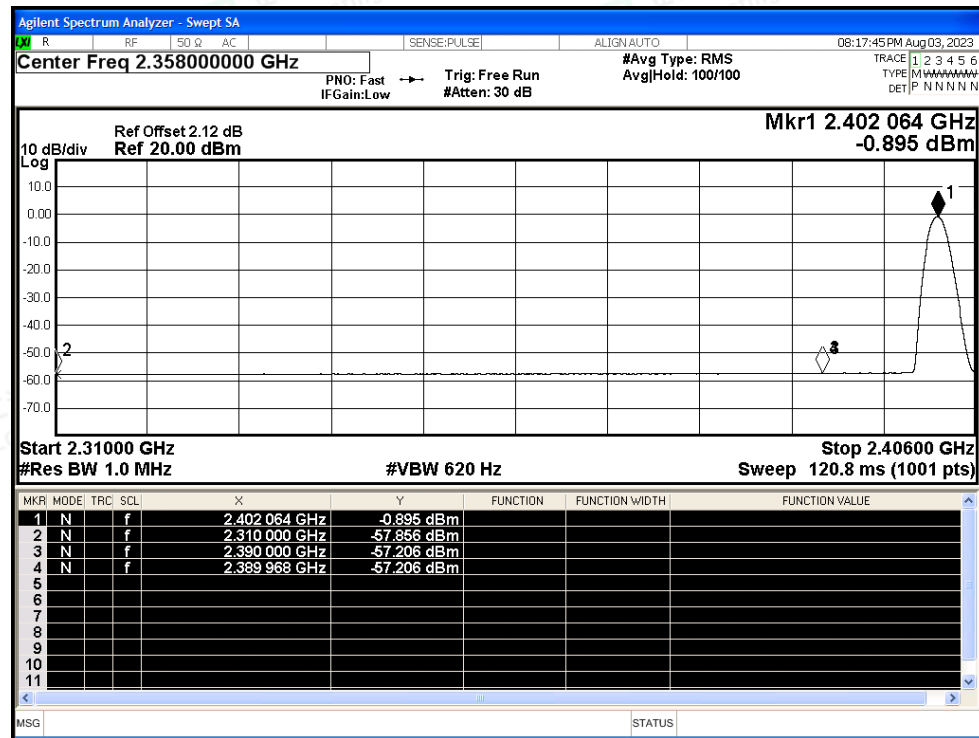


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average



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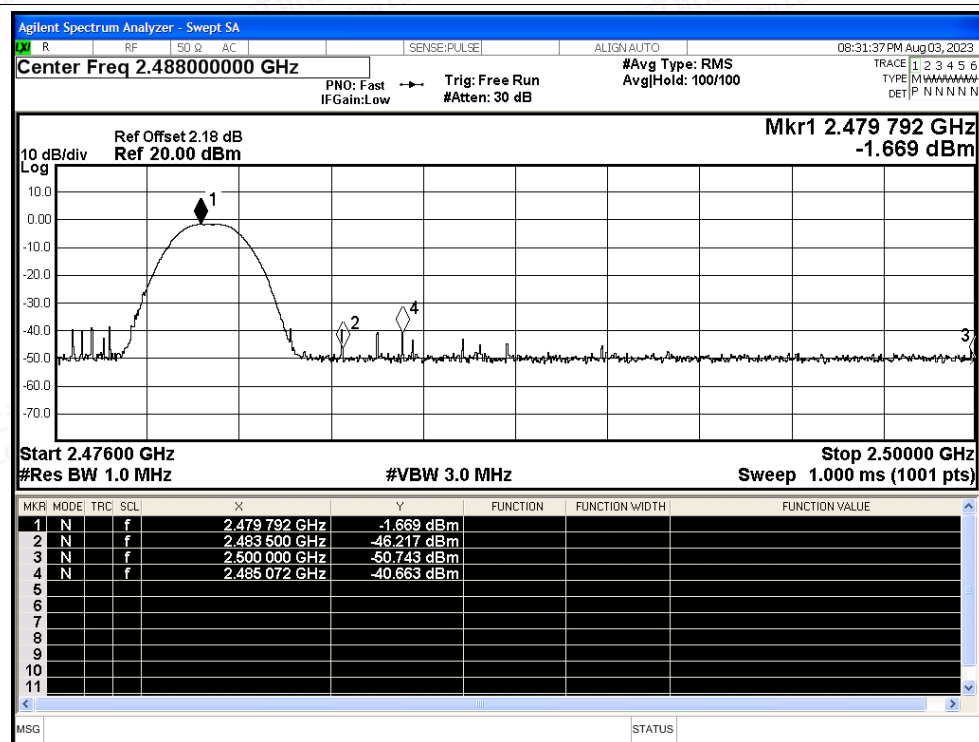
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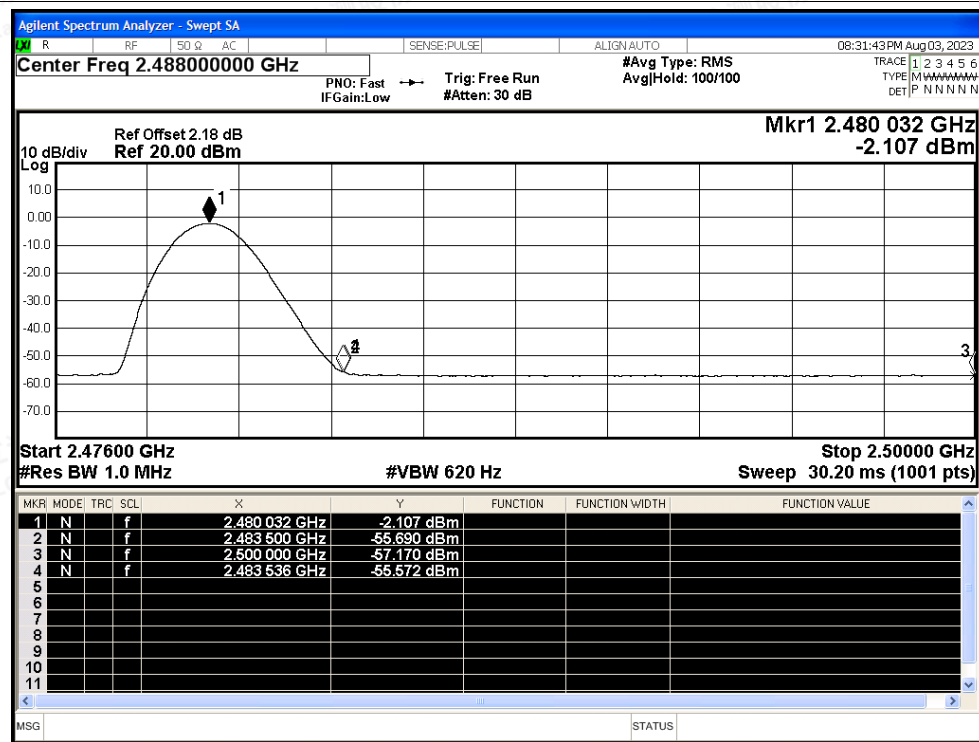
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Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average



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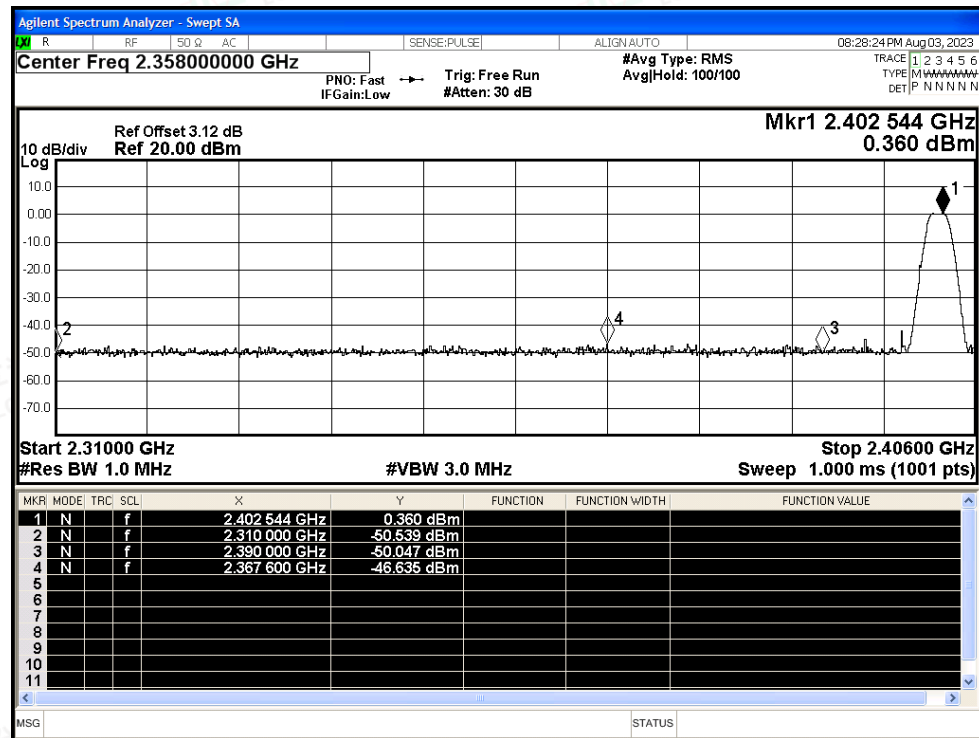
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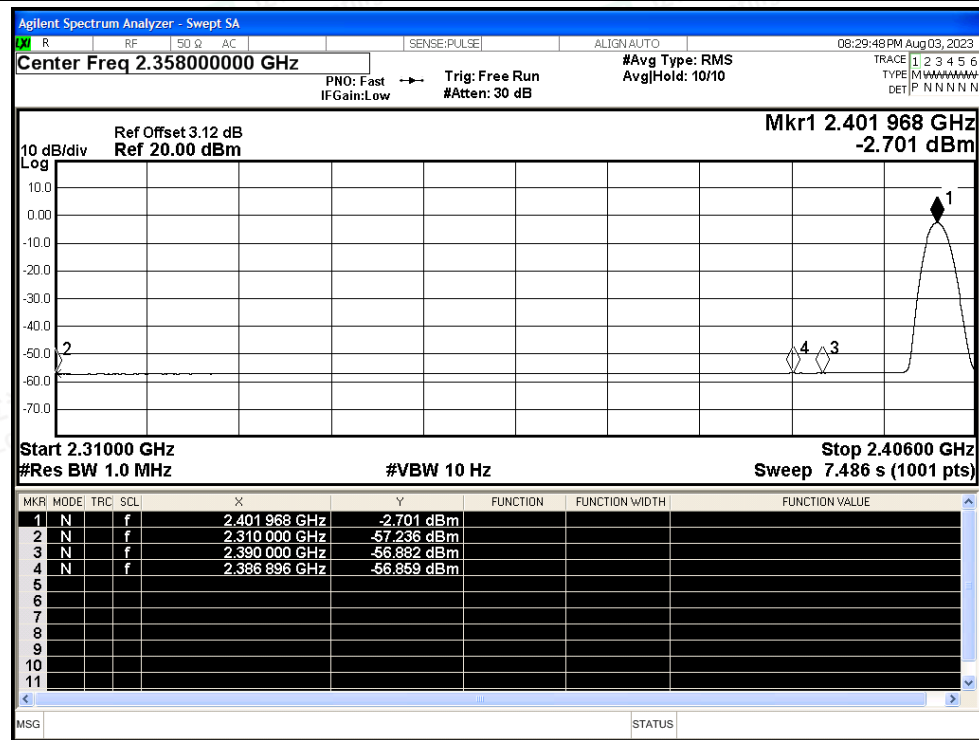
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Restrict Band NVNT BLE 2M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2402MHz Ant1 Average



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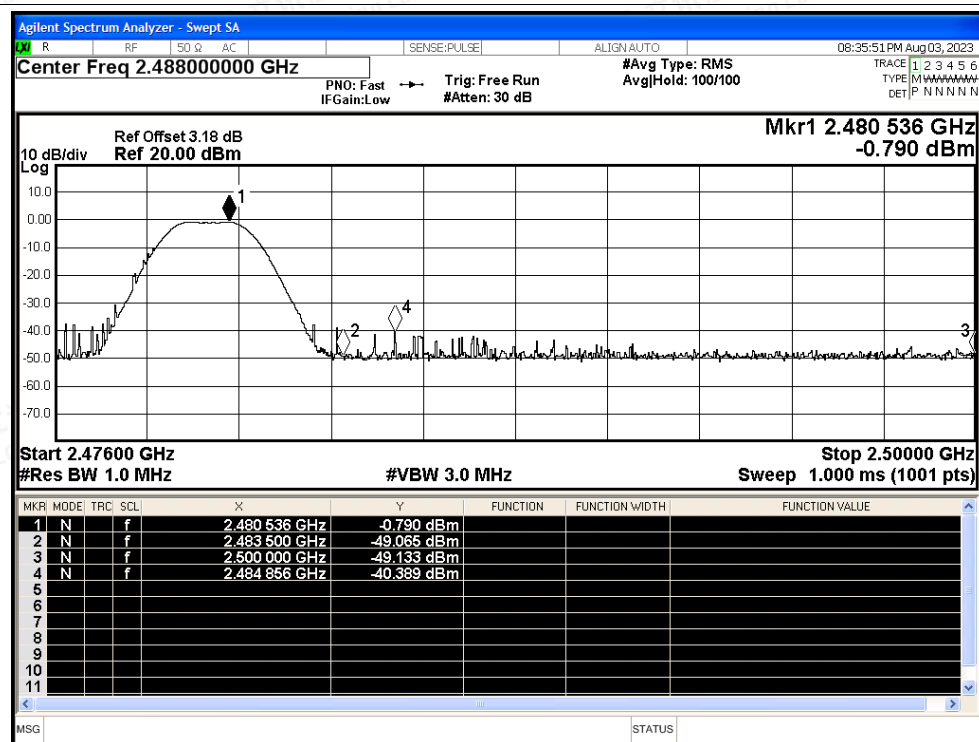
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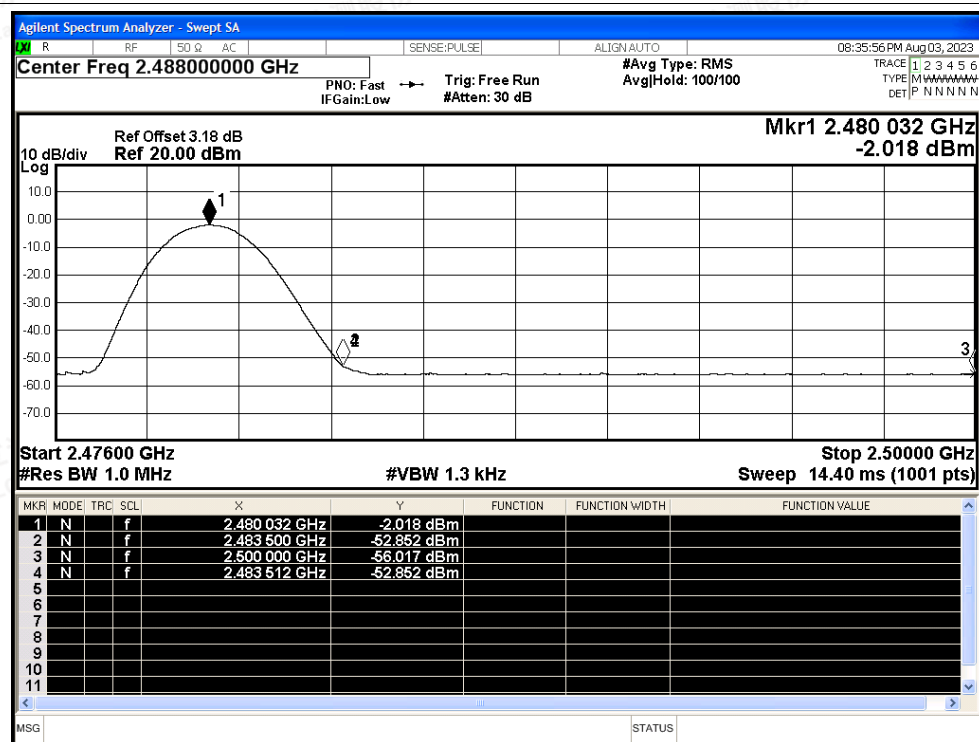
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Restrict Band NVNT BLE 2M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2480MHz Ant1 Average



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