



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Rugged Handheld Computer

Test Model: EA530

Environmental Conditions

Temperature:	24.4°C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
Supervised by:	Paddi Chen



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B.1 -6dB Bandwidth

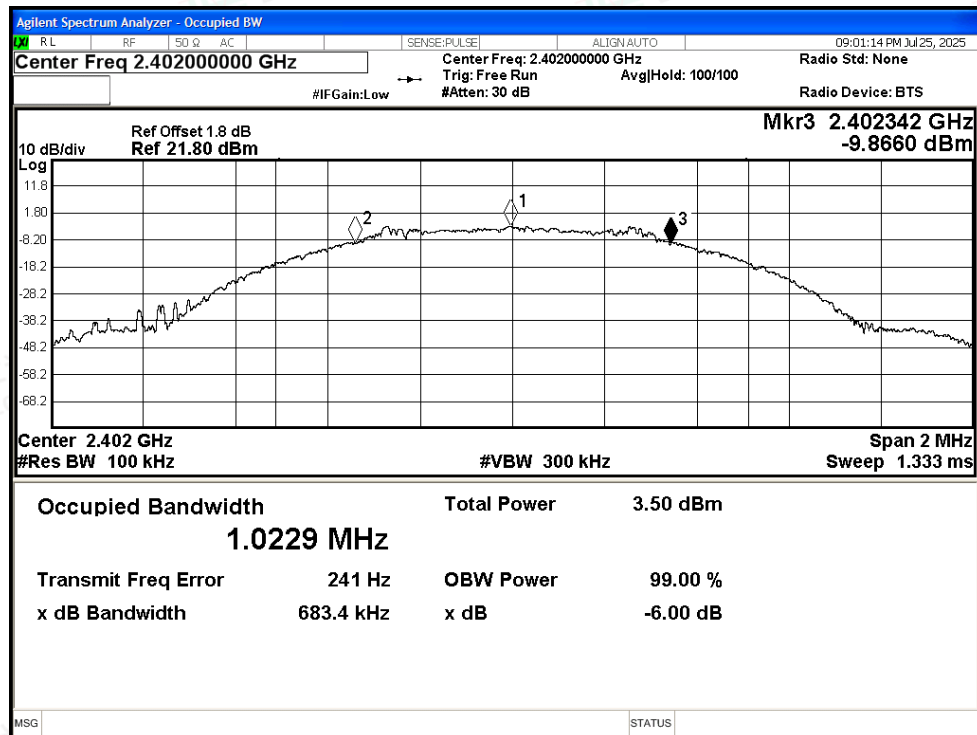
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant0	0.683	≥ 0.5	Pass
NVNT	BLE 1M	2440	Ant0	0.65	≥ 0.5	Pass
NVNT	BLE 1M	2480	Ant0	0.657	≥ 0.5	Pass
NVNT	BLE 2M	2402	Ant0	1.167	≥ 0.5	Pass
NVNT	BLE 2M	2440	Ant0	1.138	≥ 0.5	Pass
NVNT	BLE 2M	2480	Ant0	1.224	≥ 0.5	Pass



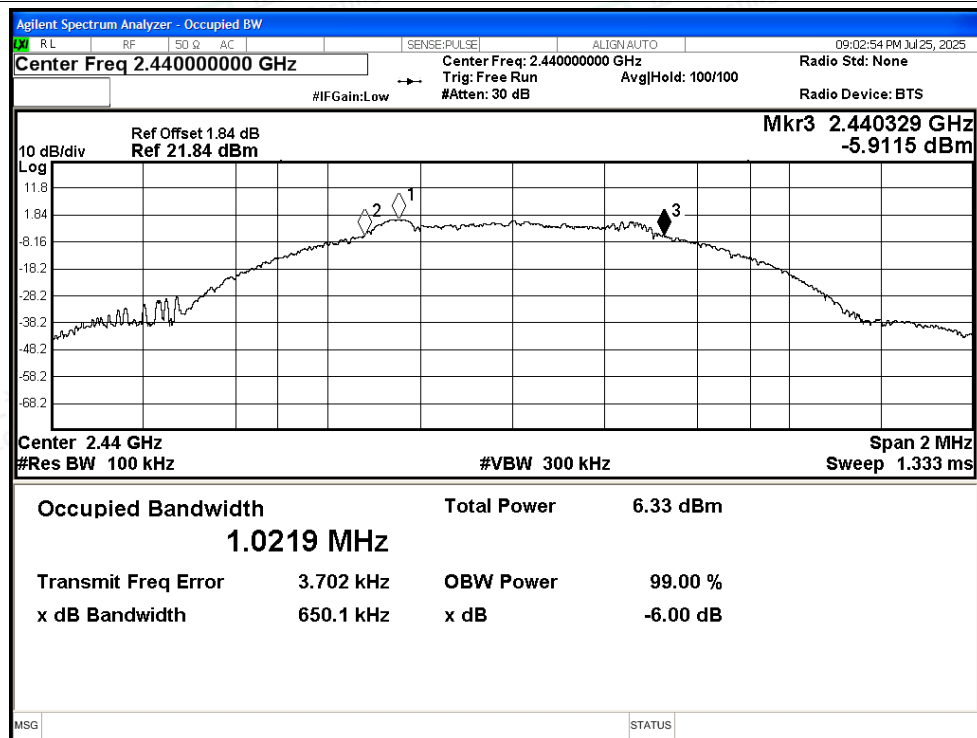


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant0



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant0



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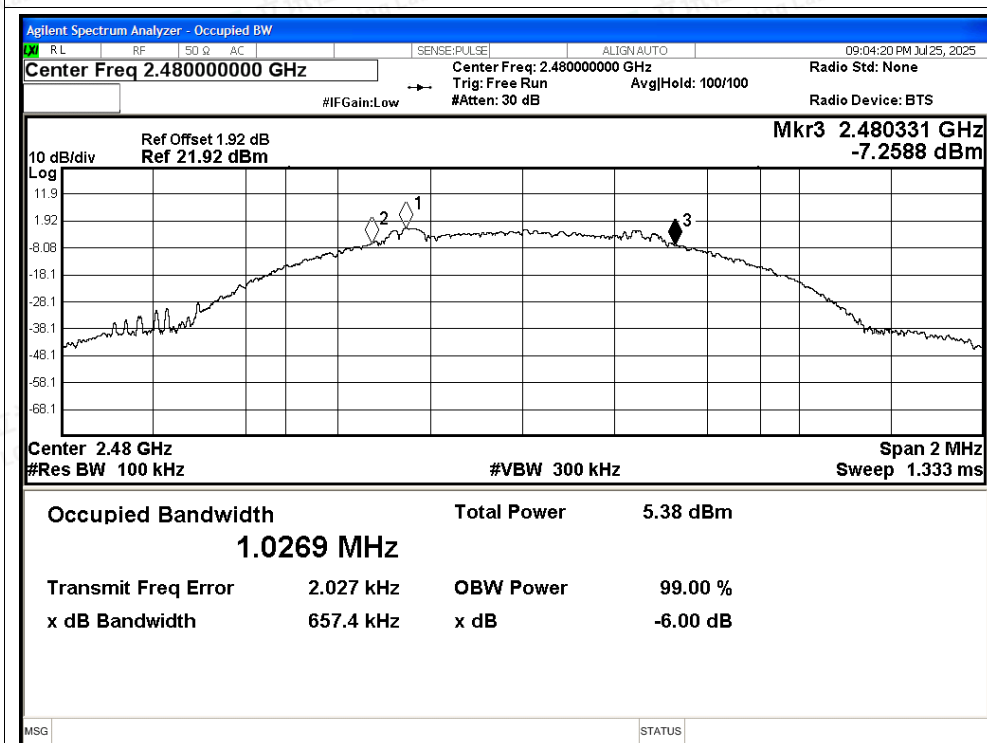
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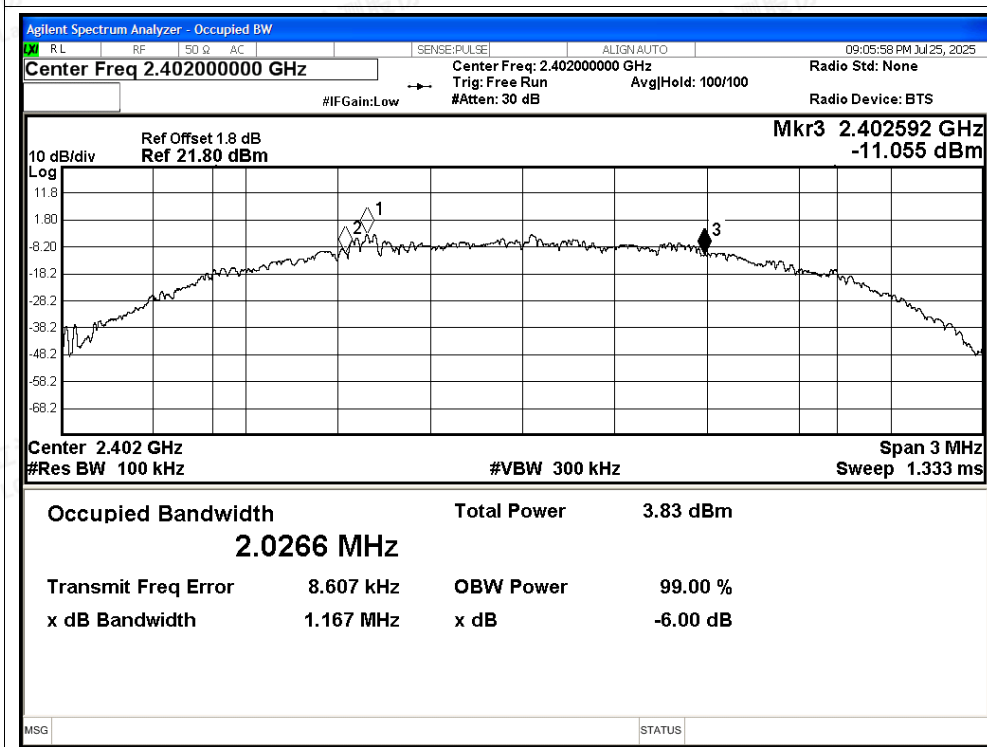
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-6dB Bandwidth NVNT BLE 1M 2480MHz Ant0



-6dB Bandwidth NVNT BLE 2M 2402MHz Ant0



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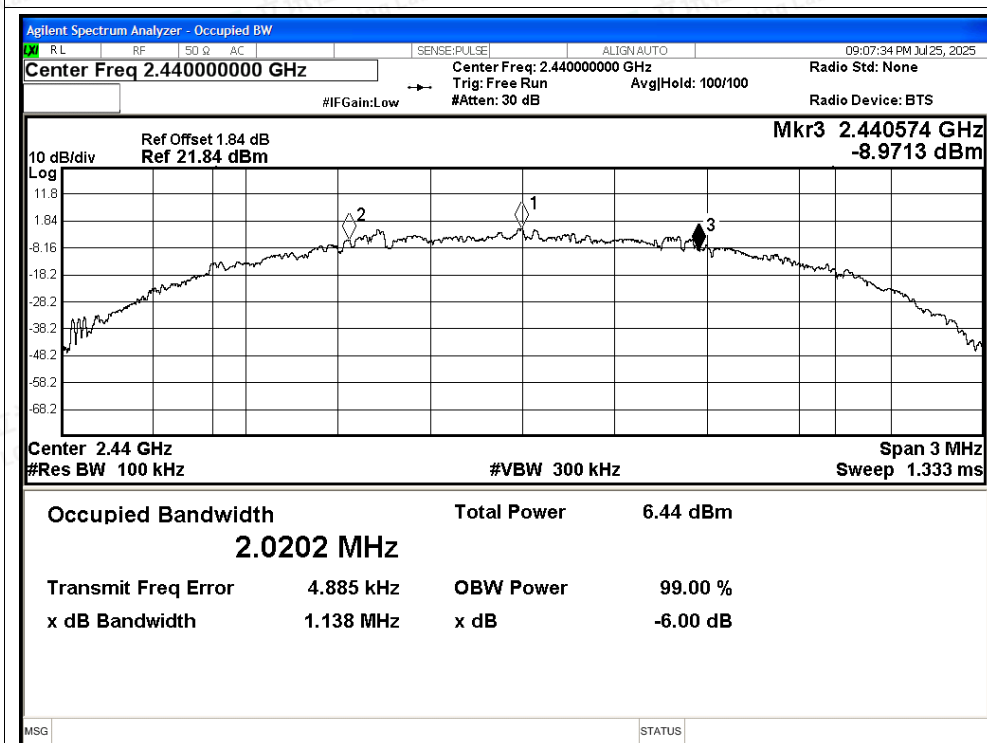
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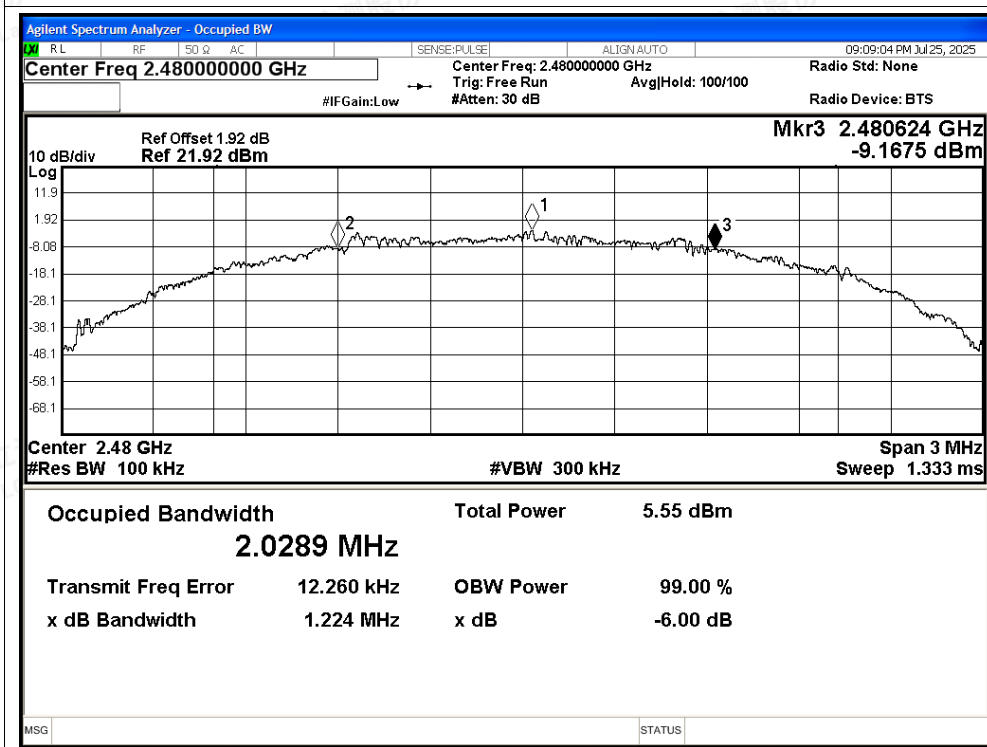
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-6dB Bandwidth NVNT BLE 2M 2440MHz Ant0



-6dB Bandwidth NVNT BLE 2M 2480MHz Ant0



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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	Ant0	-2.13	30	Pass
NVNT	BLE 1M	2440	Ant0	0.58	30	Pass
NVNT	BLE 1M	2480	Ant0	-0.31	30	Pass
NVNT	BLE 2M	2402	Ant0	-2.26	30	Pass
NVNT	BLE 2M	2440	Ant0	0.36	30	Pass
NVNT	BLE 2M	2480	Ant0	-0.52	30	Pass

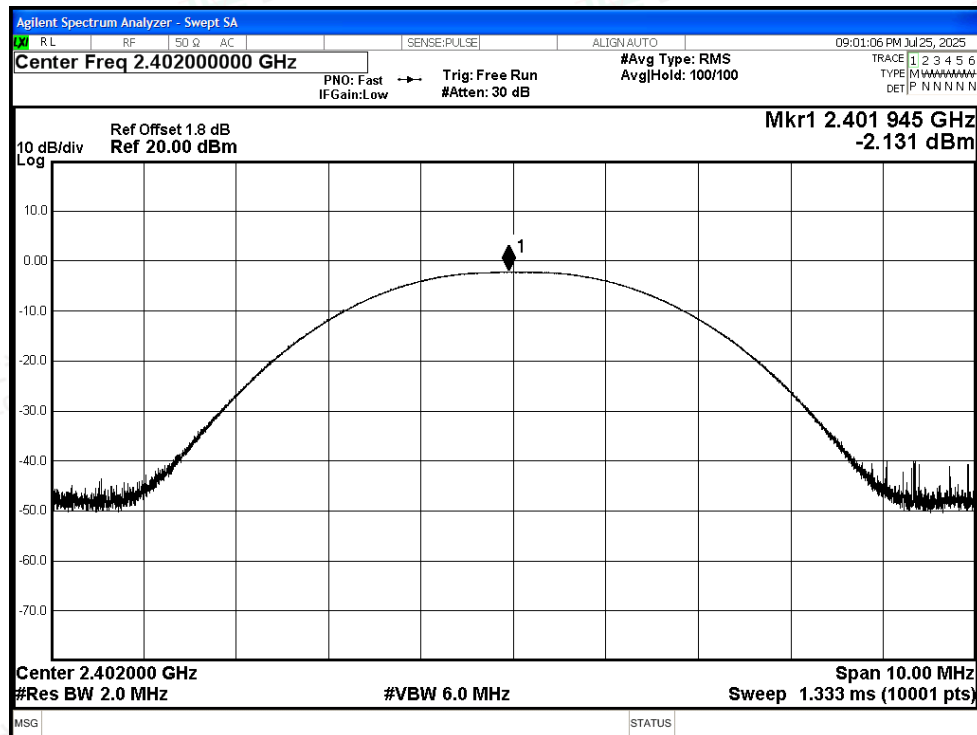


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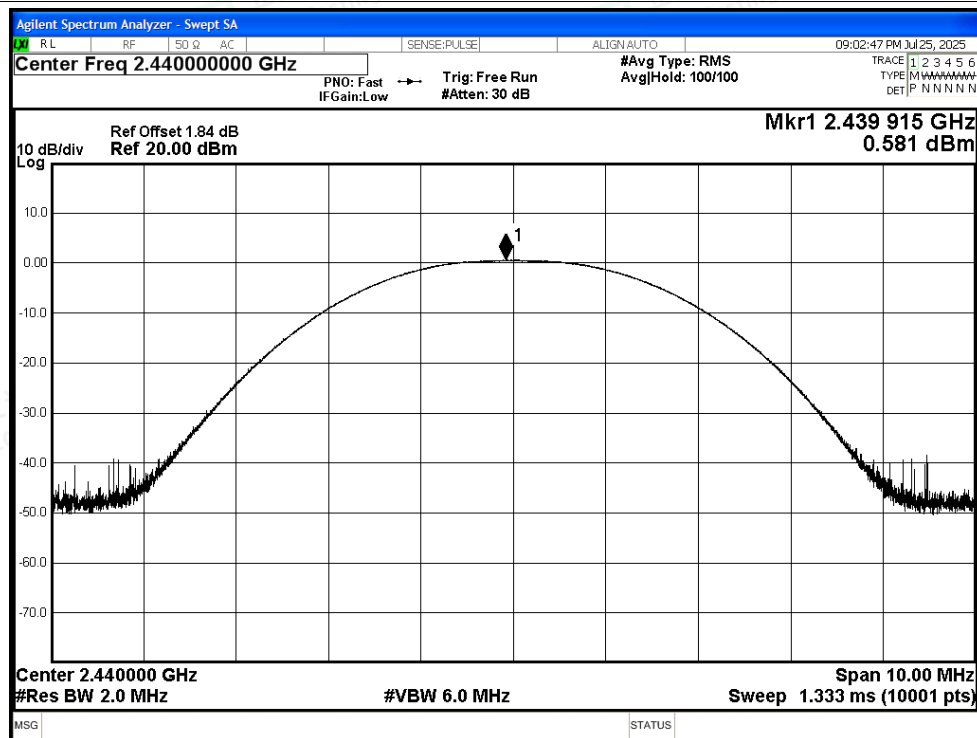


Test Graphs

Power NVNT BLE 1M 2402MHz Ant0



Power NVNT BLE 1M 2440MHz Ant0



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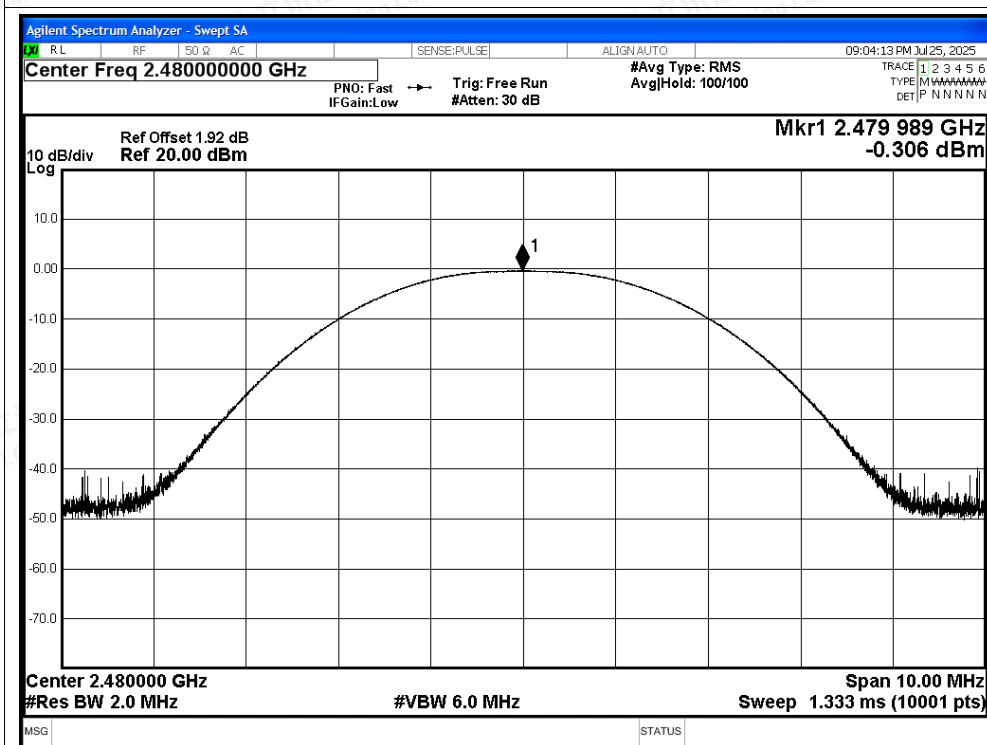
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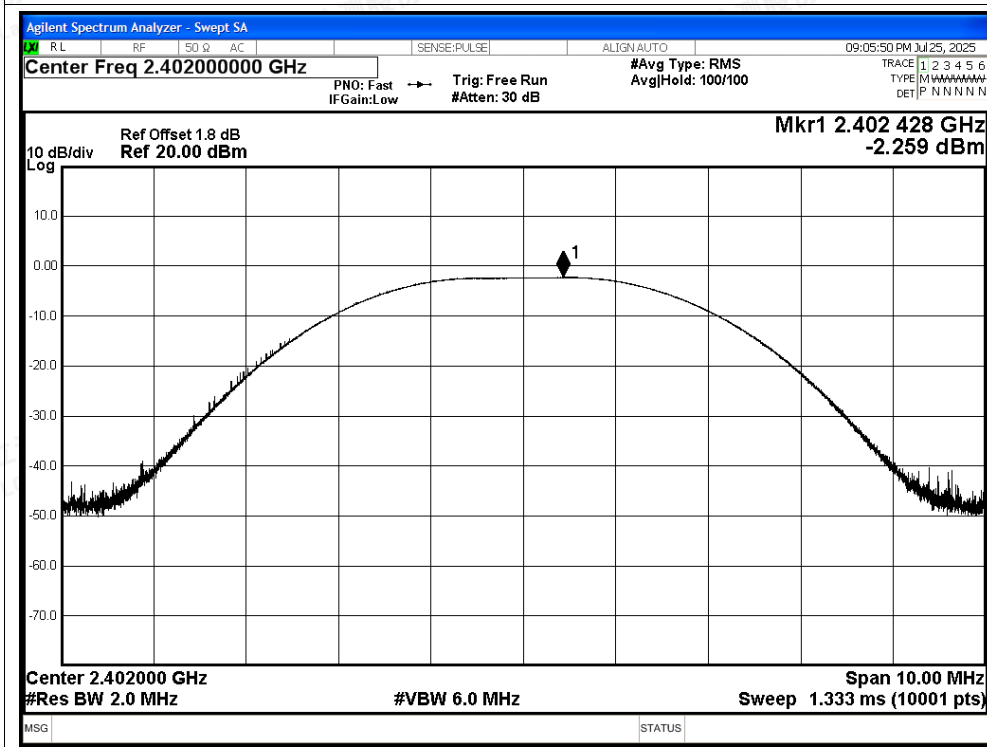
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Power NVNT BLE 1M 2480MHz Ant0

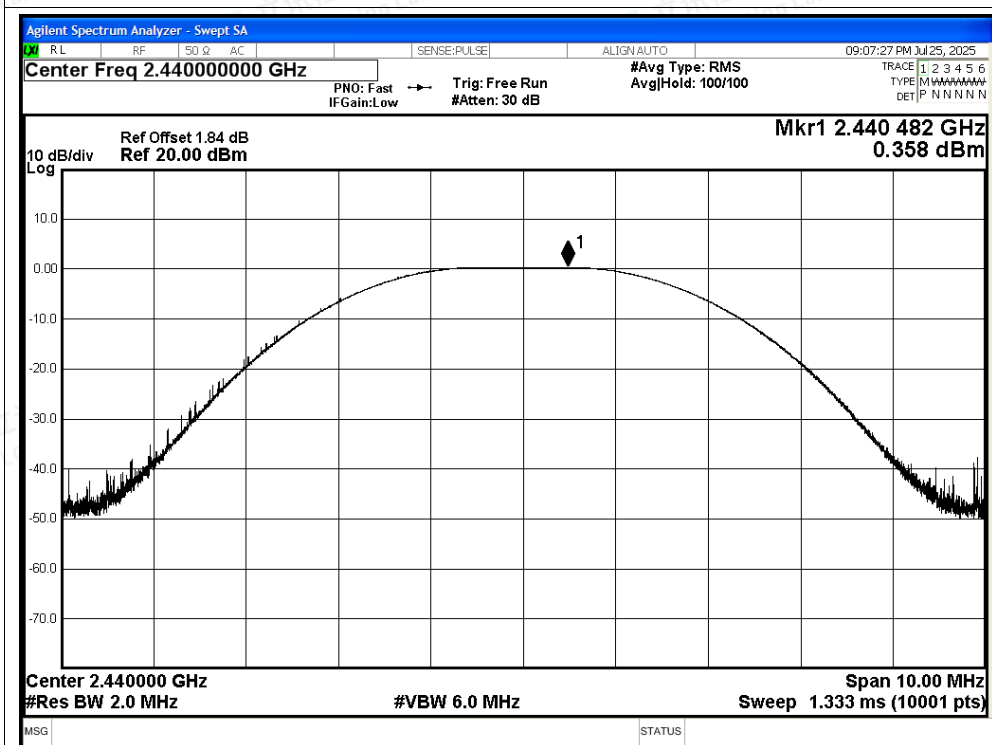


Power NVNT BLE 2M 2402MHz Ant0

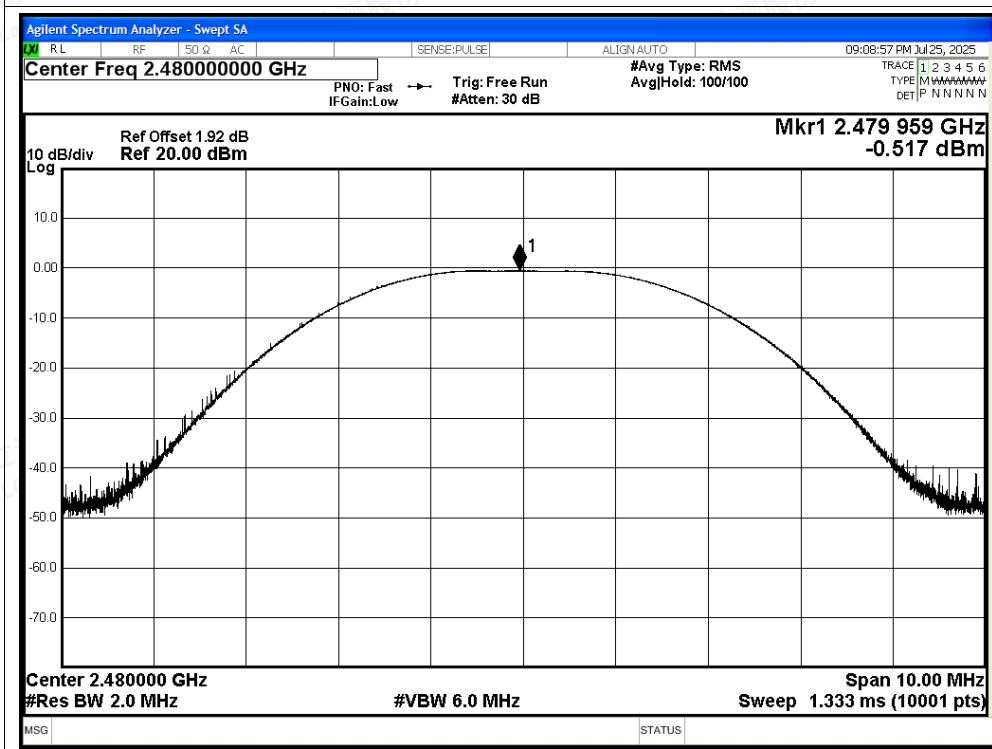




Power NVNT BLE 2M 2440MHz Ant0



Power NVNT BLE 2M 2480MHz Ant0





B.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant0	-18.32	8	Pass
NVNT	BLE 1M	2440	Ant0	-15.87	8	Pass
NVNT	BLE 1M	2480	Ant0	-16.65	8	Pass
NVNT	BLE 2M	2402	Ant0	-21.44	8	Pass
NVNT	BLE 2M	2440	Ant0	-19.41	8	Pass
NVNT	BLE 2M	2480	Ant0	-20.38	8	Pass

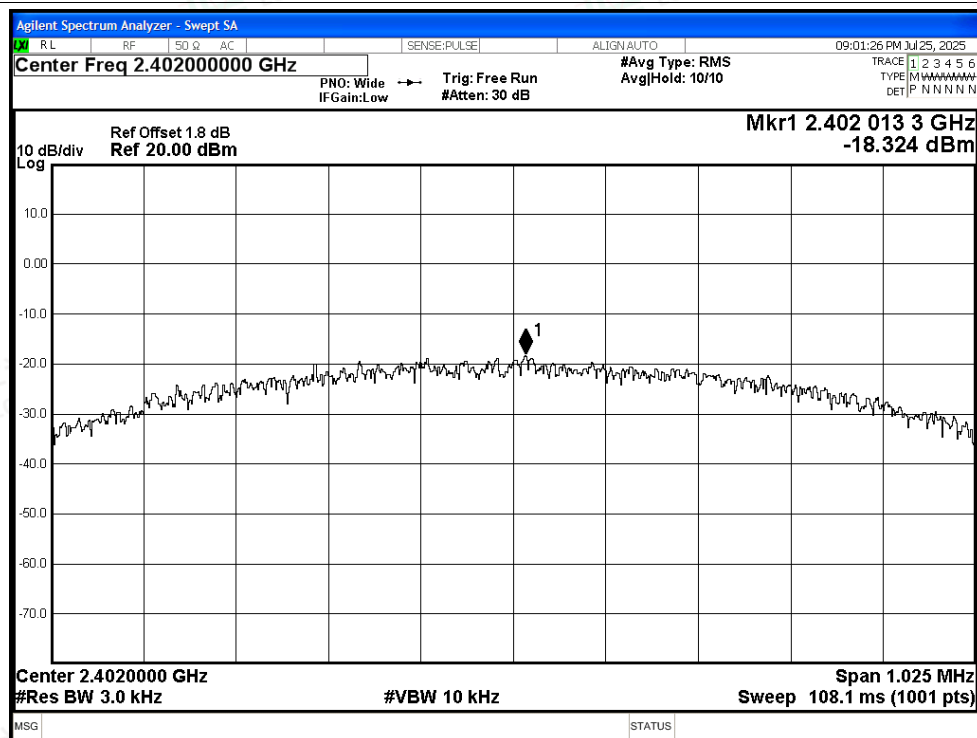


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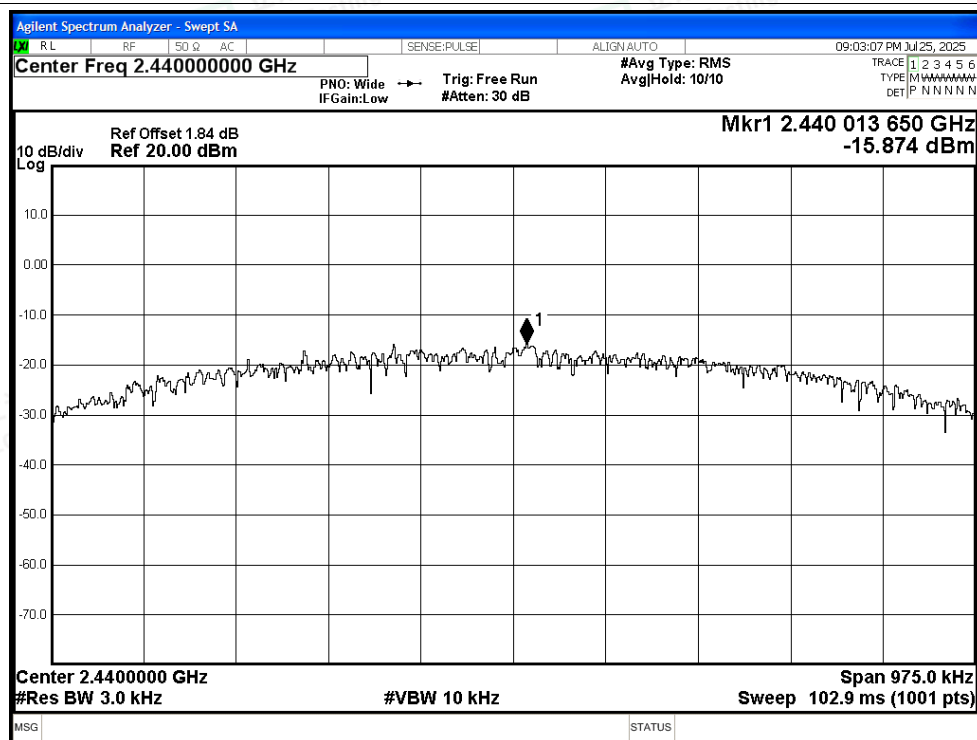


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant0



PSD NVNT BLE 1M 2440MHz Ant0



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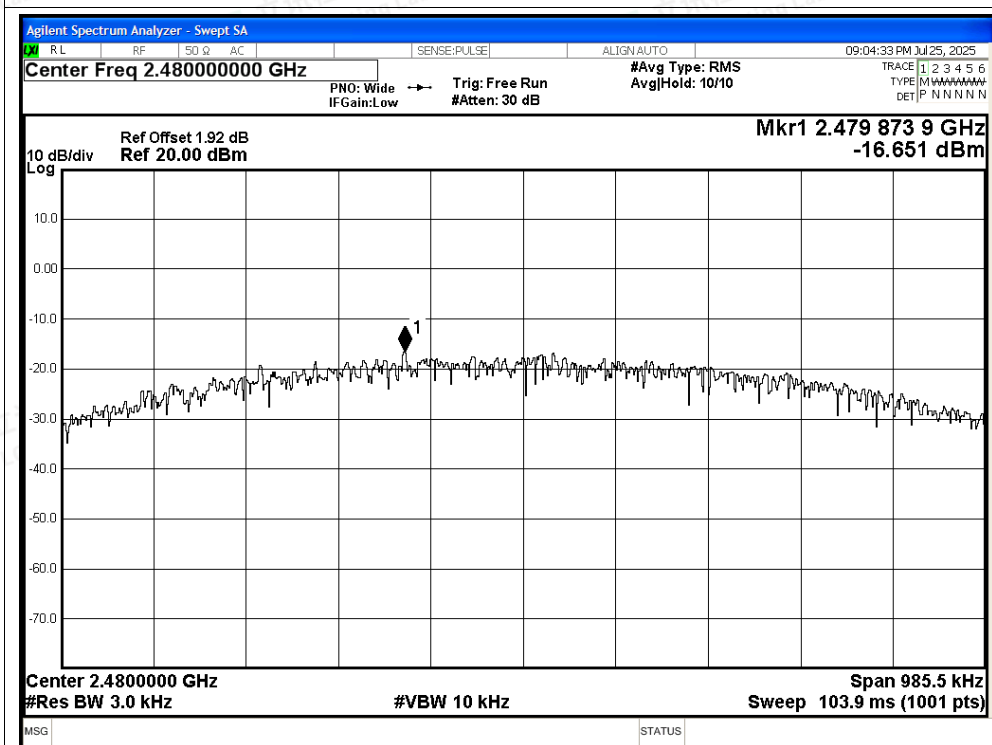
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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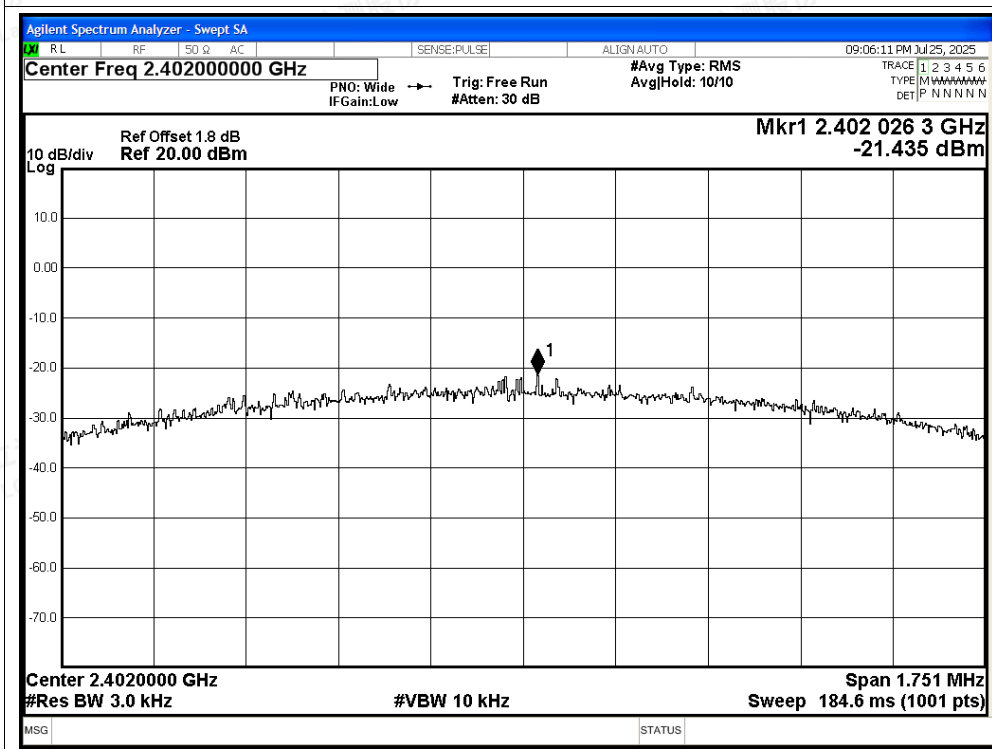
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PSD NVNT BLE 1M 2480MHz Ant0



PSD NVNT BLE 2M 2402MHz Ant0



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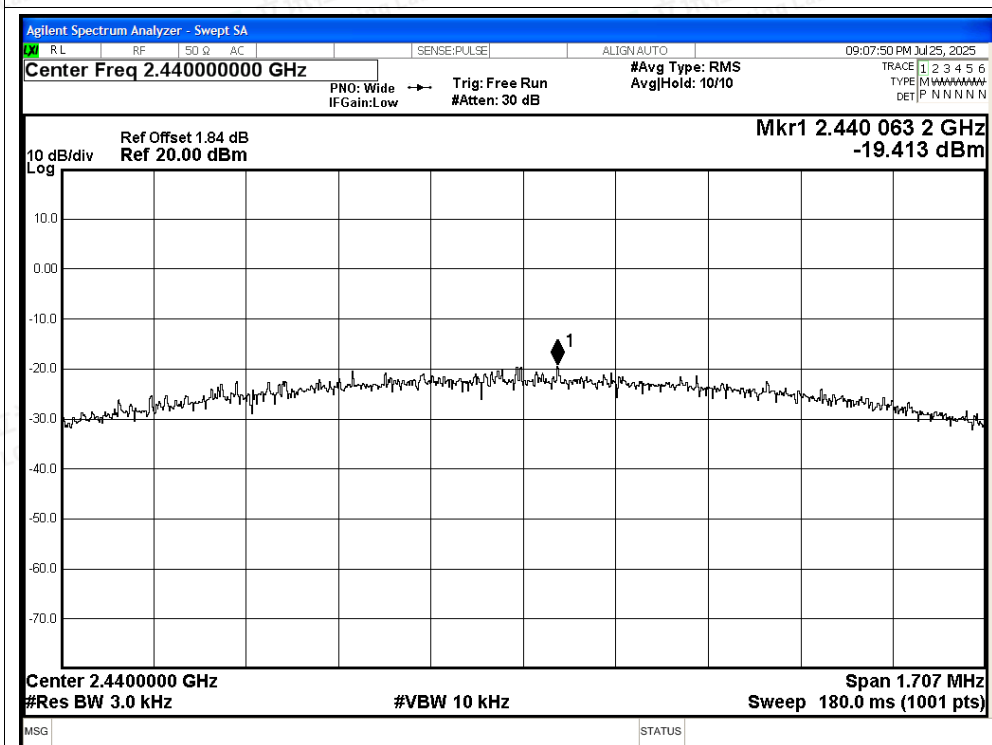
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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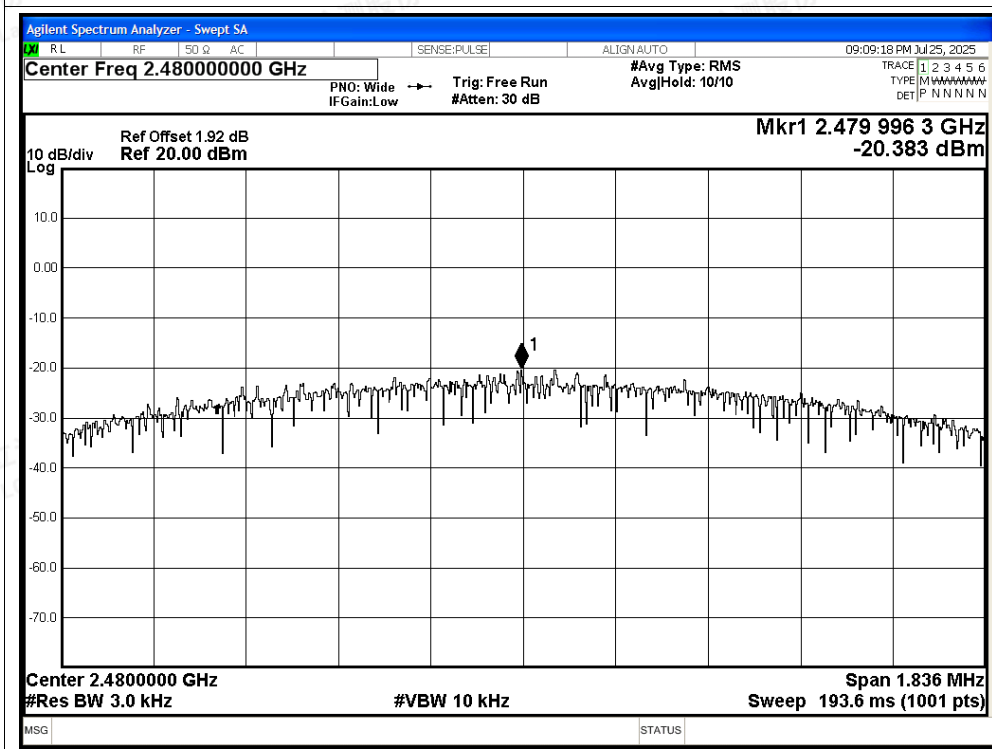
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PSD NVNT BLE 2M 2440MHz Ant0



PSD NVNT BLE 2M 2480MHz Ant0



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B.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant0	-53.64	-20	Pass
NVNT	BLE 1M	2480	Ant0	-56.1	-20	Pass
NVNT	BLE 2M	2402	Ant0	-43.33	-20	Pass
NVNT	BLE 2M	2480	Ant0	-55.01	-20	Pass

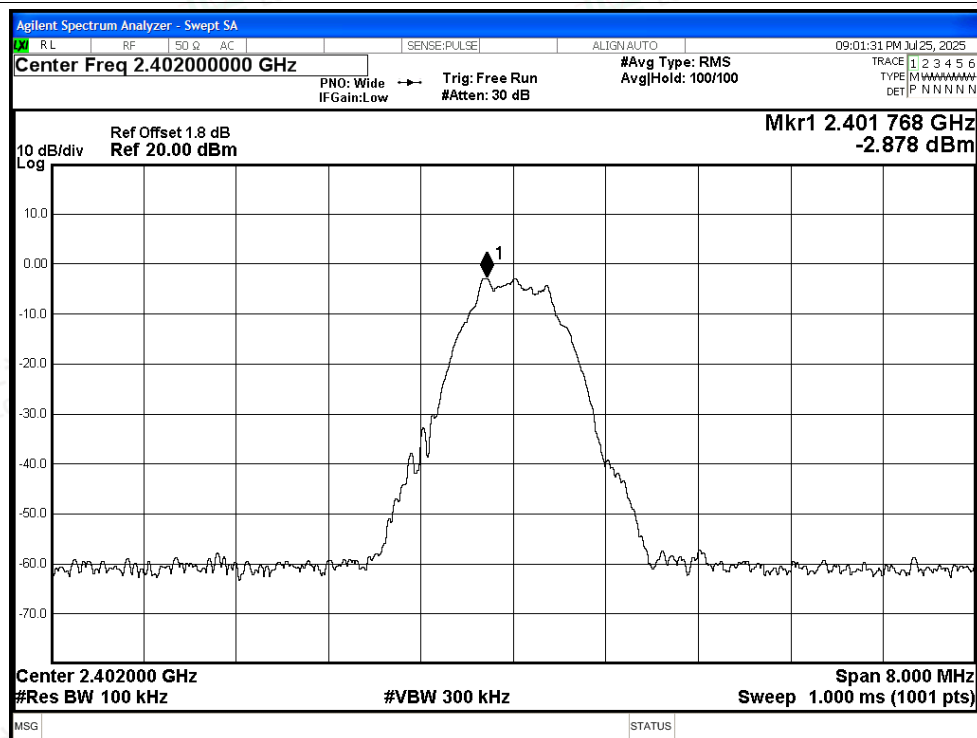


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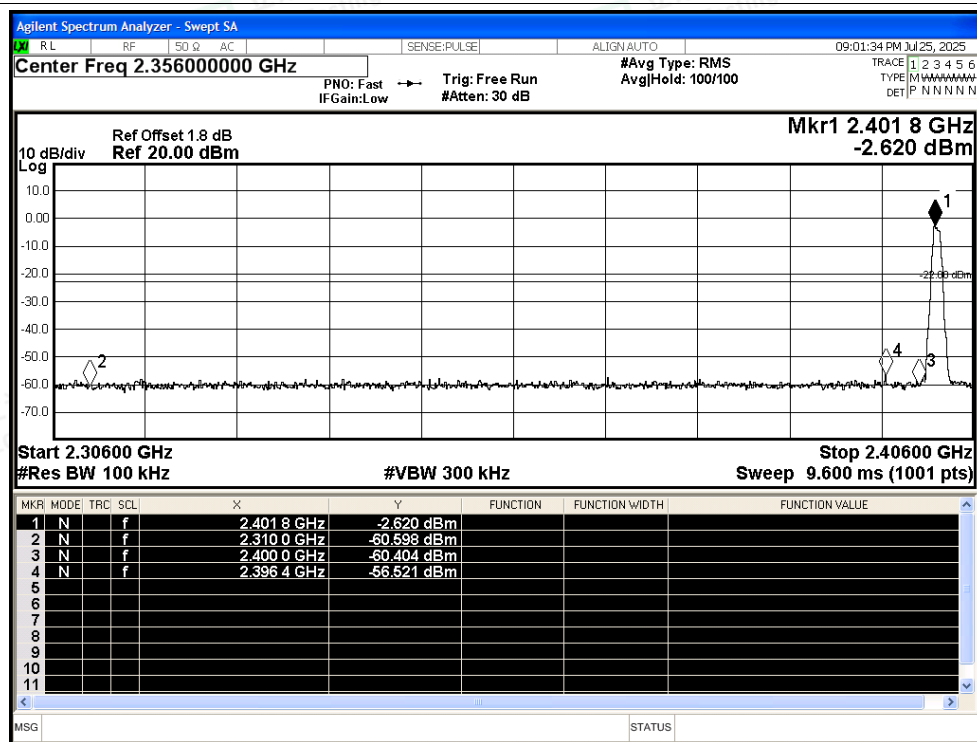


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant0 Ref



Band Edge NVNT BLE 1M 2402MHz Ant0 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

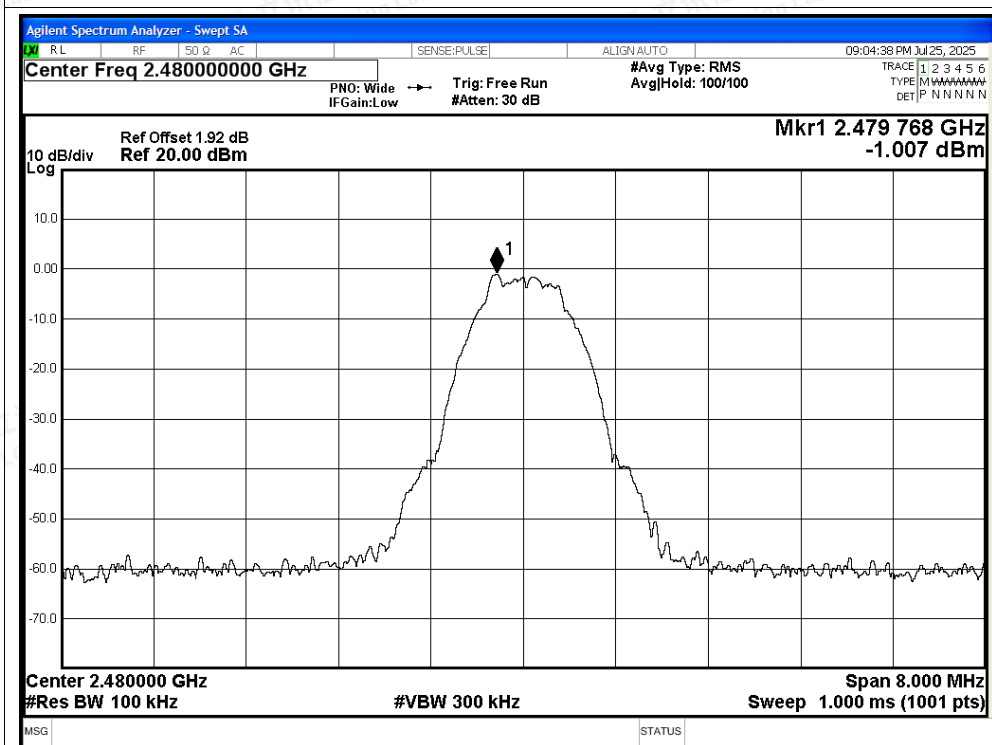
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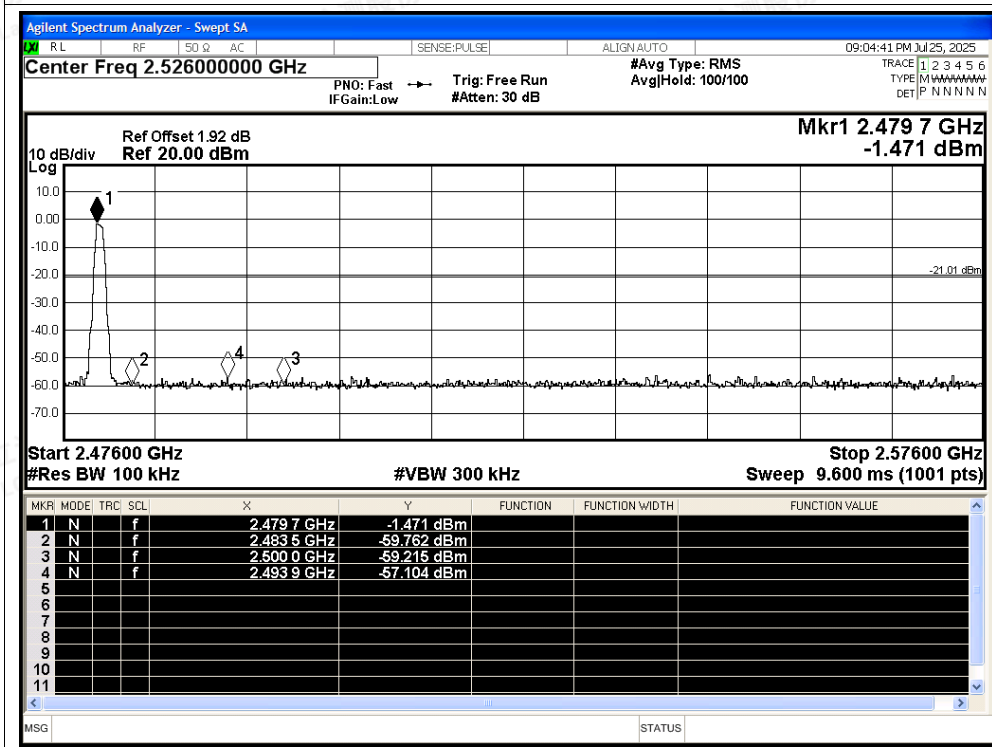
Scan code to check authenticity



Band Edge NVNT BLE 1M 2480MHz Ant0 Ref



Band Edge NVNT BLE 1M 2480MHz Ant0 Emission

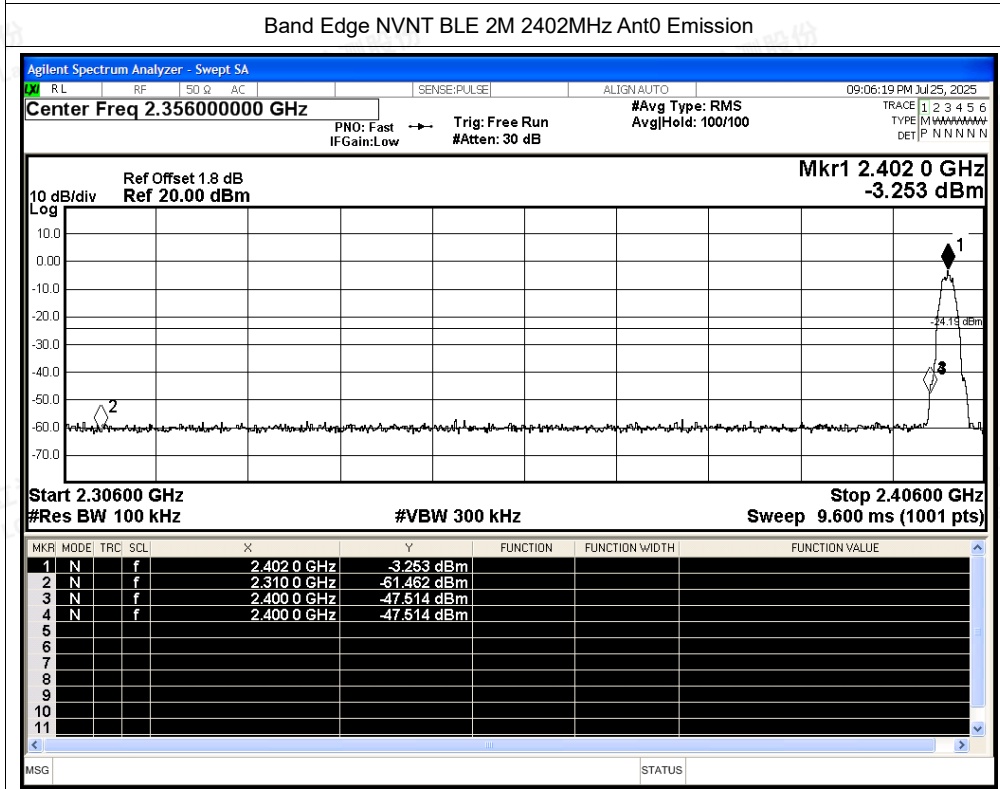
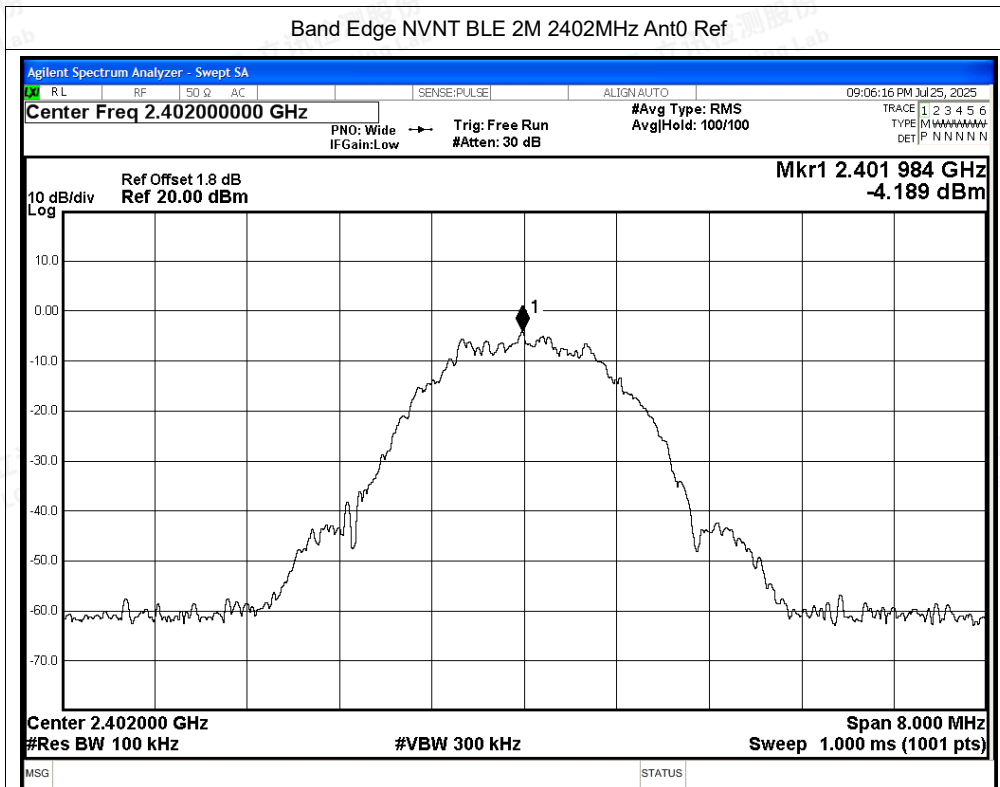


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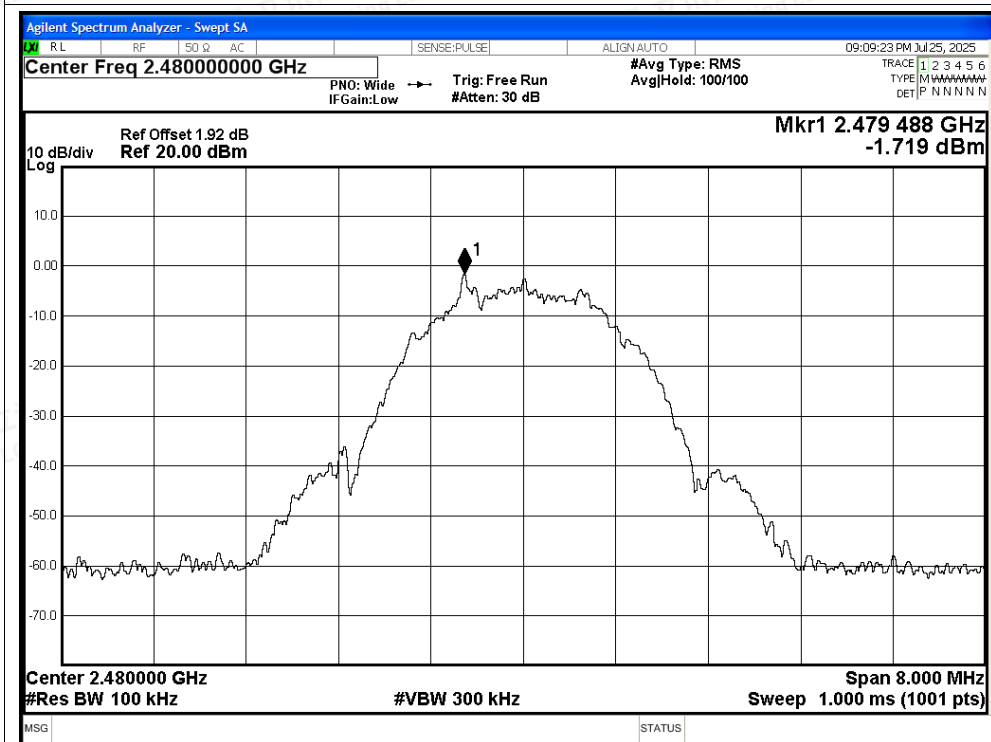
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Scan code to check authenticity

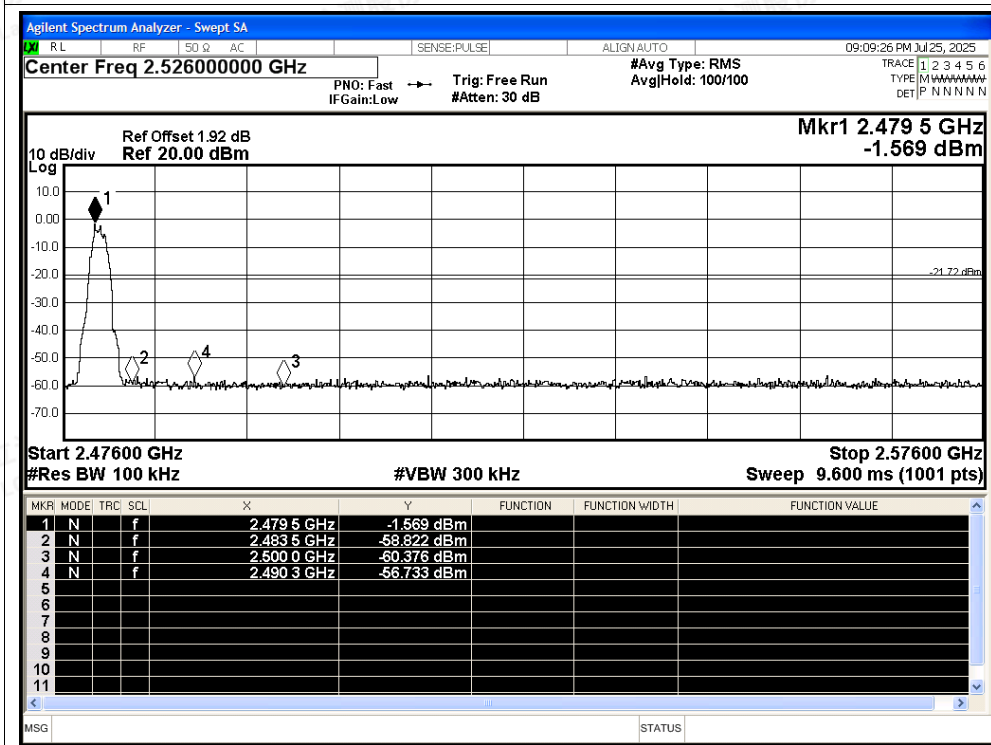




Band Edge NVNT BLE 2M 2480MHz Ant0 Ref



Band Edge NVNT BLE 2M 2480MHz Ant0 Emission





B.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant0	-53.24	-20	Pass
NVNT	BLE 1M	2440	Ant0	-55.77	-20	Pass
NVNT	BLE 1M	2480	Ant0	-54.41	-20	Pass
NVNT	BLE 2M	2402	Ant0	-51.83	-20	Pass
NVNT	BLE 2M	2440	Ant0	-54.87	-20	Pass
NVNT	BLE 2M	2480	Ant0	-52.2	-20	Pass

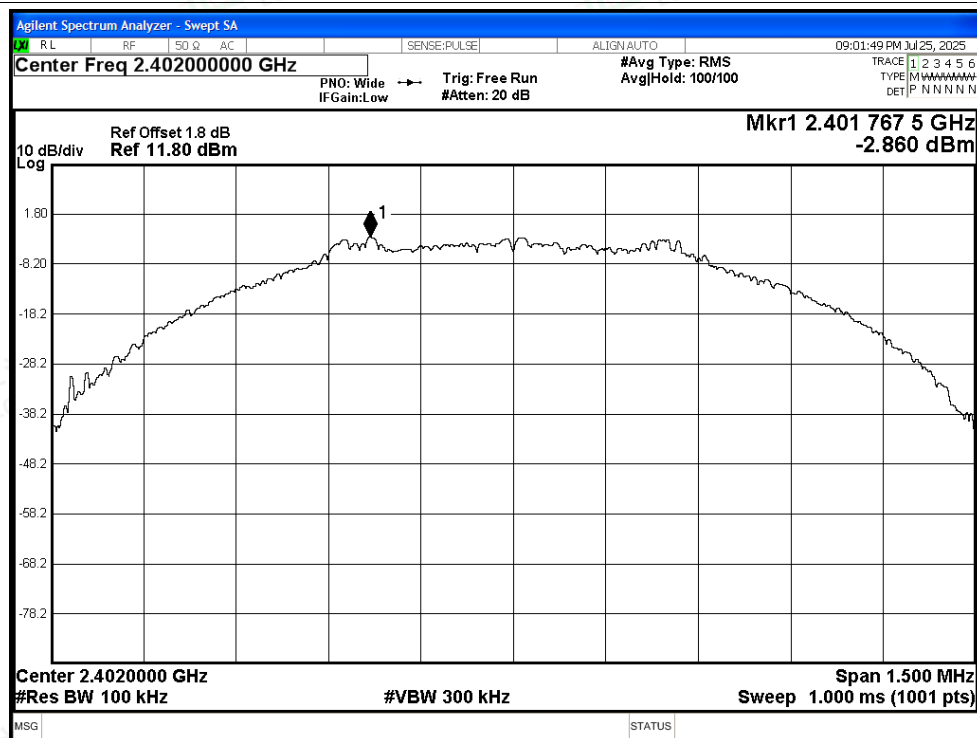


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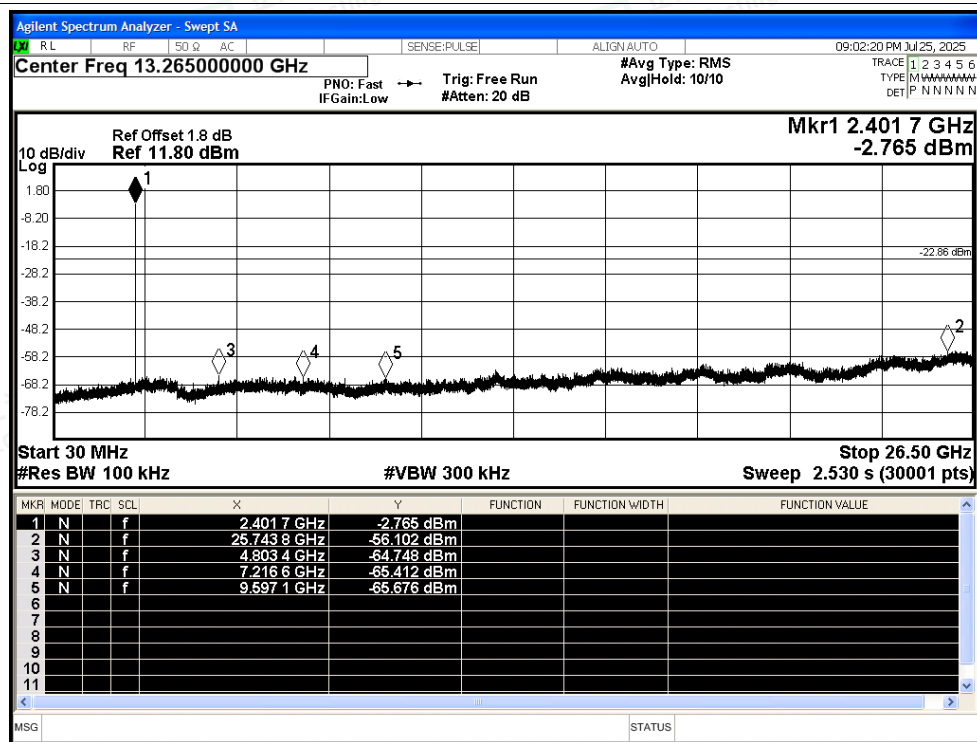


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant0 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant0 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

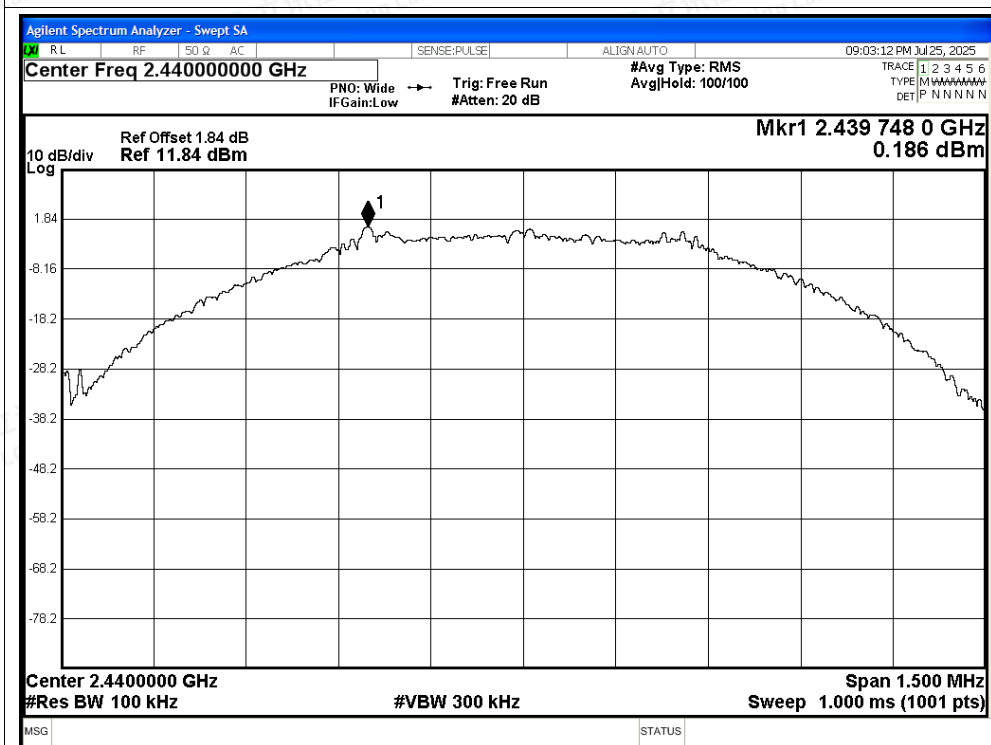
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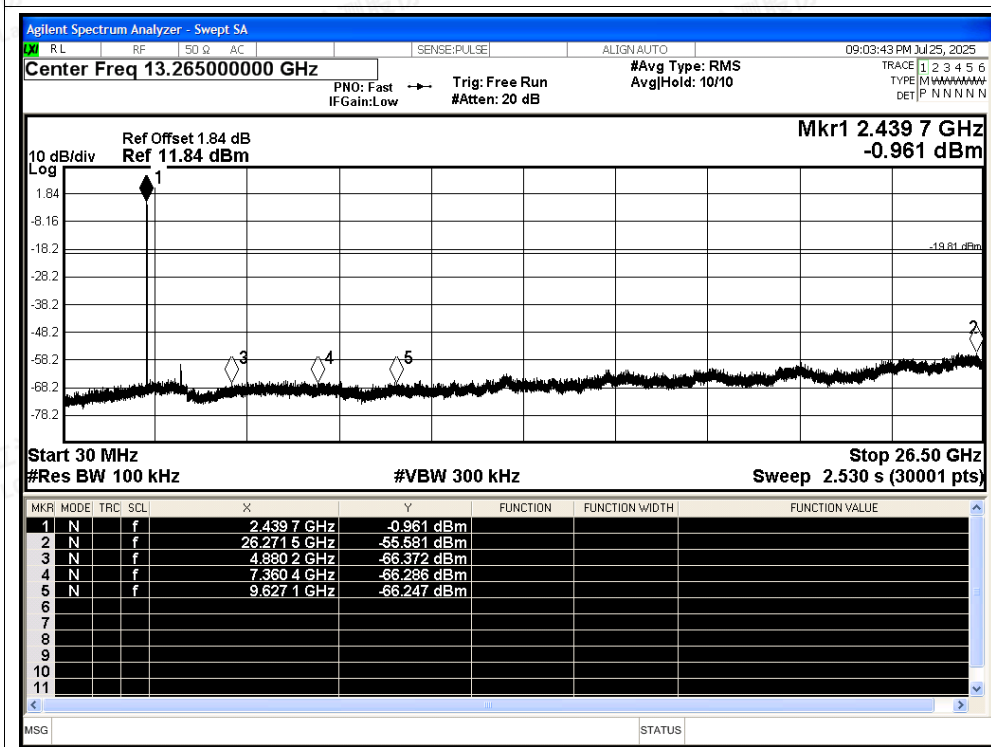
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Tx. Spurious NVNT BLE 1M 2440MHz Ant0 Ref

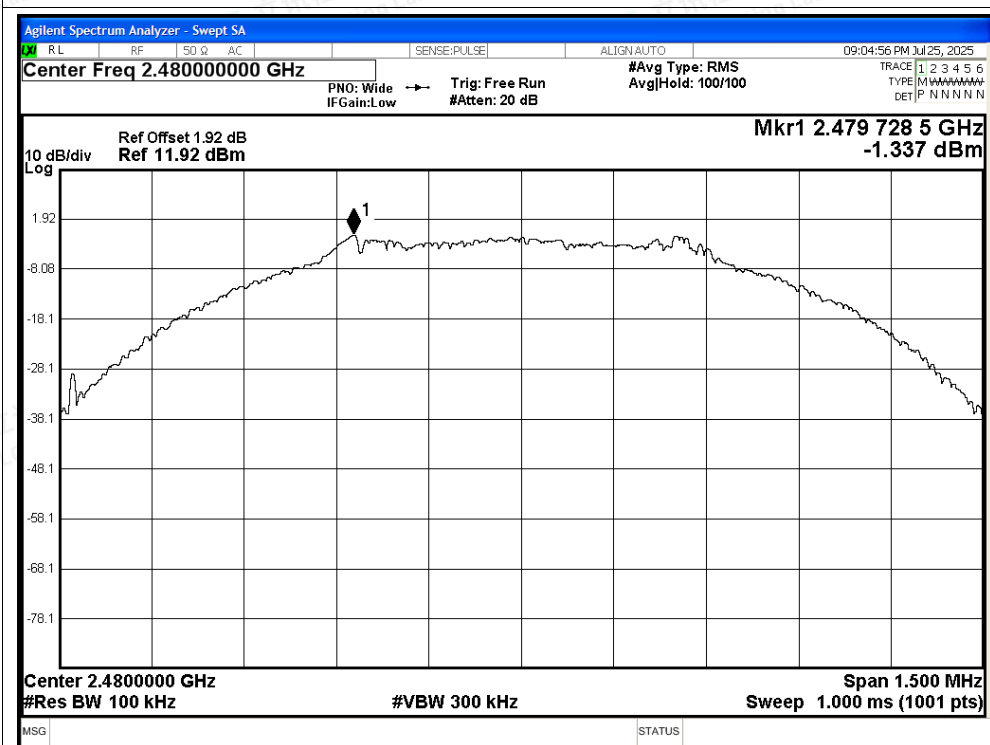


Tx. Spurious NVNT BLE 1M 2440MHz Ant0 Emission

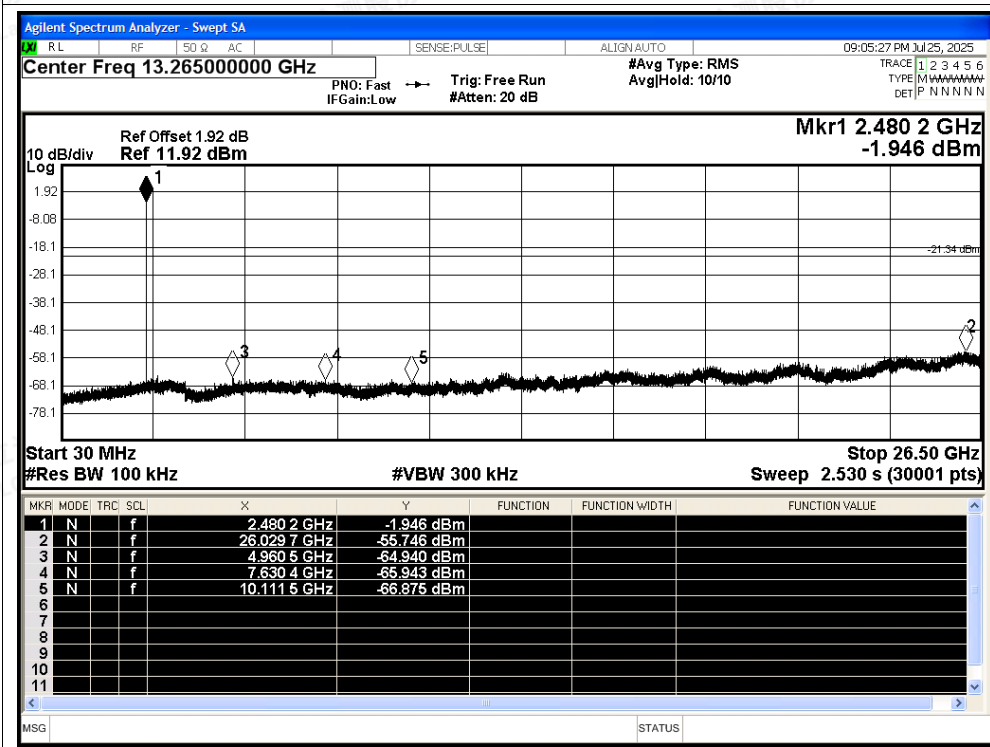




Tx. Spurious NVNT BLE 1M 2480MHz Ant0 Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant0 Emission



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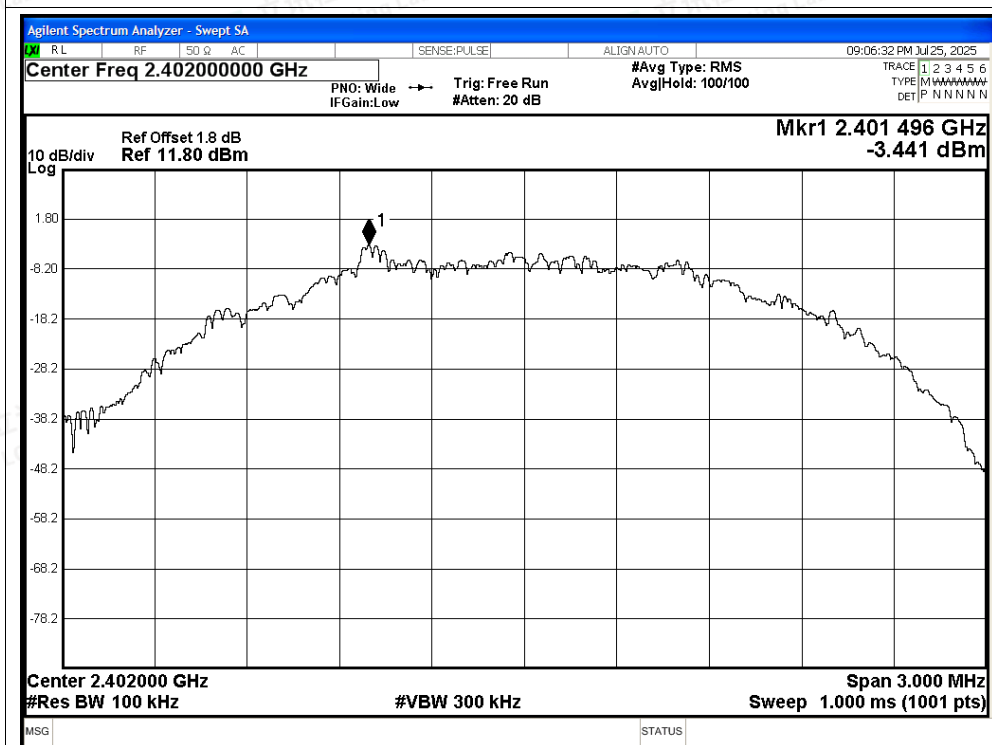
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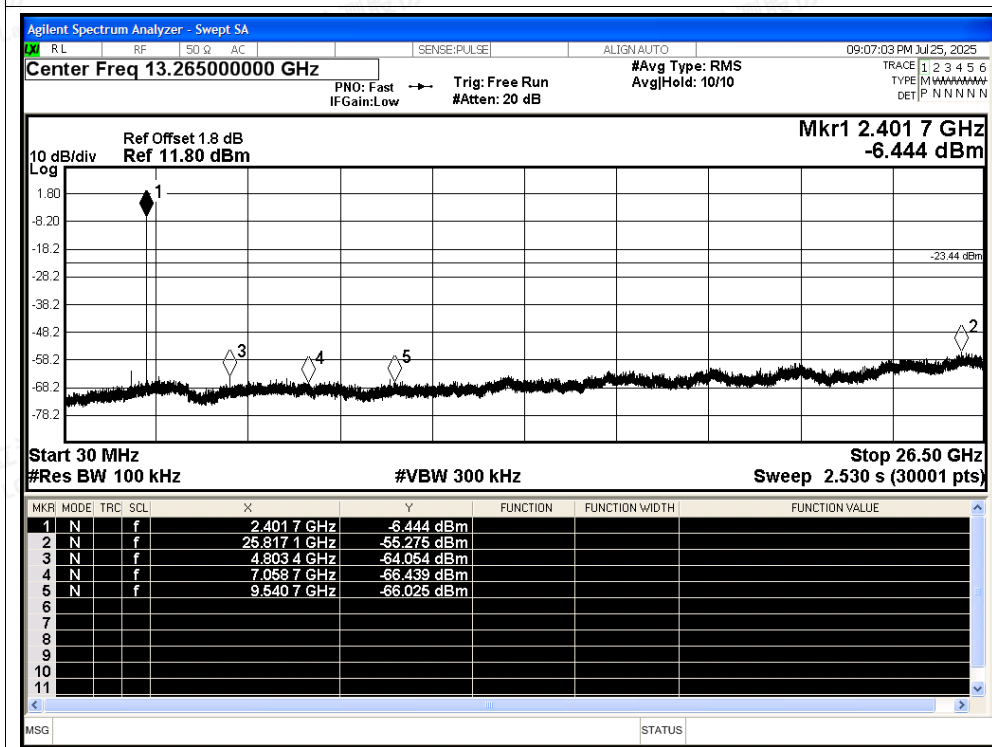
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Tx. Spurious NVNT BLE 2M 2402MHz Ant0 Ref



Tx. Spurious NVNT BLE 2M 2402MHz Ant0 Emission



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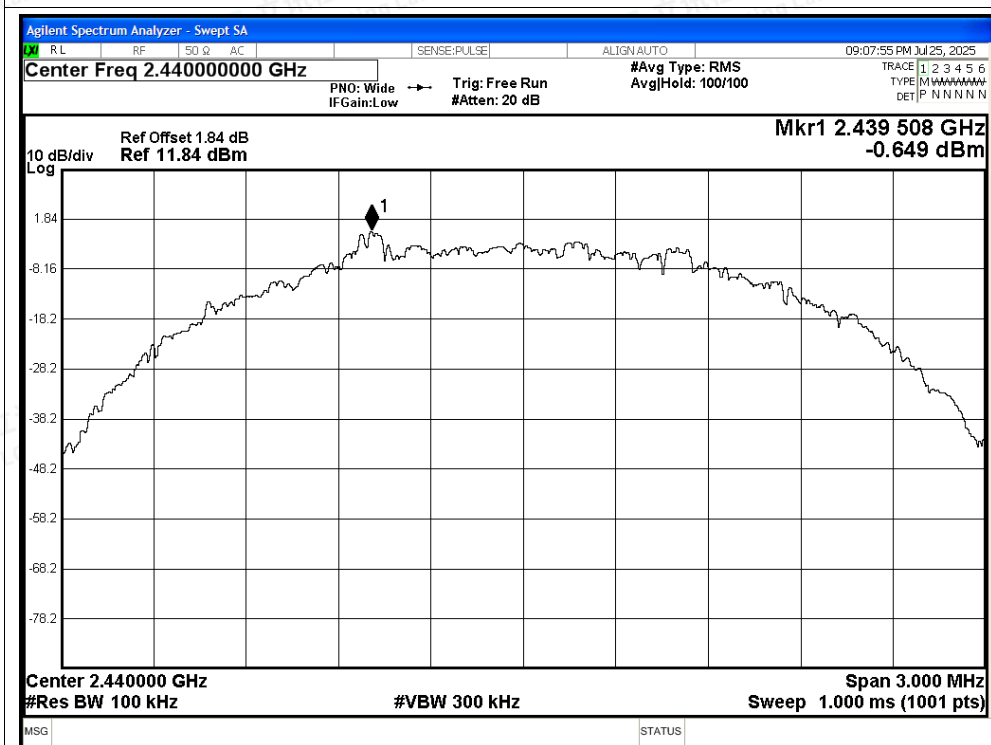
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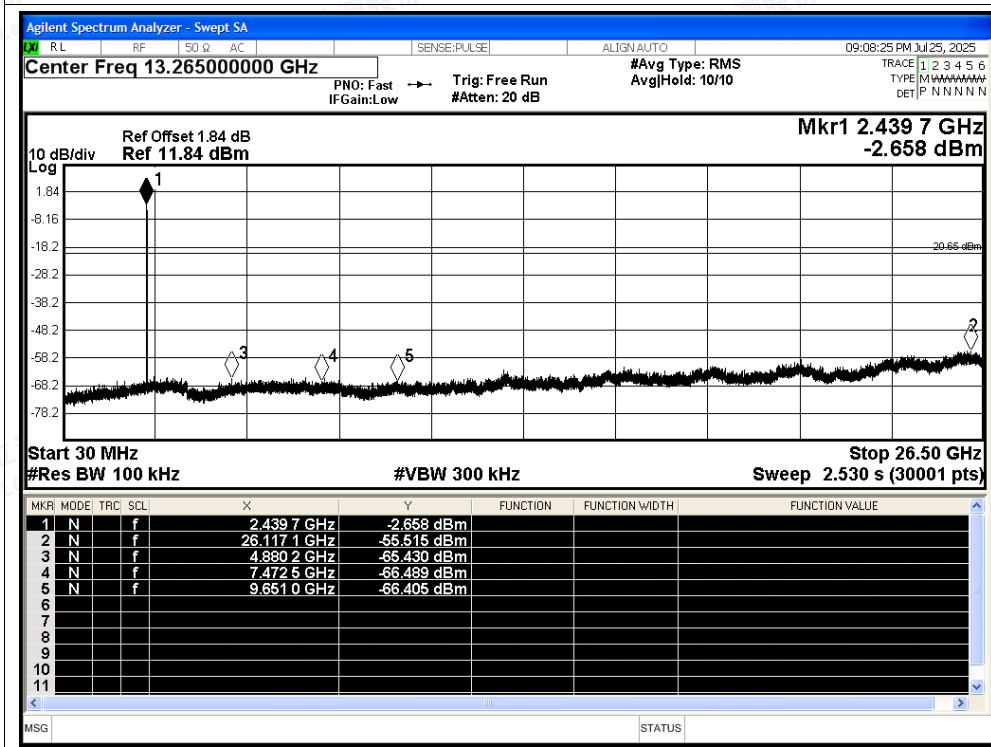
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Tx. Spurious NVNT BLE 2M 2440MHz Ant0 Ref



Tx. Spurious NVNT BLE 2M 2440MHz Ant0 Emission



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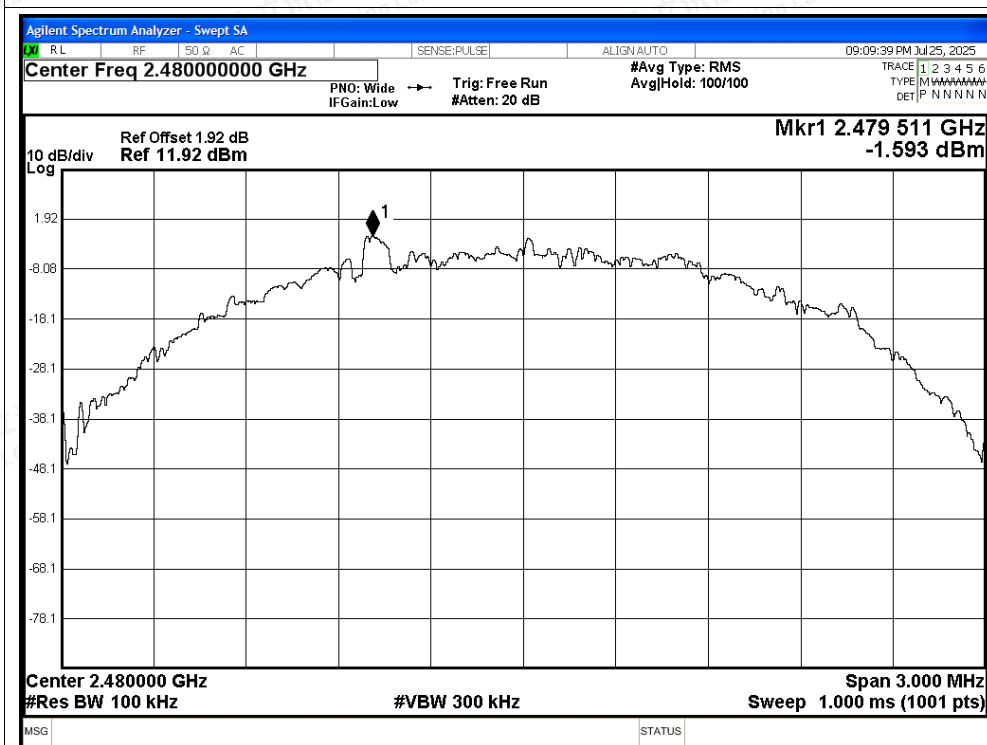
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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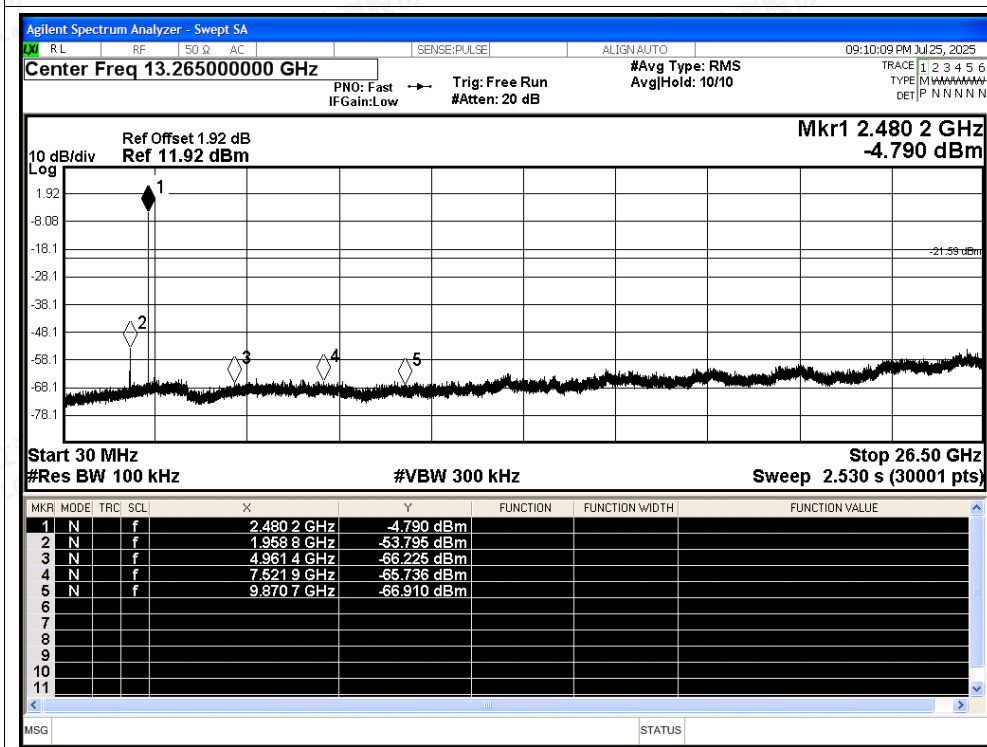
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2480MHz Ant0 Ref



Tx. Spurious NVNT BLE 2M 2480MHz Ant0 Emission





B.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant0	72.01	1.43	0.74
NVNT	BLE 1M	2440	Ant0	72.05	1.42	0.74
NVNT	BLE 1M	2480	Ant0	72.03	1.42	0.74
NVNT	BLE 2M	2402	Ant0	54.4	2.64	1.47
NVNT	BLE 2M	2440	Ant0	54.4	2.64	1.47
NVNT	BLE 2M	2480	Ant0	54.4	2.64	1.47

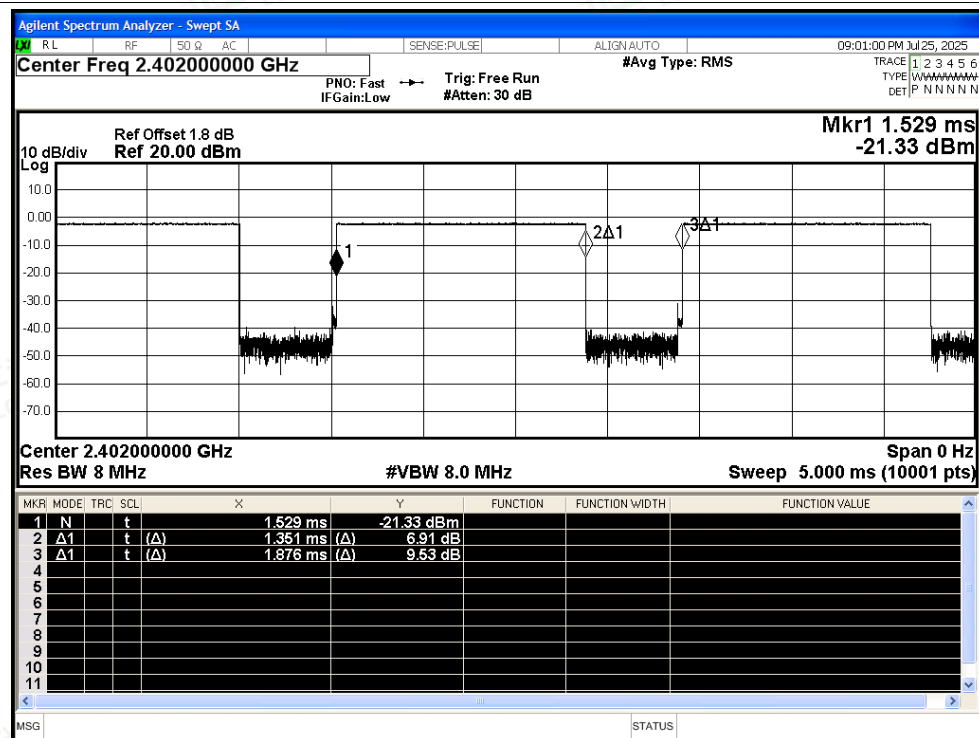


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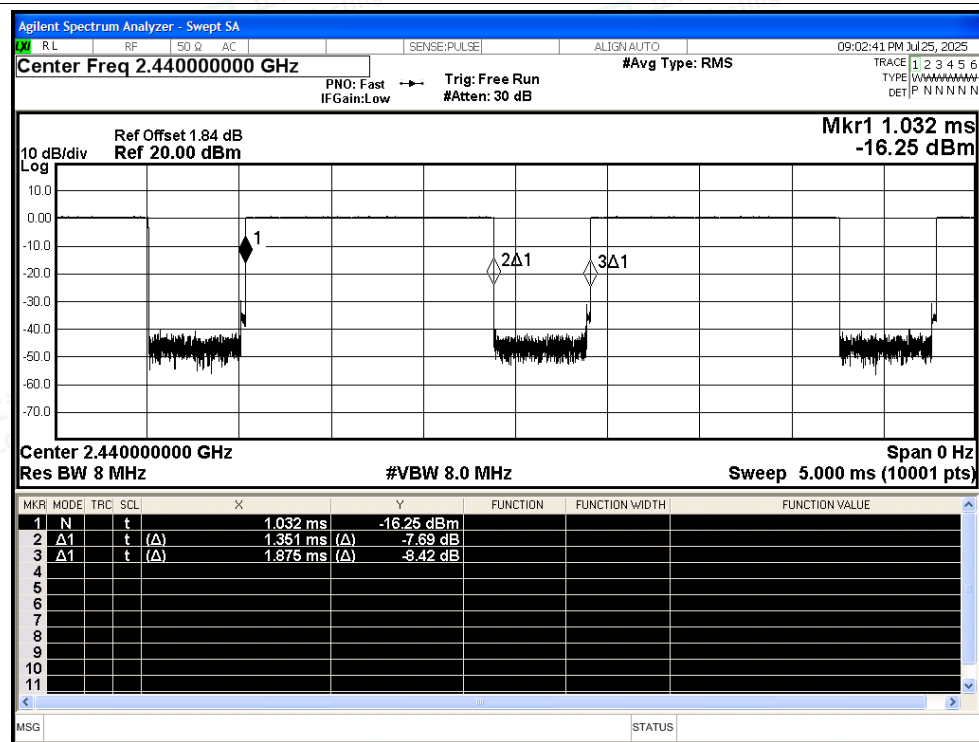


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant0



Duty Cycle NVNT BLE 1M 2440MHz Ant0



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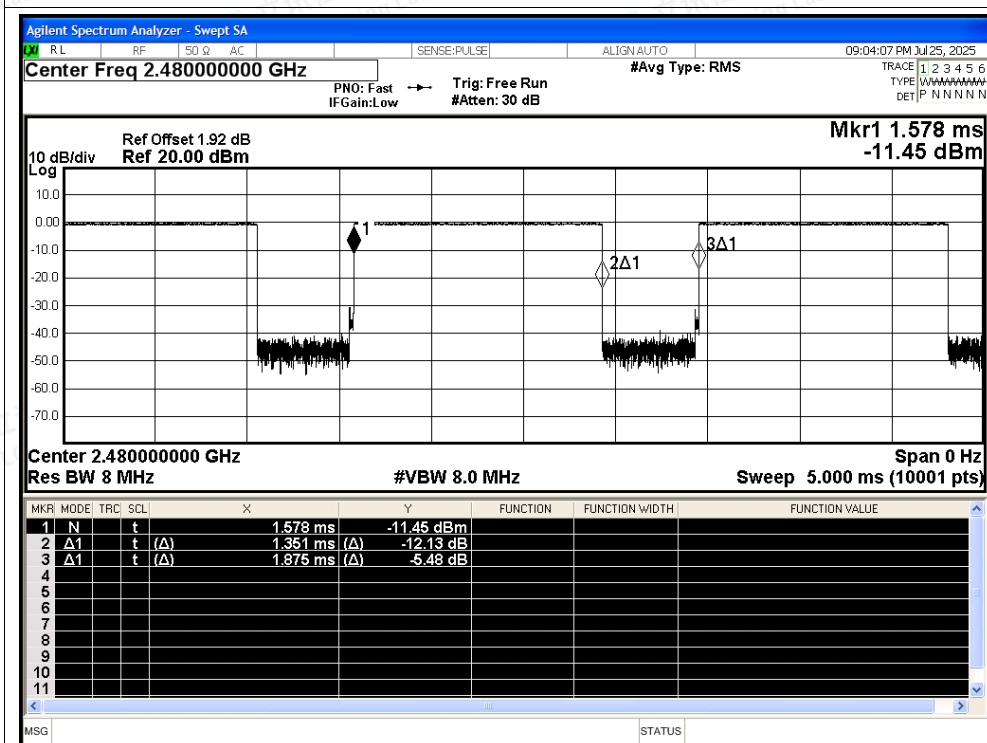
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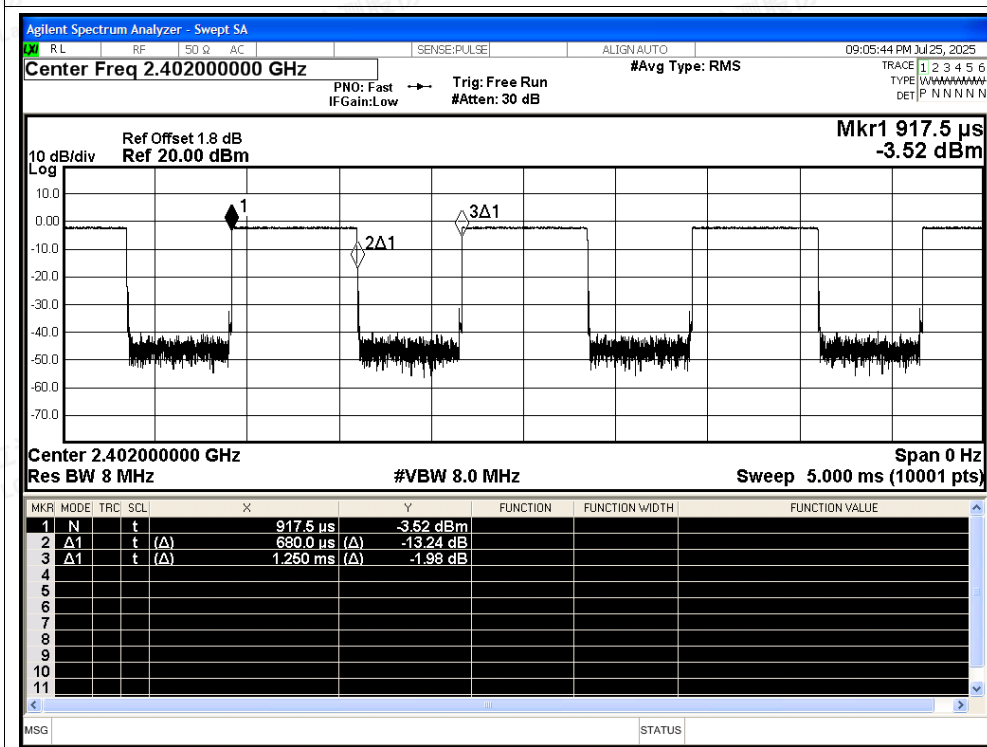
Scan code to check authenticity



Duty Cycle NVNT BLE 1M 2480MHz Ant0



Duty Cycle NVNT BLE 2M 2402MHz Ant0



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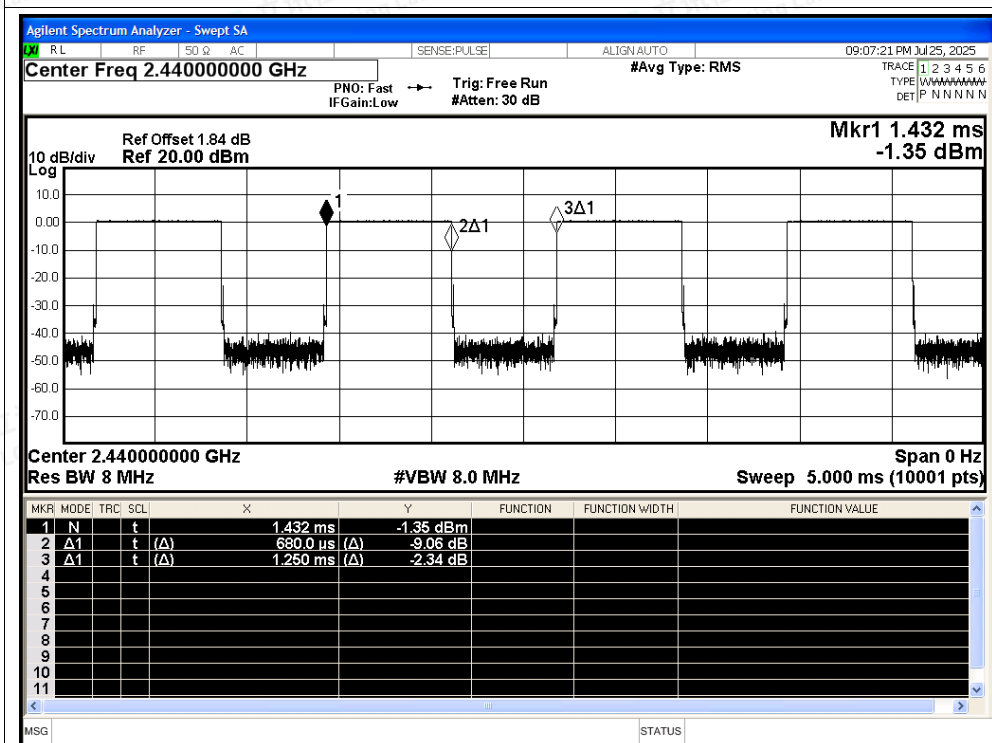
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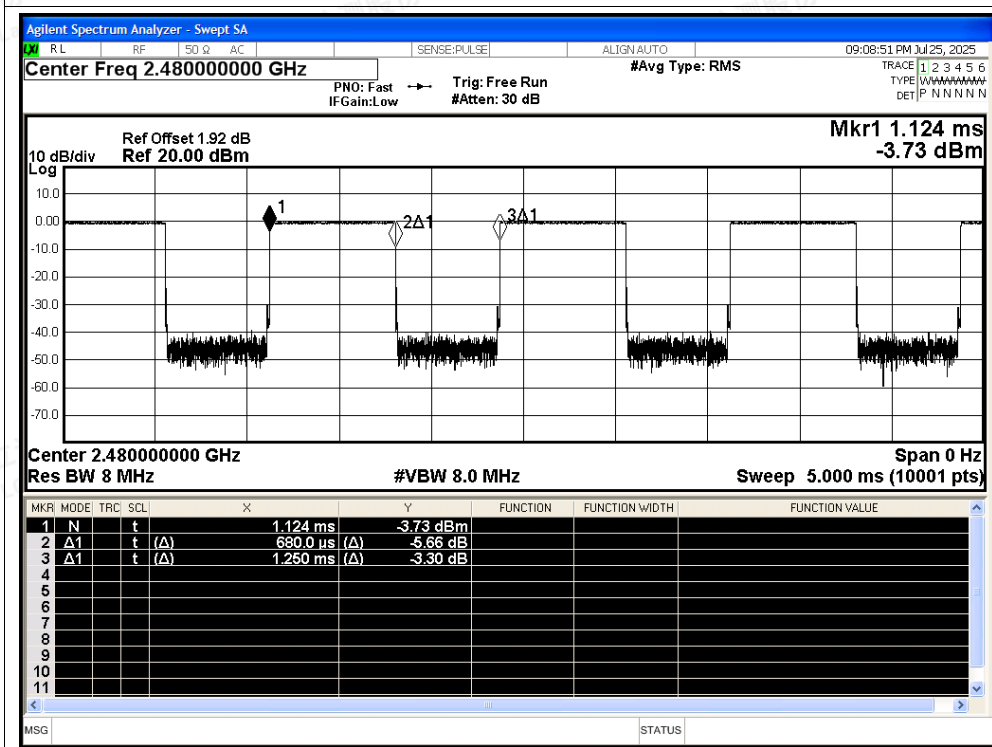
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Duty Cycle NVNT BLE 2M 2440MHz Ant0



Duty Cycle NVNT BLE 2M 2480MHz Ant0



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B.7 Restrict Band

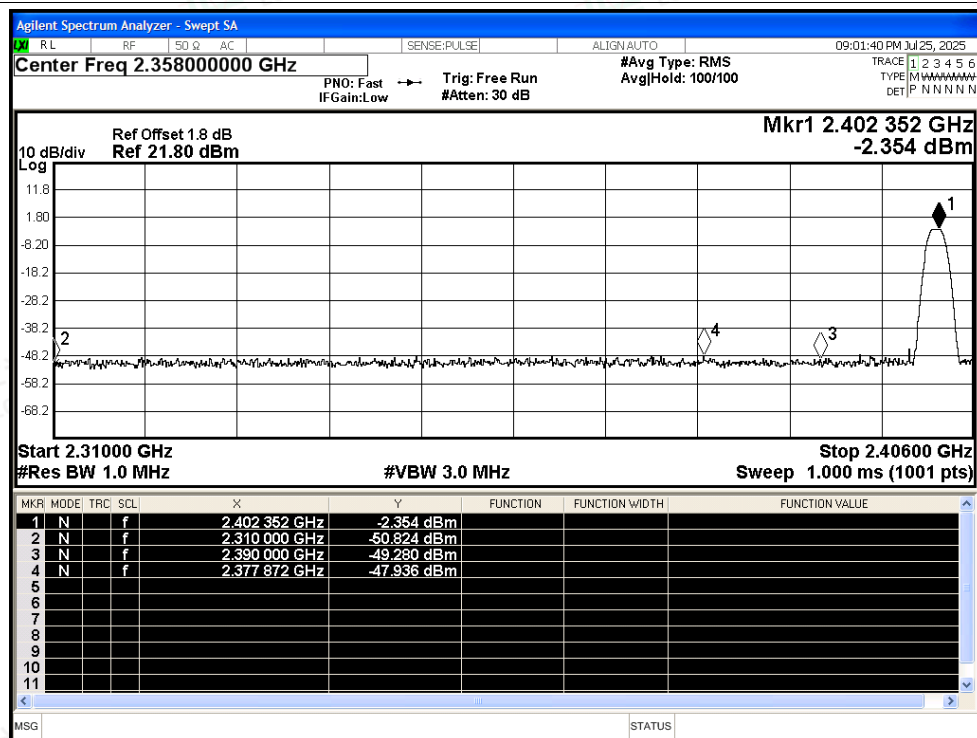
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1M	2402	Ant0	2310	-50.82	2	-	46.44	Peak	74	Pass
NVNT	BLE 1M	2402	Ant0	2310	-59.08	2	1.43	39.61	Average	54	Pass
NVNT	BLE 1M	2402	Ant0	2377.872	-47.94	2	-	49.32	Peak	74	Pass
NVNT	BLE 1M	2402	Ant0	2387.28	-58.32	2	1.43	40.37	Average	54	Pass
NVNT	BLE 1M	2402	Ant0	2390	-49.28	2	-	47.98	Peak	74	Pass
NVNT	BLE 1M	2402	Ant0	2390	-58.83	2	1.43	39.86	Average	54	Pass
NVNT	BLE 1M	2480	Ant0	2483.5	-50.87	2	-	46.39	Peak	74	Pass
NVNT	BLE 1M	2480	Ant0	2483.5	-57.82	2	1.42	40.86	Average	54	Pass
NVNT	BLE 1M	2480	Ant0	2484.832	-45.81	2	-	51.45	Peak	74	Pass
NVNT	BLE 1M	2480	Ant0	2483.56	-57.68	2	1.42	41	Average	54	Pass
NVNT	BLE 1M	2480	Ant0	2500	-49.35	2	-	47.91	Peak	74	Pass
NVNT	BLE 1M	2480	Ant0	2500	-58.11	2	1.42	40.57	Average	54	Pass
NVNT	BLE 2M	2402	Ant0	2310	-48.18	2	-	49.08	Peak	74	Pass
NVNT	BLE 2M	2402	Ant0	2310	-59.37	2	2.64	40.53	Average	54	Pass
NVNT	BLE 2M	2402	Ant0	2349.36	-47.91	2	-	49.35	Peak	74	Pass
NVNT	BLE 2M	2402	Ant0	2359.632	-57.79	2	2.64	42.11	Average	54	Pass
NVNT	BLE 2M	2402	Ant0	2390	-51.03	2	-	46.23	Peak	74	Pass
NVNT	BLE 2M	2402	Ant0	2390	-58.61	2	2.64	41.29	Average	54	Pass
NVNT	BLE 2M	2480	Ant0	2483.5	-48.65	2	-	48.61	Peak	74	Pass
NVNT	BLE 2M	2480	Ant0	2483.5	-58.06	2	2.64	41.84	Average	54	Pass
NVNT	BLE 2M	2480	Ant0	2484.16	-43.63	2	-	53.63	Peak	74	Pass
NVNT	BLE 2M	2480	Ant0	2489.224	-57.19	2	2.64	42.71	Average	54	Pass
NVNT	BLE 2M	2480	Ant0	2500	-49.23	2	-	48.03	Peak	74	Pass
NVNT	BLE 2M	2480	Ant0	2500	-58.53	2	2.64	41.37	Average	54	Pass



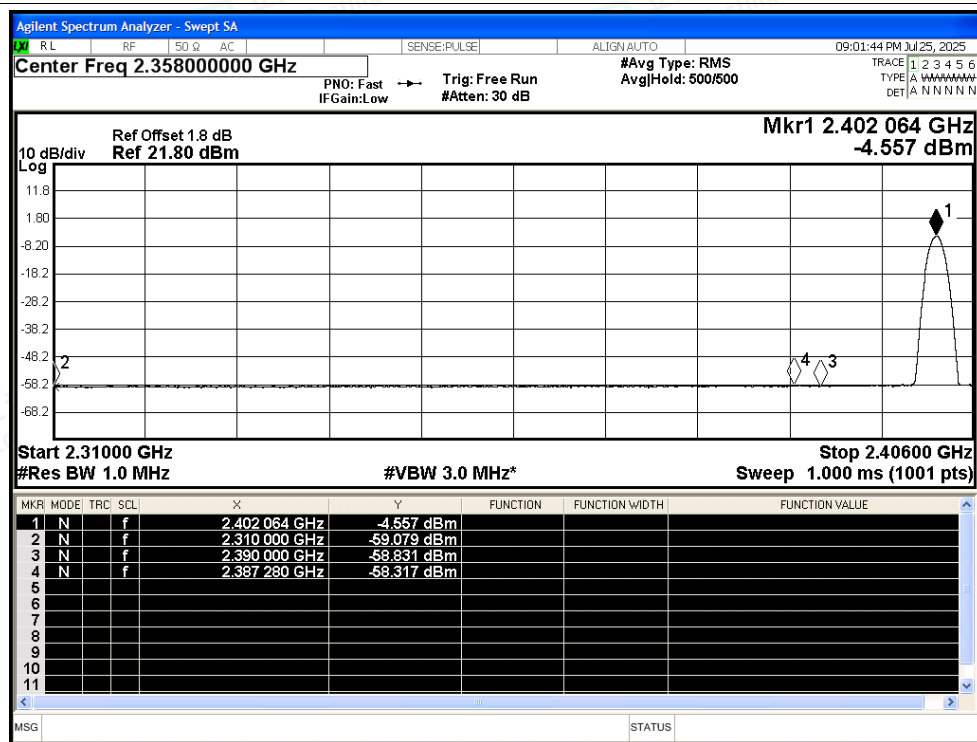


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant0 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant0 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

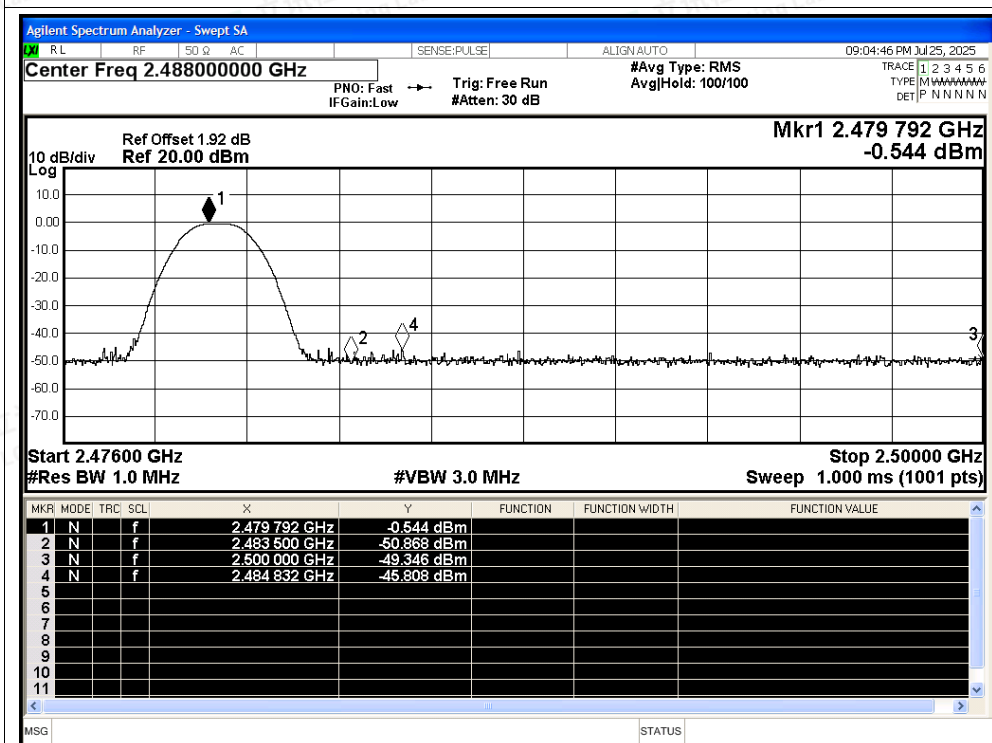
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

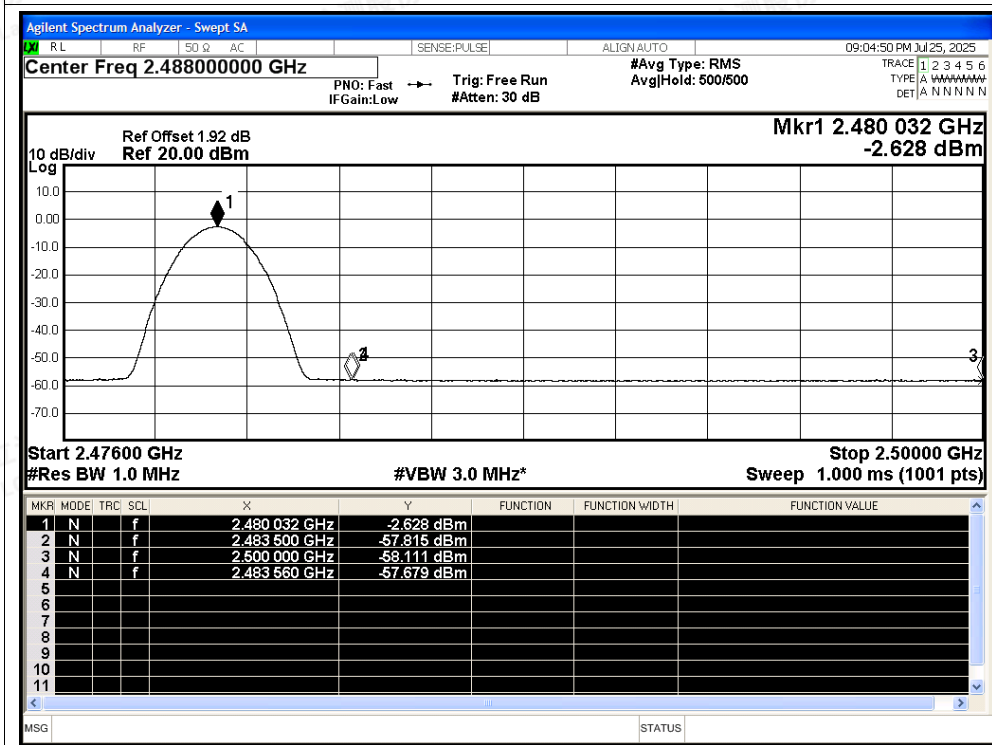
Scan code to check authenticity



Restrict Band NVNT BLE 1M 2480MHz Ant0 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant0 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

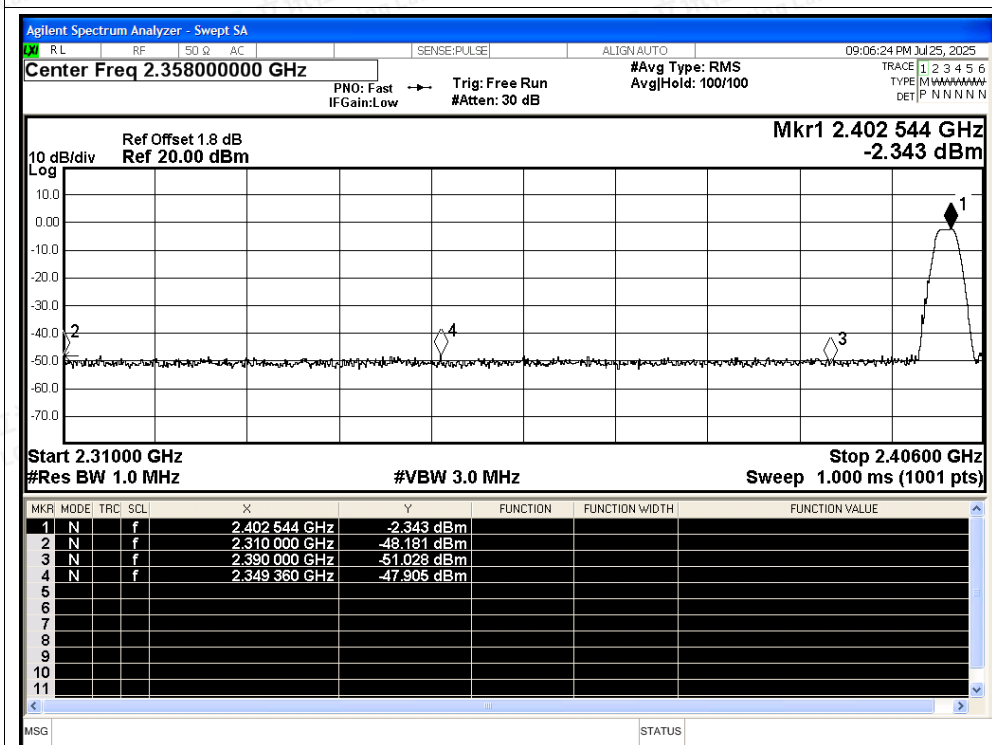
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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

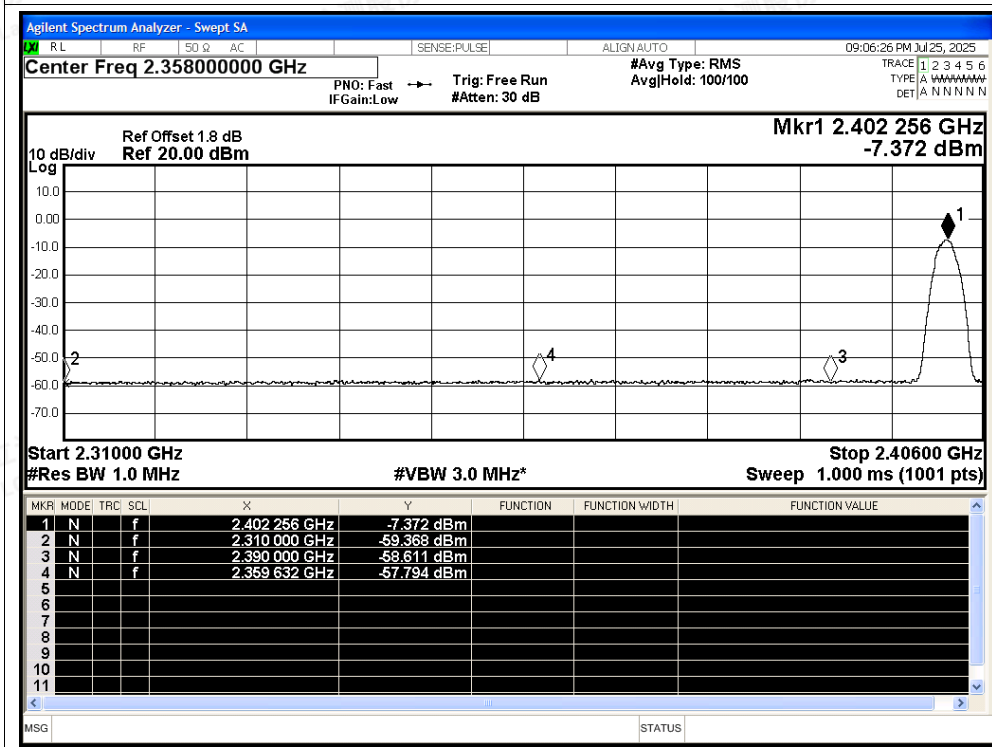
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Restrict Band NVNT BLE 2M 2402MHz Ant0 Peak



Restrict Band NVNT BLE 2M 2402MHz Ant0 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

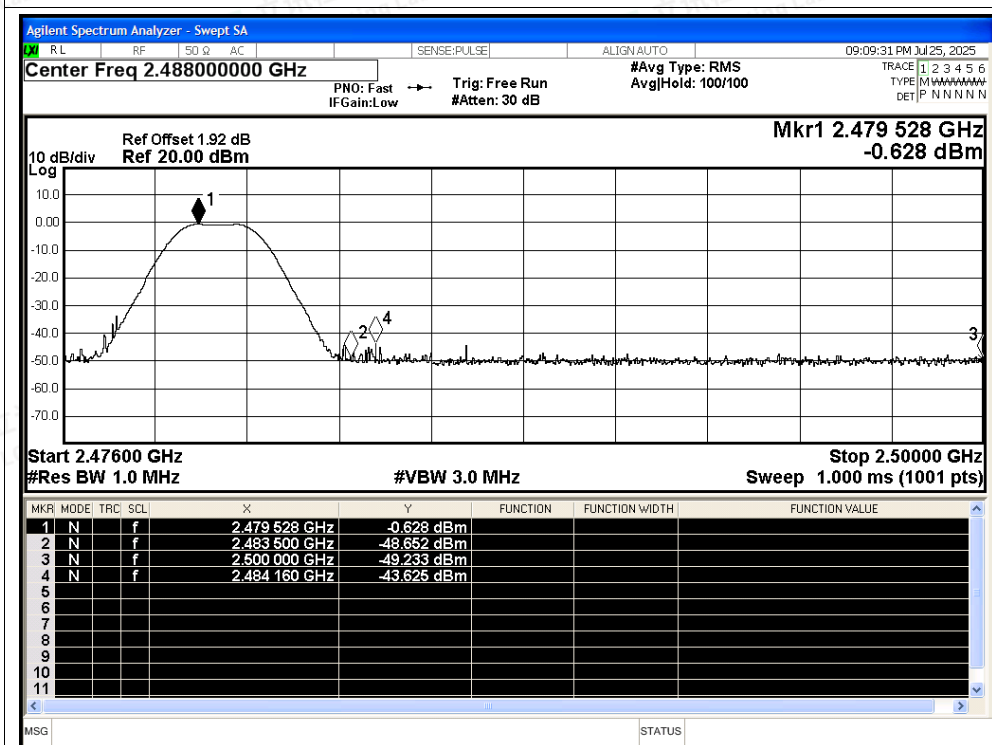
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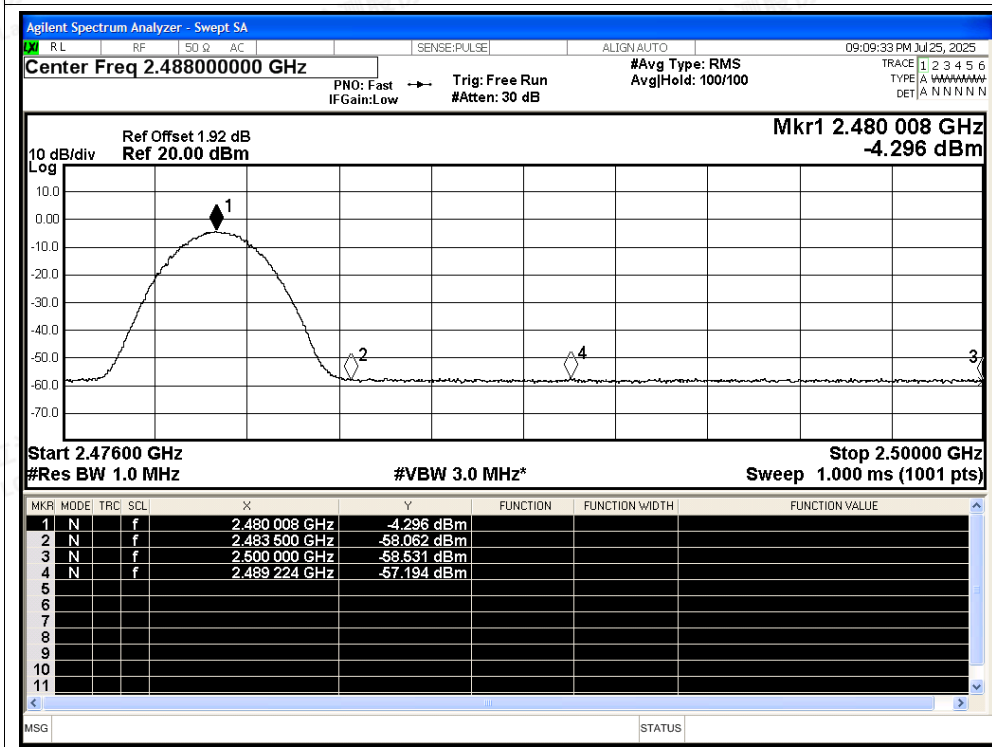
Scan code to check authenticity



Restrict Band NVNT BLE 2M 2480MHz Ant0 Peak



Restrict Band NVNT BLE 2M 2480MHz Ant0 Average



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