



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: VIM4

Test Model: VIM4

Environmental Conditions

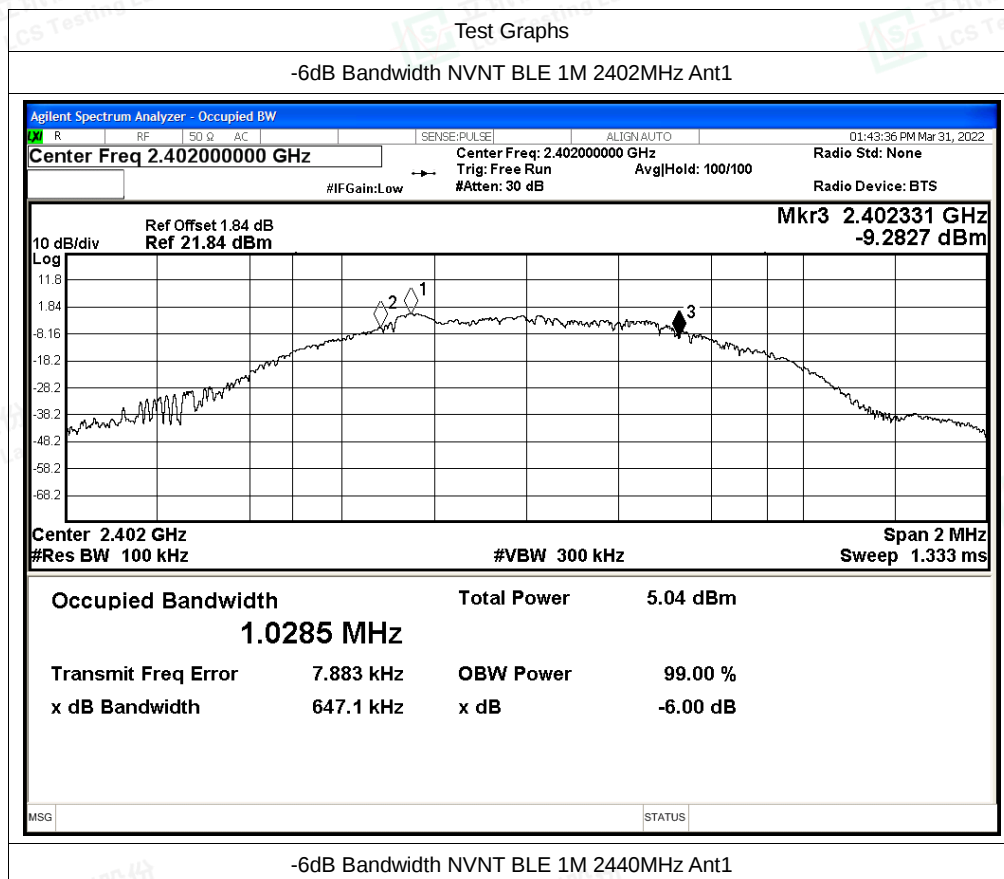
Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Bill Zhu
Supervised by:	Li Huan

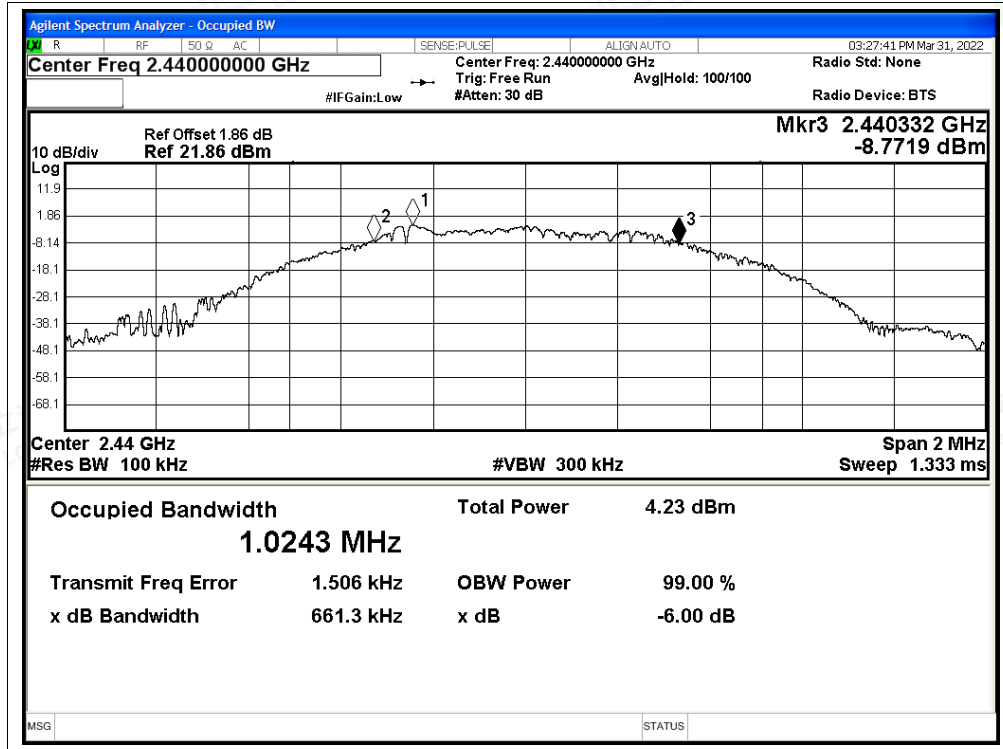




B.1 -6dB Bandwidth

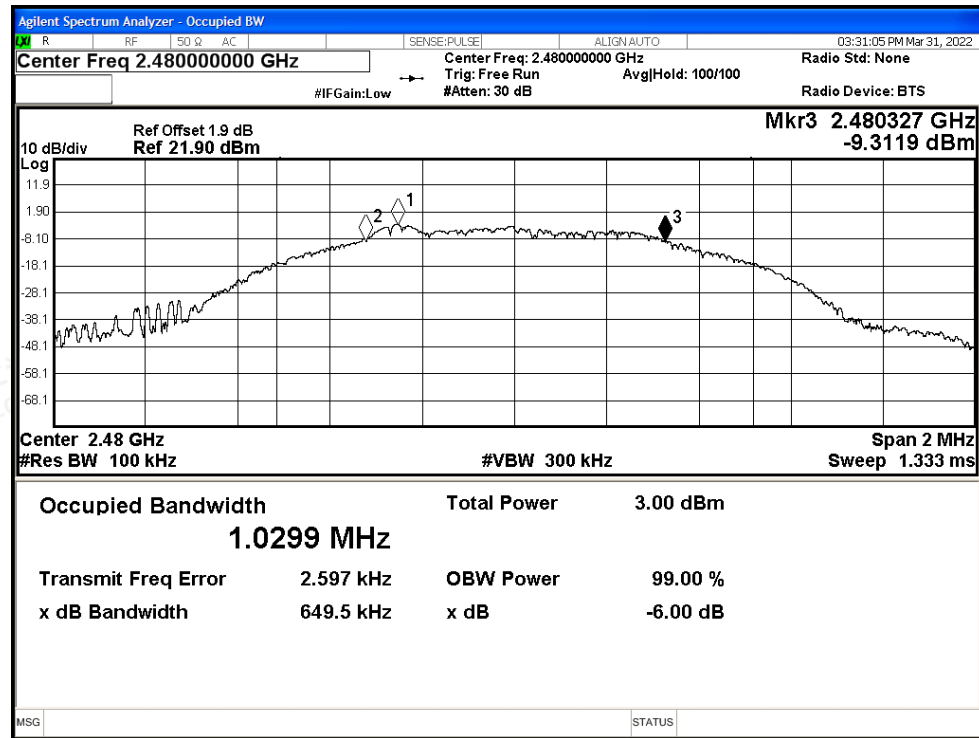
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.647	0.5	Pass
NVNT	BLE 1M	2440	Ant1	0.661	0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.65	0.5	Pass
NVNT	BLE 2M	2402	Ant1	1.115	0.5	Pass
NVNT	BLE 2M	2440	Ant1	1.085	0.5	Pass
NVNT	BLE 2M	2480	Ant1	1.116	0.5	Pass



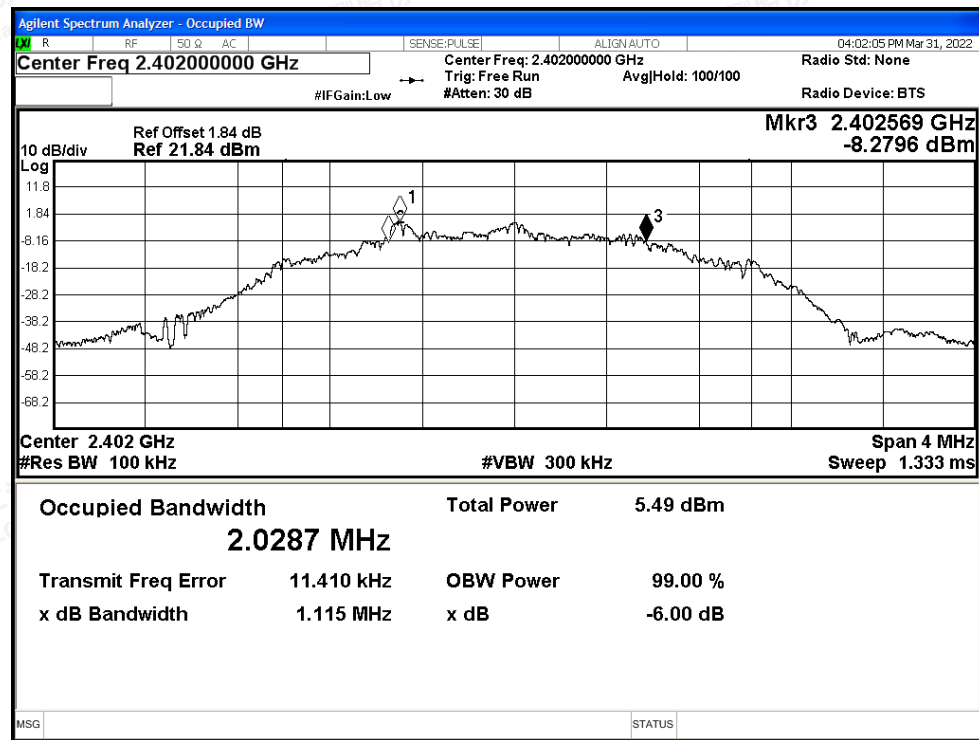




-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2402MHz Ant1



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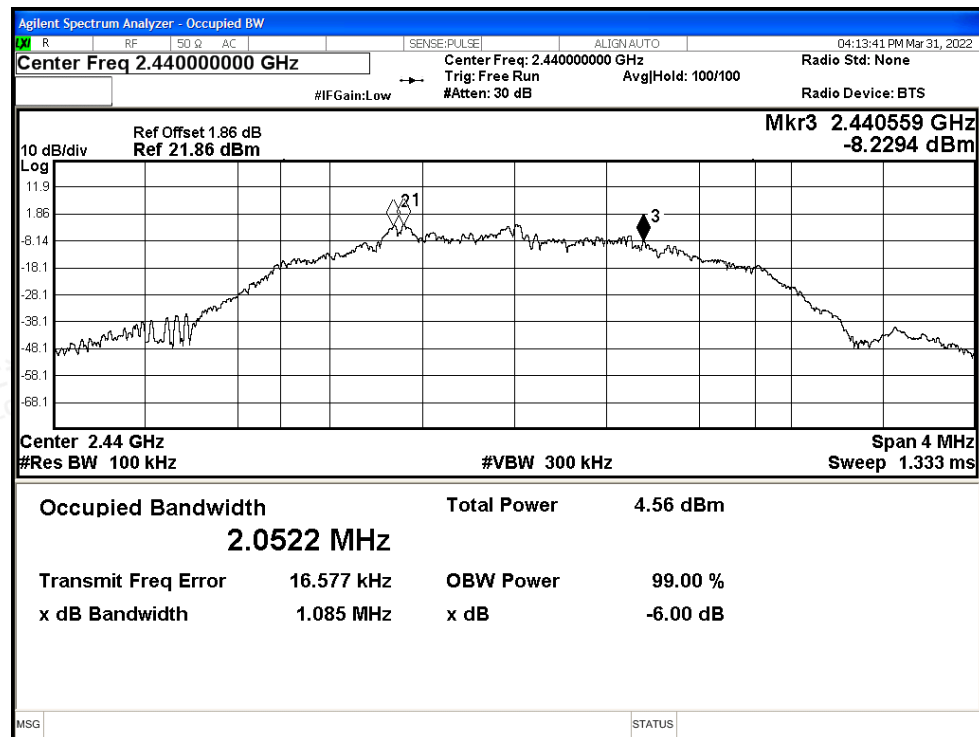
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

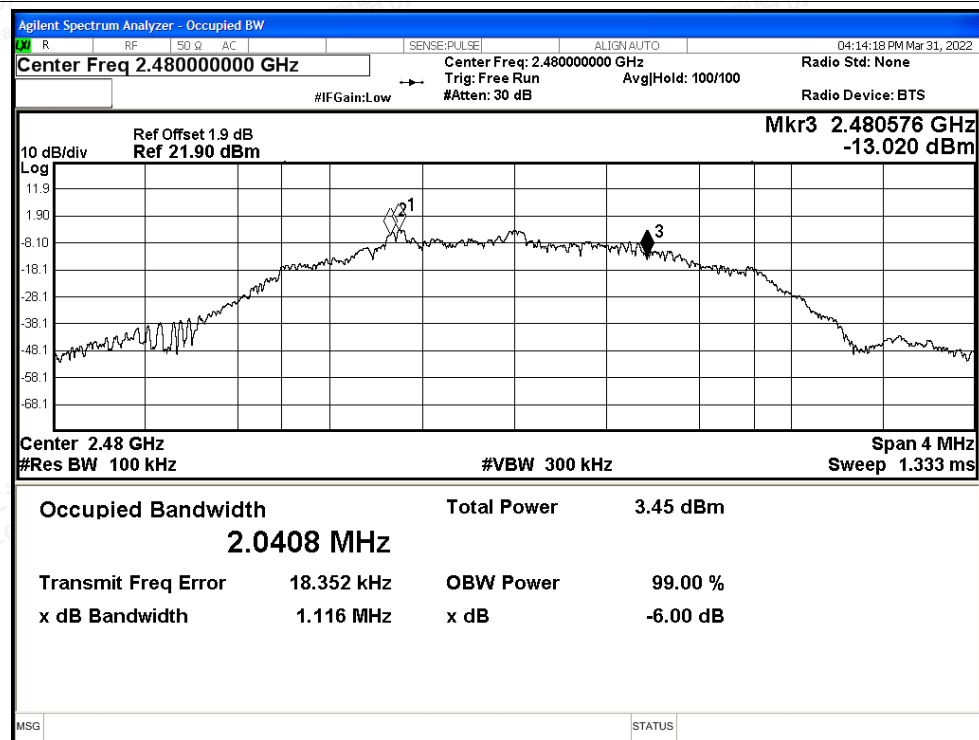
Scan code to check authenticity



-6dB Bandwidth NVNT BLE 2M 2440MHz Ant1



-6dB Bandwidth NVNT BLE 2M 2480MHz Ant1



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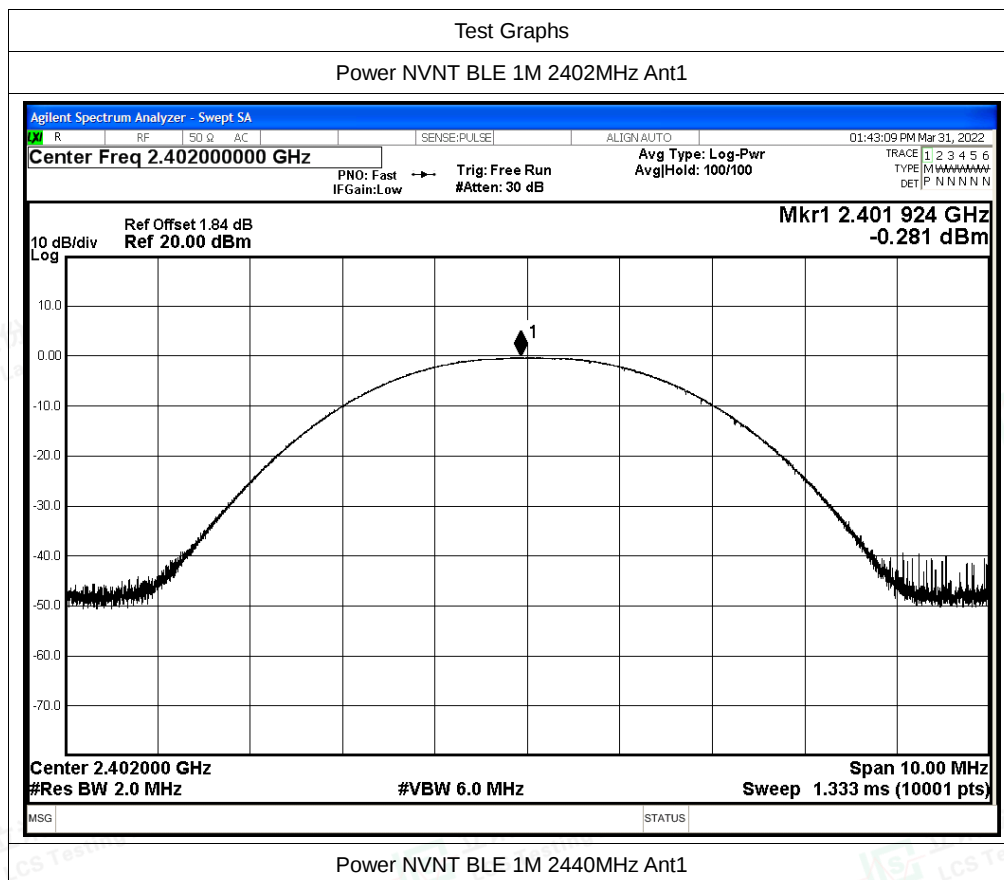
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

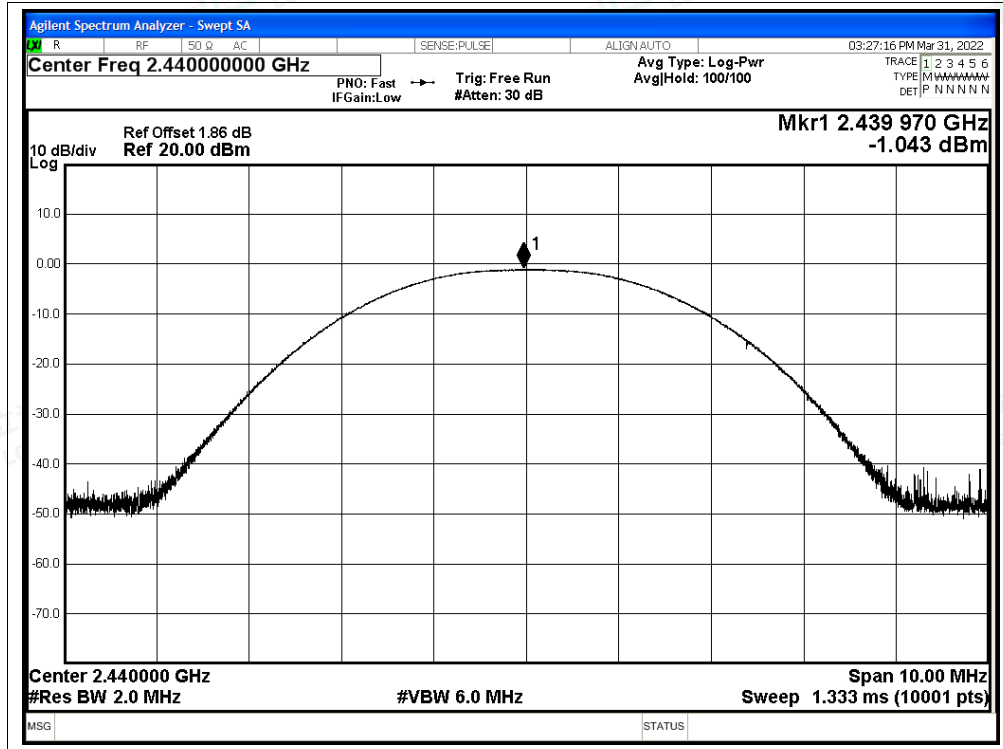
Scan code to check authenticity



B.2 Maximum Conducted Output Power

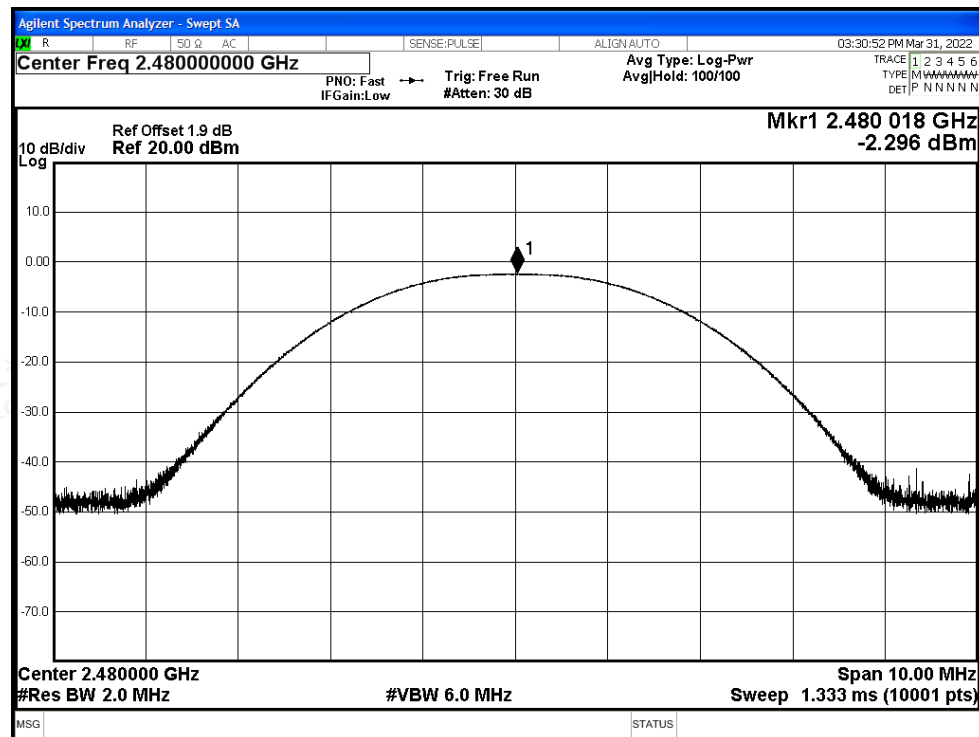
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-0.28	0	-0.28	30	Pass
NVNT	BLE 1M	2440	Ant1	-1.04	0	-1.04	30	Pass
NVNT	BLE 1M	2480	Ant1	-2.3	0	-2.3	30	Pass
NVNT	BLE 2M	2402	Ant1	-0.57	0	-0.57	30	Pass
NVNT	BLE 2M	2440	Ant1	-1.13	0	-1.13	30	Pass
NVNT	BLE 2M	2480	Ant1	-2.44	0	-2.44	30	Pass



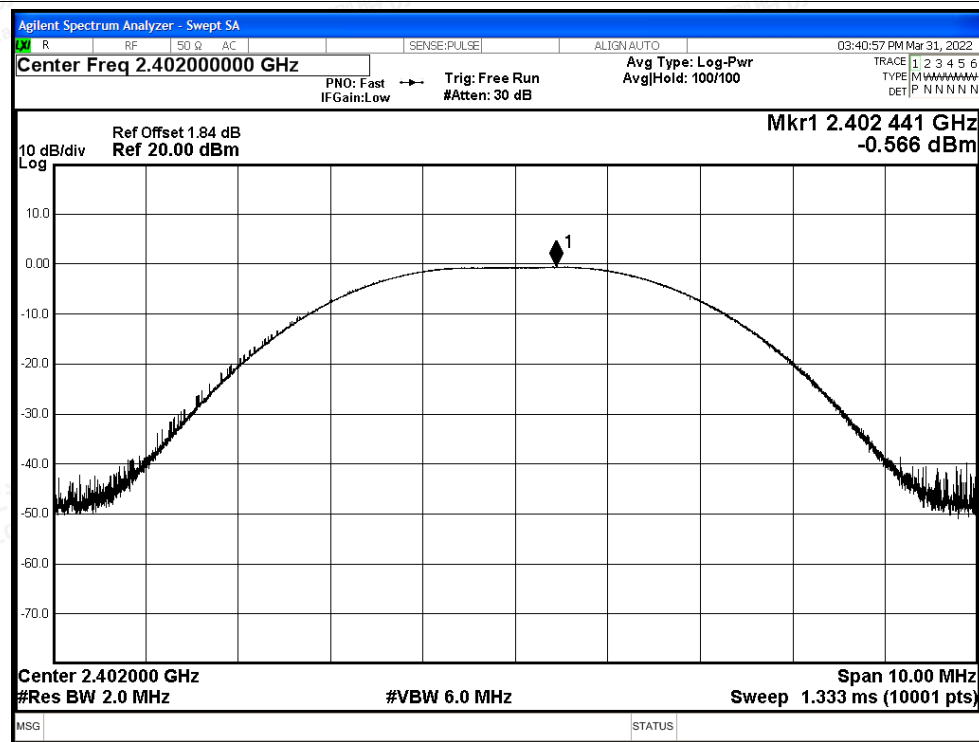




Power NVNT BLE 1M 2480MHz Ant1



Power NVNT BLE 2M 2402MHz Ant1



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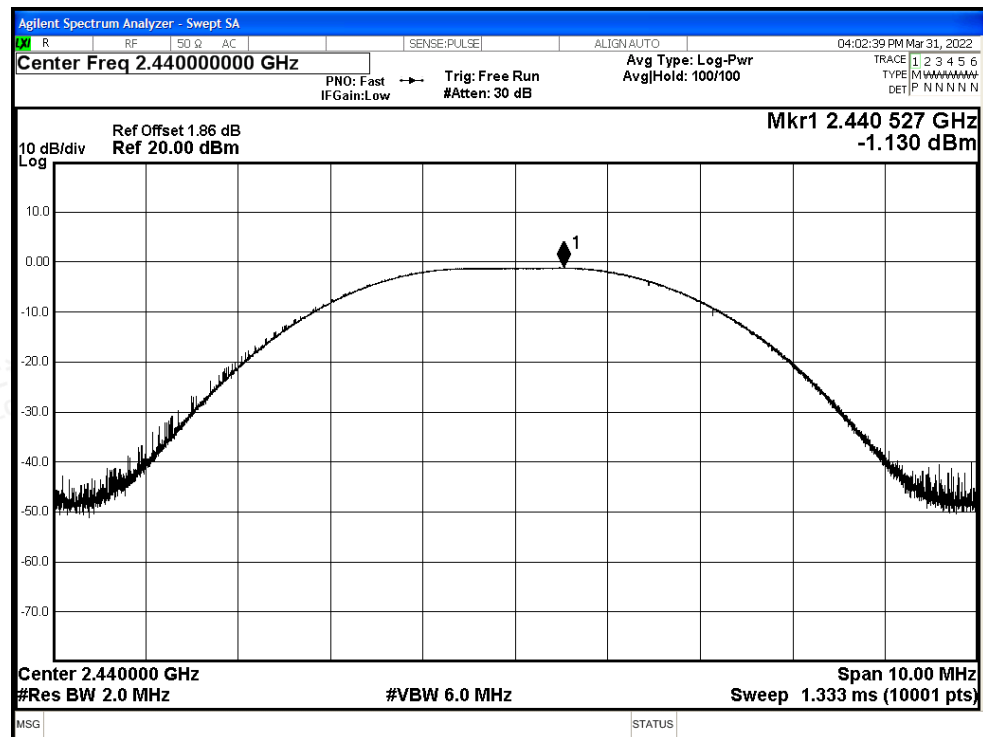
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

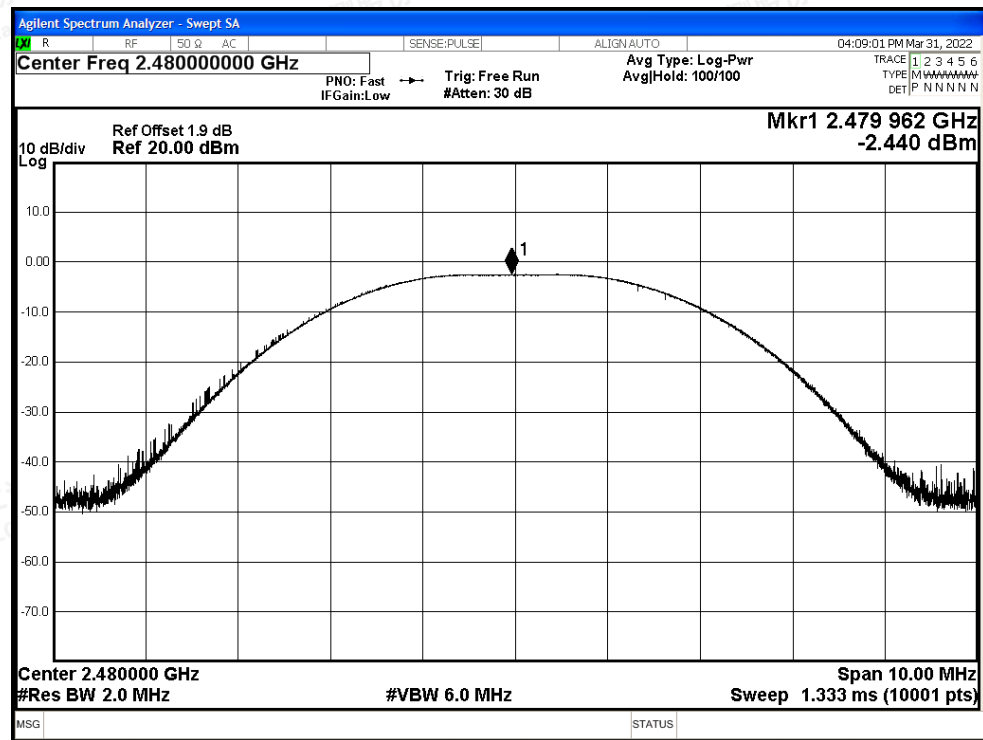
Scan code to check authenticity



Power NVNT BLE 2M 2440MHz Ant1



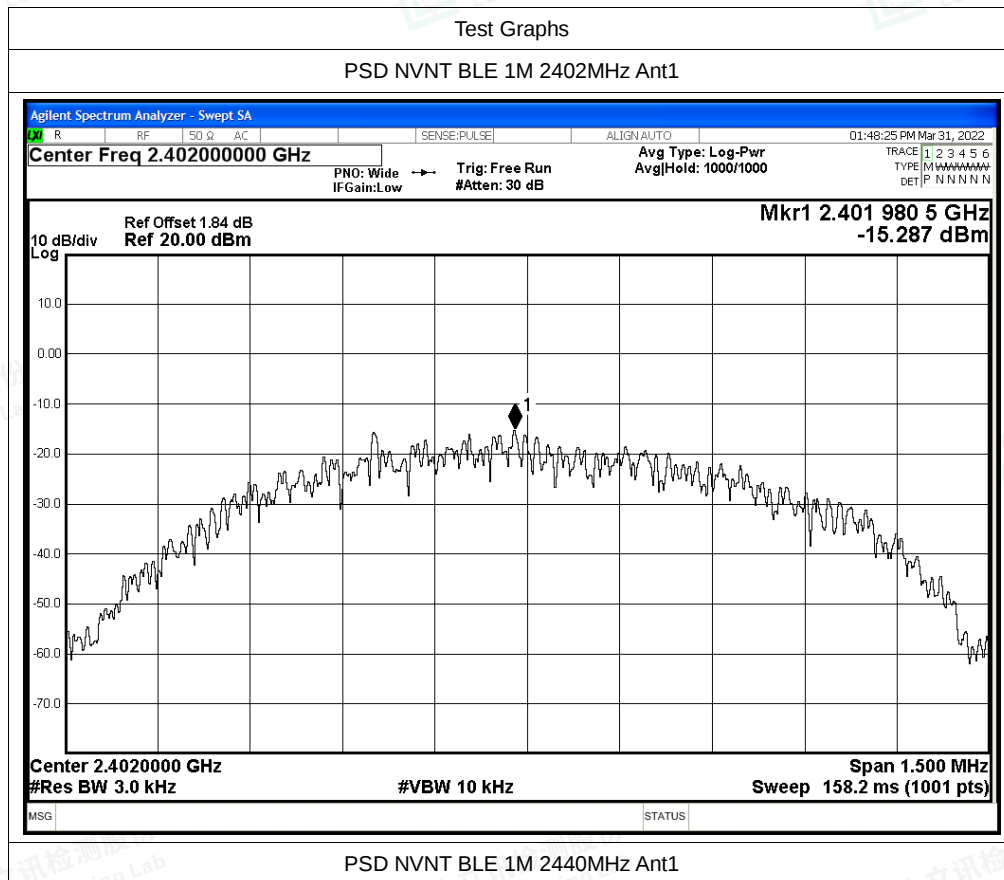
Power NVNT BLE 2M 2480MHz Ant1





B.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Duty Factor (dB)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant1	-15.29	0	-15.29	8	Pass
NVNT	BLE 1M	2440	Ant1	-16.15	0	-16.15	8	Pass
NVNT	BLE 1M	2480	Ant1	-17.57	0	-17.57	8	Pass
NVNT	BLE 2M	2402	Ant1	-18.2	0	-18.2	8	Pass
NVNT	BLE 2M	2440	Ant1	-18.67	0	-18.67	8	Pass
NVNT	BLE 2M	2480	Ant1	-19.98	0	-19.98	8	Pass

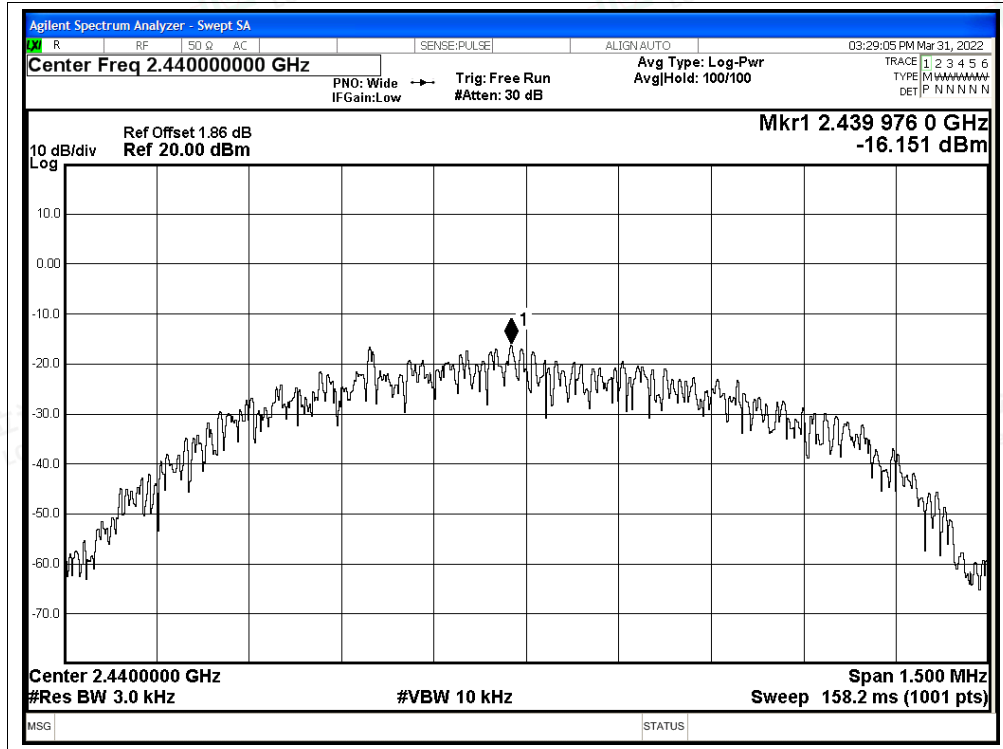


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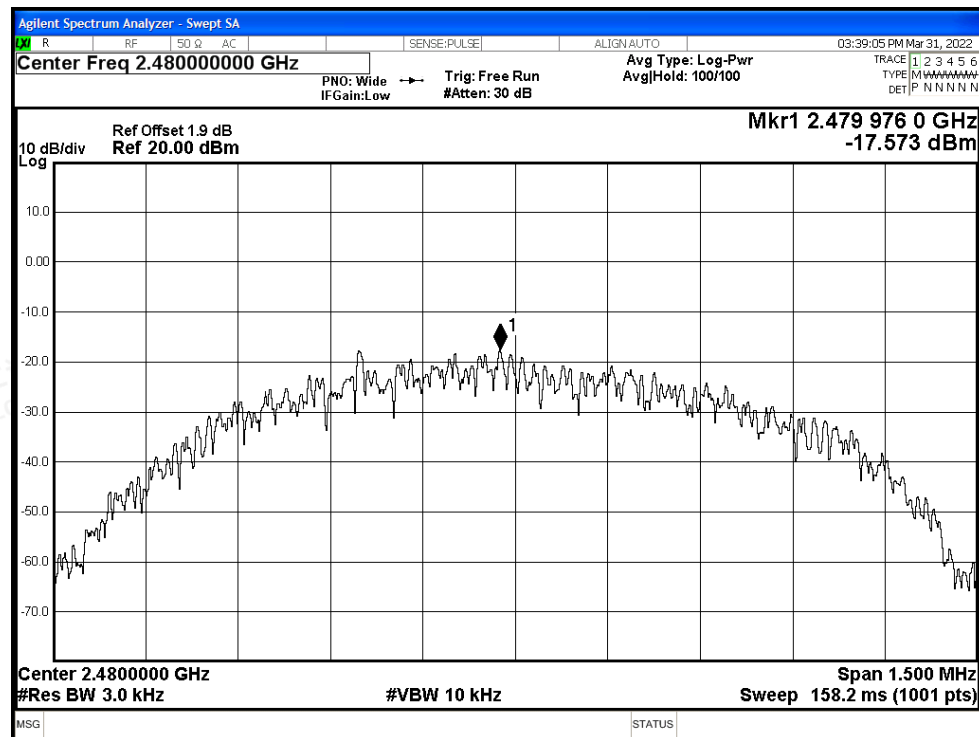
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

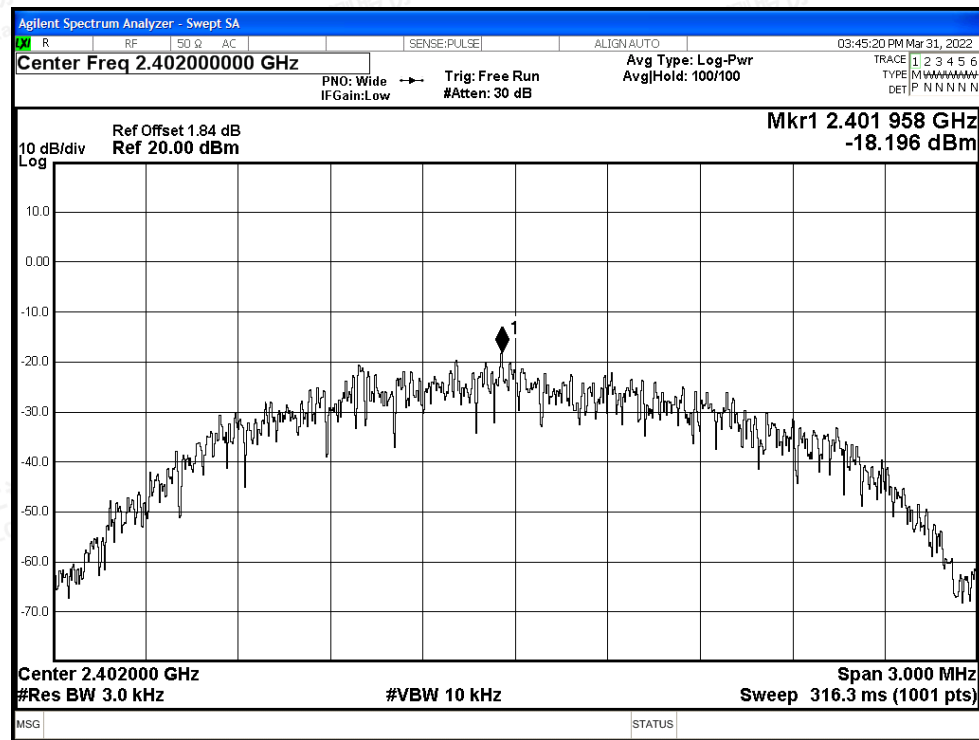
Scan code to check authenticity



PSD NVNT BLE 1M 2480MHz Ant1



PSD NVNT BLE 2M 2402MHz Ant1



Shenzhen LCS Compliance Testing Laboratory Ltd.

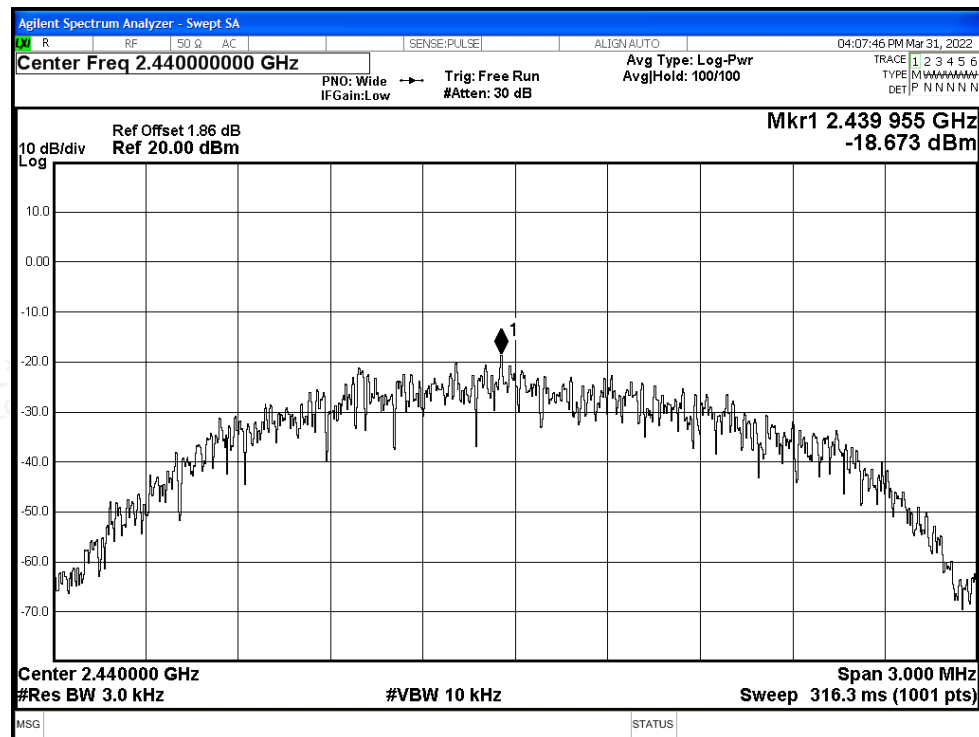
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

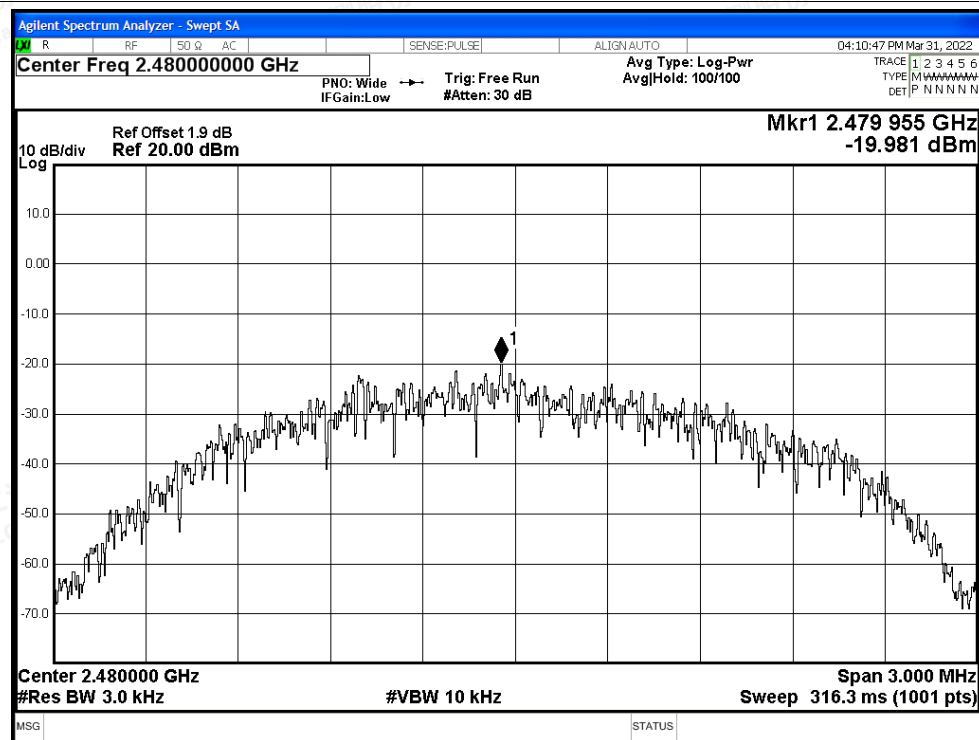
Scan code to check authenticity



PSD NVNT BLE 2M 2440MHz Ant1



PSD NVNT BLE 2M 2480MHz Ant1



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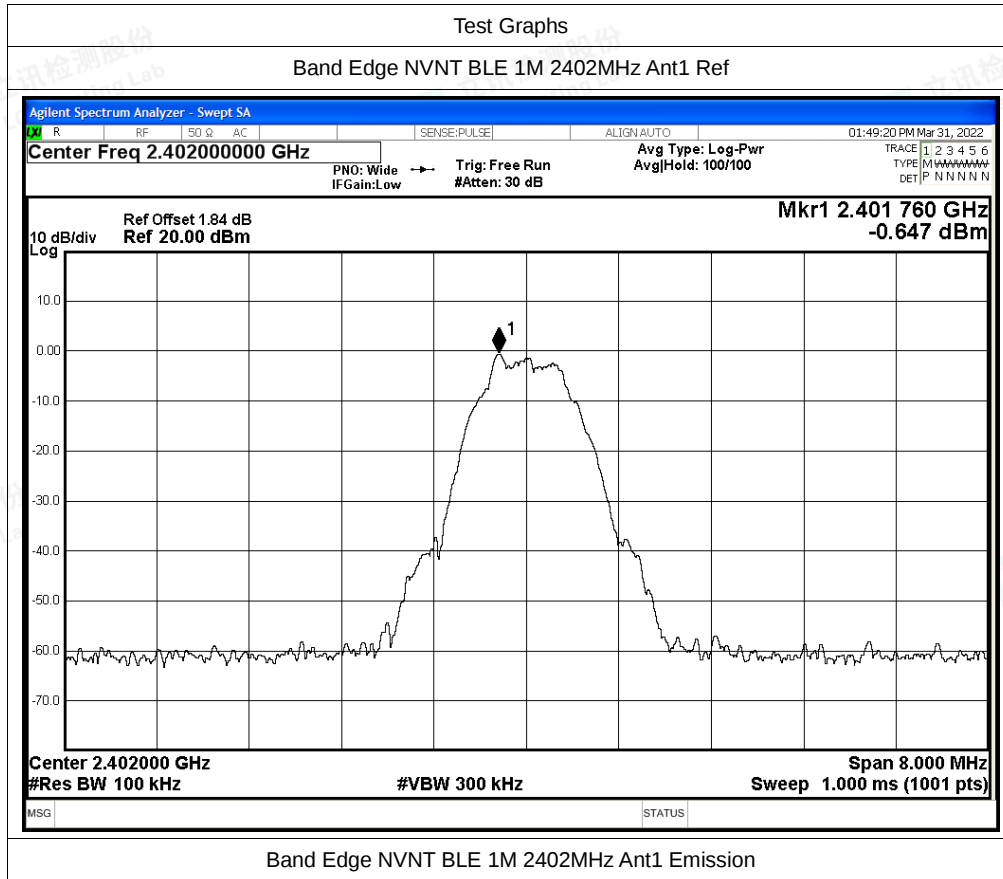
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

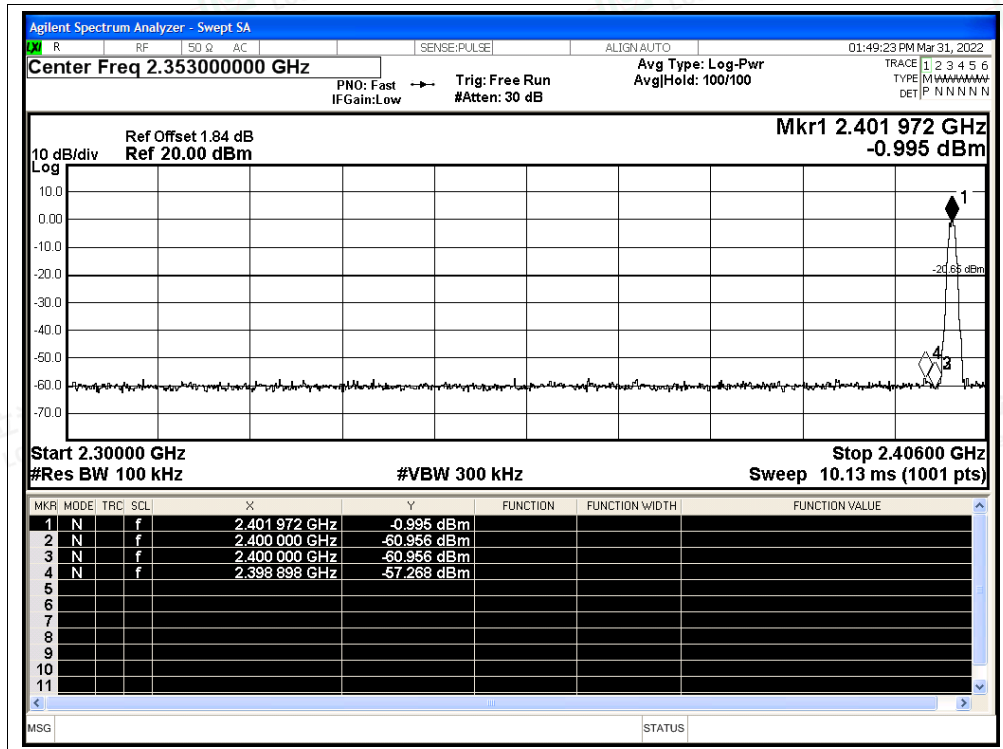
Scan code to check authenticity



B.4 Band Edge

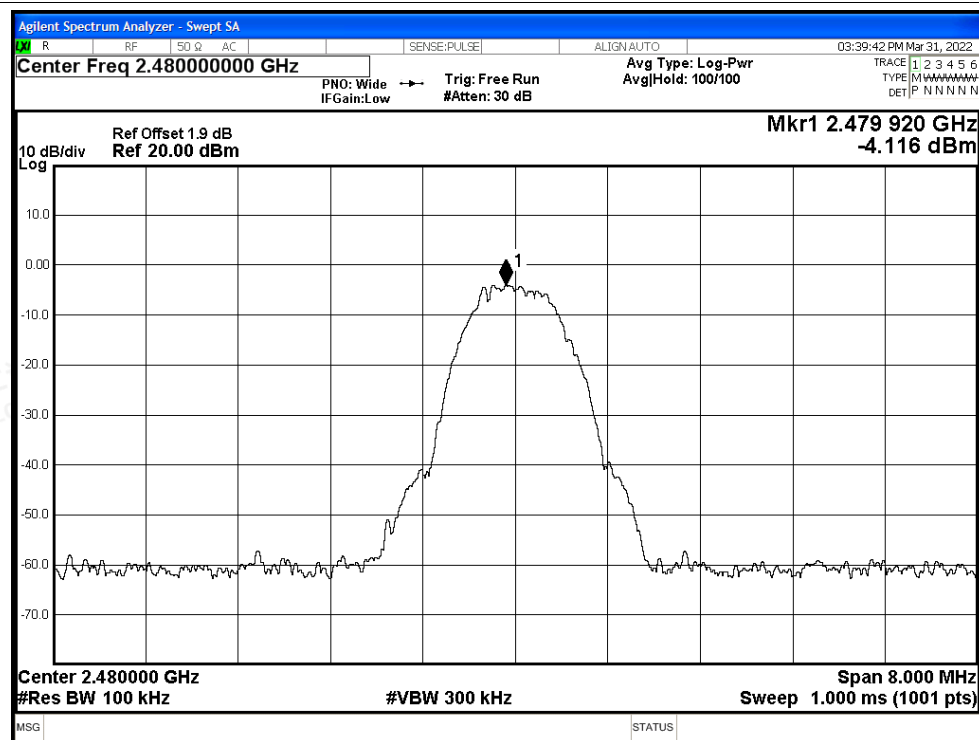
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-56.61	-20	Pass
NVNT	BLE 1M	2480	Ant1	-53.22	-20	Pass
NVNT	BLE 2M	2402	Ant1	-44	-20	Pass
NVNT	BLE 2M	2480	Ant1	-55.07	-20	Pass



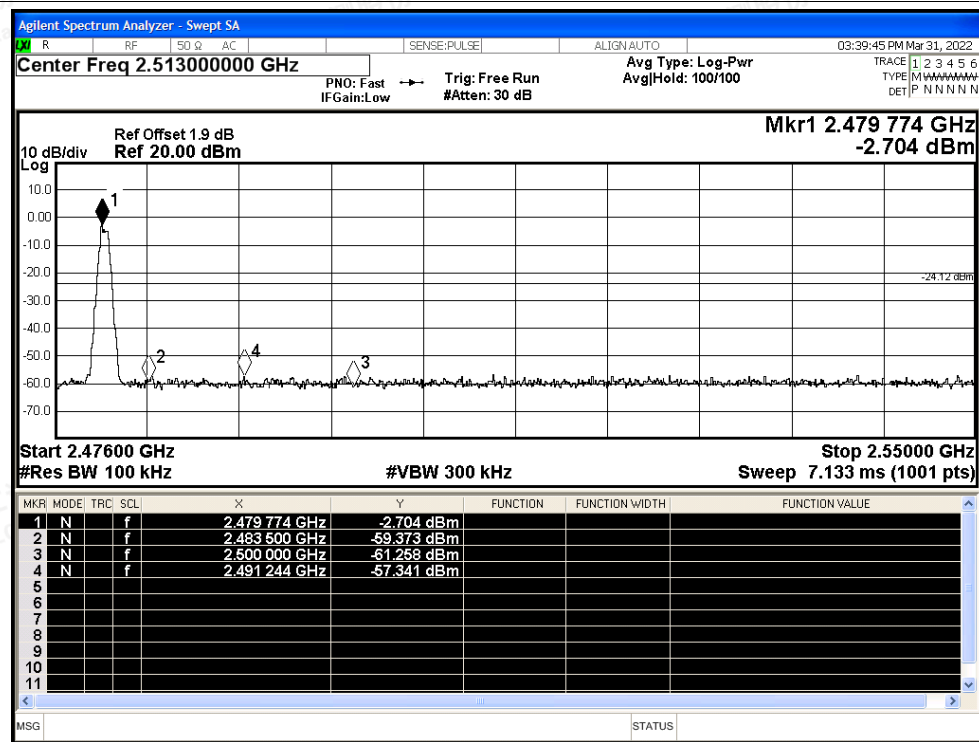




Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



Band Edge NVNT BLE 1M 2480MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

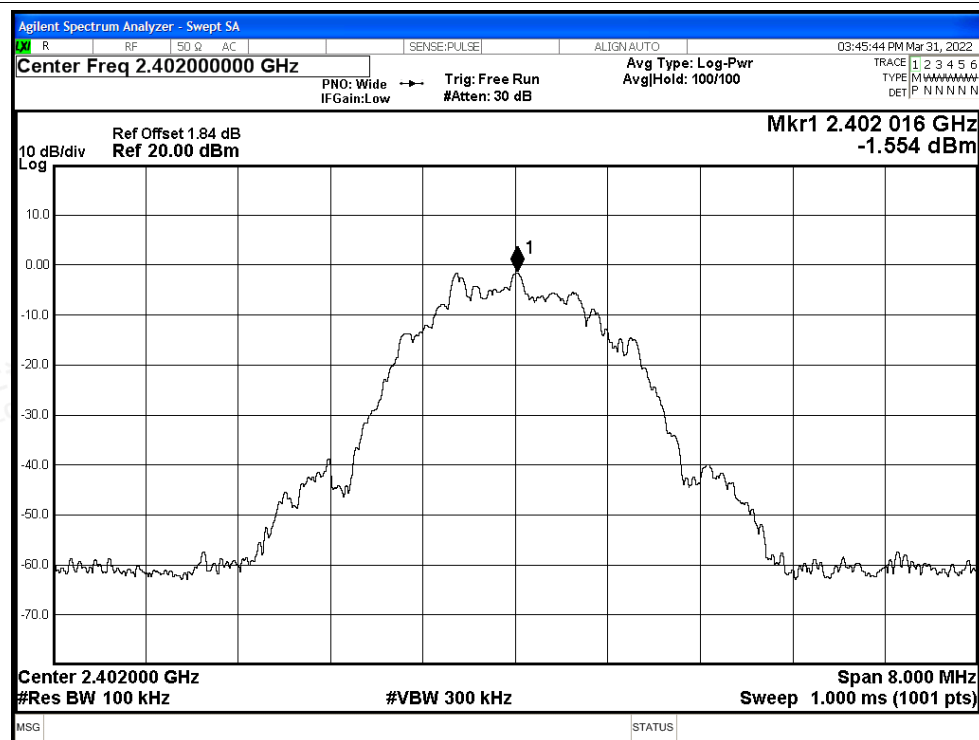
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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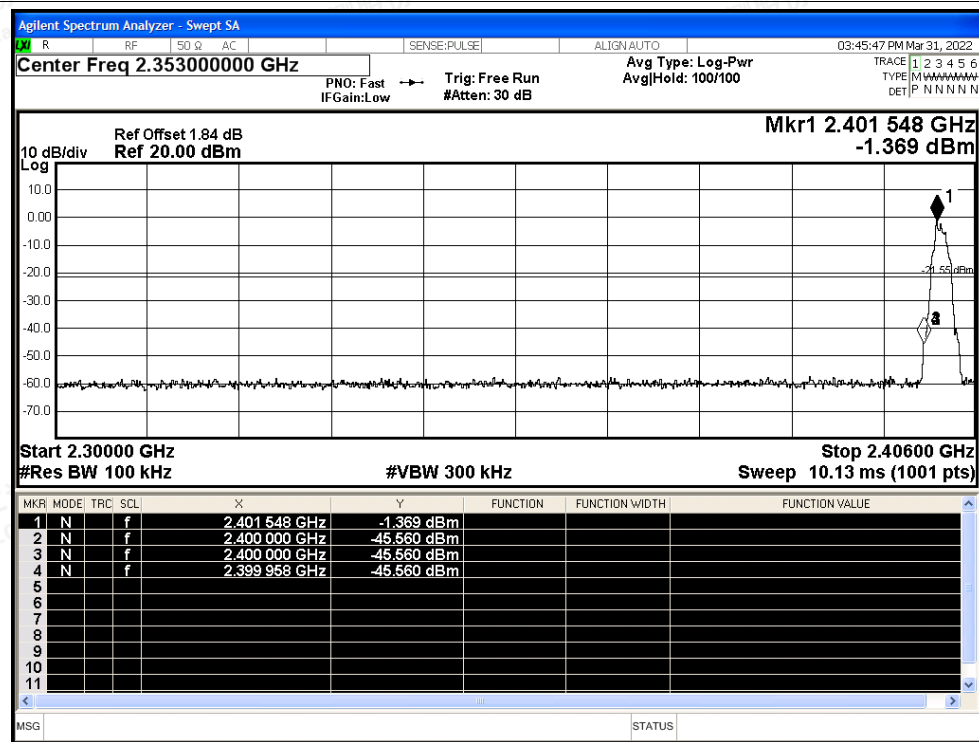
Scan code to check authenticity



Band Edge NVNT BLE 2M 2402MHz Ant1 Ref



Band Edge NVNT BLE 2M 2402MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

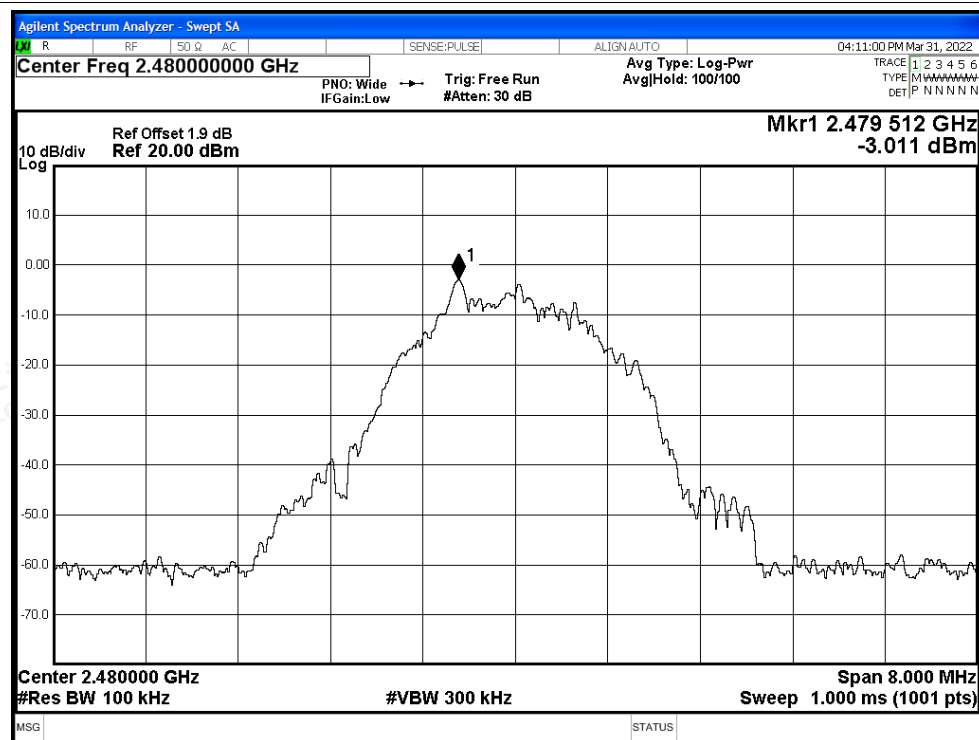
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

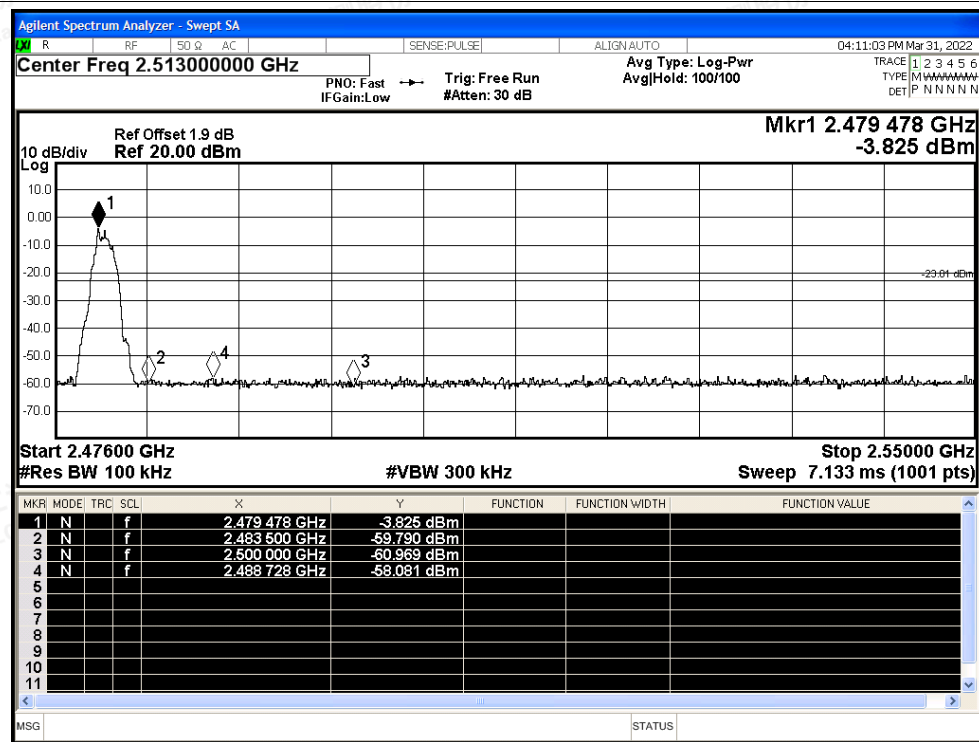
Scan code to check authenticity



Band Edge NVNT BLE 2M 2480MHz Ant1 Ref



Band Edge NVNT BLE 2M 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

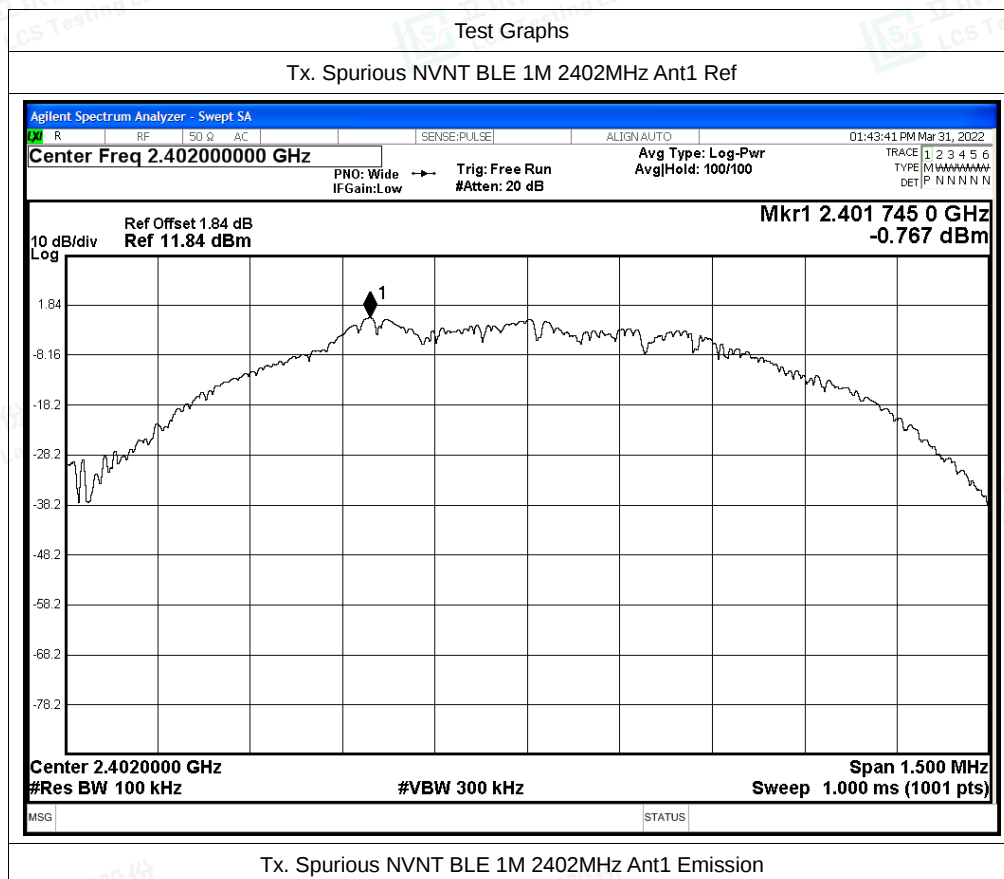
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

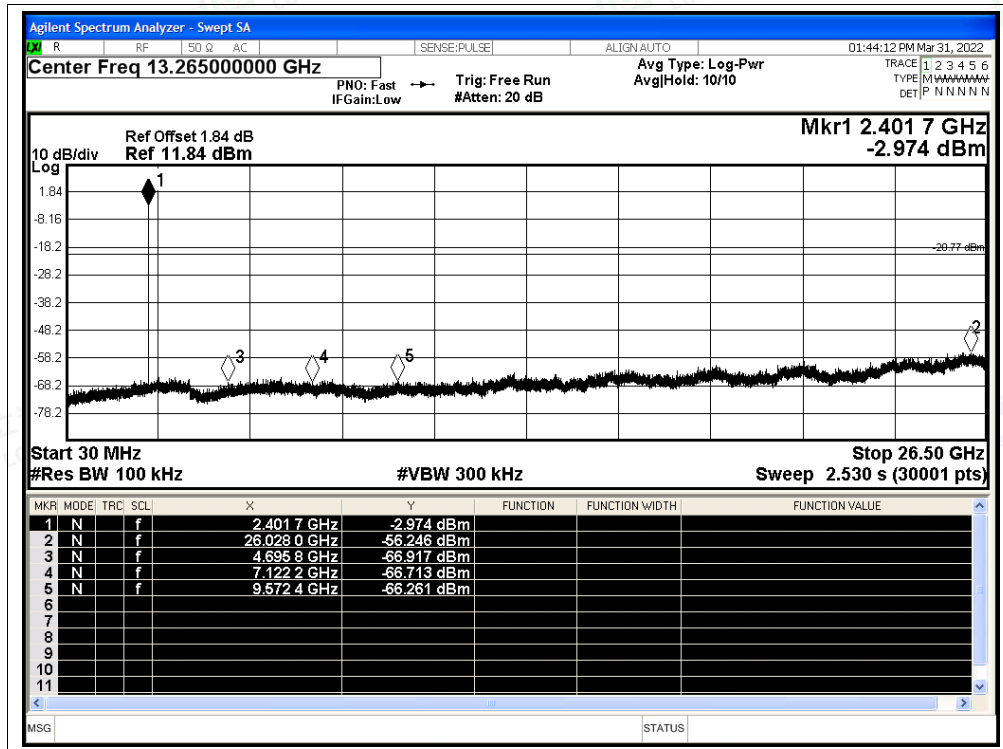
Scan code to check authenticity



B.5 Conducted RF Spurious Emission

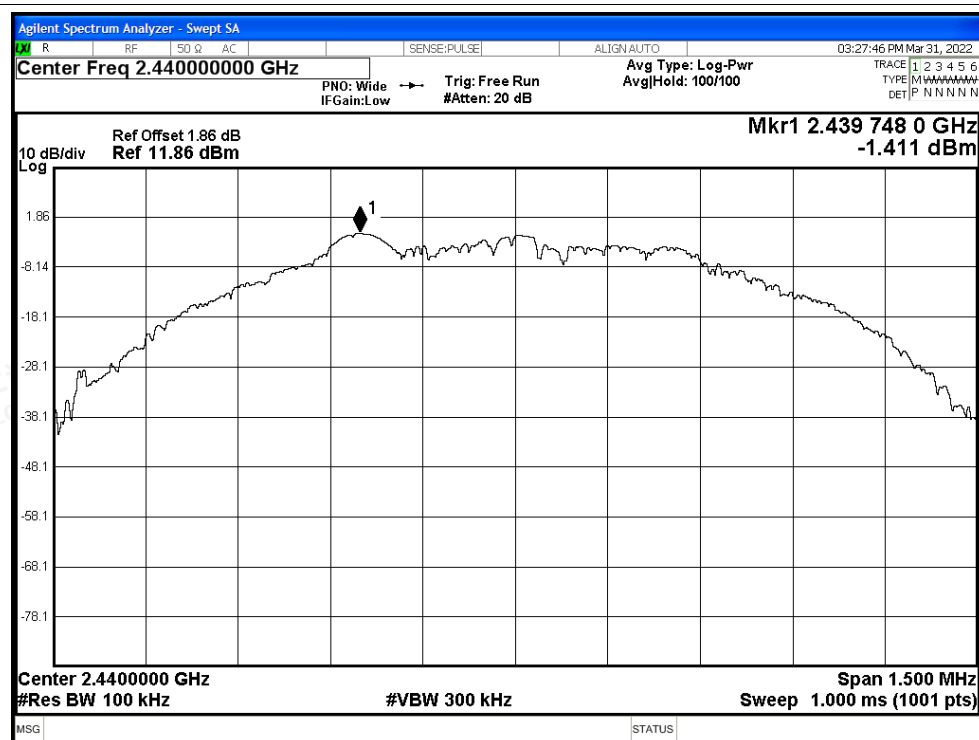
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-55.47	-20	Pass
NVNT	BLE 1M	2440	Ant1	-54.22	-20	Pass
NVNT	BLE 1M	2480	Ant1	-52.25	-20	Pass
NVNT	BLE 2M	2402	Ant1	-53.44	-20	Pass
NVNT	BLE 2M	2440	Ant1	-53.11	-20	Pass
NVNT	BLE 2M	2480	Ant1	-51.99	-20	Pass



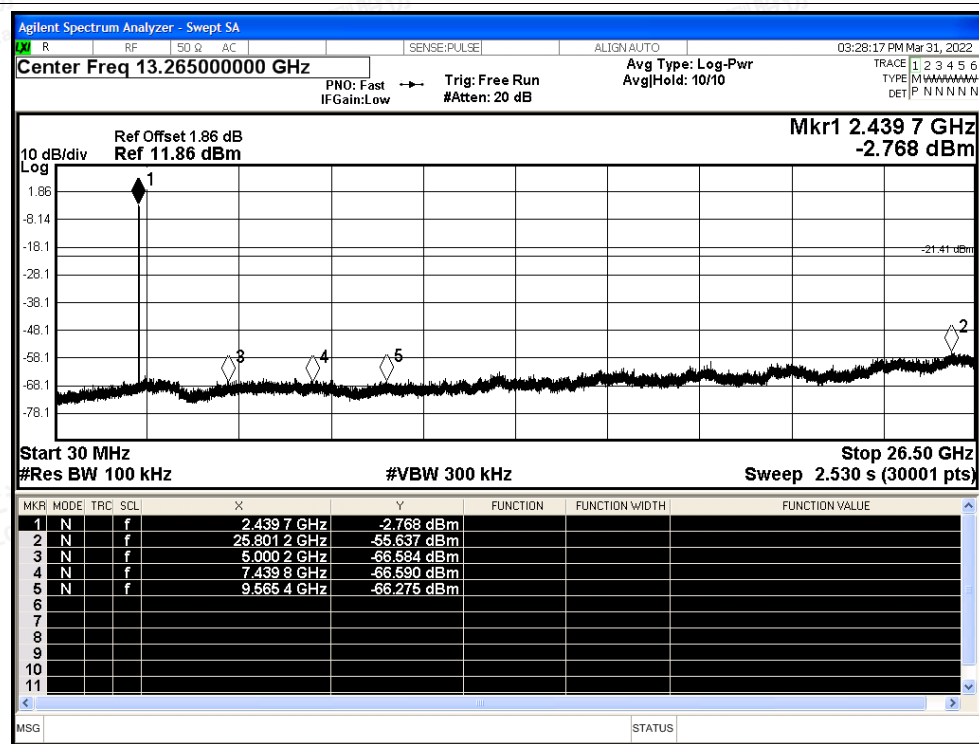




Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

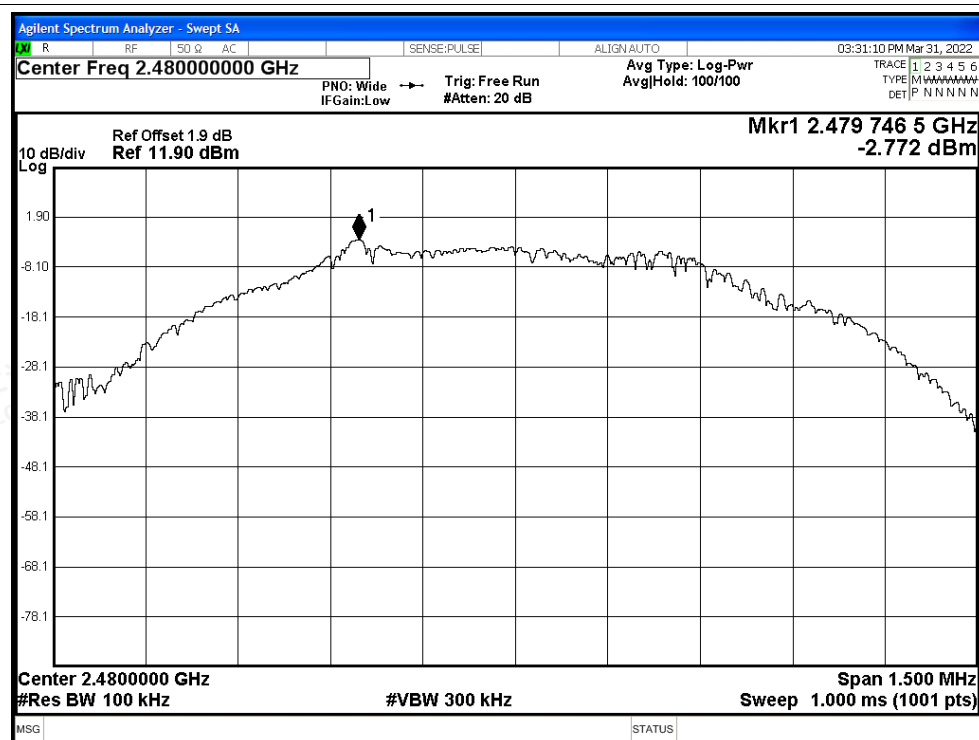
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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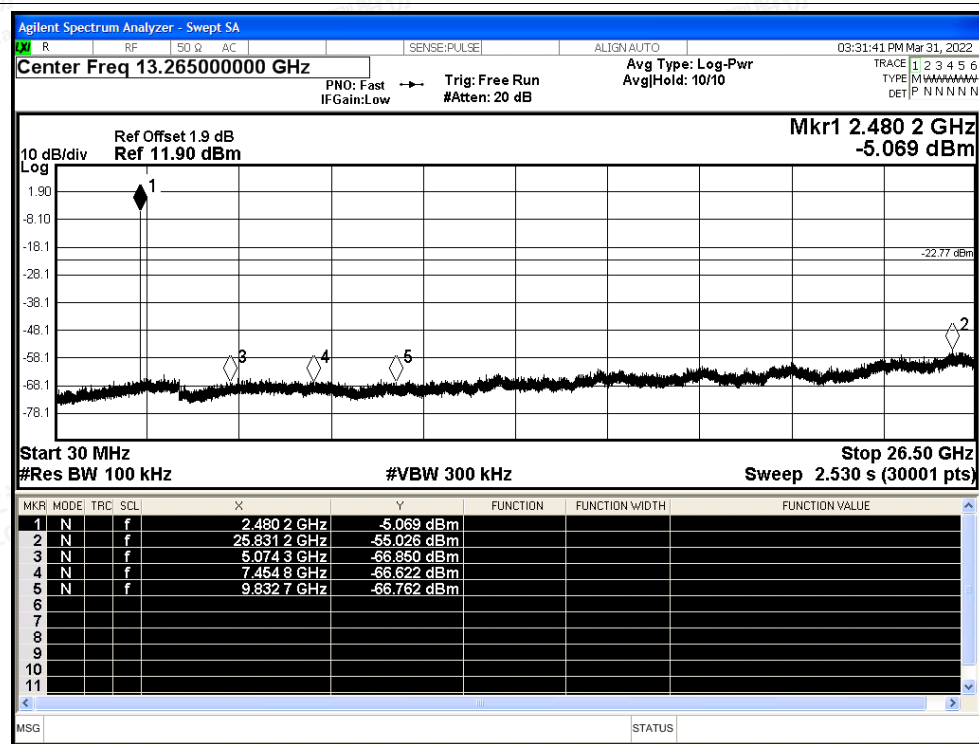
Scan code to check authenticity



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

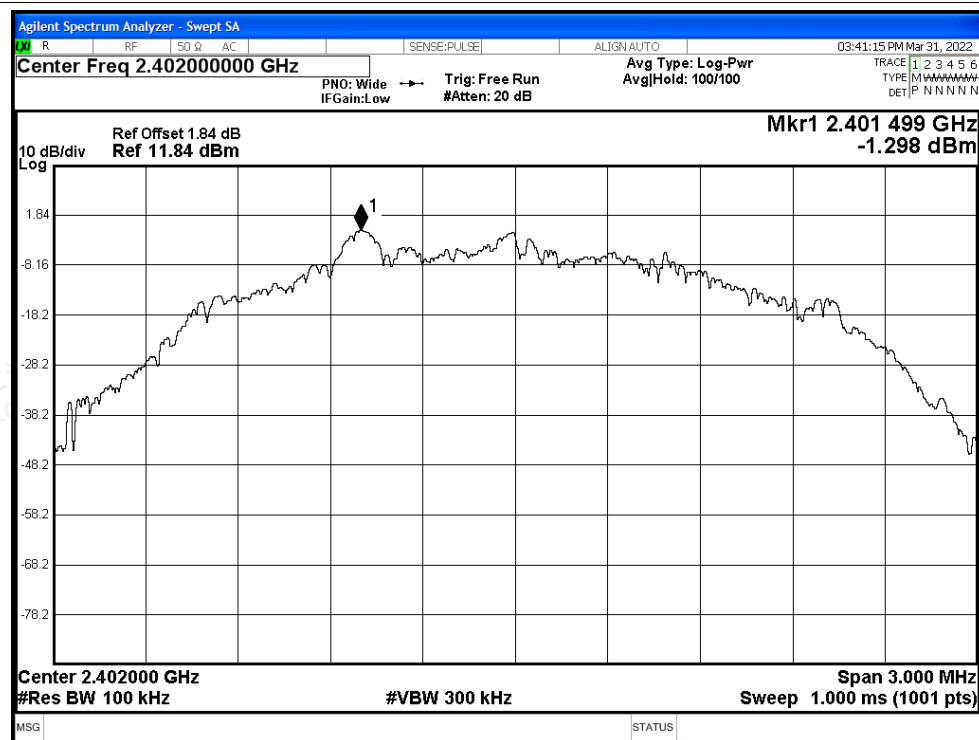
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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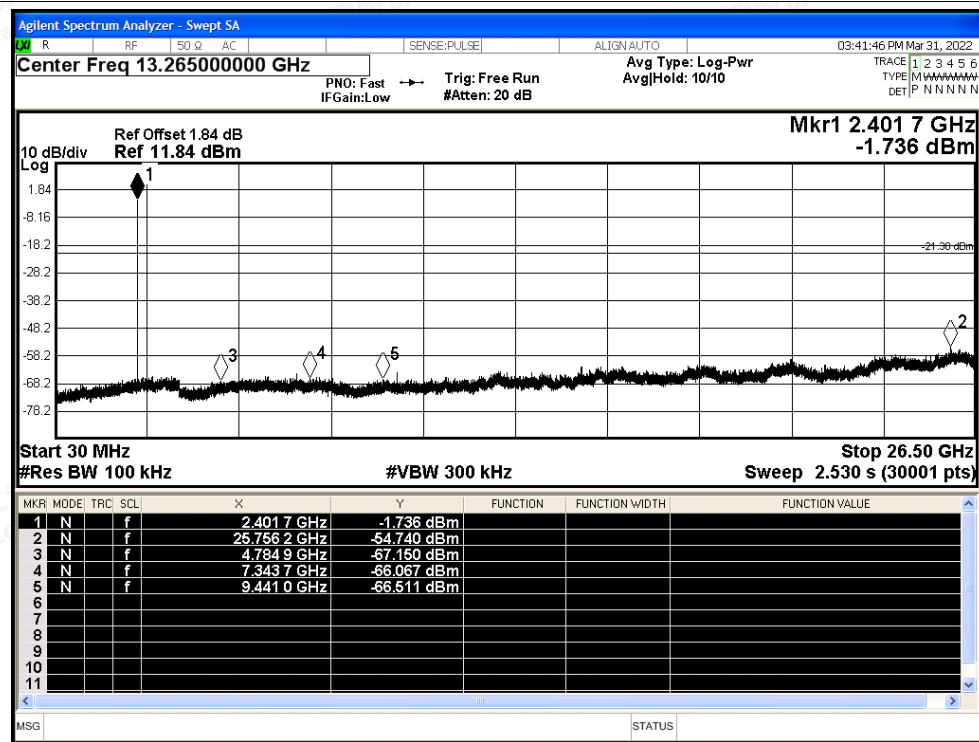
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission



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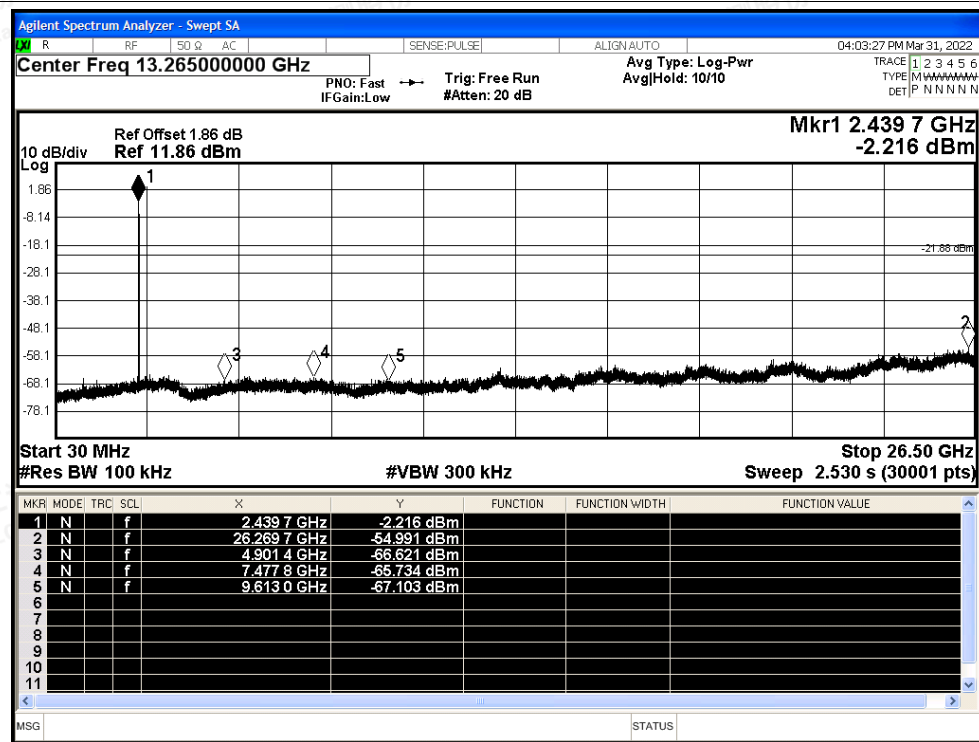
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2440MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

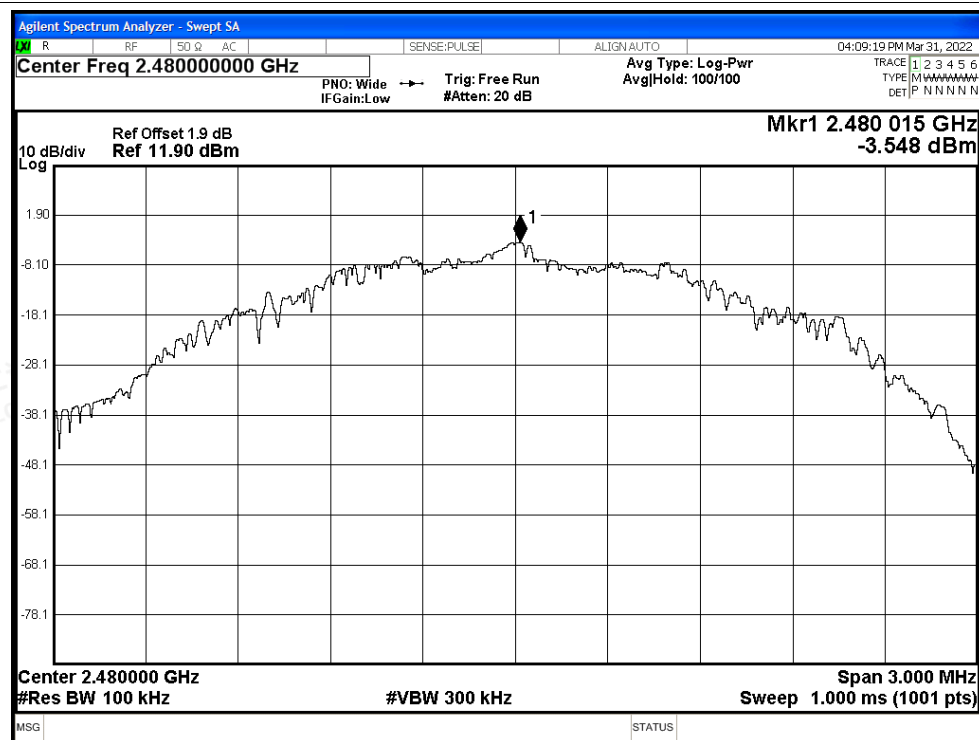
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

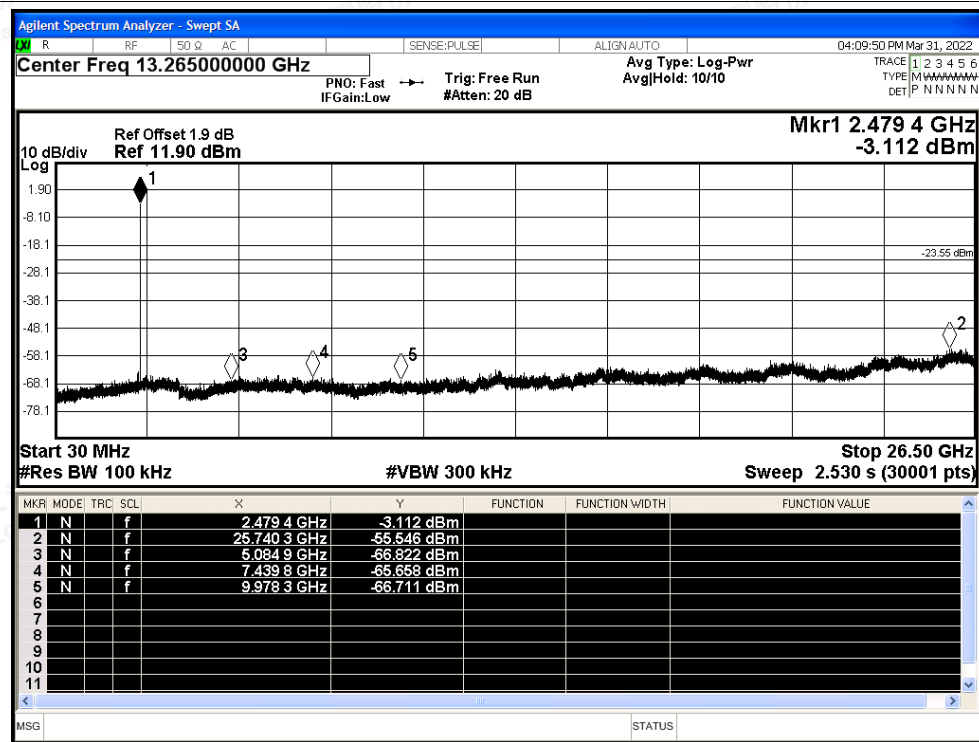
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Emission



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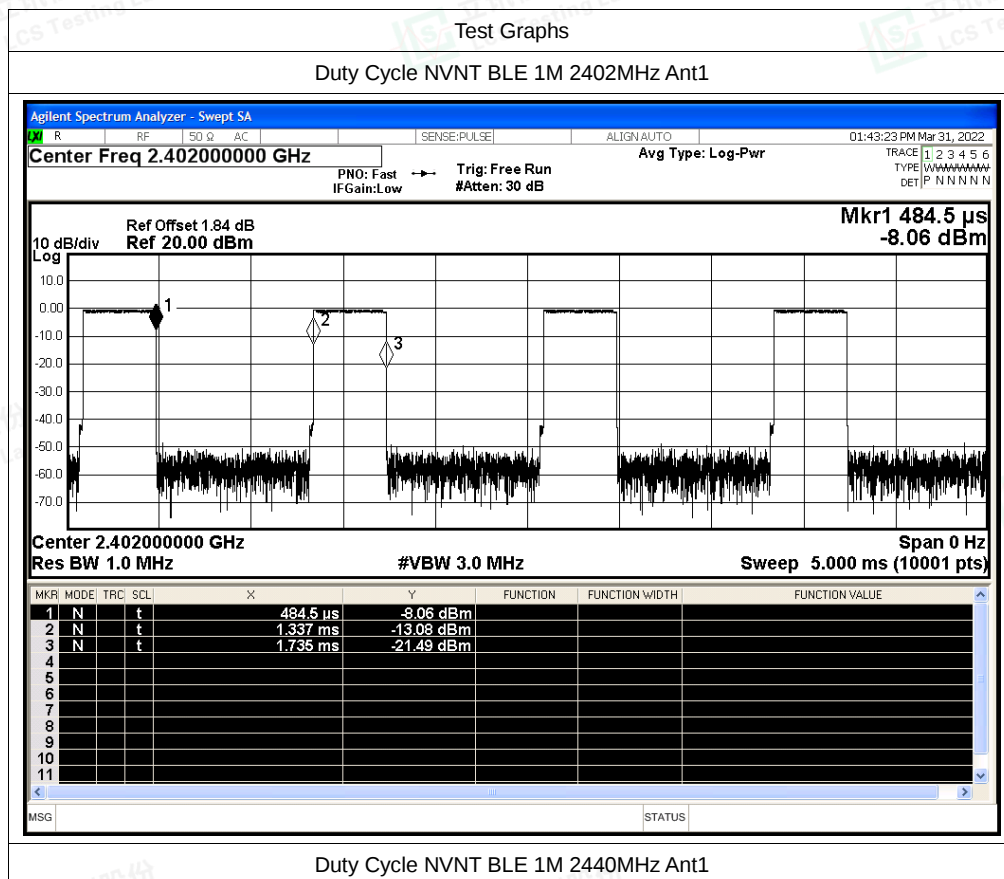
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

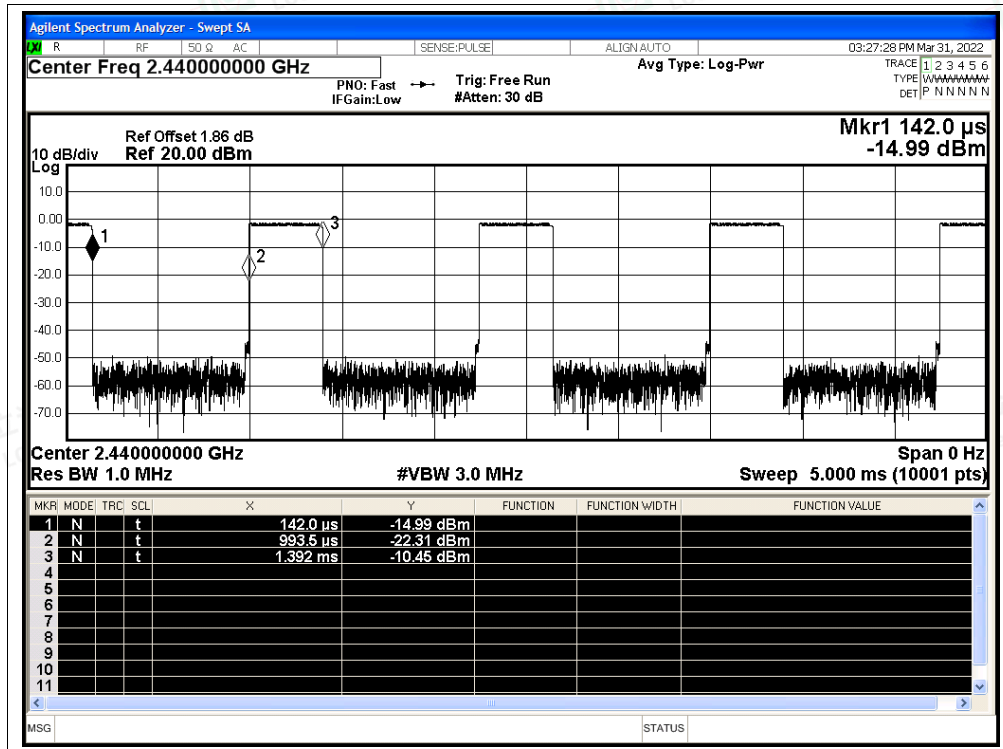
Scan code to check authenticity



B.6 Duty Cycle

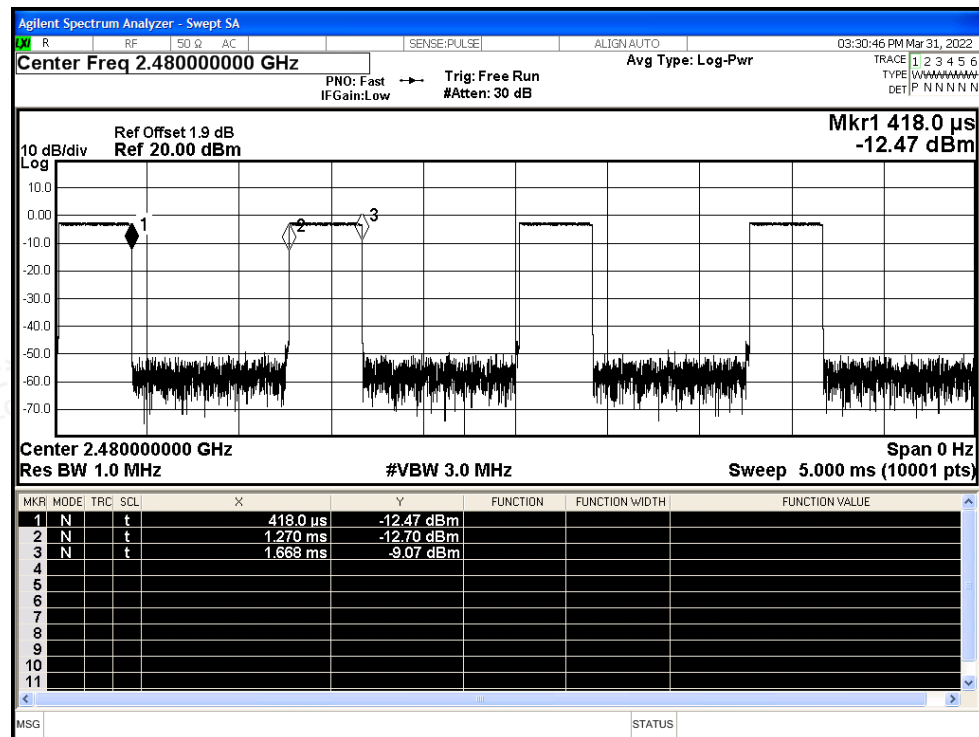
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant1	31.87	4.97	2.51
NVNT	BLE 1M	2440	Ant1	31.88	4.96	2.51
NVNT	BLE 1M	2480	Ant1	31.84	4.97	2.51
NVNT	BLE 2M	2402	Ant1	32.72	4.85	4.89
NVNT	BLE 2M	2440	Ant1	32.72	4.85	4.89
NVNT	BLE 2M	2480	Ant1	32.72	4.85	4.89



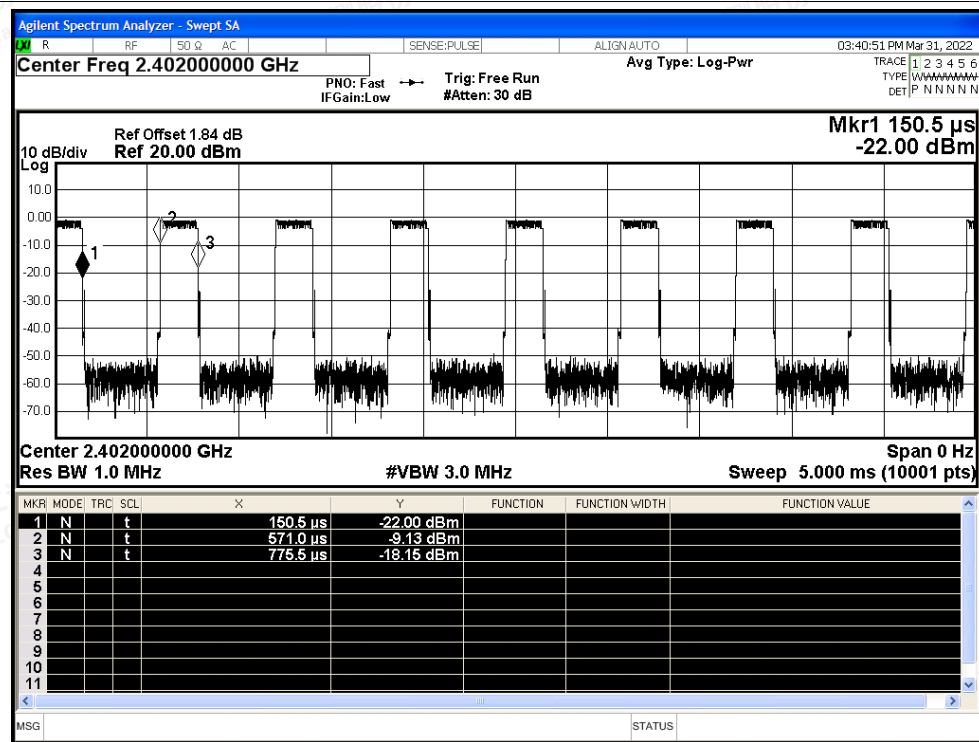




Duty Cycle NVNT BLE 1M 2480MHz Ant1



Duty Cycle NVNT BLE 2M 2402MHz Ant1



Shenzhen LCS Compliance Testing Laboratory Ltd.

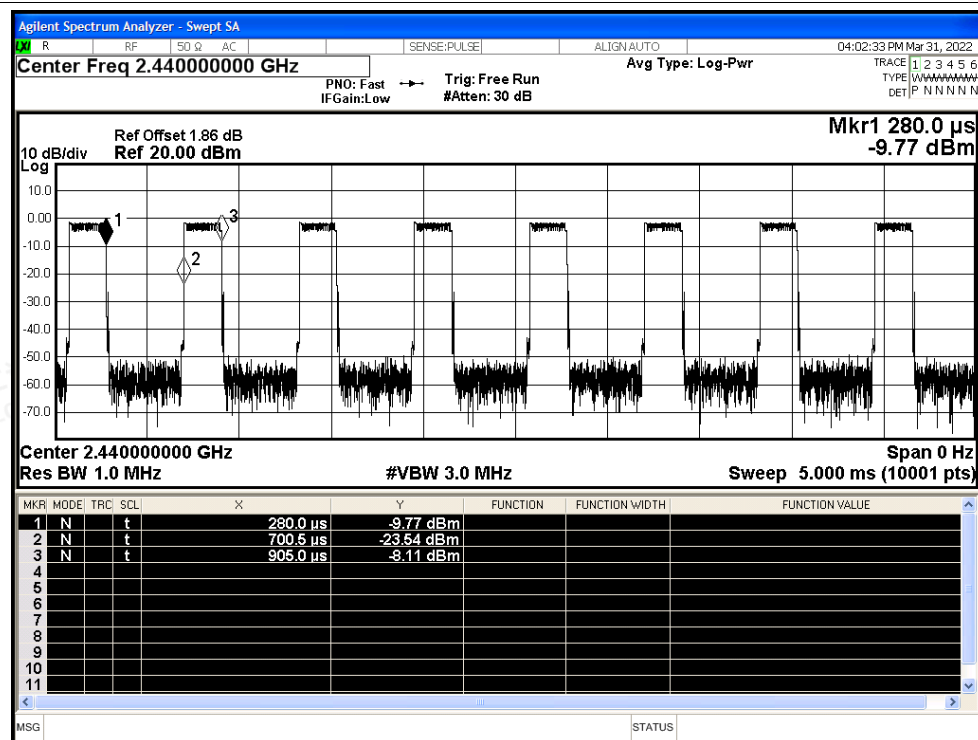
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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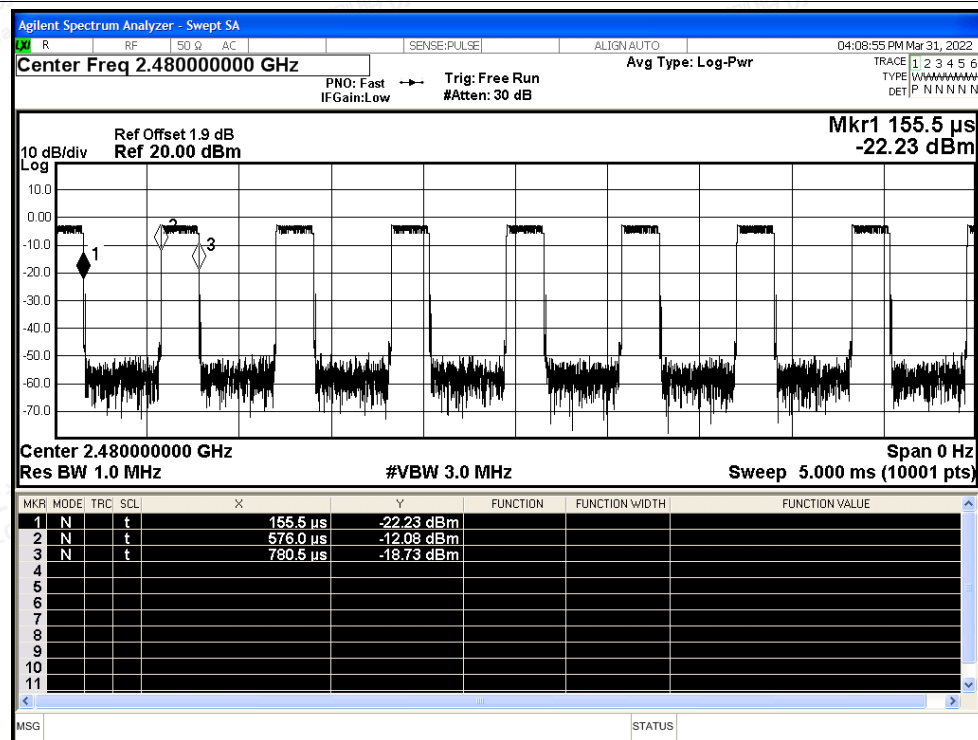
Scan code to check authenticity



Duty Cycle NVNT BLE 2M 2440MHz Ant1



Duty Cycle NVNT BLE 2M 2480MHz Ant1



Shenzhen LCS Compliance Testing Laboratory Ltd.

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B.7 Restrict Band

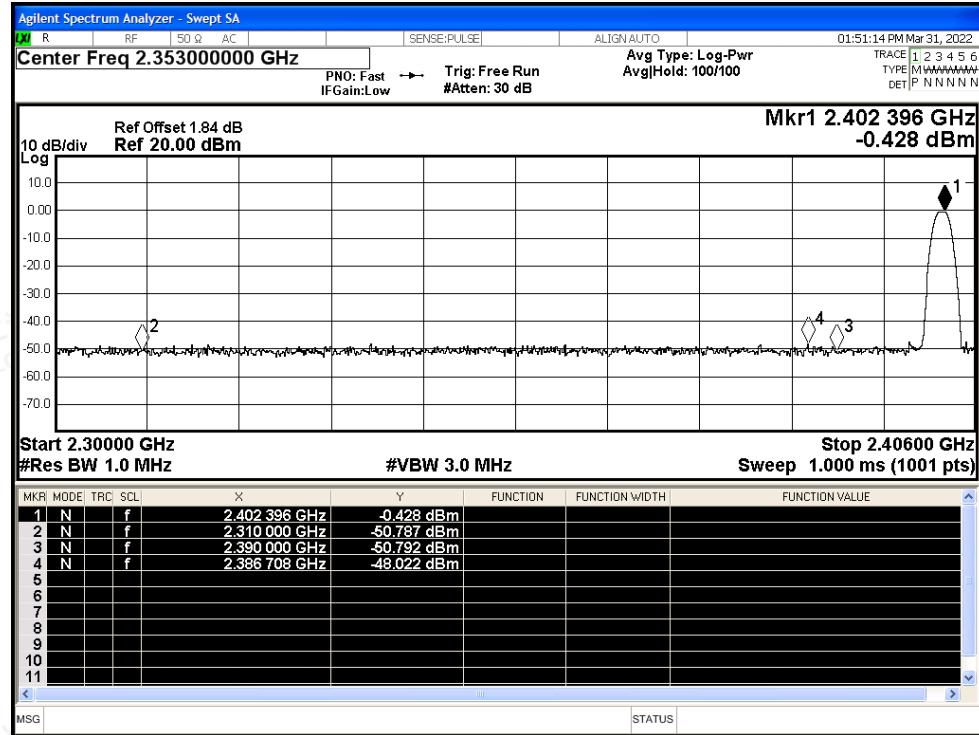
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1M	2402	Ant1	2310	-50.44	2	46.82	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2310	-59.9	2	37.36	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2386.708	-48.02	2	49.24	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2362.54	-59.03	2	38.23	Average	54	Pass
NVNT	BLE 1M	2402	Ant1	2390	-51.66	2	45.6	Peak	74	Pass
NVNT	BLE 1M	2402	Ant1	2390	-59.47	2	37.79	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-49.3	2	47.96	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2483.5	-58.82	2	38.44	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2487.766	-47.28	2	49.98	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2492.798	-58.71	2	38.55	Average	54	Pass
NVNT	BLE 1M	2480	Ant1	2500	-50.78	2	46.48	Peak	74	Pass
NVNT	BLE 1M	2480	Ant1	2500	-59.05	2	38.21	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2310	-49.27	2	47.99	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2310	-59.36	2	37.9	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2381.514	-48.05	2	49.21	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2388.192	-58.12	2	39.14	Average	54	Pass
NVNT	BLE 2M	2402	Ant1	2390	-49.85	2	47.41	Peak	74	Pass
NVNT	BLE 2M	2402	Ant1	2390	-59.23	2	38.03	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-48.88	2	48.38	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2483.5	-58.33	2	38.93	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2491.244	-47.45	2	49.81	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2495.462	-58.02	2	39.24	Average	54	Pass
NVNT	BLE 2M	2480	Ant1	2500	-50.31	2	46.95	Peak	74	Pass
NVNT	BLE 2M	2480	Ant1	2500	-58.51	2	38.75	Average	54	Pass



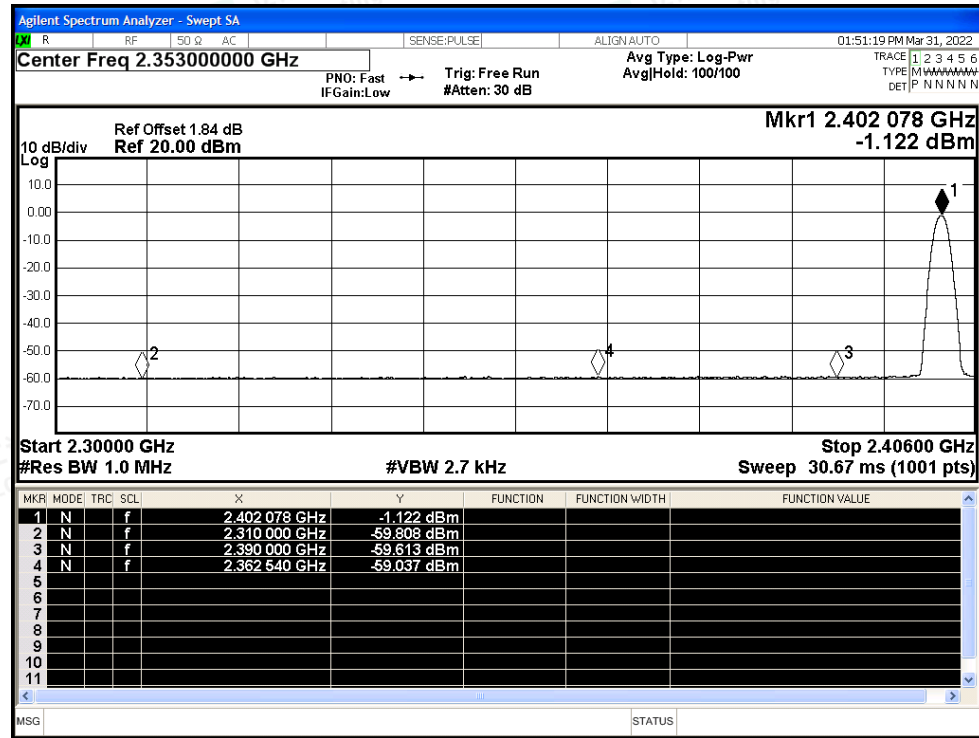


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant1 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

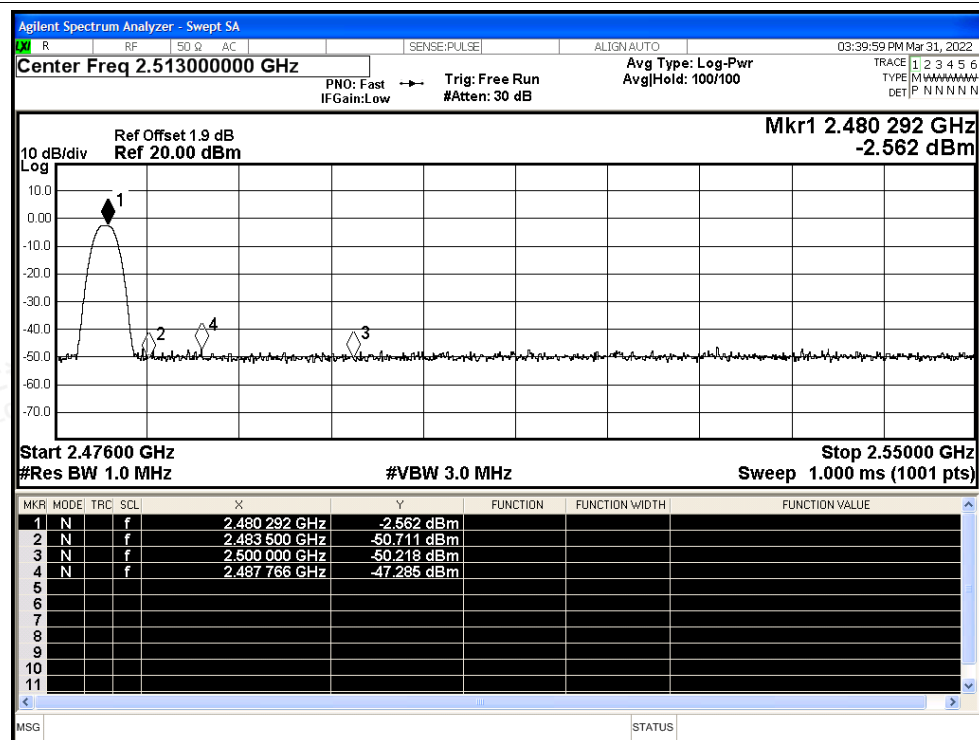
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

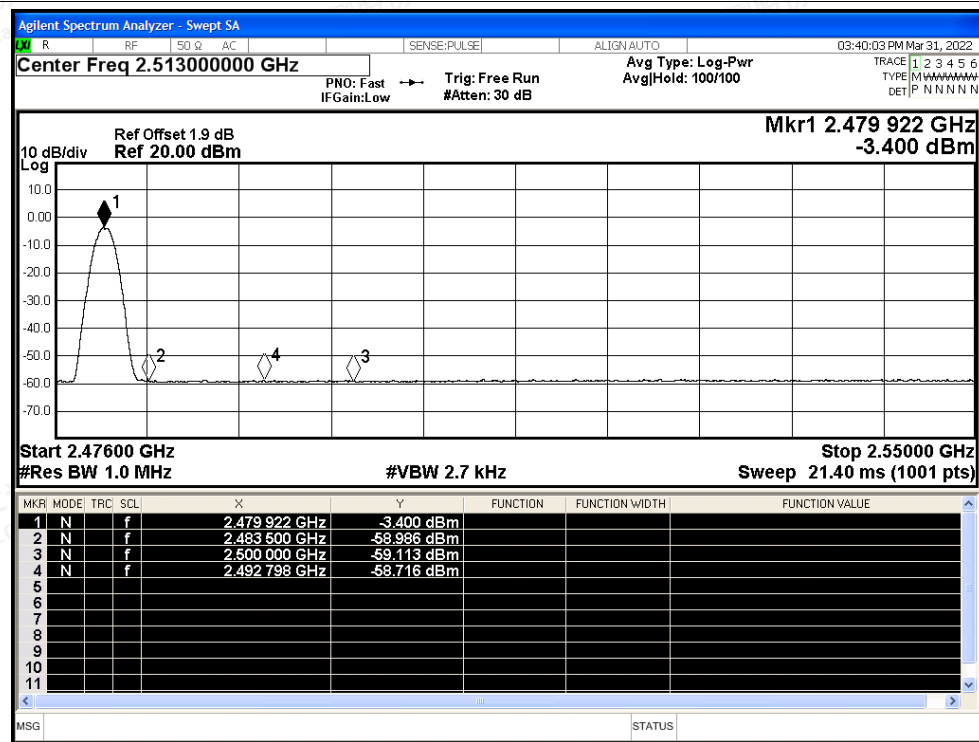
Scan code to check authenticity



Restrict Band NVNT BLE 1M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant1 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

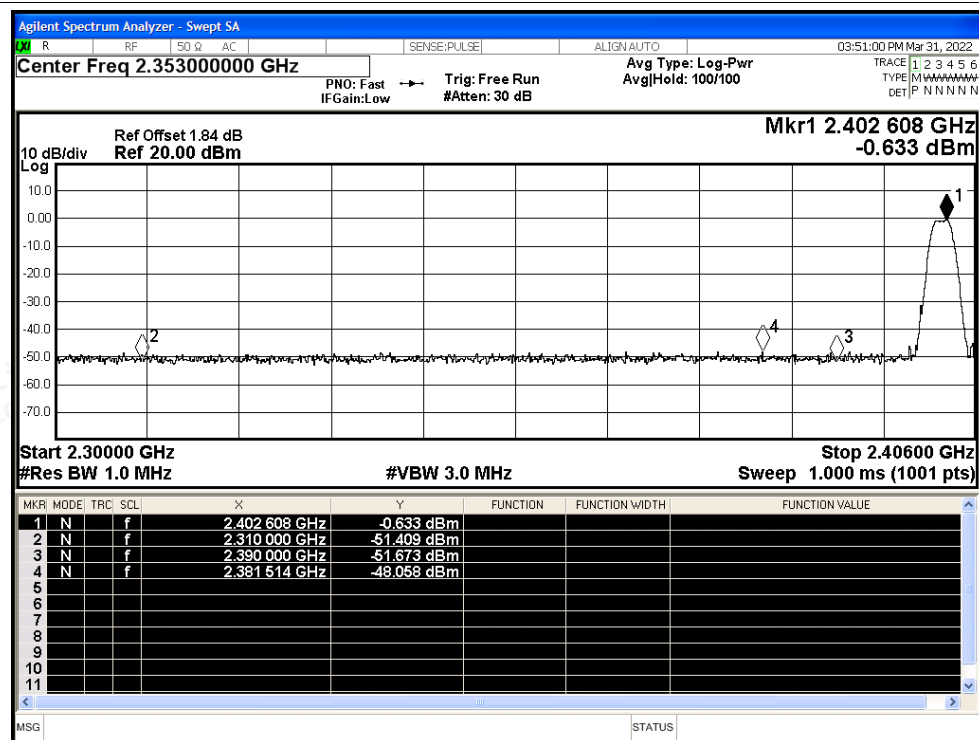
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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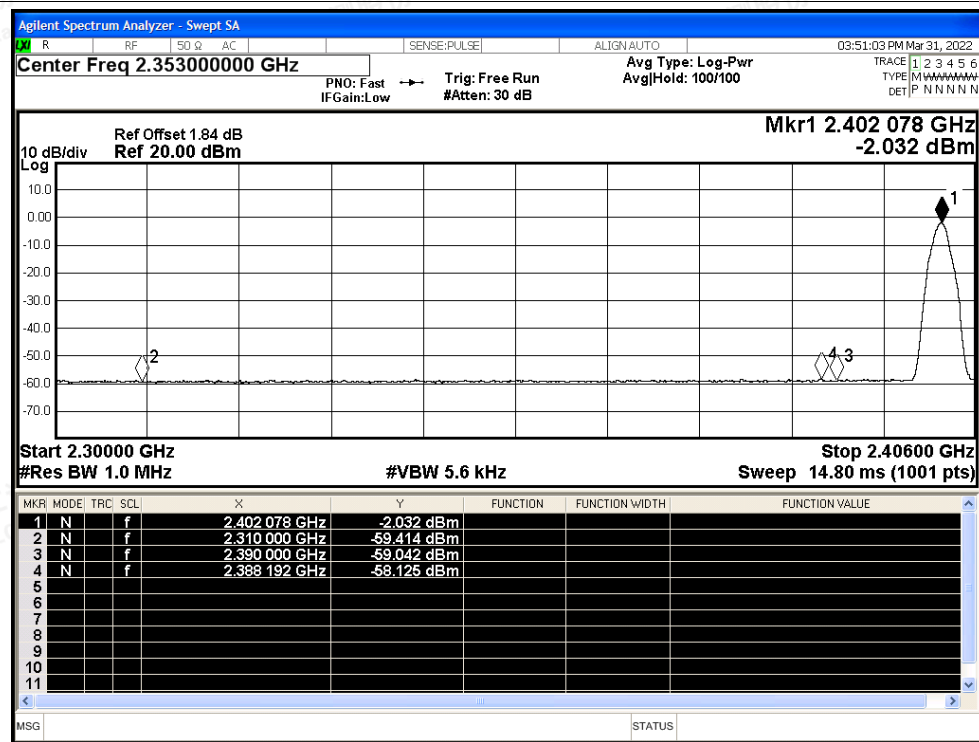
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Restrict Band NVNT BLE 2M 2402MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2402MHz Ant1 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

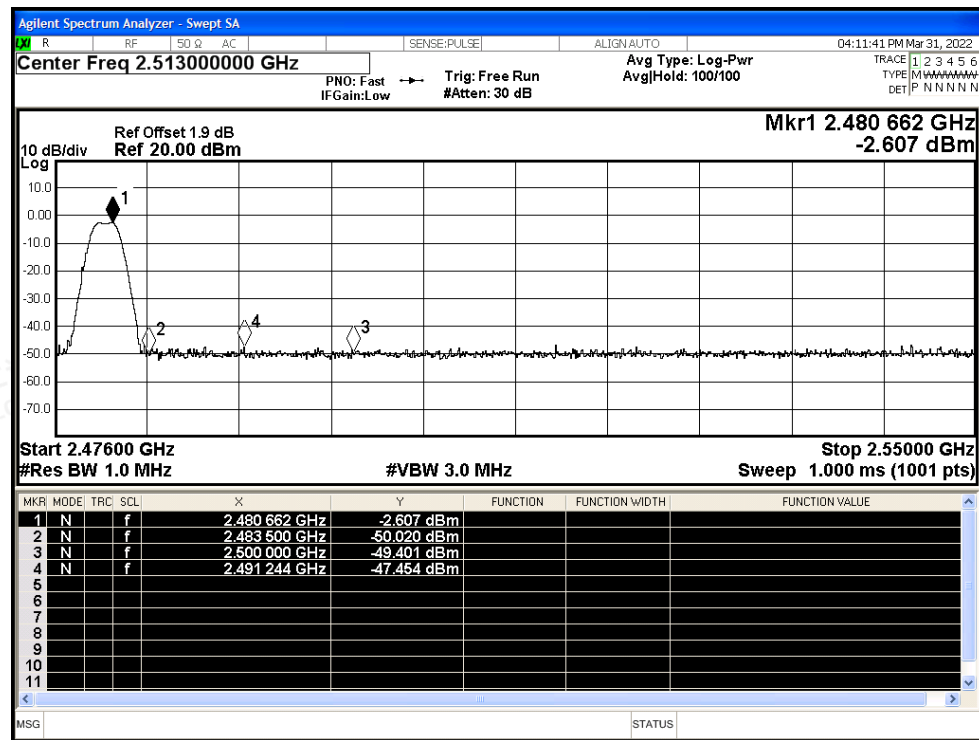
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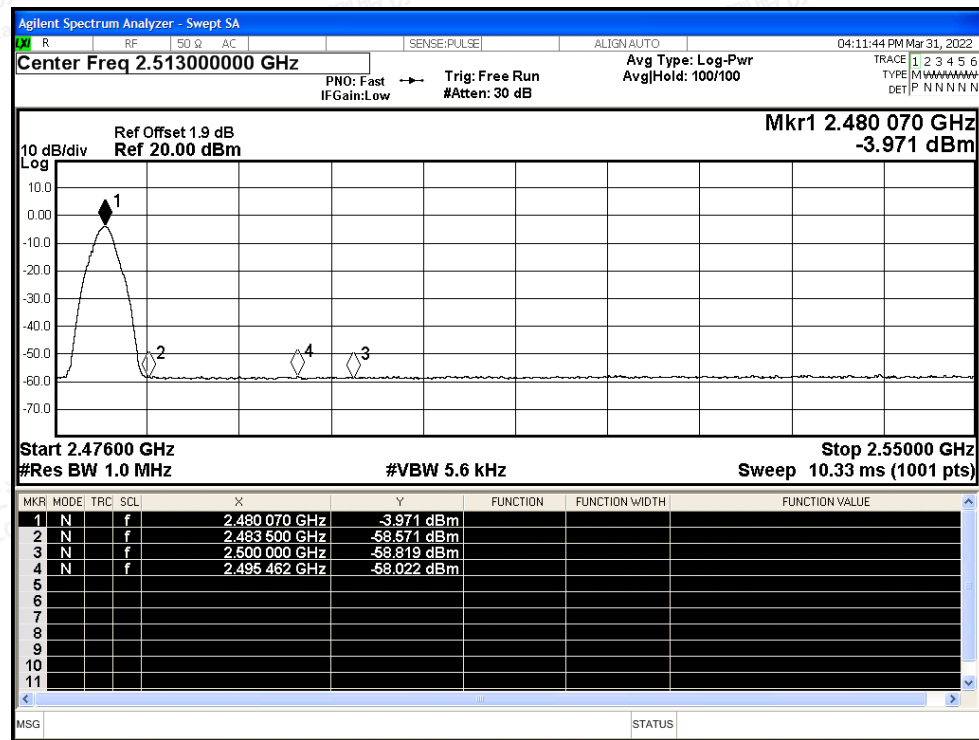
Scan code to check authenticity



Restrict Band NVNT BLE 2M 2480MHz Ant1 Peak



Restrict Band NVNT BLE 2M 2480MHz Ant1 Average



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