



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Orca Display 2

Test Model: O-0202

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Taylor Hu
Supervised by:	Ling Zhu





B.1 -6dB Bandwidth

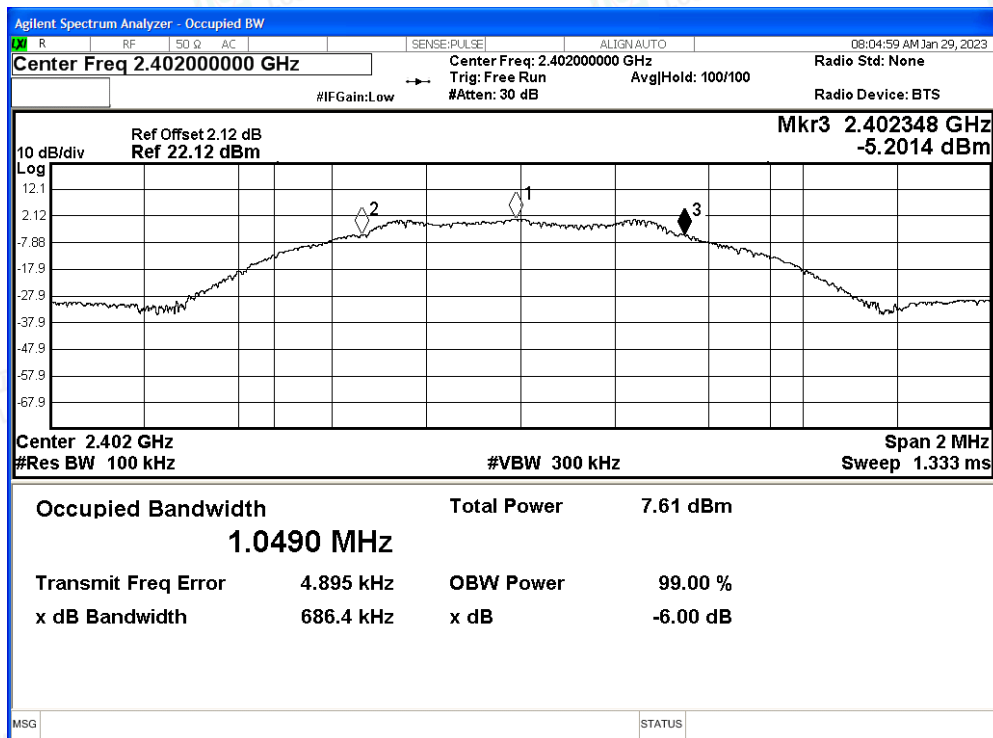
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant	0.686	>=0.5	Pass
NVNT	BLE 1M	2440	Ant	0.681	>=0.5	Pass
NVNT	BLE 1M	2480	Ant	0.672	>=0.5	Pass
NVNT	BLE 2M	2402	Ant	1.153	>=0.5	Pass
NVNT	BLE 2M	2440	Ant	1.154	>=0.5	Pass
NVNT	BLE 2M	2480	Ant	1.159	>=0.5	Pass



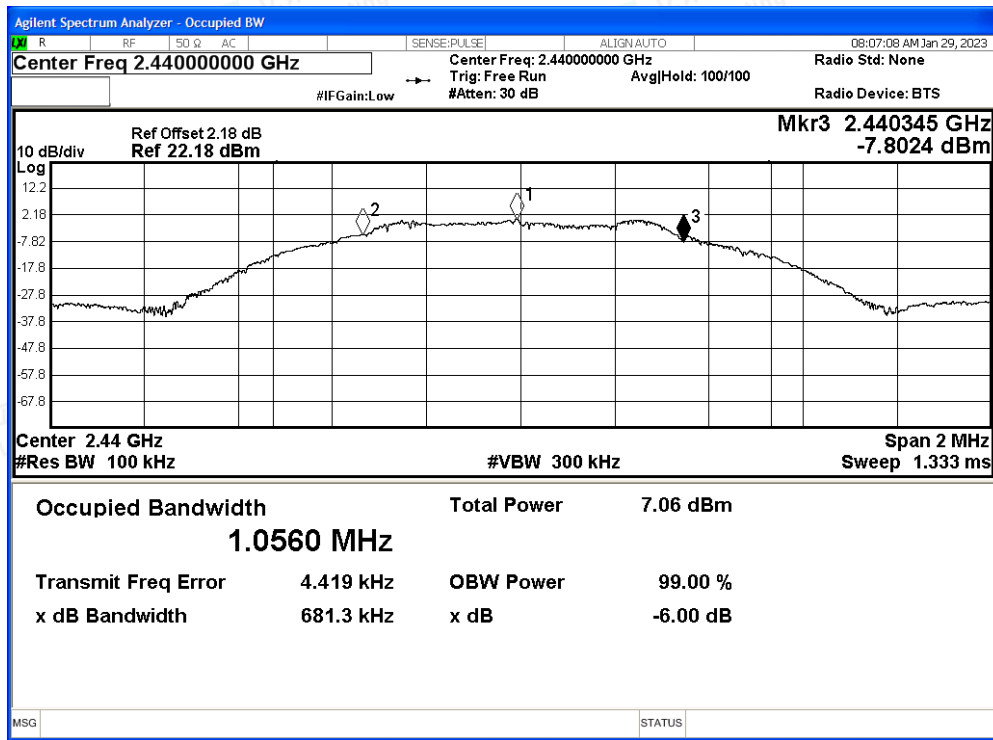


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant



Shenzhen LCS Compliance Testing Laboratory Ltd.

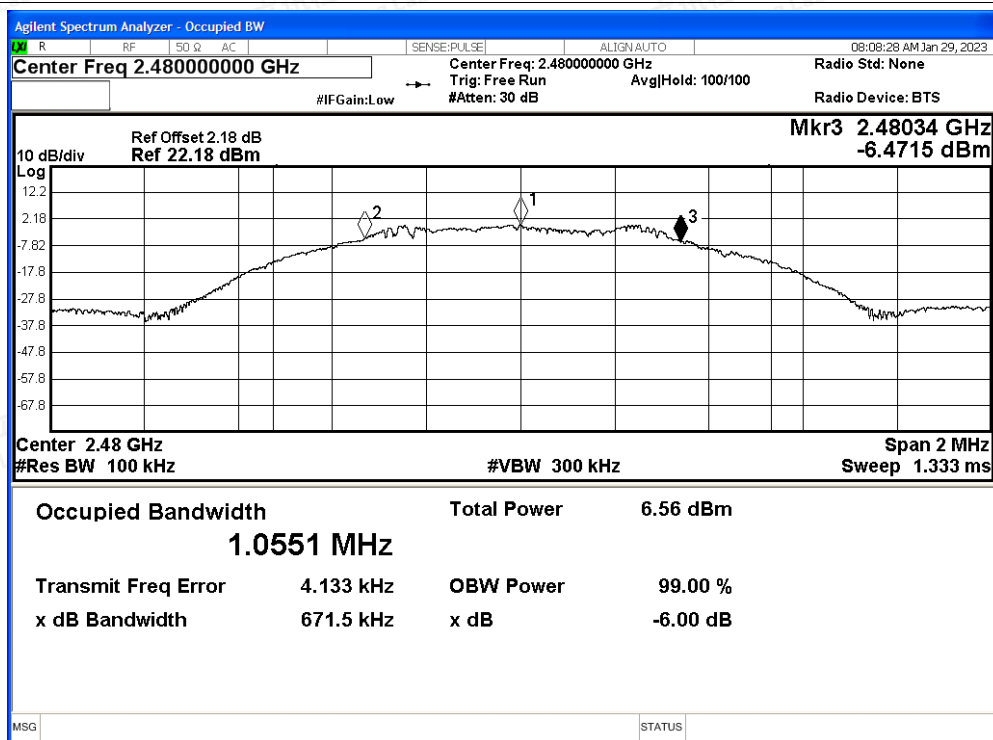
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

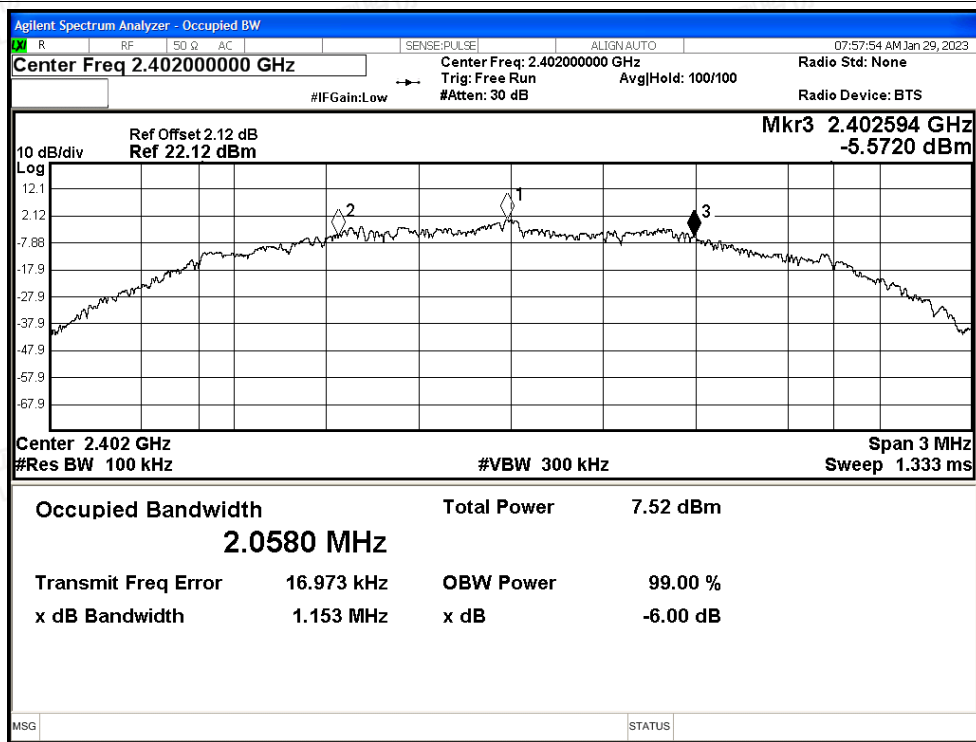
Scan code to check authenticity



-6dB Bandwidth NVNT BLE 1M 2480MHz Ant



-6dB Bandwidth NVNT BLE 2M 2402MHz Ant



Shenzhen LCS Compliance Testing Laboratory Ltd.

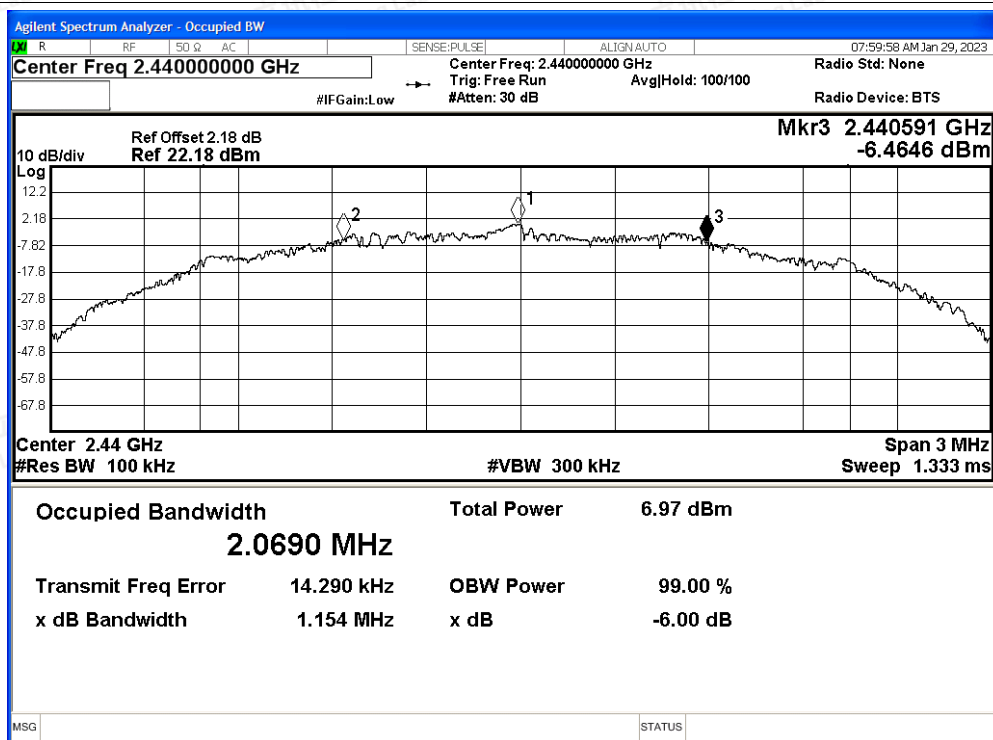
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

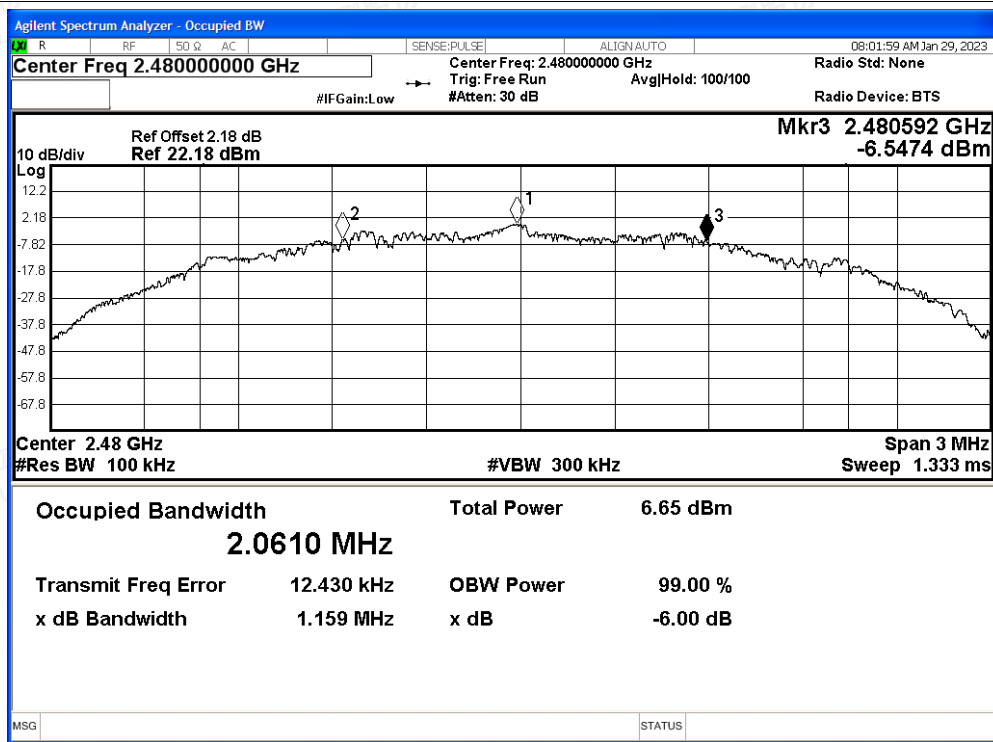
Scan code to check authenticity



-6dB Bandwidth NVNT BLE 2M 2440MHz Ant



-6dB Bandwidth NVNT BLE 2M 2480MHz Ant



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Scan code to check authenticity



B.2 Maximum Conducted Output Power

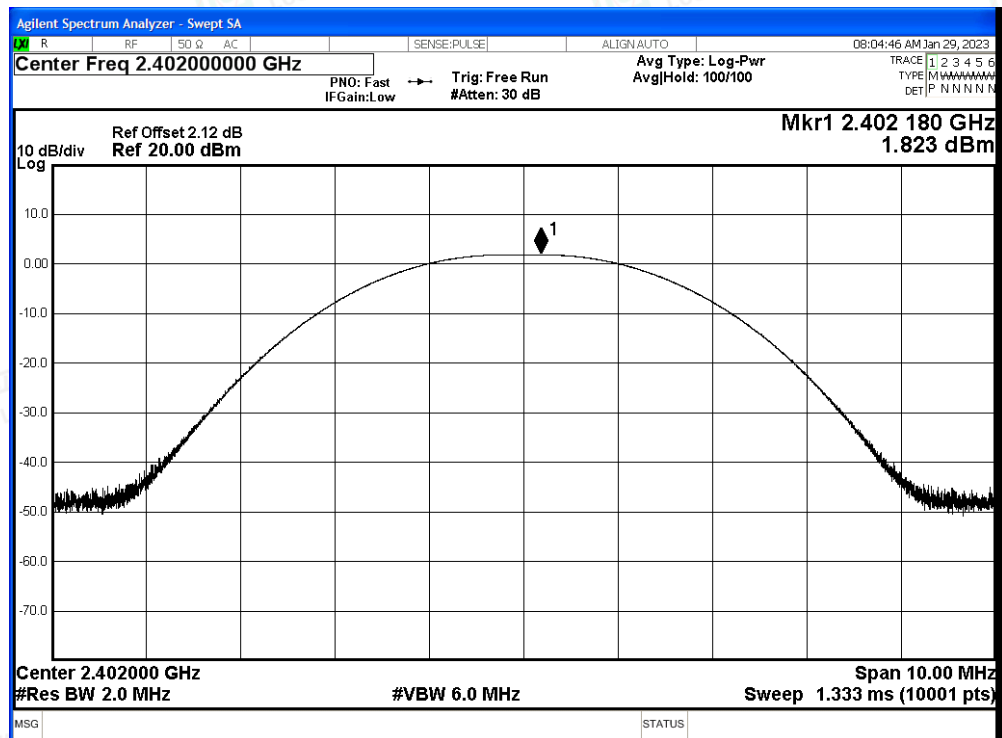
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant	1.82	30	Pass
NVNT	BLE 1M	2440	Ant	1.28	30	Pass
NVNT	BLE 1M	2480	Ant	0.91	30	Pass
NVNT	BLE 2M	2402	Ant	1.82	30	Pass
NVNT	BLE 2M	2440	Ant	1.28	30	Pass
NVNT	BLE 2M	2480	Ant	0.94	30	Pass



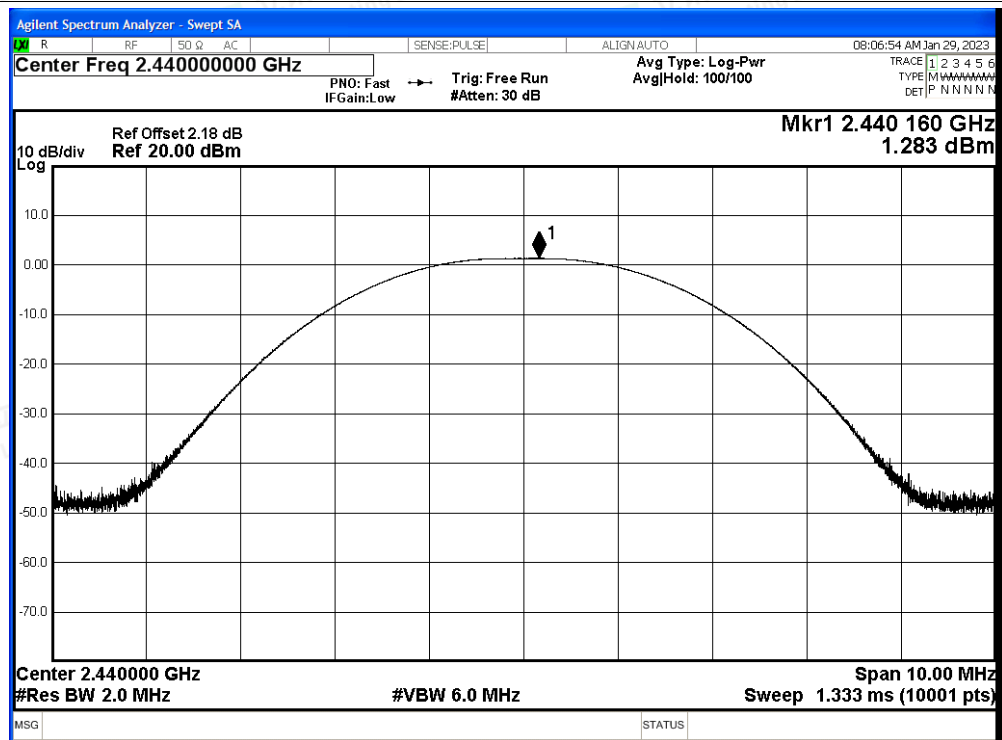


Test Graphs

Power NVNT BLE 1M 2402MHz Ant



Power NVNT BLE 1M 2440MHz Ant



Shenzhen LCS Compliance Testing Laboratory Ltd.

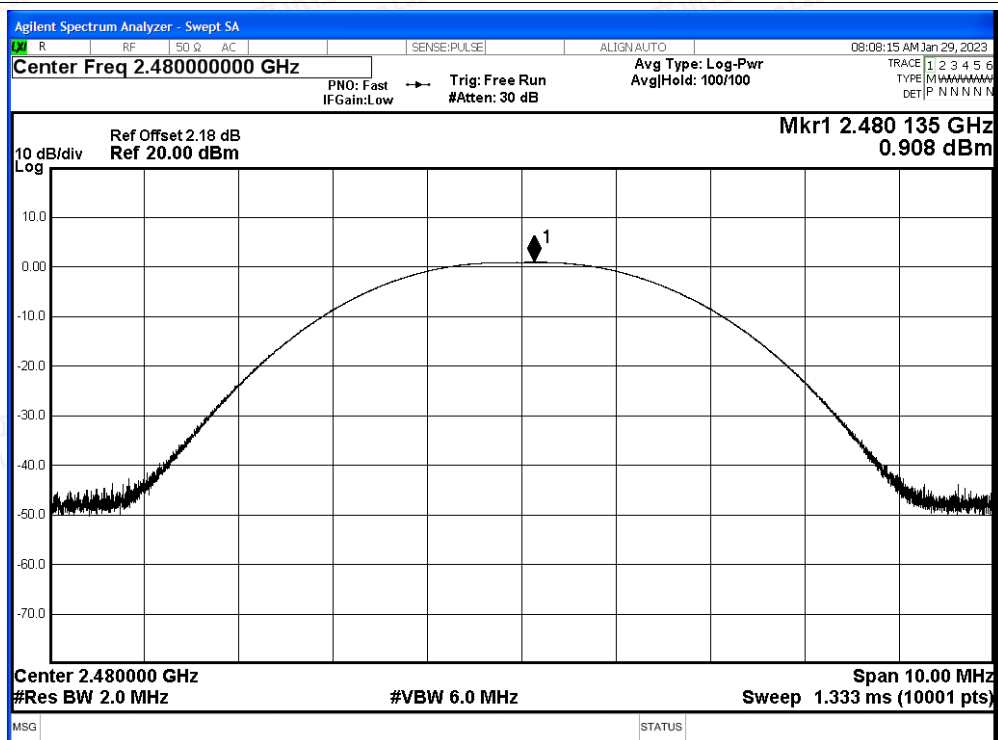
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

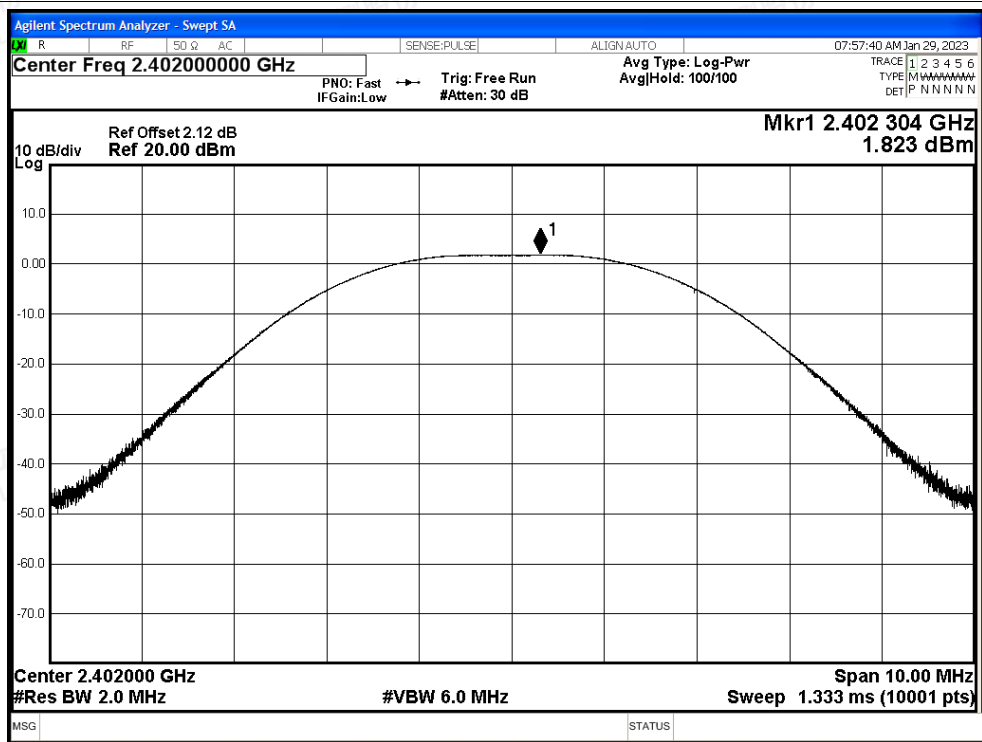
Scan code to check authenticity



Power NVNT BLE 1M 2480MHz Ant



Power NVNT BLE 2M 2402MHz Ant



Shenzhen LCS Compliance Testing Laboratory Ltd.

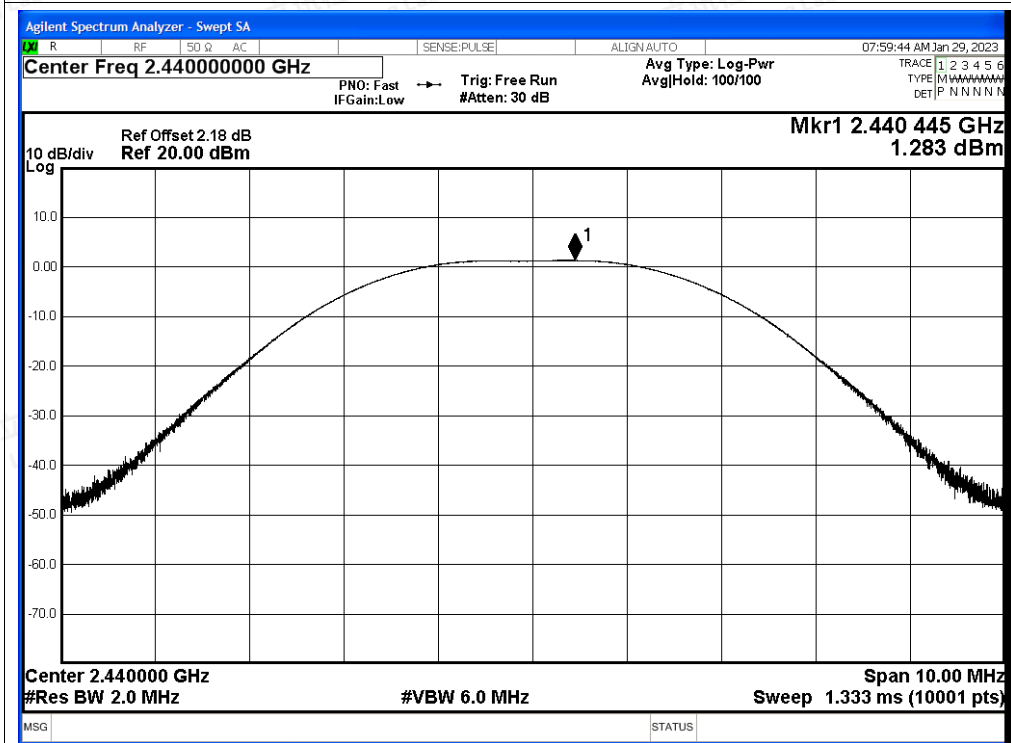
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

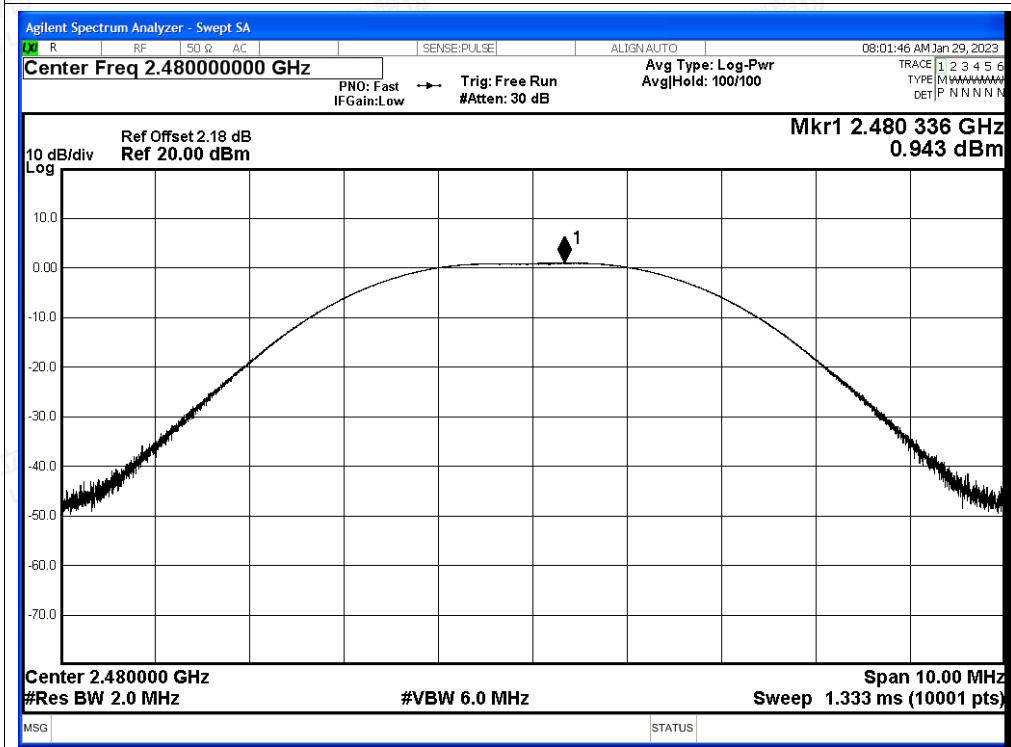
Scan code to check authenticity



Power NVNT BLE 2M 2440MHz Ant



Power NVNT BLE 2M 2480MHz Ant





B.3 Maximum Power Spectral Density Level

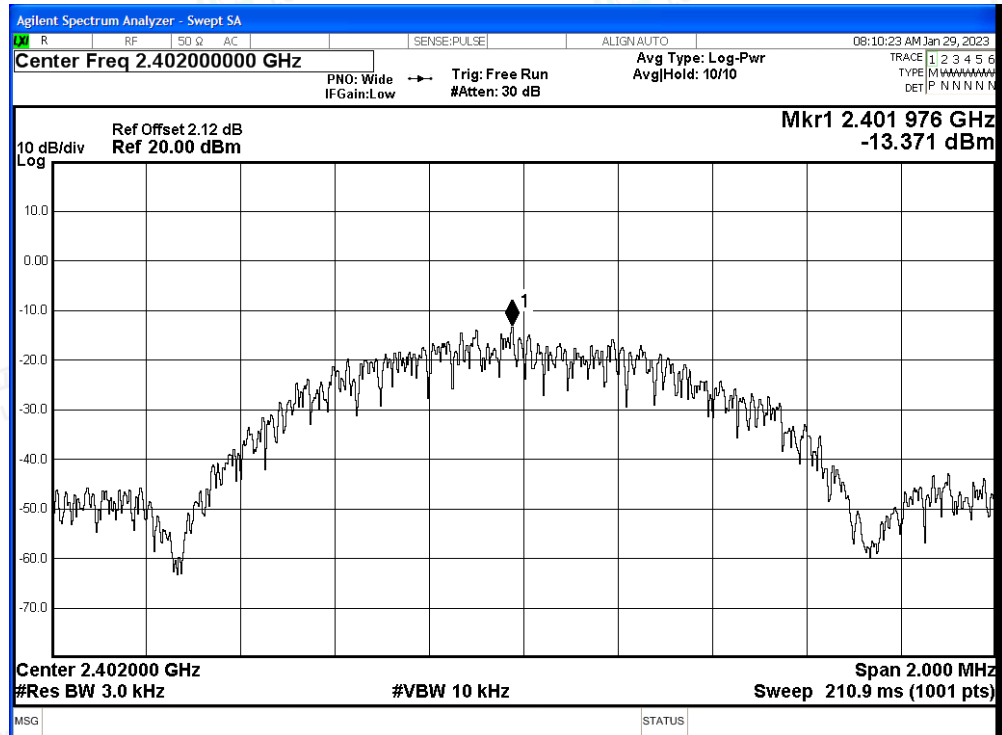
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant	-13.37	8	Pass
NVNT	BLE 1M	2440	Ant	-13.82	8	Pass
NVNT	BLE 1M	2480	Ant	-14.14	8	Pass
NVNT	BLE 2M	2402	Ant	-15.55	8	Pass
NVNT	BLE 2M	2440	Ant	-16.14	8	Pass
NVNT	BLE 2M	2480	Ant	-16.39	8	Pass



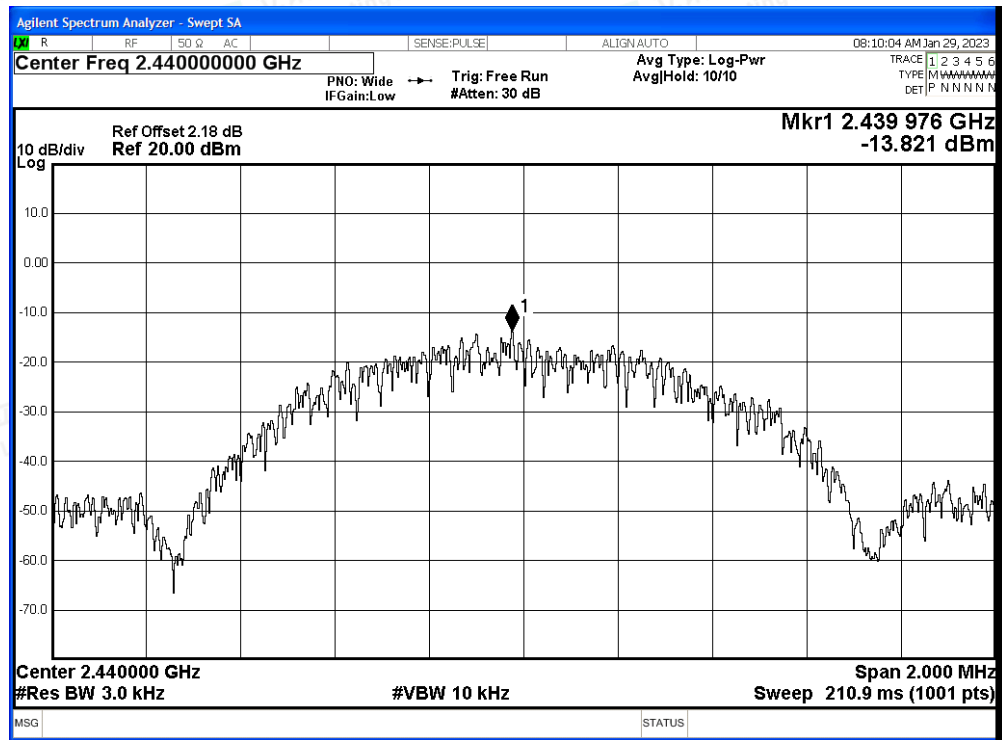


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant

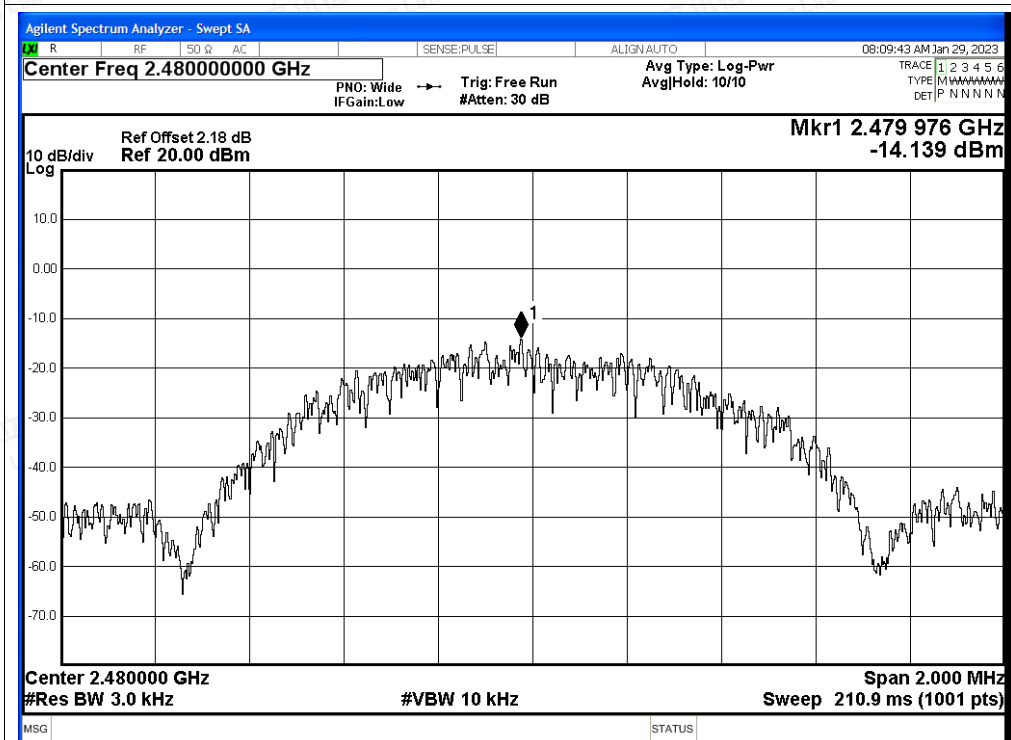


PSD NVNT BLE 1M 2440MHz Ant

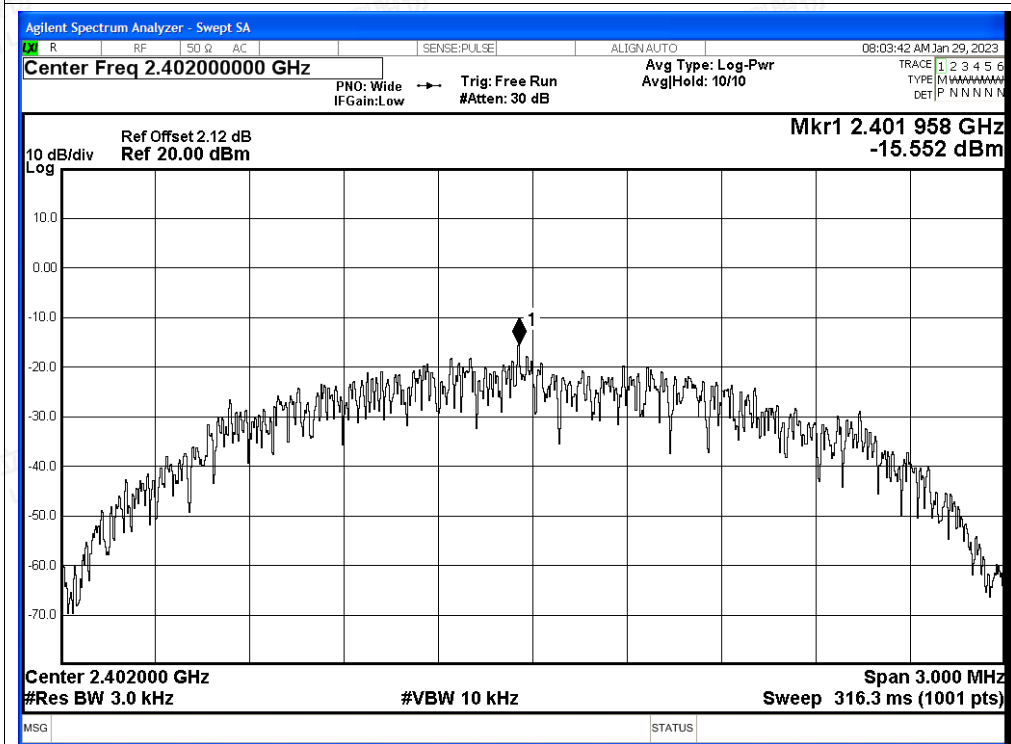




PSD NVNT BLE 1M 2480MHz Ant

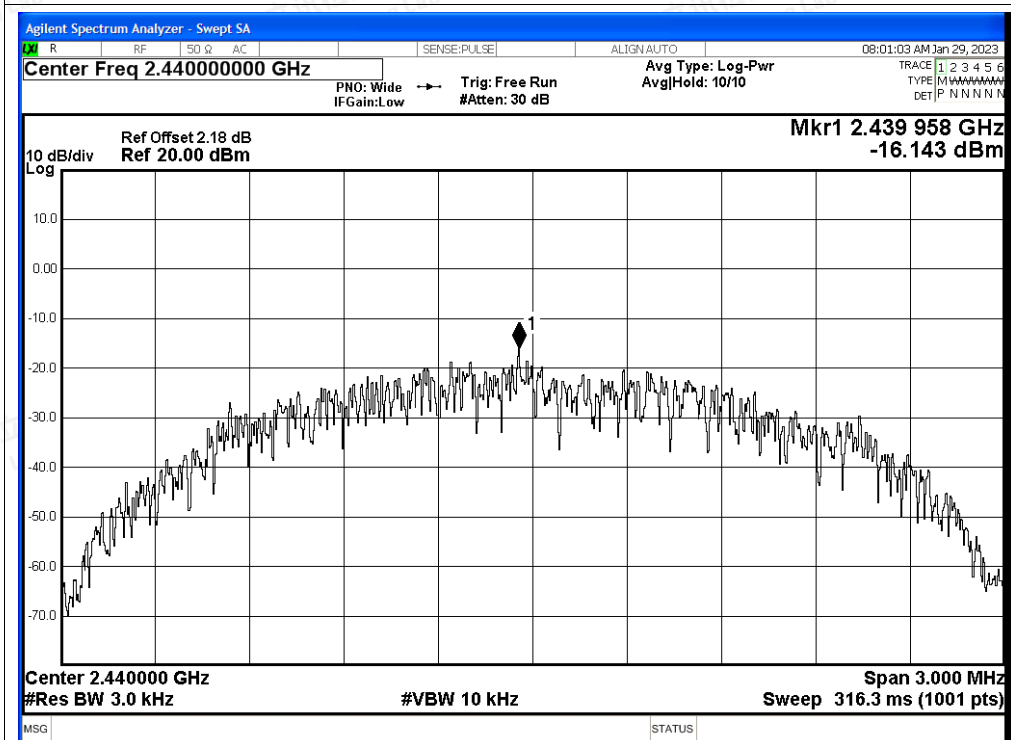


PSD NVNT BLE 2M 2402MHz Ant

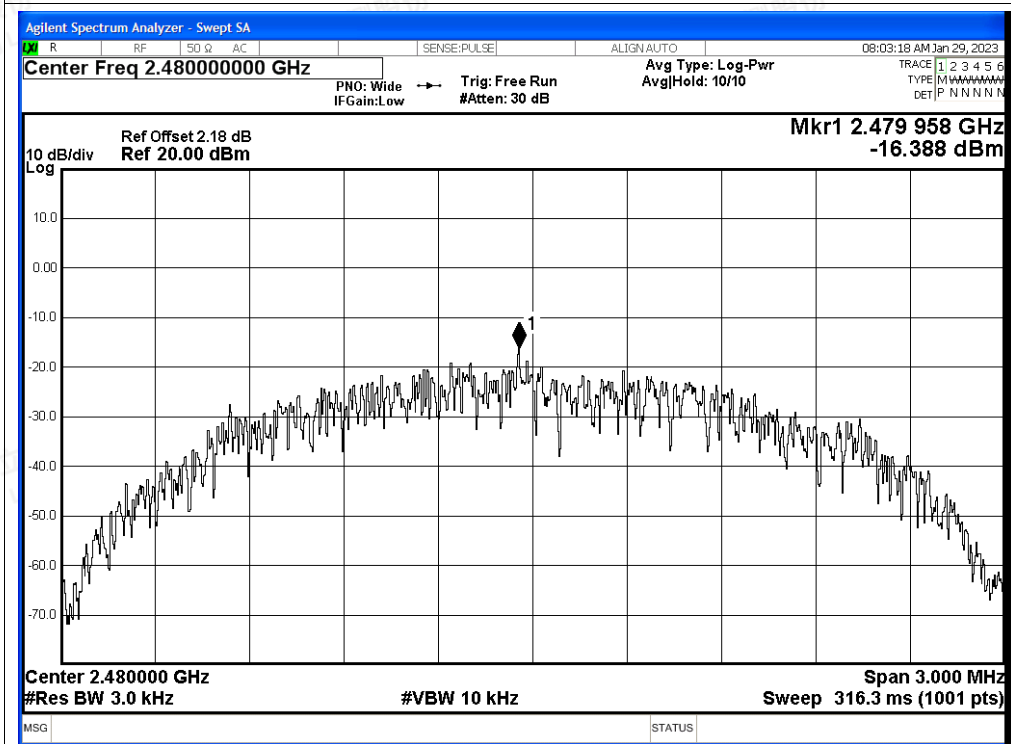




PSD NVNT BLE 2M 2440MHz Ant



PSD NVNT BLE 2M 2480MHz Ant





B.4 Band Edge

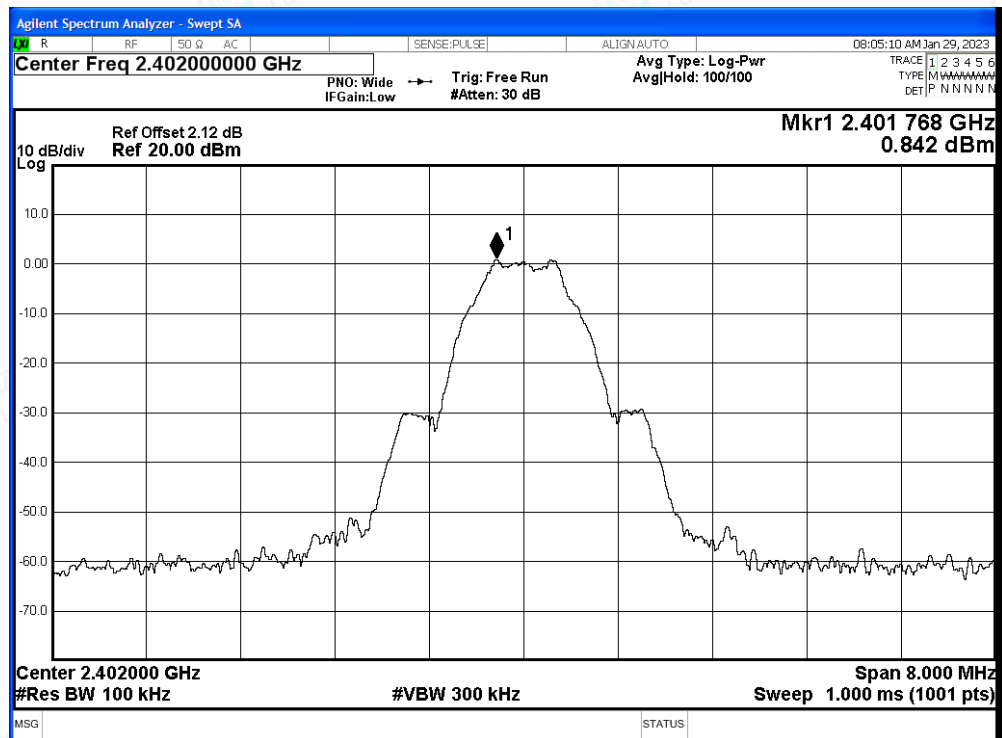
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant	-57.96	-20	Pass
NVNT	BLE 1M	2480	Ant	-56.98	-20	Pass
NVNT	BLE 2M	2402	Ant	-34.66	-20	Pass
NVNT	BLE 2M	2480	Ant	-54.43	-20	Pass



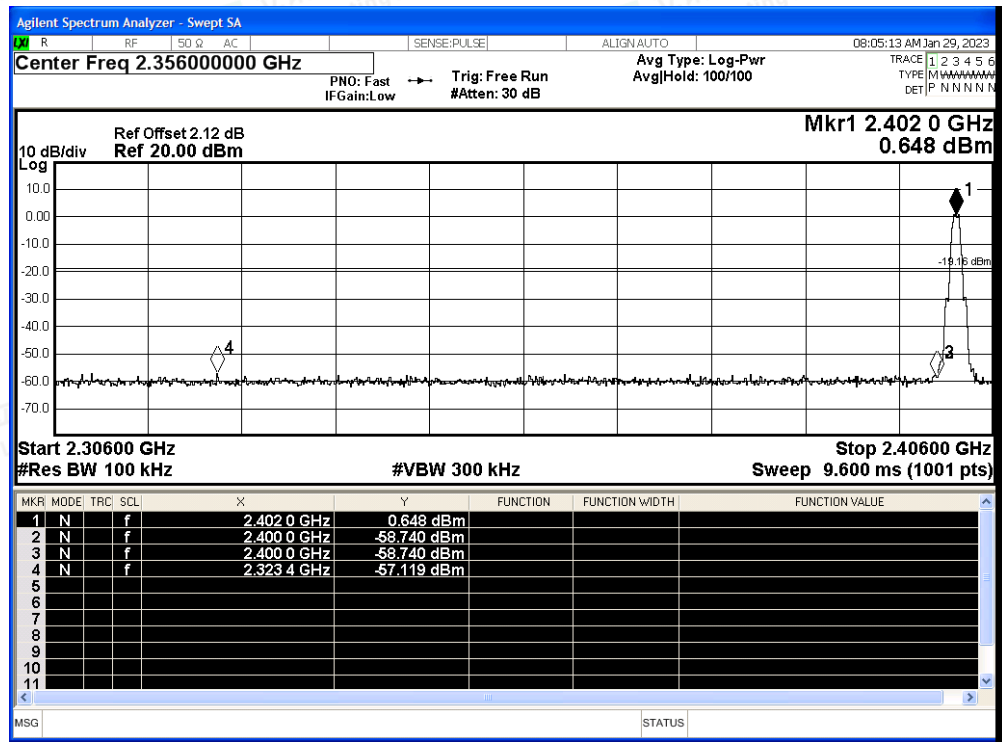


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant Ref



Band Edge NVNT BLE 1M 2402MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

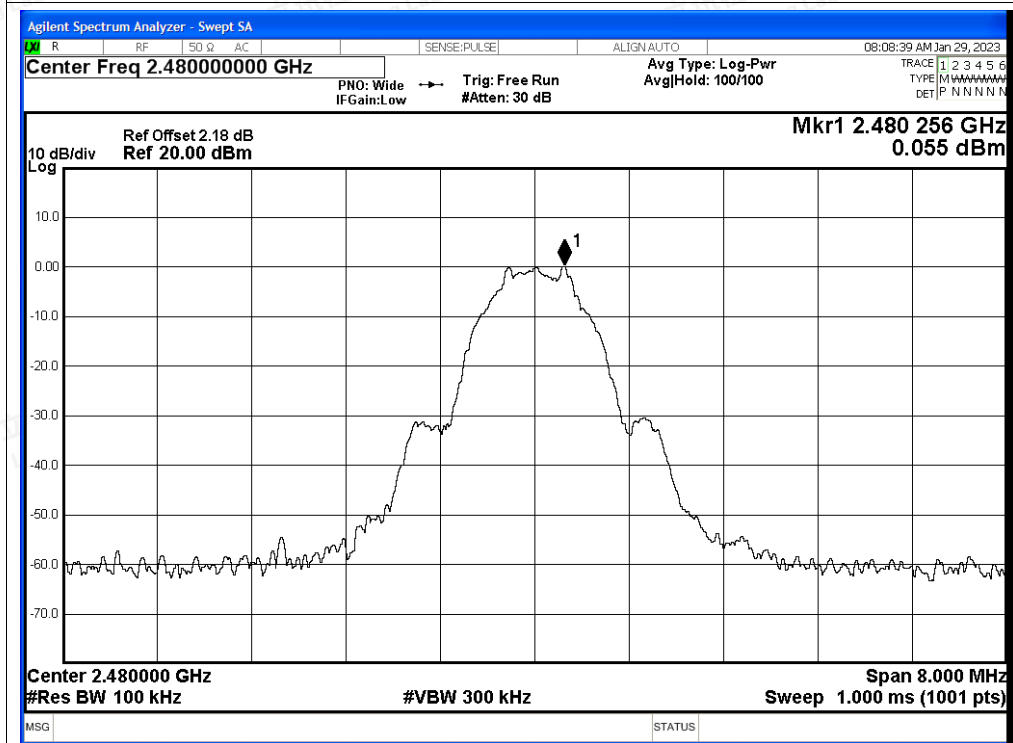
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

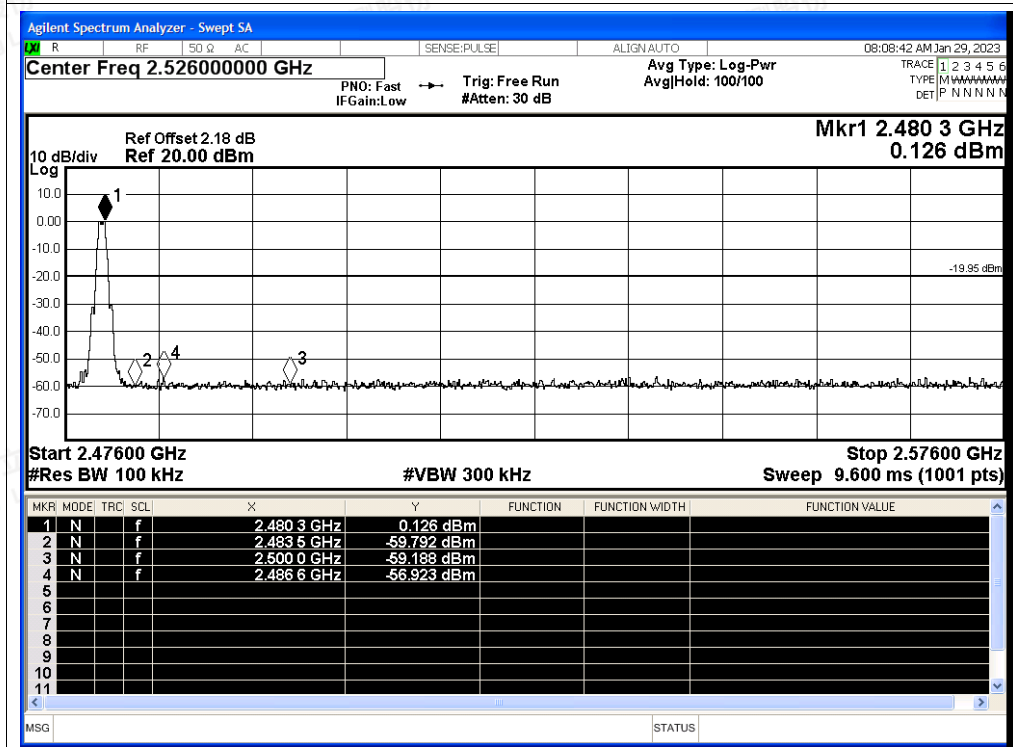
Scan code to check authenticity



Band Edge NVNT BLE 1M 2480MHz Ant Ref



Band Edge NVNT BLE 1M 2480MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

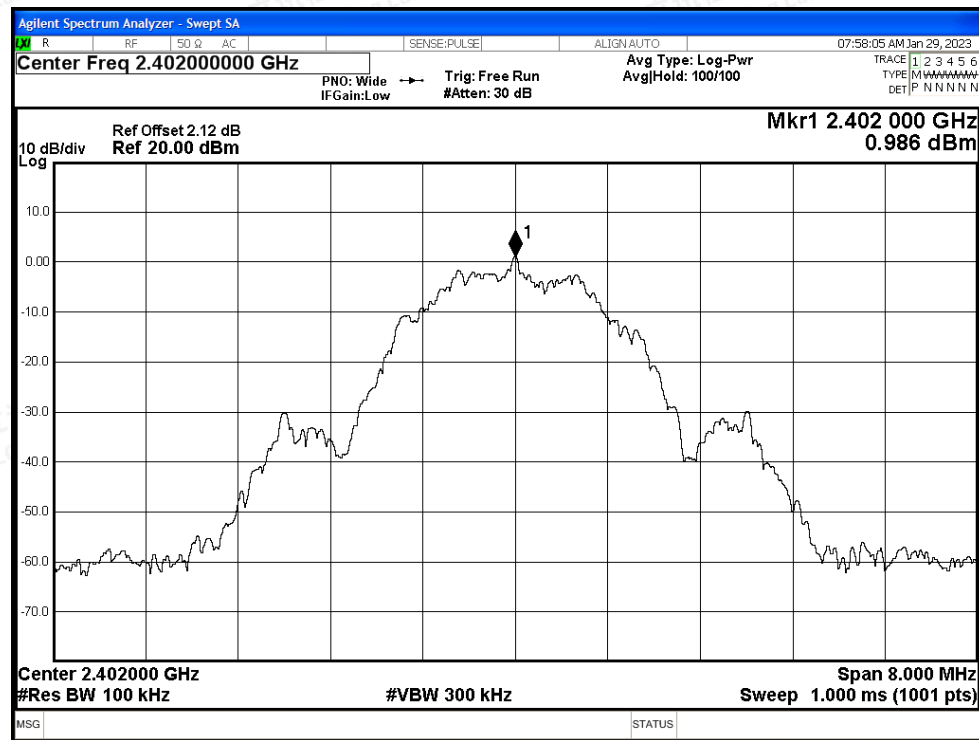
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

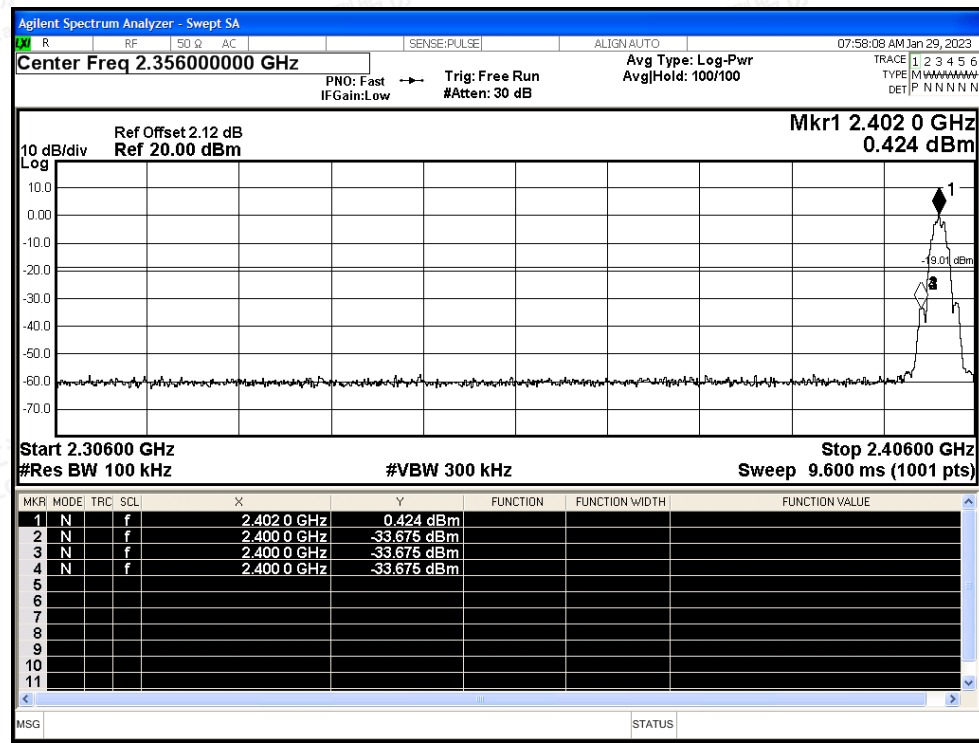
Scan code to check authenticity



Band Edge NVNT BLE 2M 2402MHz Ant Ref



Band Edge NVNT BLE 2M 2402MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

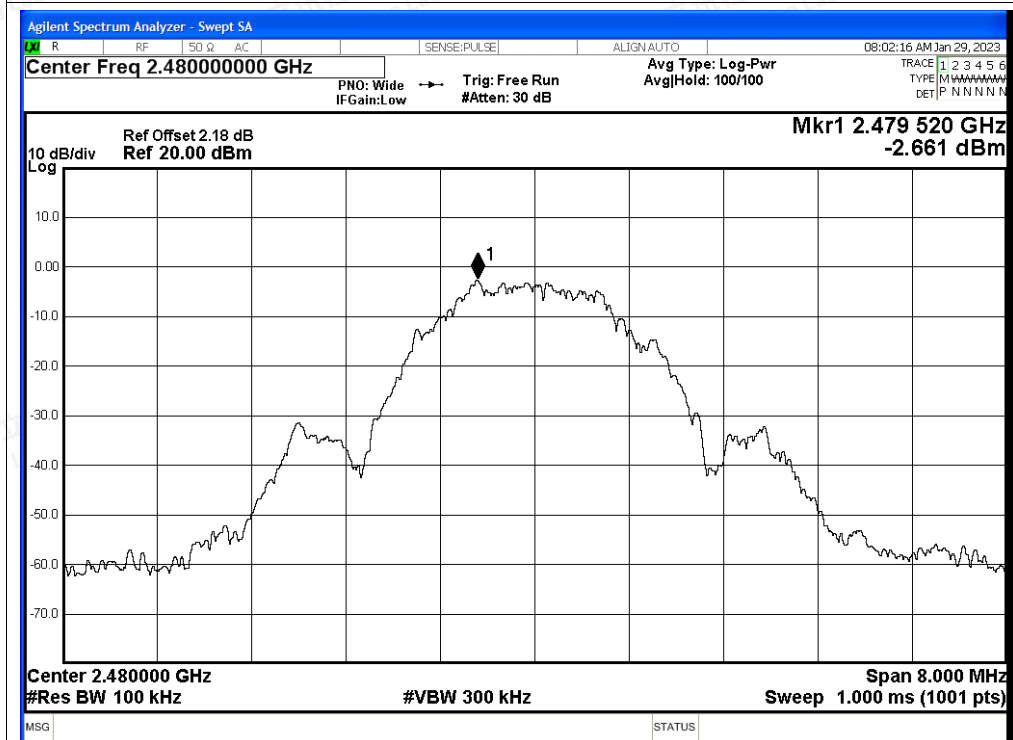
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

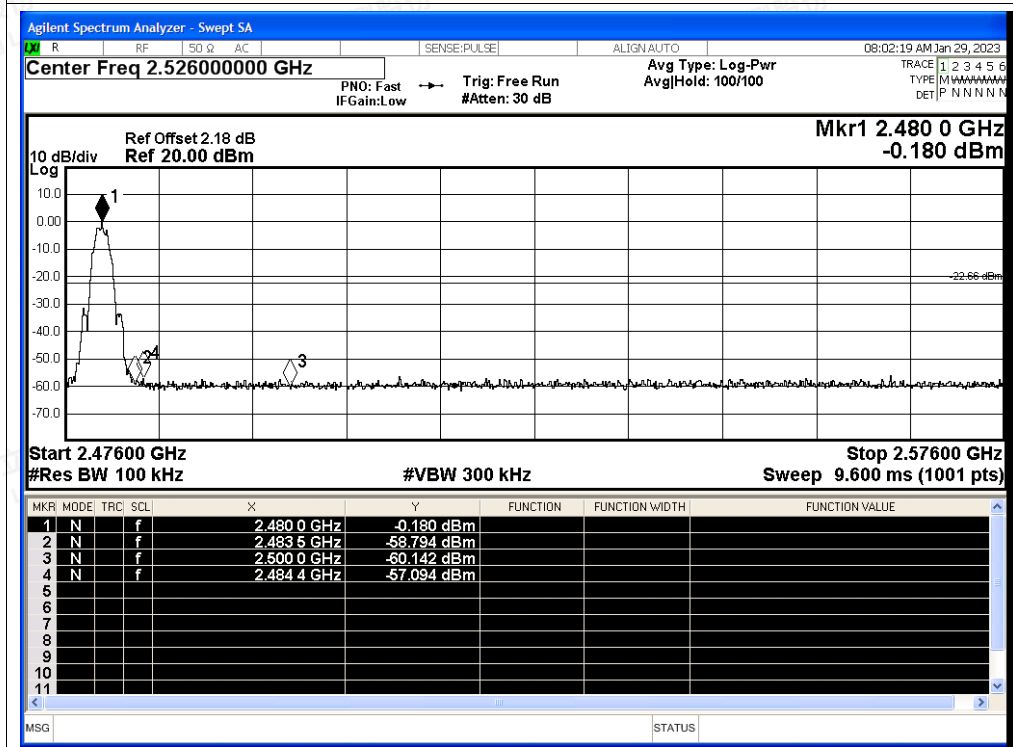
Scan code to check authenticity



Band Edge NVNT BLE 2M 2480MHz 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	-56.4	-20	Pass
NVNT	BLE 1M	2440	Ant	-55.91	-20	Pass
NVNT	BLE 1M	2480	Ant	-54.72	-20	Pass
NVNT	BLE 2M	2402	Ant	-56.43	-20	Pass
NVNT	BLE 2M	2440	Ant	-55.38	-20	Pass
NVNT	BLE 2M	2480	Ant	-53.11	-20	Pass

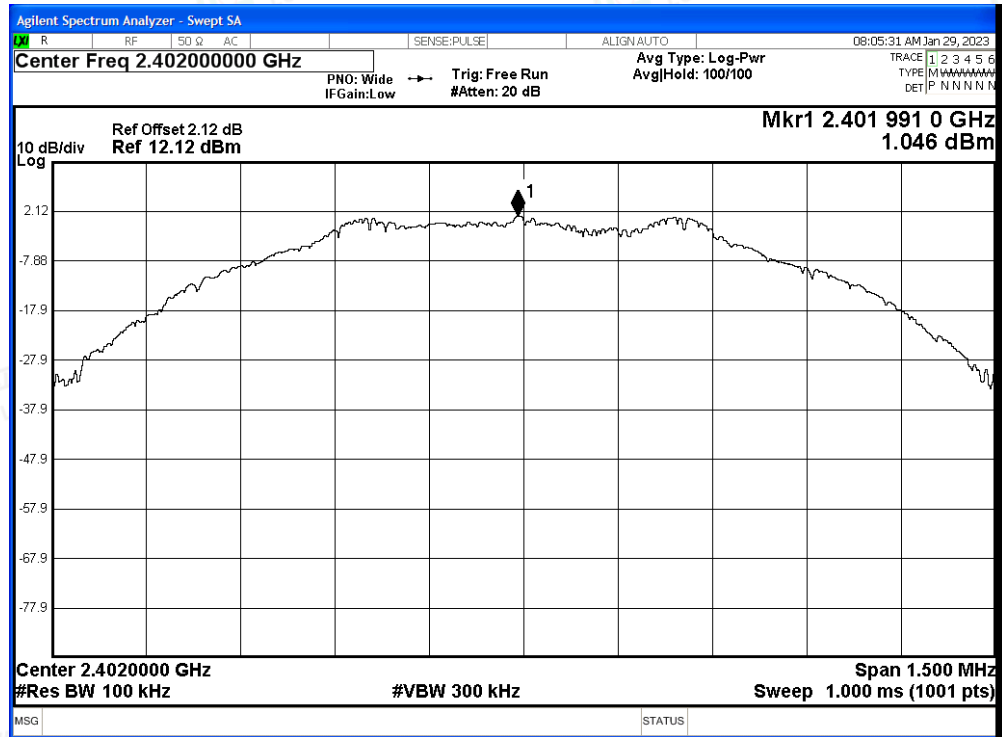


Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

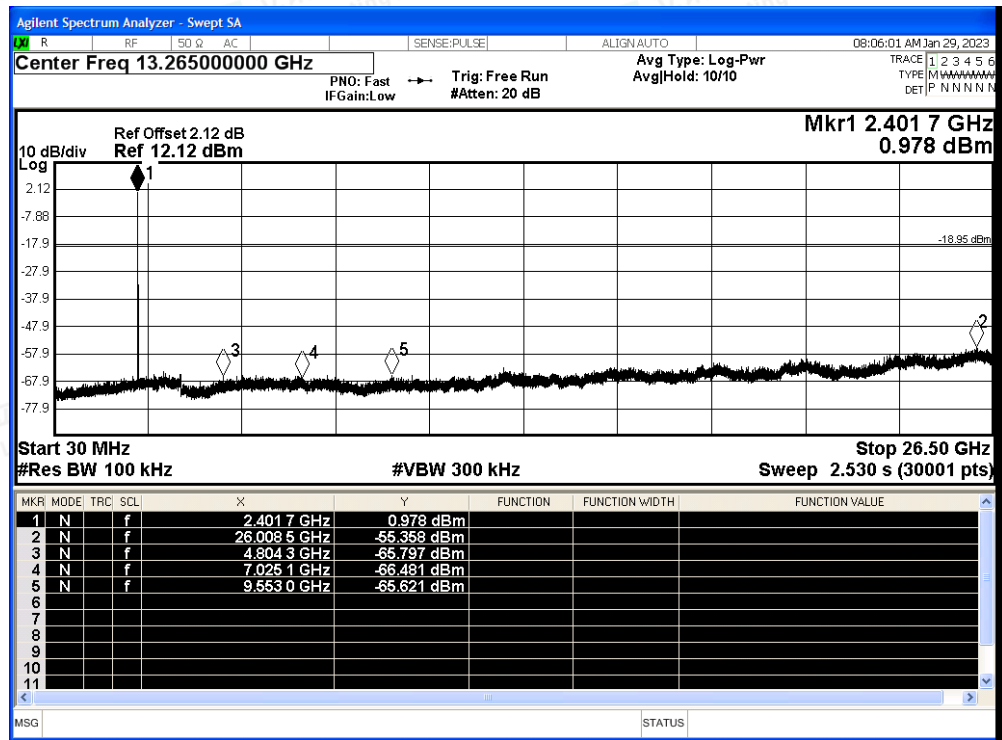


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

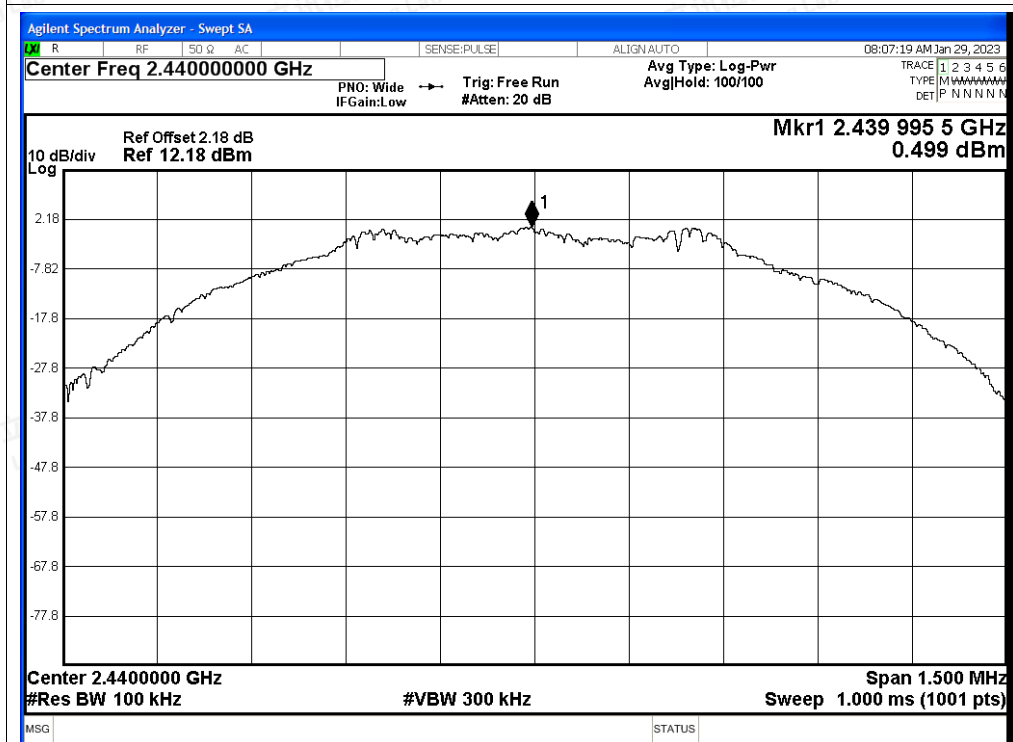
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

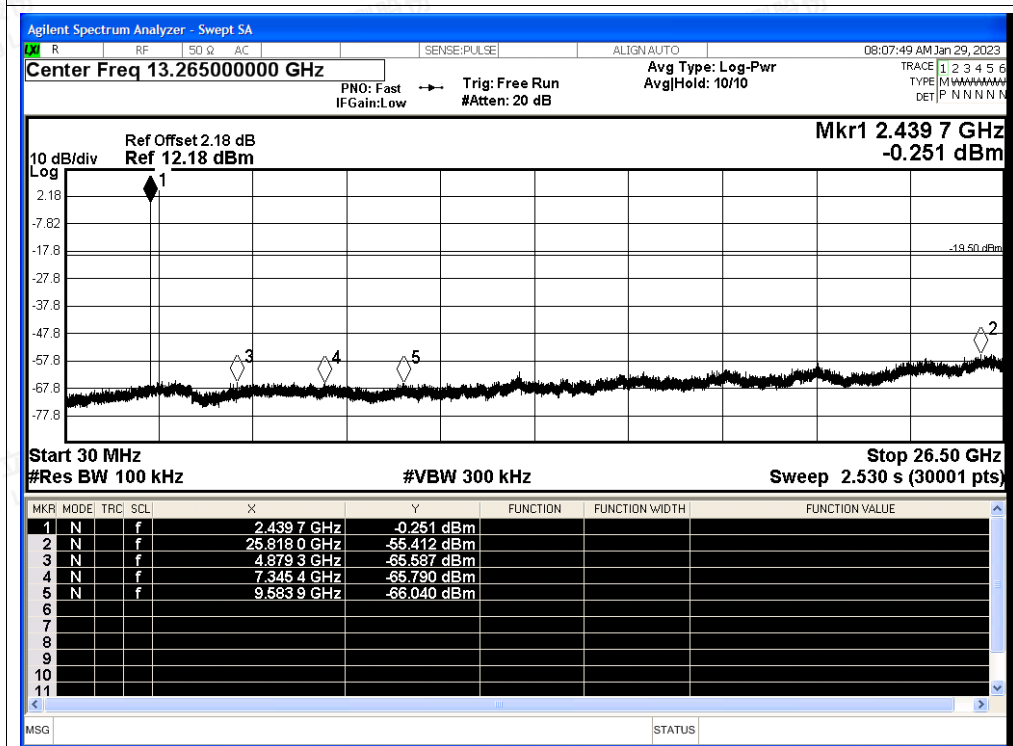
Scan code to check authenticity



Tx. Spurious NVNT BLE 1M 2440MHz Ant Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

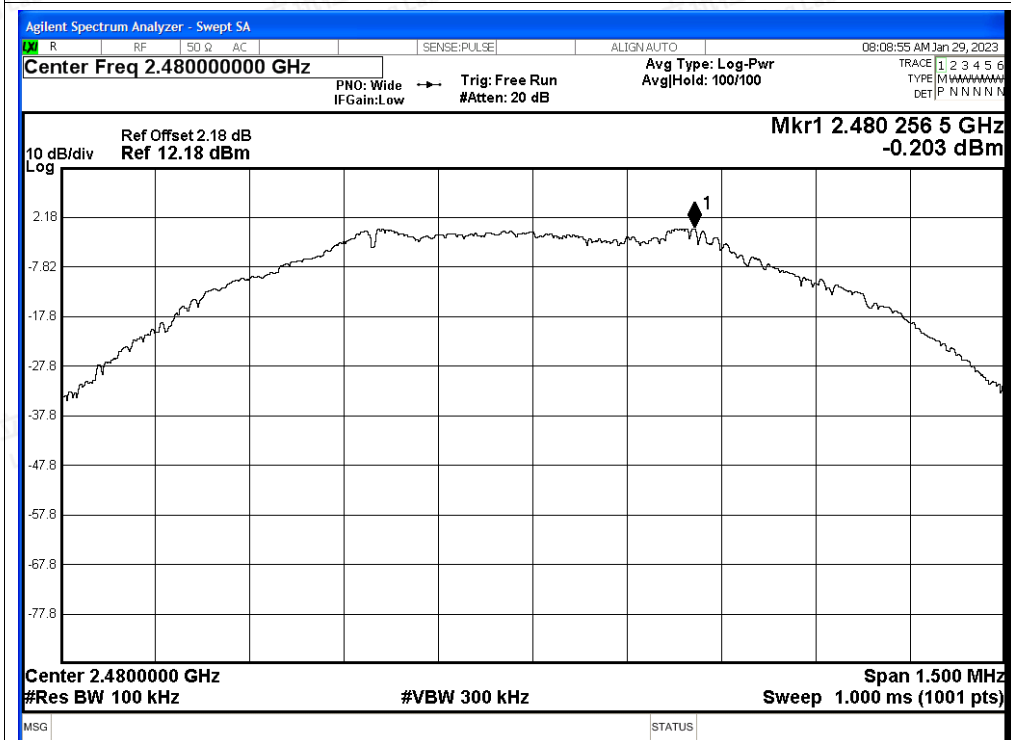
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

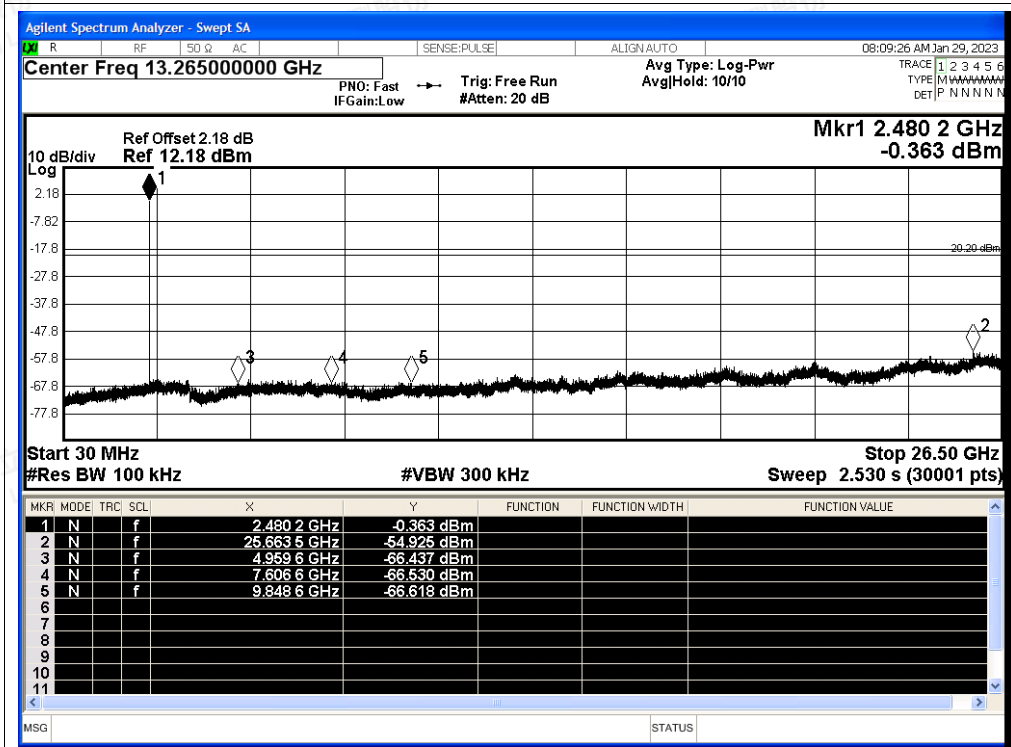
Scan code to check authenticity



Tx. Spurious NVNT BLE 1M 2480MHz Ant Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

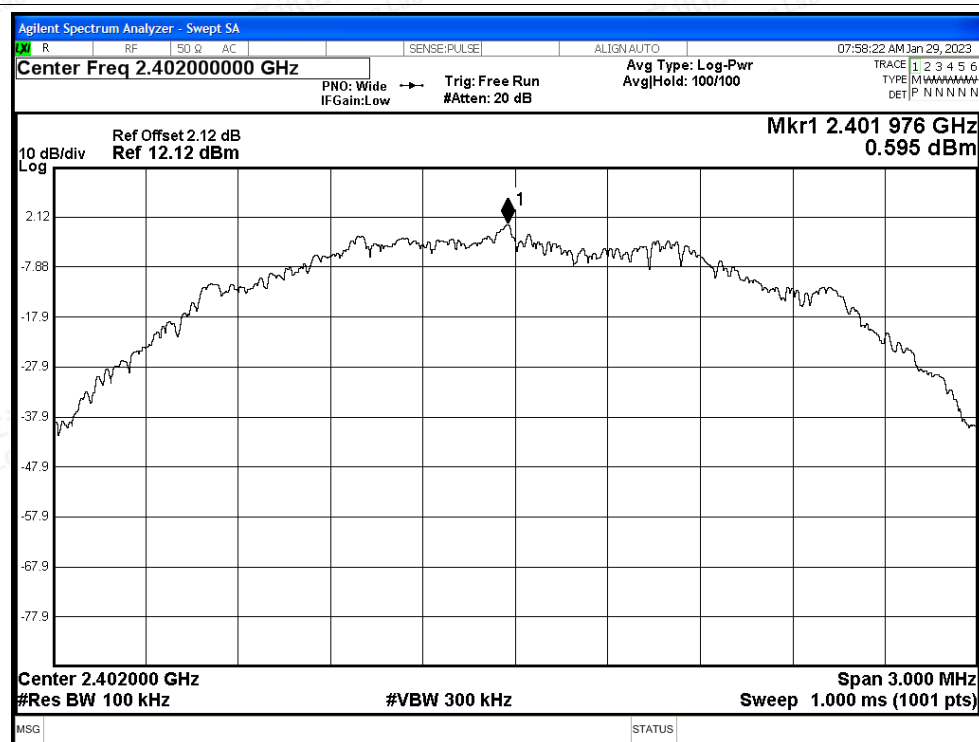
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

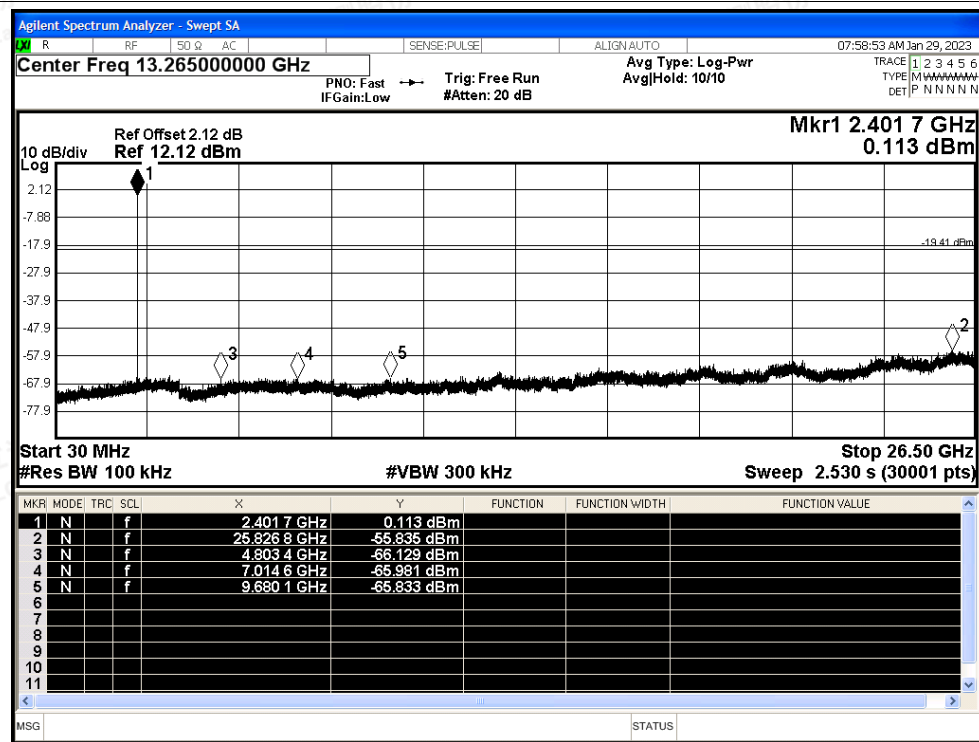
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2402MHz Ant Ref



Tx. Spurious NVNT BLE 2M 2402MHz Ant Emission



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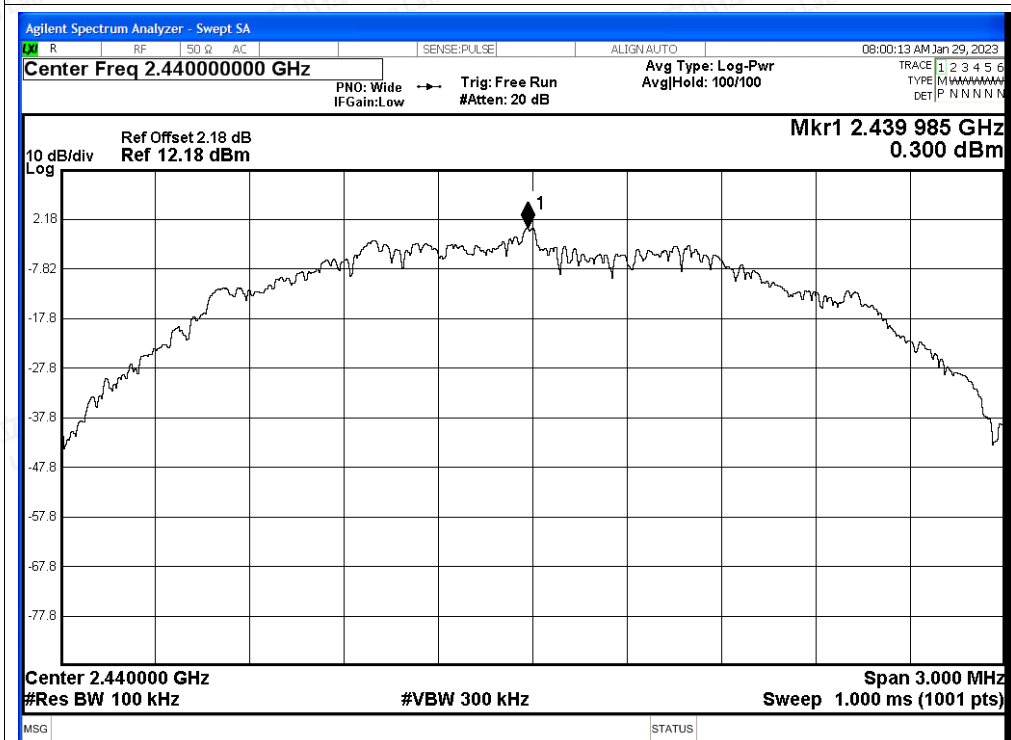
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

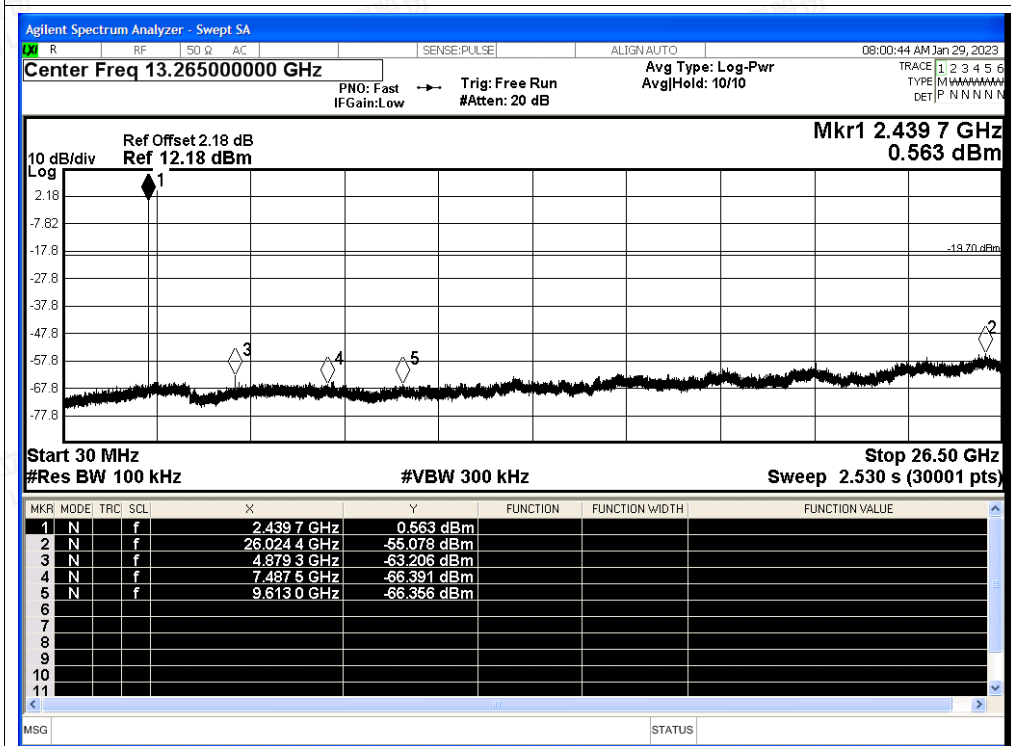
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2440MHz Ant Ref



Tx. Spurious NVNT BLE 2M 2440MHz Ant Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

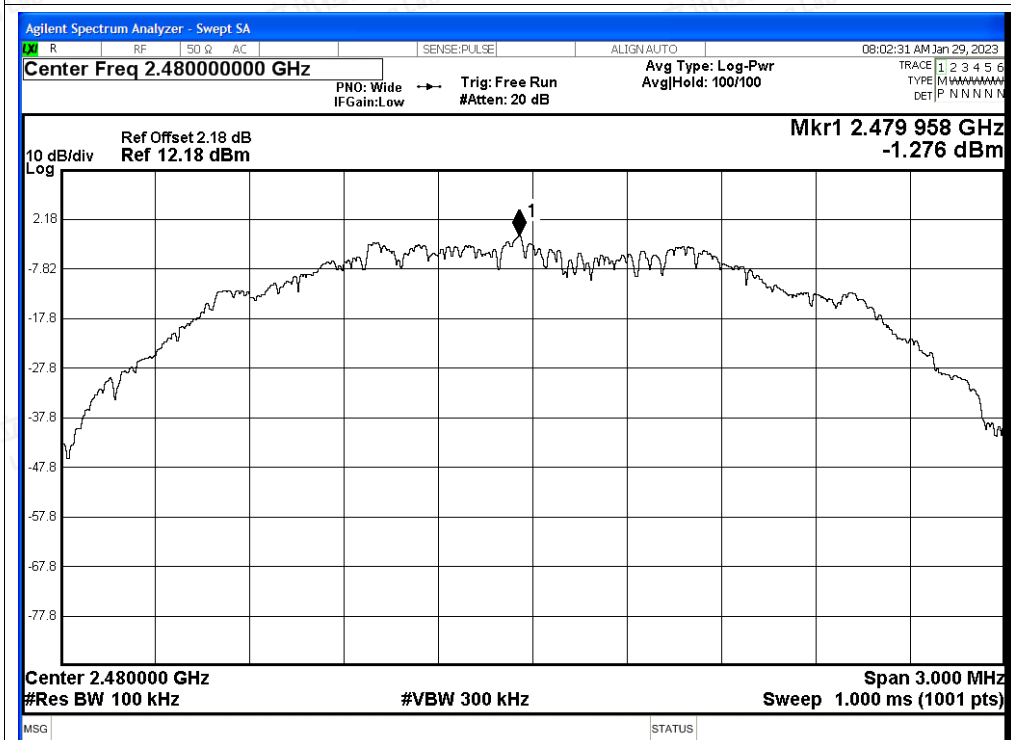
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

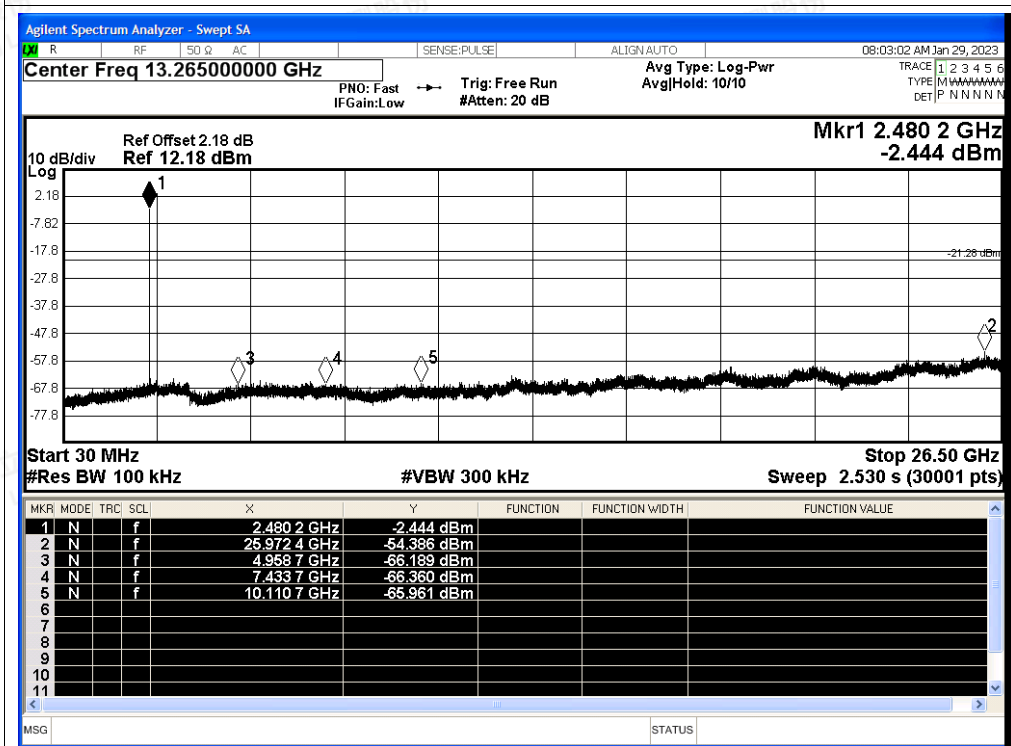
Scan code to check authenticity



Tx. Spurious NVNT BLE 2M 2480MHz Ant Ref



Tx. Spurious NVNT BLE 2M 2480MHz Ant Emission



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Scan code to check authenticity



B.6 Duty Cycle

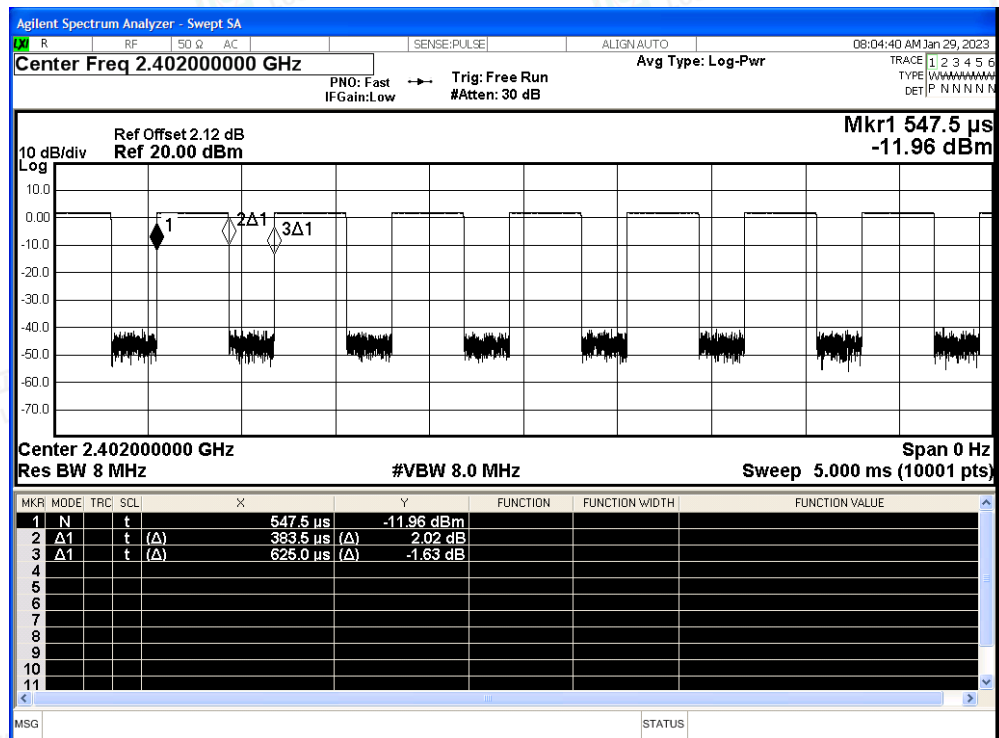
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant	61.36	2.12	2.61
NVNT	BLE 1M	2440	Ant	61.36	2.12	2.61
NVNT	BLE 1M	2480	Ant	61.36	2.12	2.61
NVNT	BLE 2M	2402	Ant	32	4.95	5
NVNT	BLE 2M	2440	Ant	32	4.95	5
NVNT	BLE 2M	2480	Ant	31.92	4.96	5.01



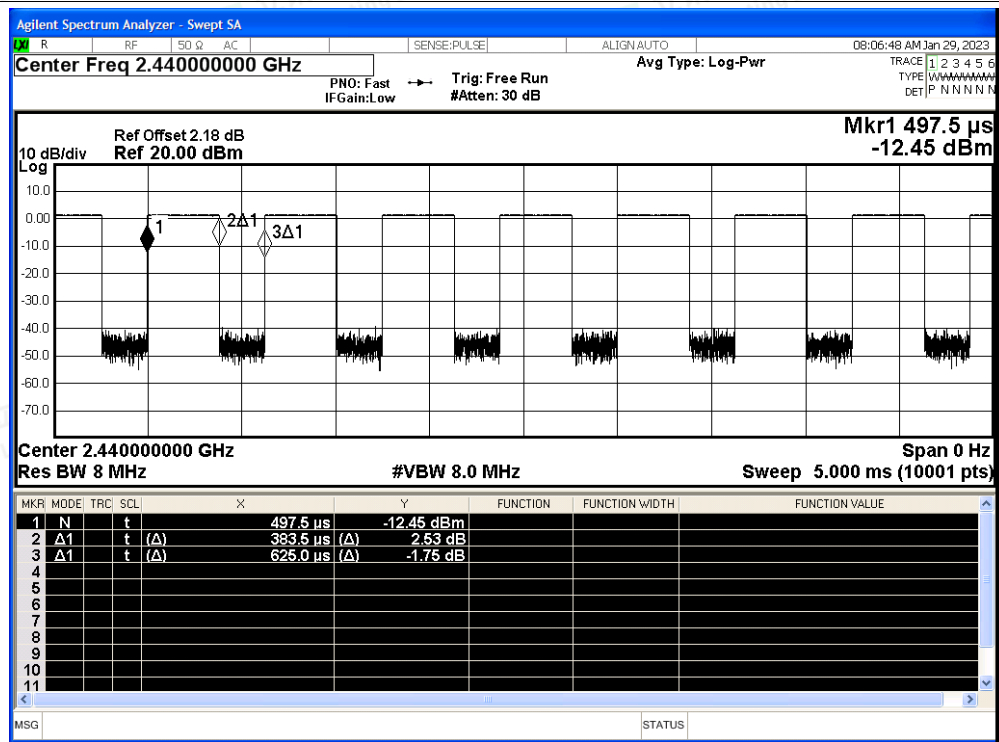


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant



Duty Cycle NVNT BLE 1M 2440MHz Ant



Shenzhen LCS Compliance Testing Laboratory Ltd.

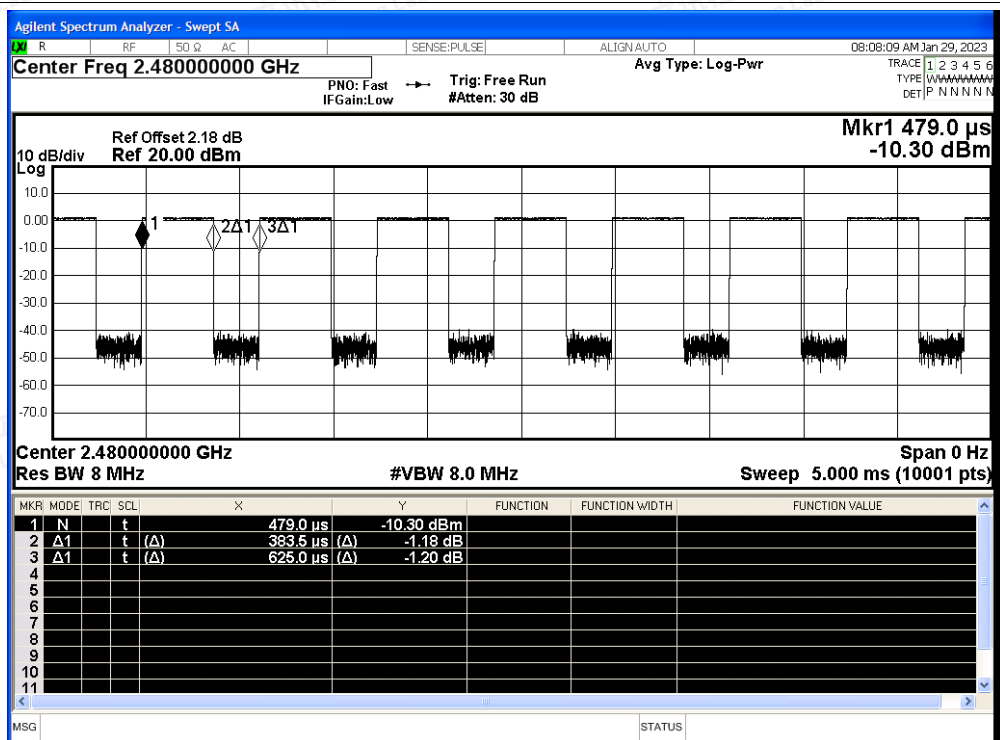
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

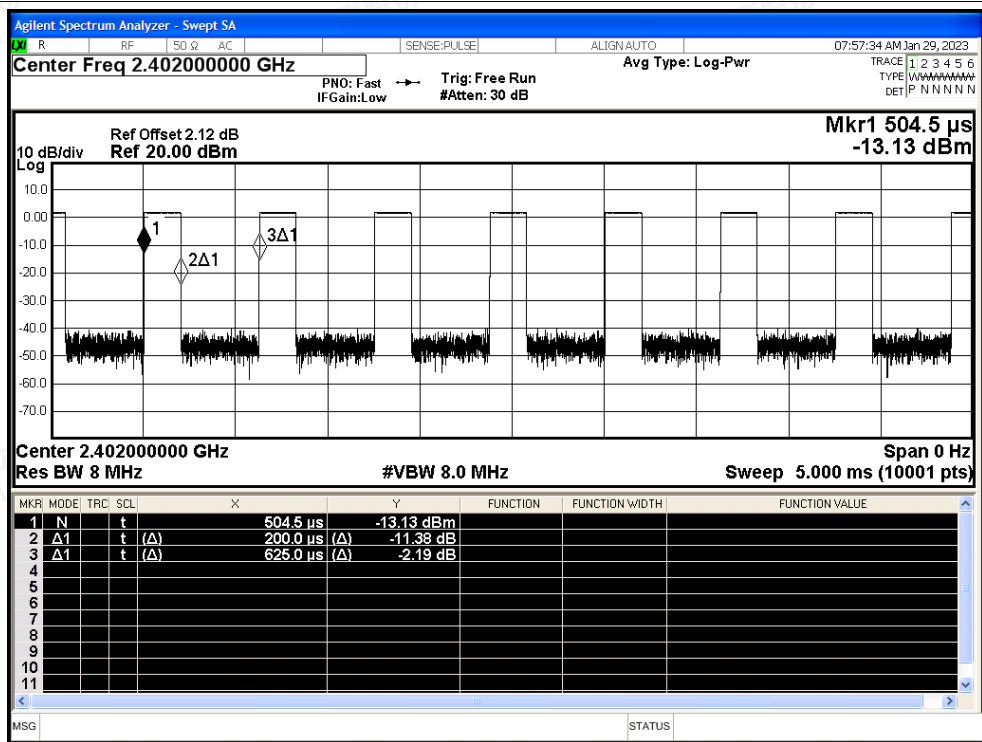
Scan code to check authenticity



Duty Cycle NVNT BLE 1M 2480MHz Ant



Duty Cycle NVNT BLE 2M 2402MHz Ant



Shenzhen LCS Compliance Testing Laboratory Ltd.

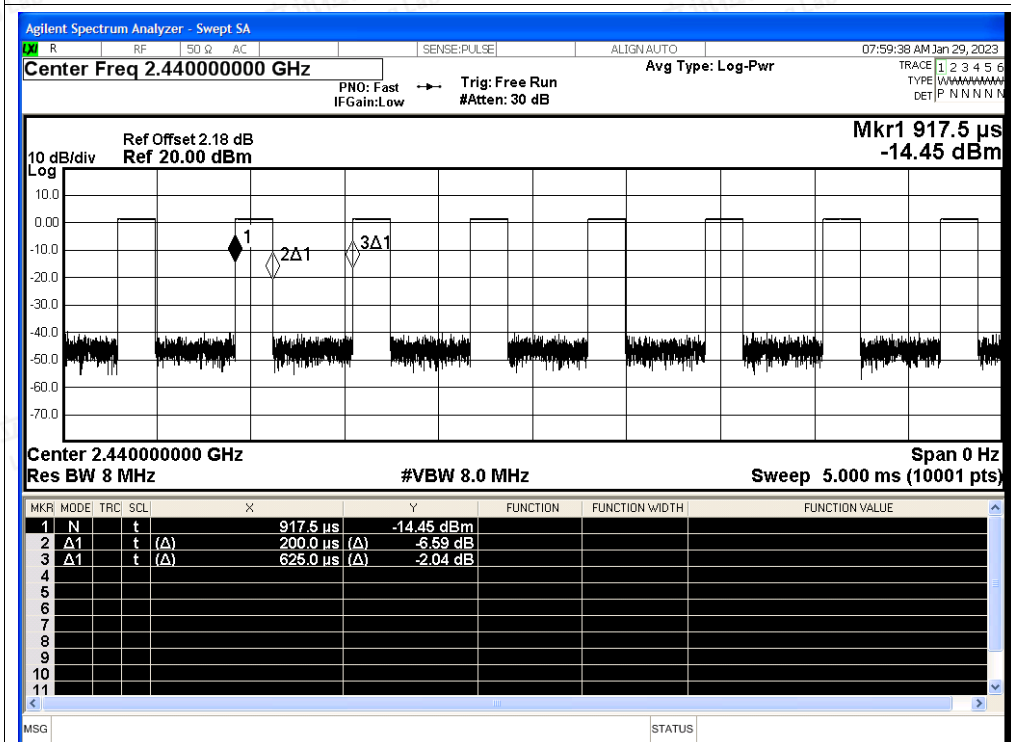
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

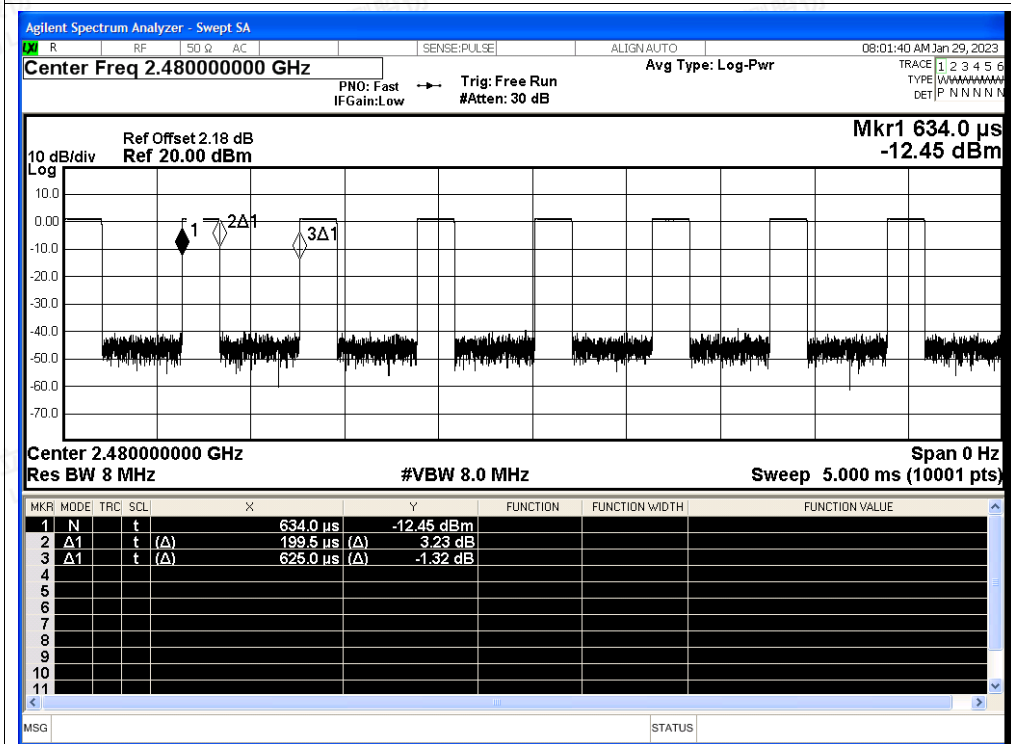
Scan code to check authenticity



Duty Cycle NVNT BLE 2M 2440MHz Ant



Duty Cycle NVNT BLE 2M 2480MHz Ant



Shenzhen LCS Compliance Testing Laboratory Ltd.

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Scan code to check authenticity



B.7 Restrict Band

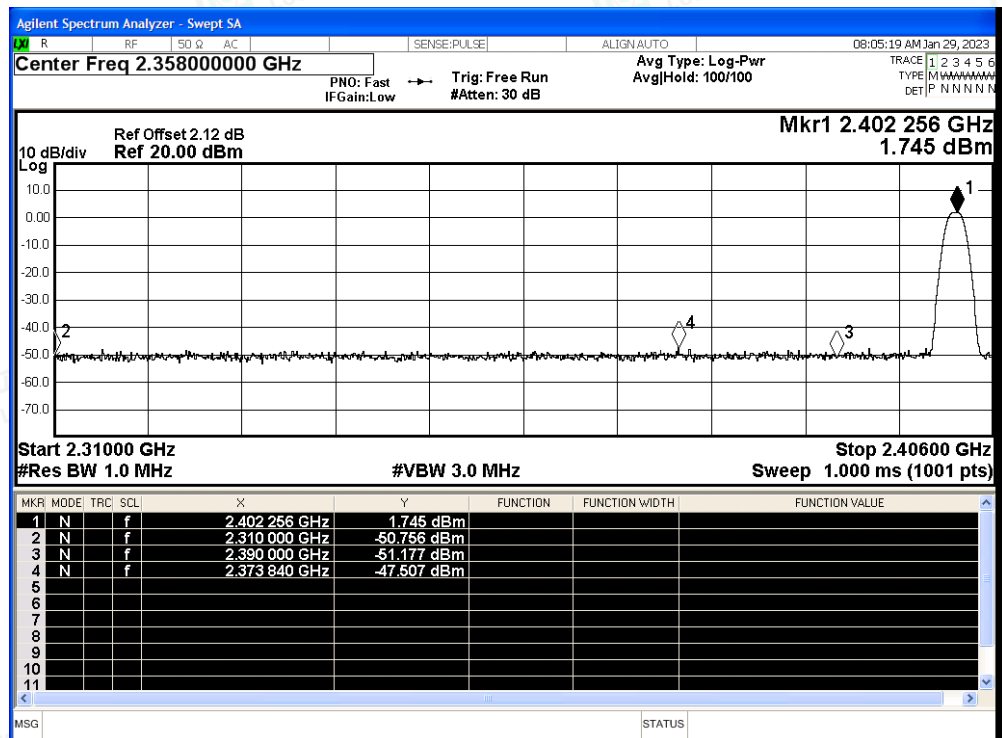
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1M	2402	Ant	2310	-50.76	3.0	47.50	Peak	74	Pass
NVNT	BLE 1M	2402	Ant	2310	-59.85	3.0	38.41	Average	54	Pass
NVNT	BLE 1M	2402	Ant	2373.84	-47.51	3.0	50.75	Peak	74	Pass
NVNT	BLE 1M	2402	Ant	2352.432	-58.98	3.0	39.28	Average	54	Pass
NVNT	BLE 1M	2402	Ant	2390	-51.18	3.0	47.08	Peak	74	Pass
NVNT	BLE 1M	2402	Ant	2390	-59.49	3.0	38.77	Average	54	Pass
NVNT	BLE 1M	2480	Ant	2483.5	-50.64	3.0	47.62	Peak	74	Pass
NVNT	BLE 1M	2480	Ant	2483.5	-59.03	3.0	39.23	Average	54	Pass
NVNT	BLE 1M	2480	Ant	2490.112	-47.16	3.0	51.10	Peak	74	Pass
NVNT	BLE 1M	2480	Ant	2485.936	-58.73	3.0	39.53	Average	54	Pass
NVNT	BLE 1M	2480	Ant	2500	-49.95	3.0	48.31	Peak	74	Pass
NVNT	BLE 1M	2480	Ant	2500	-59.21	3.0	39.05	Average	54	Pass
NVNT	BLE 2M	2402	Ant	2310	-50.18	3.0	48.08	Peak	74	Pass
NVNT	BLE 2M	2402	Ant	2310	-59.59	3.0	38.67	Average	54	Pass
NVNT	BLE 2M	2402	Ant	2370.864	-47.76	3.0	50.50	Peak	74	Pass
NVNT	BLE 2M	2402	Ant	2389.104	-58.56	3.0	39.70	Average	54	Pass
NVNT	BLE 2M	2402	Ant	2390	-50.39	3.0	47.87	Peak	74	Pass
NVNT	BLE 2M	2402	Ant	2390	-59.15	3.0	39.11	Average	54	Pass
NVNT	BLE 2M	2480	Ant	2483.5	-47.41	3.0	50.85	Peak	74	Pass
NVNT	BLE 2M	2480	Ant	2483.5	-54.87	3.0	43.39	Average	54	Pass
NVNT	BLE 2M	2480	Ant	2483.584	-46.22	3.0	52.04	Peak	74	Pass
NVNT	BLE 2M	2480	Ant	2483.512	-54.87	3.0	43.39	Average	54	Pass
NVNT	BLE 2M	2480	Ant	2500	-49.6	3.0	48.66	Peak	74	Pass
NVNT	BLE 2M	2480	Ant	2500	-58.7	3.0	39.56	Average	54	Pass



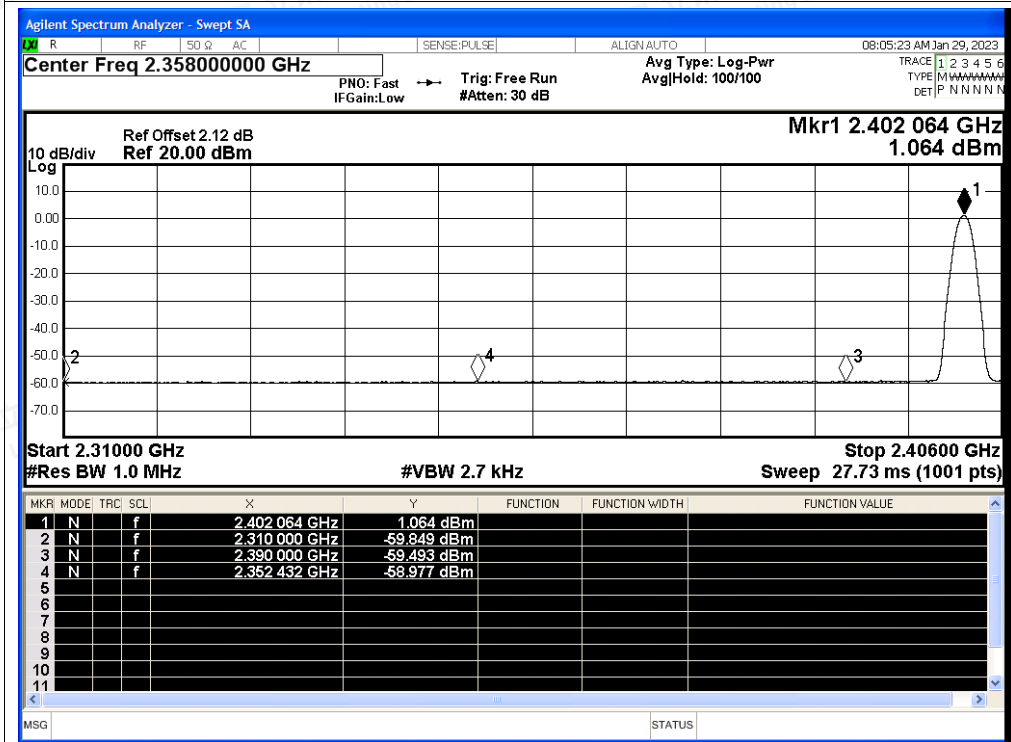


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant Peak



Restrict Band NVNT BLE 1M 2402MHz Ant Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

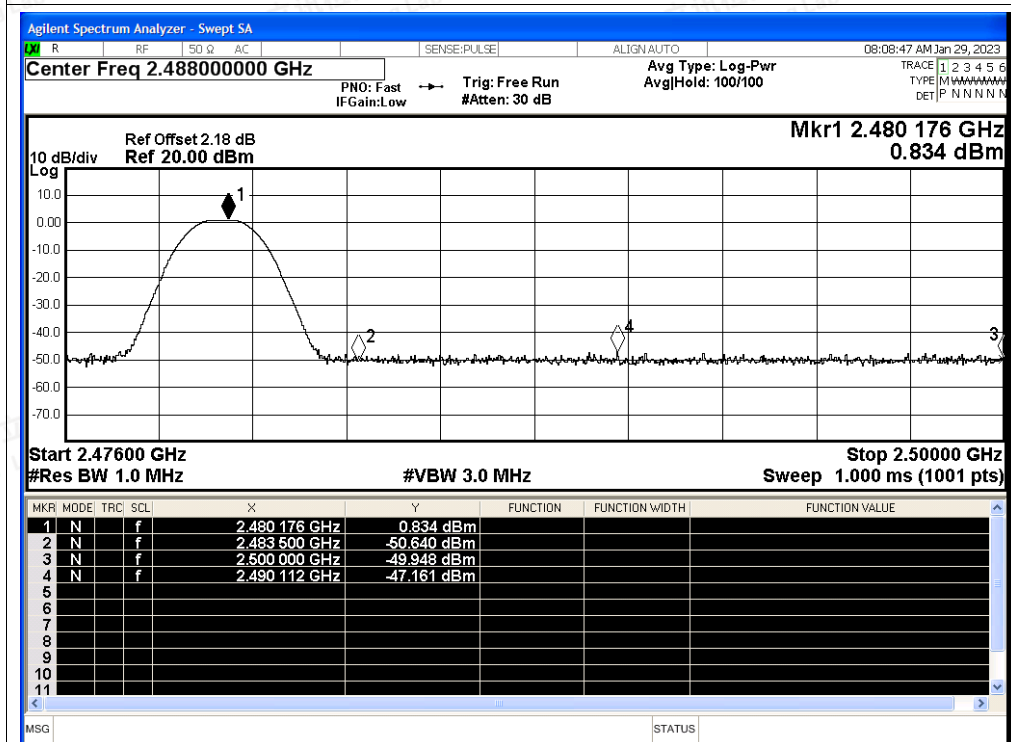
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

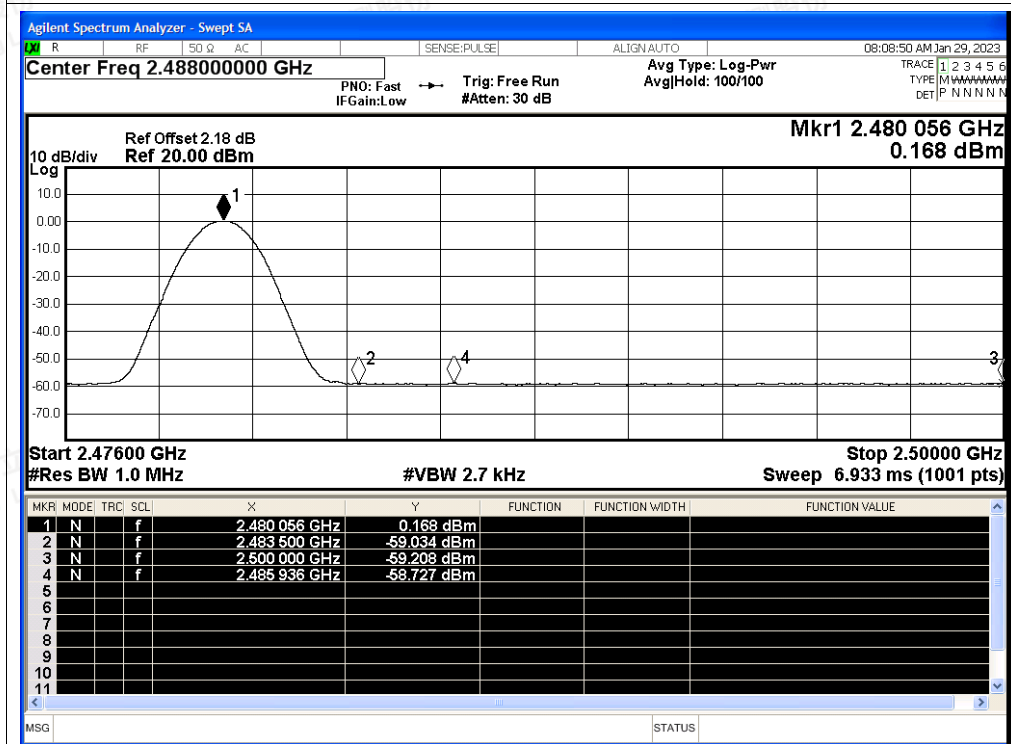
Scan code to check authenticity



Restrict Band NVNT BLE 1M 2480MHz Ant Peak



Restrict Band NVNT BLE 1M 2480MHz Ant Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

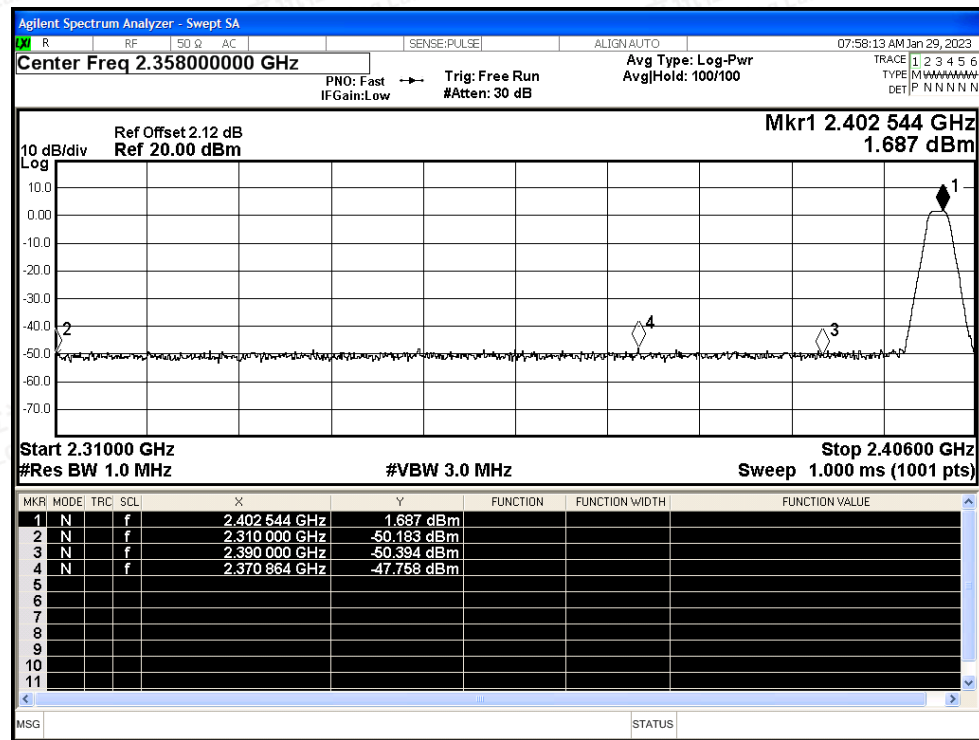
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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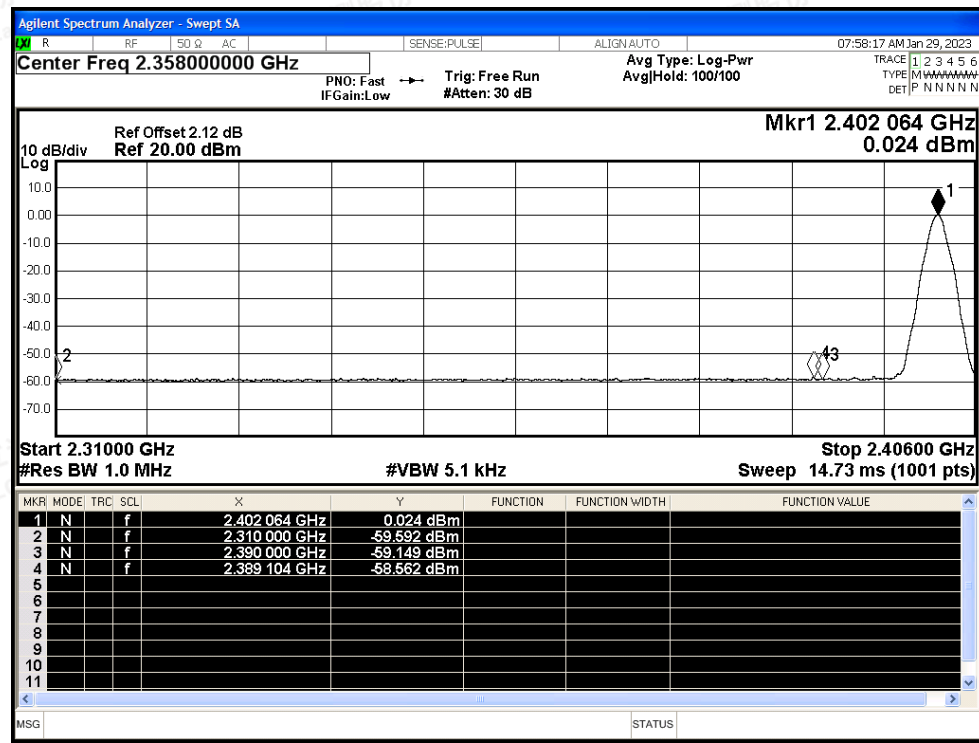
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Restrict Band NVNT BLE 2M 2402MHz Ant Peak



Restrict Band NVNT BLE 2M 2402MHz Ant Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

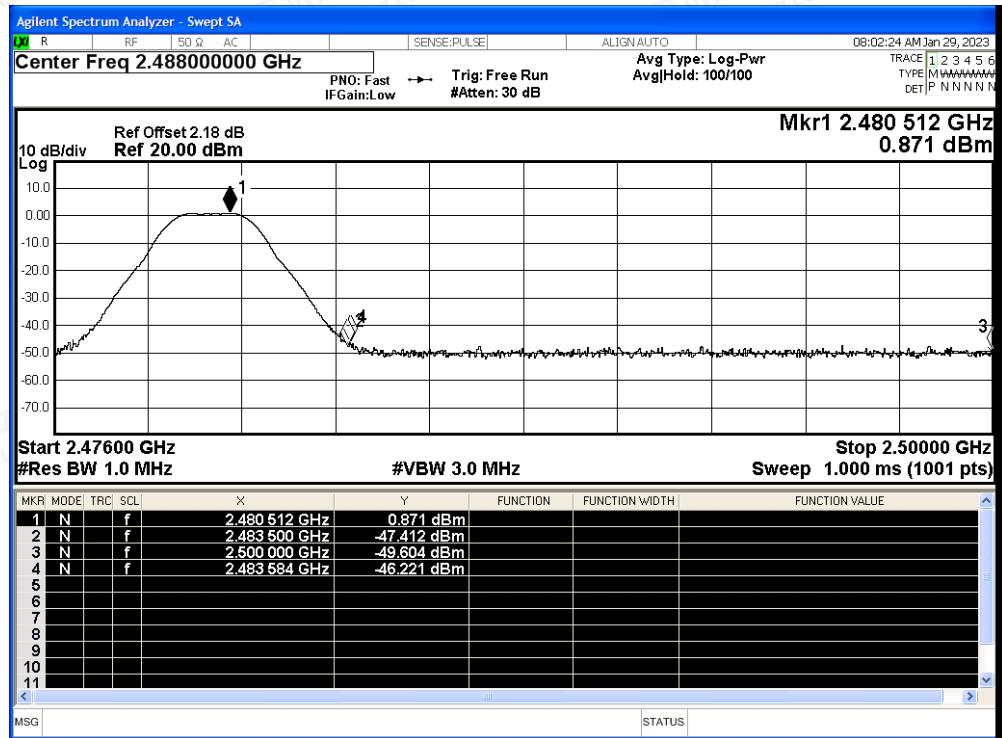
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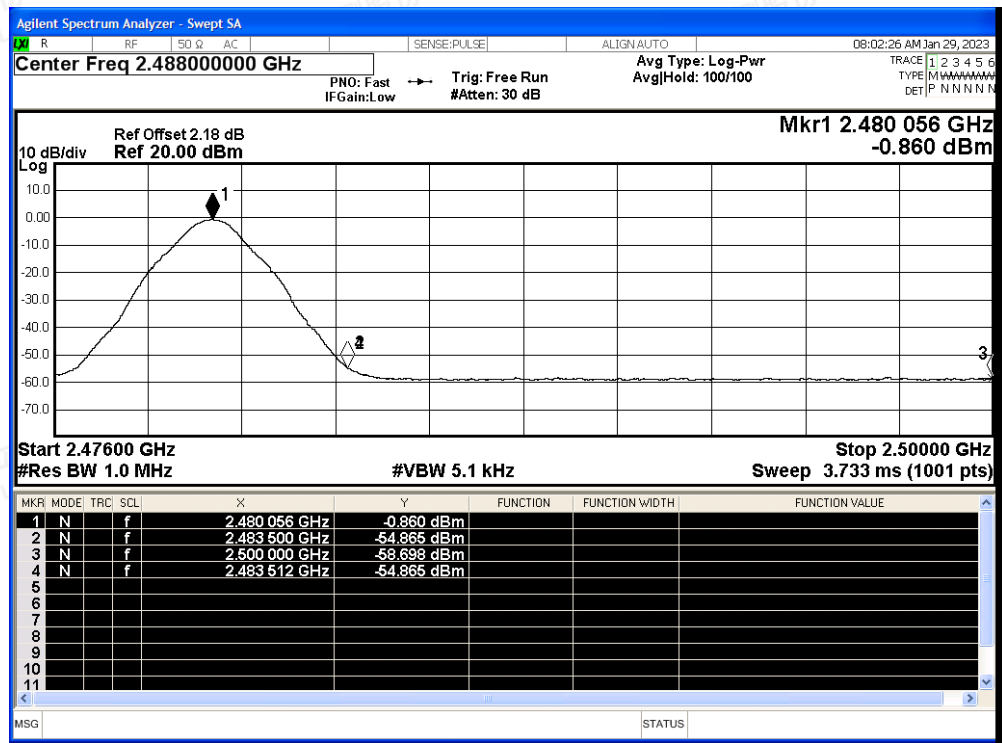
Scan code to check authenticity



Restrict Band NVNT BLE 2M 2480MHz Ant Peak



Restrict Band NVNT BLE 2M 2480MHz Ant Average



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