



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Smart Module

Test Model: SOM-3568-SMARC

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
Supervised by:	Nick Peng





B.1 -6dB Bandwidth

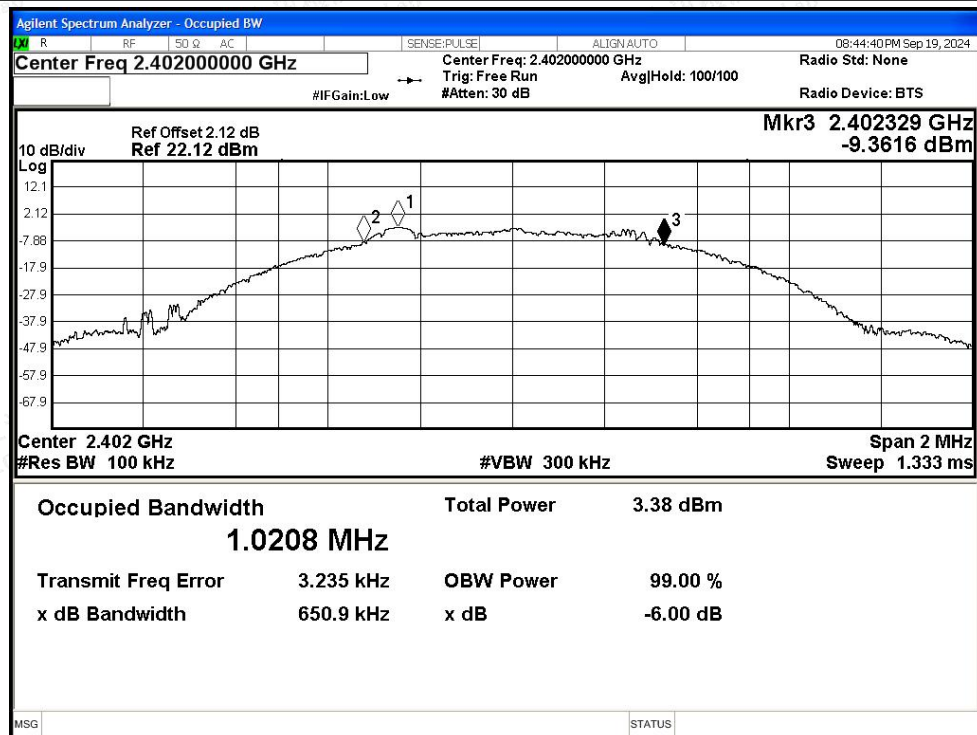
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant0	0.651	>=0.5	Pass
NVNT	BLE 1M	2440	Ant0	0.655	>=0.5	Pass
NVNT	BLE 1M	2480	Ant0	0.659	>=0.5	Pass



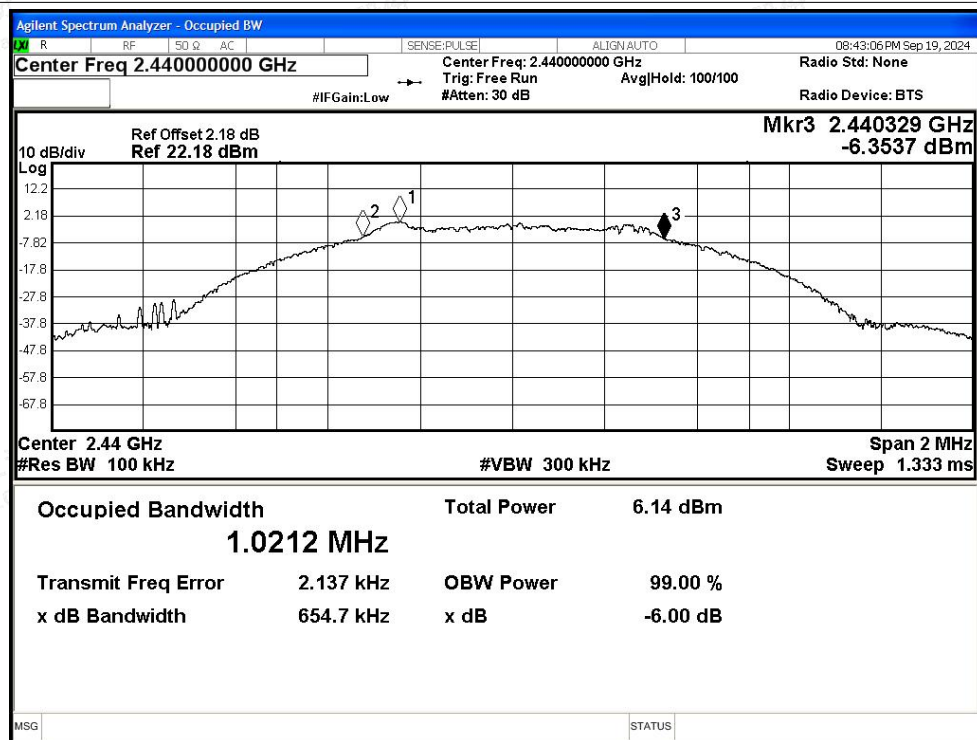


Test Graphs

-6dB Bandwidth NVNT BLE 1M 2402MHz Ant0



-6dB Bandwidth NVNT BLE 1M 2440MHz Ant0



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 Ant0



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.2 Maximum Conducted Output Power

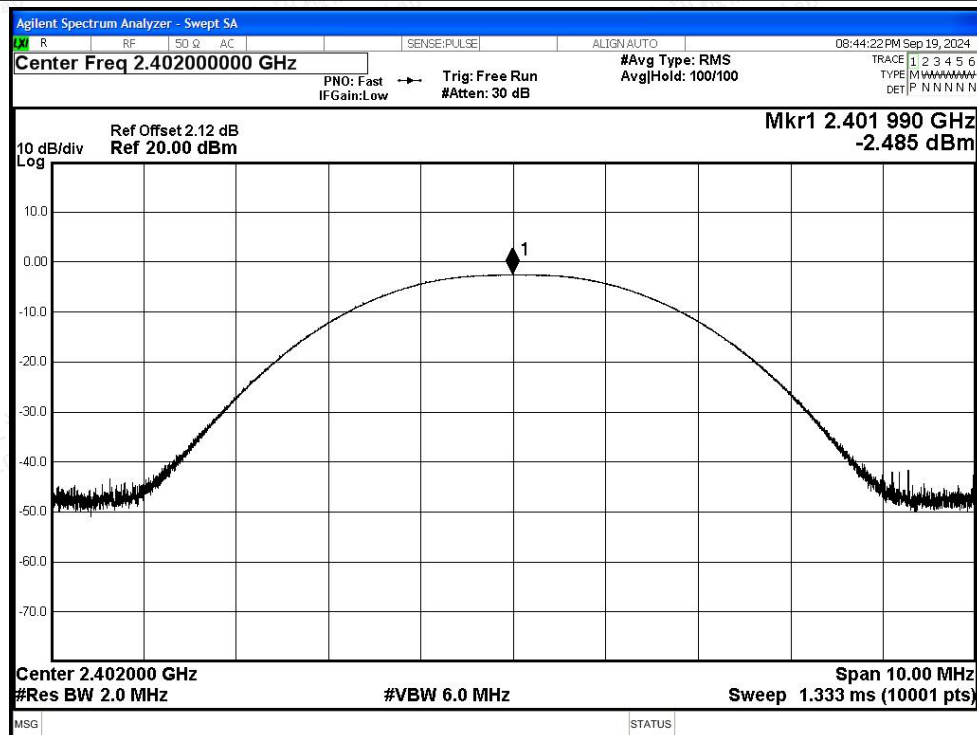
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant0	-2.49	30	Pass
NVNT	BLE 1M	2440	Ant0	0.24	30	Pass
NVNT	BLE 1M	2480	Ant0	0.47	30	Pass



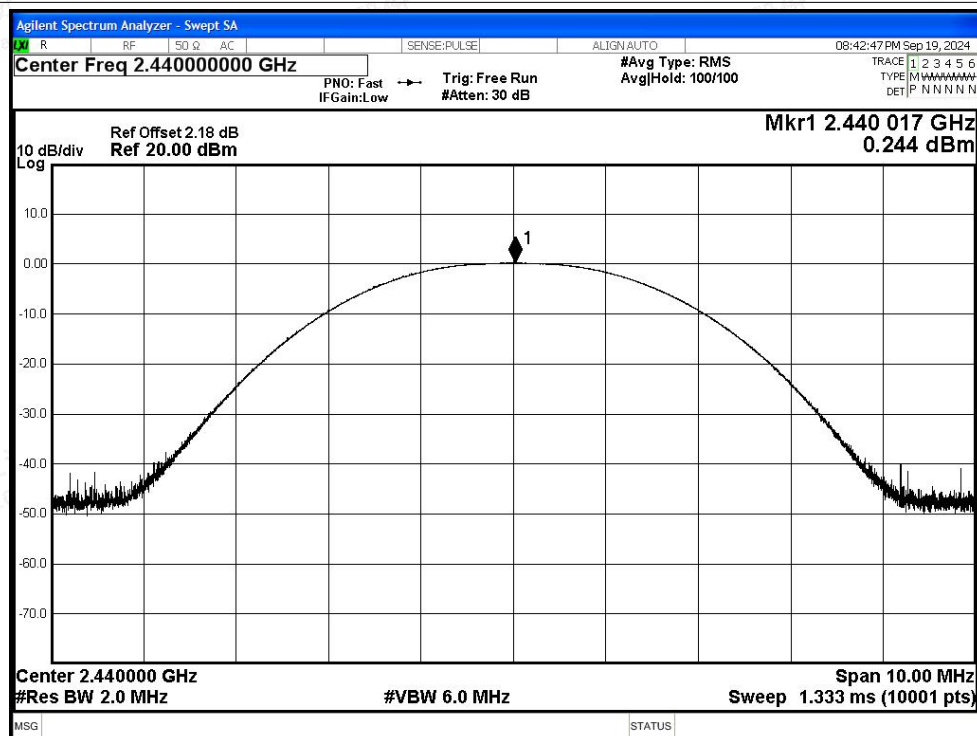


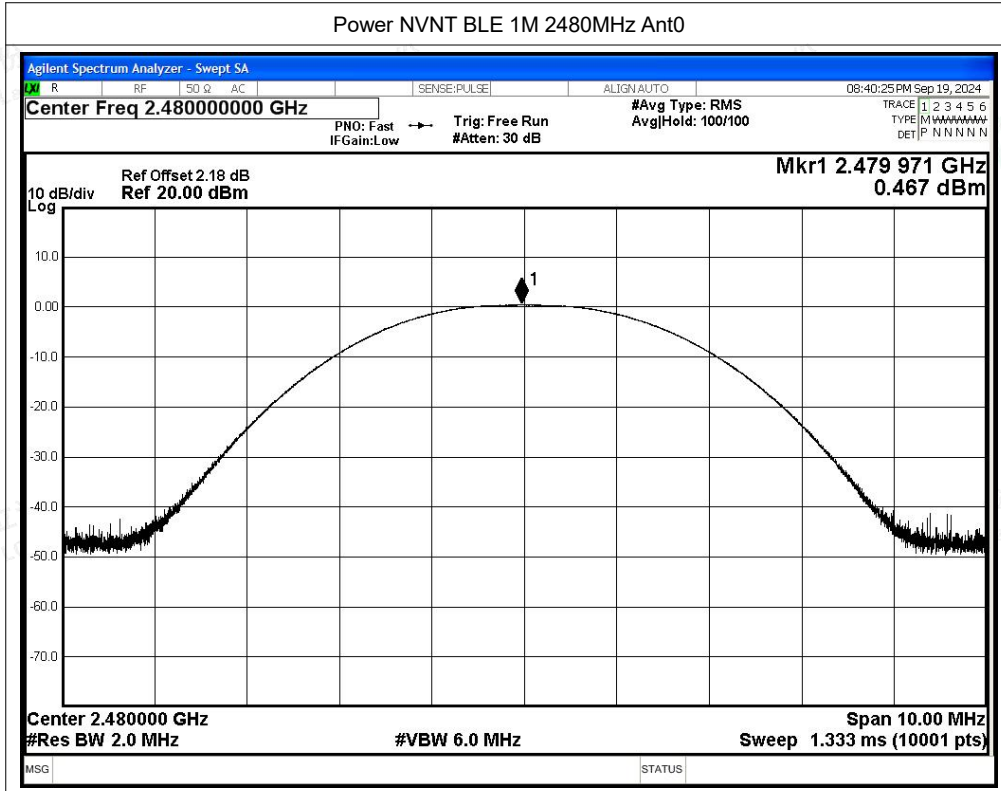
Test Graphs

Power NVNT BLE 1M 2402MHz Ant0



Power NVNT BLE 1M 2440MHz Ant0





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.3 Maximum Power Spectral Density Level

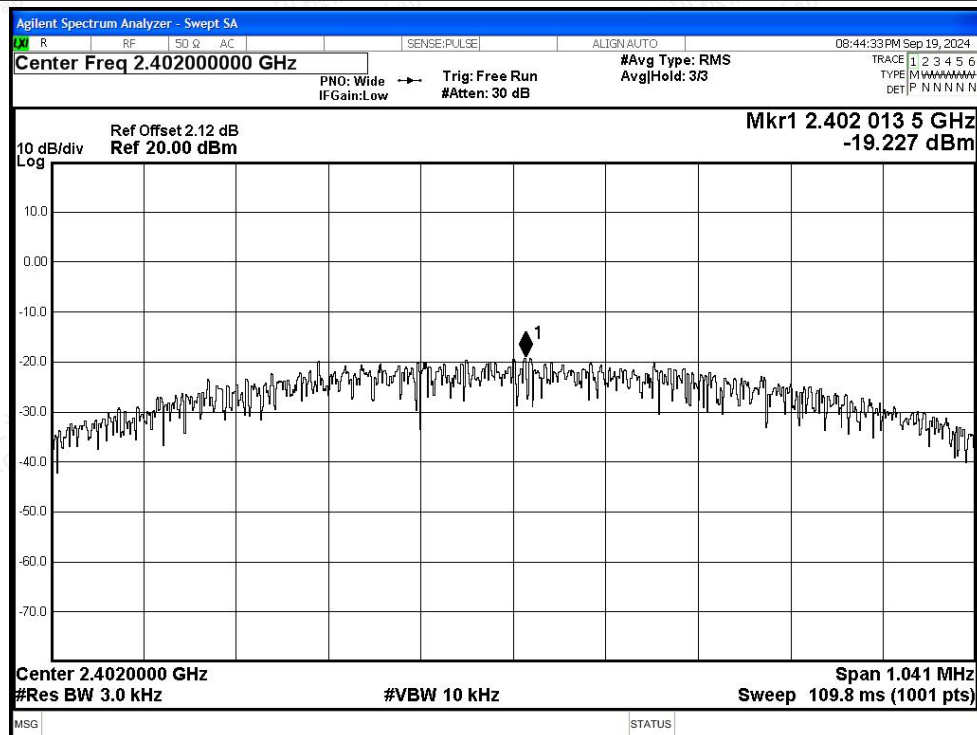
Condition	Mode	Frequency (MHz)	Antenna	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	BLE 1M	2402	Ant0	-19.23	8	Pass
NVNT	BLE 1M	2440	Ant0	-16.51	8	Pass
NVNT	BLE 1M	2480	Ant0	-16.50	8	Pass



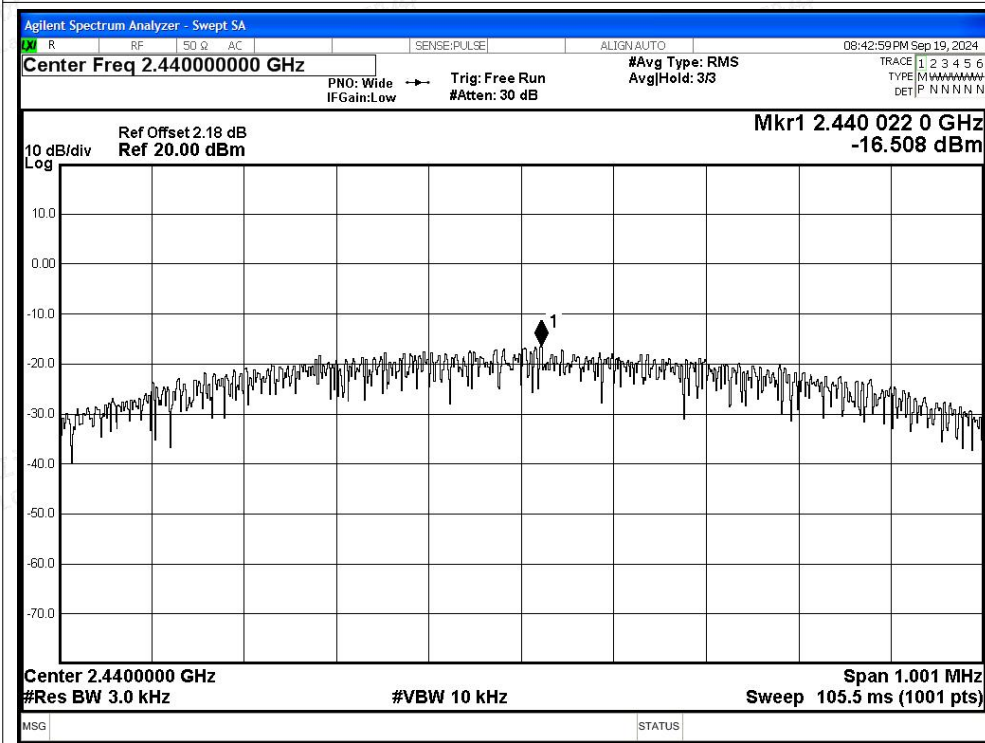


Test Graphs

PSD NVNT BLE 1M 2402MHz Ant0



PSD NVNT BLE 1M 2440MHz Ant0

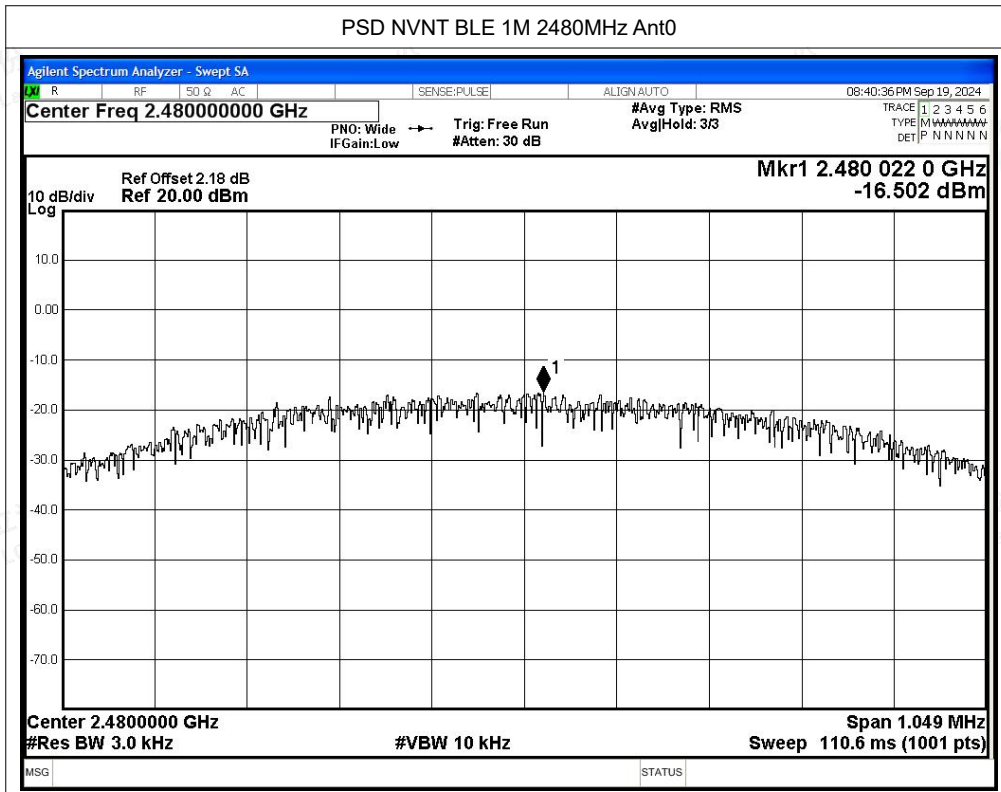


Shenzhen LCS Compliance Testing Laboratory Ltd.

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



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.4 Band Edge

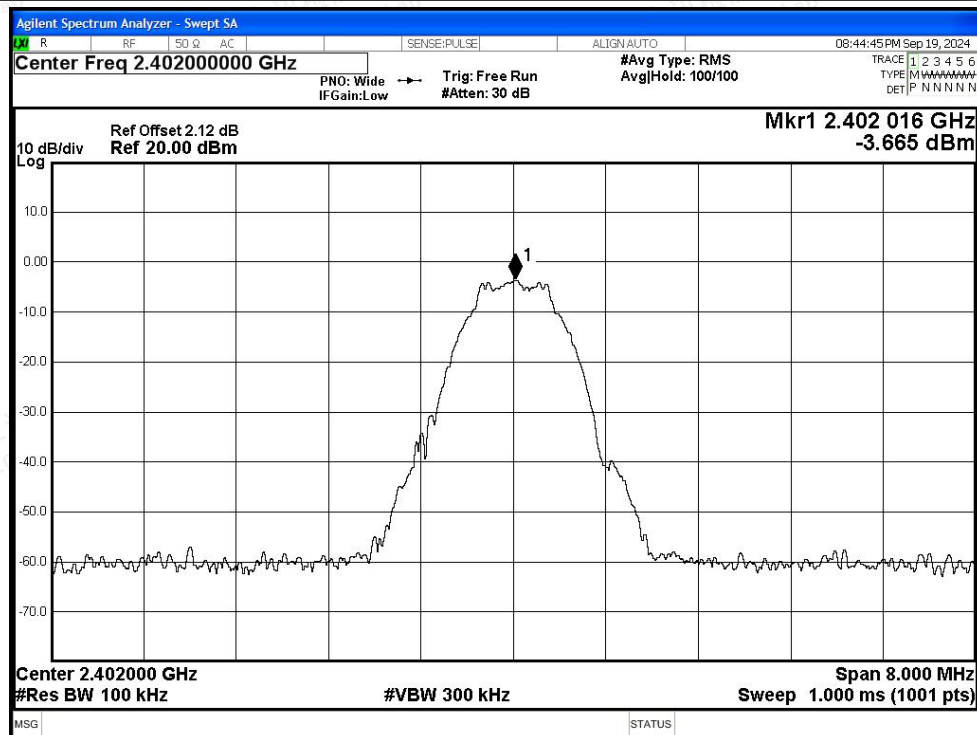
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant0	-52.81	-20	Pass
NVNT	BLE 1M	2480	Ant0	-56.18	-20	Pass



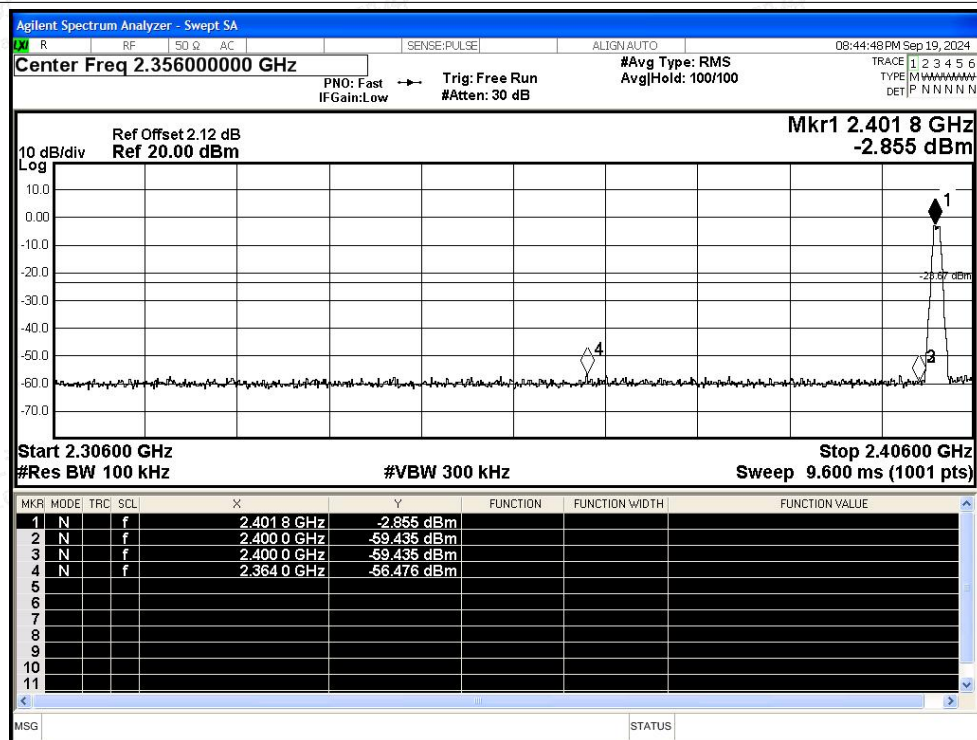


Test Graphs

Band Edge NVNT BLE 1M 2402MHz Ant0 Ref



Band Edge NVNT BLE 1M 2402MHz Ant0 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

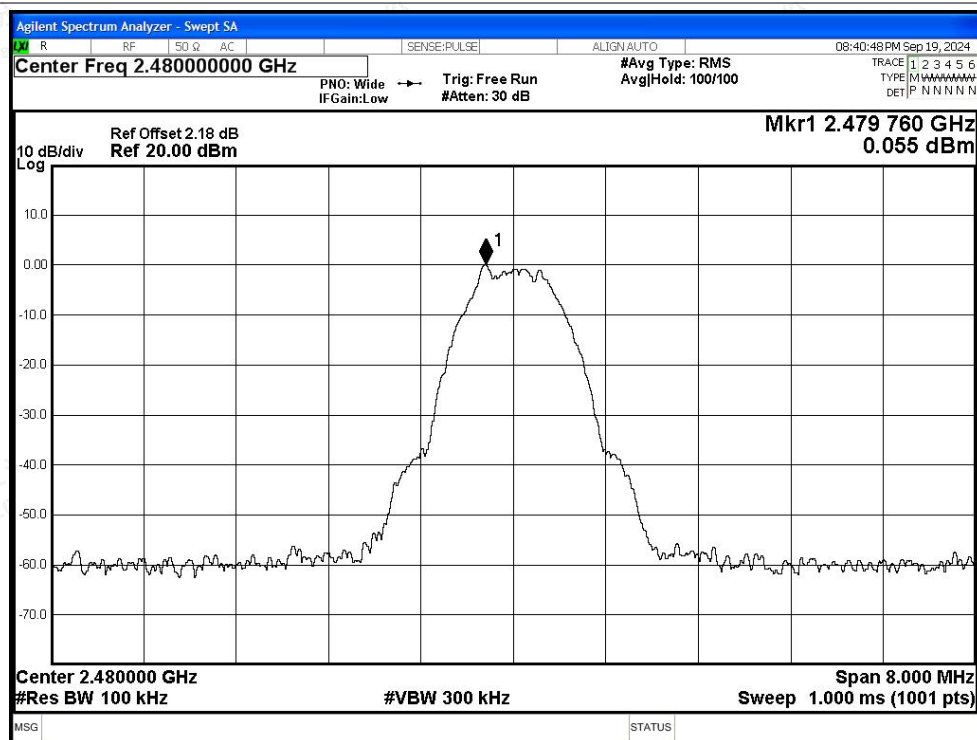
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

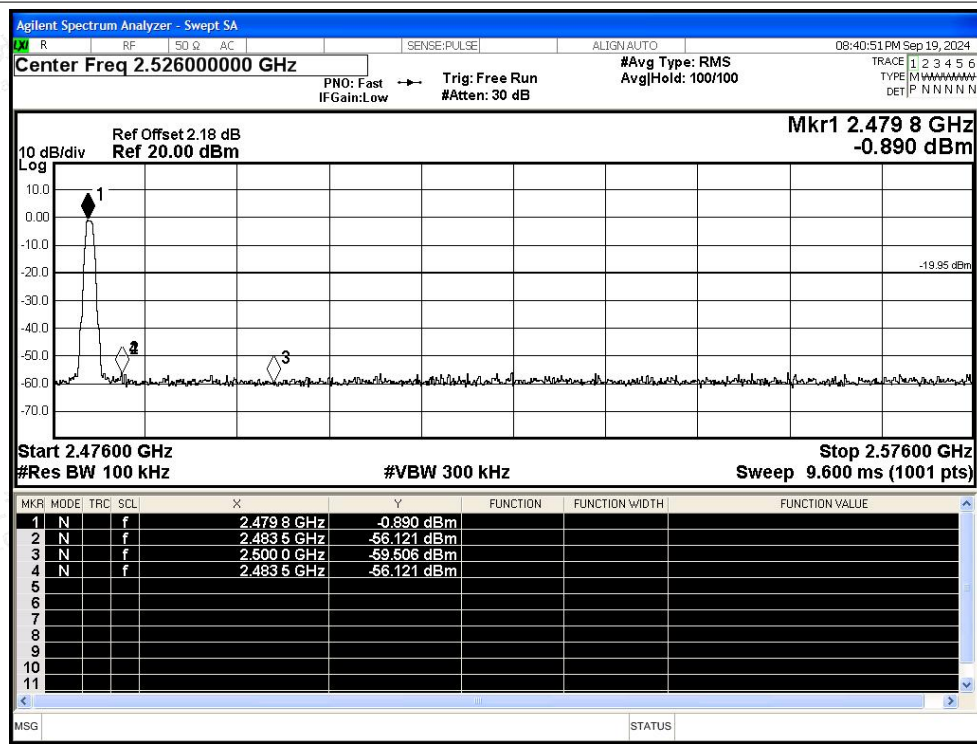
Scan code to check authenticity



Band Edge NVNT BLE 1M 2480MHz Ant0 Ref



Band Edge NVNT BLE 1M 2480MHz Ant0 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	Ant0	-52.43	-20	Pass
NVNT	BLE 1M	2440	Ant0	-54.95	-20	Pass
NVNT	BLE 1M	2480	Ant0	-54.81	-20	Pass

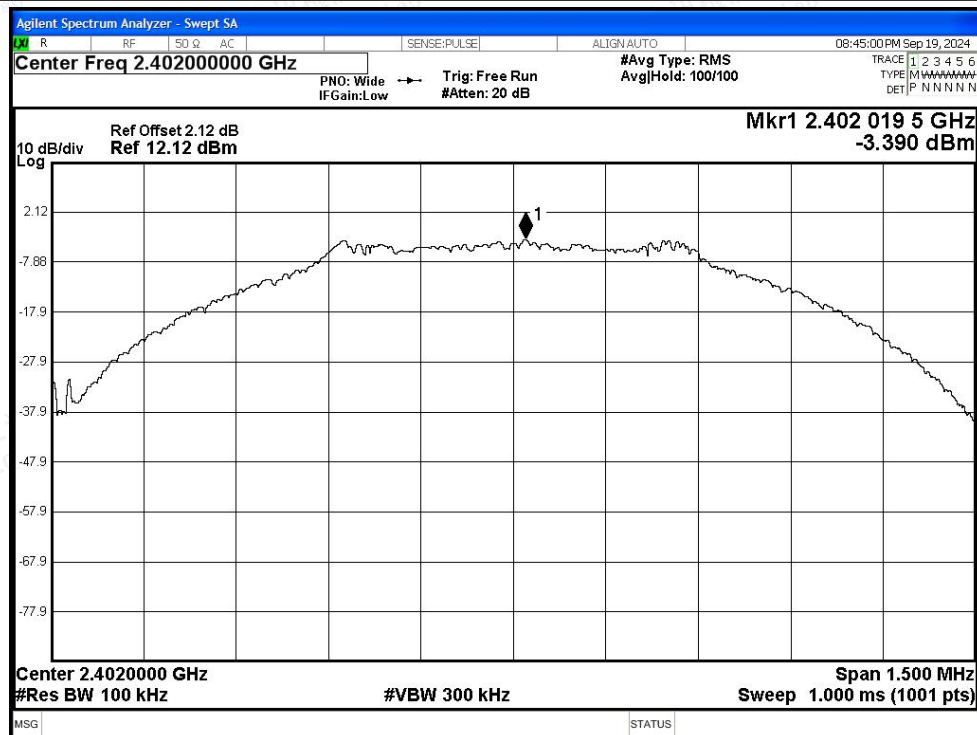


Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

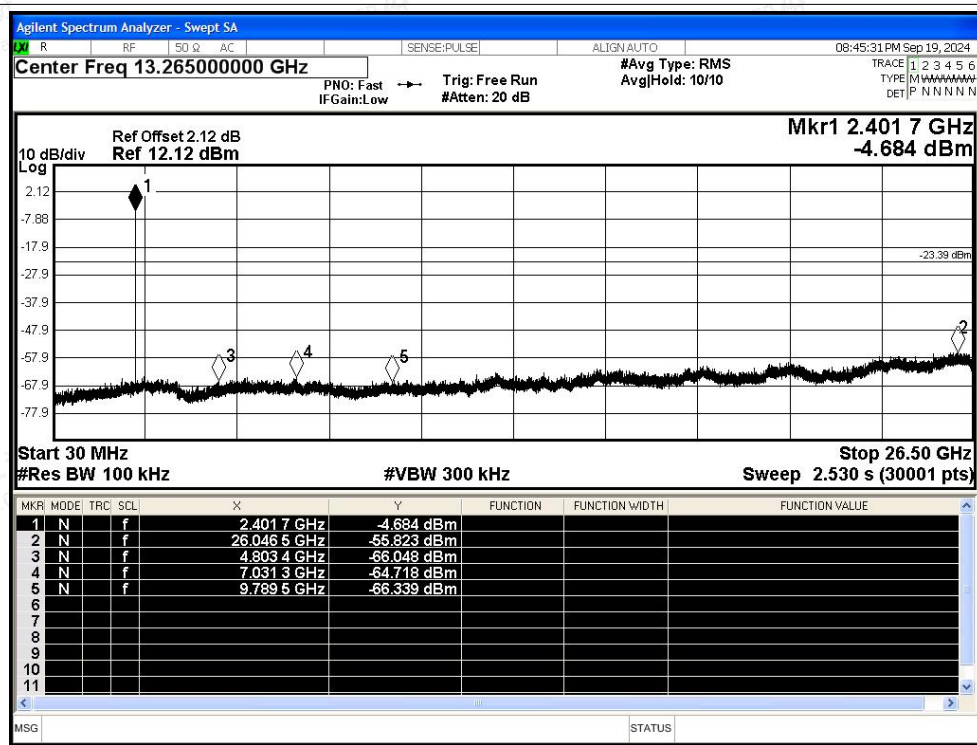


Test Graphs

Tx. Spurious NVNT BLE 1M 2402MHz Ant0 Ref



Tx. Spurious NVNT BLE 1M 2402MHz Ant0 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

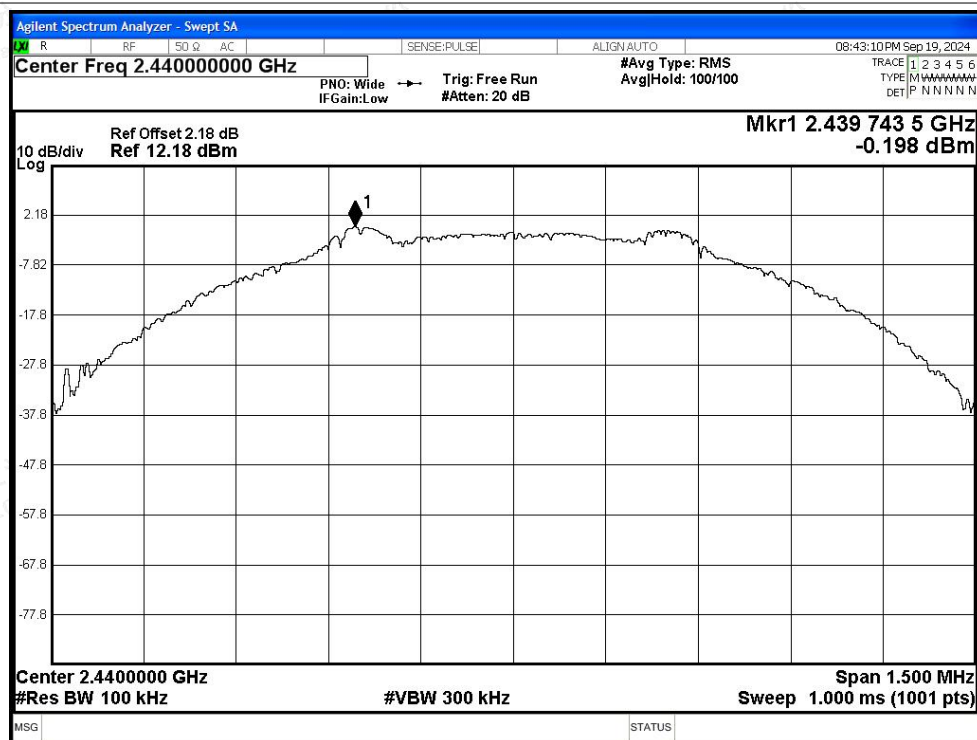
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

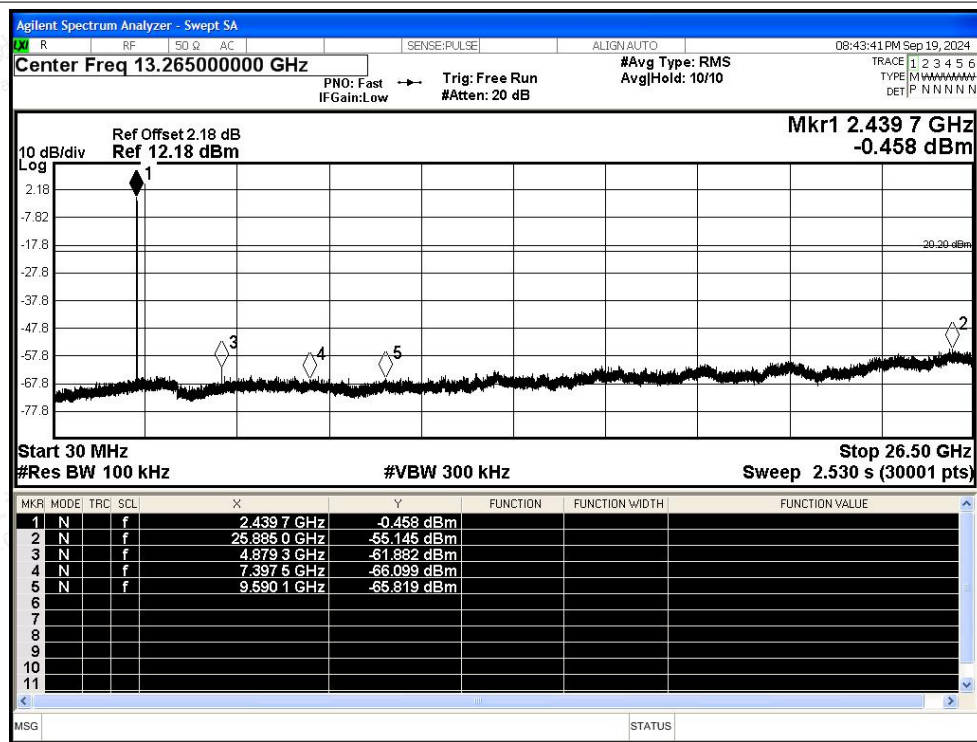
Scan code to check authenticity



Tx. Spurious NVNT BLE 1M 2440MHz Ant0 Ref



Tx. Spurious NVNT BLE 1M 2440MHz Ant0 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

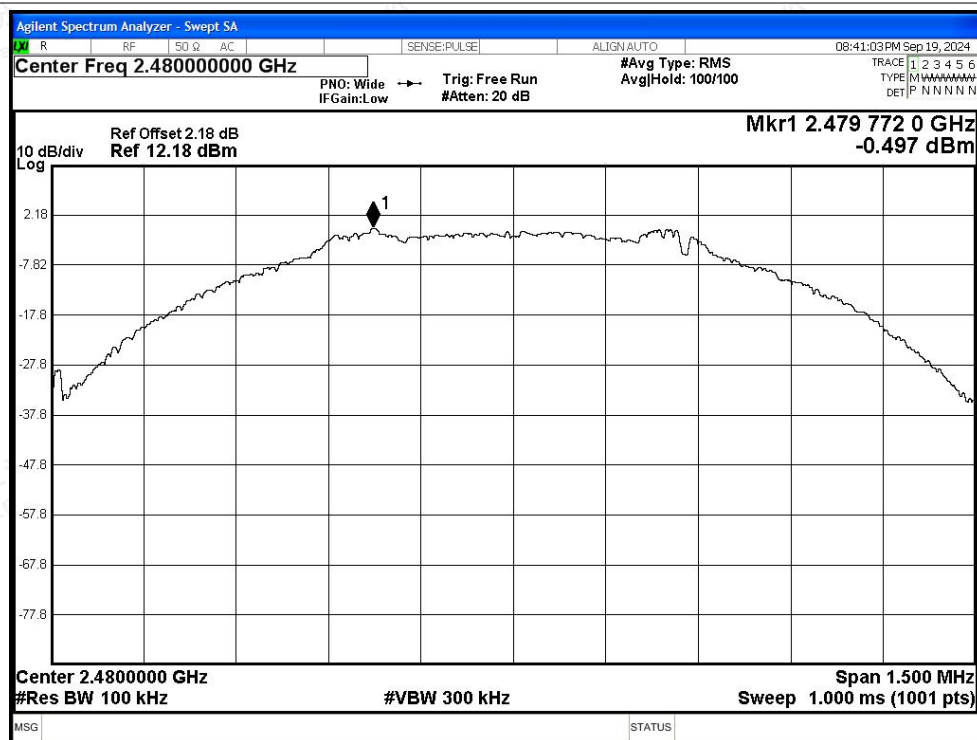
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

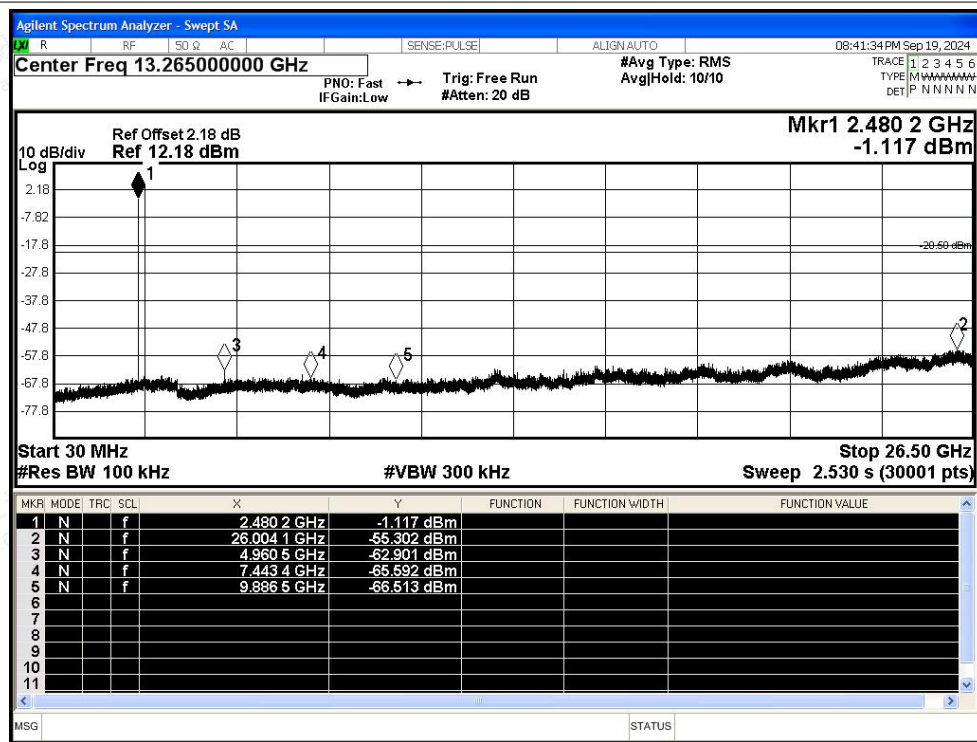
Scan code to check authenticity



Tx. Spurious NVNT BLE 1M 2480MHz Ant0 Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant0 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.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	BLE 1M	2402	Ant0	87.36	0.59	0.61
NVNT	BLE 1M	2440	Ant0	87.39	0.59	0.61
NVNT	BLE 1M	2480	Ant0	87.39	0.59	0.61

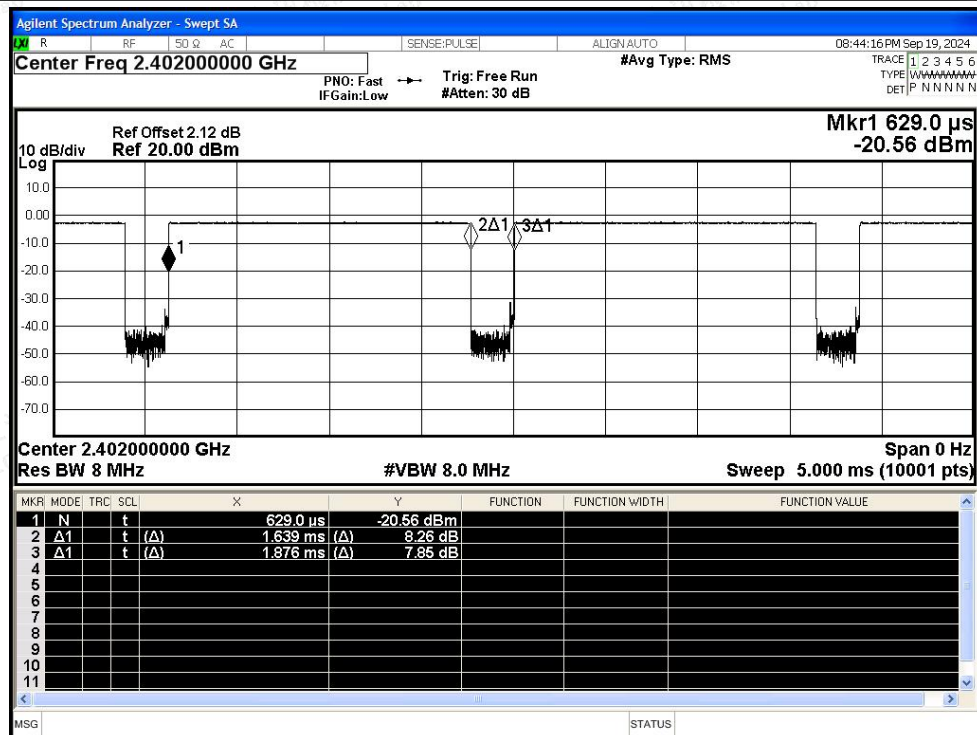


Shenzhen LCS Compliance Testing Laboratory Ltd.
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com
Scan code to check authenticity

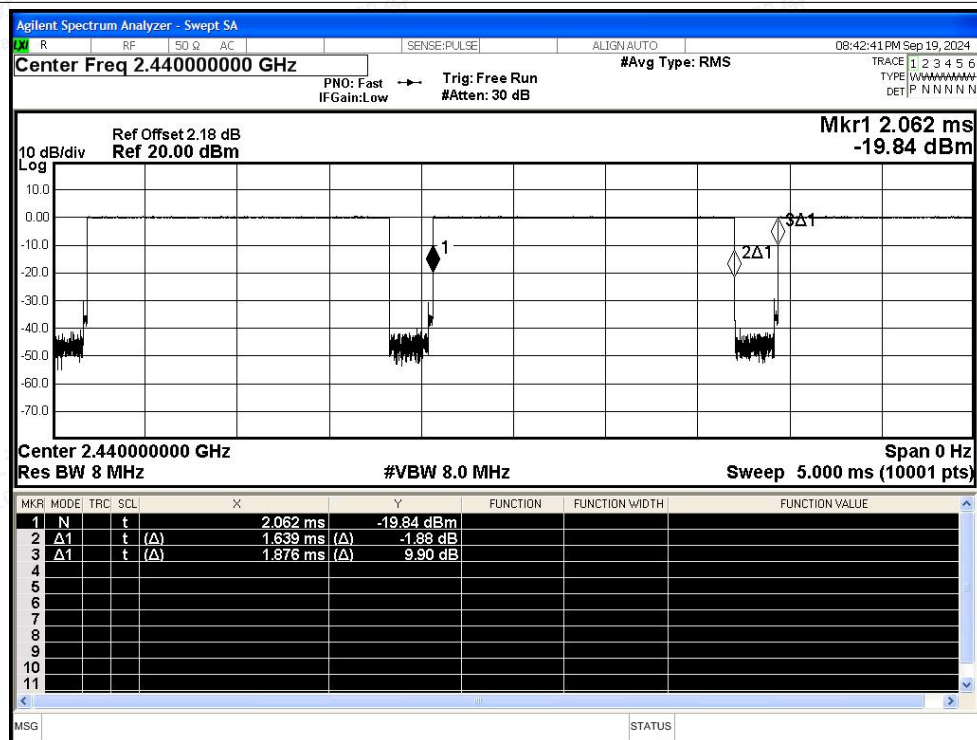


Test Graphs

Duty Cycle NVNT BLE 1M 2402MHz Ant0



Duty Cycle NVNT BLE 1M 2440MHz Ant0



Shenzhen LCS Compliance Testing Laboratory Ltd.

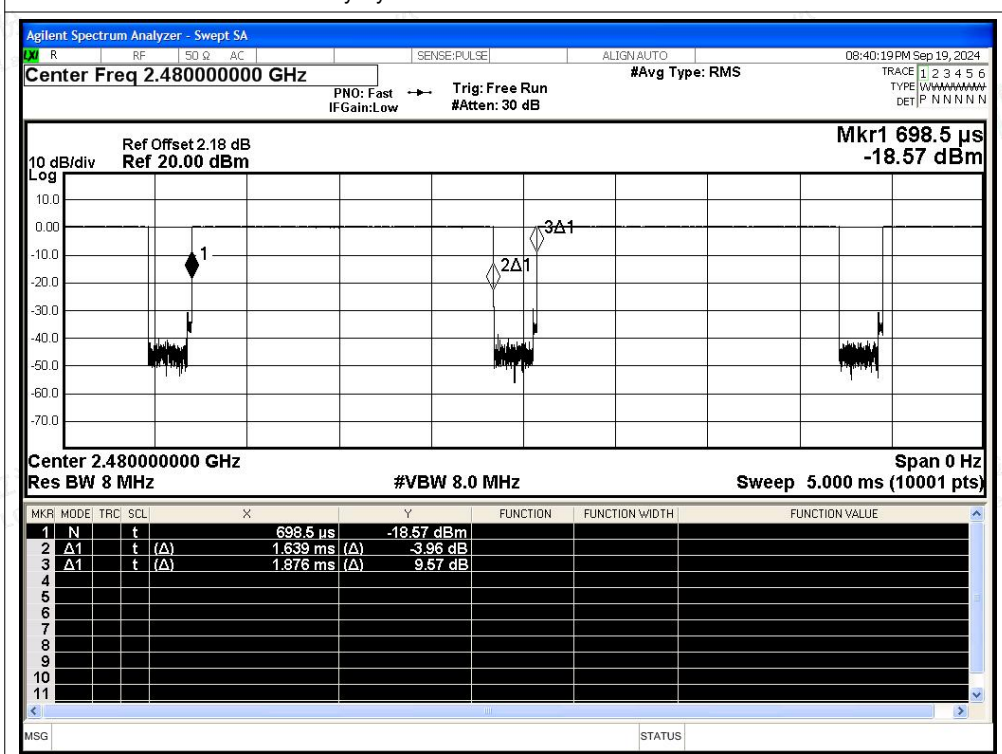
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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 Ant0





B.7 Restrict Band

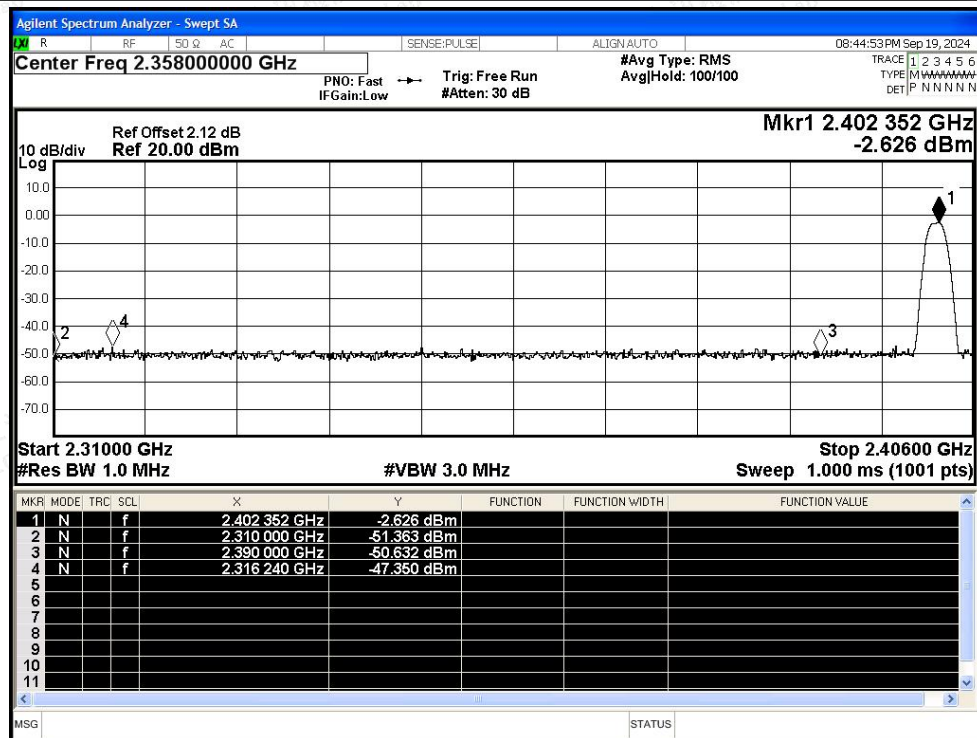
Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	Power (dBm)	Gain (dBi)	Duty Factor (dB)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	BLE 1M	2402	Ant0	2310	-51.36	2	-	45.90	Peak	74	Pass
NVNT	BLE 1M	2402	Ant0	2310	-58.61	2	0.59	39.24	Average	54	Pass
NVNT	BLE 1M	2402	Ant0	2316.24	-47.35	2	-	49.91	Peak	74	Pass
NVNT	BLE 1M	2402	Ant0	2336.688	-57.43	2	0.59	40.42	Average	54	Pass
NVNT	BLE 1M	2402	Ant0	2390	-50.63	2	-	46.63	Peak	74	Pass
NVNT	BLE 1M	2402	Ant0	2390	-58.11	2	0.59	39.74	Average	54	Pass
NVNT	BLE 1M	2480	Ant0	2483.5	-46.82	2	-	50.44	Peak	74	Pass
NVNT	BLE 1M	2480	Ant0	2483.5	-57.6	2	0.59	40.25	Average	54	Pass
NVNT	BLE 1M	2480	Ant0	2483.512	-46.82	2	-	50.44	Peak	74	Pass
NVNT	BLE 1M	2480	Ant0	2483.8	-56.92	2	0.59	40.93	Average	54	Pass
NVNT	BLE 1M	2480	Ant0	2500	-48.52	2	-	48.74	Peak	74	Pass
NVNT	BLE 1M	2480	Ant0	2500	-57.98	2	0.59	39.87	Average	54	Pass



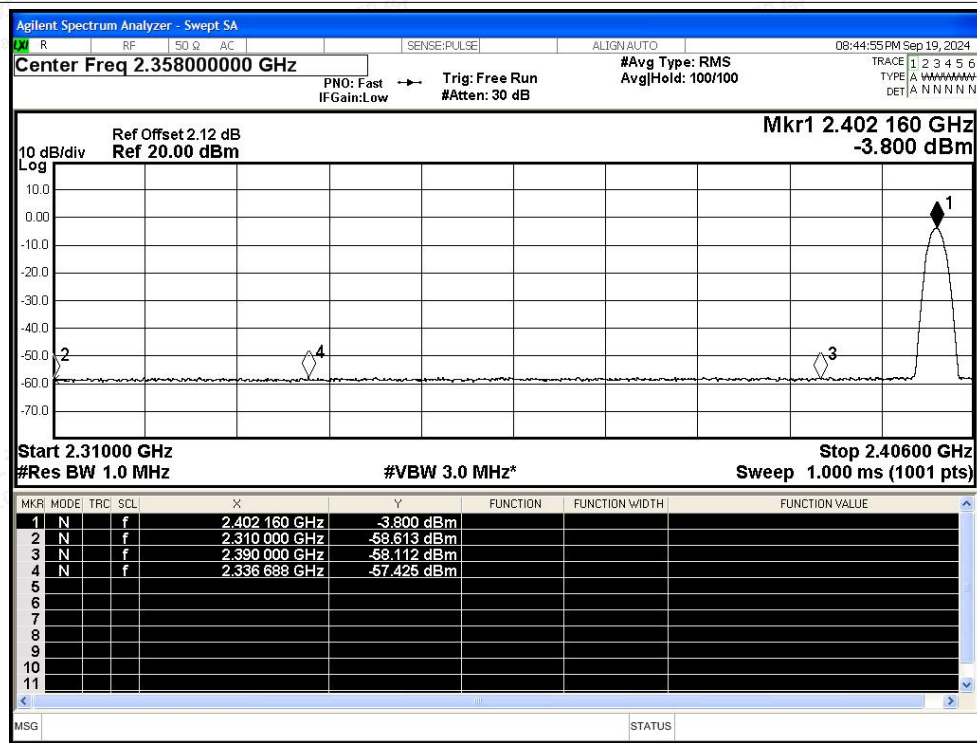


Test Graphs

Restrict Band NVNT BLE 1M 2402MHz Ant0 Peak



Restrict Band NVNT BLE 1M 2402MHz Ant0 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

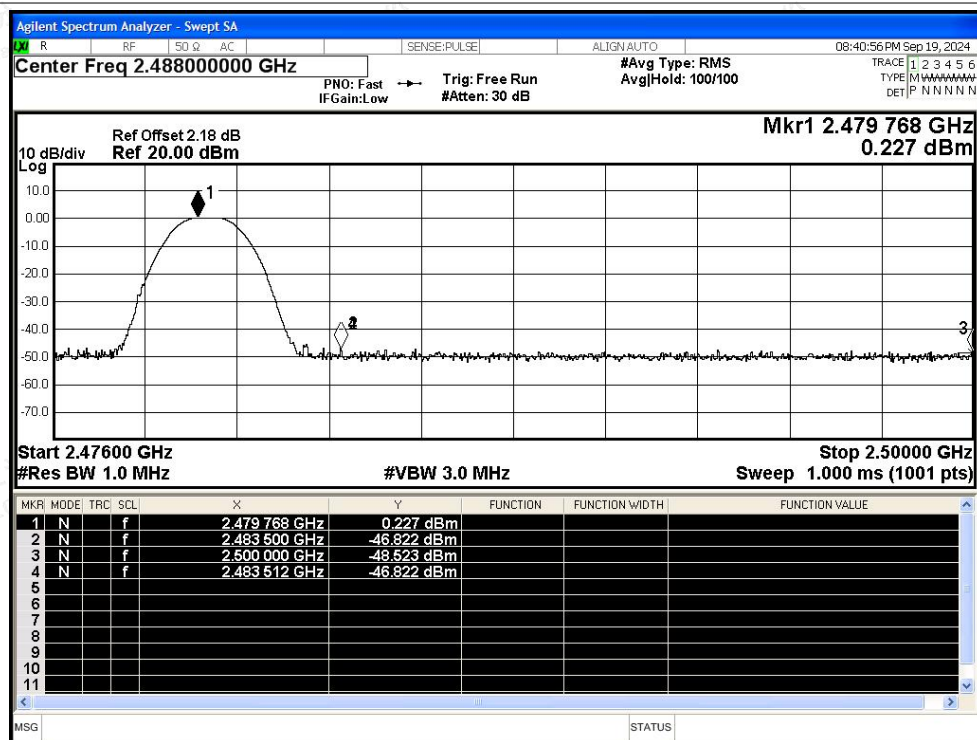
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

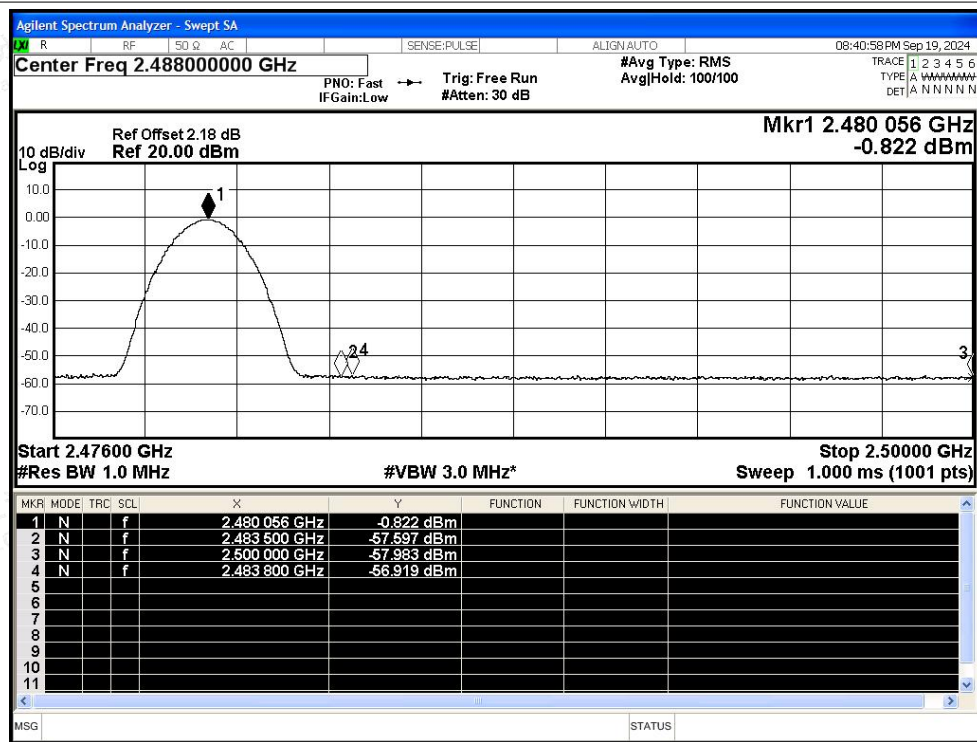
Scan code to check authenticity



Restrict Band NVNT BLE 1M 2480MHz Ant0 Peak



Restrict Band NVNT BLE 1M 2480MHz Ant0 Average



Shenzhen LCS Compliance Testing Laboratory Ltd.

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