



Appendix B

RF Test Data for Lora (Conducted Measurement)

Product Name: TOrigin TIP

Test Model: TOrigin TIP

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Joker.Hu Joker Hu
Supervised by:	Libu Li Huan





B.1 6dB Bandwidth

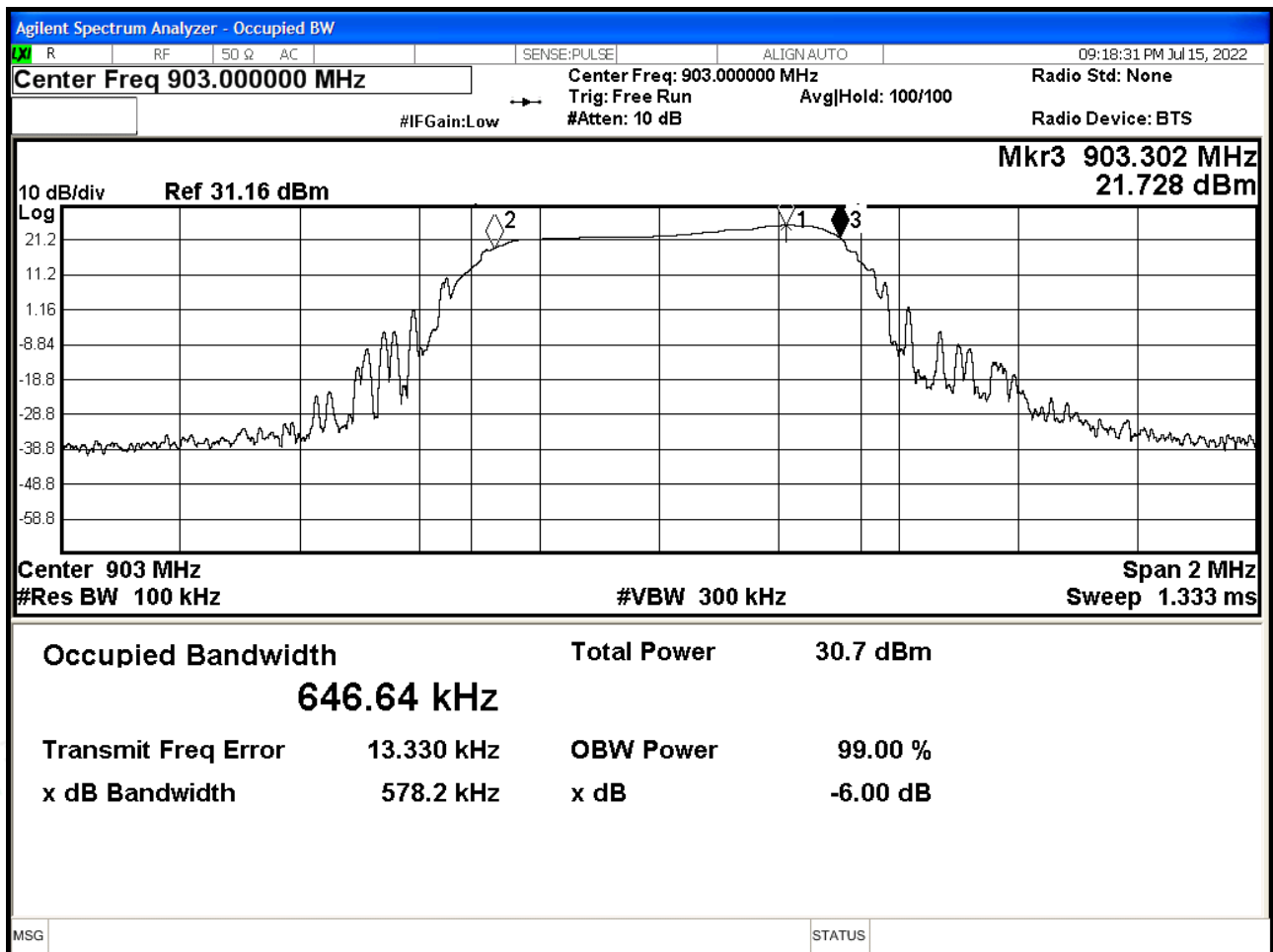
Condition	Mode	Frequency (MHz)	Antenna	6 dB Bandwidth (MHz)	Limit 6 dB Bandwidth (MHz)	Verdict
NVNT	Lora	903.0	Ant	0.578	0.5	Pass
NVNT	Lora	915.0	Ant	0.669	0.5	Pass
NVNT	Lora	927.5	Ant	0.623	0.5	Pass





Test Graphs

-6dB Bandwidth NVNT Lora 903MHz



-6dB Bandwidth NVNT Lora 915MHz

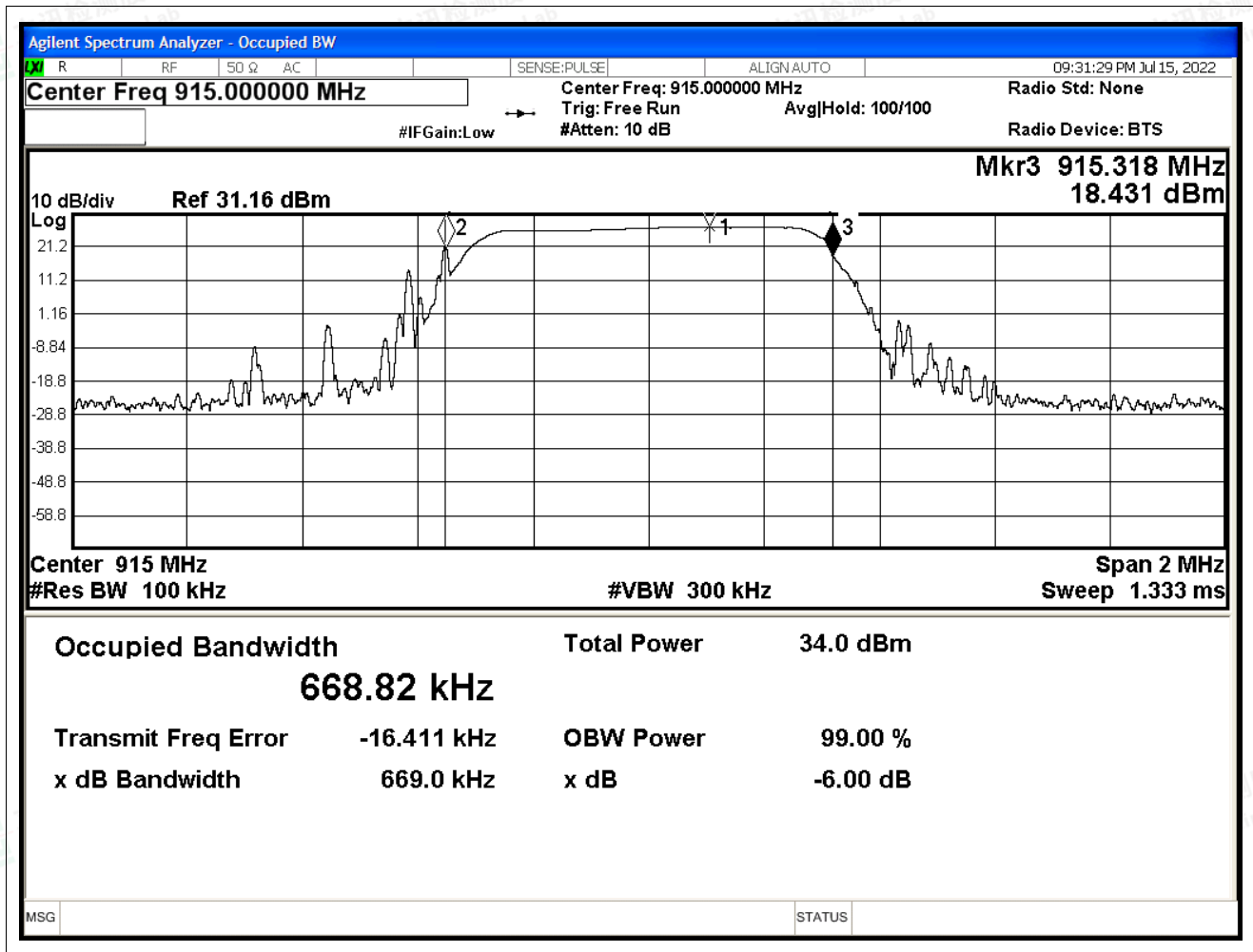


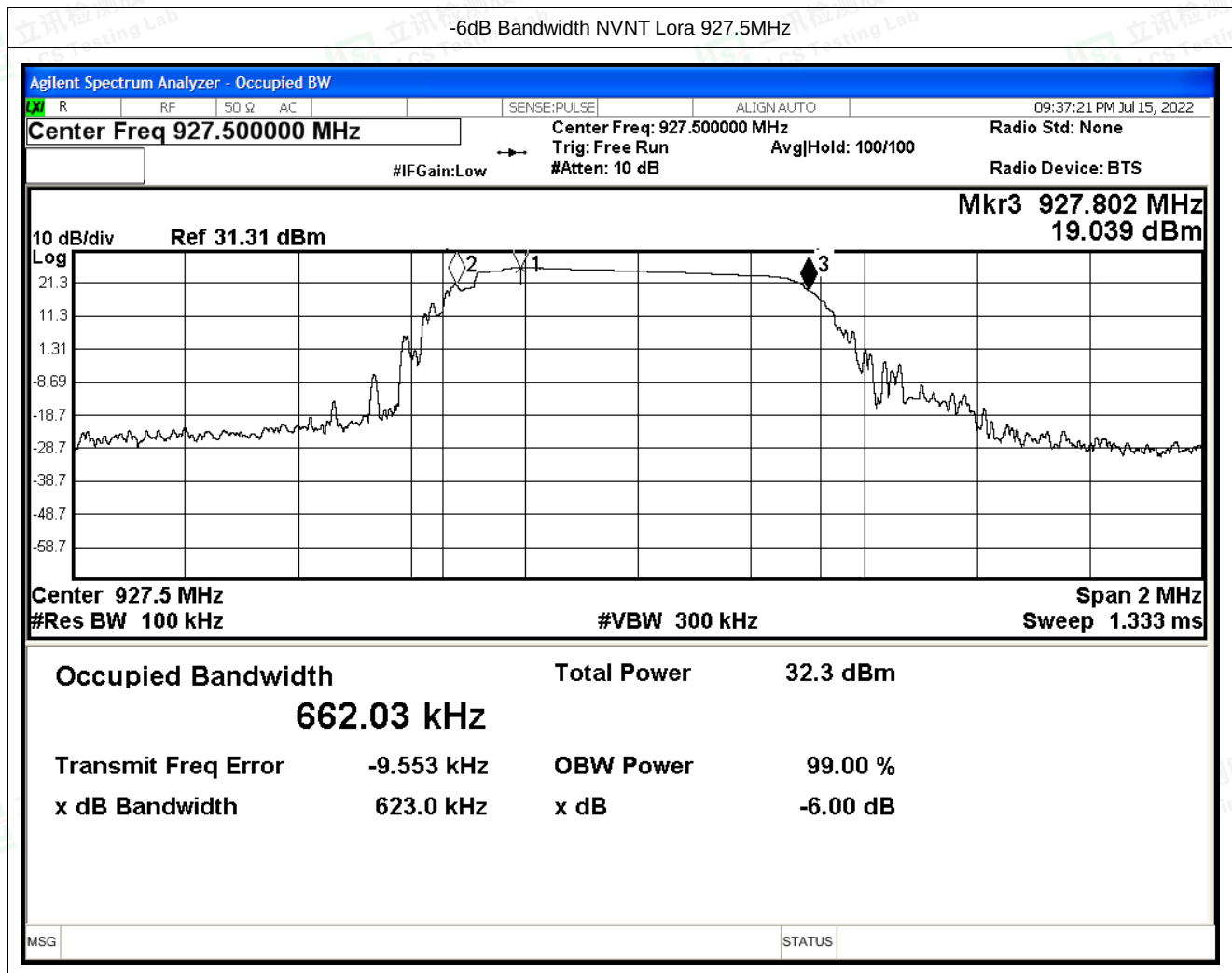
Shenzhen LCS Compliance Testing Laboratory Ltd.

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

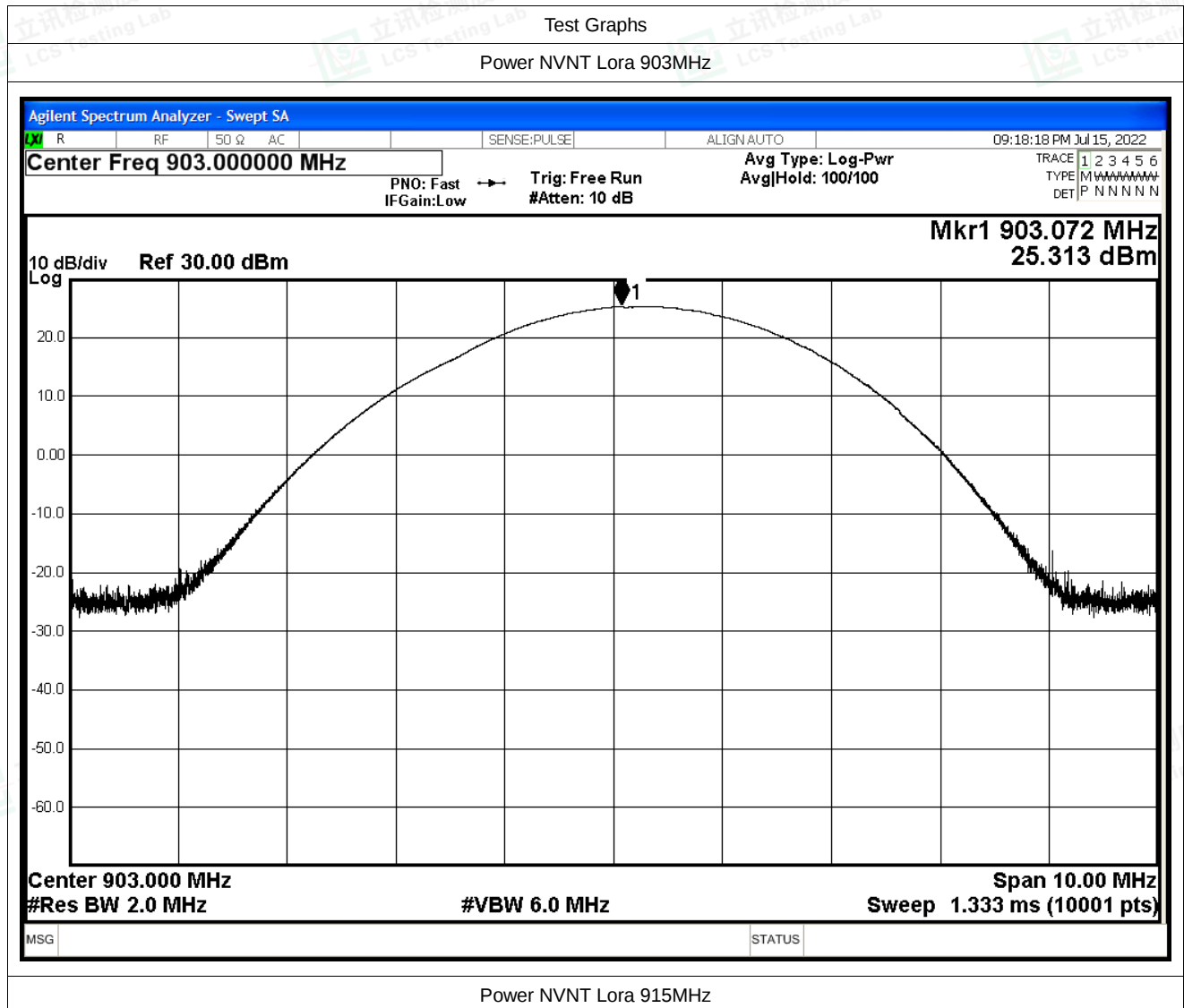
Scan code to check authenticity

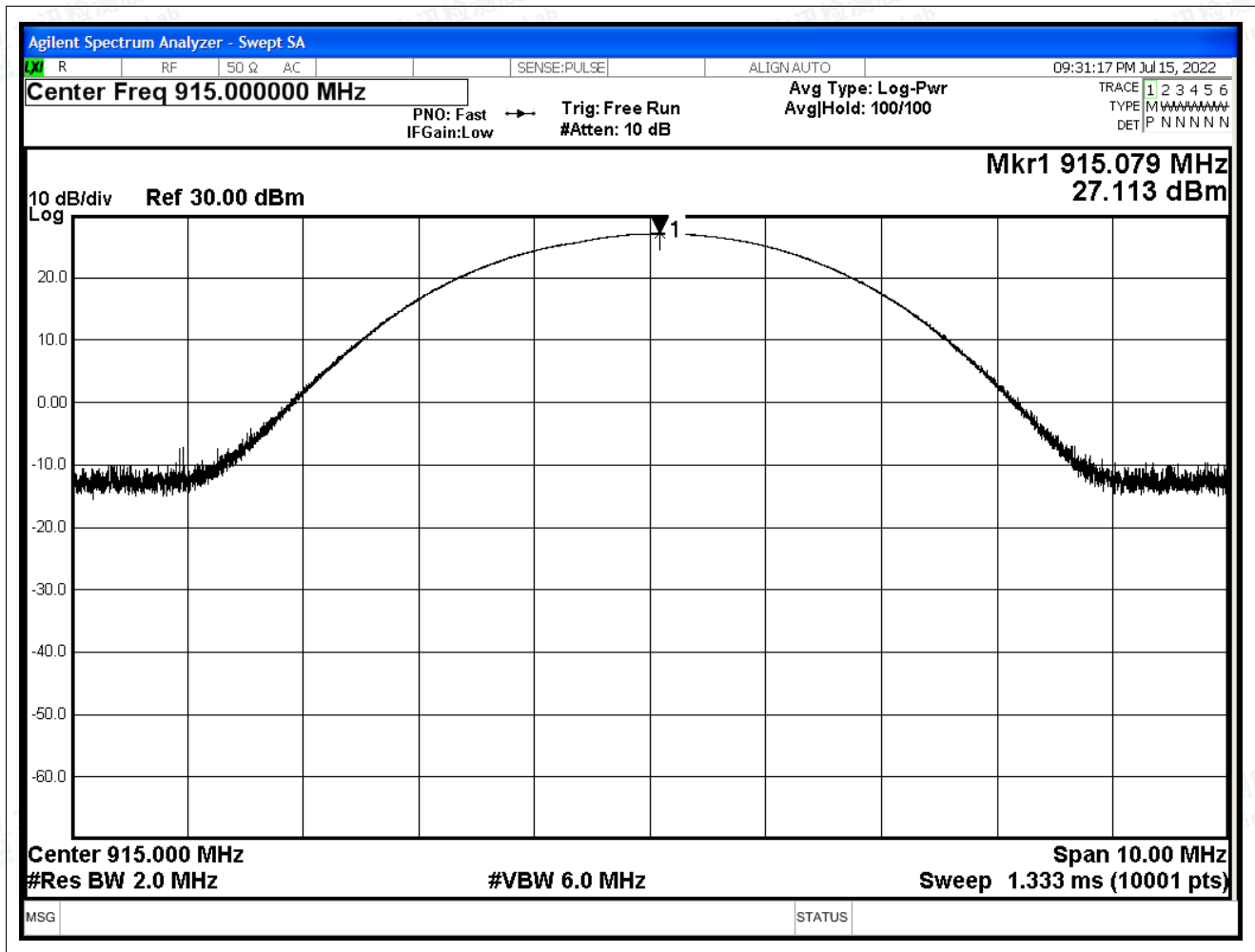


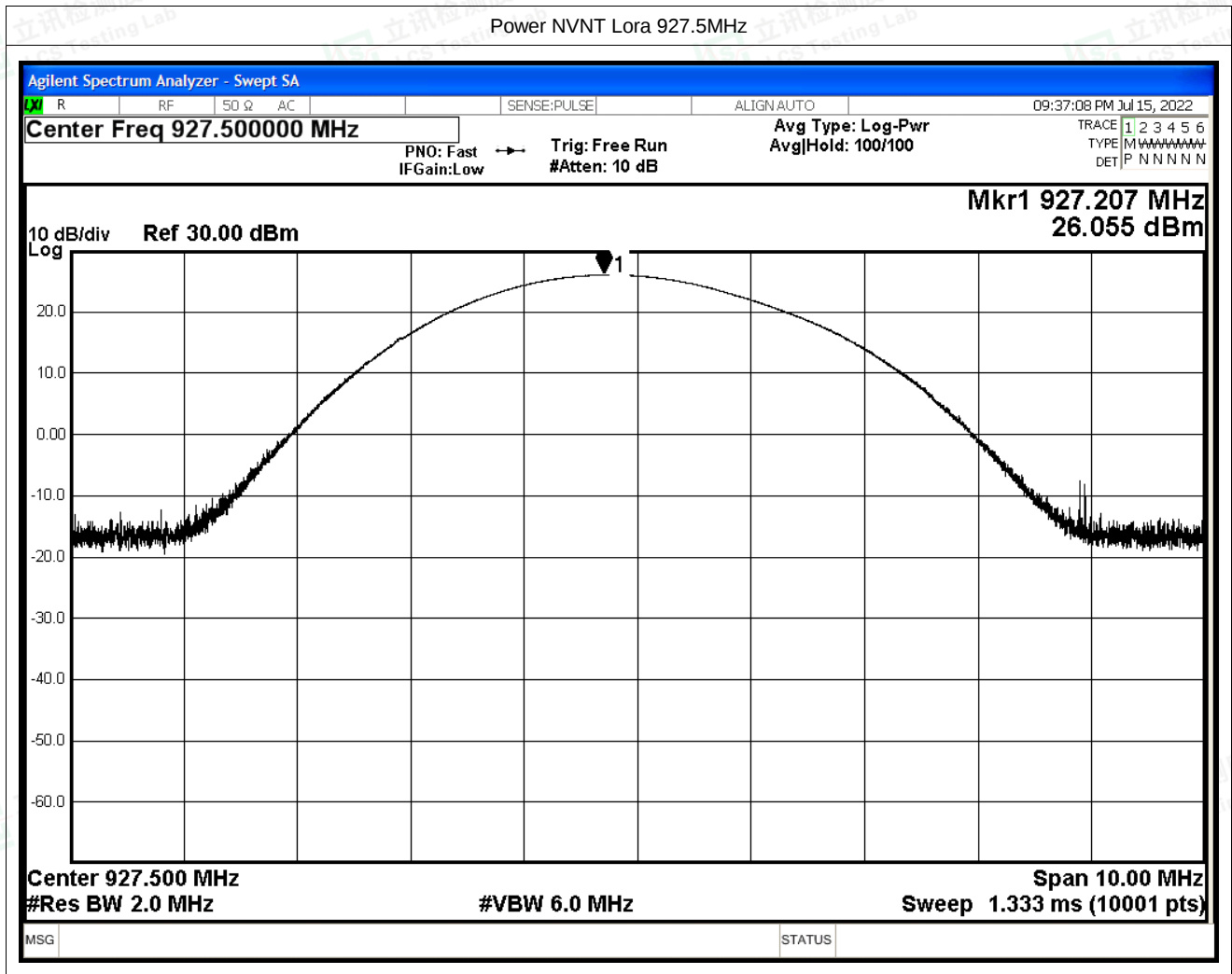
B.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	Lora	903.0	Ant	25.31	30	Pass
NVNT	Lora	915.0	Ant	27.11	30	Pass
NVNT	Lora	927.5	Ant	26.06	30	Pass











B.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	Lora	903.0	Ant	6.98	8	Pass
NVNT	Lora	915.0	Ant	7.36	8	Pass
NVNT	Lora	927.5	Ant	6.85	8	Pass

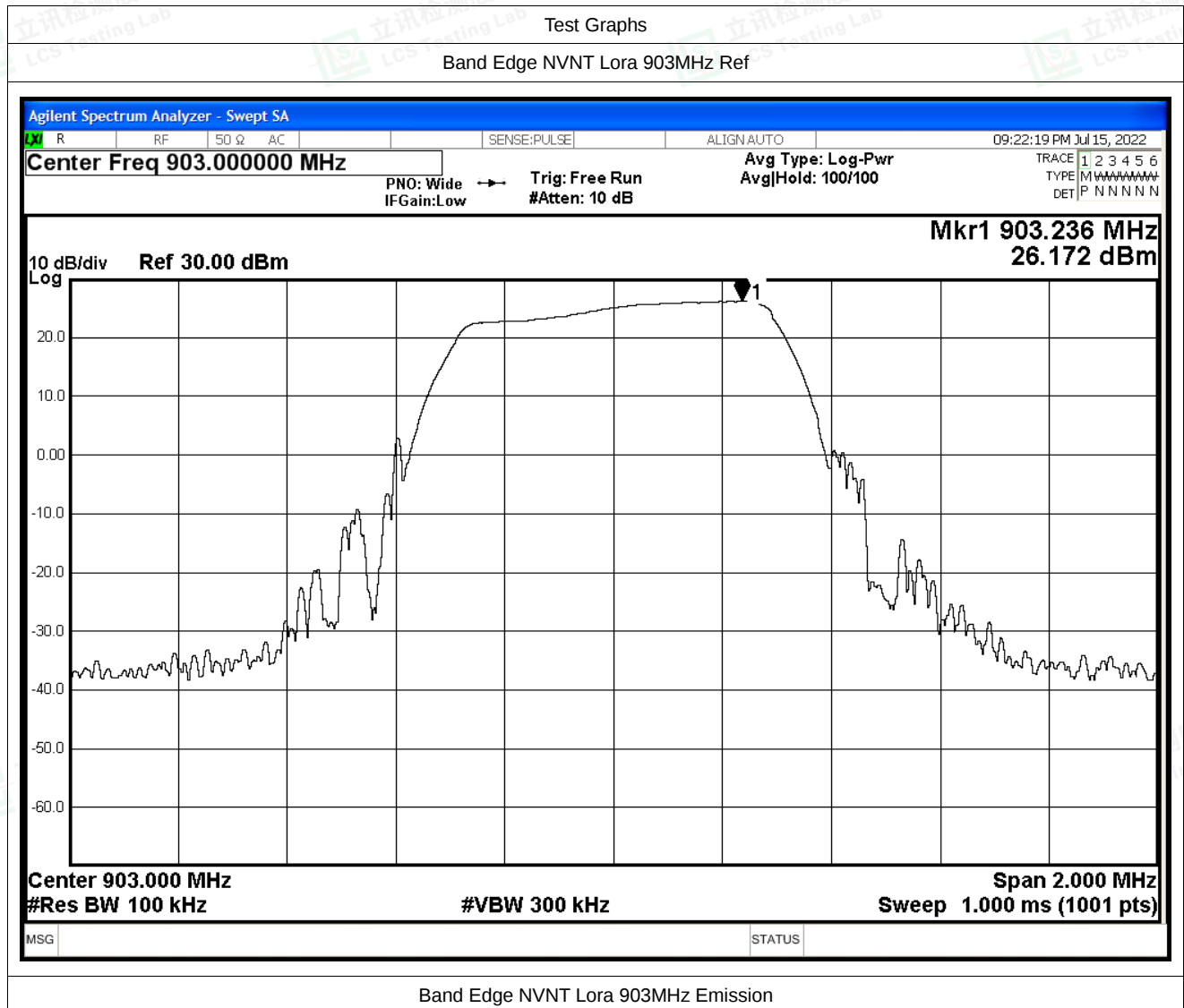


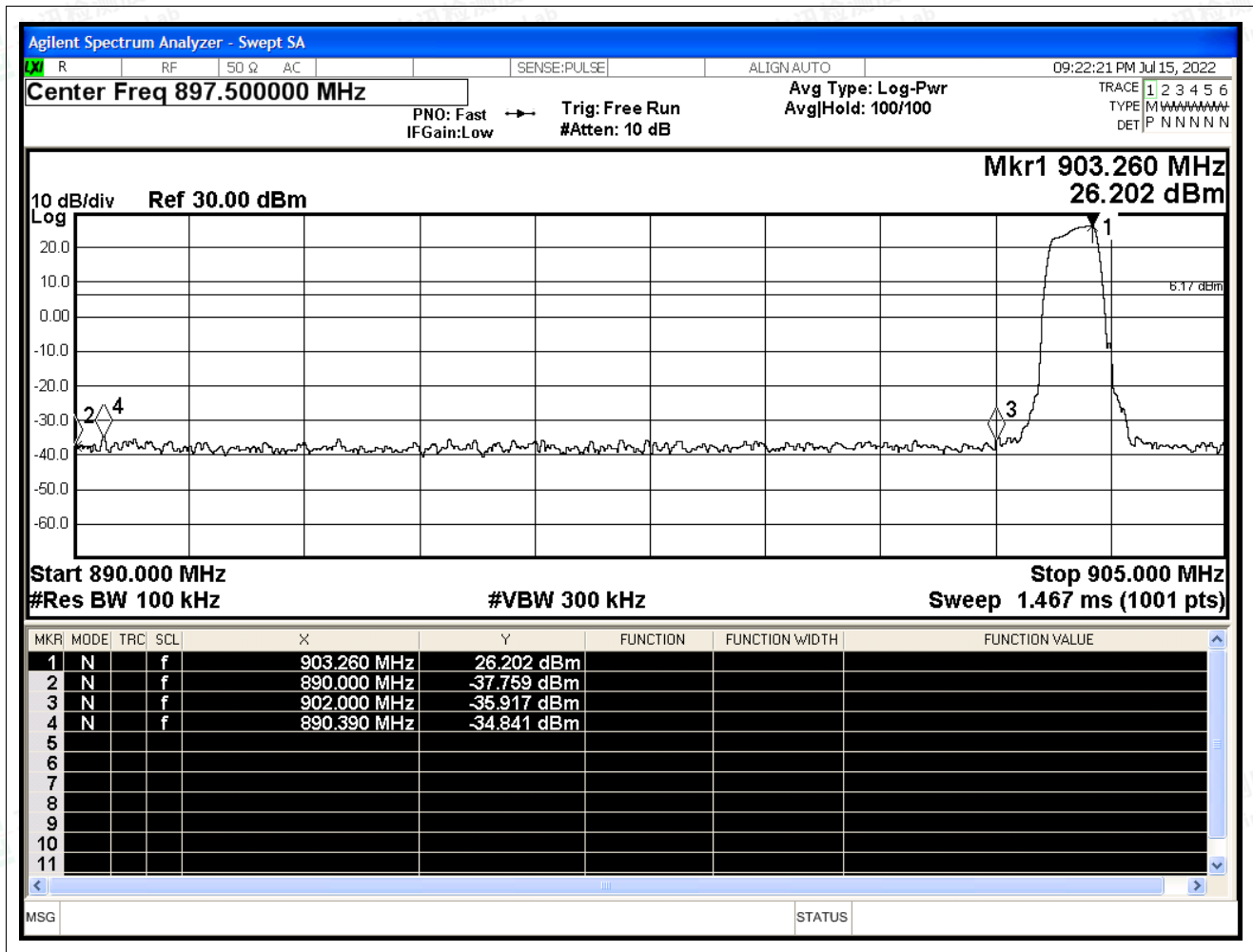


B.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	Lora	903.0	Ant	-61.01	-20	Pass
NVNT	Lora	927.5	Ant	-34.38	-20	Pass





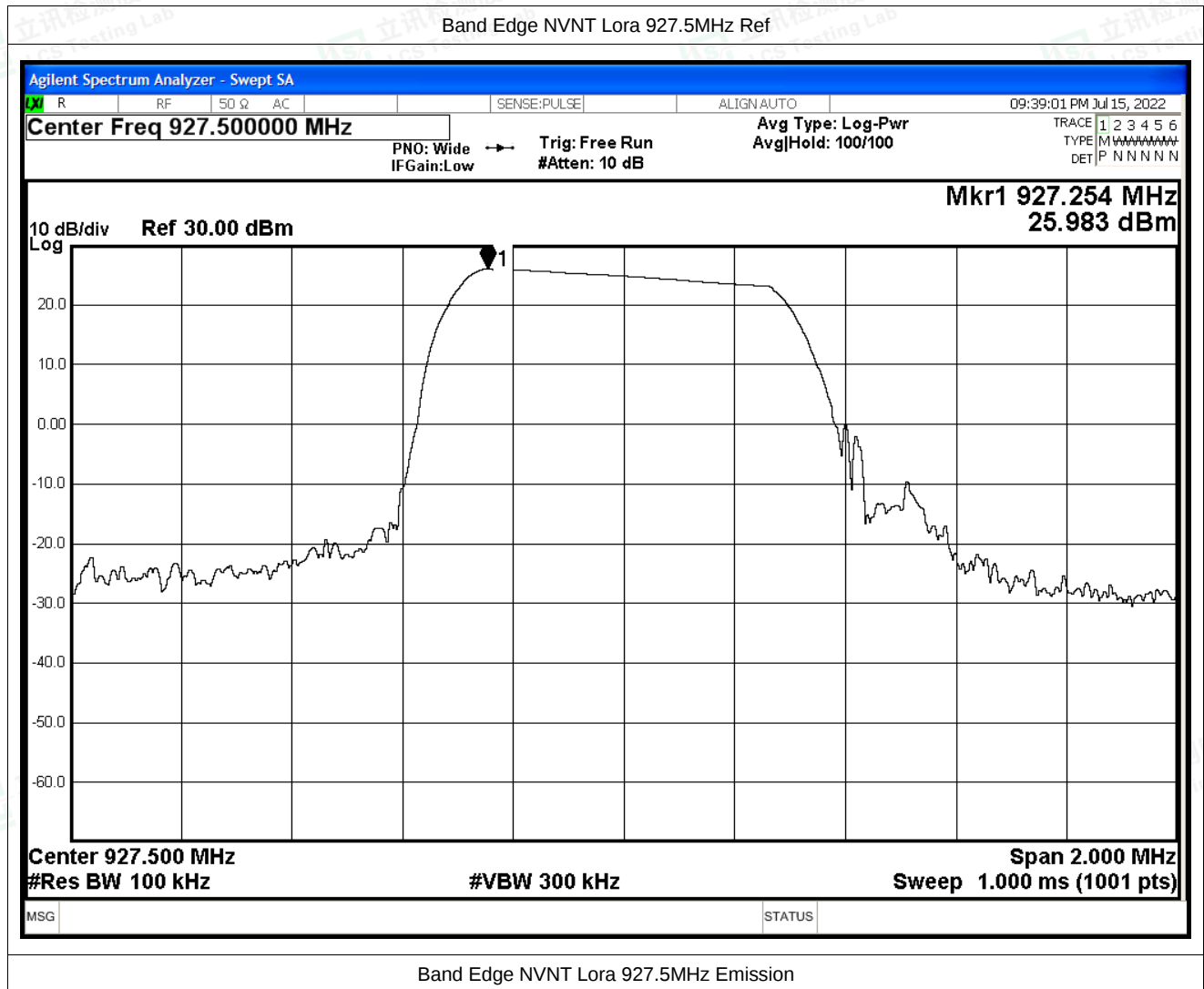


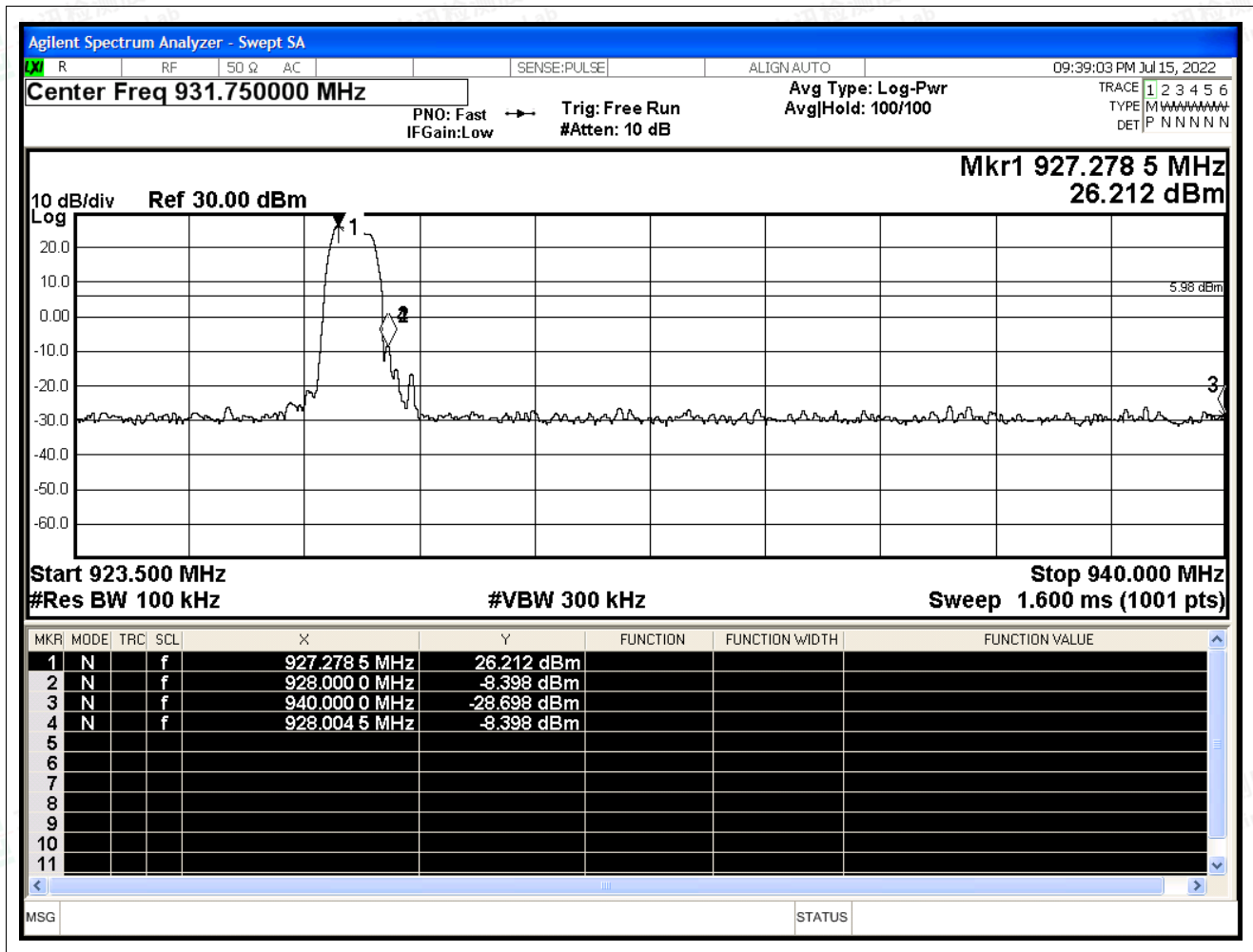
Shenzhen LCS Compliance Testing Laboratory Ltd.

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





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

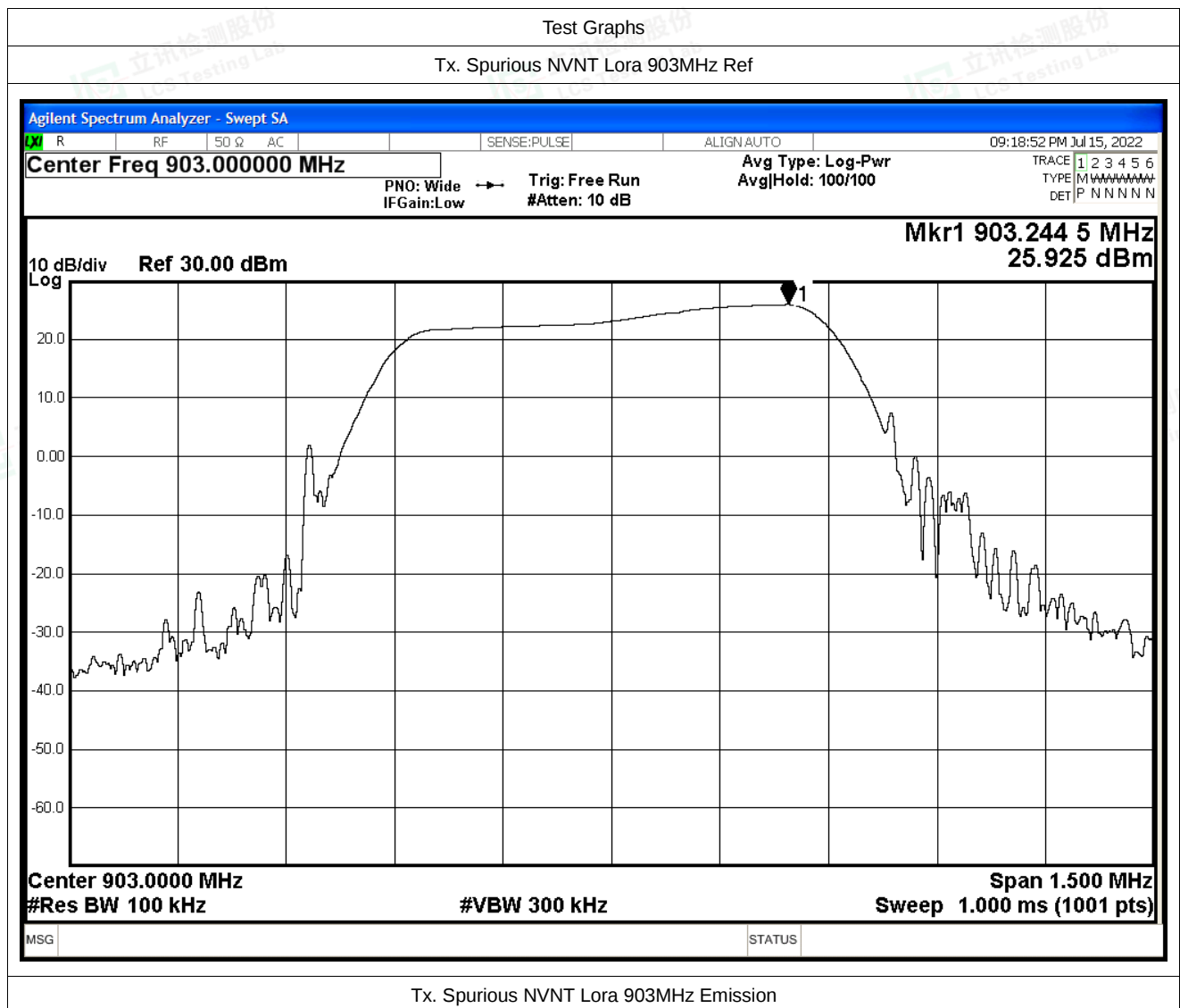
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity



B.5 Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	Lora	903.0	Ant	-29.37	-20	Pass
NVNT	Lora	915.0	Ant	-22.06	-20	Pass
NVNT	Lora	927.5	Ant	-26.8	-20	Pass

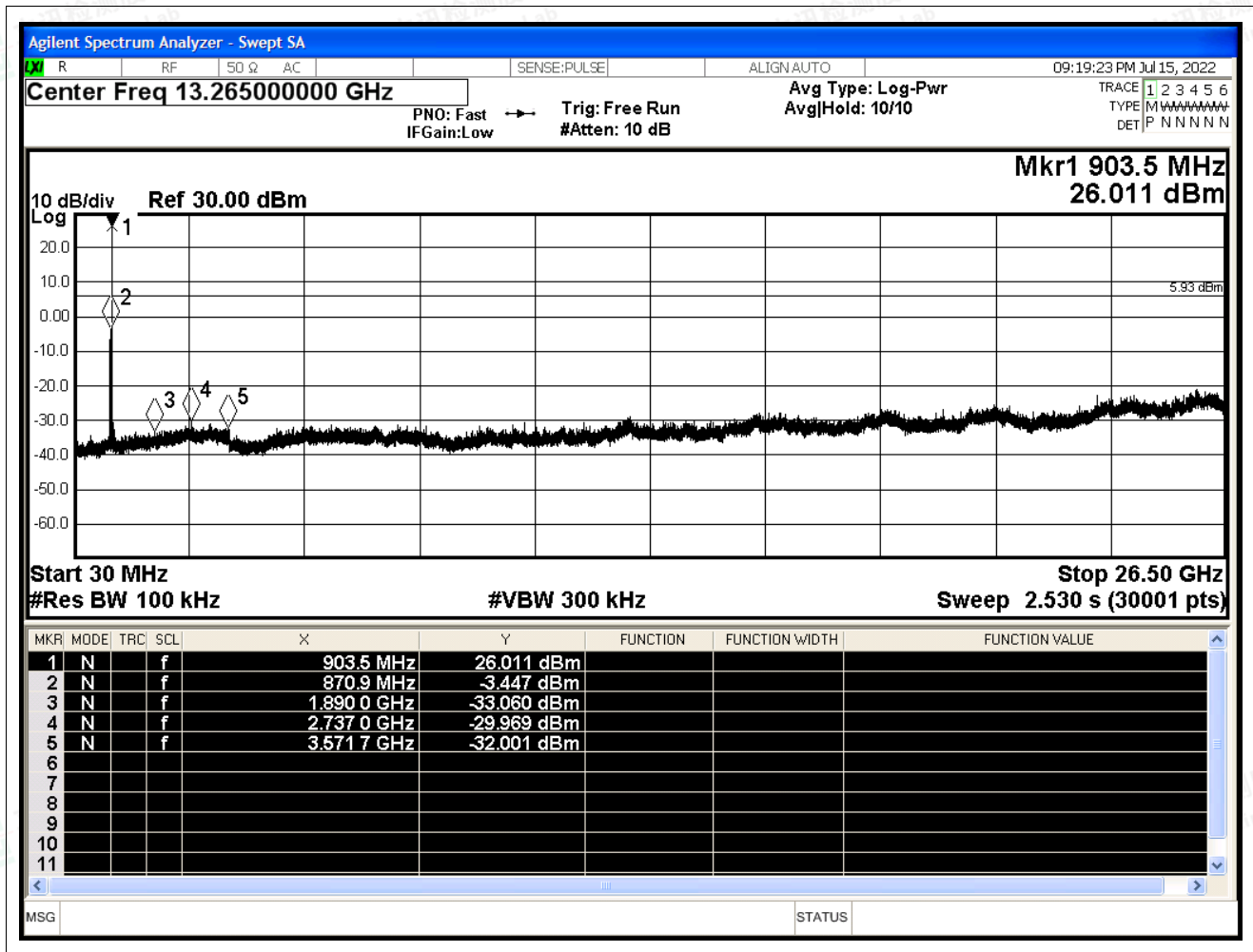


Shenzhen LCS Compliance Testing Laboratory Ltd.

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

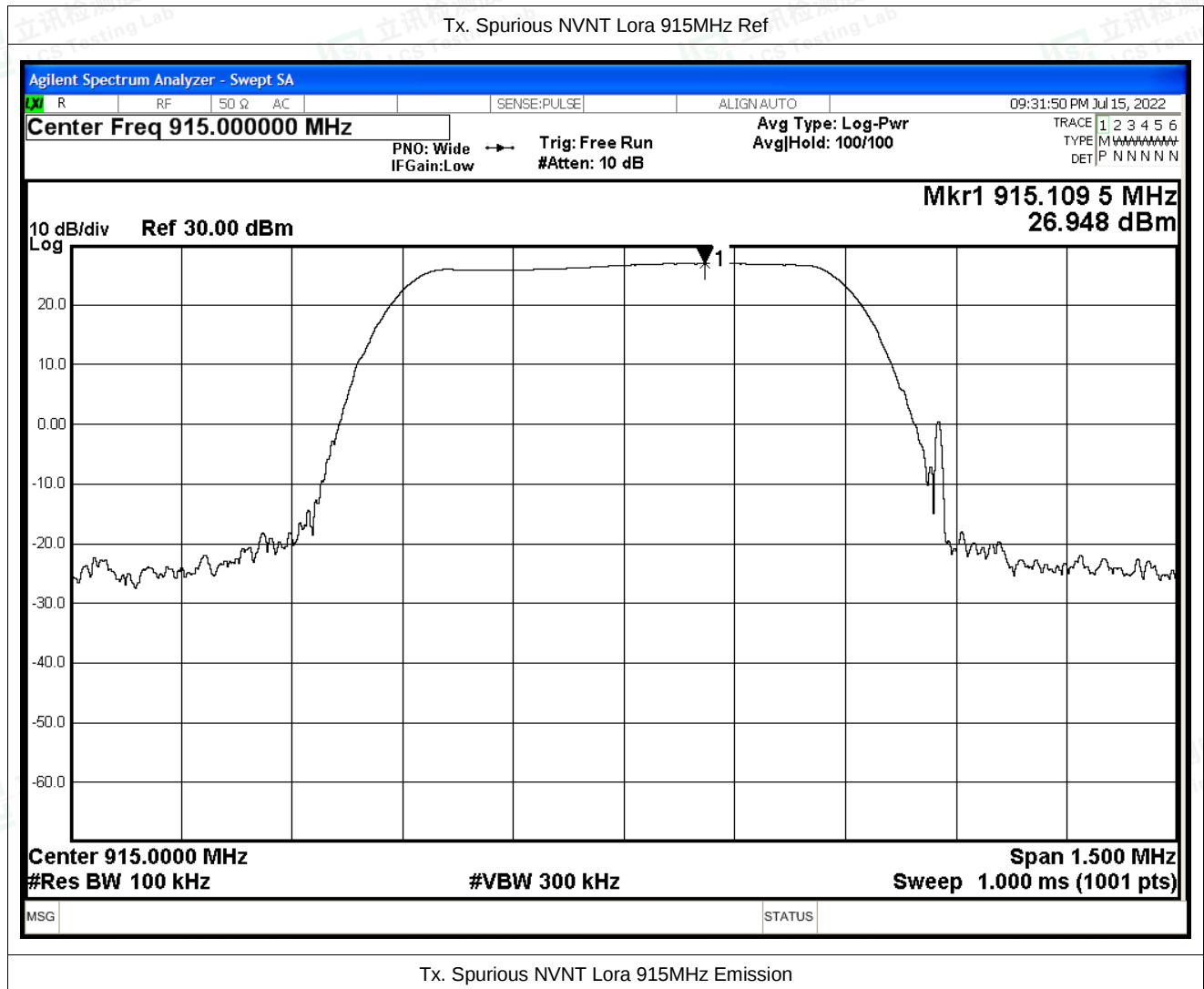


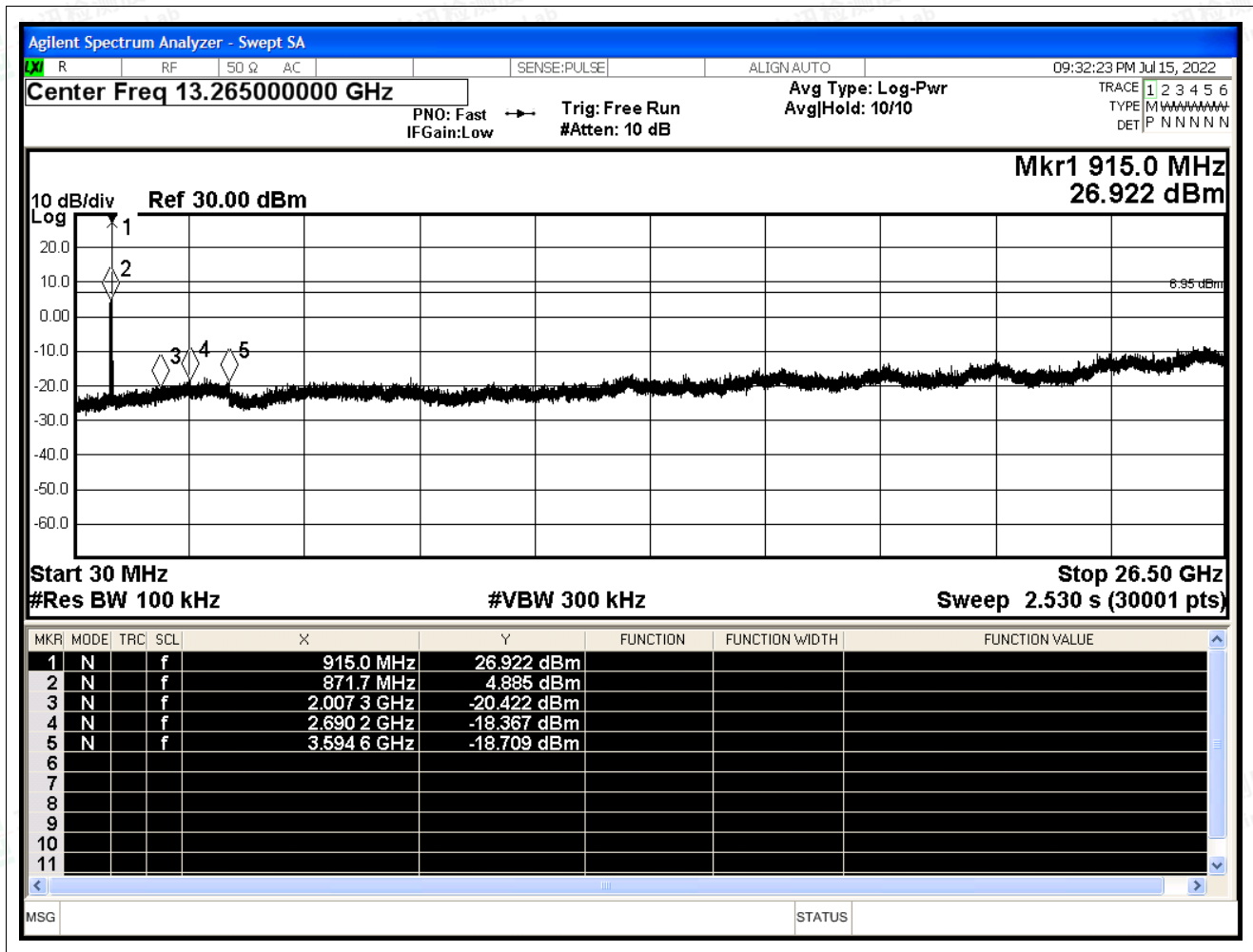
Shenzhen LCS Compliance Testing Laboratory Ltd.

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



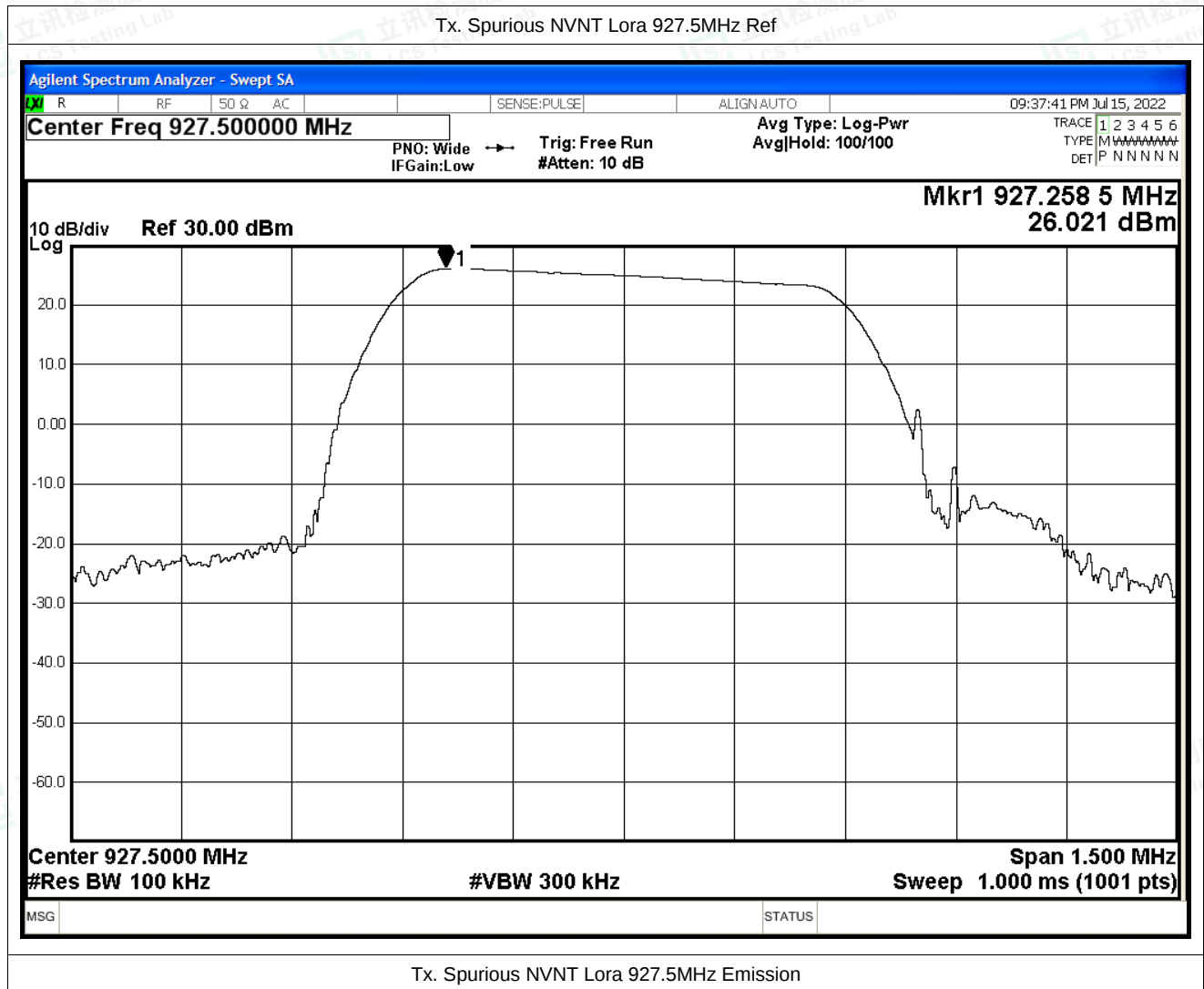


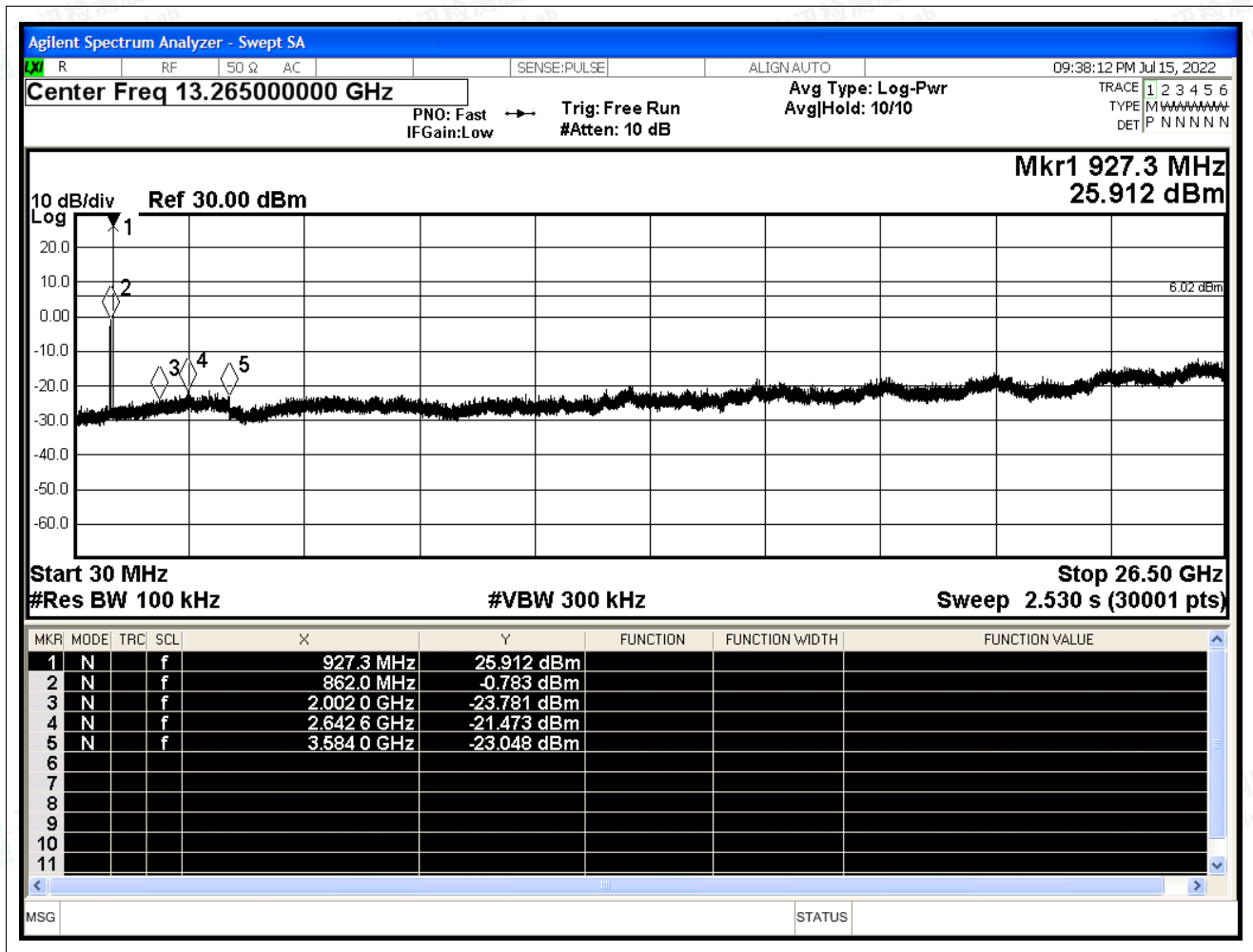
Shenzhen LCS Compliance Testing Laboratory Ltd.

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





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

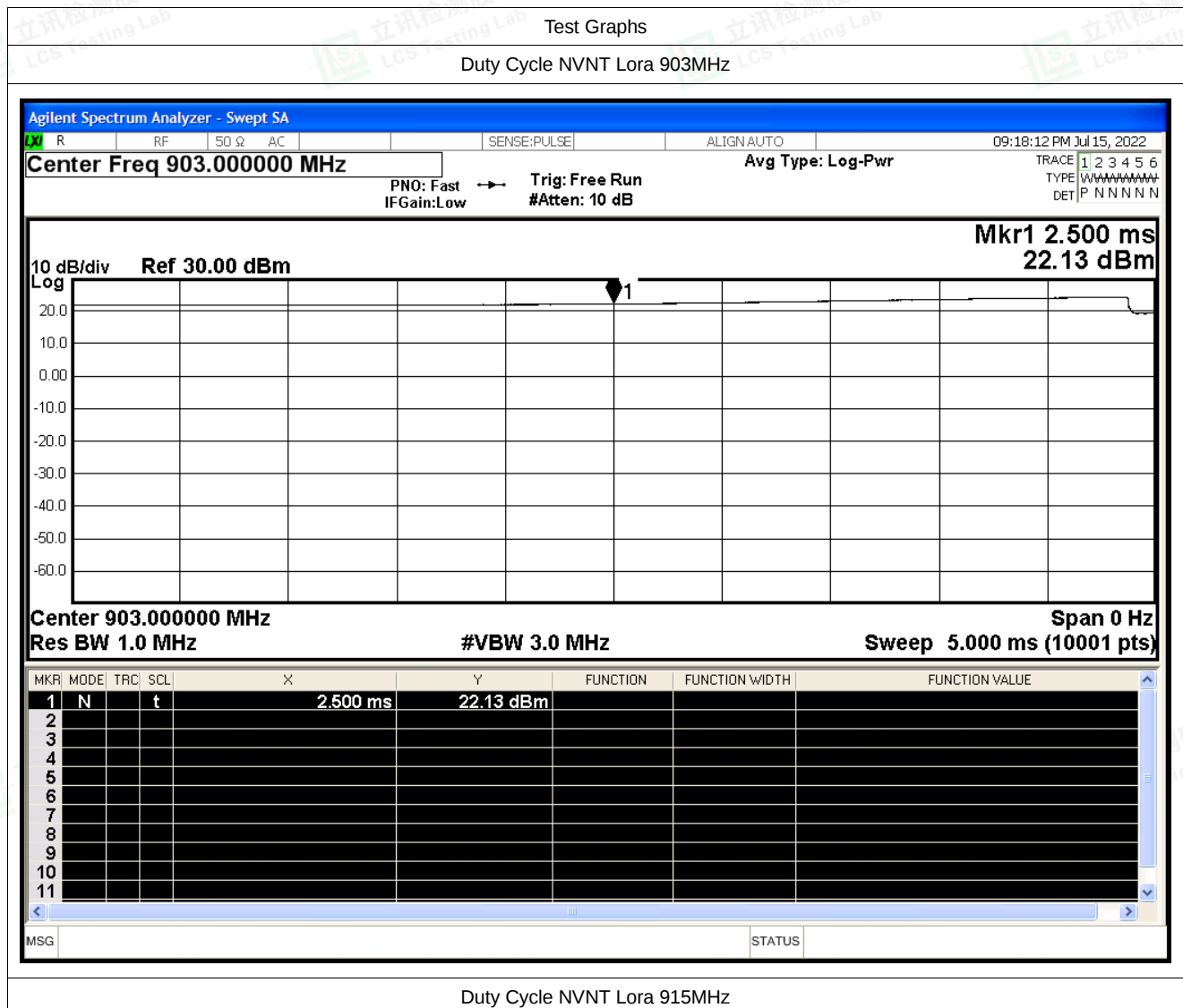
Scan code to check authenticity

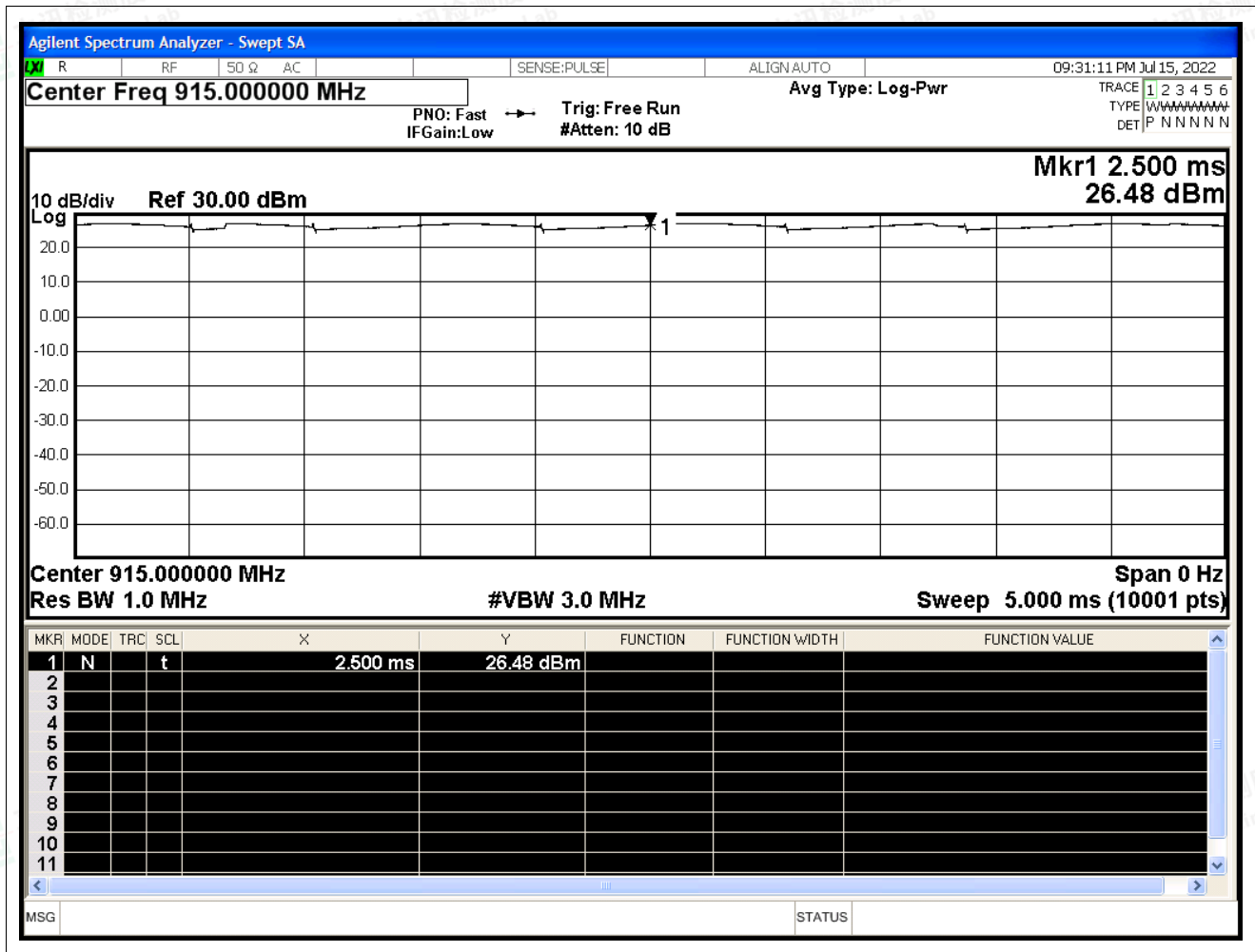


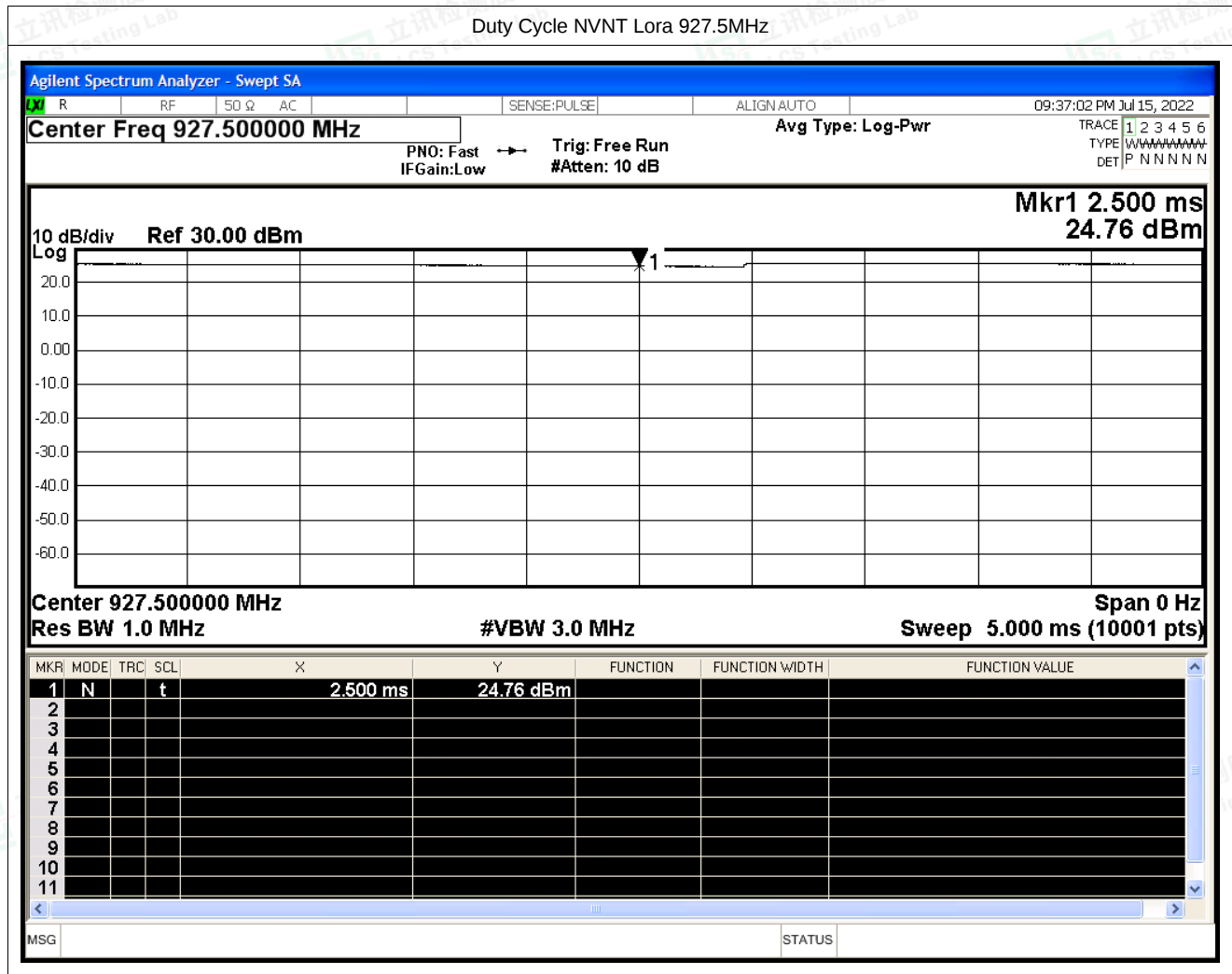
B.6 Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	Lora	903.0	Ant	100	0
NVNT	Lora	915.0	Ant	100	0
NVNT	Lora	927.5	Ant	100	0









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.7 Restrict Band

Condition	Mode	Frequency (MHz)	Antenna	Spur Freq (MHz)	E (dBuV/m)	Detector	Limit (dBuV/m)	Verdict
NVNT	Lora	903.0	Ant	900.0	37.6	QP	46	Pass
NVNT	Lora	903.0	Ant	901.3	38.1	QP	46	Pass
NVNT	Lora	903.0	Ant	902.0	39.5	QP	46	Pass
NVNT	Lora	927.5	Ant	928.0	40.6	QP	46	Pass
NVNT	Lora	927.5	Ant	943.1	39.5	QP	46	Pass
NVNT	Lora	927.5	Ant	960	38.1	QP	46	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