



Appendix A

RF Test Data for 900MHz (Conducted Measurement)

Product Name: BDE Multi-Protocol Sub-1GHz Wireless Module Based on CC1312R

Test Model: BDE-RFM206

Environmental Conditions

Temperature:	23.2° C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Faith Li
Supervised by:	Can Kun



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A.1 -20dB Bandwidth

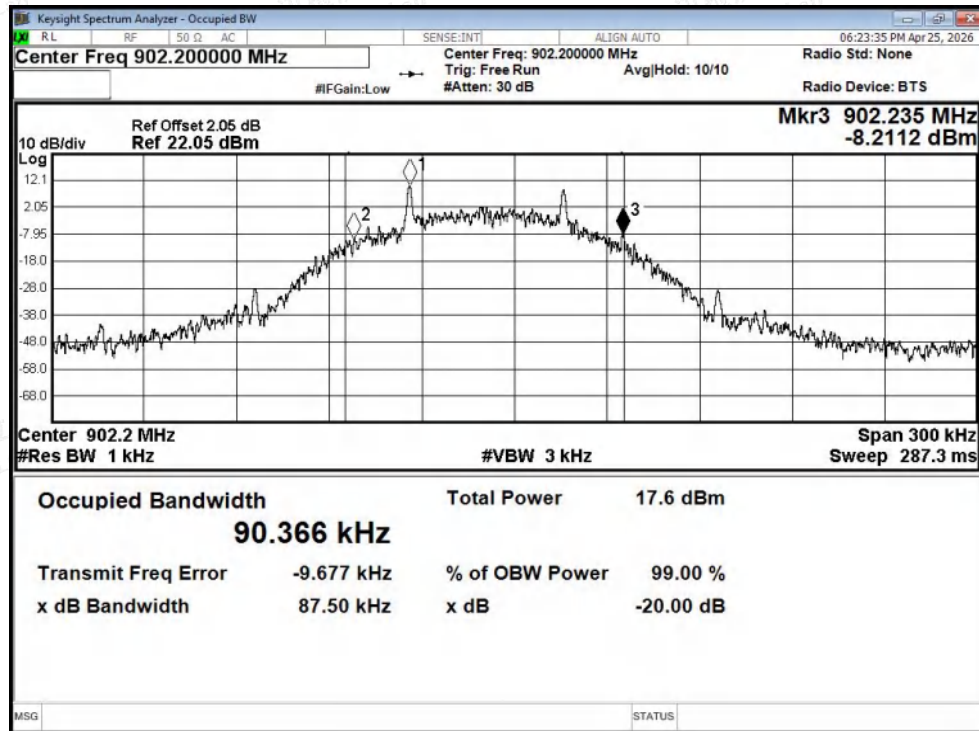
Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (kHz)	99% OBW (kHz)	Limit -20 dB Bandwidth (kHz)	Verdict
NVNT	50kbps	902.2	Ant1	87.50	90.366	≤250	Pass
NVNT	50kbps	915.0	Ant1	94.30	91.426	≤250	Pass
NVNT	50kbps	927.8	Ant1	88.91	90.612	≤250	Pass
NVNT	100kbps	902.2	Ant1	117.9	106.43	≤250	Pass
NVNT	100kbps	915.0	Ant1	119.2	107.29	≤250	Pass
NVNT	100kbps	927.8	Ant1	122.5	110.31	≤250	Pass
NVNT	150kbps	902.4	Ant1	180.5	165.58	≤250	Pass
NVNT	150kbps	915.2	Ant1	176.6	157.01	≤250	Pass
NVNT	150kbps	927.6	Ant1	179.4	161.51	≤250	Pass
NVNT	200kbps	902.4	Ant1	238.9	215.60	≤250	Pass
NVNT	200kbps	915.2	Ant1	232.8	210.98	≤250	Pass
NVNT	200kbps	927.6	Ant1	243.4	211.47	≤250	Pass



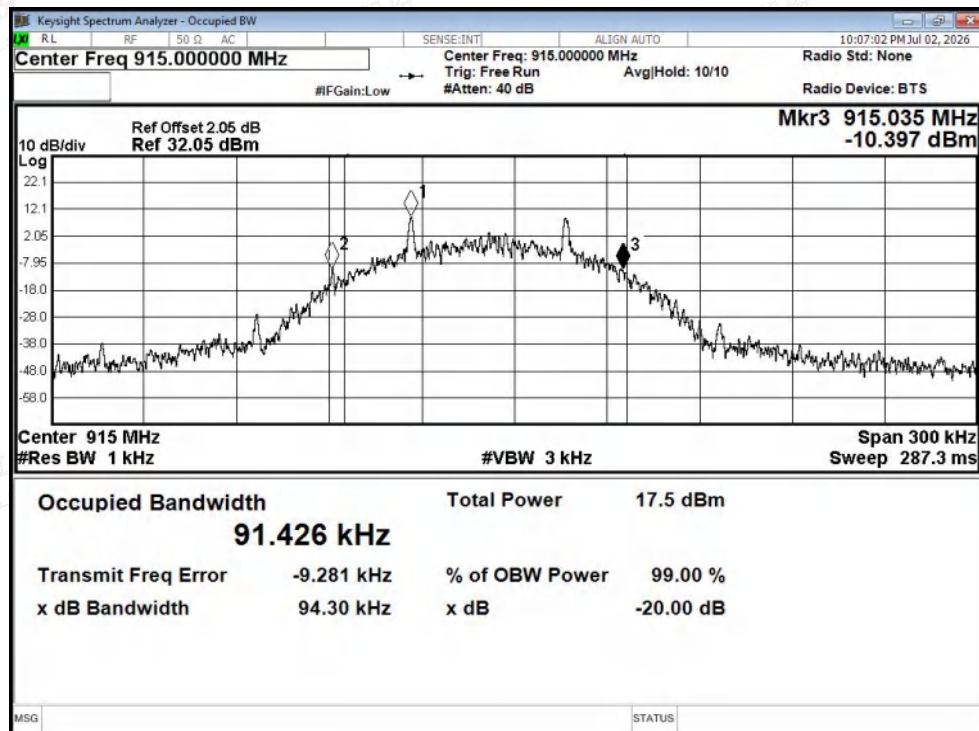


Test Graphs

-20dB Bandwidth NVNT 50kbps 902.2MHz Ant1



-20dB Bandwidth NVNT 50kbps 915.0MHz Ant1



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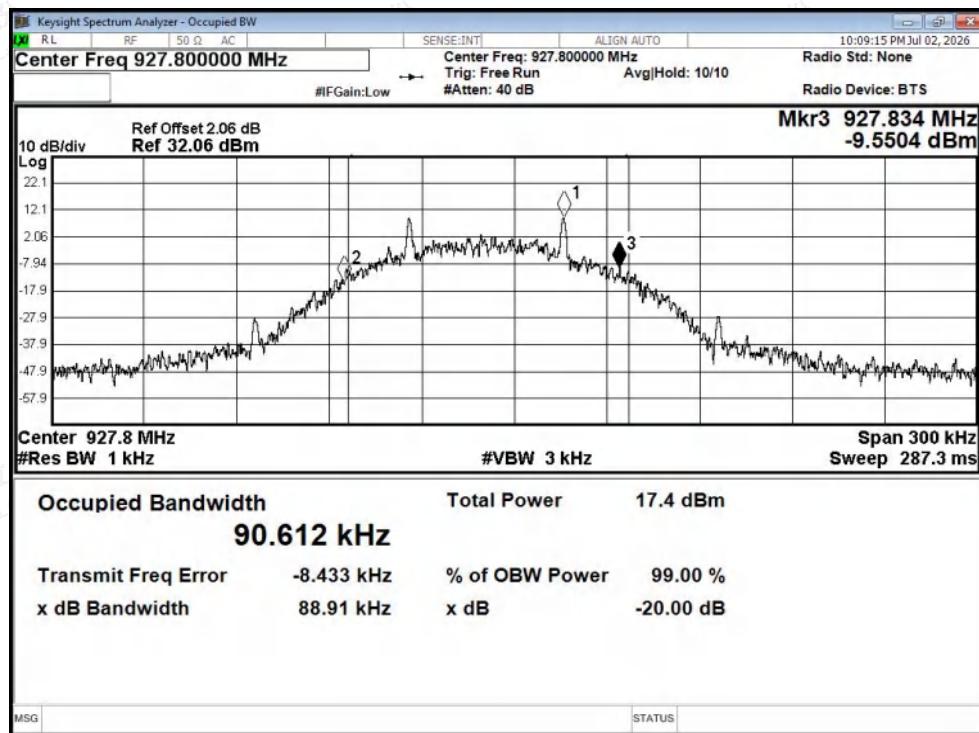
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Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

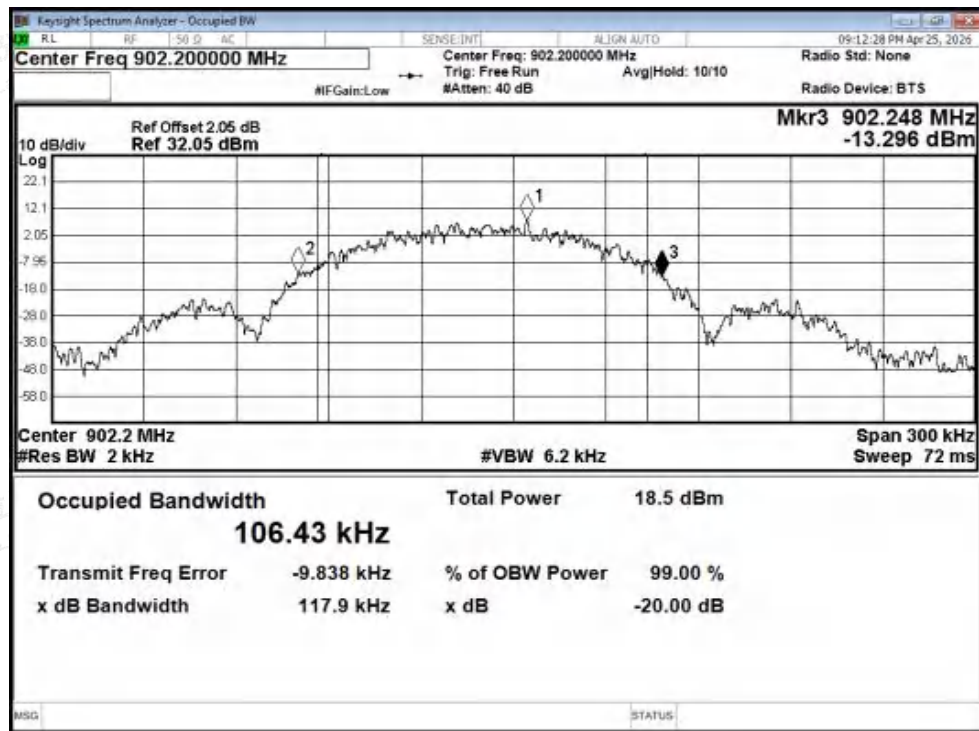
Scan code to check authenticity



-20dB Bandwidth NVNT 50kbps 927.8MHz Ant1



-20dB Bandwidth NVNT 100kbps 902.2MHz Ant1



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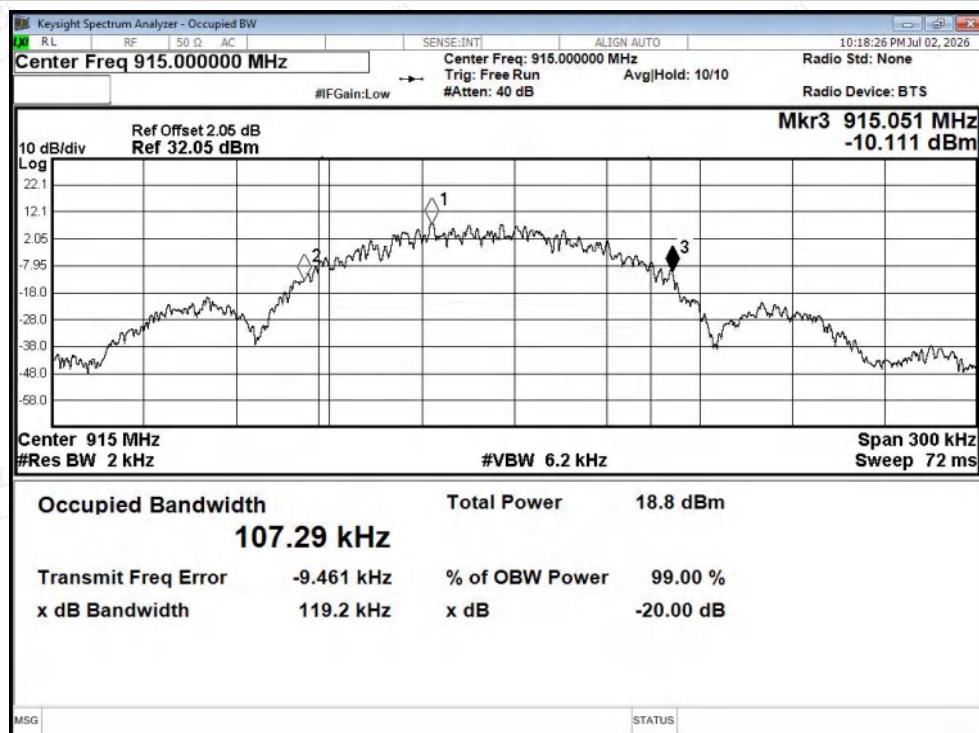
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

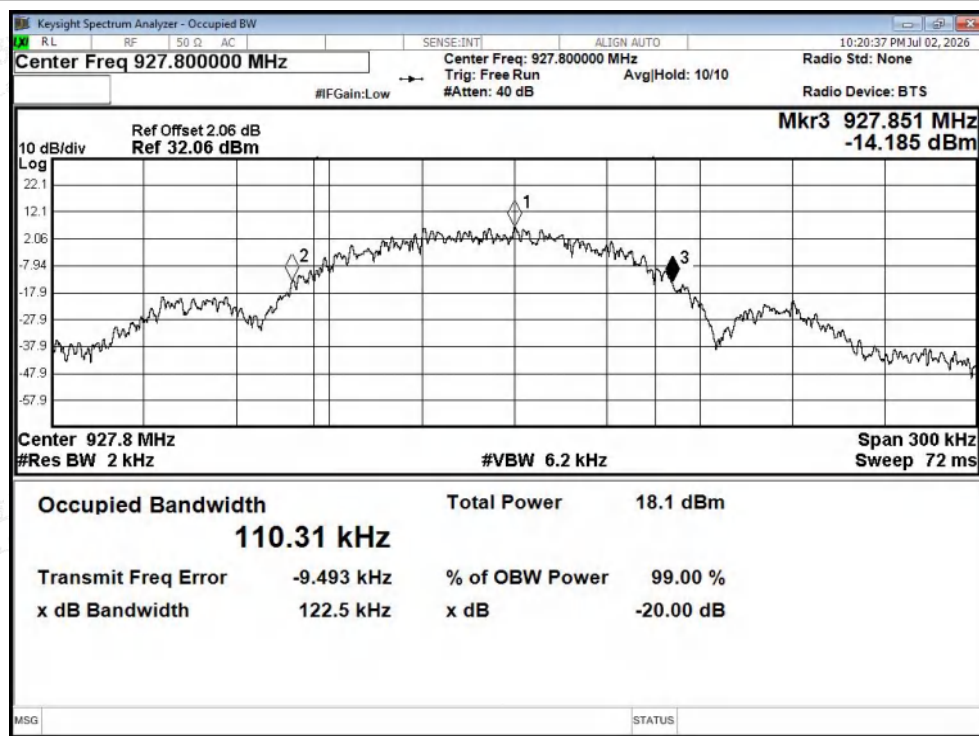
Scan code to check authenticity



-20dB Bandwidth NVNT 100kbps 915.0MHz Ant1

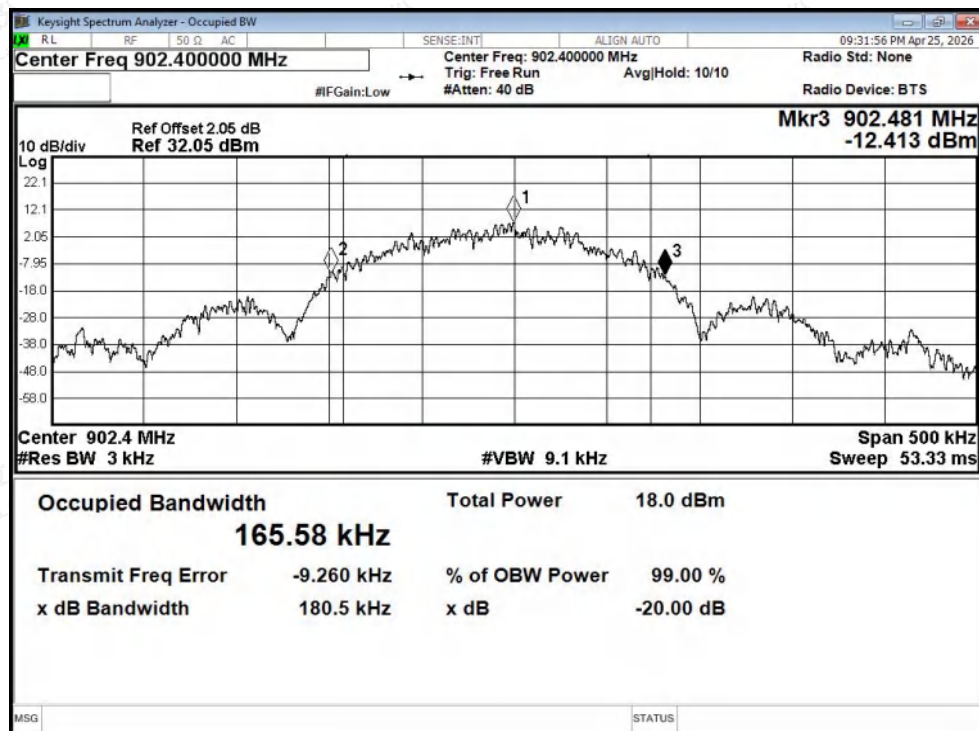


-20dB Bandwidth NVNT 100kbps 927.8MHz Ant1

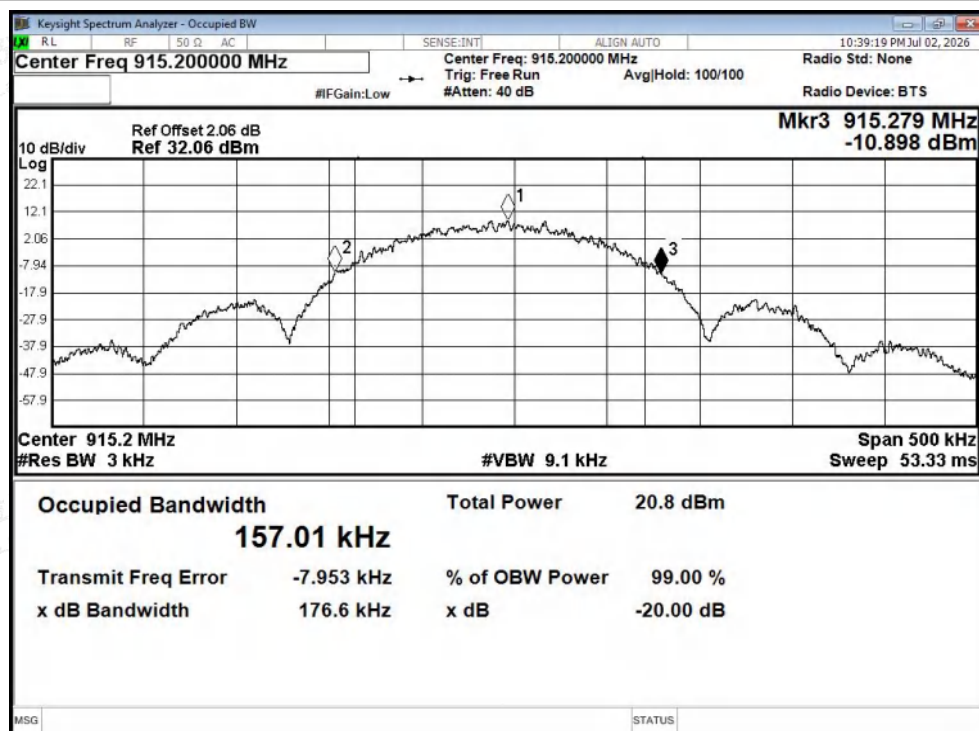




-20dB Bandwidth NVNT 150kbps 902.4MHz Ant1

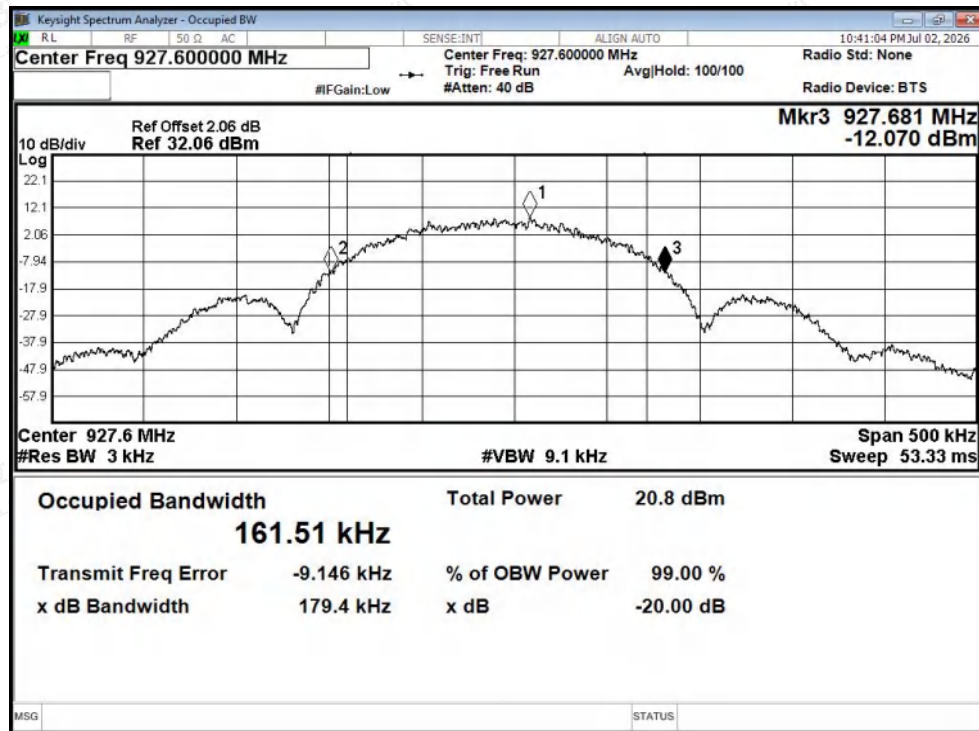


-20dB Bandwidth NVNT 150kbps 915.2MHz Ant1

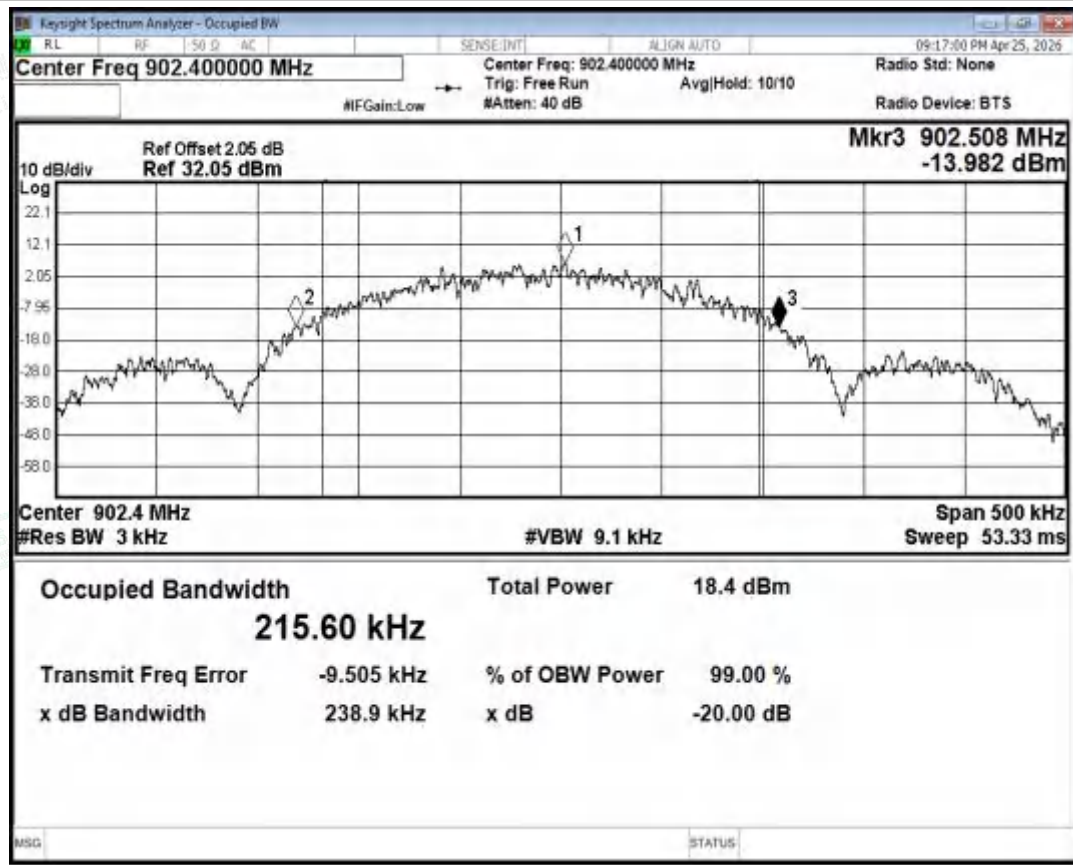




-20dB Bandwidth NVNT 150kbps 927.6Hz Ant1

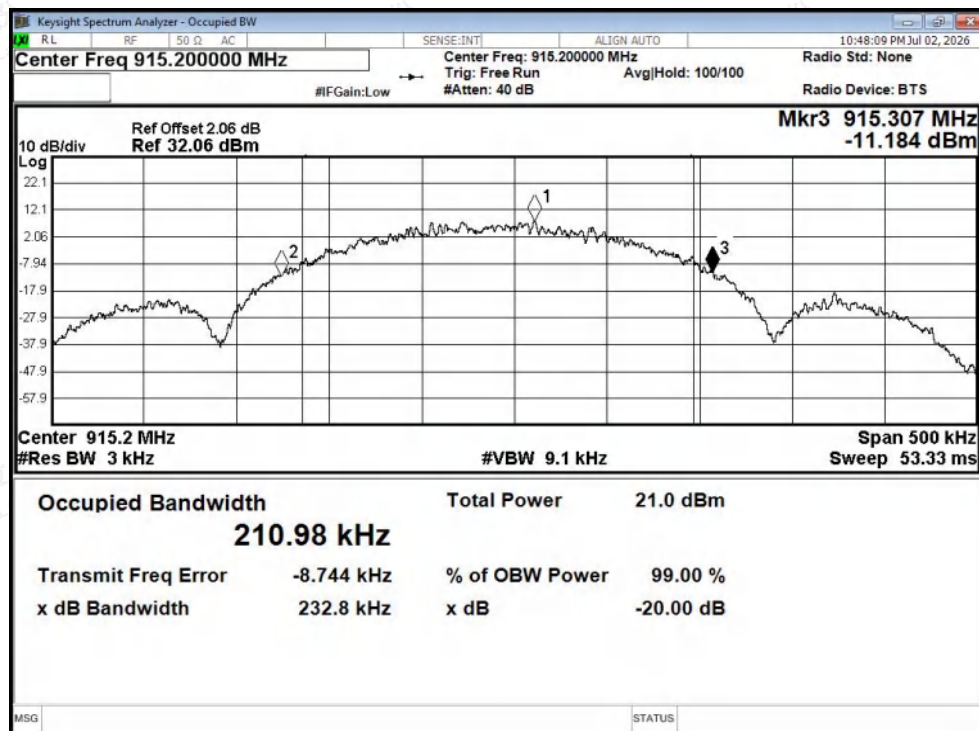


-20dB Bandwidth NVNT 200kbps 902.4MHz Ant1

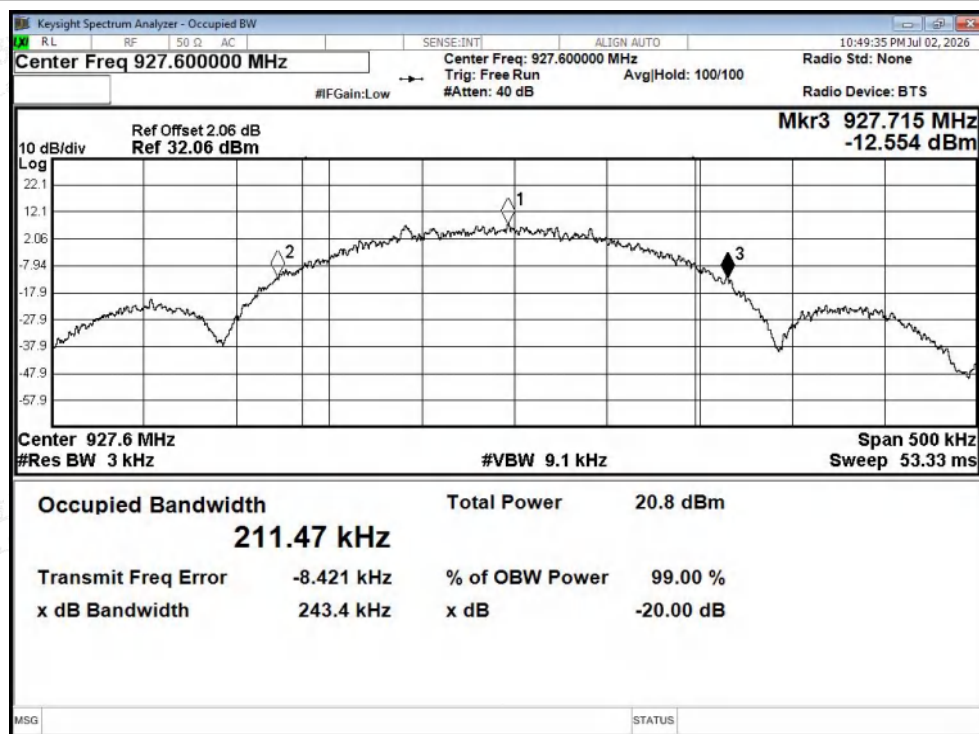




-20dB Bandwidth NVNT 200kbps 915.2MHz Ant1



-20dB Bandwidth NVNT 200kbps 927.6Hz Ant1





A.2 Maximum Peak Conducted Output Power

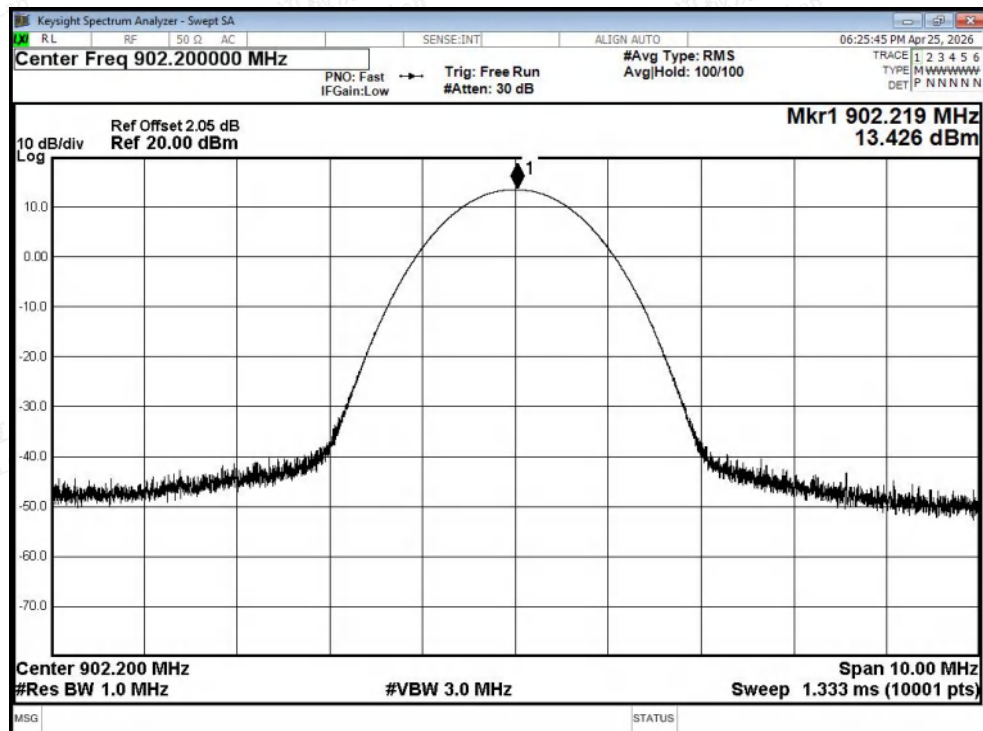
Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	50kbps	902.2	Ant1	13.426	30	Pass
NVNT	50kbps	915.0	Ant1	13.492	30	Pass
NVNT	50kbps	927.8	Ant1	13.386	30	Pass
NVNT	100kbps	902.2	Ant1	13.435	30	Pass
NVNT	100kbps	915.0	Ant1	13.494	30	Pass
NVNT	100kbps	927.8	Ant1	13.409	30	Pass
NVNT	150kbps	902.4	Ant1	13.447	30	Pass
NVNT	150kbps	915.2	Ant1	13.518	30	Pass
NVNT	150kbps	927.6	Ant1	13.411	30	Pass
NVNT	200kbps	902.4	Ant1	11.244	30	Pass
NVNT	200kbps	915.2	Ant1	13.513	30	Pass
NVNT	200kbps	927.6	Ant1	13.409	30	Pass



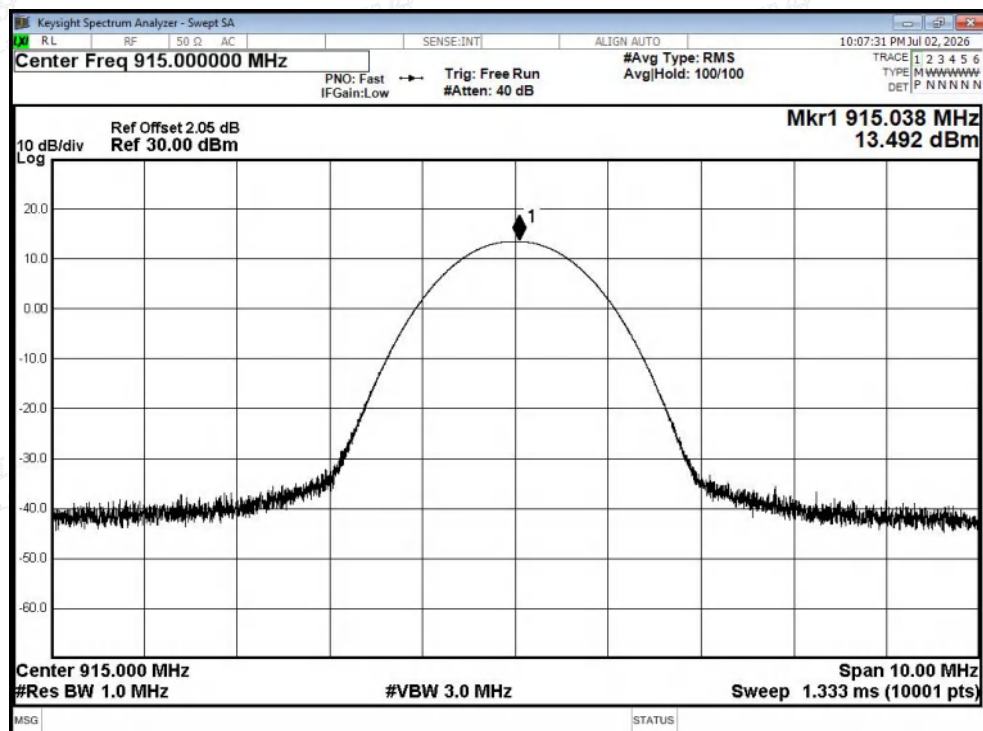


Test Graphs

Power NVNT 50kbps 902.2MHz Ant1

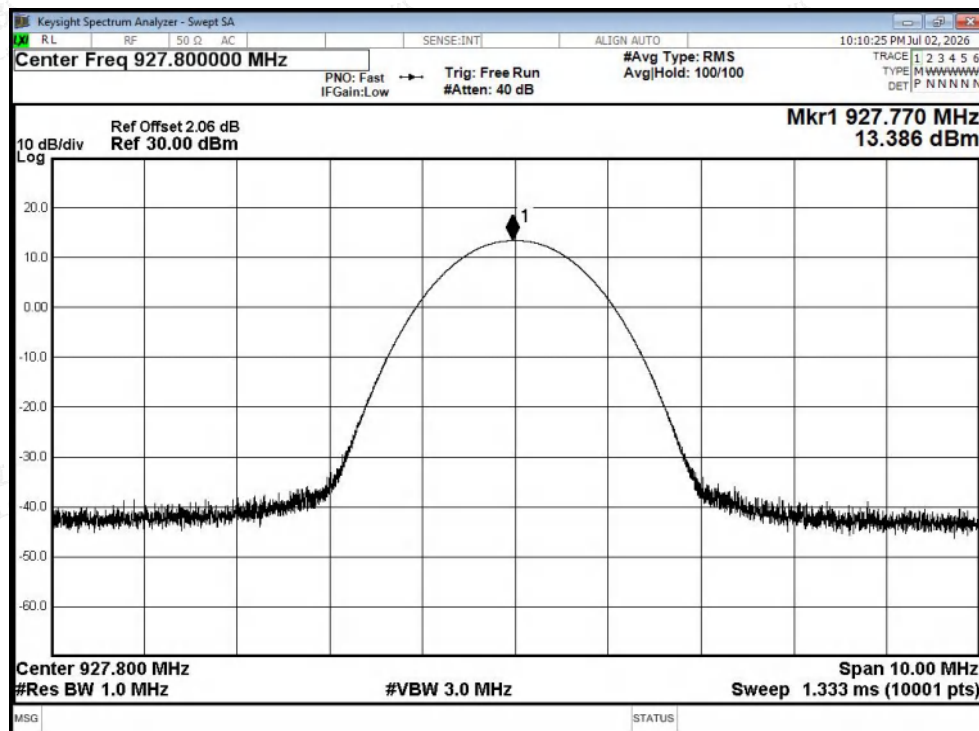


Power NVNT 50kbps 915.0MHz Ant1

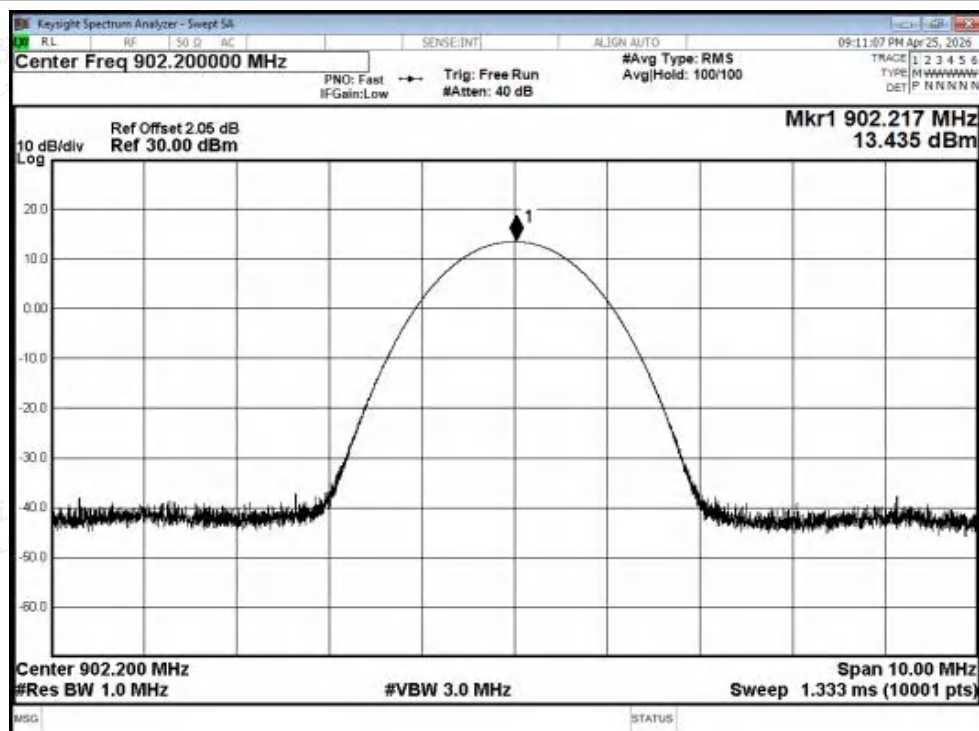




Power NVNT 50kbps 927.8MHz Ant1

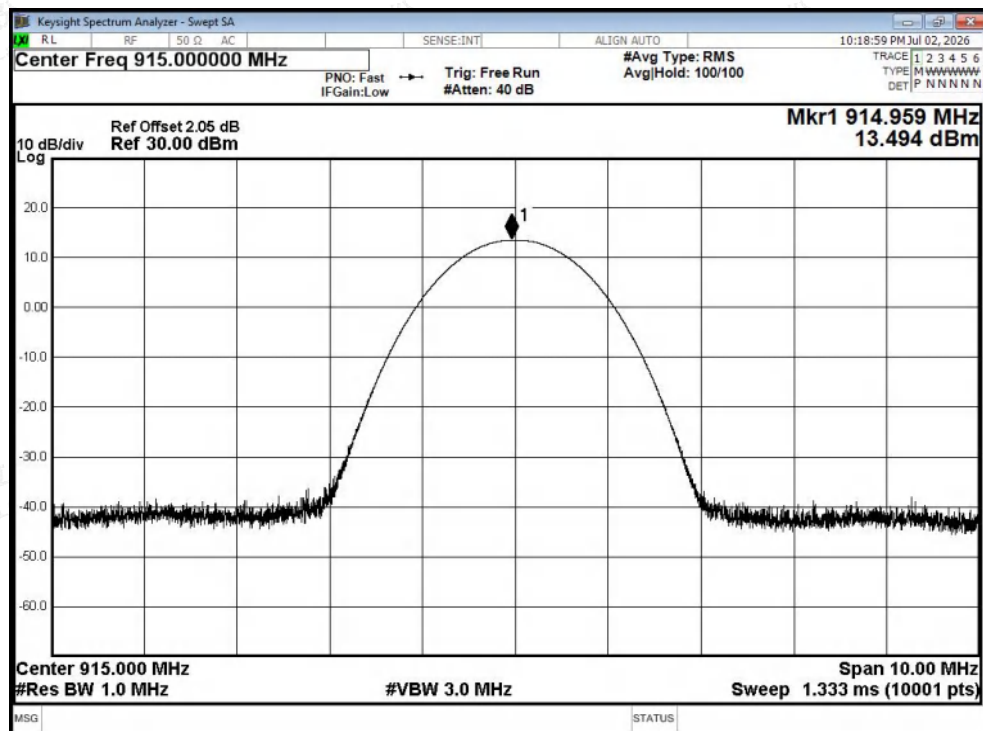


Power NVNT 100kbps 902.2MHz Ant1

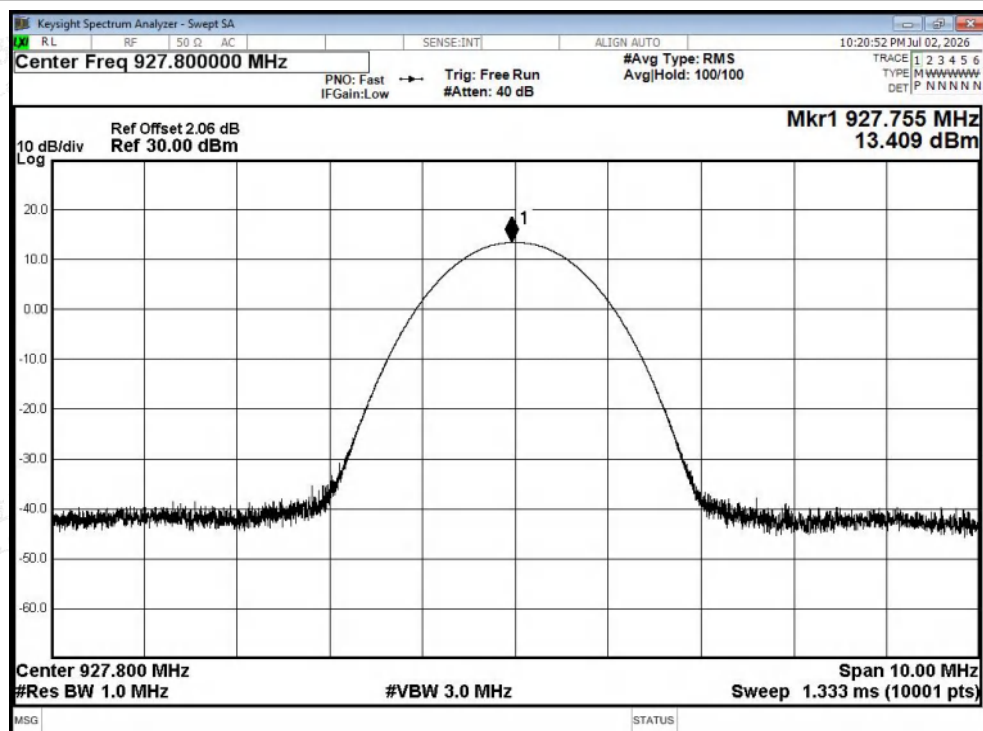




Power NVNT 100kbps 915.0MHz Ant1

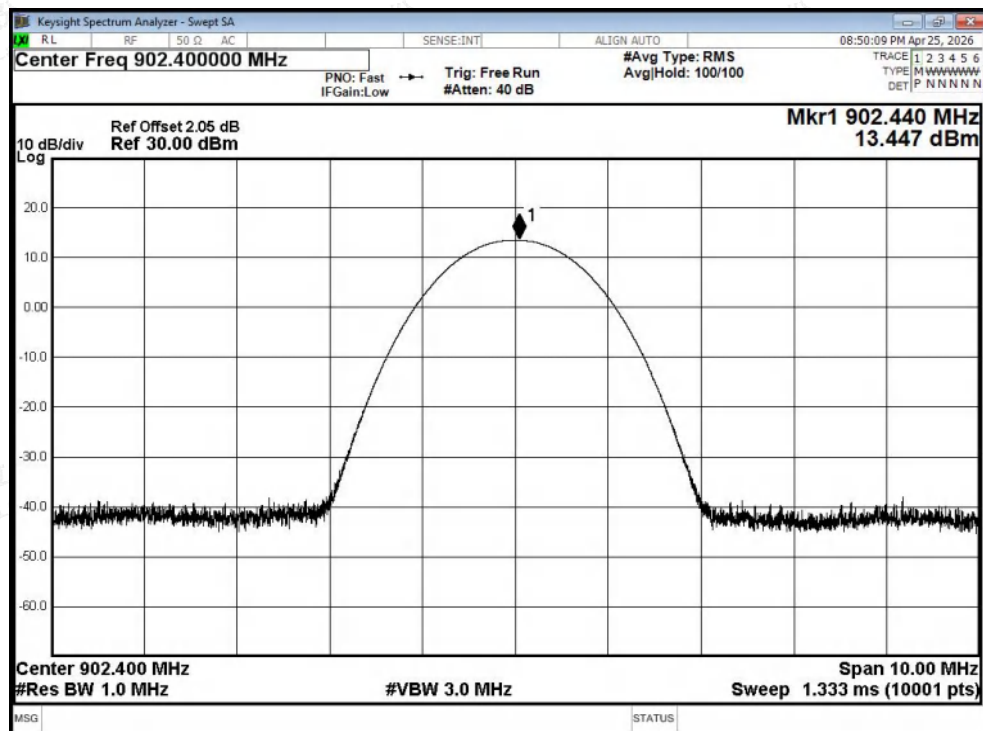


Power NVNT 100kbps 927.8MHz Ant1

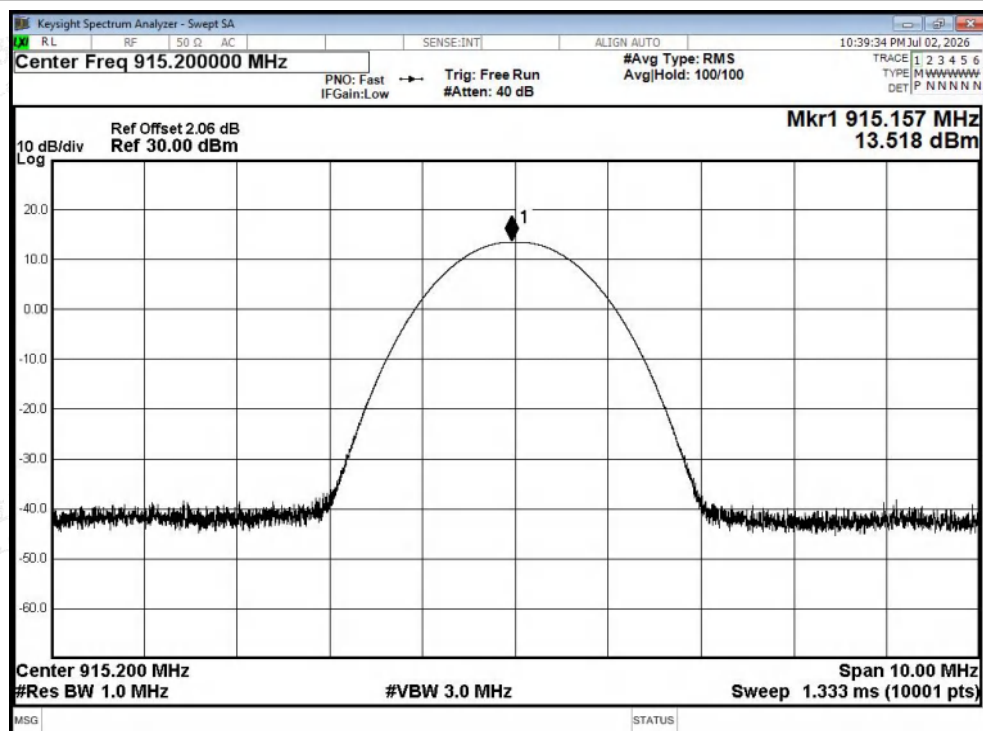




Power NVNT 150kbps 902.4MHz Ant1

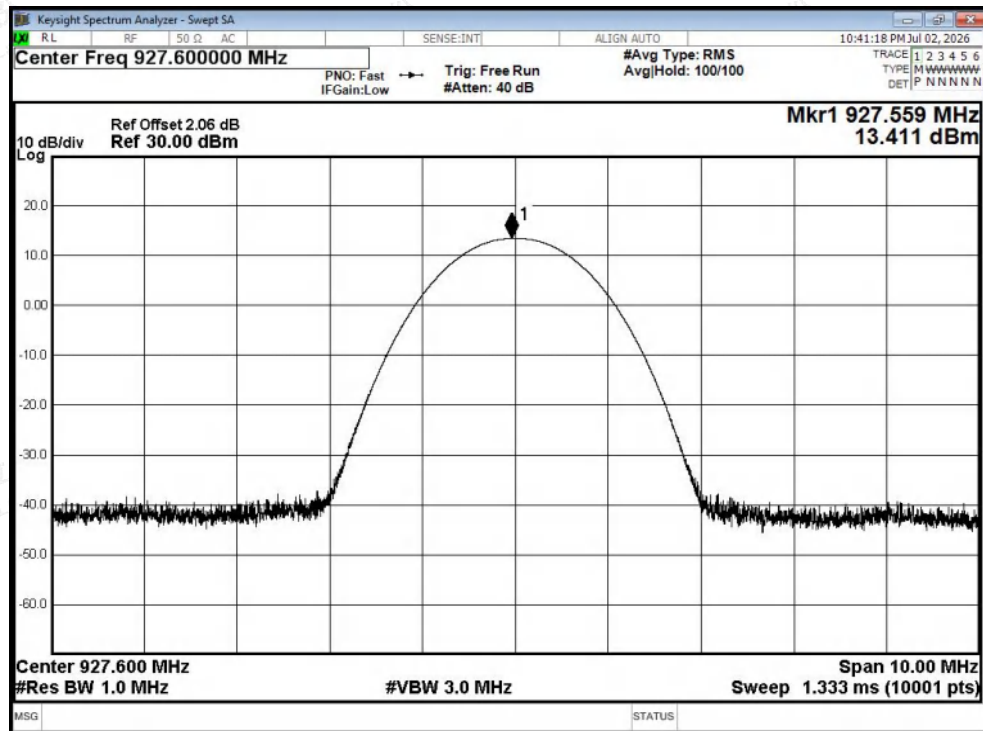


Power NVNT 150kbps 915.2MHz Ant1

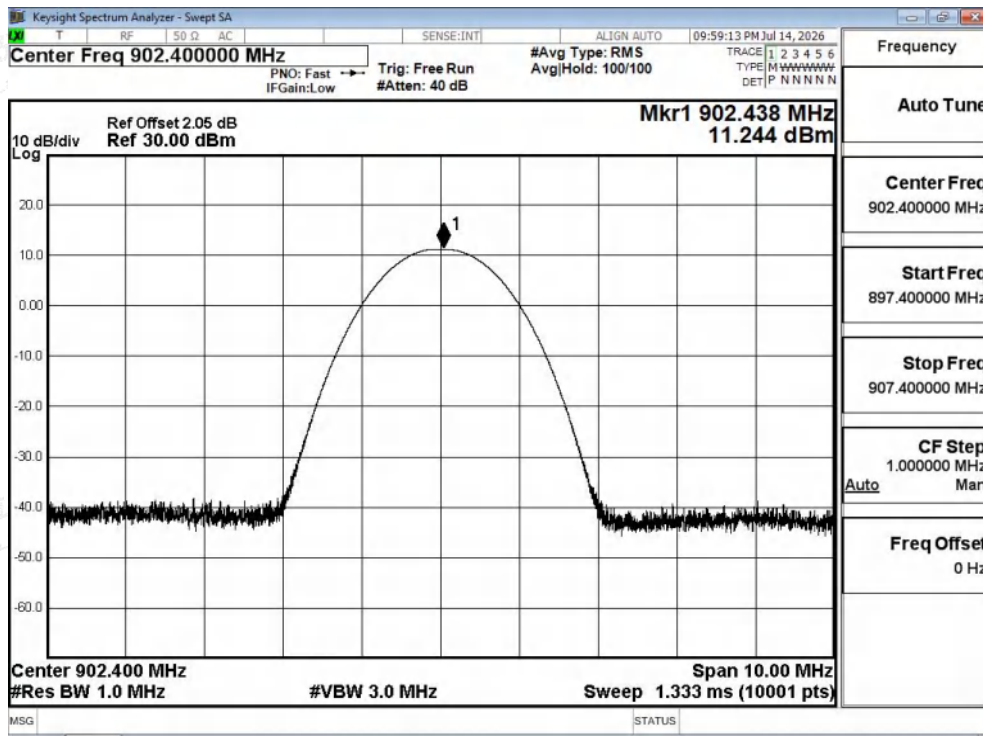




Power NVNT 150kbps 927.6MHz Ant1

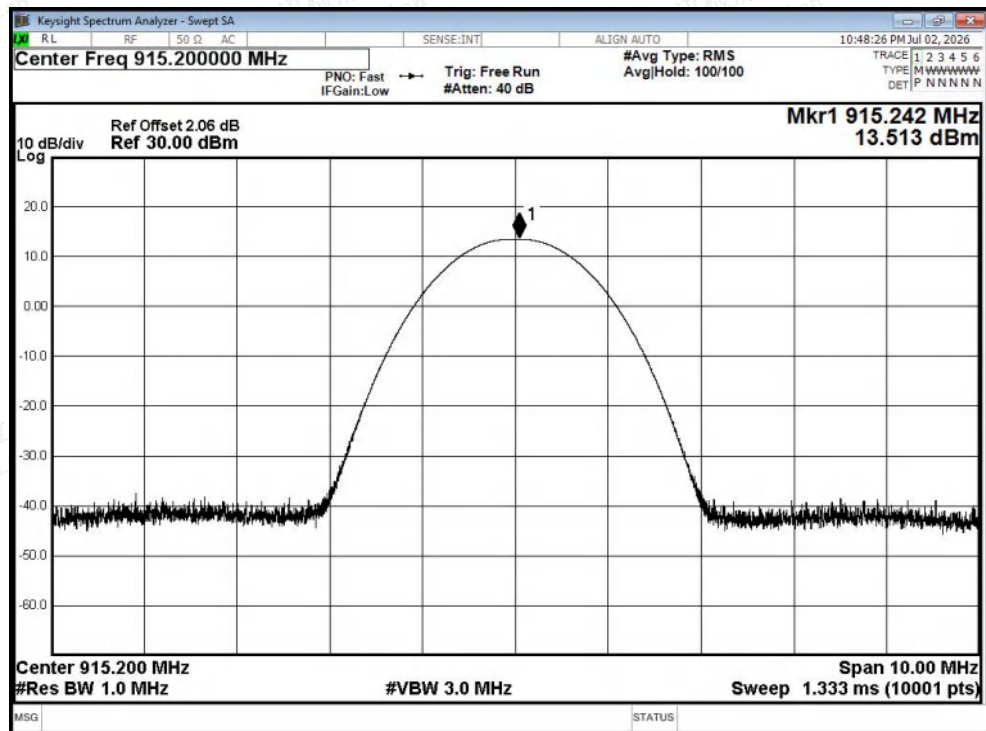


Power NVNT 200kbps 902.4MHz Ant1

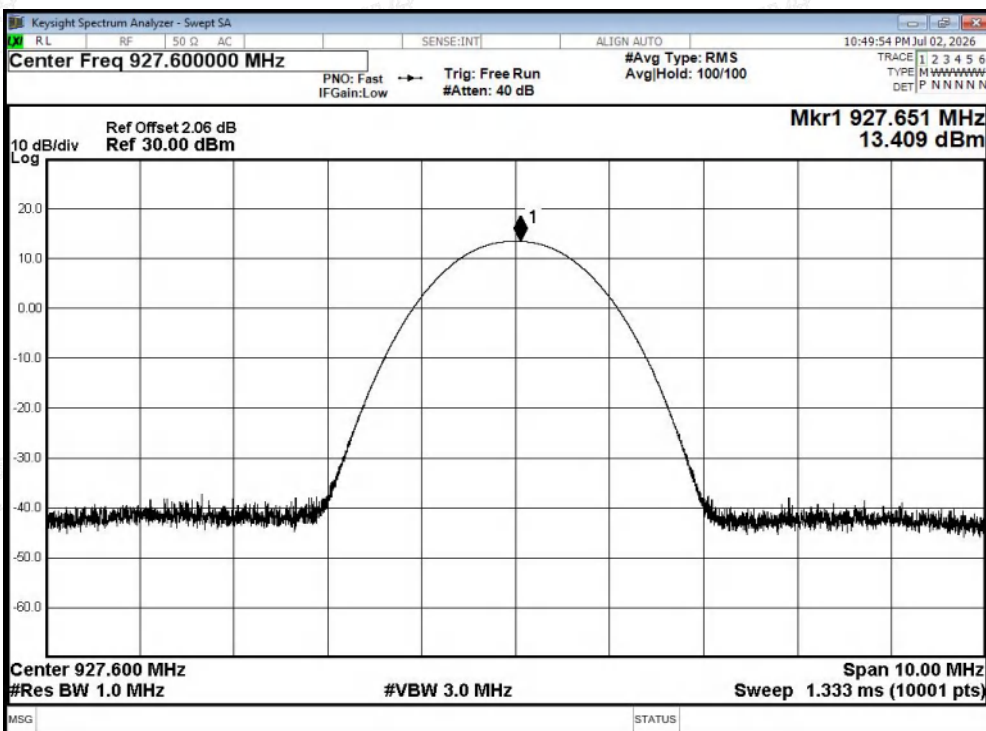




Power NVNT 200kbps 915.2MHz Ant1



Power NVNT 200kbps 927.6MHz Ant1





A.3 Carrier Frequencies Separation

Condition	Mode	Antenna	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	50kbps	Ant1	914.8188	915.0208	0.2020	0.063	Pass
NVNT	100kbps	Ant1	915.4188	915.6196	0.2008	0.082	Pass
NVNT	150kbps	Ant1	914.8400	915.1968	0.3568	0.121	Pass
NVNT	200kbps	Ant1	914.8440	915.1944	0.3504	0.162	Pass

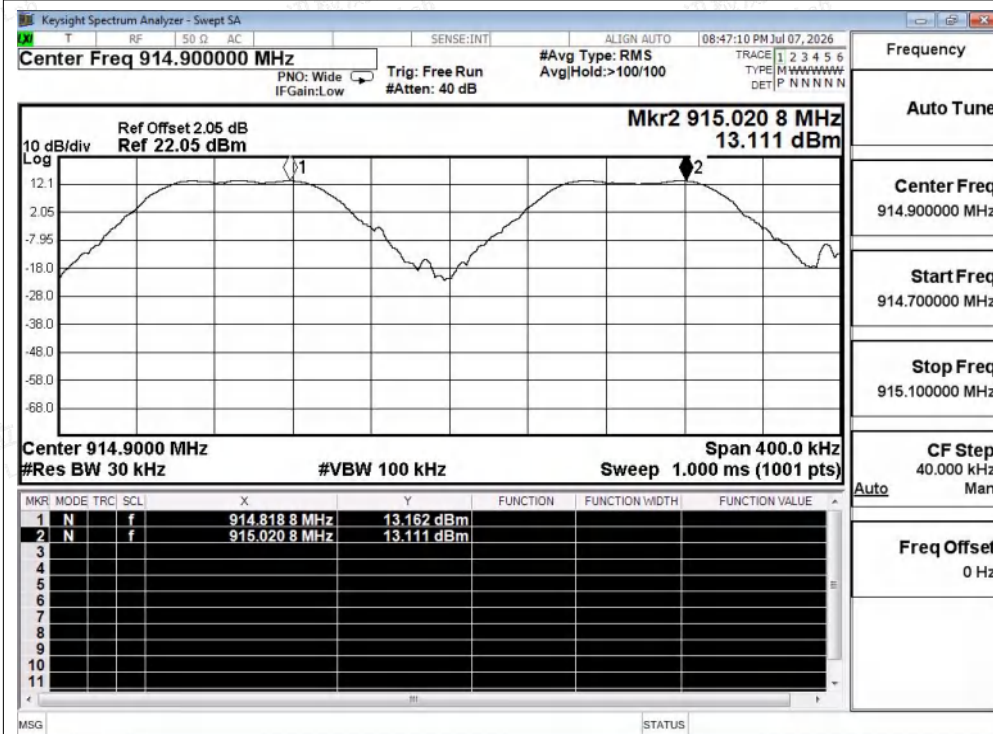


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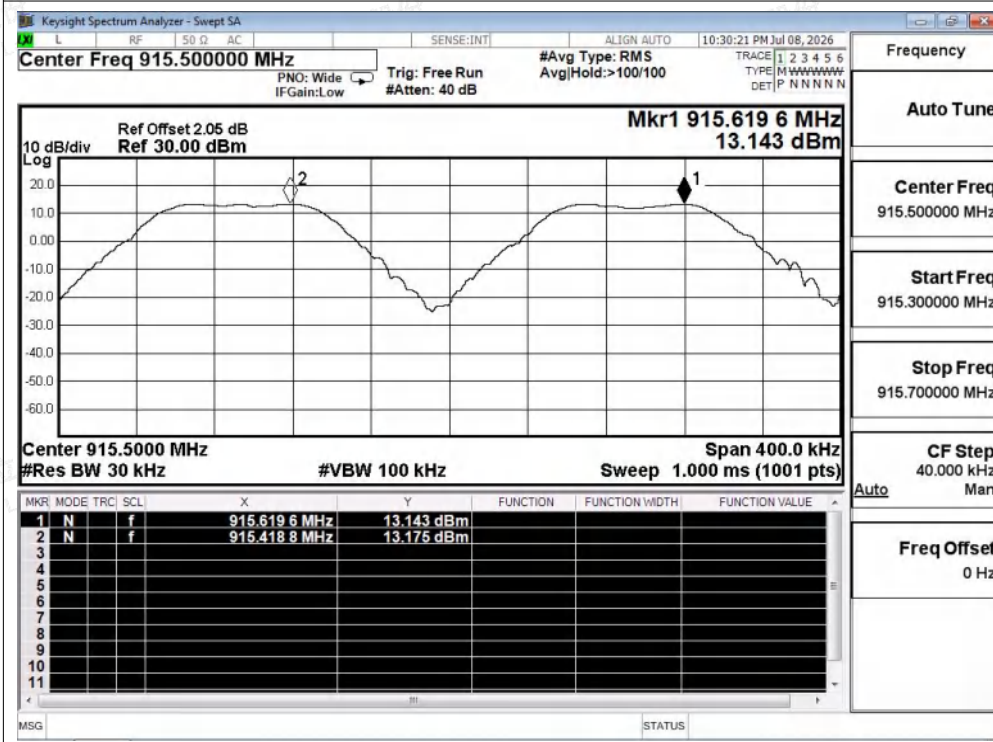


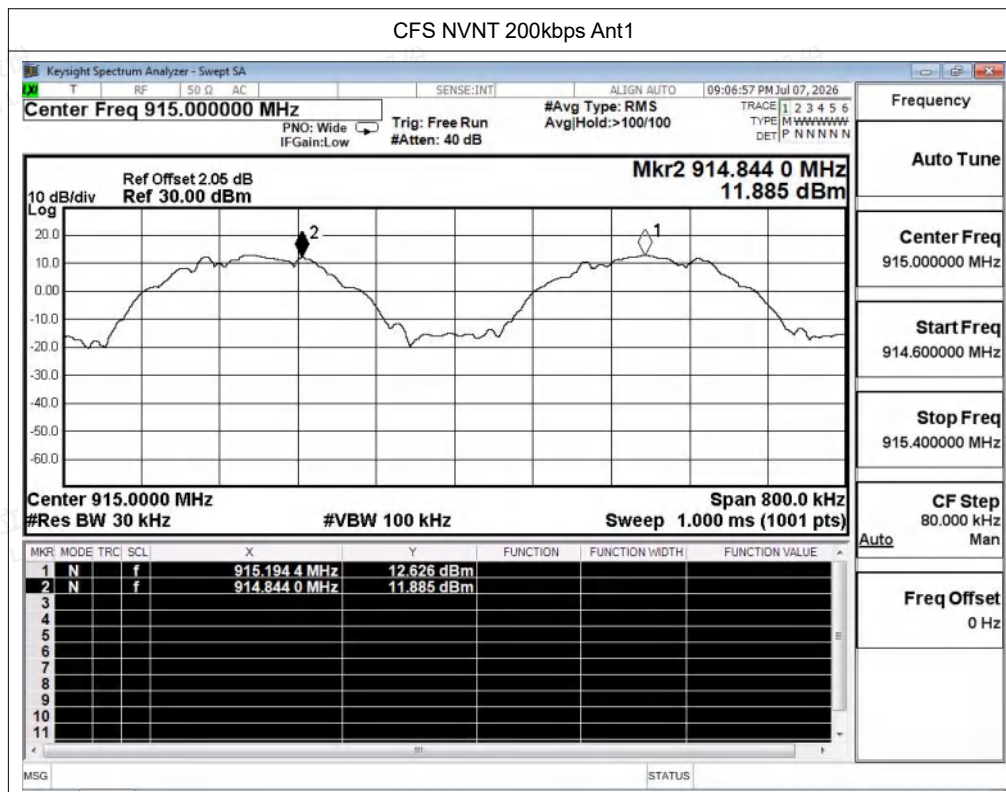
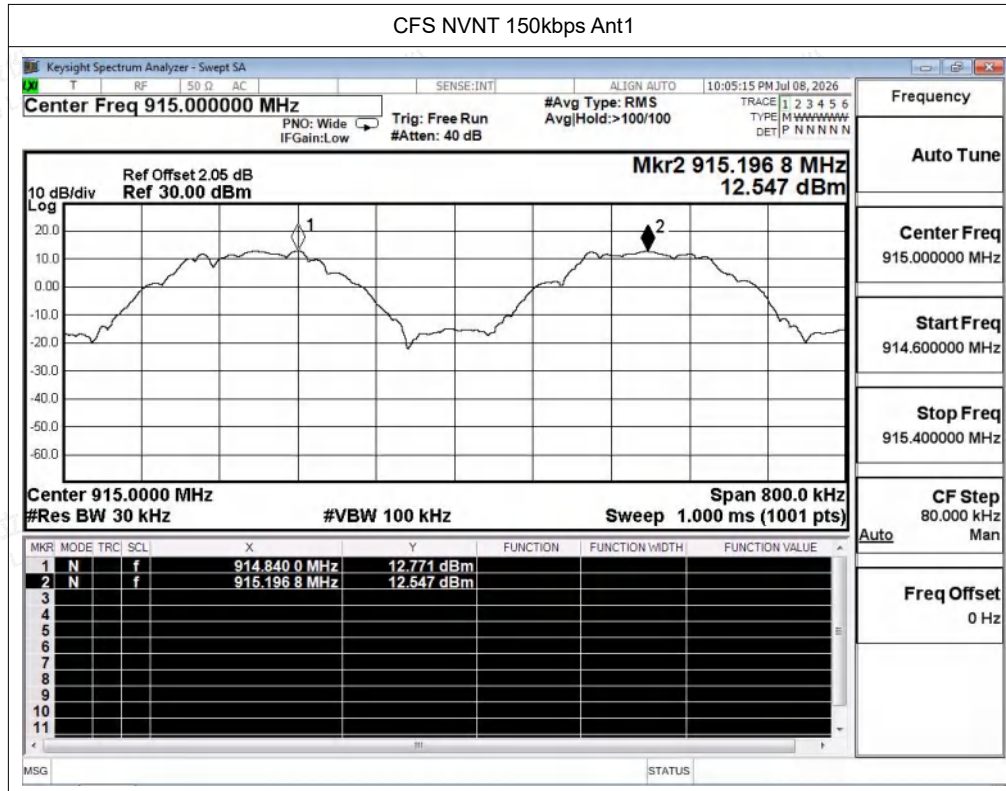
Test Graphs

CFS NVNT 50kbps Ant1



CFS NVNT 100kbps MHz Ant1







A.4 Dwell Time

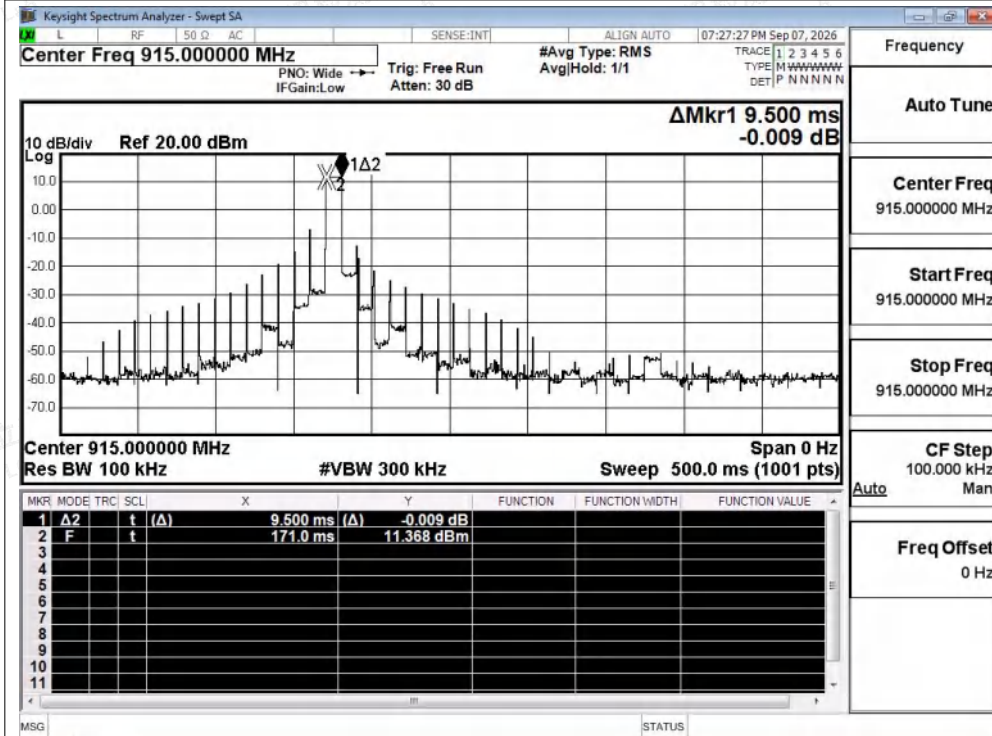
Condition	Mode	Antenna	Pulse Time (ms)	Total Dwell Time (ms)	Burst Count	Period Time (ms)	Limit (ms)	Verdict
NVNT	50kbps	Ant1	9.5	38	4	20000	400	Pass
NVNT	100kbps	Ant1	9.5	38	4	20000	400	Pass
NVNT	150kbps	Ant1	2.4	9.6	4	20000	400	Pass
NVNT	200kbps	Ant1	2.4	9.6	4	20000	400	Pass



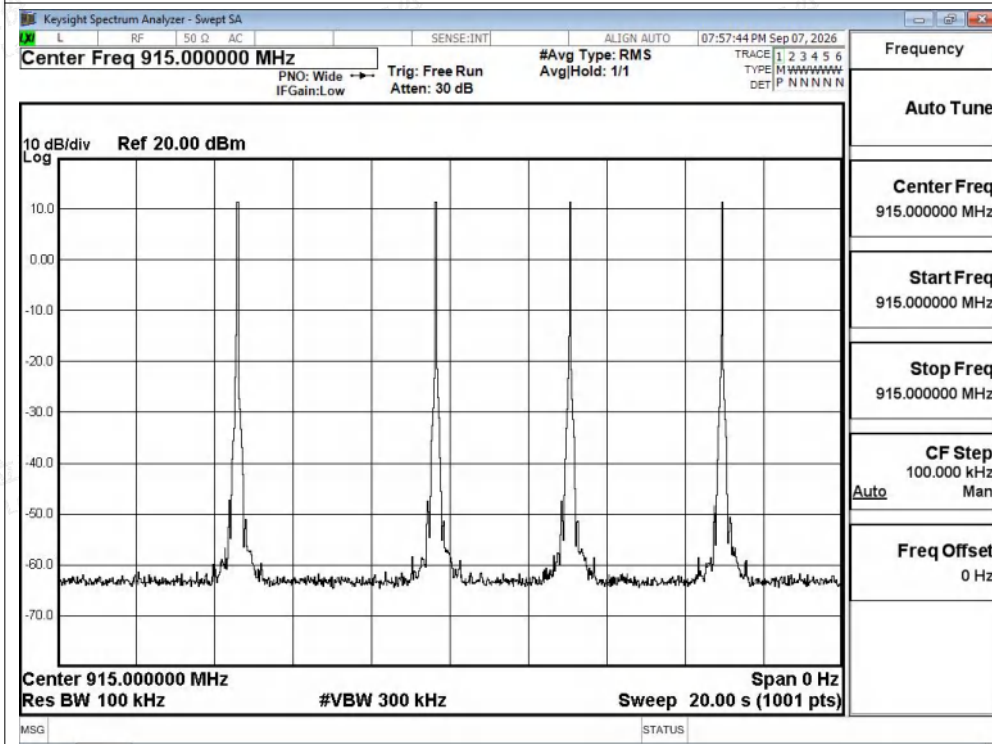


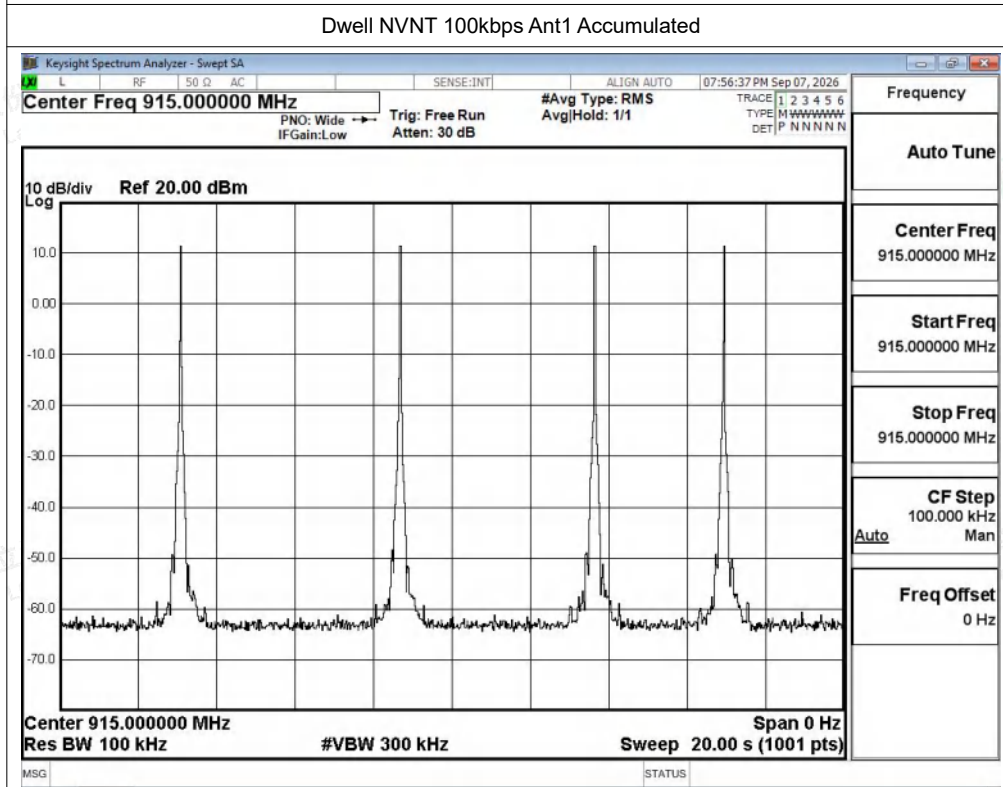
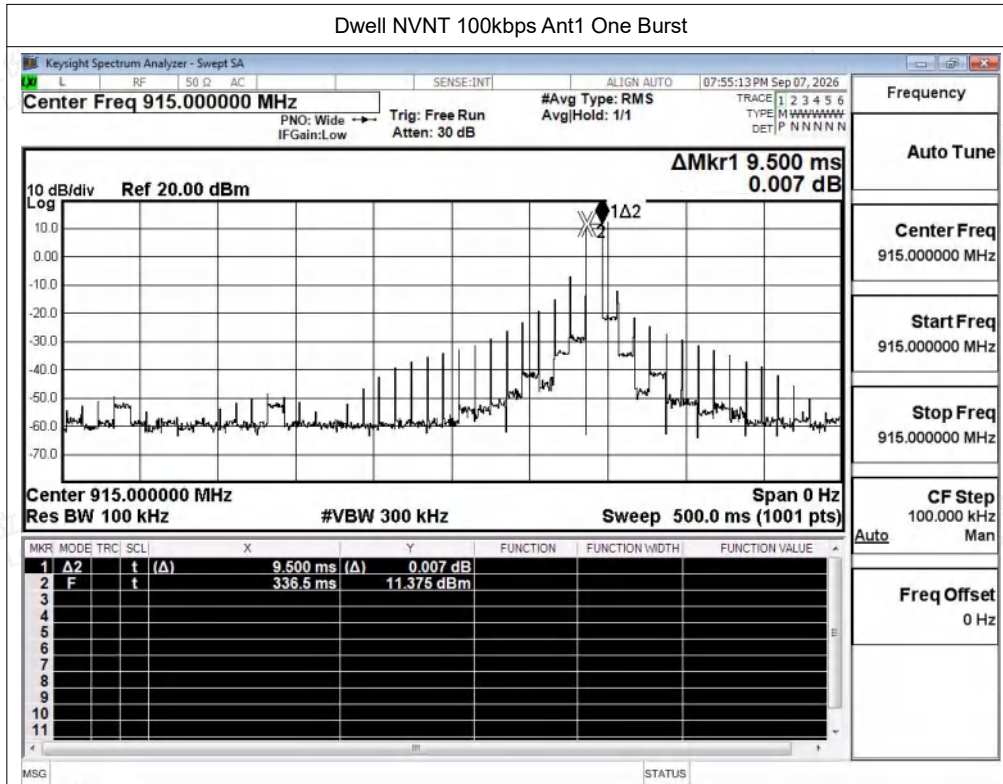
Test Graphs

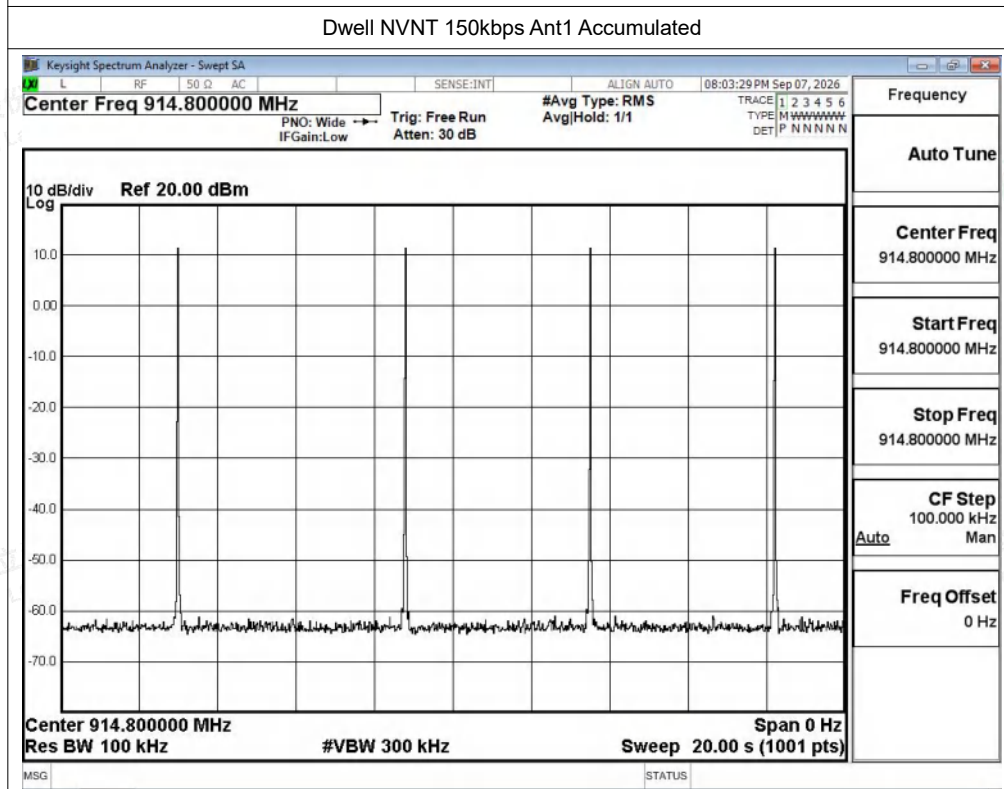
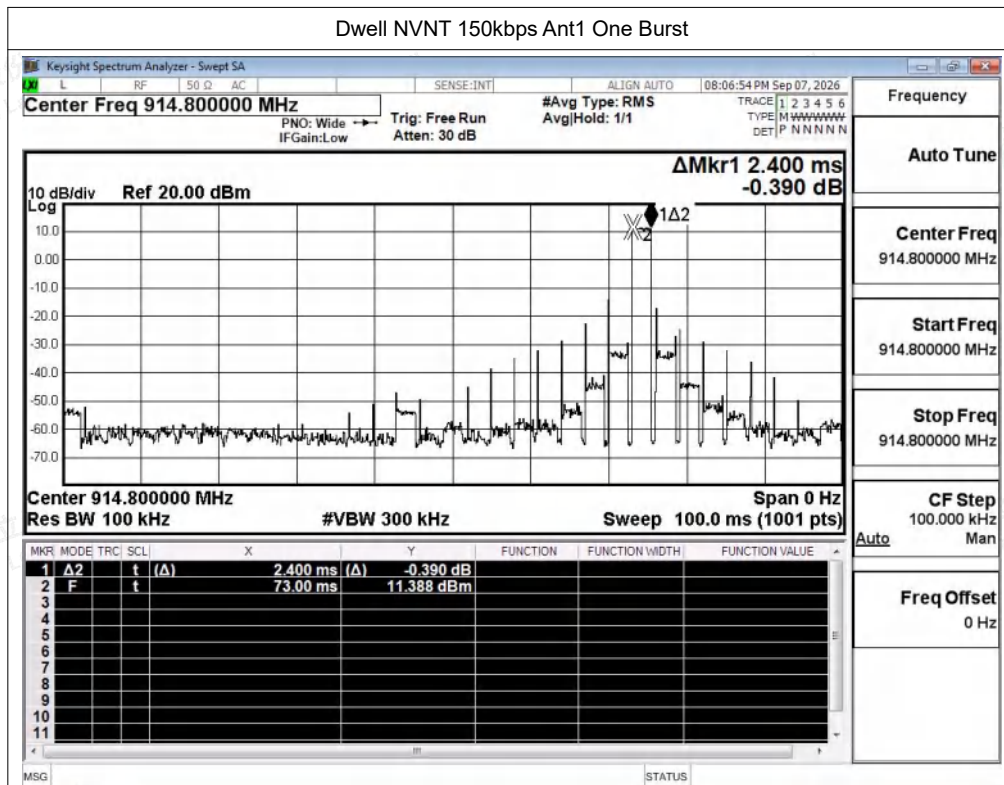
Dwell NVNT 50kbps Ant1 One Burst

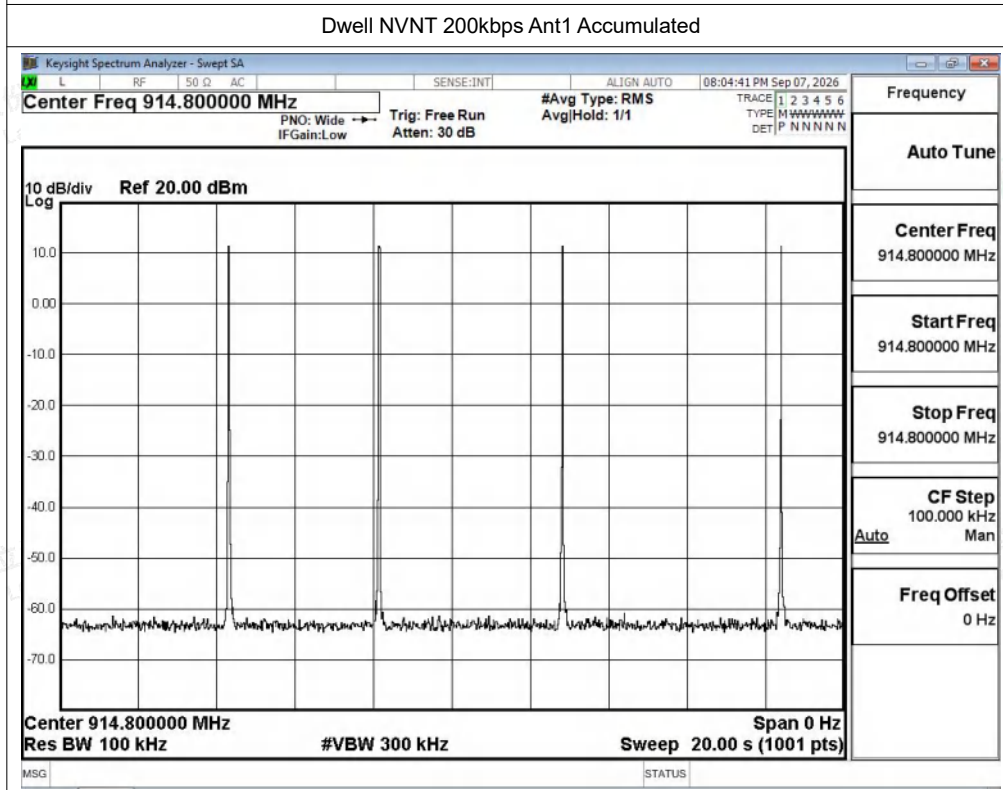
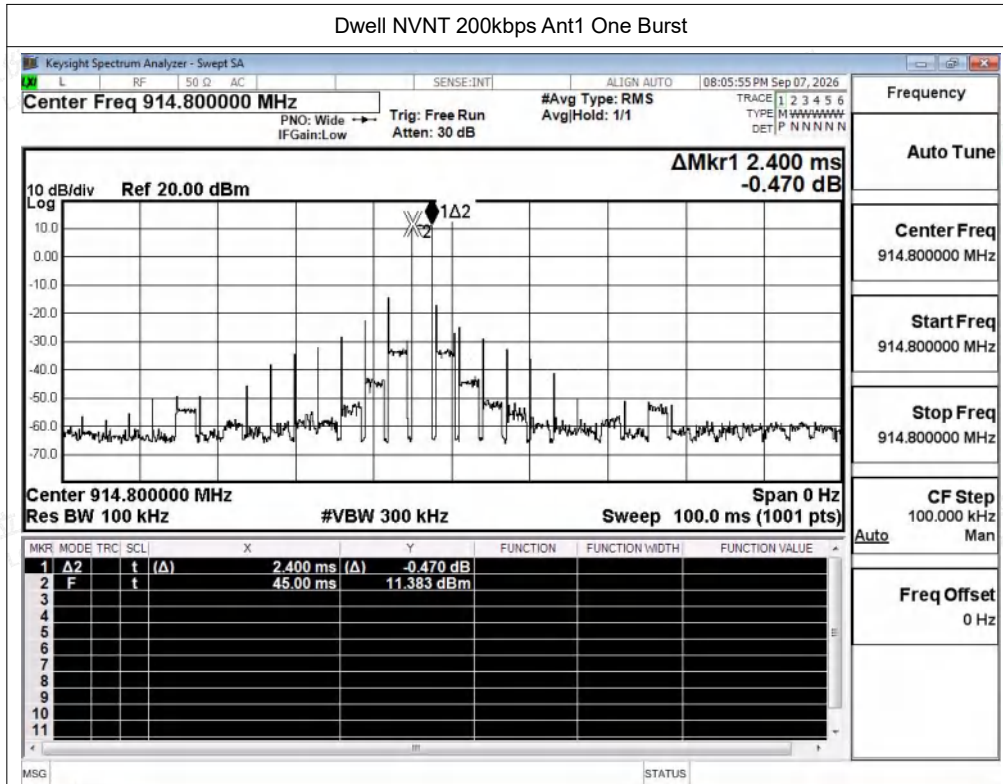


Dwell NVNT 50kbps Ant1 Accumulated











A.5 Number of Hopping Channel

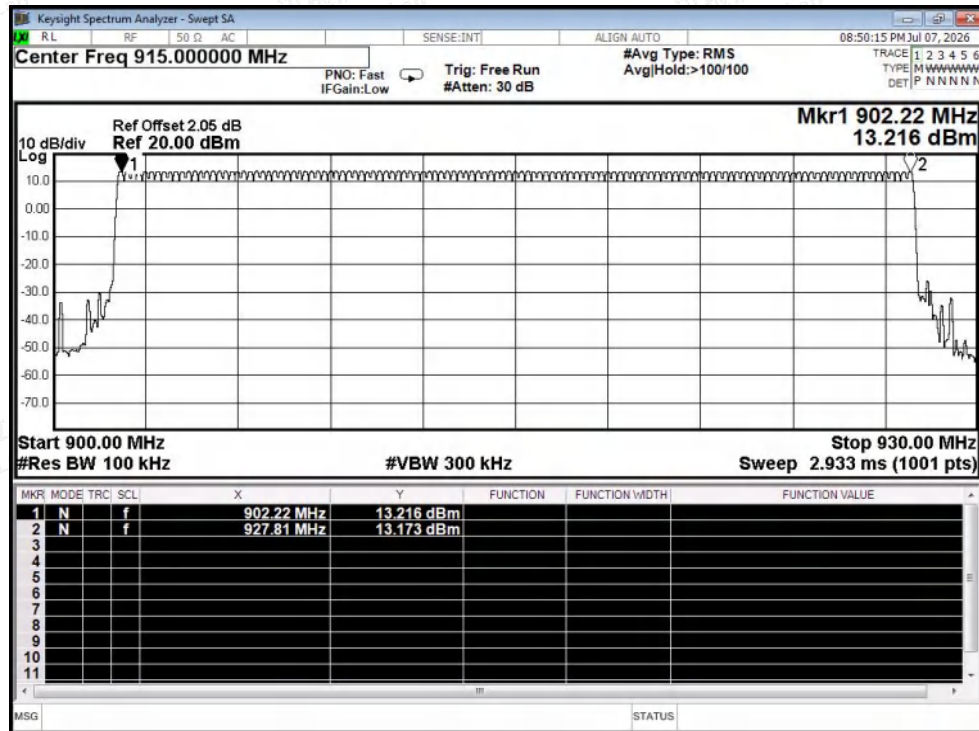
Condition	Mode	Antenna	Hopping Number	Limit	Verdict
NVNT	50kbps	Ant1	129	50	Pass
NVNT	100kbps	Ant1	129	50	Pass
NVNT	150kbps	Ant1	64	50	Pass
NVNT	200kbps	Ant1	64	50	Pass



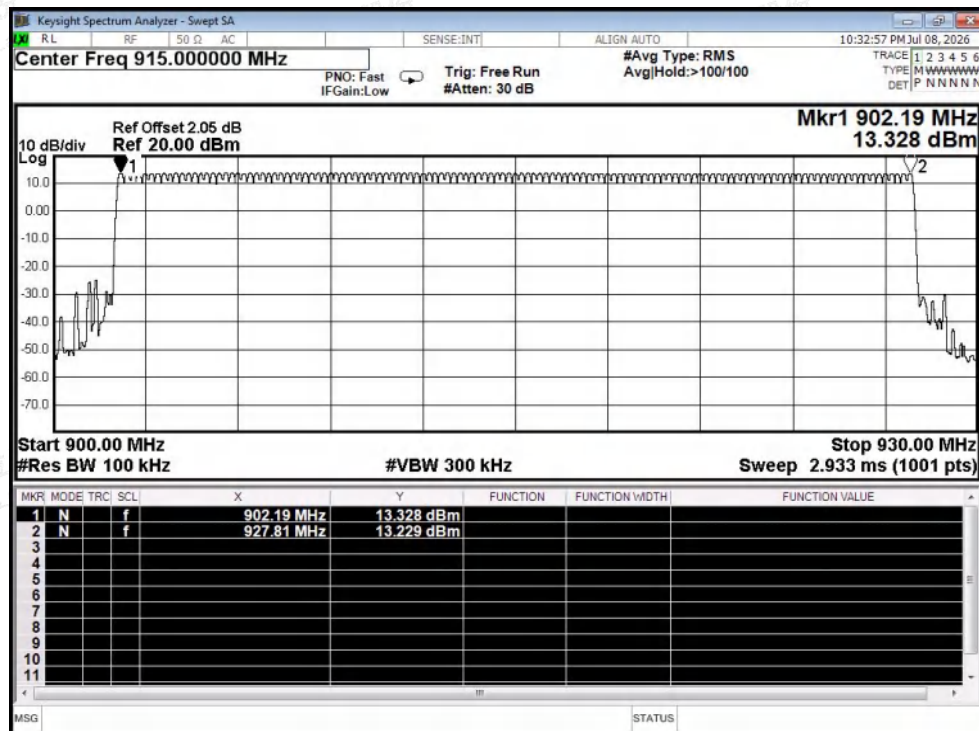


Test Graphs

Hopping No. NVNT 50kbps Ant1

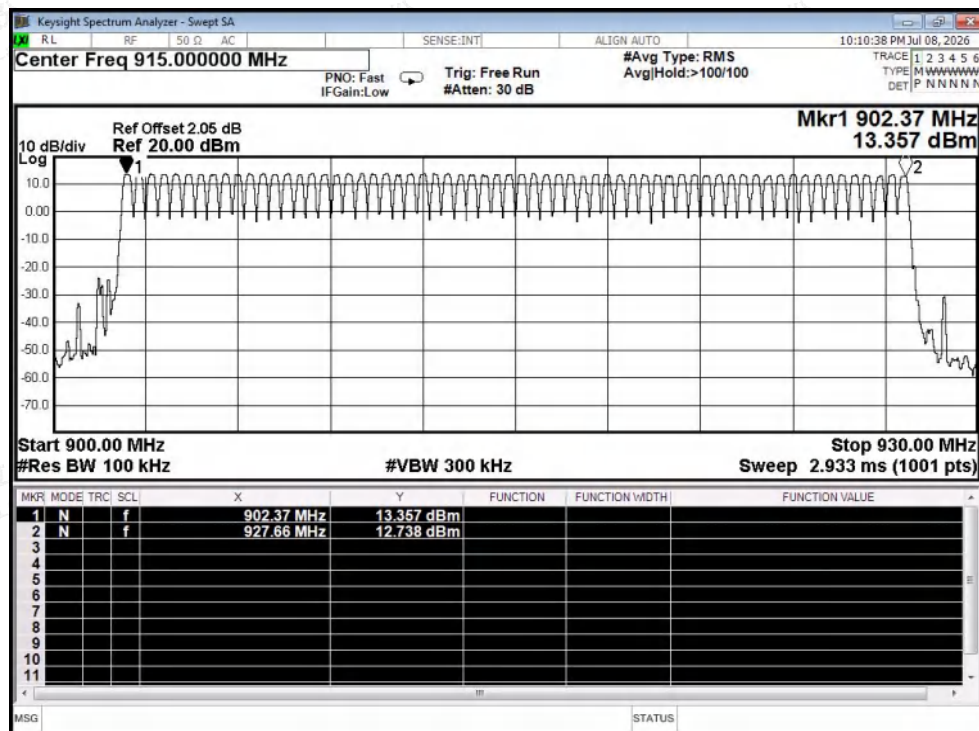


Hopping No. NVNT 100kbps MHz Ant1

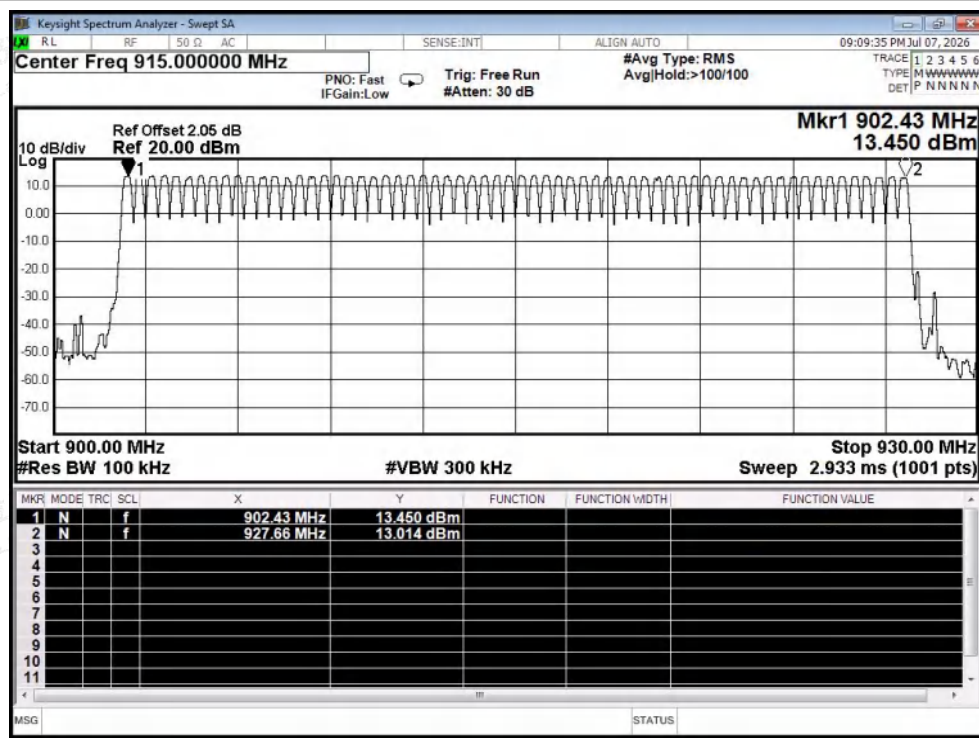




Hopping No. NVNT 150kbps Ant1



Hopping No. NVNT 200kbps Ant1



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A.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	50kbps	902.2	Ant1	No-Hopping	-33.204	-20	Pass
NVNT	50kbps	927.8	Ant1	No-Hopping	-38.427	-20	Pass
NVNT	100kbps	902.2	Ant1	No-Hopping	-32.377	-20	Pass
NVNT	100kbps	927.8	Ant1	No-Hopping	-34.805	-20	Pass
NVNT	150kbps	902.4	Ant1	No-Hopping	-23.974	-20	Pass
NVNT	150kbps	927.6	Ant1	No-Hopping	-26.887	-20	Pass
NVNT	200kbps	902.4	Ant1	No-Hopping	-20.053	-20	Pass
NVNT	200kbps	927.6	Ant1	No-Hopping	-27.175	-20	Pass

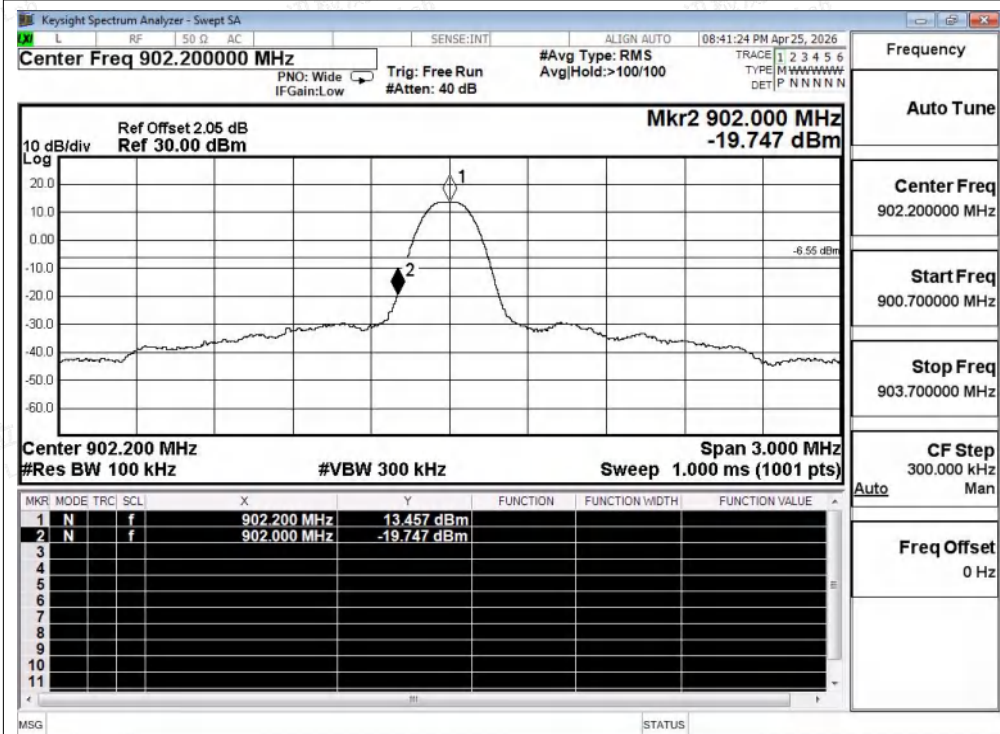


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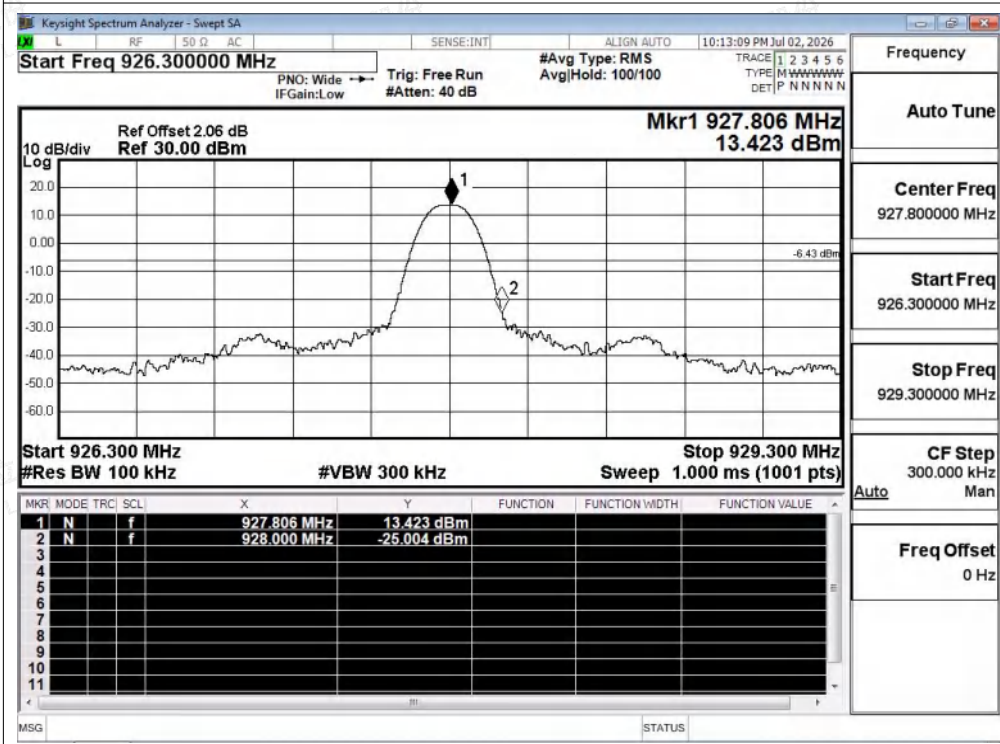


Test Graphs

Band Edge NVNT 50kbps 902.2MHz Ant1 No-Hopping Ref

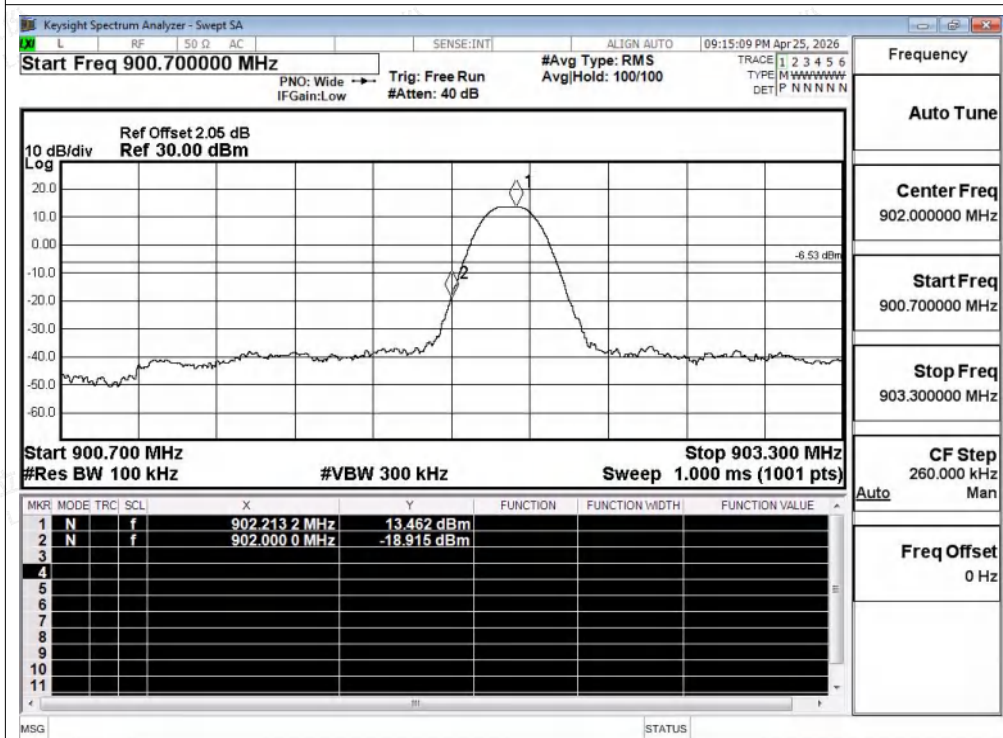


Band Edge NVNT 50kbps 927.8MHz Ant1 No-Hopping Ref

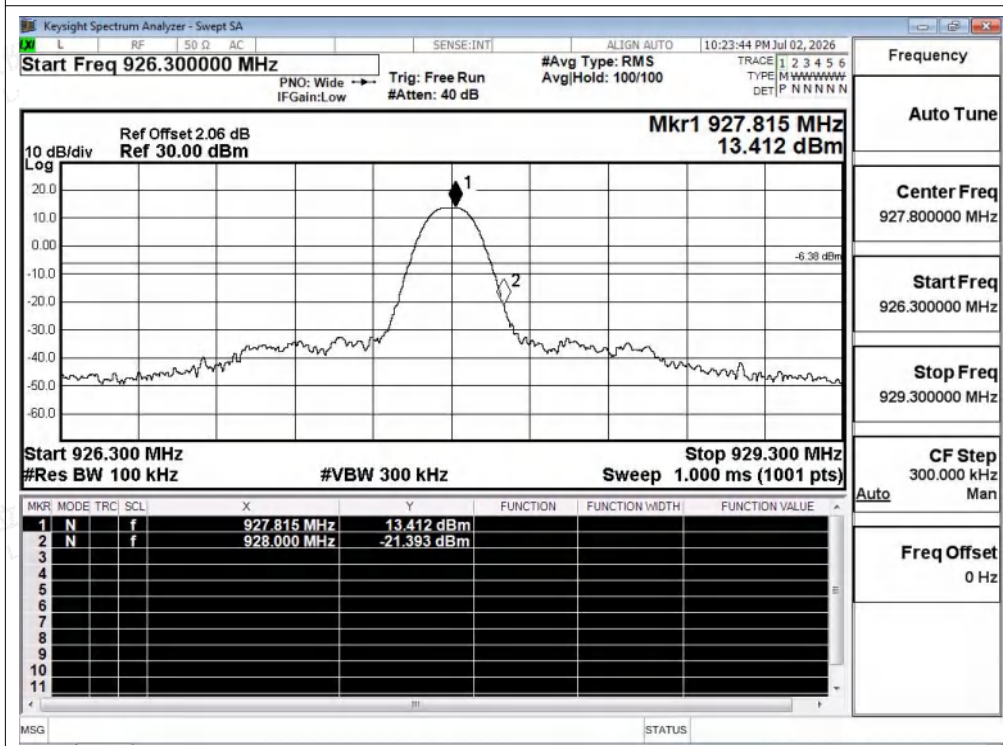




Band Edge NVNT 100kbps 902.2MHz Ant1 No-Hopping Ref

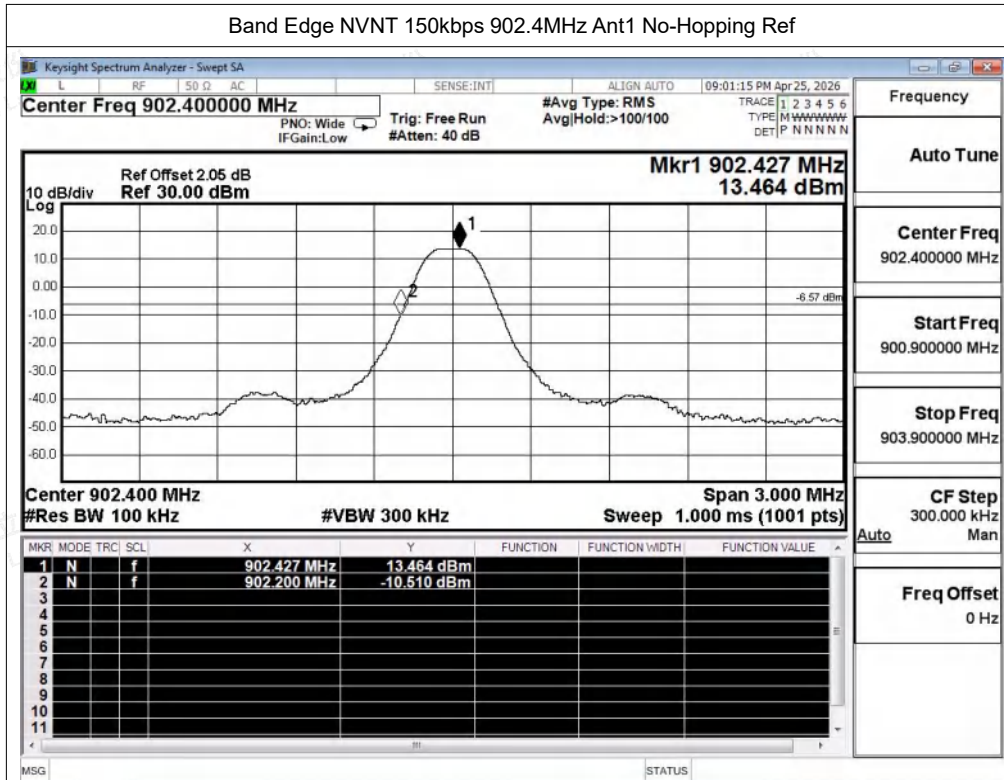


Band Edge NVNT 100kbps 927.8MHz Ant1 No-Hopping Ref

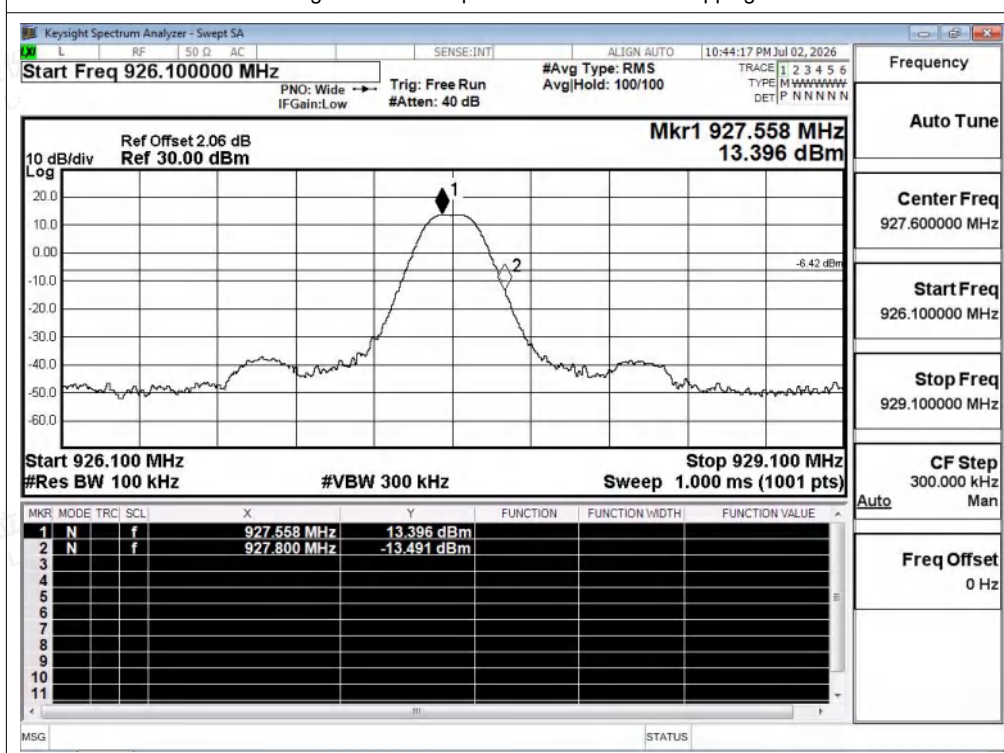




Band Edge NVNT 150kbps 902.4MHz Ant1 No-Hopping Ref

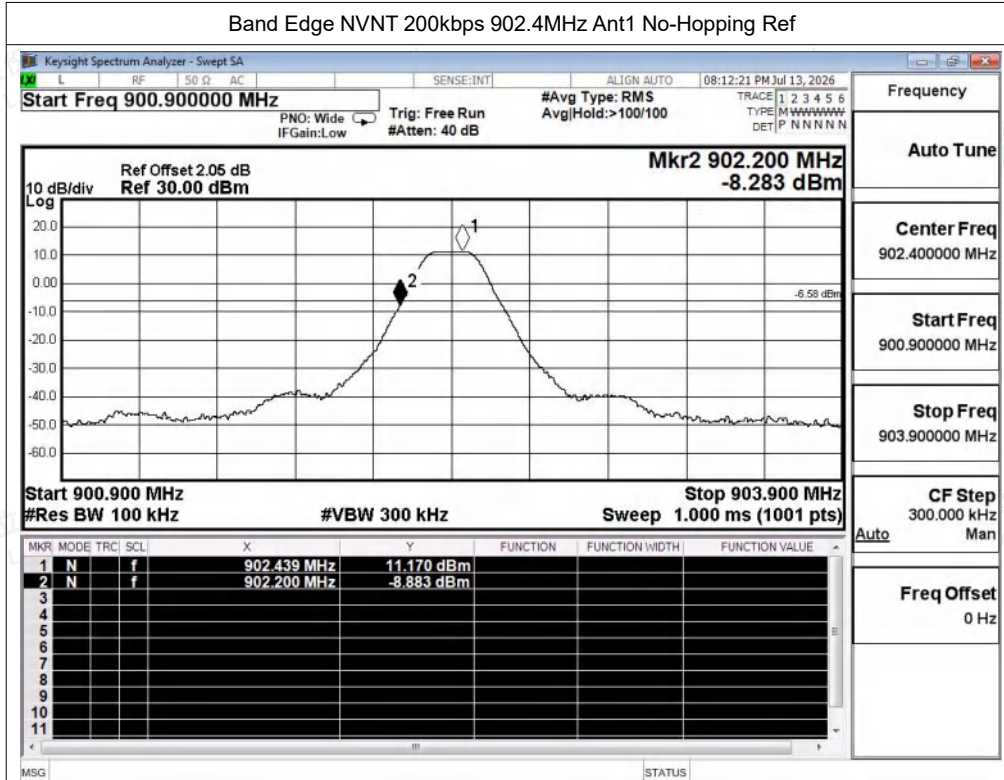


Band Edge NVNT 150kbps 927.6MHz Ant1 No-Hopping Ref

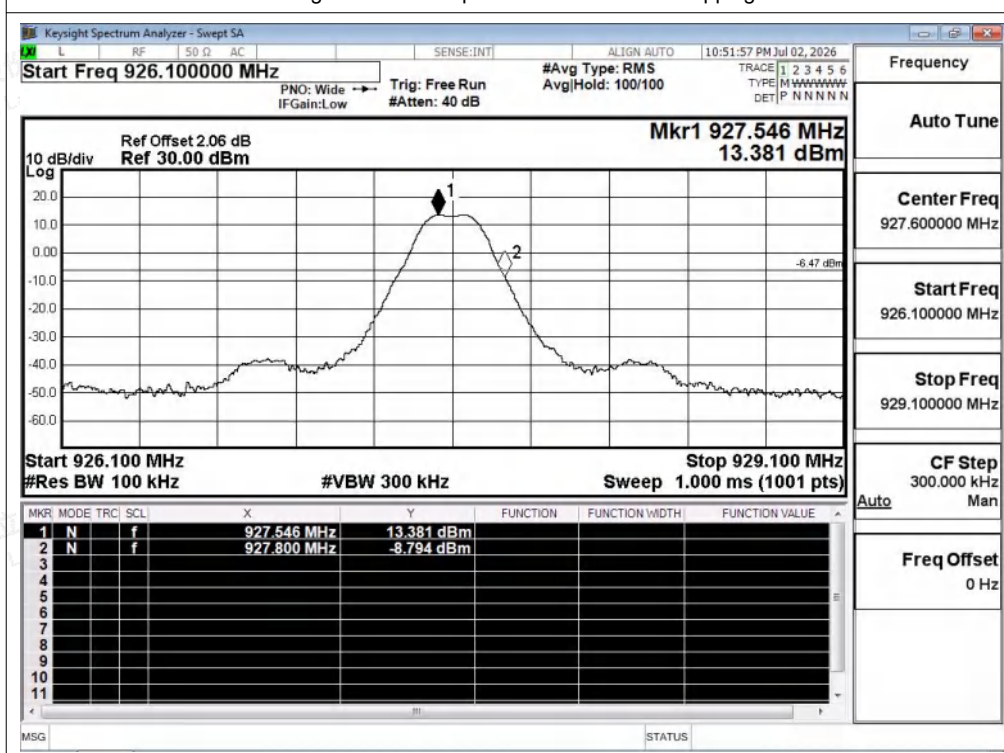




Band Edge NVNT 200kbps 902.4MHz Ant1 No-Hopping Ref



Band Edge NVNT 200kbps 927.6MHz Ant1 No-Hopping Ref





(Hopping)

Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	50kbps	902.2	Ant1	Hopping	-37.047	-20	Pass
NVNT	50kbps	927.8	Ant1	Hopping	-38.75	-20	Pass
NVNT	100kbps	902.2	Ant1	Hopping	-36.124	-20	Pass
NVNT	100kbps	927.8	Ant1	Hopping	-38.794	-20	Pass
NVNT	150kbps	902.4	Ant1	Hopping	-20.75	-20	Pass
NVNT	150kbps	927.6	Ant1	Hopping	-22.027	-20	Pass
NVNT	200kbps	902.4	Ant1	Hopping	-21.46	-20	Pass
NVNT	200kbps	927.6	Ant1	Hopping	-22.675	-20	Pass

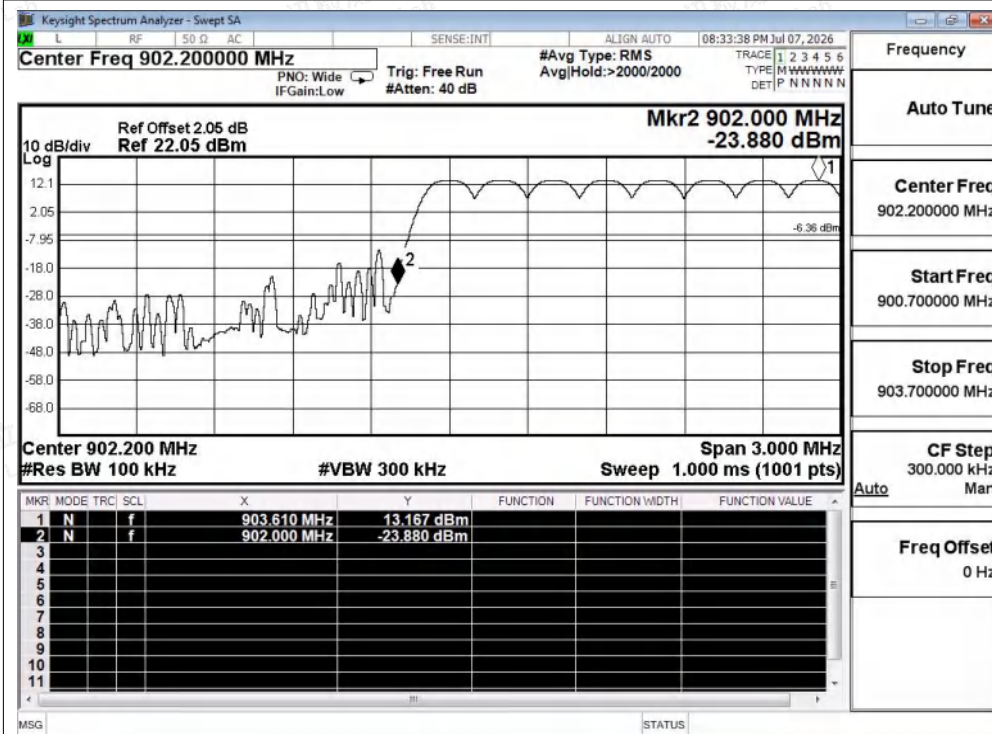


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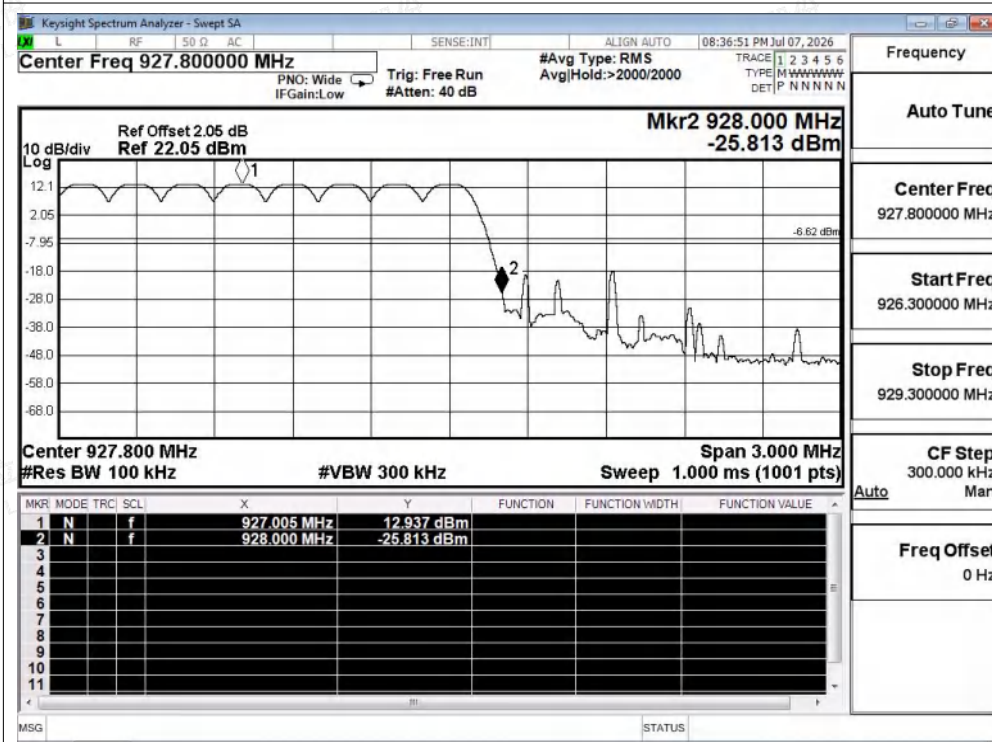


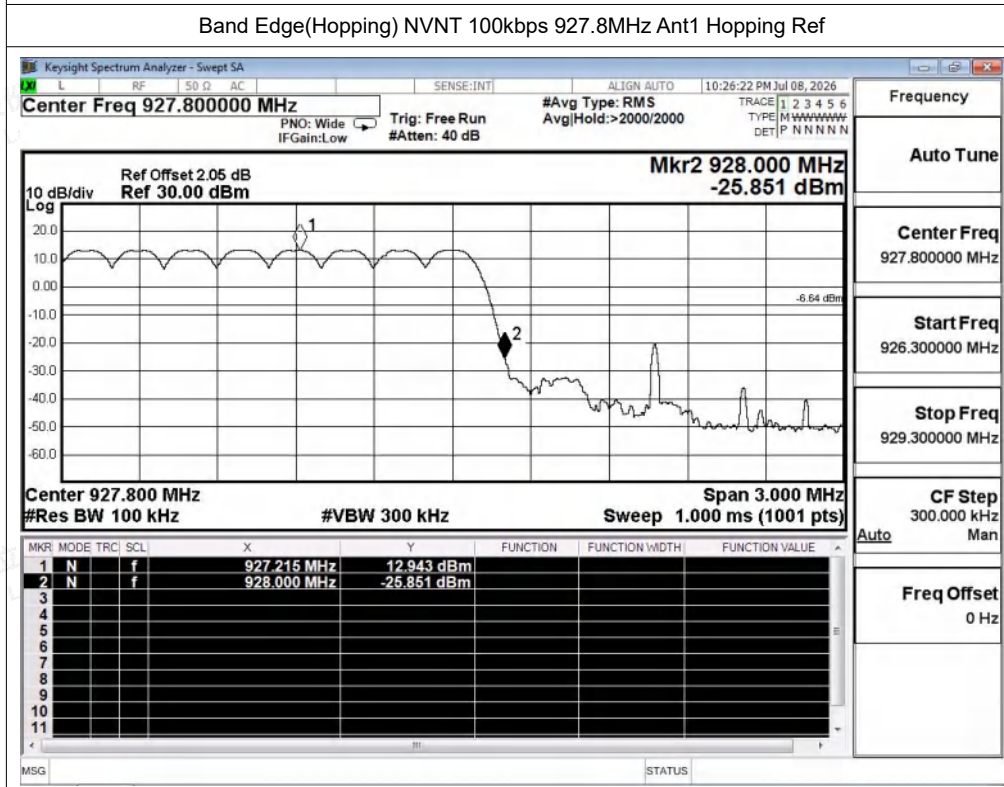
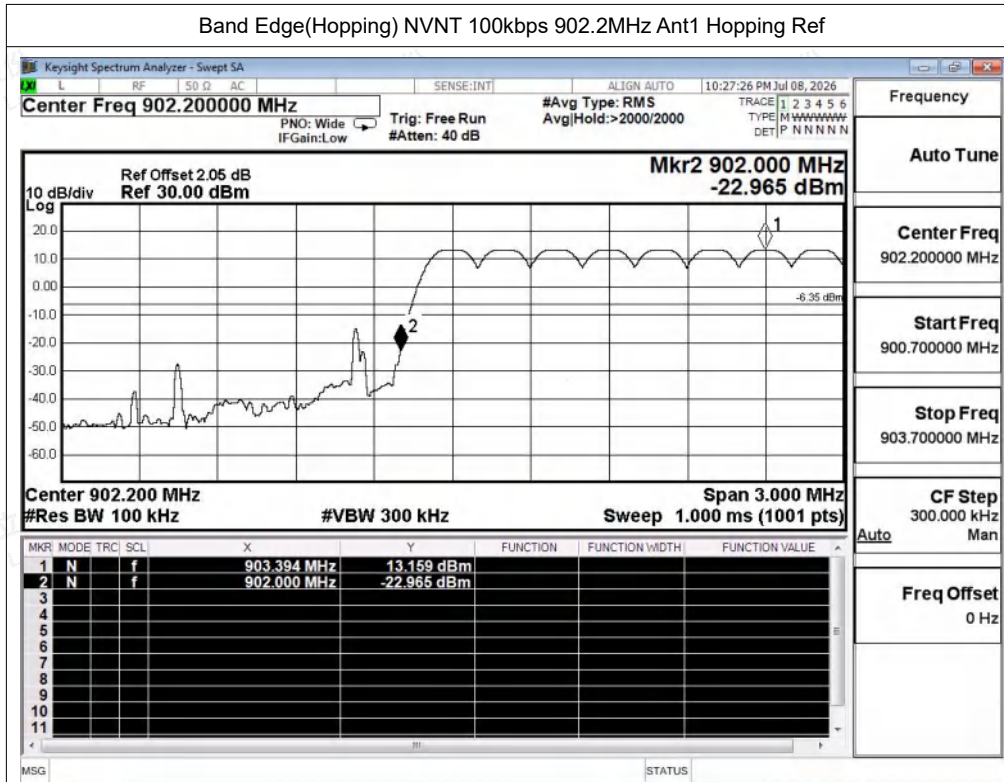
Test Graphs

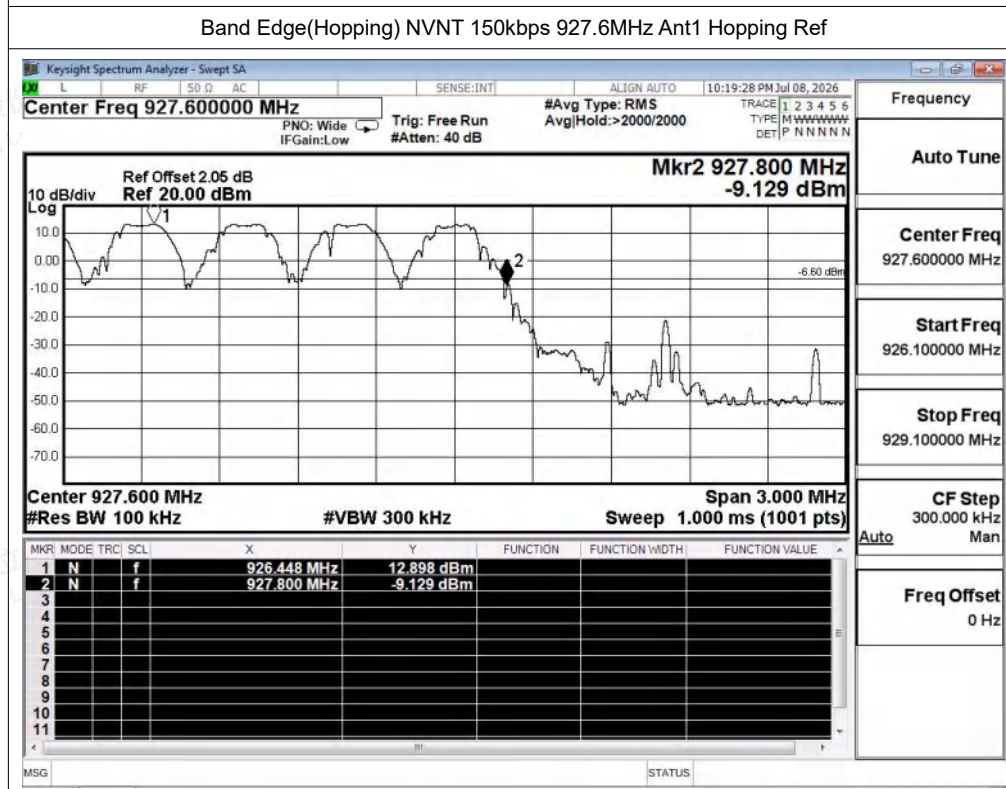
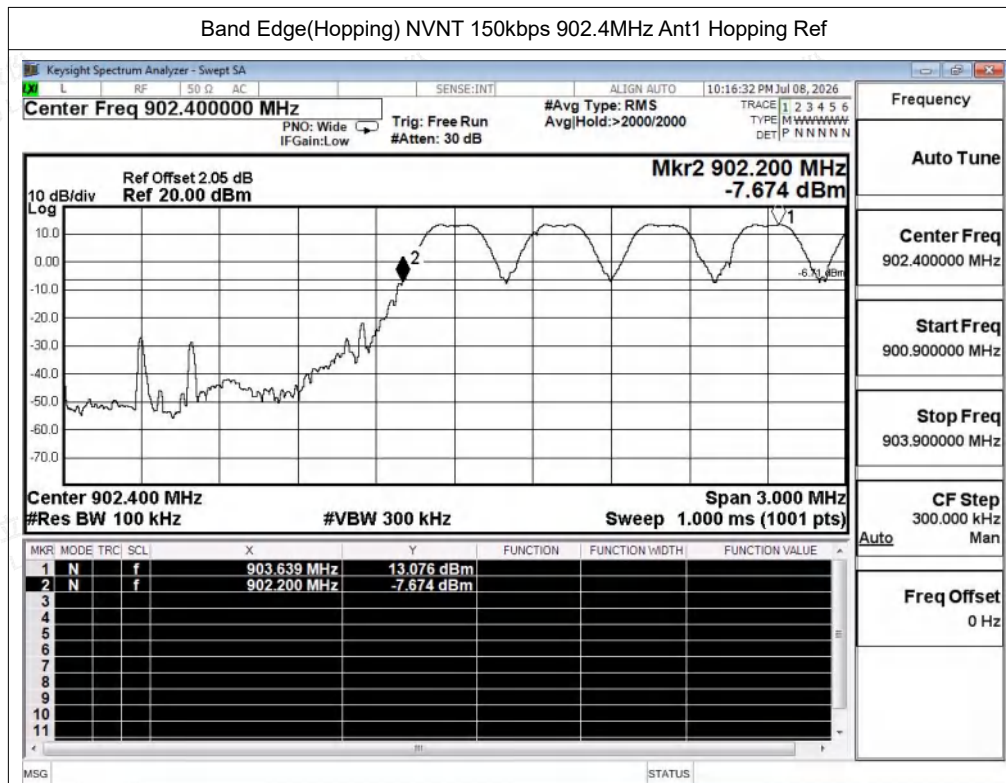
Band Edge(Hopping) NVNT 50kbps 902.2MHz Ant1 Hopping Ref

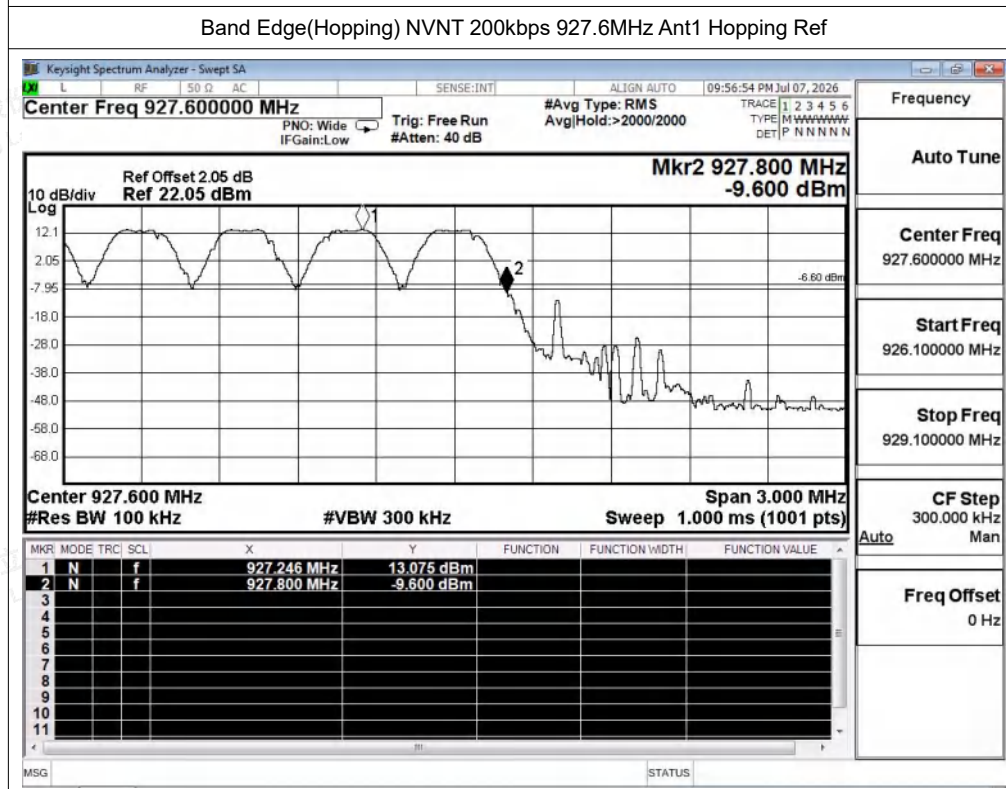
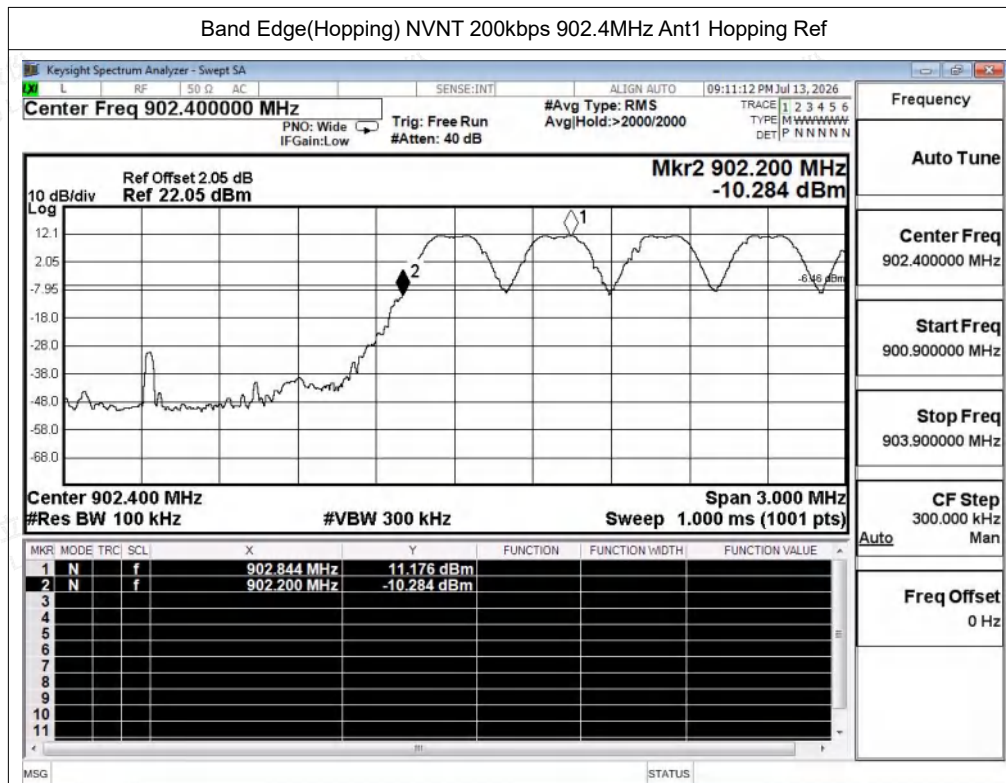


Band Edge(Hopping) NVNT 50kbps 927.8MHz Ant1 Hopping Ref











A.7 Conducted RF Spurious Emission

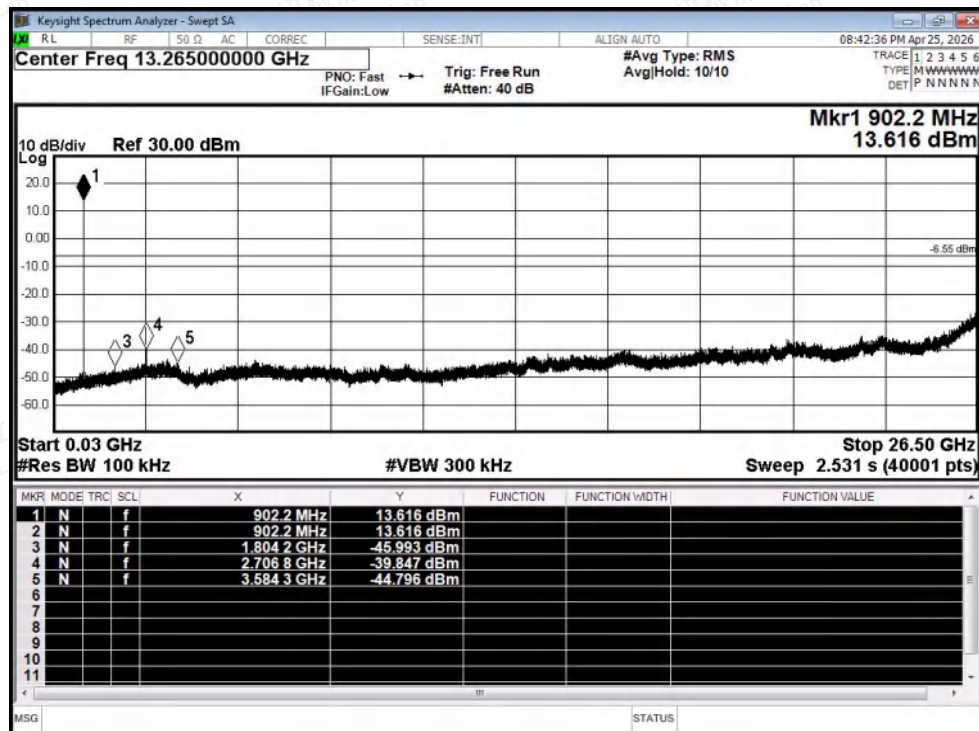
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	50kbps	902.2	Ant1	-53.463	-20	Pass
NVNT	50kbps	915.0	Ant1	-53.647	-20	Pass
NVNT	50kbps	927.8	Ant1	-53.187	-20	Pass
NVNT	100kbps	902.2	Ant1	-53.421	-20	Pass
NVNT	100kbps	915.0	Ant1	-54.252	-20	Pass
NVNT	100kbps	927.8	Ant1	-53.698	-20	Pass
NVNT	150kbps	902.4	Ant1	-54.067	-20	Pass
NVNT	150kbps	915.2	Ant1	-54.97	-20	Pass
NVNT	150kbps	927.6	Ant1	-54.158	-20	Pass
NVNT	200kbps	902.4	Ant1	-53.964	-20	Pass
NVNT	200kbps	915.2	Ant1	-55.066	-20	Pass
NVNT	200kbps	927.6	Ant1	-54.796	-20	Pass



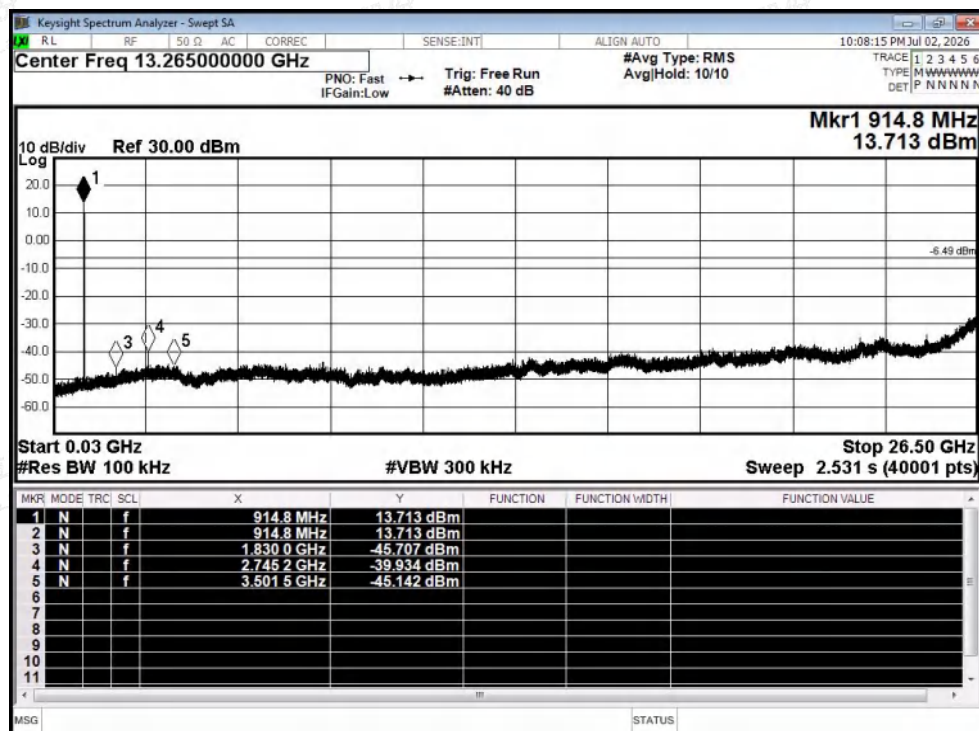


Test Graphs

Tx. Spurious NVNT 50kbps 902.2MHz Ant1 Emission

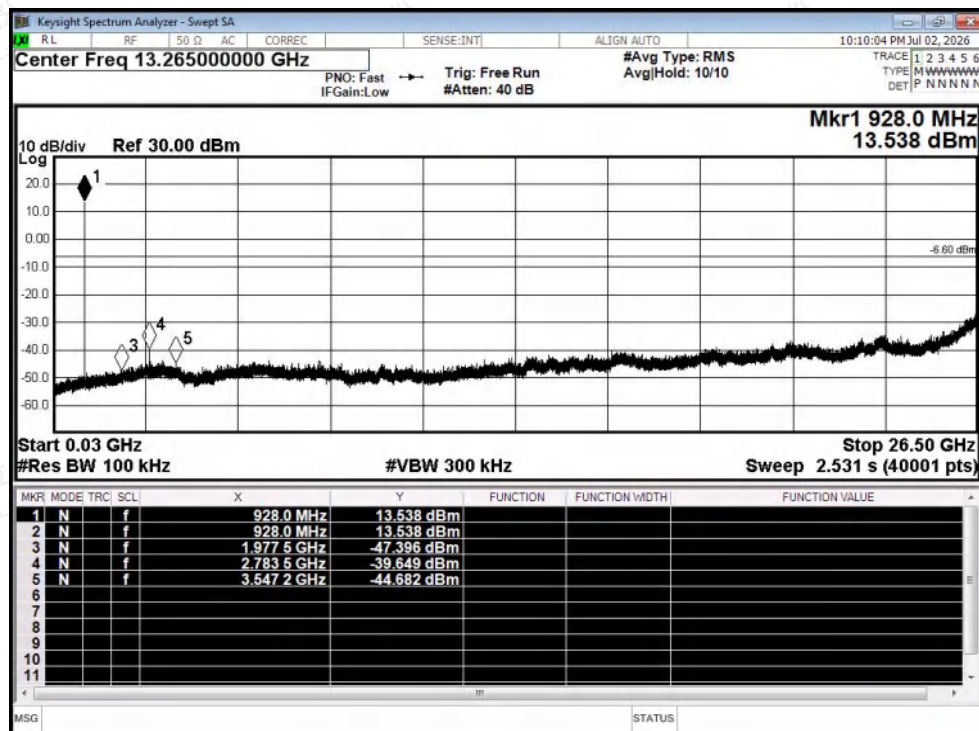


Tx. Spurious NVNT 50kbps 915.0MHz Ant1 Emission

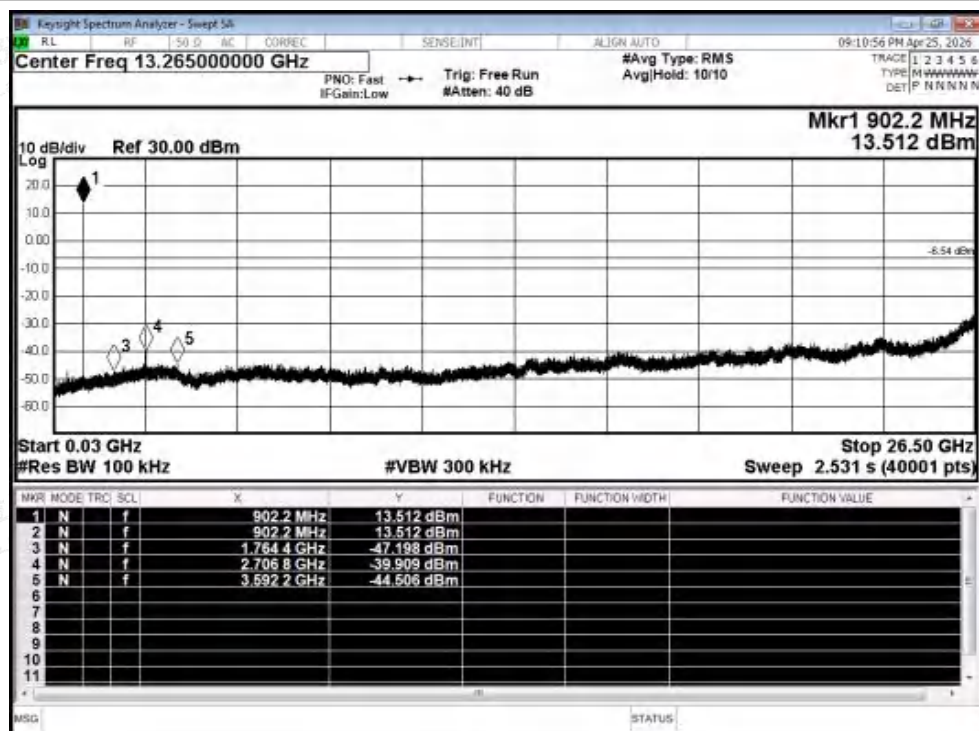




Tx. Spurious NVNT 50kbps 927.8MHz Ant1 Emission



Tx. Spurious NVNT 100kbps 902.2MHz Ant1 Emission



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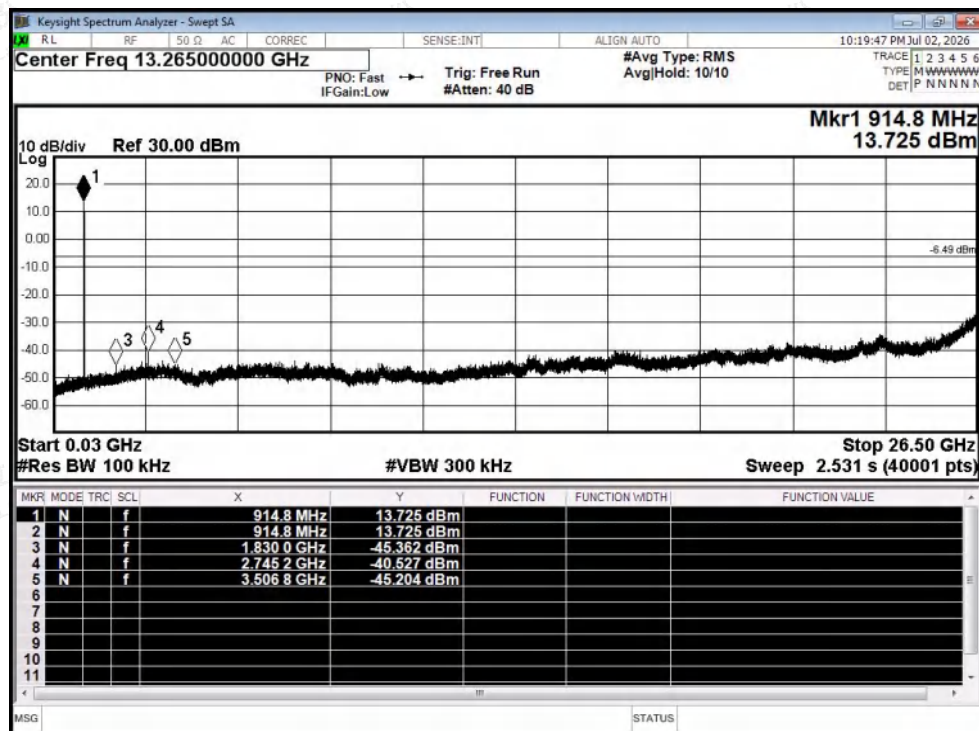
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

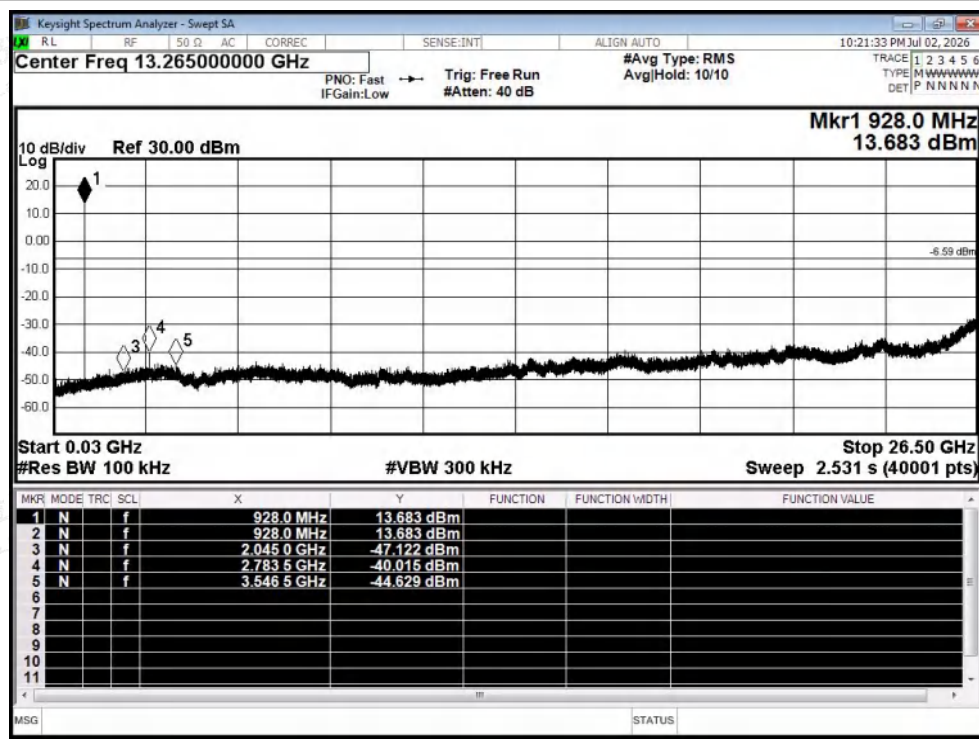
Scan code to check authenticity



Tx. Spurious NVNT 100kbps 915.0MHz Ant1 Emission



Tx. Spurious NVNT 100kbps 927.8MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

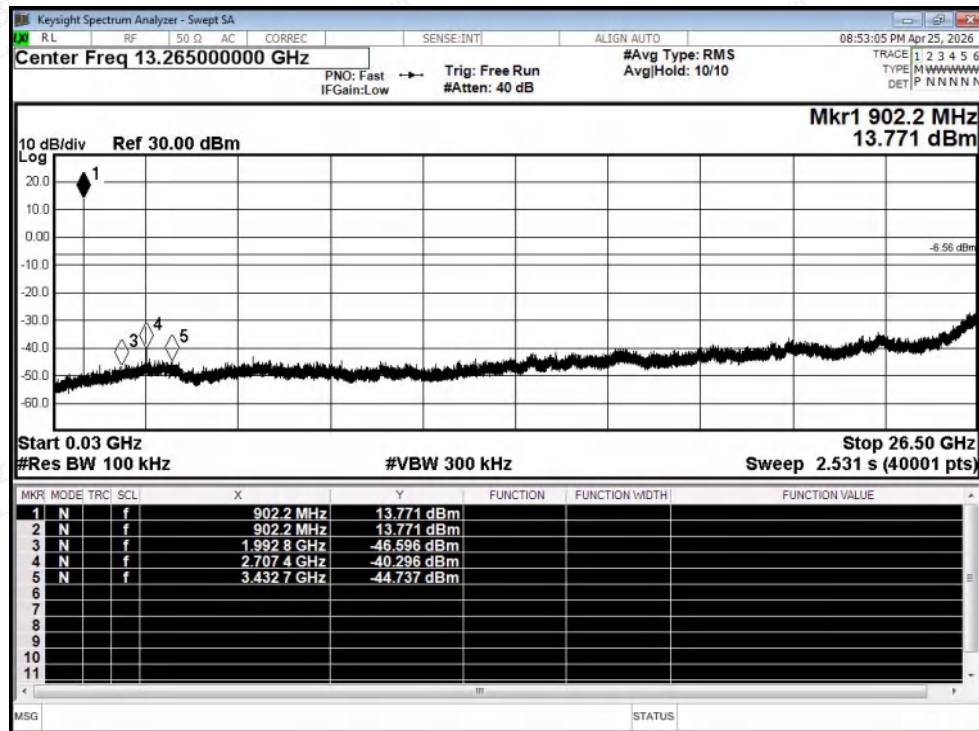
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

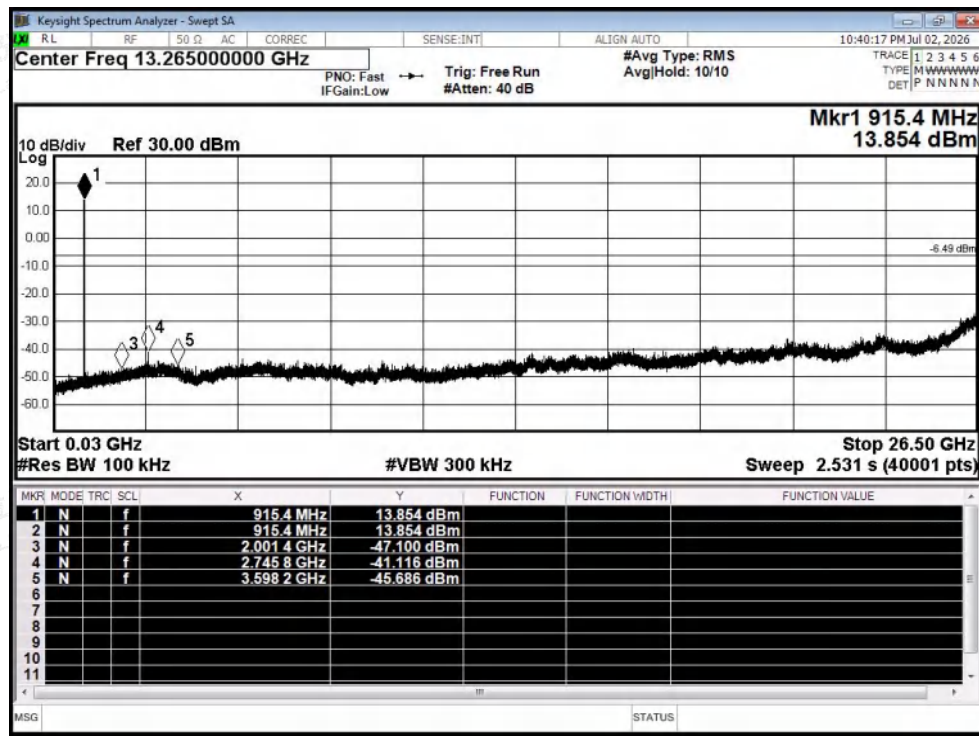
Scan code to check authenticity



Tx. Spurious NVNT 150kbps 902.4MHz Ant1 Emission



Tx. Spurious NVNT 150kbps 915.2MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

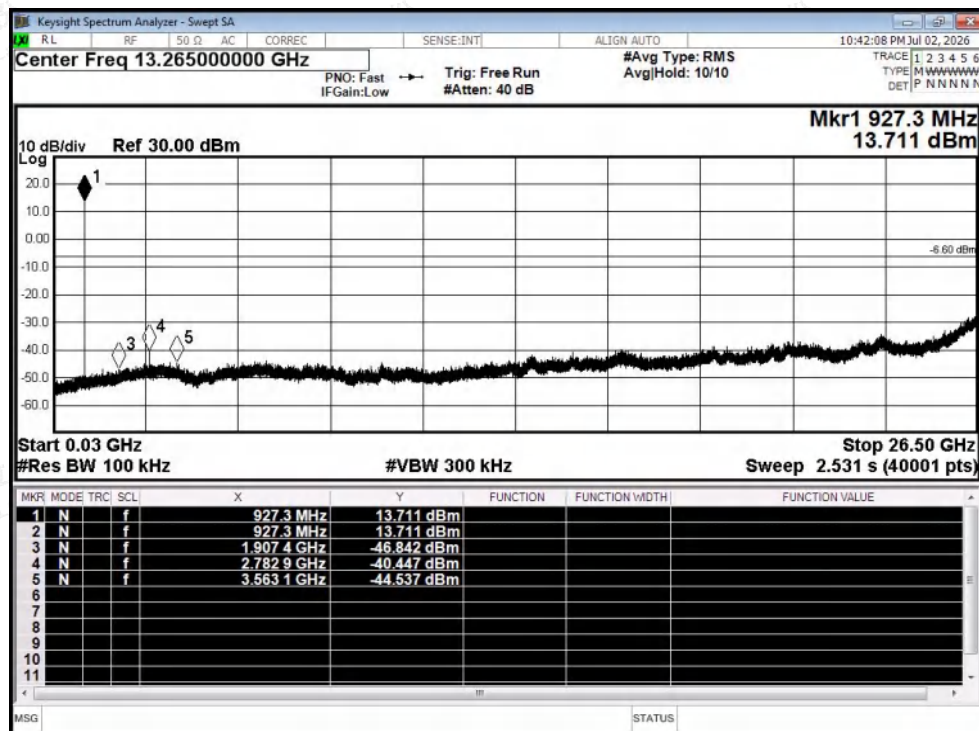
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

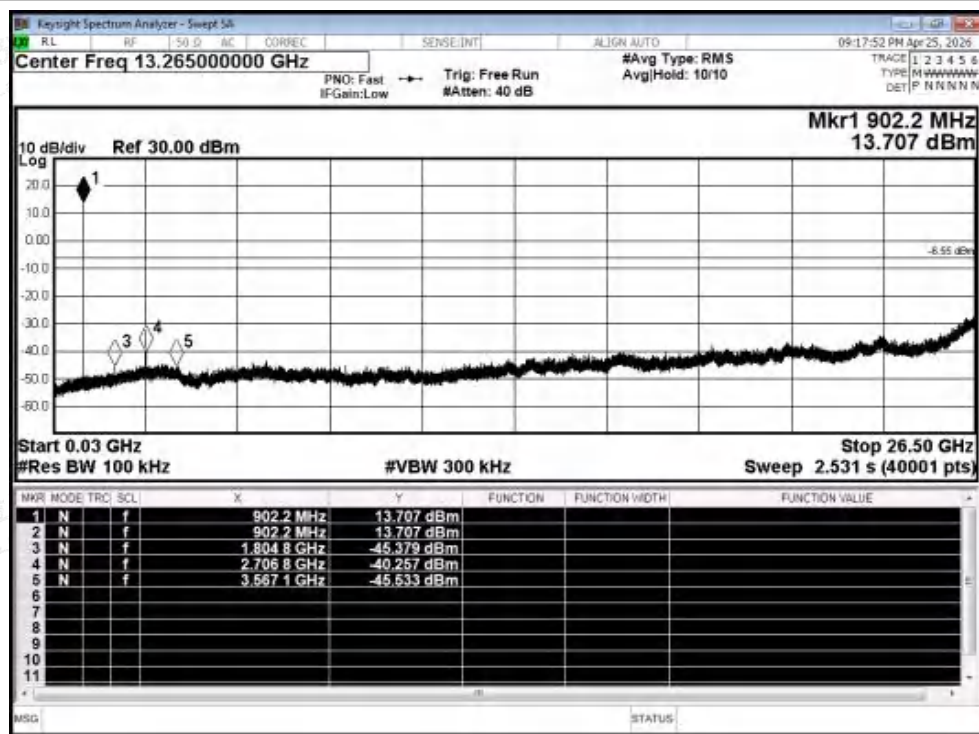
Scan code to check authenticity



Tx. Spurious NVNT 150kbps 927.6MHz Ant1 Emission



Tx. Spurious NVNT 200kbps 902.4MHz Ant1 Emission



Shenzhen LCS Compliance Testing Laboratory Ltd.

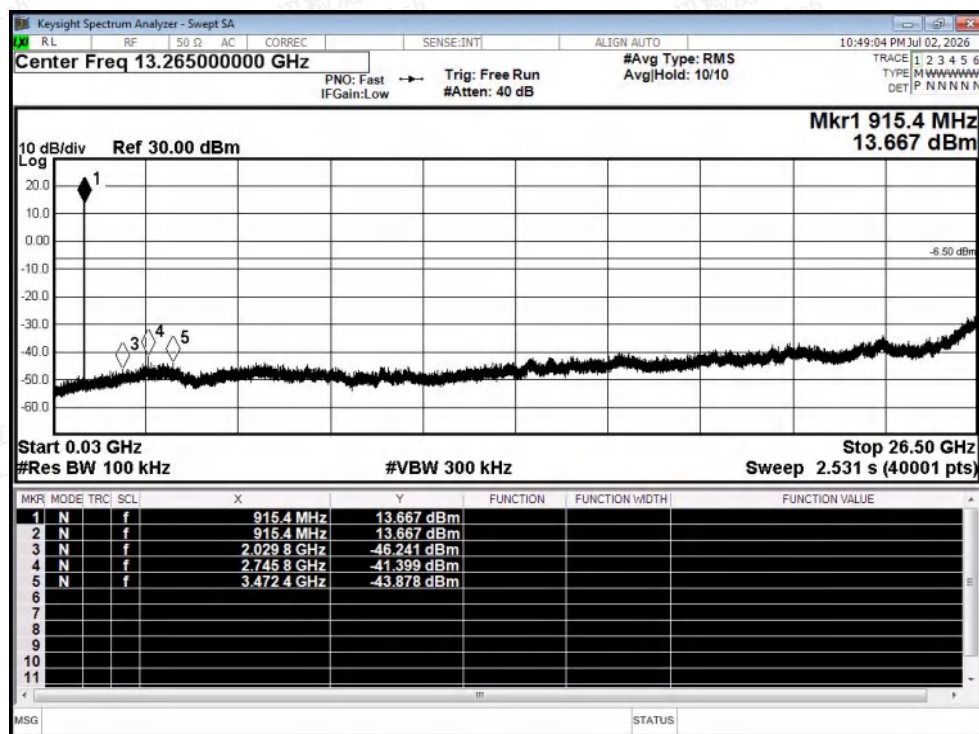
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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Scan code to check authenticity



Tx. Spurious NVNT 200kbps 915.2MHz Ant1 Emission



Tx. Spurious NVNT 200kbps 927.6MHz Ant1 Emission

