



Appendix A

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: Wi-Fi 11n Module

Test Model: DLM200

Environmental Conditions

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



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Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
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A.1 -6dB Bandwidth

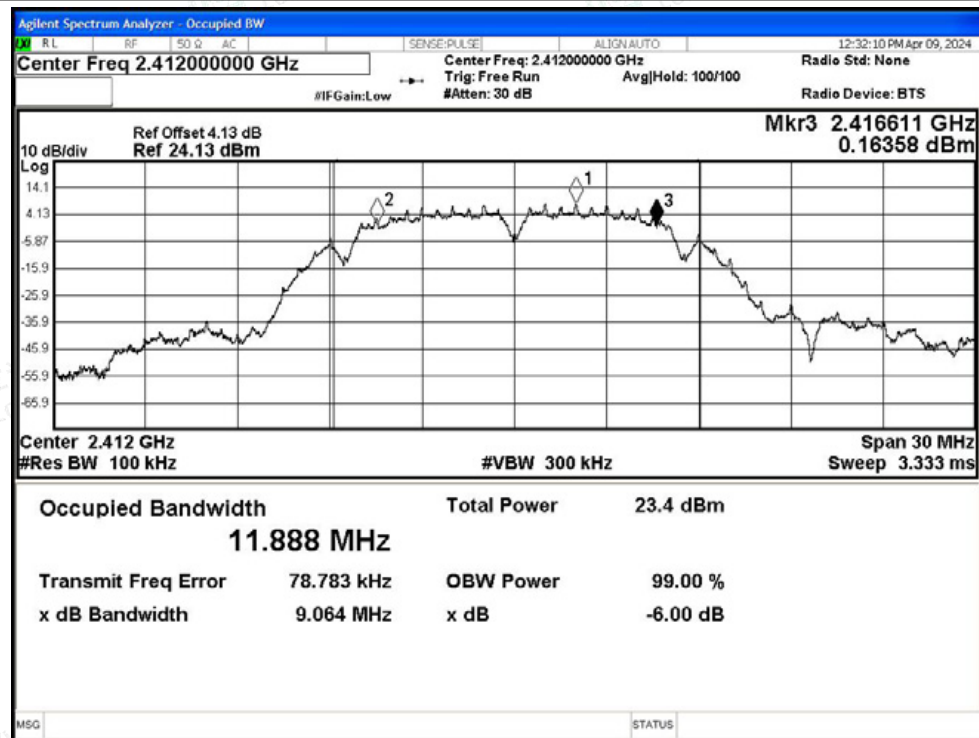
Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant0	9.064	≥ 0.5	Pass
NVNT	b	2437	Ant0	9.557	≥ 0.5	Pass
NVNT	b	2462	Ant0	9.541	≥ 0.5	Pass
NVNT	g	2412	Ant0	16.334	≥ 0.5	Pass
NVNT	g	2437	Ant0	16.336	≥ 0.5	Pass
NVNT	g	2462	Ant0	16.319	≥ 0.5	Pass
NVNT	n20	2412	Ant0	17.167	≥ 0.5	Pass
NVNT	n20	2437	Ant0	17.375	≥ 0.5	Pass
NVNT	n20	2462	Ant0	17.409	≥ 0.5	Pass
NVNT	n40	2422	Ant0	35.326	≥ 0.5	Pass
NVNT	n40	2437	Ant0	35.675	≥ 0.5	Pass
NVNT	n40	2452	Ant0	35.53	≥ 0.5	Pass



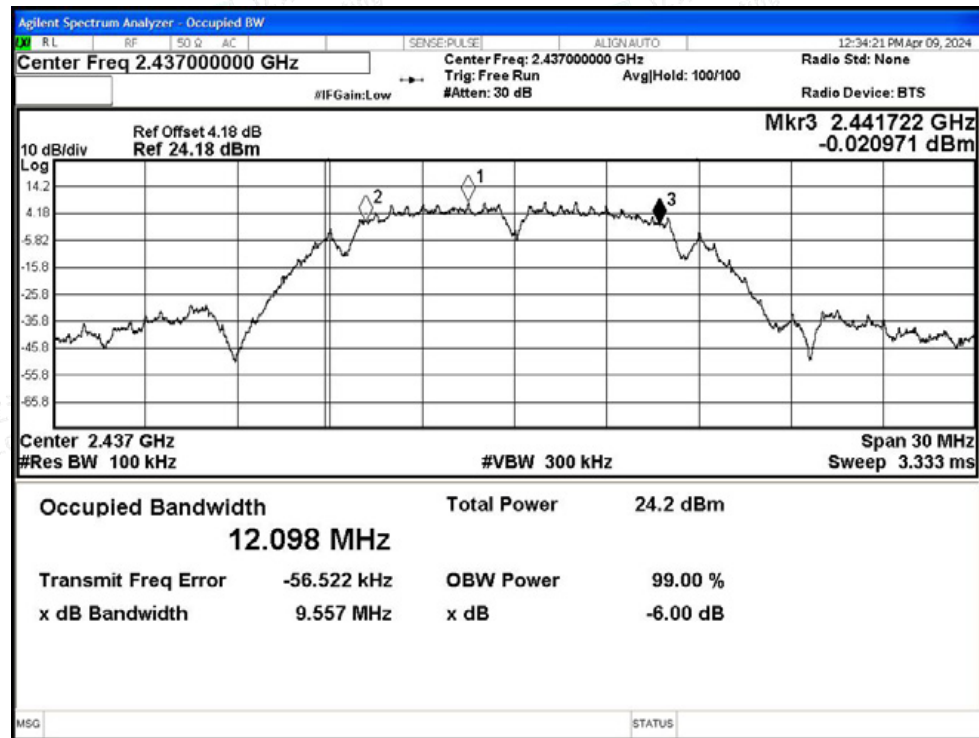


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant0

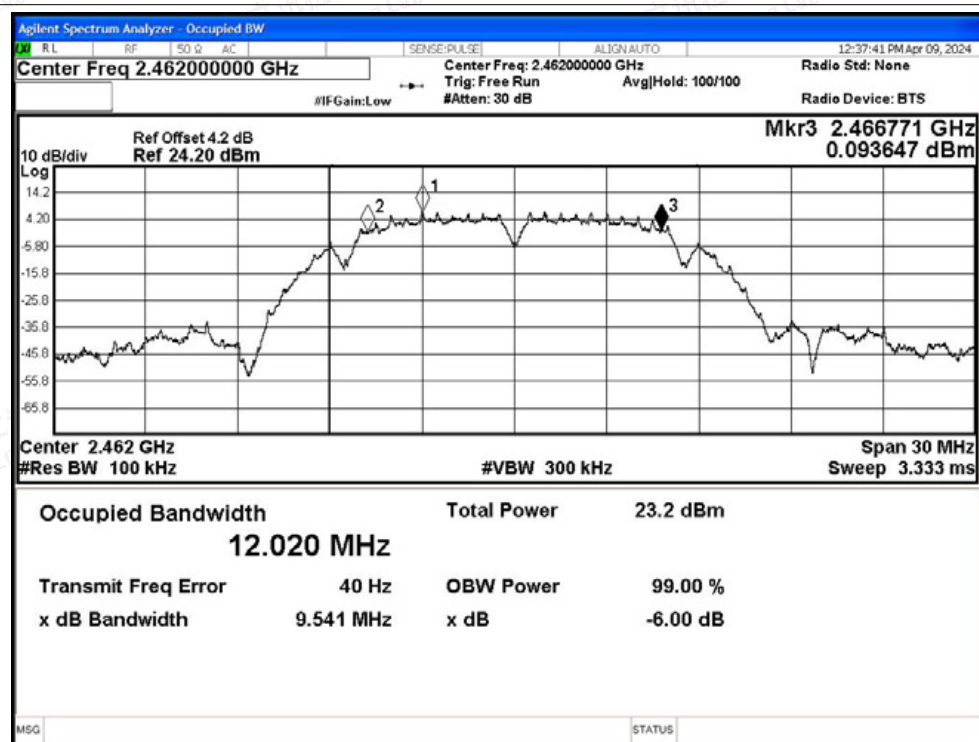


-6dB Bandwidth NVNT b 2437MHz Ant0

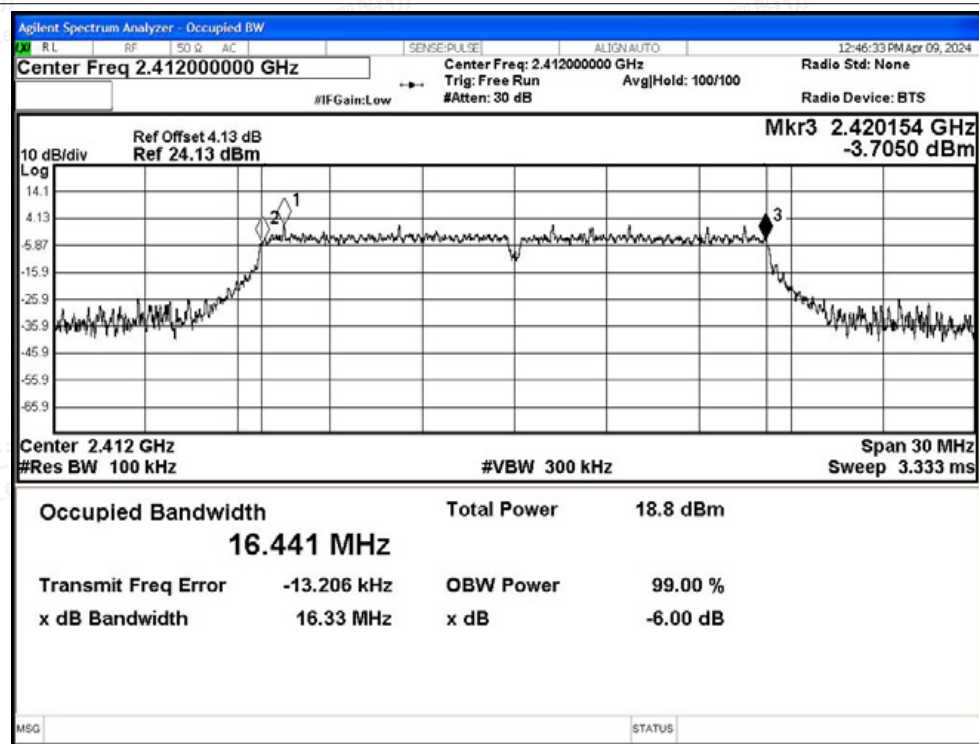




-6dB Bandwidth NVNT b 2462MHz Ant0



-6dB Bandwidth NVNT g 2412MHz Ant0



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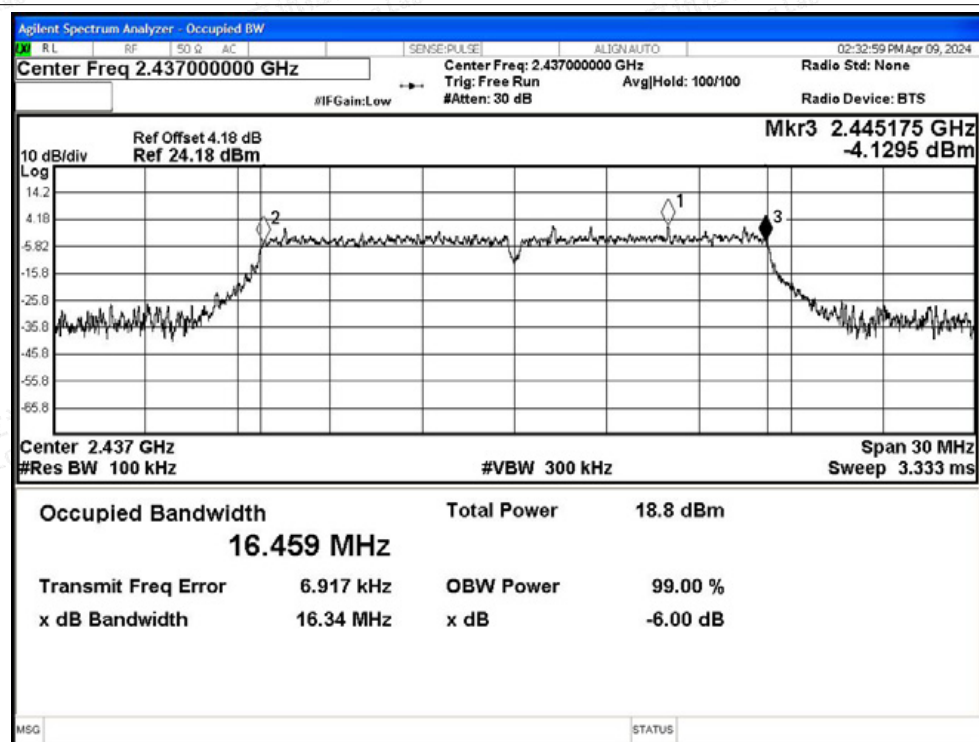
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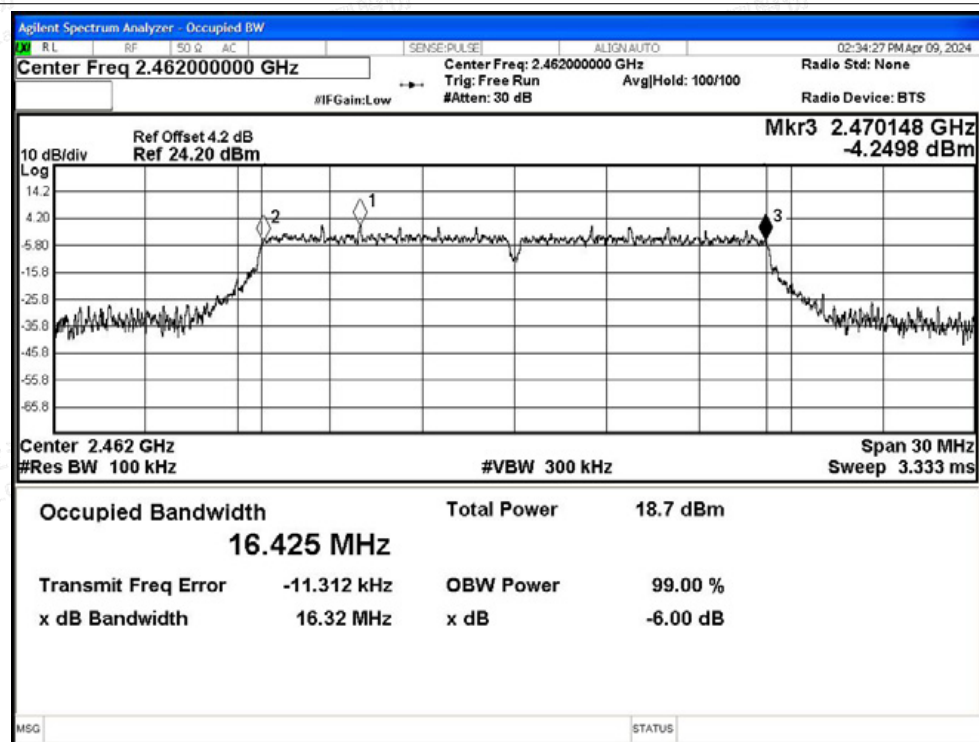
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-6dB Bandwidth NVNT g 2437MHz Ant0

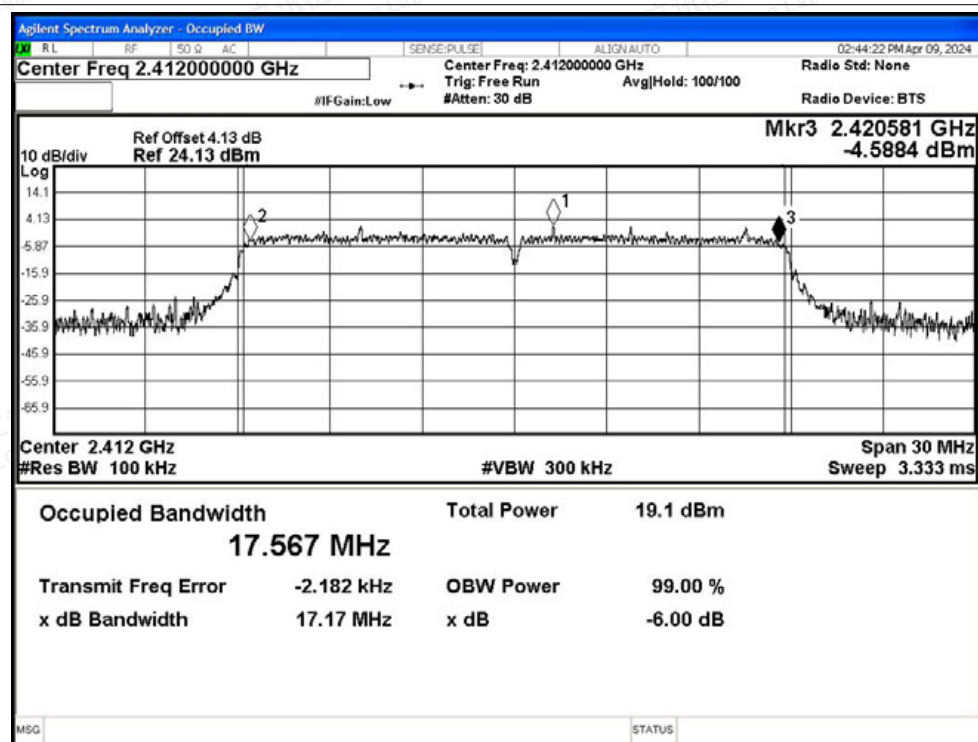


-6dB Bandwidth NVNT g 2462MHz Ant0

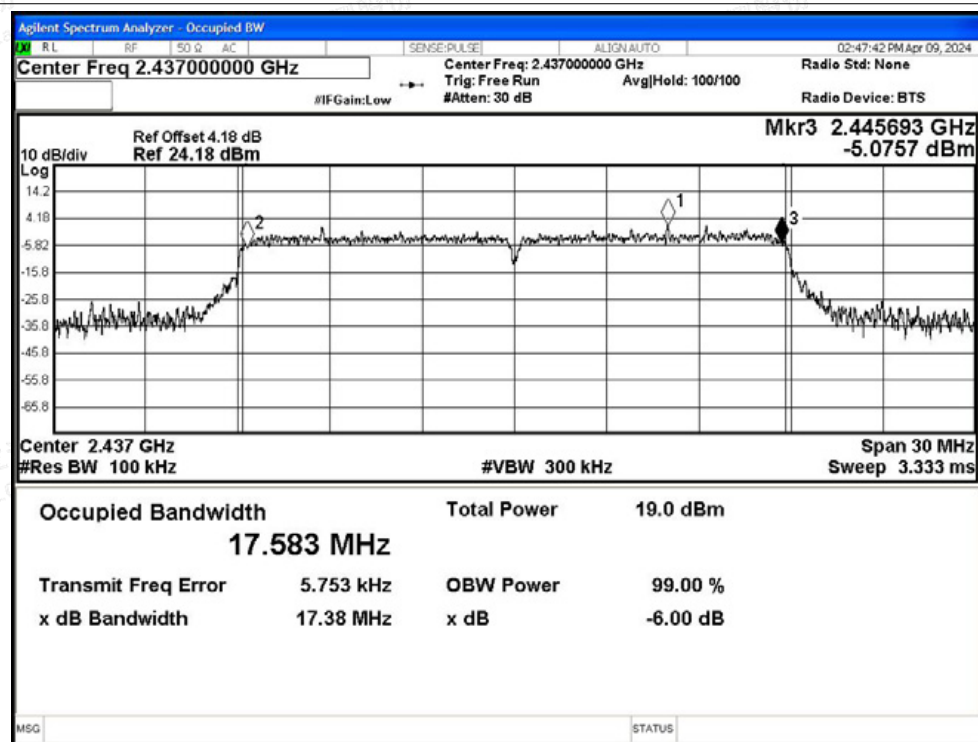




-6dB Bandwidth NVNT n20 2412MHz Ant0

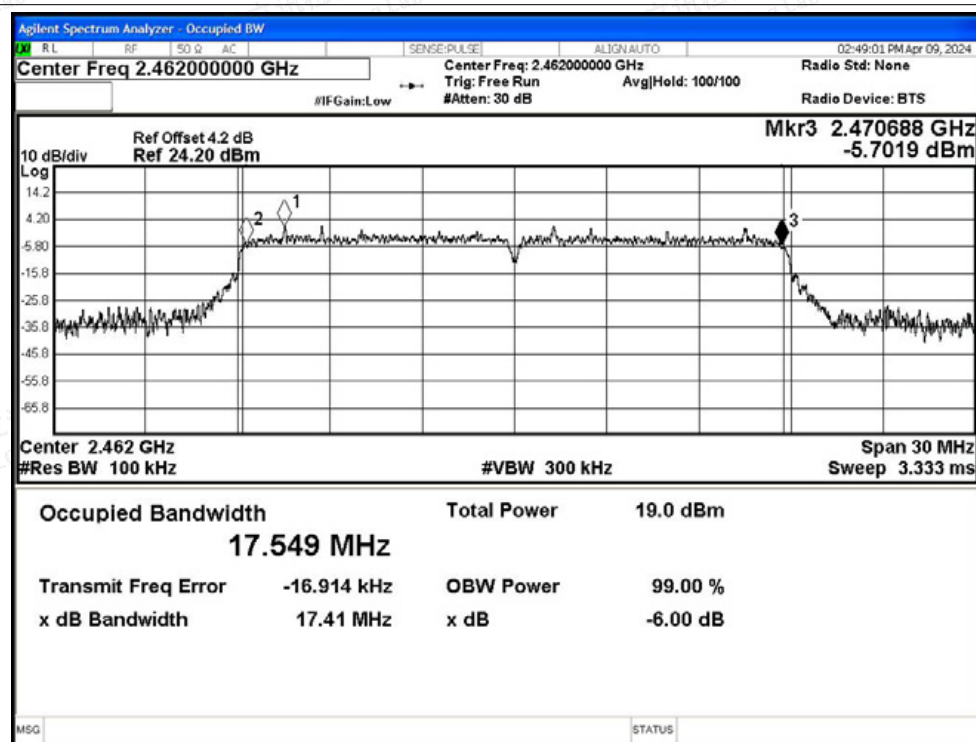


-6dB Bandwidth NVNT n20 2437MHz Ant0

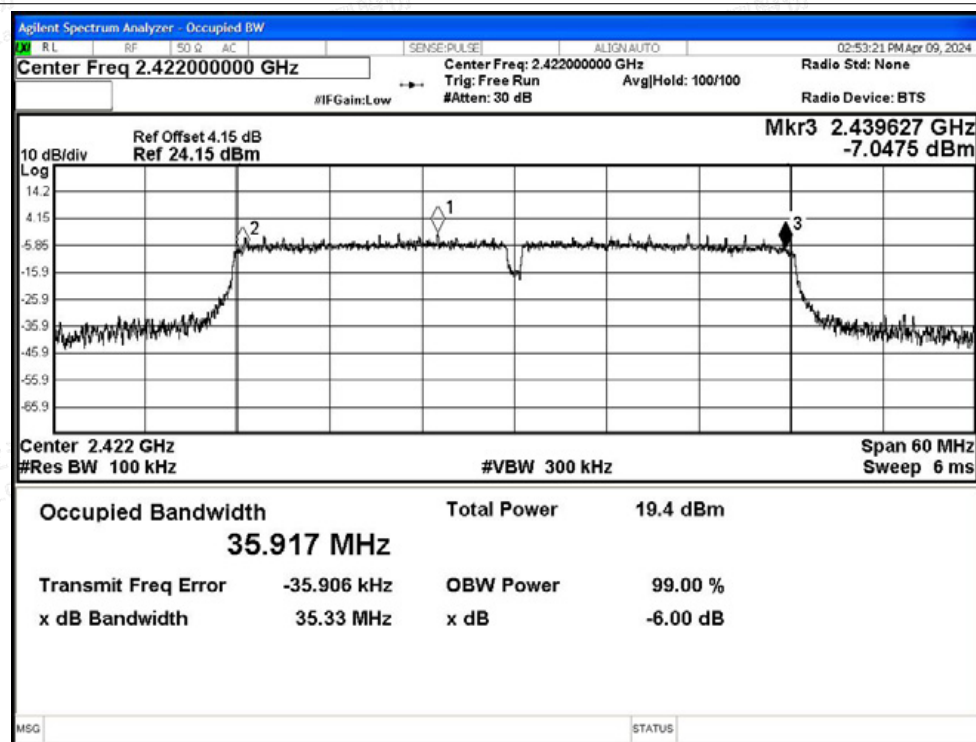




-6dB Bandwidth NVNT n20 2462MHz Ant0



-6dB Bandwidth NVNT n40 2422MHz Ant0



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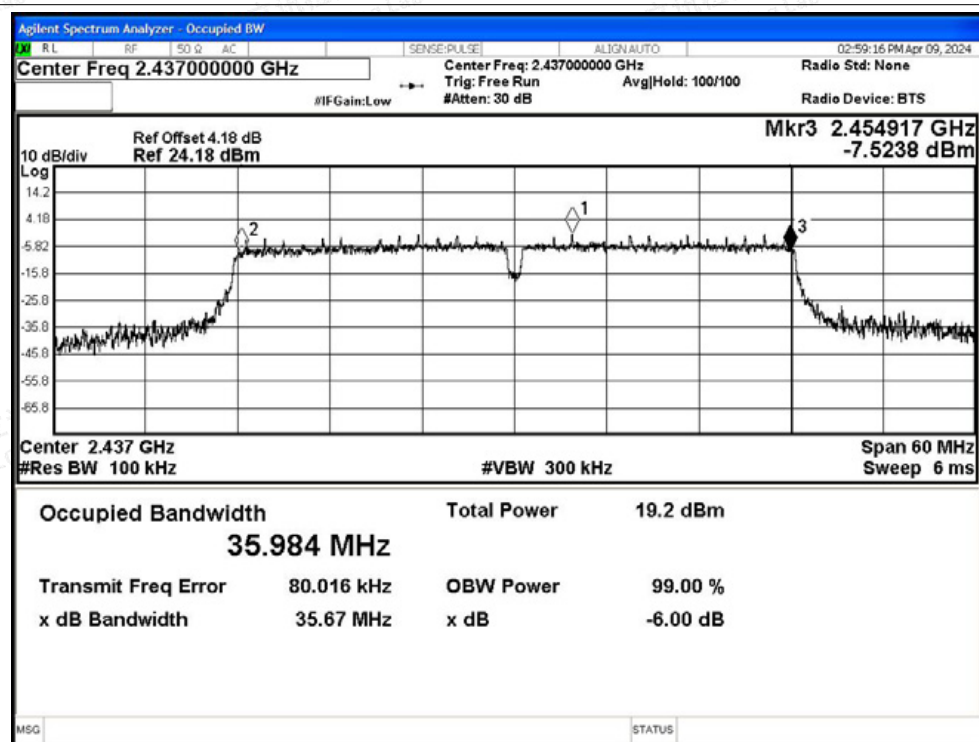
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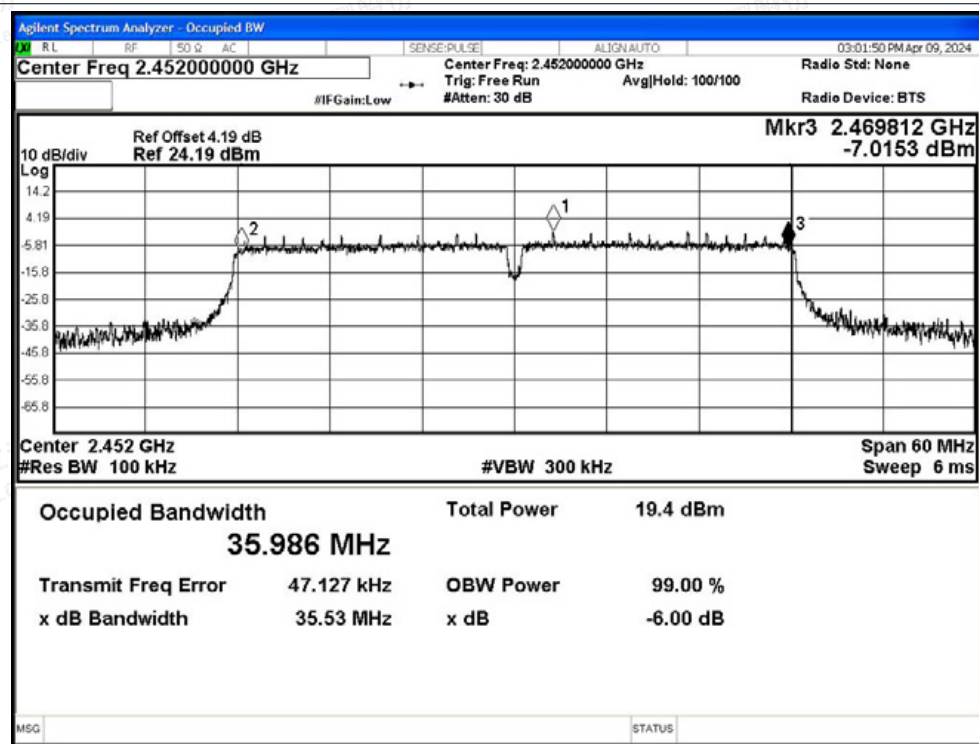
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-6dB Bandwidth NVNT n40 2437MHz Ant0



-6dB Bandwidth NVNT n40 2452MHz Ant0



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Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	9.085	≥ 0.5	Pass
NVNT	b	2437	Ant1	9.567	≥ 0.5	Pass
NVNT	b	2462	Ant1	10.04	≥ 0.5	Pass
NVNT	g	2412	Ant1	16.349	≥ 0.5	Pass
NVNT	g	2437	Ant1	16.328	≥ 0.5	Pass
NVNT	g	2462	Ant1	16.215	≥ 0.5	Pass
NVNT	n20	2412	Ant1	17.413	≥ 0.5	Pass
NVNT	n20	2437	Ant1	30	≥ 0.5	Pass
NVNT	n20	2462	Ant1	17.383	≥ 0.5	Pass
NVNT	n40	2422	Ant1	35.254	≥ 0.5	Pass
NVNT	n40	2437	Ant1	35.655	≥ 0.5	Pass
NVNT	n40	2452	Ant1	35.523	≥ 0.5	Pass

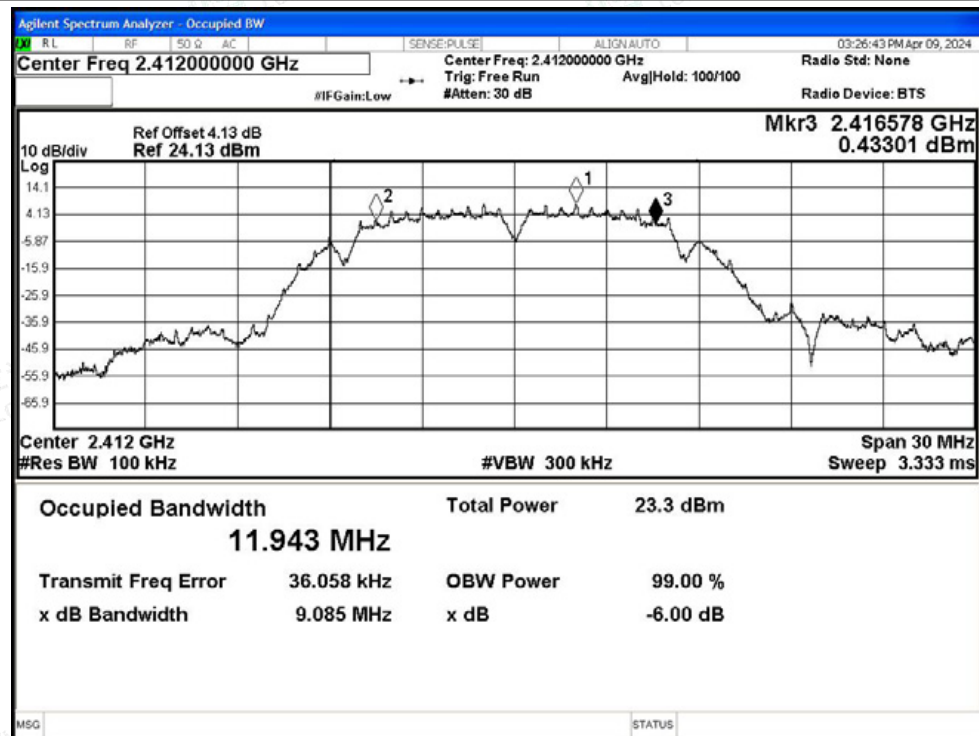


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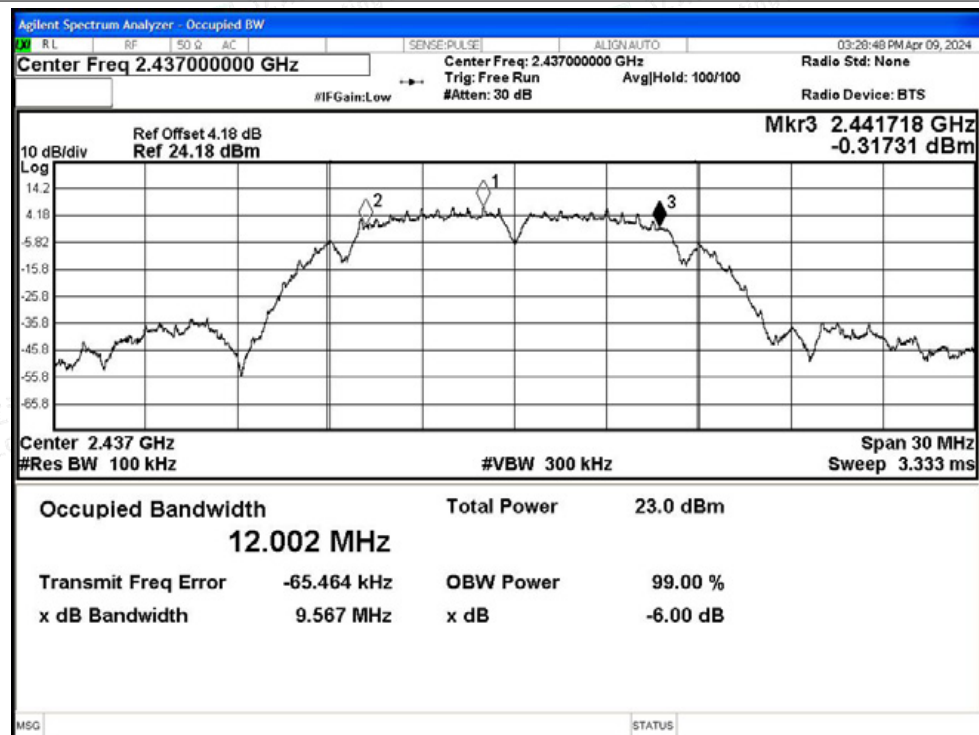


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1

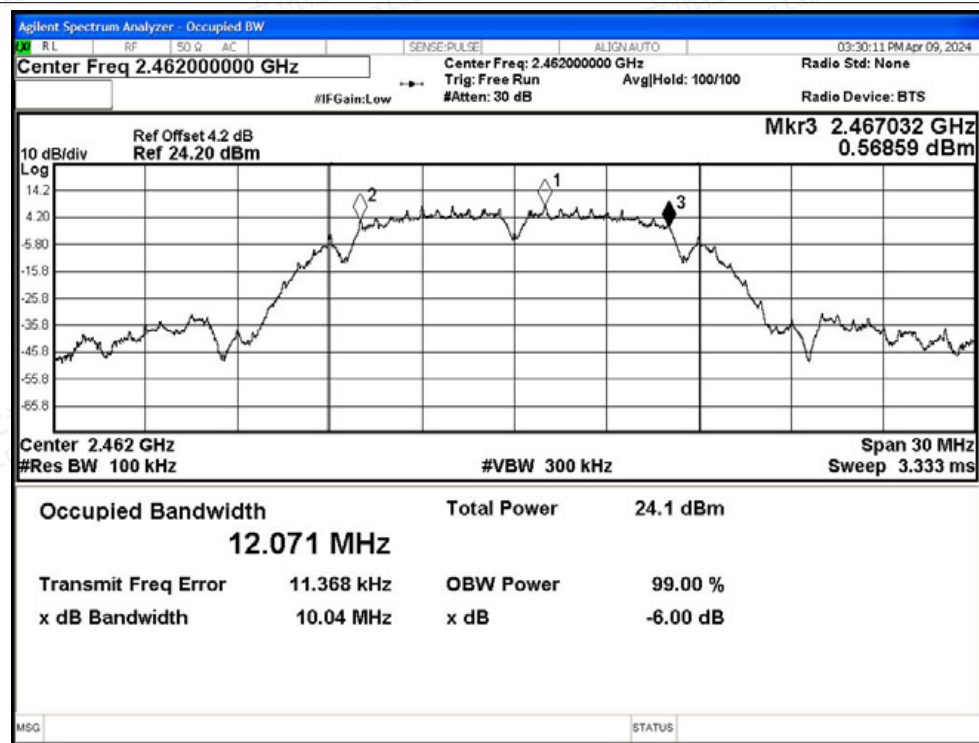


-6dB Bandwidth NVNT b 2437MHz Ant1

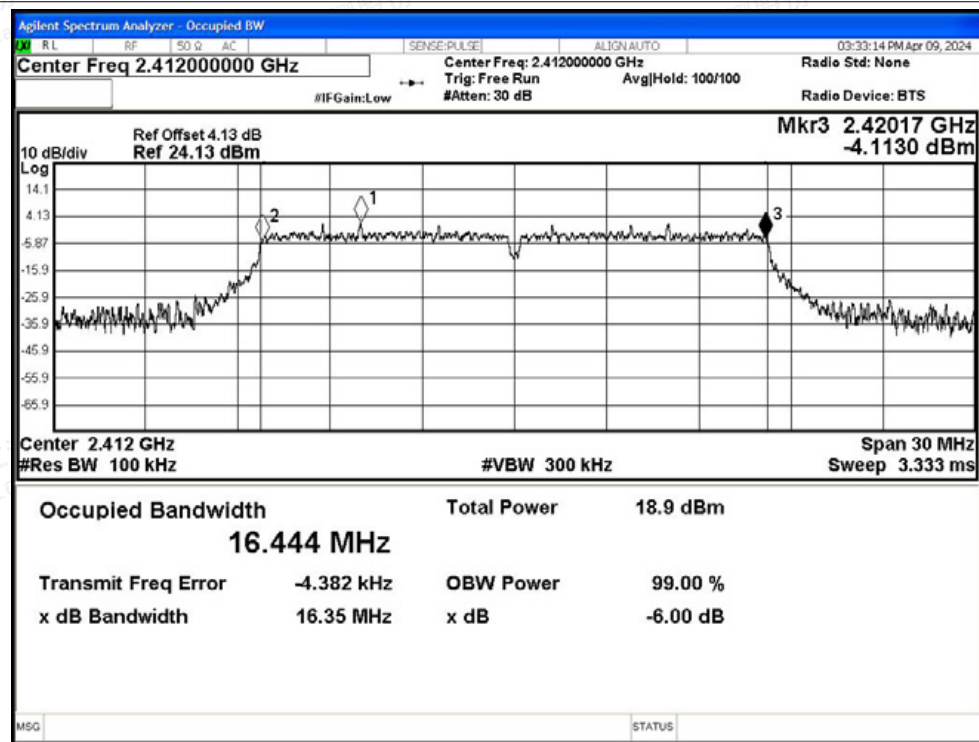




-6dB Bandwidth NVNT b 2462MHz Ant1

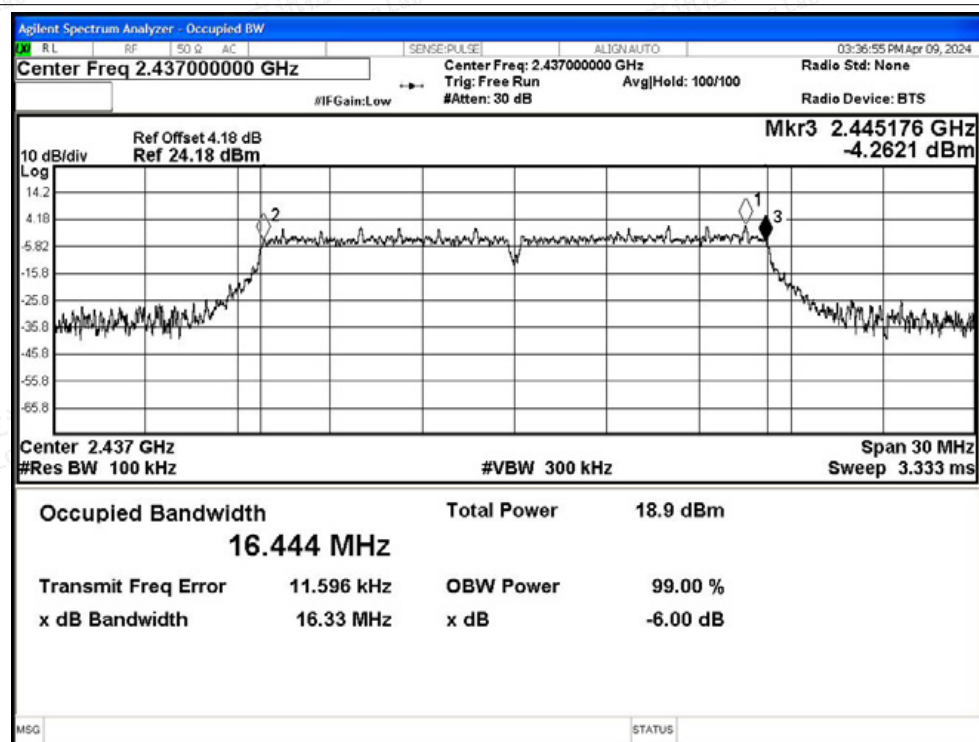


-6dB Bandwidth NVNT g 2412MHz Ant1

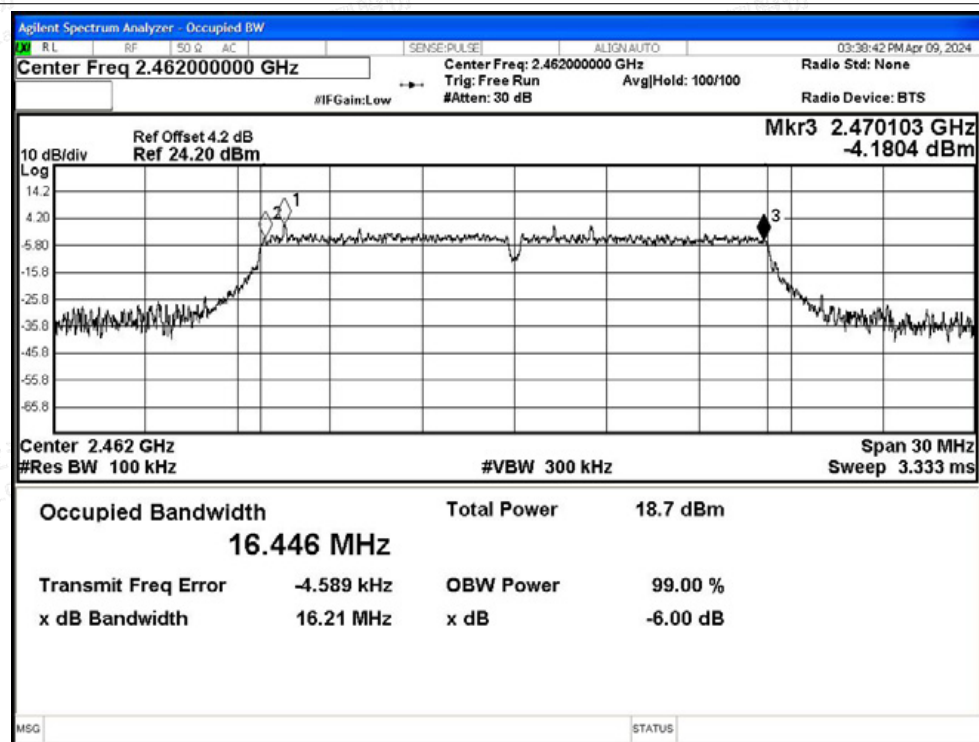




-6dB Bandwidth NVNT g 2437MHz Ant1

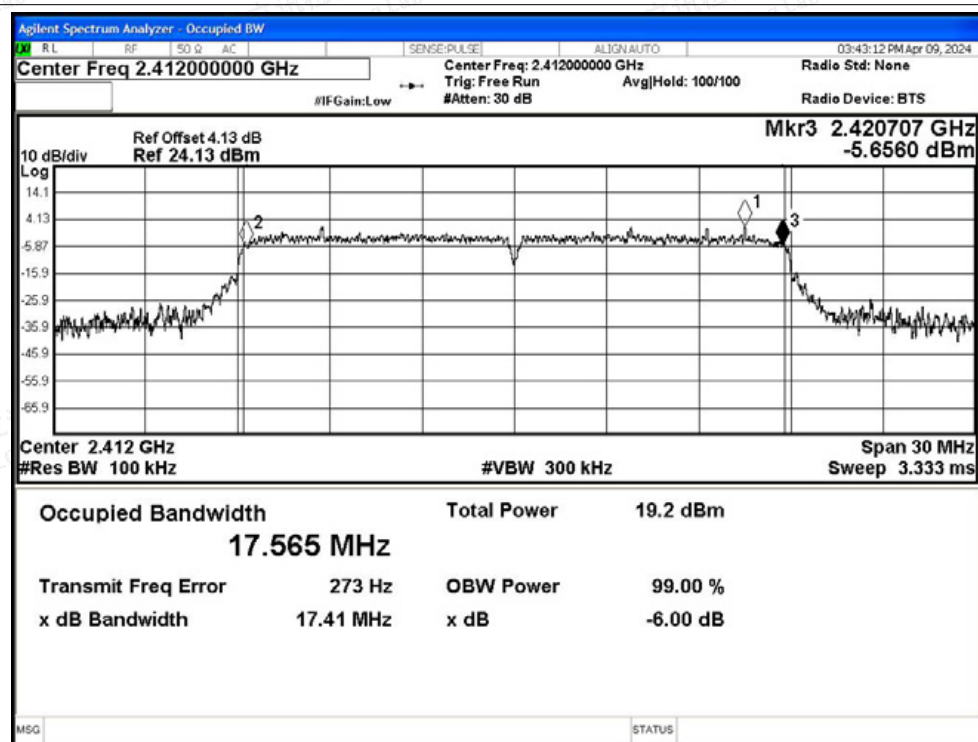


-6dB Bandwidth NVNT g 2462MHz Ant1

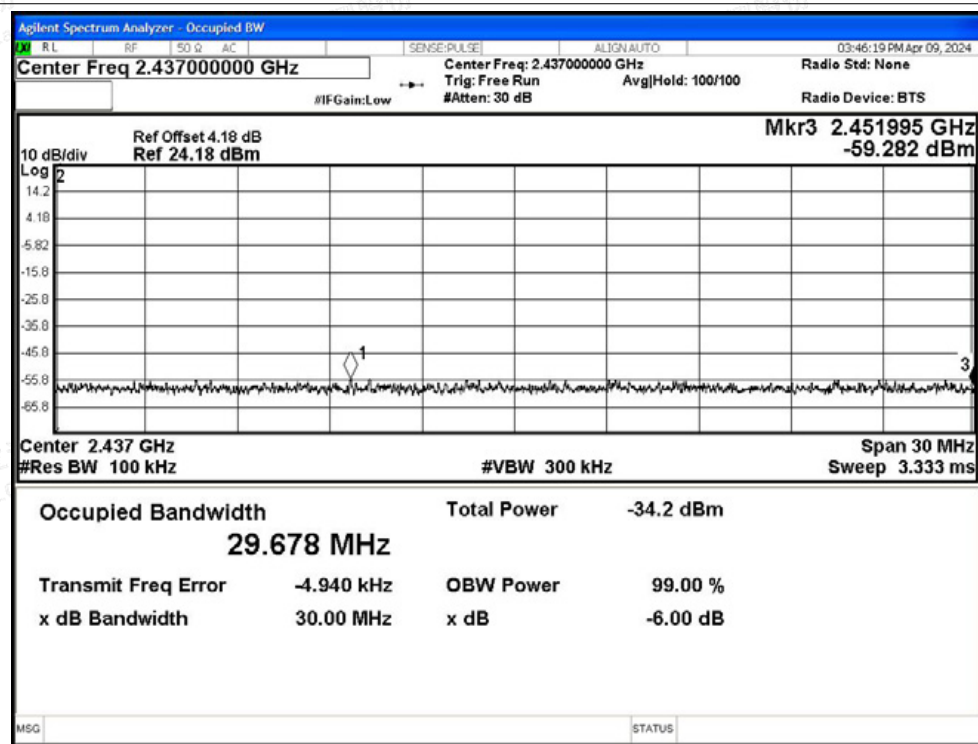




-6dB Bandwidth NVNT n20 2412MHz Ant1

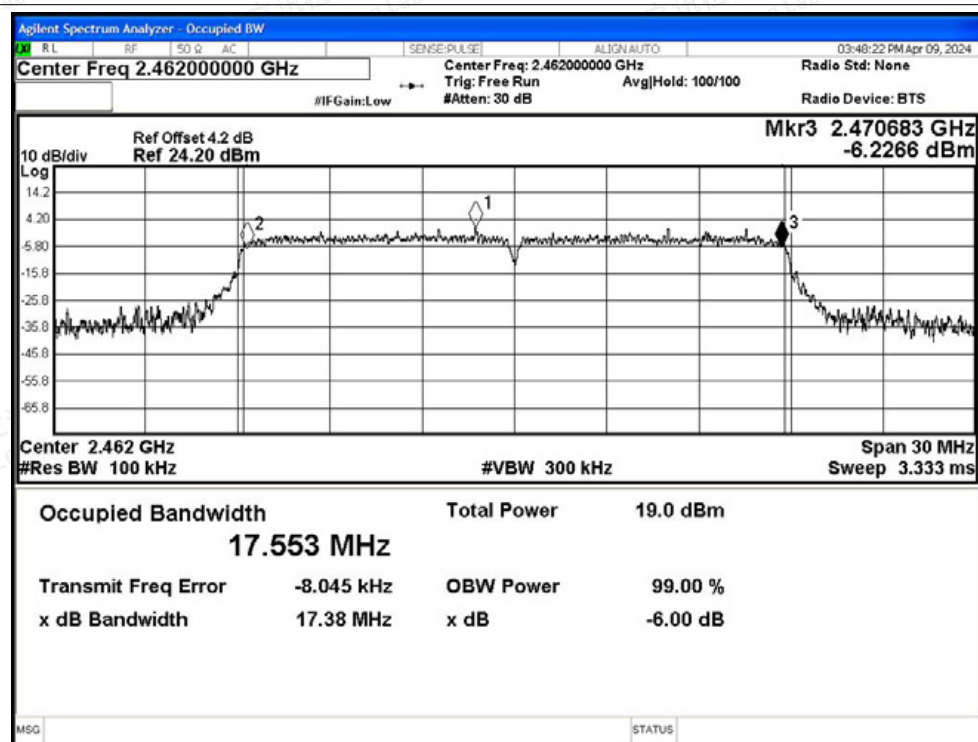


-6dB Bandwidth NVNT n20 2437MHz Ant1

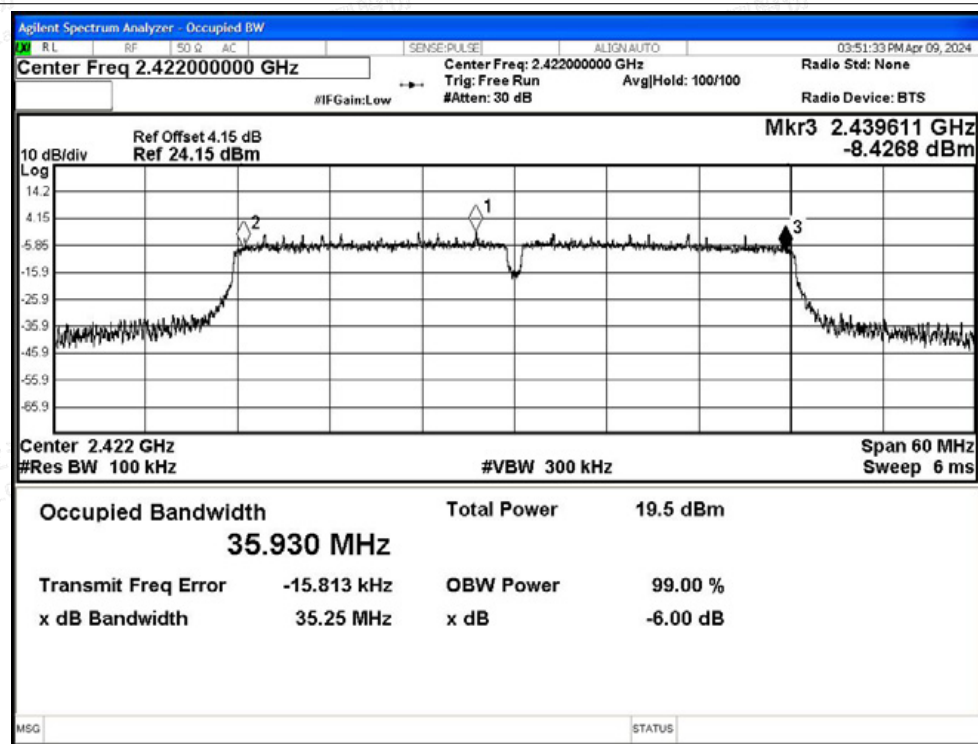




-6dB Bandwidth NVNT n20 2462MHz Ant1

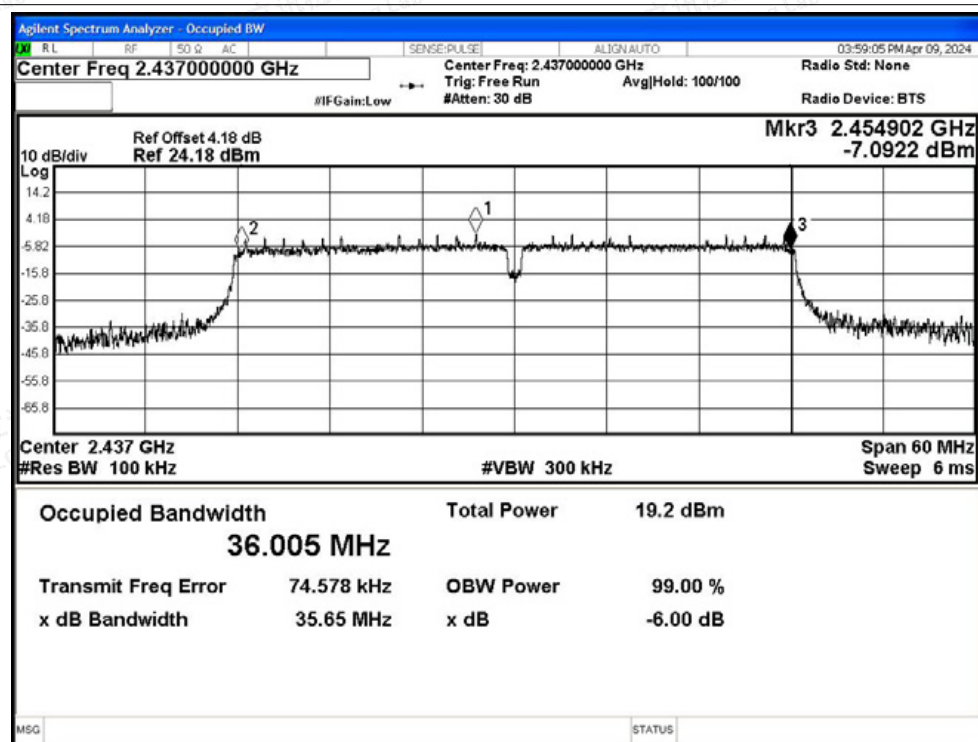


-6dB Bandwidth NVNT n40 2422MHz Ant1

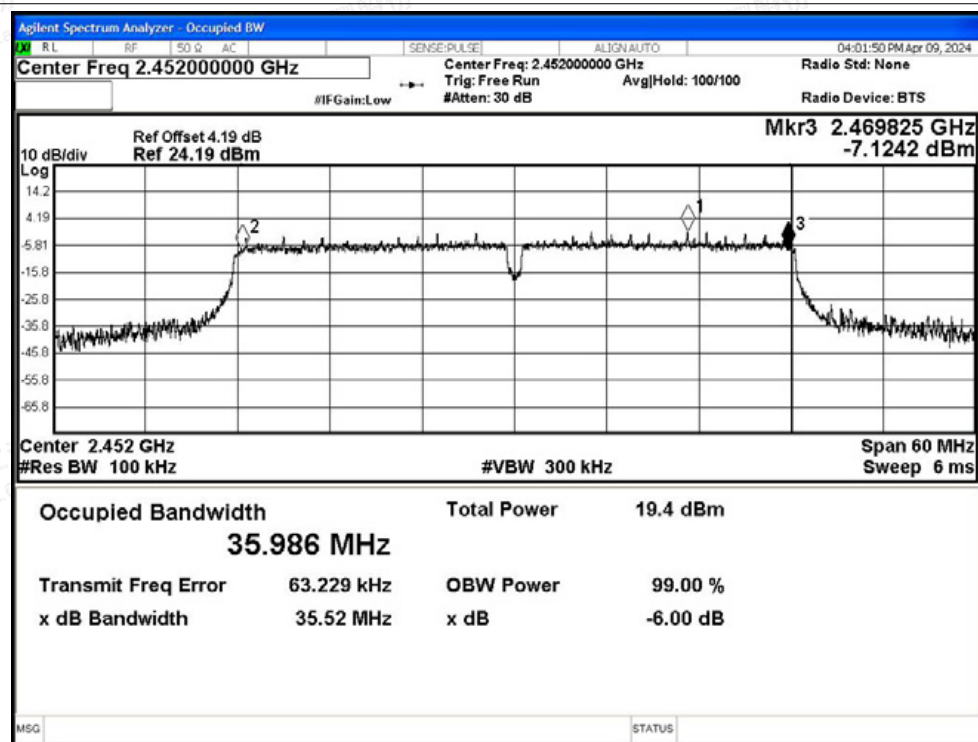




-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1





A.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant0	18.27	30	Pass
NVNT	b	2437	Ant0	18.78	30	Pass
NVNT	b	2462	Ant0	18.24	30	Pass
NVNT	g	2412	Ant0	17.55	30	Pass
NVNT	g	2437	Ant0	17.46	30	Pass
NVNT	g	2462	Ant0	17.32	30	Pass
NVNT	n20	2412	Ant0	17.73	30	Pass
NVNT	n20	2437	Ant0	17.64	30	Pass
NVNT	n20	2462	Ant0	17.53	30	Pass
NVNT	n40	2422	Ant0	17.72	30	Pass
NVNT	n40	2437	Ant0	17.45	30	Pass
NVNT	n40	2452	Ant0	17.71	30	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	18.3	30	Pass
NVNT	b	2437	Ant1	18.07	30	Pass
NVNT	b	2462	Ant1	18.76	30	Pass
NVNT	g	2412	Ant1	17.61	30	Pass
NVNT	g	2437	Ant1	17.56	30	Pass
NVNT	g	2462	Ant1	17.48	30	Pass
NVNT	n20	2412	Ant1	17.79	30	Pass
NVNT	n20	2437	Ant1	17.76	30	Pass
NVNT	n20	2462	Ant1	17.51	30	Pass
NVNT	n40	2422	Ant1	17.82	30	Pass
NVNT	n40	2437	Ant1	17.56	30	Pass
NVNT	n40	2452	Ant1	17.83	30	Pass

MIMO

Condition	Mode	Frequency (MHz)	Total Power (dBm)			Limit (dBm)	Verdict
			Ant0	Ant1	Ant0+Ant1		
NVNT	n20	2412	17.73	17.79	20.77	30	Pass
NVNT	n20	2437	17.64	17.76	20.71	30	Pass
NVNT	n20	2462	17.53	17.51	20.53	30	Pass
NVNT	n40	2422	17.72	17.82	20.78	30	Pass
NVNT	n40	2437	17.45	17.56	20.52	30	Pass
NVNT	n40	2452	17.71	17.83	20.78	30	Pass



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A.3 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant0	-5.6	8	Pass
NVNT	b	2437	Ant0	-5.44	8	Pass
NVNT	b	2462	Ant0	-6.61	8	Pass
NVNT	g	2412	Ant0	-12.77	8	Pass
NVNT	g	2437	Ant0	-12.59	8	Pass
NVNT	g	2462	Ant0	-12.81	8	Pass
NVNT	n20	2412	Ant0	-12.93	8	Pass
NVNT	n20	2437	Ant0	-12.14	8	Pass
NVNT	n20	2462	Ant0	-12.08	8	Pass
NVNT	n40	2422	Ant0	-15.36	8	Pass
NVNT	n40	2437	Ant0	-15.99	8	Pass
NVNT	n40	2452	Ant0	-16.15	8	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-4.72	8	Pass
NVNT	b	2437	Ant1	-6.95	8	Pass
NVNT	b	2462	Ant1	-5.21	8	Pass
NVNT	g	2412	Ant1	-13.14	8	Pass
NVNT	g	2437	Ant1	-12.58	8	Pass
NVNT	g	2462	Ant1	-13.23	8	Pass
NVNT	n20	2412	Ant1	-12.93	8	Pass
NVNT	n20	2437	Ant1	-11.5	8	Pass
NVNT	n20	2462	Ant1	-13.54	8	Pass
NVNT	n40	2422	Ant1	-15.47	8	Pass
NVNT	n40	2437	Ant1	-15.65	8	Pass
NVNT	n40	2452	Ant1	-16.74	8	Pass

MIMO

Condition	Mode	Frequency (MHz)	Total PSD (dBm/3kHz)			Limit (dBm)	Verdict
			Ant0	Ant1	Ant0+Ant1		
NVNT	n20	2412	-12.93	-12.93	-13.97	8	Pass
NVNT	n20	2437	-12.14	-11.5	-13.76	8	Pass
NVNT	n20	2462	-12.08	-13.54	-14.37	8	Pass
NVNT	n40	2422	-15.36	-15.47	-18.17	8	Pass
NVNT	n40	2437	-15.99	-15.65	-18.01	8	Pass
NVNT	n40	2452	-16.15	-16.74	-17.22	8	Pass

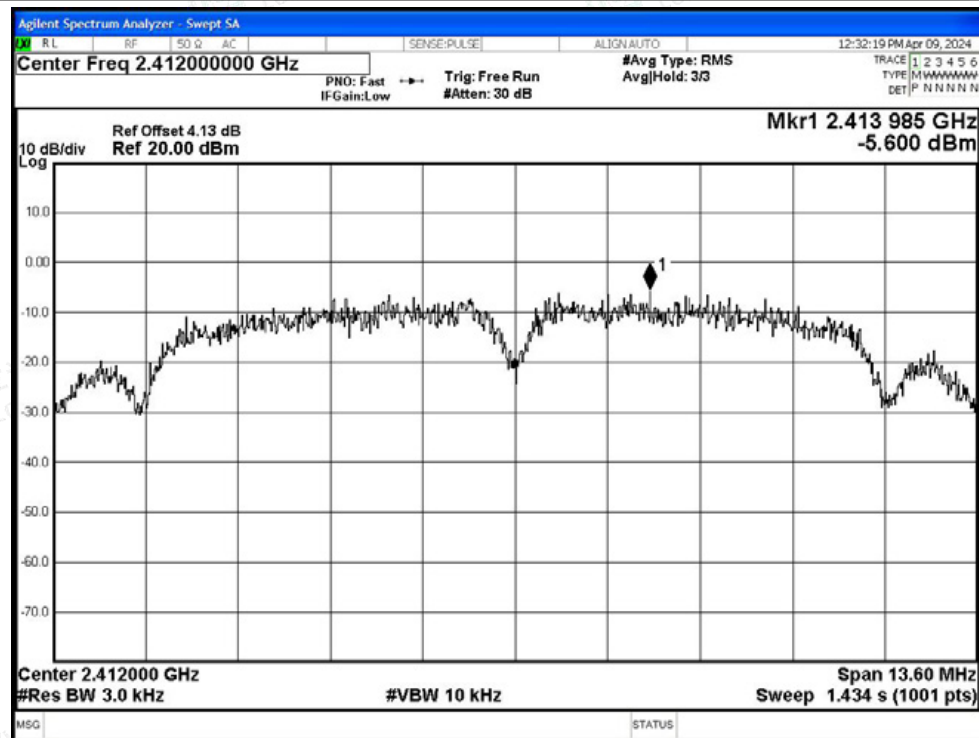


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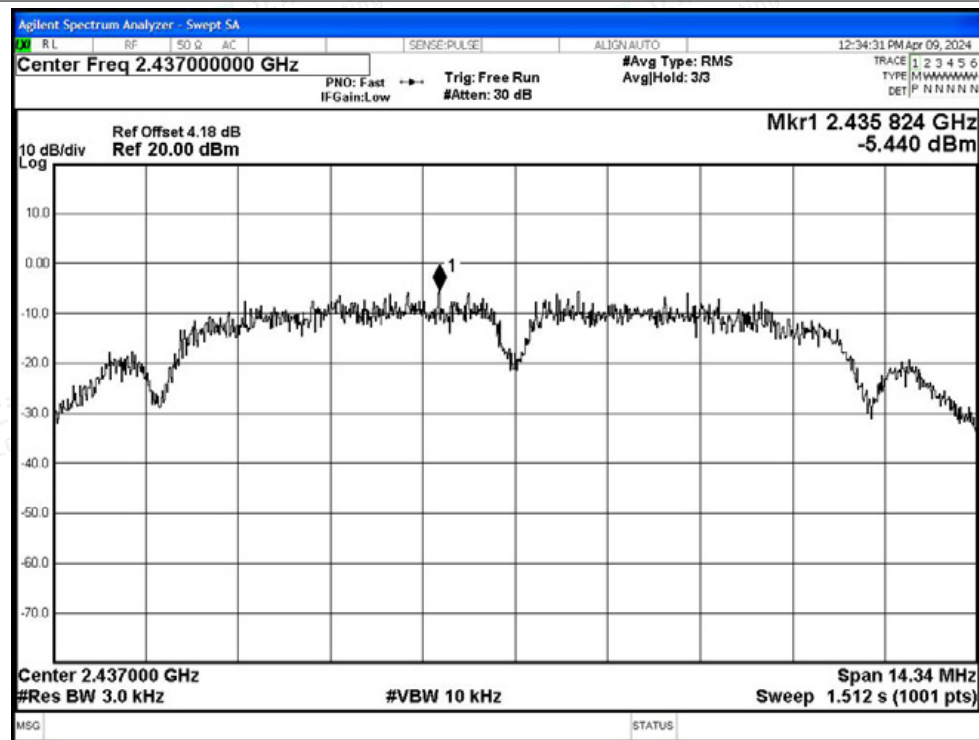


Test Graphs

PSD NVNT b 2412MHz Ant0

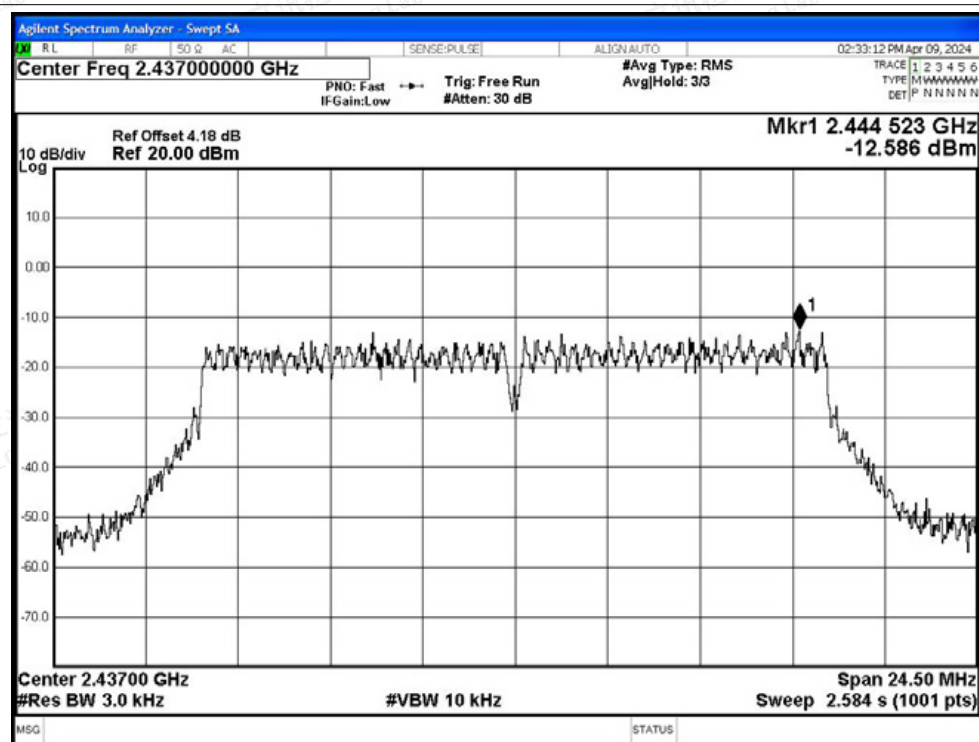


PSD NVNT b 2437MHz Ant0

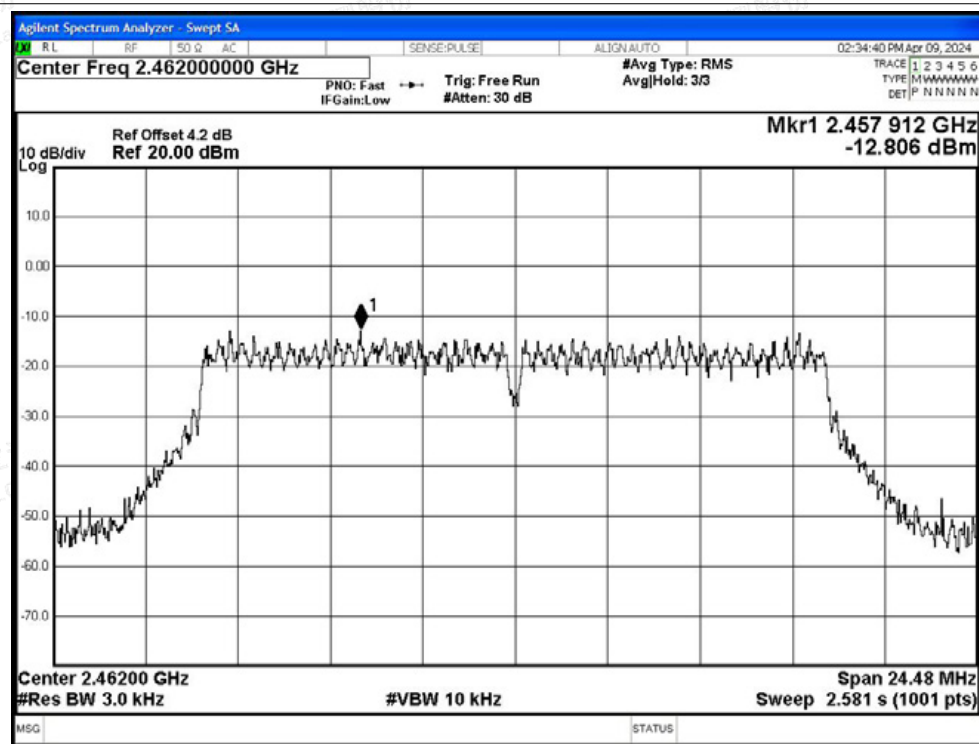




PSD NVNT g 2437MHz Ant0

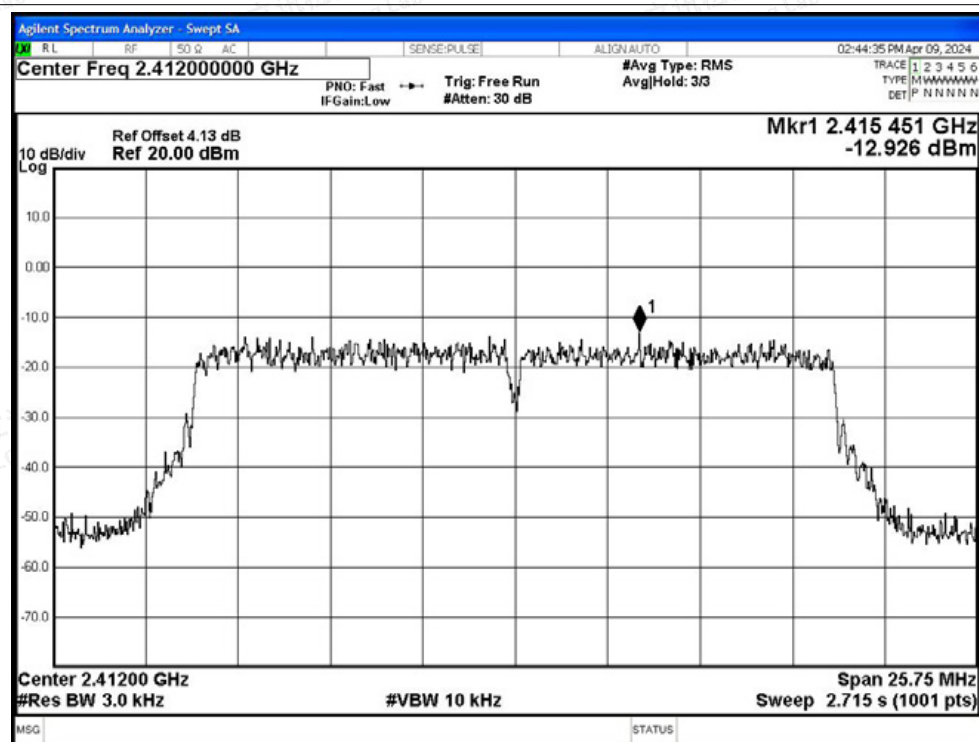


PSD NVNT g 2462MHz Ant0

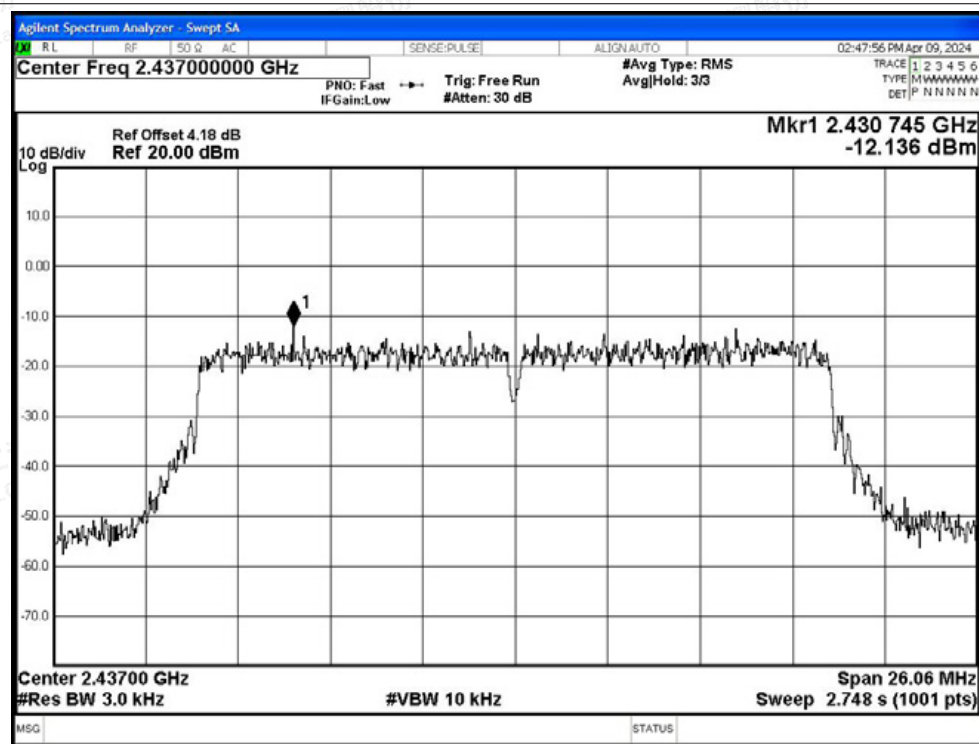




PSD NVNT n20 2412MHz Ant0

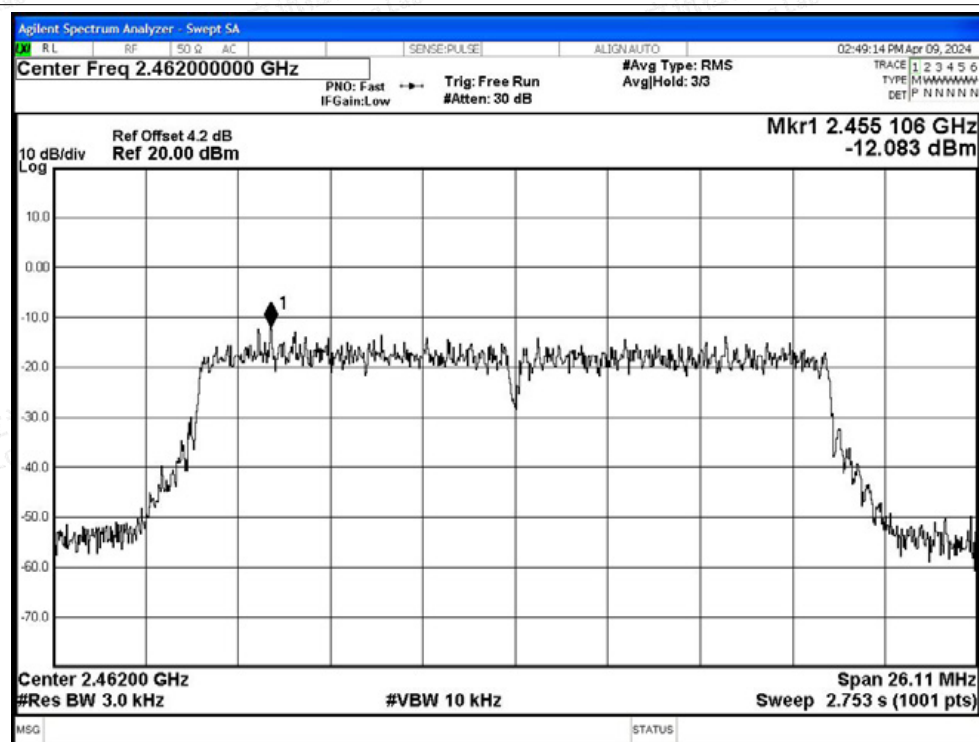


PSD NVNT n20 2437MHz Ant0

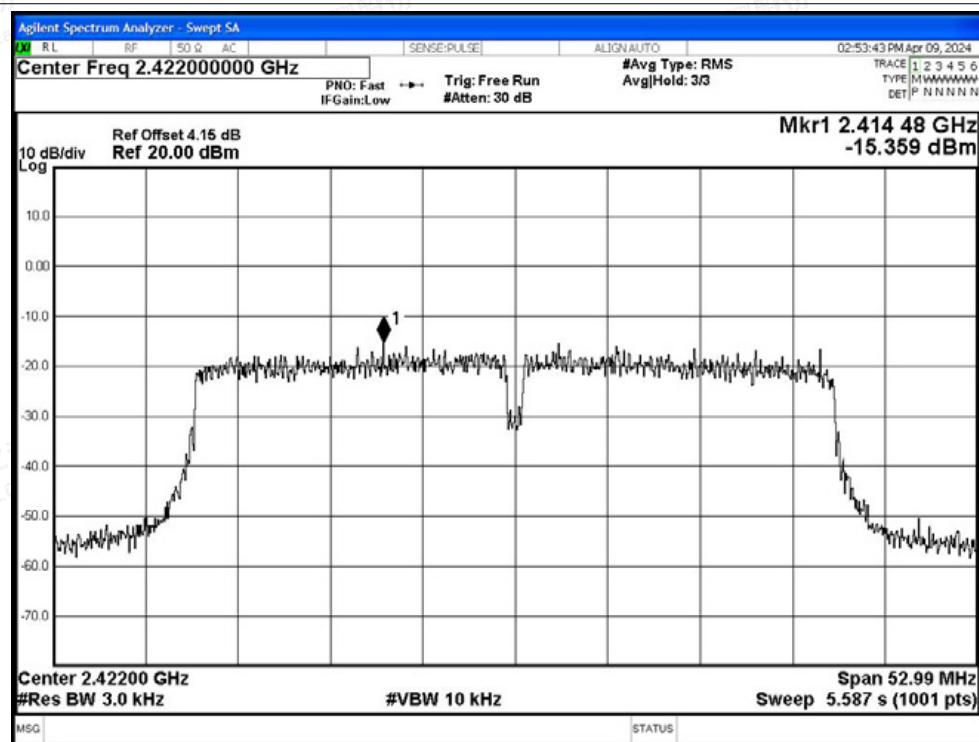




PSD NVNT n20 2462MHz Ant0

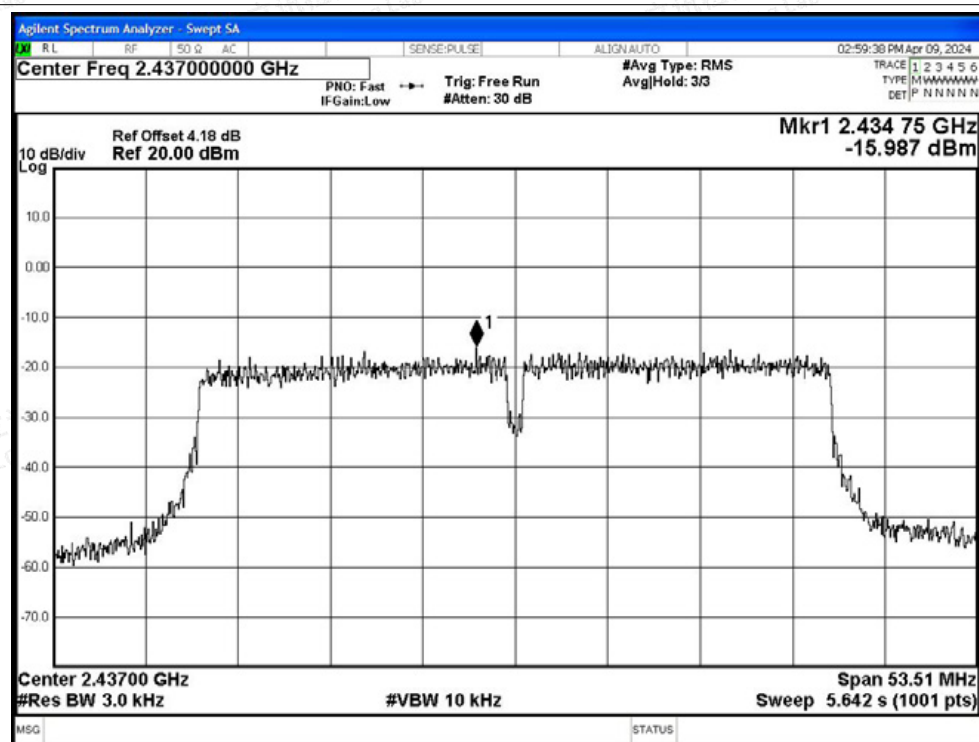


PSD NVNT n40 2422MHz Ant0

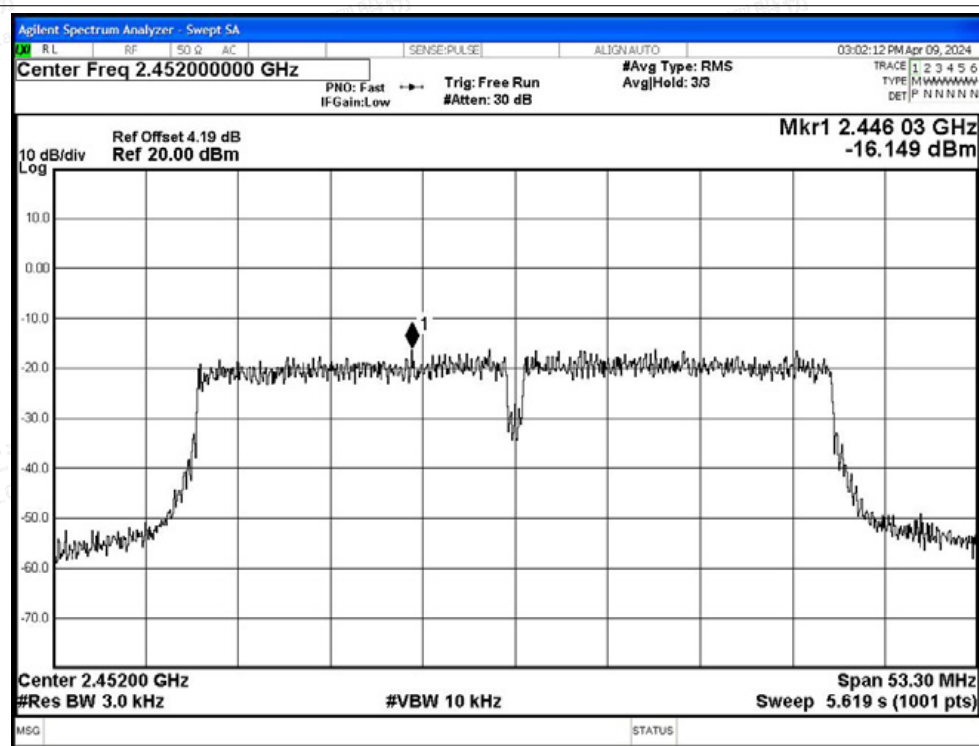




PSD NVNT n40 2437MHz Ant0



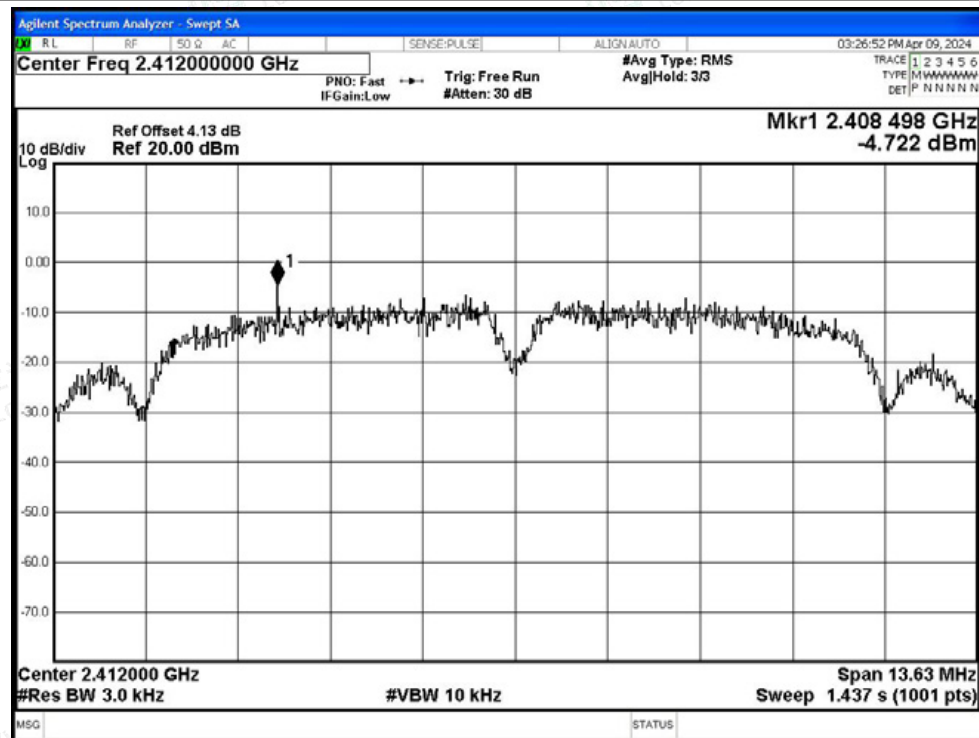
PSD NVNT n40 2452MHz Ant0



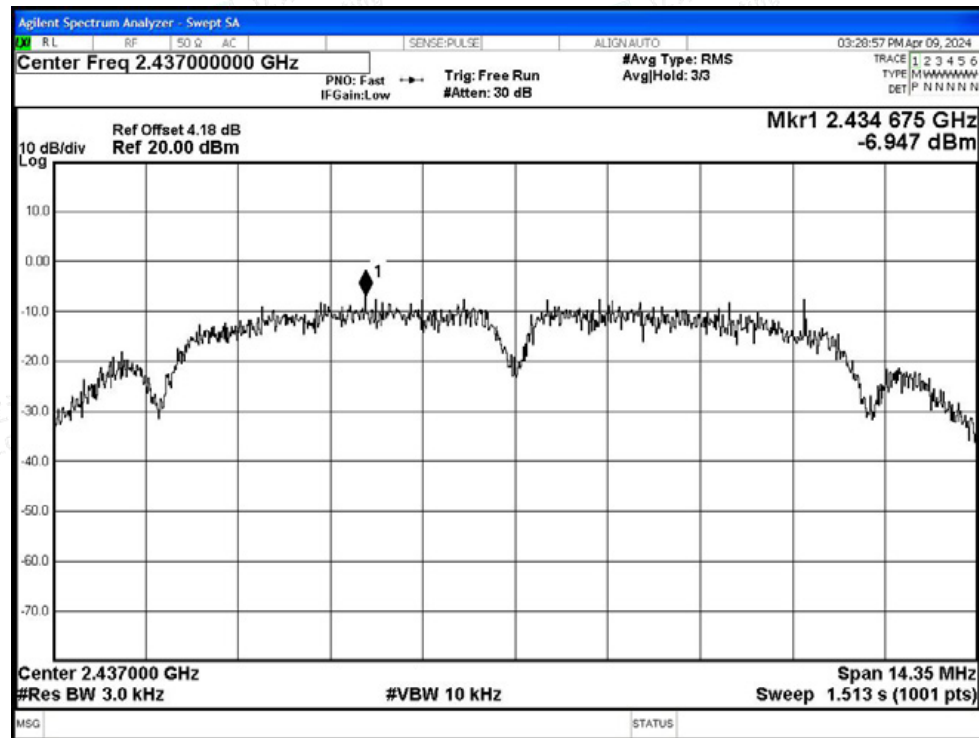


Test Graphs

PSD NVNT b 2412MHz Ant1

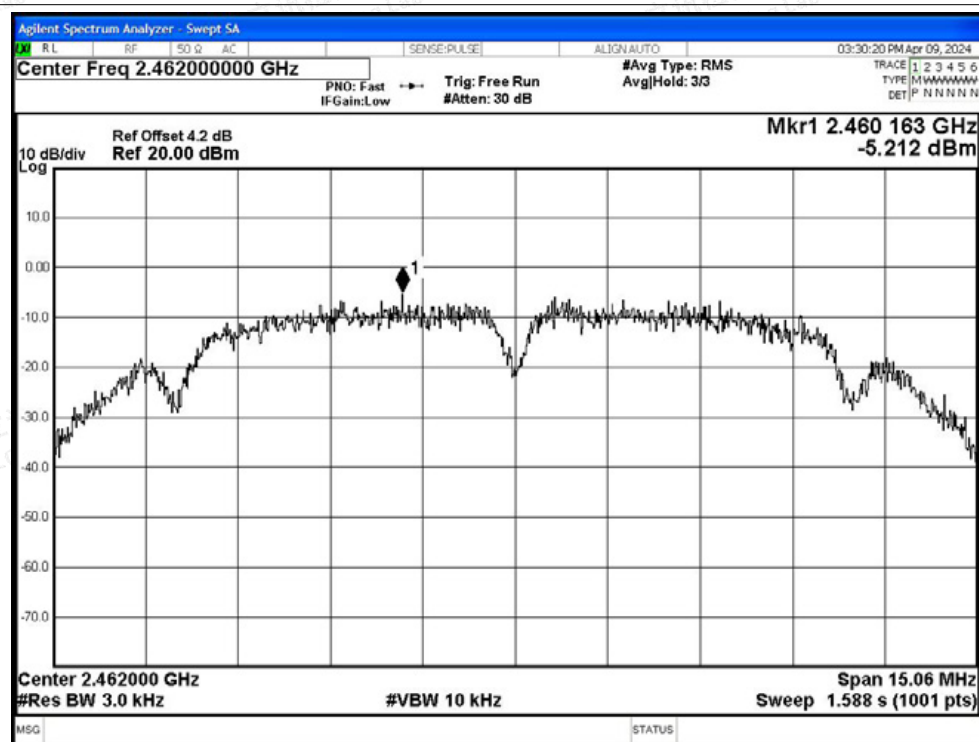


PSD NVNT b 2437MHz Ant1

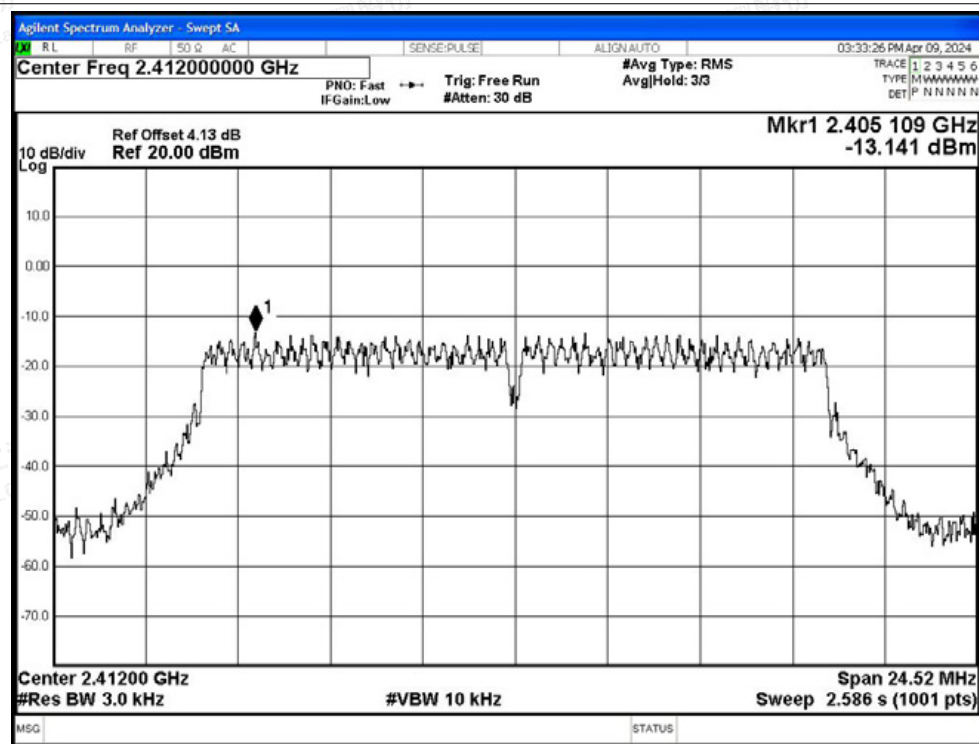


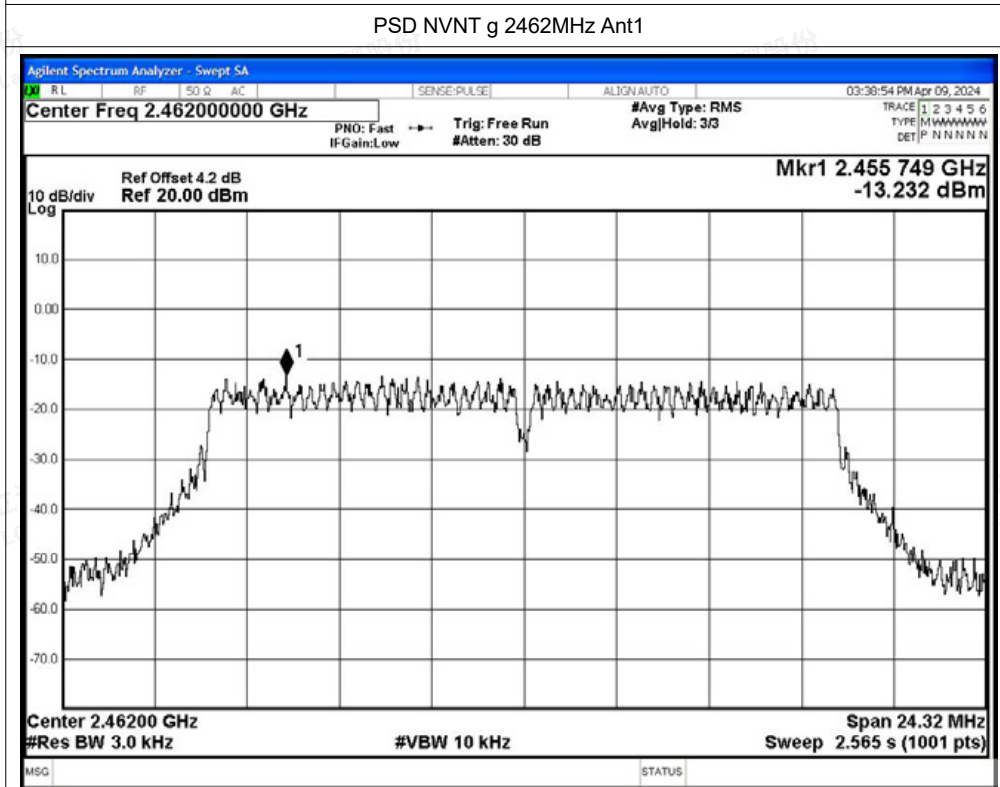
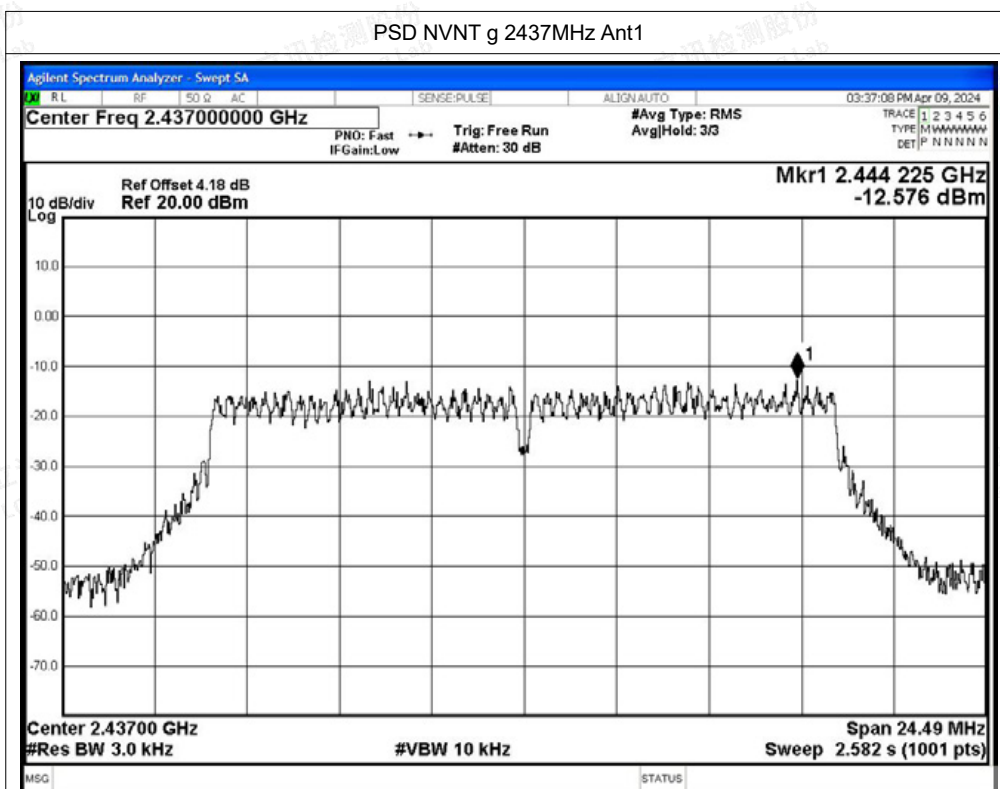


PSD NVNT b 2462MHz Ant1



PSD NVNT g 2412MHz Ant1

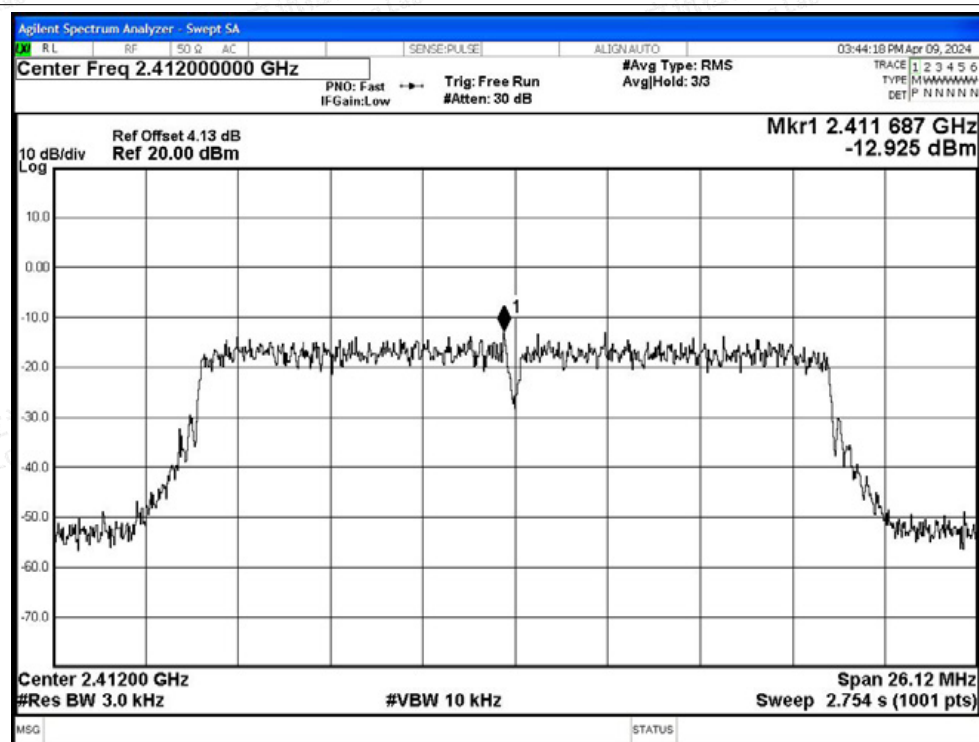




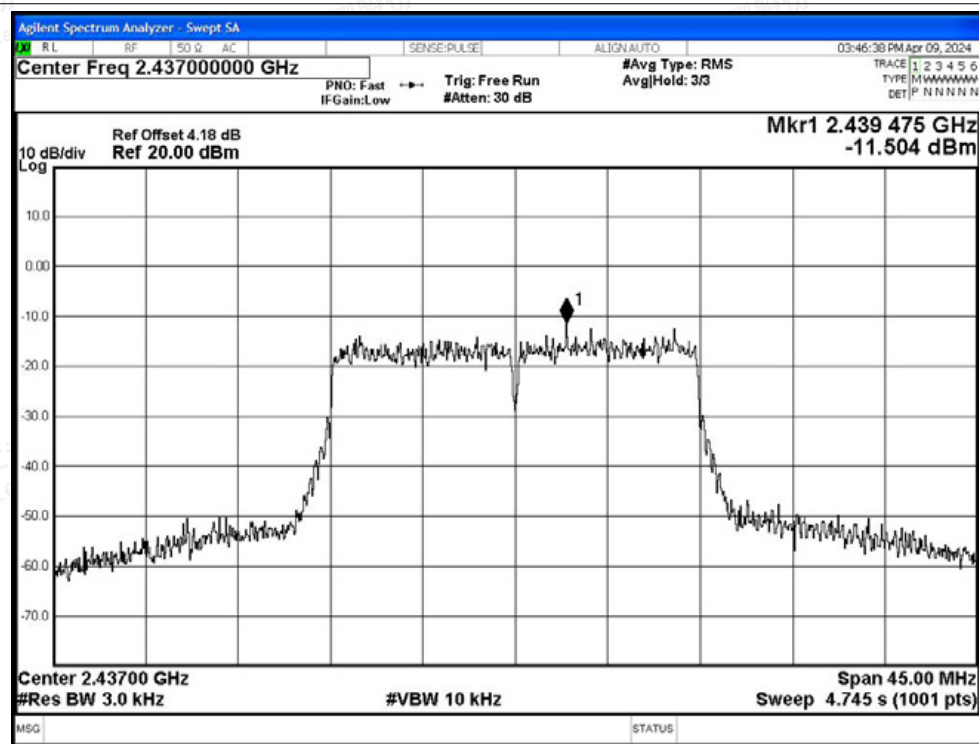
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PSD NVNT n20 2412MHz Ant1

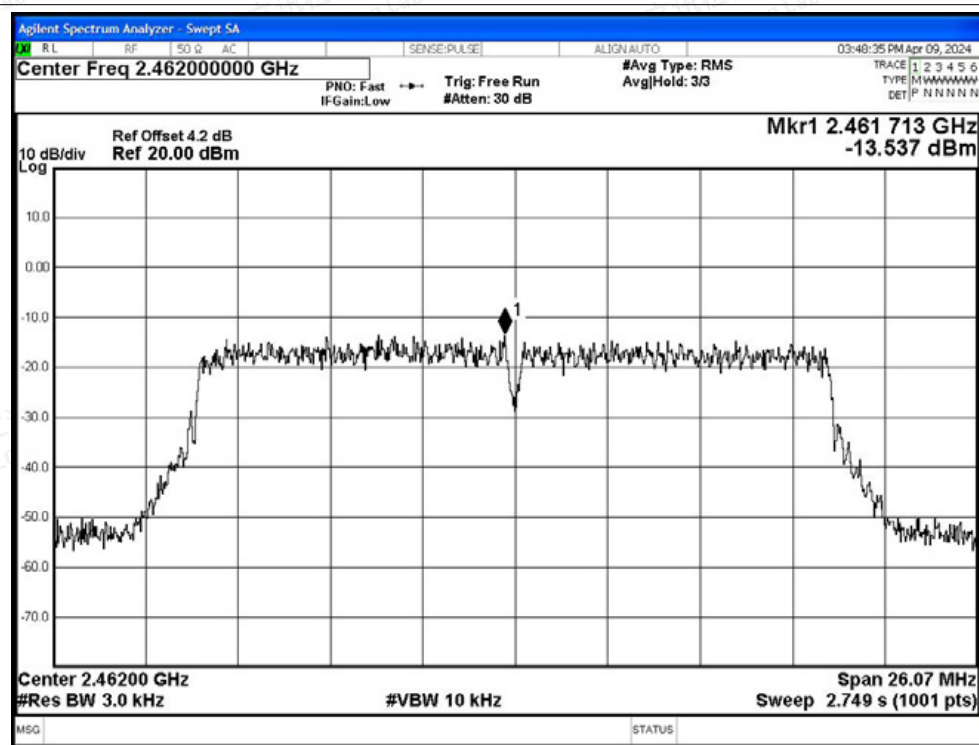


PSD NVNT n20 2437MHz Ant1

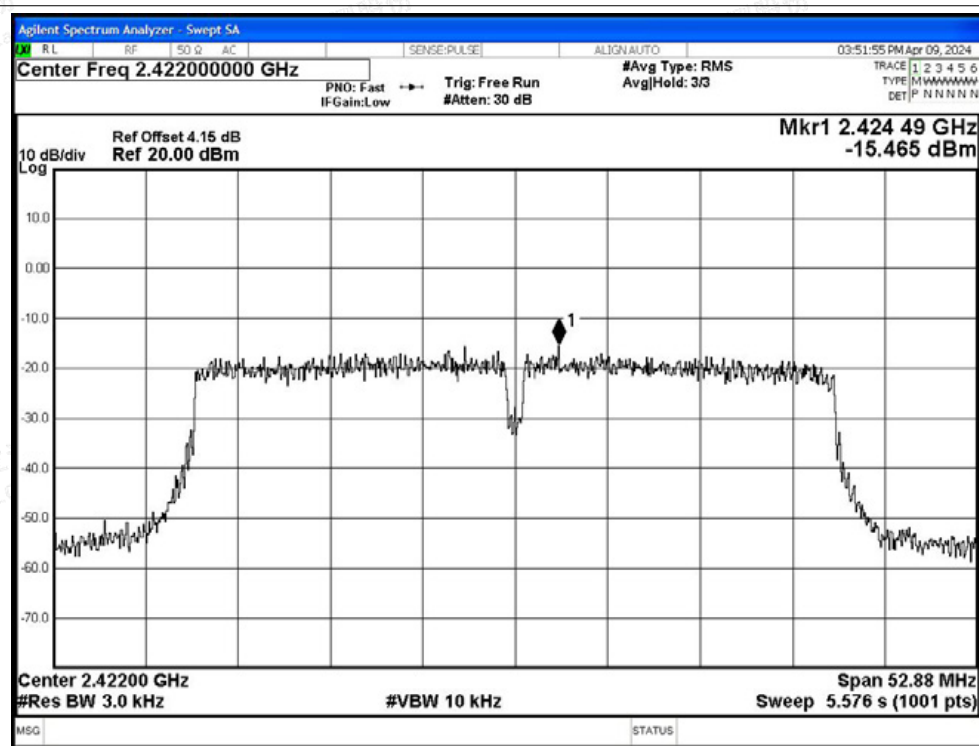




PSD NVNT n20 2462MHz Ant1

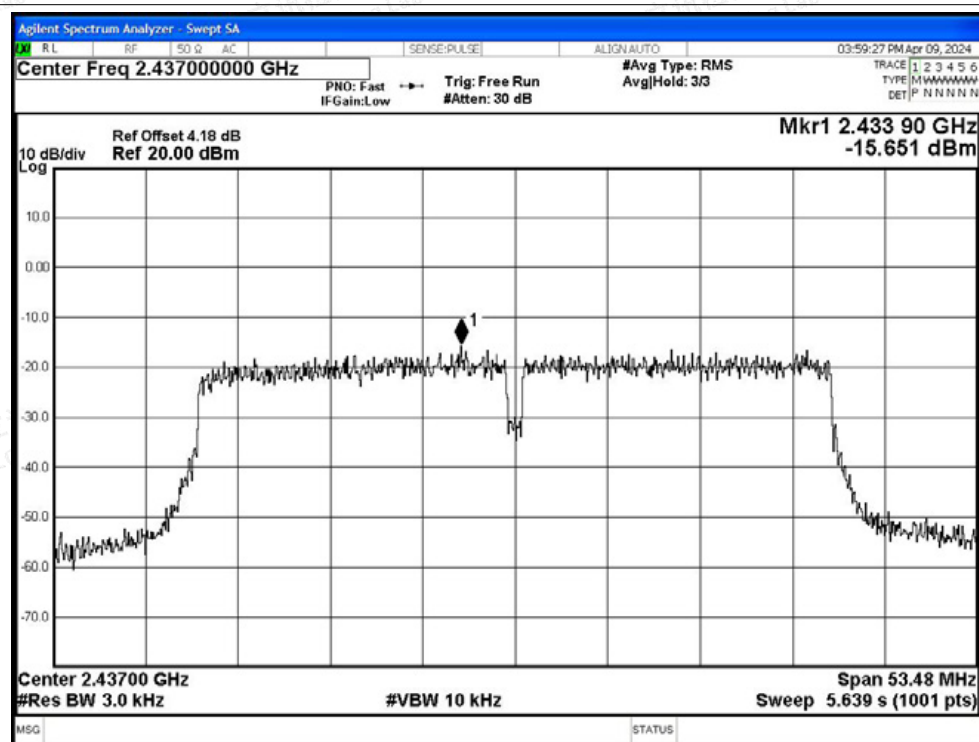


PSD NVNT n40 2422MHz Ant1

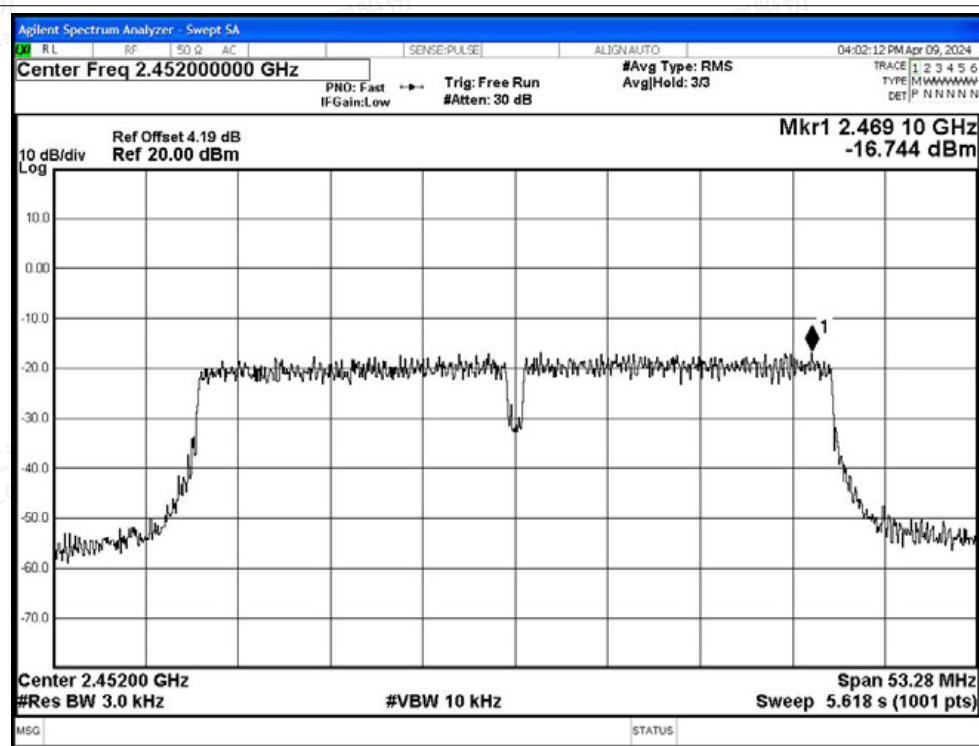




PSD NVNT n40 2437MHz Ant1



PSD NVNT n40 2452MHz Ant1





A.4 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant0	-49.53	-20	Pass
NVNT	b	2462	Ant0	-57.99	-20	Pass
NVNT	g	2412	Ant0	-31.51	-20	Pass
NVNT	g	2462	Ant0	-41.46	-20	Pass
NVNT	n20	2412	Ant0	-27.45	-20	Pass
NVNT	n20	2462	Ant0	-41.83	-20	Pass
NVNT	n40	2422	Ant0	-30.56	-20	Pass
NVNT	n40	2452	Ant0	-34.7	-20	Pass



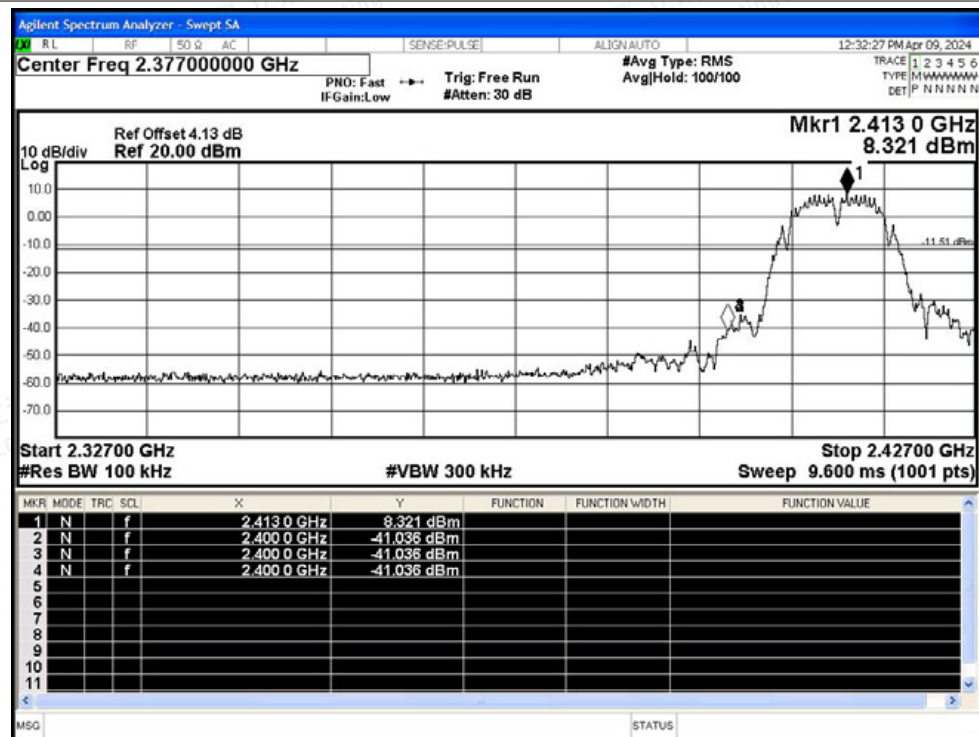


Test Graphs

Band Edge NVNT b 2412MHz Ant0 Ref

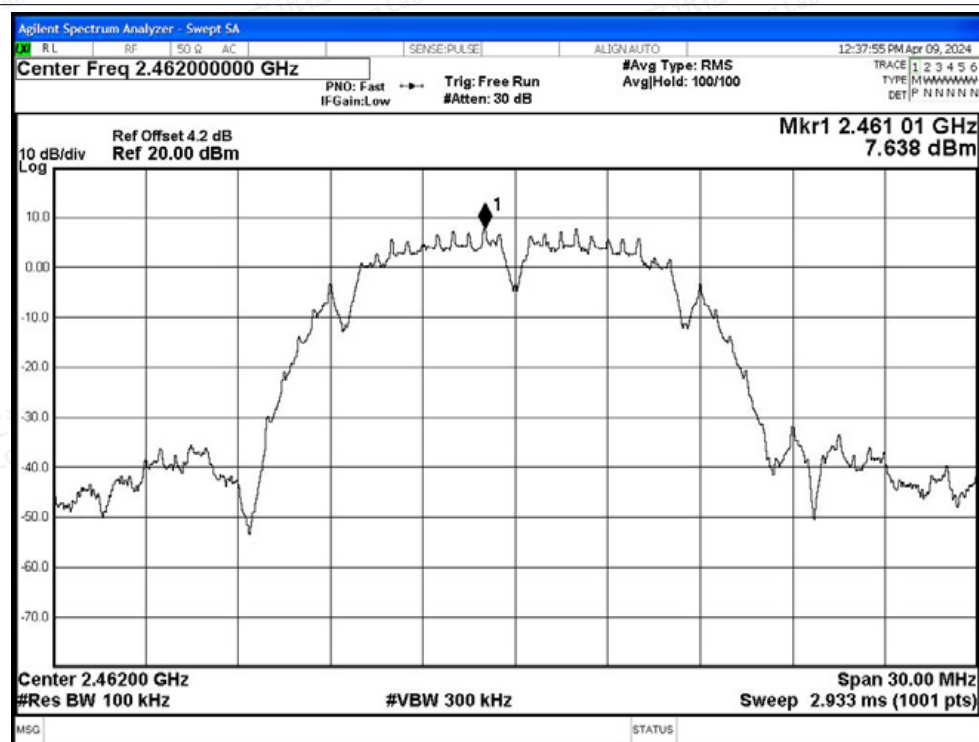


Band Edge NVNT b 2412MHz Ant0 Emission

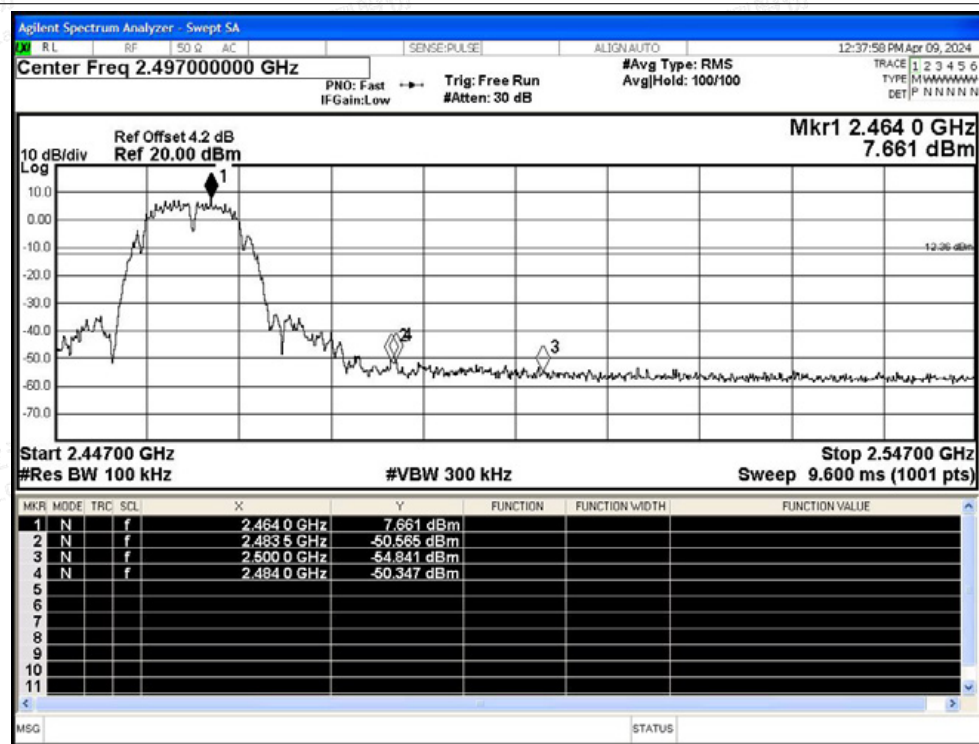




Band Edge NVNT b 2462MHz Ant0 Ref

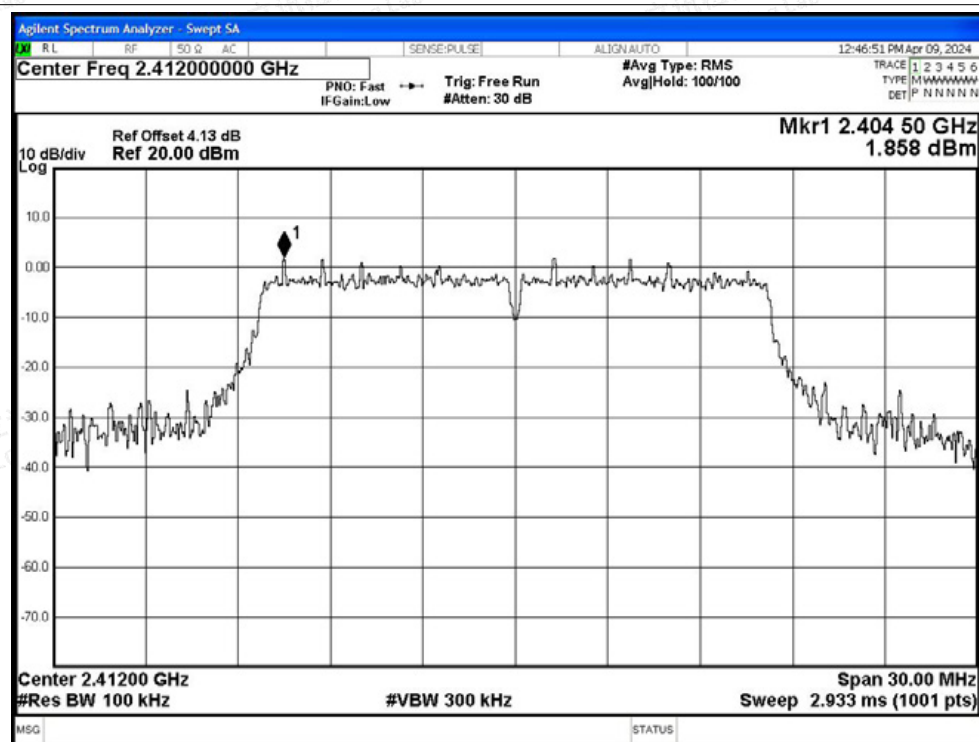


Band Edge NVNT b 2462MHz Ant0 Emission

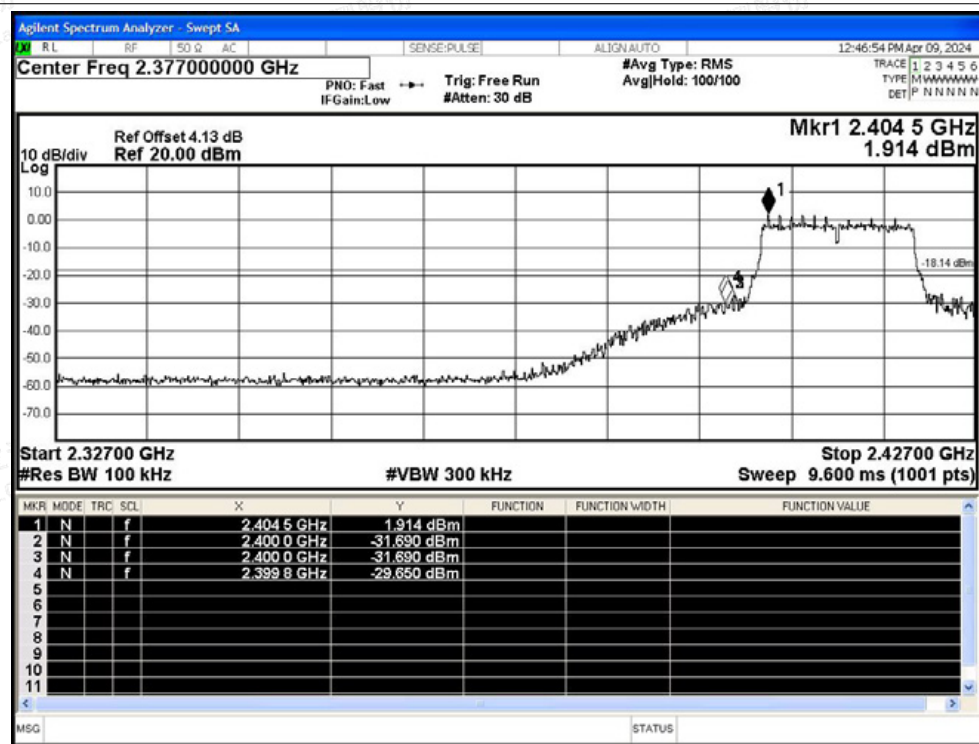




Band Edge NVNT g 2412MHz Ant0 Ref

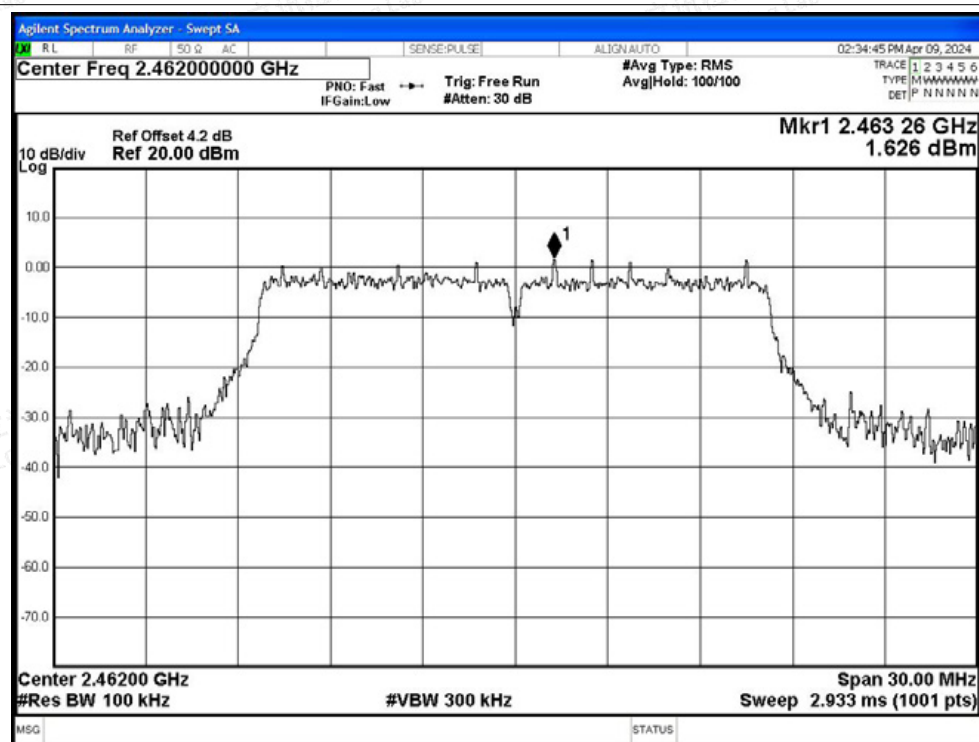


Band Edge NVNT g 2412MHz Ant0 Emission

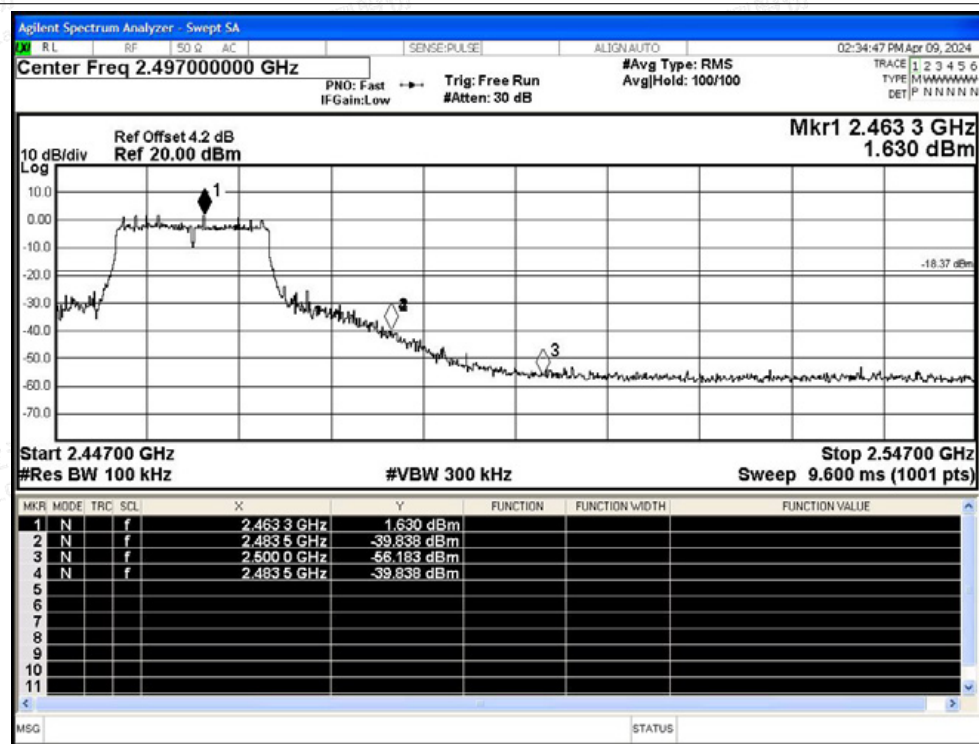




Band Edge NVNT g 2462MHz Ant0 Ref

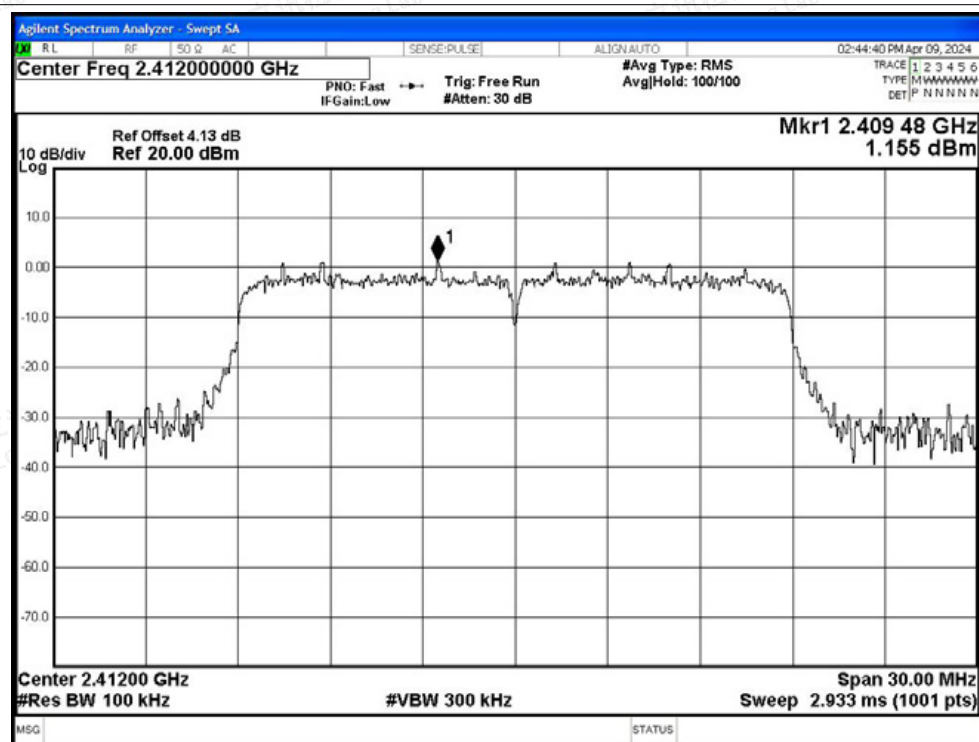


Band Edge NVNT g 2462MHz Ant0 Emission

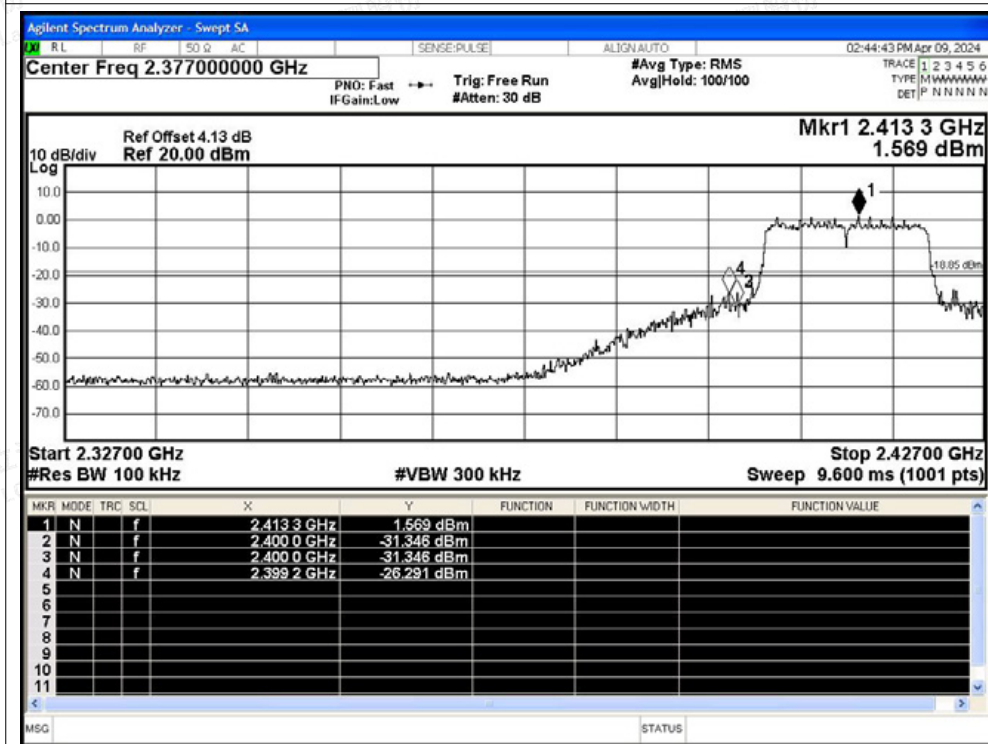




Band Edge NVNT n20 2412MHz Ant0 Ref

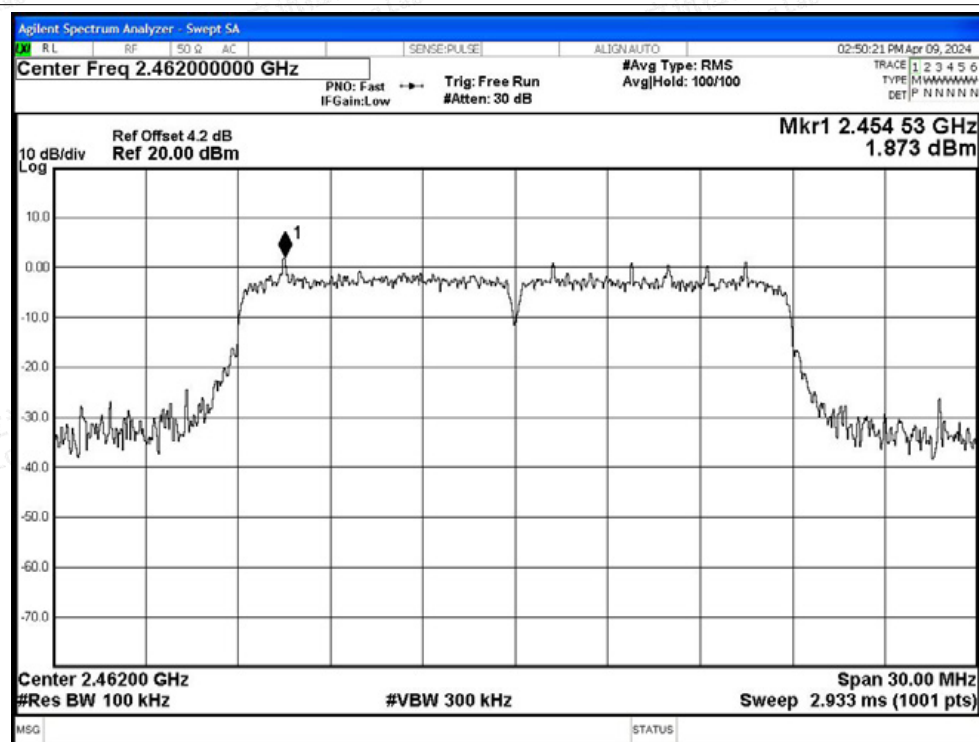


Band Edge NVNT n20 2412MHz Ant0 Emission

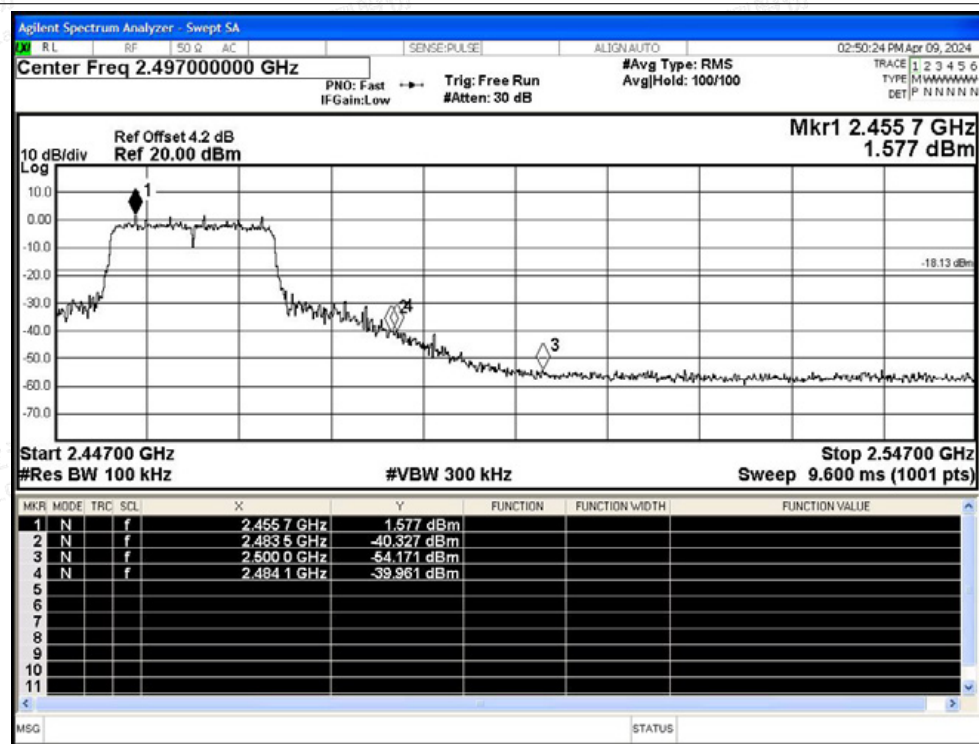




Band Edge NVNT n20 2462MHz Ant0 Ref

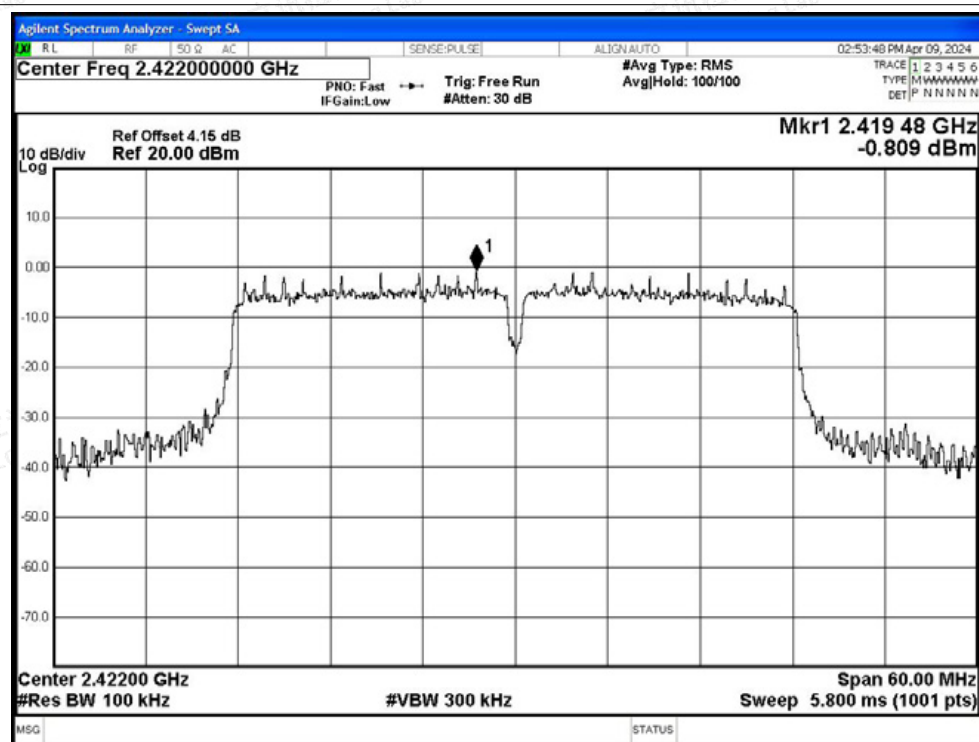


Band Edge NVNT n20 2462MHz Ant0 Emission

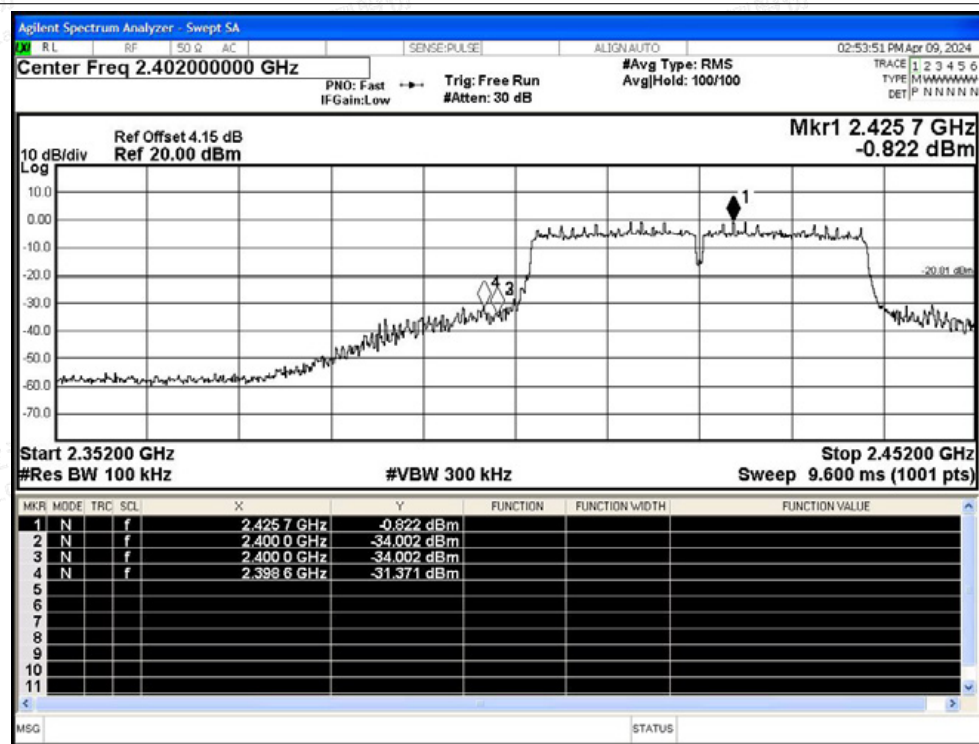




Band Edge NVNT n40 2422MHz Ant0 Ref

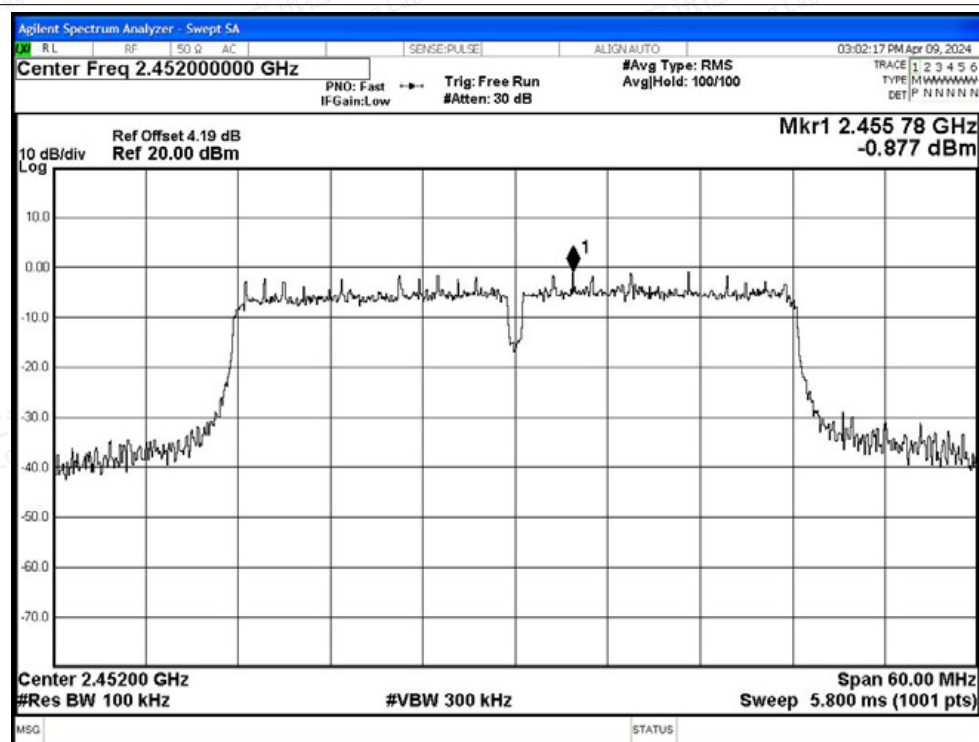


Band Edge NVNT n40 2422MHz Ant0 Emission

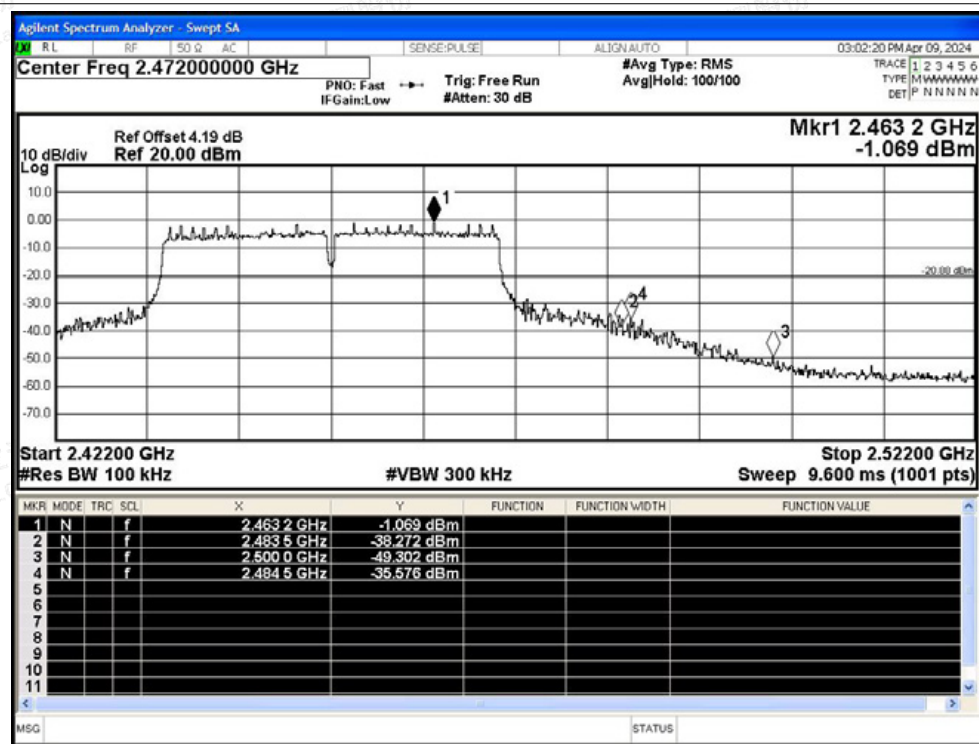




Band Edge NVNT n40 2452MHz Ant0 Ref



Band Edge NVNT n40 2452MHz Ant0 Emission





Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	b	2412	Ant1	-49.74	-20	Pass
NVNT	b	2462	Ant1	-58.91	-20	Pass
NVNT	g	2412	Ant1	-29.35	-20	Pass
NVNT	g	2462	Ant1	-41.41	-20	Pass
NVNT	n20	2412	Ant1	-28.69	-20	Pass
NVNT	n20	2462	Ant1	-40.63	-20	Pass
NVNT	n40	2422	Ant1	-31.22	-20	Pass
NVNT	n40	2452	Ant1	-32.28	-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
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