



Appendix A

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: WiFi Extender

Test Model: WL-NE3503

Environmental Conditions

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



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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	Ant1	9.567	≥ 0.5	Pass
NVNT	b	2437	Ant1	9.558	≥ 0.5	Pass
NVNT	b	2462	Ant1	9.553	≥ 0.5	Pass
NVNT	g	2412	Ant1	13.763	≥ 0.5	Pass
NVNT	g	2437	Ant1	14.999	≥ 0.5	Pass
NVNT	g	2462	Ant1	13.866	≥ 0.5	Pass
NVNT	n20	2412	Ant1	16.271	≥ 0.5	Pass
NVNT	n20	2437	Ant1	15.679	≥ 0.5	Pass
NVNT	n20	2462	Ant1	15.676	≥ 0.5	Pass
NVNT	n40	2422	Ant1	29.999	≥ 0.5	Pass
NVNT	n40	2437	Ant1	35.066	≥ 0.5	Pass
NVNT	n40	2452	Ant1	33.815	≥ 0.5	Pass

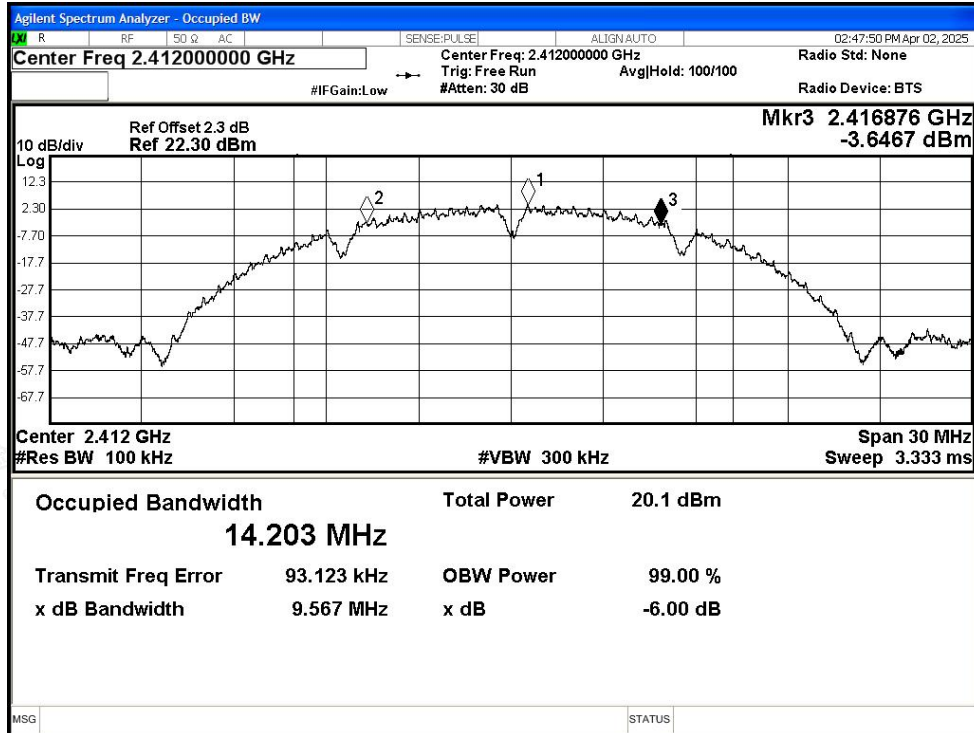


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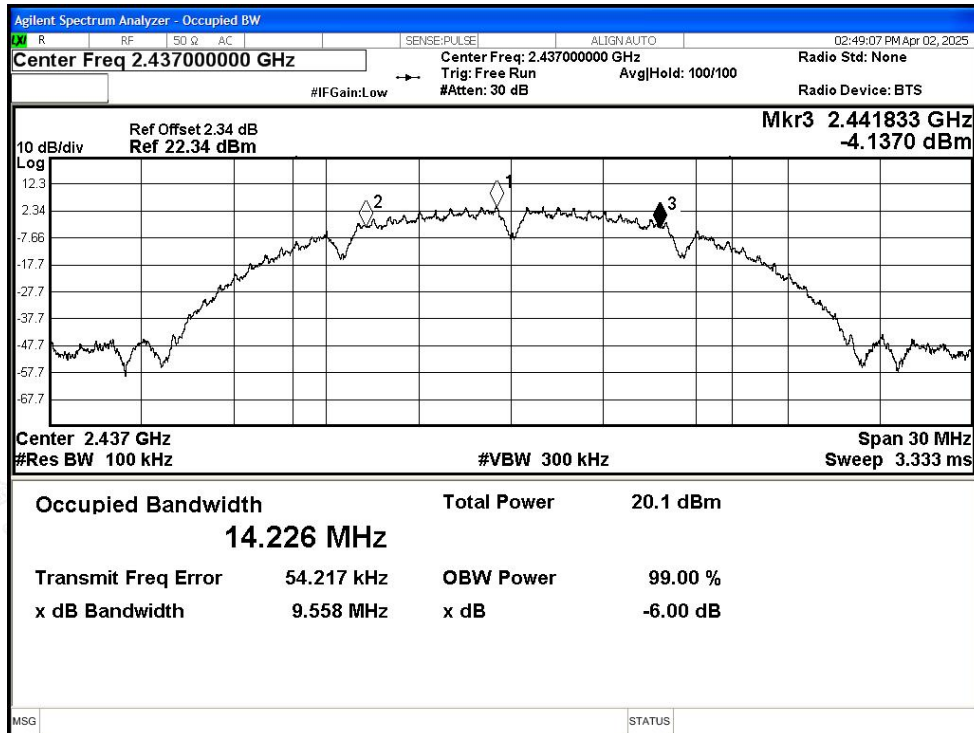


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1



-6dB Bandwidth NVNT b 2437MHz Ant1



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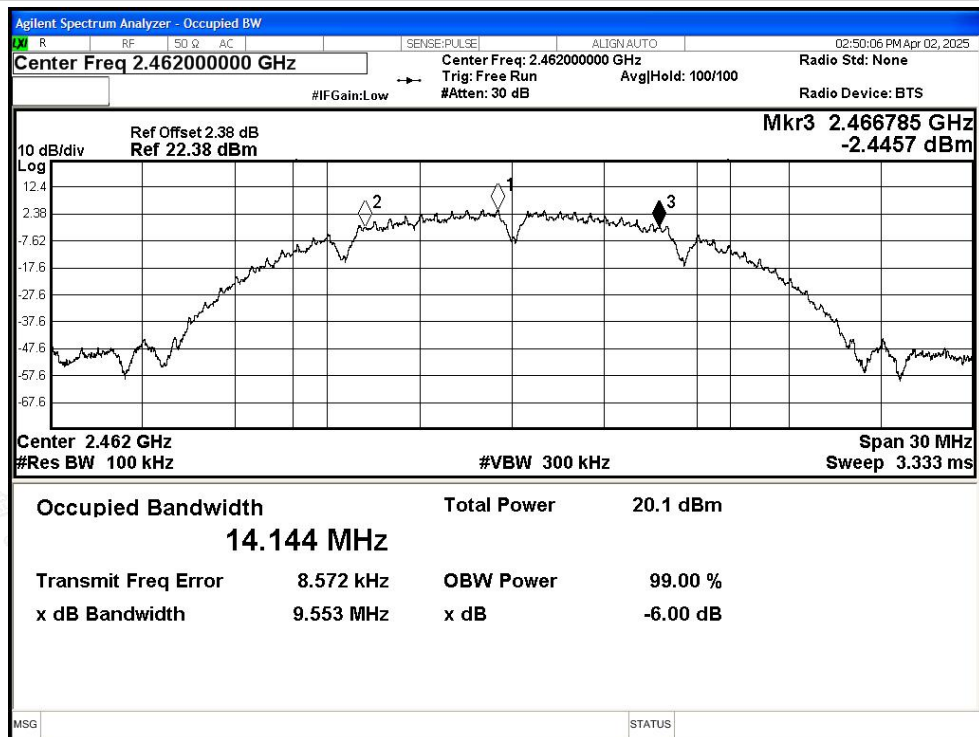
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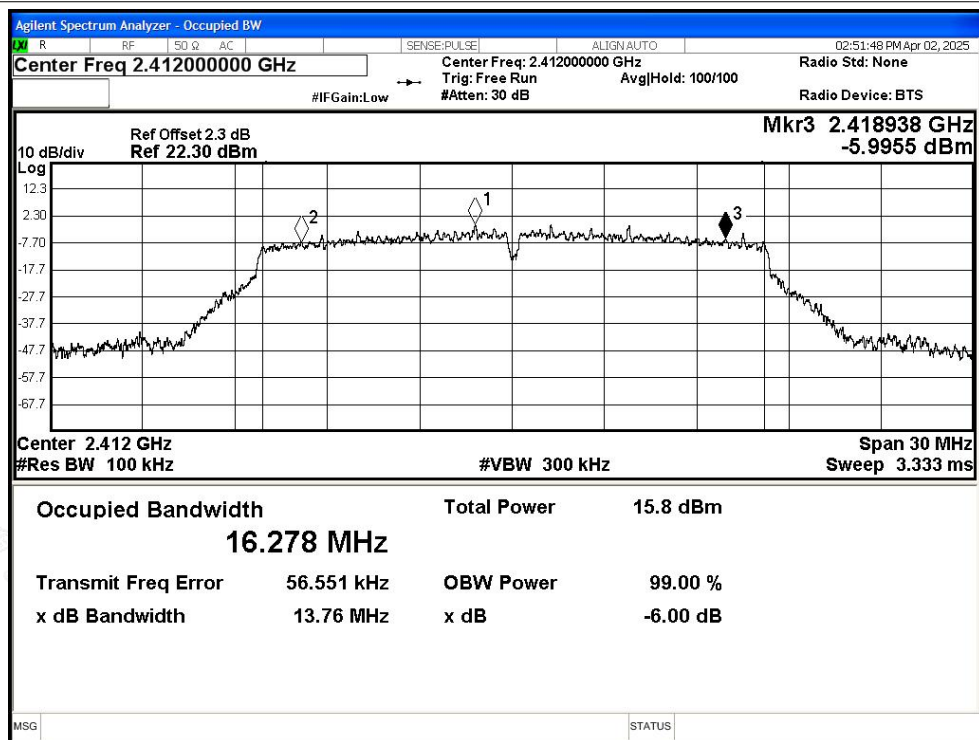
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-6dB Bandwidth NVNT b 2462MHz Ant1

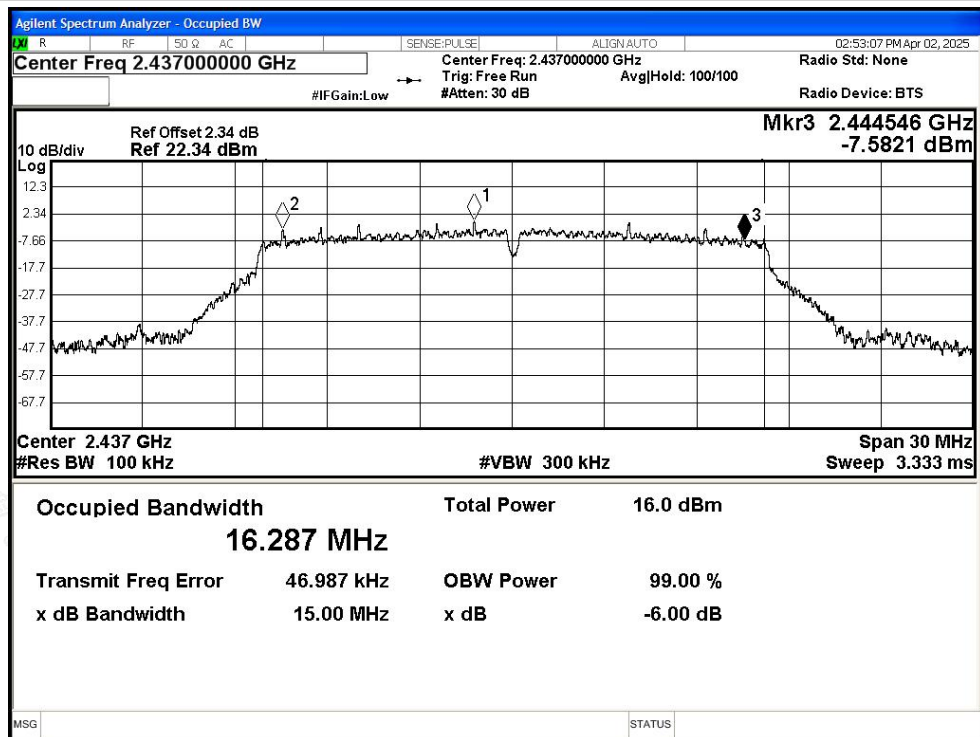


-6dB Bandwidth NVNT g 2412MHz Ant1

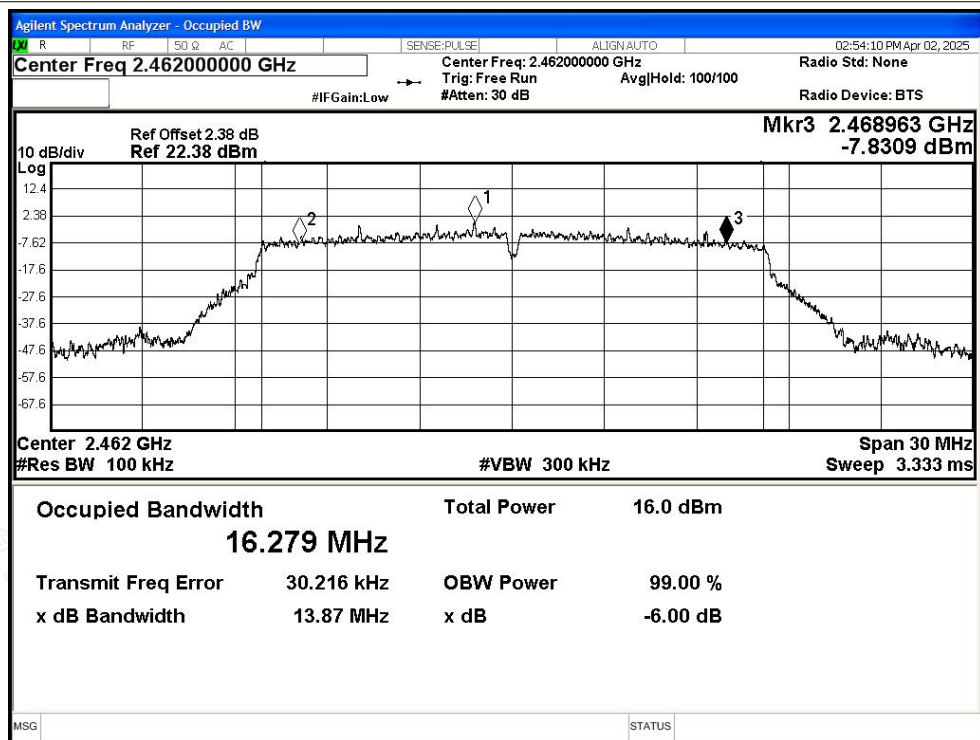




-6dB Bandwidth NVNT g 2437MHz Ant1

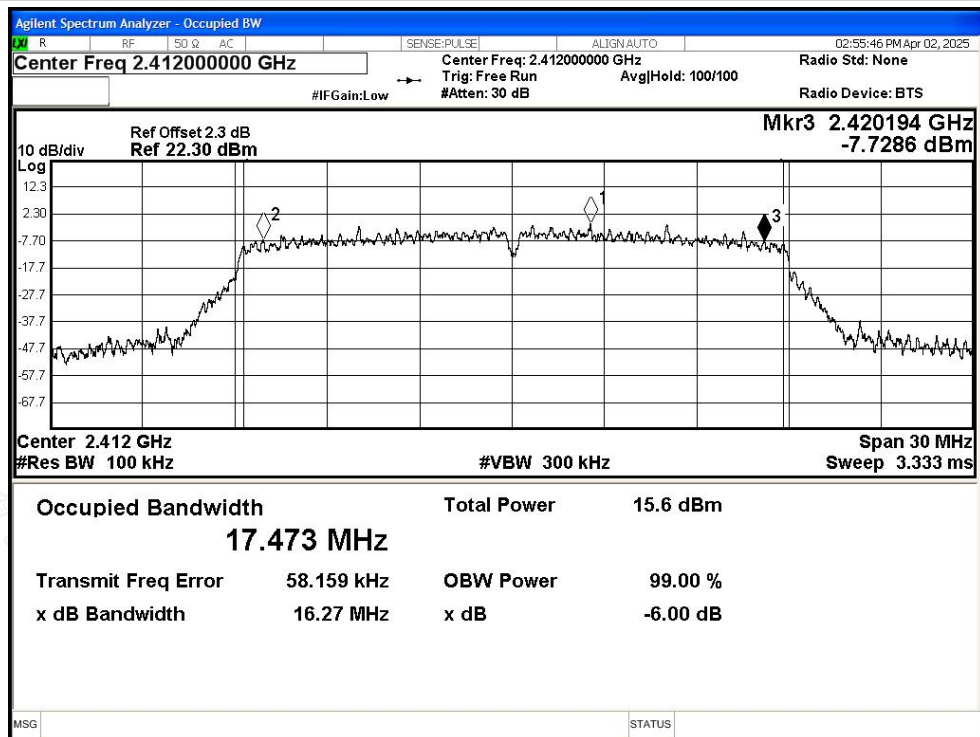


-6dB Bandwidth NVNT g 2462MHz Ant1

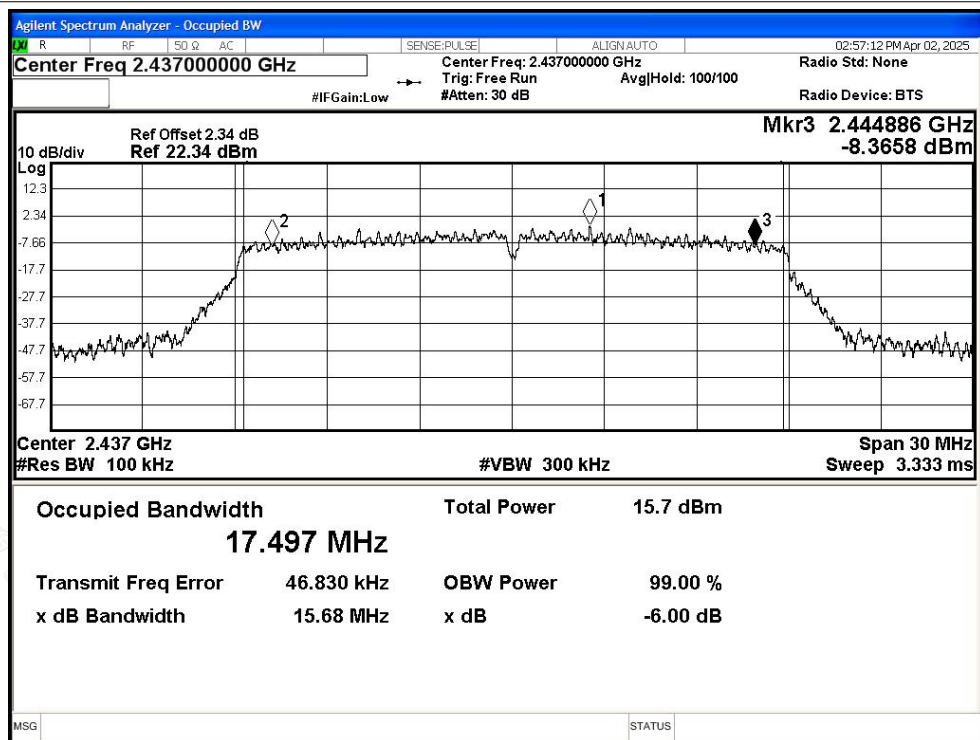




-6dB Bandwidth NVNT n20 2412MHz Ant1

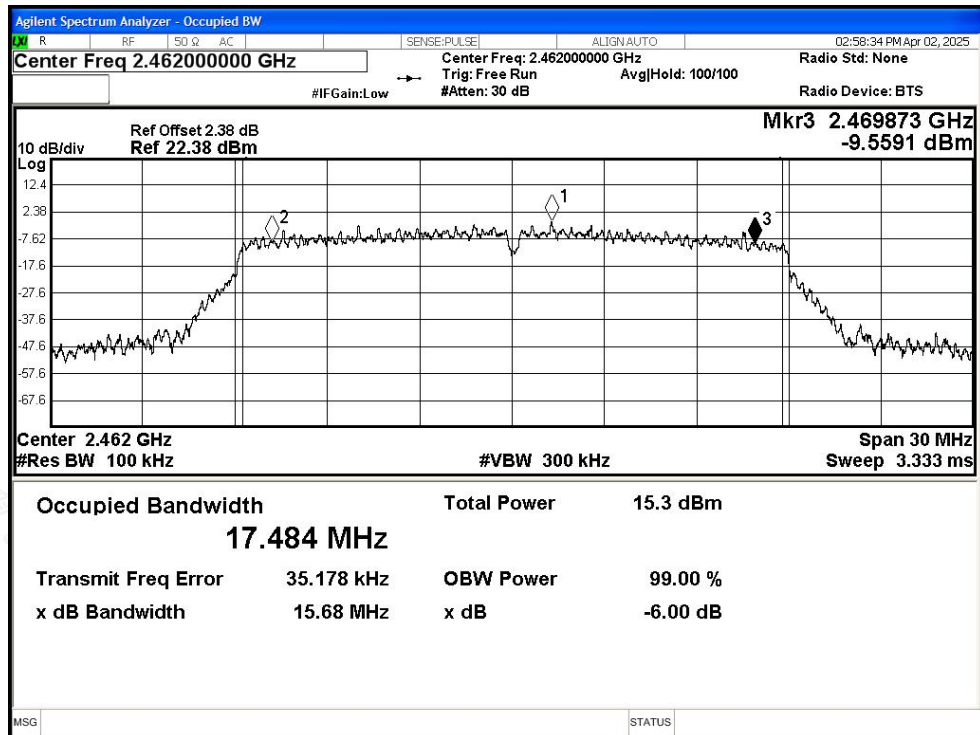


-6dB Bandwidth NVNT n20 2437MHz Ant1

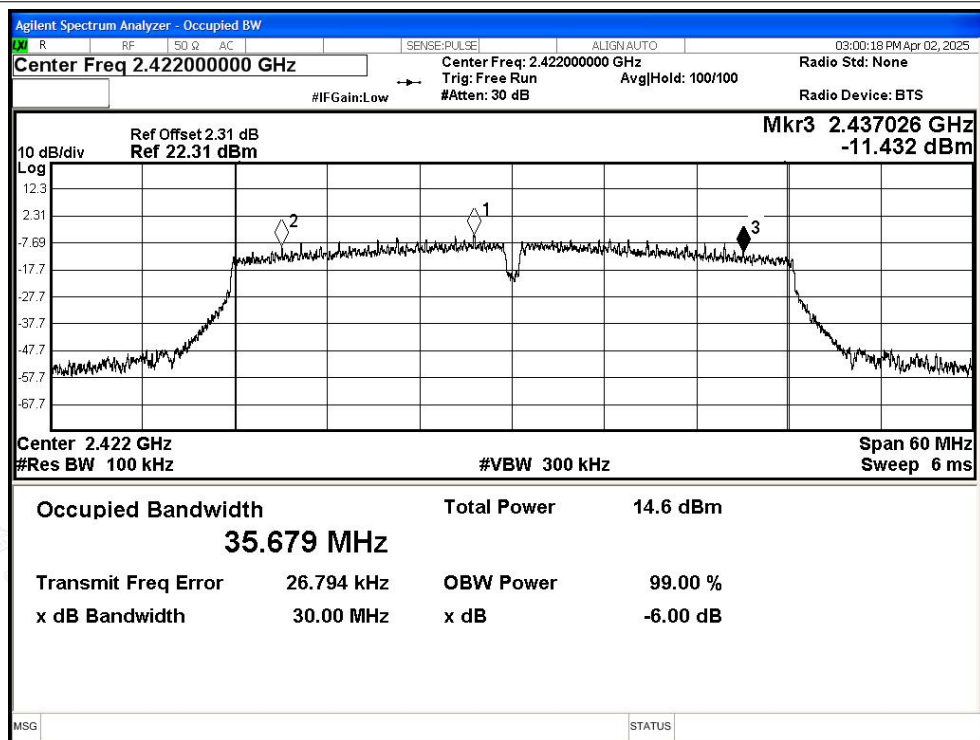




-6dB Bandwidth NVNT n20 2462MHz Ant1



-6dB Bandwidth NVNT n40 2422MHz Ant1



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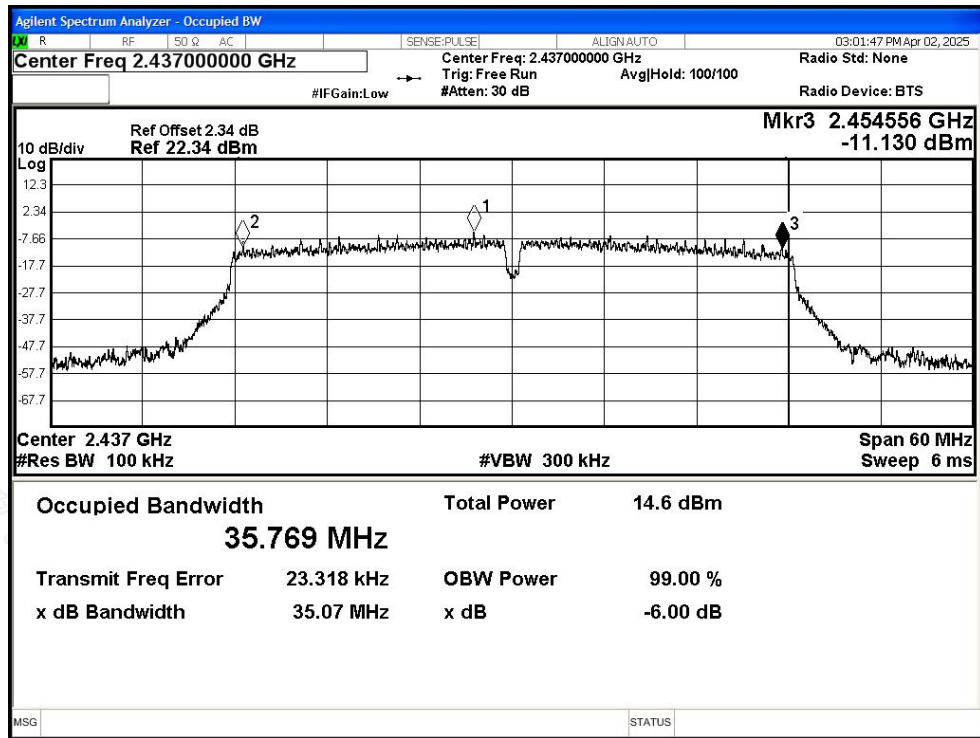
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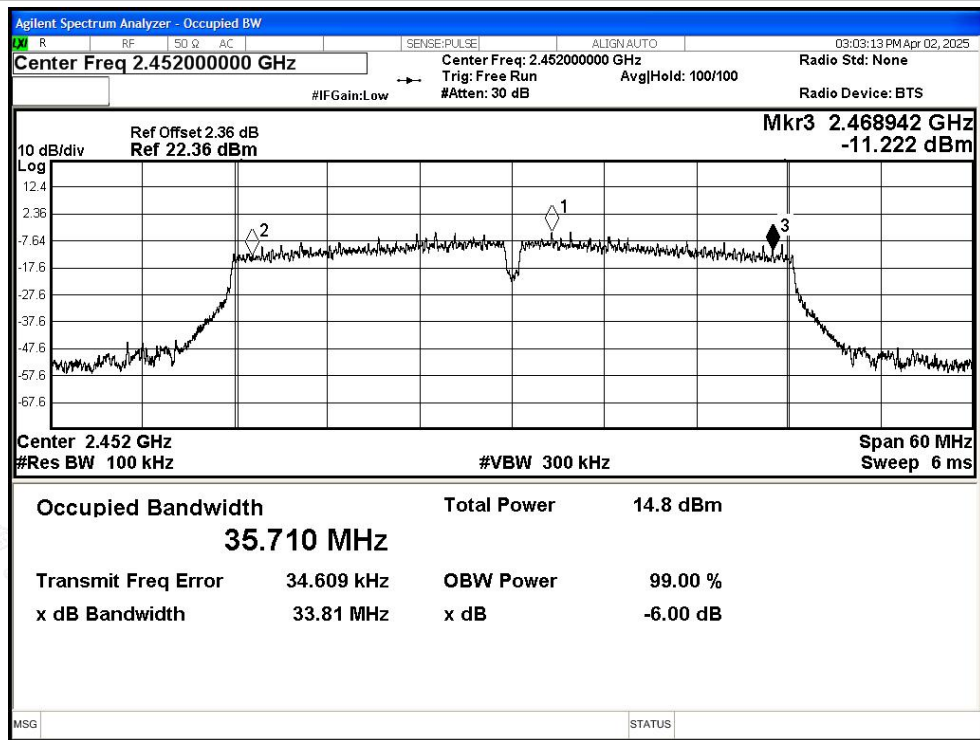
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-6dB Bandwidth NVNT n40 2437MHz Ant1



-6dB Bandwidth NVNT n40 2452MHz Ant1





Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant2	9.563	≥ 0.5	Pass
NVNT	b	2437	Ant2	10.019	≥ 0.5	Pass
NVNT	b	2462	Ant2	9.525	≥ 0.5	Pass
NVNT	g	2412	Ant2	14.415	≥ 0.5	Pass
NVNT	g	2437	Ant2	14.826	≥ 0.5	Pass
NVNT	g	2462	Ant2	14.672	≥ 0.5	Pass
NVNT	n20	2412	Ant2	15.025	≥ 0.5	Pass
NVNT	n20	2437	Ant2	16.299	≥ 0.5	Pass
NVNT	n20	2462	Ant2	15.058	≥ 0.5	Pass
NVNT	n40	2422	Ant2	35.034	≥ 0.5	Pass
NVNT	n40	2437	Ant2	33.847	≥ 0.5	Pass
NVNT	n40	2452	Ant2	35.006	≥ 0.5	Pass

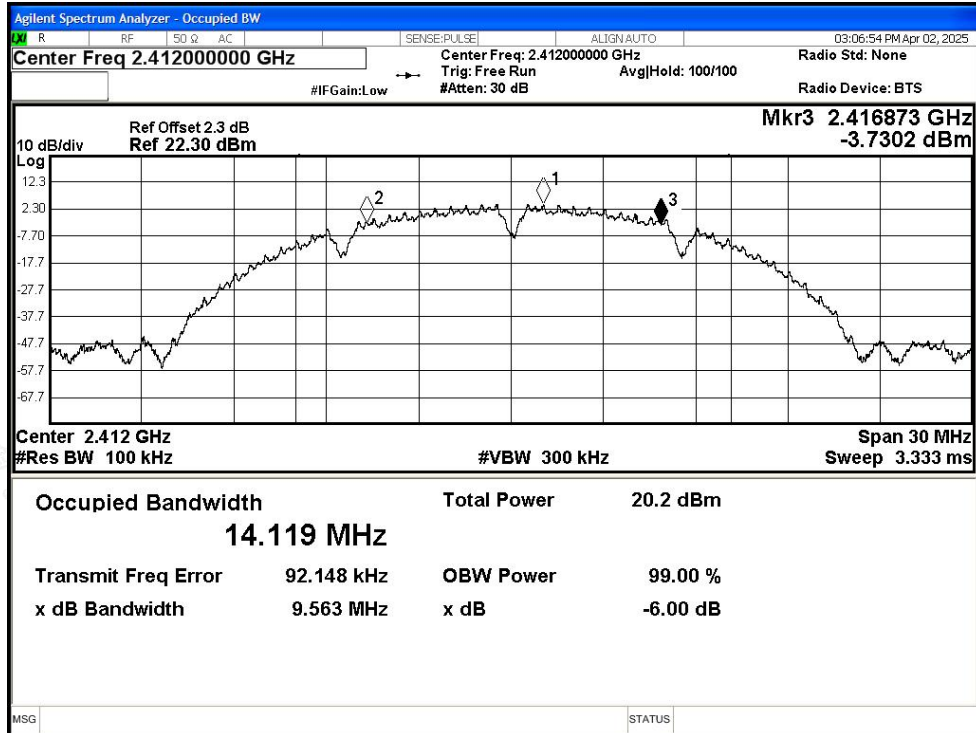


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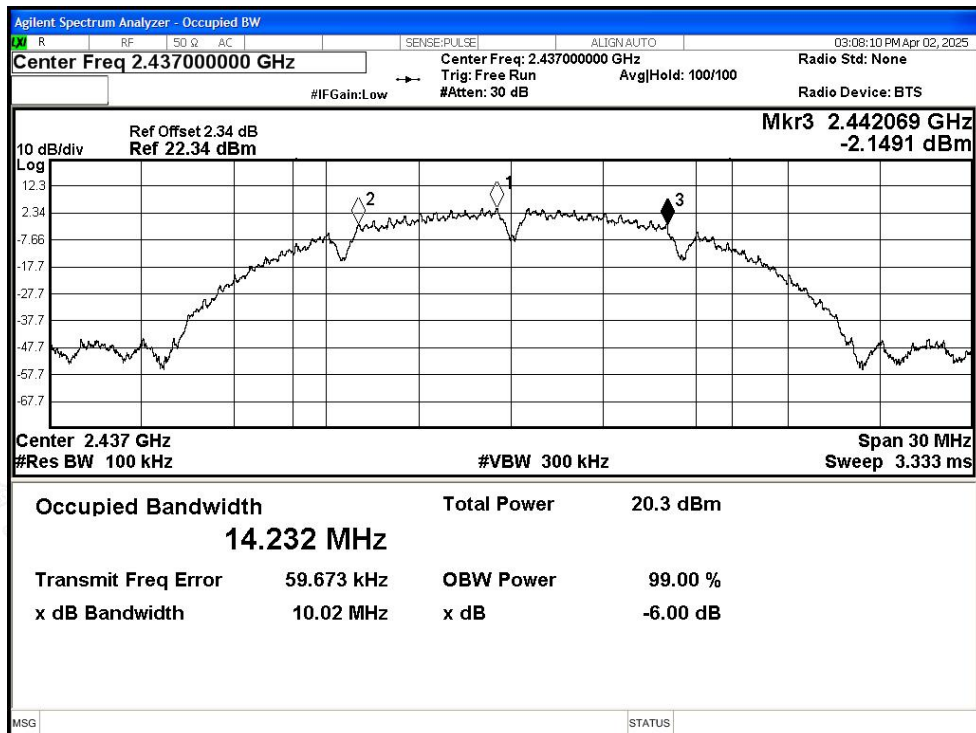


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant2



-6dB Bandwidth NVNT b 2437MHz Ant2



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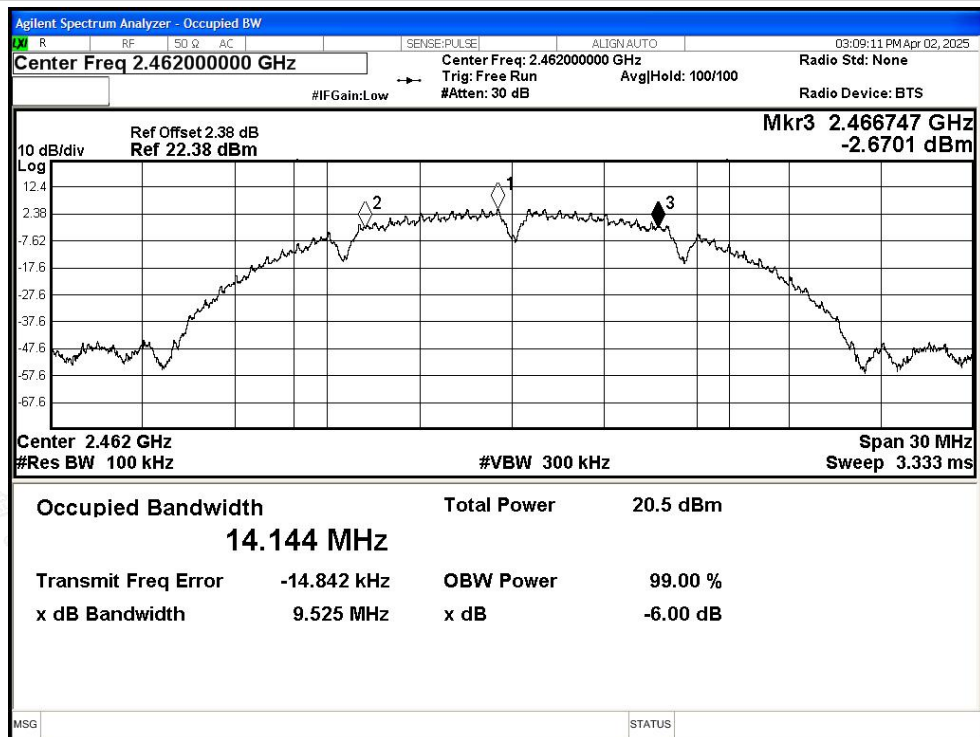
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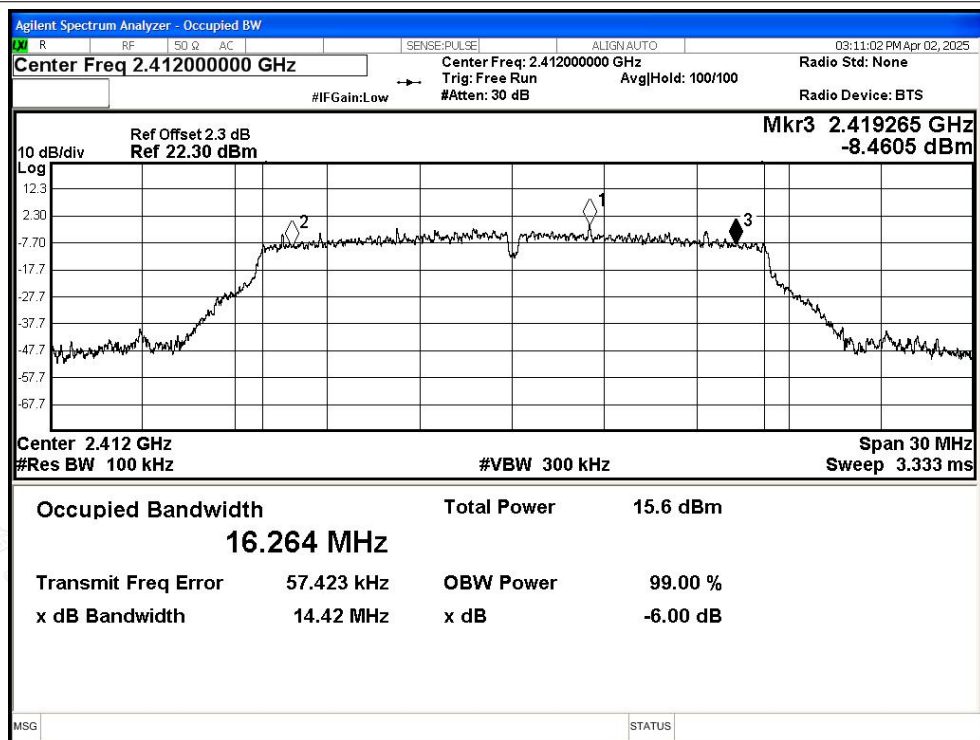
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-6dB Bandwidth NVNT b 2462MHz Ant2



-6dB Bandwidth NVNT g 2412MHz Ant2



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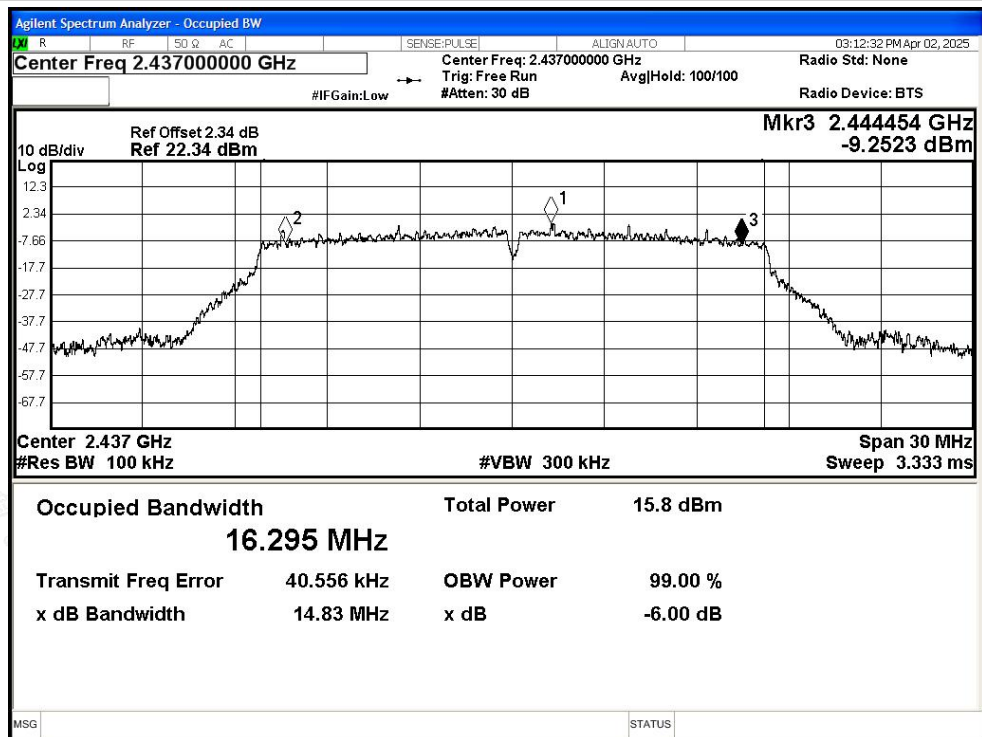
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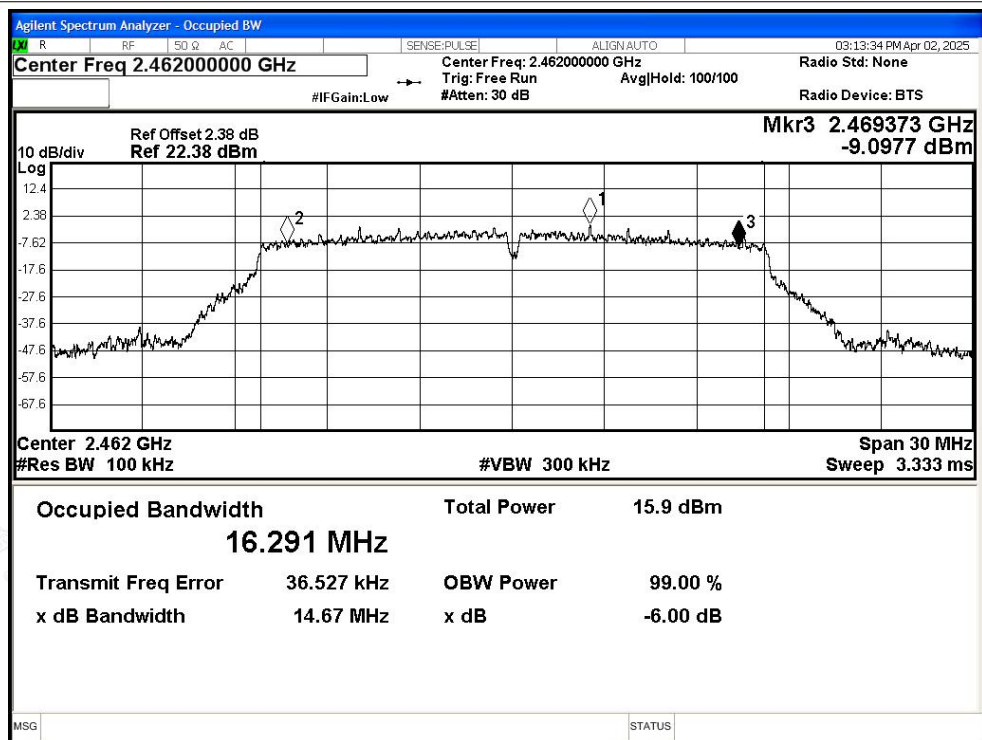
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-6dB Bandwidth NVNT g 2437MHz Ant2



-6dB Bandwidth NVNT g 2462MHz Ant2



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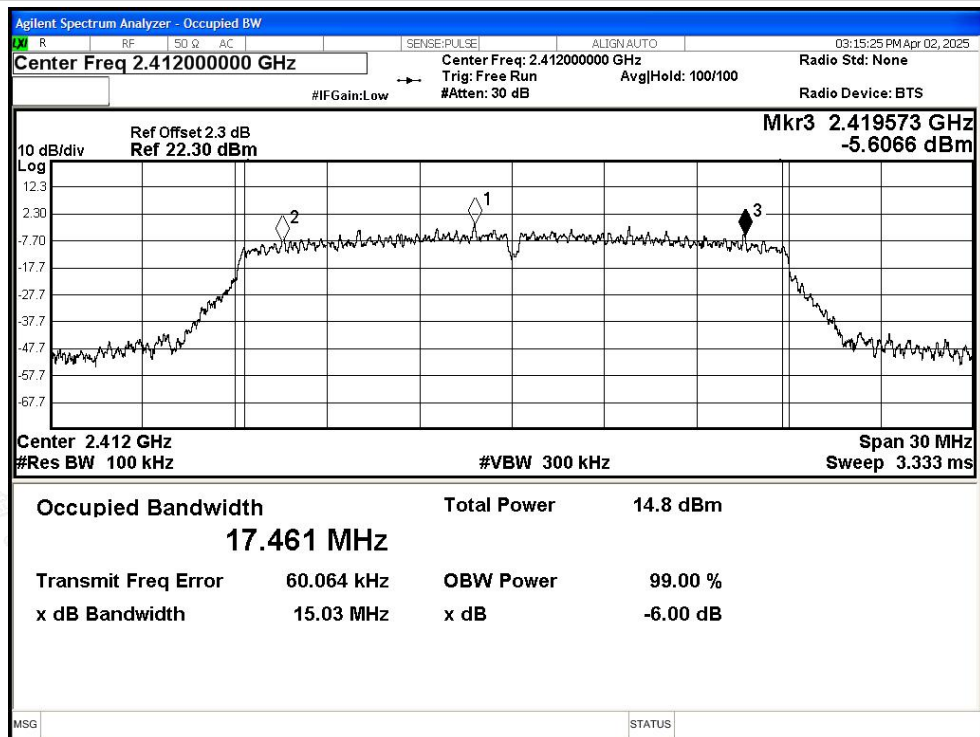
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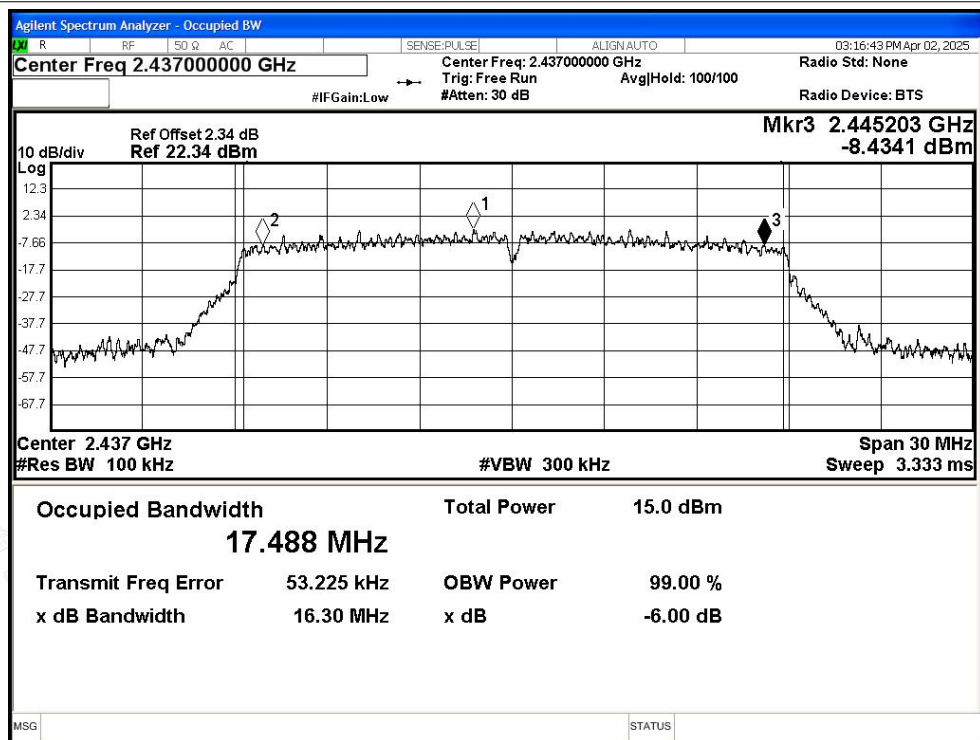
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-6dB Bandwidth NVNT n20 2412MHz Ant2

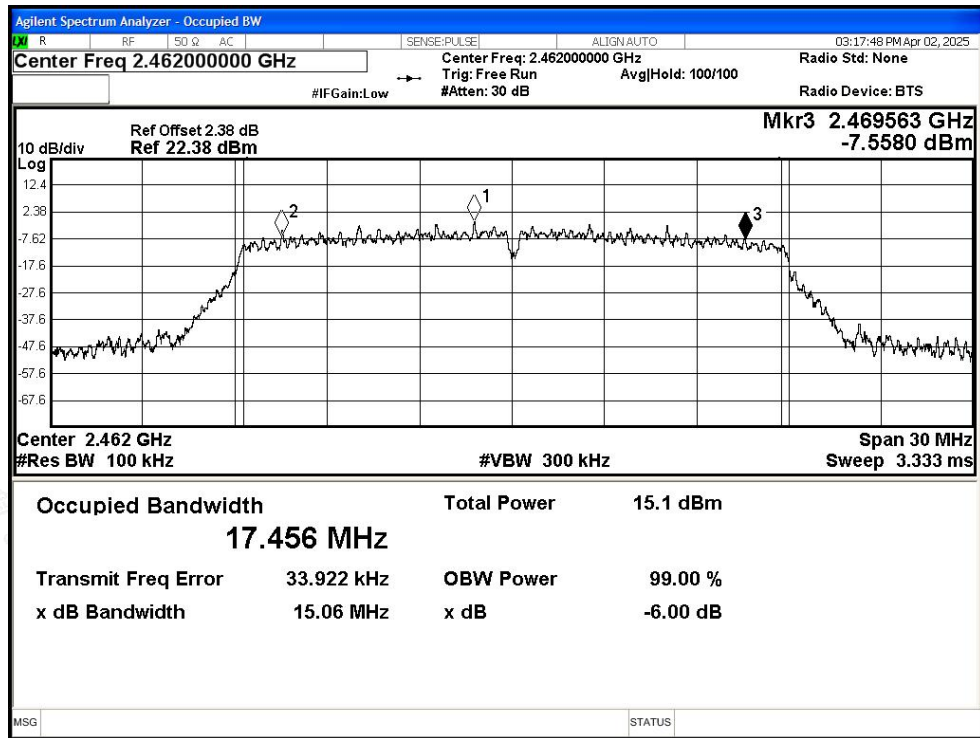


-6dB Bandwidth NVNT n20 2437MHz Ant2

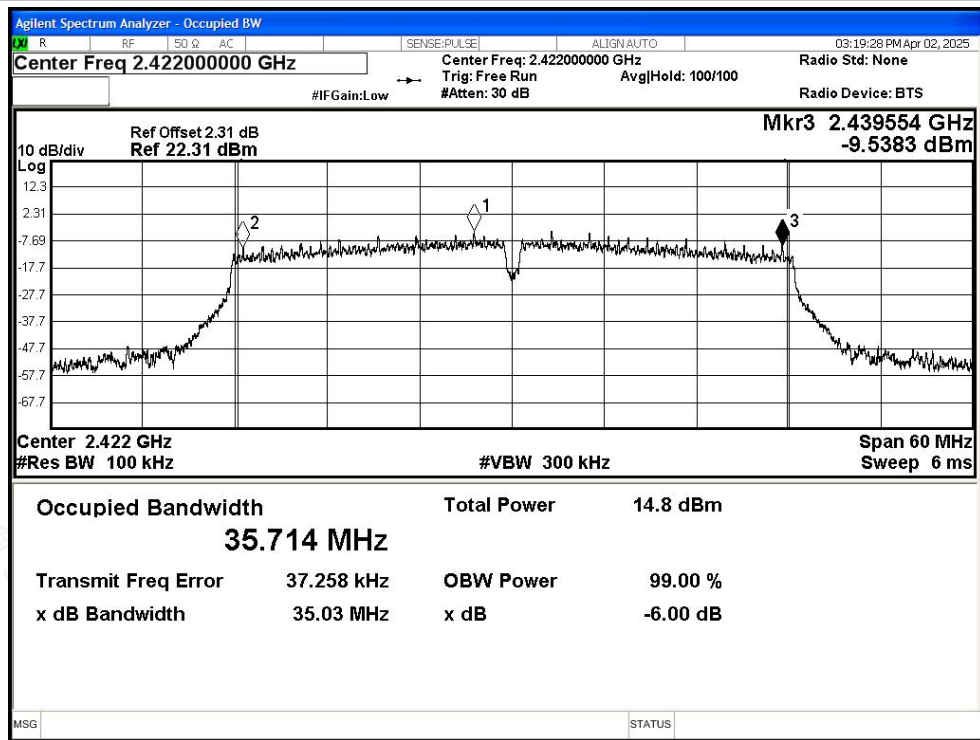




-6dB Bandwidth NVNT n20 2462MHz Ant2

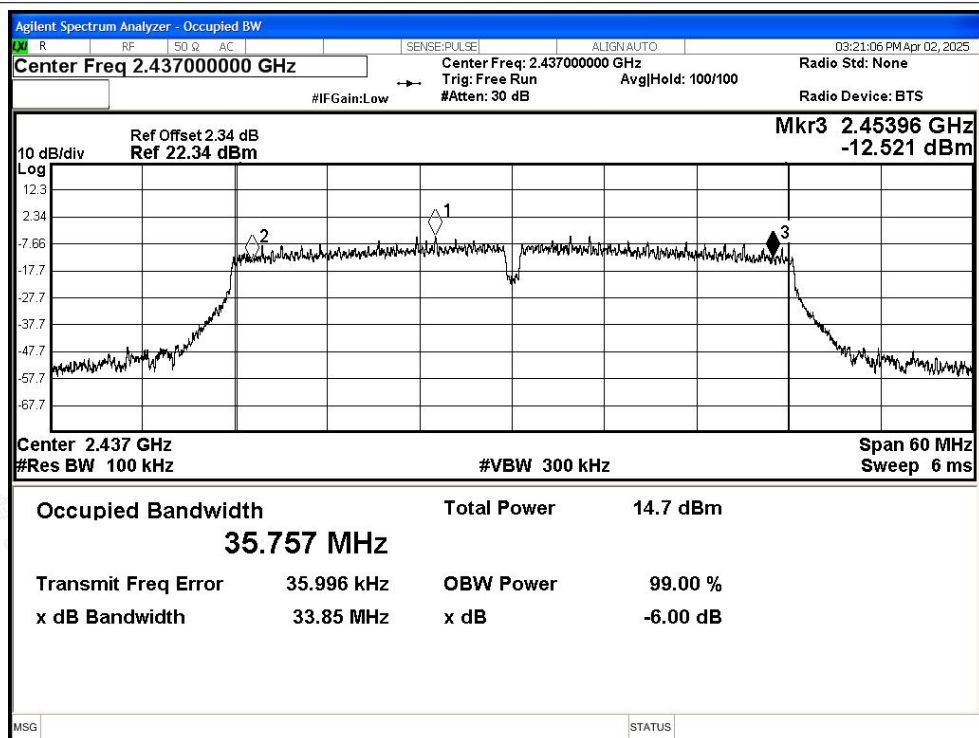


-6dB Bandwidth NVNT n40 2422MHz Ant2

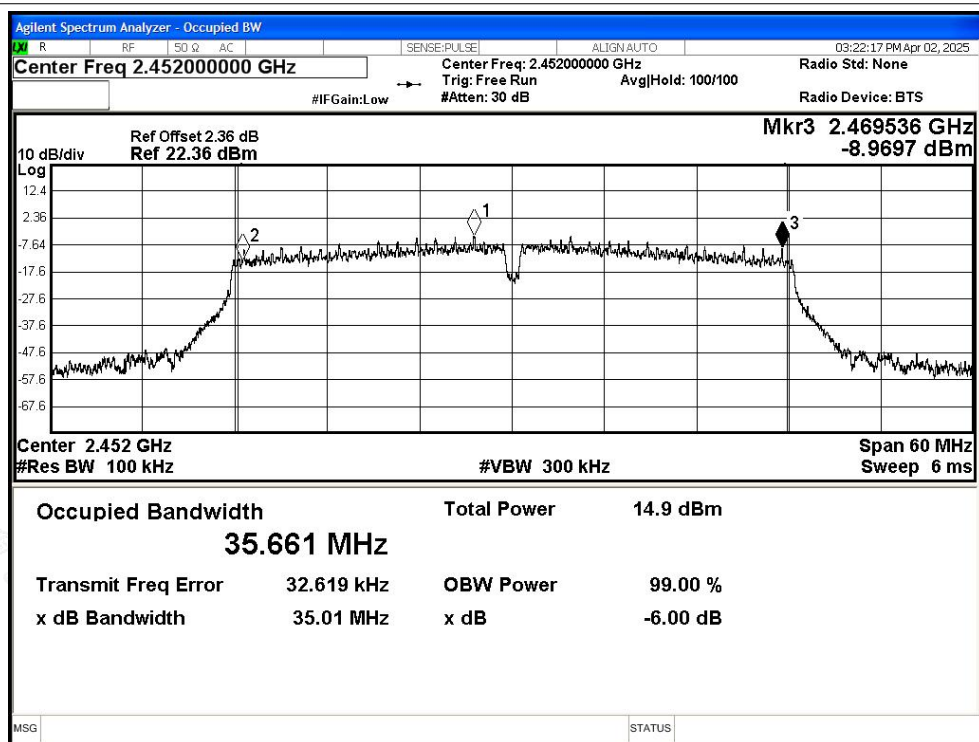




-6dB Bandwidth NVNT n40 2437MHz Ant2



-6dB Bandwidth NVNT n40 2452MHz Ant2



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A.2 Maximum Peak Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	19.26	30	Pass
NVNT	b	2437	Ant1	19.32	30	Pass
NVNT	b	2462	Ant1	19.34	30	Pass
NVNT	g	2412	Ant1	18.64	30	Pass
NVNT	g	2437	Ant1	19.35	30	Pass
NVNT	g	2462	Ant1	18.95	30	Pass
NVNT	n20	2412	Ant1	14.89	30	Pass
NVNT	n20	2437	Ant1	14.94	30	Pass
NVNT	n20	2462	Ant1	14.56	30	Pass
NVNT	n40	2422	Ant1	13.33	30	Pass
NVNT	n40	2437	Ant1	13.44	30	Pass
NVNT	n40	2452	Ant1	13.53	30	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant2	19.44	30	Pass
NVNT	b	2437	Ant2	19.59	30	Pass
NVNT	b	2462	Ant2	18.78	30	Pass
NVNT	g	2412	Ant2	18.22	30	Pass
NVNT	g	2437	Ant2	18.31	30	Pass
NVNT	g	2462	Ant2	18.52	30	Pass
NVNT	n20	2412	Ant2	14.07	30	Pass
NVNT	n20	2437	Ant2	14.12	30	Pass
NVNT	n20	2462	Ant2	14.3	30	Pass
NVNT	n40	2422	Ant2	13.43	30	Pass
NVNT	n40	2437	Ant2	13.4	30	Pass
NVNT	n40	2452	Ant2	13.45	30	Pass

MIMO

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)			Limit (dBm)	Verdict
			Ant1	Ant2	Ant1+Ant2		
NVNT	n20	2412	14.89	14.07	17.51	30	Pass
NVNT	n20	2437	14.94	14.12	17.56	30	Pass
NVNT	n20	2462	14.56	14.3	17.44	30	Pass
NVNT	n40	2422	13.33	13.43	16.39	30	Pass
NVNT	n40	2437	13.44	13.4	16.43	30	Pass
NVNT	n40	2452	13.53	13.45	16.50	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	Ant1	-9.52	8	Pass
NVNT	b	2437	Ant1	-7.95	8	Pass
NVNT	b	2462	Ant1	-8.55	8	Pass
NVNT	g	2412	Ant1	-11.87	8	Pass
NVNT	g	2437	Ant1	-12.64	8	Pass
NVNT	g	2462	Ant1	-12.09	8	Pass
NVNT	n20	2412	Ant1	-16.48	8	Pass
NVNT	n20	2437	Ant1	-16.21	8	Pass
NVNT	n20	2462	Ant1	-17.38	8	Pass
NVNT	n40	2422	Ant1	-20.3	8	Pass
NVNT	n40	2437	Ant1	-20.82	8	Pass
NVNT	n40	2452	Ant1	-20.57	8	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant2	-7.83	8	Pass
NVNT	b	2437	Ant2	-7.62	8	Pass
NVNT	b	2462	Ant2	1.24	8	Pass
NVNT	g	2412	Ant2	-12.61	8	Pass
NVNT	g	2437	Ant2	-11.13	8	Pass
NVNT	g	2462	Ant2	-13.2	8	Pass
NVNT	n20	2412	Ant2	-15.58	8	Pass
NVNT	n20	2437	Ant2	-16.77	8	Pass
NVNT	n20	2462	Ant2	-16.33	8	Pass
NVNT	n40	2422	Ant2	-19.75	8	Pass
NVNT	n40	2437	Ant2	-20.58	8	Pass
NVNT	n40	2452	Ant2	-20.16	8	Pass

MIMO

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm/3kHz)			Limit (dBm)	Verdict
			Ant1	Ant2	Ant1+Ant2		
NVNT	n20	2412	-16.48	-15.58	-13.00	8	Pass
NVNT	n20	2437	-16.21	-16.77	-13.47	8	Pass
NVNT	n20	2462	-17.38	-16.33	-13.81	8	Pass
NVNT	n40	2422	-20.3	-19.75	-17.01	8	Pass
NVNT	n40	2437	-20.82	-20.58	-17.69	8	Pass
NVNT	n40	2452	-20.57	-20.16	-17.35	8	Pass

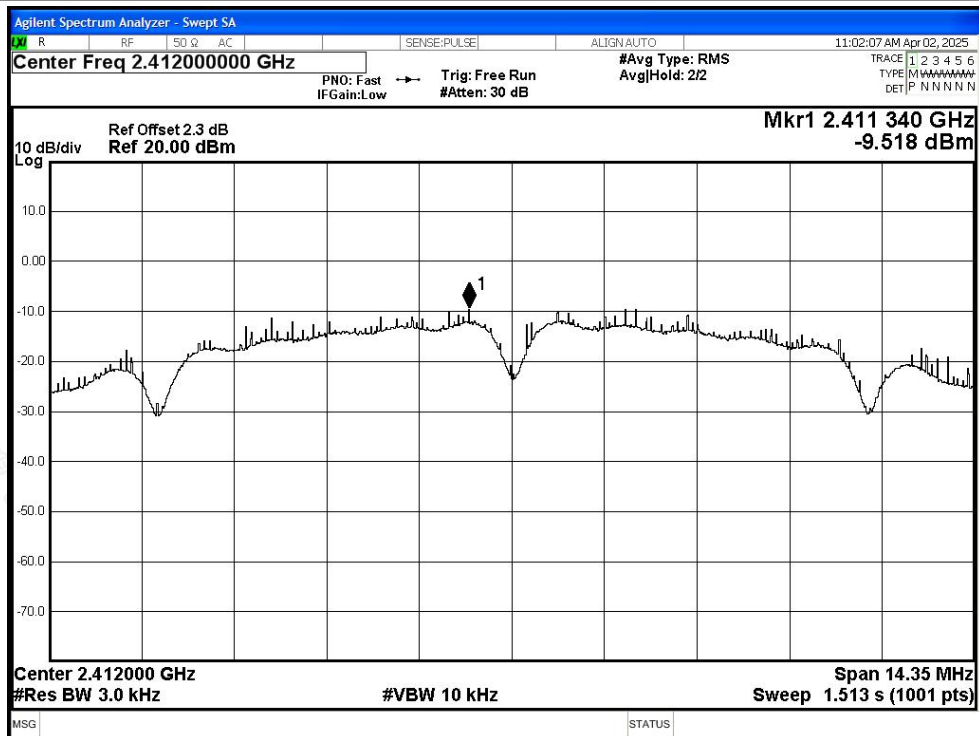


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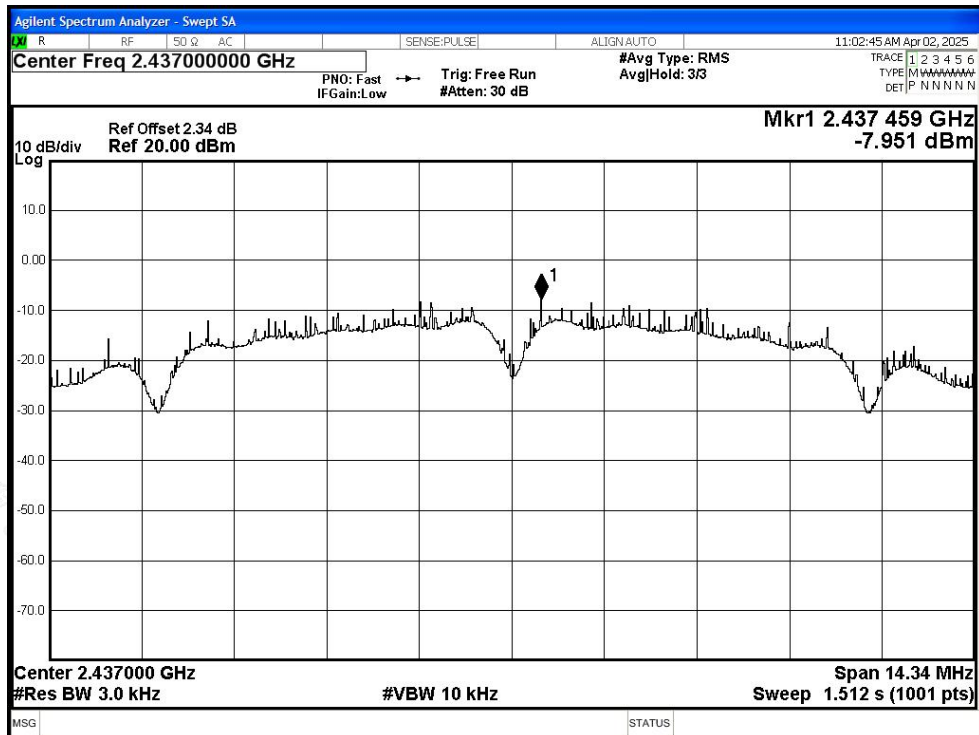


Test Graphs

PSD NVNT b 2412MHz Ant1



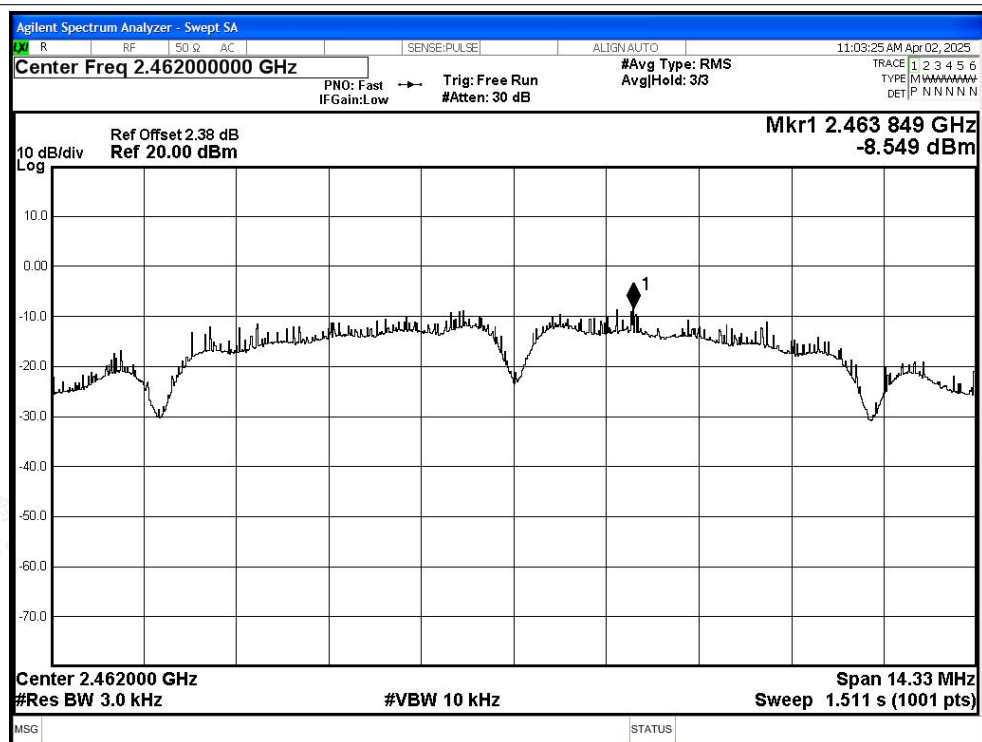
PSD NVNT b 2437MHz Ant1



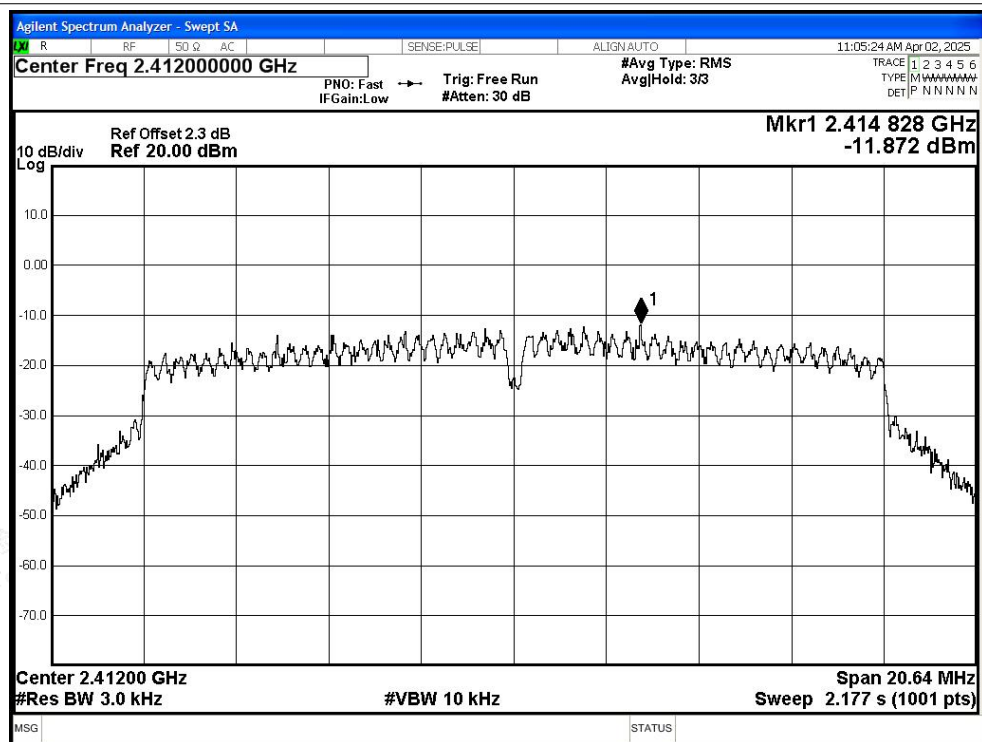
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PSD NVNT b 2462MHz Ant1



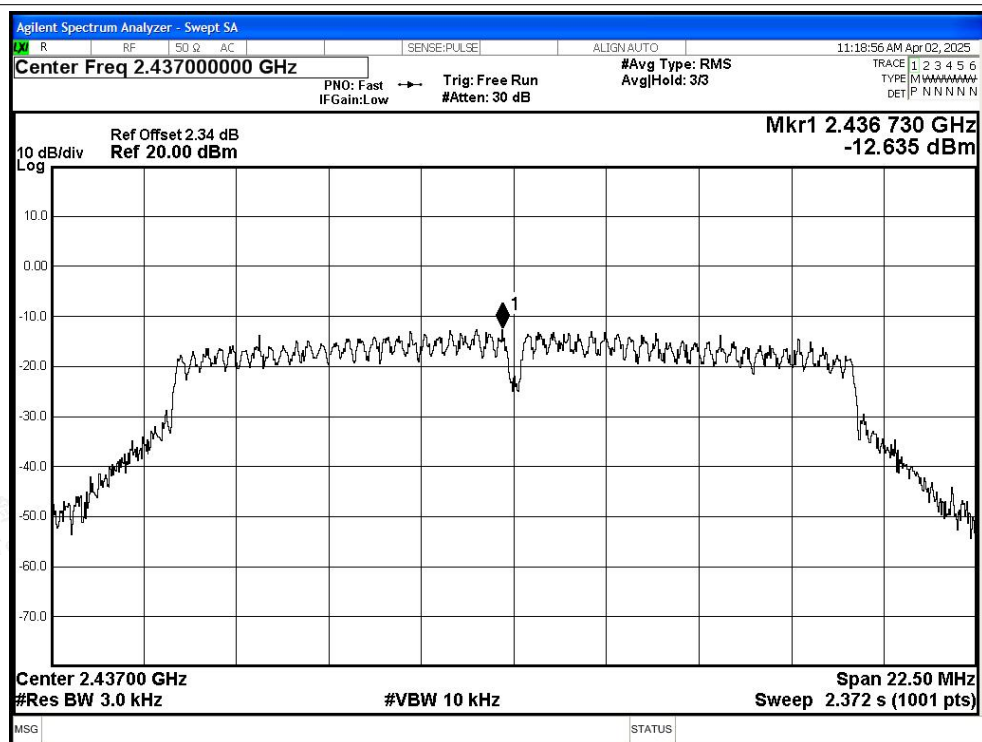
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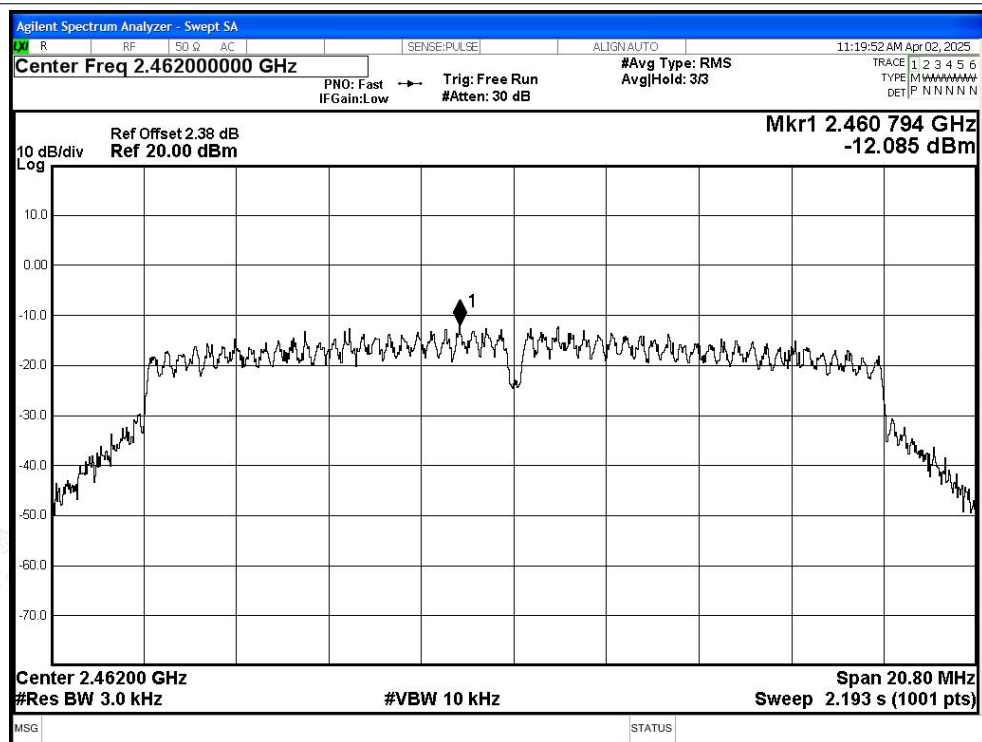
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PSD NVNT g 2437MHz Ant1

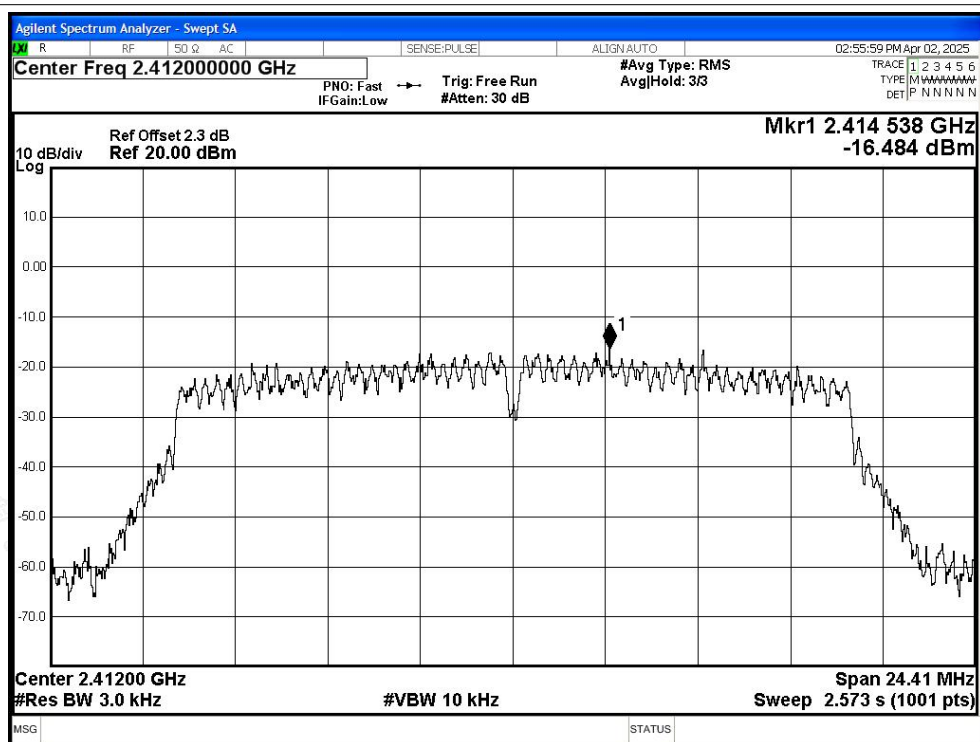


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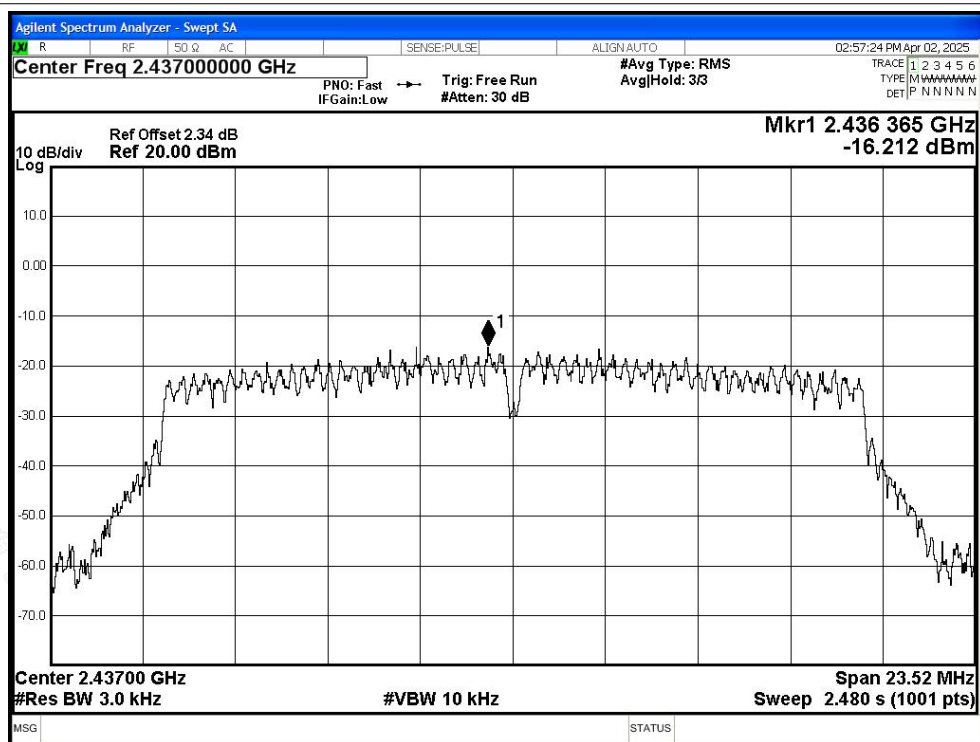




PSD NVNT n20 2412MHz Ant1



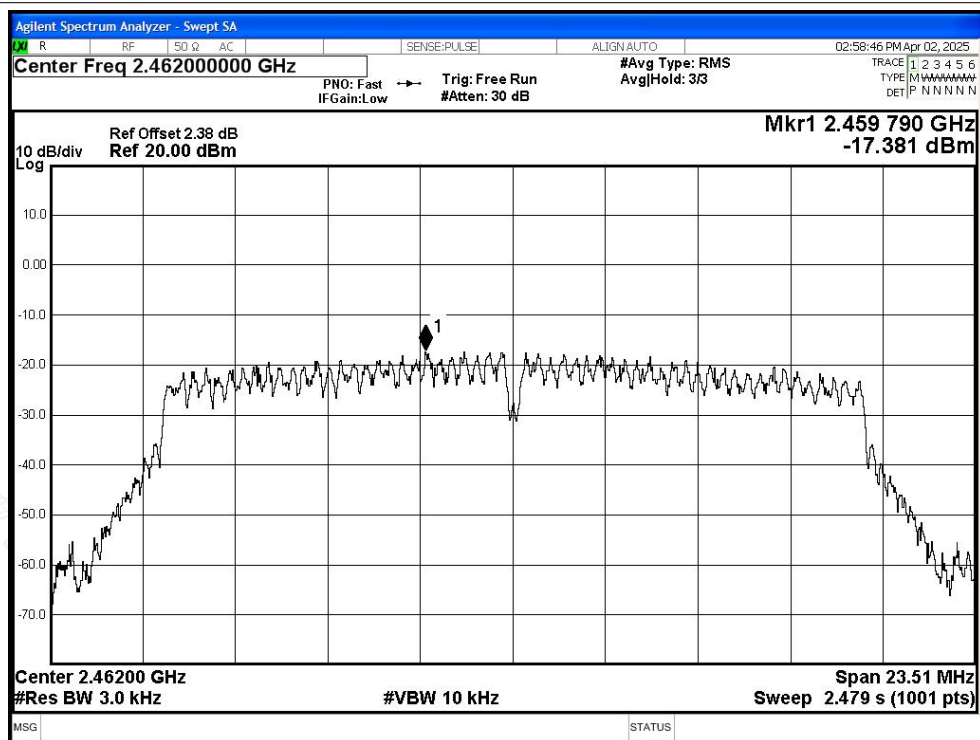
PSD NVNT n20 2437MHz Ant1



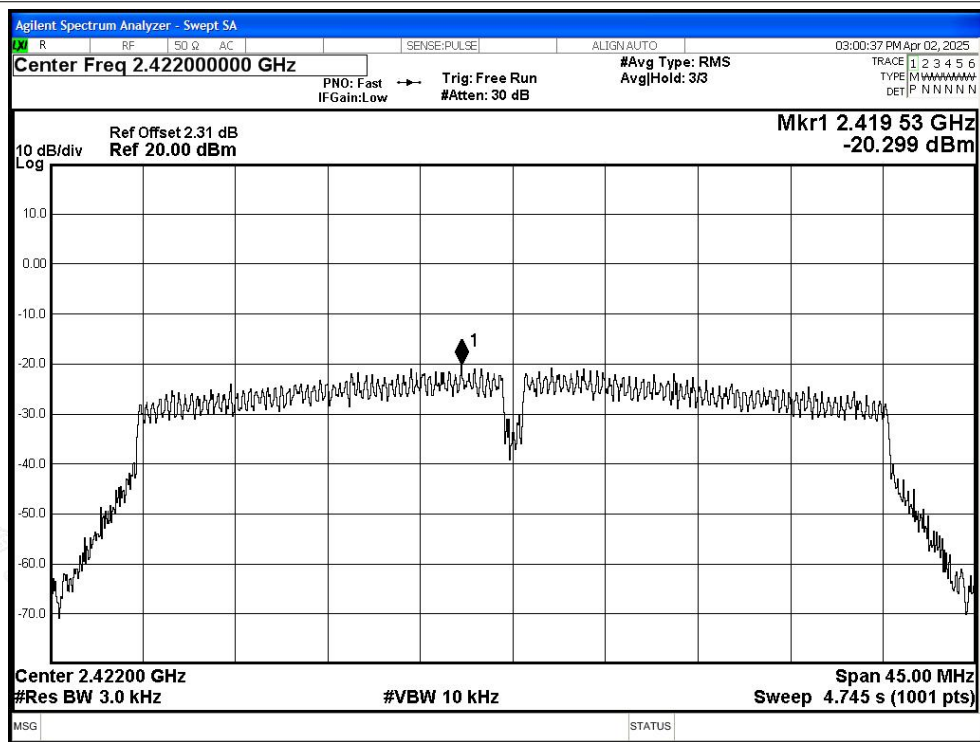
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PSD NVNT n20 2462MHz Ant1



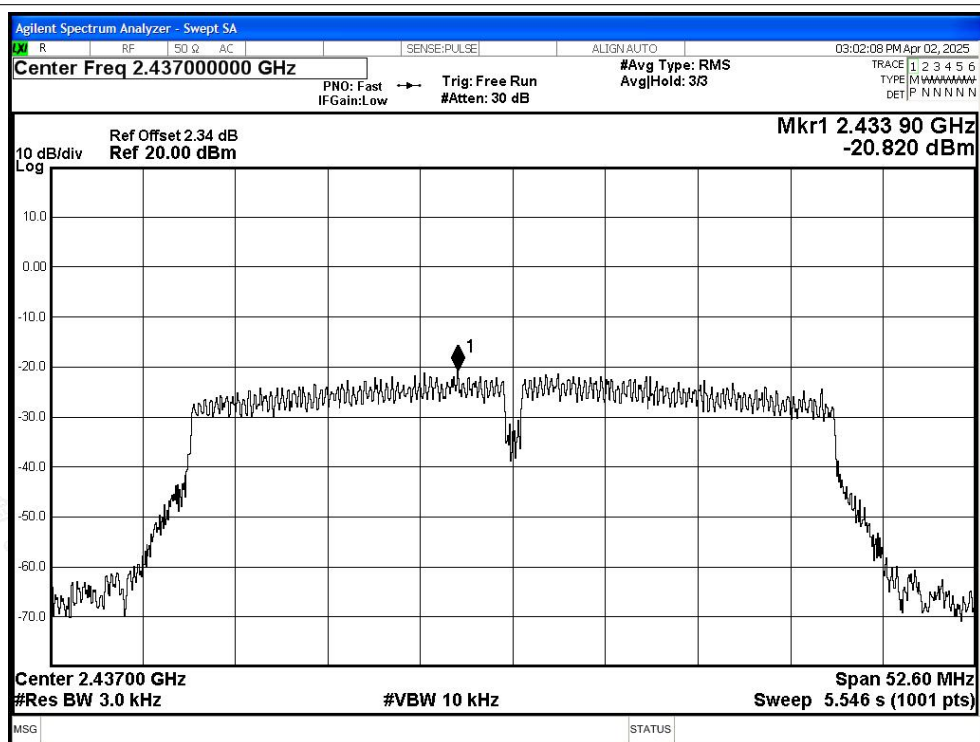
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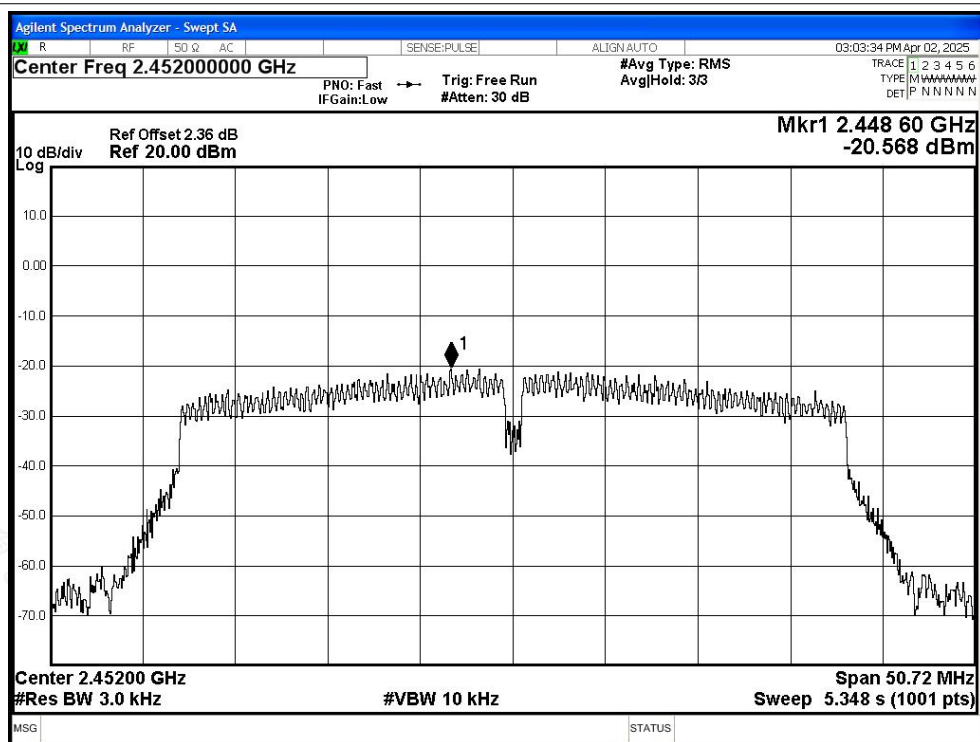
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PSD NVNT n40 2437MHz Ant1



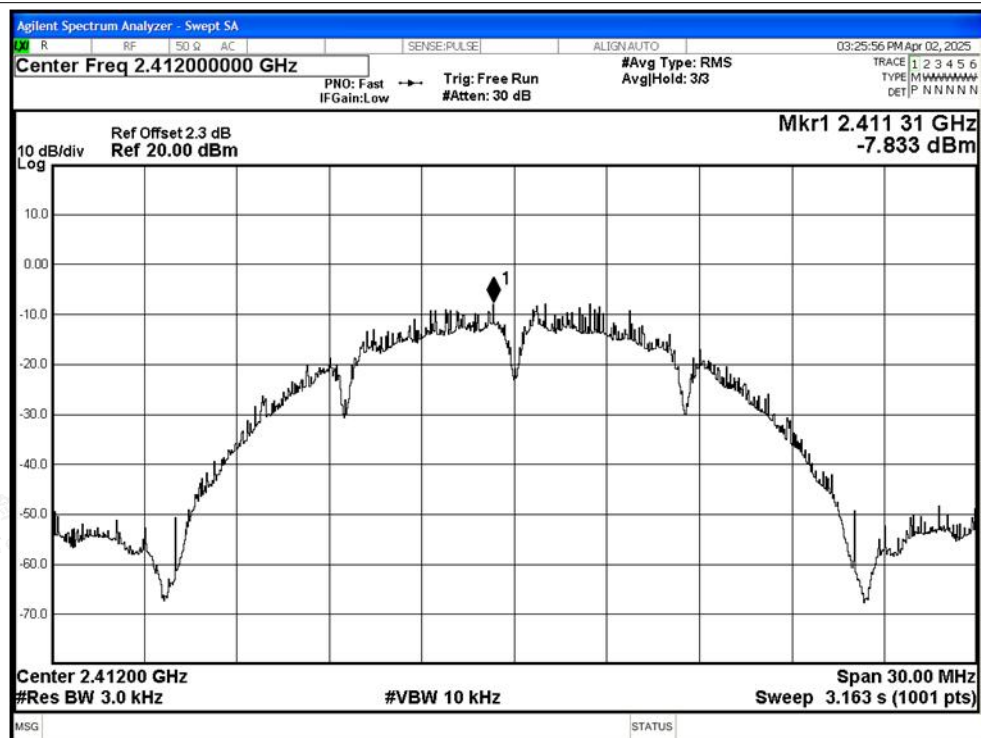
PSD NVNT n40 2452MHz Ant1



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PSD NVNT b 2412MHz Ant2



PSD NVNT g 2437MHz Ant2

