

Appendix A for 2.4GWIFI Test Data

Product Name: Notebook

Test Model: L156U

Environmental Conditions

Temperature:	23.8℃
Relative Humidity:	52%
ATM Pressure:	101.0 kPa
Test Engineer:	Leon Li
Supervised by:	Baret Wu



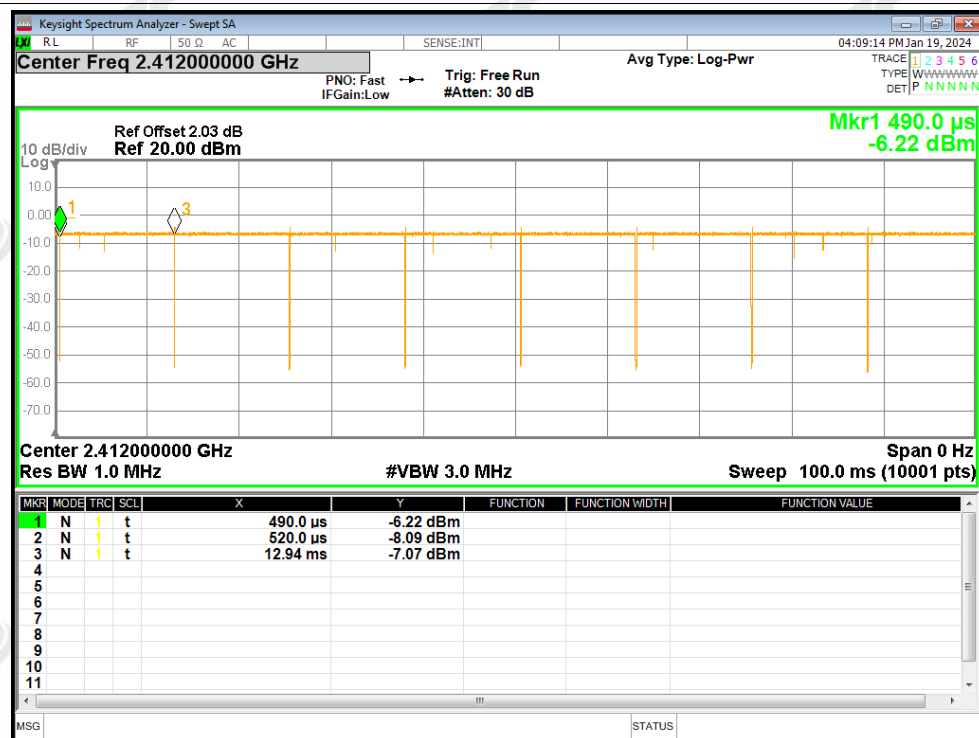
A1. Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)
NVNT	b	2412	Ant1	99.76	0
NVNT	b	2437	Ant1	98.65	0
NVNT	b	2462	Ant1	99.6	0
NVNT	b	2412	Ant2	99.28	0
NVNT	b	2437	Ant2	99.6	0
NVNT	b	2462	Ant2	99.6	0
NVNT	g	2412	Ant1	97.63	0.1
NVNT	g	2437	Ant1	93.64	0.29
NVNT	g	2462	Ant1	97.17	0.12
NVNT	g	2412	Ant2	97.63	0.1
NVNT	g	2437	Ant2	97.17	0.12
NVNT	g	2462	Ant2	97.64	0.1
NVNT	n20	2412	Ant1	94.55	0.24
NVNT	n20	2437	Ant1	95.02	0.22
NVNT	n20	2462	Ant1	92.72	0.33
NVNT	n20	2412	Ant2	95.02	0.22
NVNT	n20	2437	Ant2	97.45	0.11
NVNT	n20	2462	Ant2	93.63	0.29
NVNT	n40	2422	Ant1	85.05	0.7
NVNT	n40	2437	Ant1	91.92	0.37
NVNT	n40	2452	Ant1	91.92	0.37
NVNT	n40	2422	Ant2	87.5	0.58
NVNT	n40	2437	Ant2	88.35	0.54
NVNT	n40	2452	Ant2	85.85	0.66

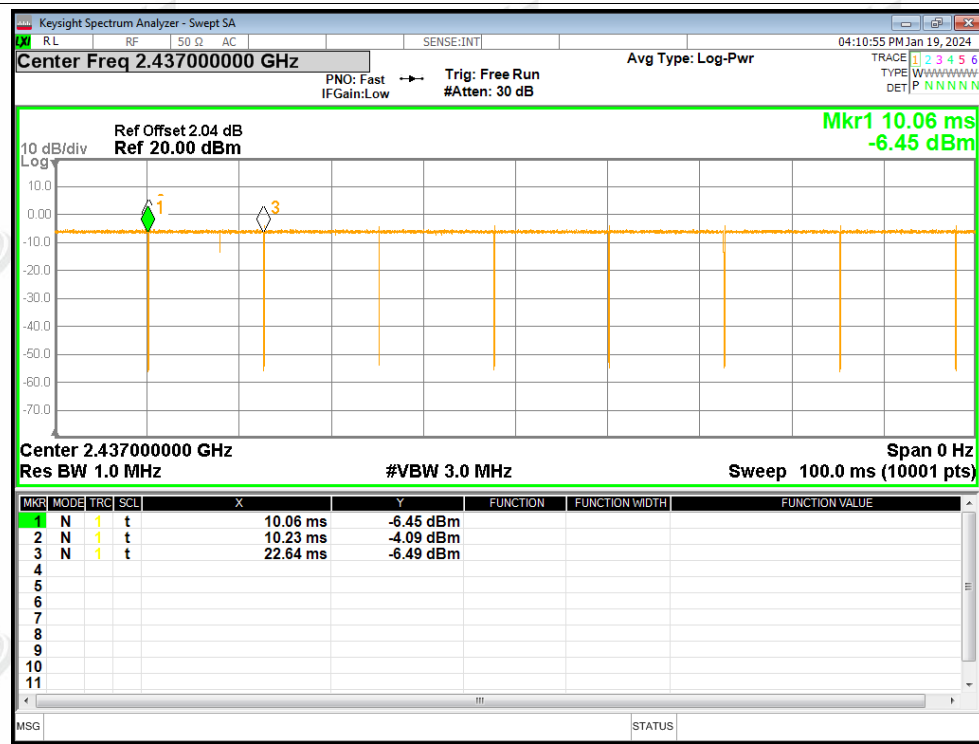


Test Graphs

Duty Cycle NVNT b 2412MHz Ant1

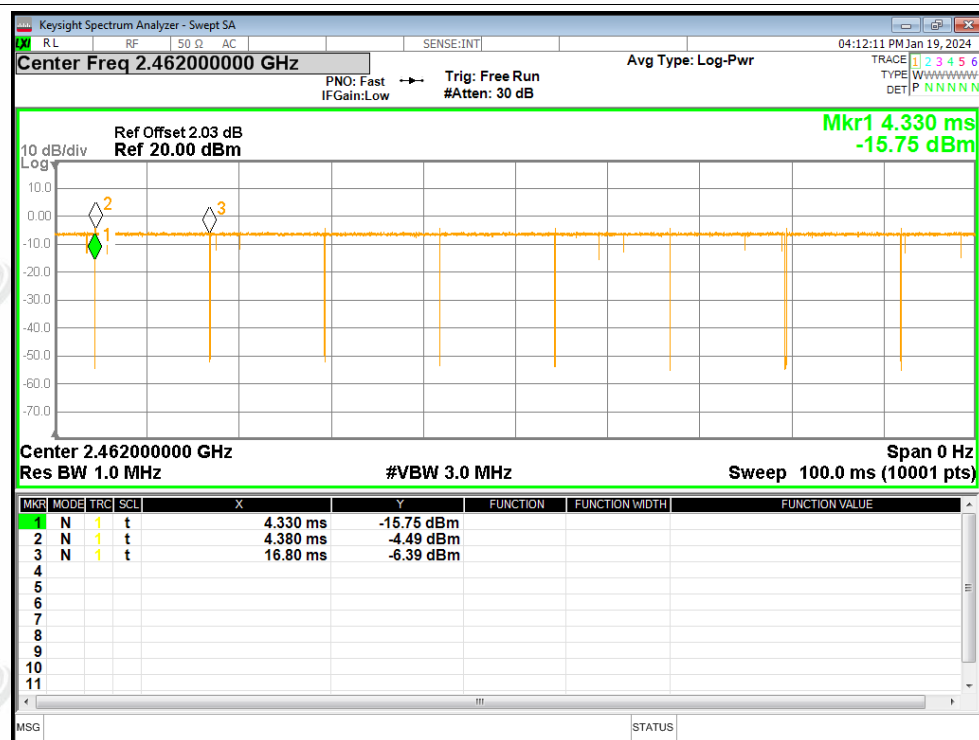


Duty Cycle NVNT b 2437MHz Ant1

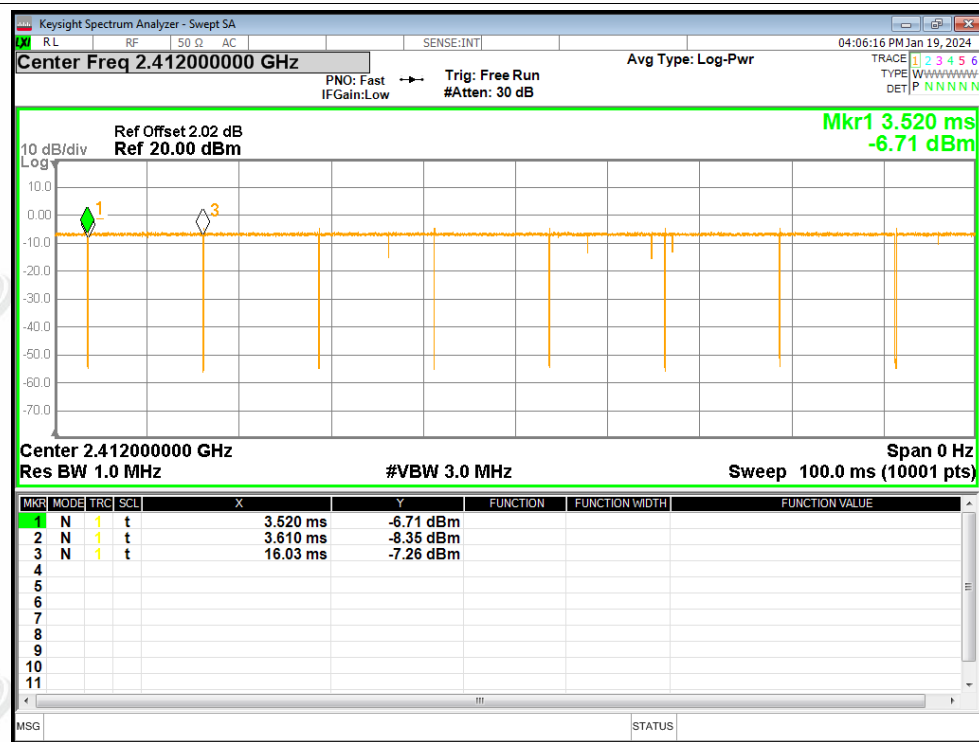




Duty Cycle NVNT b 2462MHz Ant1

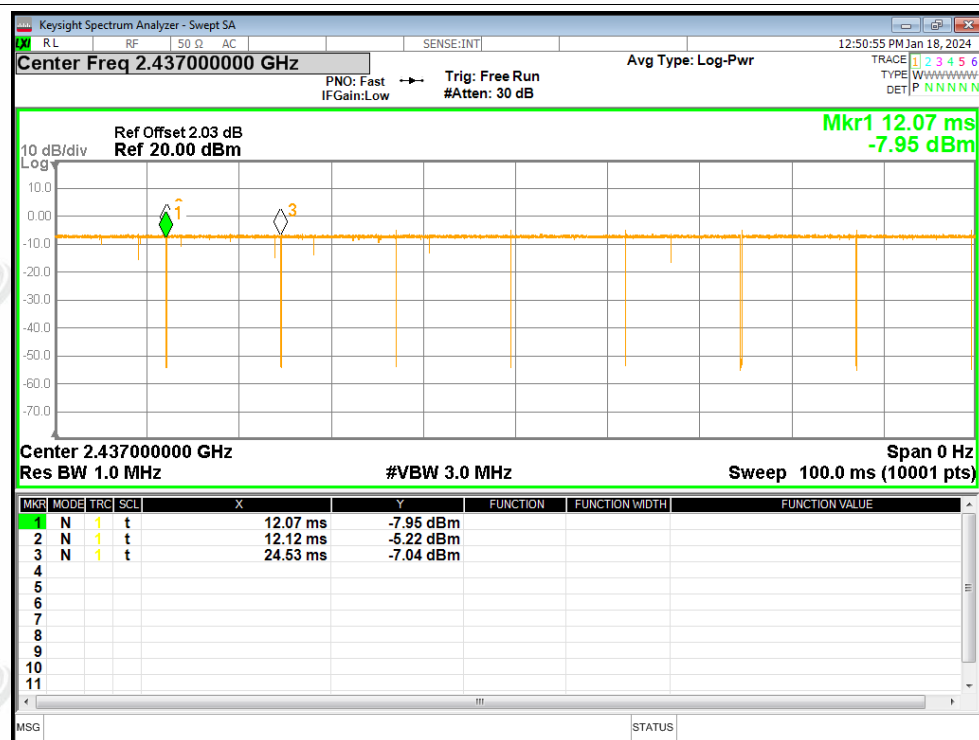


Duty Cycle NVNT b 2412MHz Ant2

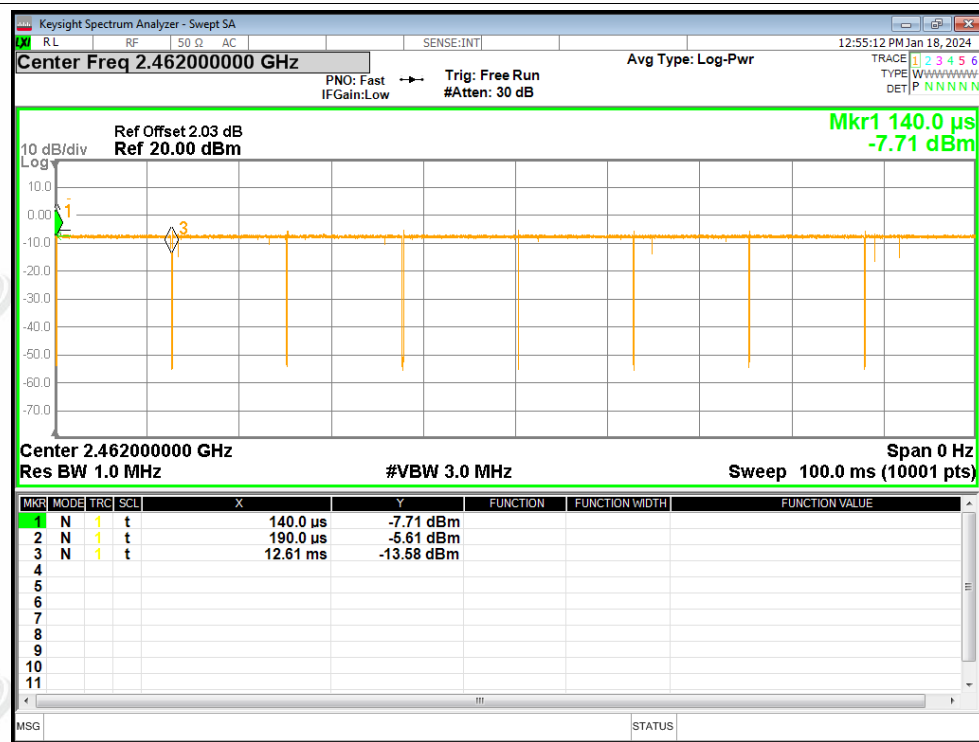




Duty Cycle NVNT b 2437MHz Ant2

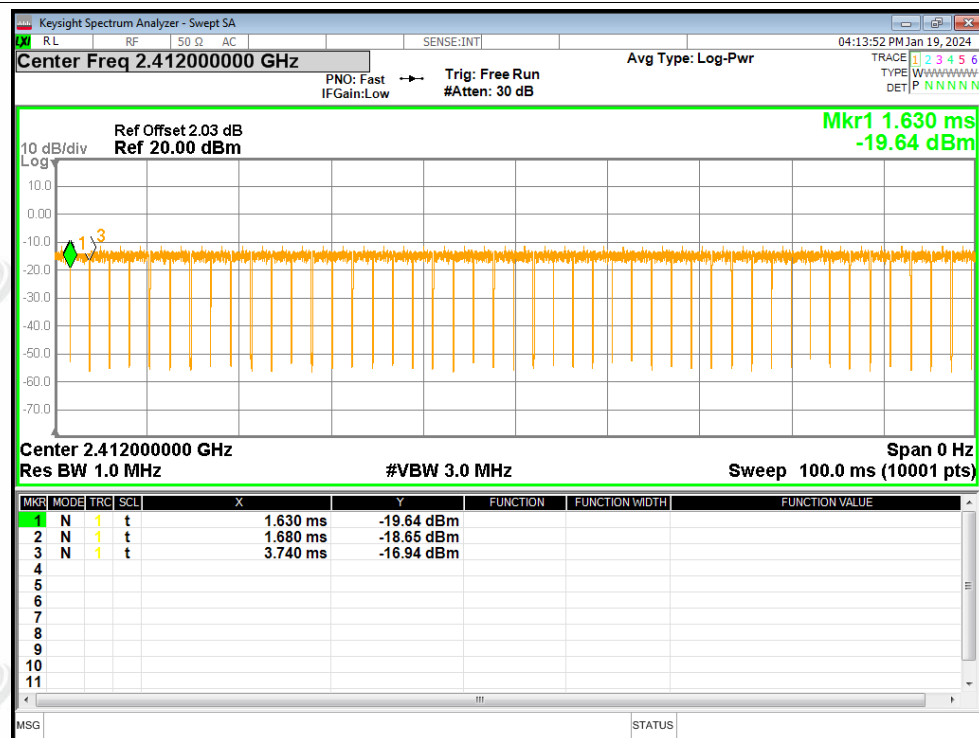


Duty Cycle NVNT b 2462MHz Ant2

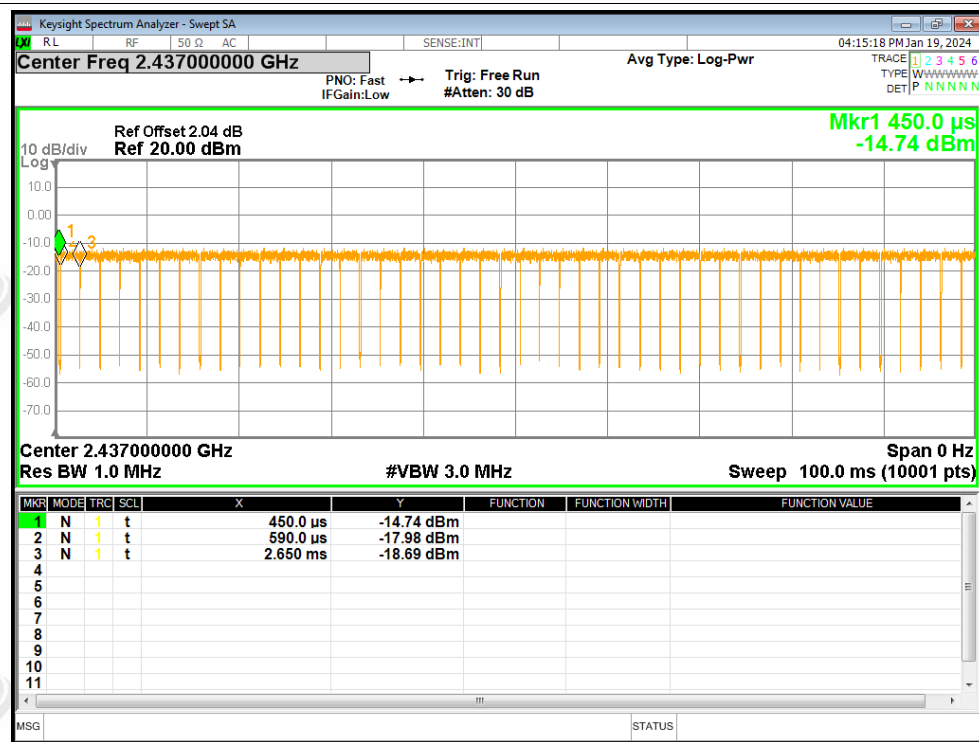




Duty Cycle NVNT g 2412MHz Ant1

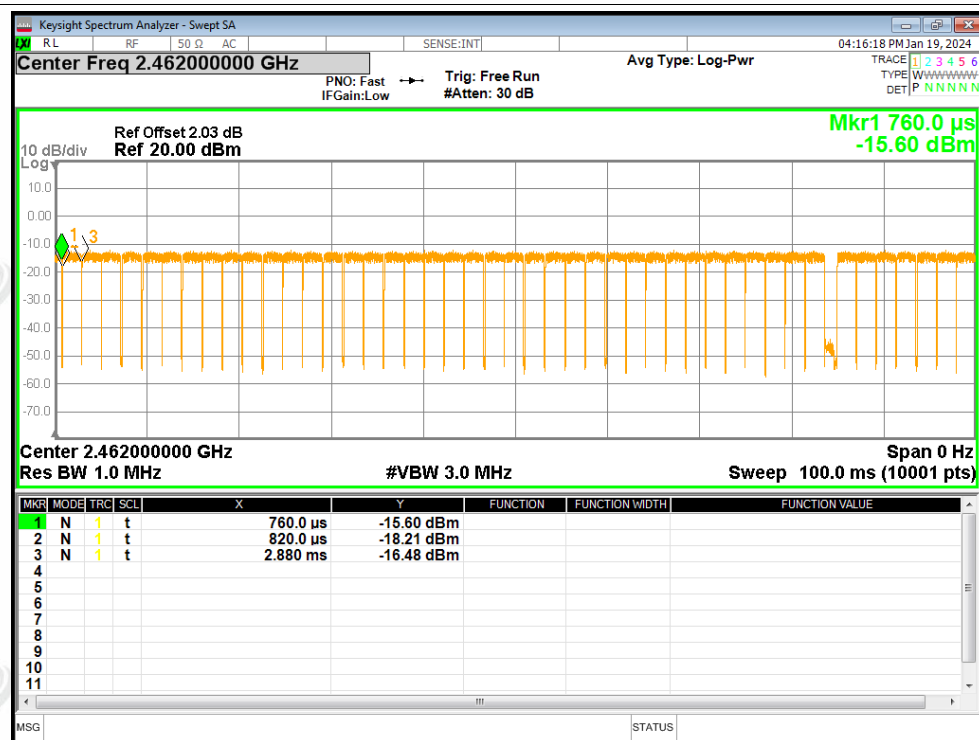


Duty Cycle NVNT g 2437MHz Ant1

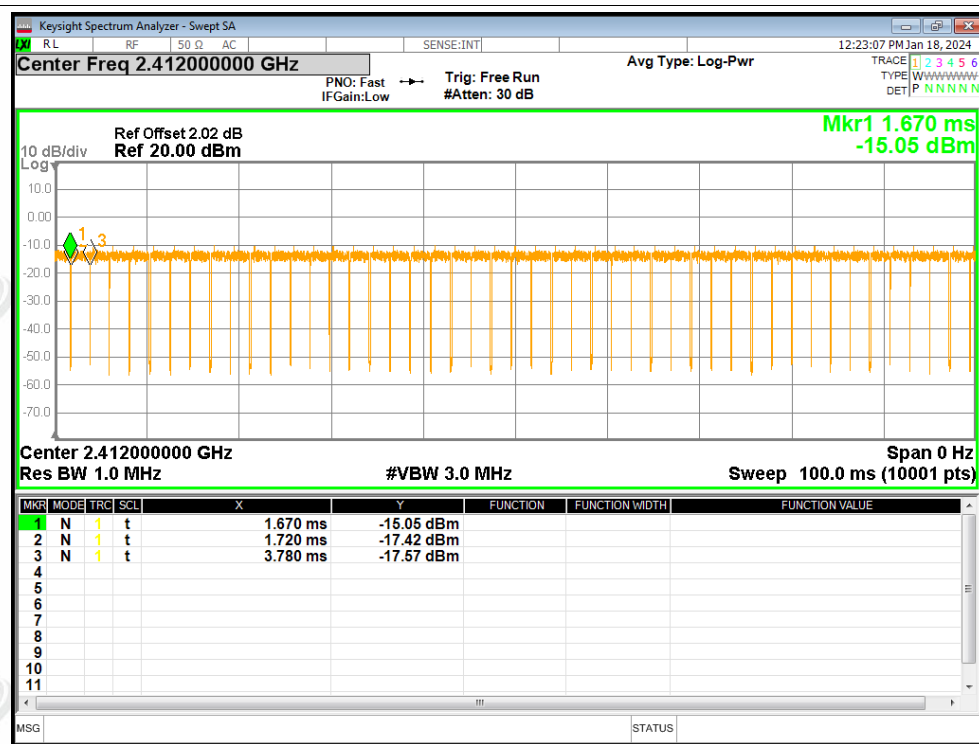




Duty Cycle NVNT g 2462MHz Ant1

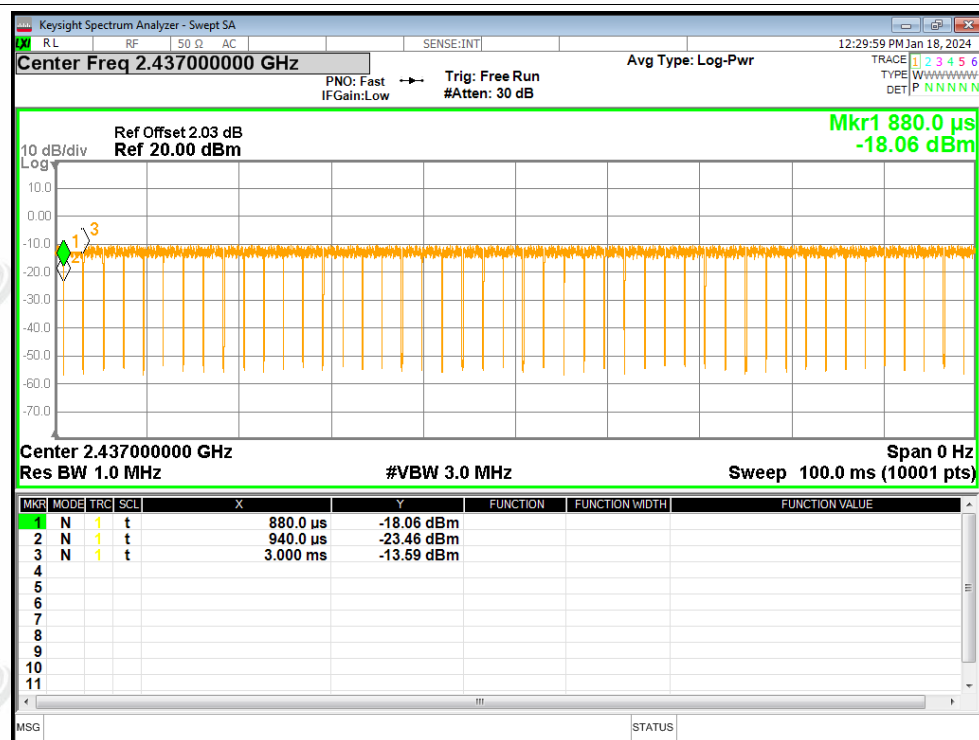


Duty Cycle NVNT g 2412MHz Ant2

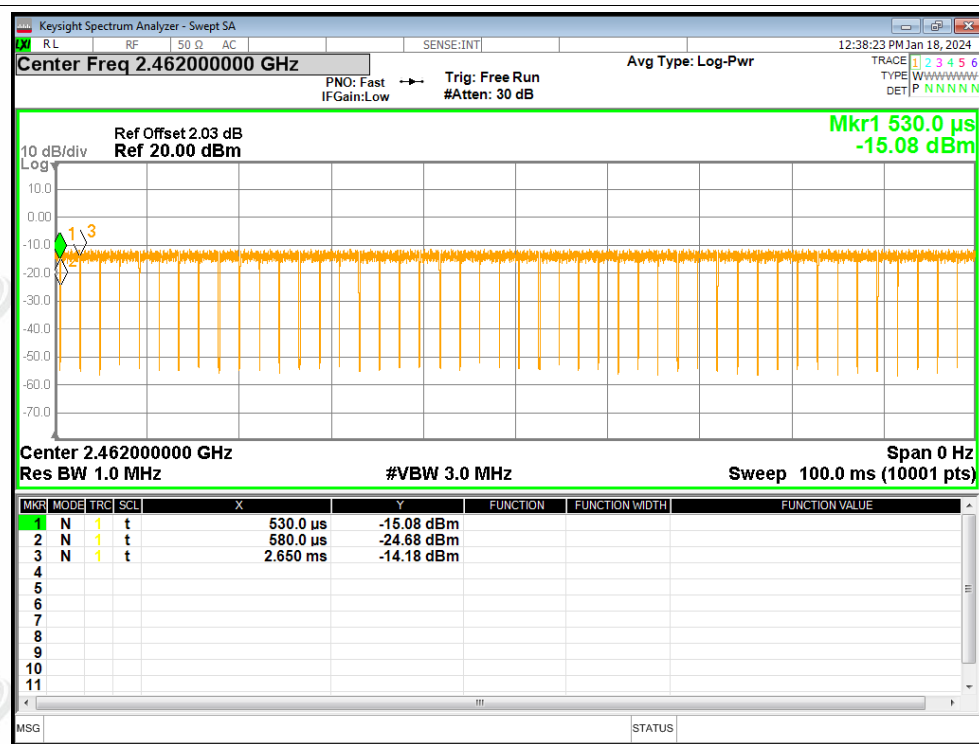




Duty Cycle NVNT g 2437MHz Ant2

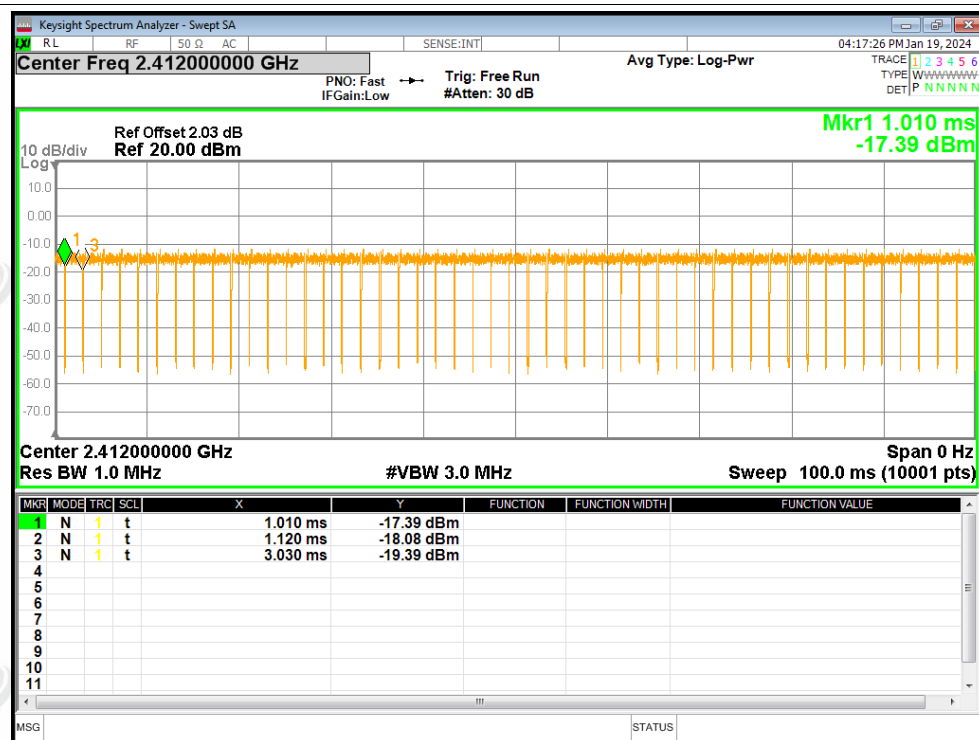


Duty Cycle NVNT g 2462MHz Ant2

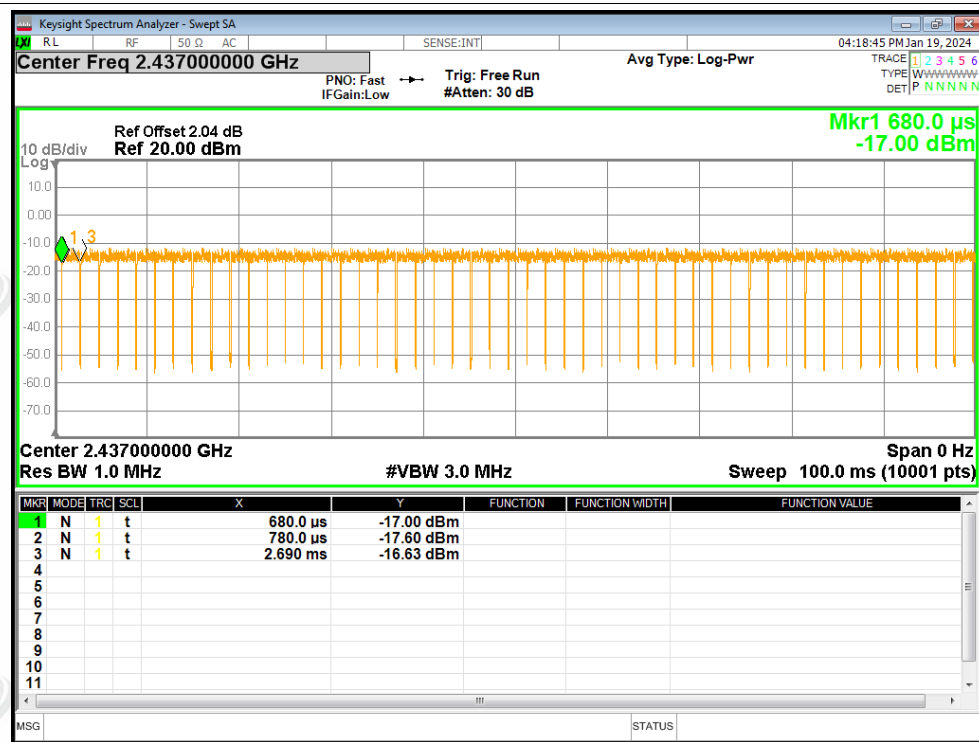




Duty Cycle NVNT n20 2412MHz Ant1

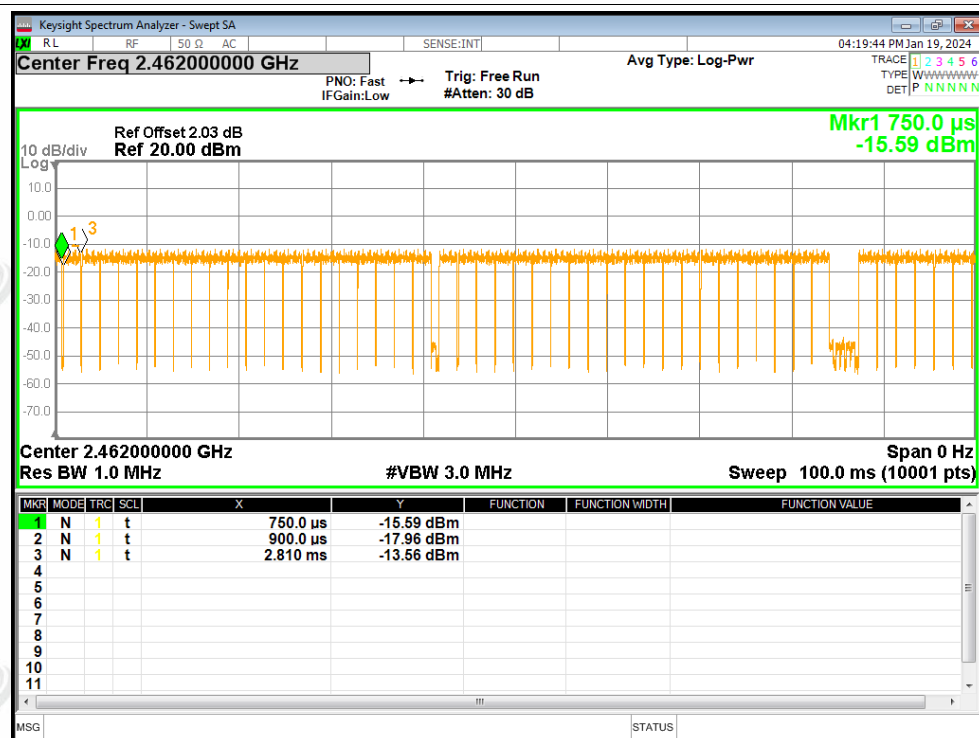


Duty Cycle NVNT n20 2437MHz Ant1

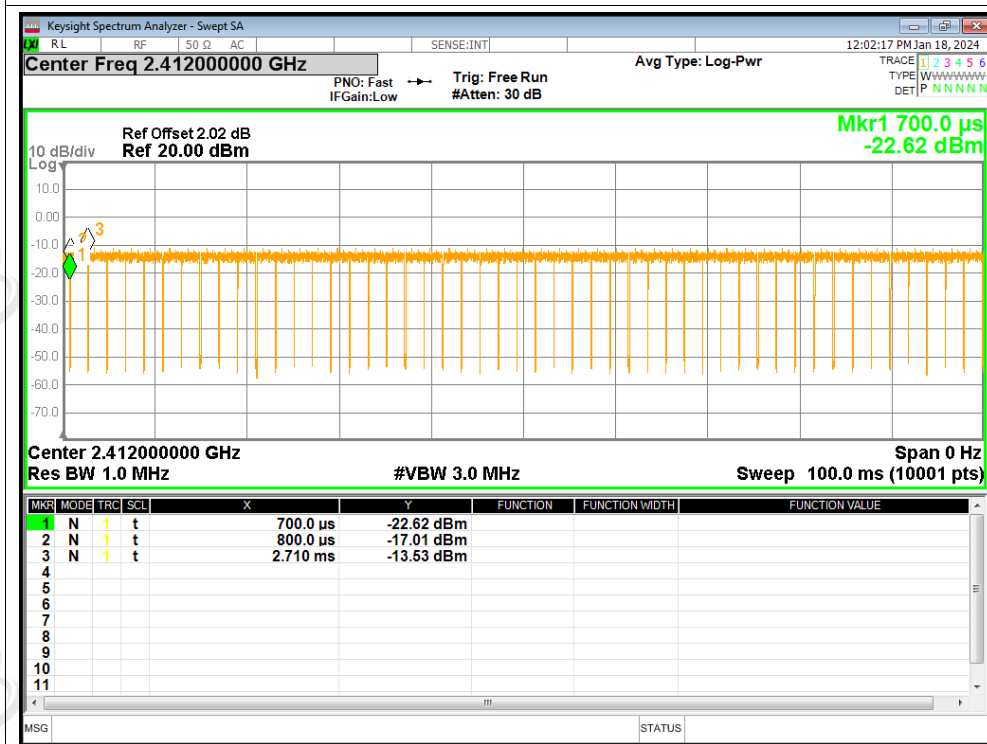




Duty Cycle NVNT n20 2462MHz Ant1

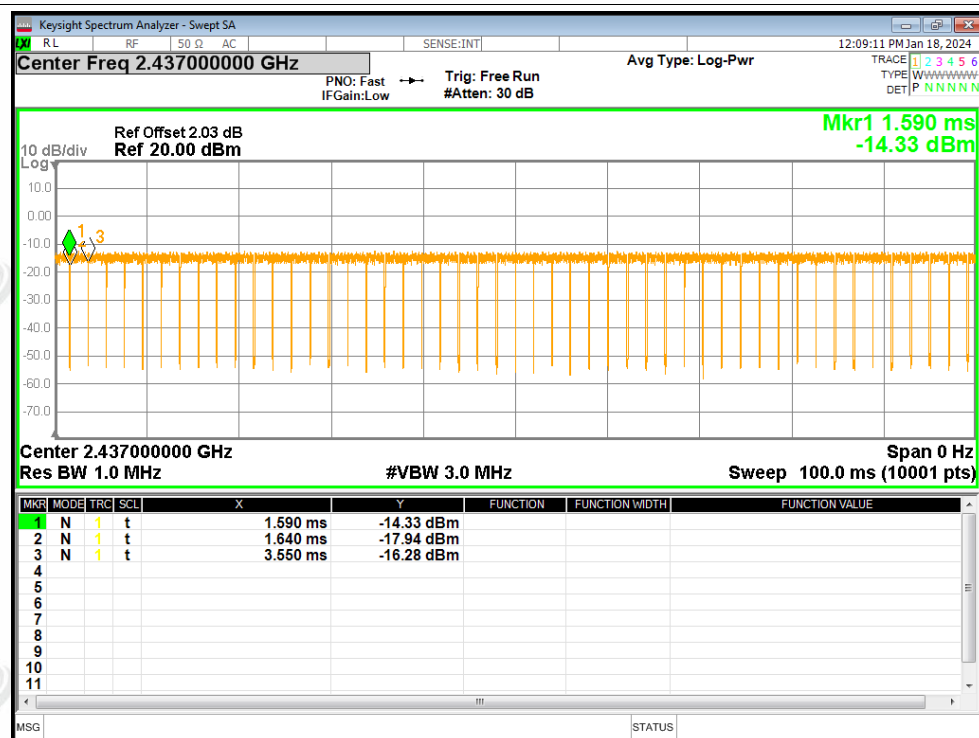


Duty Cycle NVNT n20 2412MHz Ant2

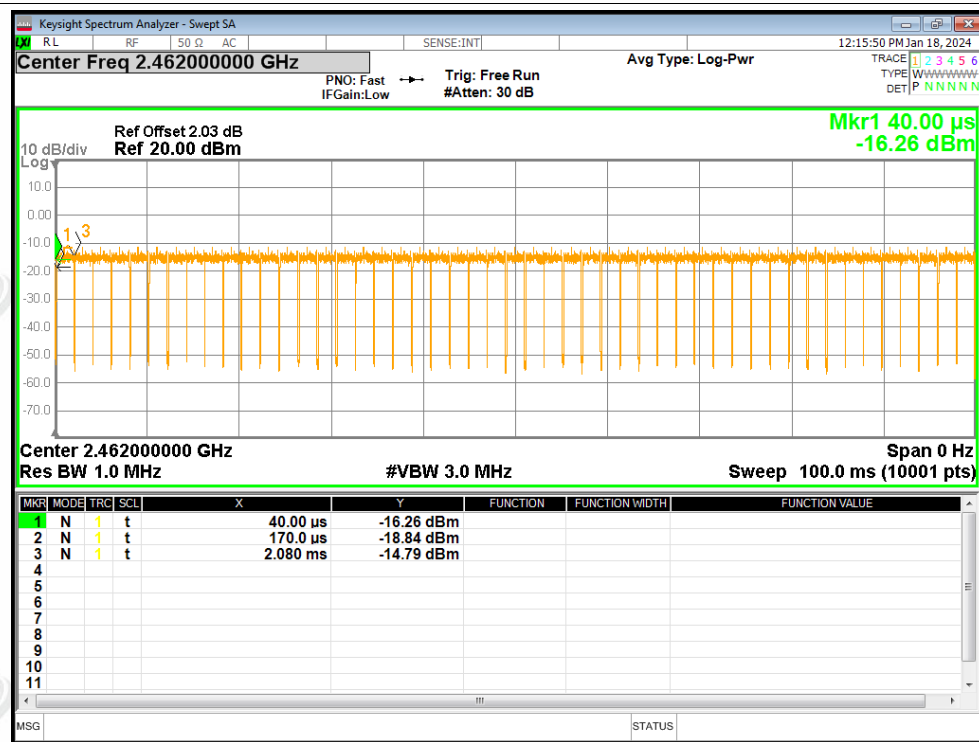




Duty Cycle NVNT n20 2437MHz Ant2

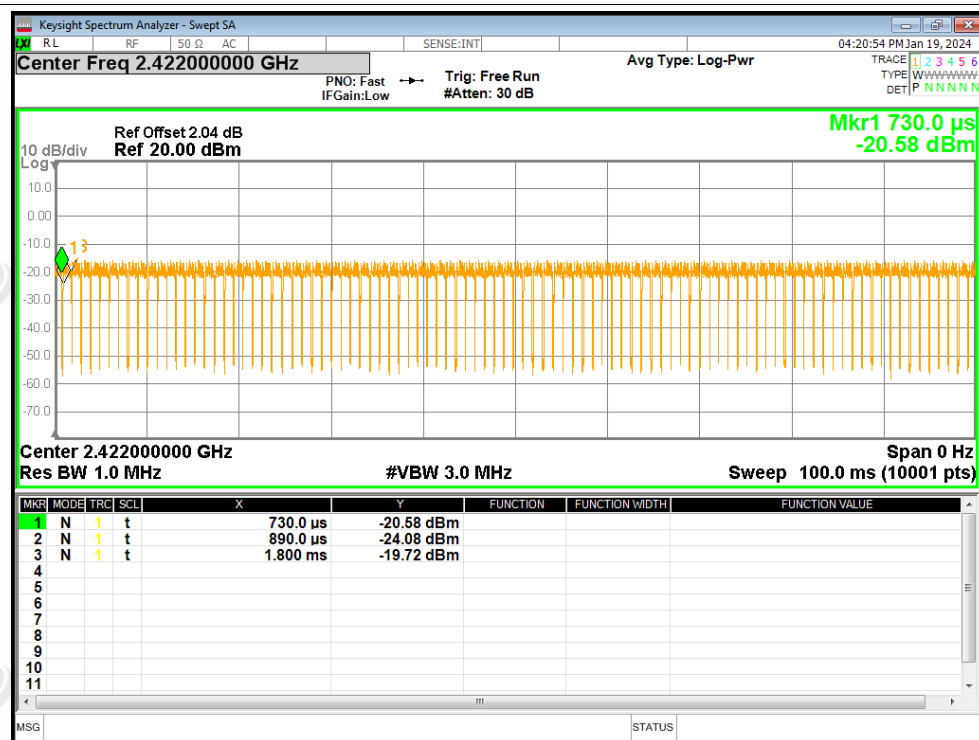


Duty Cycle NVNT n20 2462MHz Ant2

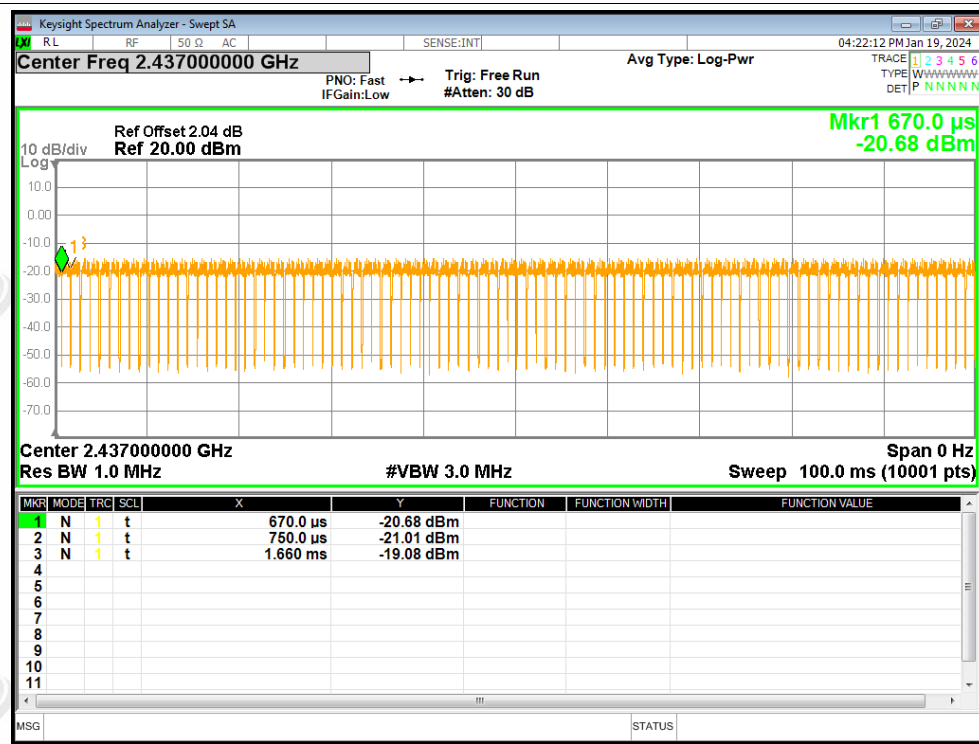




Duty Cycle NVNT n40 2422MHz Ant1

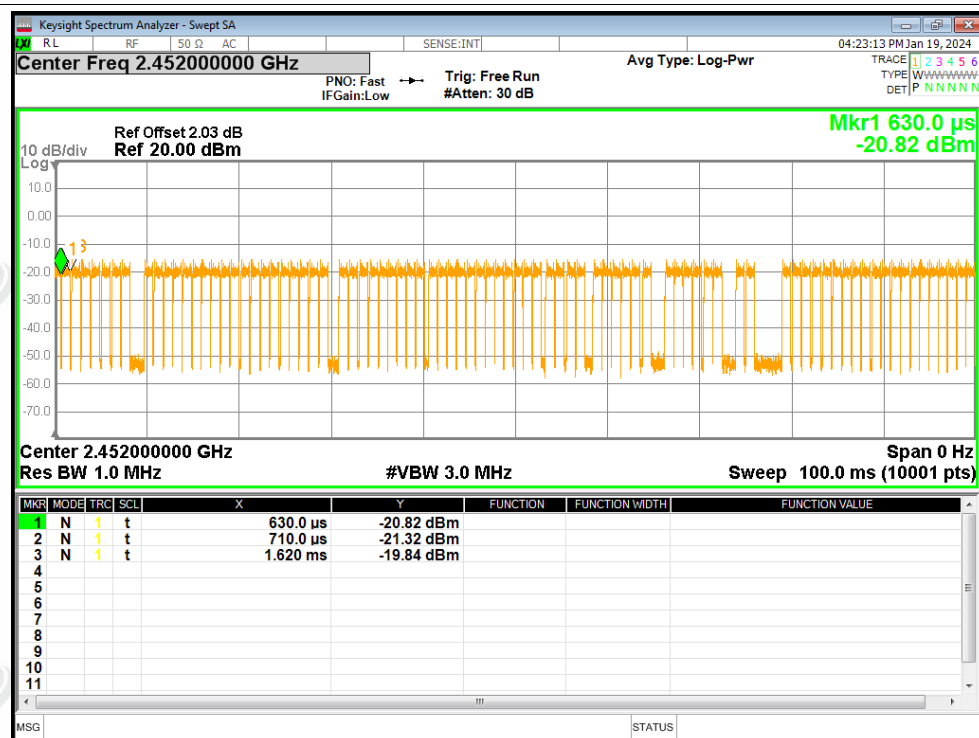


Duty Cycle NVNT n40 2437MHz Ant1

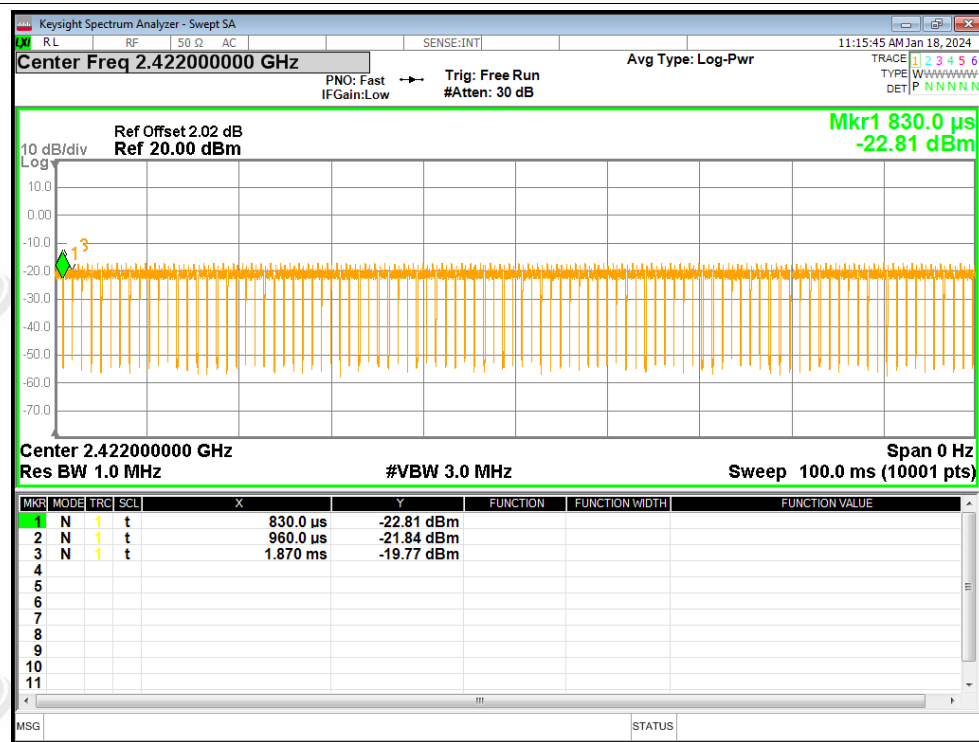




Duty Cycle NVNT n40 2452MHz Ant1

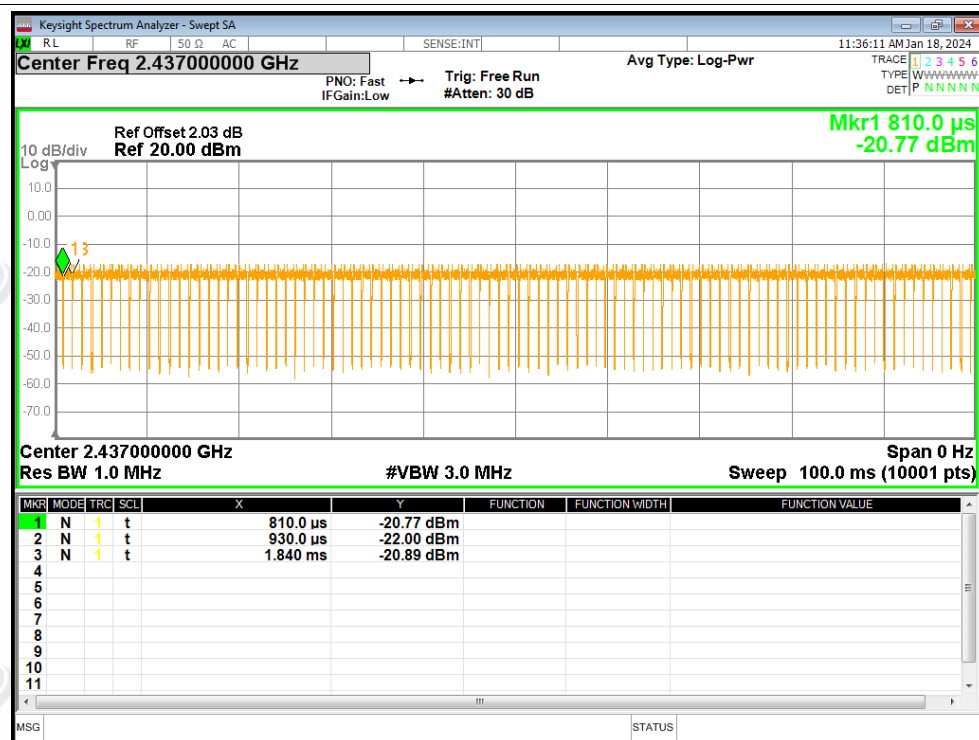


Duty Cycle NVNT n40 2422MHz Ant2

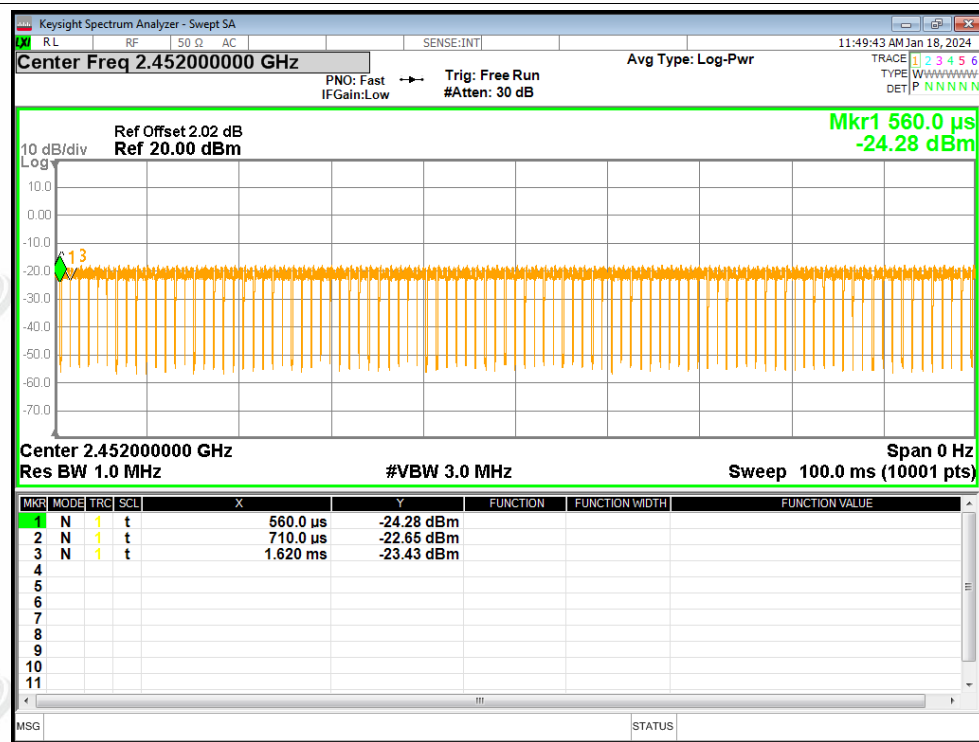




Duty Cycle NVNT n40 2437MHz Ant2



Duty Cycle NVNT n40 2452MHz Ant2



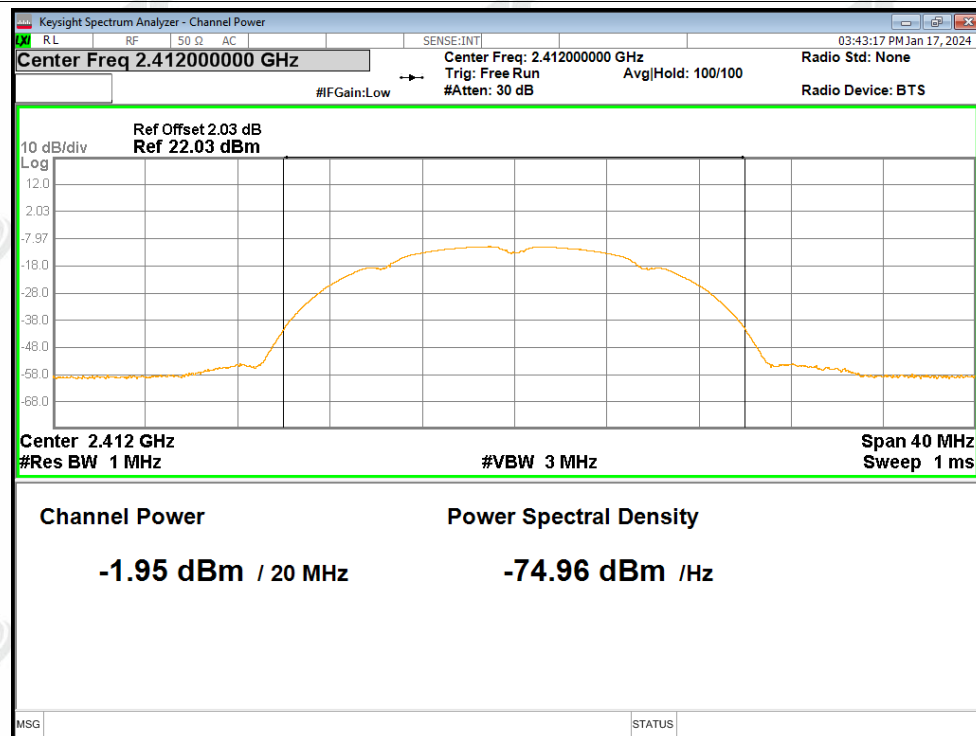
**ZHONGHAN****A2. Maximum Average Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	-1.95	0	-1.95	30	Pass
NVNT	b	2437	Ant1	-1.66	0	-1.66	30	Pass
NVNT	b	2462	Ant1	-2.05	0	-2.05	30	Pass
NVNT	b	2412	Ant2	-2.64	0	-2.64	30	Pass
NVNT	b	2437	Ant2	-1.75	0	-1.75	30	Pass
NVNT	b	2462	Ant2	-2.1	0	-2.1	30	Pass
NVNT	g	2412	Ant1	-6.32	0.27	-6.05	30	Pass
NVNT	g	2437	Ant1	-5.95	0.17	-5.78	30	Pass
NVNT	g	2462	Ant1	-6.23	0.15	-6.08	30	Pass
NVNT	g	2412	Ant2	-5.88	0.1	-5.78	30	Pass
NVNT	g	2437	Ant2	-4.99	0.12	-4.87	30	Pass
NVNT	g	2462	Ant2	-6.22	0.1	-6.12	30	Pass
NVNT	n20	2412	Ant1	-6.82	0.37	-6.45	30	Pass
NVNT	n20	2437	Ant1	-6.48	0.31	-6.17	30	Pass
NVNT	n20	2462	Ant1	-6.65	0.26	-6.39	30	Pass
NVNT	n20	2412	Ant2	-5.92	0.22	-5.7	30	Pass
NVNT	n20	2437	Ant2	-6.97	0.11	-6.86	30	Pass
NVNT	n20	2462	Ant2	-7.38	0.29	-7.09	30	Pass
NVNT	n40	2422	Ant1	-8.46	0.87	-7.59	30	Pass
NVNT	n40	2437	Ant1	-8.46	0.7	-7.76	30	Pass
NVNT	n40	2452	Ant1	-7.94	0.62	-7.32	30	Pass
NVNT	n40	2422	Ant2	-8.45	0.58	-7.87	30	Pass
NVNT	n40	2437	Ant2	-8.48	0.54	-7.94	30	Pass
NVNT	n40	2452	Ant2	-8.72	0.66	-8.06	30	Pass
NVNT	n20	2412	MIMO	/	/	-3.05	30	Pass
NVNT	n20	2437	MIMO	/	/	-3.49	30	Pass
NVNT	n20	2462	MIMO	/	/	-3.72	30	Pass
NVNT	n40	2422	MIMO	/	/	-4.72	30	Pass
NVNT	n40	2437	MIMO	/	/	-4.84	30	Pass
NVNT	n40	2452	MIMO	/	/	-4.66	30	Pass

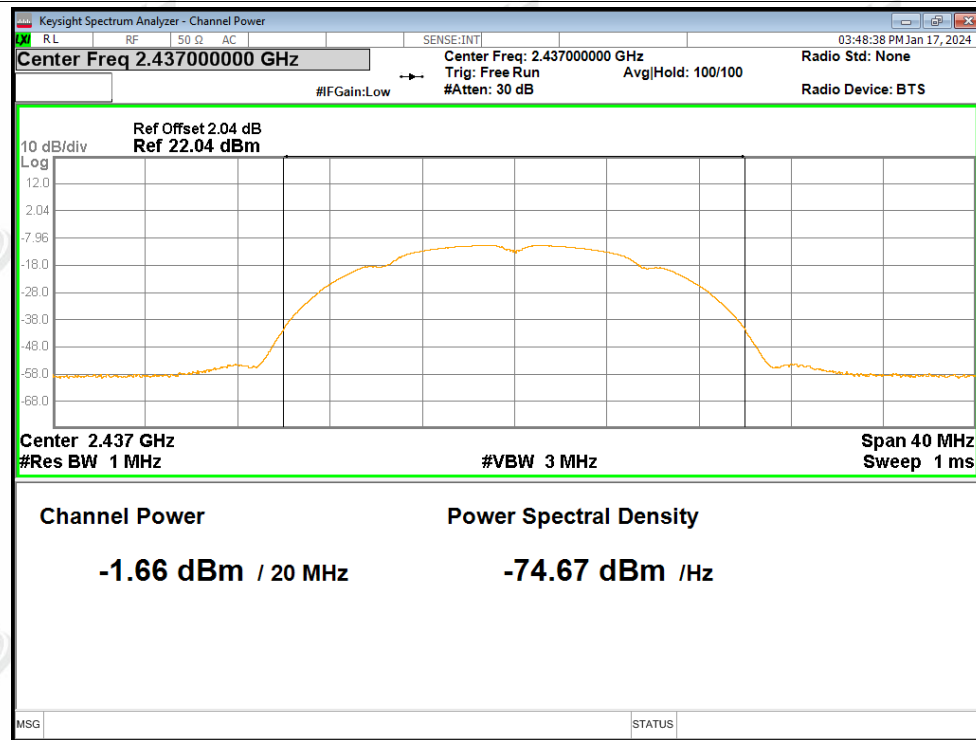


Test Graphs

Average Power NVNT b 2412MHz Ant1

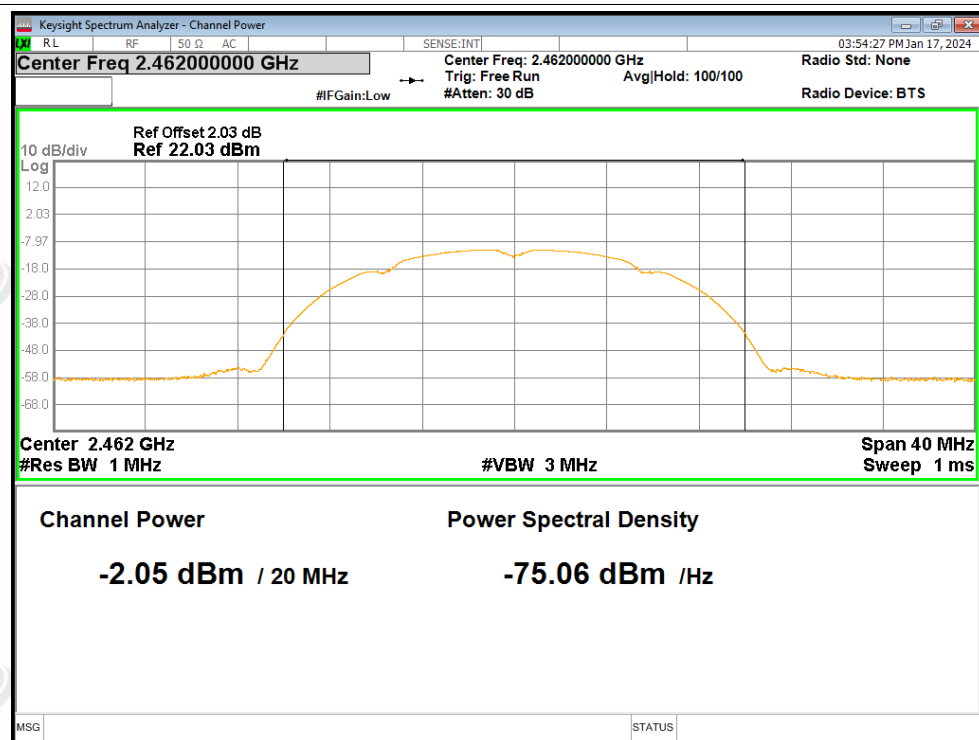


Average Power NVNT b 2437MHz Ant1

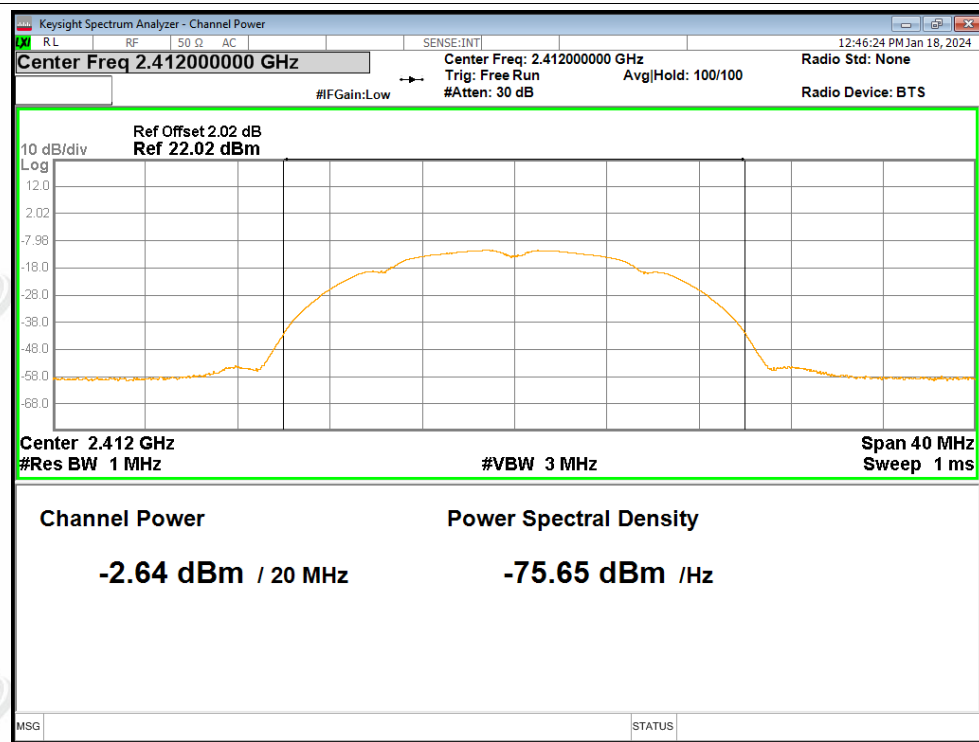




Average Power NVNT b 2462MHz Ant1

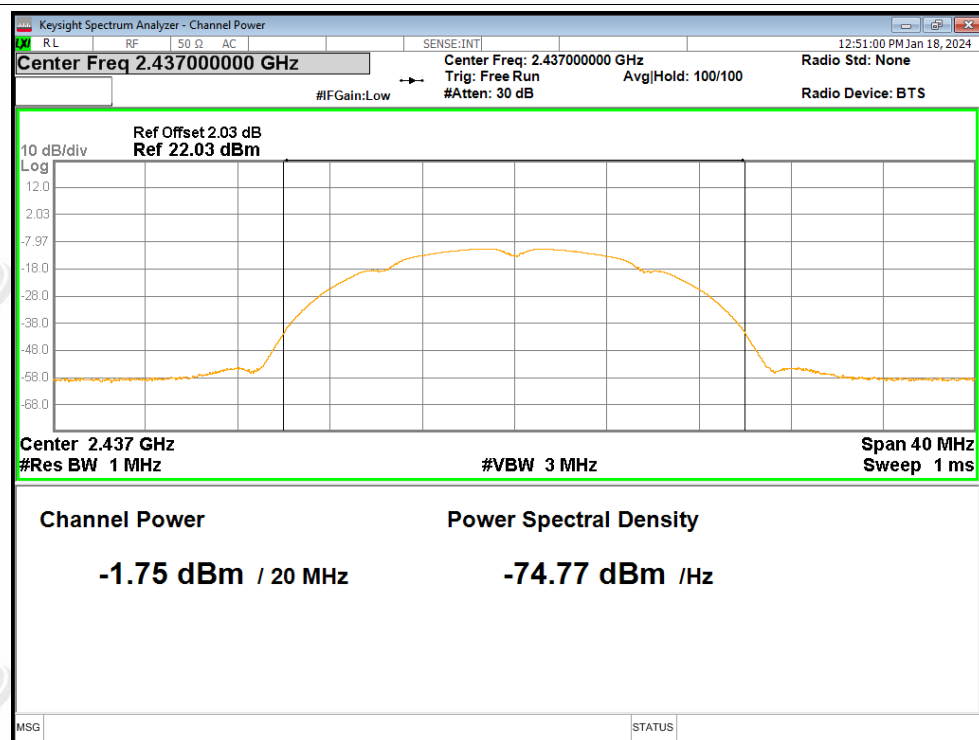


Average Power NVNT b 2412MHz Ant2

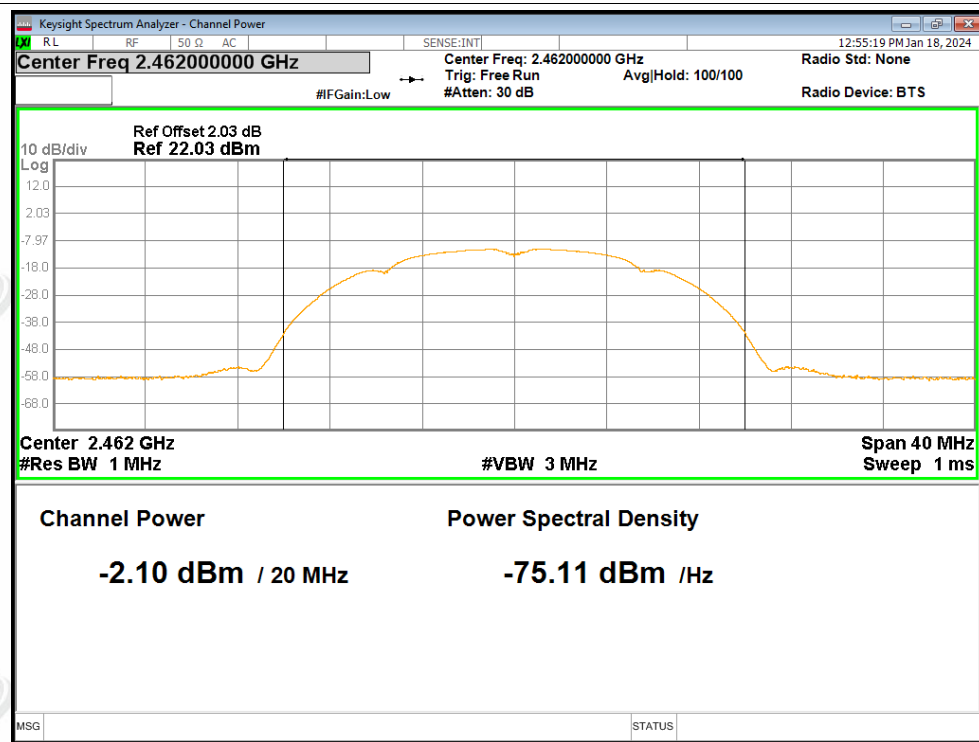




Average Power NVNT b 2437MHz Ant2

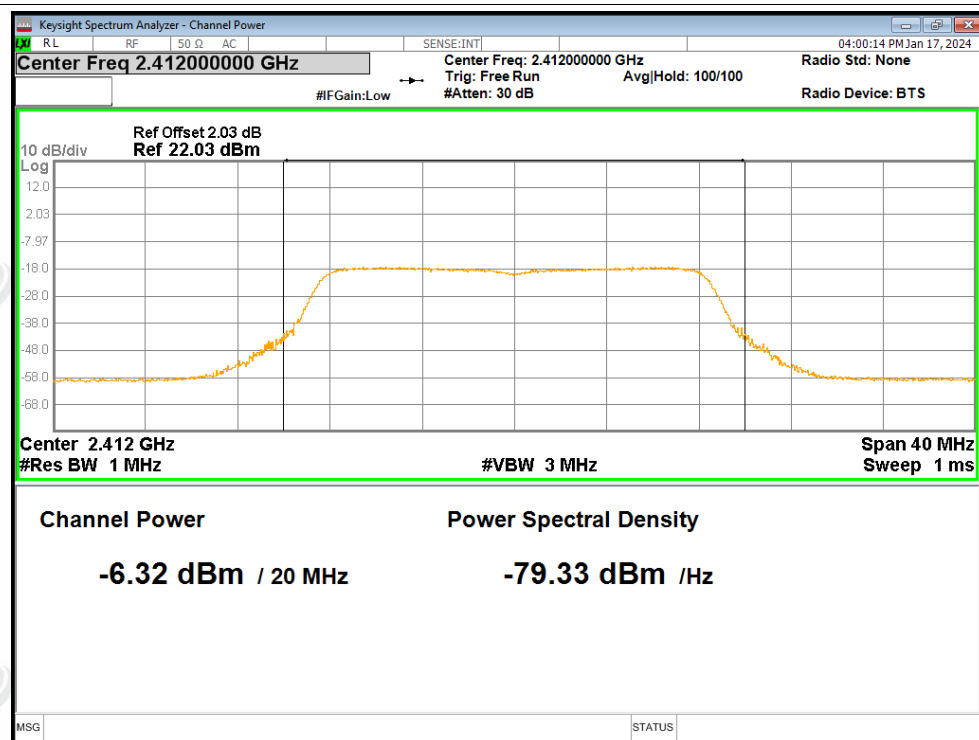


Average Power NVNT b 2462MHz Ant2

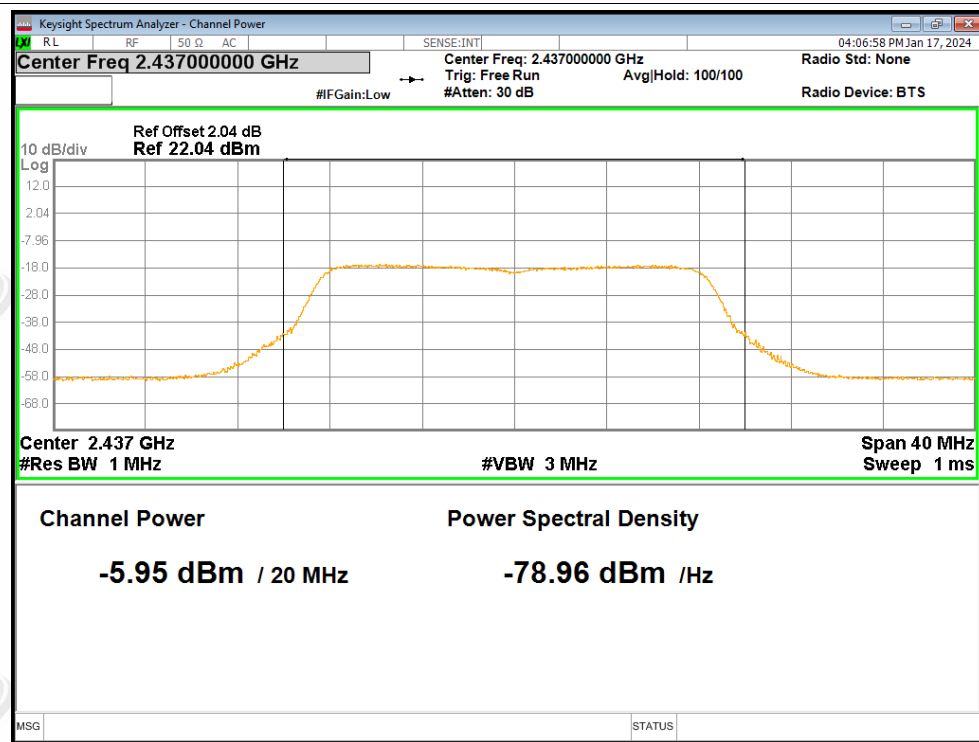




Average Power NVNT g 2412MHz Ant1

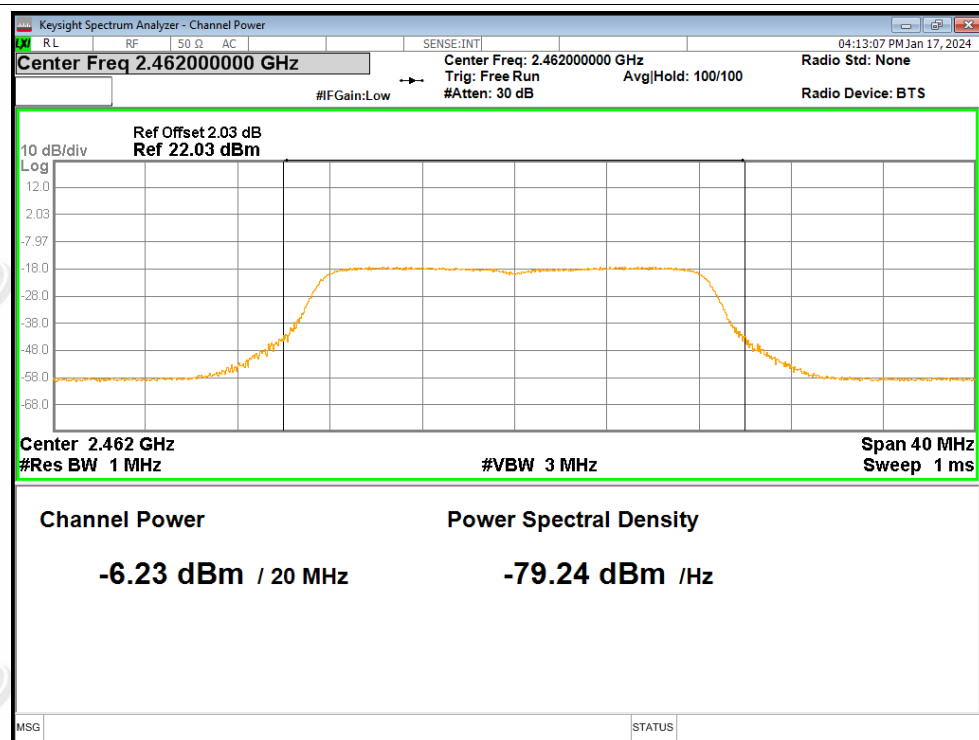


Average Power NVNT g 2437MHz Ant1

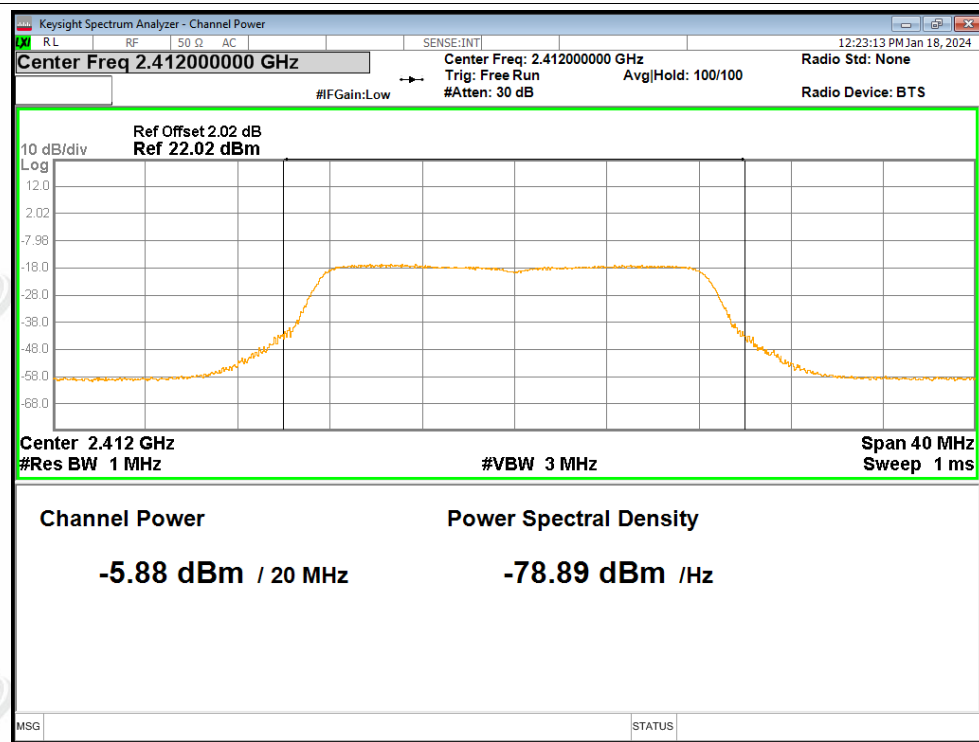




Average Power NVNT g 2462MHz Ant1

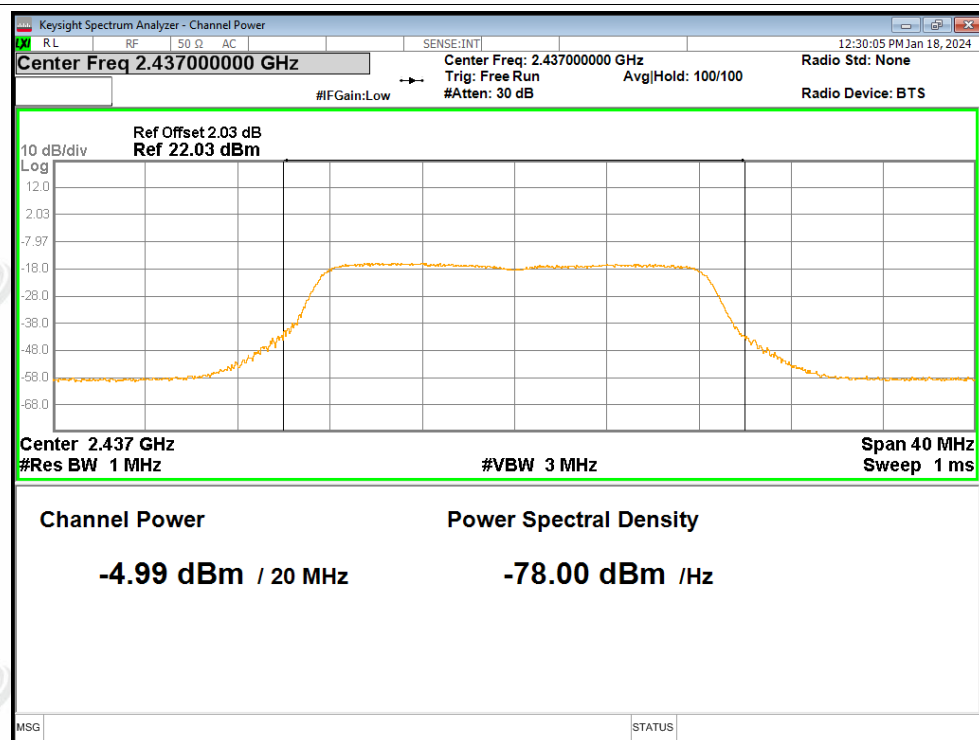


Average Power NVNT g 2412MHz Ant2

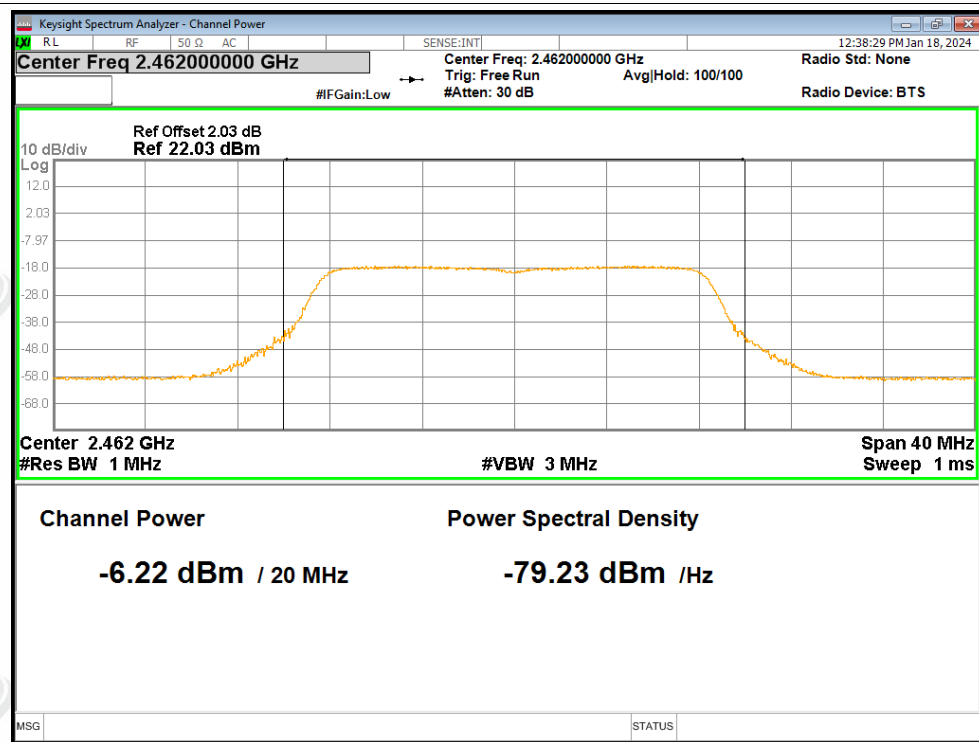




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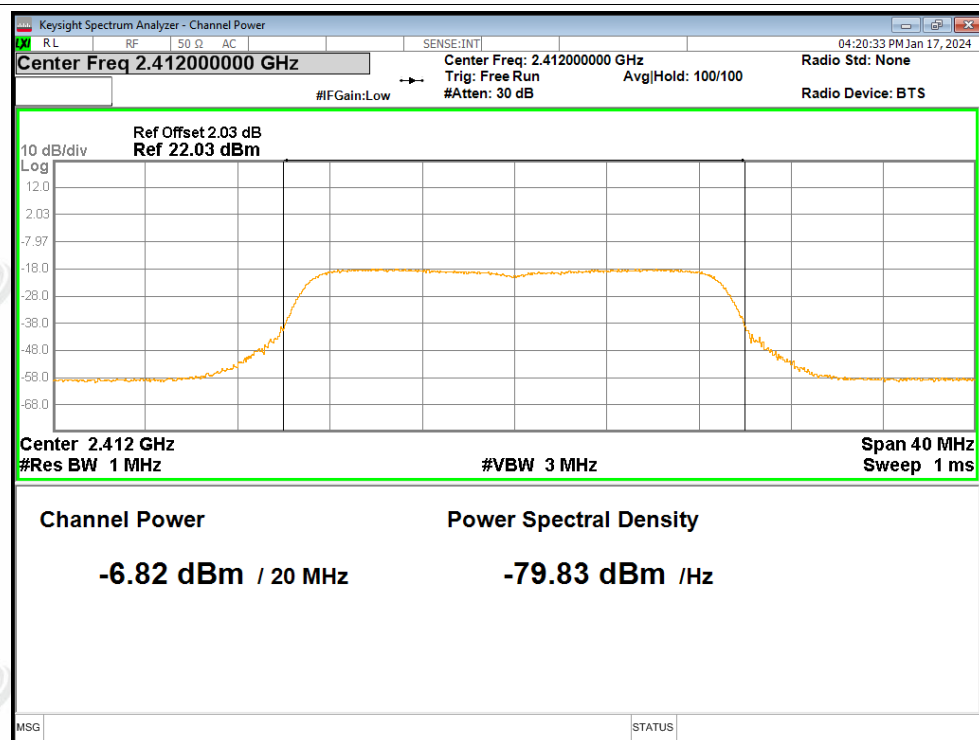


Average Power NVNT g 2462MHz Ant2

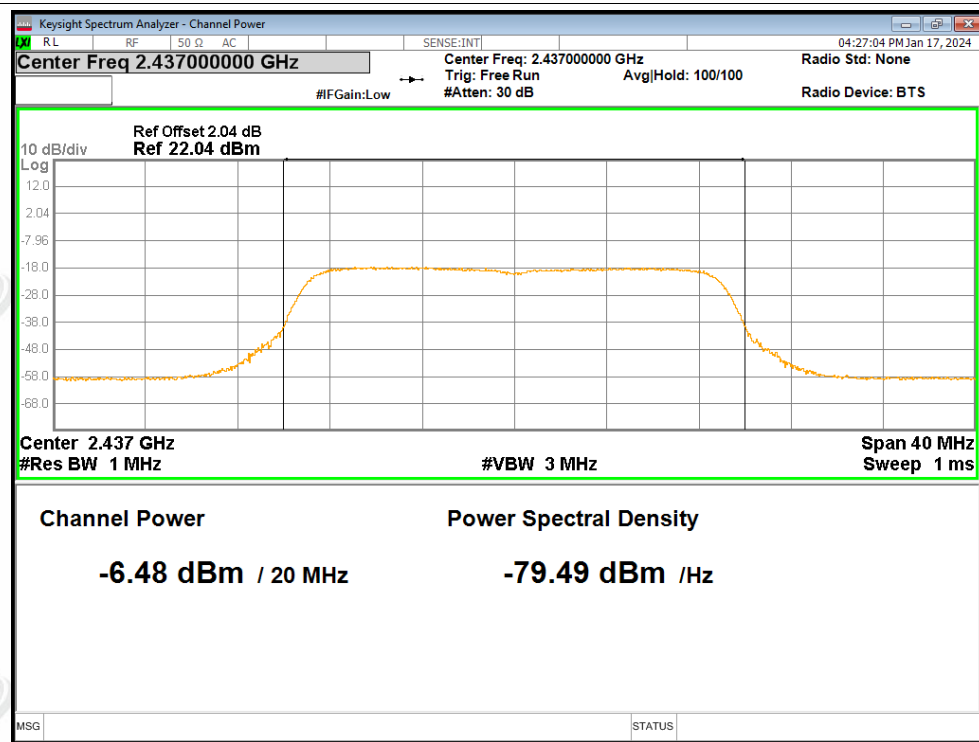




Average Power NVNT n20 2412MHz Ant1

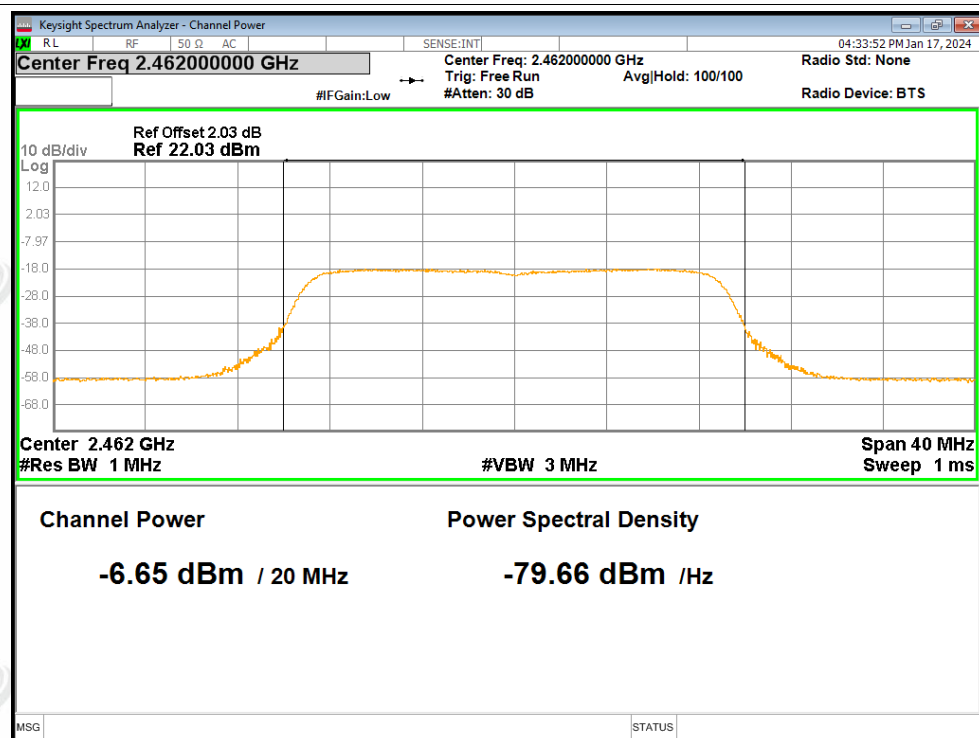


Average Power NVNT n20 2437MHz Ant1

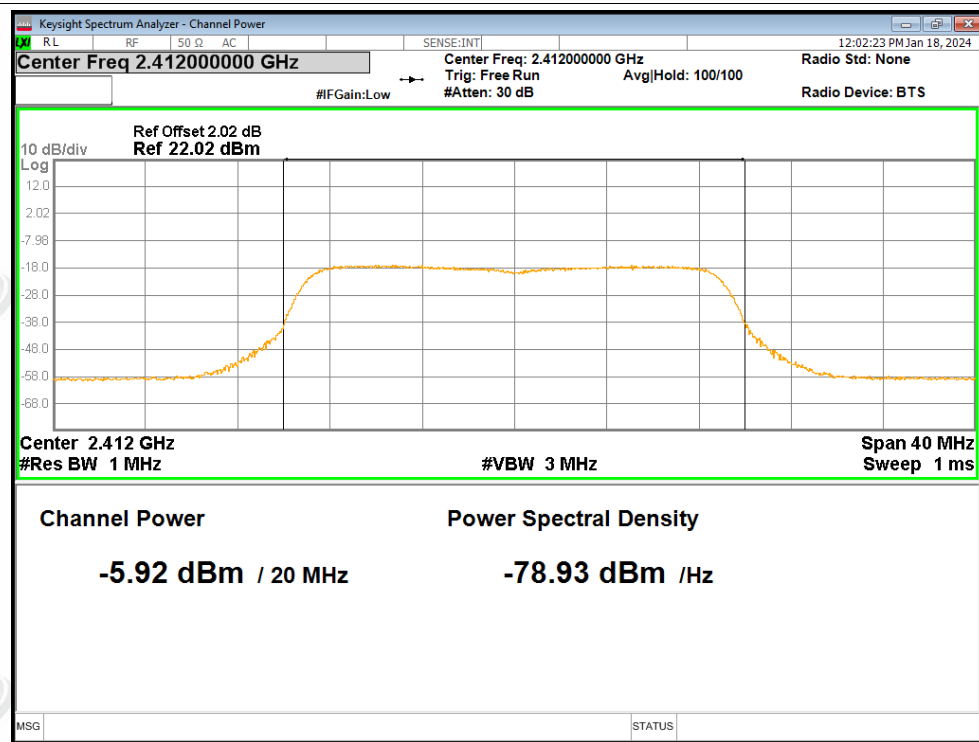




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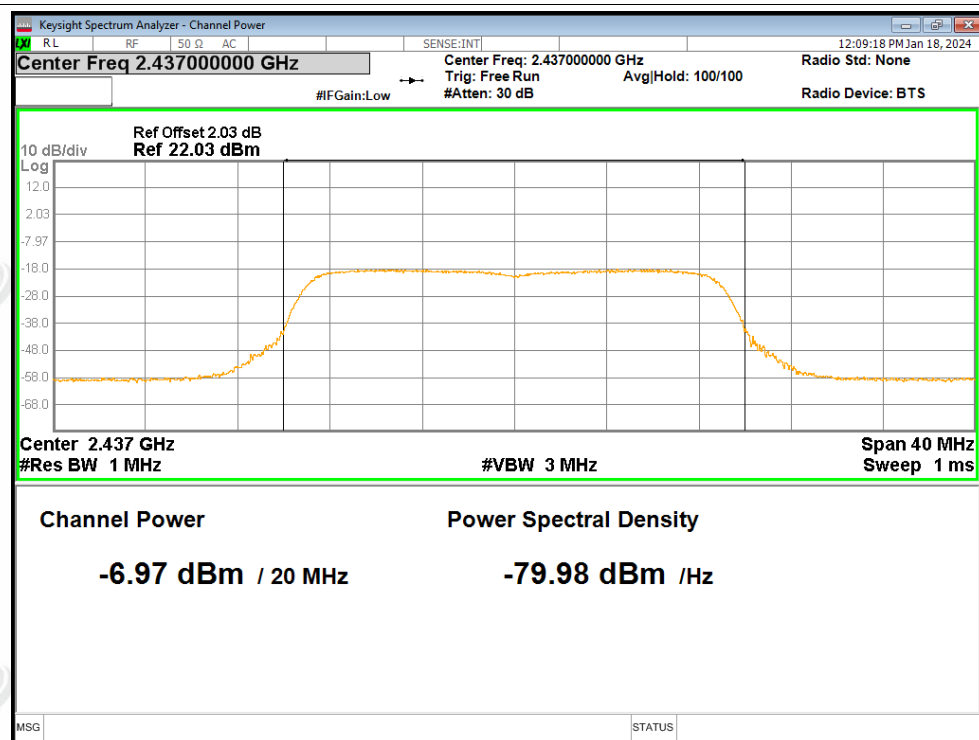


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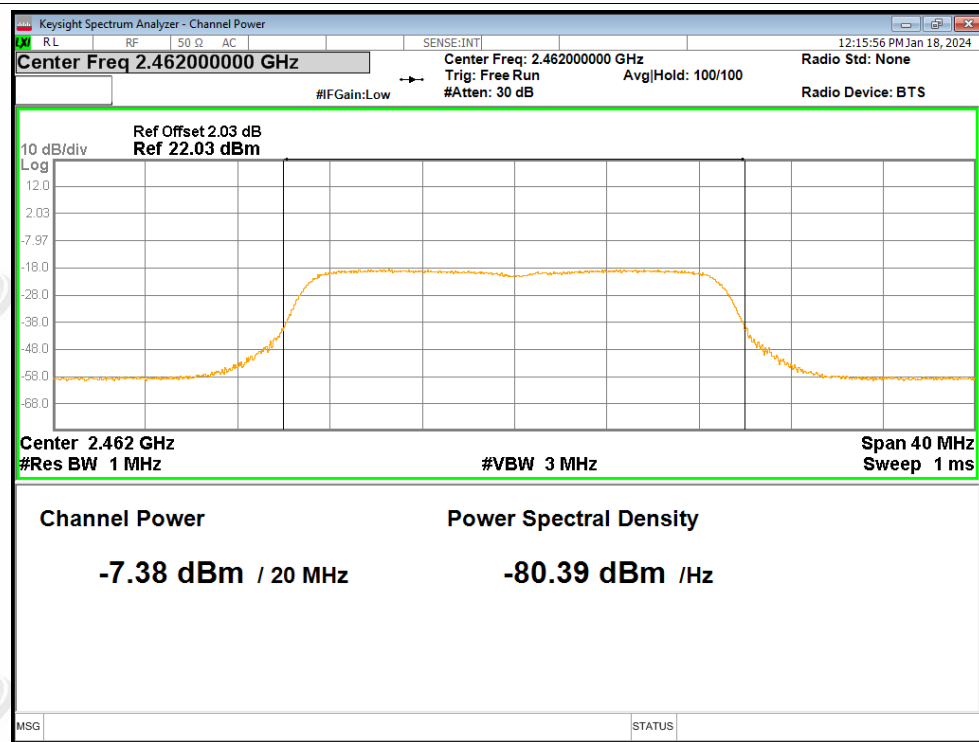




Average Power NVNT n20 2437MHz Ant2

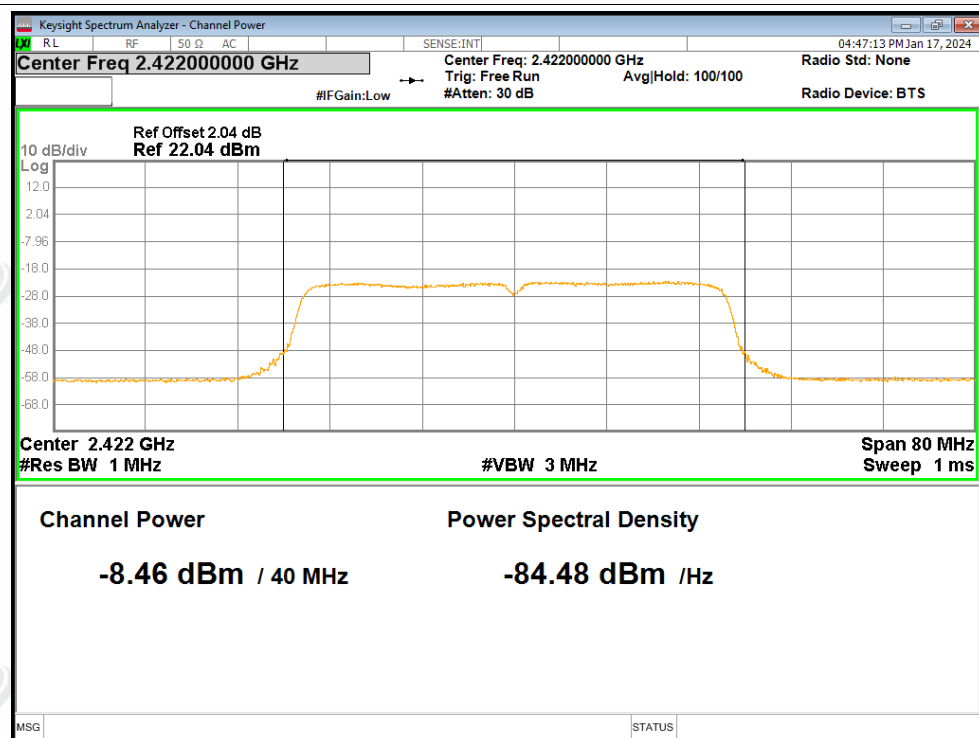


Average Power NVNT n20 2462MHz Ant2

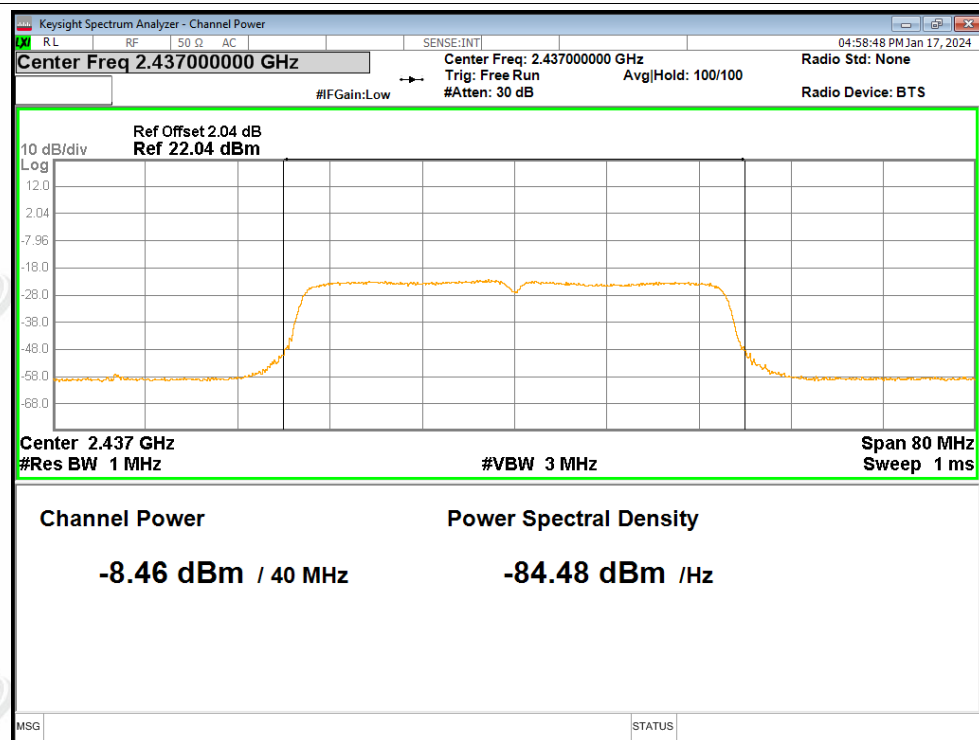




Average Power NVNT n40 2422MHz Ant1

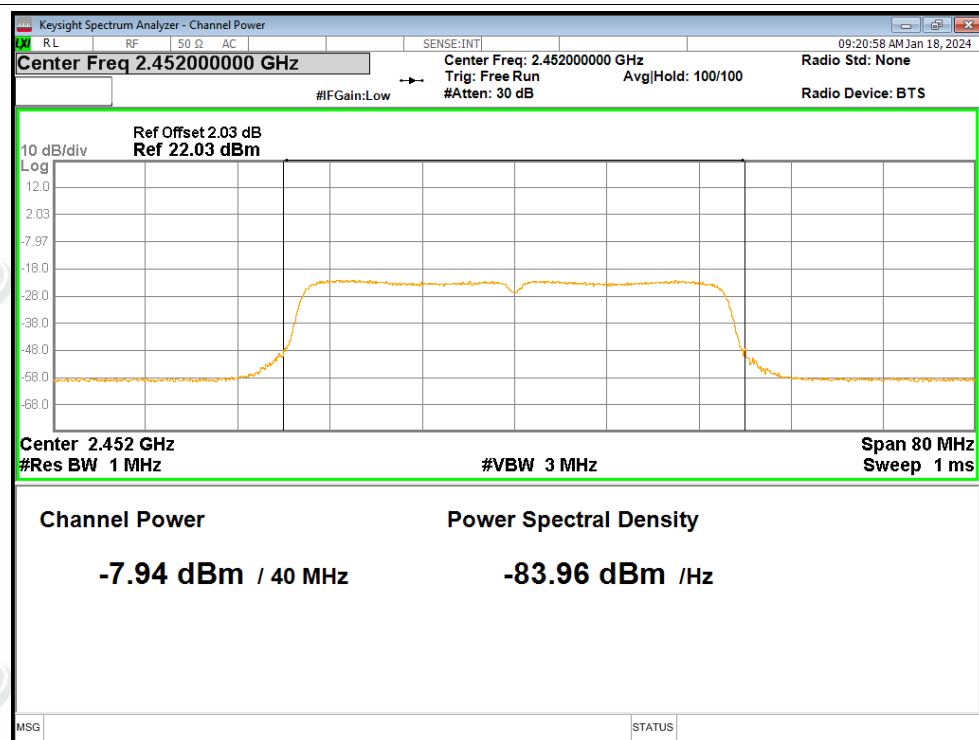


Average Power NVNT n40 2437MHz Ant1

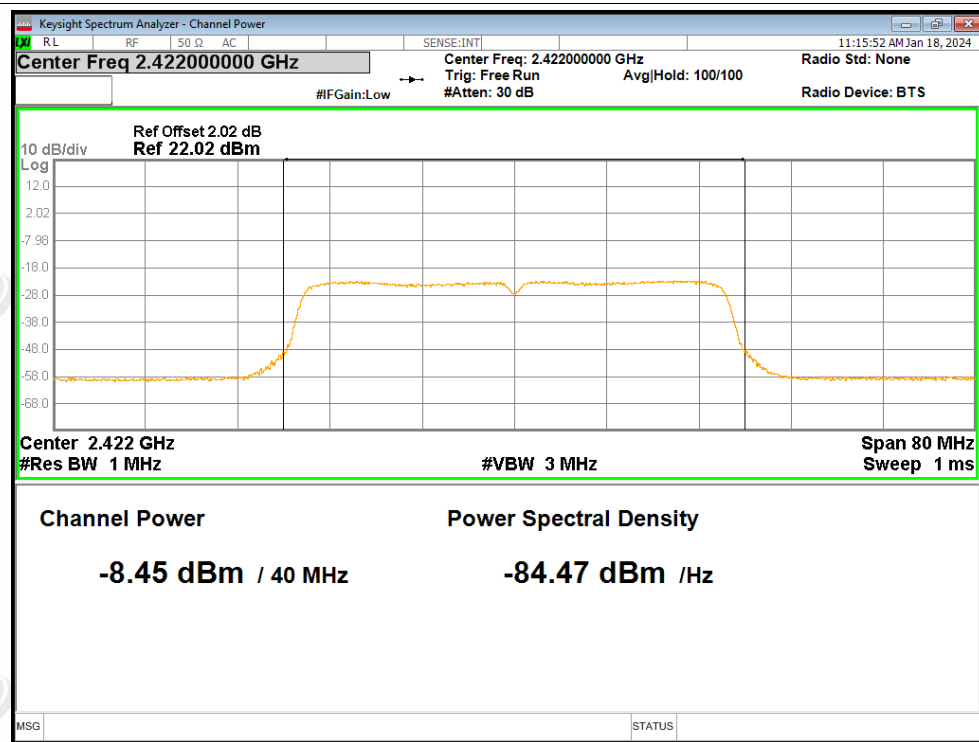




Average Power NVNT n40 2452MHz Ant1

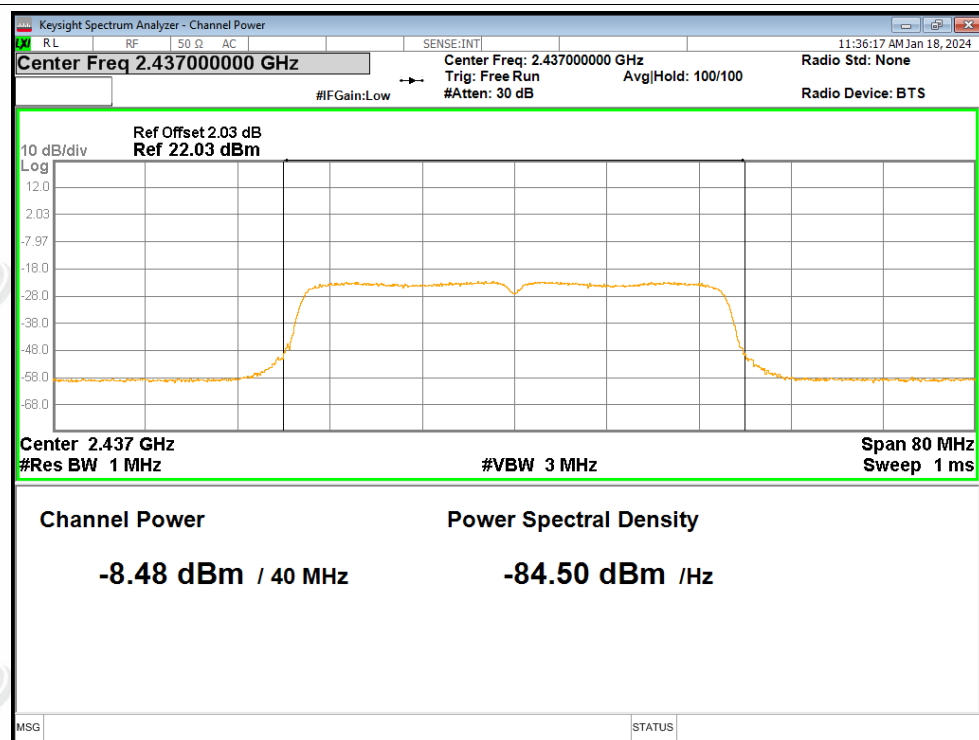


Average Power NVNT n40 2422MHz Ant2

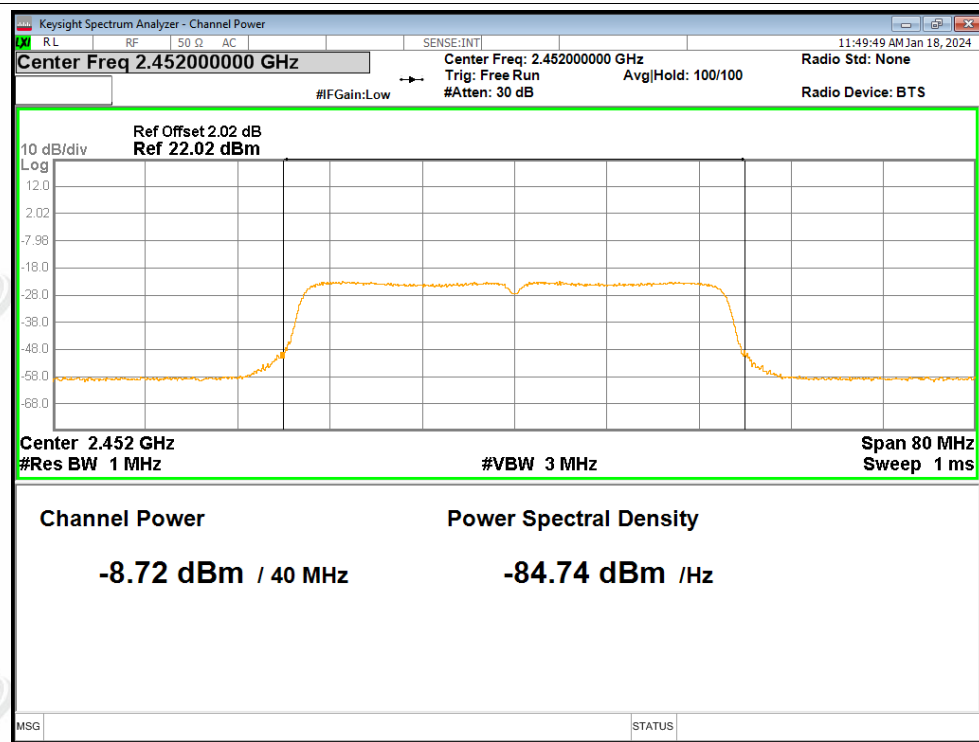




Average Power NVNT n40 2437MHz Ant2



Average Power NVNT n40 2452MHz Ant2





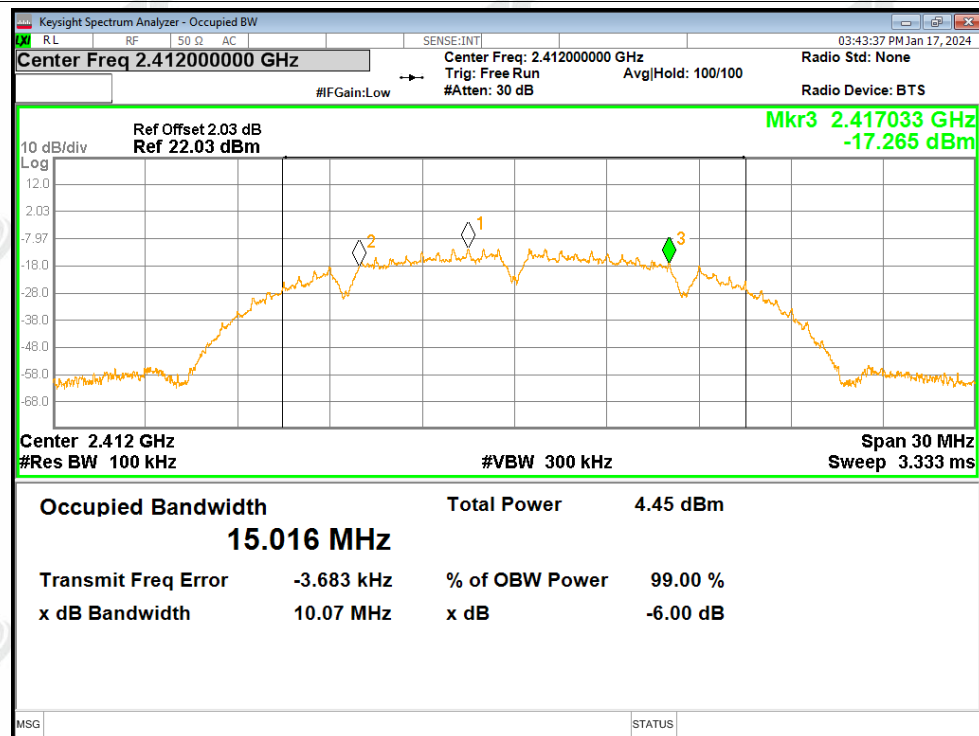
A3. -6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	10.074	0.5	Pass
NVNT	b	2437	Ant1	10.029	0.5	Pass
NVNT	b	2462	Ant1	10.014	0.5	Pass
NVNT	b	2412	Ant2	10.105	0.5	Pass
NVNT	b	2437	Ant2	10.073	0.5	Pass
NVNT	b	2462	Ant2	10.071	0.5	Pass
NVNT	g	2412	Ant1	16.329	0.5	Pass
NVNT	g	2437	Ant1	16.346	0.5	Pass
NVNT	g	2462	Ant1	16.325	0.5	Pass
NVNT	g	2412	Ant2	16.339	0.5	Pass
NVNT	g	2437	Ant2	16.33	0.5	Pass
NVNT	g	2462	Ant2	16.369	0.5	Pass
NVNT	n20	2412	Ant1	17.533	0.5	Pass
NVNT	n20	2437	Ant1	17.079	0.5	Pass
NVNT	n20	2462	Ant1	16.919	0.5	Pass
NVNT	n20	2412	Ant2	17.011	0.5	Pass
NVNT	n20	2437	Ant2	17.042	0.5	Pass
NVNT	n20	2462	Ant2	16.915	0.5	Pass
NVNT	n40	2422	Ant1	35.308	0.5	Pass
NVNT	n40	2437	Ant1	35.35	0.5	Pass
NVNT	n40	2452	Ant1	35.51	0.5	Pass
NVNT	n40	2422	Ant2	35.542	0.5	Pass
NVNT	n40	2437	Ant2	35.331	0.5	Pass
NVNT	n40	2452	Ant2	35.457	0.5	Pass

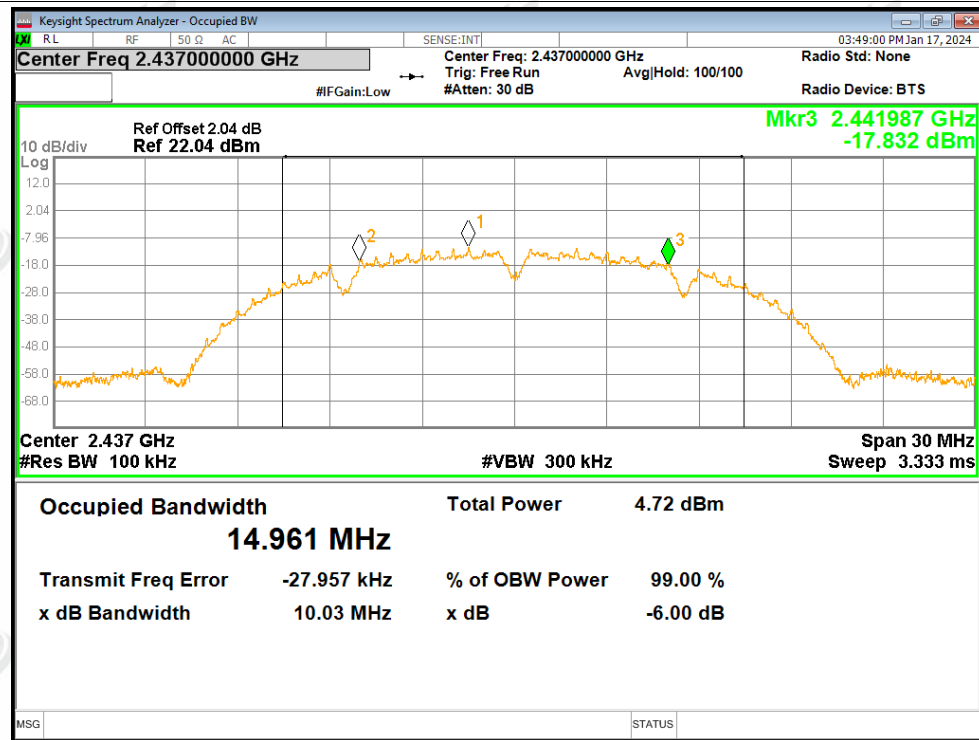


Test Graphs

-6dB Bandwidth NVNT b 2412MHz Ant1

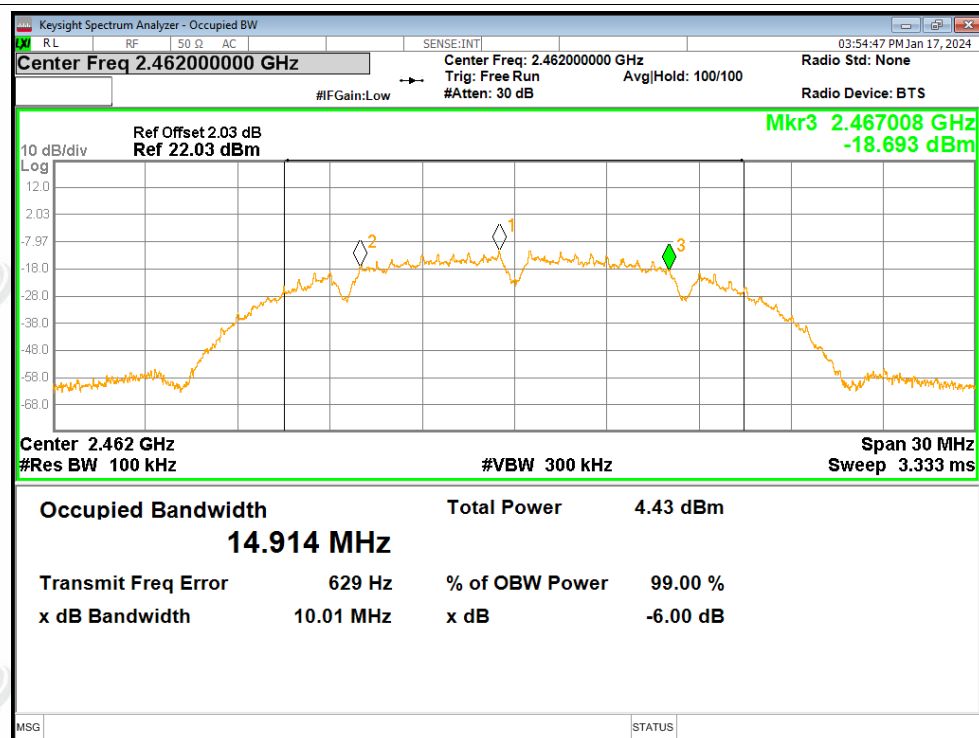


-6dB Bandwidth NVNT b 2437MHz Ant1

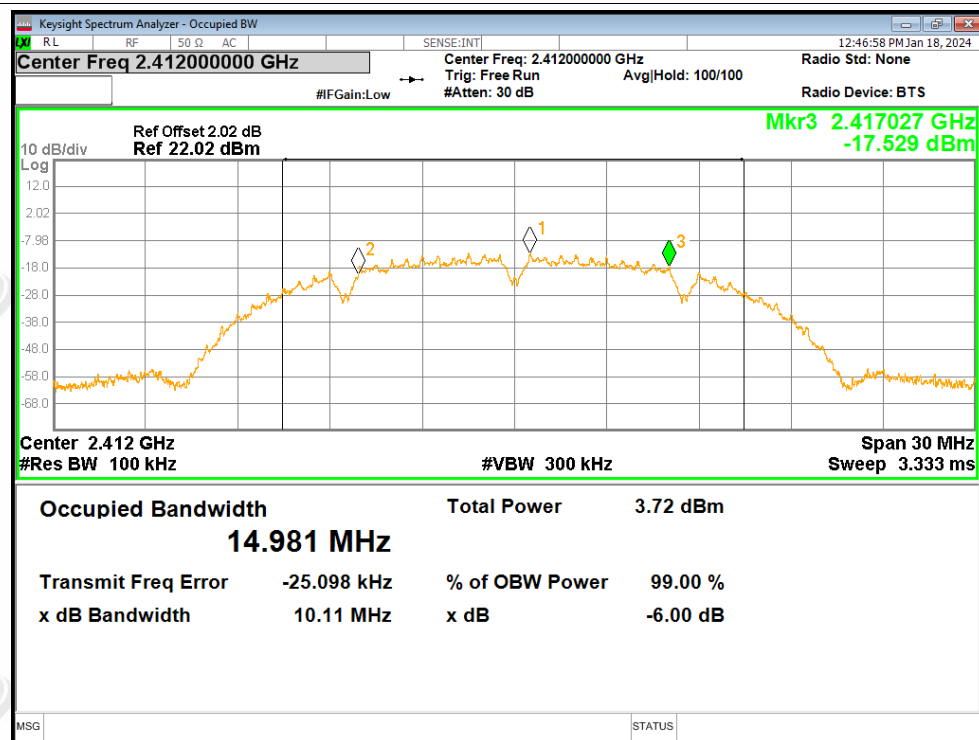




-6dB Bandwidth NVNT b 2462MHz Ant1

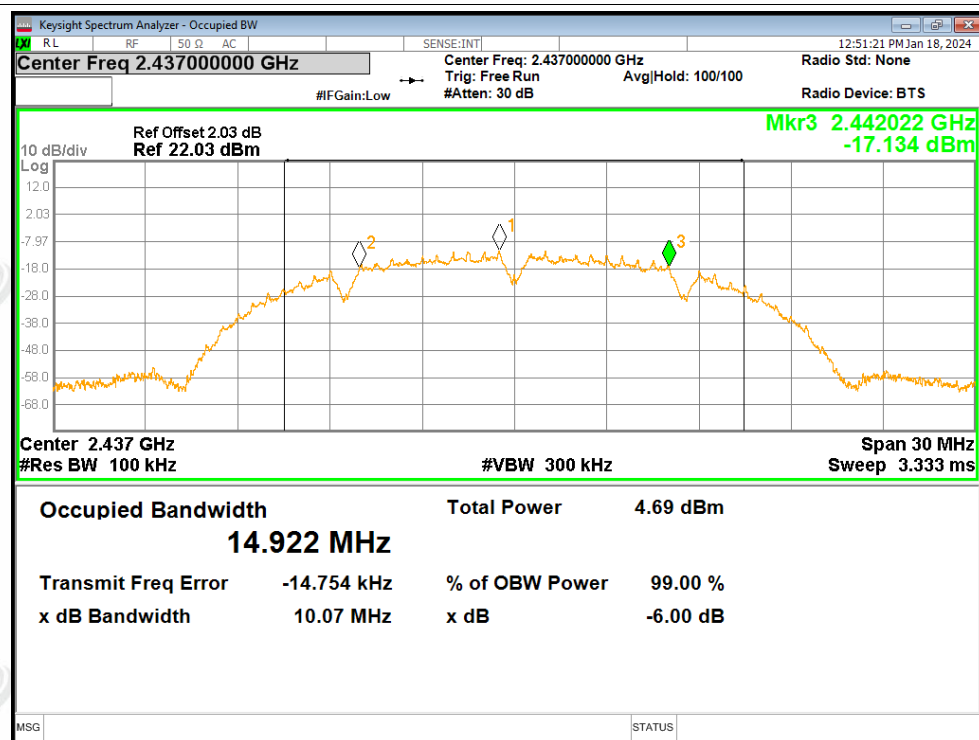


-6dB Bandwidth NVNT b 2412MHz Ant2

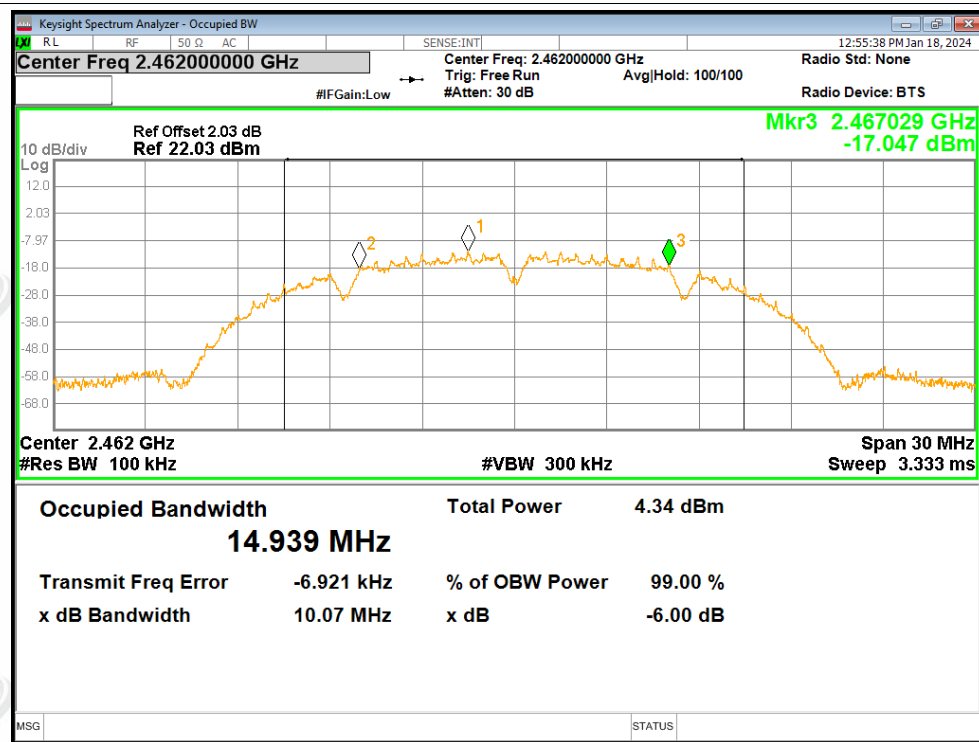




-6dB Bandwidth NVNT b 2437MHz Ant2

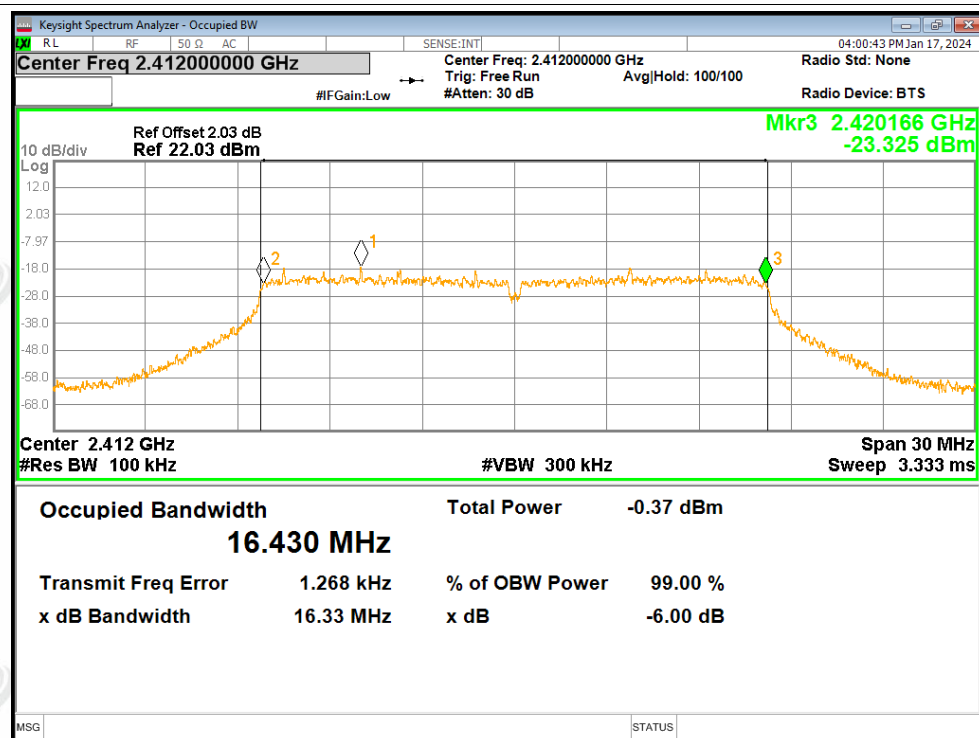


-6dB Bandwidth NVNT b 2462MHz Ant2

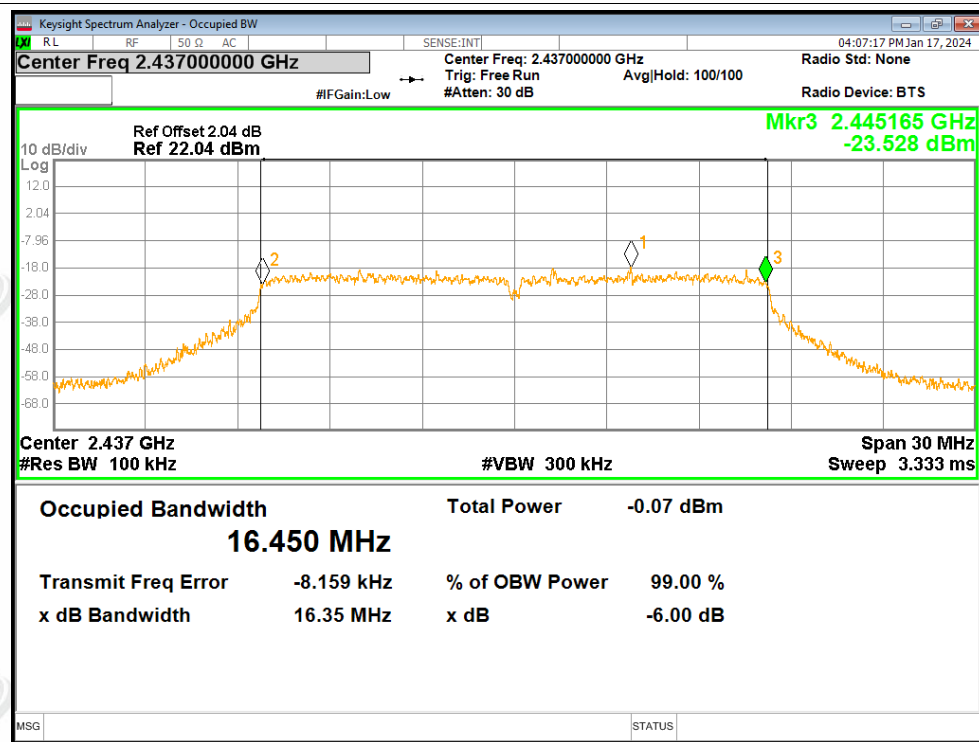




-6dB Bandwidth NVNT g 2412MHz Ant1

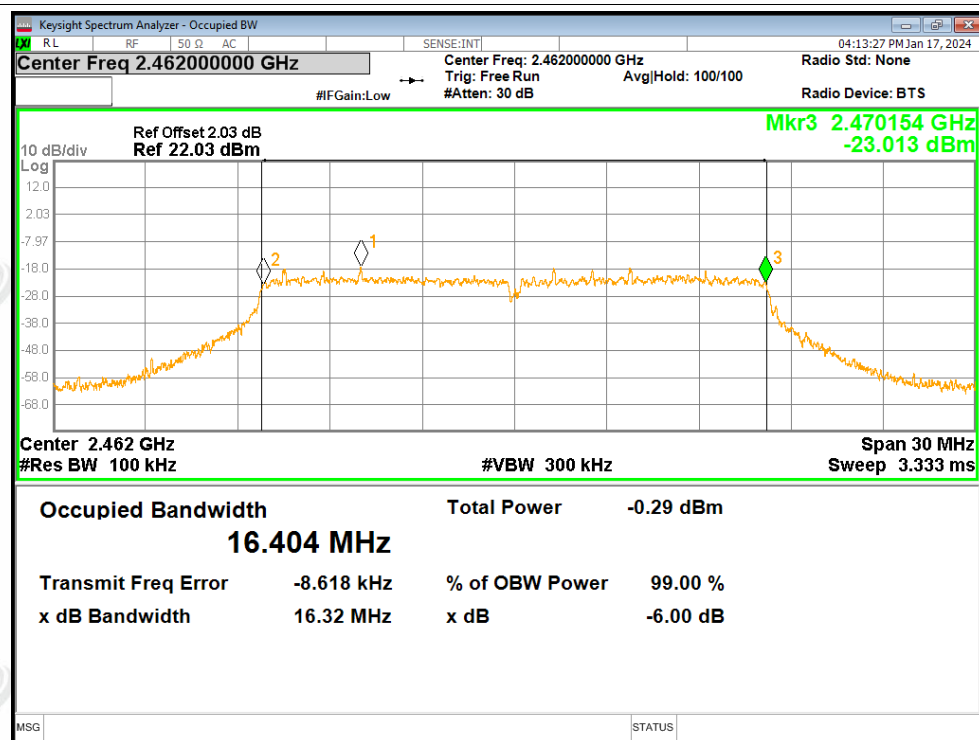


-6dB Bandwidth NVNT g 2437MHz Ant1

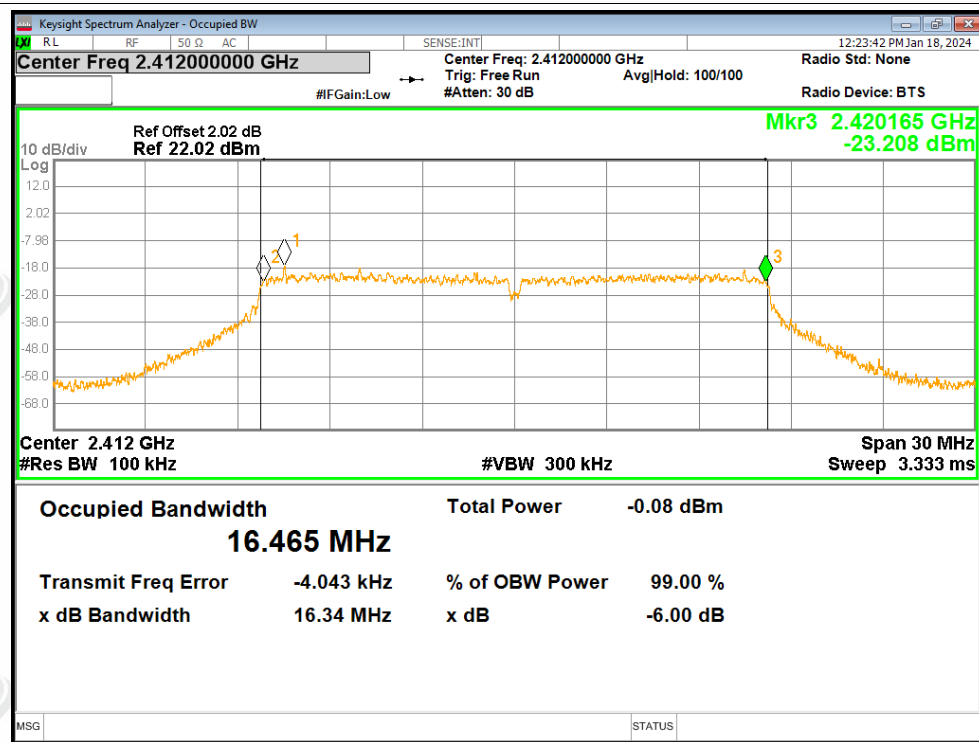




-6dB Bandwidth NVNT g 2462MHz Ant1

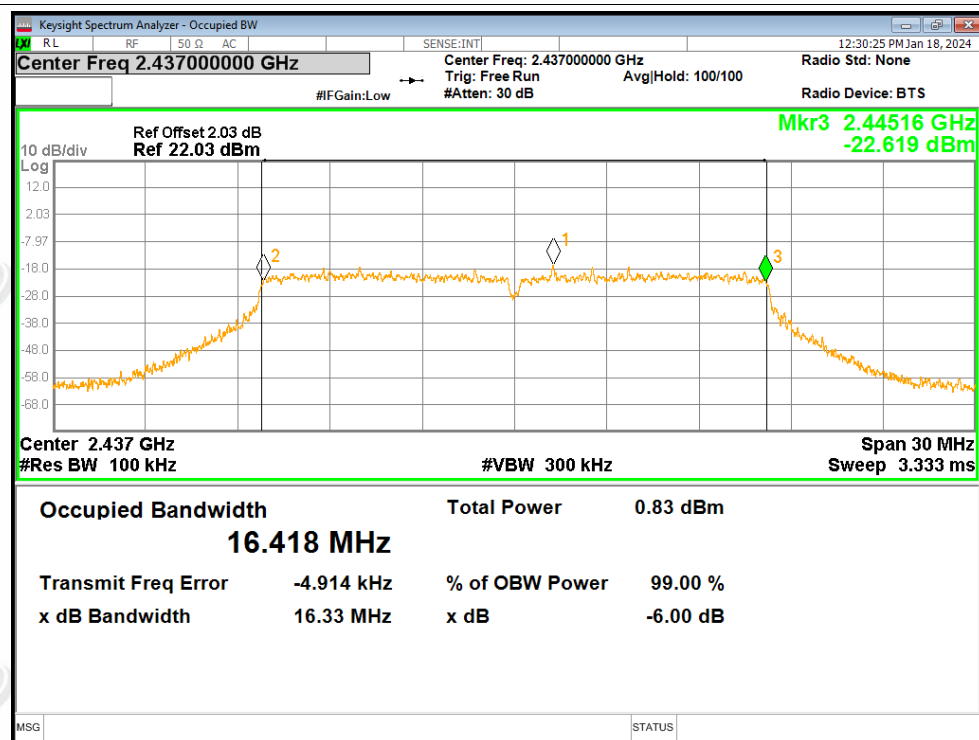


-6dB Bandwidth NVNT g 2412MHz Ant2

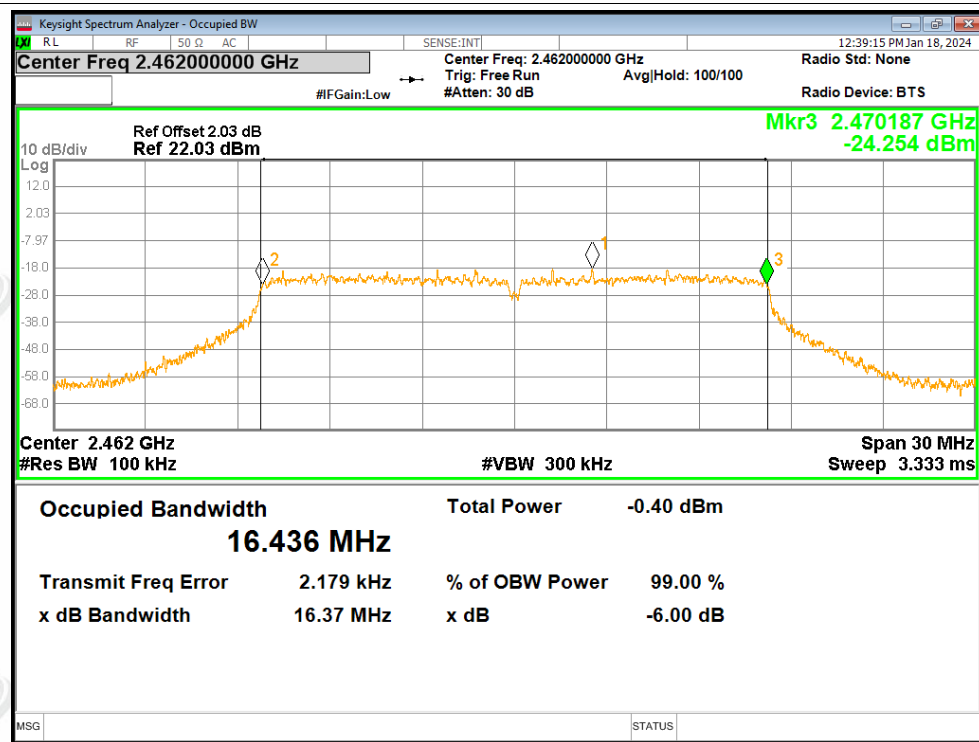




-6dB Bandwidth NVNT g 2437MHz Ant2

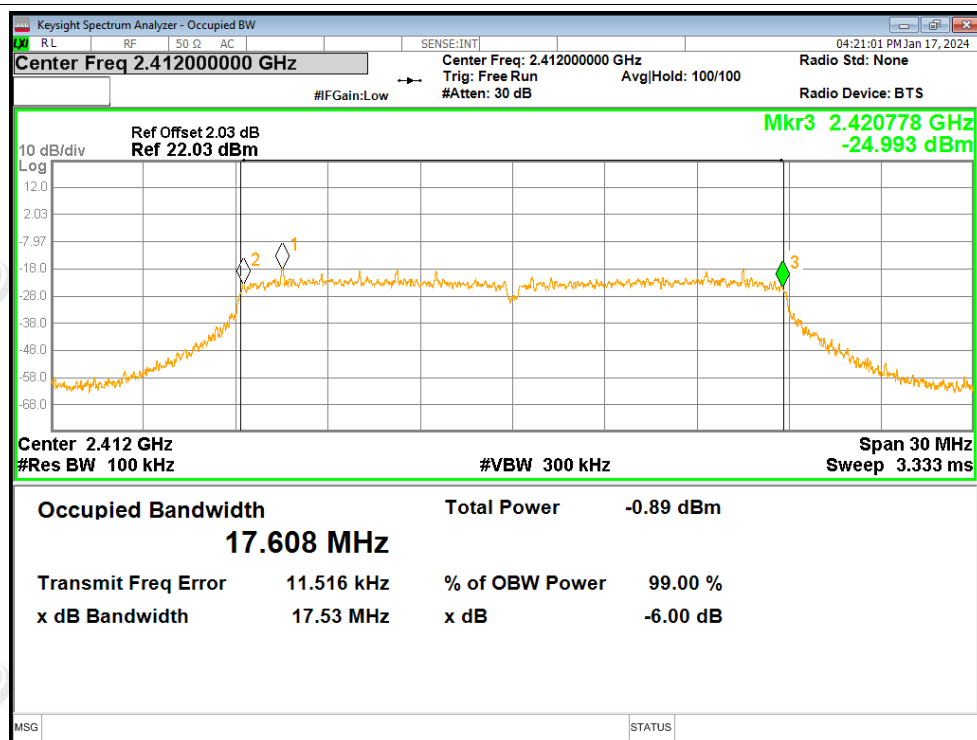


-6dB Bandwidth NVNT g 2462MHz Ant2

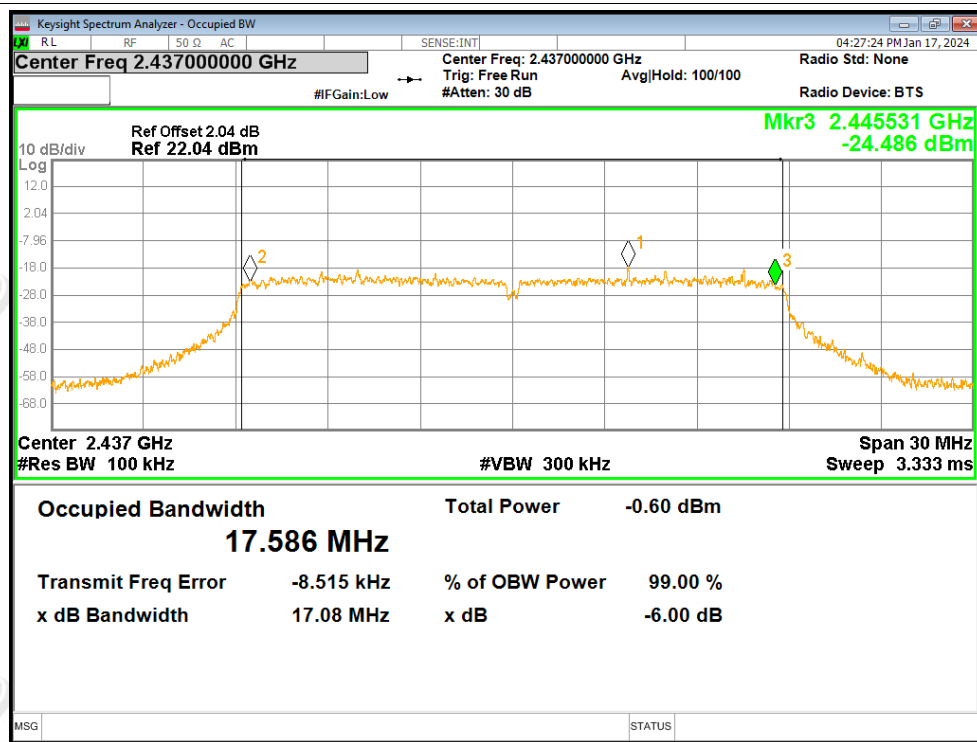




-6dB Bandwidth NVNT n20 2412MHz Ant1

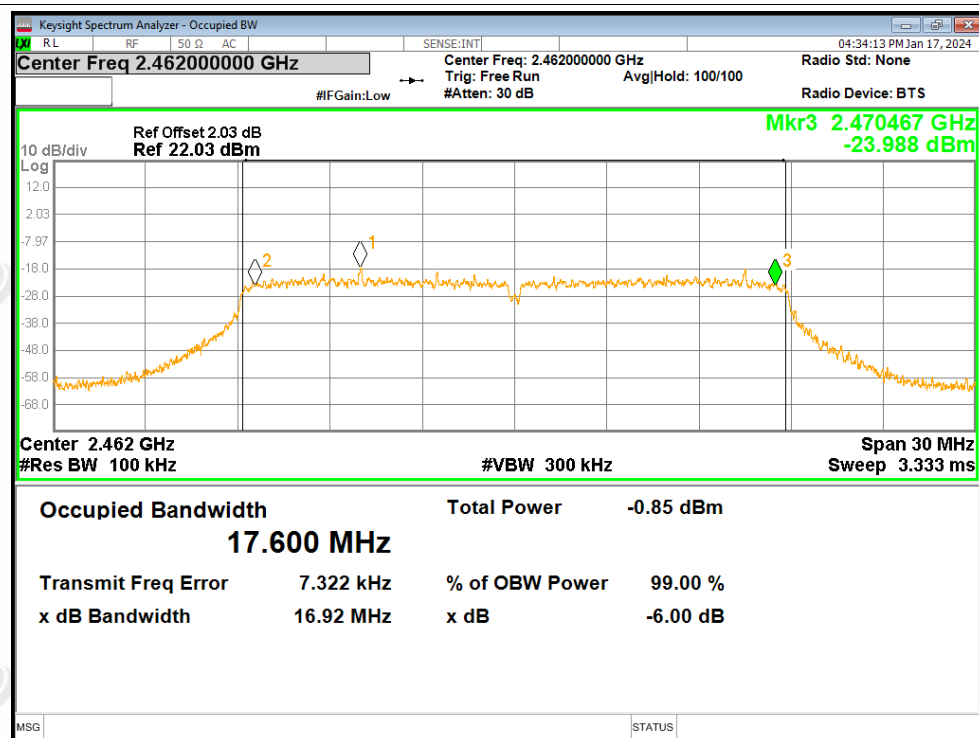


-6dB Bandwidth NVNT n20 2437MHz Ant1

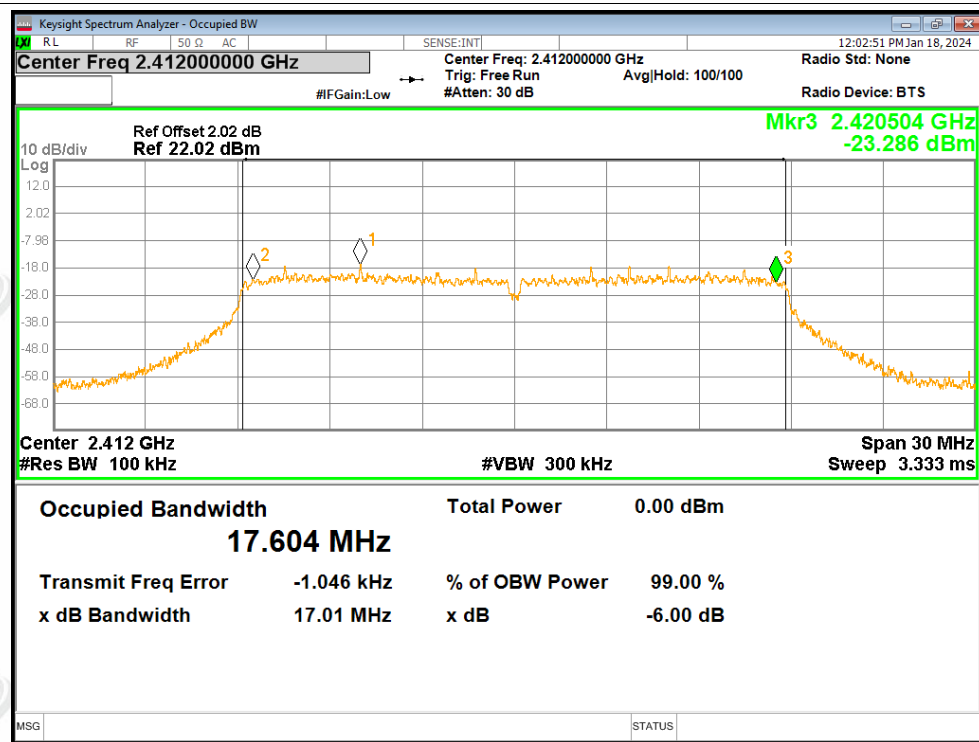




-6dB Bandwidth NVNT n20 2462MHz Ant1

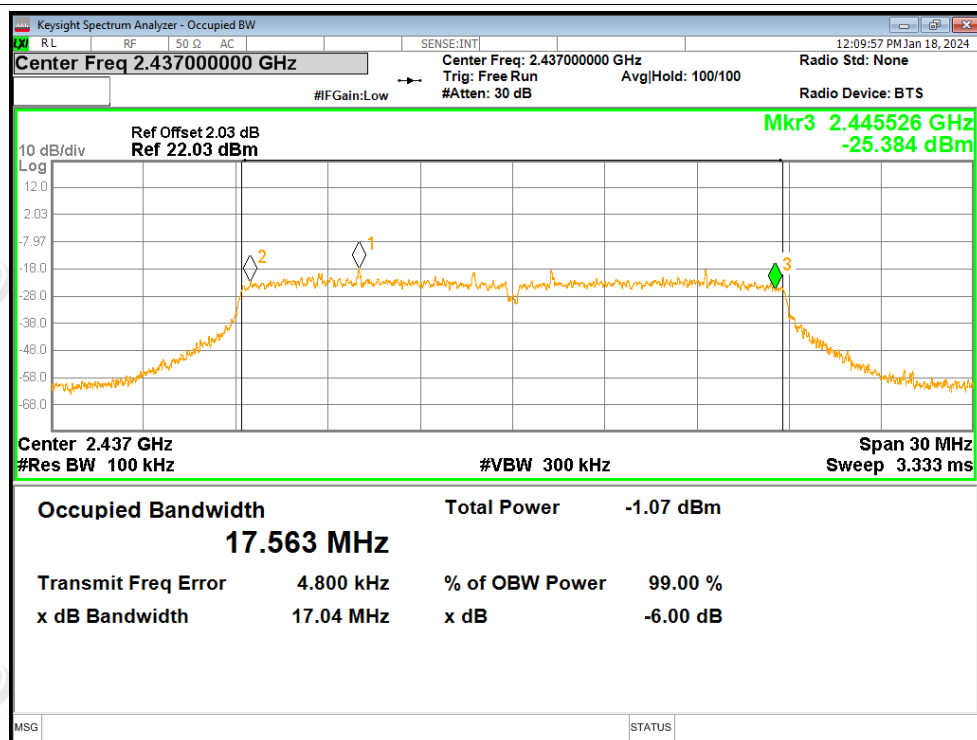


-6dB Bandwidth NVNT n20 2412MHz Ant2

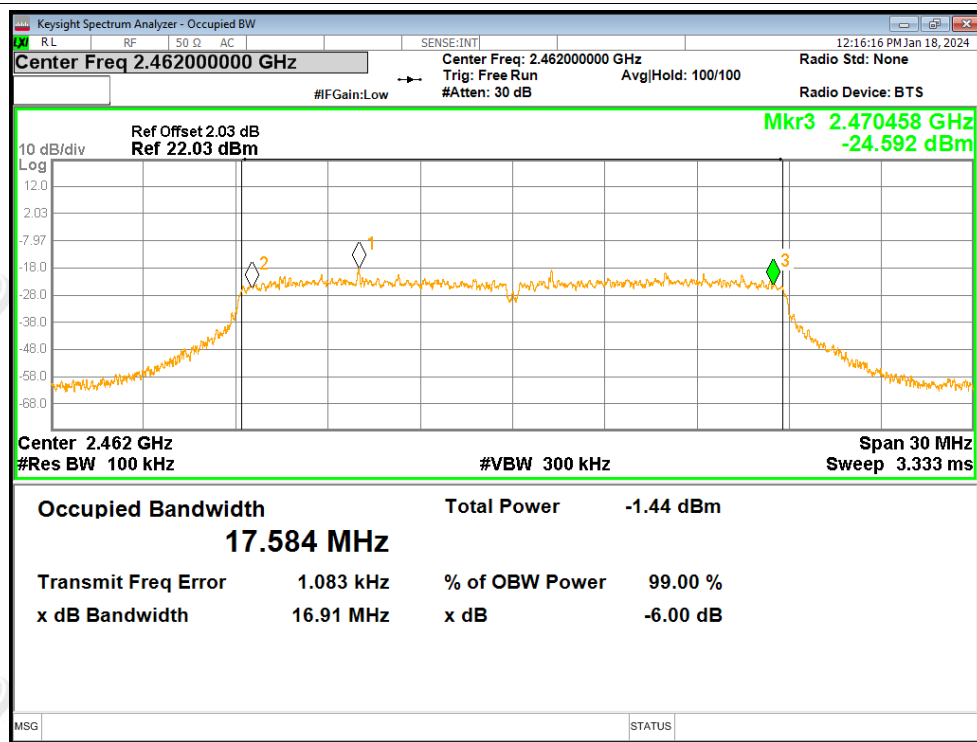




-6dB Bandwidth NVNT n20 2437MHz Ant2

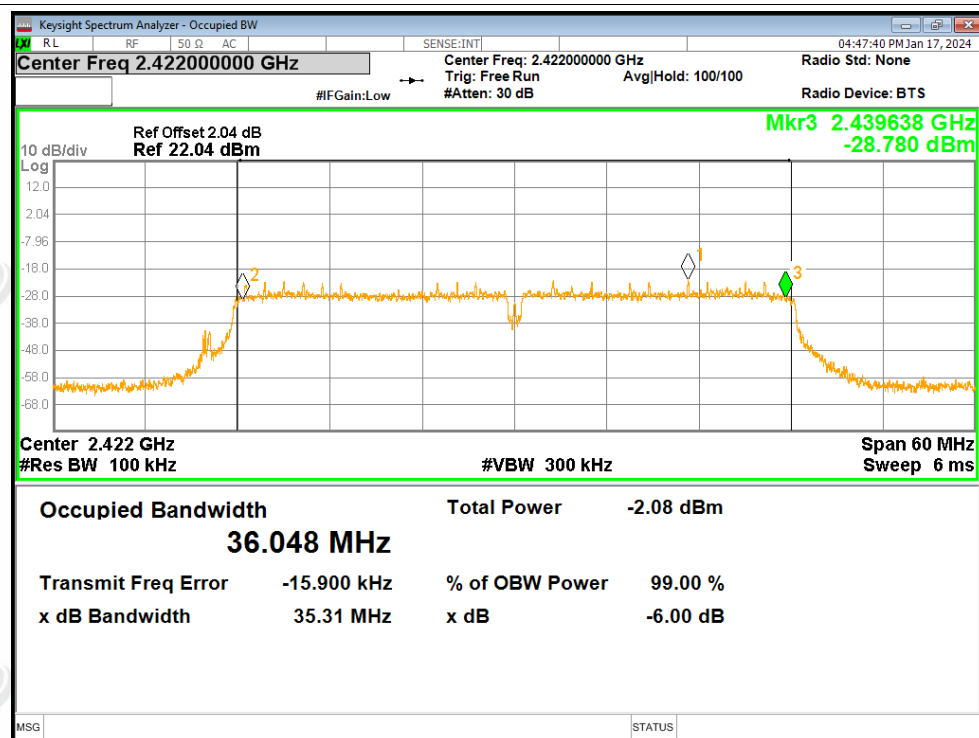


-6dB Bandwidth NVNT n20 2462MHz Ant2

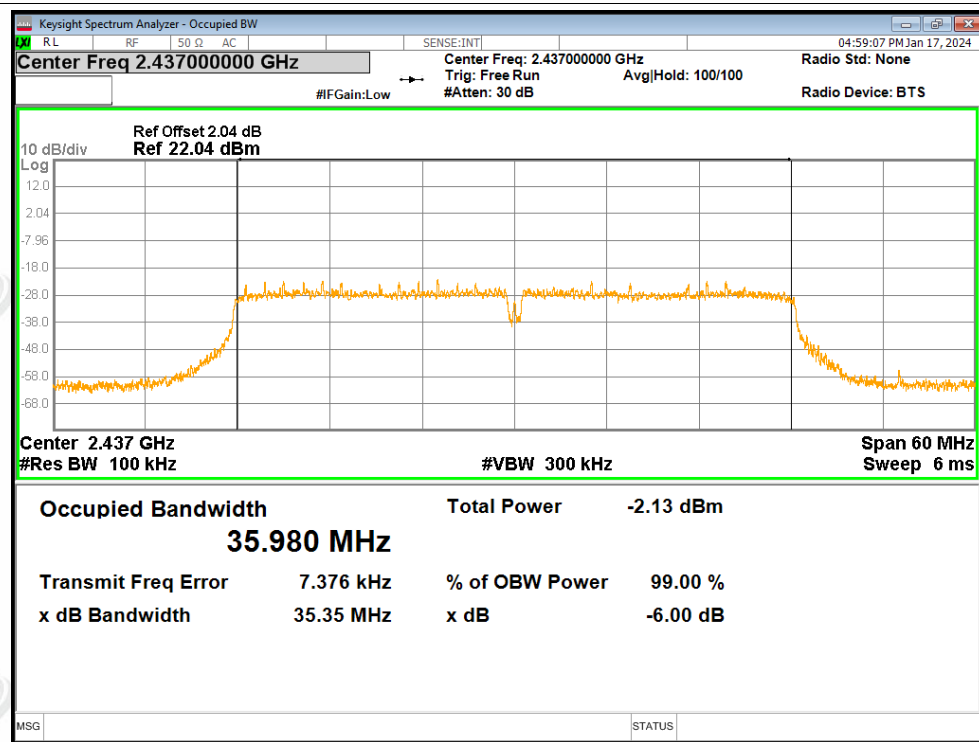




-6dB Bandwidth NVNT n40 2422MHz Ant1

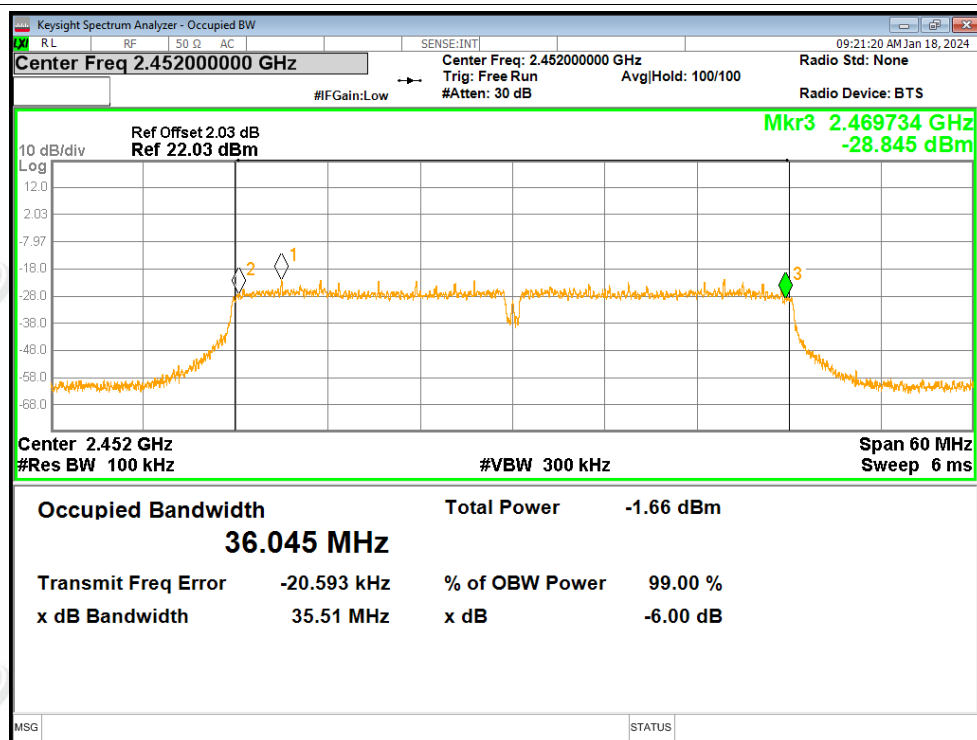


-6dB Bandwidth NVNT n40 2437MHz Ant1

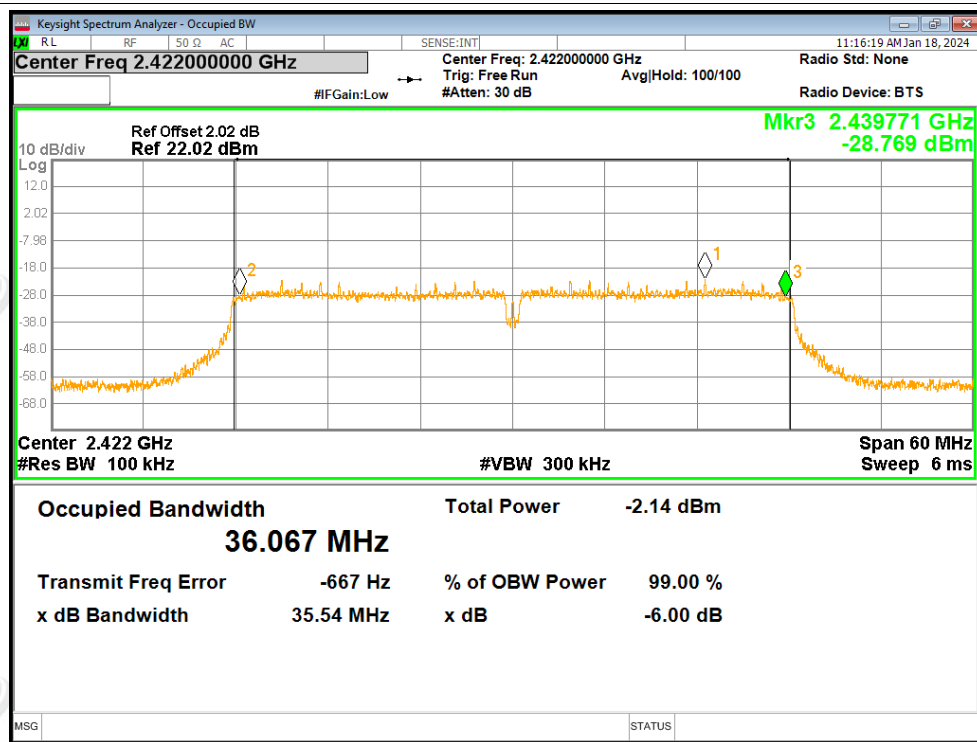




-6dB Bandwidth NVNT n40 2452MHz Ant1

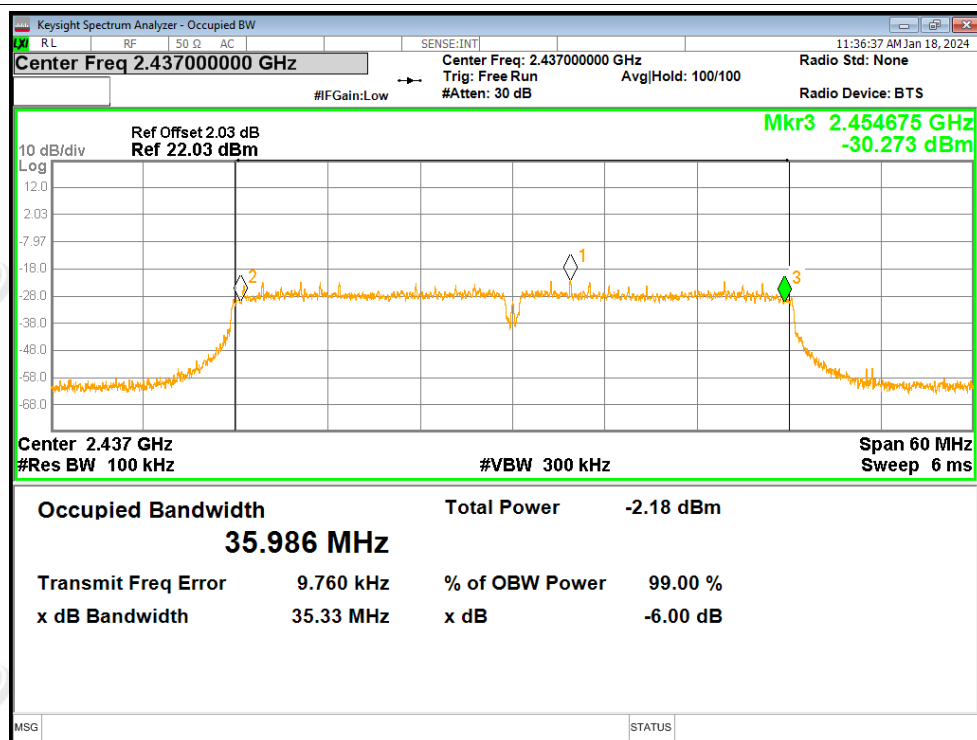


-6dB Bandwidth NVNT n40 2422MHz Ant2

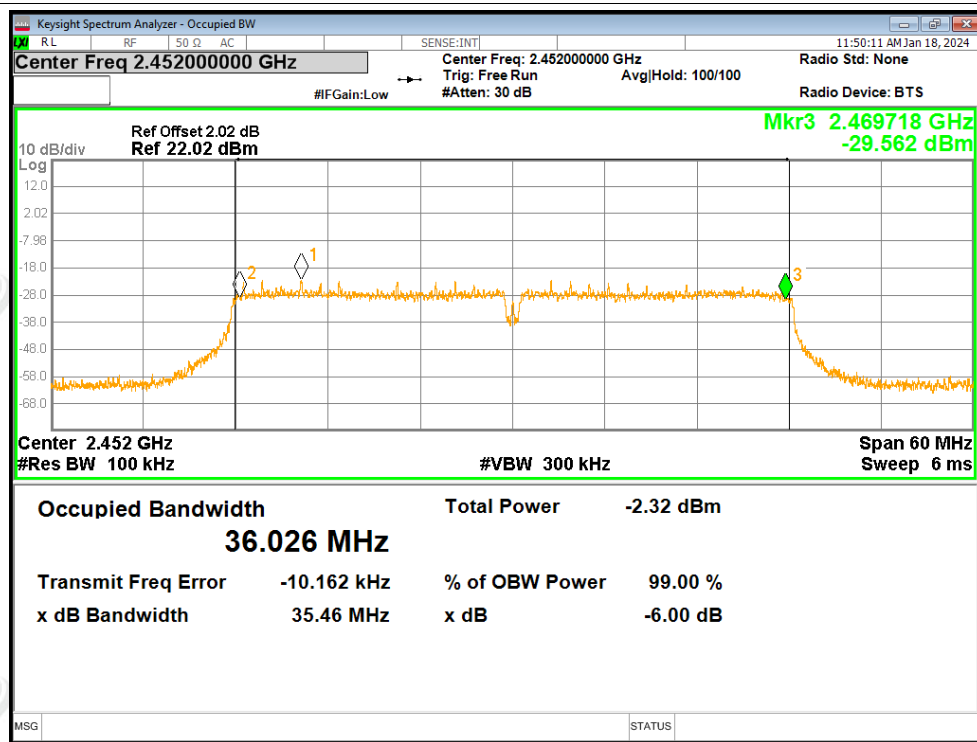




-6dB Bandwidth NVNT n40 2437MHz Ant2



-6dB Bandwidth NVNT n40 2452MHz Ant2



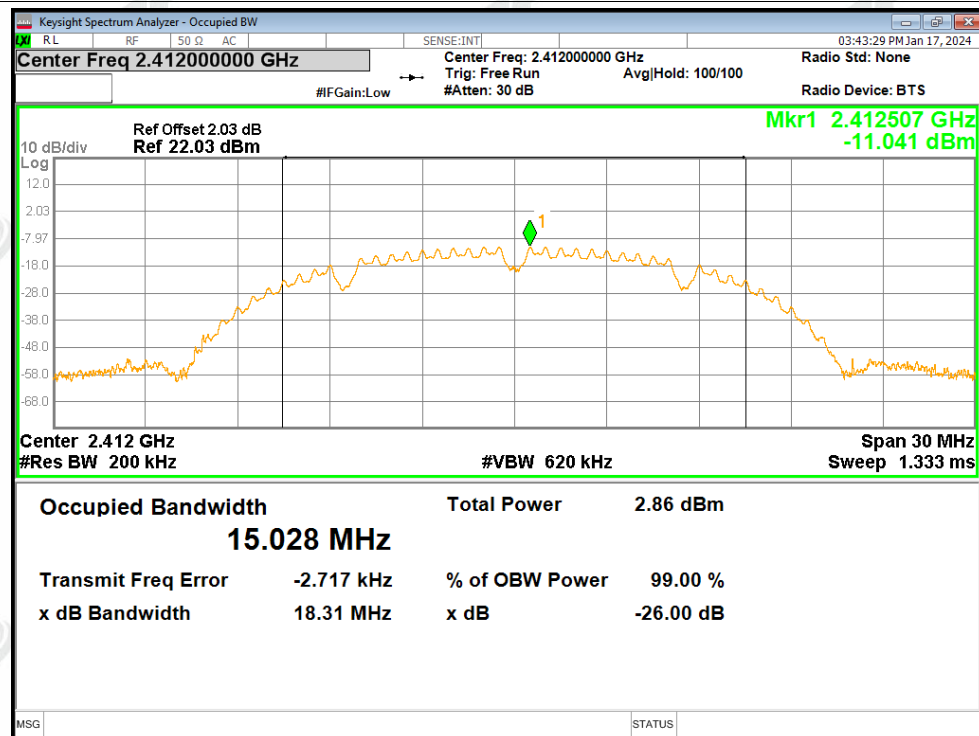
**ZHONGHAN****A4. Occupied Channel Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	b	2412	Ant1	15.028
NVNT	b	2437	Ant1	14.966
NVNT	b	2462	Ant1	14.952
NVNT	b	2412	Ant2	15.026
NVNT	b	2437	Ant2	14.949
NVNT	b	2462	Ant2	14.97
NVNT	g	2412	Ant1	16.553
NVNT	g	2437	Ant1	16.554
NVNT	g	2462	Ant1	16.522
NVNT	g	2412	Ant2	16.591
NVNT	g	2437	Ant2	16.49
NVNT	g	2462	Ant2	16.536
NVNT	n20	2412	Ant1	17.679
NVNT	n20	2437	Ant1	17.626
NVNT	n20	2462	Ant1	17.609
NVNT	n20	2412	Ant2	17.681
NVNT	n20	2437	Ant2	17.601
NVNT	n20	2462	Ant2	17.624
NVNT	n40	2422	Ant1	36.183
NVNT	n40	2437	Ant1	36.155
NVNT	n40	2452	Ant1	36.149
NVNT	n40	2422	Ant2	36.161
NVNT	n40	2437	Ant2	36.081
NVNT	n40	2452	Ant2	36.174

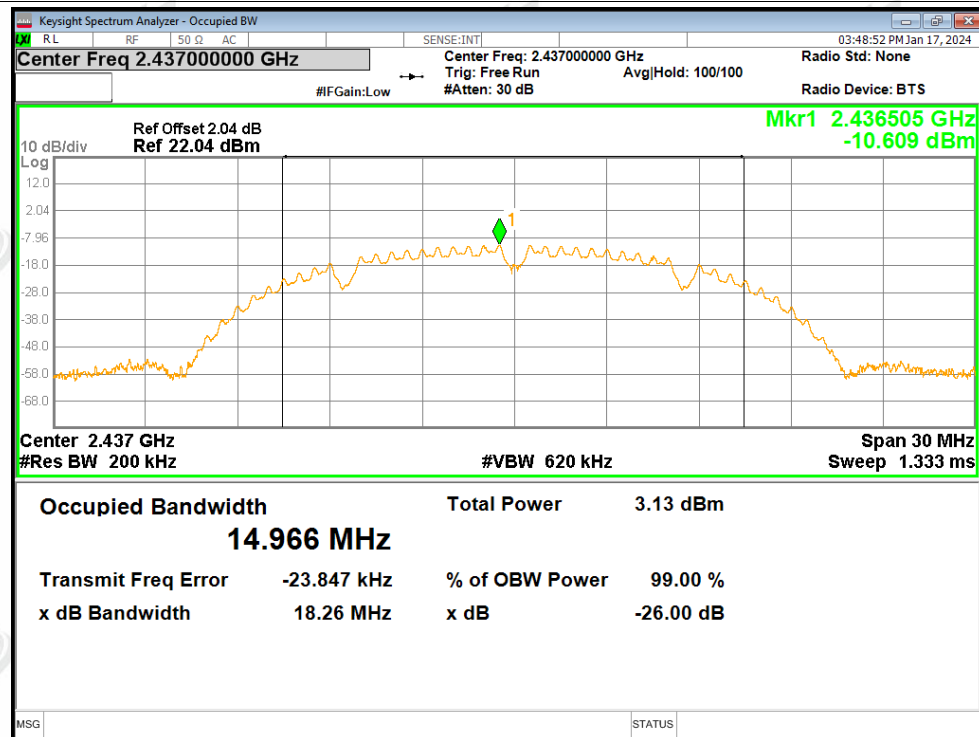


Test Graphs

OBW NVNT b 2412MHz Ant1

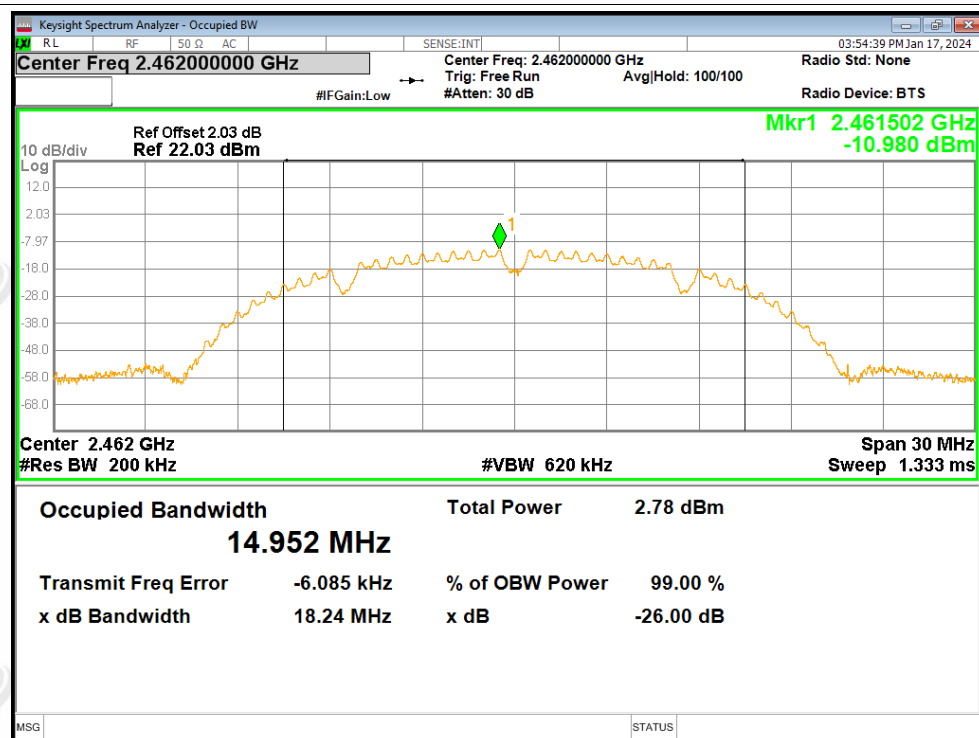


OBW NVNT b 2437MHz Ant1

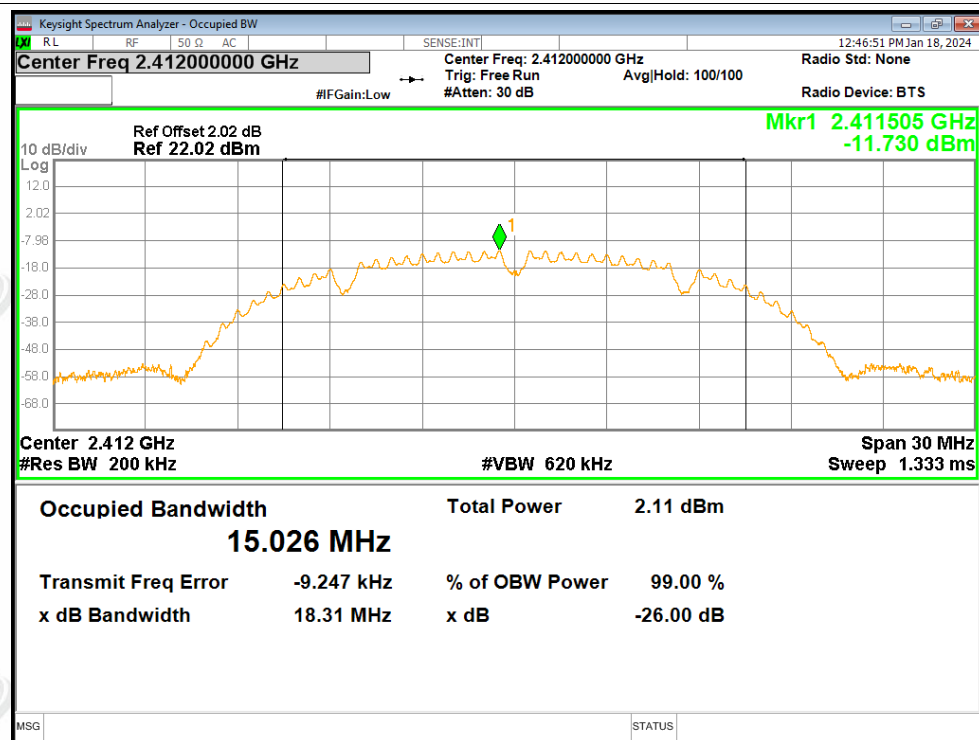




OBW NVNT b 2462MHz Ant1

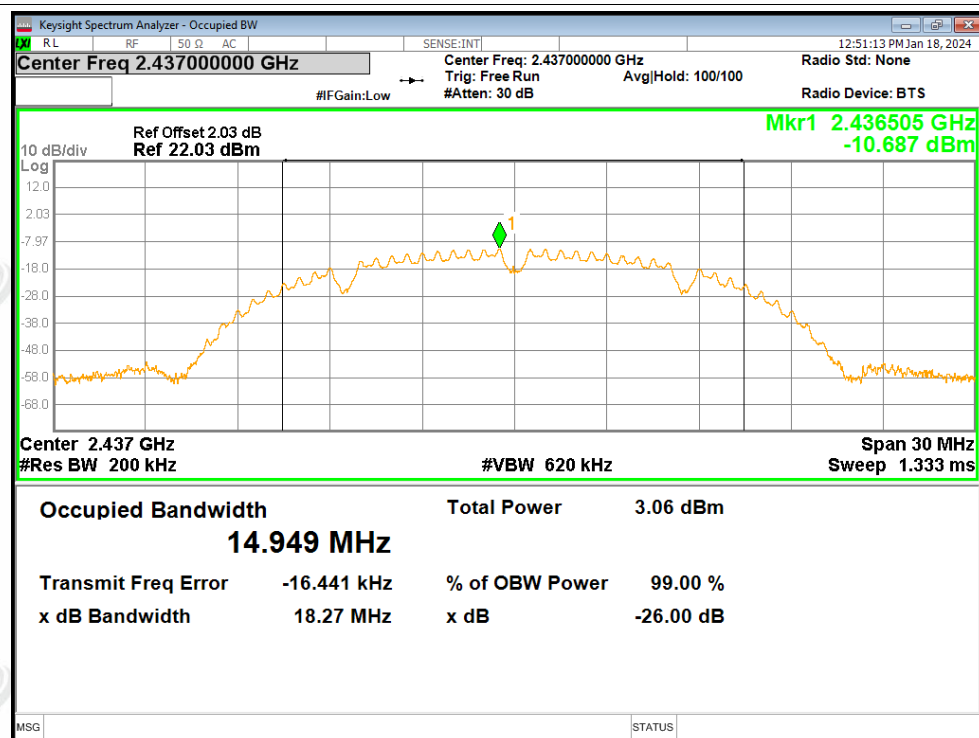


OBW NVNT b 2412MHz Ant2

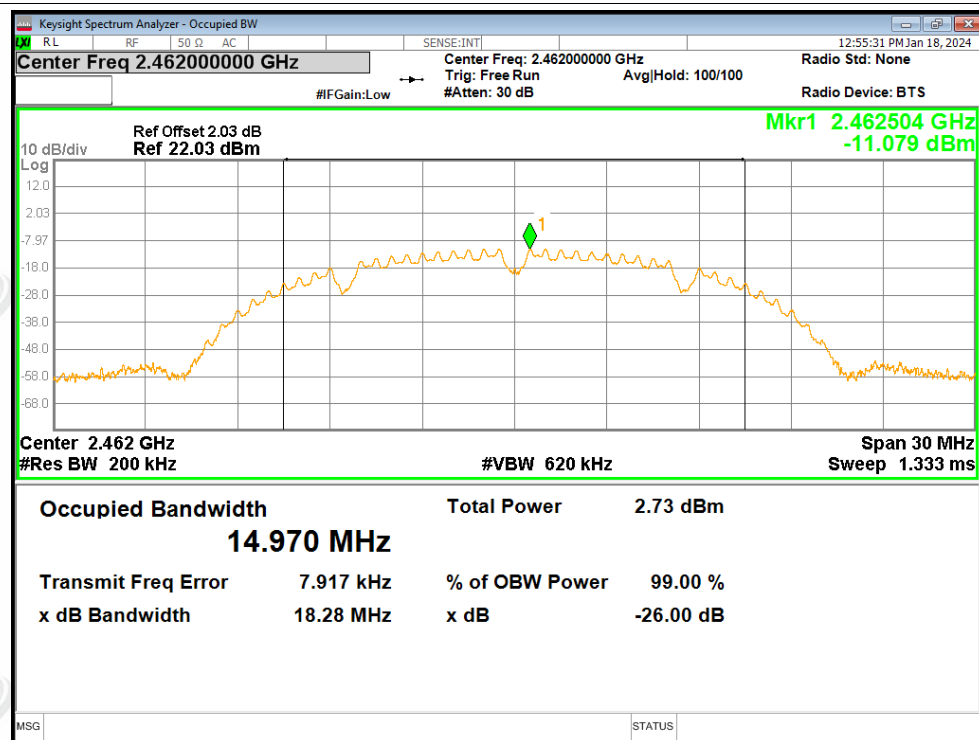




OBW NVNT b 2437MHz Ant2

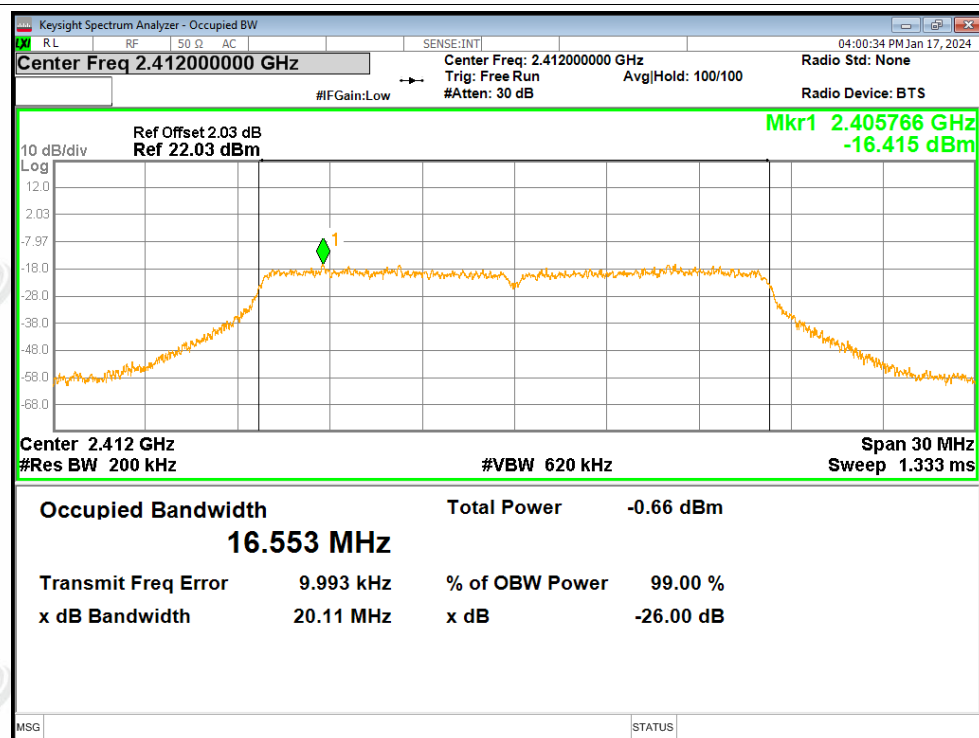


OBW NVNT b 2462MHz Ant2

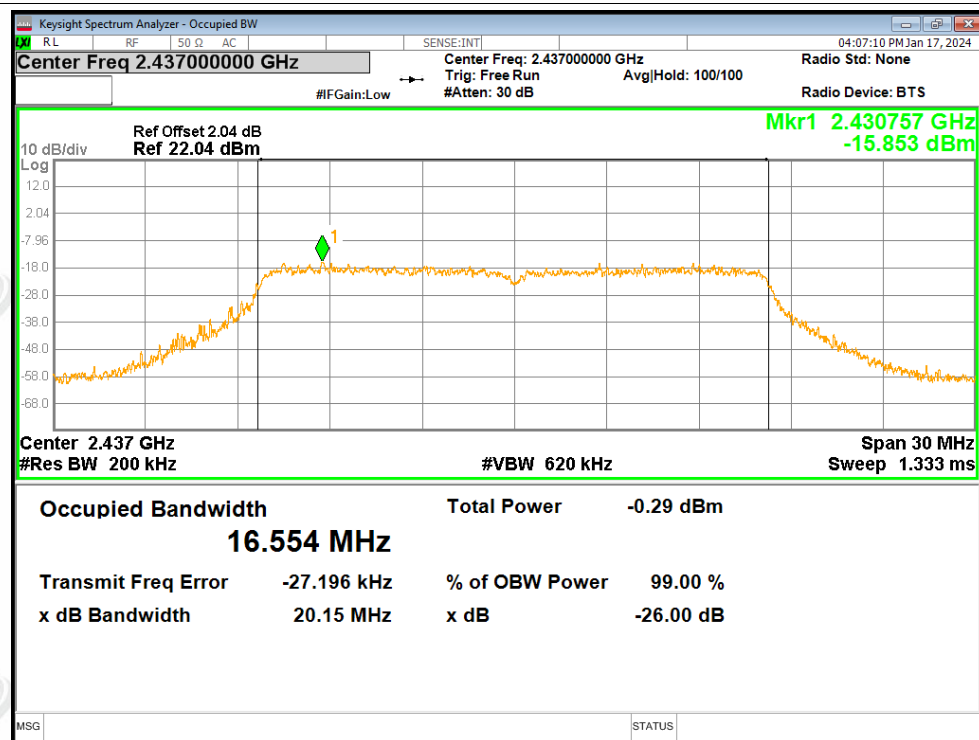




OBW NVNT g 2412MHz Ant1

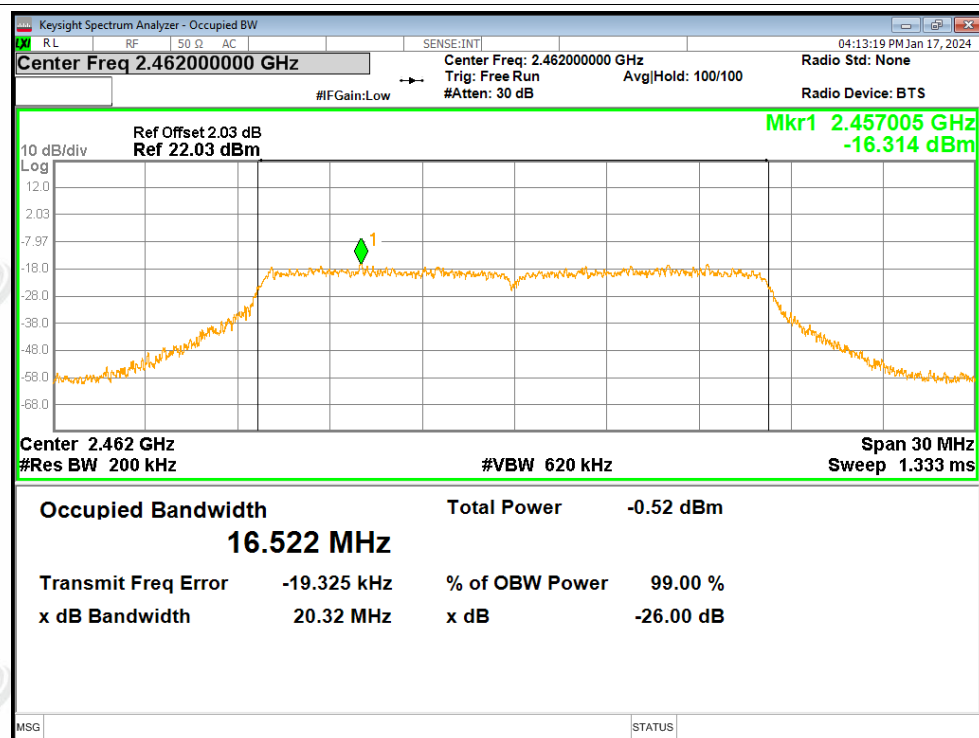


OBW NVNT g 2437MHz Ant1

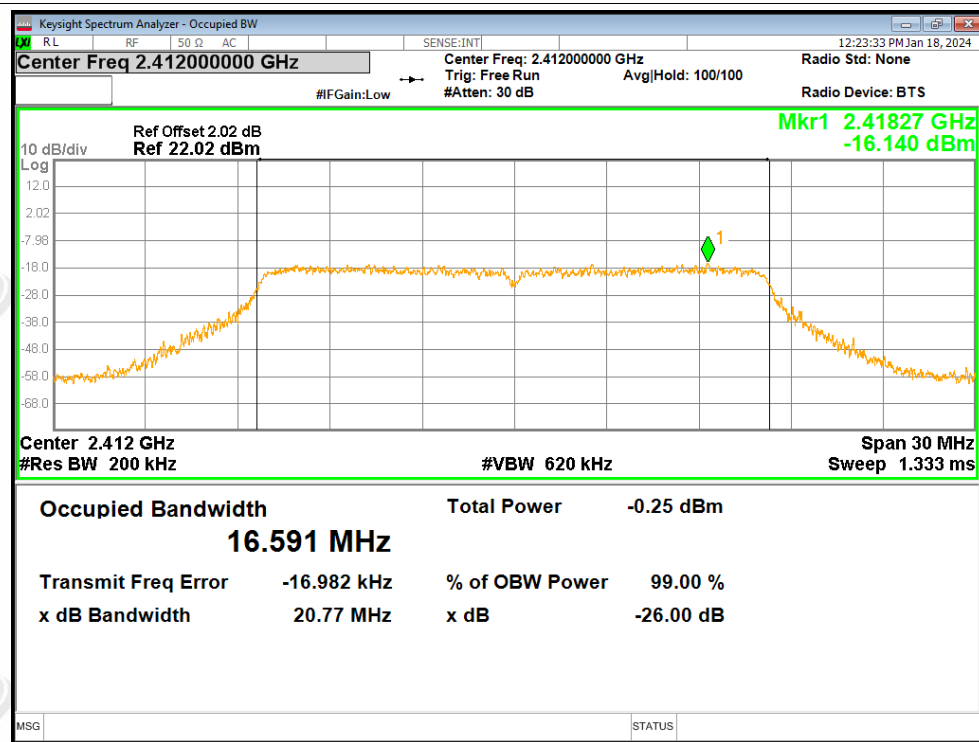




OBW NVNT g 2462MHz Ant1

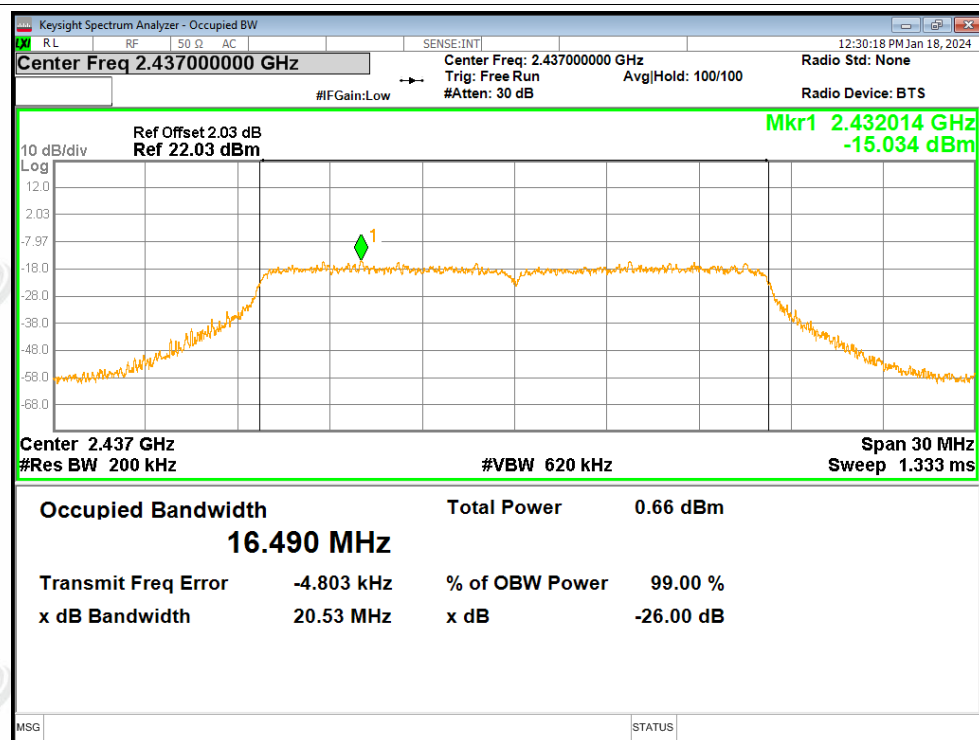


OBW NVNT g 2412MHz Ant2

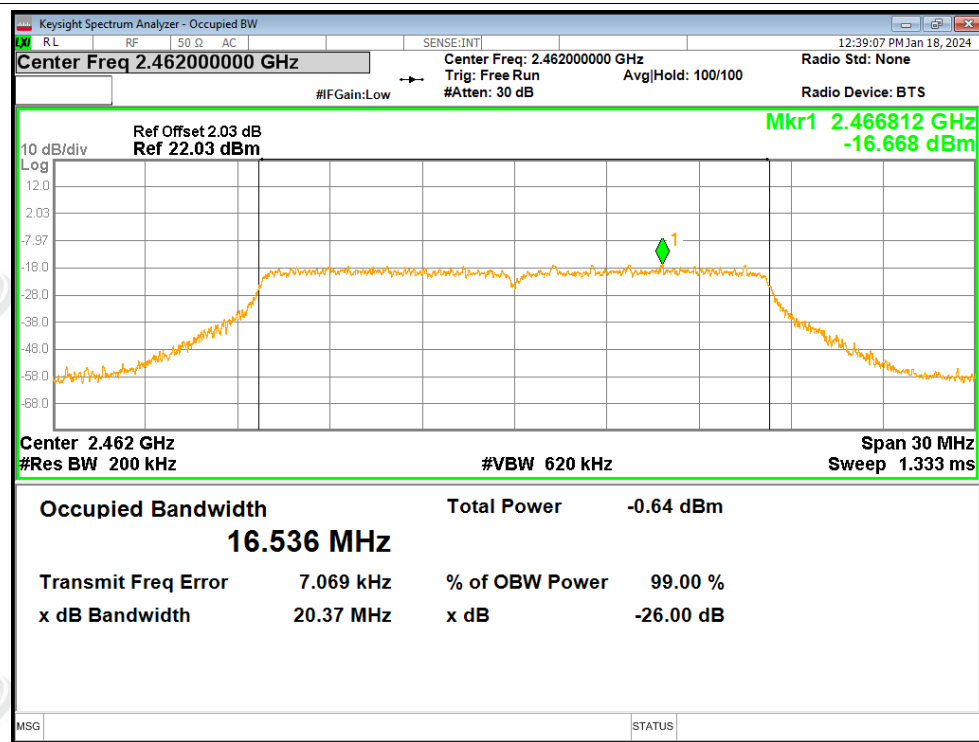




OBW NVNT g 2437MHz Ant2

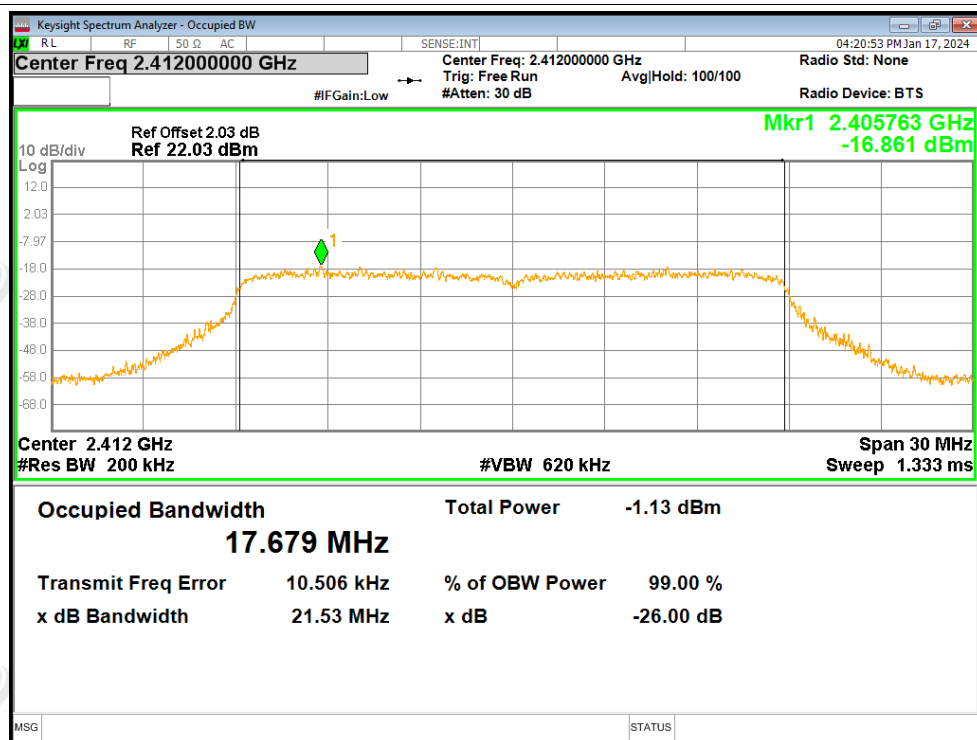


OBW NVNT g 2462MHz Ant2

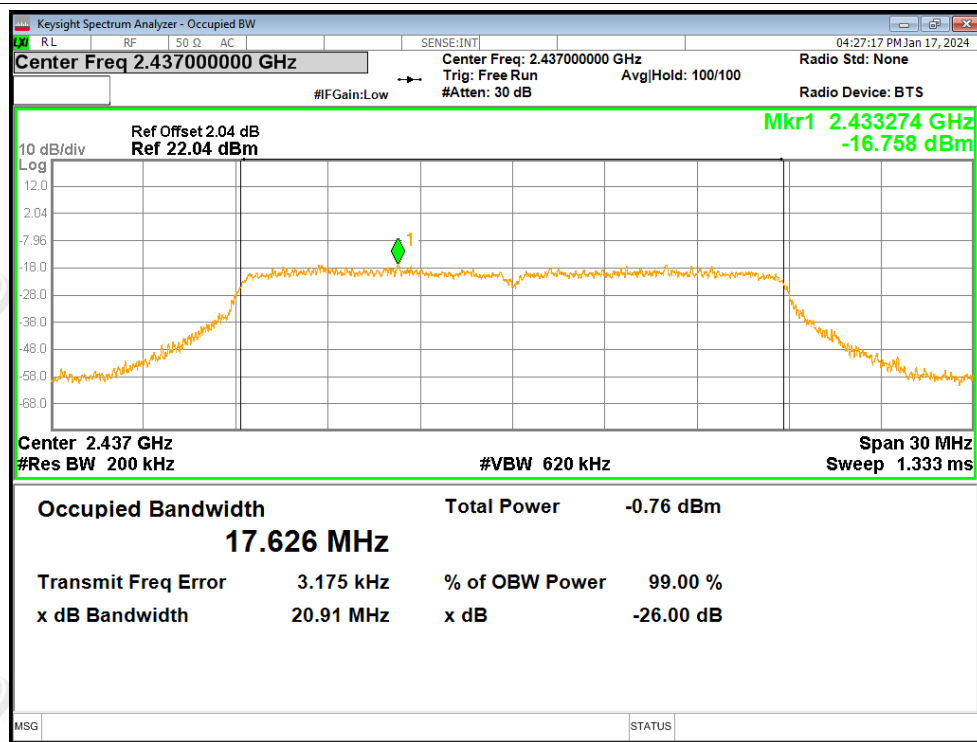




OBW NVNT n20 2412MHz Ant1

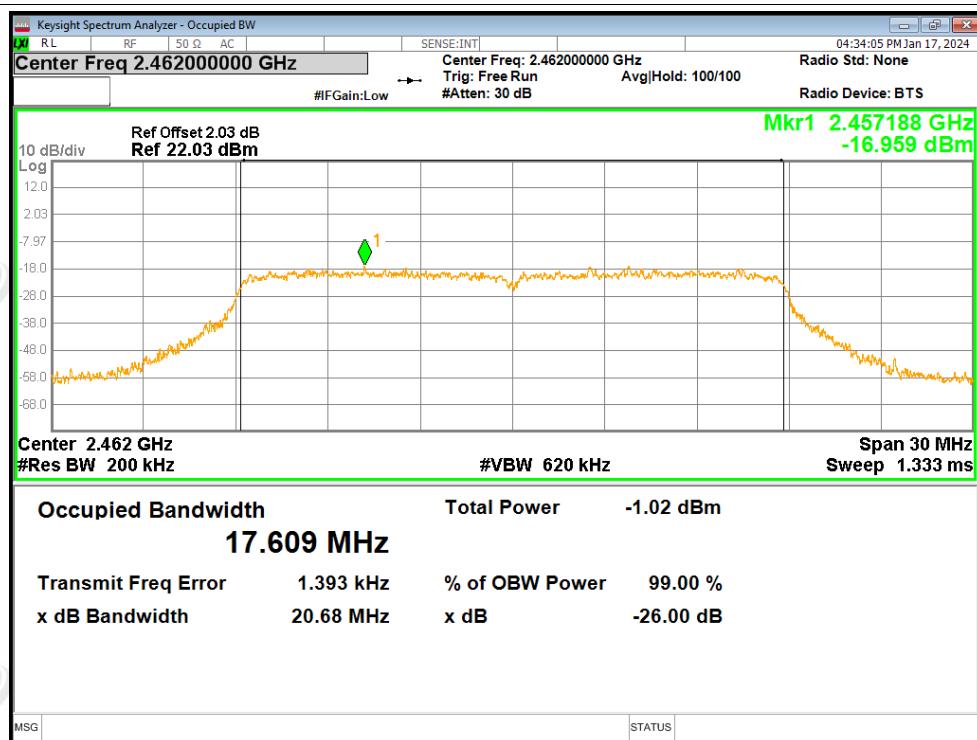


OBW NVNT n20 2437MHz Ant1

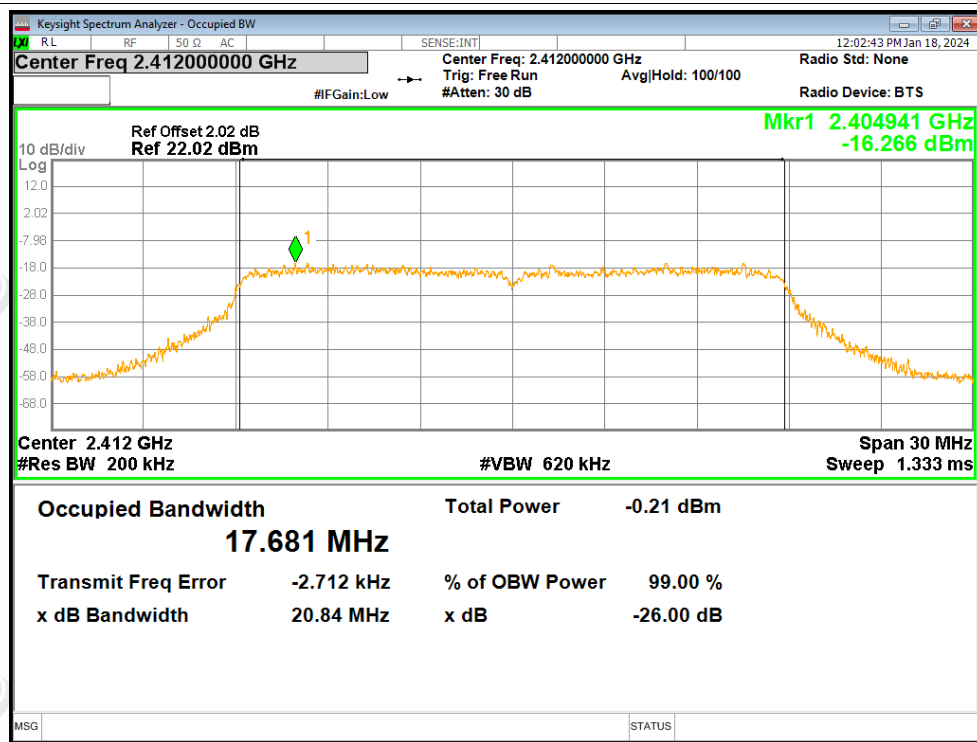




OBW NVNT n20 2462MHz Ant1

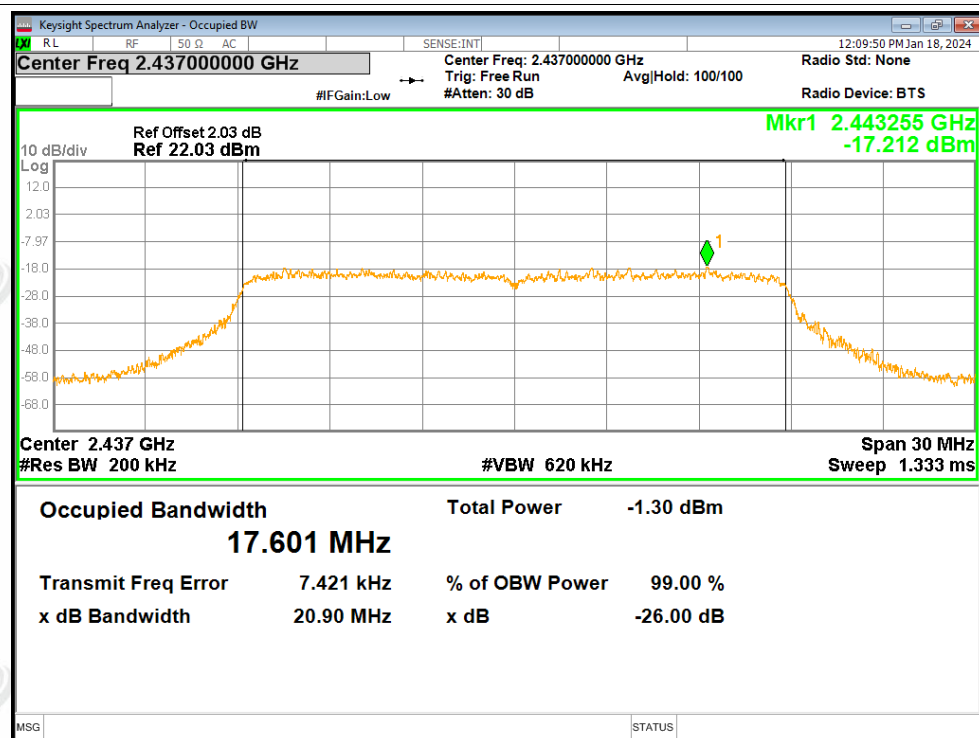


OBW NVNT n20 2412MHz Ant2

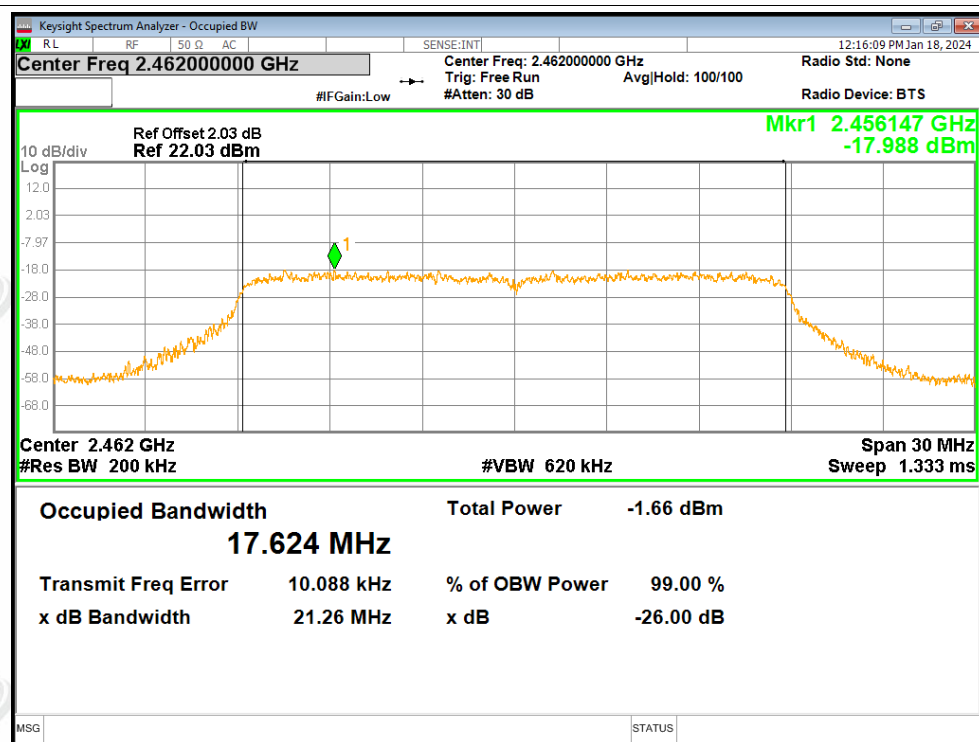




OBW NVNT n20 2437MHz Ant2

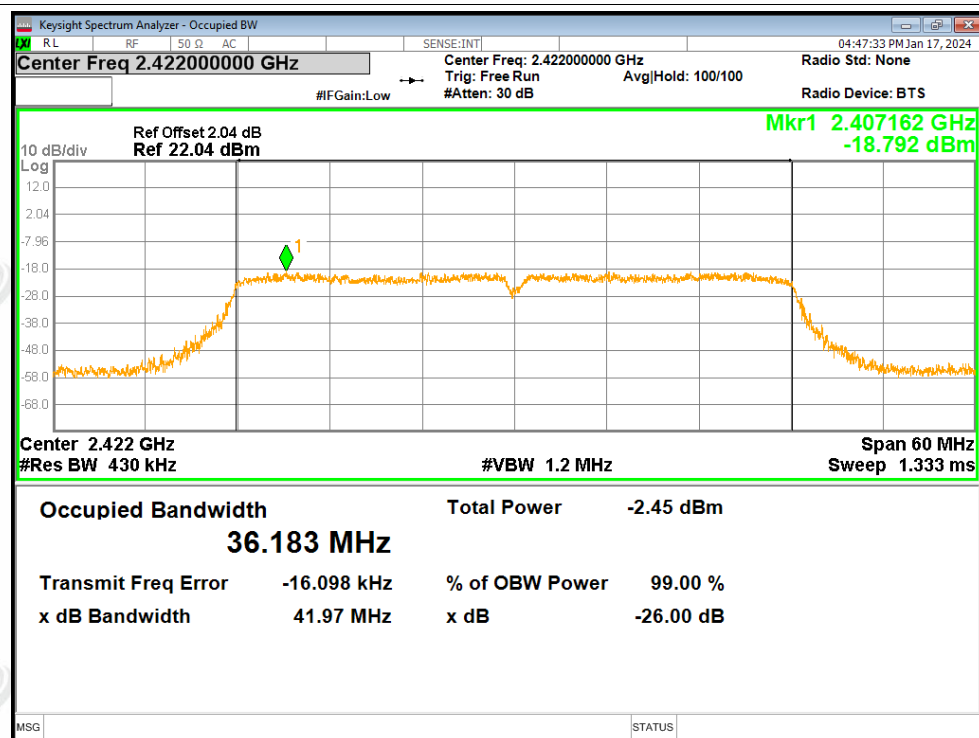


OBW NVNT n20 2462MHz Ant2

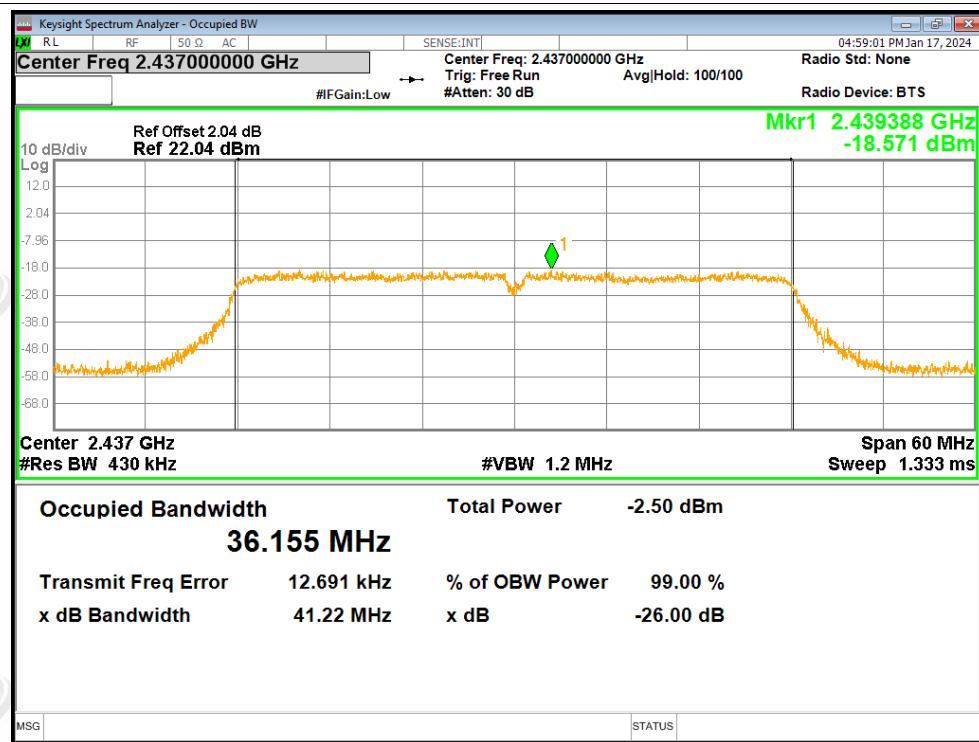




OBW NVNT n40 2422MHz Ant1

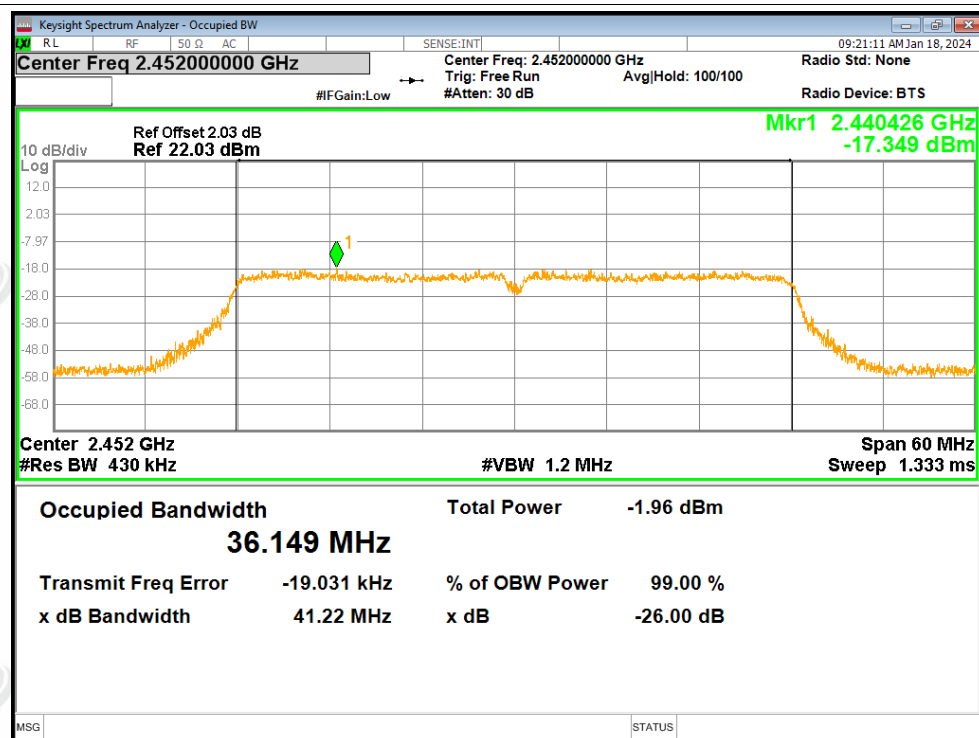


OBW NVNT n40 2437MHz Ant1

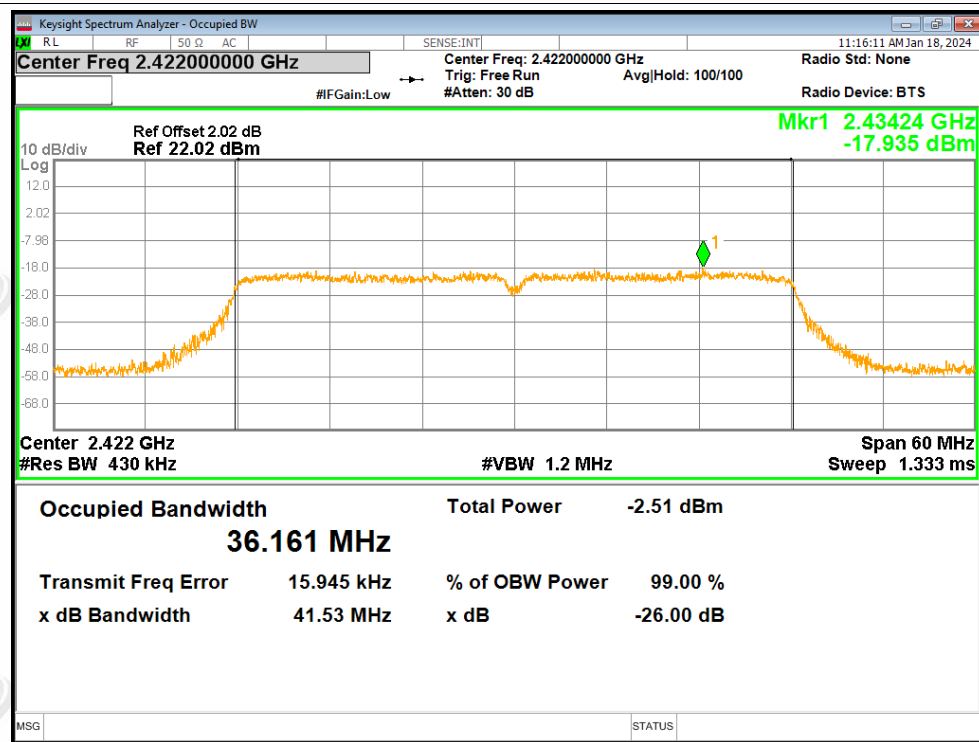




OBW NVNT n40 2452MHz Ant1

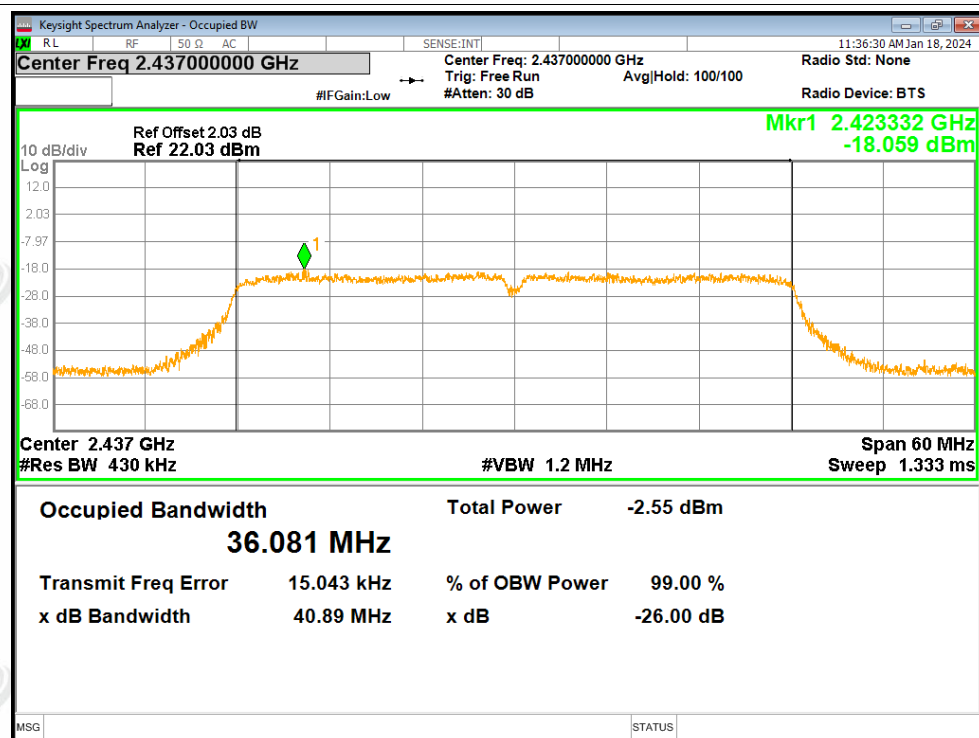


OBW NVNT n40 2422MHz Ant2

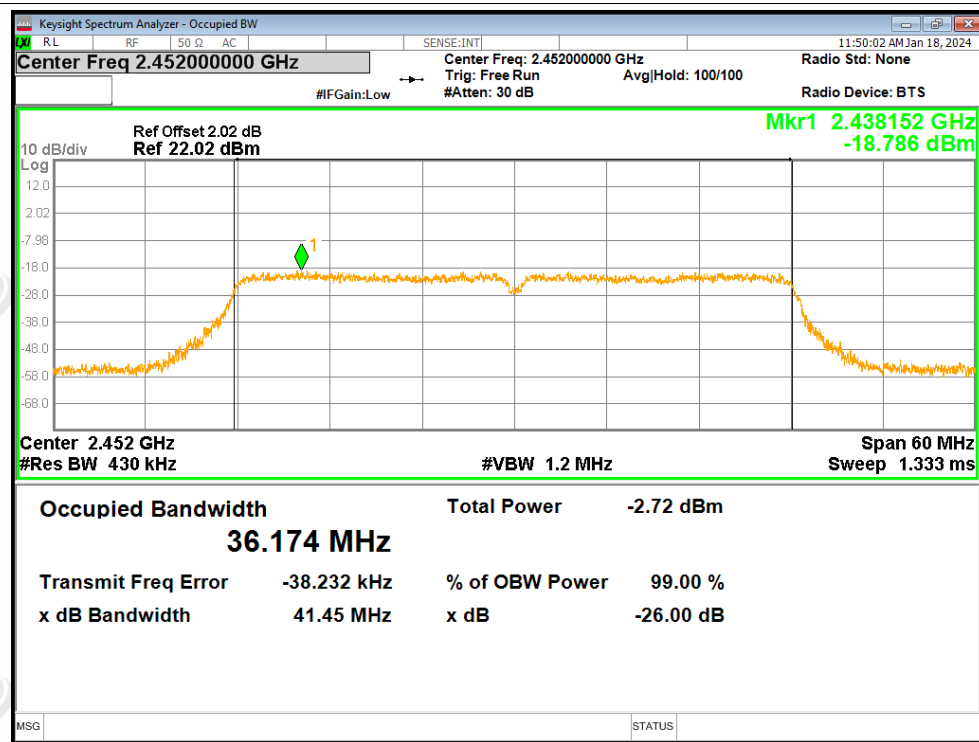




OBW NVNT n40 2437MHz Ant2



OBW NVNT n40 2452MHz Ant2



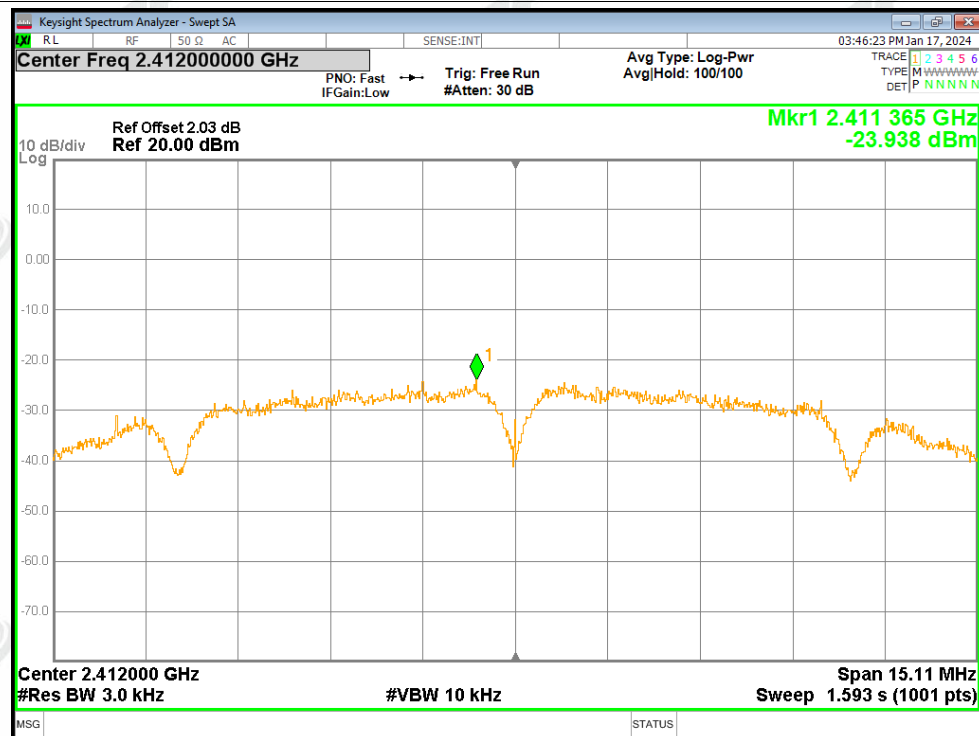
**ZHONGHAN****A5. Maximum Power Spectral Density Level**

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
NVNT	b	2412	Ant1	-23.94	8	Pass
NVNT	b	2437	Ant1	-24.24	8	Pass
NVNT	b	2462	Ant1	-24.45	8	Pass
NVNT	b	2412	Ant2	-24.91	8	Pass
NVNT	b	2437	Ant2	-24.09	8	Pass
NVNT	b	2462	Ant2	-23.08	8	Pass
NVNT	g	2412	Ant1	-30.42	8	Pass
NVNT	g	2437	Ant1	-29.47	8	Pass
NVNT	g	2462	Ant1	-30.41	8	Pass
NVNT	g	2412	Ant2	-29.27	8	Pass
NVNT	g	2437	Ant2	-29.44	8	Pass
NVNT	g	2462	Ant2	-30.57	8	Pass
NVNT	n20	2412	Ant1	-31.83	8	Pass
NVNT	n20	2437	Ant1	-31.23	8	Pass
NVNT	n20	2462	Ant1	-29.52	8	Pass
NVNT	n20	2412	Ant2	-30.19	8	Pass
NVNT	n20	2437	Ant2	-31.63	8	Pass
NVNT	n20	2462	Ant2	-31.89	8	Pass
NVNT	n40	2422	Ant1	-32.53	8	Pass
NVNT	n40	2437	Ant1	-32.42	8	Pass
NVNT	n40	2452	Ant1	-31.81	8	Pass
NVNT	n40	2422	Ant2	-32.72	8	Pass
NVNT	n40	2437	Ant2	-32.42	8	Pass
NVNT	n40	2452	Ant2	-32.52	8	Pass
NVNT	n20	2412	MIMO	-27.92	8	Pass
NVNT	n20	2437	MIMO	-28.42	8	Pass
NVNT	n20	2462	MIMO	-27.53	8	Pass
NVNT	n40	2422	MIMO	-29.61	8	Pass
NVNT	n40	2437	MIMO	-29.41	8	Pass
NVNT	n40	2452	MIMO	-29.14	8	Pass

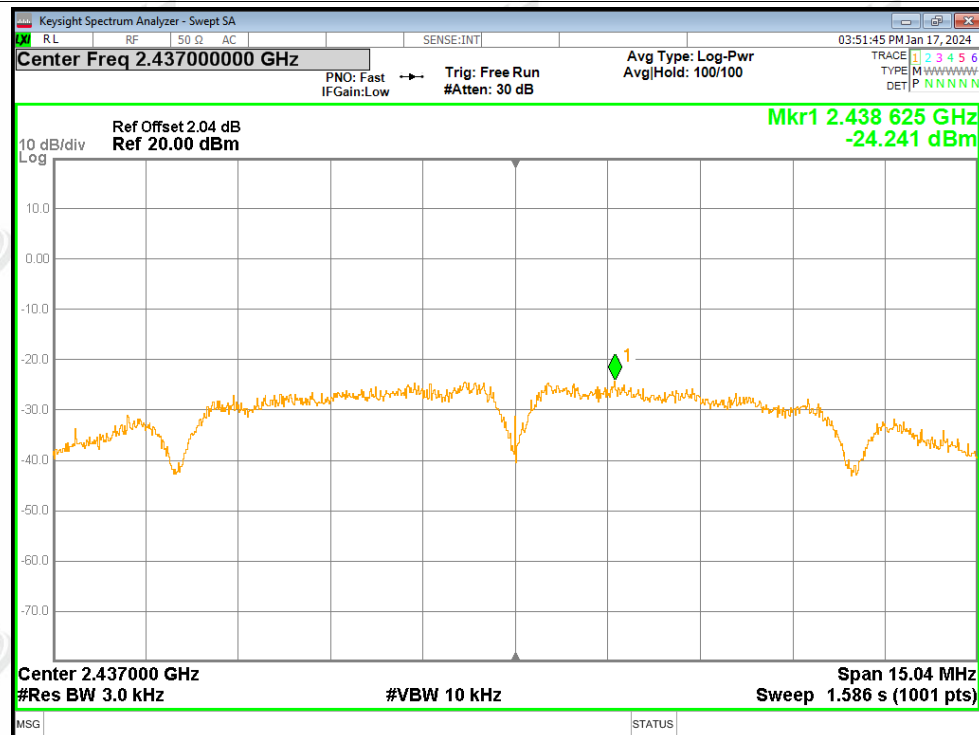


Test Graphs

PSD NVNT b 2412MHz Ant1

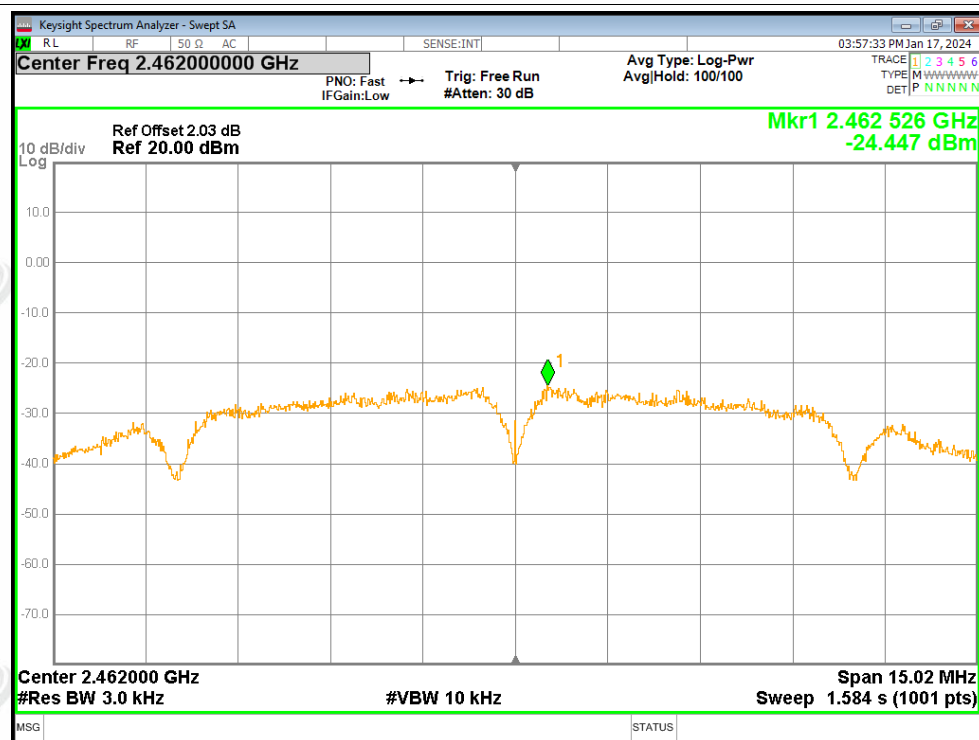


PSD NVNT b 2437MHz Ant1

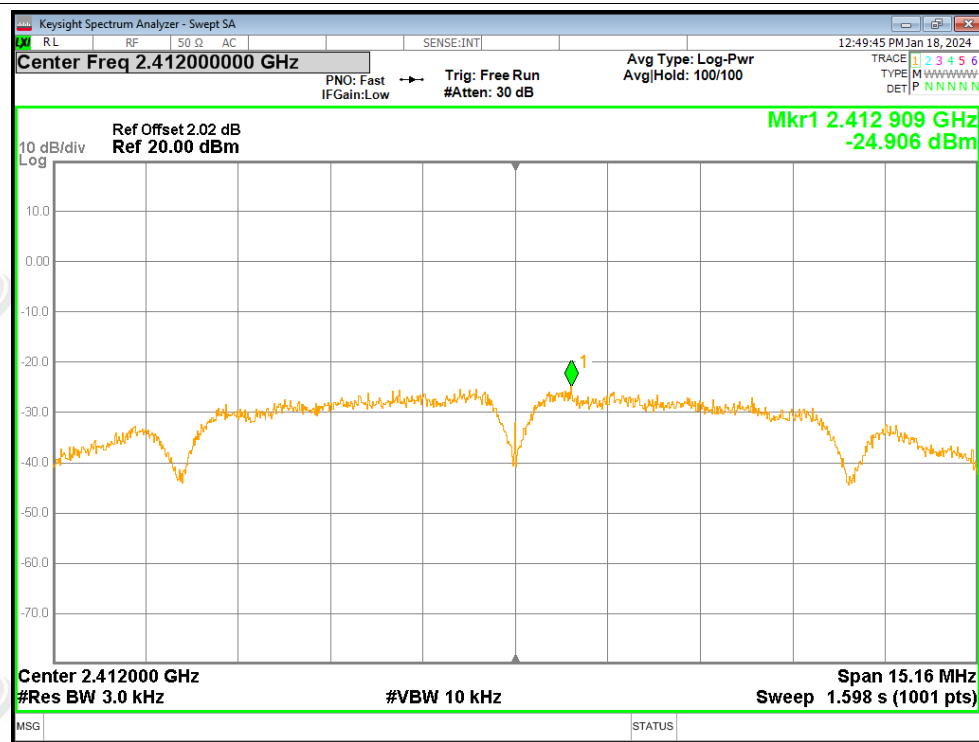




PSD NVNT b 2462MHz Ant1

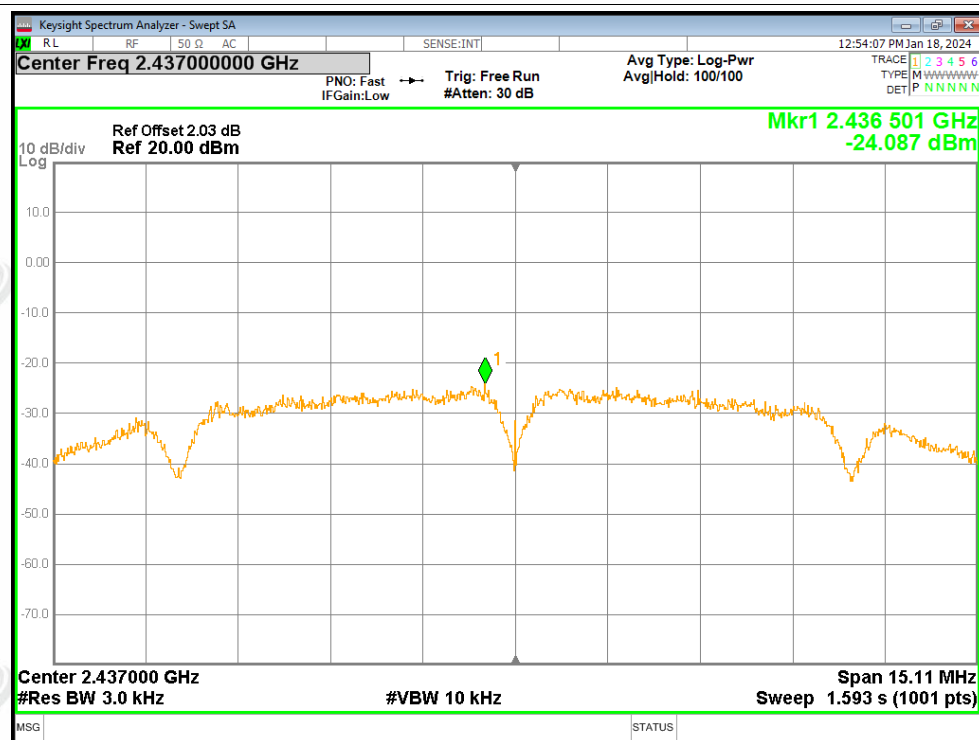


PSD NVNT b 2412MHz Ant2

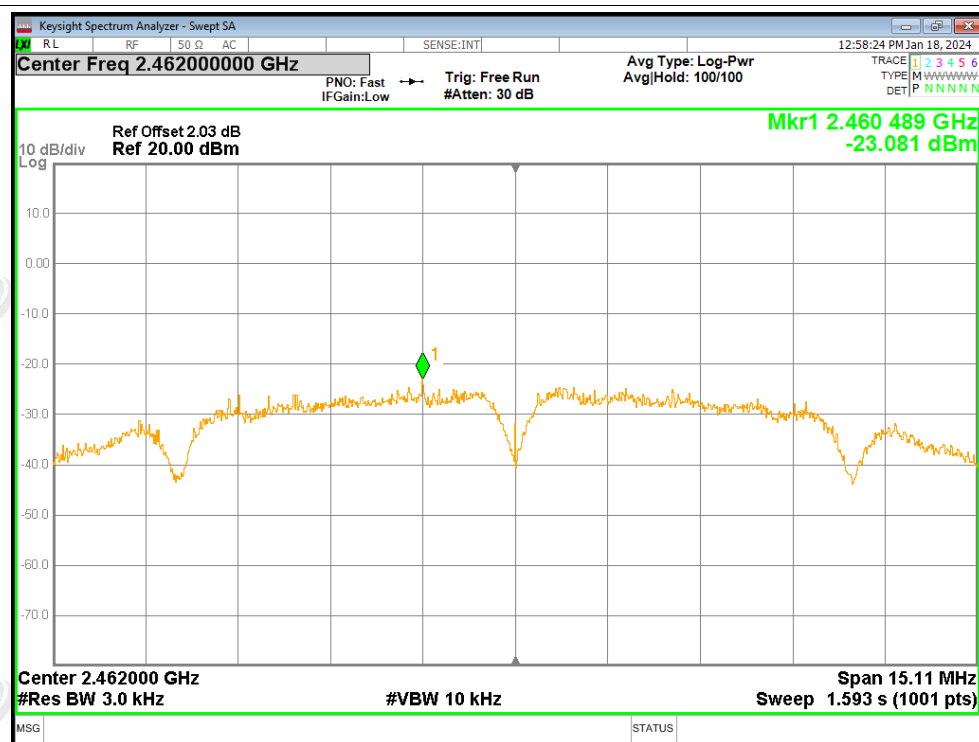




PSD NVNT b 2437MHz Ant2

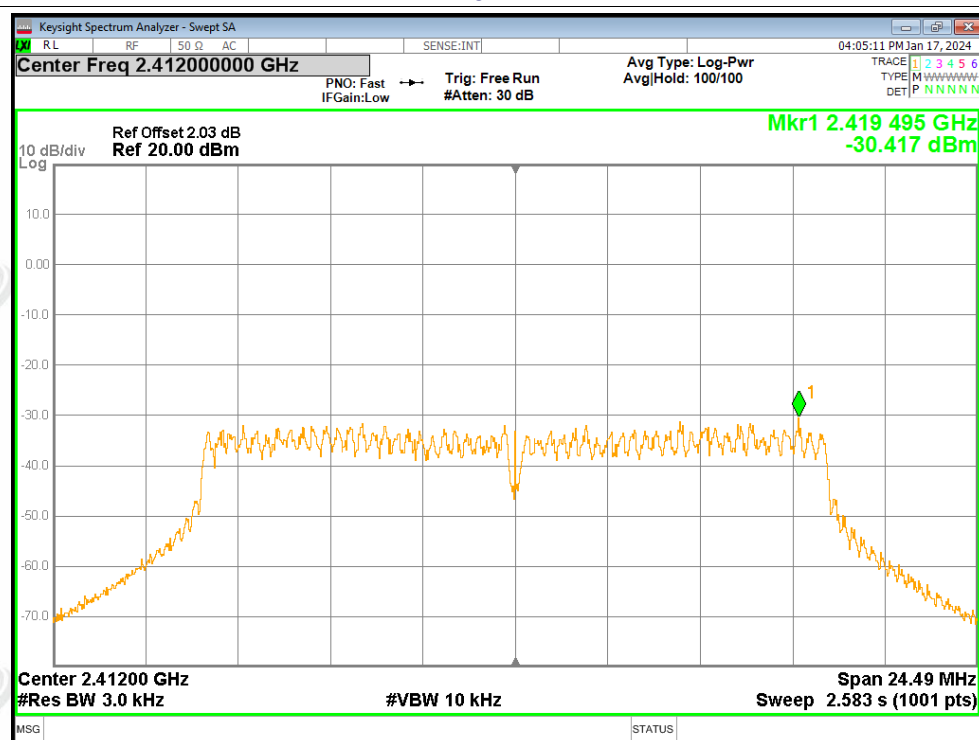


PSD NVNT b 2462MHz Ant2

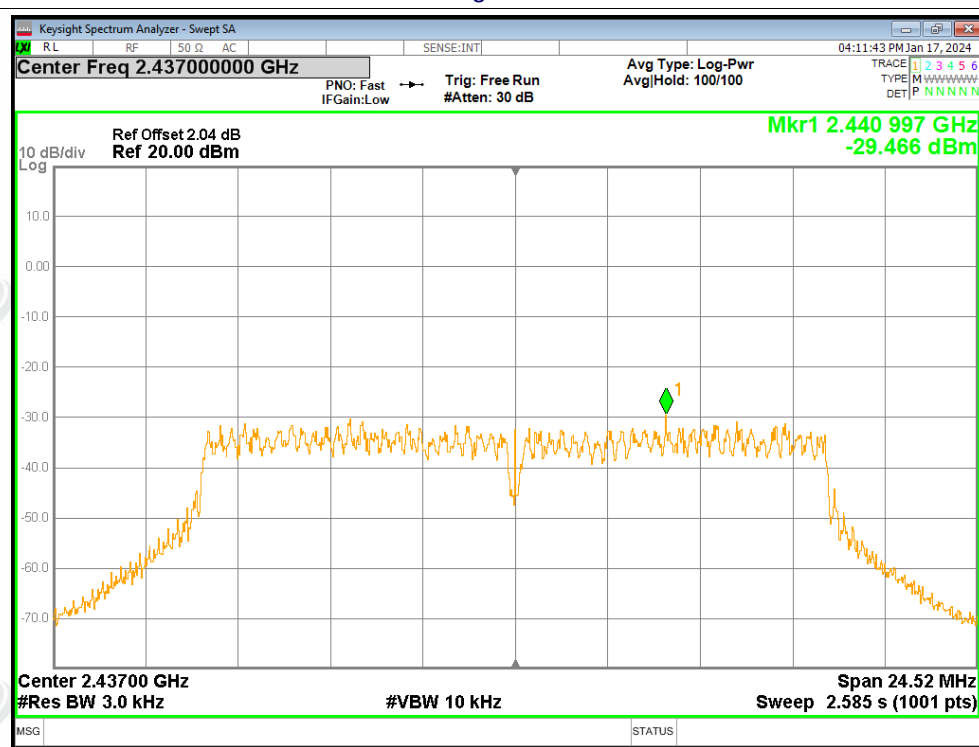




PSD NVNT g 2412MHz Ant1

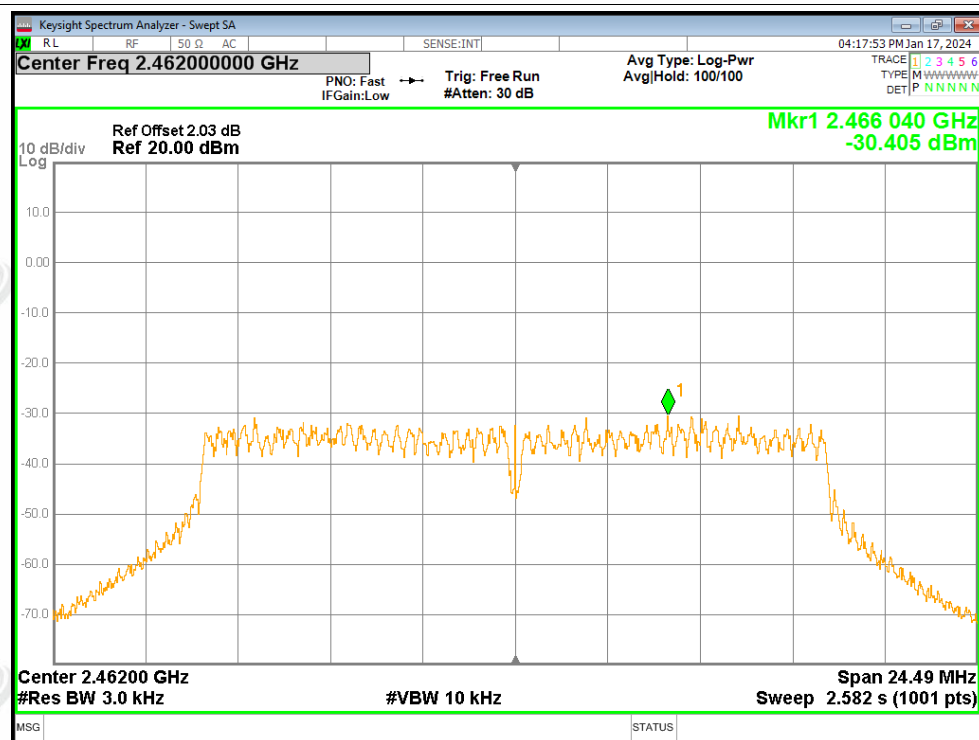


PSD NVNT g 2437MHz Ant1





PSD NVNT g 2462MHz Ant1



PSD NVNT g 2412MHz Ant2

