

Appendix B for 5.2GWIFI Test Data

Product Name: Wireless USB Adapter

Test Model: GE-LW09-8822

Environmental Conditions

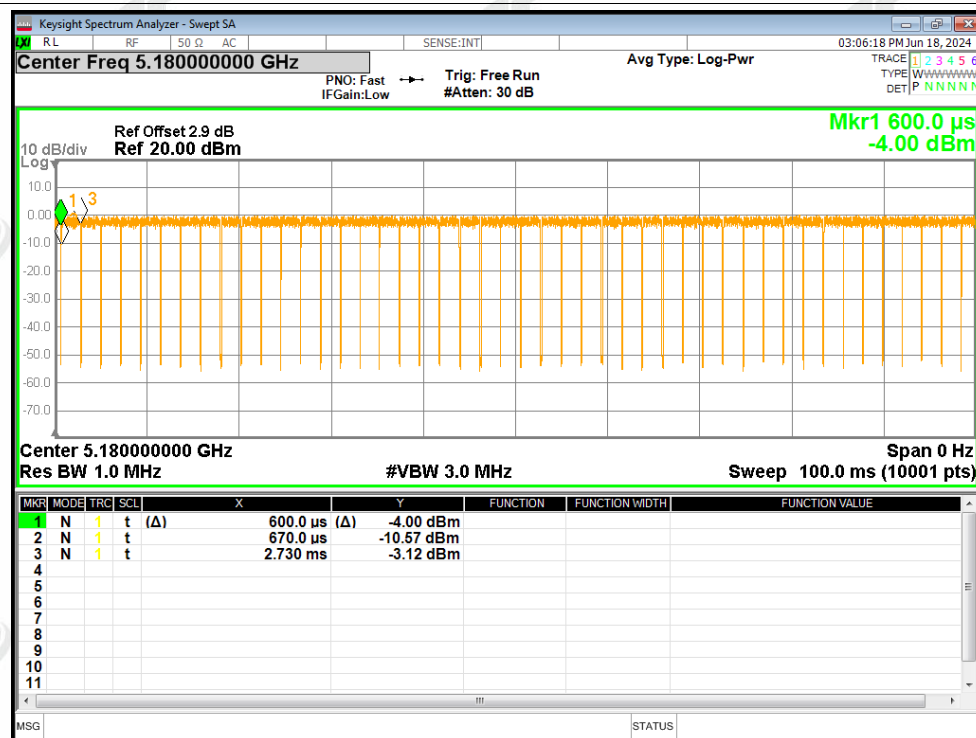
Temperature:	23.8℃
Relative Humidity:	52%
ATM Pressure:	101.0 kPa
Test Engineer:	Leon Li
Supervised by:	Baret Wu

**B1. Duty Cycle**

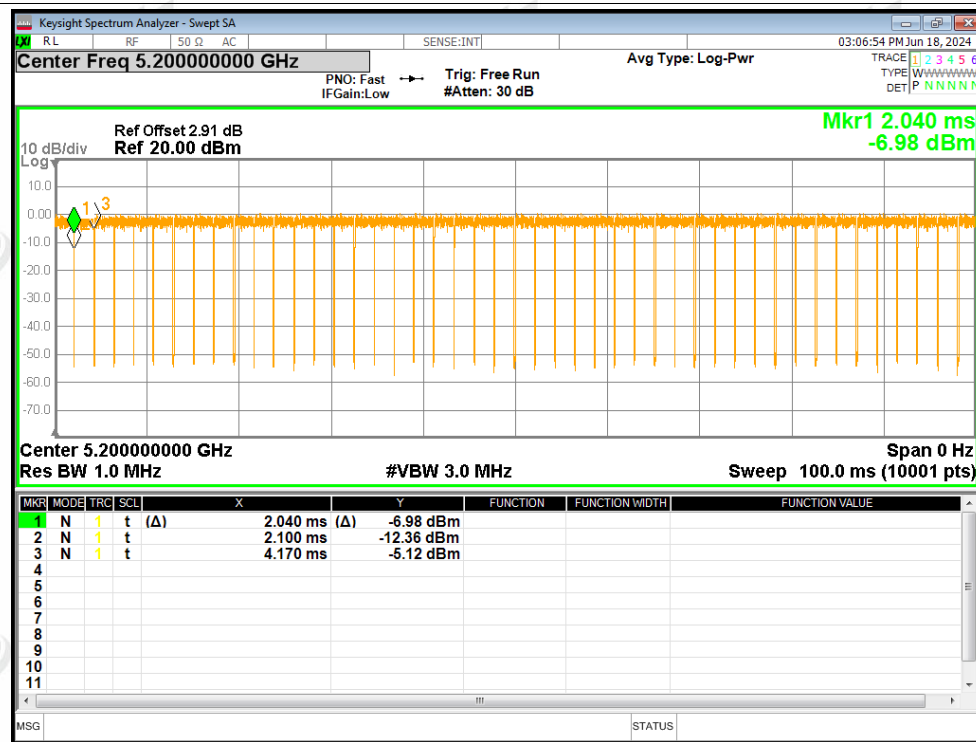
Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	96.71	0.15	0.49
NVNT	a	5200	97.18	0.12	0.48
NVNT	a	5240	97.64	0.1	0.48
NVNT	n20	5180	95.52	0.2	0.52
NVNT	n20	5200	92.75	0.33	0.52
NVNT	n20	5240	94.58	0.24	0.52
NVNT	n40	5190	94.06	0.27	1.05
NVNT	n40	5230	96.94	0.13	1.05
NVNT	ac20	5180	97.49	0.11	0.52
NVNT	ac20	5200	98.48	0	0.52
NVNT	ac20	5240	96.04	0.18	0.52
NVNT	ac40	5190	90.57	0.43	1.04
NVNT	ac40	5230	88.89	0.51	1.04
NVNT	ac80	5210	80.7	0.88	2.17

Test Graphs

Duty Cycle NVNT a 5180MHz Ant1

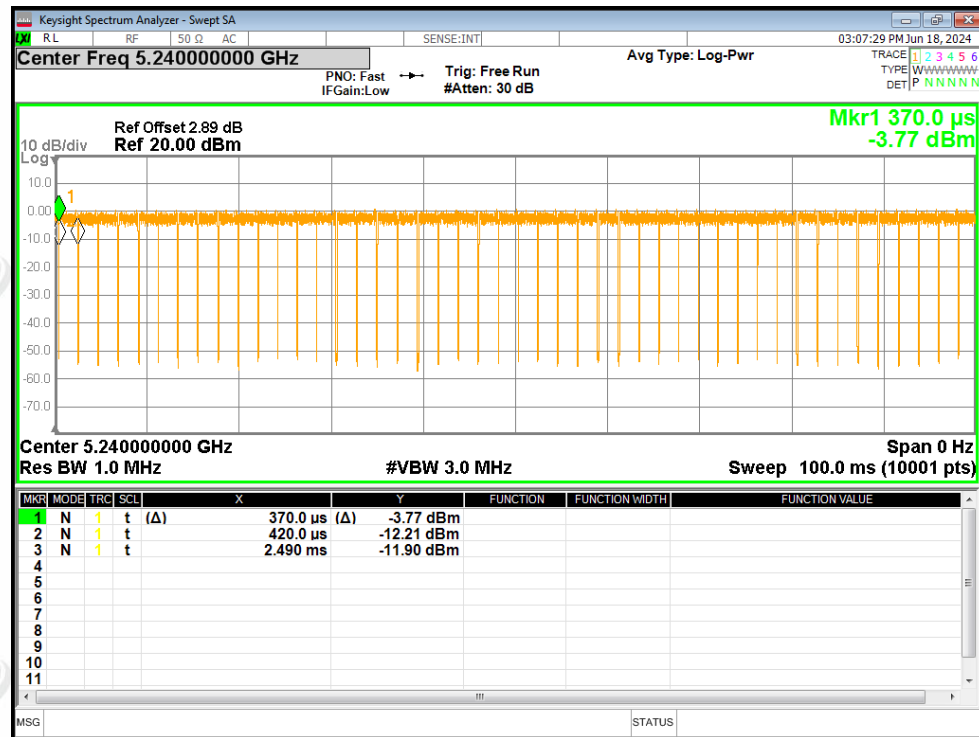


Duty Cycle NVNT a 5200MHz Ant1

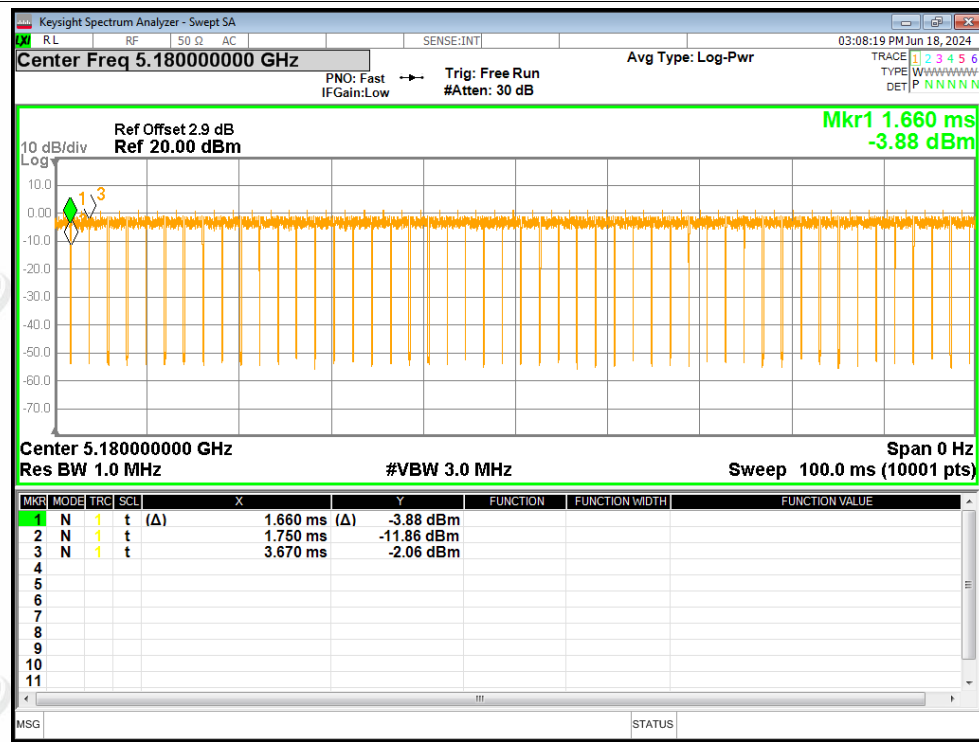




Duty Cycle NVNT a 5240MHz Ant1

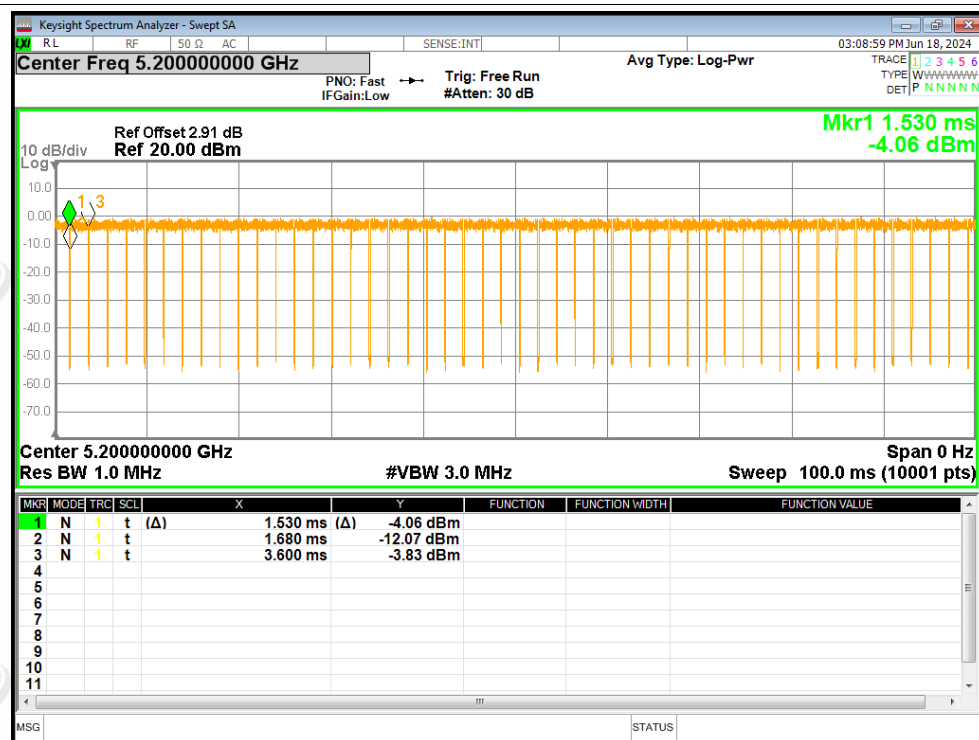


Duty Cycle NVNT n20 5180MHz Ant1

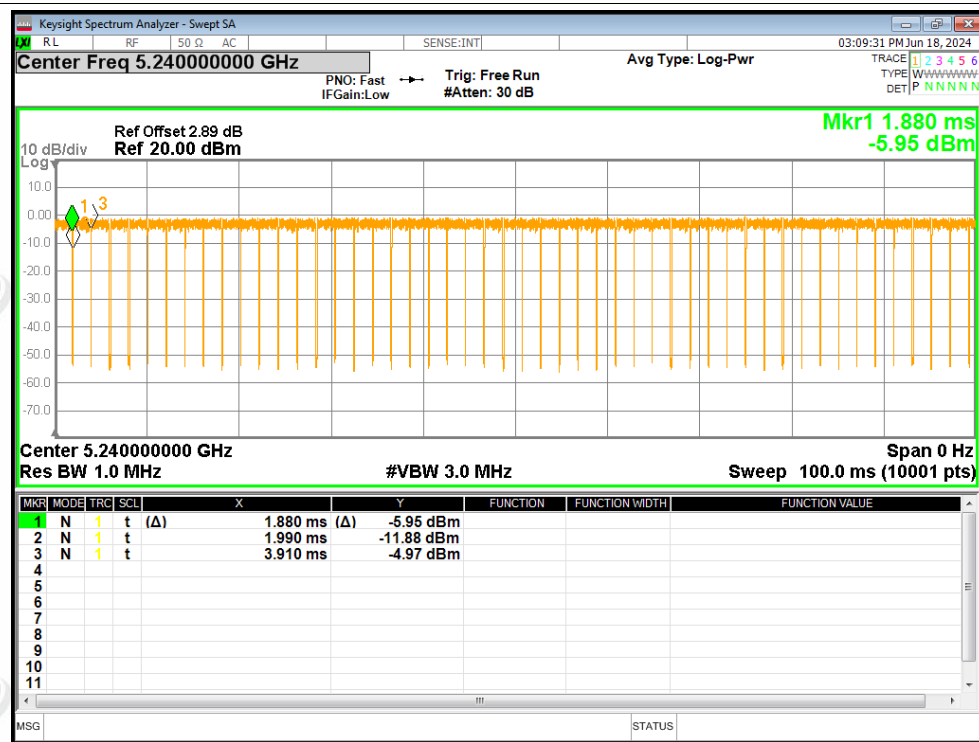




Duty Cycle NVNT n20 5200MHz Ant1

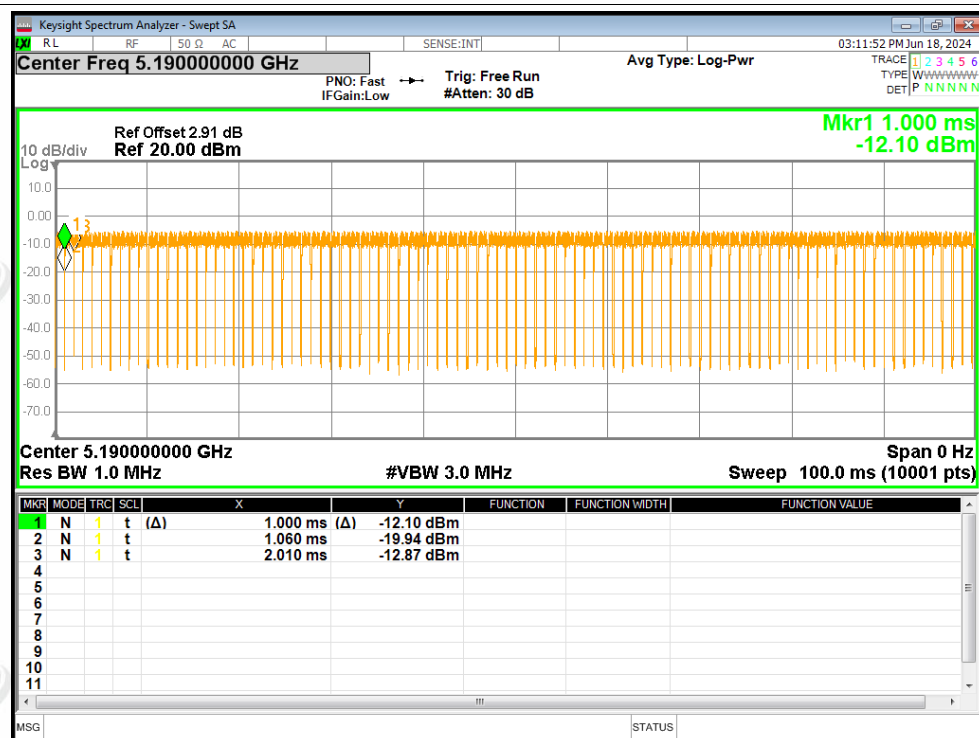


Duty Cycle NVNT n20 5240MHz Ant1

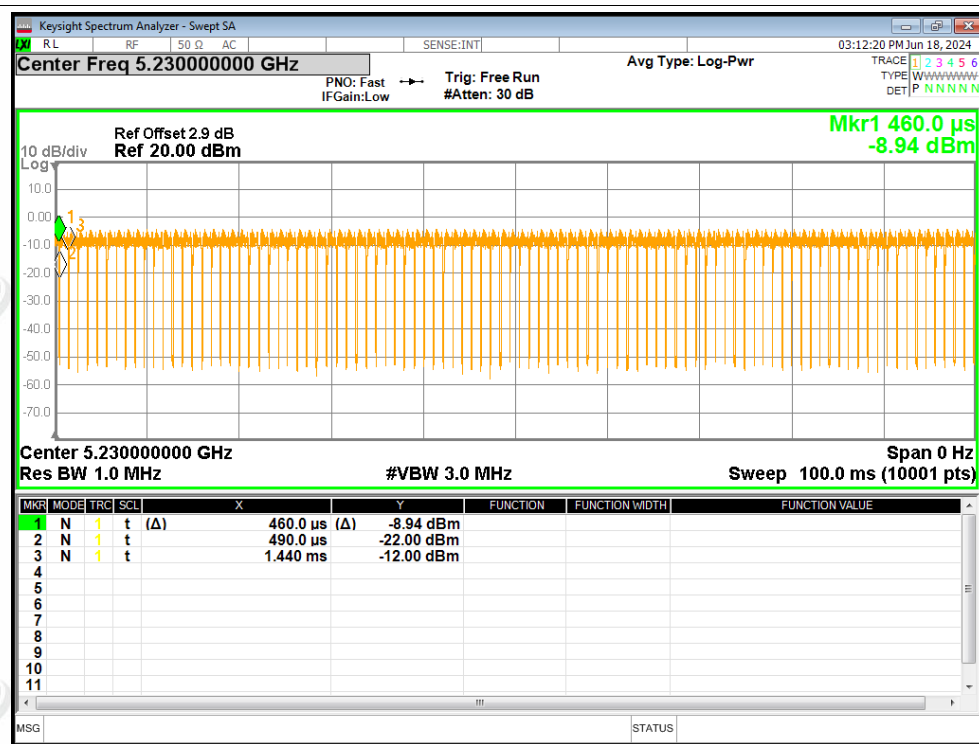




Duty Cycle NVNT n40 5190MHz Ant1

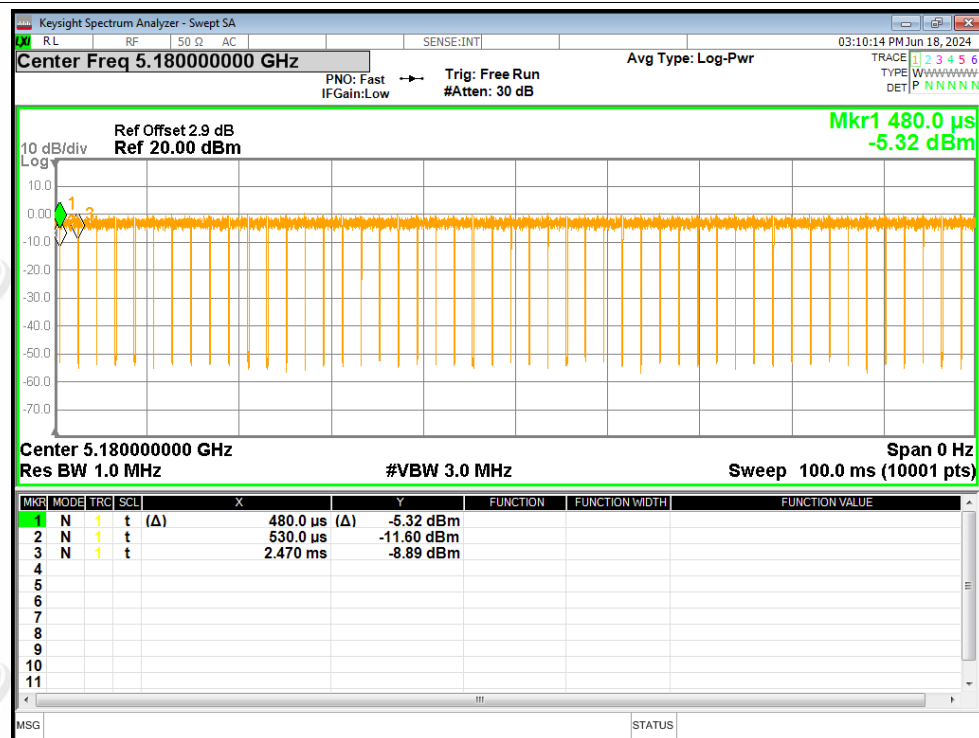


Duty Cycle NVNT n40 5230MHz Ant1

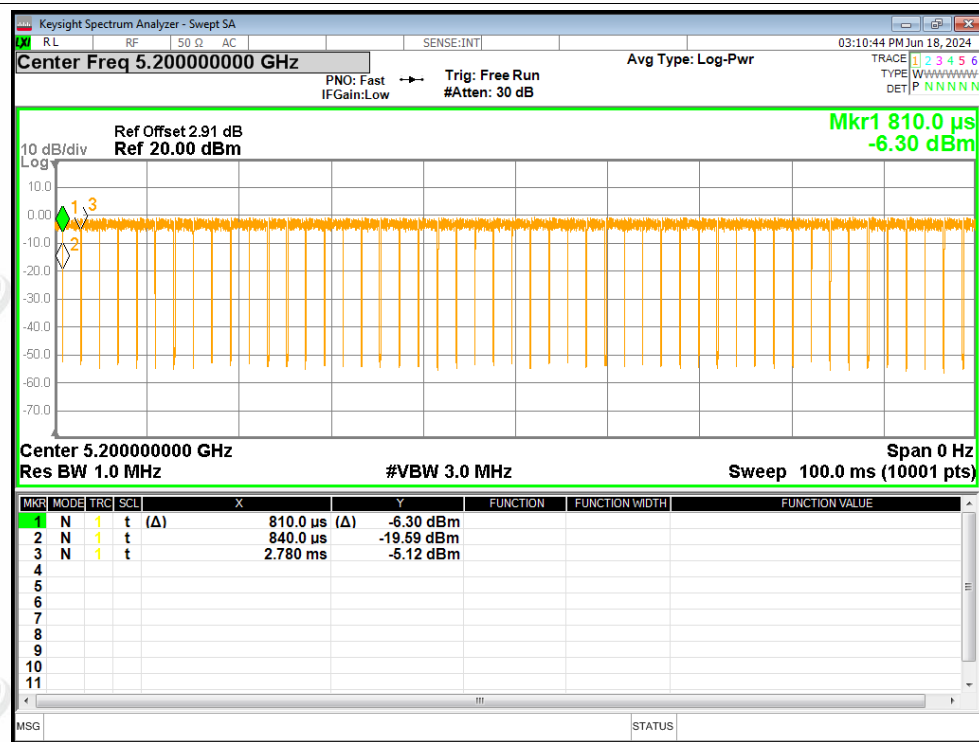




Duty Cycle NVNT ac20 5180MHz Ant1

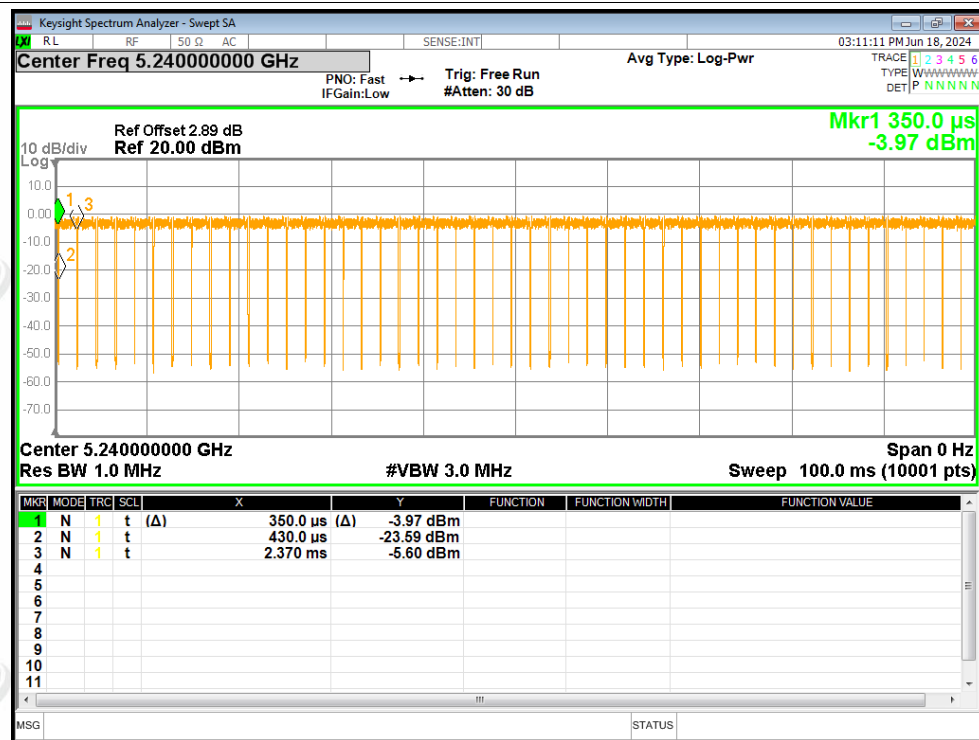


Duty Cycle NVNT ac20 5200MHz Ant1

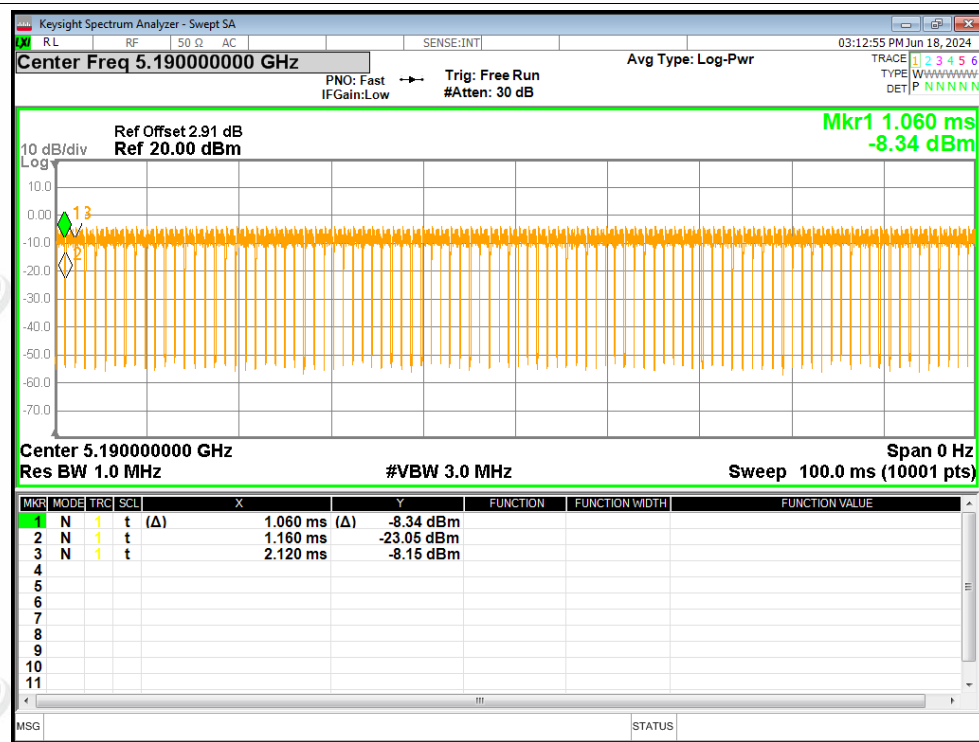




Duty Cycle NVNT ac20 5240MHz Ant1

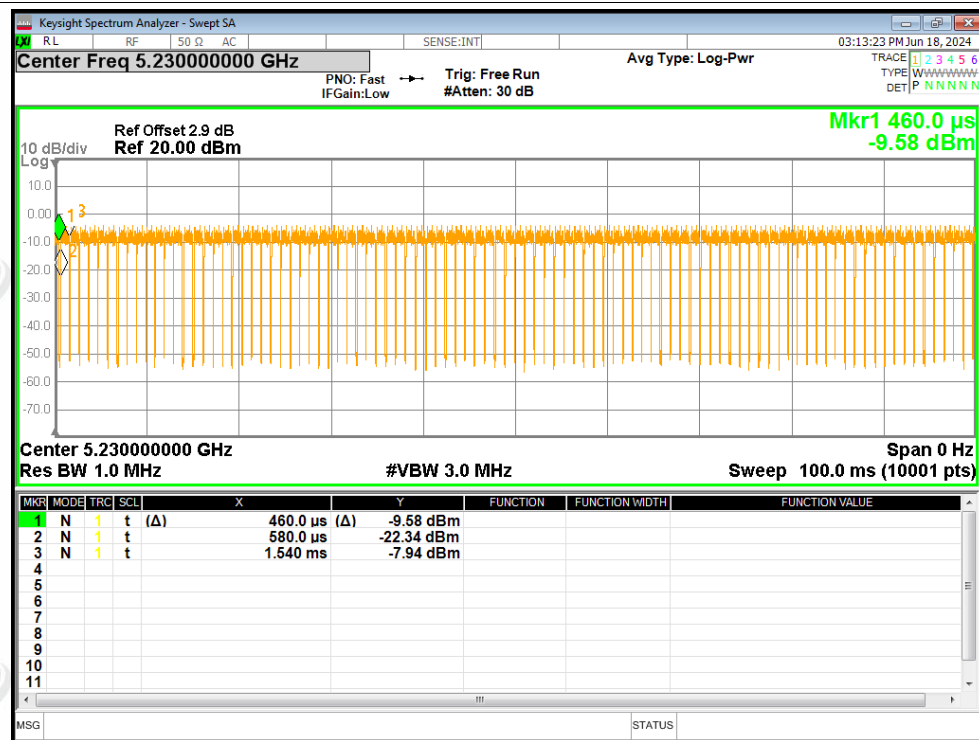


Duty Cycle NVNT ac40 5190MHz Ant1

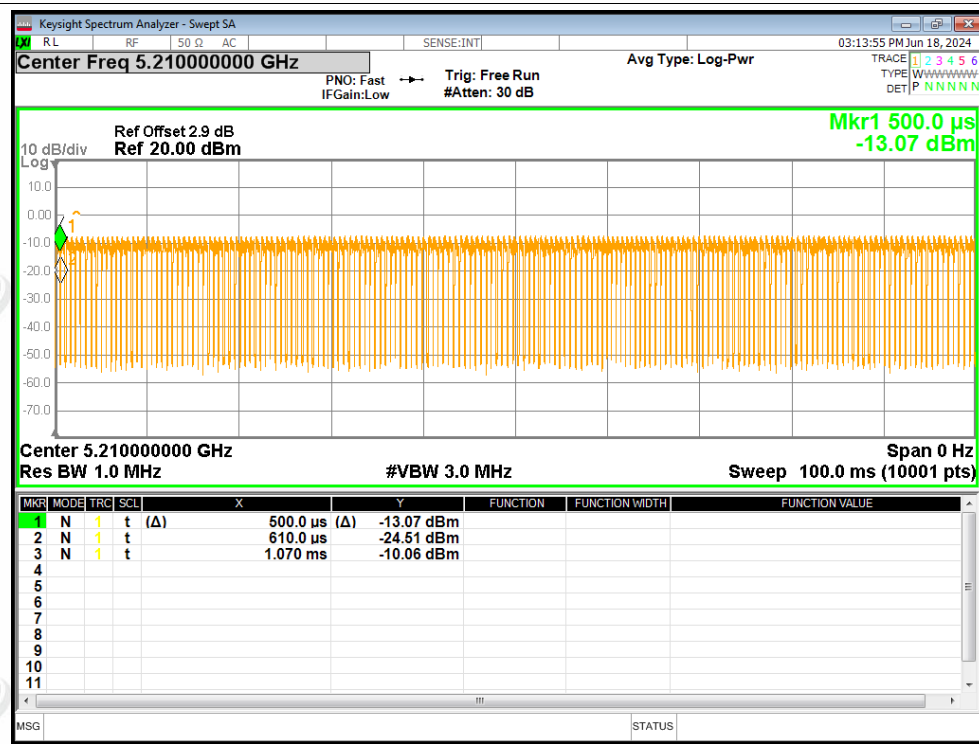




Duty Cycle NVNT ac40 5230MHz Ant1



Duty Cycle NVNT ac80 5210MHz Ant1



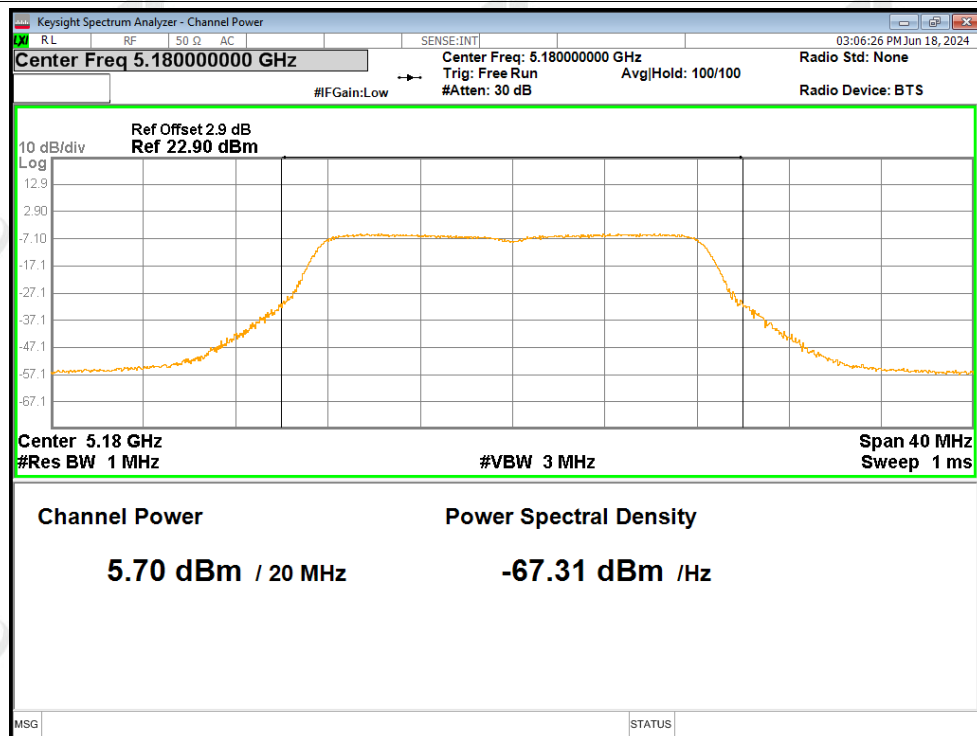
**ZHONGHAN****B2. Maximum Conducted Output Power**

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	5.7	0.15	5.85	24	Pass
NVNT	a	5200	5.24	0.12	5.36	24	Pass
NVNT	a	5240	5.34	0.1	5.44	24	Pass
NVNT	n20	5180	4.85	0.2	5.05	24	Pass
NVNT	n20	5200	5.03	0.33	5.36	24	Pass
NVNT	n20	5240	5.1	0.24	5.34	24	Pass
NVNT	n40	5190	5.05	0.27	5.32	24	Pass
NVNT	n40	5230	5.38	0.13	5.51	24	Pass
NVNT	ac20	5180	4.88	0.11	4.99	24	Pass
NVNT	ac20	5200	4.98	0	4.98	24	Pass
NVNT	ac20	5240	5.04	0.18	5.22	24	Pass
NVNT	ac40	5190	5	0.43	5.43	24	Pass
NVNT	ac40	5230	5.22	0.51	5.73	24	Pass
NVNT	ac80	5210	5.11	0.88	5.99	24	Pass

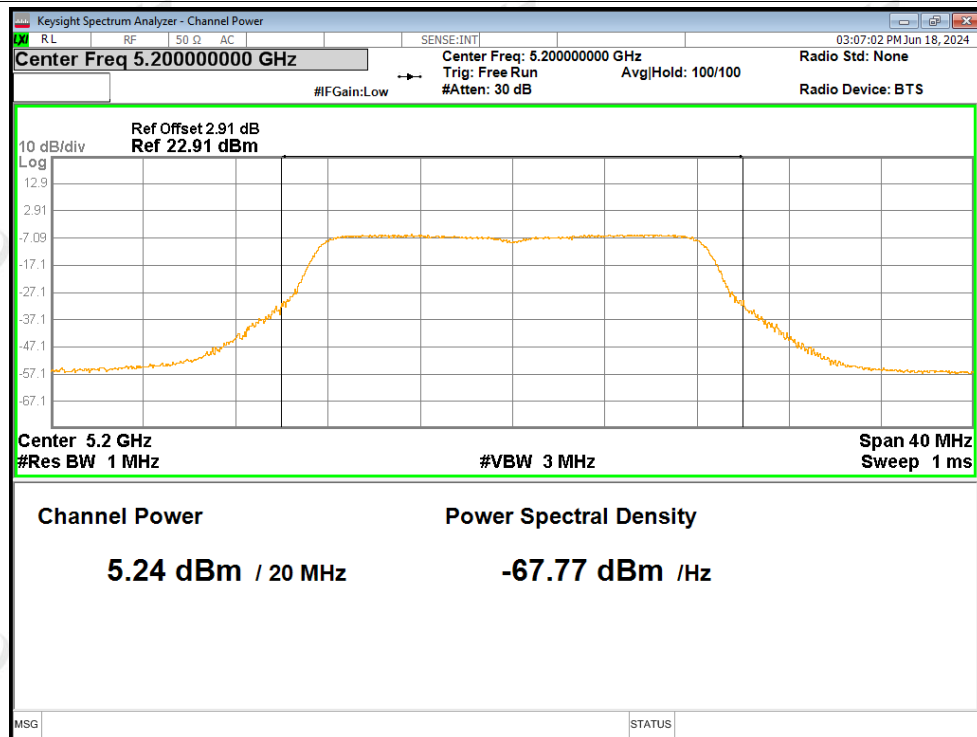


Test Graphs

Power NVNT a 5180MHz Ant1

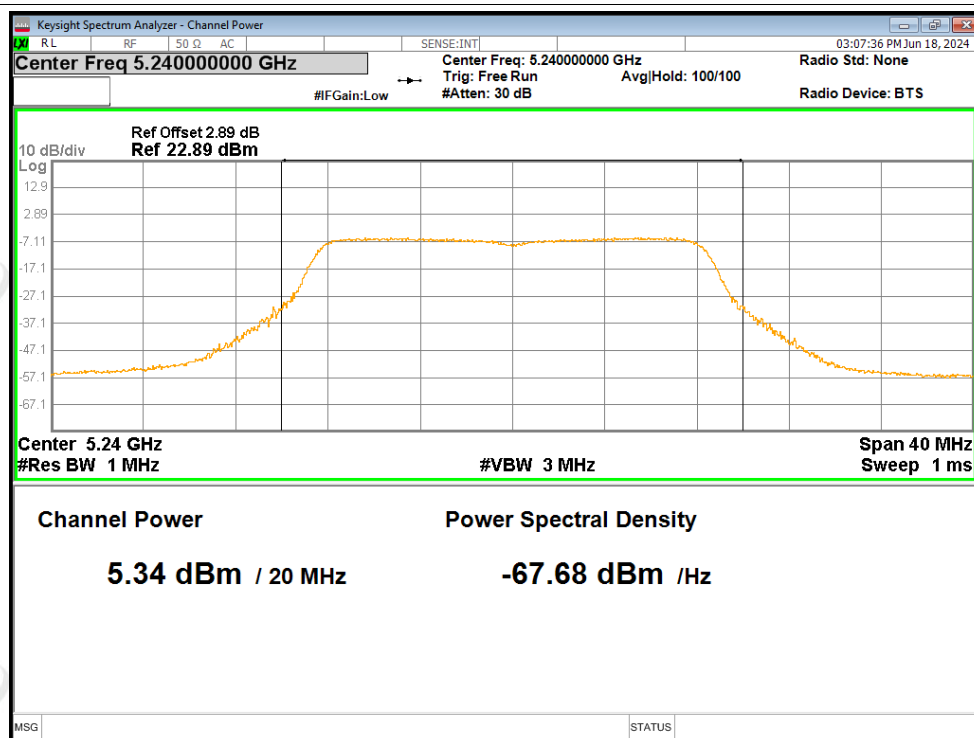


Power NVNT a 5200MHz Ant1

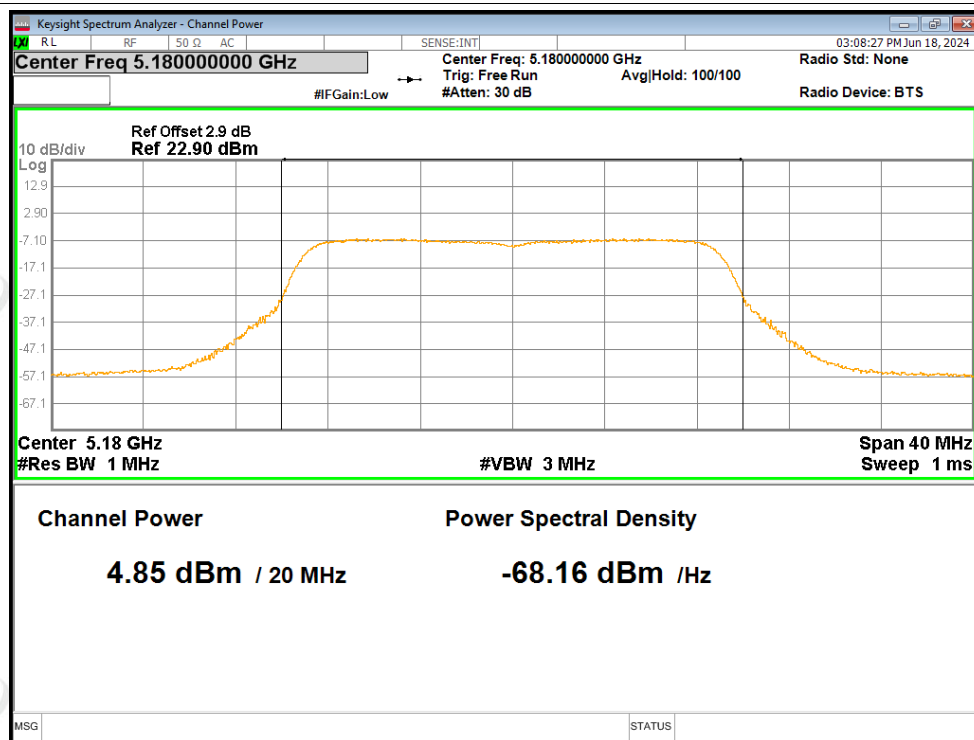




Power NVNT a 5240MHz Ant1

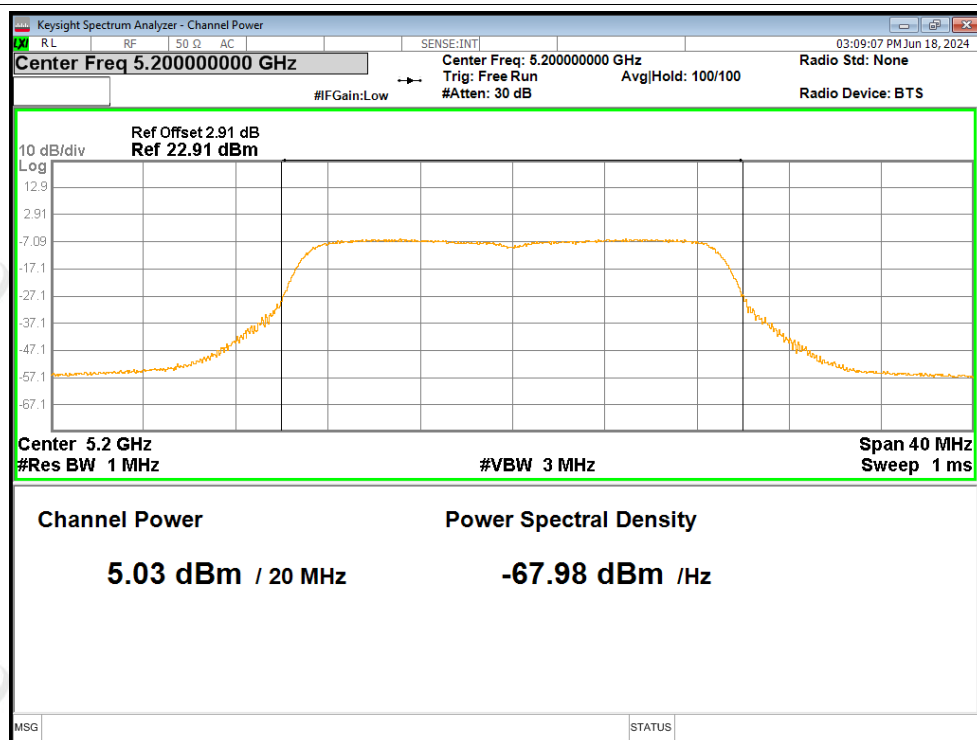


Power NVNT n20 5180MHz Ant1

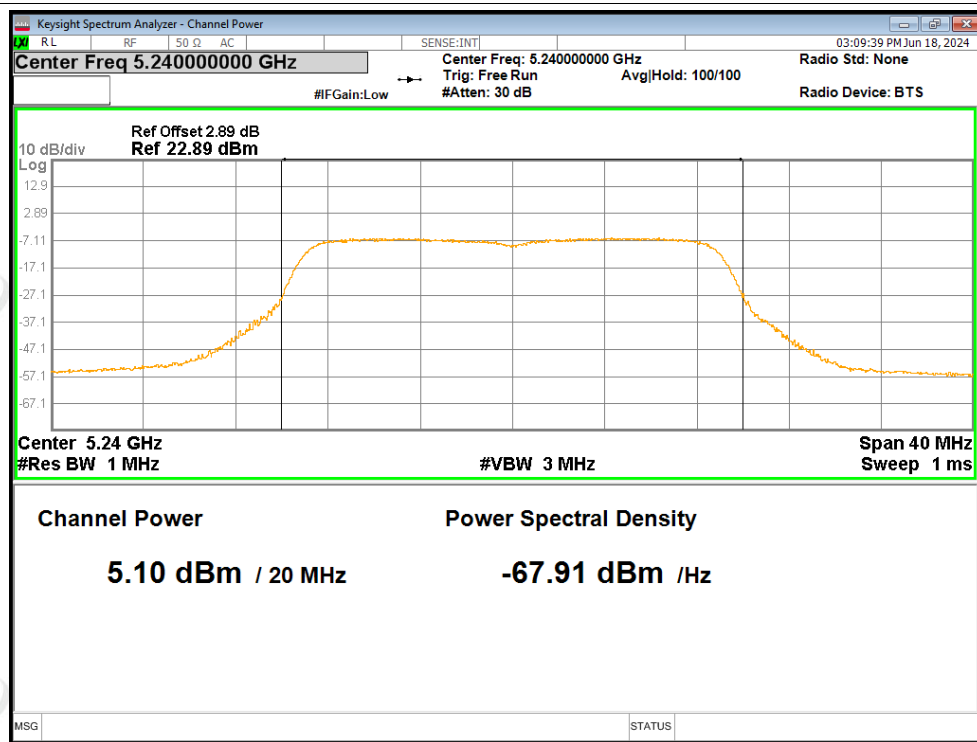




Power NVNT n20 5200MHz Ant1

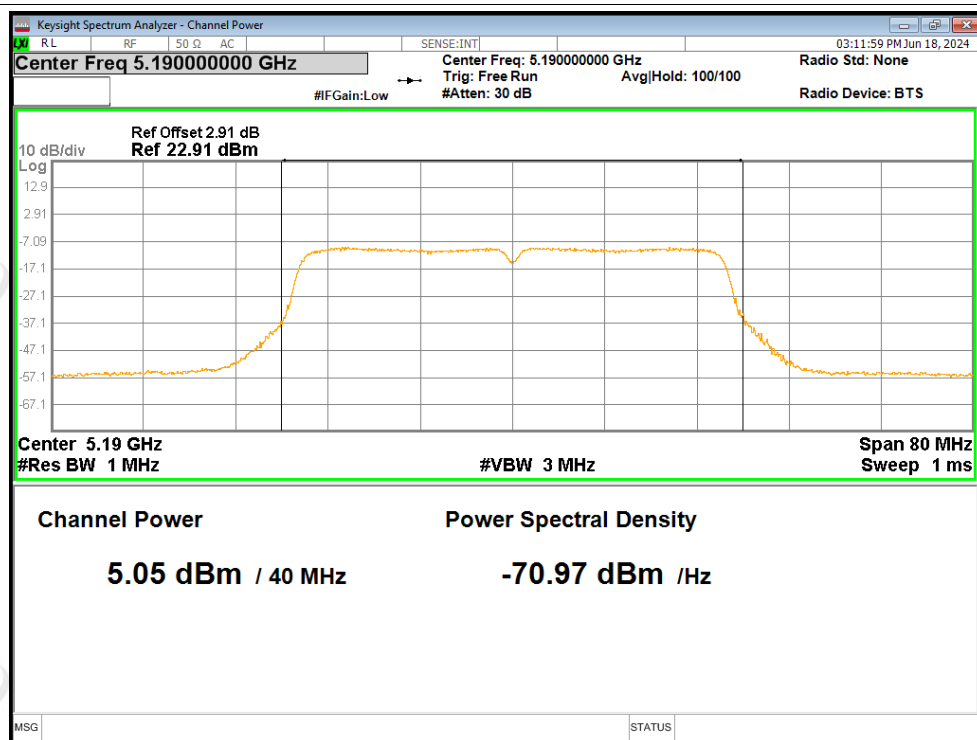


Power NVNT n20 5240MHz Ant1

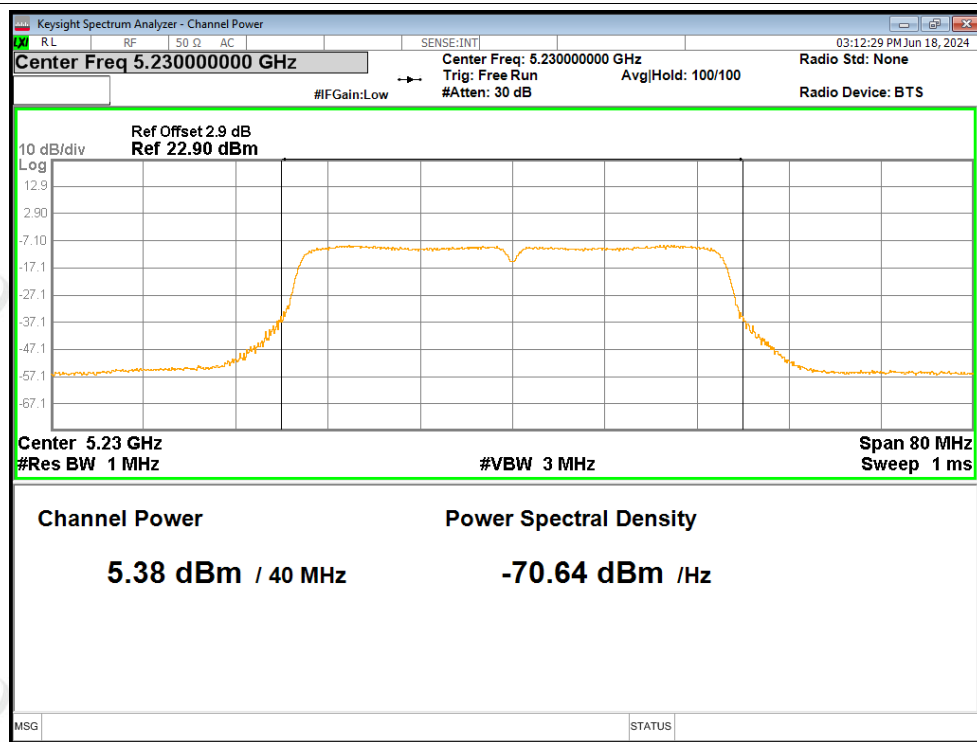




Power NVNT n40 5190MHz Ant1

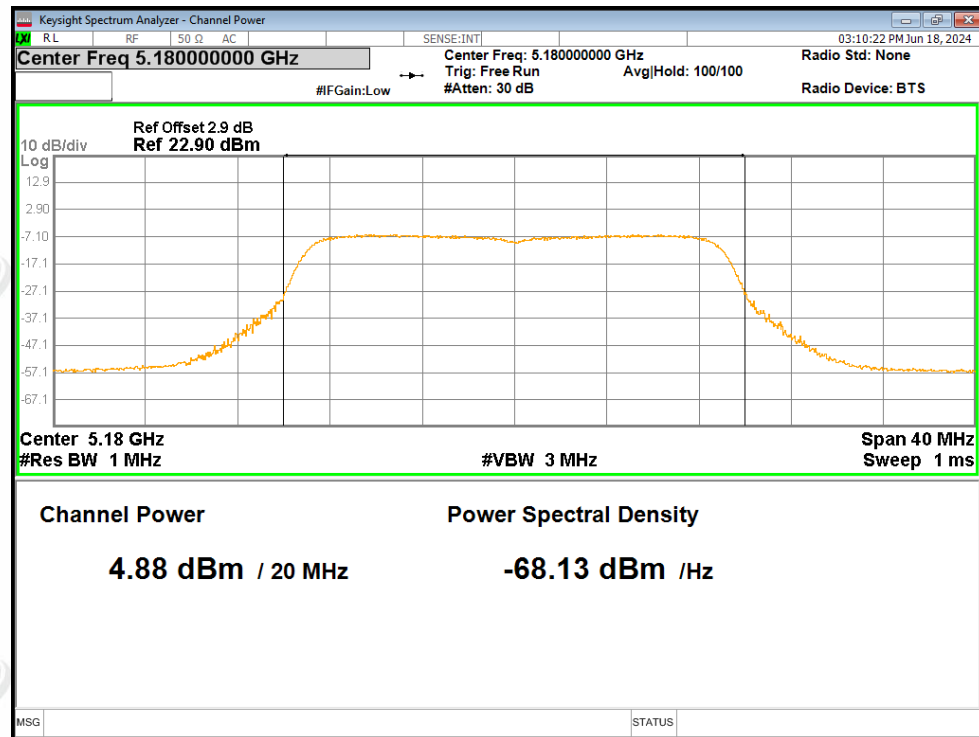


Power NVNT n40 5230MHz Ant1

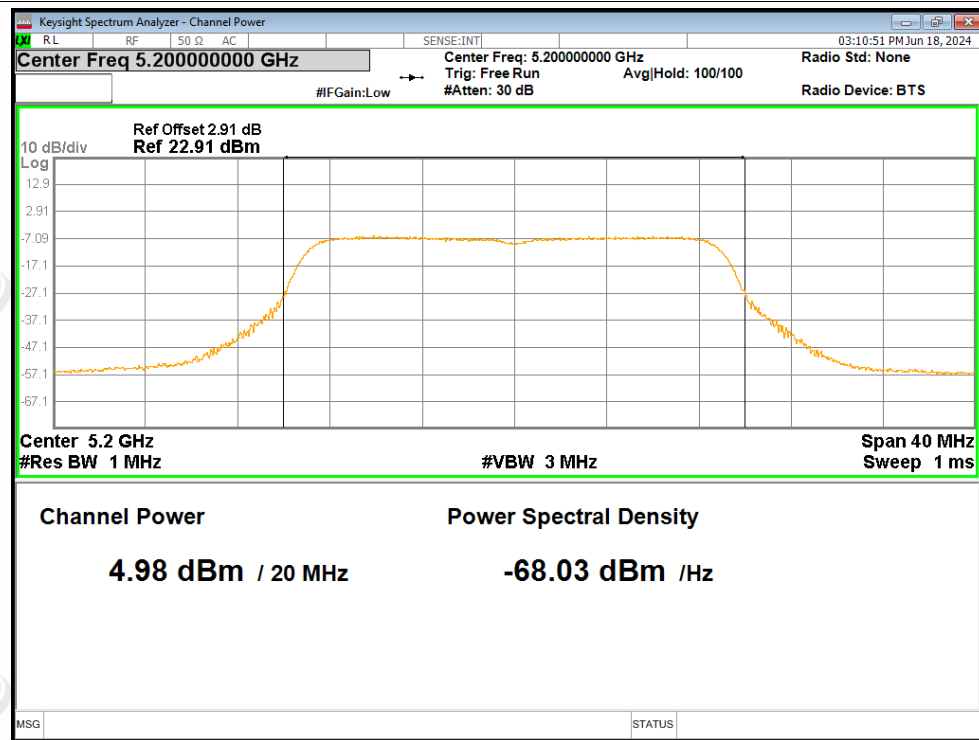




Power NVNT ac20 5180MHz Ant1

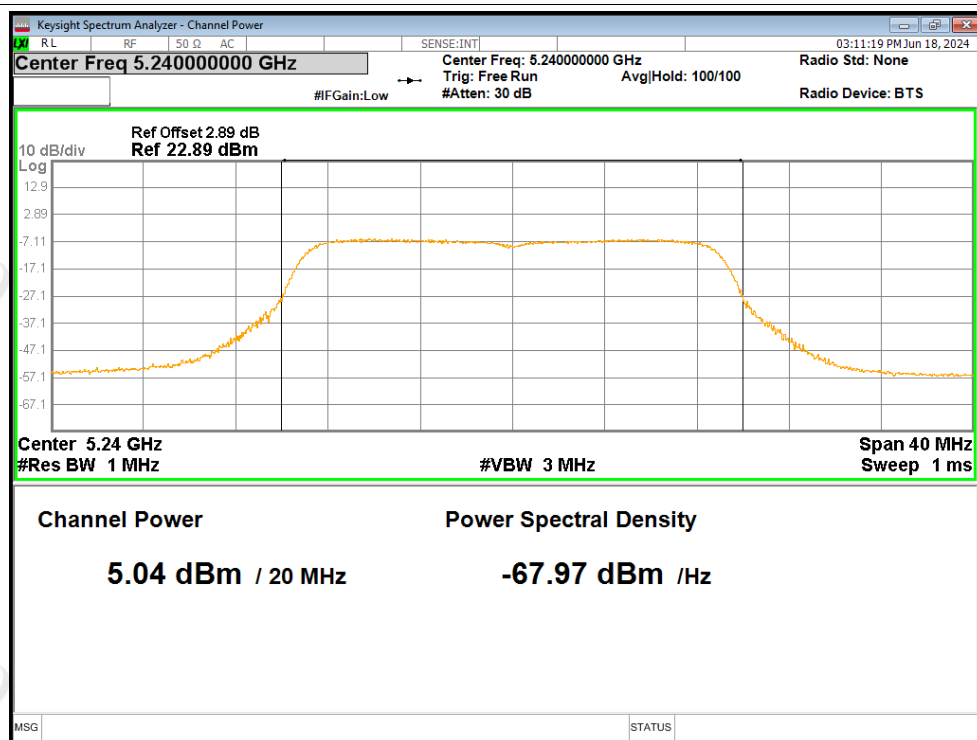


Power NVNT ac20 5200MHz Ant1

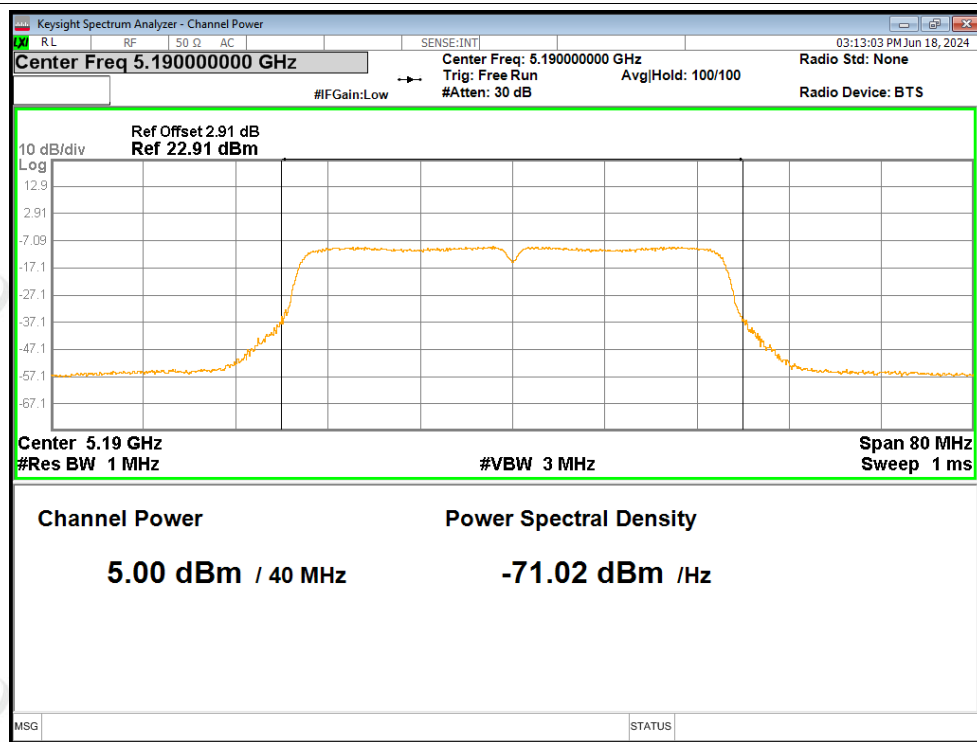




Power NVNT ac20 5240MHz Ant1

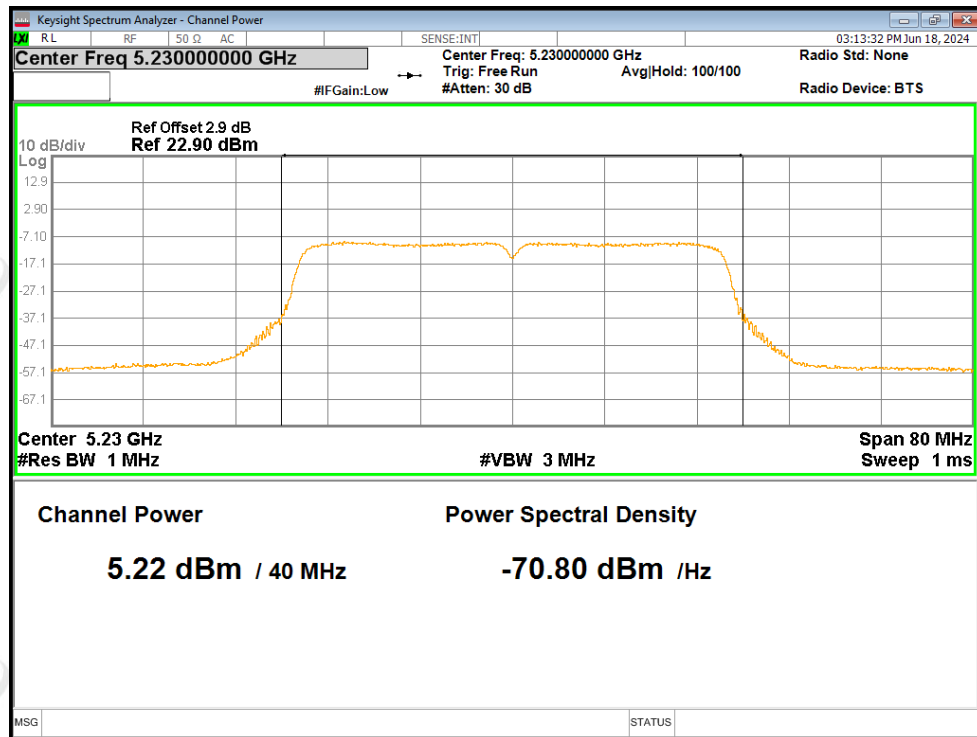


Power NVNT ac40 5190MHz Ant1

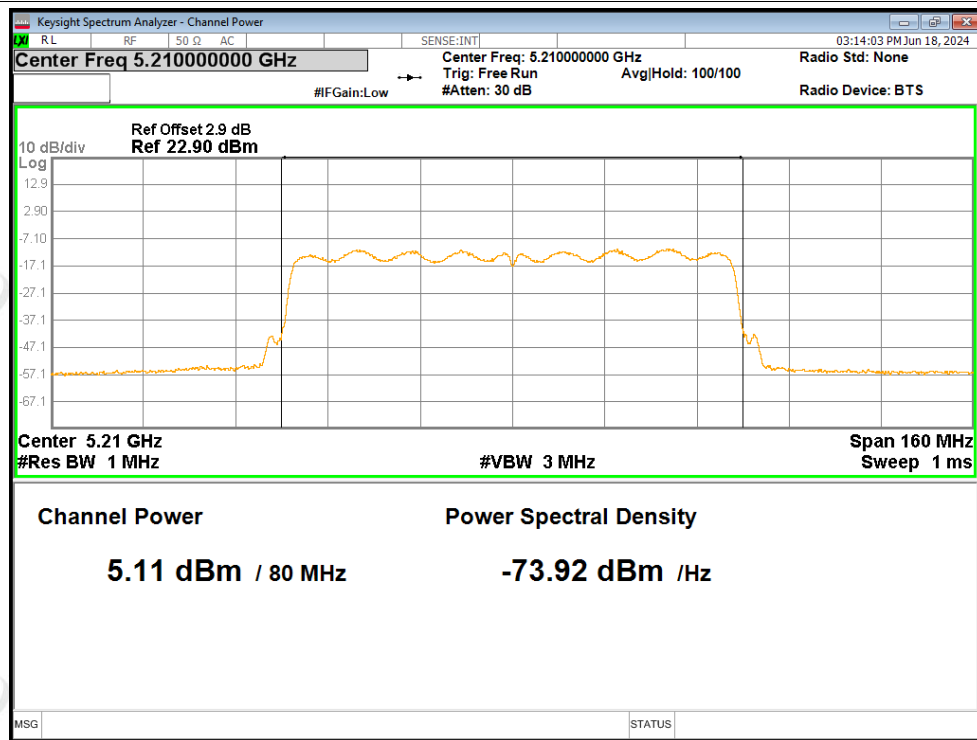




Power NVNT ac40 5230MHz Ant1



Power NVNT ac80 5210MHz Ant1



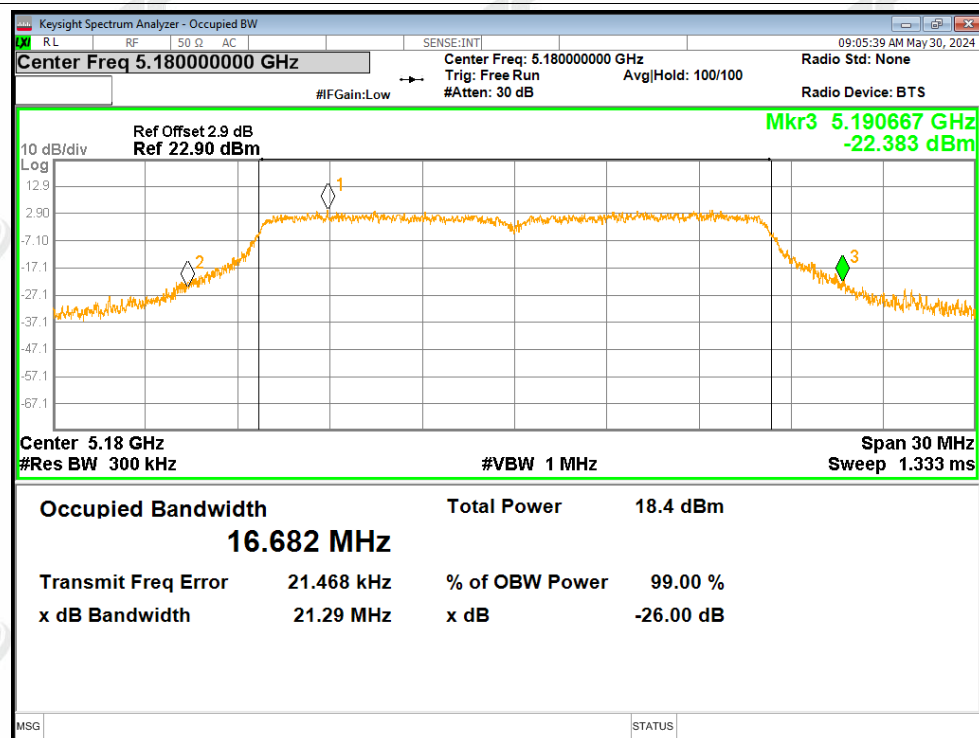
**ZHONGHAN****B3. -26dB Bandwidth**

Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	21.29	Pass
NVNT	a	5200	21.348	Pass
NVNT	a	5240	21.652	Pass
NVNT	n20	5180	24.184	Pass
NVNT	n20	5200	21.651	Pass
NVNT	n20	5240	21.995	Pass
NVNT	n40	5190	41.51	Pass
NVNT	n40	5230	41.363	Pass
NVNT	ac20	5180	21.671	Pass
NVNT	ac20	5200	21.615	Pass
NVNT	ac20	5240	21.504	Pass
NVNT	ac40	5190	40.927	Pass
NVNT	ac40	5230	40.723	Pass
NVNT	ac80	5210	79.484	Pass

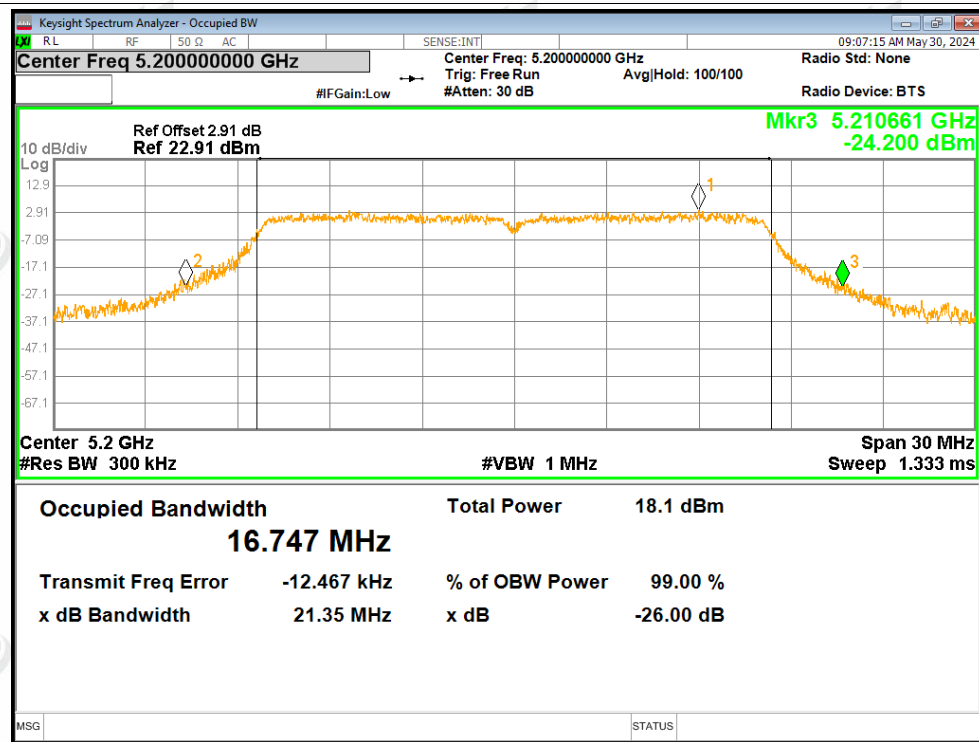


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant1

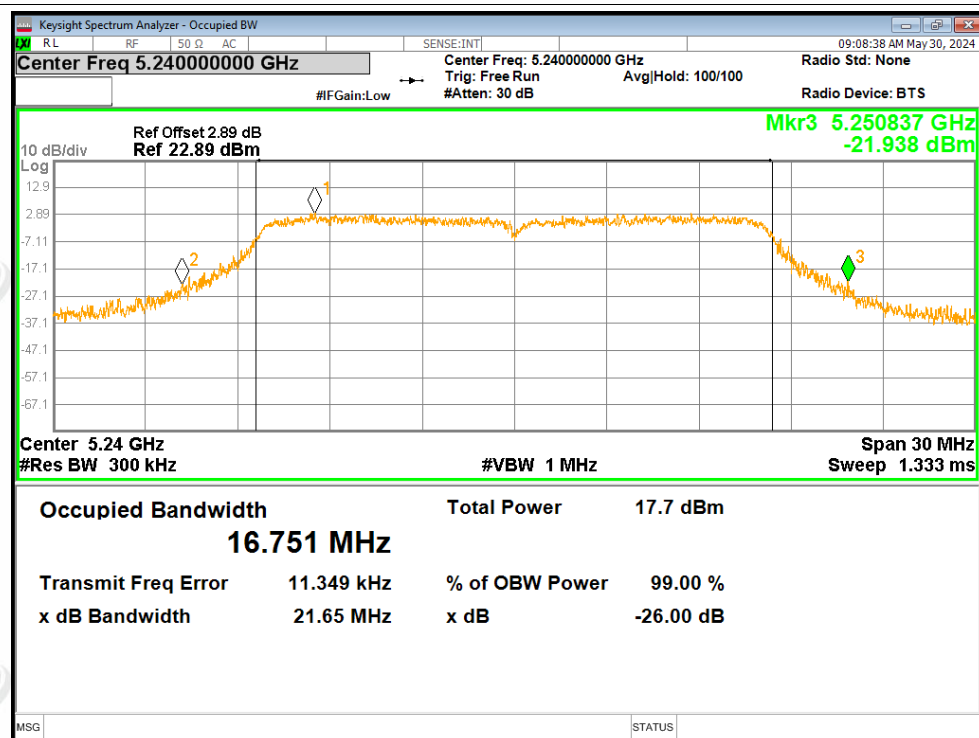


-26dB Bandwidth NVNT a 5200MHz Ant1

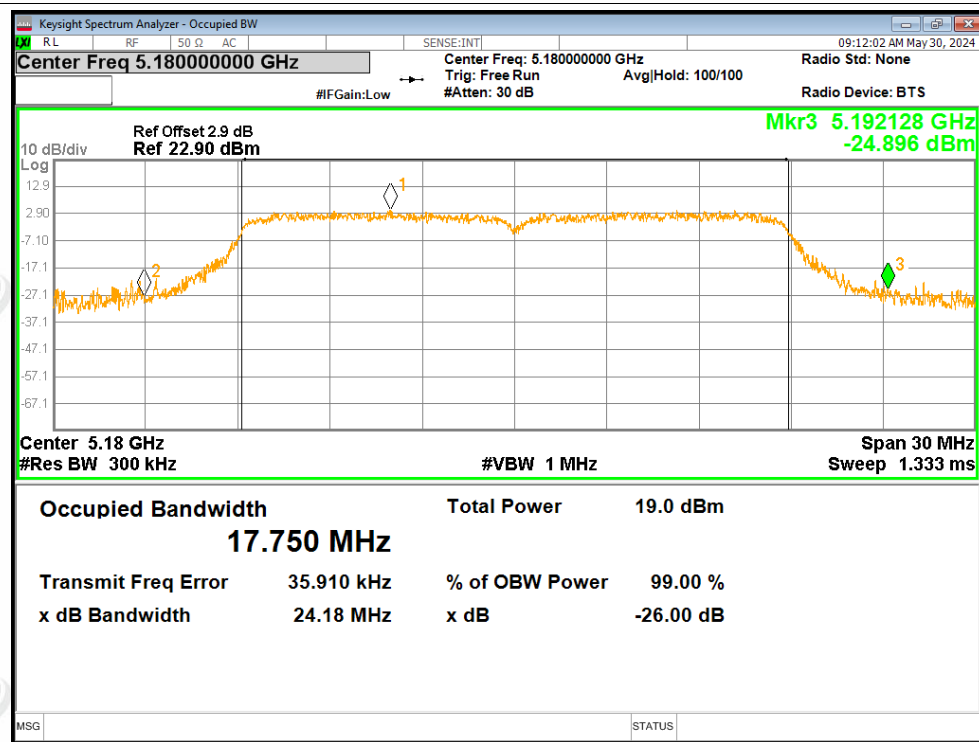




-26dB Bandwidth NVNT a 5240MHz Ant1

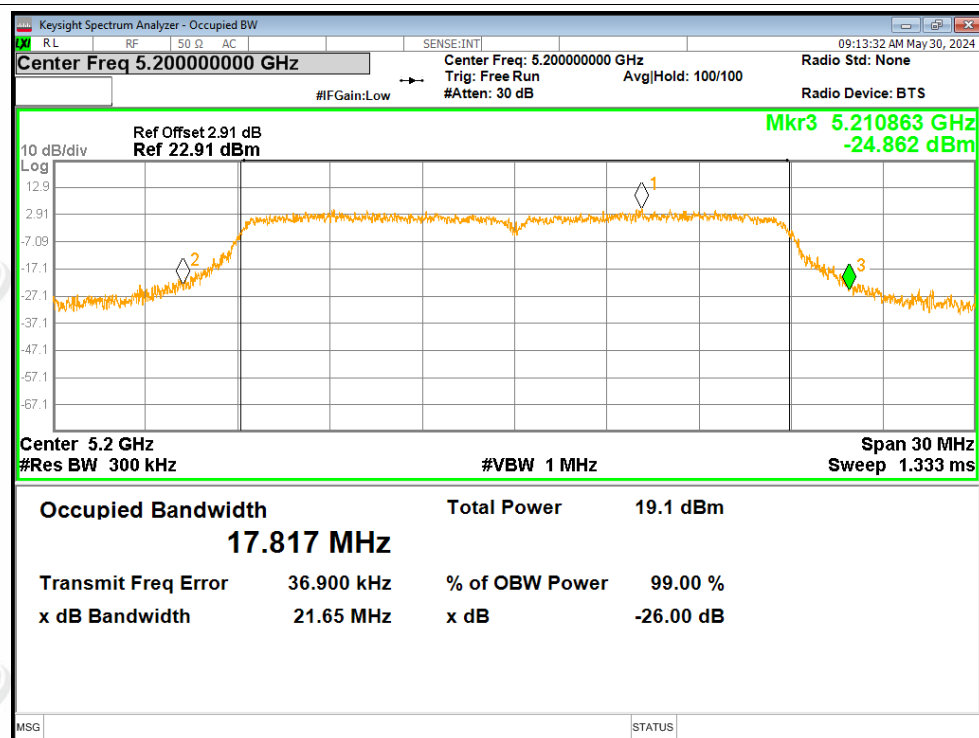


-26dB Bandwidth NVNT n20 5180MHz Ant1

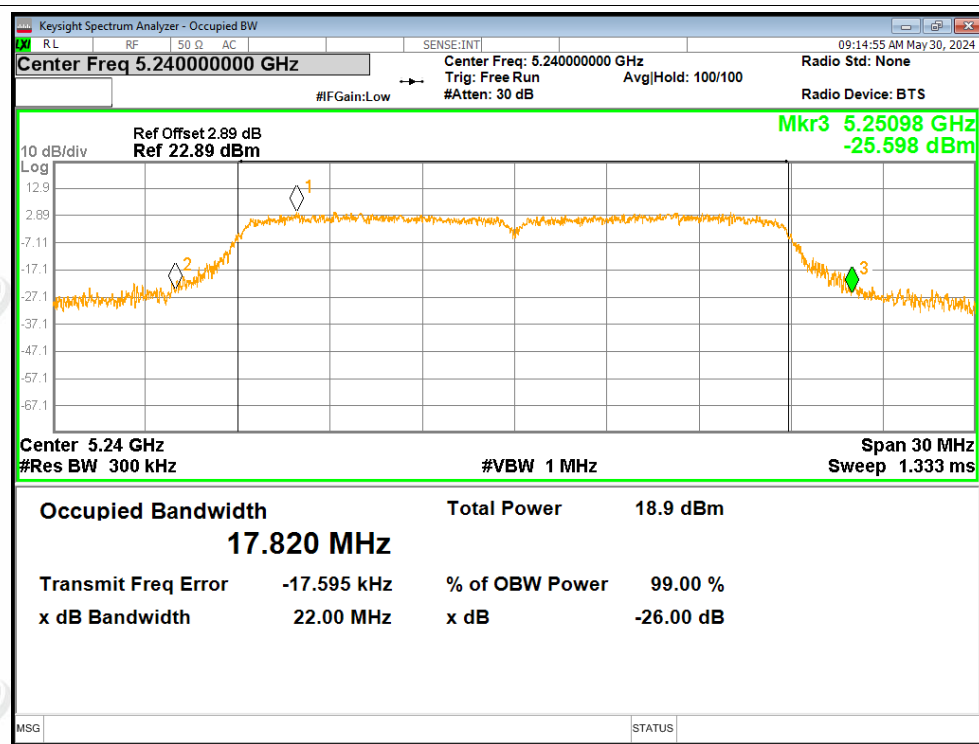




-26dB Bandwidth NVNT n20 5200MHz Ant1

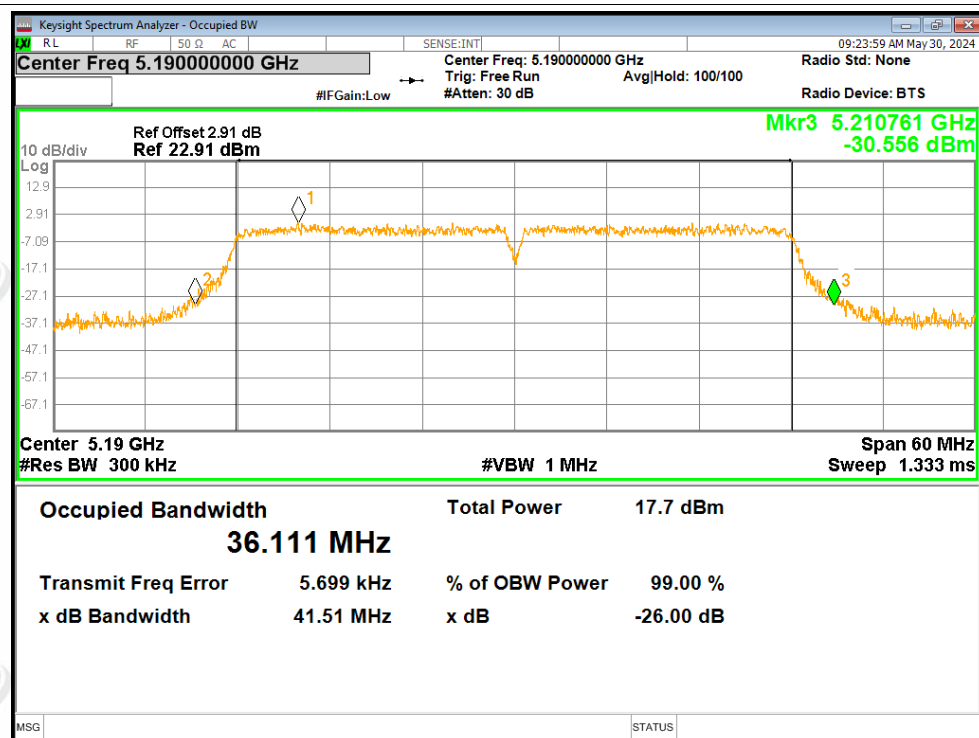


-26dB Bandwidth NVNT n20 5240MHz Ant1

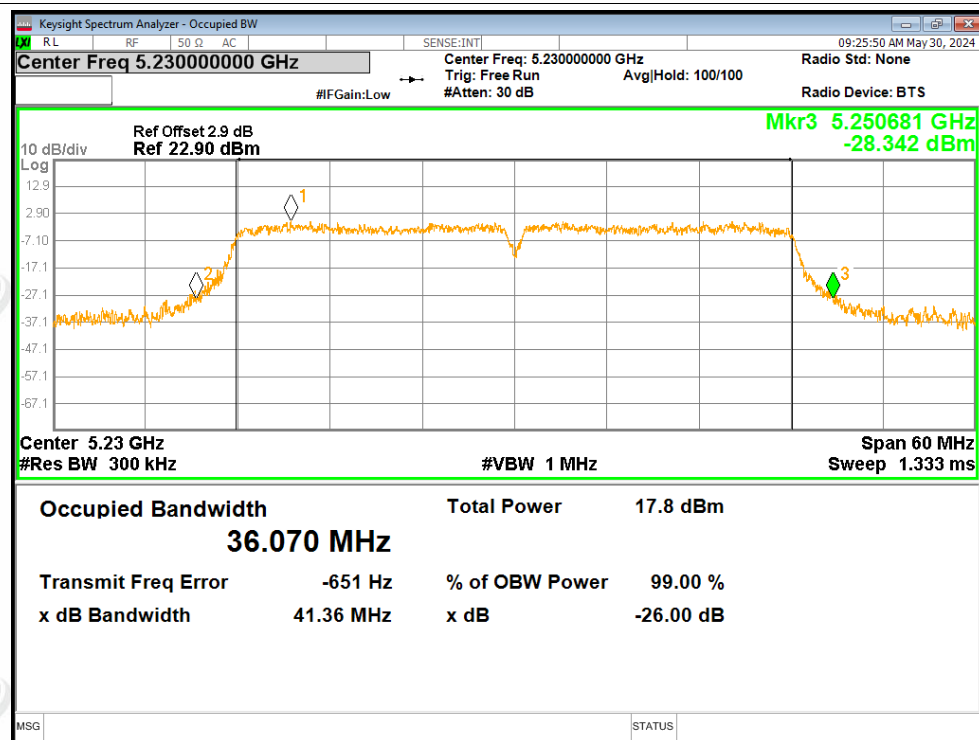




-26dB Bandwidth NVNT n40 5190MHz Ant1

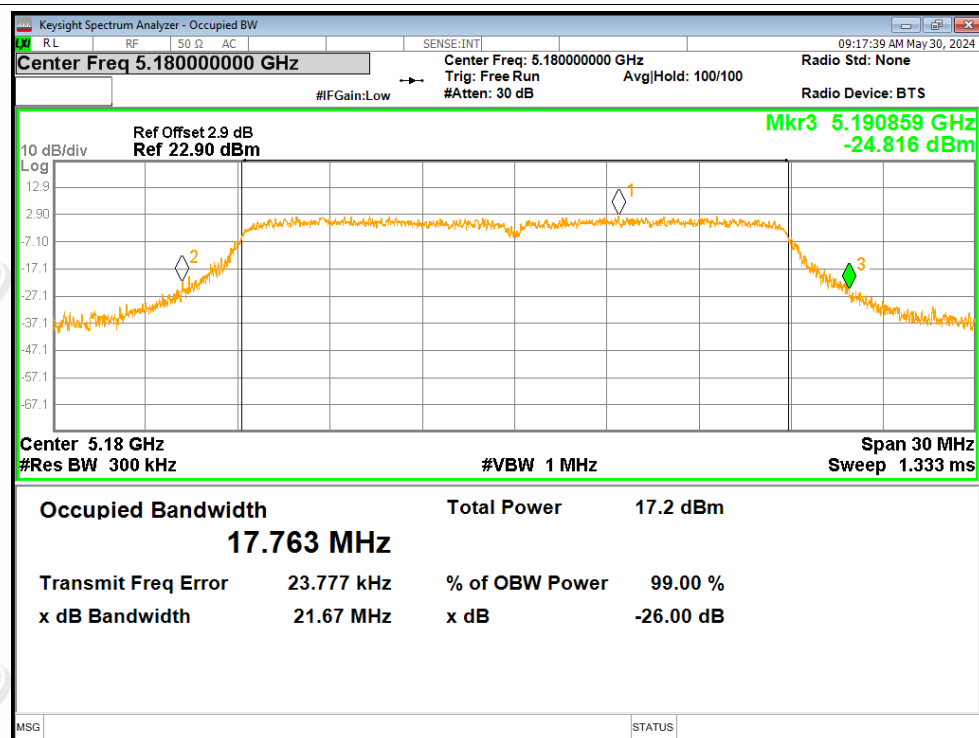


-26dB Bandwidth NVNT n40 5230MHz Ant1

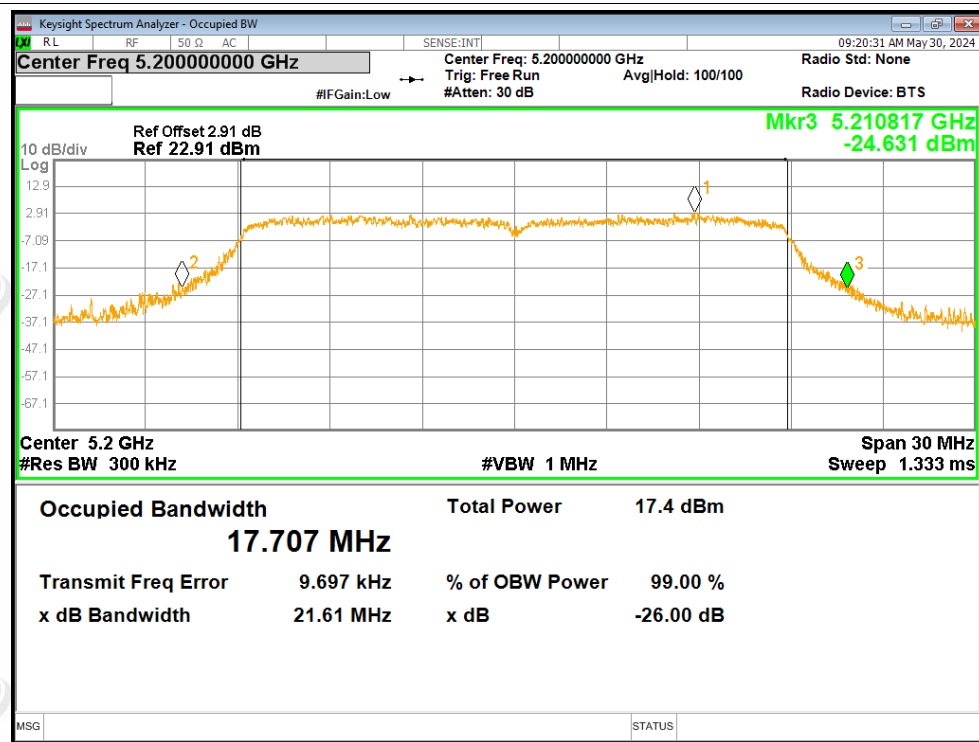




-26dB Bandwidth NVNT ac20 5180MHz Ant1

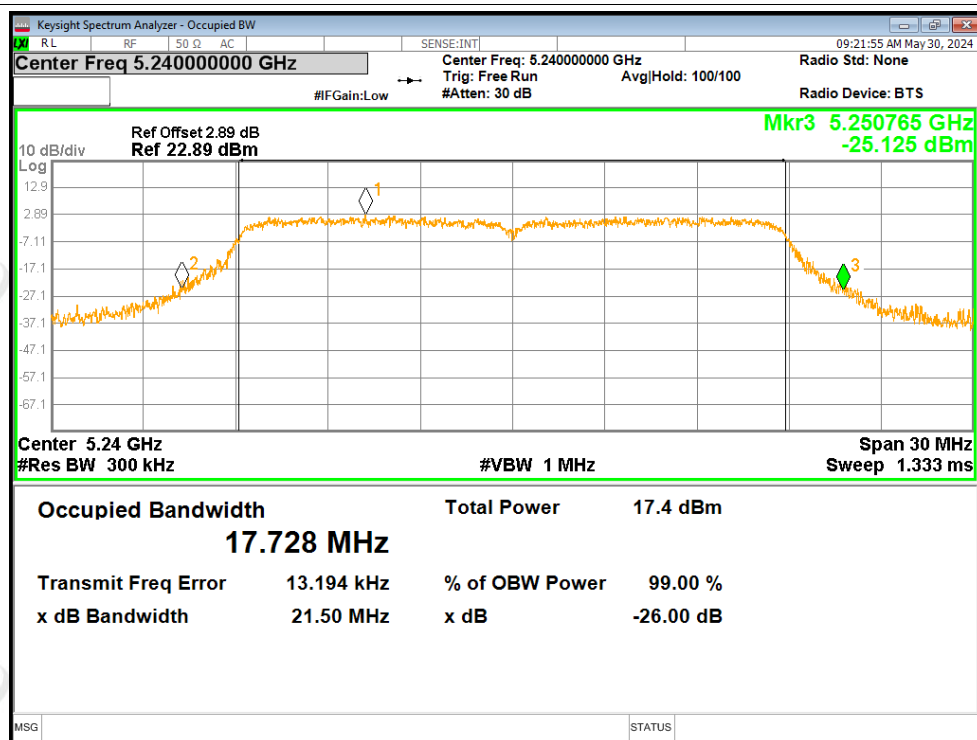


-26dB Bandwidth NVNT ac20 5200MHz Ant1

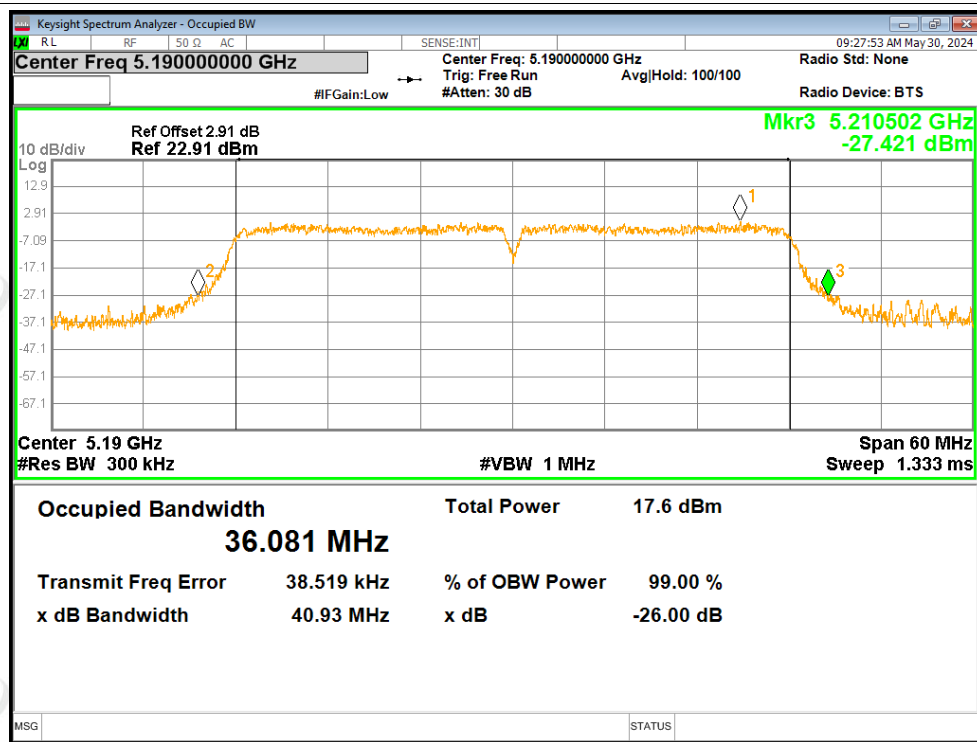




-26dB Bandwidth NVNT ac20 5240MHz Ant1

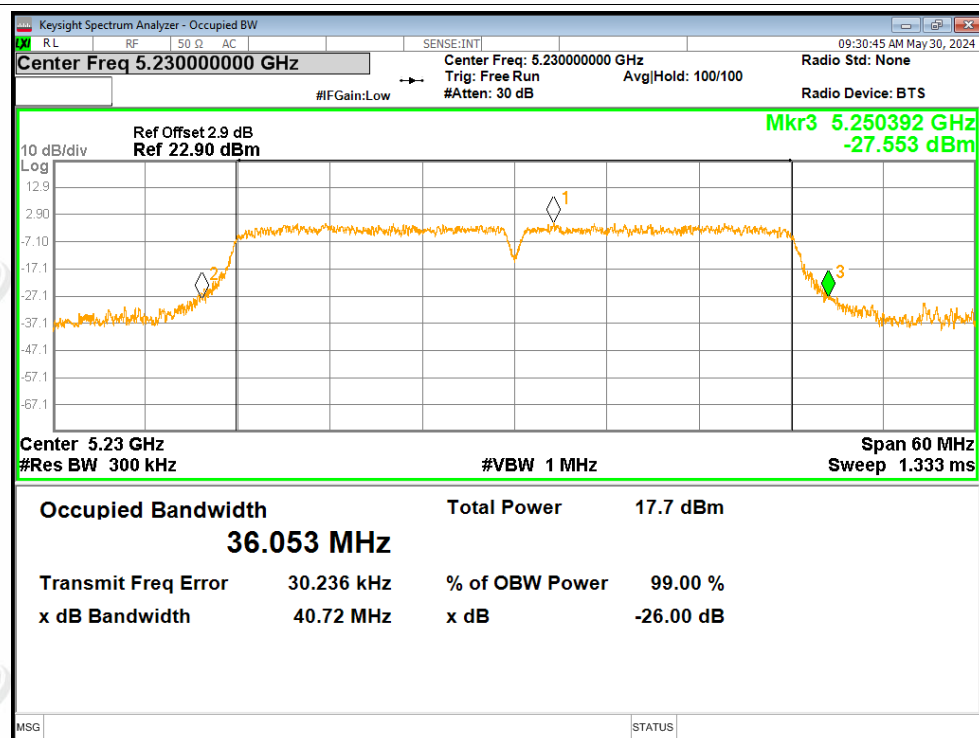


-26dB Bandwidth NVNT ac40 5190MHz Ant1

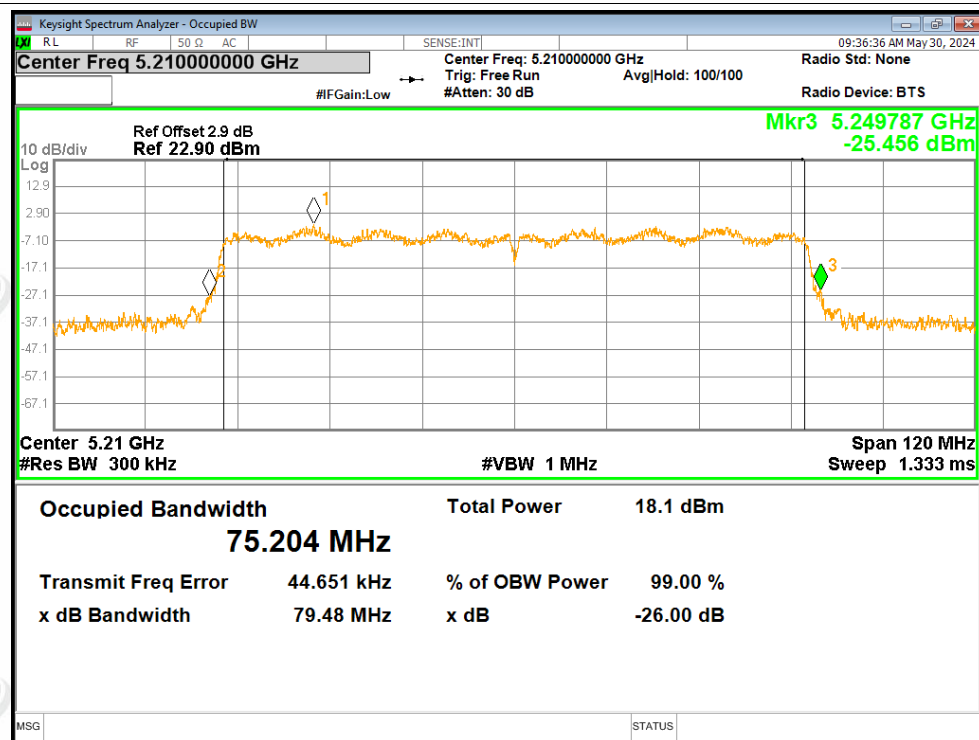




-26dB Bandwidth NVNT ac40 5230MHz Ant1



-26dB Bandwidth NVNT ac80 5210MHz Ant1



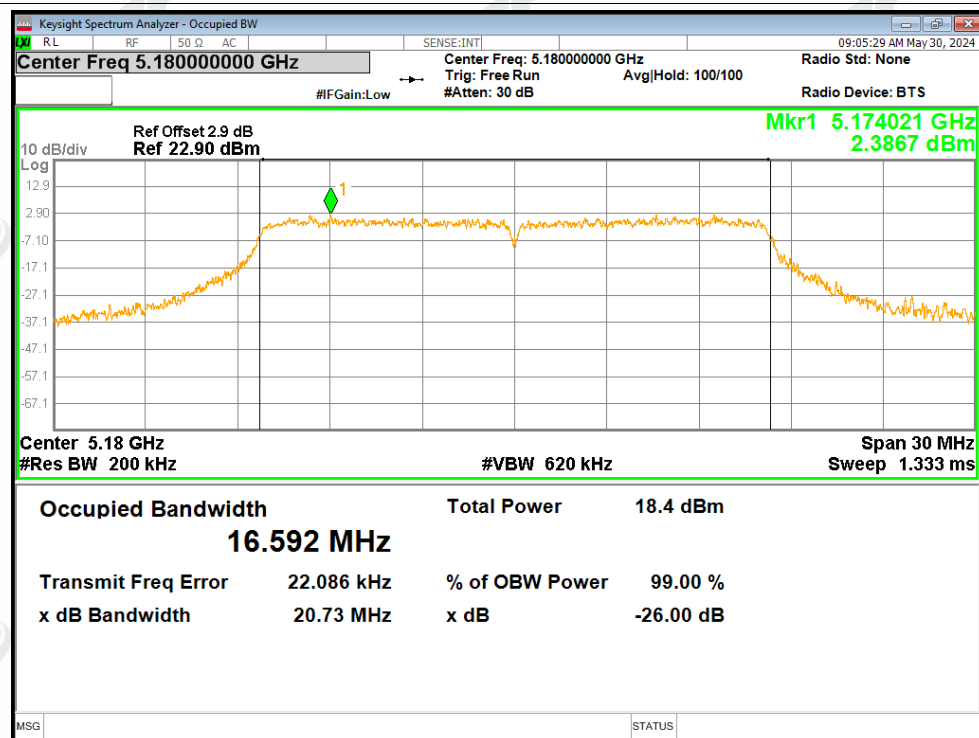
**ZHONGHAN****B4. Occupied Channel Bandwidth**

Condition	Mode	Frequency (MHz)	99% OBW (MHz)
NVNT	a	5180	16.592
NVNT	a	5200	16.554
NVNT	a	5240	16.584
NVNT	n20	5180	17.63
NVNT	n20	5200	17.694
NVNT	n20	5240	17.636
NVNT	n40	5190	36.163
NVNT	n40	5230	36.106
NVNT	ac20	5180	17.637
NVNT	ac20	5200	17.618
NVNT	ac20	5240	17.595
NVNT	ac40	5190	36.168
NVNT	ac40	5230	36.128
NVNT	ac80	5210	75.275

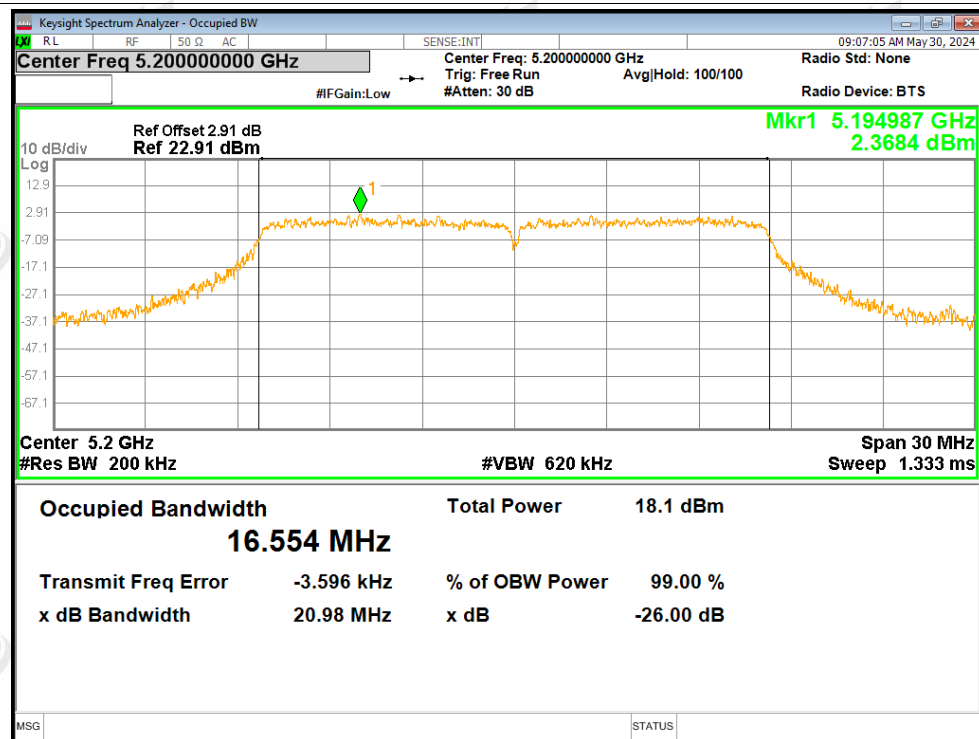


Test Graphs

OBW NVNT a 5180MHz Ant1

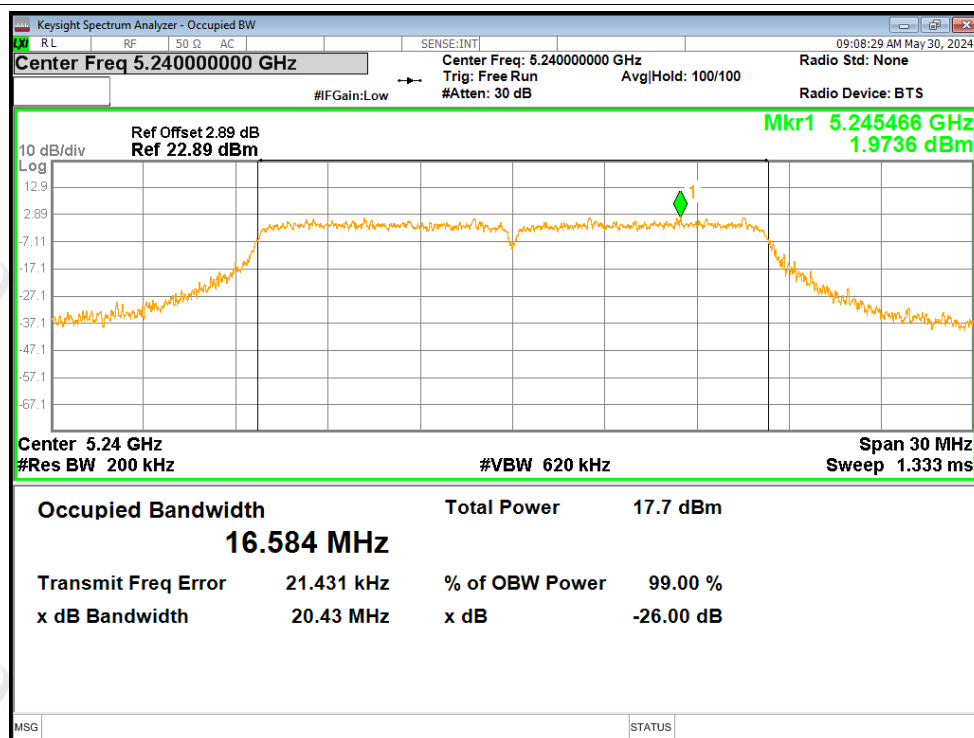


OBW NVNT a 5200MHz Ant1

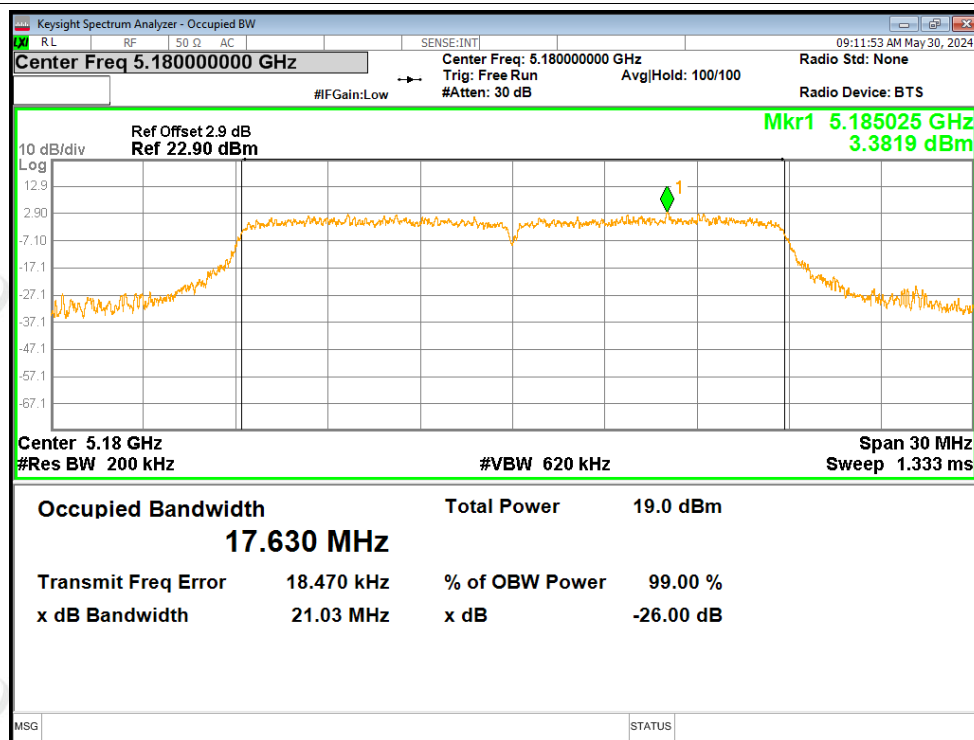




OBW NVNT a 5240MHz Ant1

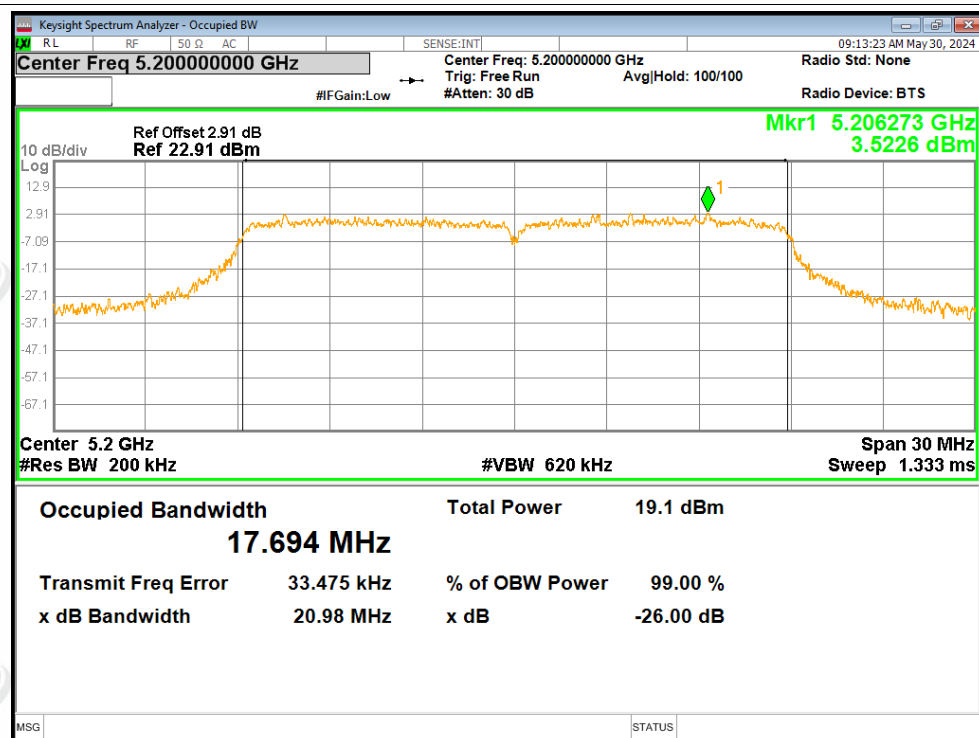


OBW NVNT n20 5180MHz Ant1

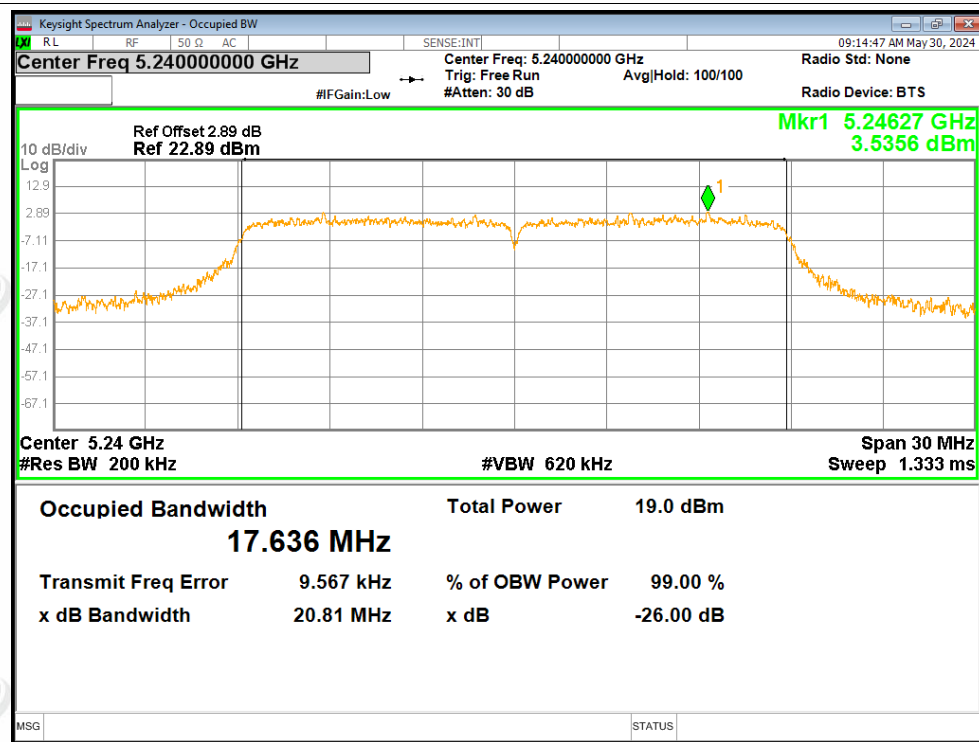




OBW NVNT n20 5200MHz Ant1

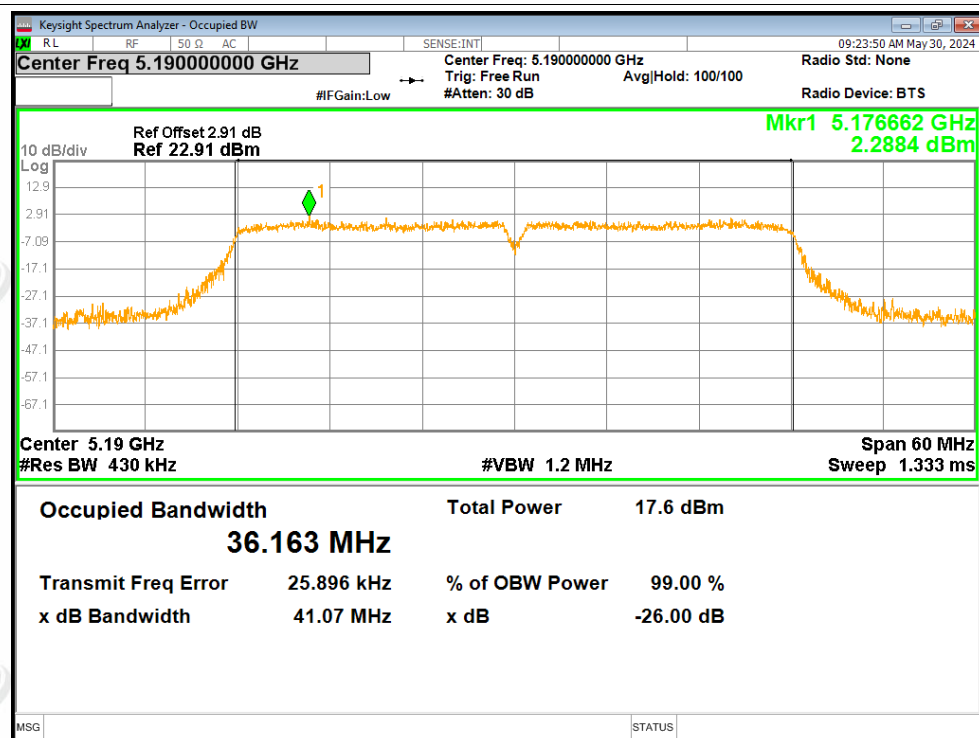


OBW NVNT n20 5240MHz Ant1

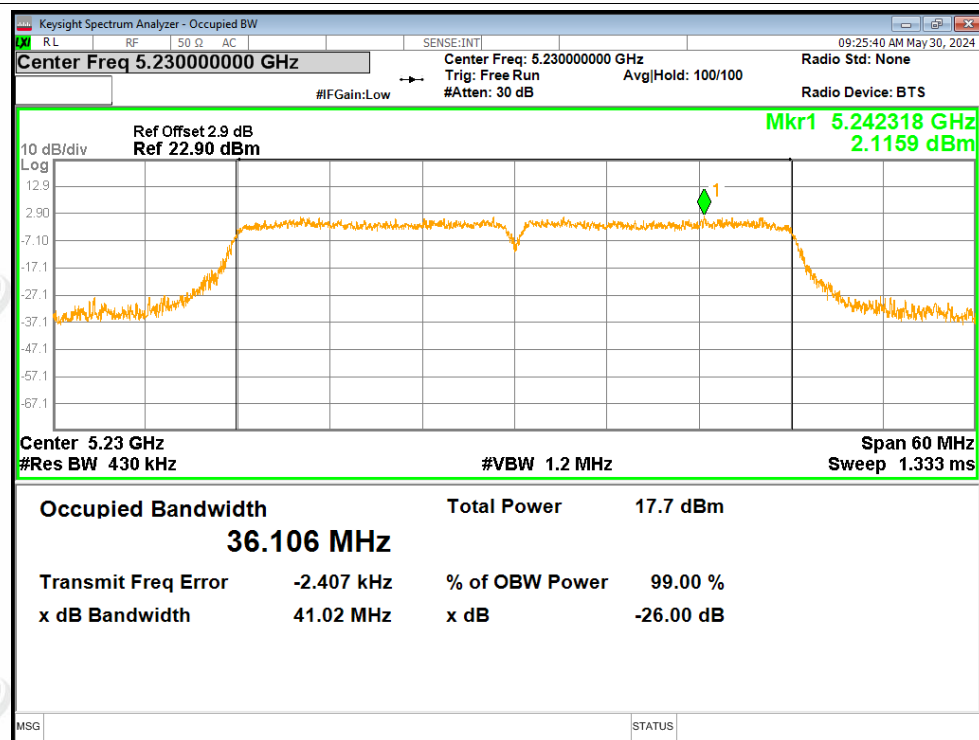




OBW NVNT n40 5190MHz Ant1

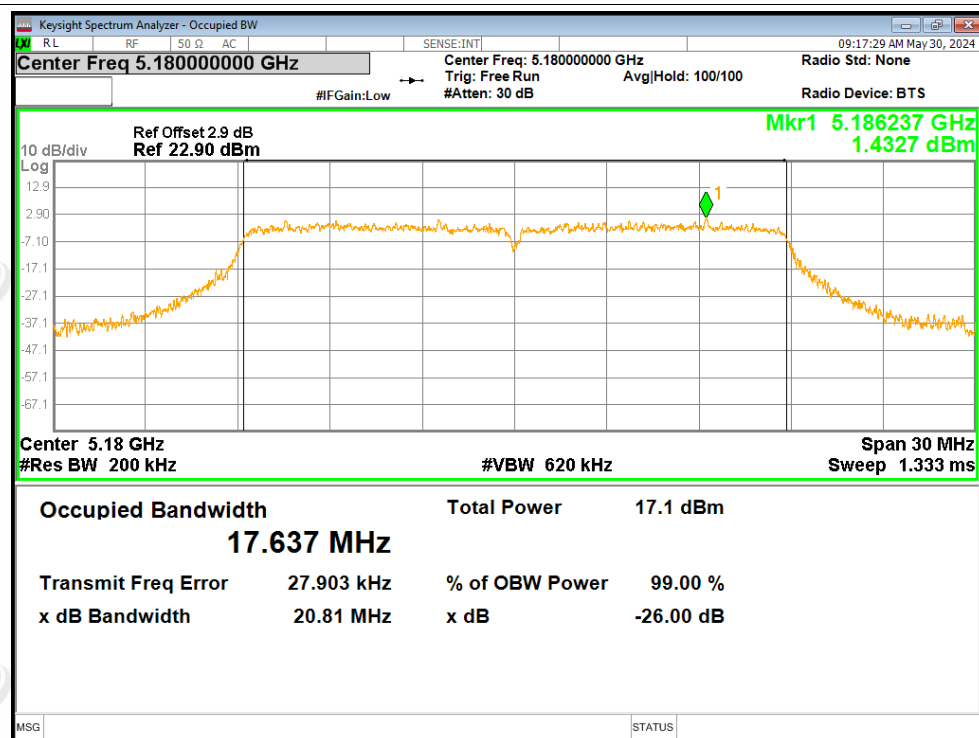


OBW NVNT n40 5230MHz Ant1

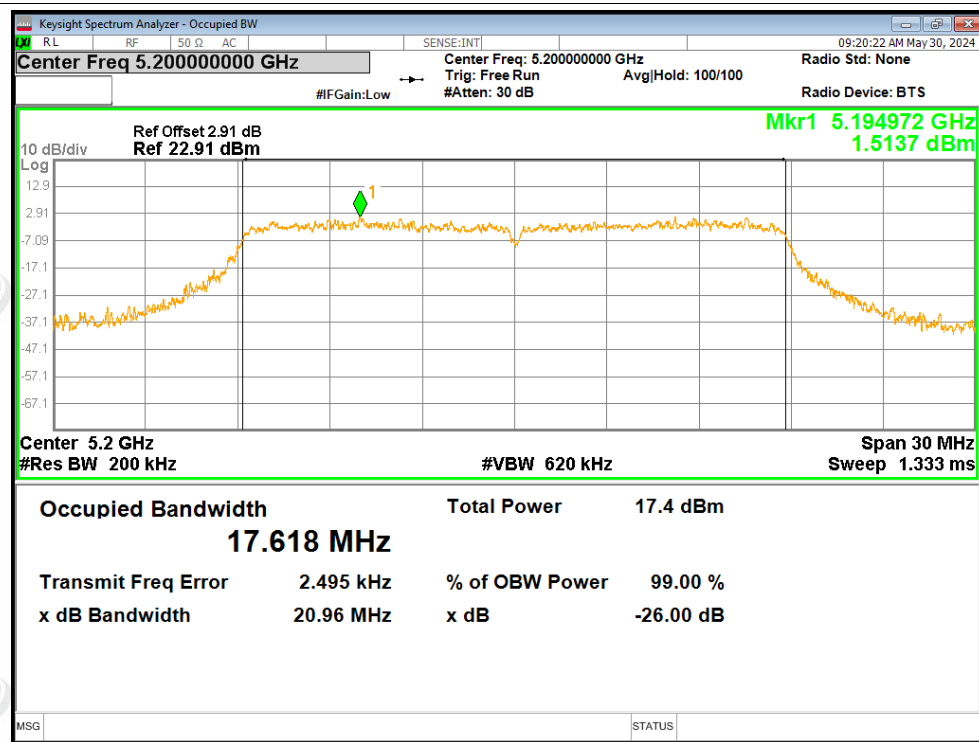




OBW NVNT ac20 5180MHz Ant1

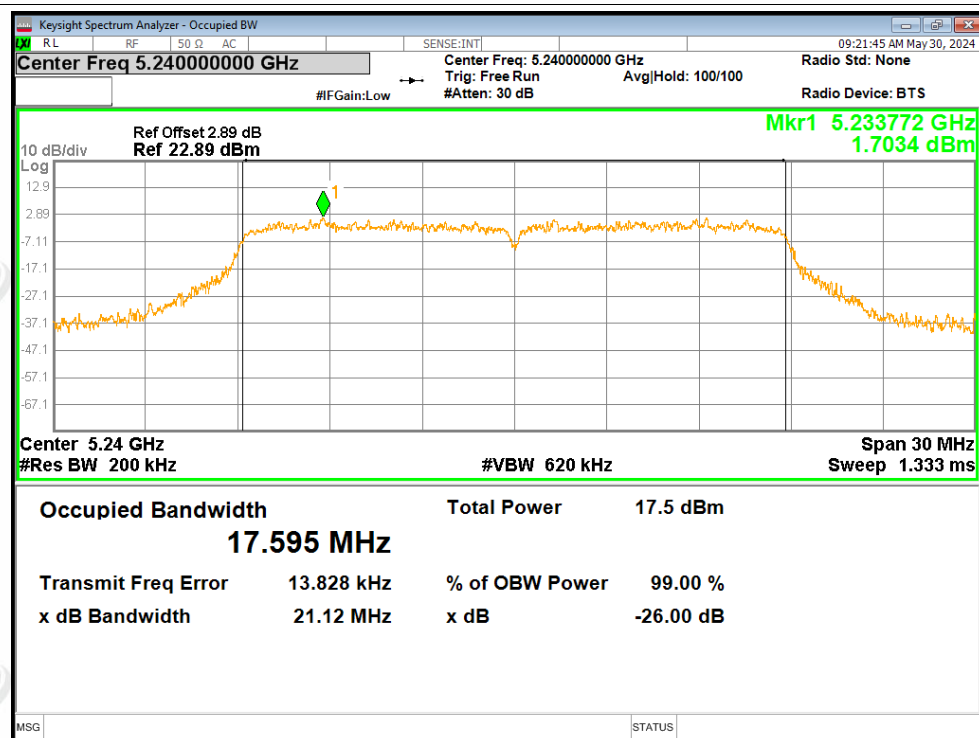


OBW NVNT ac20 5200MHz Ant1

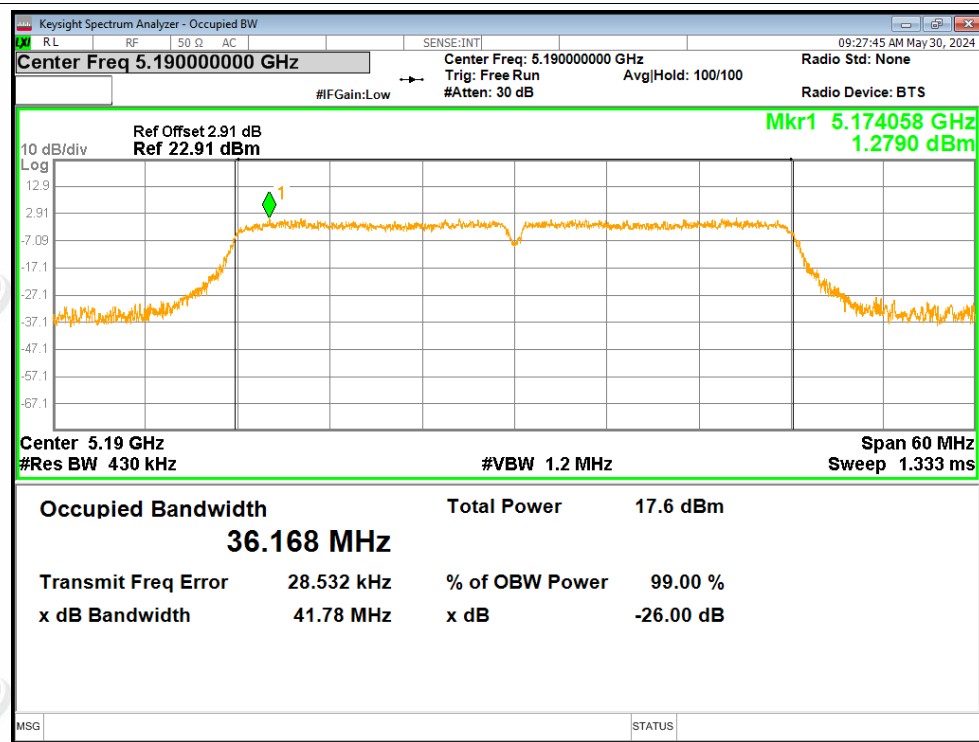




OBW NVNT ac20 5240MHz Ant1

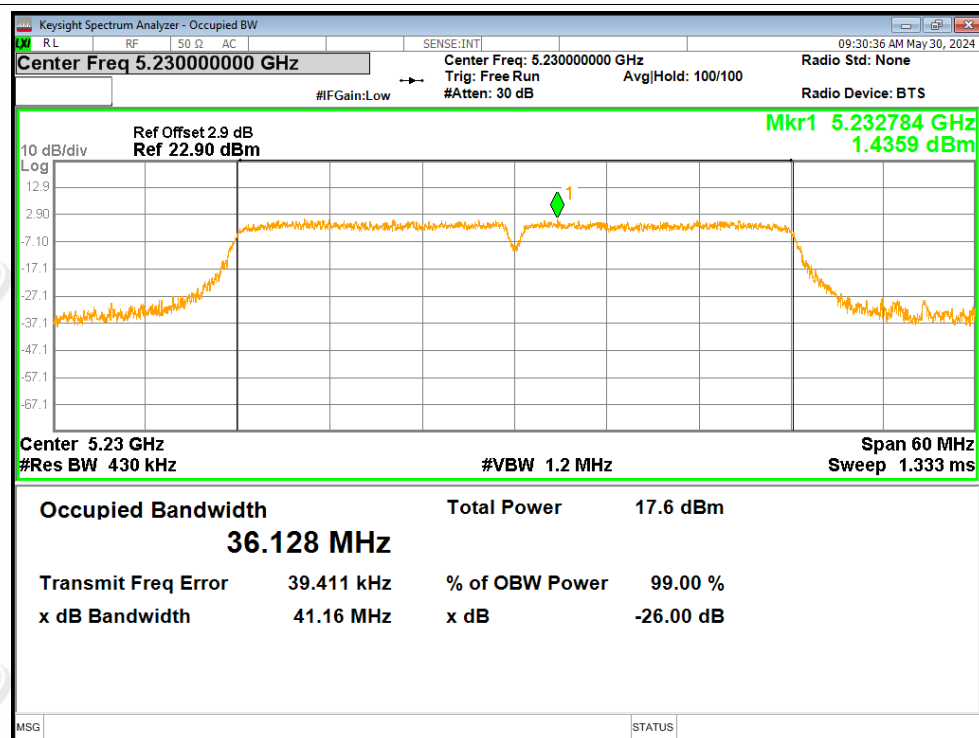


OBW NVNT ac40 5190MHz Ant1

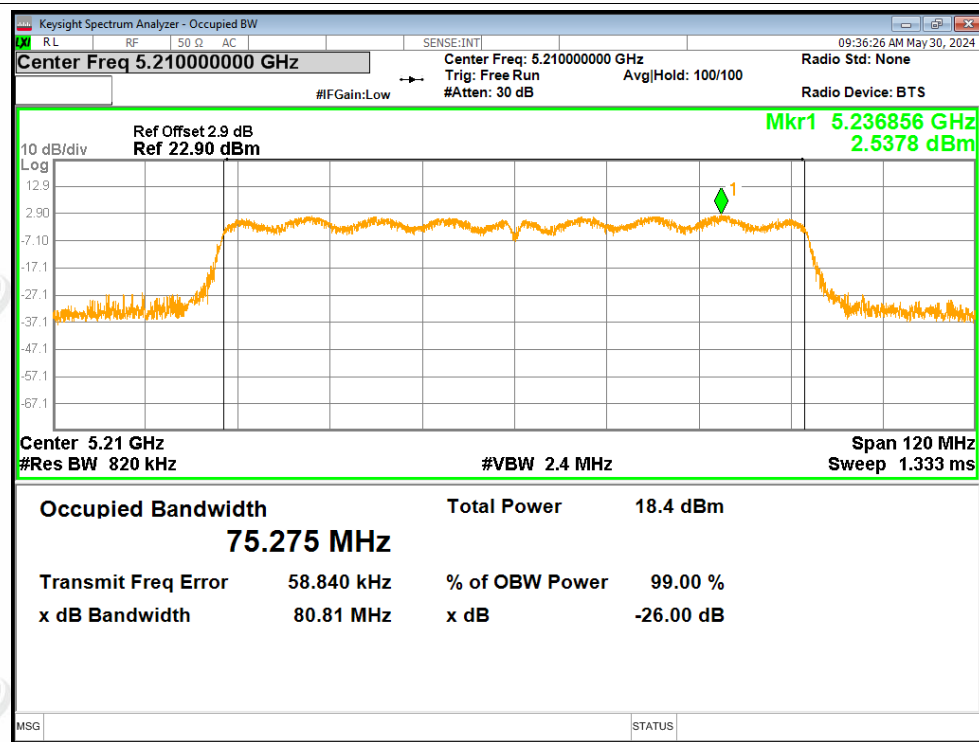




OBW NVNT ac40 5230MHz Ant1



OBW NVNT ac80 5210MHz Ant1



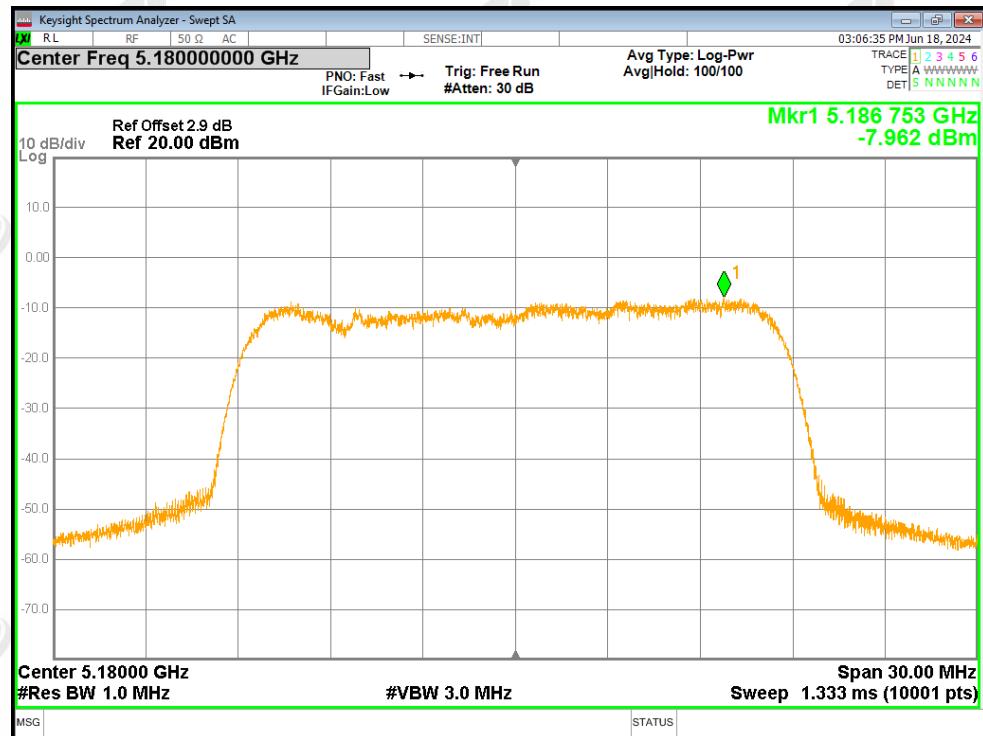
**ZHONGHAN****B5. Maximum Power Spectral Density Level**

Condition	Mode	Frequency (MHz)	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	-7.96	0.15	-7.81	11	Pass
NVNT	a	5200	-8.59	0.12	-8.47	11	Pass
NVNT	a	5240	-7.87	0.1	-7.77	11	Pass
NVNT	n20	5180	-9.07	0.2	-8.87	11	Pass
NVNT	n20	5200	-9.45	0.33	-9.12	11	Pass
NVNT	n20	5240	-8.77	0.24	-8.53	11	Pass
NVNT	n40	5190	-12.83	0.27	-12.56	11	Pass
NVNT	n40	5230	-13.05	0.13	-12.92	11	Pass
NVNT	ac20	5180	-8.9	0.11	-8.79	11	Pass
NVNT	ac20	5200	-9.41	0	-9.41	11	Pass
NVNT	ac20	5240	-8.64	0.18	-8.46	11	Pass
NVNT	ac40	5190	-13.33	0.43	-12.9	11	Pass
NVNT	ac40	5230	-13.64	0.51	-13.13	11	Pass
NVNT	ac80	5210	-19.48	0.88	-18.60	11	Pass

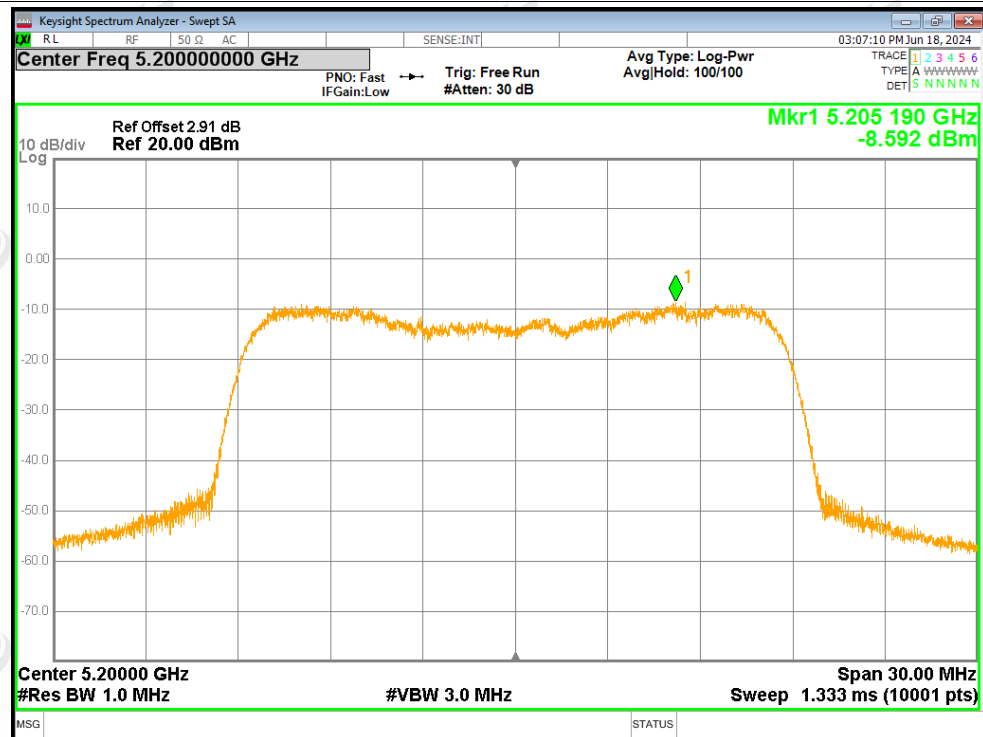


Test Graphs

PSD NVNT a 5180MHz Ant1

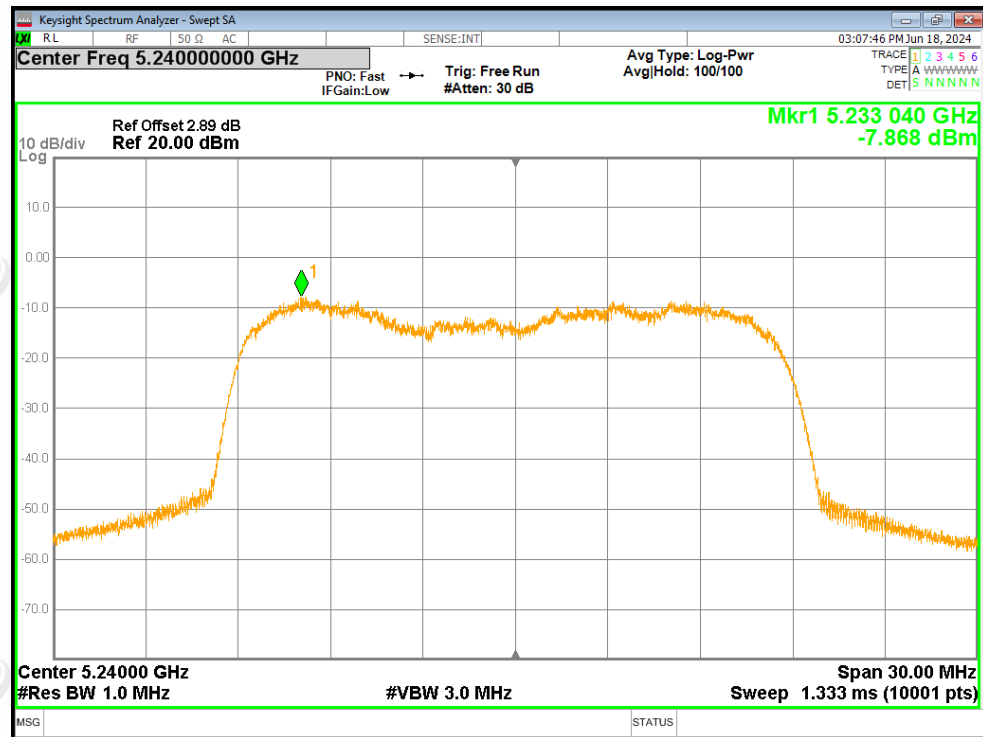


PSD NVNT a 5200MHz Ant1

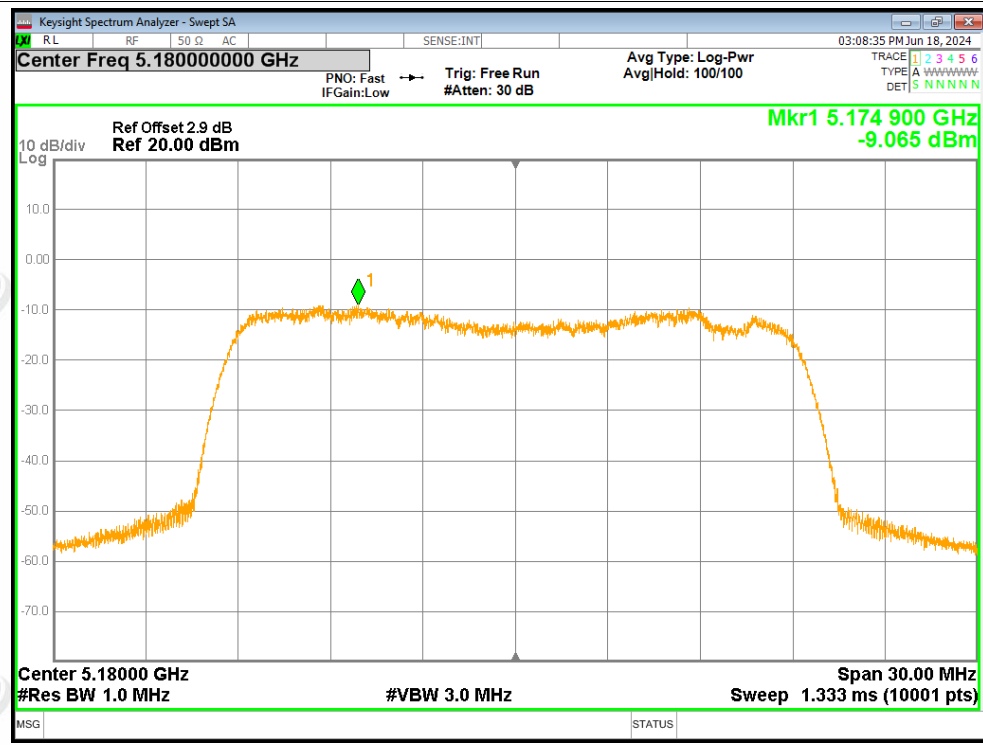




PSD NVNT a 5240MHz Ant1

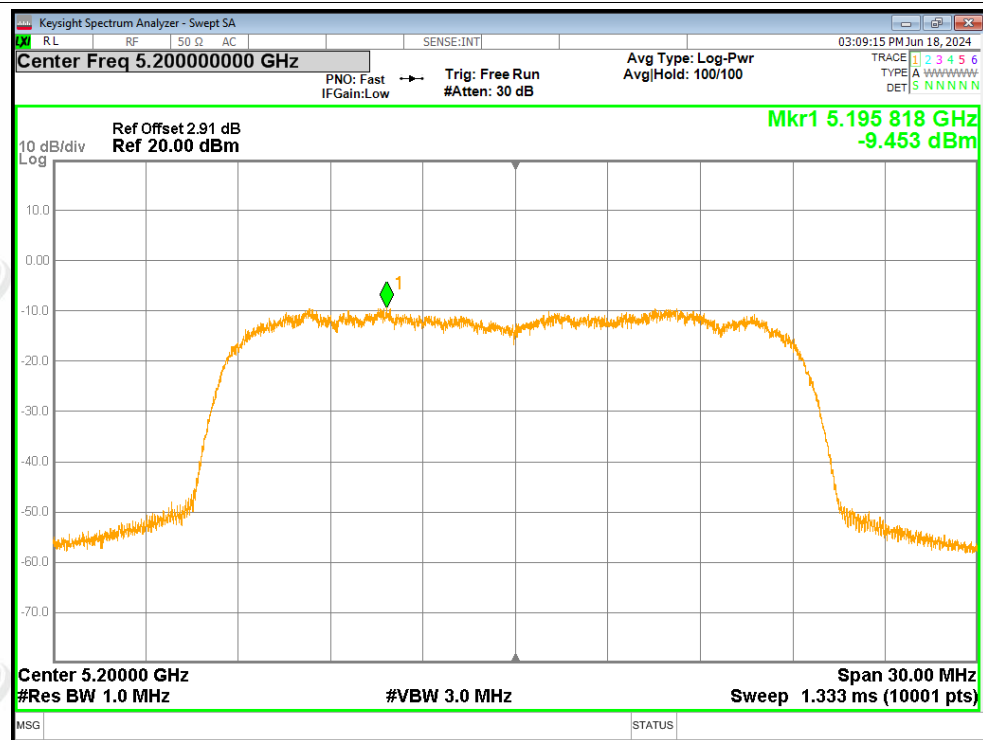


PSD NVNT n20 5180MHz Ant1

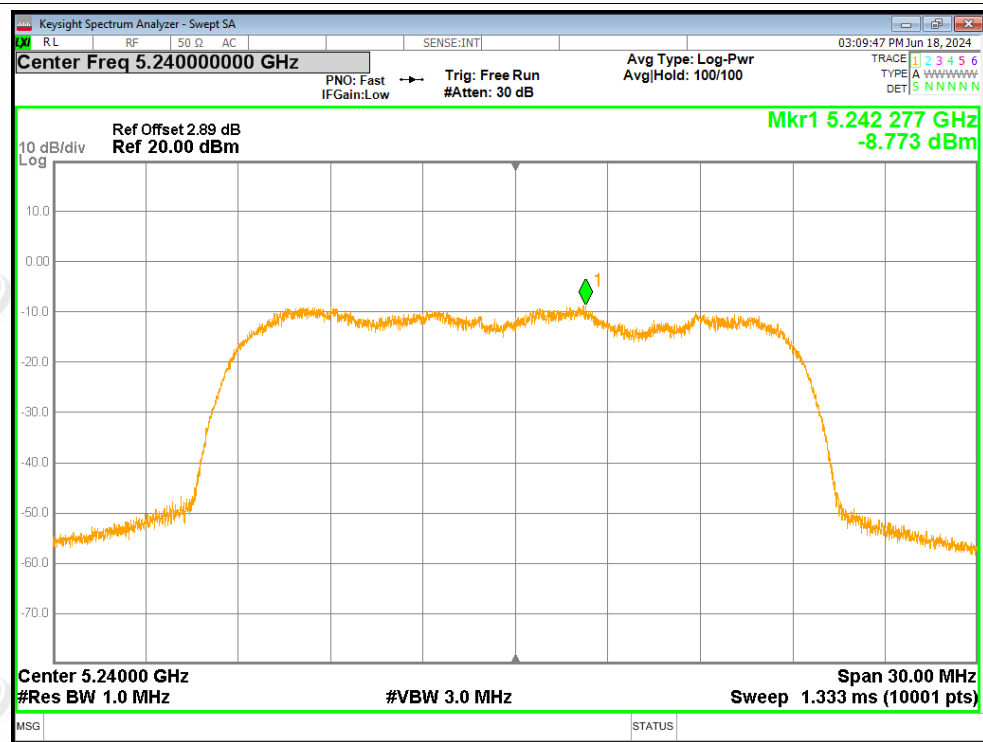




PSD NVNT n20 5200MHz Ant1

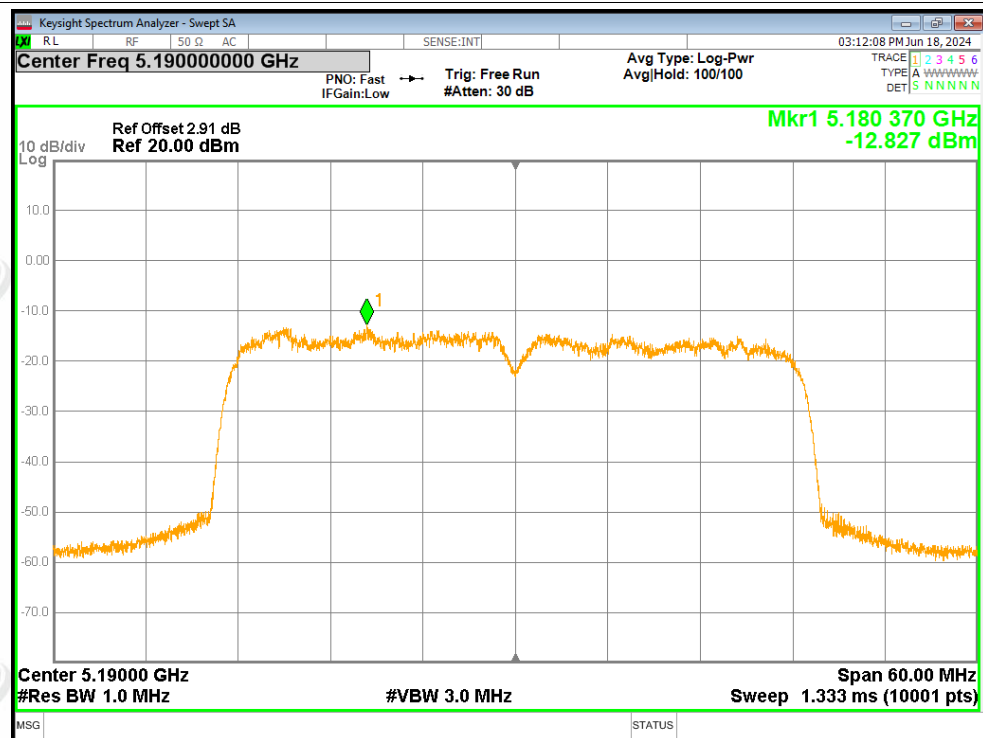


PSD NVNT n20 5240MHz Ant1

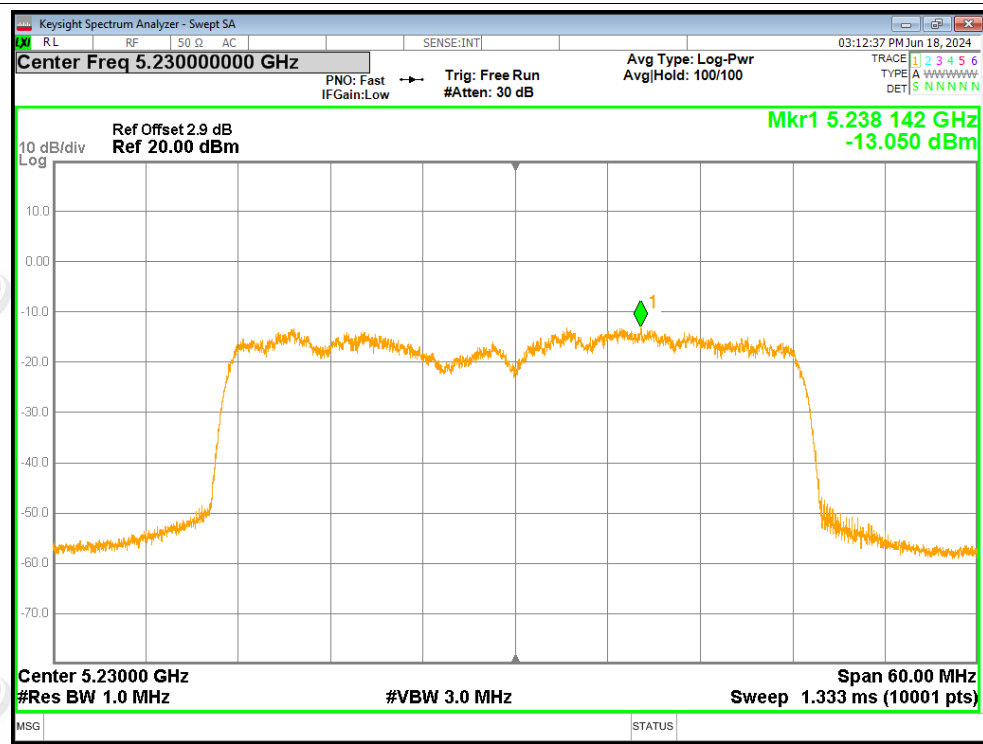




PSD NVNT n40 5190MHz Ant1

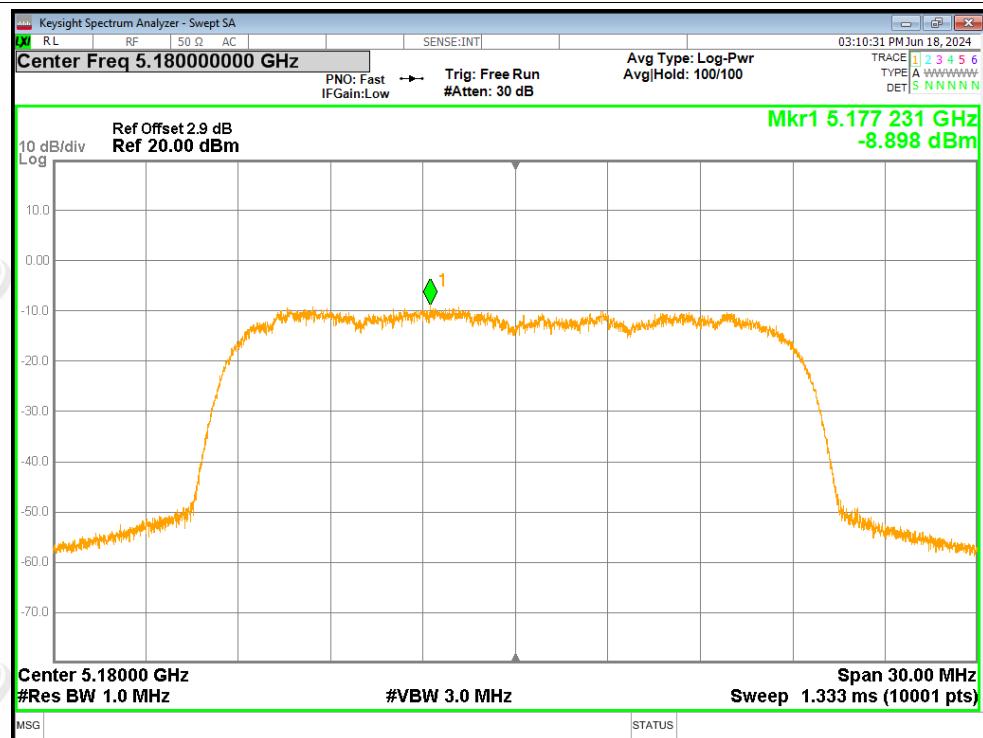


PSD NVNT n40 5230MHz Ant1

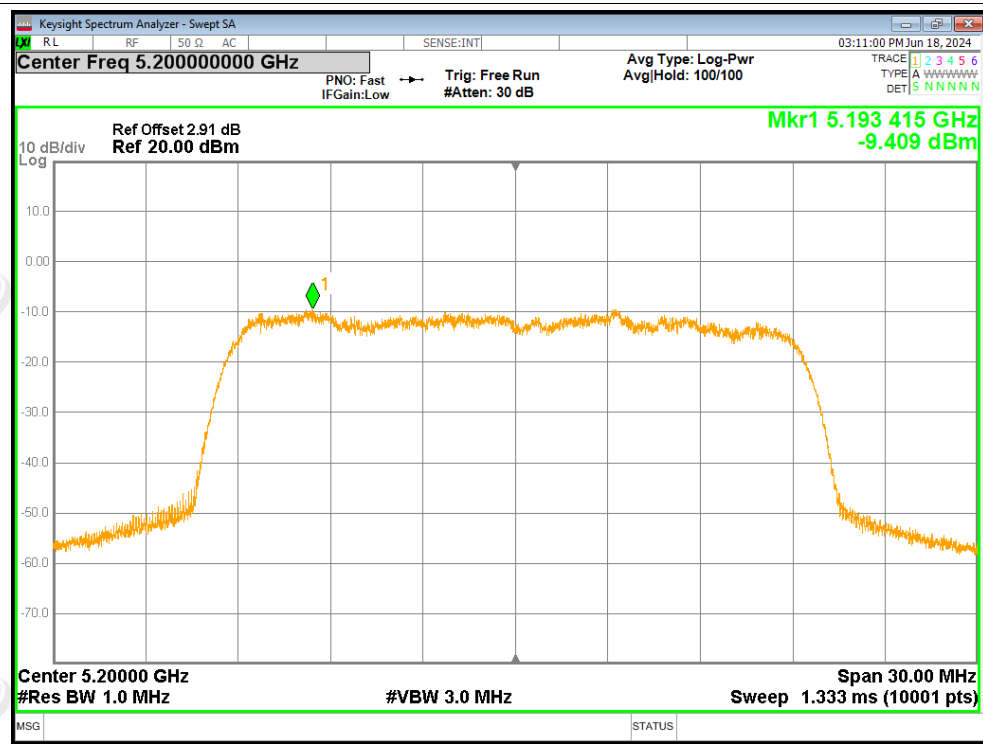




PSD NVNT ac20 5180MHz Ant1

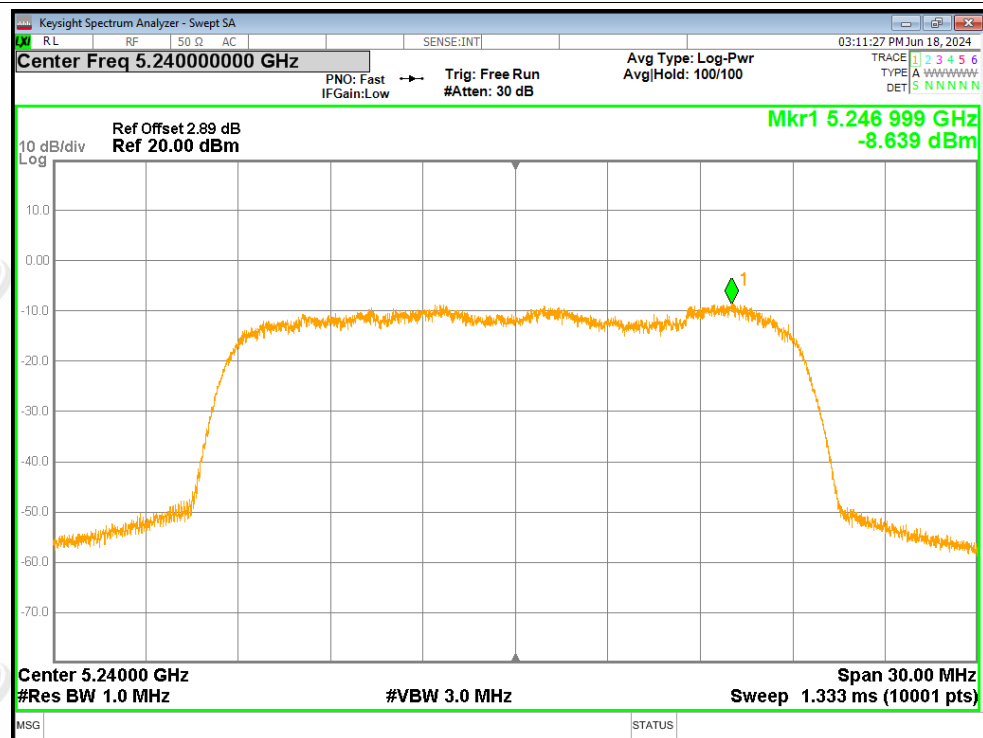


PSD NVNT ac20 5200MHz Ant1

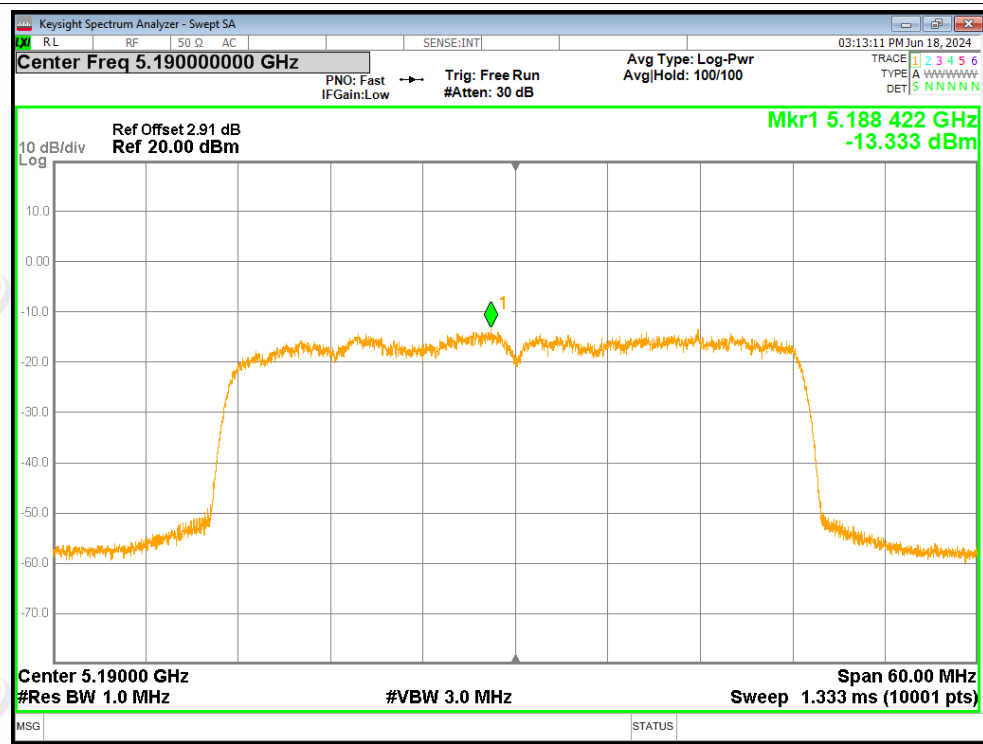




PSD NVNT ac20 5240MHz Ant1

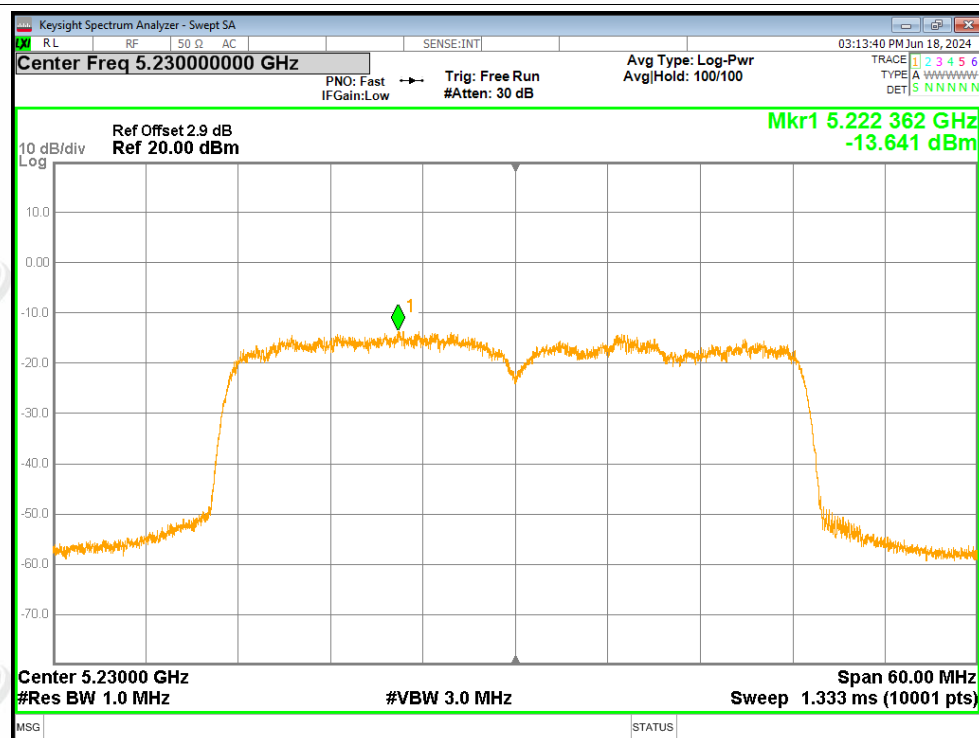


PSD NVNT ac40 5190MHz Ant1

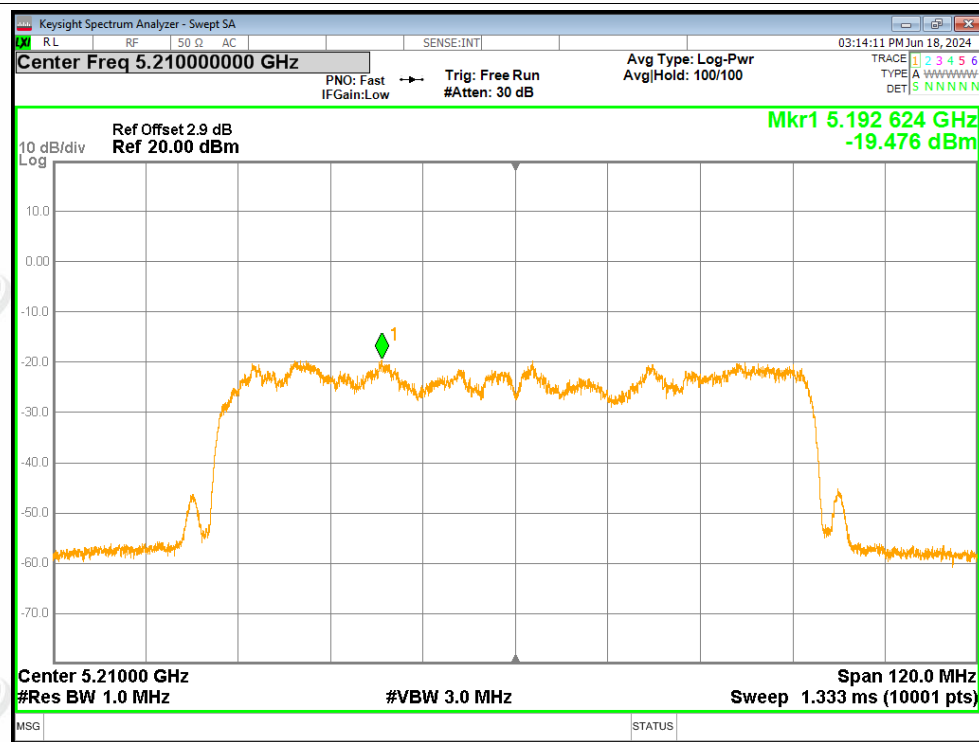




PSD NVNT ac40 5230MHz Ant1



PSD NVNT ac80 5210MHz Ant1



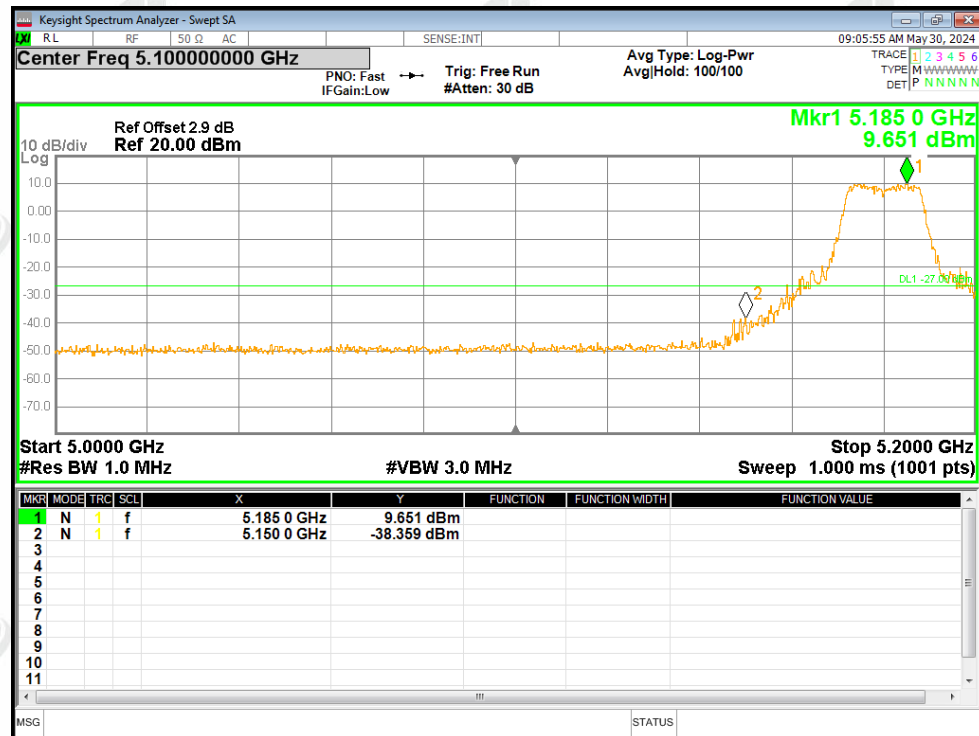
**ZHONGHAN**
B6. Band Edge

Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	-38.35	-27	Pass
NVNT	a	5240	-46.11	-27	Pass
NVNT	n20	5180	-36.46	-27	Pass
NVNT	n20	5240	-46.05	-27	Pass
NVNT	n40	5190	-32.38	-27	Pass
NVNT	n40	5230	-46.18	-27	Pass
NVNT	ac20	5180	-45.19	-27	Pass
NVNT	ac20	5240	-45.09	-27	Pass
NVNT	ac40	5190	-33.71	-27	Pass
NVNT	ac40	5230	-45.94	-27	Pass
NVNT	ac80	5210	-29.56	-27	Pass

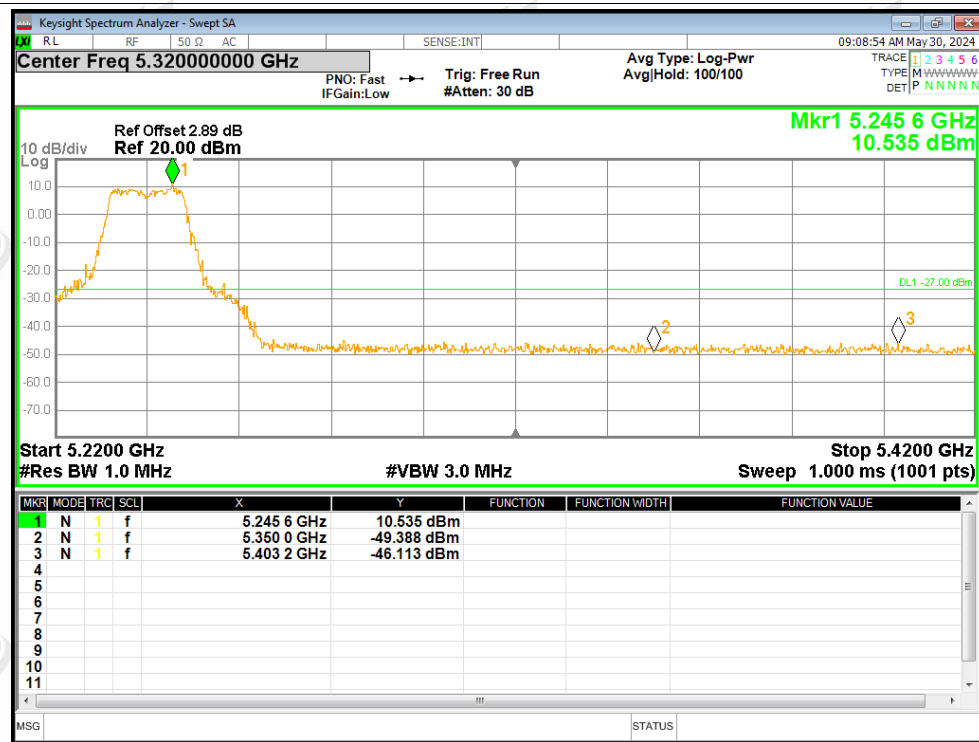


Test Graphs

Band Edge NVNT a 5180MHz Low Ant1

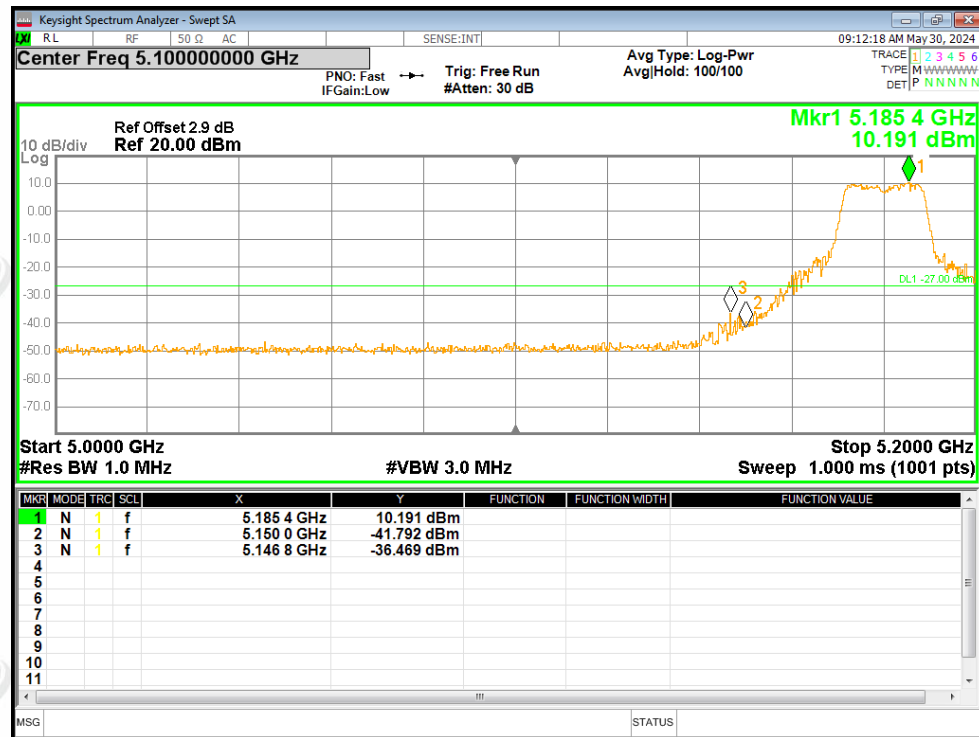


Band Edge NVNT a 5240MHz High Ant1

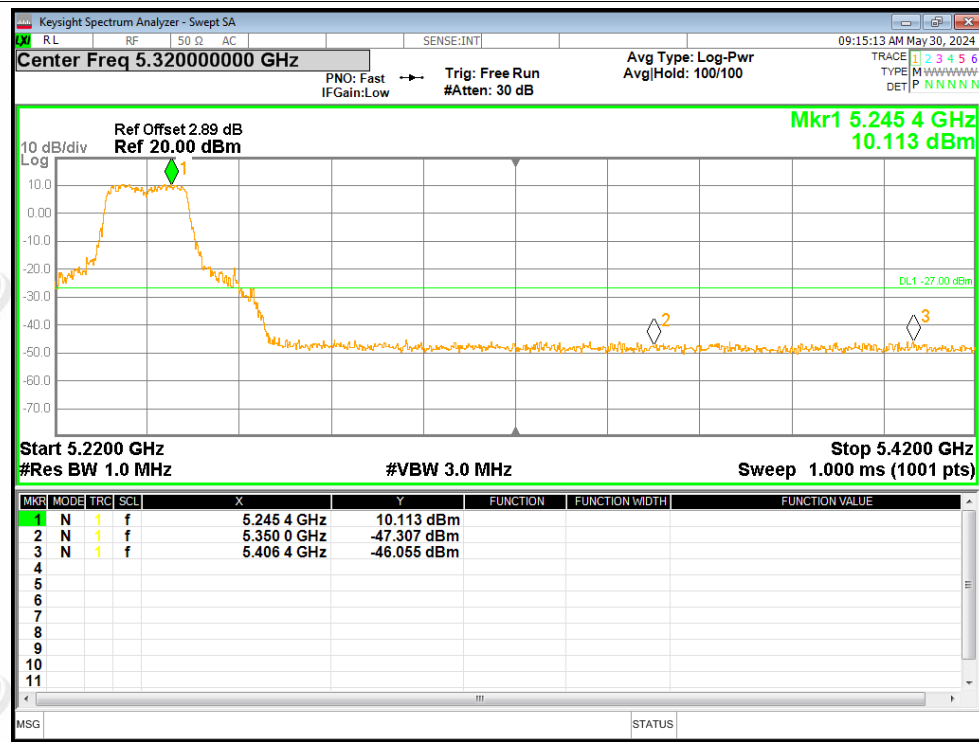




Band Edge NVNT n20 5180MHz Low Ant1

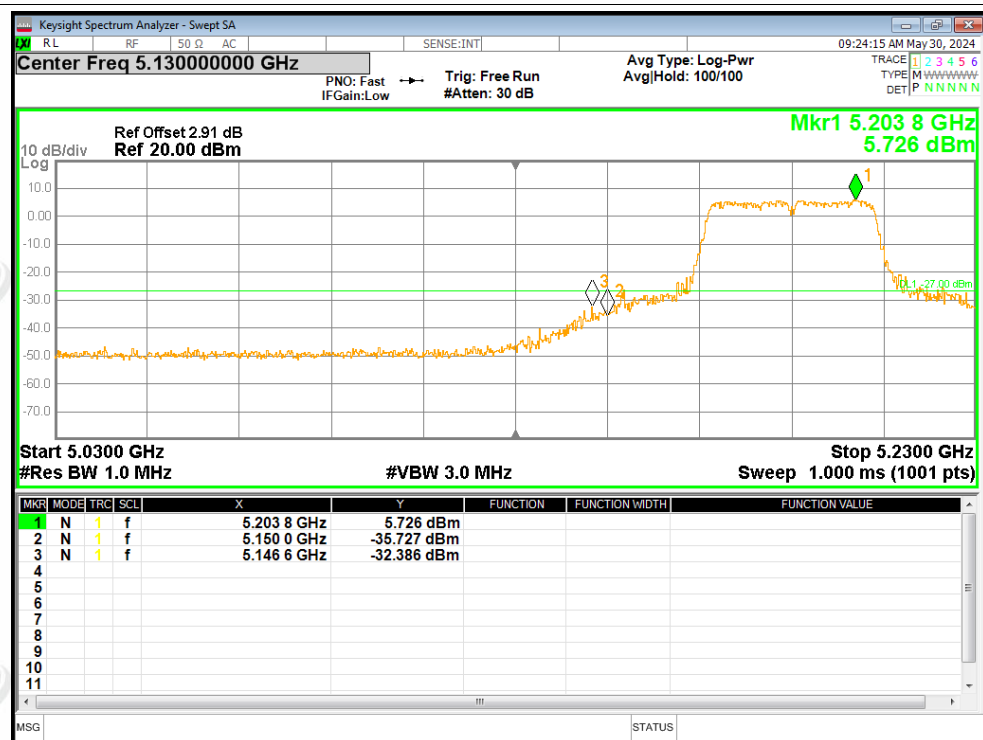


Band Edge NVNT n20 5240MHz High Ant1

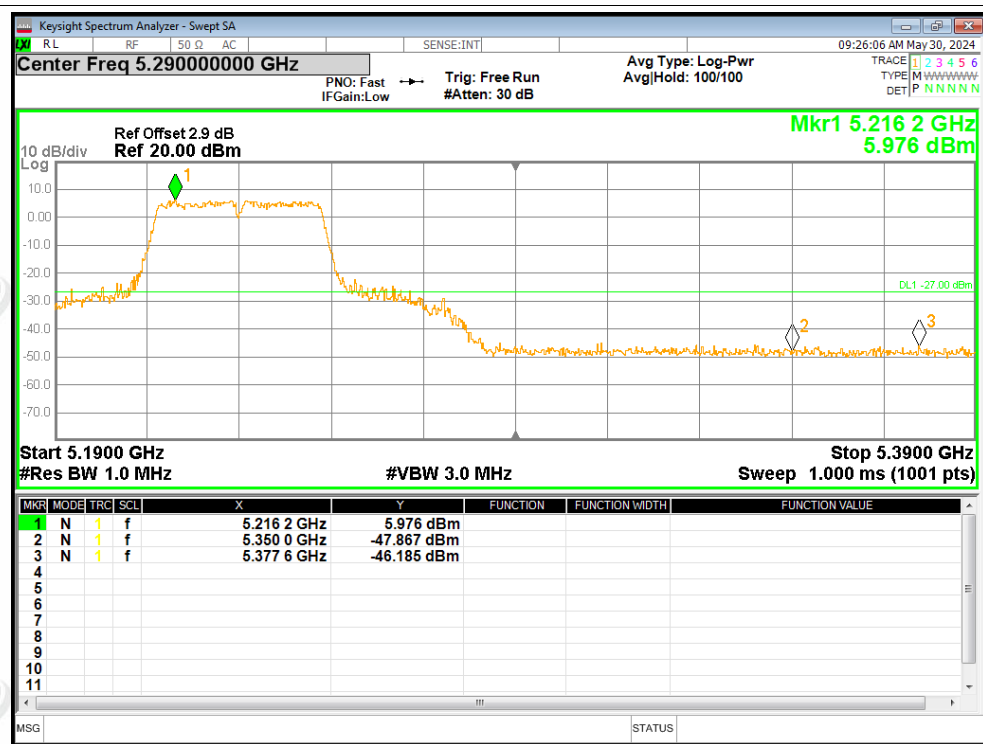




Band Edge NVNT n40 5190MHz Low Ant1

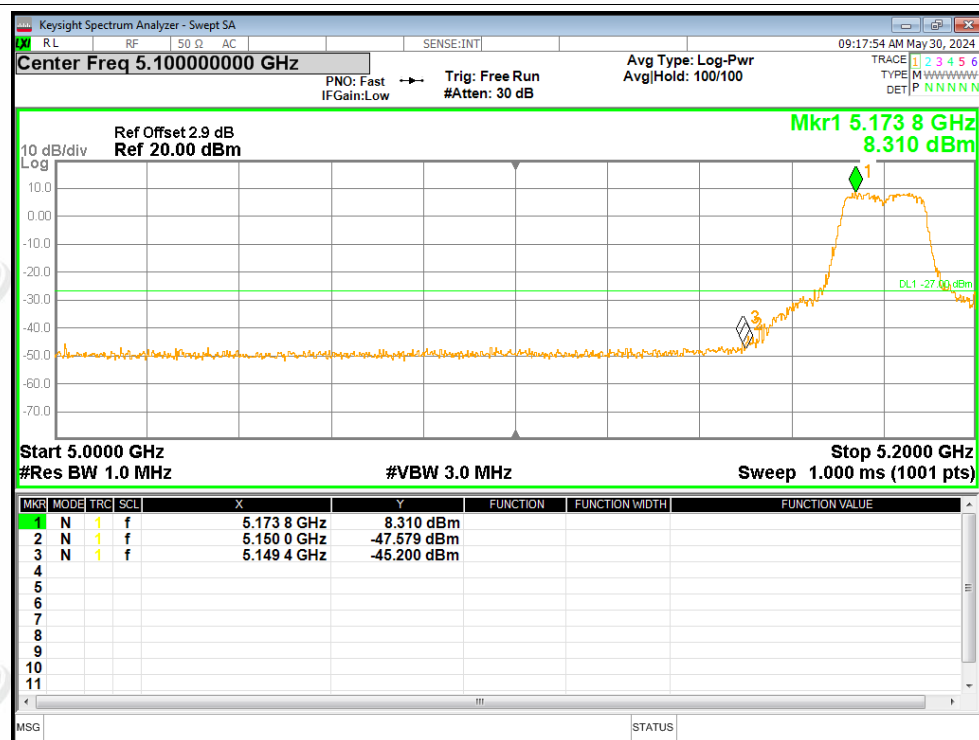


Band Edge NVNT n40 5230MHz High Ant1

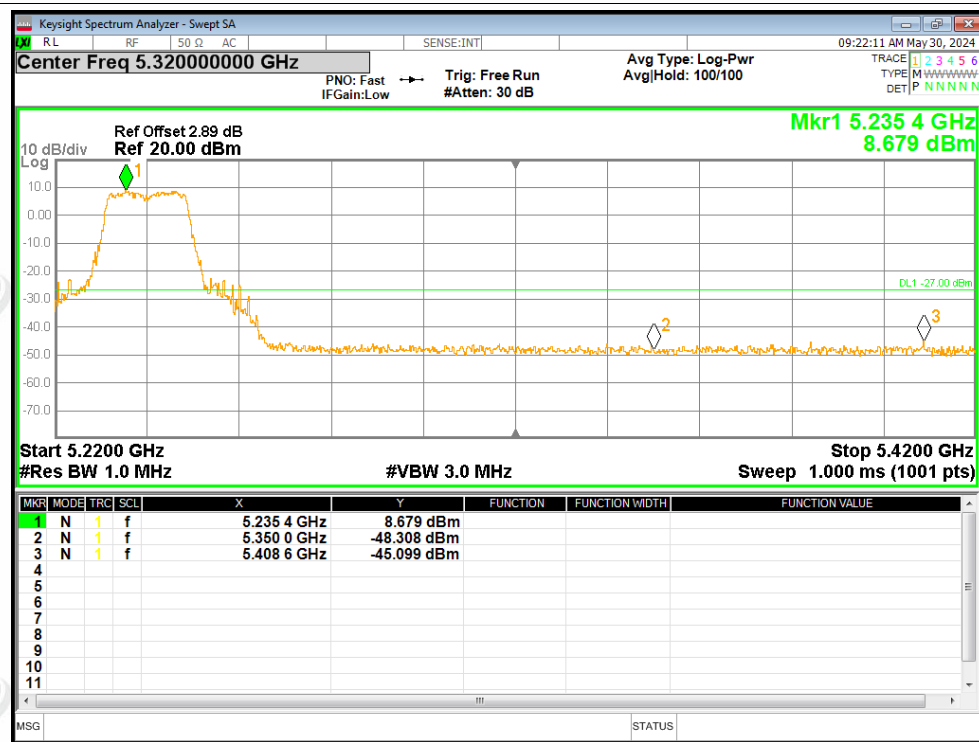




Band Edge NVNT ac20 5180MHz Low Ant1

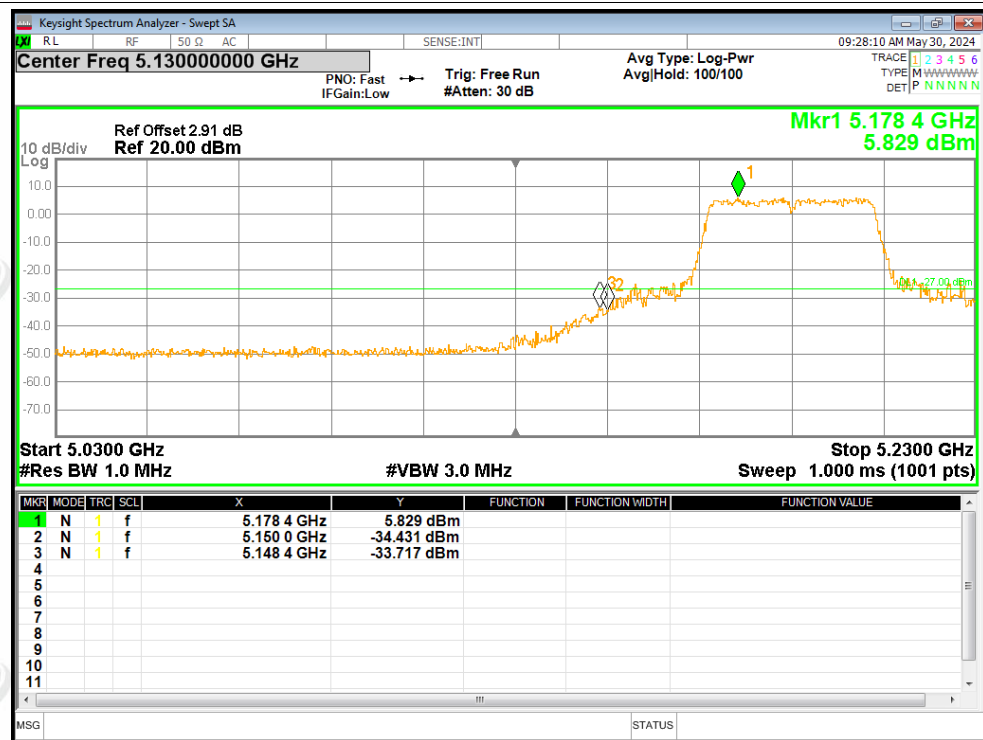


Band Edge NVNT ac20 5240MHz High Ant1

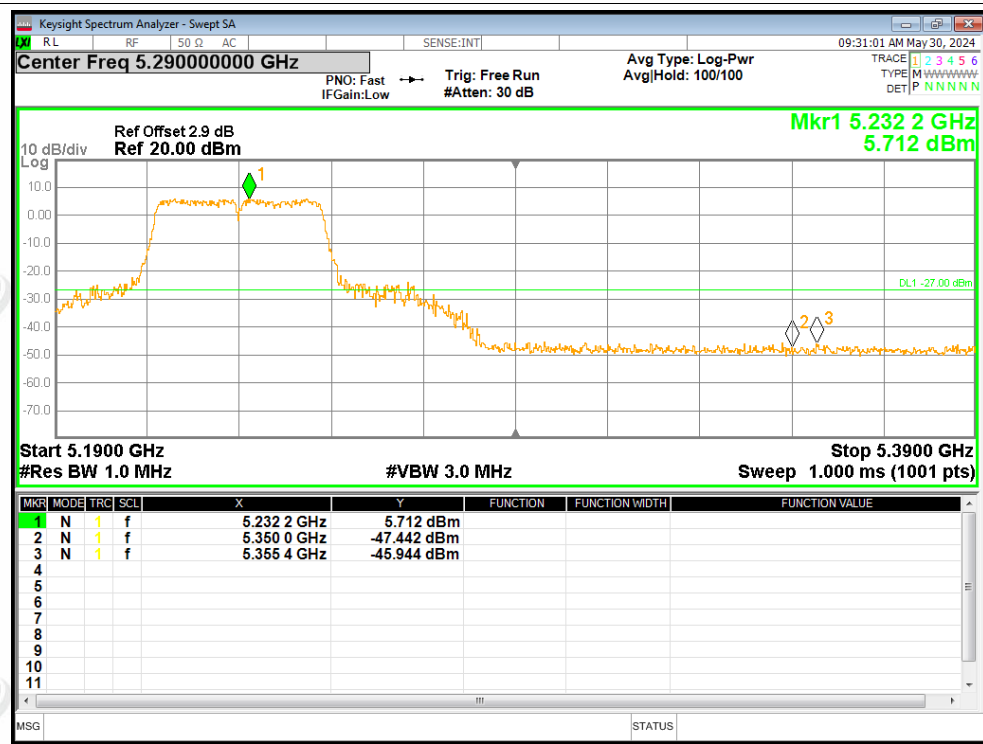


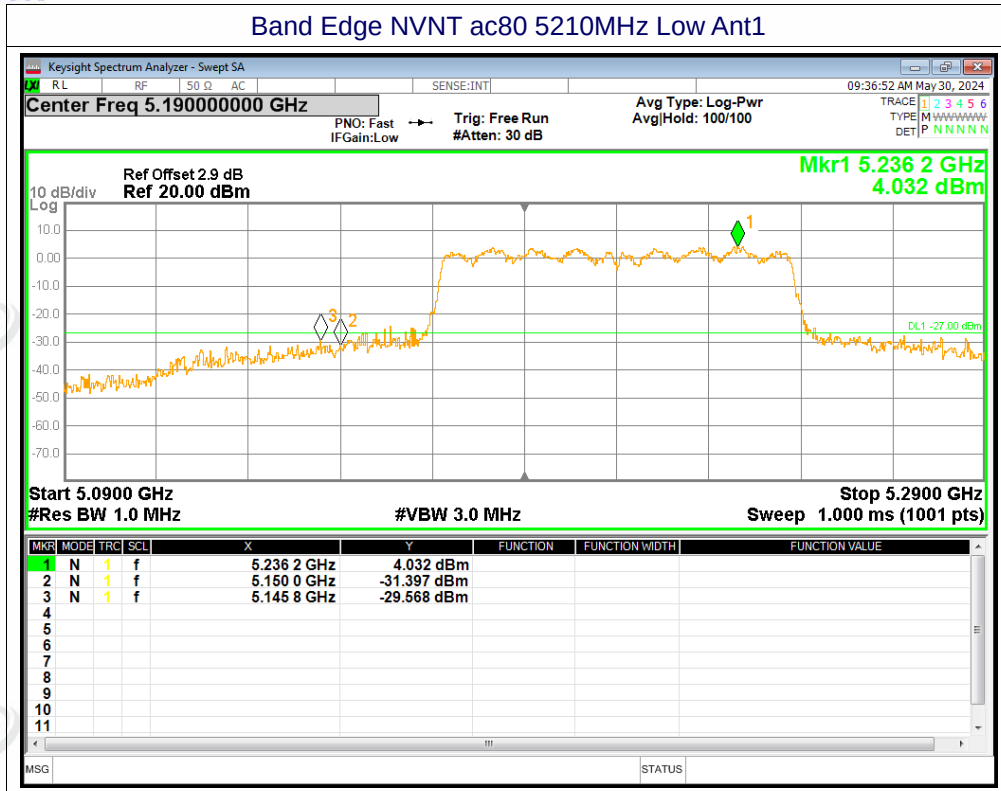


Band Edge NVNT ac40 5190MHz Low Ant1



Band Edge NVNT ac40 5230MHz High Ant1





**ZHONGHAN****B7. Frequency Stability**

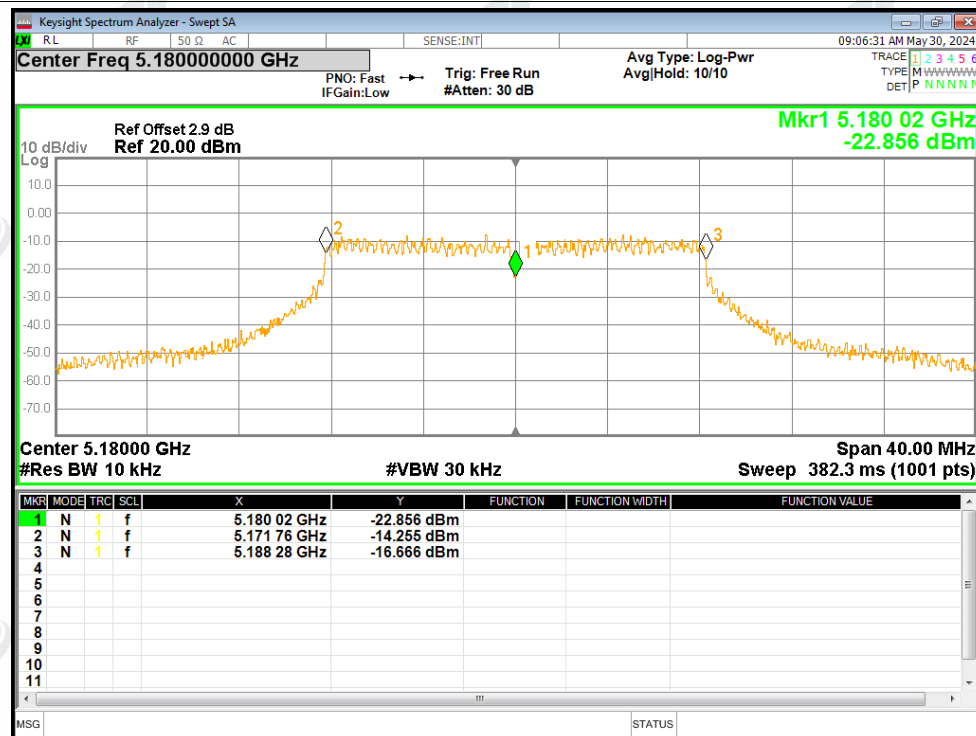
Condition	Mode	Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5180	5180.02	20000	3.86	Within 5180-5240MHz	Pass
NVNT	a	5200	5200	0	0		Pass
NVNT	a	5240	5239.98	-20000	-3.82		Pass
NVNT	n20	5180	5180	0	0		Pass
NVNT	n20	5200	5200.02	20000	3.85		Pass
NVNT	n20	5240	5240	0	0		Pass
NVNT	n40	5190	5190.04	40000	7.71	Within 5190-5230MHz	Pass
NVNT	n40	5230	5230	0	0		Pass
NVNT	ac20	5180	5180.02	20000	3.86	Within 5180-5240MHz	Pass
NVNT	ac20	5200	5200	0	0		Pass
NVNT	ac20	5240	5240.02	20000	3.82		Pass
NVNT	ac40	5190	5190	0	0	Within 5190-5230MHz	Pass
NVNT	ac40	5230	5230	0	0		Pass
NVNT	ac80	5210	5210	0	0	Within 5210MHz	Pass

Note: Test temperature: -20° to $+70^{\circ}$. At room temperature, the test results are the worst, only reflecting the test results graphs at room temperature.

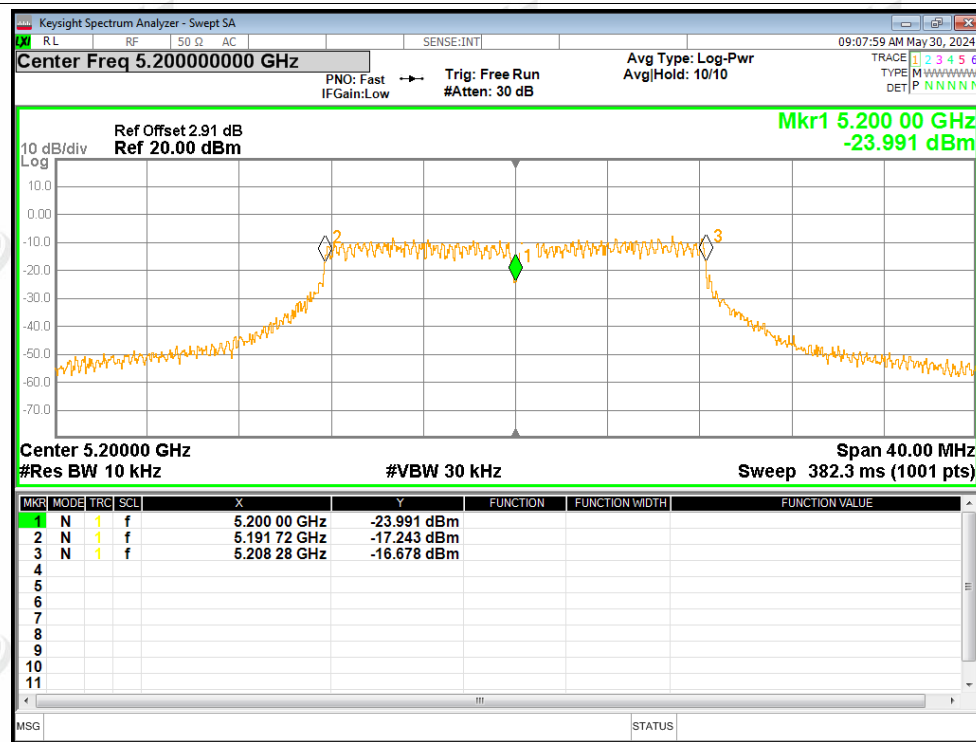


Test Graphs

Freq. Stability NVNT a 5180MHz Ant1

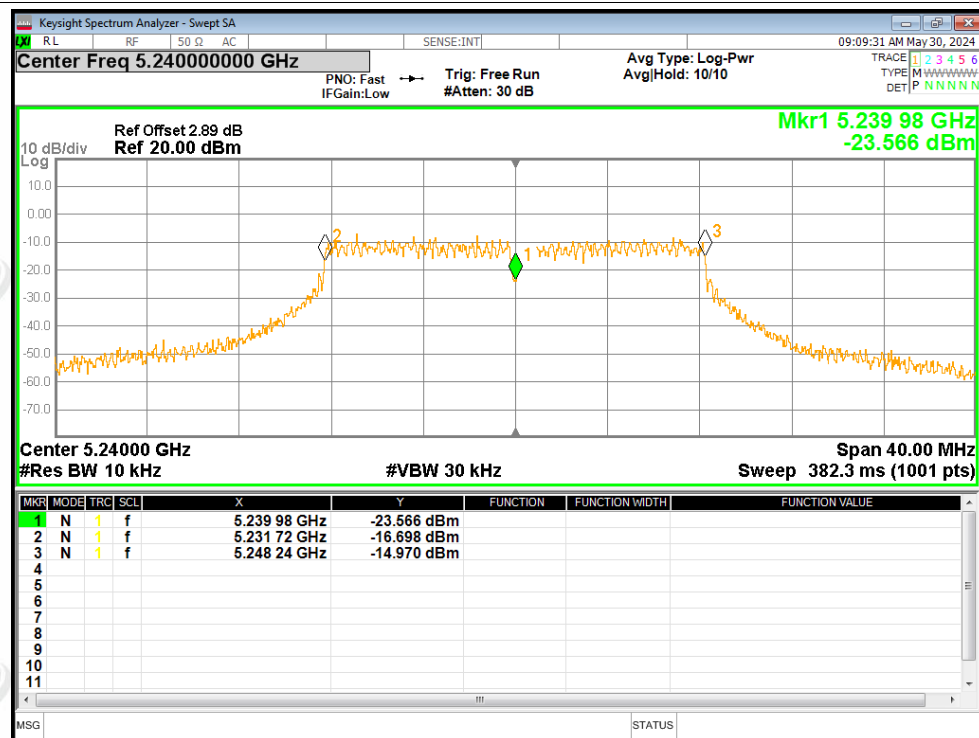


Freq. Stability NVNT a 5200MHz Ant1

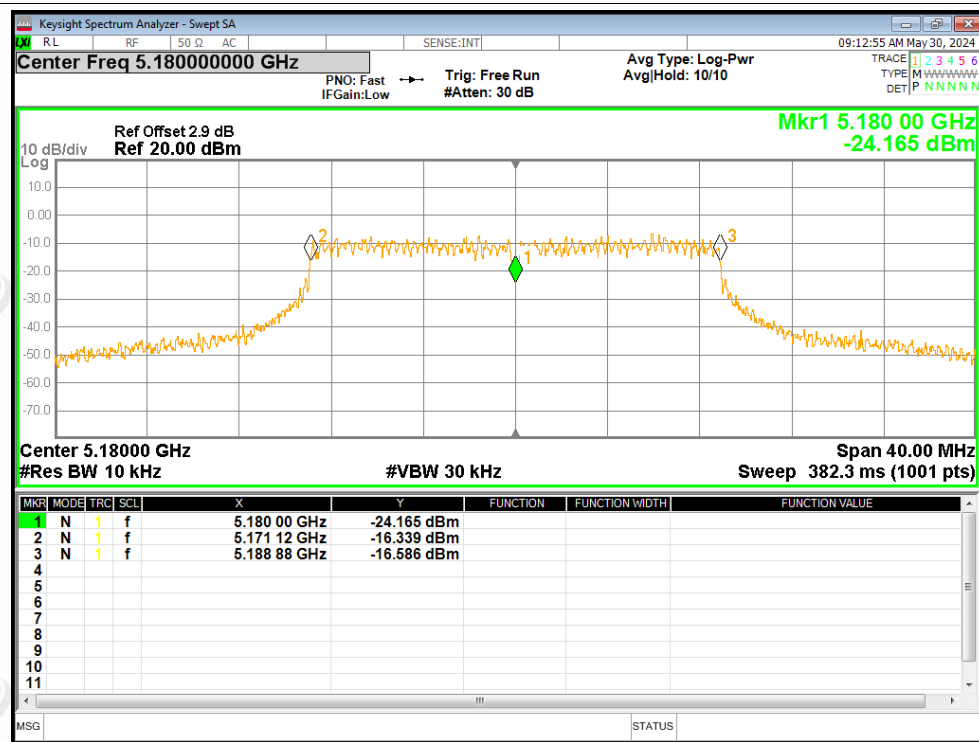




Freq. Stability NVNT a 5240MHz Ant1

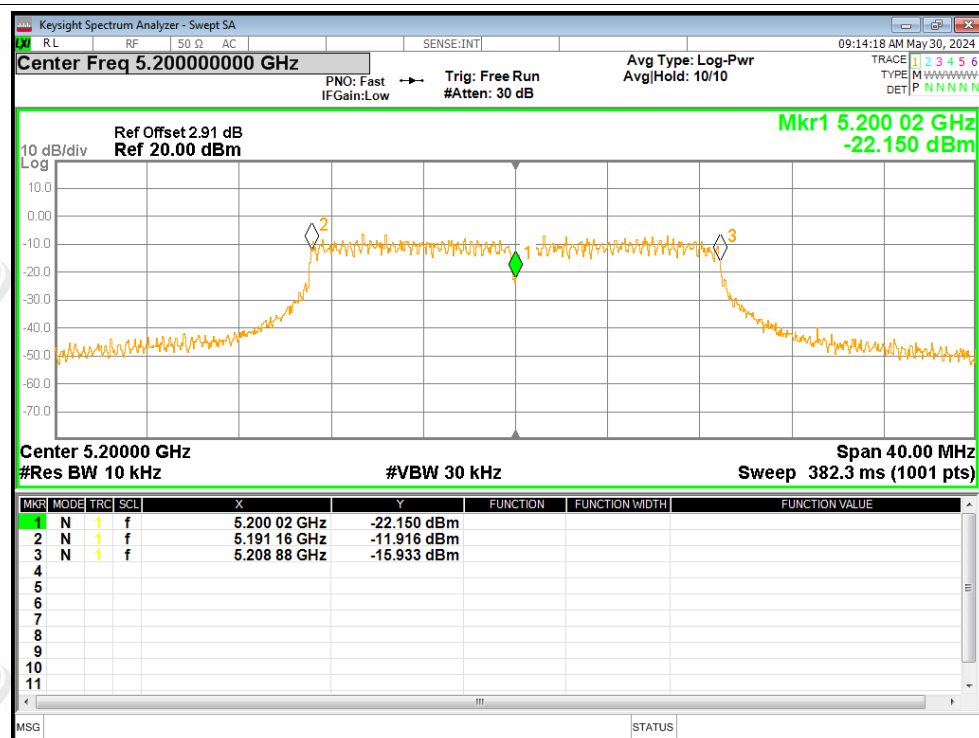


Freq. Stability NVNT n20 5180MHz Ant1

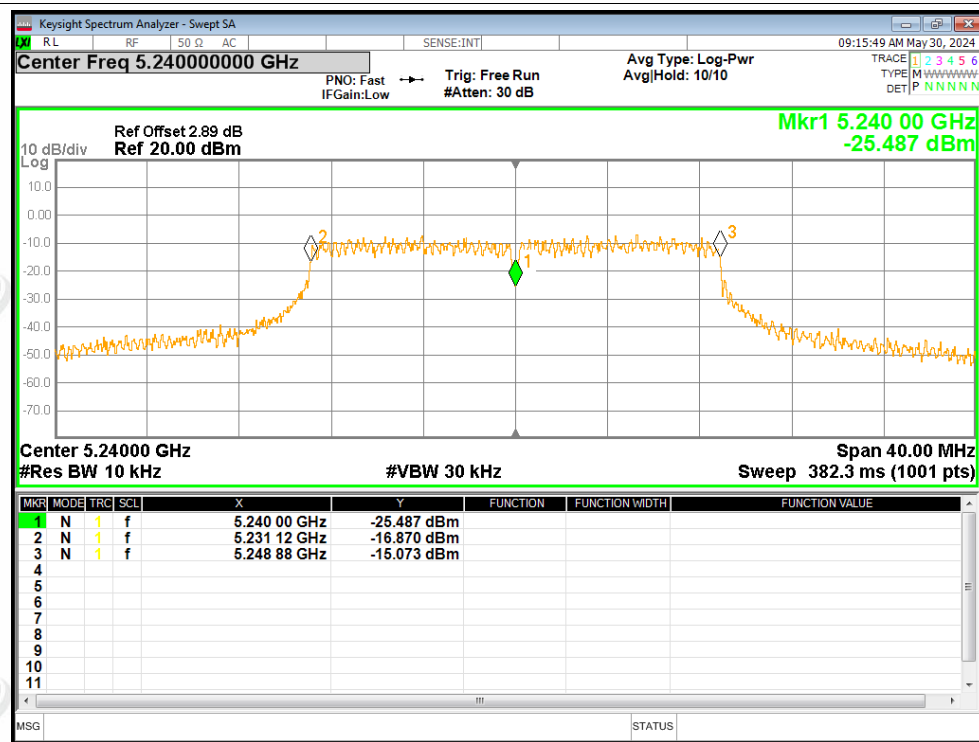




Freq. Stability NVNT n20 5200MHz Ant1

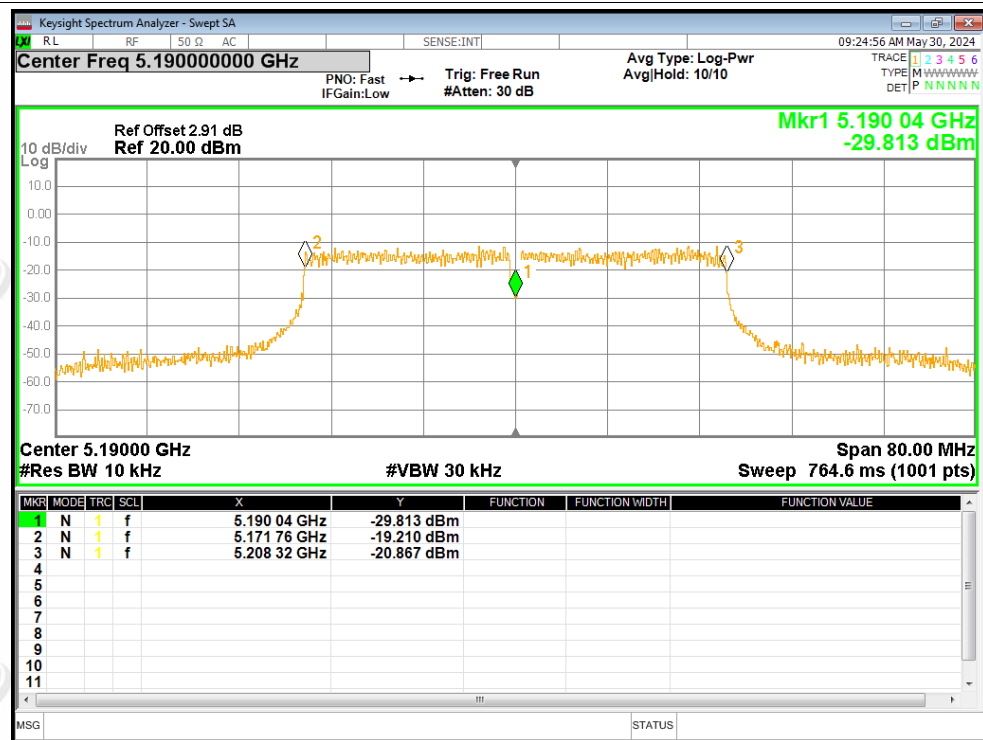


Freq. Stability NVNT n20 5240MHz Ant1

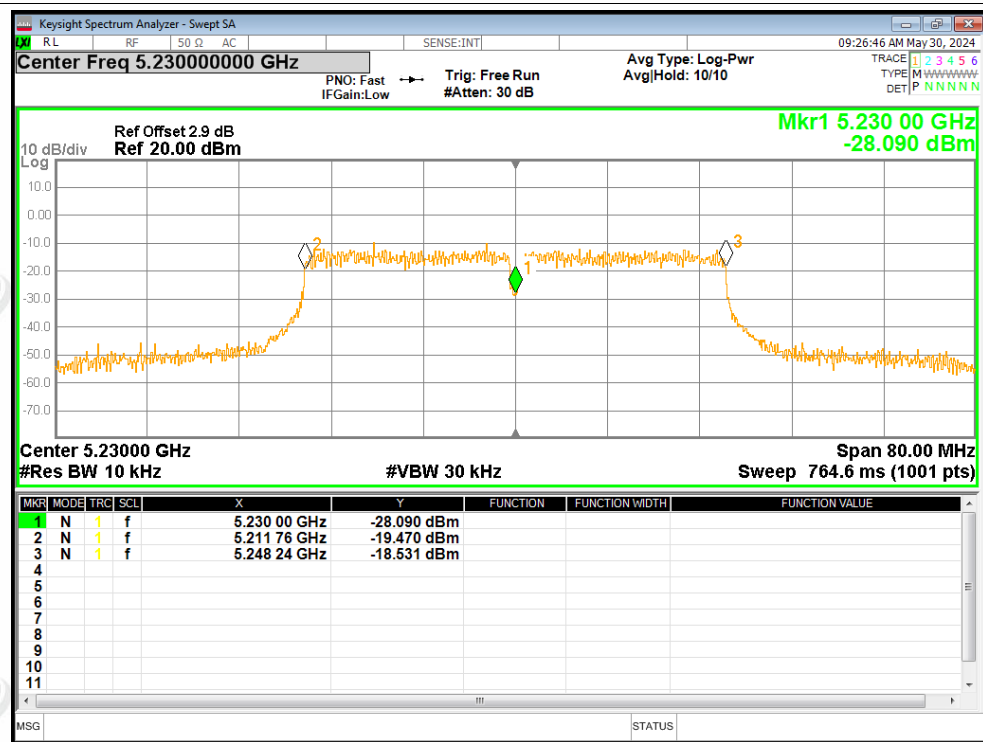




Freq. Stability NVNT n40 5190MHz Ant1

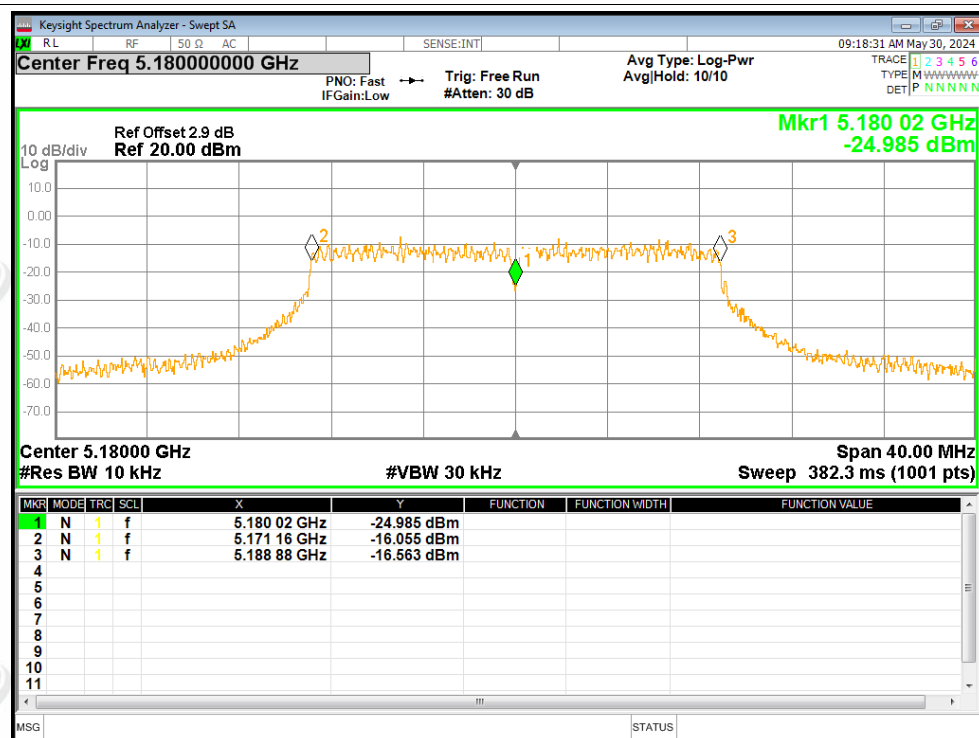


Freq. Stability NVNT n40 5230MHz Ant1

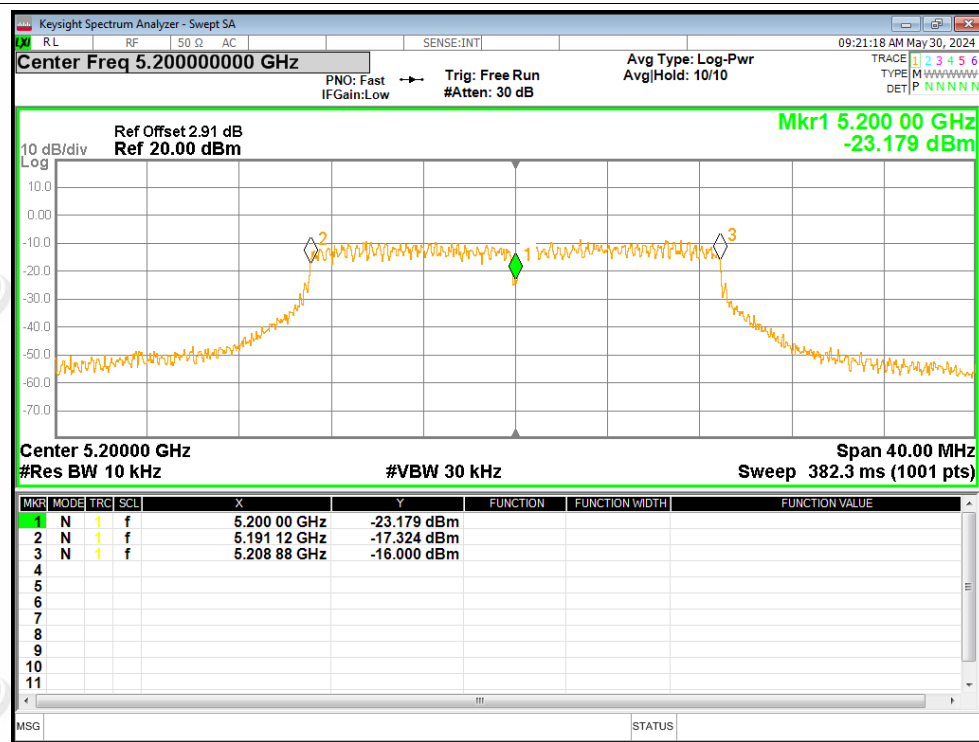




Freq. Stability NVNT ac20 5180MHz Ant1

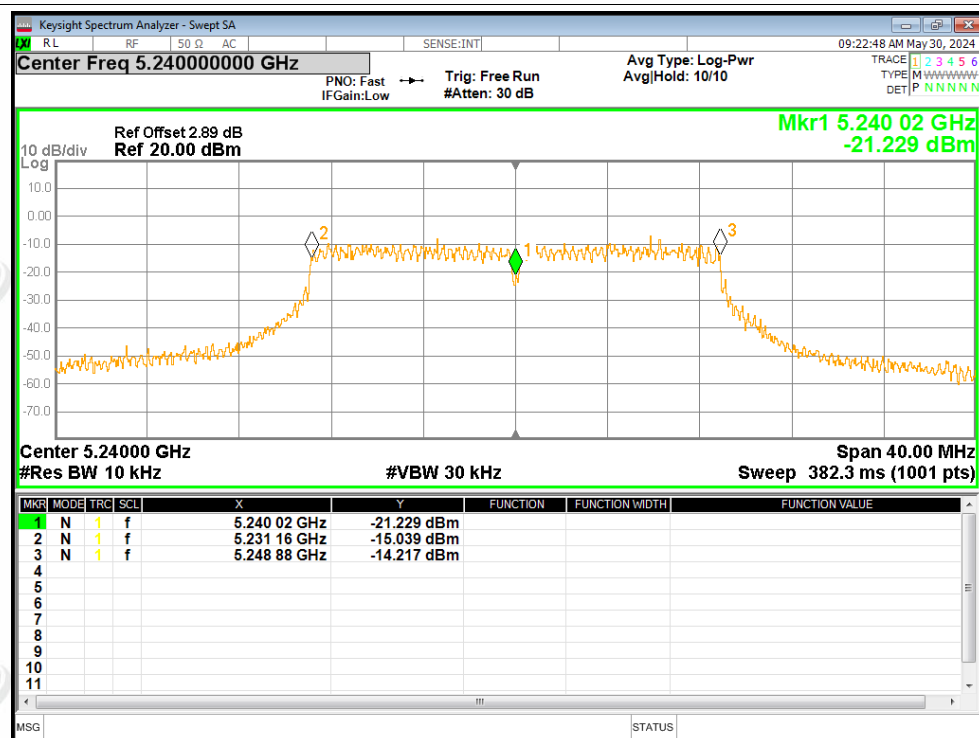


Freq. Stability NVNT ac20 5200MHz Ant1

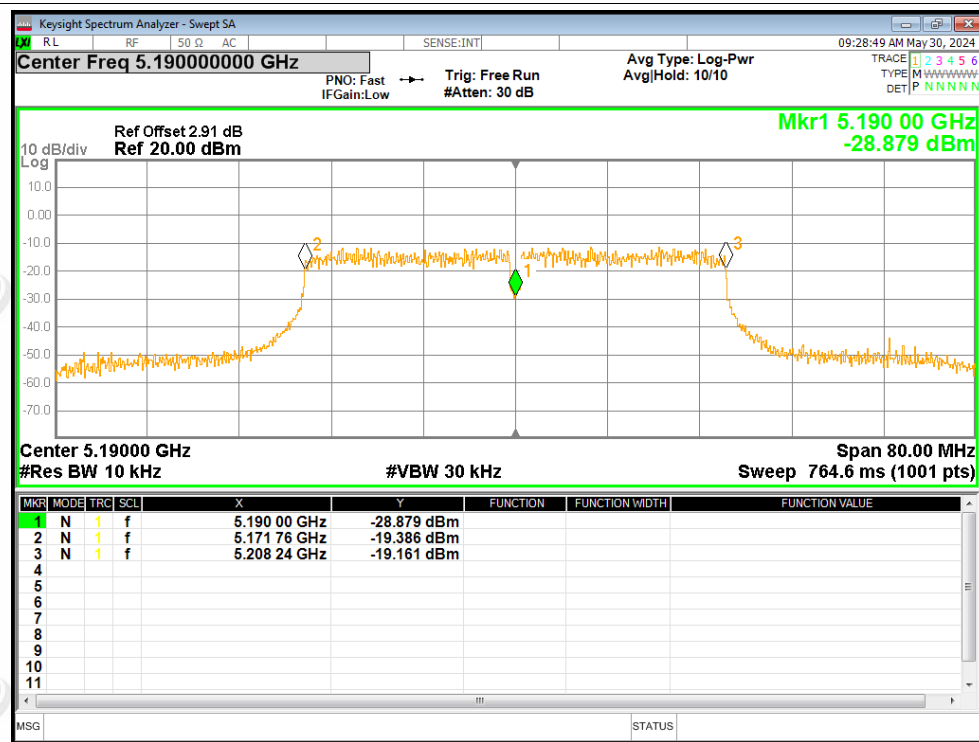




Freq. Stability NVNT ac20 5240MHz Ant1

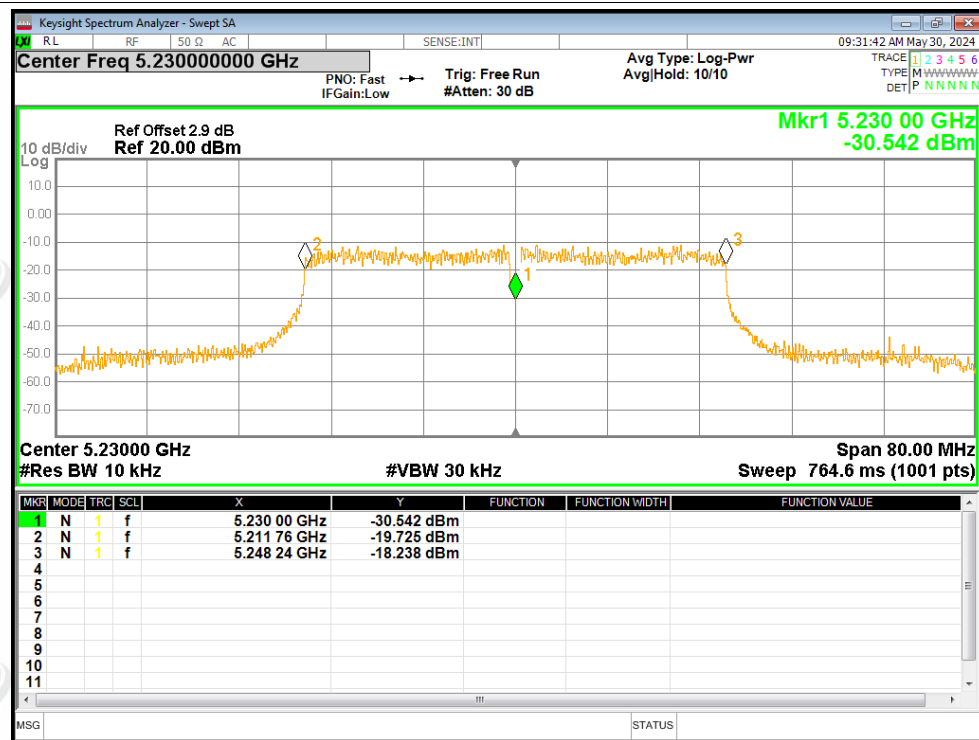


Freq. Stability NVNT ac40 5190MHz Ant1

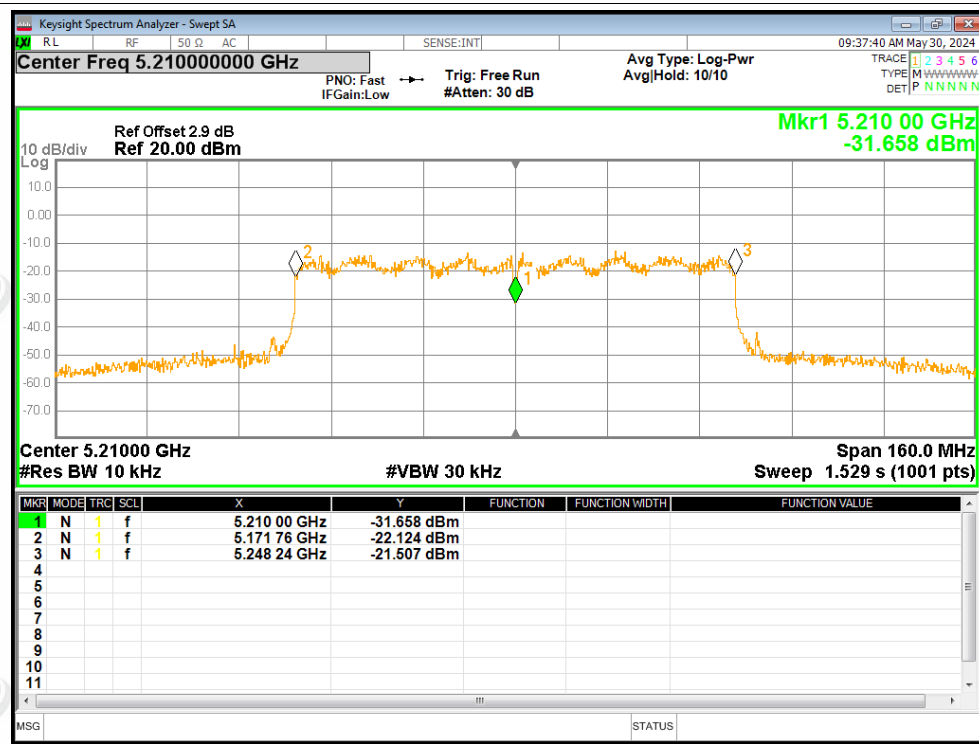




Freq. Stability NVNT ac40 5230MHz Ant1



Freq. Stability NVNT ac80 5210MHz Ant1



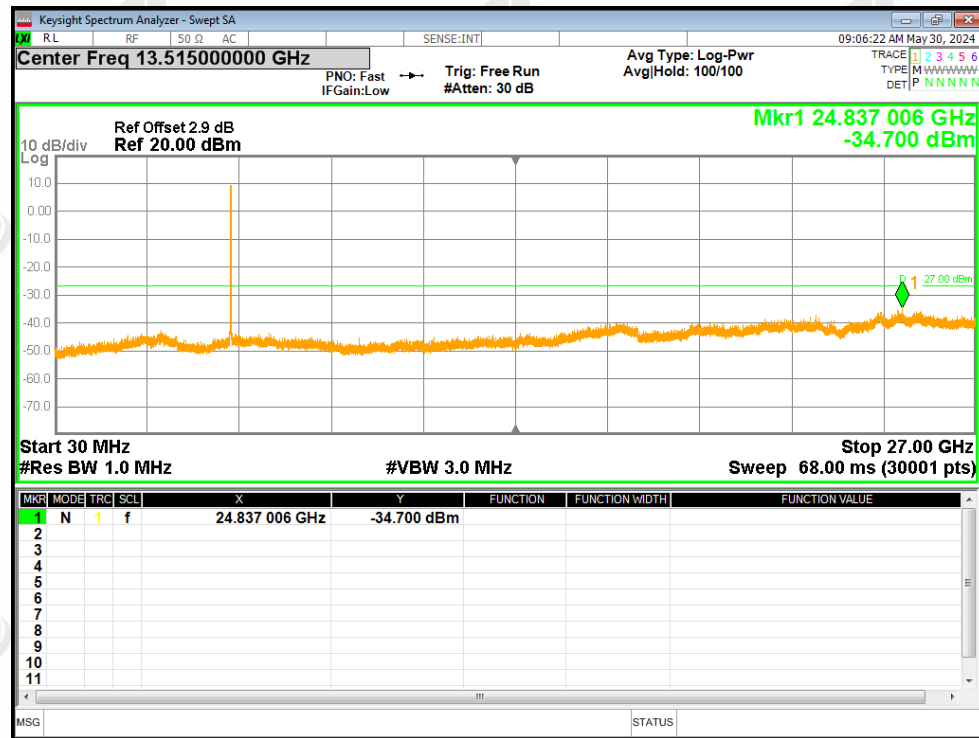
**ZHONGHAN****B8. Conducted RF Spurious Emission**

Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	-34.7	-27	Pass
NVNT	a	5200	-35.85	-27	Pass
NVNT	a	5240	-35.67	-27	Pass
NVNT	n20	5180	-35.75	-27	Pass
NVNT	n20	5200	-36.09	-27	Pass
NVNT	n20	5240	-35.37	-27	Pass
NVNT	n40	5190	-35.78	-27	Pass
NVNT	n40	5230	-35.25	-27	Pass
NVNT	ac20	5180	-35.54	-27	Pass
NVNT	ac20	5200	-35.66	-27	Pass
NVNT	ac20	5240	-35.57	-27	Pass
NVNT	ac40	5190	-35.62	-27	Pass
NVNT	ac40	5230	-35.54	-27	Pass
NVNT	ac80	5210	-35.77	-27	Pass

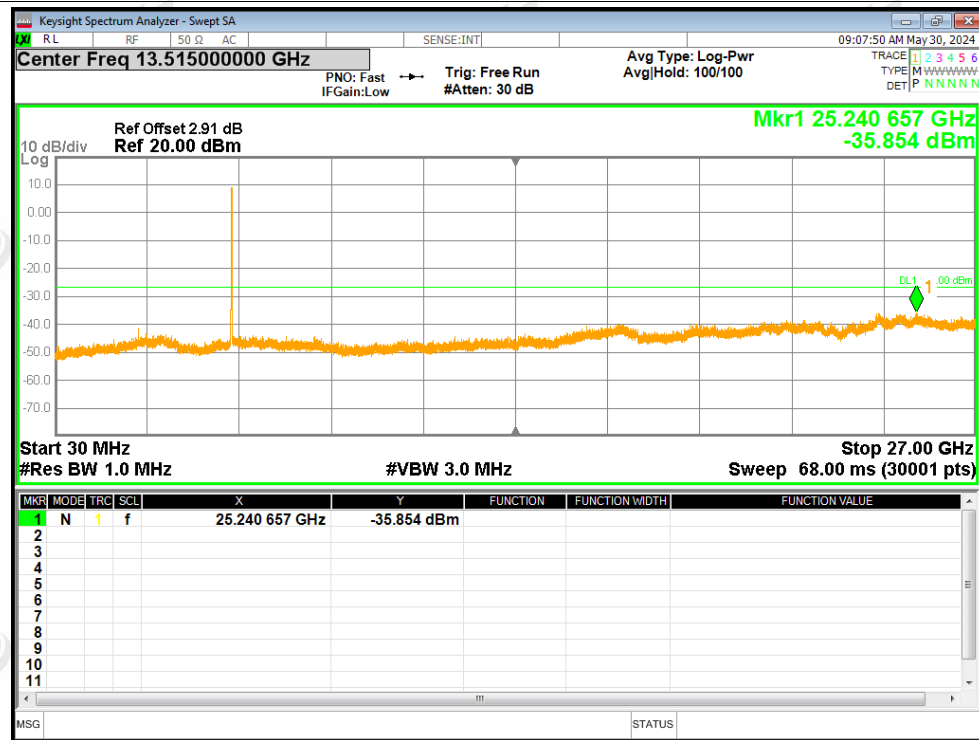


Test Graphs

Tx. Spurious NVNT a 5180MHz Ant1 Emission

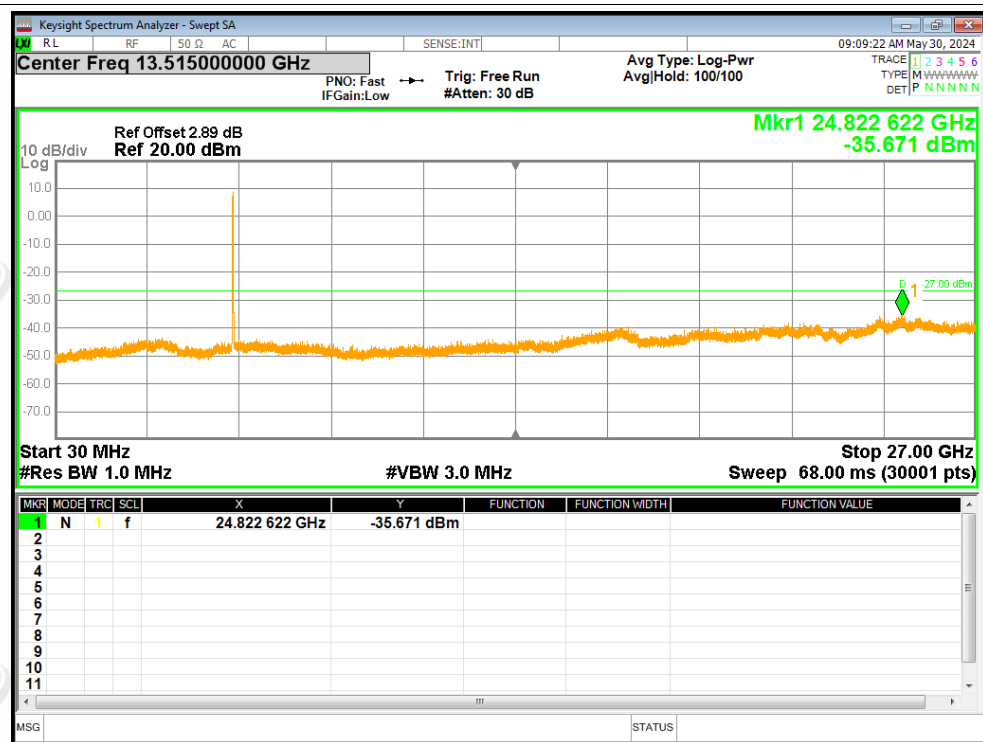


Tx. Spurious NVNT a 5200MHz Ant1 Emission

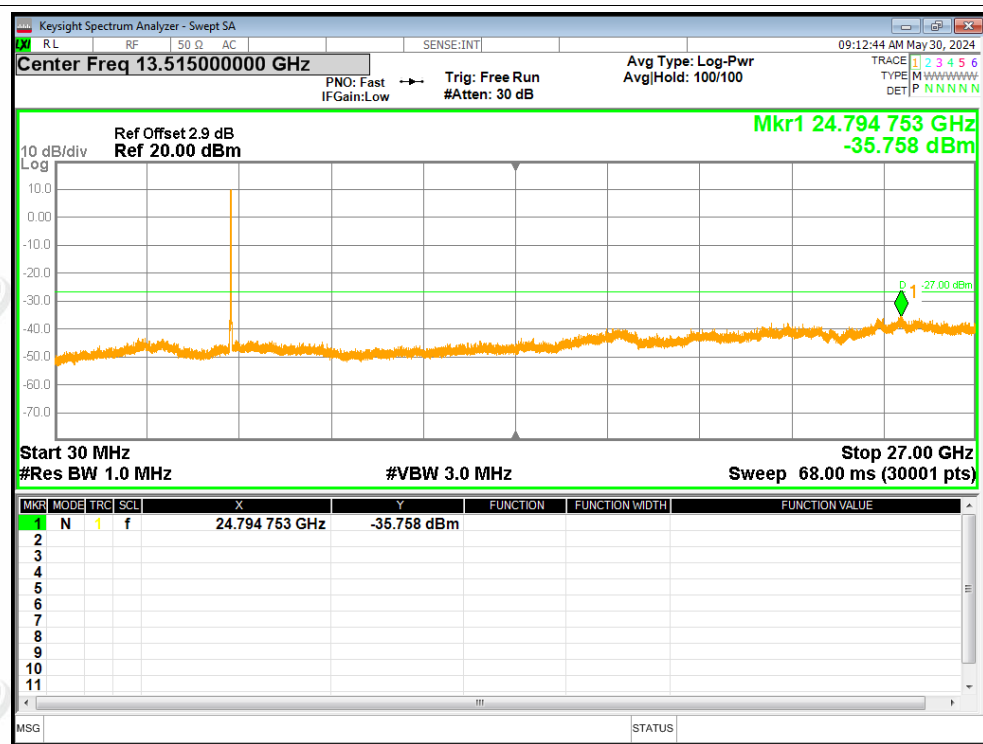




Tx. Spurious NVNT a 5240MHz Ant1 Emission

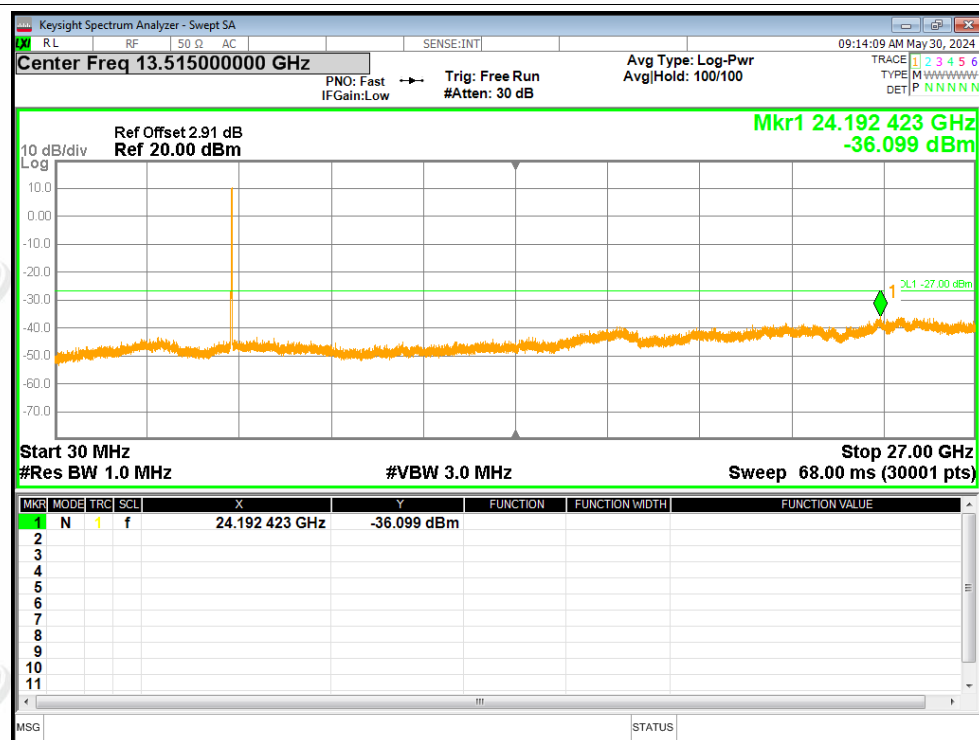


Tx. Spurious NVNT n20 5180MHz Ant1 Emission

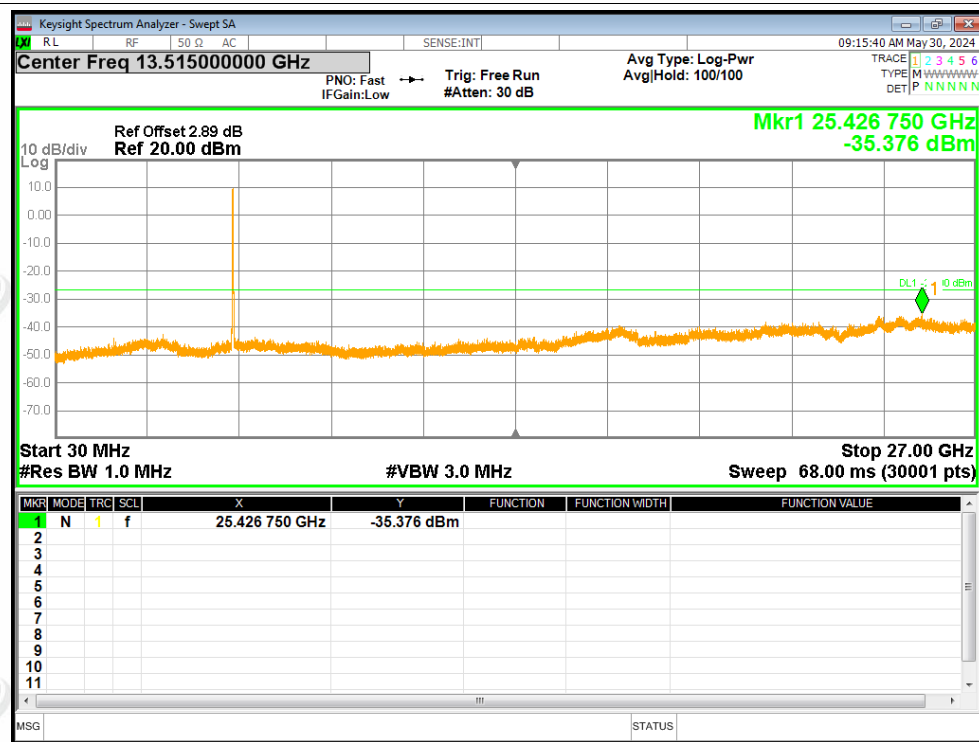




Tx. Spurious NVNT n20 5200MHz Ant1 Emission

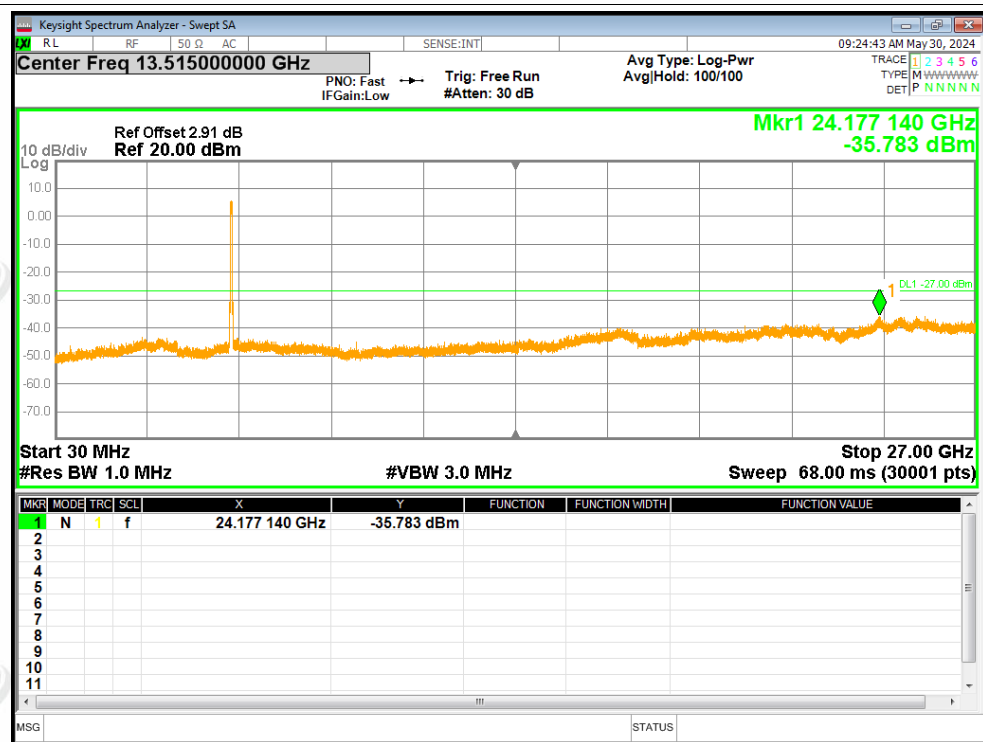


Tx. Spurious NVNT n20 5240MHz Ant1 Emission

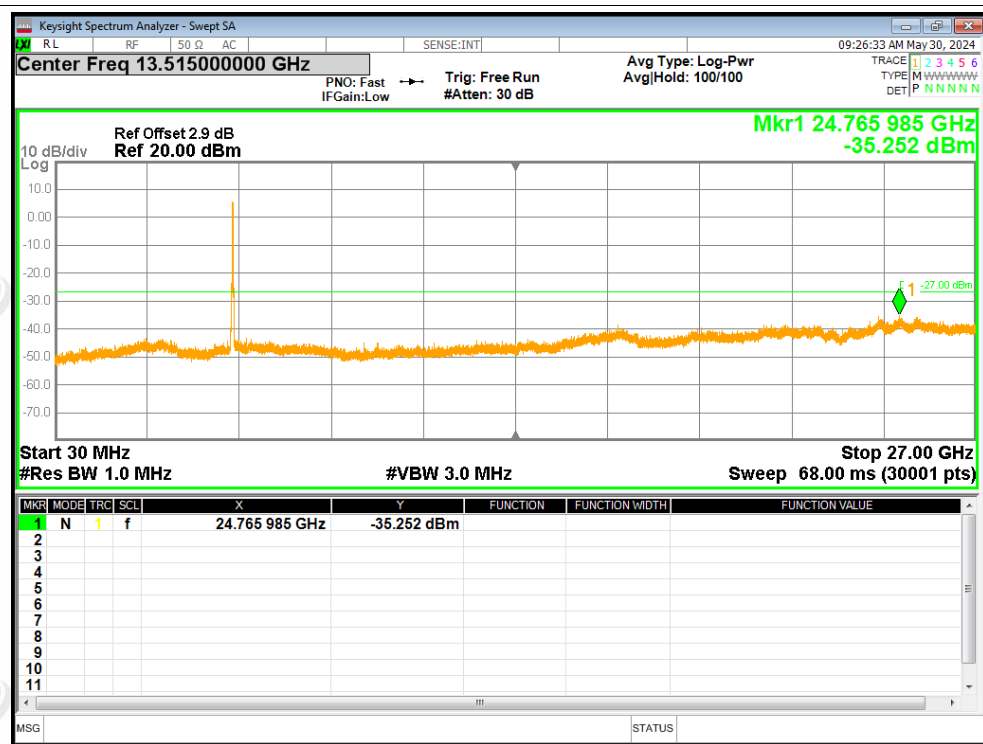




Tx. Spurious NVNT n40 5190MHz Ant1 Emission

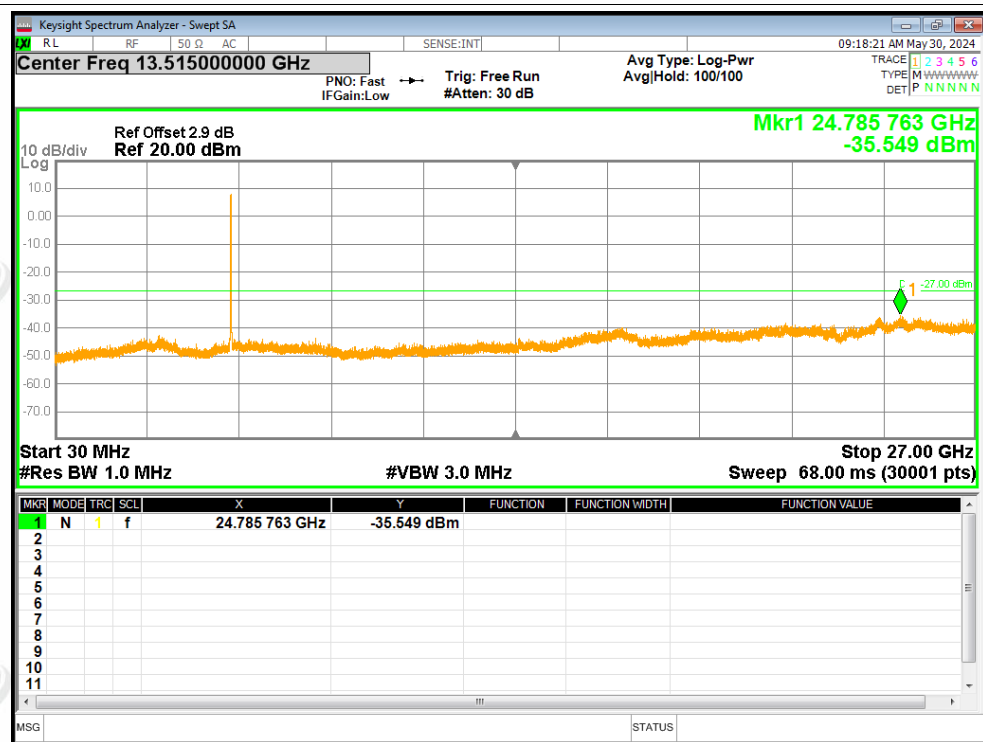


Tx. Spurious NVNT n40 5230MHz Ant1 Emission

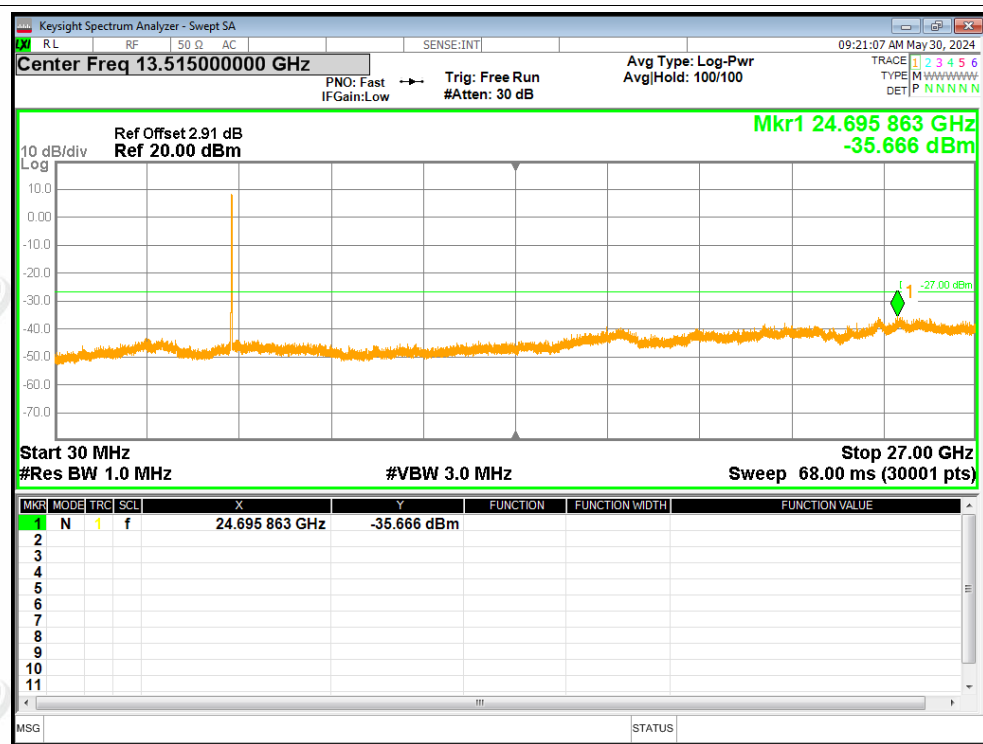




Tx. Spurious NVNT ac20 5180MHz Ant1 Emission

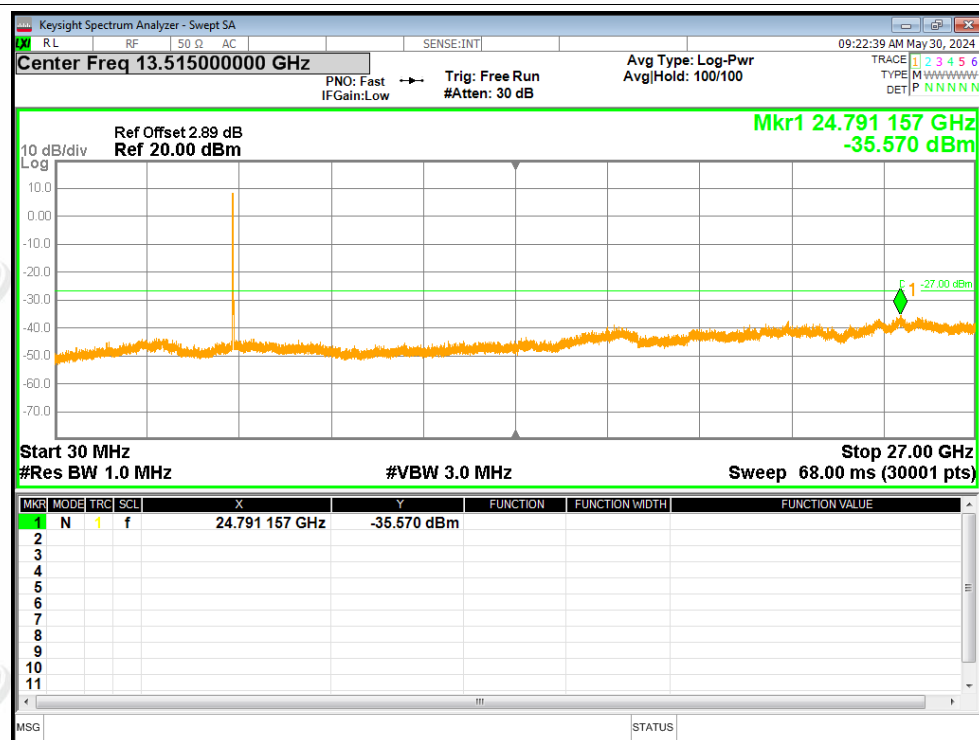


Tx. Spurious NVNT ac20 5200MHz Ant1 Emission

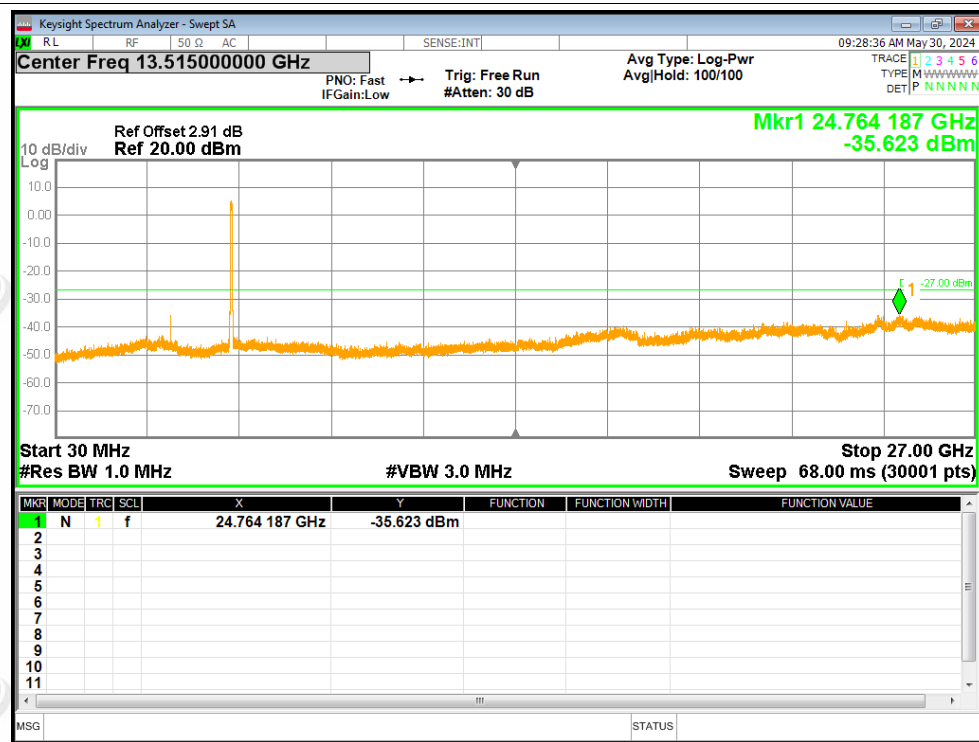




Tx. Spurious NVNT ac20 5240MHz Ant1 Emission

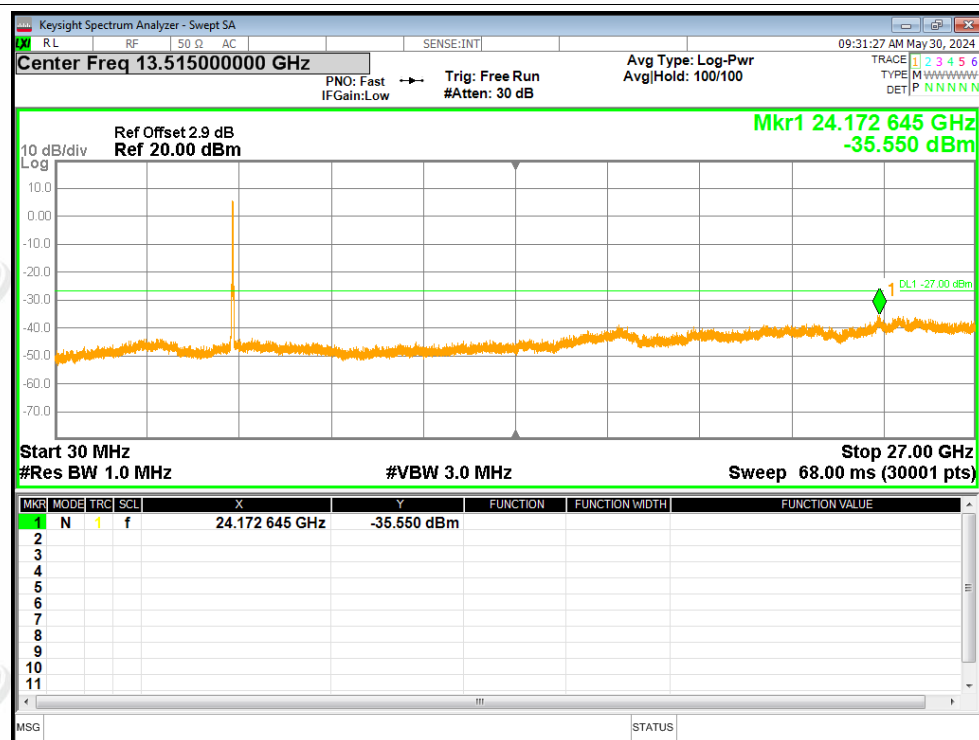


Tx. Spurious NVNT ac40 5190MHz Ant1 Emission





Tx. Spurious NVNT ac40 5230MHz Ant1 Emission



Tx. Spurious NVNT ac80 5210MHz Ant1 Emission

