

Appendix A for 5.2GWIFI Test Data

Product Name: MP3 player

Test Model: T07

Environmental Conditions

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

**A1 Duty Cycle**

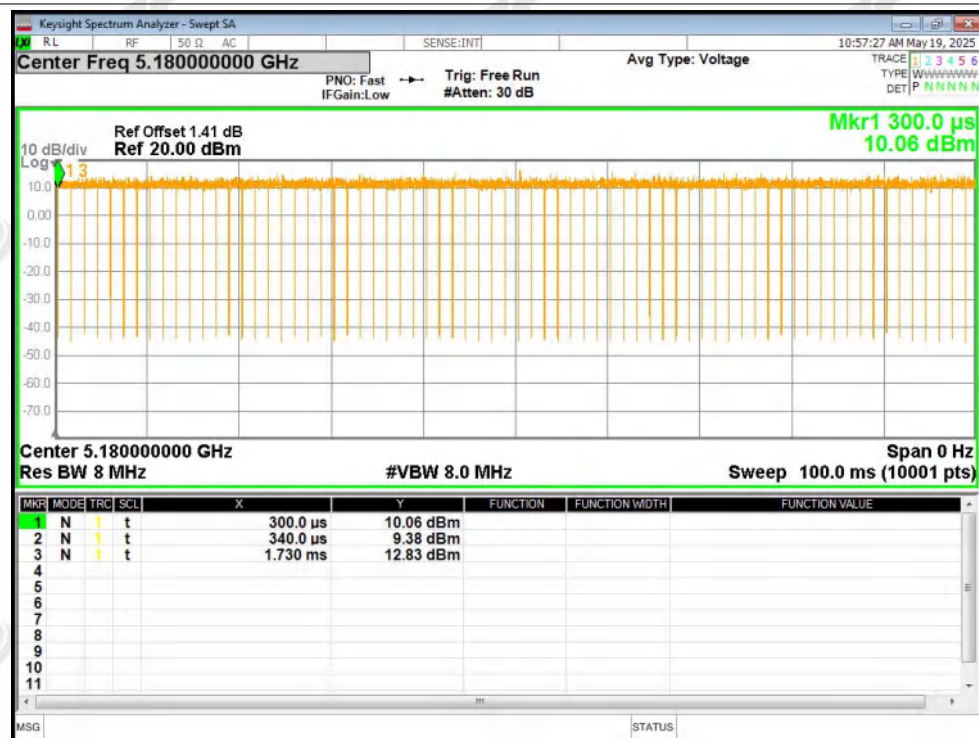
Mode	Frequency (MHz)	Ton ms	Total ms	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5180	1.39	1.43	97.20	0.12	0.72
a	5200	1.39	1.43	97.20	0.12	0.72
a	5240	1.39	1.42	97.89	0.09	0.72
n20	5180	1.30	1.33	97.74	0.10	0.77
n20	5200	1.30	1.33	97.74	0.10	0.77
n20	5240	1.30	1.34	97.01	0.13	0.77
n40	5190	0.65	0.69	94.20	0.26	1.54
n40	5230	0.65	0.68	95.59	0.20	1.54
ac20	5180	1.30	1.34	97.01	0.13	0.77
ac20	5200	1.30	1.33	97.74	0.10	0.77
ac20	5240	1.30	1.34	97.01	0.13	0.77
ac40	5190	0.65	0.68	95.59	0.20	1.54
ac40	5230	0.65	0.68	95.59	0.20	1.54

Note:

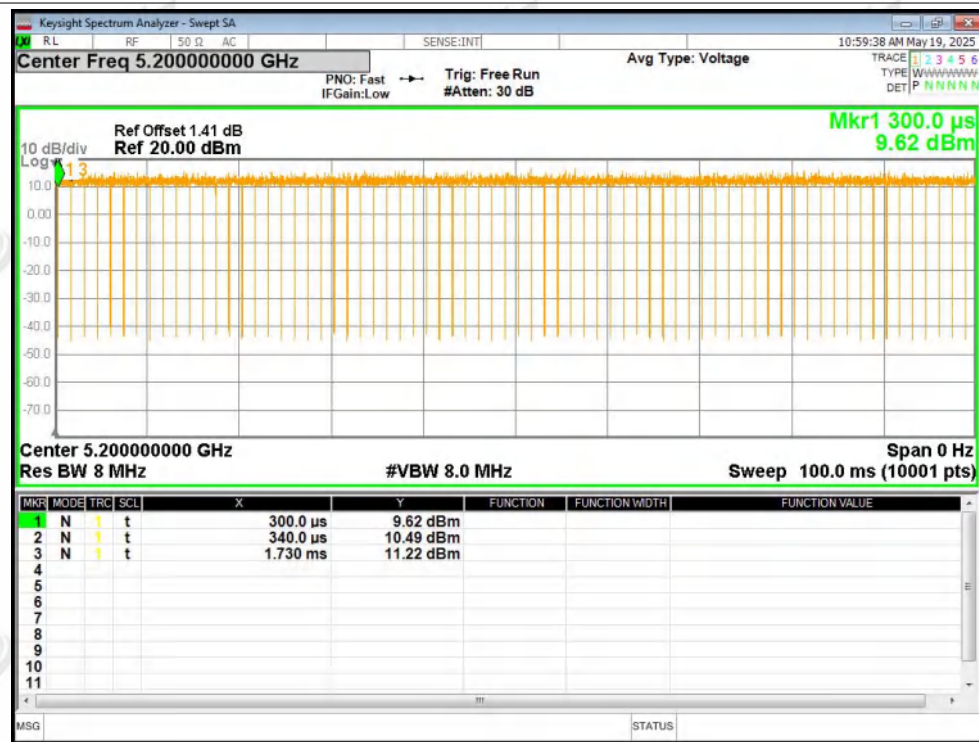
1. Duty Cycle = T_{on} / T_{total} 2. Correction Factor = $10 \log (1 / \text{Duty Cycle})$.

Test Graphs

Duty Cycle NVNT a 5180MHz Ant1

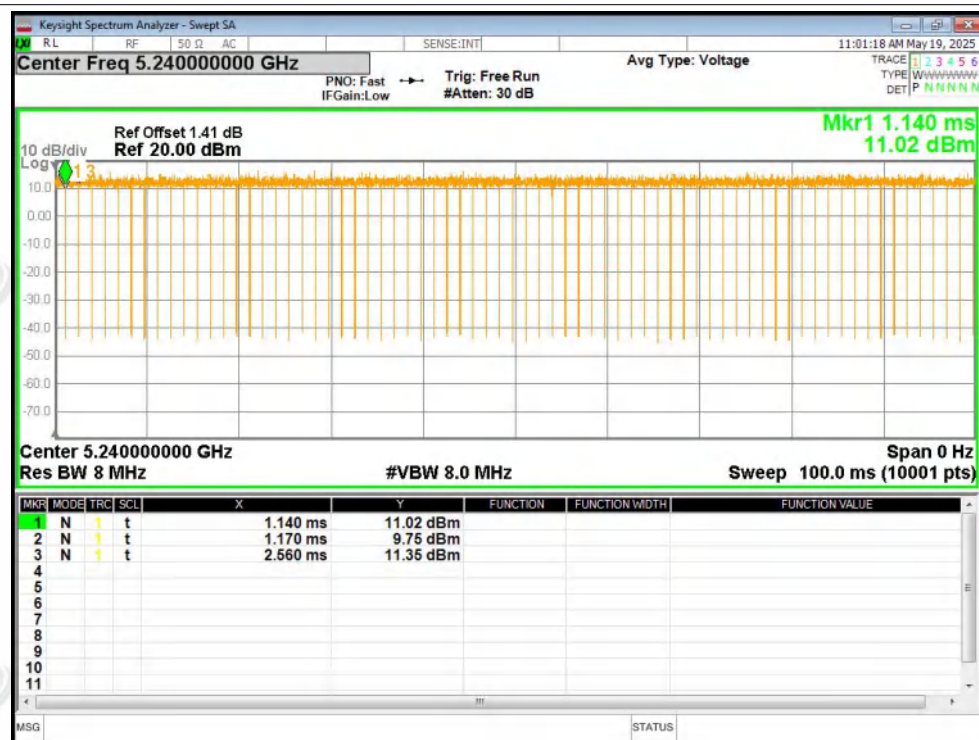


Duty Cycle NVNT a 5200MHz Ant1

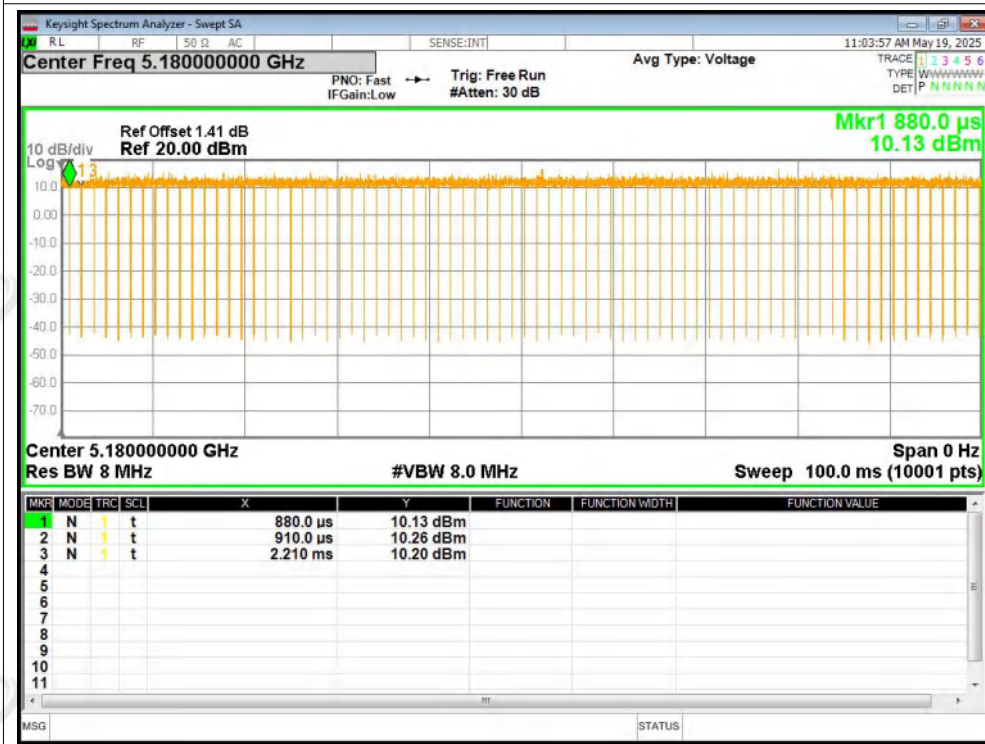




Duty Cycle NVNT a 5240MHz Ant1

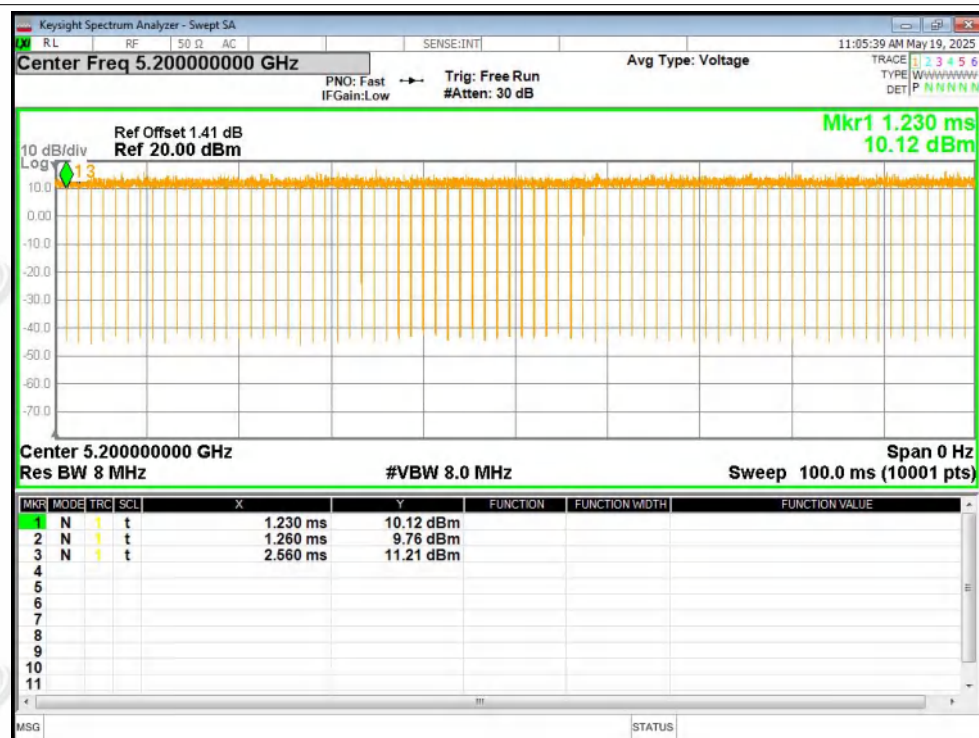


Duty Cycle NVNT n20 5180MHz Ant1





Duty Cycle NVNT n20 5200MHz Ant1

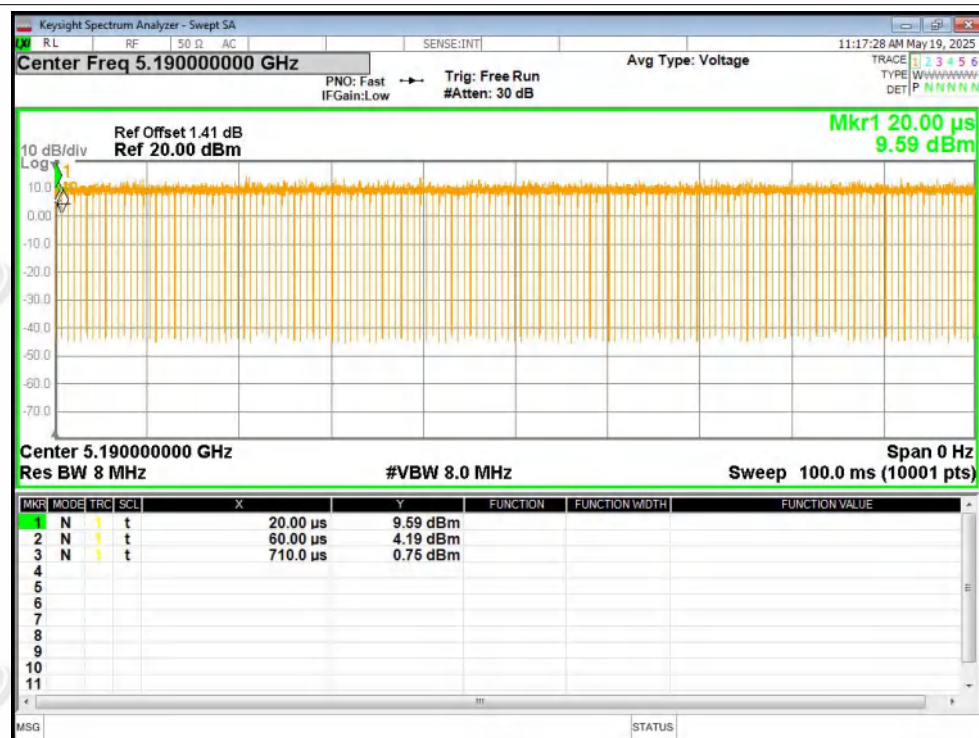


Duty Cycle NVNT n20 5240MHz Ant1

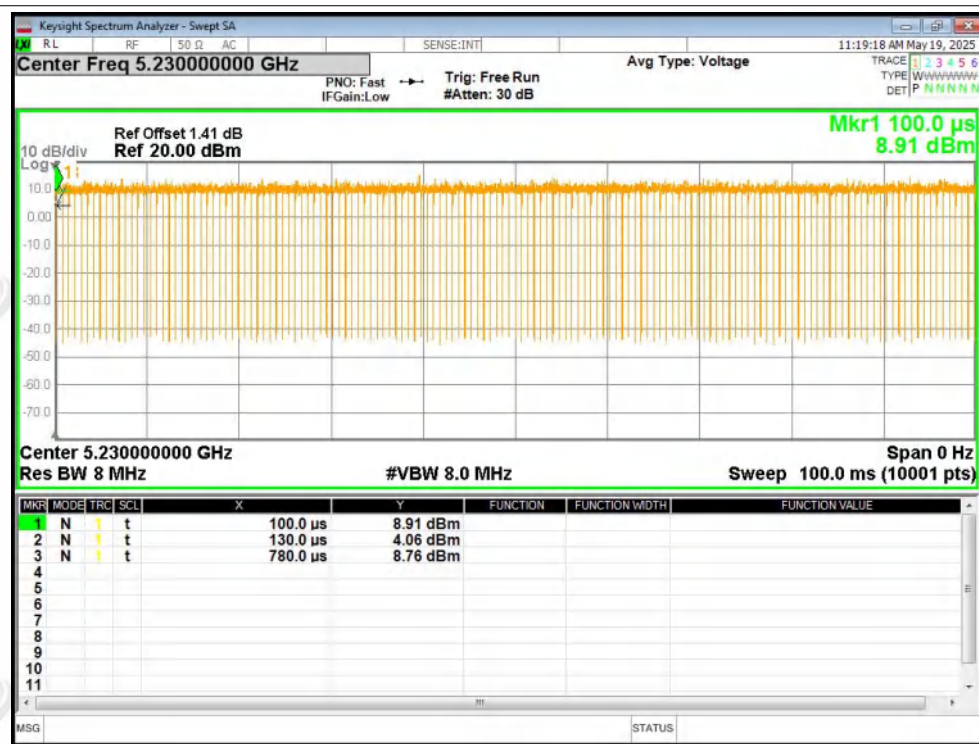




Duty Cycle NVNT n40 5190MHz Ant1

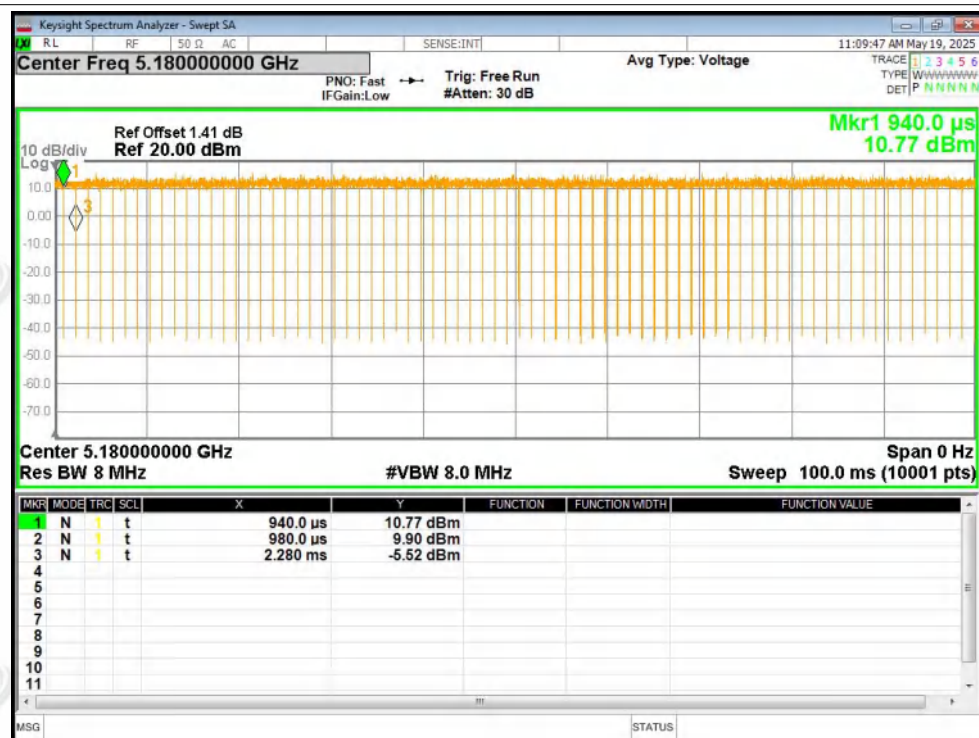


Duty Cycle NVNT n40 5230MHz Ant1

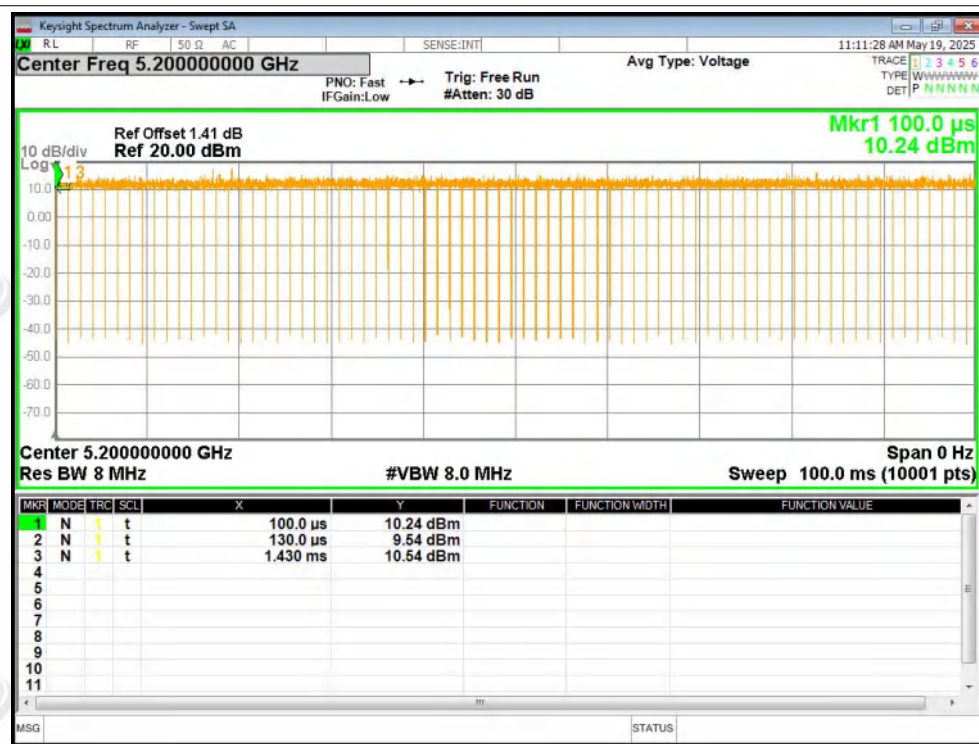




Duty Cycle NVNT ac20 5180MHz Ant1

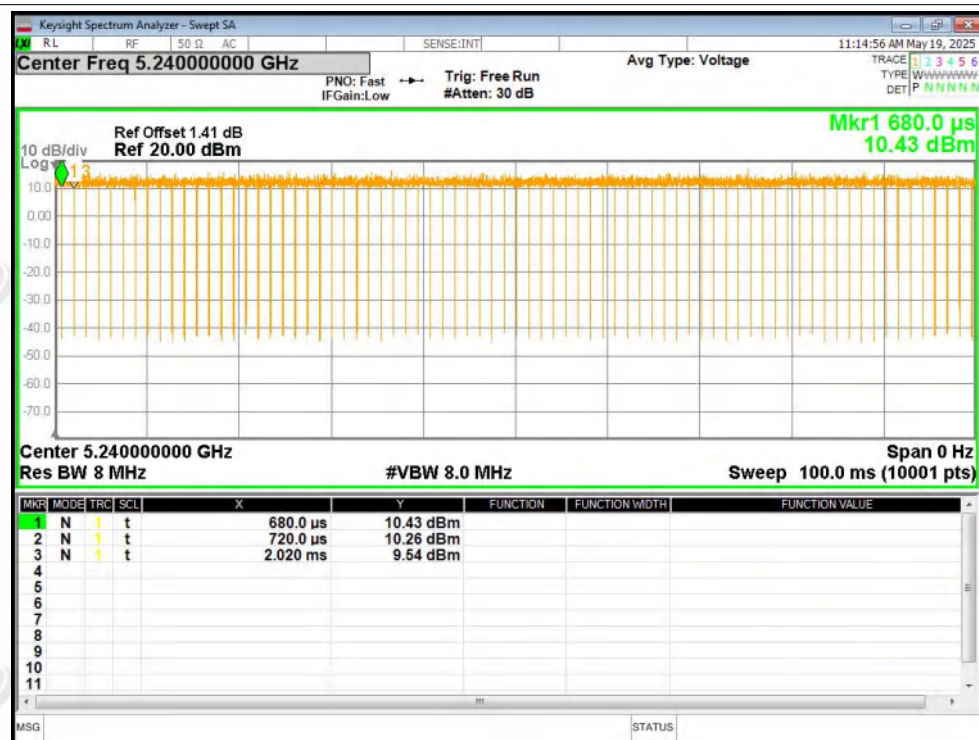


Duty Cycle NVNT ac20 5200MHz Ant1



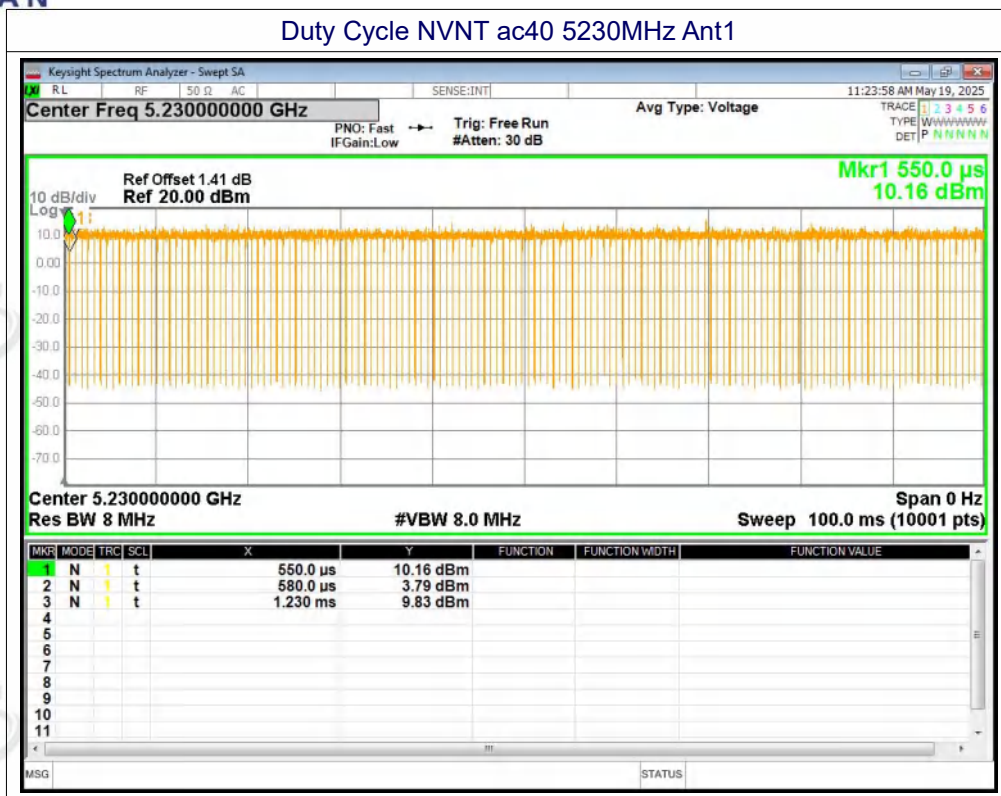


Duty Cycle NVNT ac20 5240MHz Ant1



Duty Cycle NVNT ac40 5190MHz Ant1





**A2. Maximum Conducted Output Power**

Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
a	5180	Ant1	5.71	24	Pass
a	5200	Ant1	5.89	24	Pass
a	5240	Ant1	6.42	24	Pass
n20	5180	Ant1	5.79	24	Pass
n20	5200	Ant1	6.35	24	Pass
n20	5240	Ant1	4.06	24	Pass
n40	5190	Ant1	6.28	24	Pass
n40	5230	Ant1	6.09	24	Pass
ac20	5180	Ant1	6.71	24	Pass
ac20	5200	Ant1	6.76	24	Pass
ac20	5240	Ant1	5.14	24	Pass
ac40	5190	Ant1	5.3	24	Pass
ac40	5230	Ant1	5.46	24	Pass

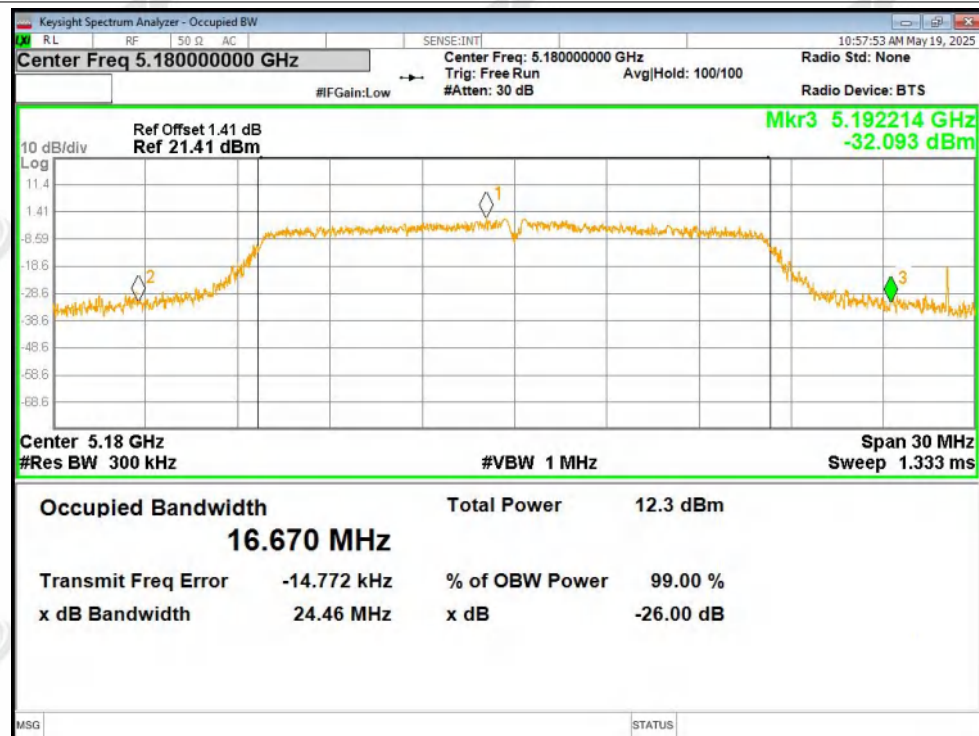
**A3. -26dB Bandwidth**

Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Verdict
a	5180	Ant1	24.458	Pass
a	5200	Ant1	20.184	Pass
a	5240	Ant1	20.22	Pass
n20	5180	Ant1	18.21	Pass
n20	5200	Ant1	18.807	Pass
n20	5240	Ant1	18.297	Pass
n40	5190	Ant1	38.671	Pass
n40	5230	Ant1	38.536	Pass
ac20	5180	Ant1	25.042	Pass
ac20	5200	Ant1	21.929	Pass
ac20	5240	Ant1	21.69	Pass
ac40	5190	Ant1	37.278	Pass
ac40	5230	Ant1	57.999	Pass

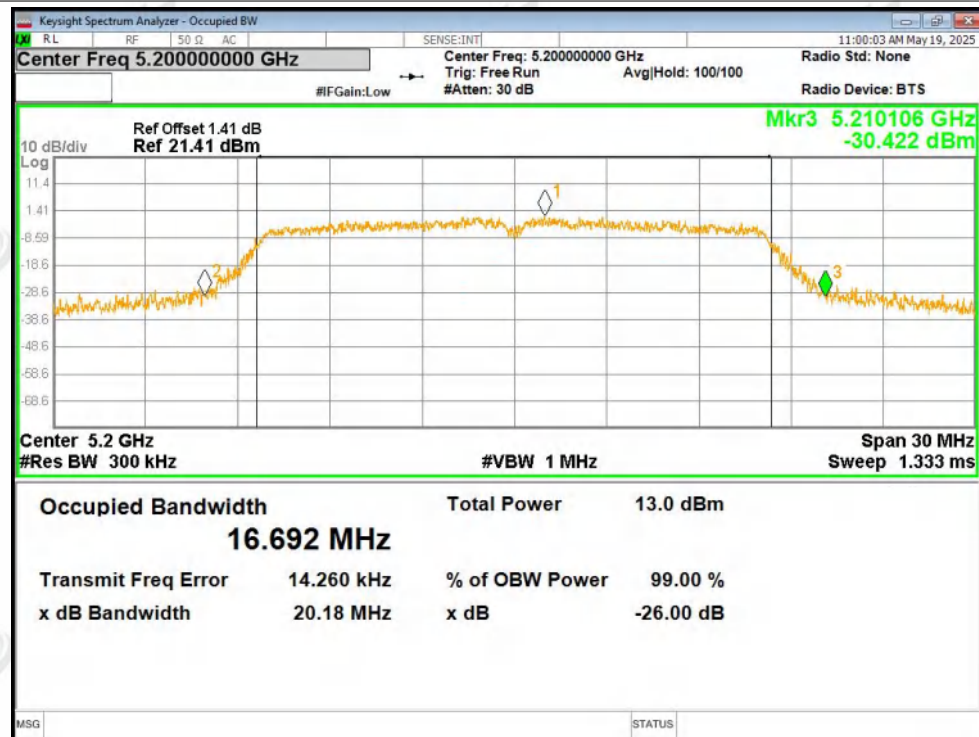


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant1

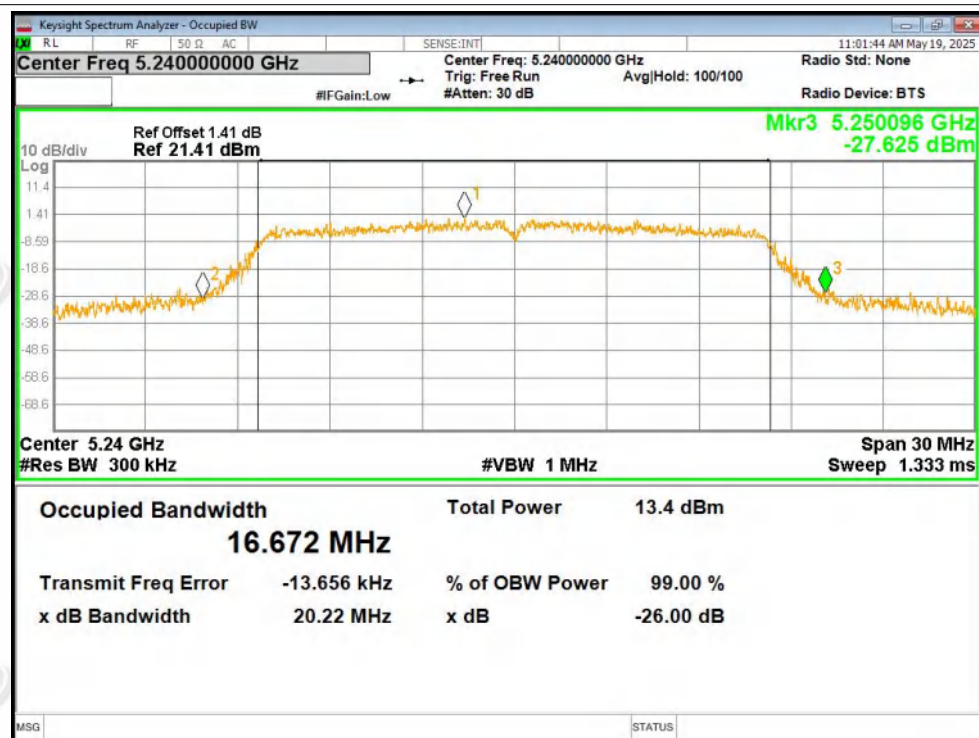


-26dB Bandwidth NVNT a 5200MHz Ant1

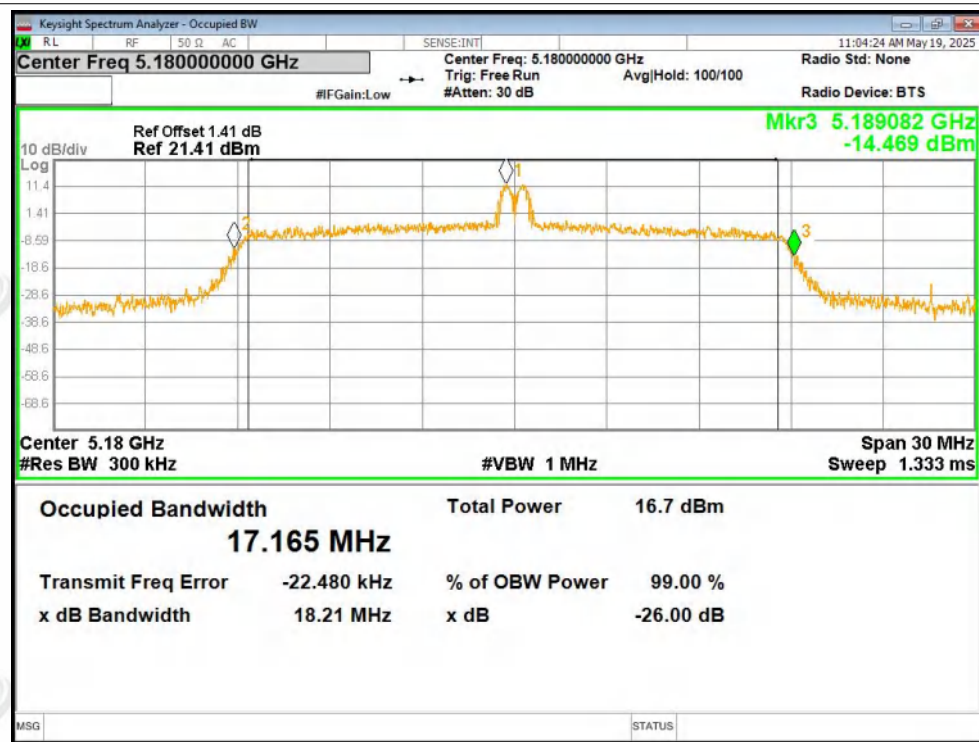




-26dB Bandwidth NVNT a 5240MHz Ant1

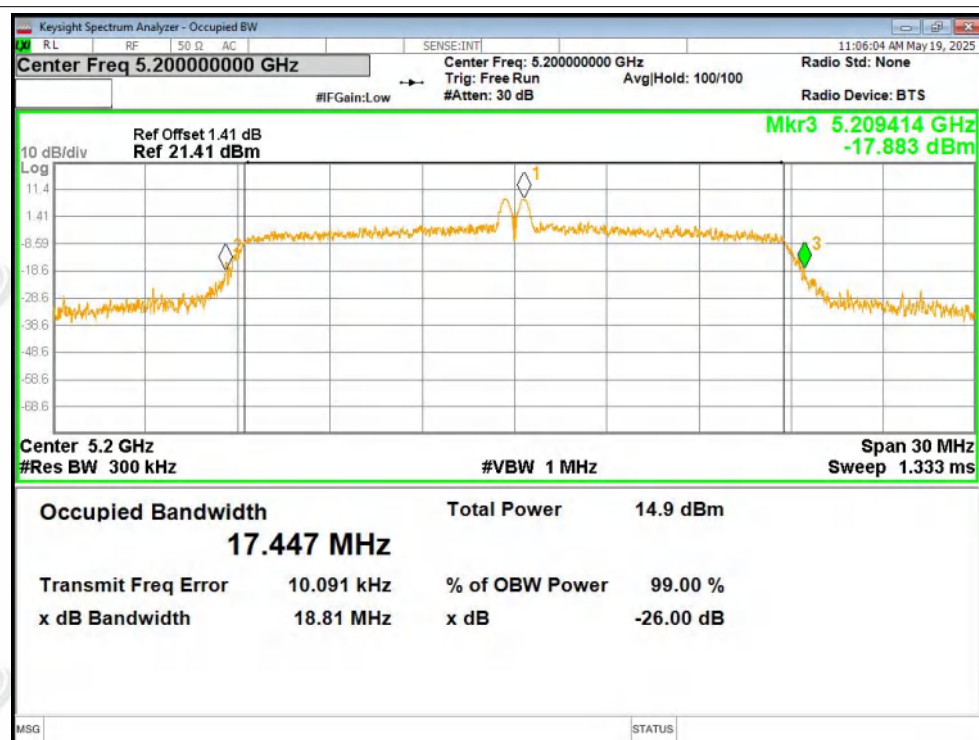


-26dB Bandwidth NVNT n20 5180MHz Ant1

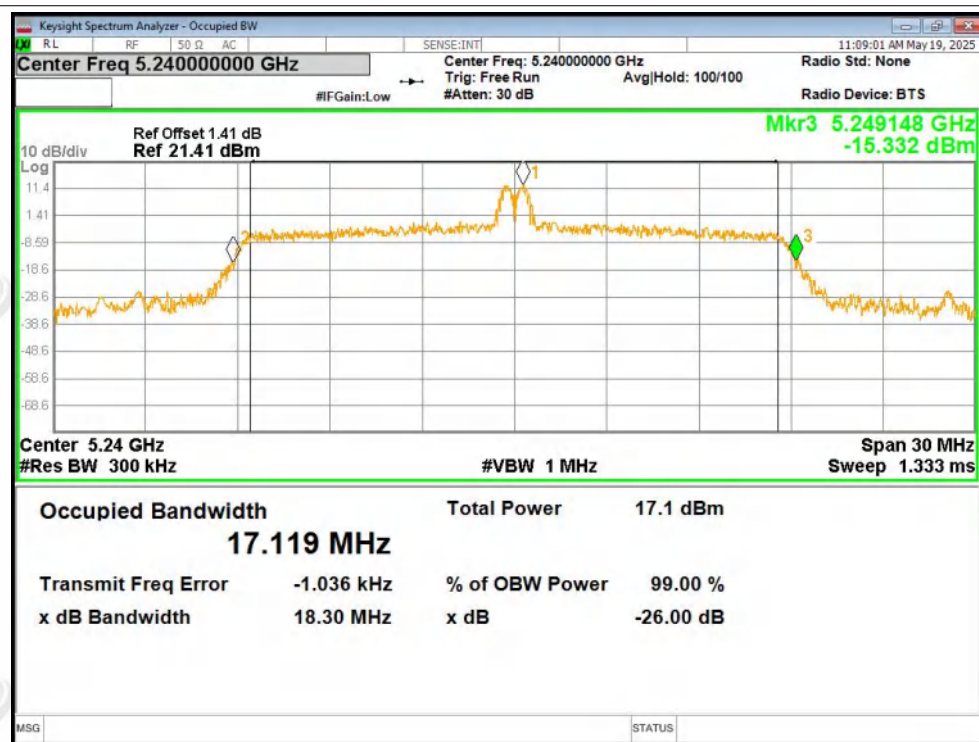




-26dB Bandwidth NVNT n20 5200MHz Ant1

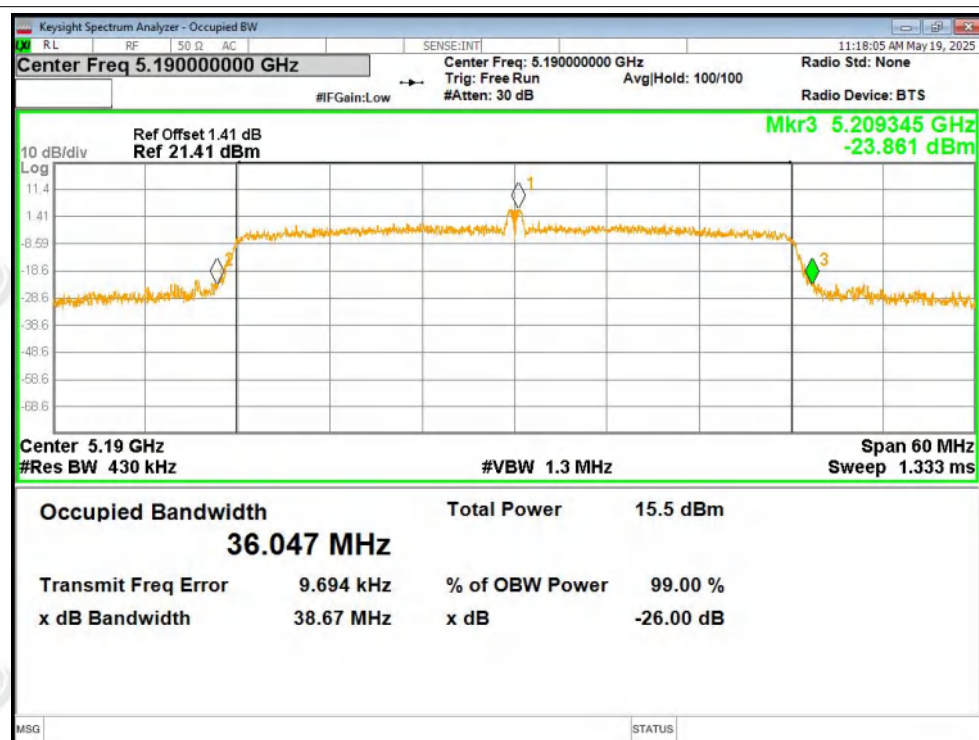


-26dB Bandwidth NVNT n20 5240MHz Ant1

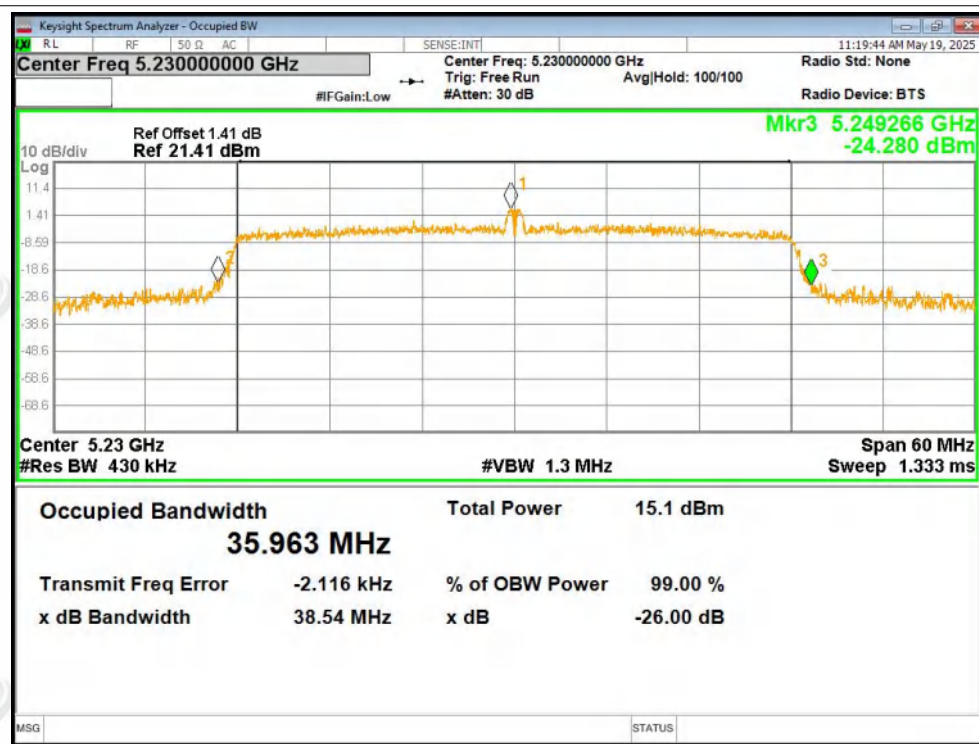




-26dB Bandwidth NVNT n40 5190MHz Ant1

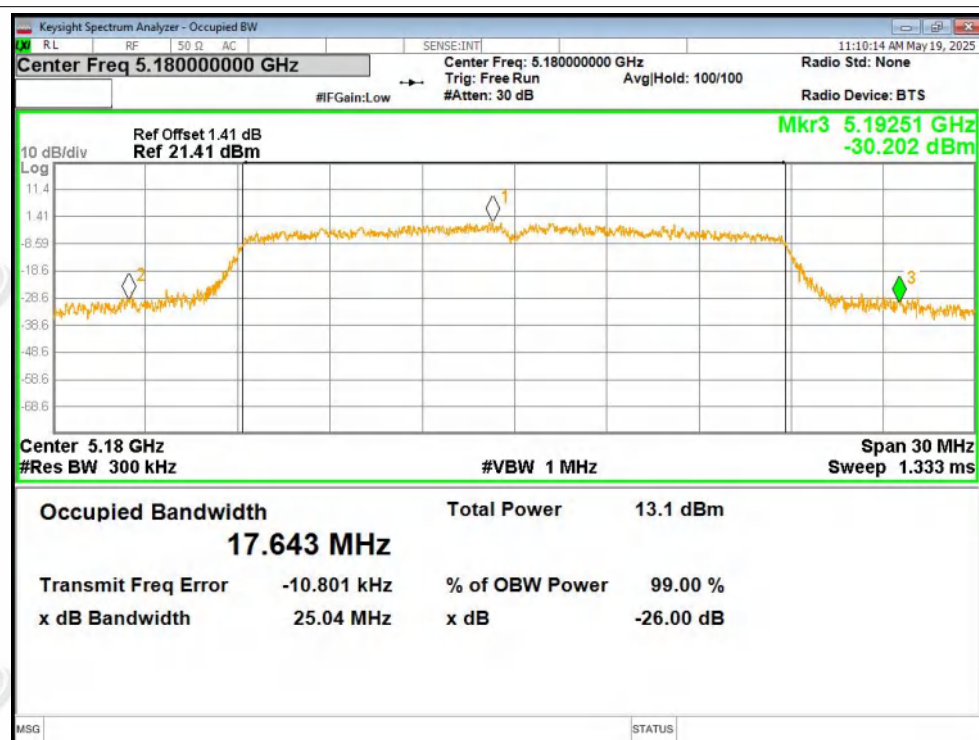


-26dB Bandwidth NVNT n40 5230MHz Ant1

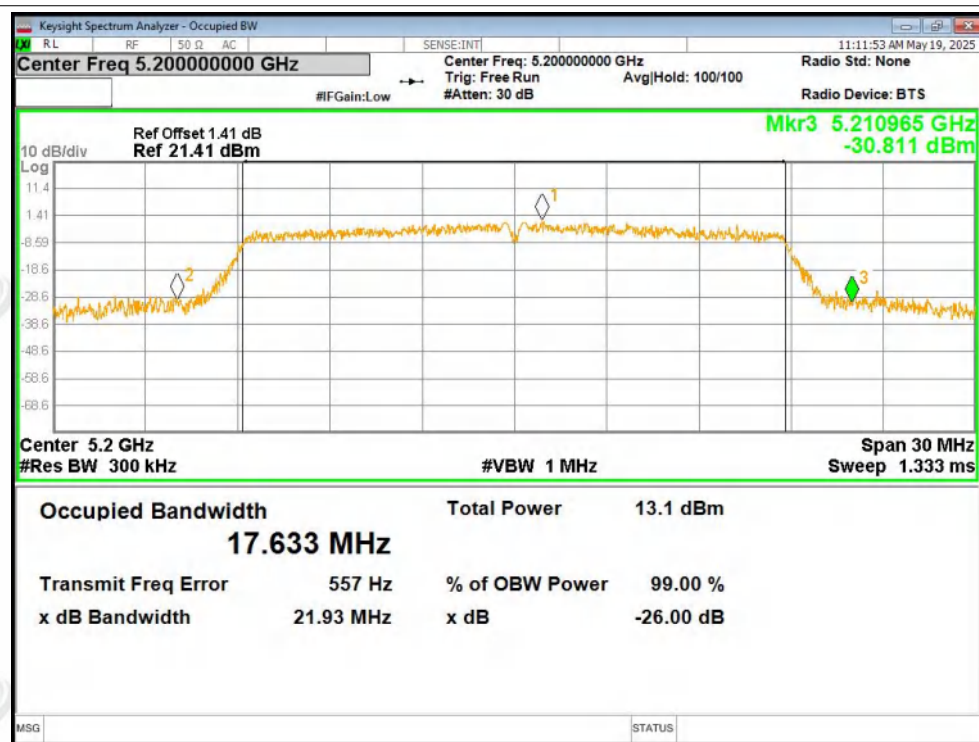




-26dB Bandwidth NVNT ac20 5180MHz Ant1

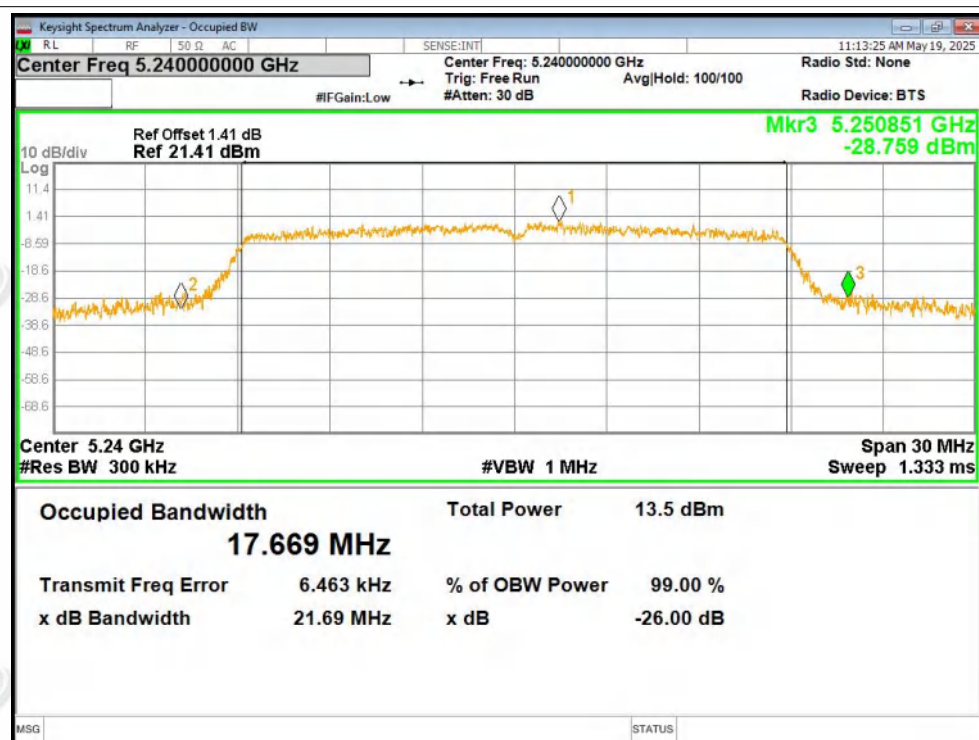


-26dB Bandwidth NVNT ac20 5200MHz Ant1

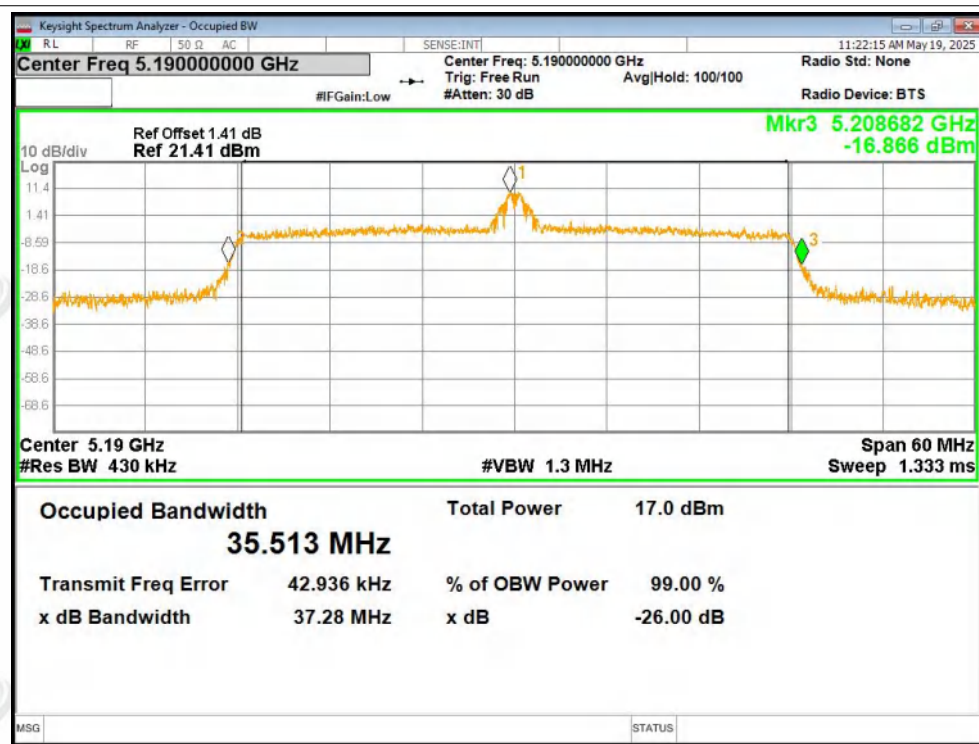


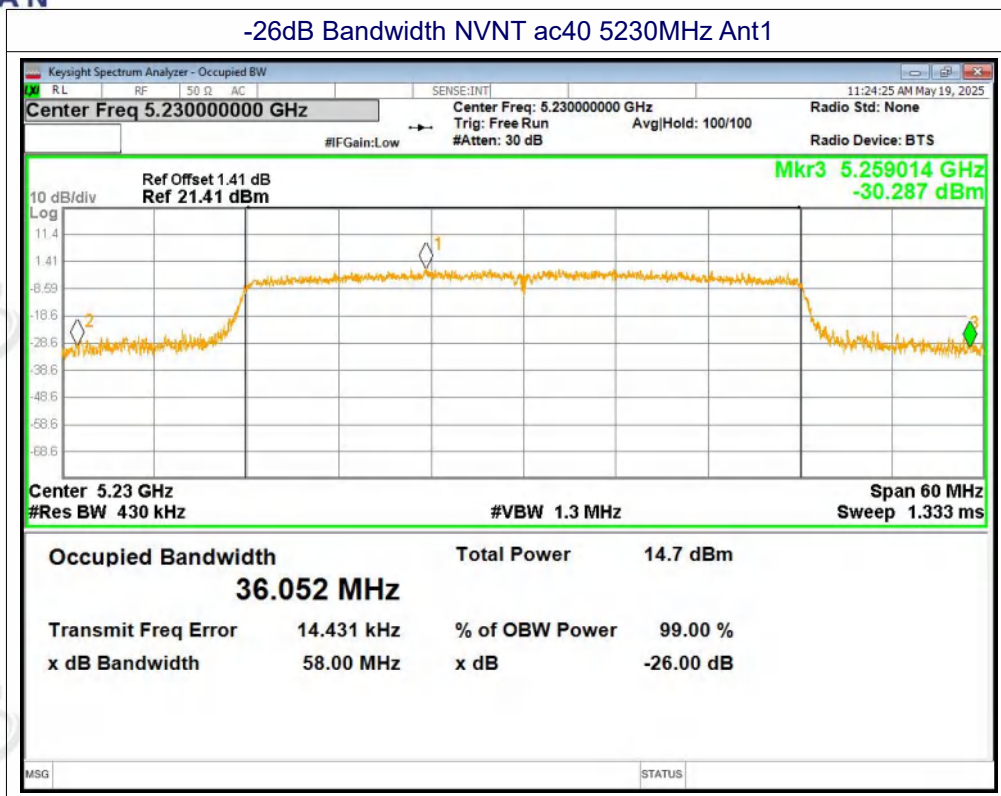


-26dB Bandwidth NVNT ac20 5240MHz Ant1



-26dB Bandwidth NVNT ac40 5190MHz Ant1





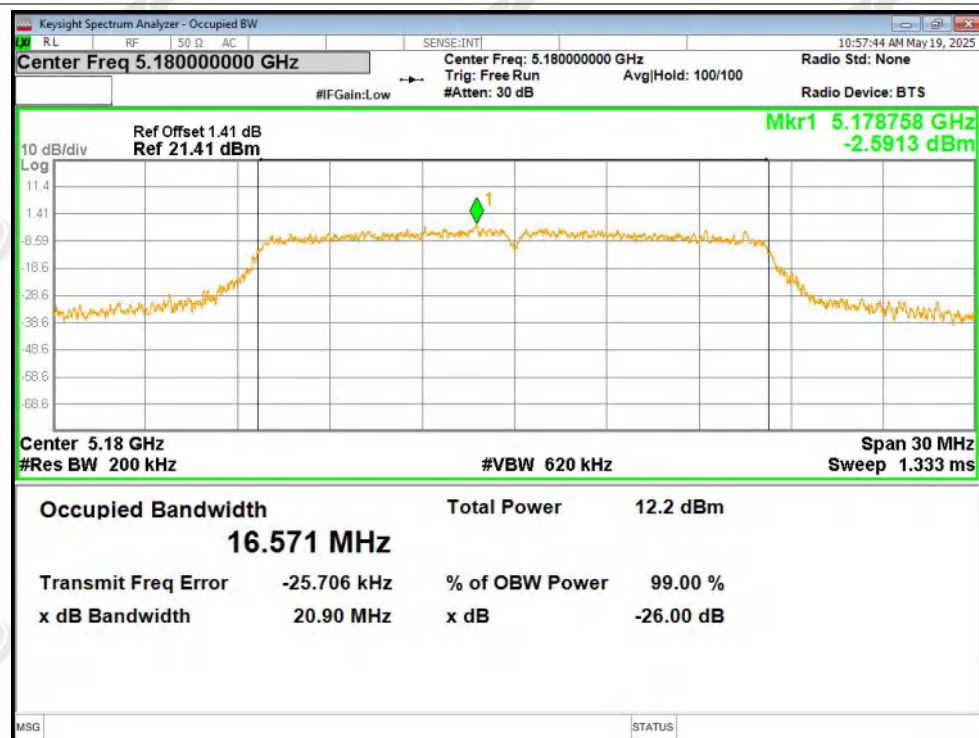
**A4. Occupied Channel Bandwidth**

Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
a	5180	Ant1	16.571
a	5200	Ant1	16.461
a	5240	Ant1	16.660
n20	5180	Ant1	17.772
n20	5200	Ant1	17.700
n20	5240	Ant1	17.586
n40	5190	Ant1	36.245
n40	5230	Ant1	36.112
ac20	5180	Ant1	17.770
ac20	5200	Ant1	17.725
ac20	5240	Ant1	17.649
ac40	5190	Ant1	36.302
ac40	5230	Ant1	36.192

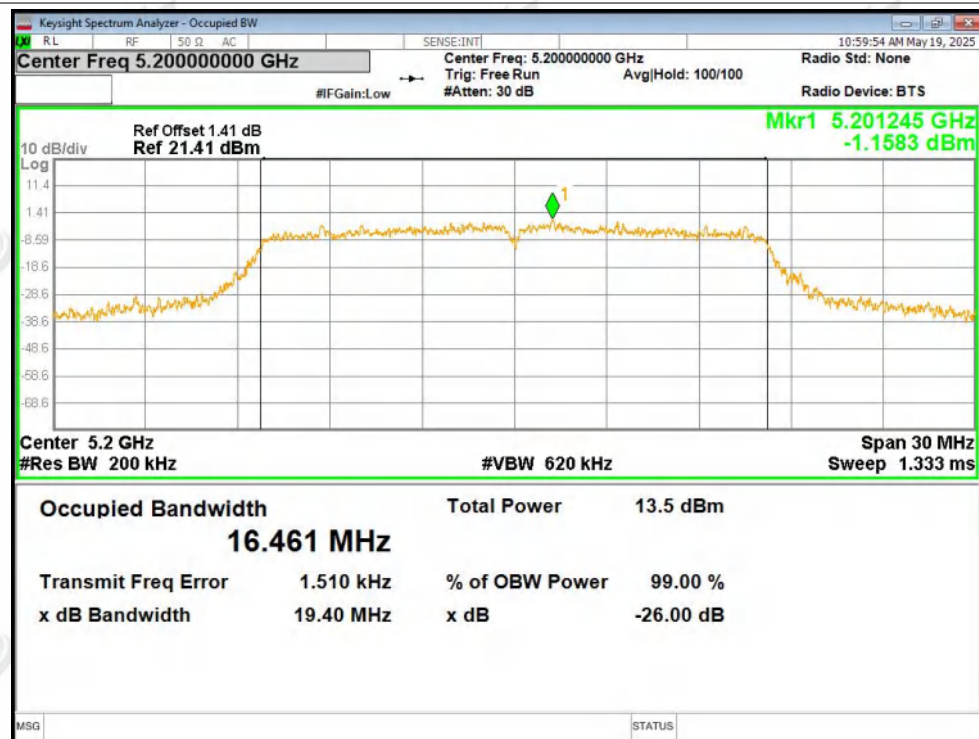


Test Graphs

OBW NVNT a 5180MHz Ant1

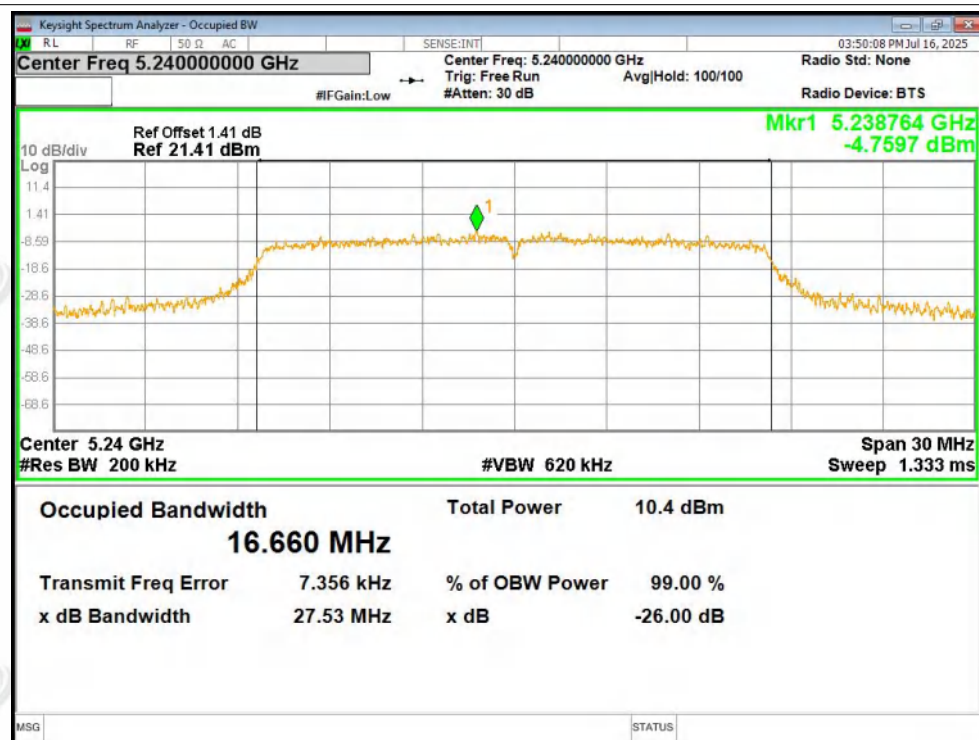


OBW NVNT a 5200MHz Ant1

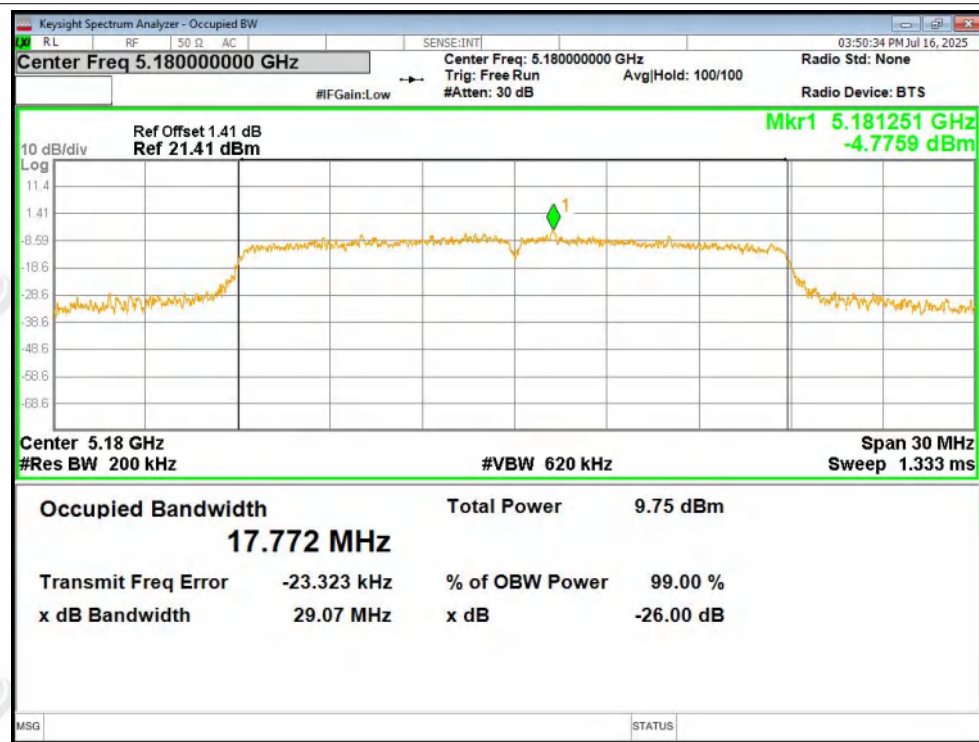




OBW NVNT a 5240MHz Ant1

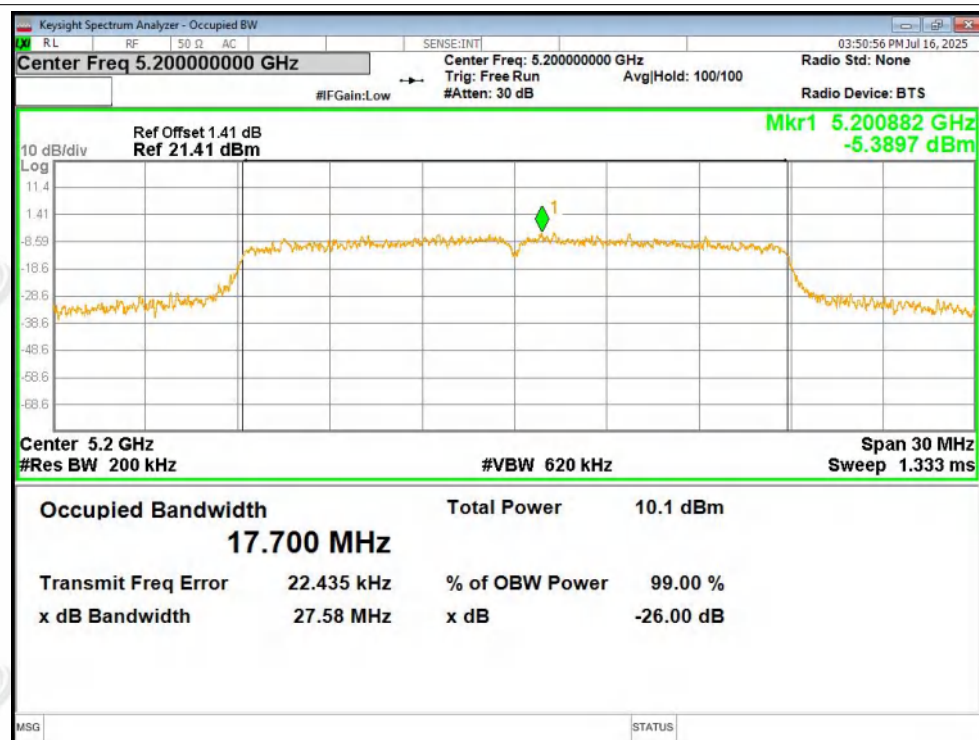


OBW NVNT n20 5180MHz Ant1

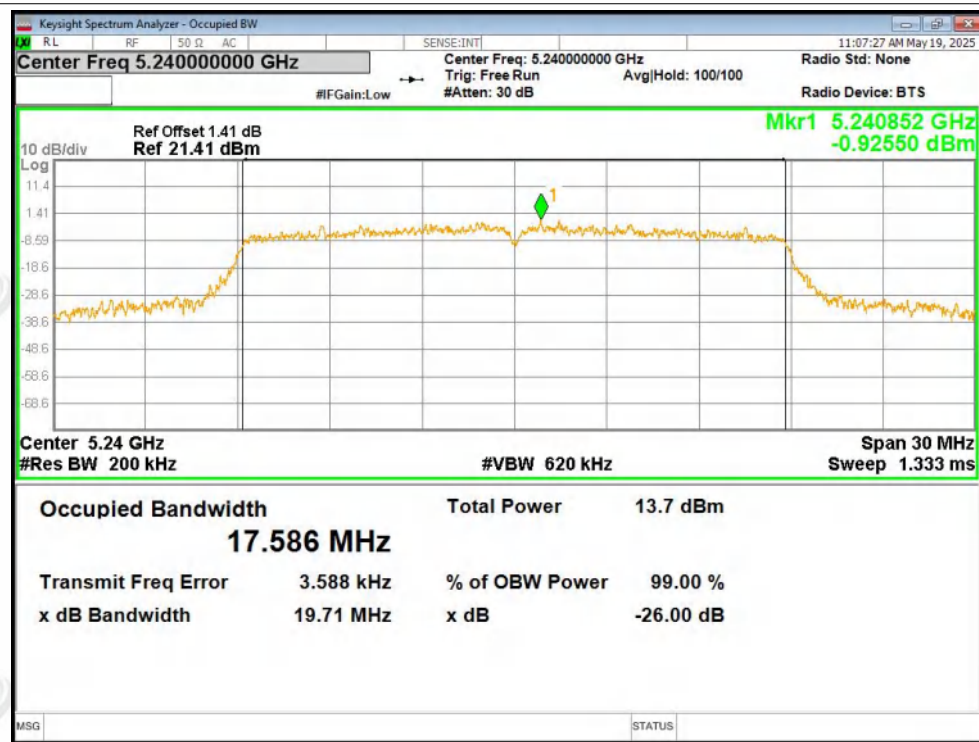




OBW NVNT n20 5200MHz Ant1

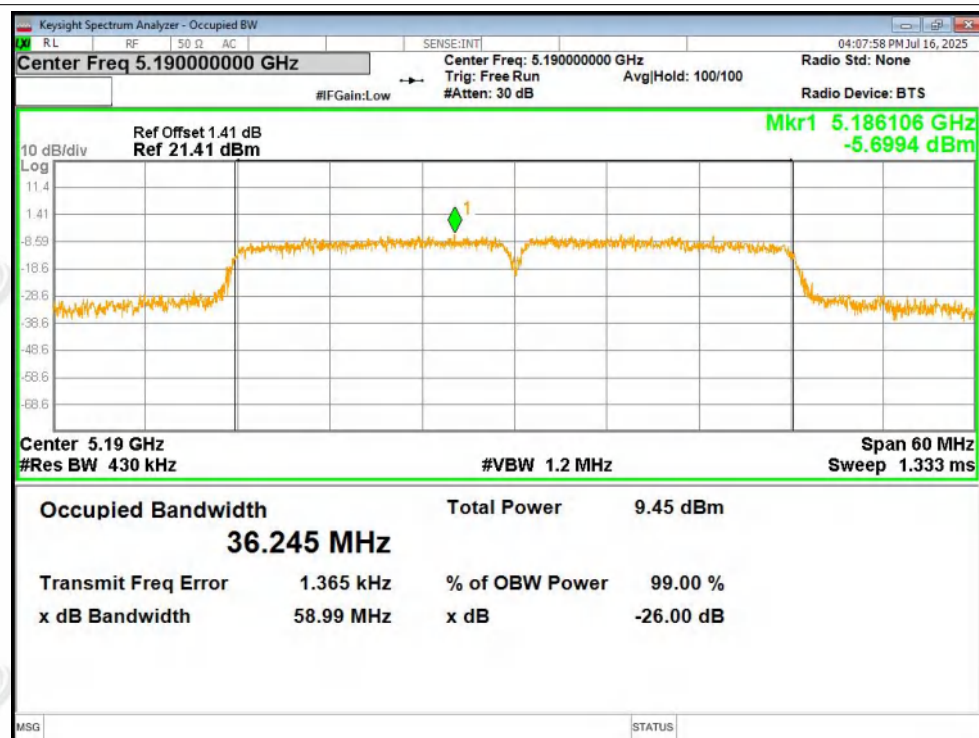


OBW NVNT n20 5240MHz Ant1

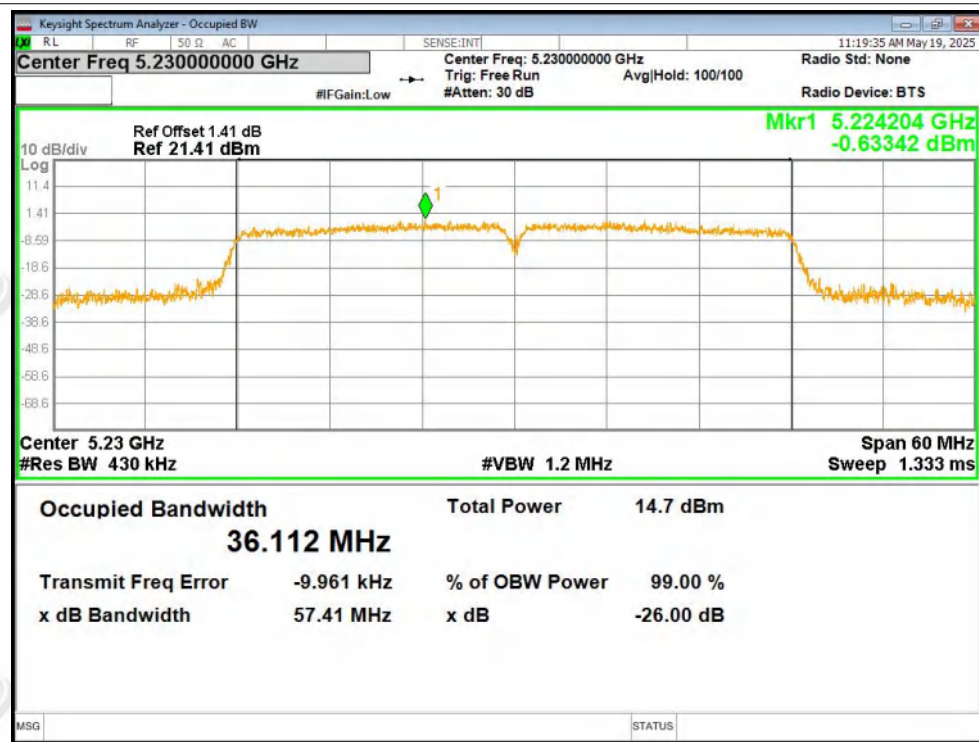




OBW NVNT n40 5190MHz Ant1

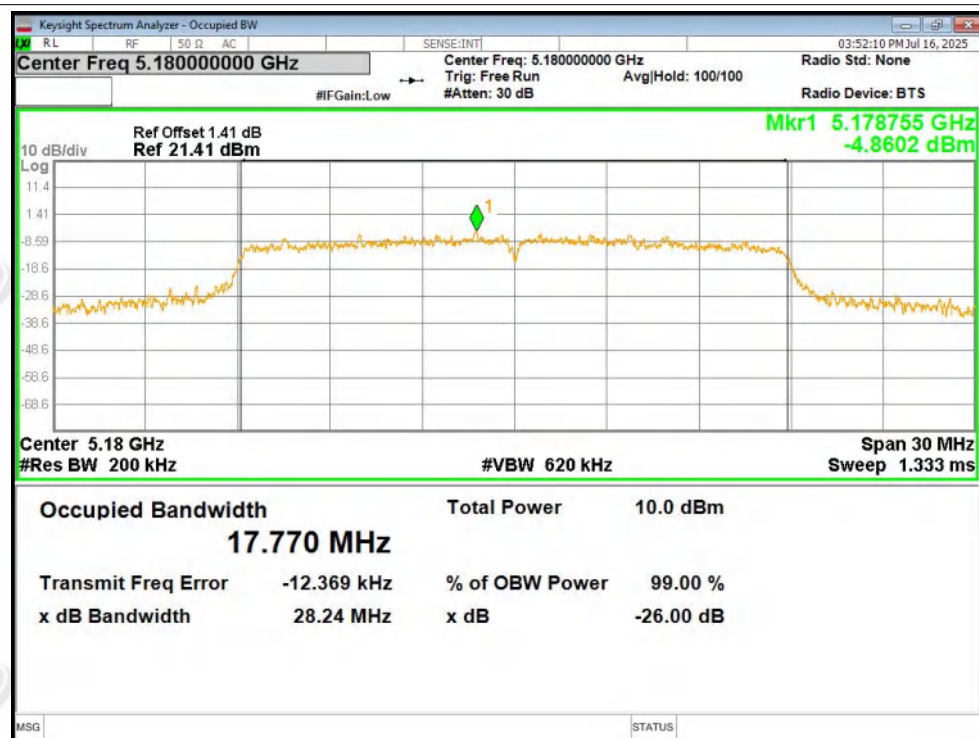


OBW NVNT n40 5230MHz Ant1

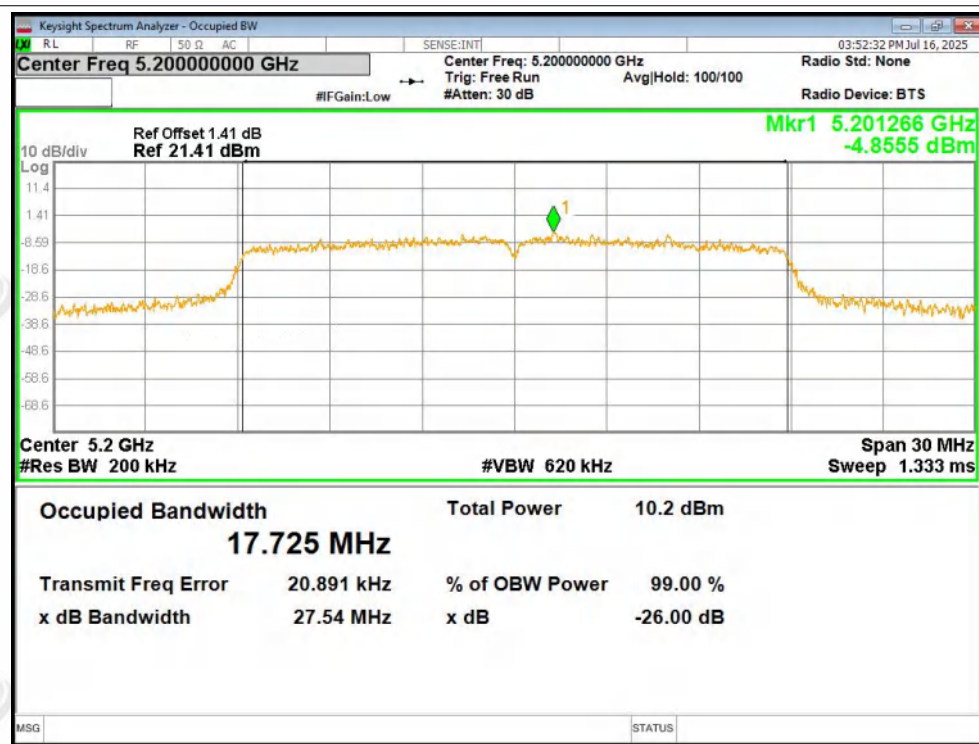




OBW NVNT ac20 5180MHz Ant1

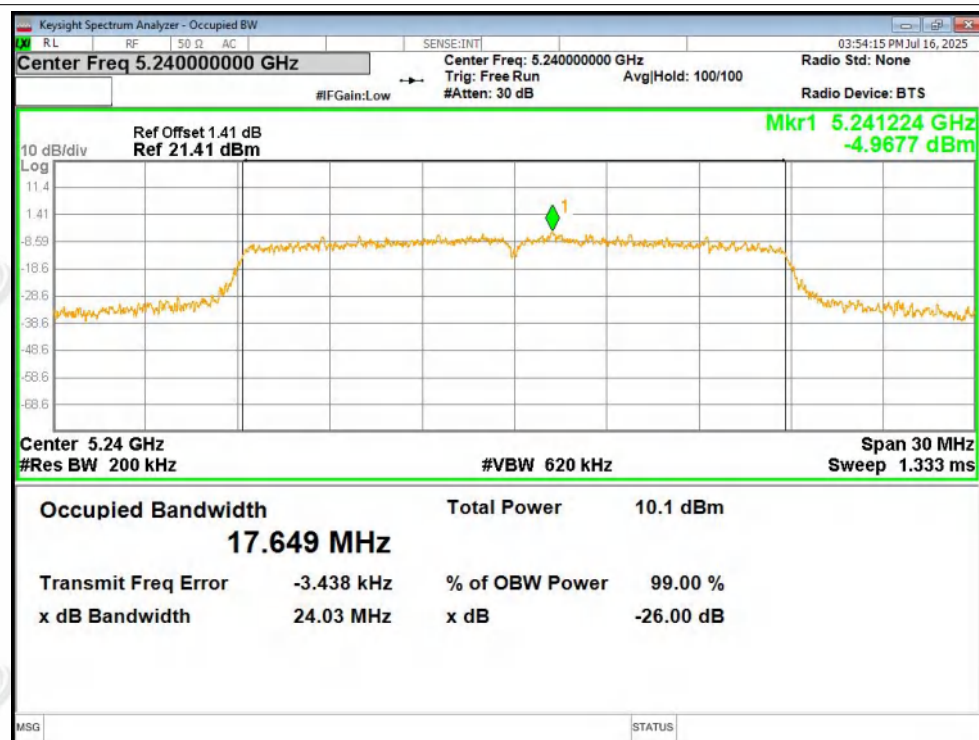


OBW NVNT ac20 5200MHz Ant1

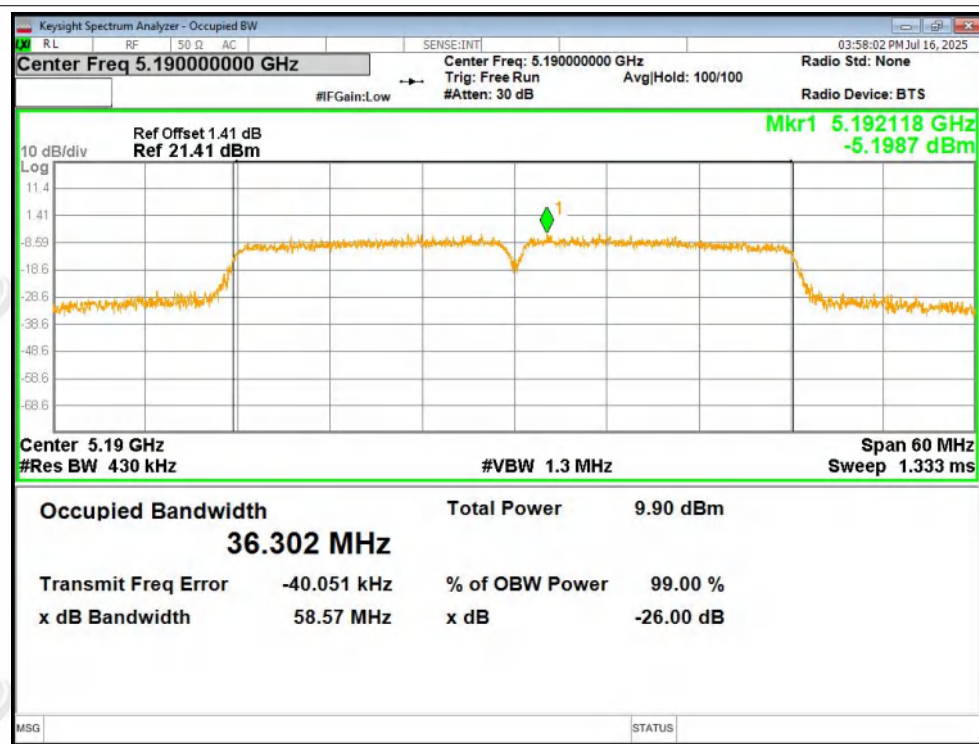


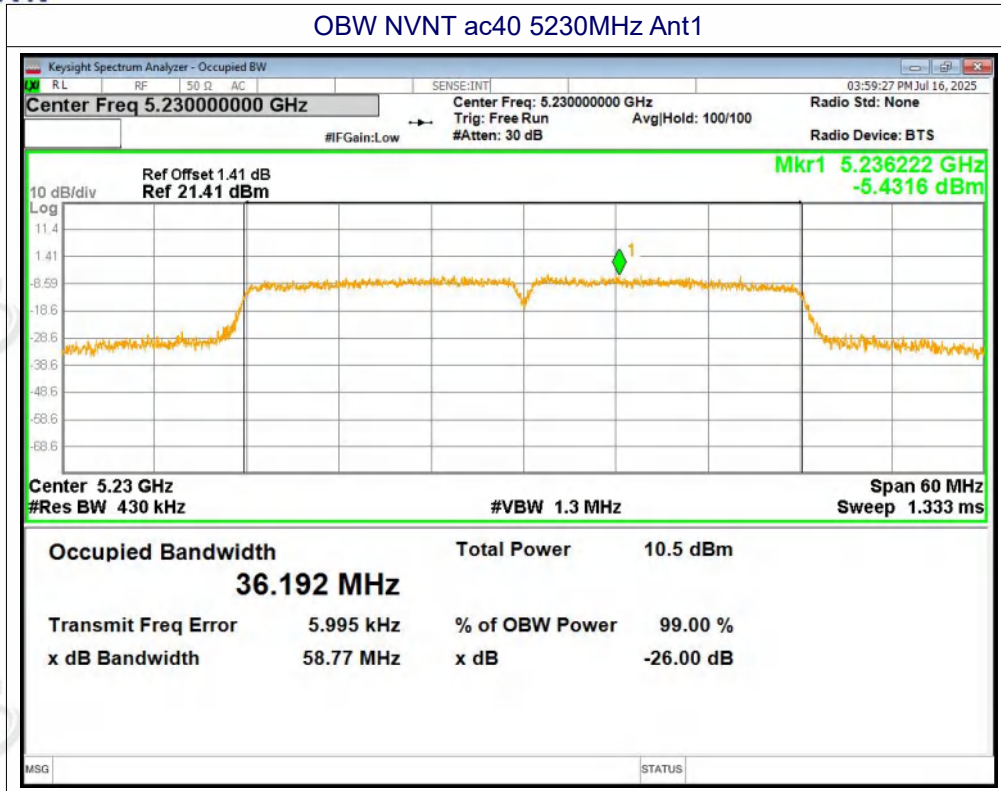


OBW NVNT ac20 5240MHz Ant1



OBW NVNT ac40 5190MHz Ant1





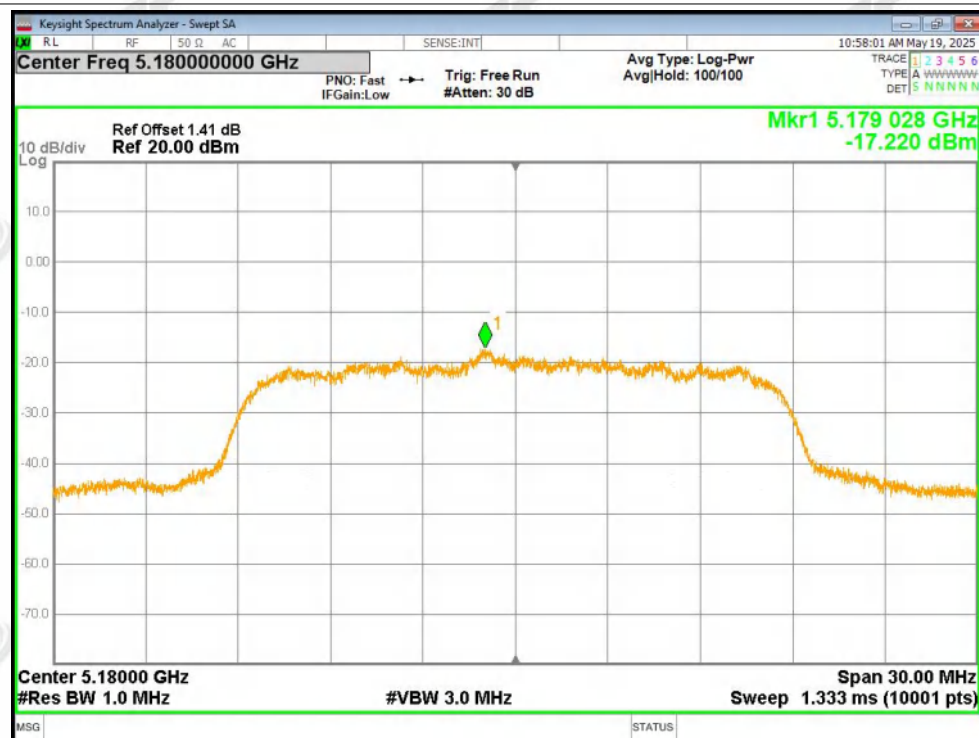
**A5. Maximum Power Spectral Density Level**

Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
5180	Ant1	-17.22	0.12	-17.1	11	Pass
5200	Ant1	-4.43	0.12	-4.31	11	Pass
5240	Ant1	-3.56	0.09	-3.47	11	Pass
5180	Ant1	-18.95	0.1	-18.85	11	Pass
5200	Ant1	-8.66	0.1	-8.56	11	Pass
5240	Ant1	-8.66	0	-8.66	11	Pass
5190	Ant1	-33.85	0.26	-33.59	11	Pass
5230	Ant1	-28.57	0.2	-28.37	11	Pass
5180	Ant1	-3.99	0.13	-3.86	11	Pass
5200	Ant1	-3.68	0.1	-3.58	11	Pass
5240	Ant1	-4.09	0	-4.09	11	Pass
5190	Ant1	-29.21	0.2	-29.01	11	Pass
5230	Ant1	-28.14	0.2	-27.94	11	Pass

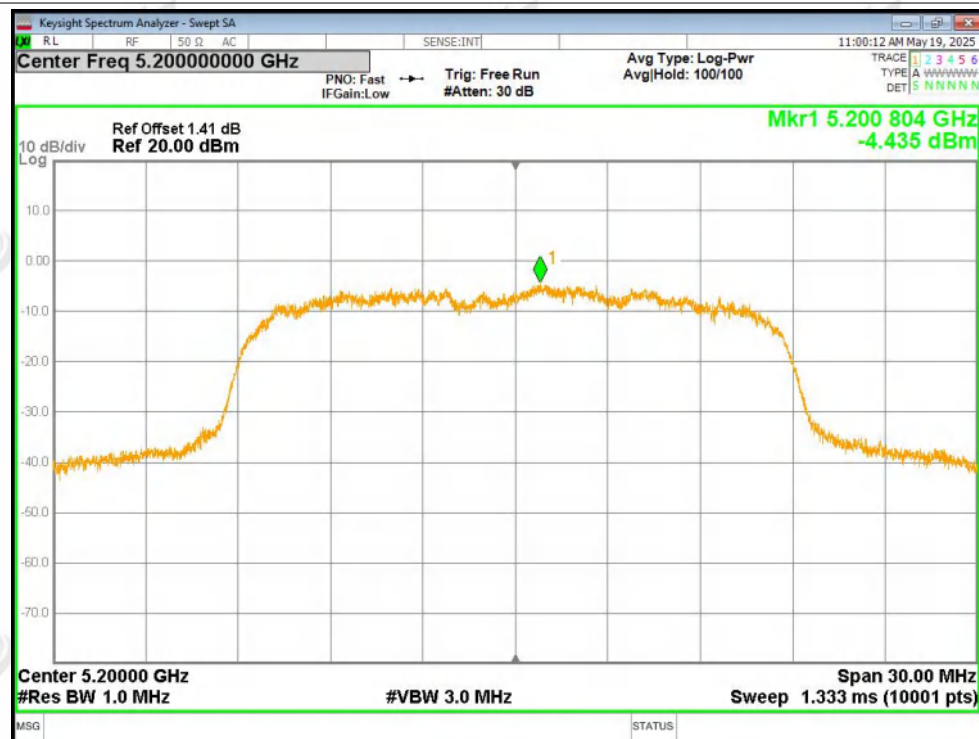


Test Graphs

PSD NVNT a 5180MHz Ant1

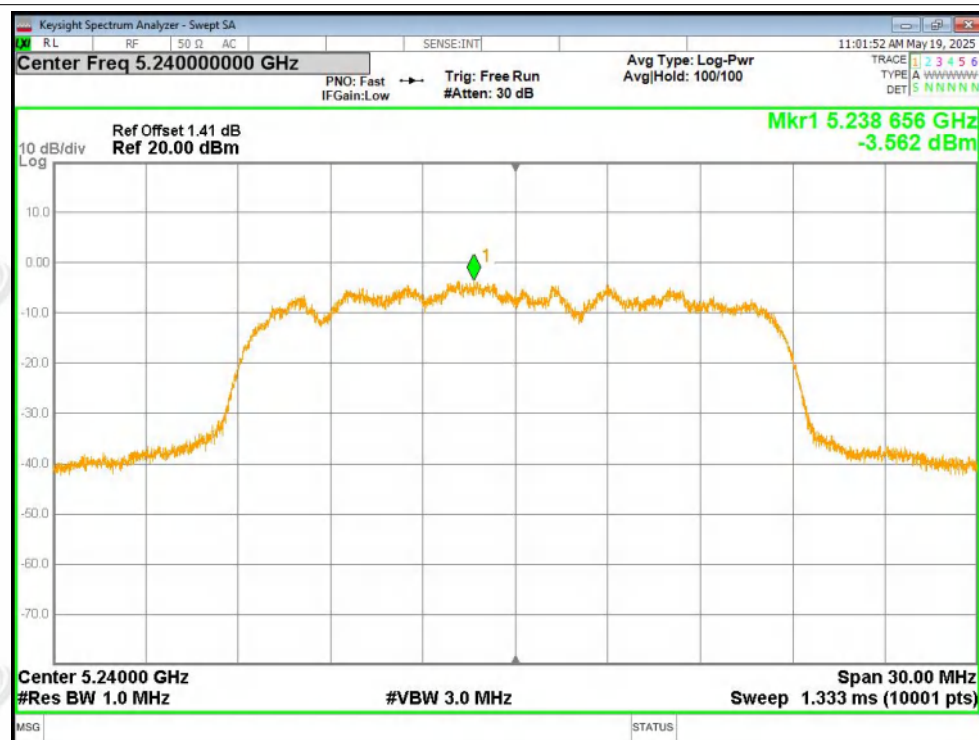


PSD NVNT a 5200MHz Ant1

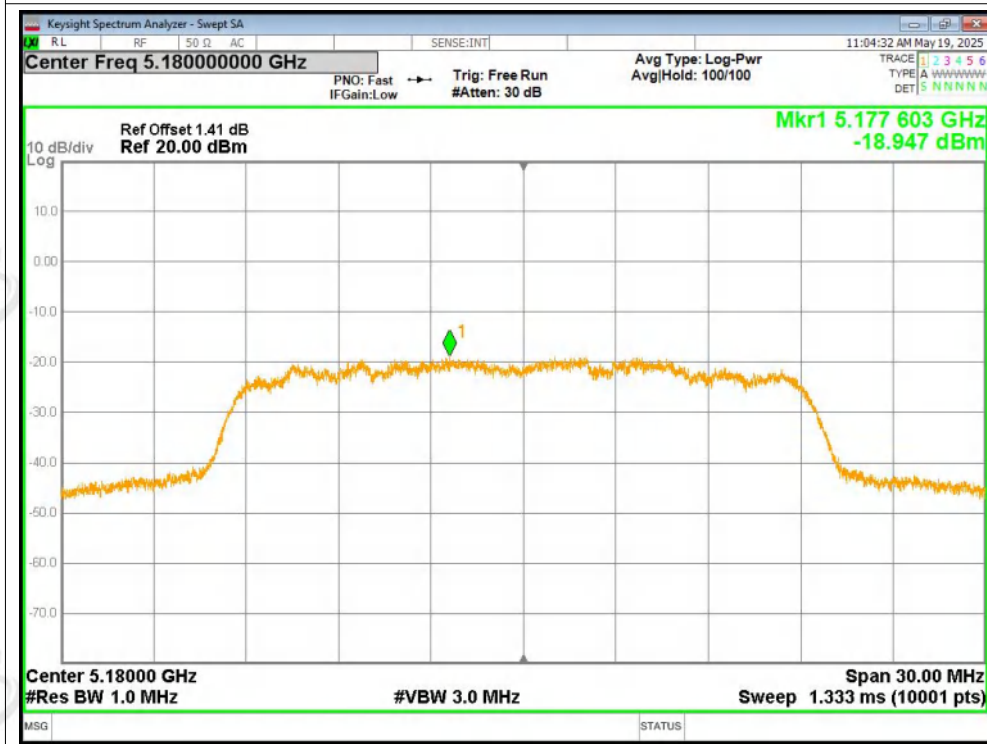




PSD NVNT a 5240MHz Ant1

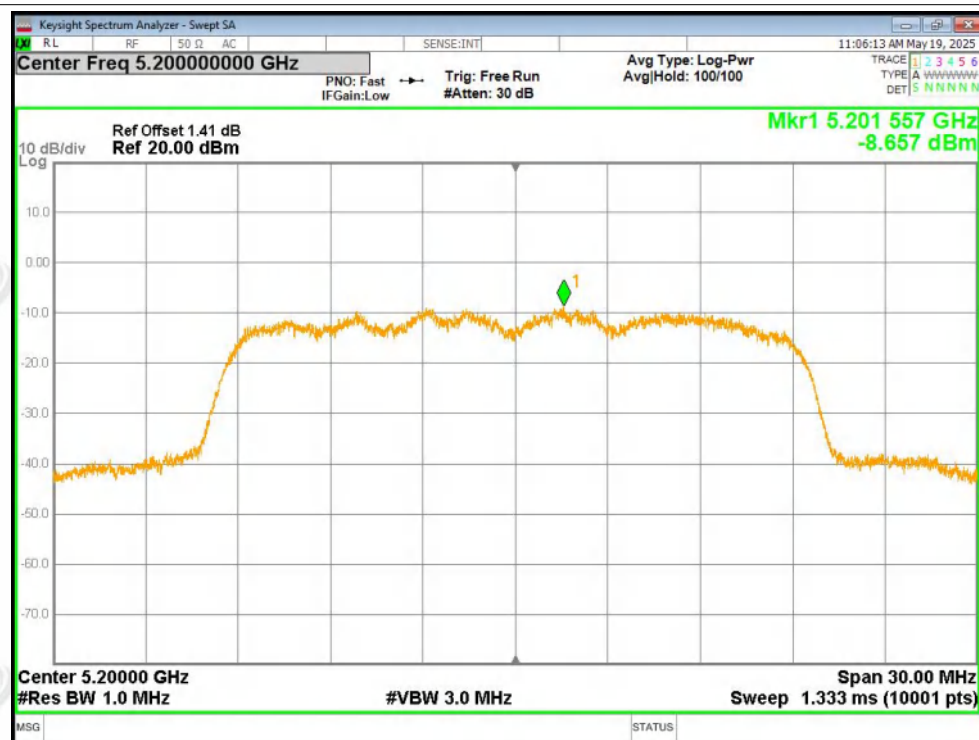


PSD NVNT n20 5180MHz Ant1

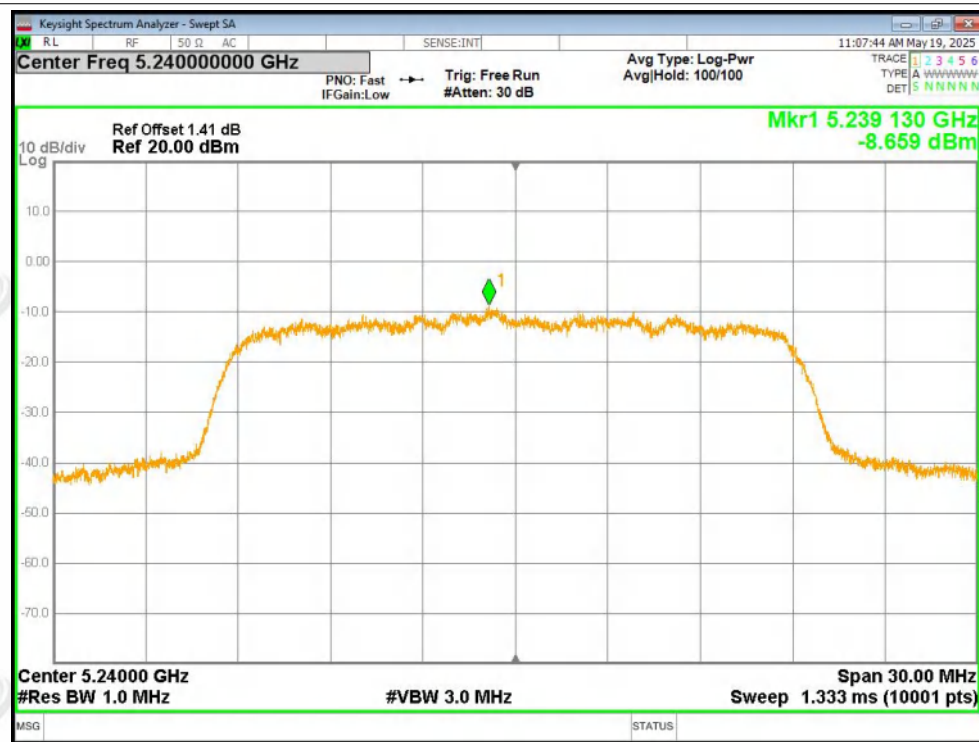




PSD NVNT n20 5200MHz Ant1

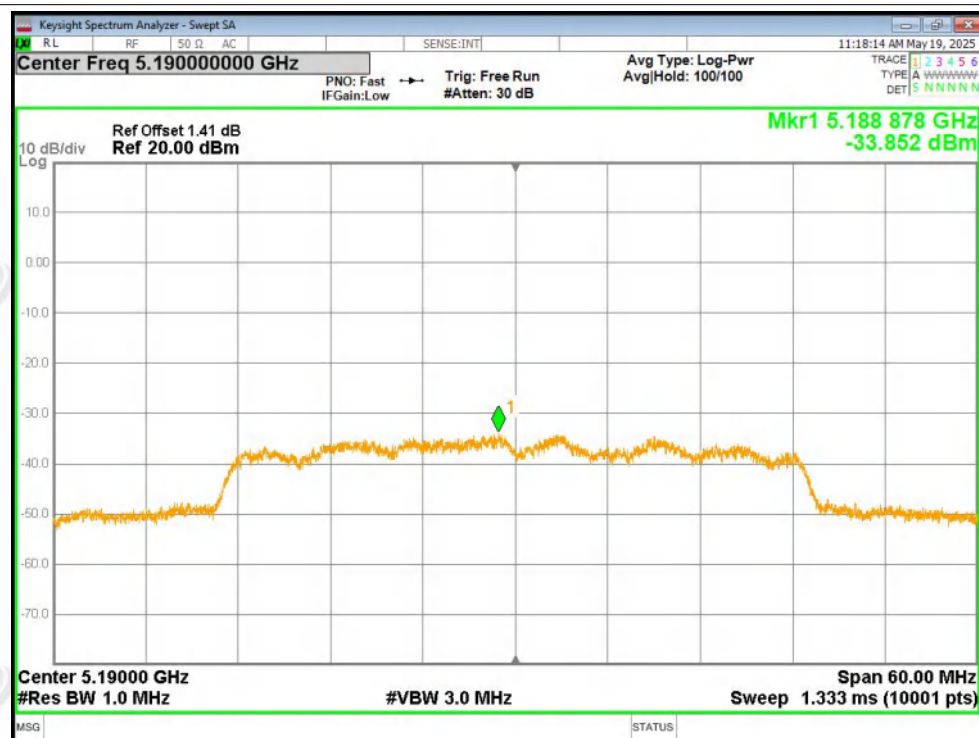


PSD NVNT n20 5240MHz Ant1

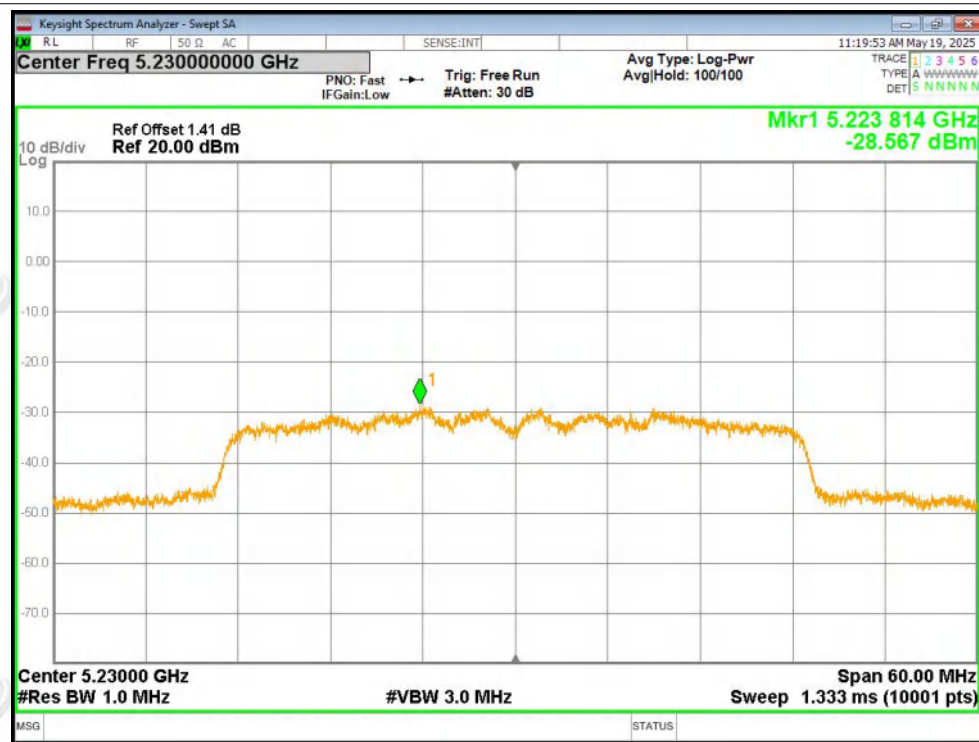




PSD NVNT n40 5190MHz Ant1

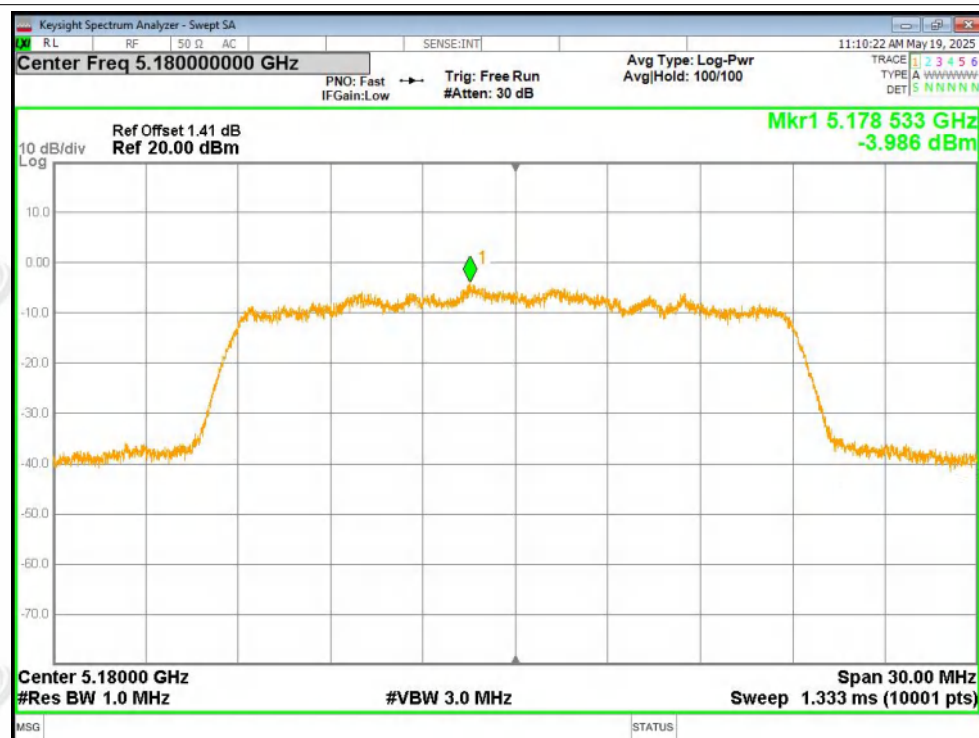


PSD NVNT n40 5230MHz Ant1

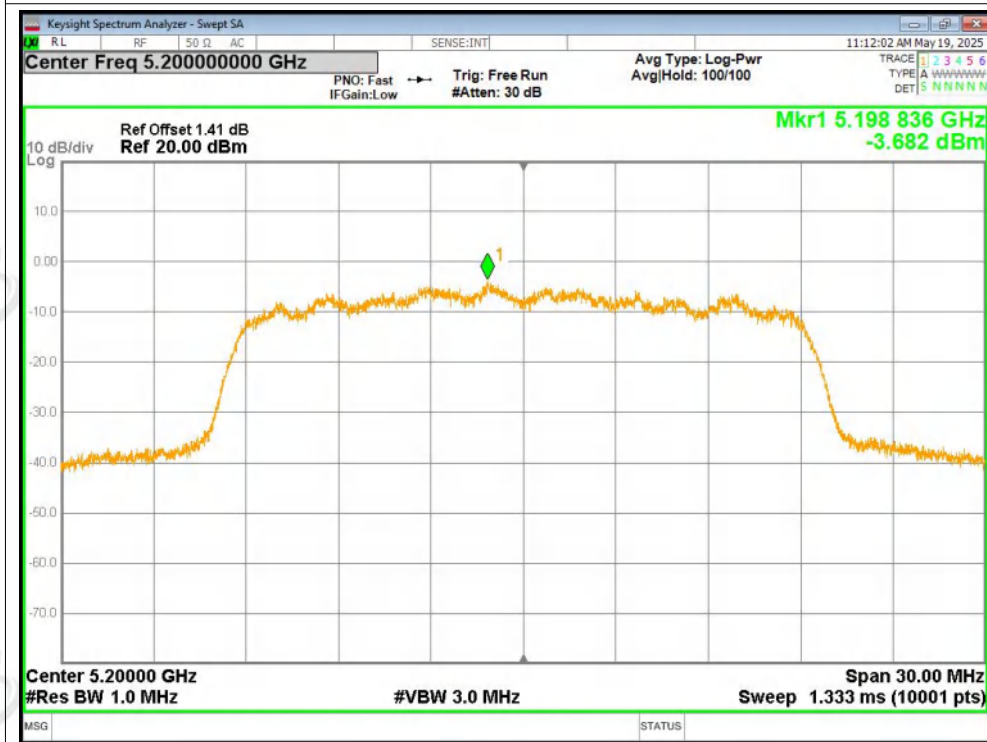




PSD NVNT ac20 5180MHz Ant1

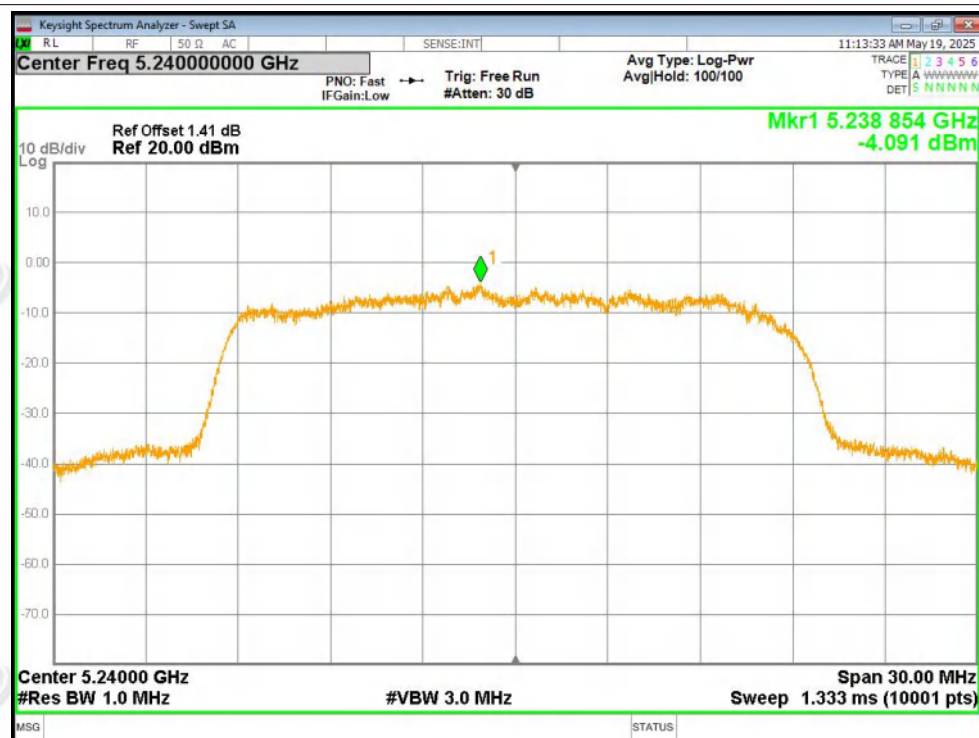


PSD NVNT ac20 5200MHz Ant1



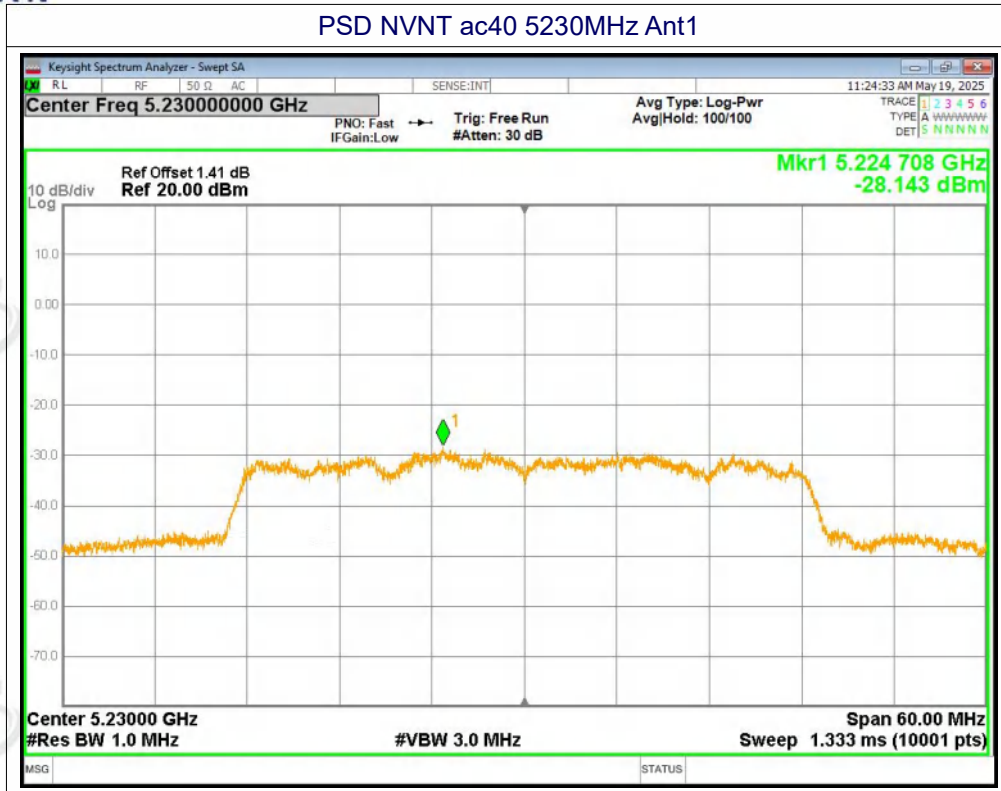


PSD NVNT ac20 5240MHz Ant1



PSD NVNT ac40 5190MHz Ant1





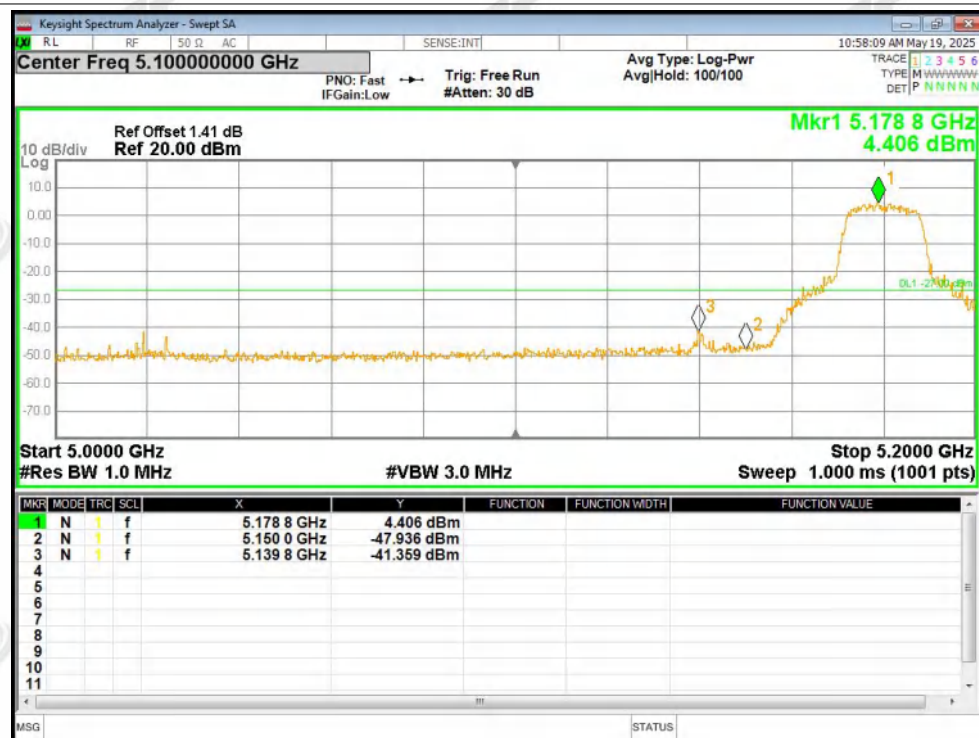


A6. Band Edge

Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
a	5180	Ant1	-41.35	-27	Pass
a	5240	Ant1	-39.79	-27	Pass
n20	5180	Ant1	-40.71	-27	Pass
n20	5240	Ant1	-45.18	-27	Pass
n40	5190	Ant1	-28.09	-27	Pass
n40	5230	Ant1	-46.03	-27	Pass
ac20	5180	Ant1	-42.01	-27	Pass
ac20	5240	Ant1	-44.55	-27	Pass
ac40	5190	Ant1	-29.14	-27	Pass
ac40	5230	Ant1	-45.05	-27	Pass

Test Graphs

Band Edge NVNT a 5180MHz Low Ant1

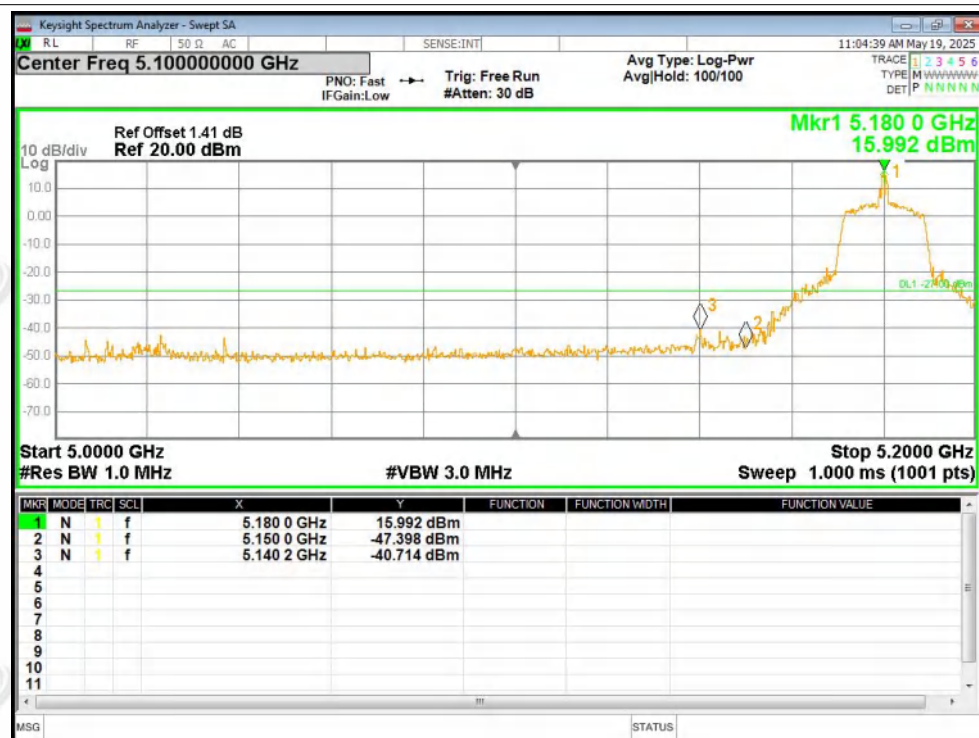


Band Edge NVNT a 5240MHz High Ant1





Band Edge NVNT n20 5180MHz Low Ant1

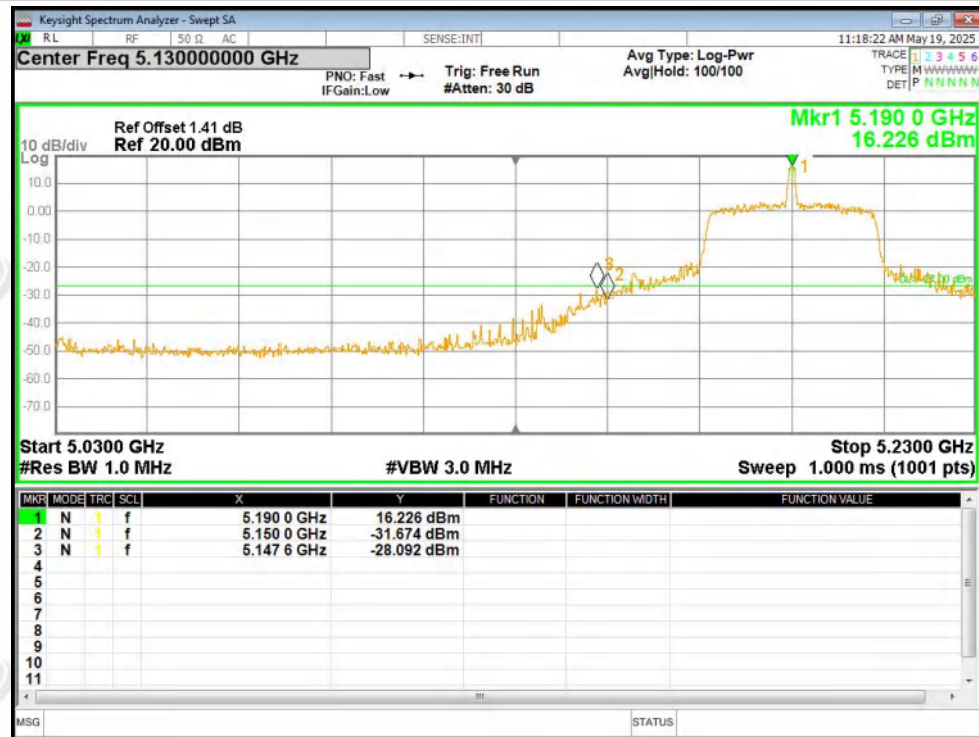


Band Edge NVNT n20 5240MHz High Ant1

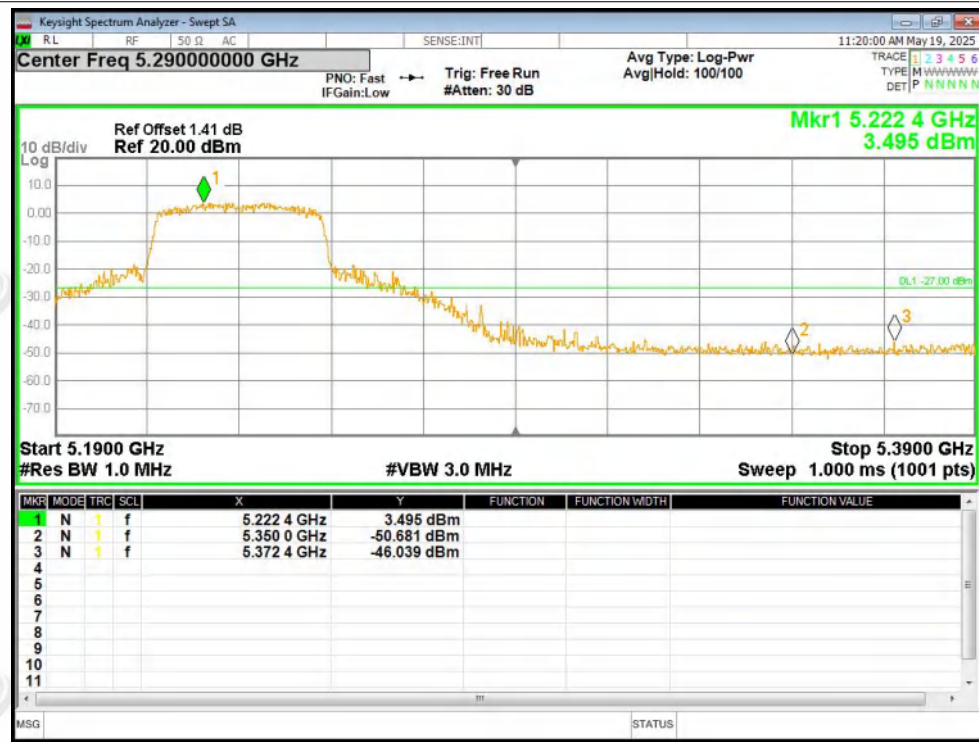




Band Edge NVNT n40 5190MHz Low Ant1

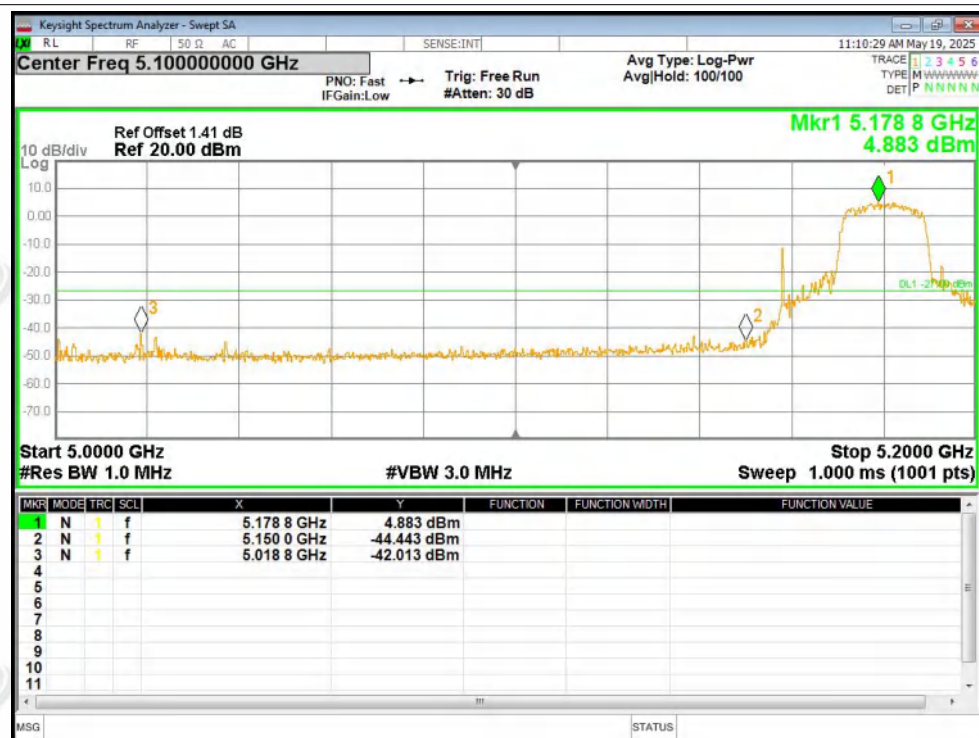


Band Edge NVNT n40 5230MHz High Ant1

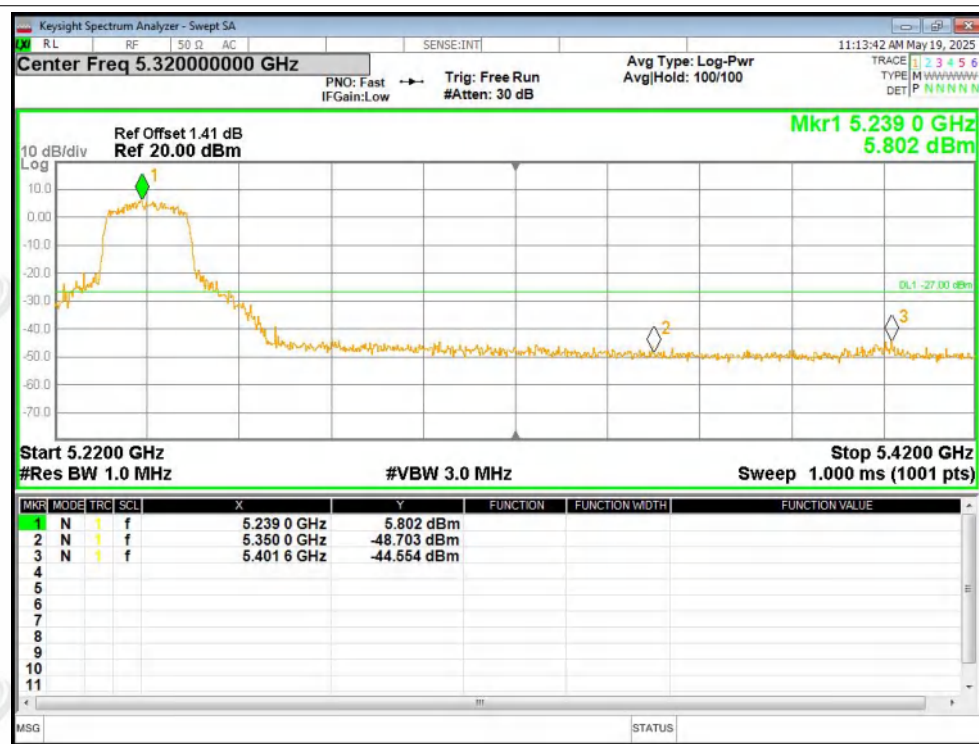




Band Edge NVNT ac20 5180MHz Low Ant1

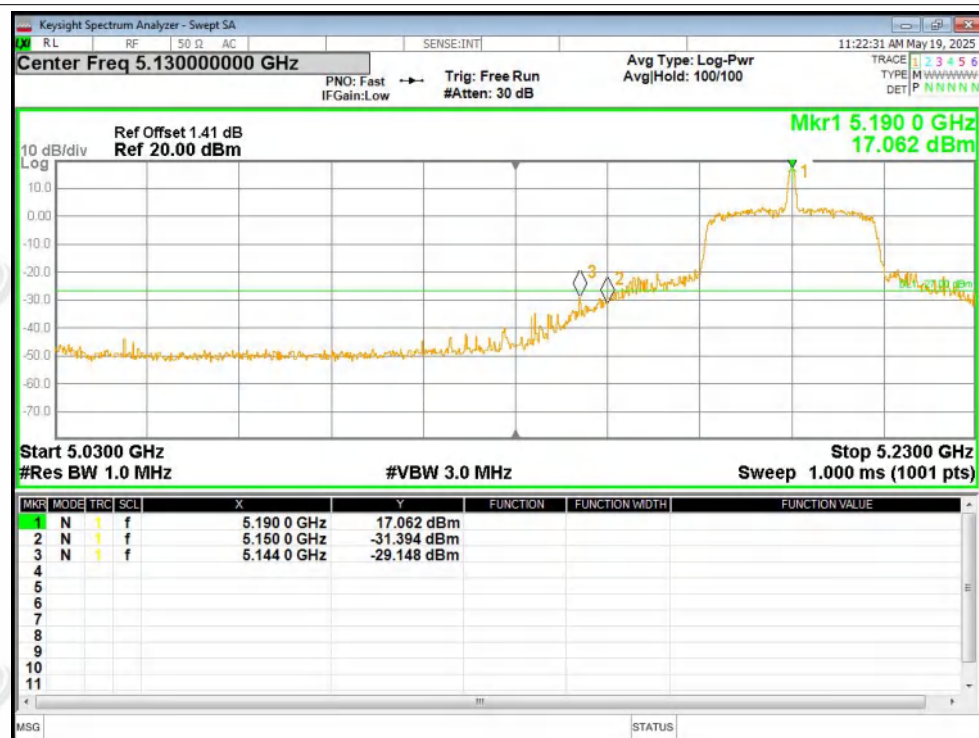


Band Edge NVNT ac20 5240MHz High Ant1





Band Edge NVNT ac40 5190MHz Low Ant1



Band Edge NVNT ac40 5230MHz High Ant1



A7. Frequency Stability

Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
a	5180	Ant1	5180	0	0	Within 5180-5240MHz	Pass
a	5200	Ant1	5200	0	0		Pass
a	5240	Ant1	5239.98	-20000	-3.82		Pass
n20	5180	Ant1	5180	0	0		Pass
n20	5200	Ant1	5200.02	20000	3.85		Pass
n20	5240	Ant1	5239.98	-20000	-3.82		Pass
n40	5190	Ant1	5190	0	0	Within 5190-5230MHz	Pass
n40	5230	Ant1	5230	0	0		Pass
ac20	5180	Ant1	5179.98	-20000	-3.86	Within 5180-5240MHz	Pass
ac20	5200	Ant1	5200	0	0		Pass
ac20	5240	Ant1	5240	0	0		Pass
ac40	5190	Ant1	5189.96	-40000	-7.71	Within 5190-5230MHz	Pass
ac40	5230	Ant1	5229.96	-40000	-7.65		Pass

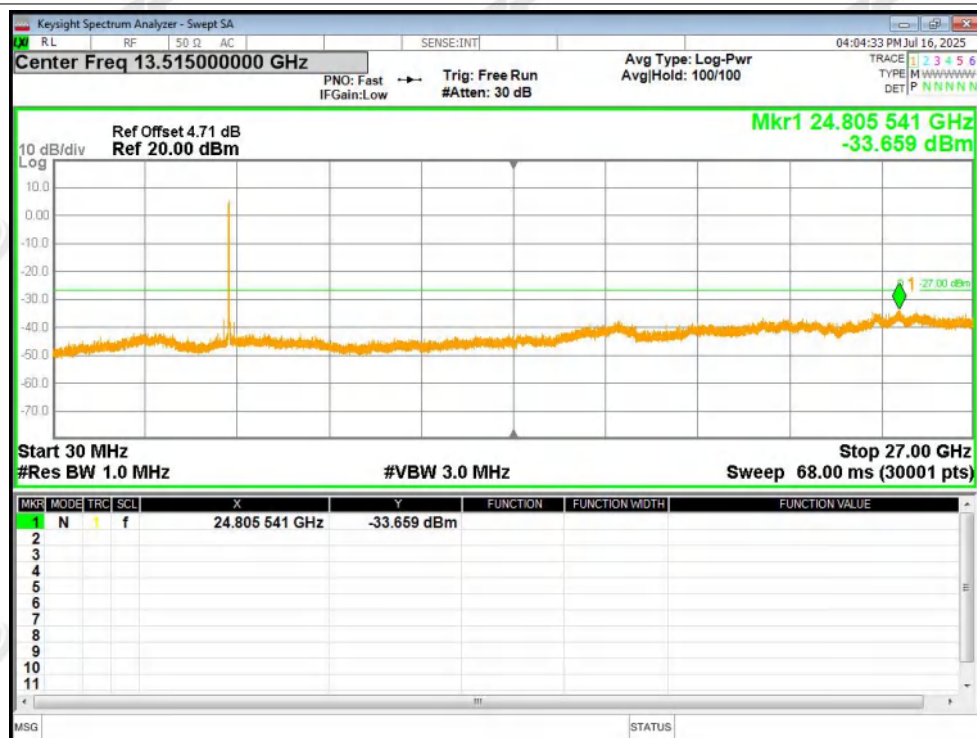
Note: Test temperature: -20° to + 70°. At room temperature, the test results are the worst, only reflecting the test results graphs at room temperature.

**ZHONGHAN****A8. Conducted RF Spurious Emission**

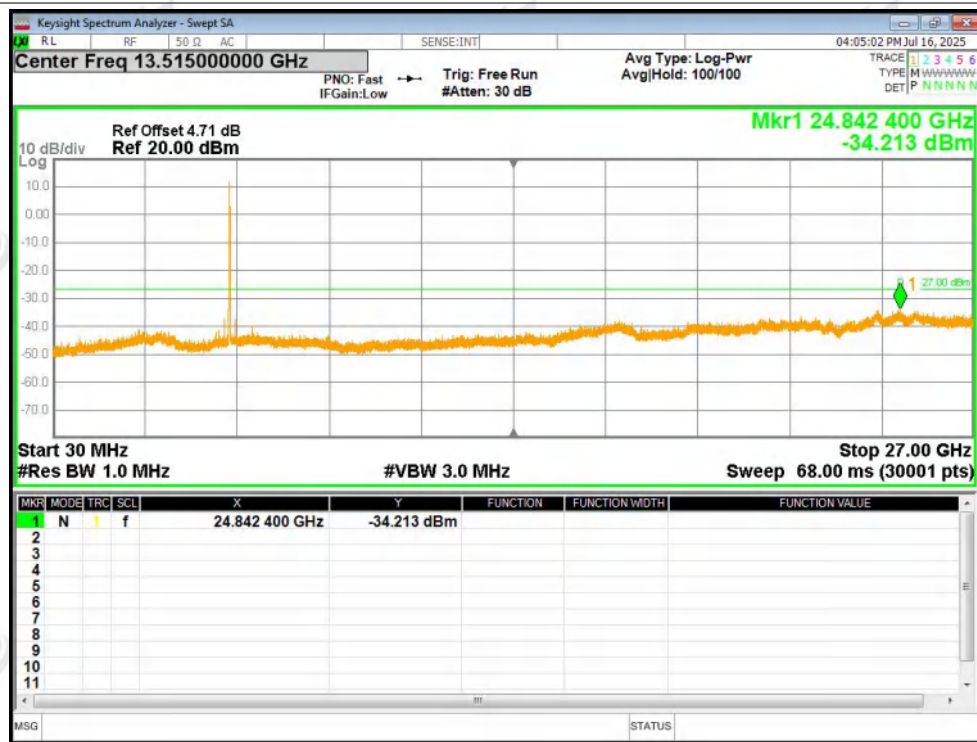
Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
a	5180	Ant1	-33.65	-27	Pass
a	5200	Ant1	-34.21	-27	Pass
a	5240	Ant1	-34.20	-27	Pass
n20	5180	Ant1	-34.35	-27	Pass
n20	5200	Ant1	-33.41	-27	Pass
n20	5240	Ant1	-34.11	-27	Pass
n40	5190	Ant1	-34.21	-27	Pass
n40	5230	Ant1	-33.90	-27	Pass
ac20	5180	Ant1	-33.77	-27	Pass
ac20	5200	Ant1	-34.05	-27	Pass
ac20	5240	Ant1	-34.50	-27	Pass
ac40	5190	Ant1	-33.50	-27	Pass
ac40	5230	Ant1	-34.19	-27	Pass

Test Graphs

Tx. Spurious NVNT a 5180MHz Ant1 Emission

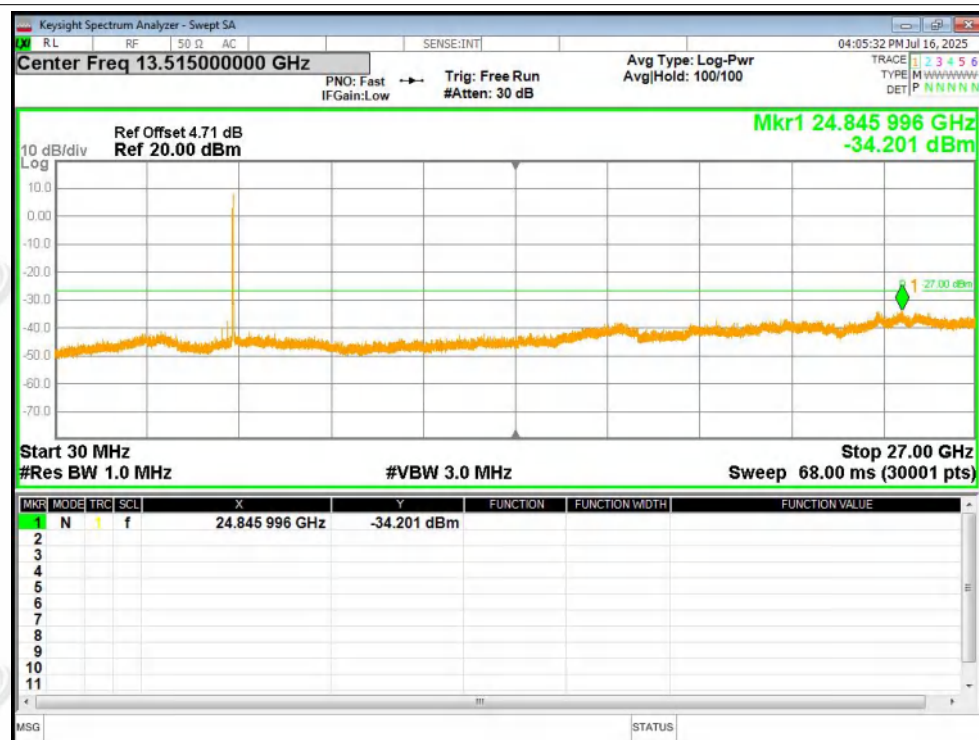


Tx. Spurious NVNT a 5200MHz Ant1 Emission





Tx. Spurious NVNT a 5240MHz Ant1 Emission

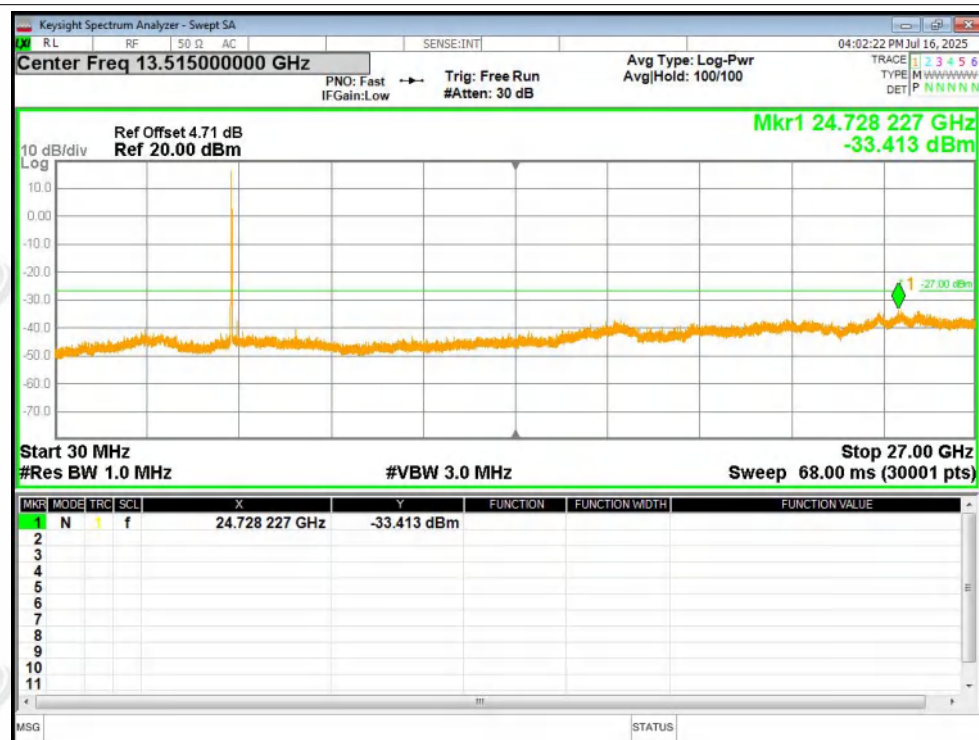


Tx. Spurious NVNT n20 5180MHz Ant1 Emission





Tx. Spurious NVNT n20 5200MHz Ant1 Emission

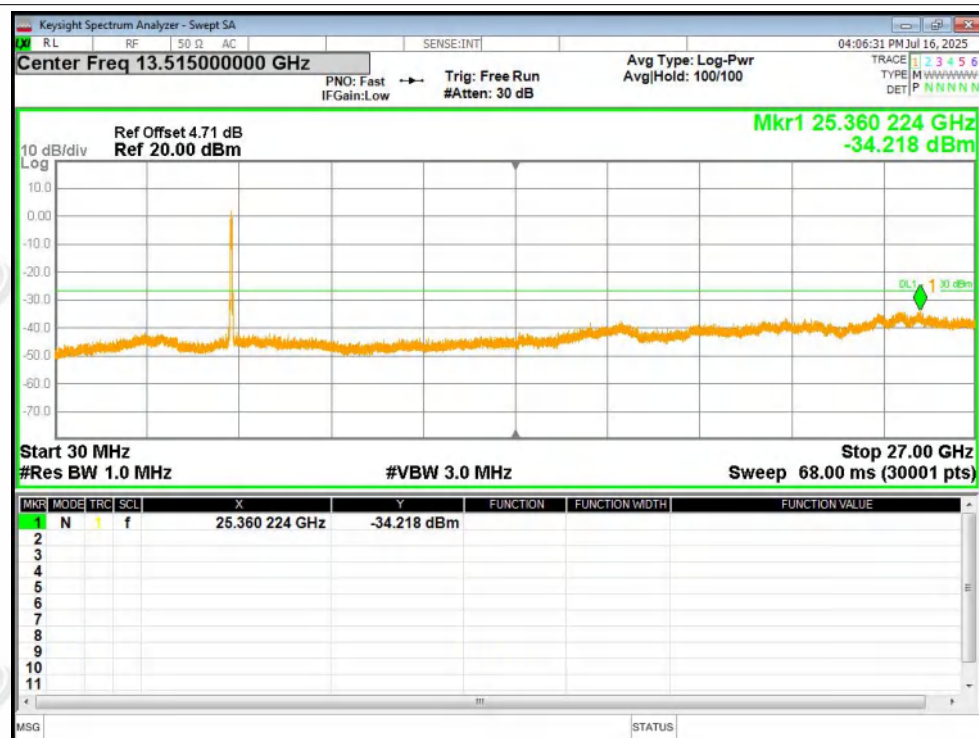


Tx. Spurious NVNT n20 5240MHz Ant1 Emission





Tx. Spurious NVNT n40 5190MHz Ant1 Emission

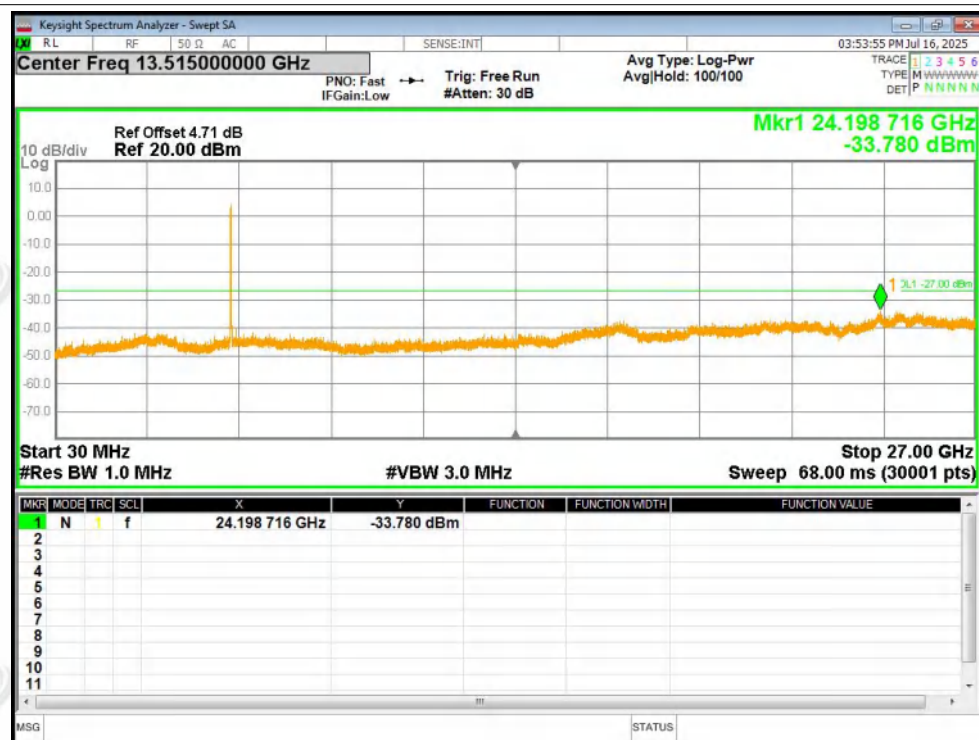


Tx. Spurious NVNT n40 5230MHz Ant1 Emission





Tx. Spurious NVNT ac20 5180MHz Ant1 Emission

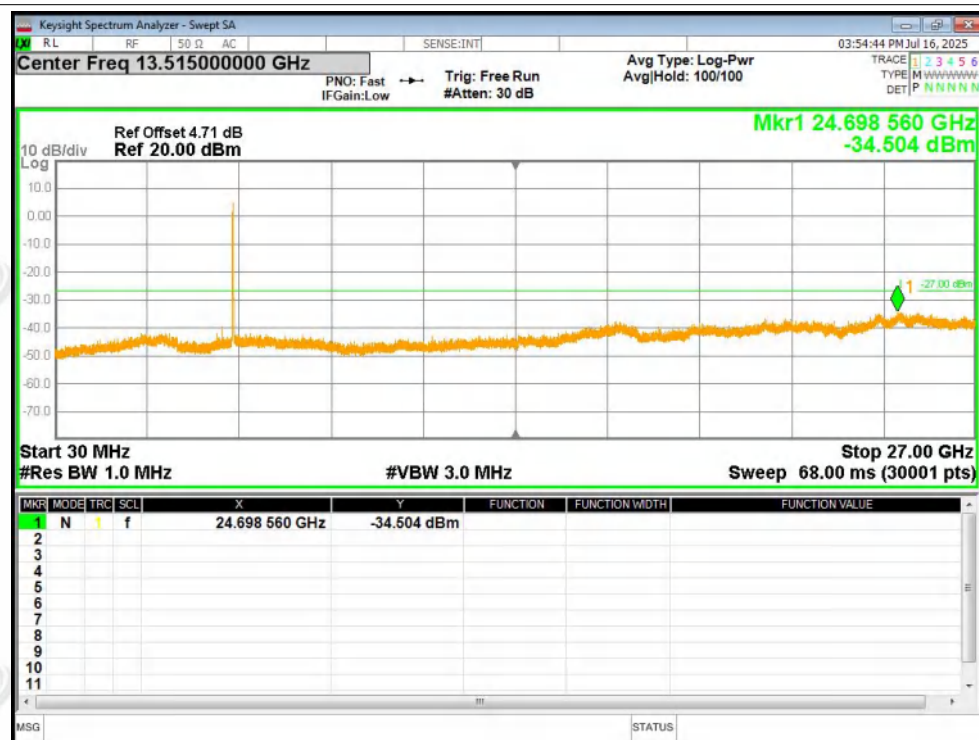


Tx. Spurious NVNT ac20 5200MHz Ant1 Emission





Tx. Spurious NVNT ac20 5240MHz Ant1 Emission



Tx. Spurious NVNT ac40 5190MHz Ant1 Emission



