

Appendix A for 5.2GWIFI Test Data

Product Name: Car Navigation Multimedia Receiver

Test Model: A5LG110T

Environmental Conditions

Temperature:	25.4℃
Relative Humidity:	54.3%
ATM Pressure:	101.0 kPa
Test Engineer:	Kimi Lu
Supervised by:	Baret Wu

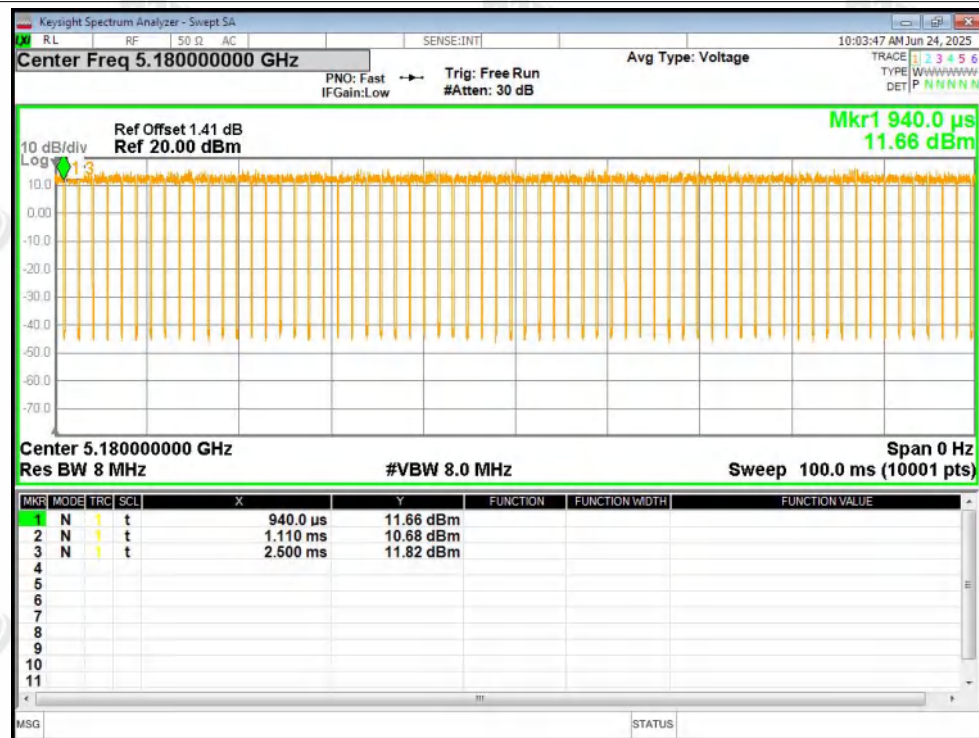
**ZHONGHAN****Duty Cycle**

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	89.1	0.5	0.72
NVNT	a	5200	Ant1	89.1	0.5	0.72
NVNT	a	5240	Ant1	89.1	0.5	0.72
NVNT	n20	5180	Ant1	88.36	0.54	0.78
NVNT	n20	5200	Ant1	88.36	0.54	0.78
NVNT	n20	5240	Ant1	88.36	0.54	0.78
NVNT	n40	5190	Ant1	78.75	1.04	1.59
NVNT	n40	5230	Ant1	79.01	1.02	1.56
NVNT	ac20	5180	Ant1	88.28	0.54	0.78
NVNT	ac20	5200	Ant1	88.36	0.54	0.78
NVNT	ac20	5240	Ant1	88.36	0.54	0.78
NVNT	ac40	5190	Ant1	79.01	1.02	1.56
NVNT	ac40	5230	Ant1	79.01	1.02	1.56

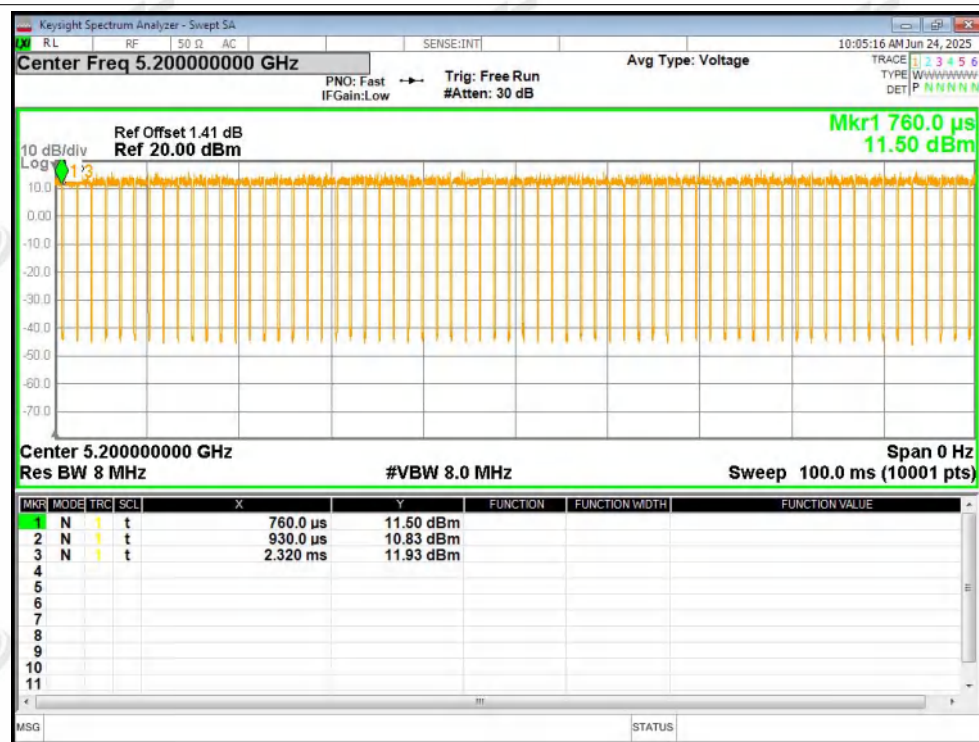


Test Graphs

Duty Cycle NVNT a 5180MHz Ant1

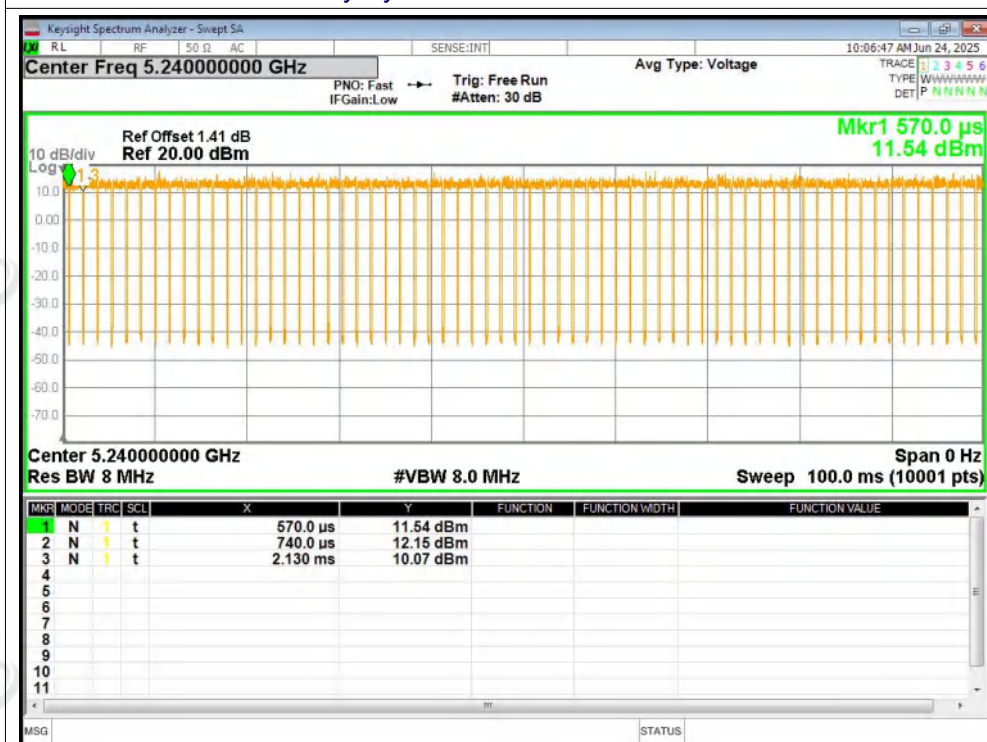


Duty Cycle NVNT a 5200MHz Ant1

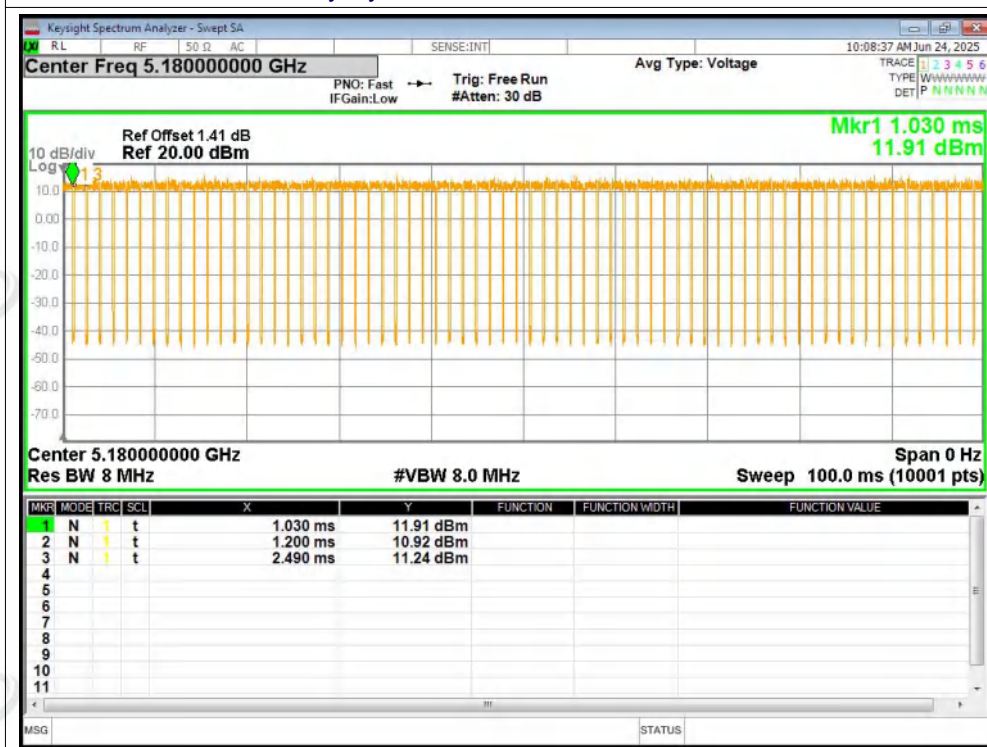




Duty Cycle NVNT a 5240MHz Ant1

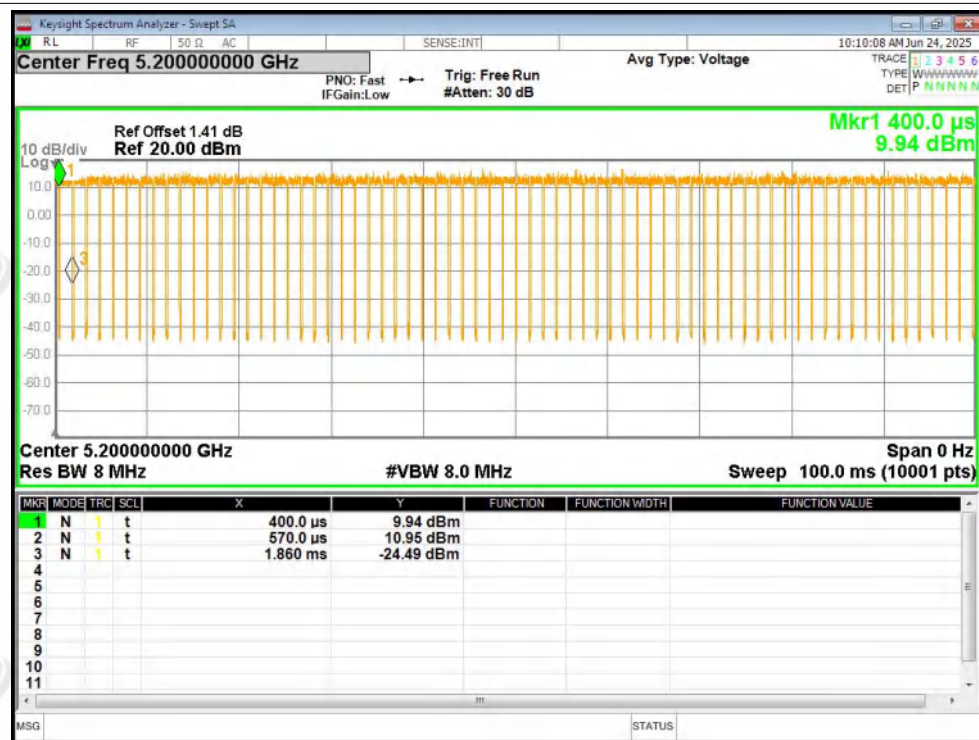


Duty Cycle NVNT n20 5180MHz Ant1

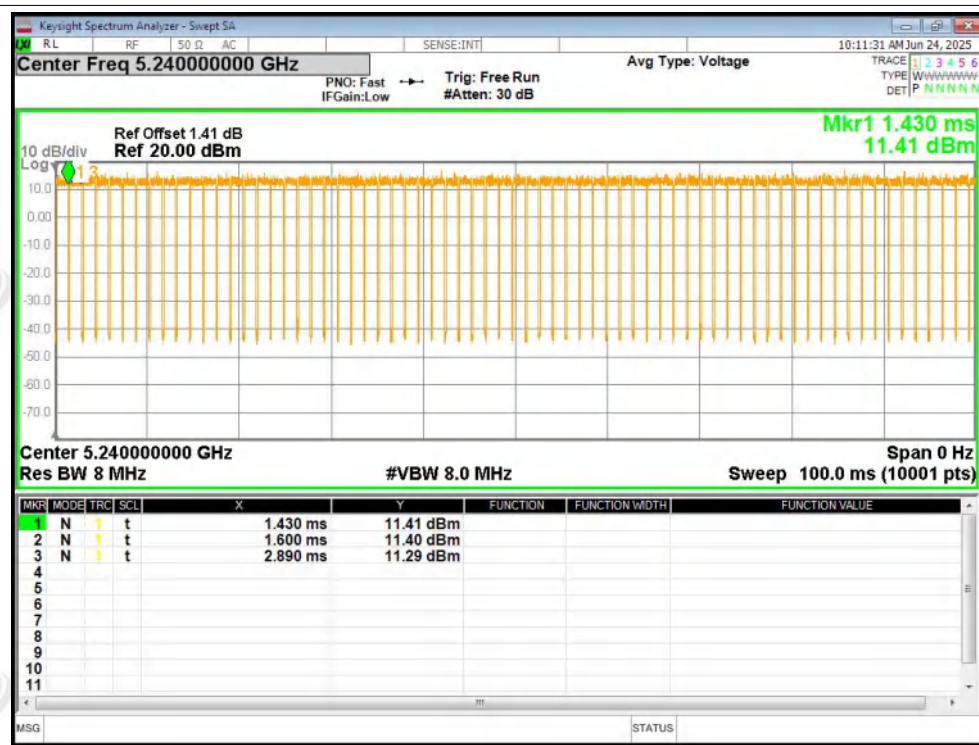




Duty Cycle NVNT n20 5200MHz Ant1

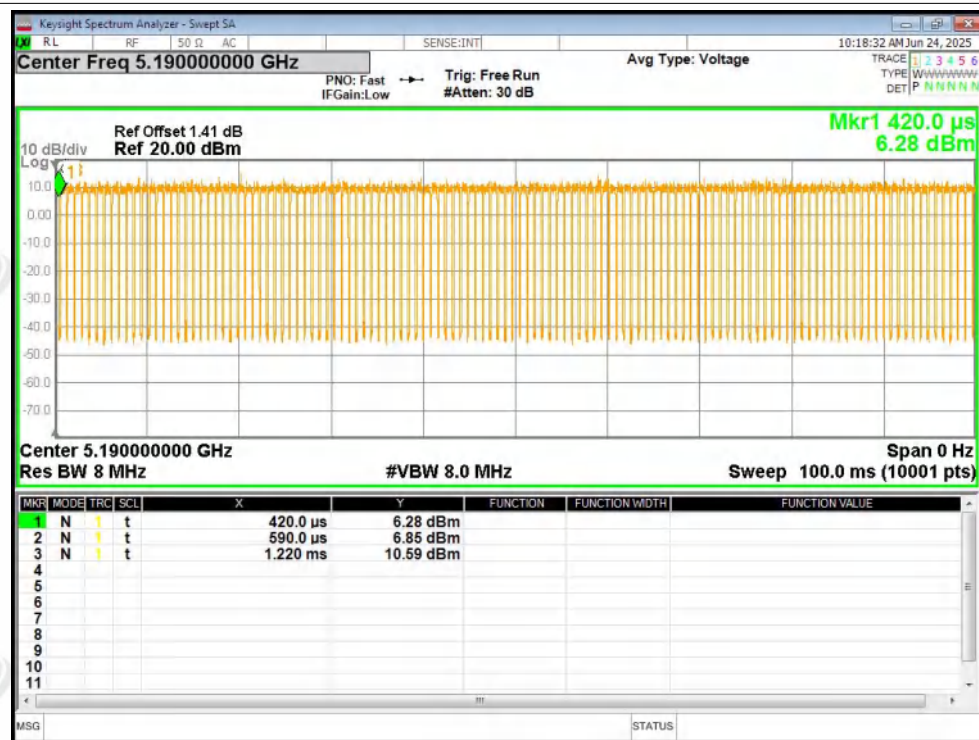


Duty Cycle NVNT n20 5240MHz Ant1

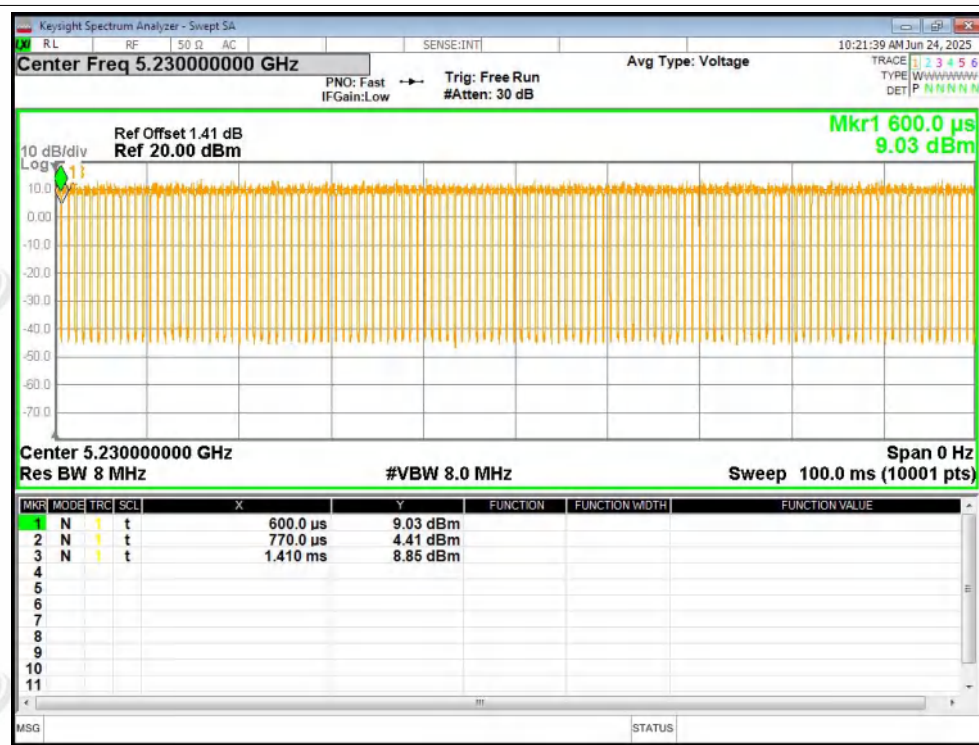




Duty Cycle NVNT n40 5190MHz Ant1

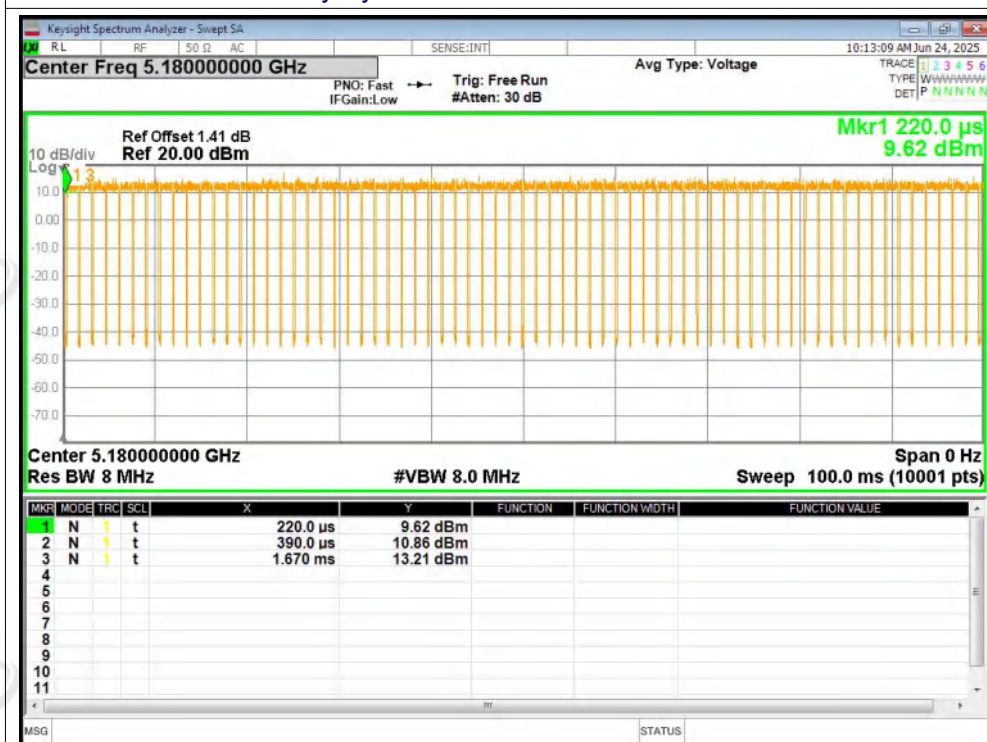


Duty Cycle NVNT n40 5230MHz Ant1

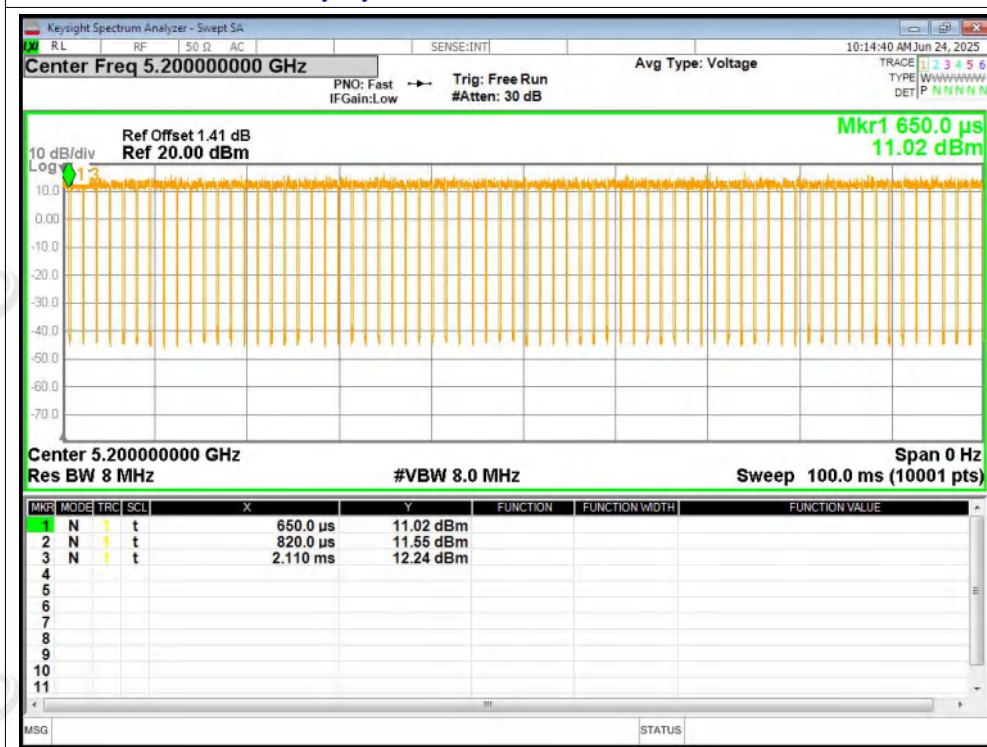




Duty Cycle NVNT ac20 5180MHz Ant1

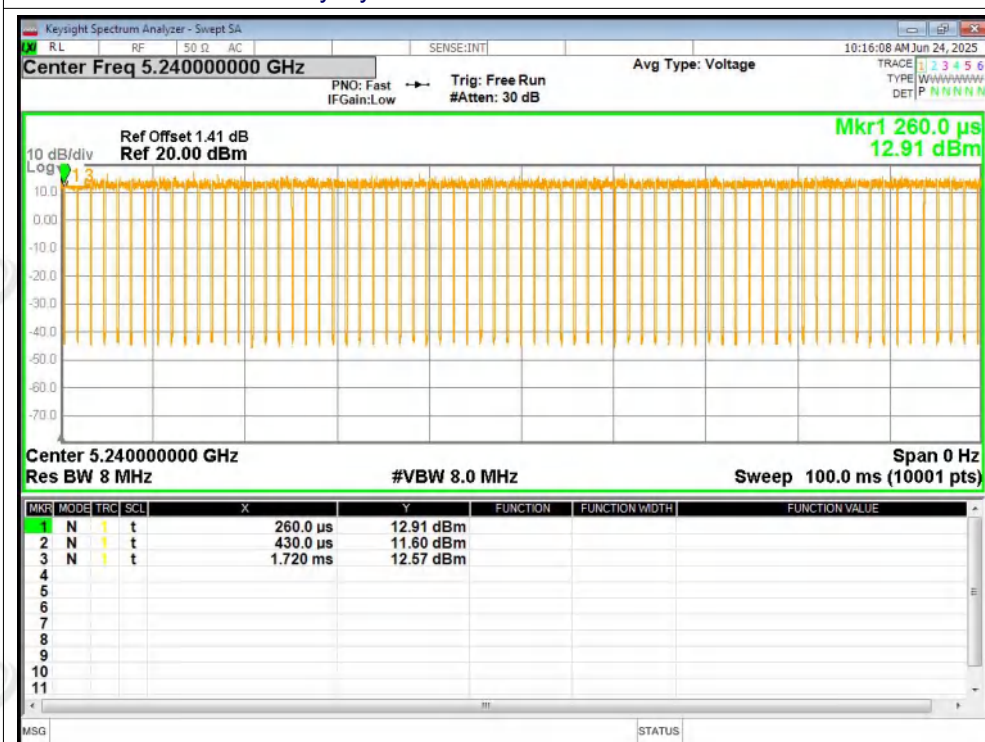


Duty Cycle NVNT ac20 5200MHz Ant1

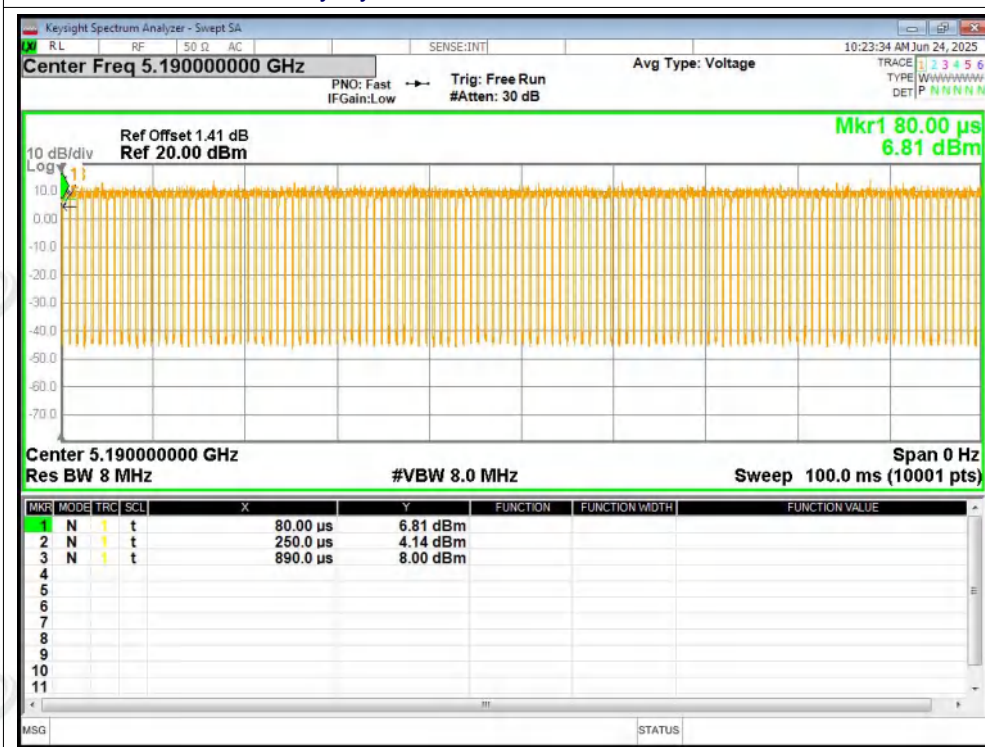




Duty Cycle NVNT ac20 5240MHz Ant1

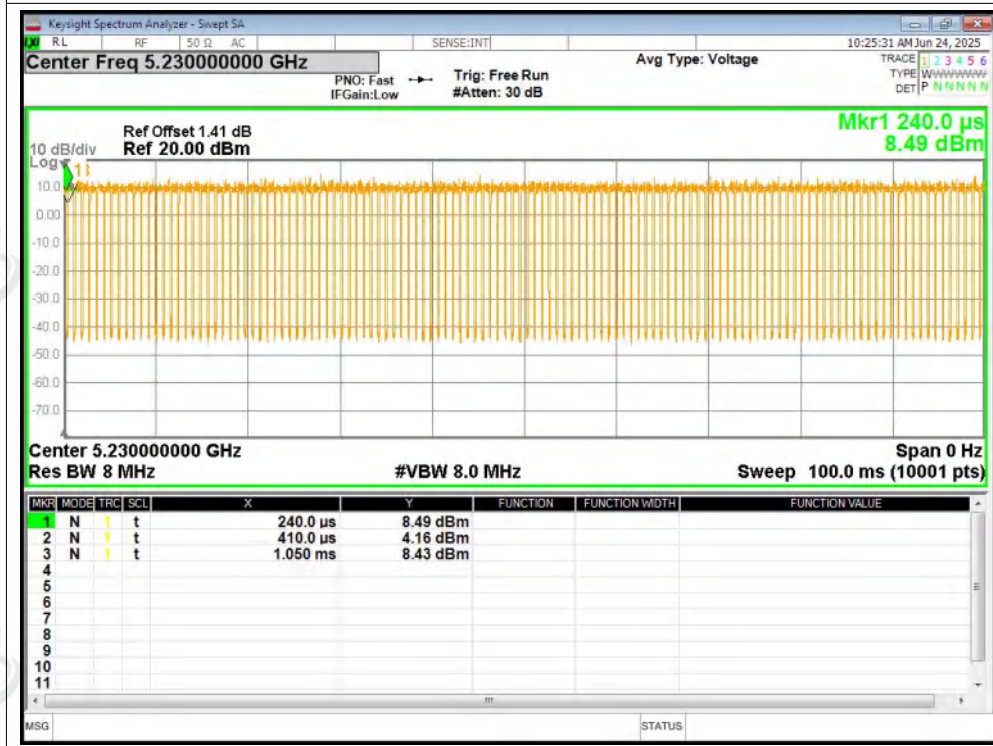


Duty Cycle NVNT ac40 5190MHz Ant1





Duty Cycle NVNT ac40 5230MHz Ant1



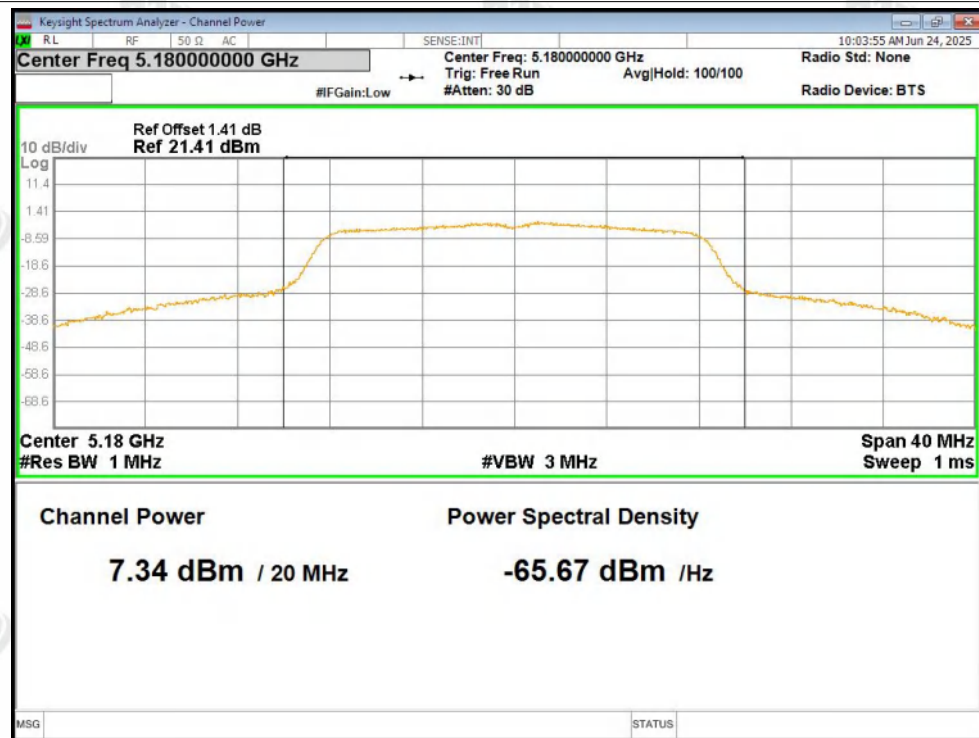
**ZHONGHAN****Maximum Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	7.34	0.5	7.84	24	Pass
NVNT	a	5200	Ant1	7.76	0.5	8.26	24	Pass
NVNT	a	5240	Ant1	8.3	0.5	8.8	24	Pass
NVNT	n20	5180	Ant1	7.58	0.54	8.12	24	Pass
NVNT	n20	5200	Ant1	7.9	0.54	8.44	24	Pass
NVNT	n20	5240	Ant1	8.32	0.54	8.86	24	Pass
NVNT	n40	5190	Ant1	8.03	1.04	9.07	24	Pass
NVNT	n40	5230	Ant1	7.95	1.02	8.97	24	Pass
NVNT	ac20	5180	Ant1	7.56	0.54	8.1	24	Pass
NVNT	ac20	5200	Ant1	7.77	0.54	8.31	24	Pass
NVNT	ac20	5240	Ant1	8.25	0.54	8.79	24	Pass
NVNT	ac40	5190	Ant1	7.67	1.02	8.69	24	Pass
NVNT	ac40	5230	Ant1	8.08	1.02	9.1	24	Pass

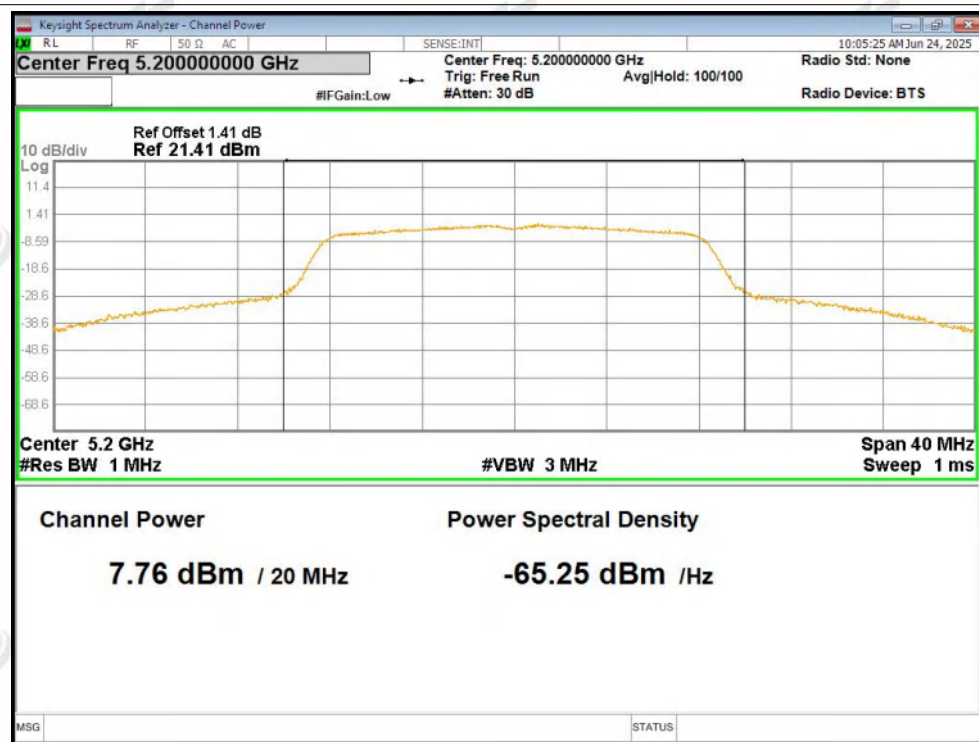


Test Graphs

Power NVNT a 5180MHz Ant1

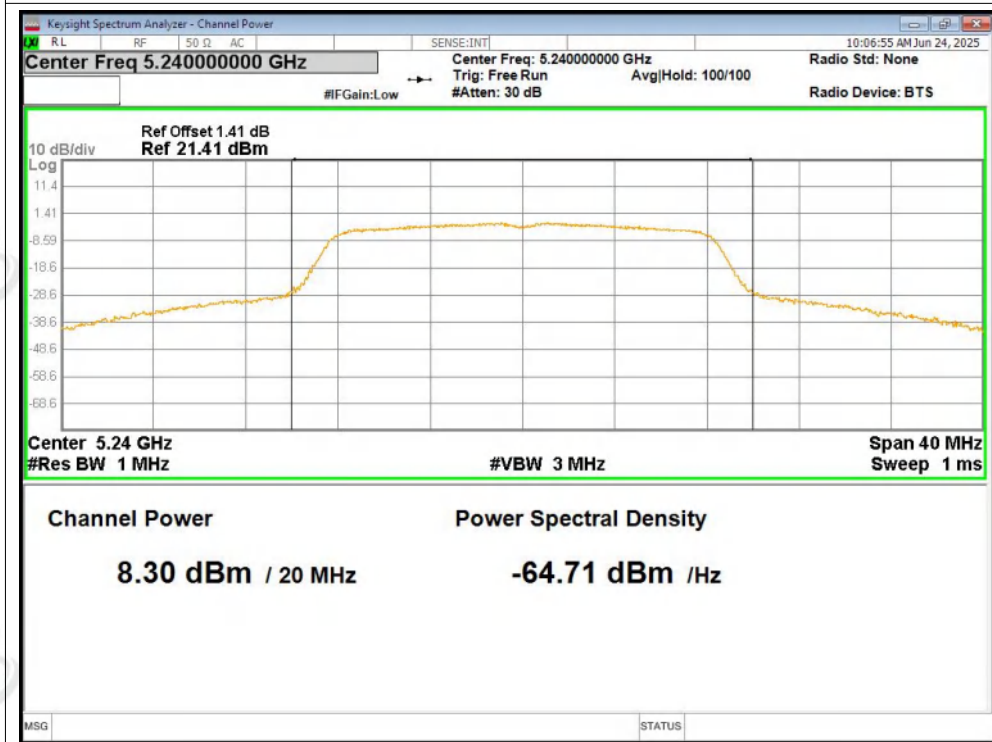


Power NVNT a 5200MHz Ant1

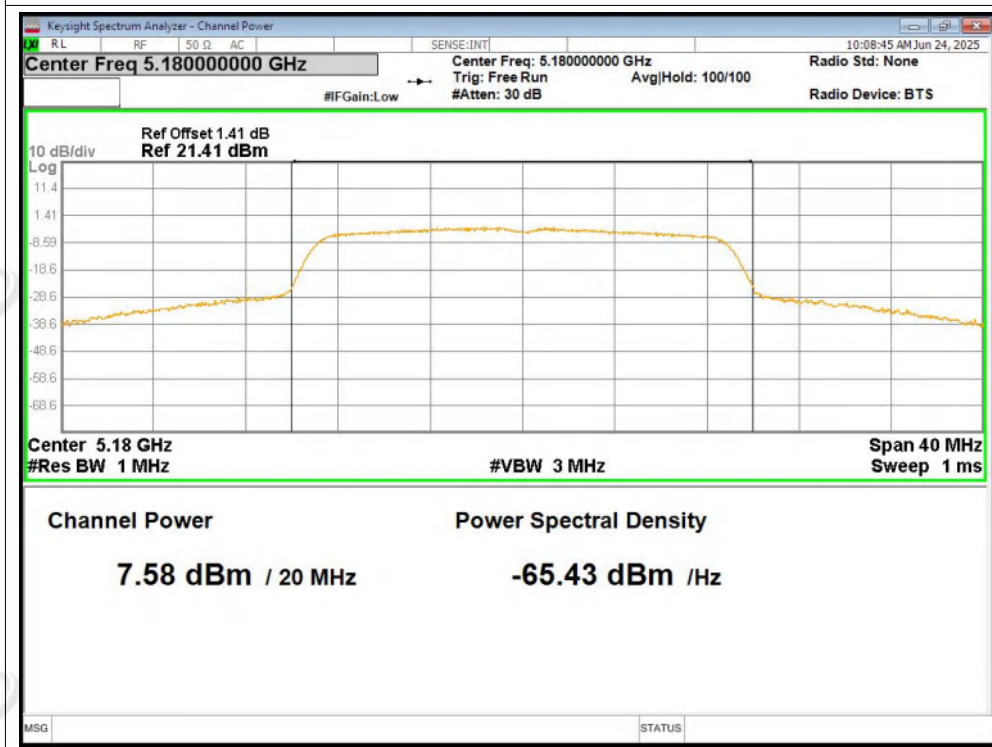




Power NVNT a 5240MHz Ant1

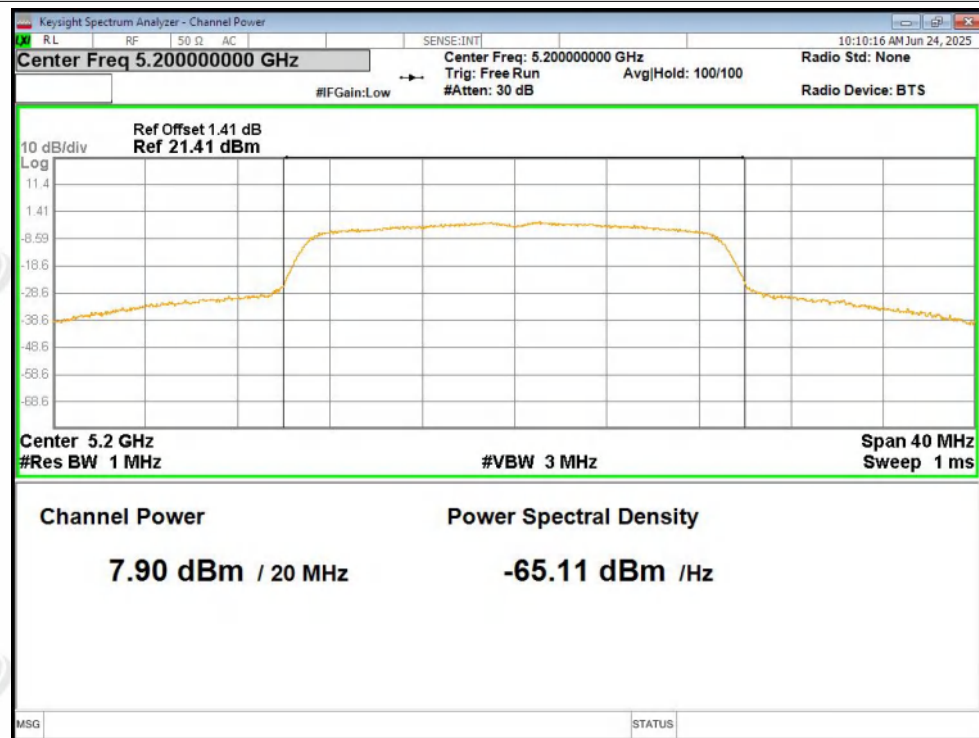


Power NVNT n20 5180MHz Ant1

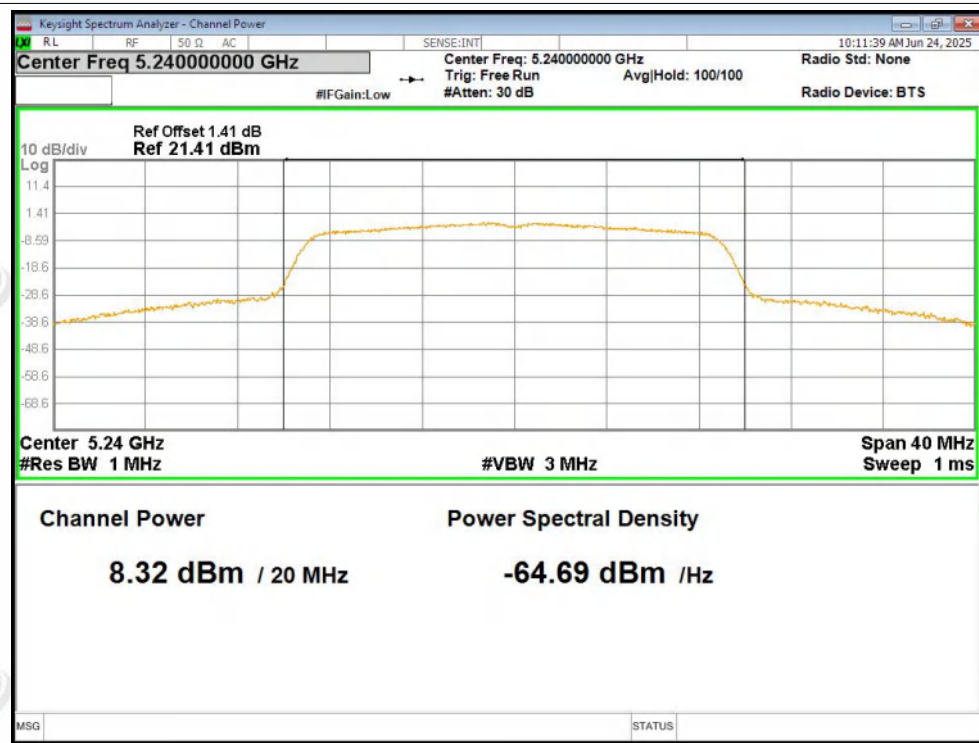




Power NVNT n20 5200MHz Ant1

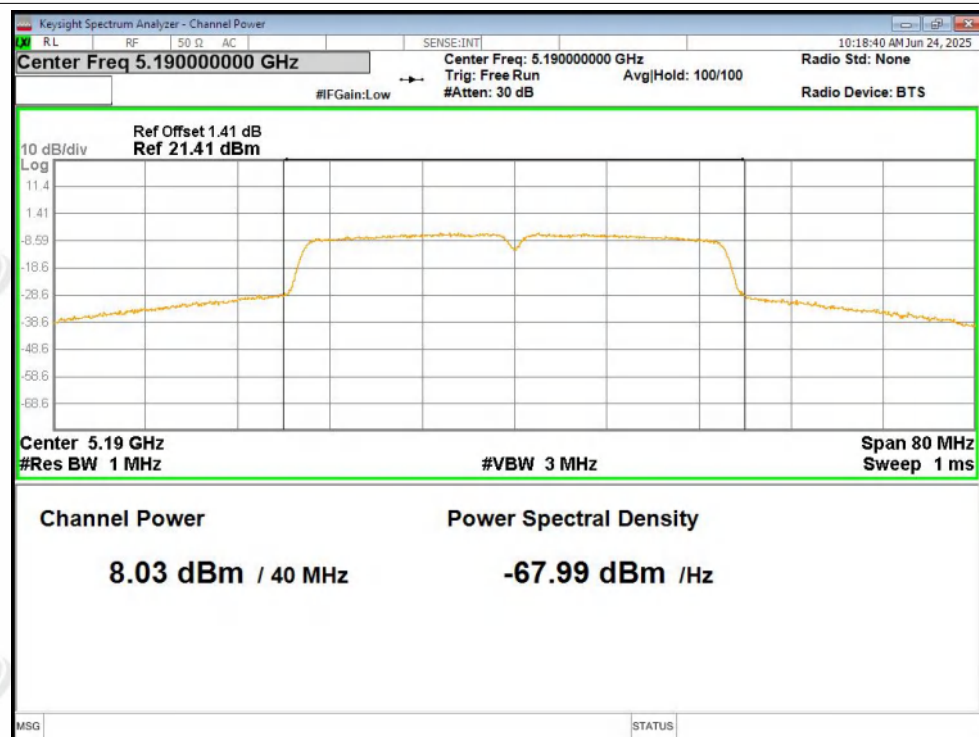


Power NVNT n20 5240MHz Ant1

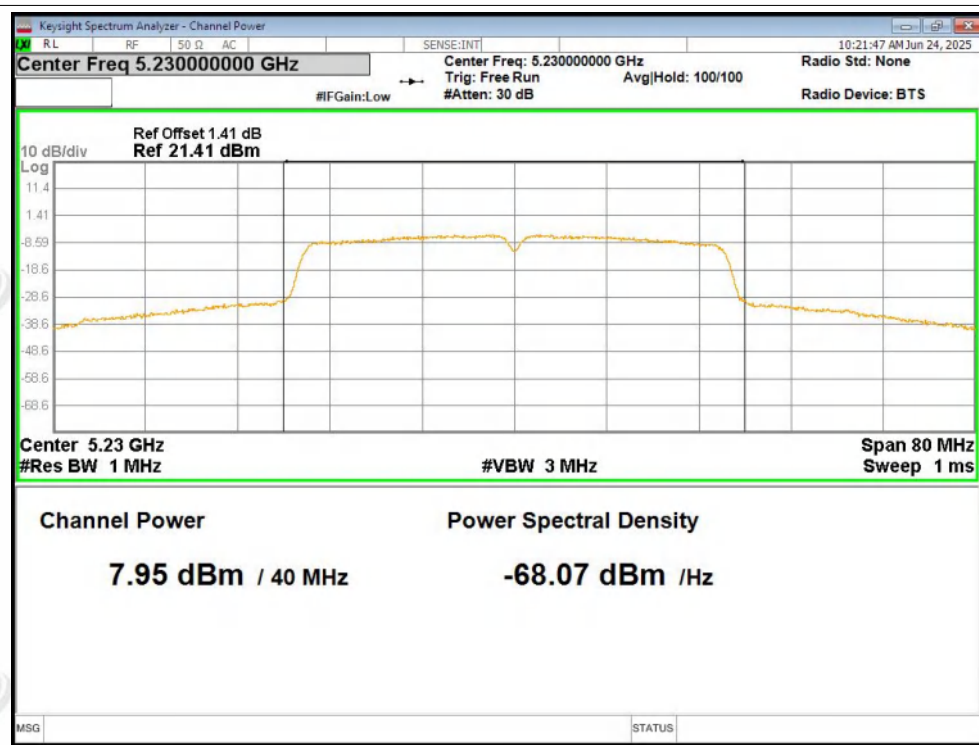




Power NVNT n40 5190MHz Ant1

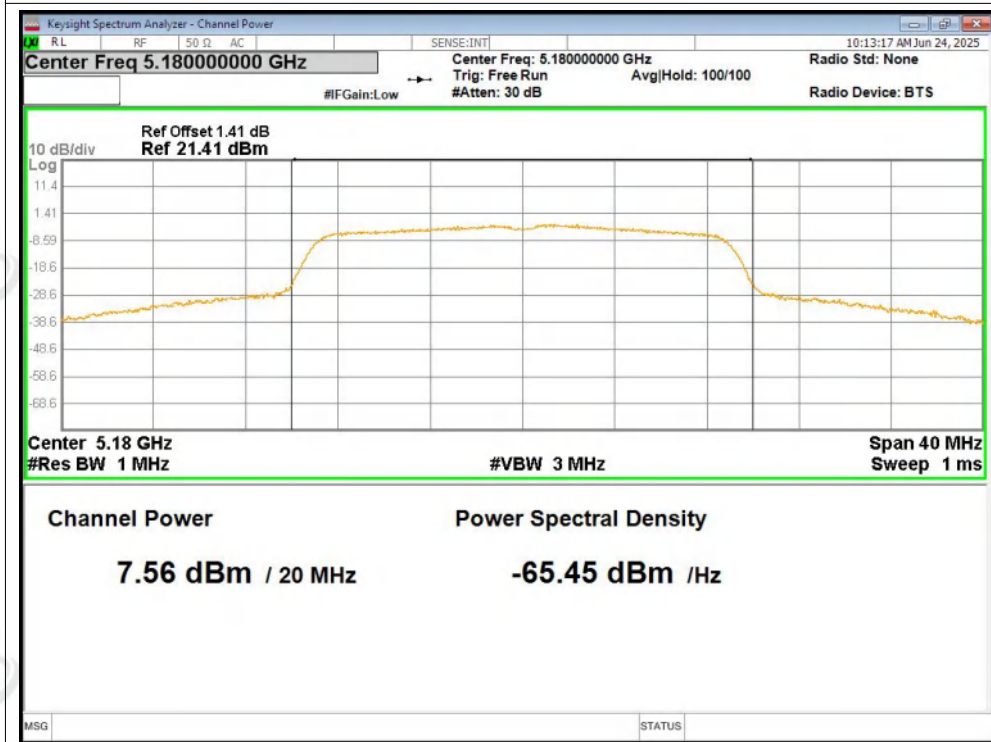


Power NVNT n40 5230MHz Ant1

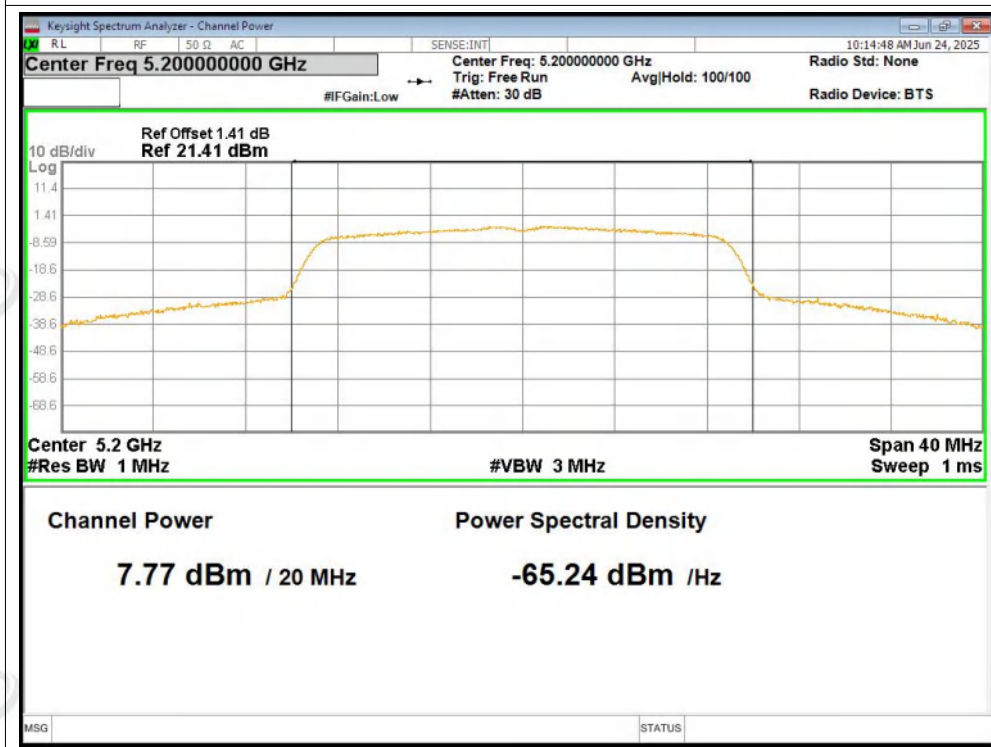




Power NVNT ac20 5180MHz Ant1

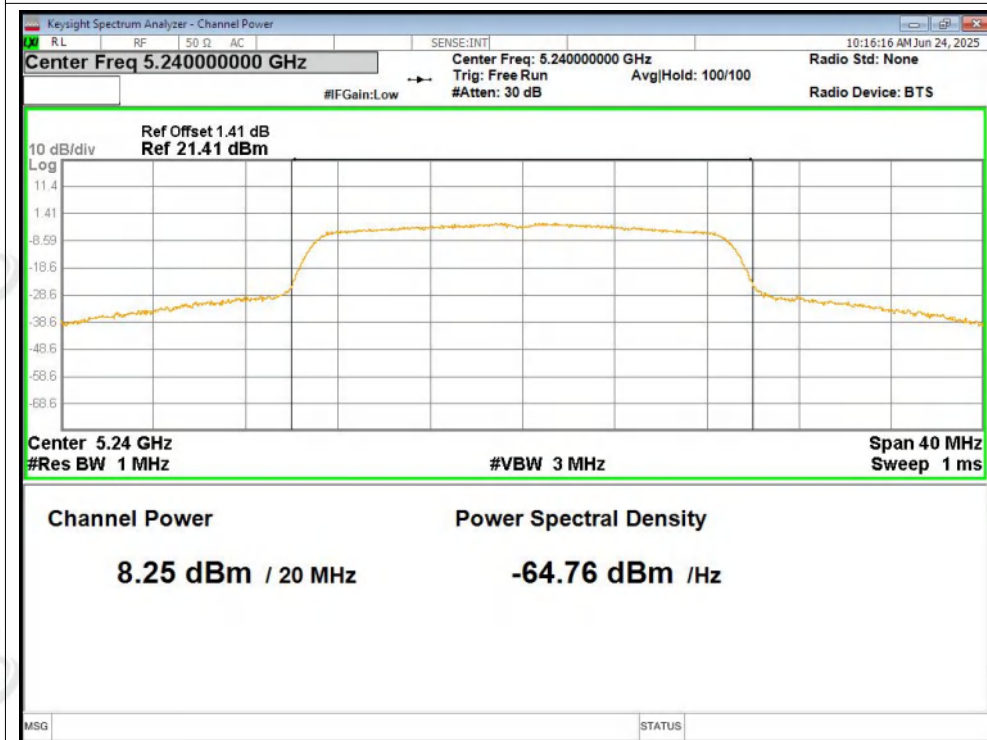


Power NVNT ac20 5200MHz Ant1

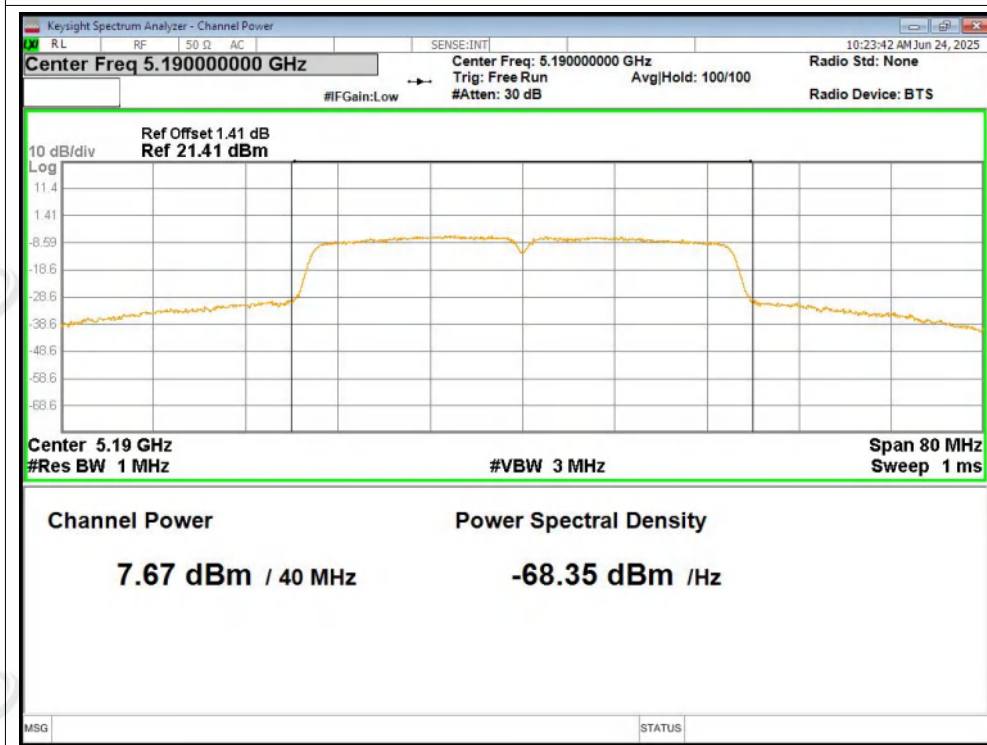


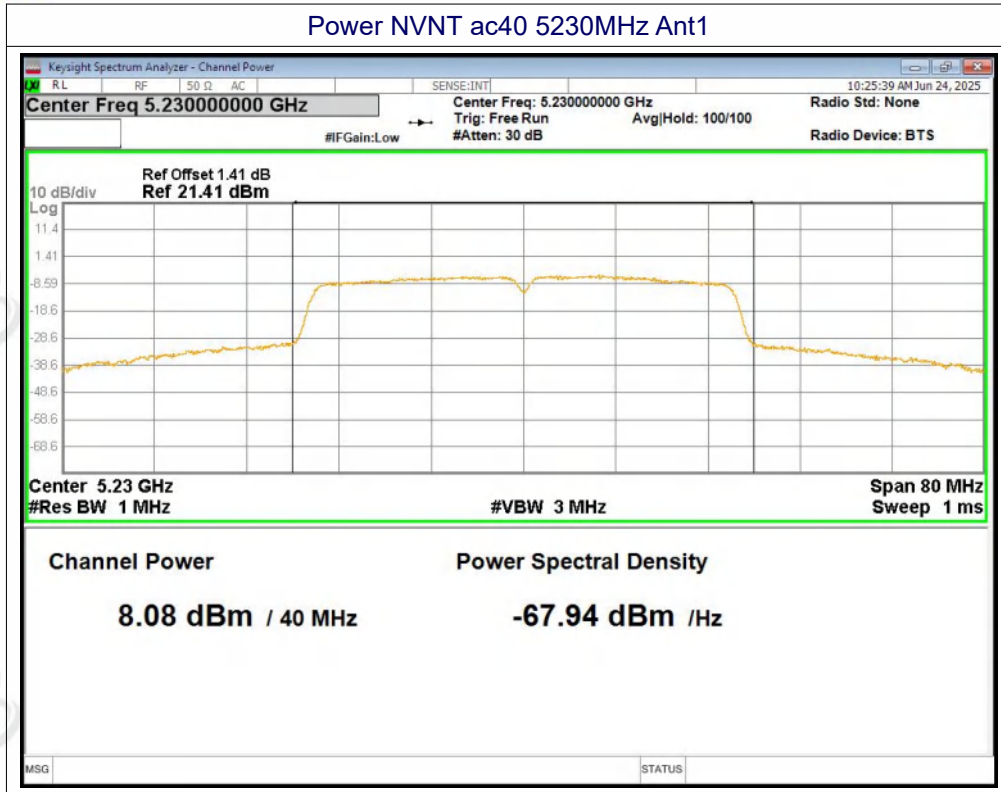


Power NVNT ac20 5240MHz Ant1



Power NVNT ac40 5190MHz Ant1





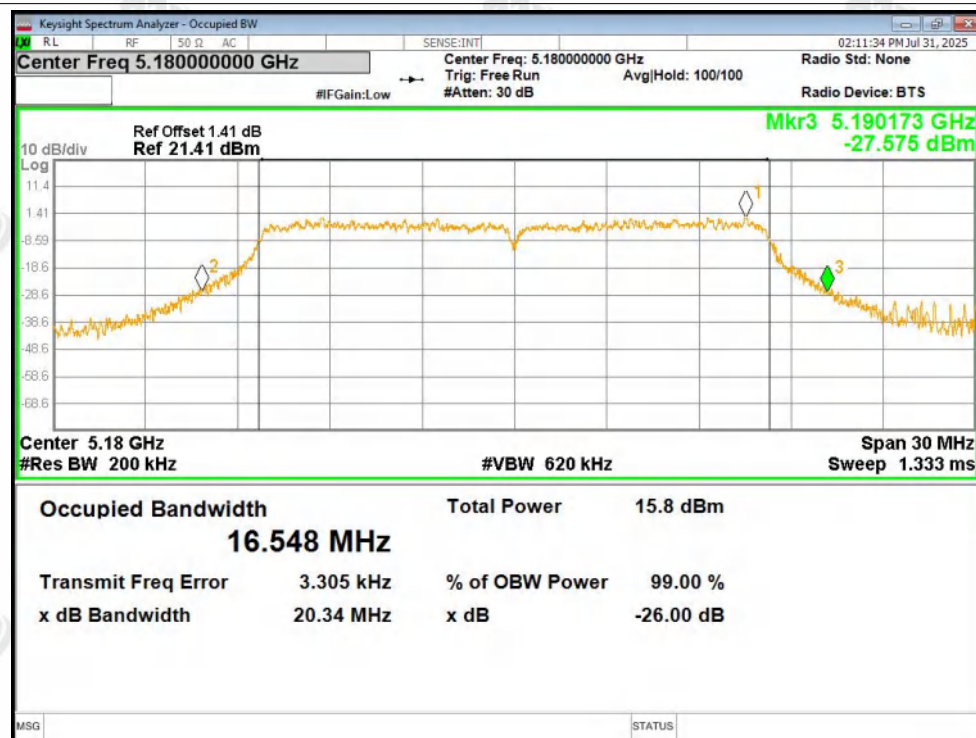
**ZHONGHAN****-26dB Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	20.339	Pass
NVNT	a	5200	Ant1	20.326	Pass
NVNT	a	5240	Ant1	20.409	Pass
NVNT	n20	5180	Ant1	21.06	Pass
NVNT	n20	5200	Ant1	20.691	Pass
NVNT	n20	5240	Ant1	21.048	Pass
NVNT	n40	5190	Ant1	40.722	Pass
NVNT	n40	5230	Ant1	41.017	Pass
NVNT	ac20	5180	Ant1	20.74	Pass
NVNT	ac20	5200	Ant1	21.065	Pass
NVNT	ac20	5240	Ant1	20.951	Pass
NVNT	ac40	5190	Ant1	41.16	Pass
NVNT	ac40	5230	Ant1	41.244	Pass

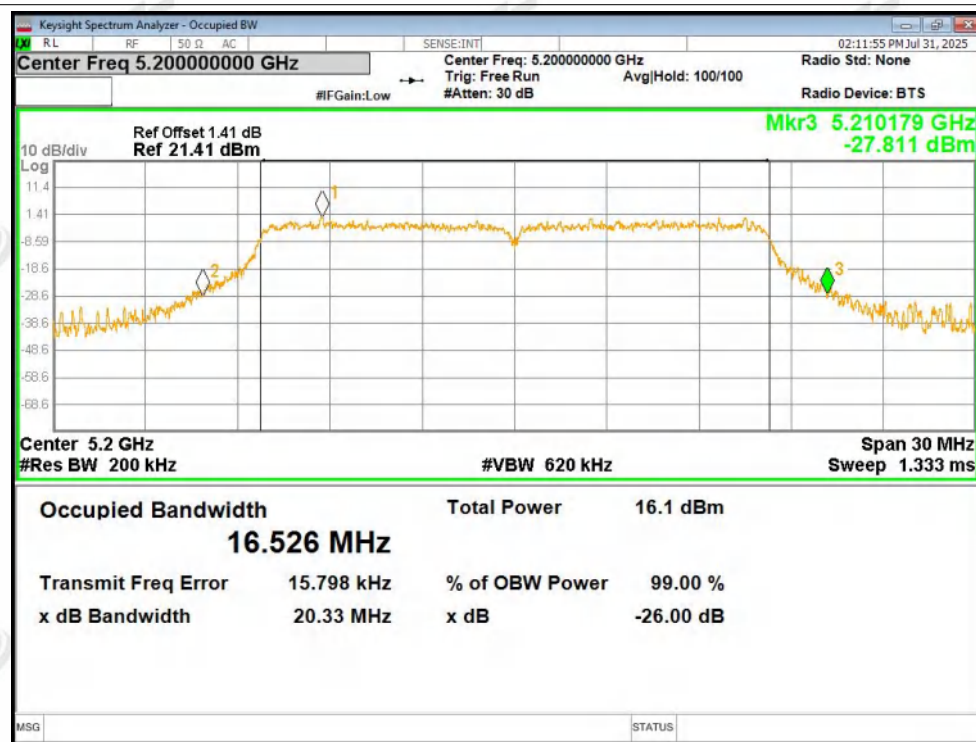


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant1

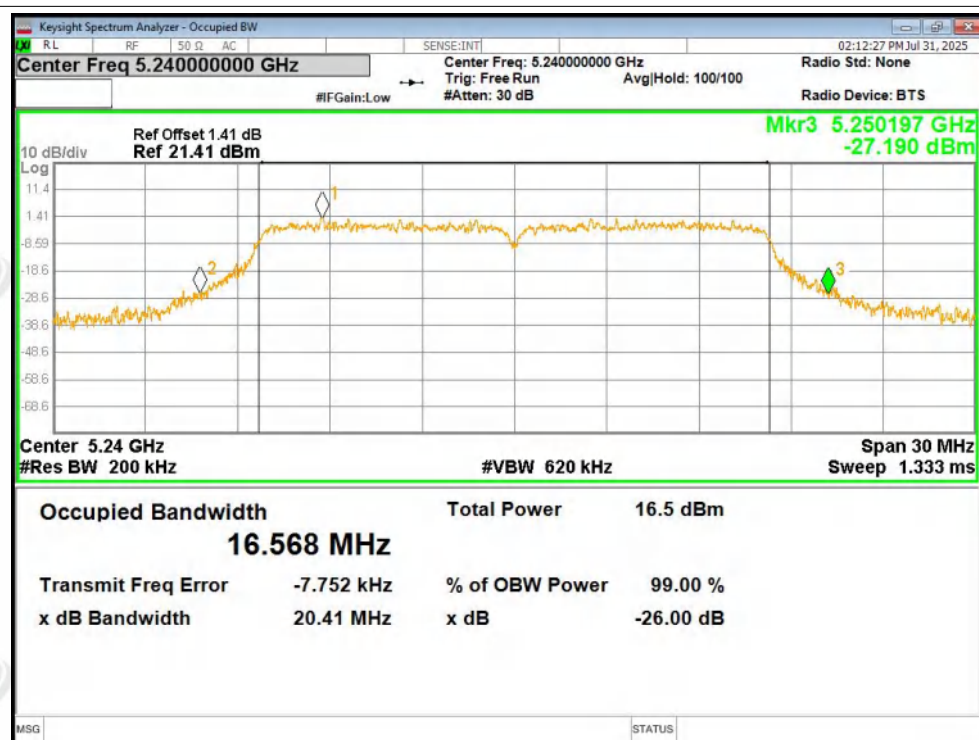


-26dB Bandwidth NVNT a 5200MHz Ant1

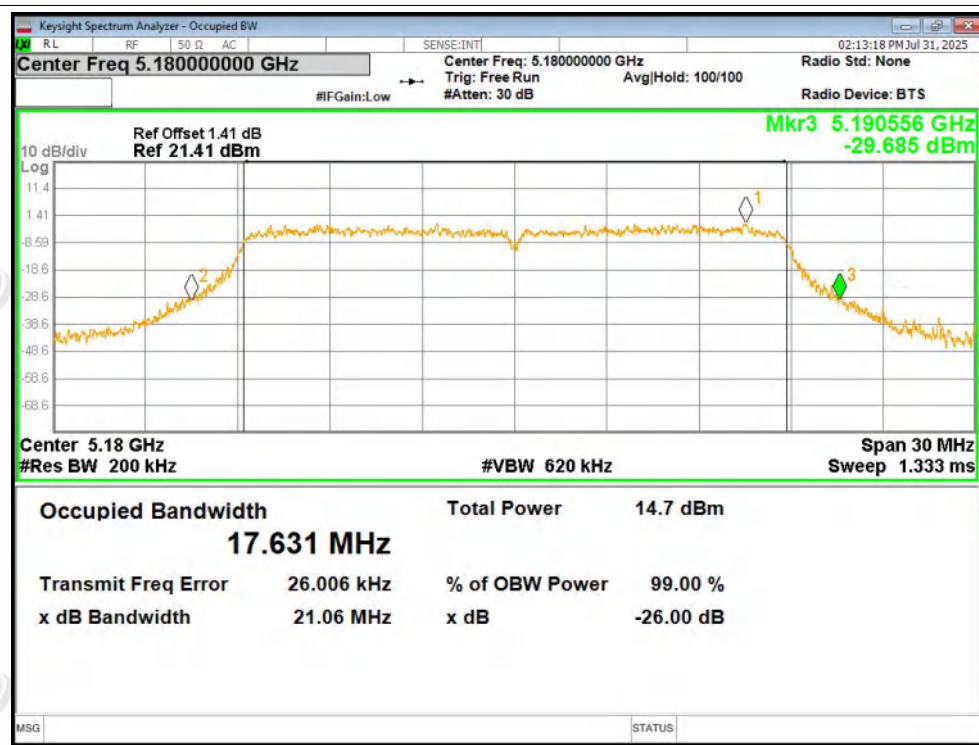




-26dB Bandwidth NVNT a 5240MHz Ant1

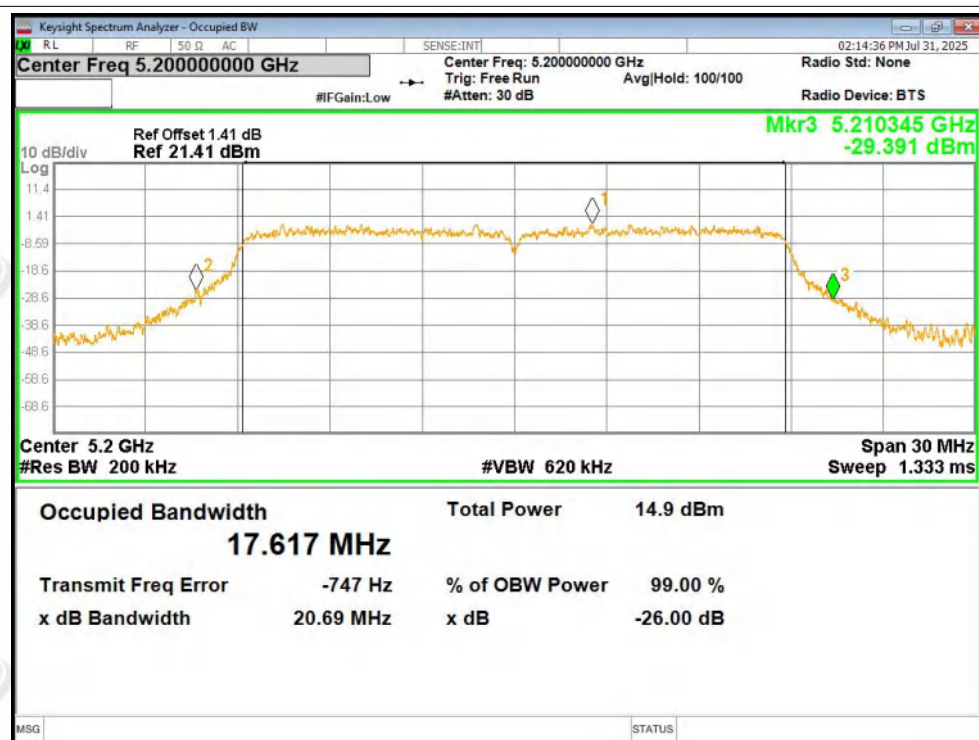


-26dB Bandwidth NVNT n20 5180MHz Ant1





-26dB Bandwidth NVNT n20 5200MHz Ant1

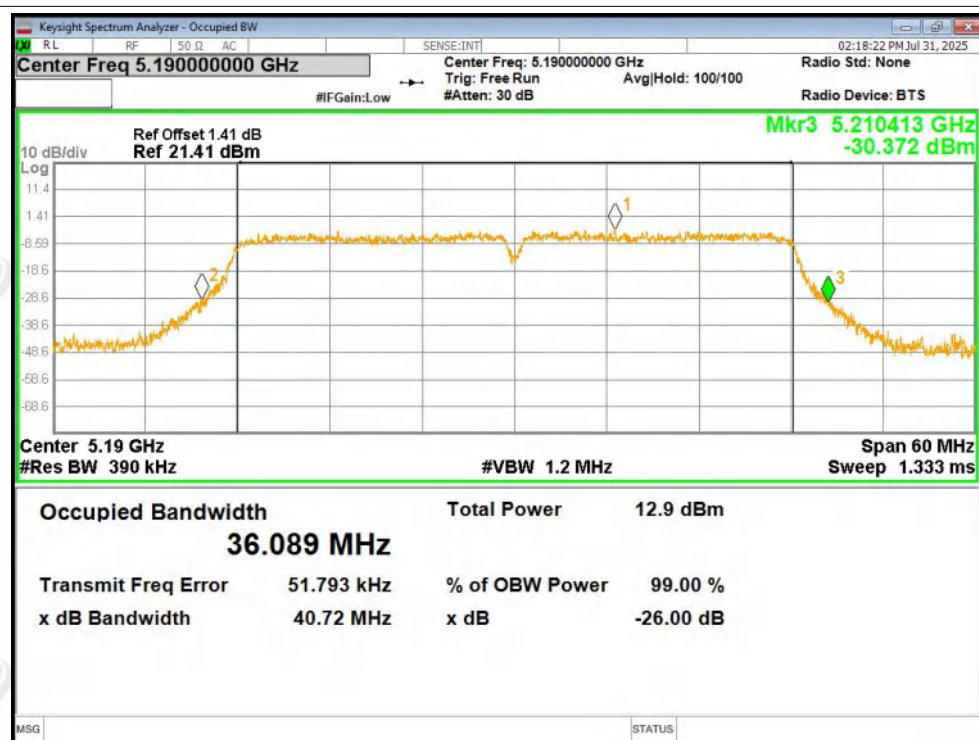


-26dB Bandwidth NVNT n20 5240MHz Ant1

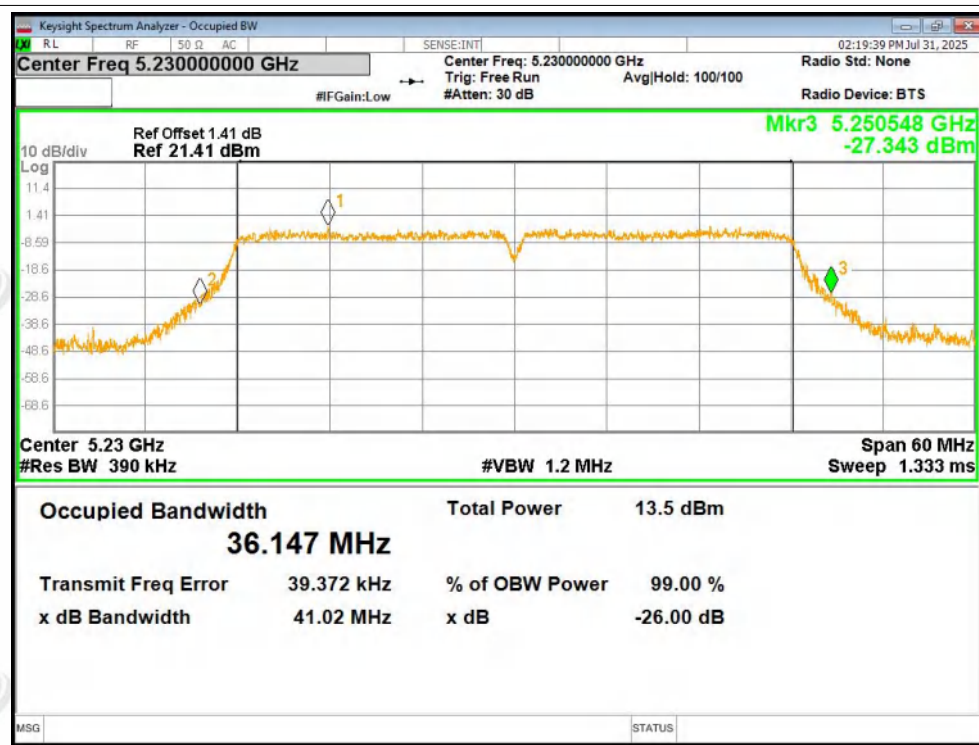




-26dB Bandwidth NVNT n40 5190MHz Ant1



-26dB Bandwidth NVNT n40 5230MHz Ant1





-26dB Bandwidth NVNT ac20 5180MHz Ant1

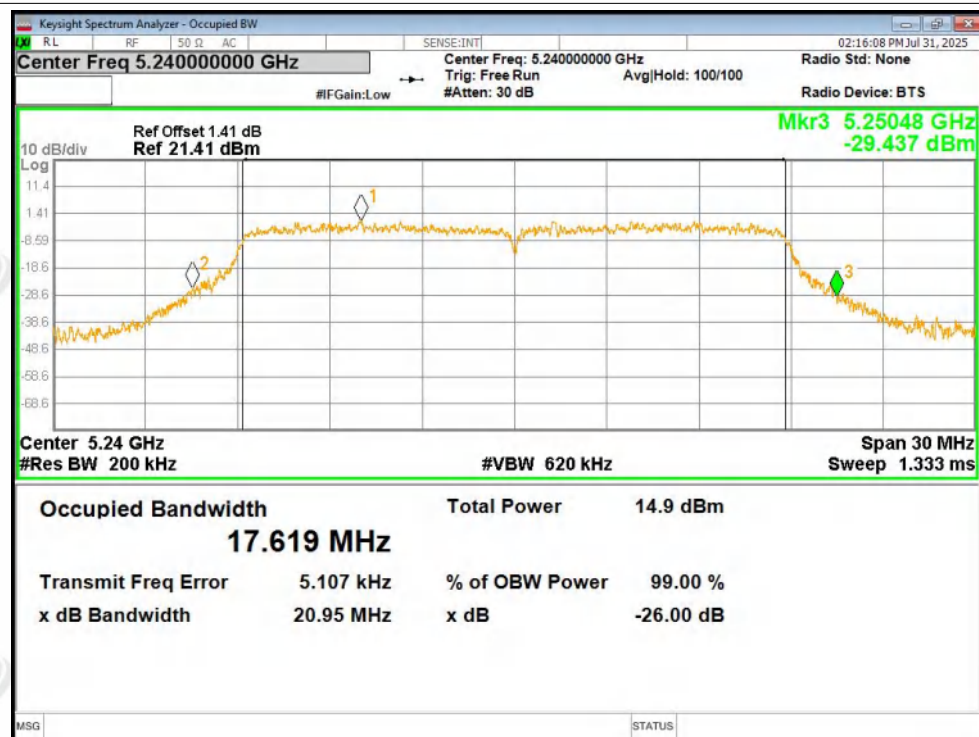


-26dB Bandwidth NVNT ac20 5200MHz Ant1

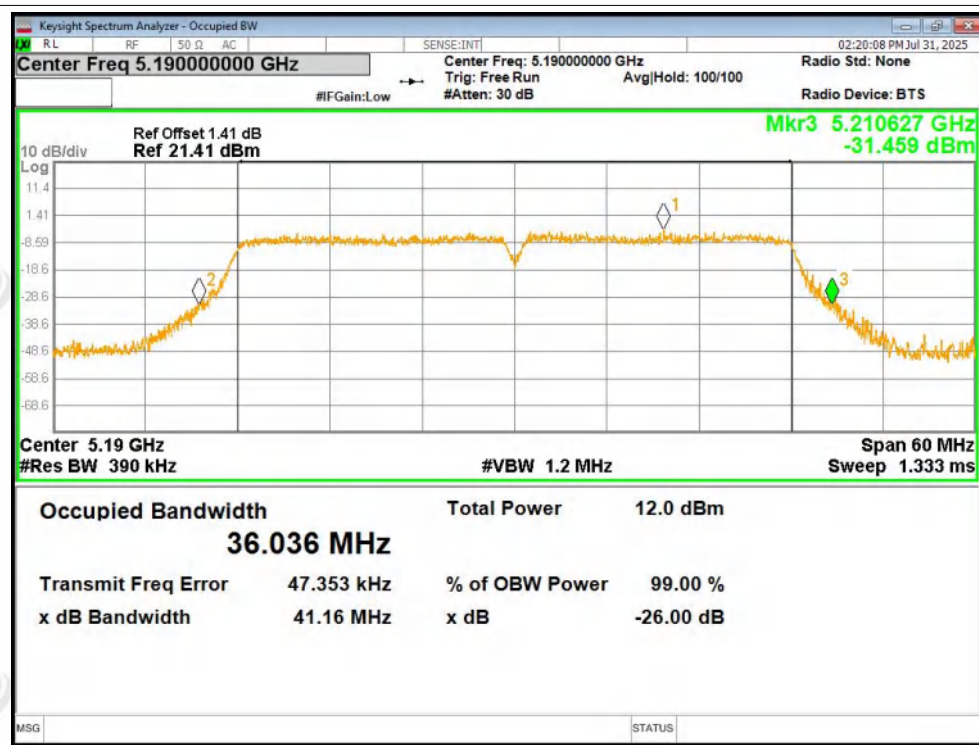




-26dB Bandwidth NVNT ac20 5240MHz Ant1

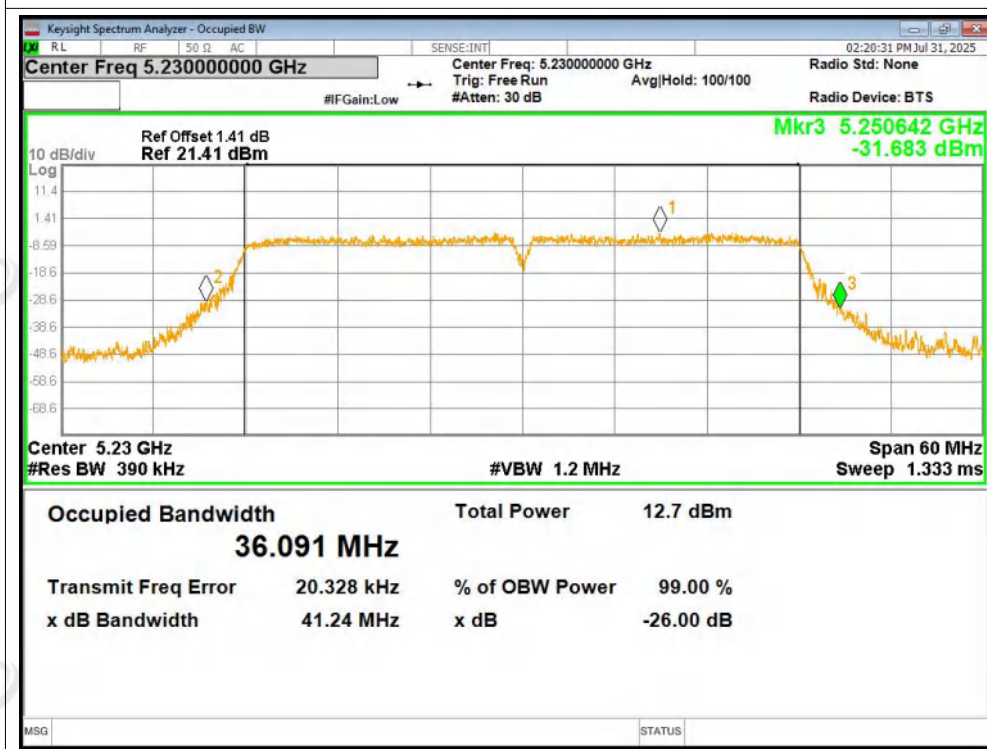


-26dB Bandwidth NVNT ac40 5190MHz Ant1





-26dB Bandwidth NVNT ac40 5230MHz Ant1



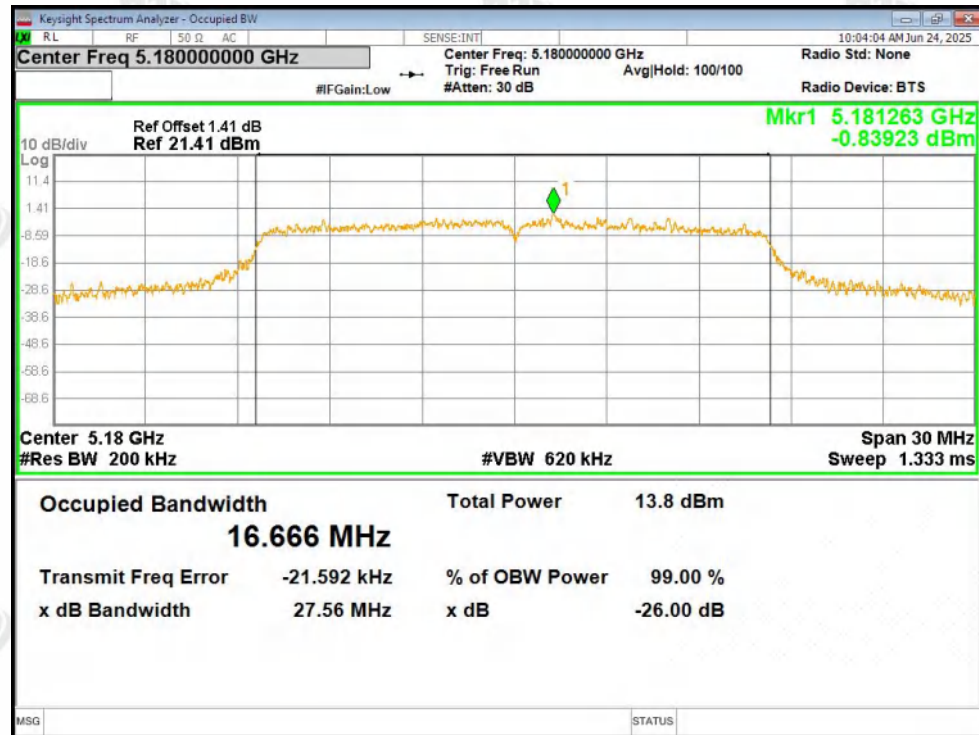
**ZHONGHAN****Occupied Channel Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5180	Ant1	16.666
NVNT	a	5200	Ant1	16.622
NVNT	a	5240	Ant1	16.589
NVNT	n20	5180	Ant1	17.708
NVNT	n20	5200	Ant1	17.685
NVNT	n20	5240	Ant1	17.654
NVNT	n40	5190	Ant1	36.251
NVNT	n40	5230	Ant1	36.111
NVNT	ac20	5180	Ant1	17.703
NVNT	ac20	5200	Ant1	17.69
NVNT	ac20	5240	Ant1	17.634
NVNT	ac40	5190	Ant1	36.266
NVNT	ac40	5230	Ant1	36.137

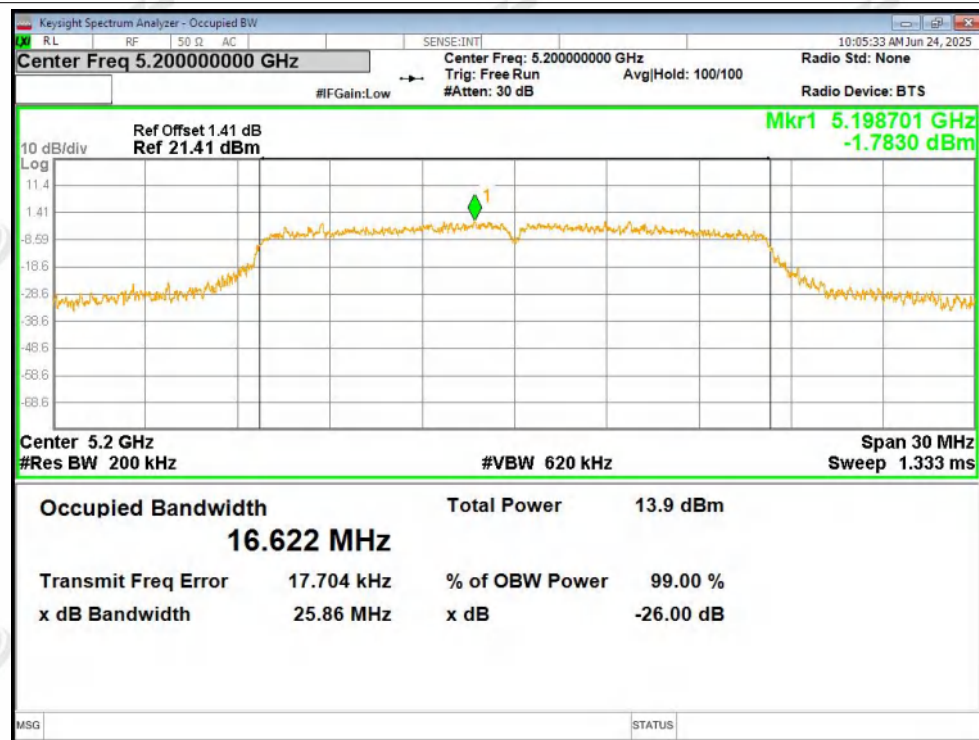


Test Graphs

OBW NVNT a 5180MHz Ant1

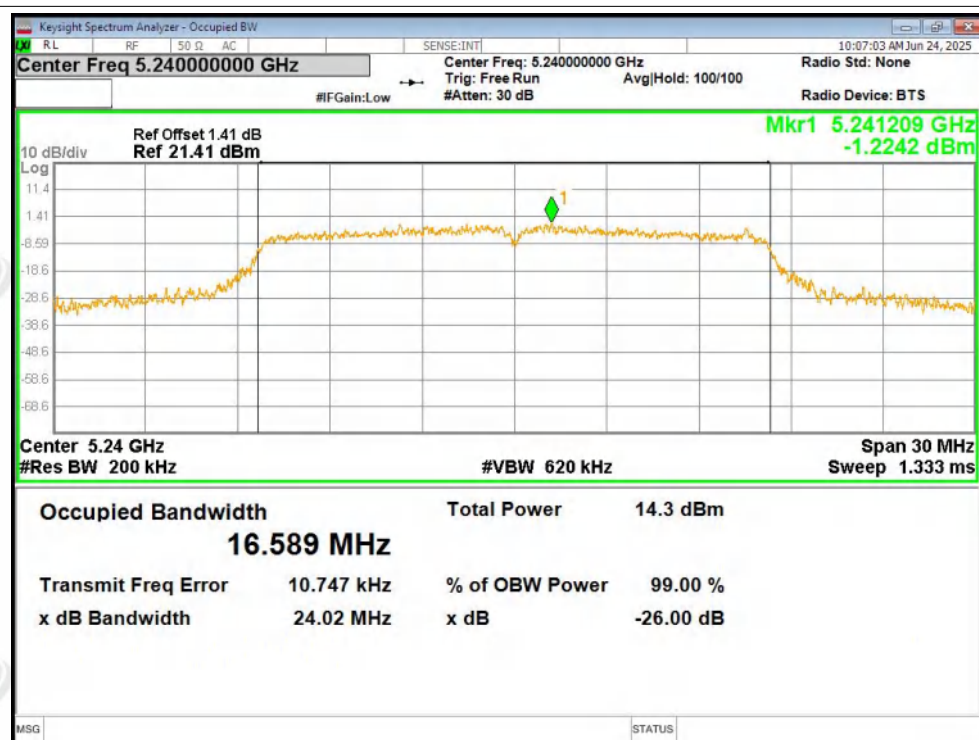


OBW NVNT a 5200MHz Ant1

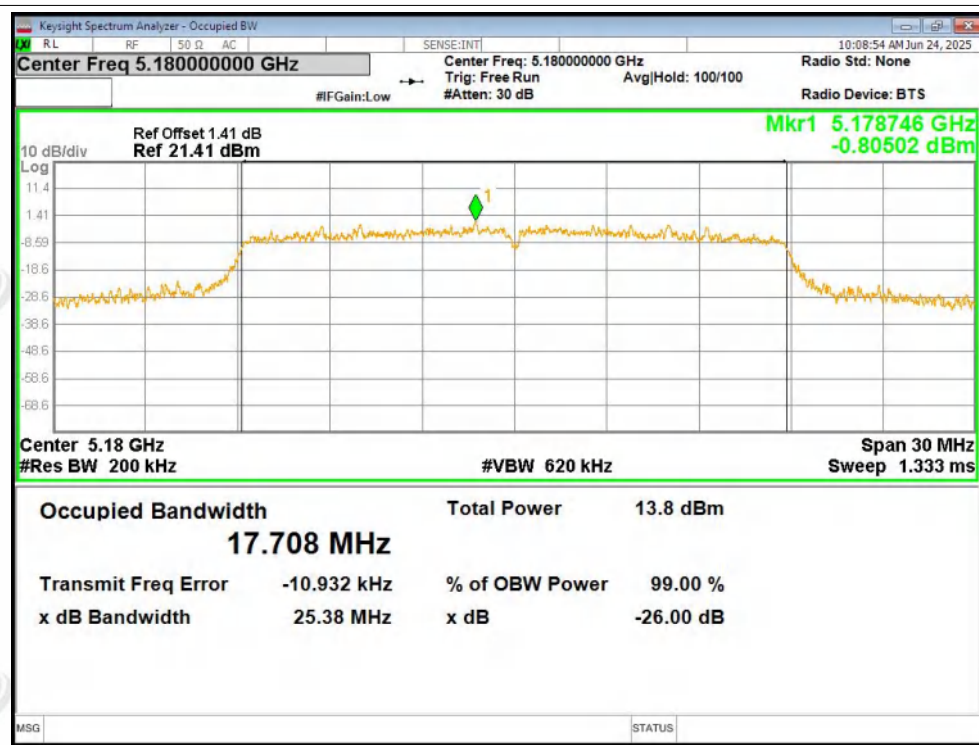




OBW NVNT a 5240MHz Ant1

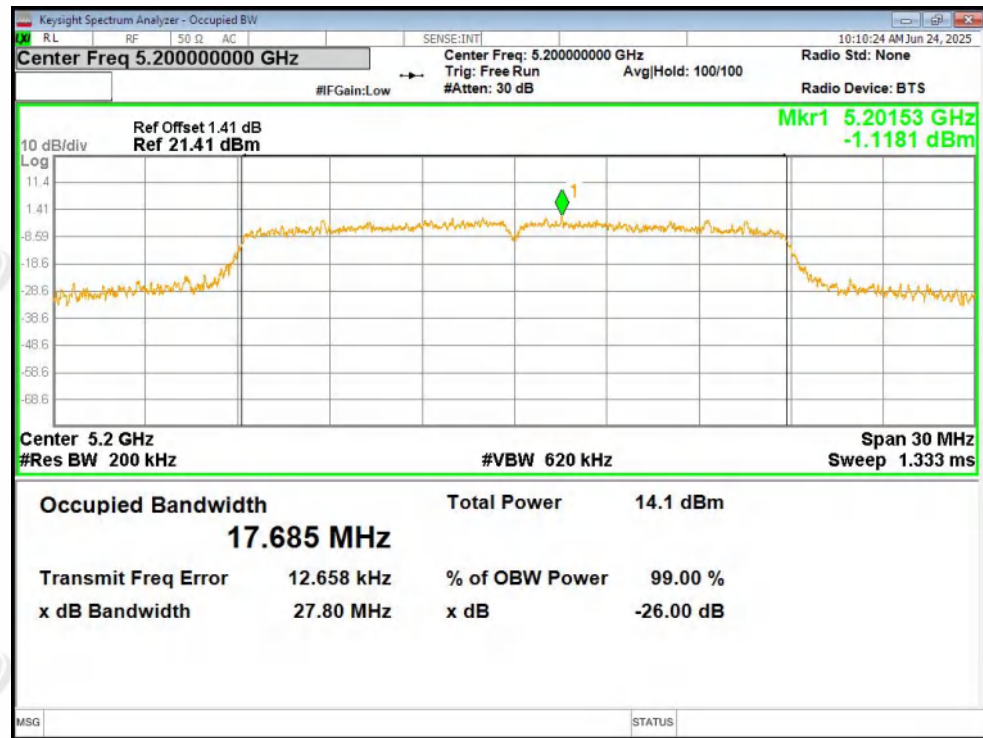


OBW NVNT n20 5180MHz Ant1

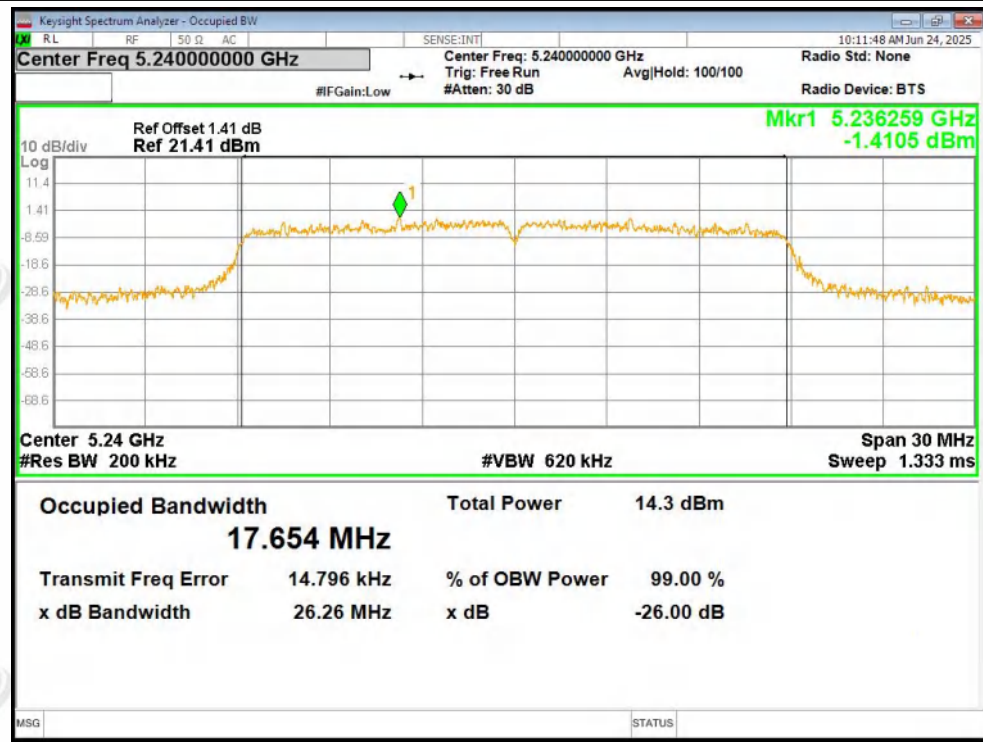




OBW NVNT n20 5200MHz Ant1

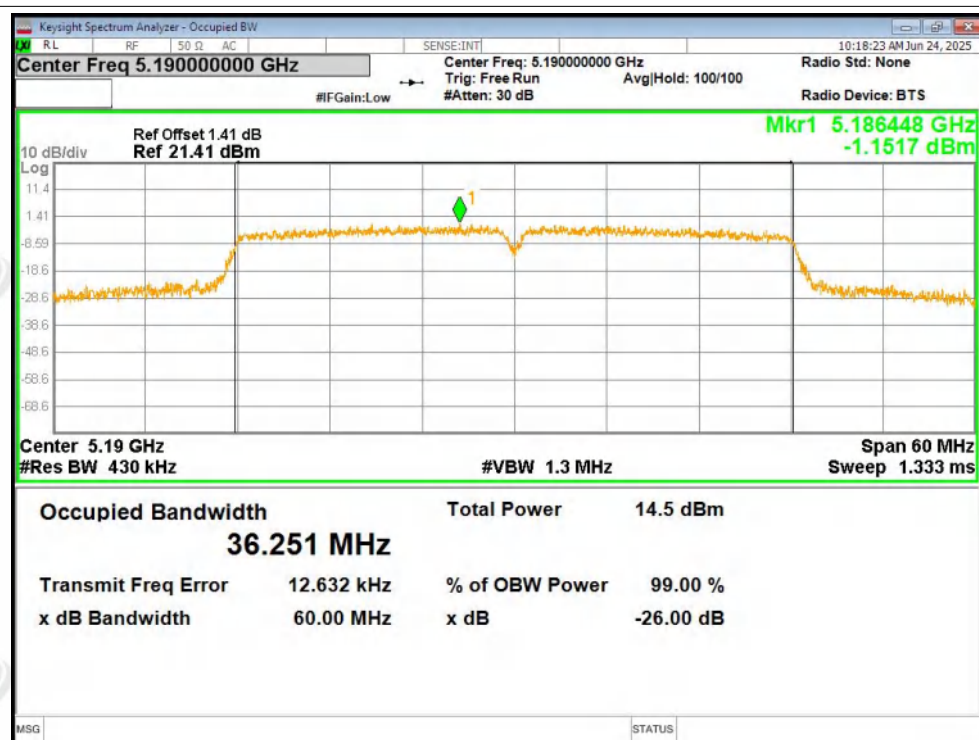


OBW NVNT n20 5240MHz Ant1

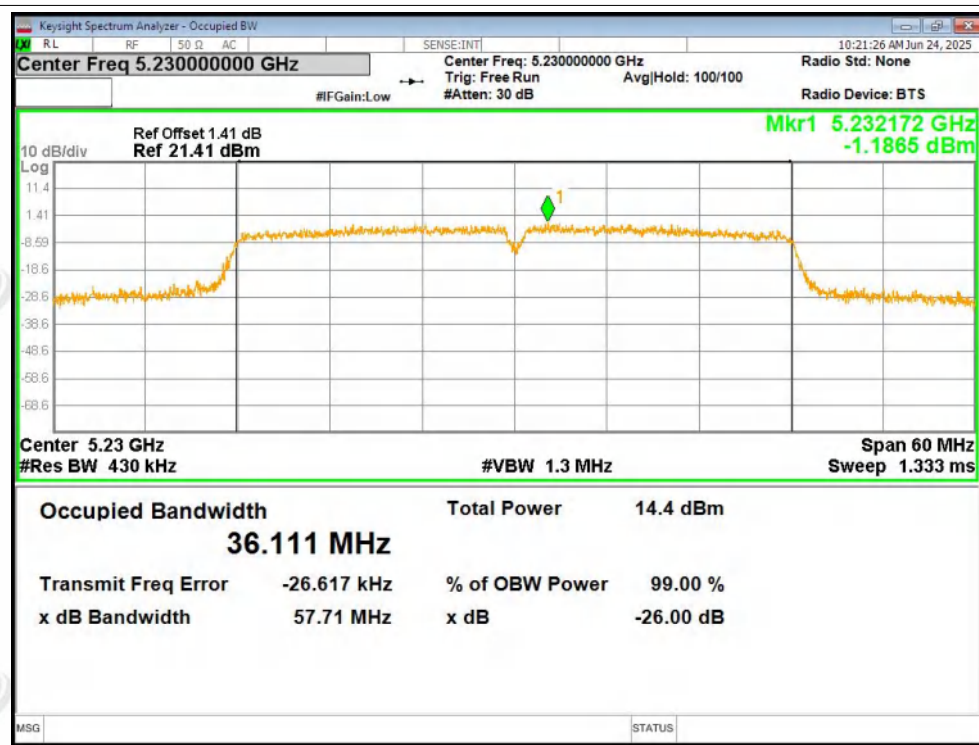




OBW NVNT n40 5190MHz Ant1

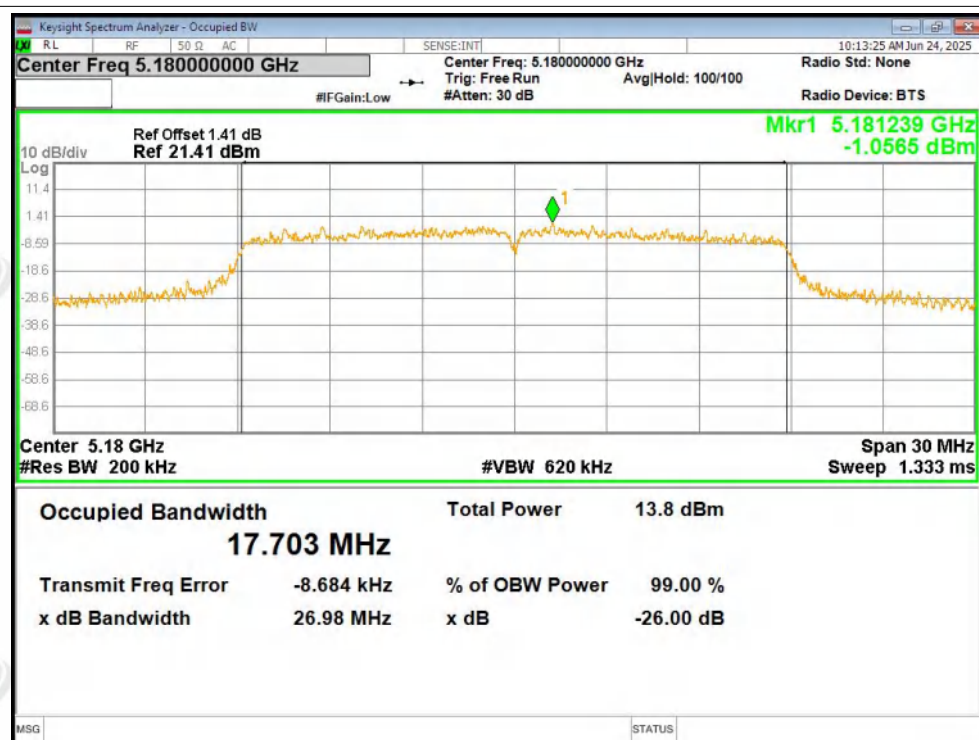


OBW NVNT n40 5230MHz Ant1

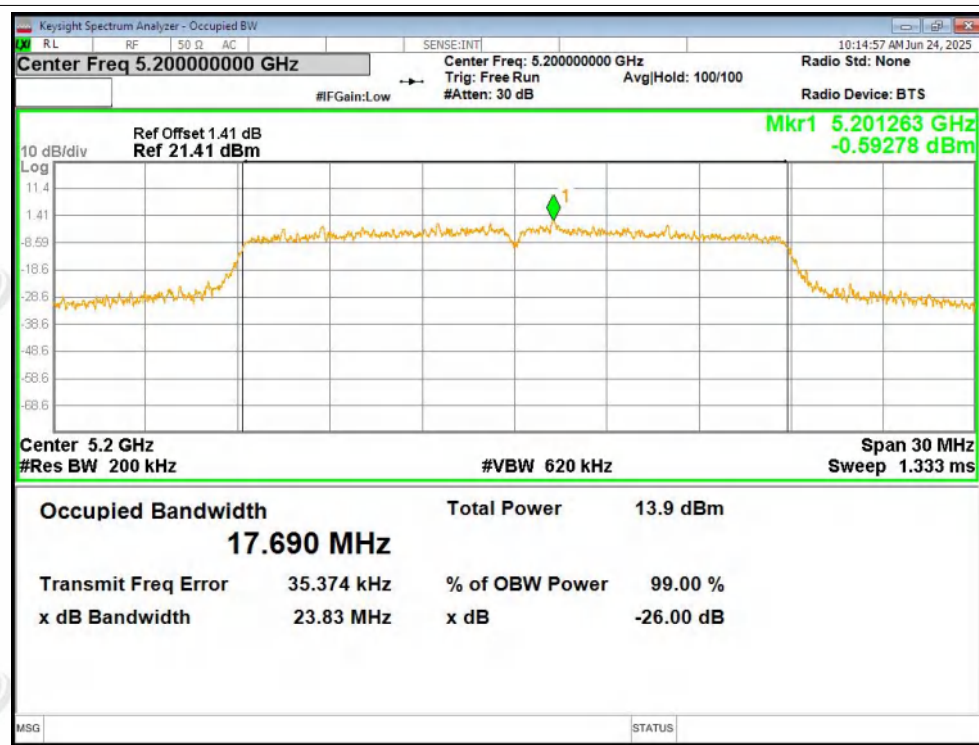




OBW NVNT ac20 5180MHz Ant1

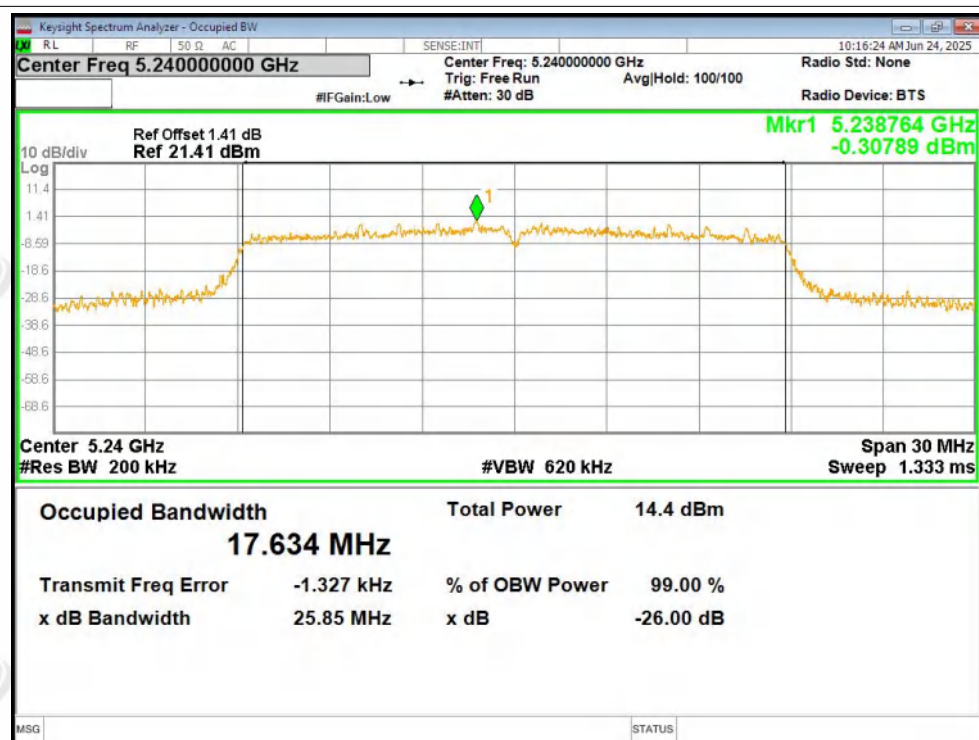


OBW NVNT ac20 5200MHz Ant1

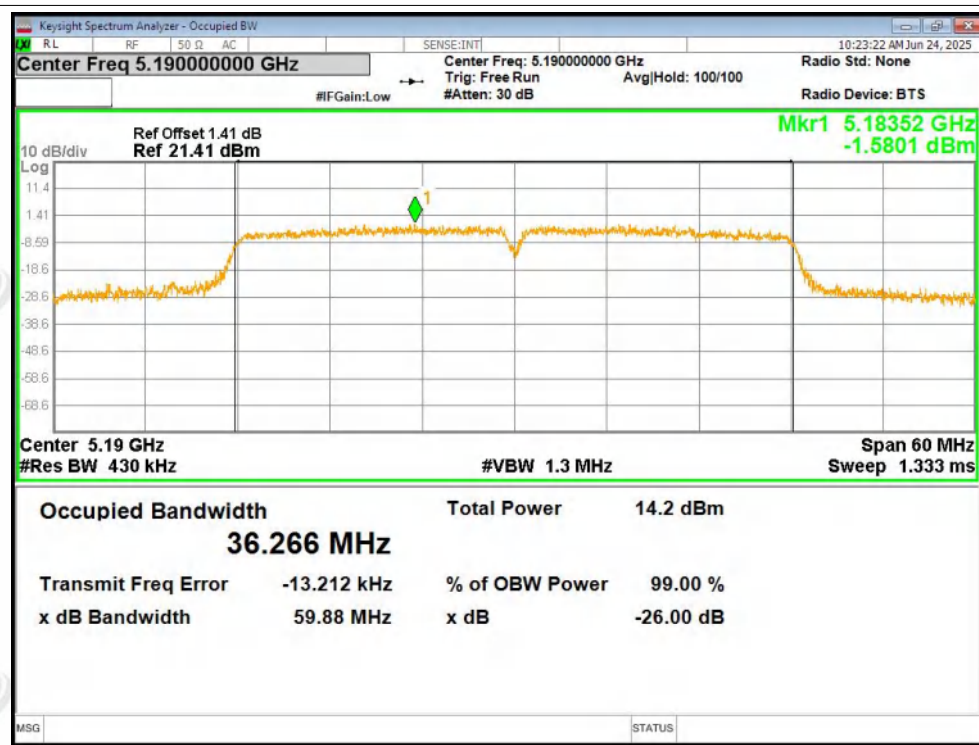




OBW NVNT ac20 5240MHz Ant1

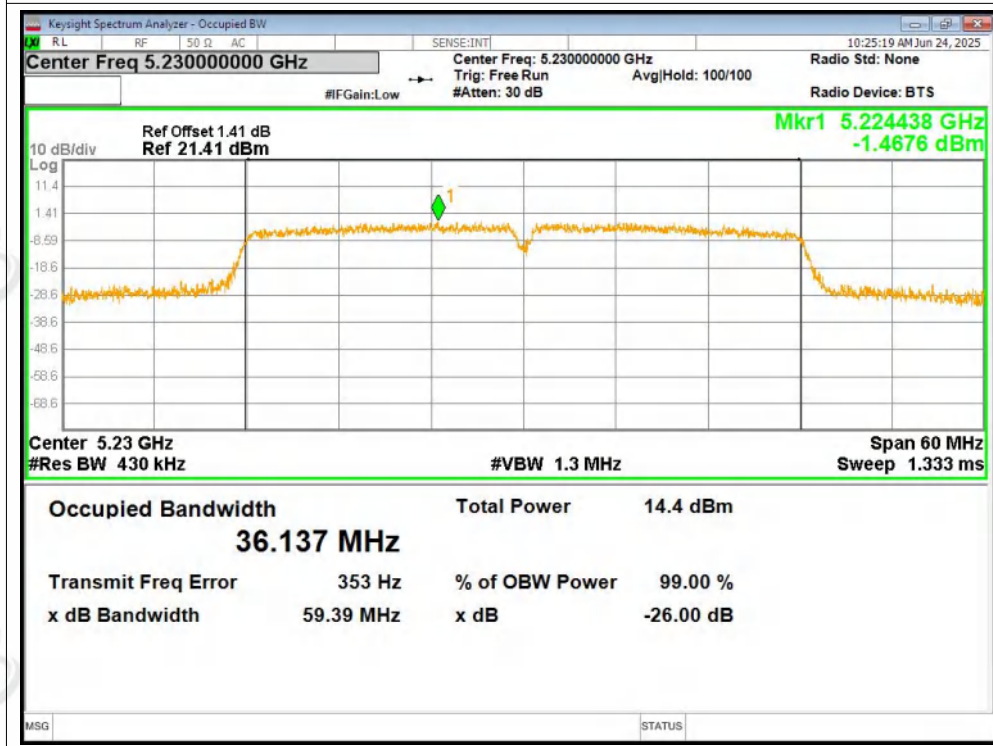


OBW NVNT ac40 5190MHz Ant1





OBW NVNT ac40 5230MHz Ant1





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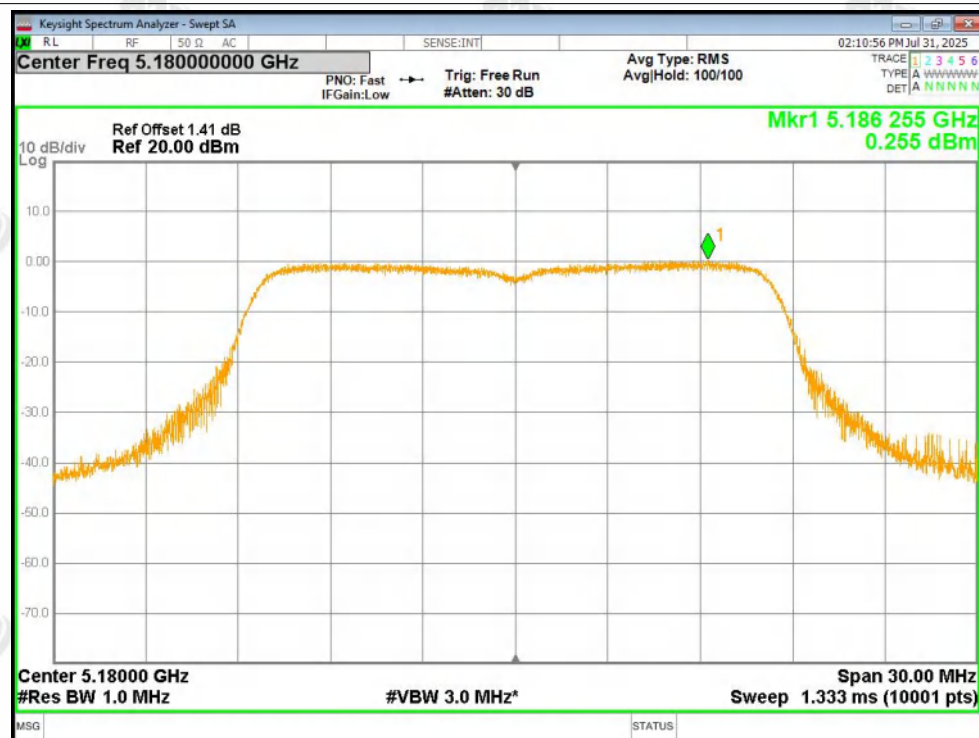
Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	0.26	0.5	0.76	11	Pass
NVNT	a	5200	Ant1	0.04	0.5	0.54	11	Pass
NVNT	a	5240	Ant1	0.37	0.5	0.87	11	Pass
NVNT	n20	5180	Ant1	-2.12	0.54	-1.58	11	Pass
NVNT	n20	5200	Ant1	-1.23	0.54	-0.69	11	Pass
NVNT	n20	5240	Ant1	-0.95	0.54	-0.41	11	Pass
NVNT	n40	5190	Ant1	-6.69	1.04	-5.65	11	Pass
NVNT	n40	5230	Ant1	-5.98	1.02	-4.96	11	Pass
NVNT	ac20	5180	Ant1	-2.51	0.54	-1.97	11	Pass
NVNT	ac20	5200	Ant1	-1.89	0.54	-1.35	11	Pass
NVNT	ac20	5240	Ant1	-4.35	0.54	-3.81	11	Pass
NVNT	ac40	5190	Ant1	-7.73	1.02	-6.71	11	Pass
NVNT	ac40	5230	Ant1	-6.99	1.02	-5.97	11	Pass

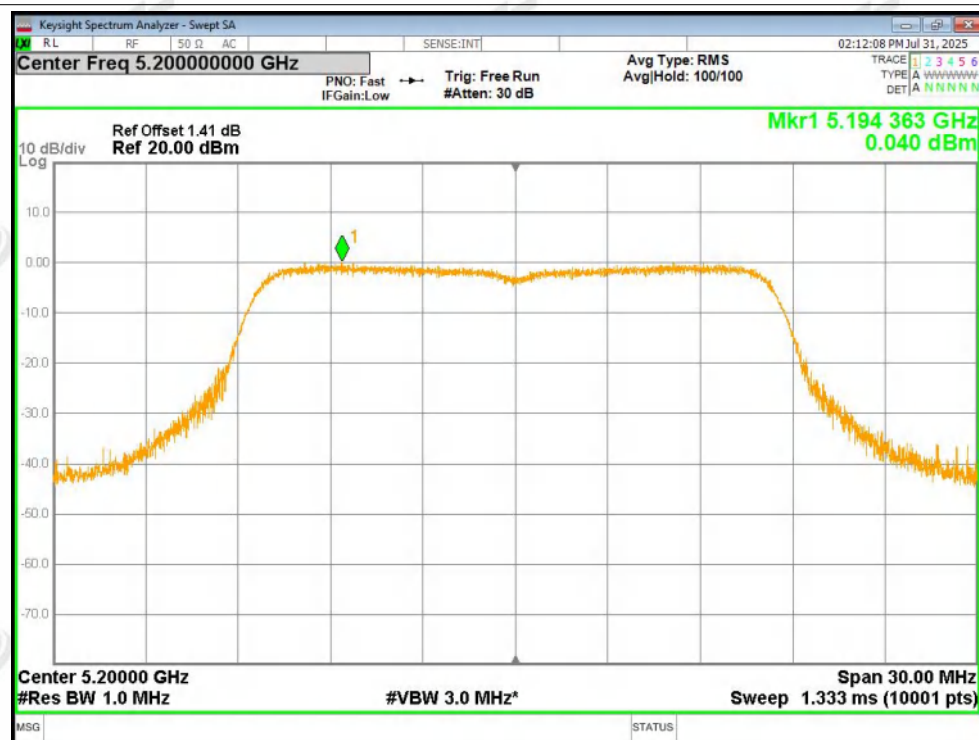


Test Graphs

PSD NVNT a 5180MHz Ant1

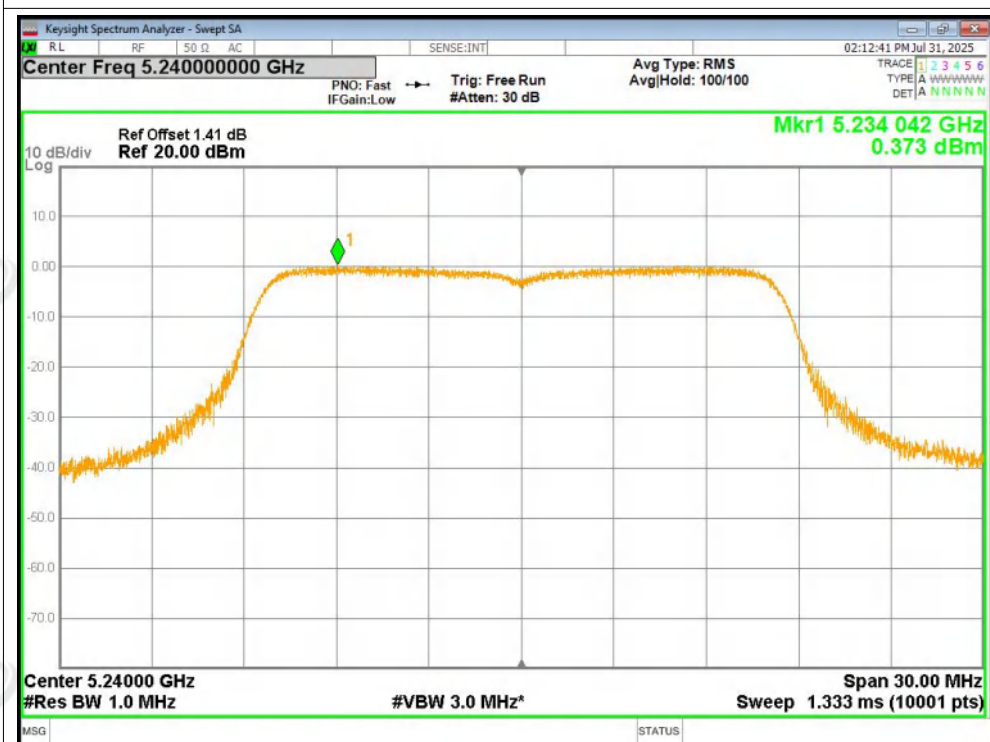


PSD NVNT a 5200MHz Ant1

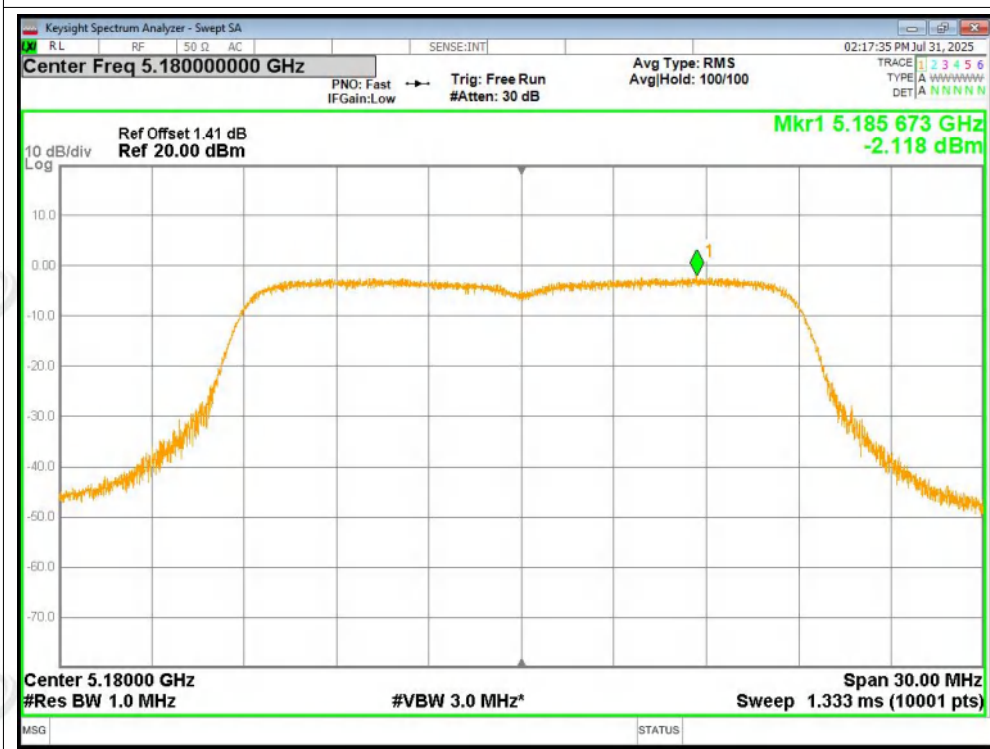




PSD NVNT a 5240MHz Ant1

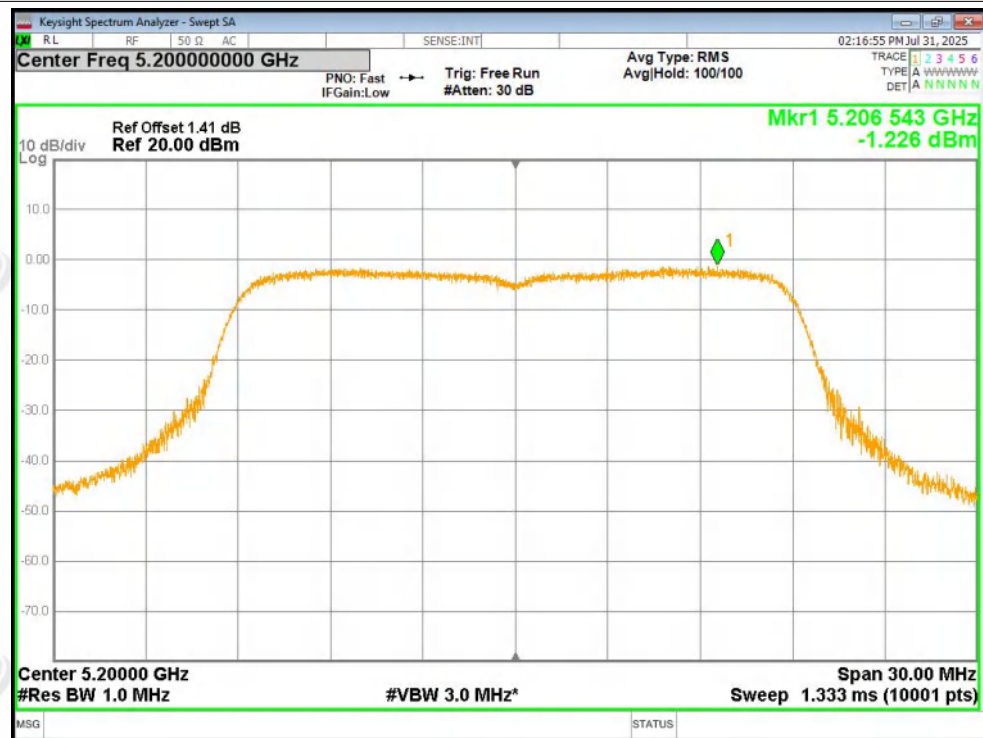


PSD NVNT n20 5180MHz Ant1

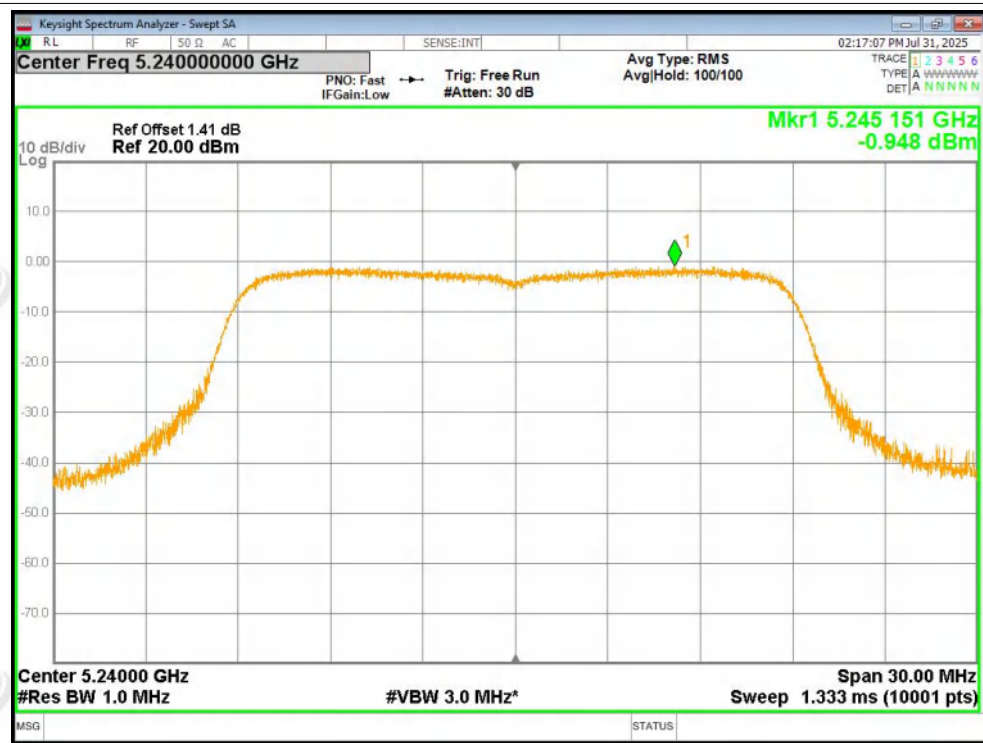




PSD NVNT n20 5200MHz Ant1

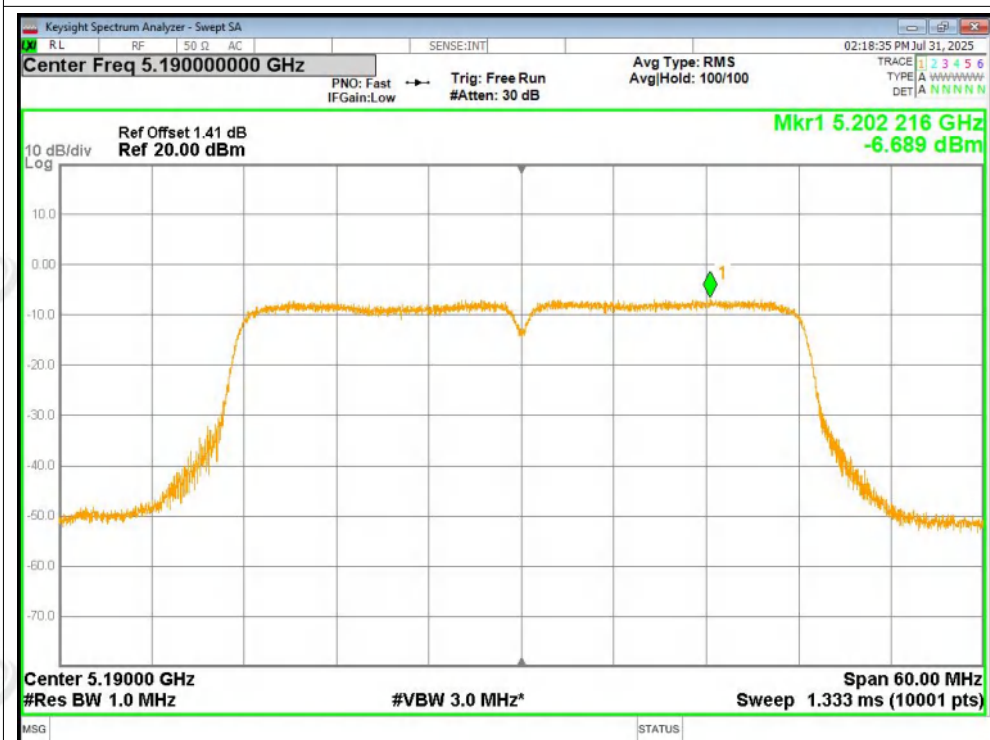


PSD NVNT n20 5240MHz Ant1

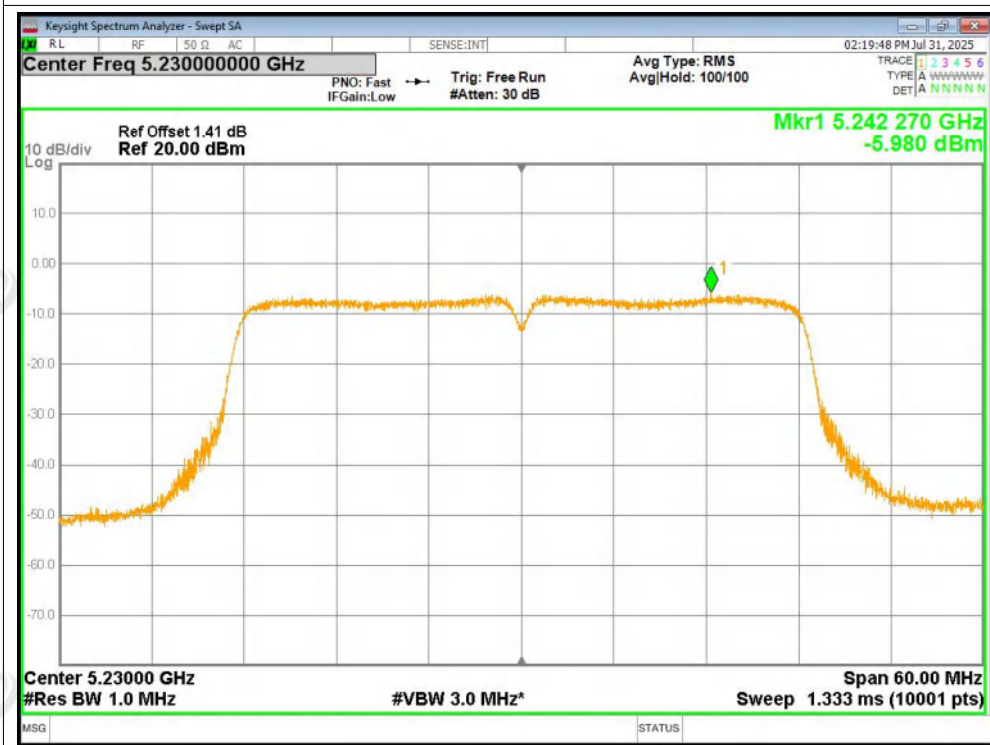




PSD NVNT n40 5190MHz Ant1

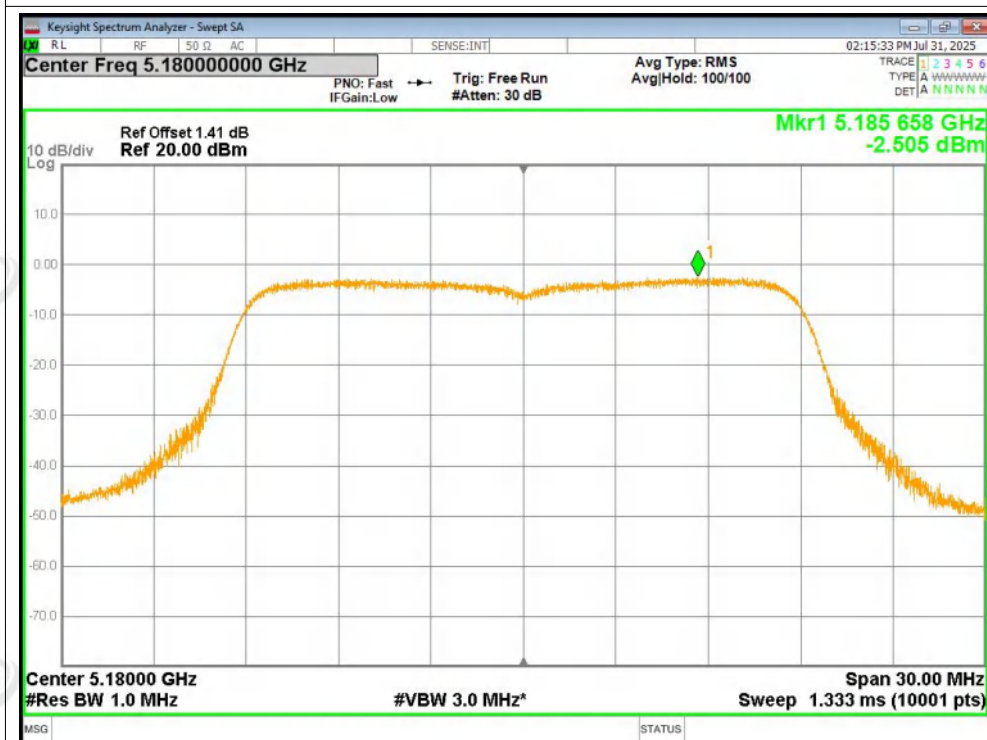


PSD NVNT n40 5230MHz Ant1

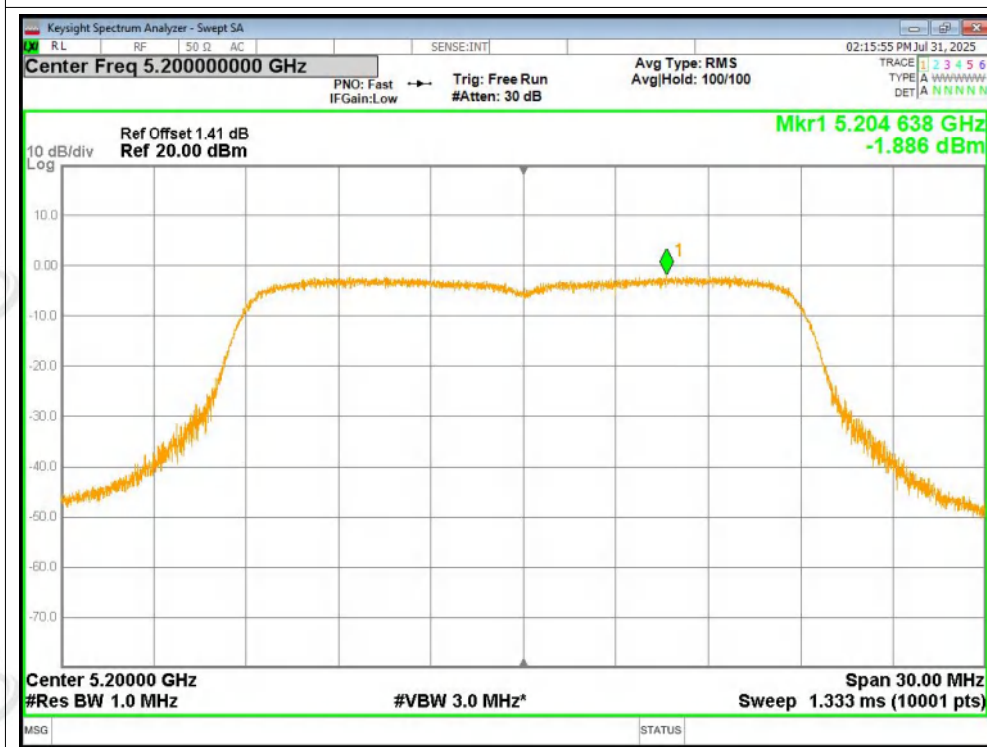




PSD NVNT ac20 5180MHz Ant1

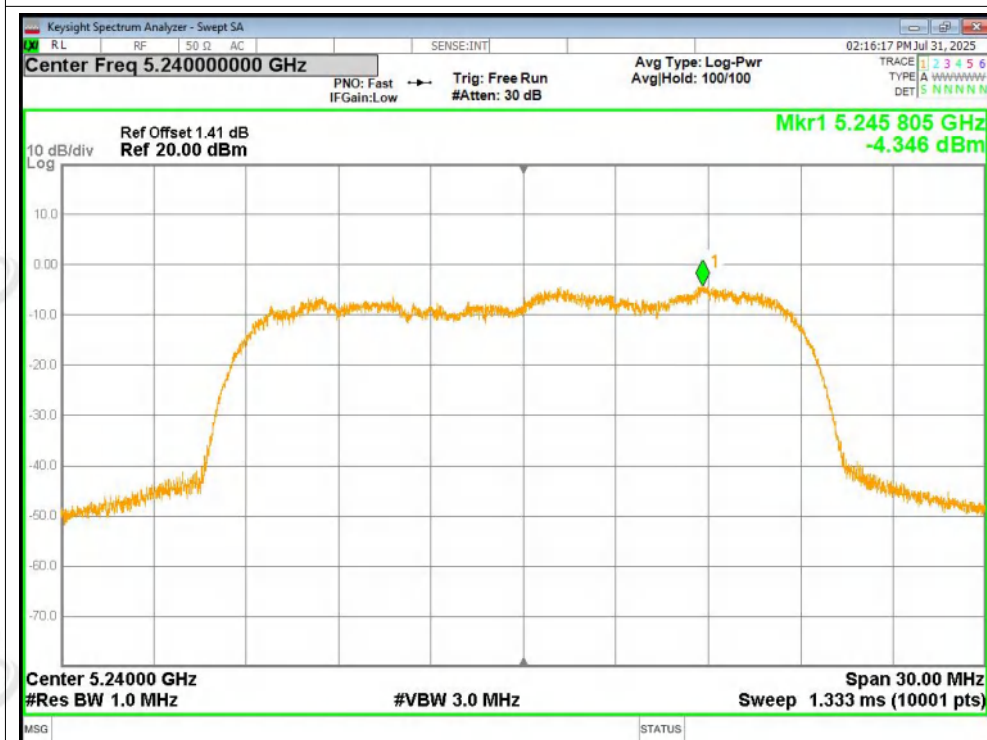


PSD NVNT ac20 5200MHz Ant1

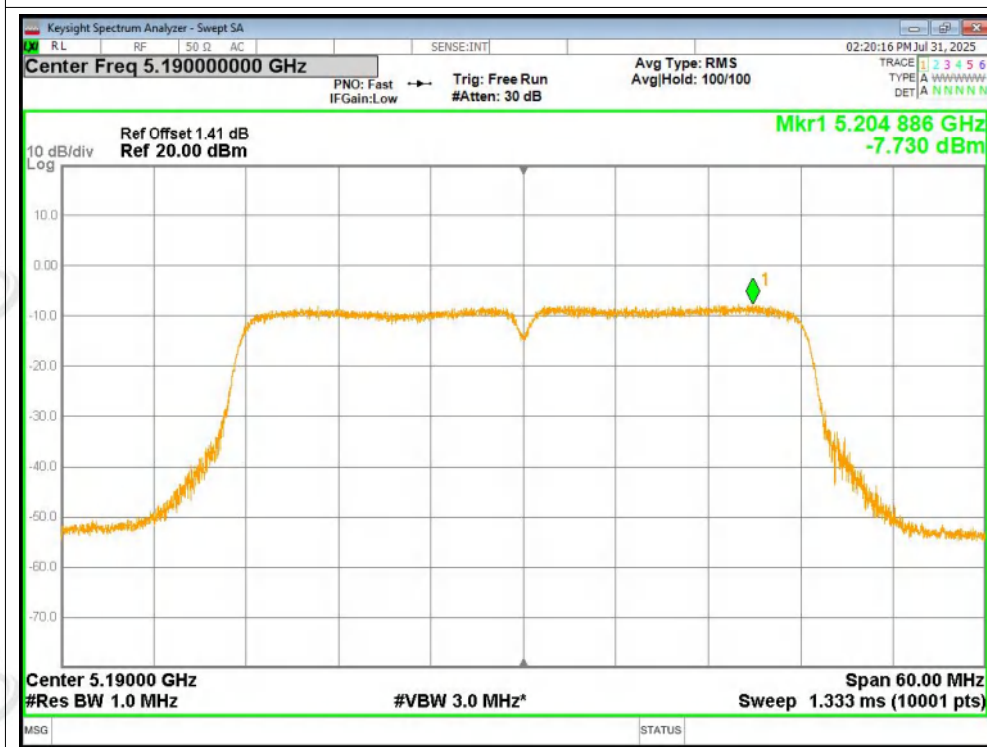




PSD NVNT ac20 5240MHz Ant1



PSD NVNT ac40 5190MHz Ant1



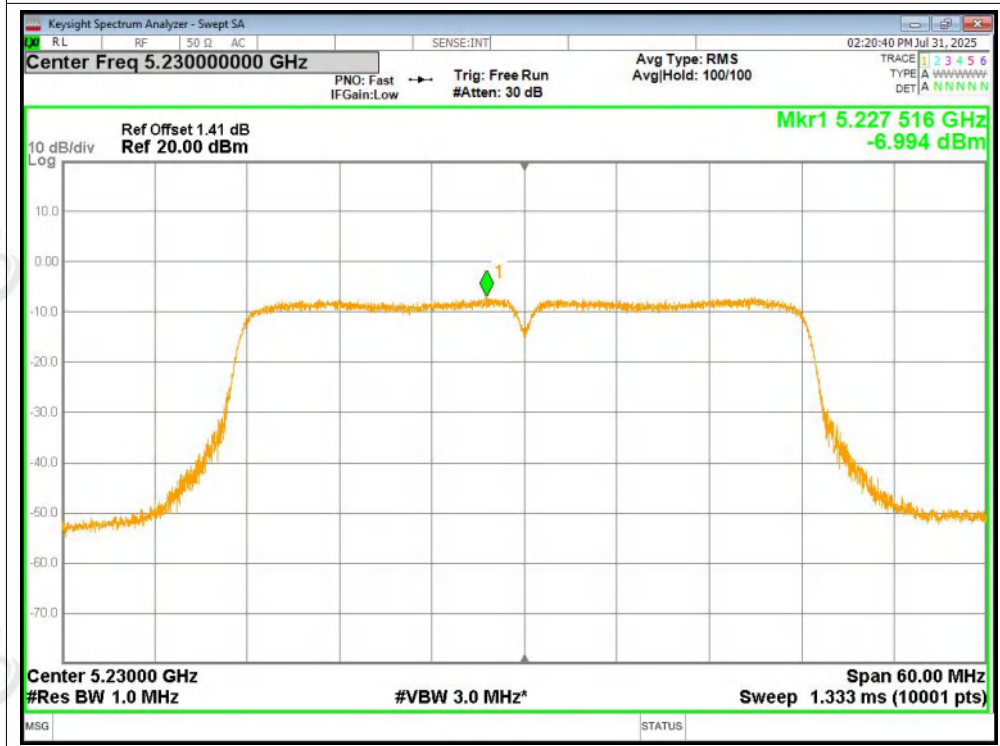


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FCC ID:2BGCX-P6S8X10

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PSD NVNT ac40 5230MHz Ant1



**ZHONGHAN****Band Edge**

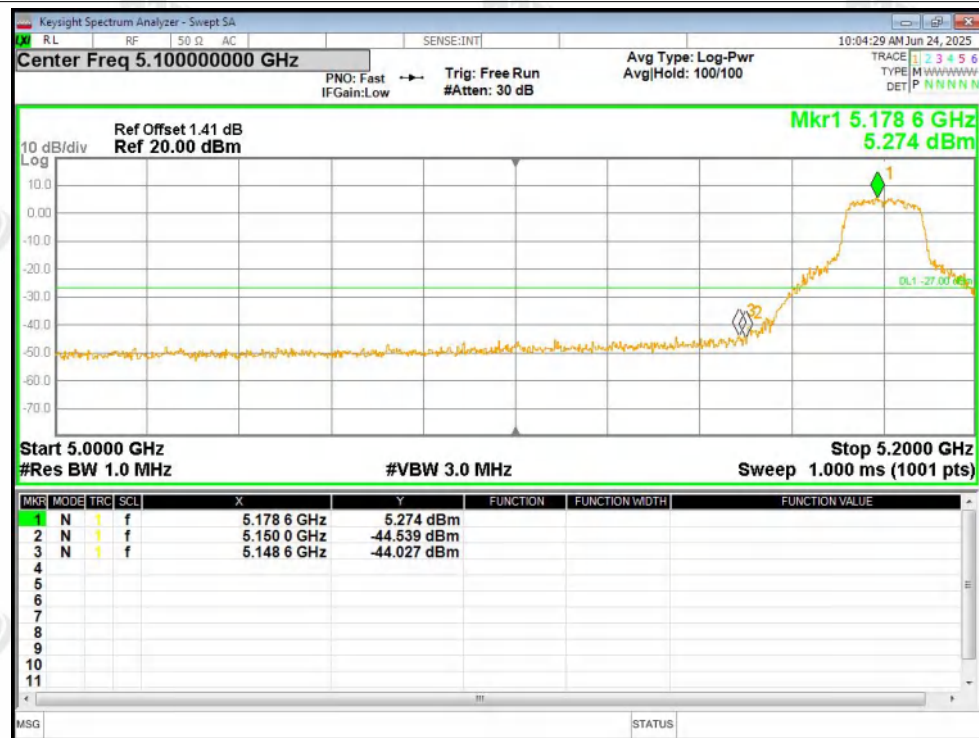
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	-44.02	-27	Pass
NVNT	a	5240	Ant1	-46.47	-27	Pass
NVNT	n20	5180	Ant1	-37.39	-27	Pass
NVNT	n20	5240	Ant1	-46.89	-27	Pass
NVNT	n40	5190	Ant1	-42.3	-27	Pass
NVNT	n40	5230	Ant1	-46.33	-27	Pass
NVNT	ac20	5180	Ant1	-41.56	-27	Pass
NVNT	ac20	5240	Ant1	-45.03	-27	Pass
NVNT	ac40	5190	Ant1	-27.02	-27	Pass
NVNT	ac40	5230	Ant1	-45.95	-27	Pass

Note: input compensation coefficient (dB)= Cable Loss (dB)

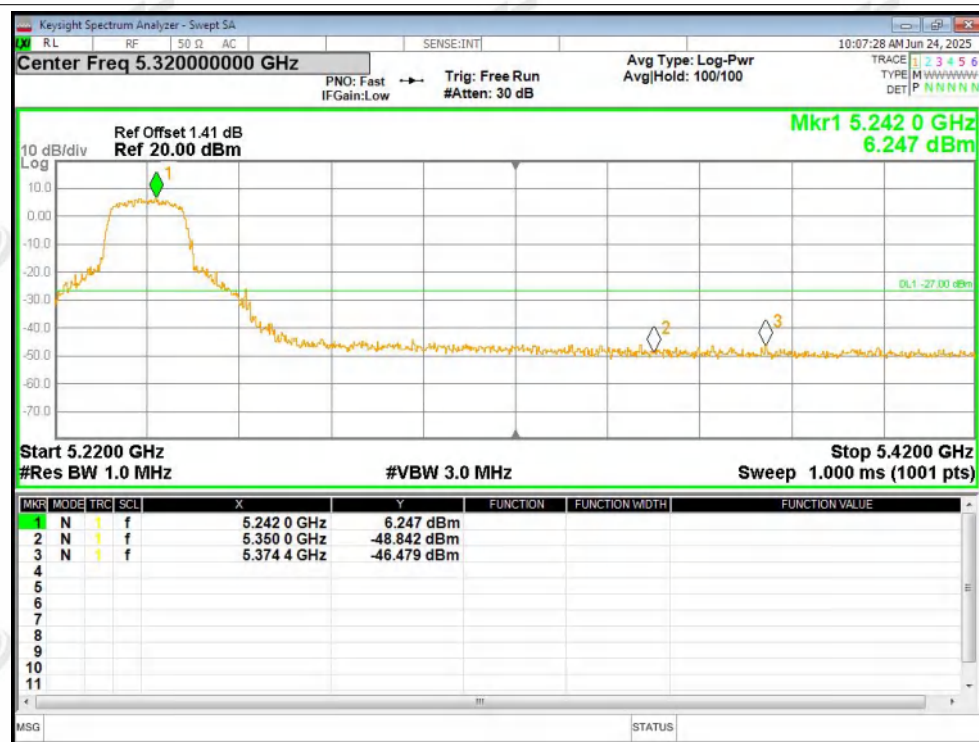


Test Graphs

Band Edge NVNT a 5180MHz Low Ant1

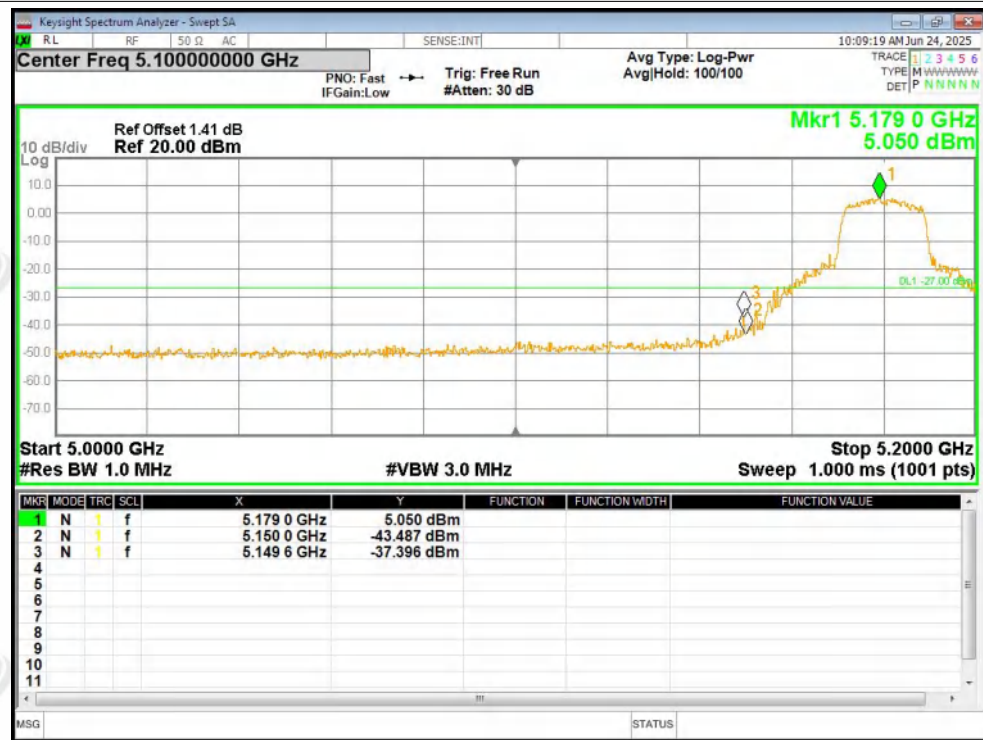


Band Edge NVNT a 5240MHz High Ant1

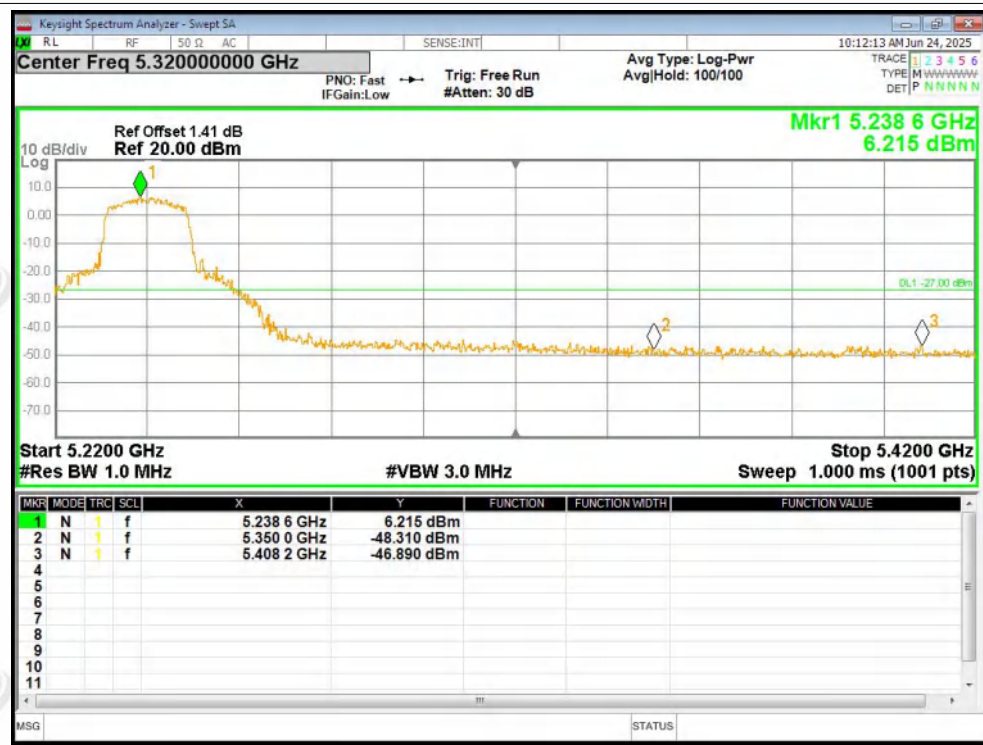




Band Edge NVNT n20 5180MHz Low Ant1

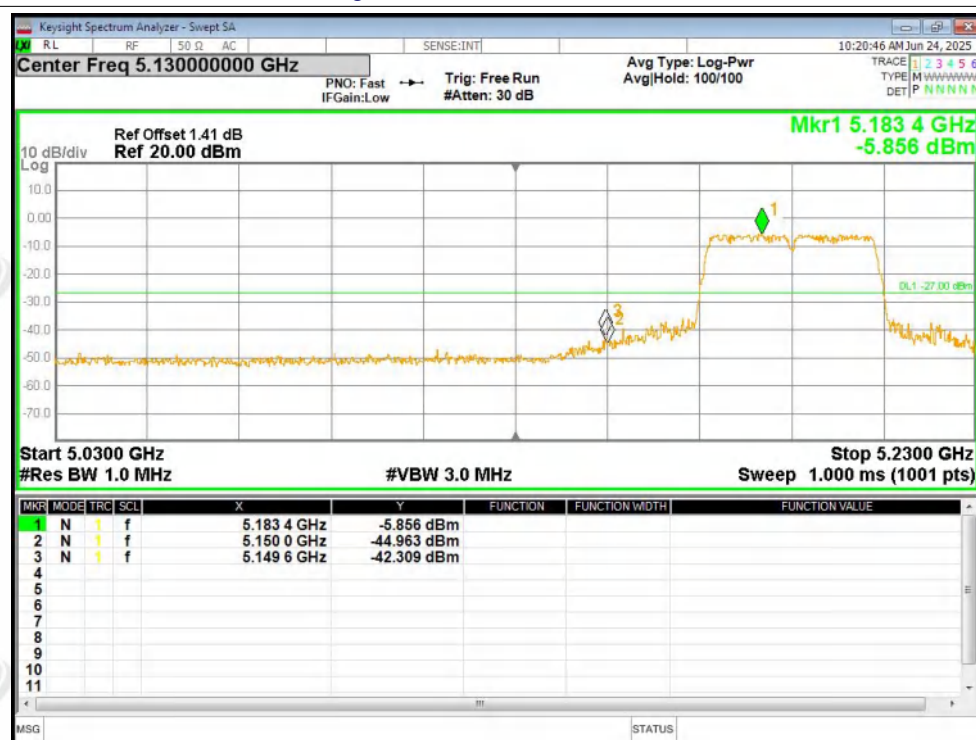


Band Edge NVNT n20 5240MHz High Ant1

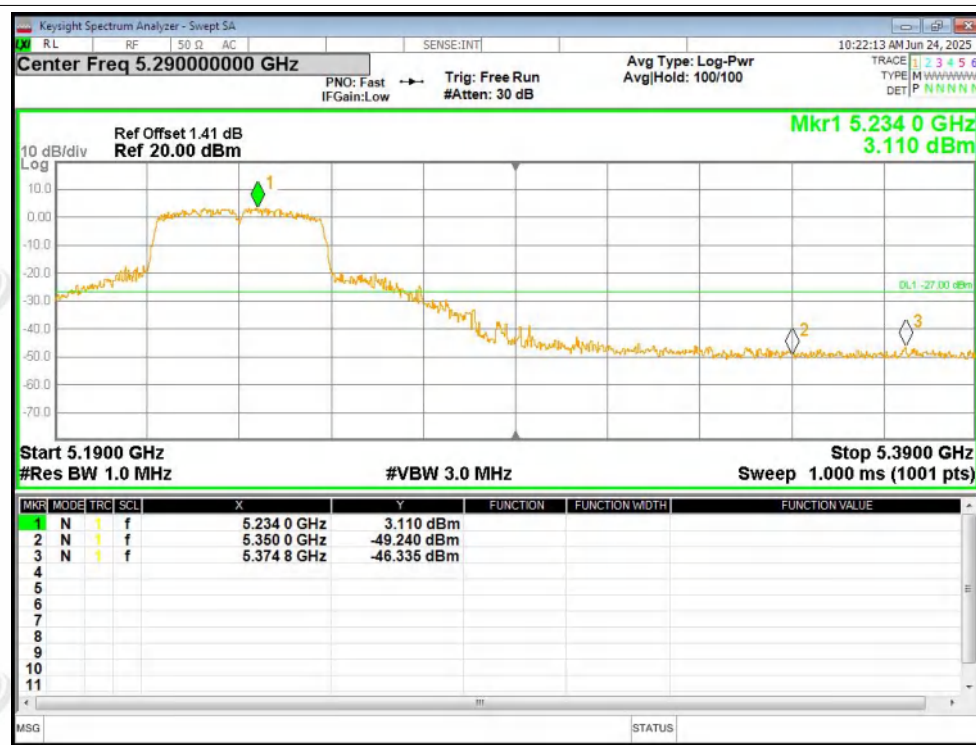




Band Edge NVNT n40 5190MHz Low Ant1

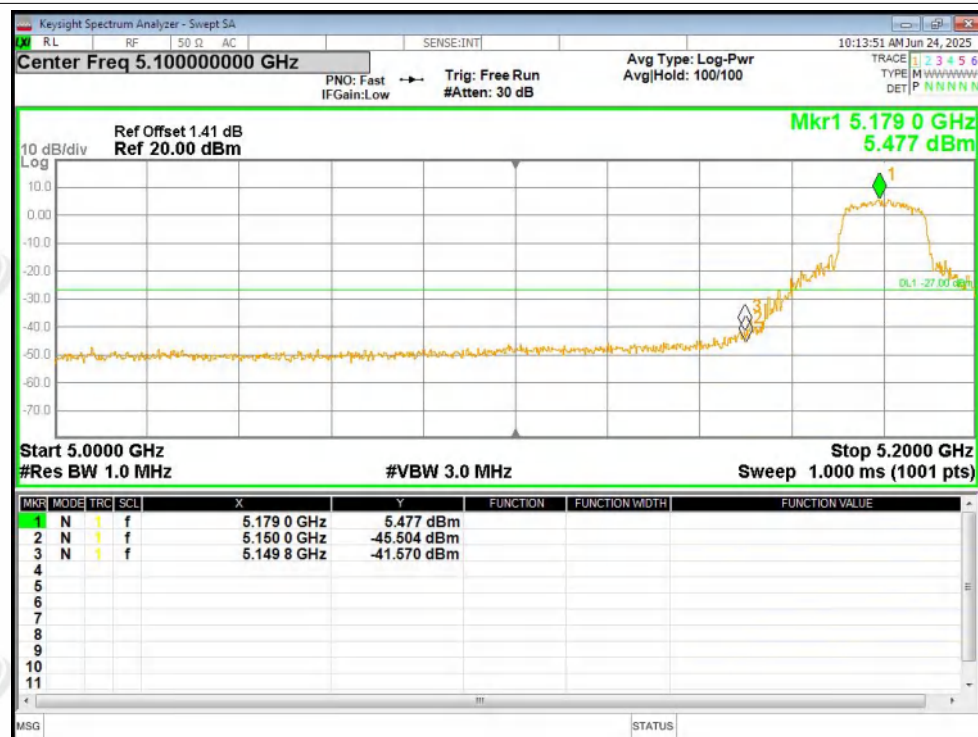


Band Edge NVNT n40 5230MHz High Ant1

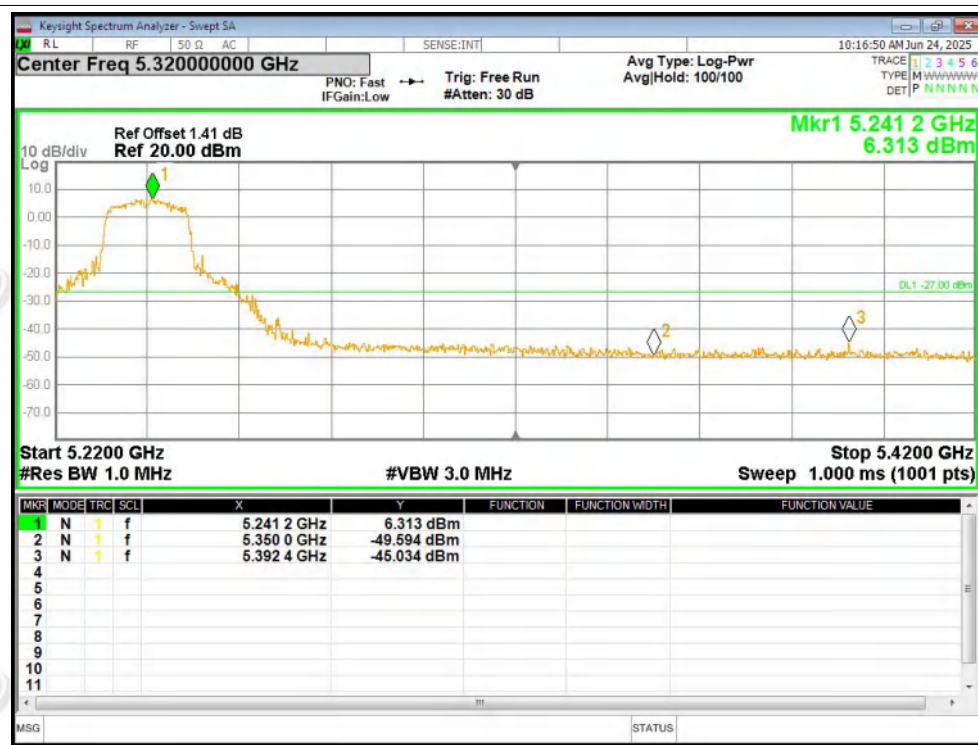




Band Edge NVNT ac20 5180MHz Low Ant1

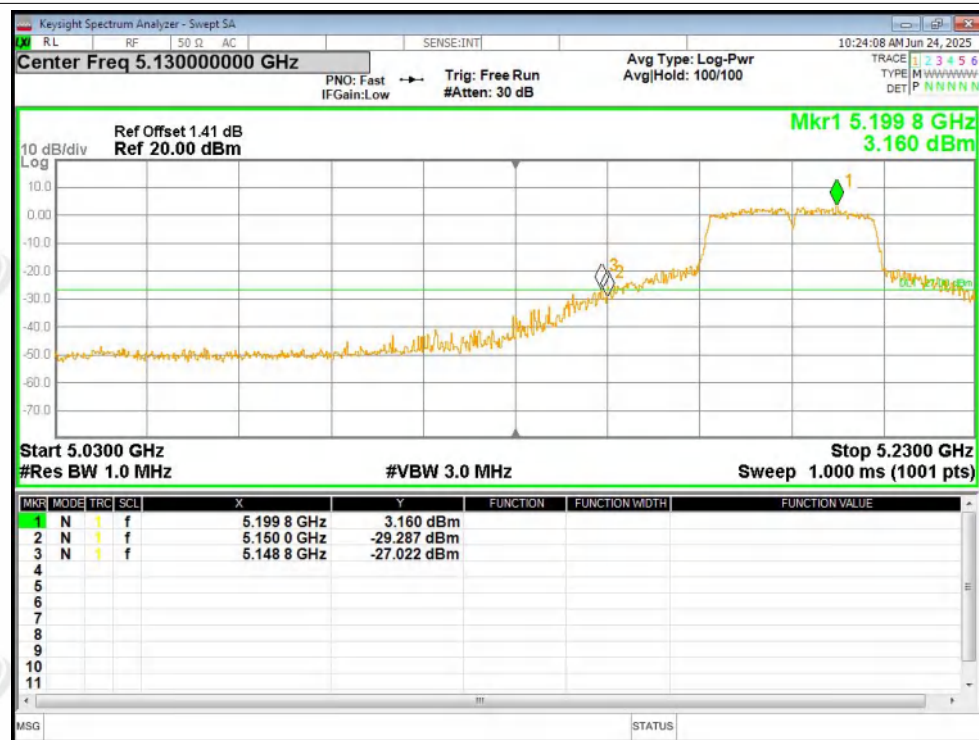


Band Edge NVNT ac20 5240MHz High Ant1





Band Edge NVNT ac40 5190MHz Low Ant1



Band Edge NVNT ac40 5230MHz High Ant1



**ZHONGHAN****Frequency Stability**

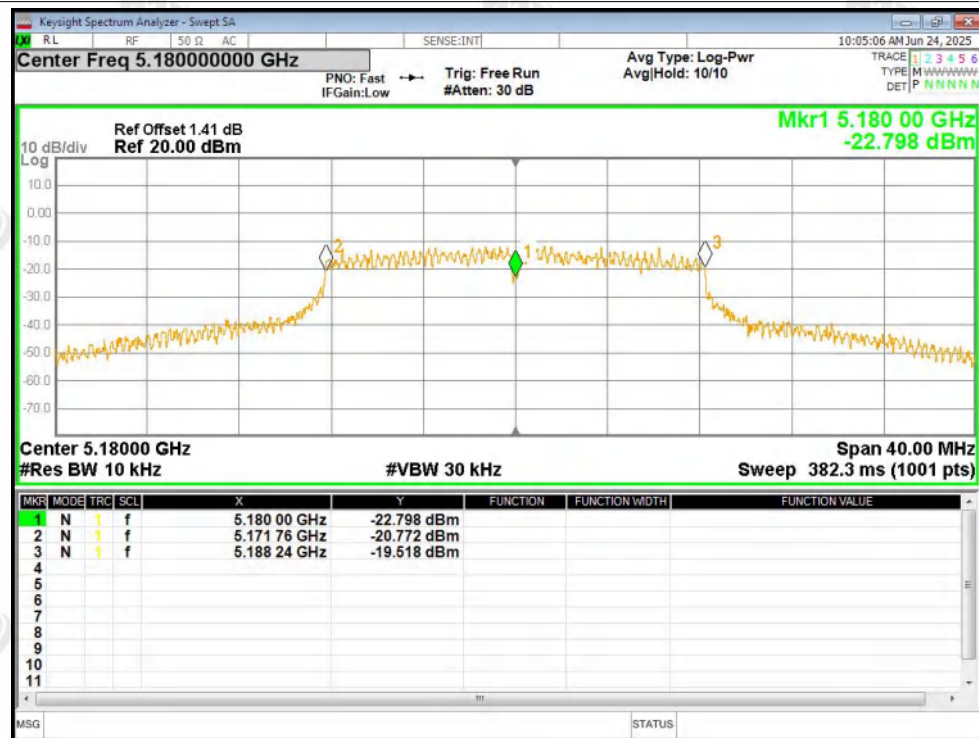
Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5180	Ant1	5180	0	0	Within 5180-5240MHz	Pass
NVNT	a	5200	Ant1	5200	0	0		Pass
NVNT	a	5240	Ant1	5240	0	0		Pass
NVNT	n20	5180	Ant1	5180.02	20000	3.86		Pass
NVNT	n20	5200	Ant1	5200.02	20000	3.85		Pass
NVNT	n20	5240	Ant1	5240.02	20000	3.82		Pass
NVNT	n40	5190	Ant1	5190	0	0	Within 5190-5230MHz	Pass
NVNT	n40	5230	Ant1	5230	0	0		Pass
NVNT	ac20	5180	Ant1	5180	0	0	Within 5180-5240MHz	Pass
NVNT	ac20	5200	Ant1	5200	0	0		Pass
NVNT	ac20	5240	Ant1	5240	0	0		Pass
NVNT	ac40	5190	Ant1	5190	0	0	Within 5190-5230MHz	Pass
NVNT	ac40	5230	Ant1	5230	0	0		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.



Test Graphs

Freq. Stability NVNT a 5180MHz Ant1

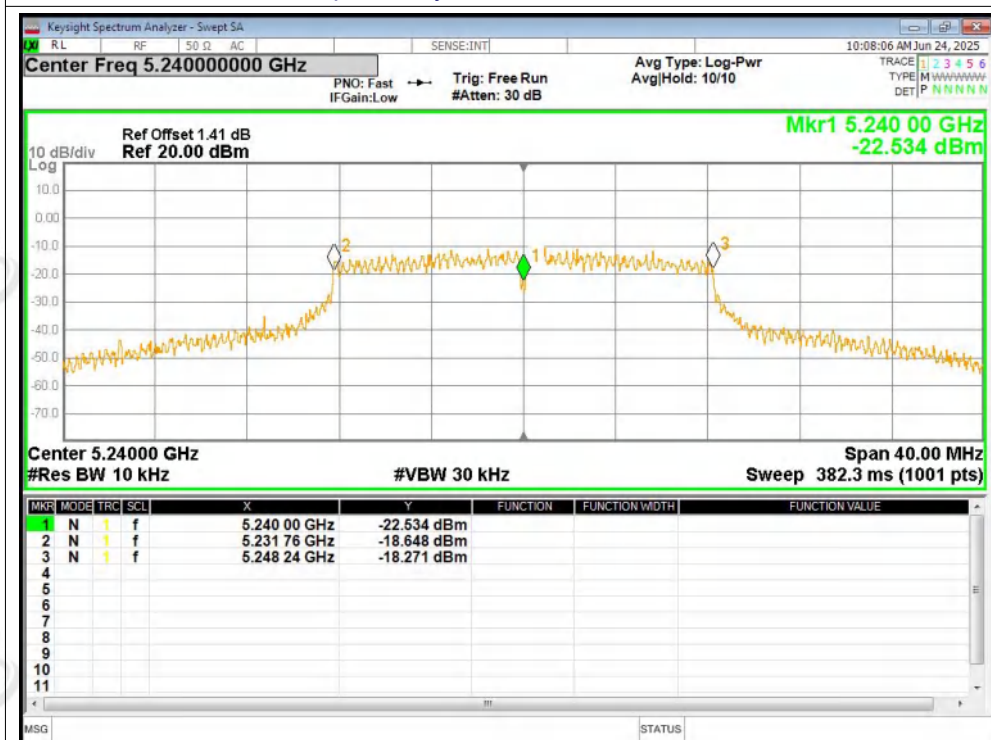


Freq. Stability NVNT a 5200MHz Ant1

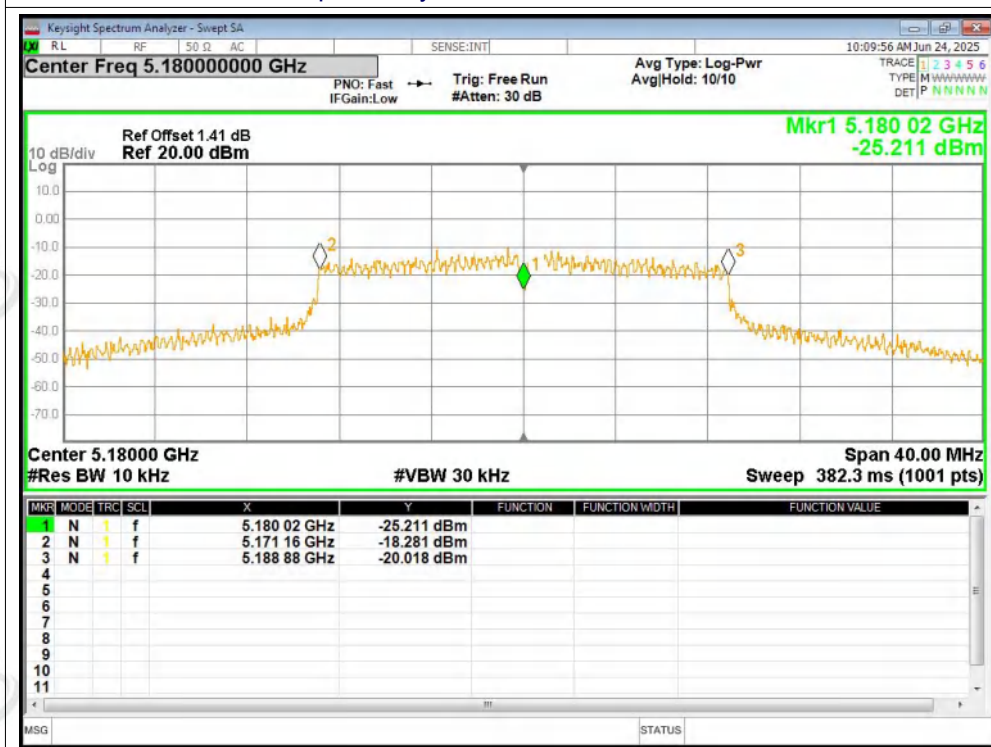




Freq. Stability NVNT a 5240MHz Ant1



Freq. Stability NVNT n20 5180MHz Ant1

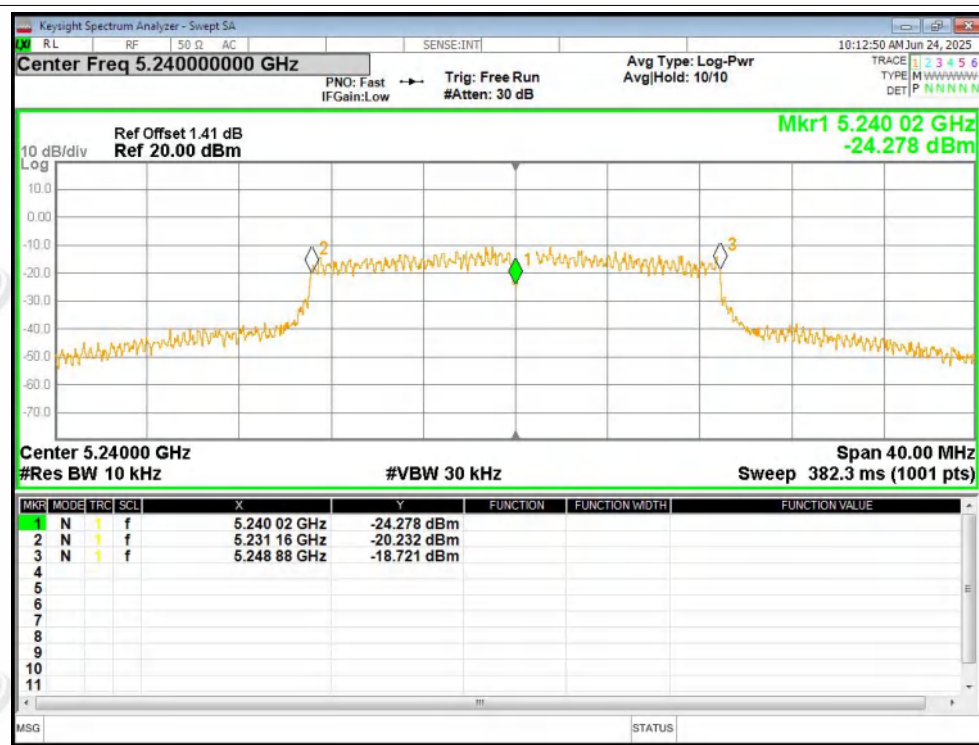




Freq. Stability NVNT n20 5200MHz Ant1



Freq. Stability NVNT n20 5240MHz Ant1

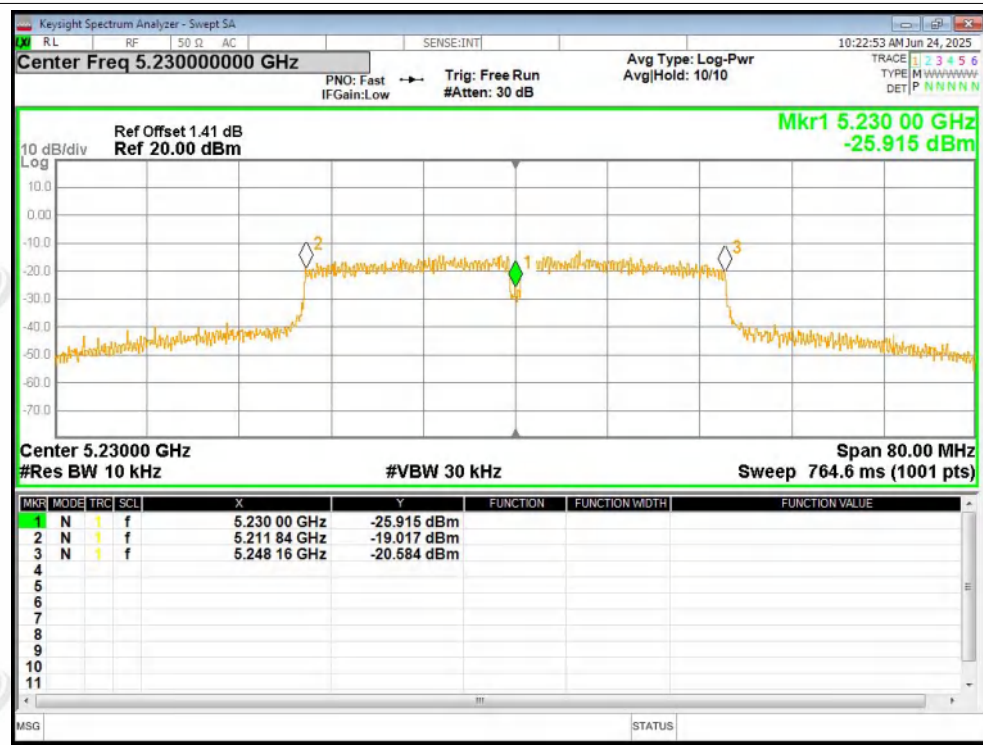




Freq. Stability NVNT n40 5190MHz Ant1



Freq. Stability NVNT n40 5230MHz Ant1

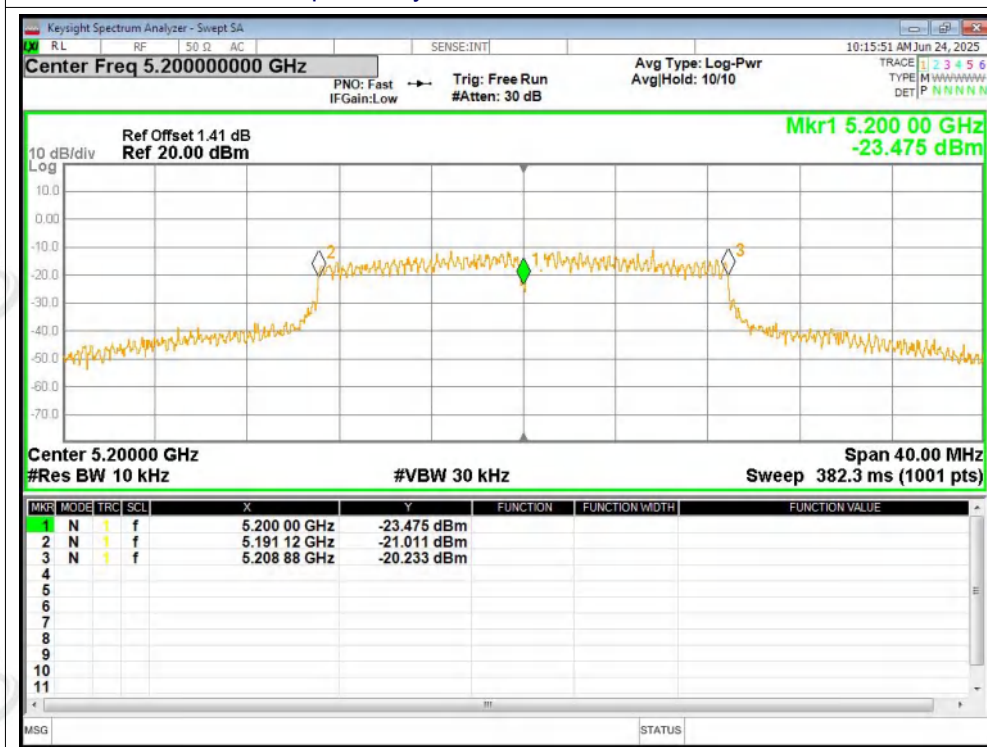




Freq. Stability NVNT ac20 5180MHz Ant1

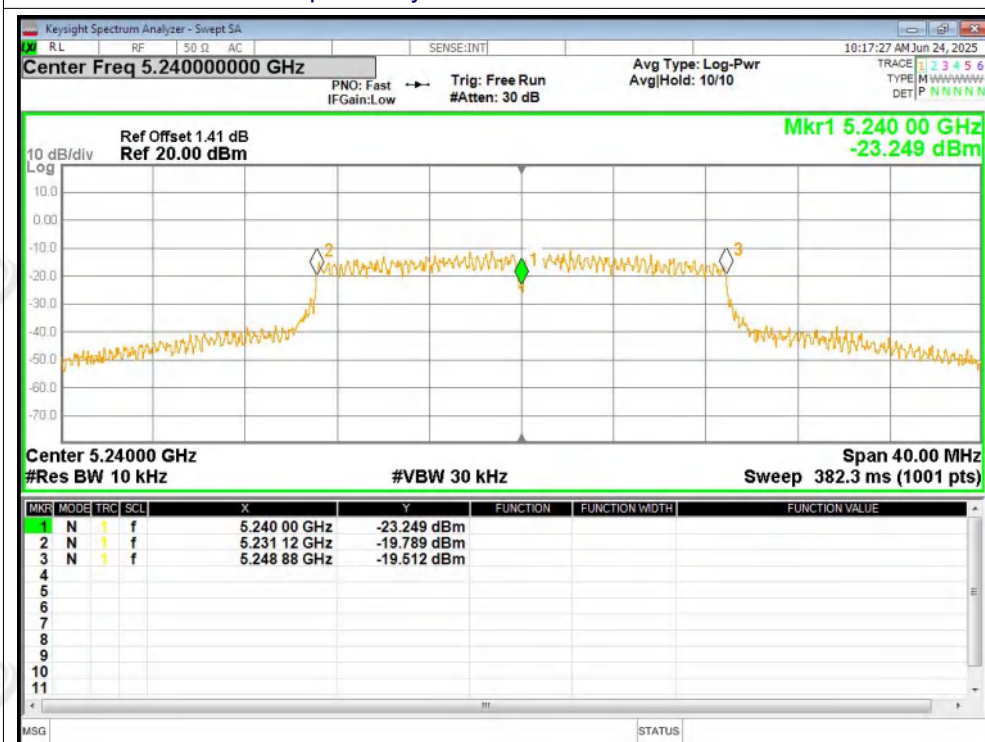


Freq. Stability NVNT ac20 5200MHz Ant1

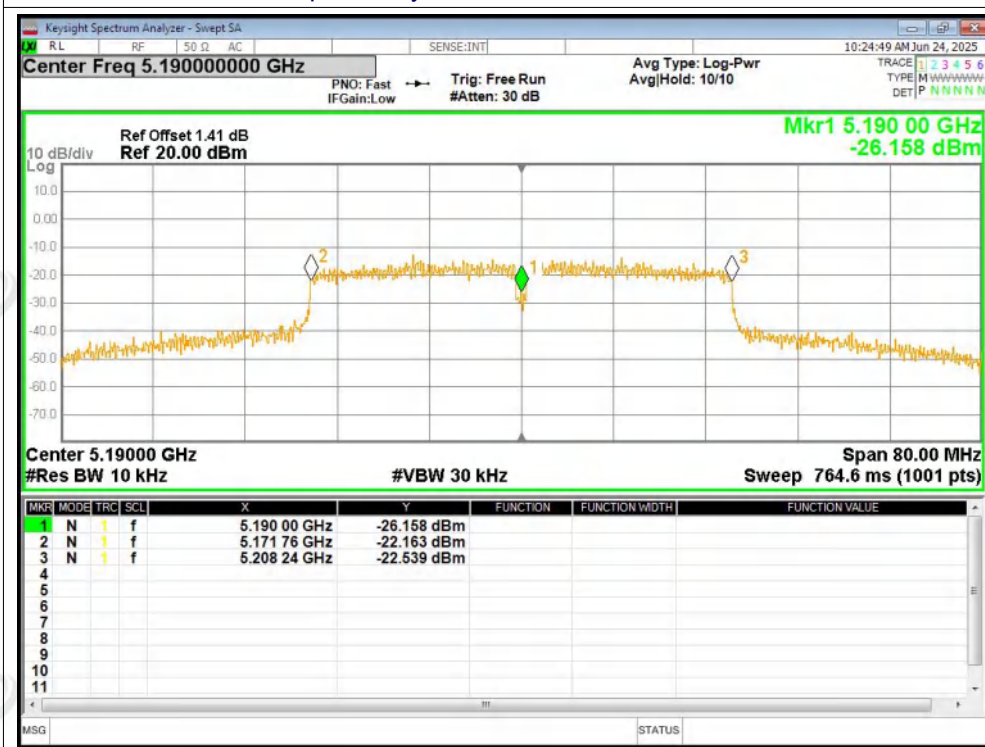




Freq. Stability NVNT ac20 5240MHz Ant1



Freq. Stability NVNT ac40 5190MHz Ant1





Freq. Stability NVNT ac40 5230MHz Ant1



**ZHONGHAN****Conducted RF Spurious Emission**

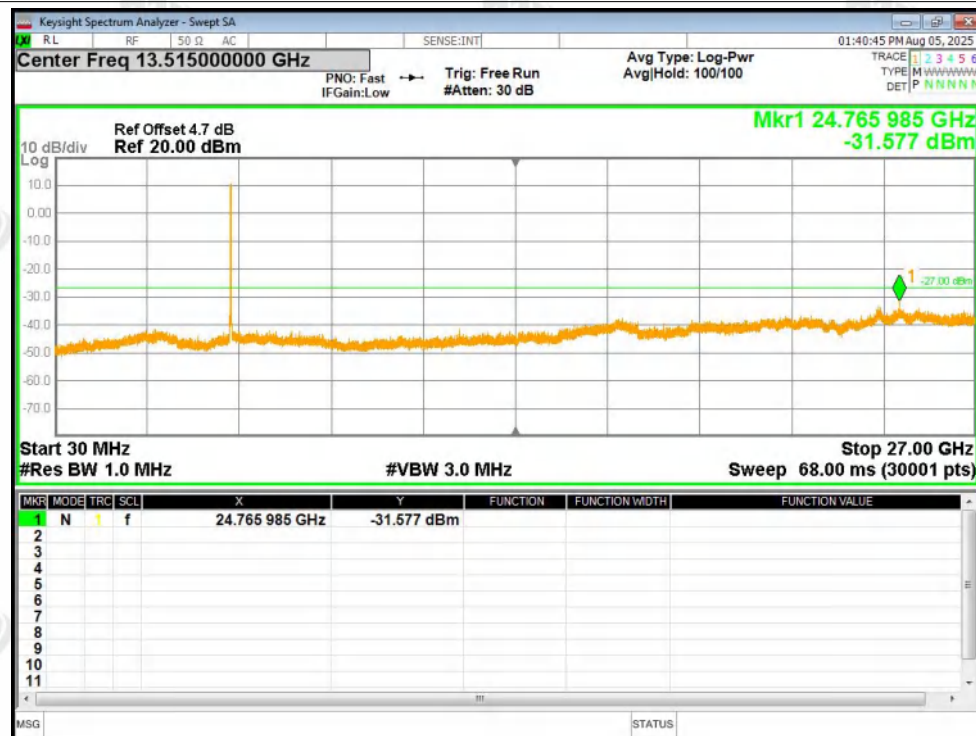
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	-31.58	-27	Pass
NVNT	a	5200	Ant1	-33.7	-27	Pass
NVNT	a	5240	Ant1	-33.87	-27	Pass
NVNT	n20	5180	Ant1	-33.97	-27	Pass
NVNT	n20	5200	Ant1	-33.94	-27	Pass
NVNT	n20	5240	Ant1	-33.56	-27	Pass
NVNT	n40	5190	Ant1	-34.24	-27	Pass
NVNT	n40	5230	Ant1	-33.83	-27	Pass
NVNT	ac20	5180	Ant1	-33.17	-27	Pass
NVNT	ac20	5200	Ant1	-34	-27	Pass
NVNT	ac20	5240	Ant1	-34.4	-27	Pass
NVNT	ac40	5190	Ant1	-33.29	-27	Pass
NVNT	ac40	5230	Ant1	-34.08	-27	Pass

Note: input compensation coefficient (dB)= Cable Loss (dB)

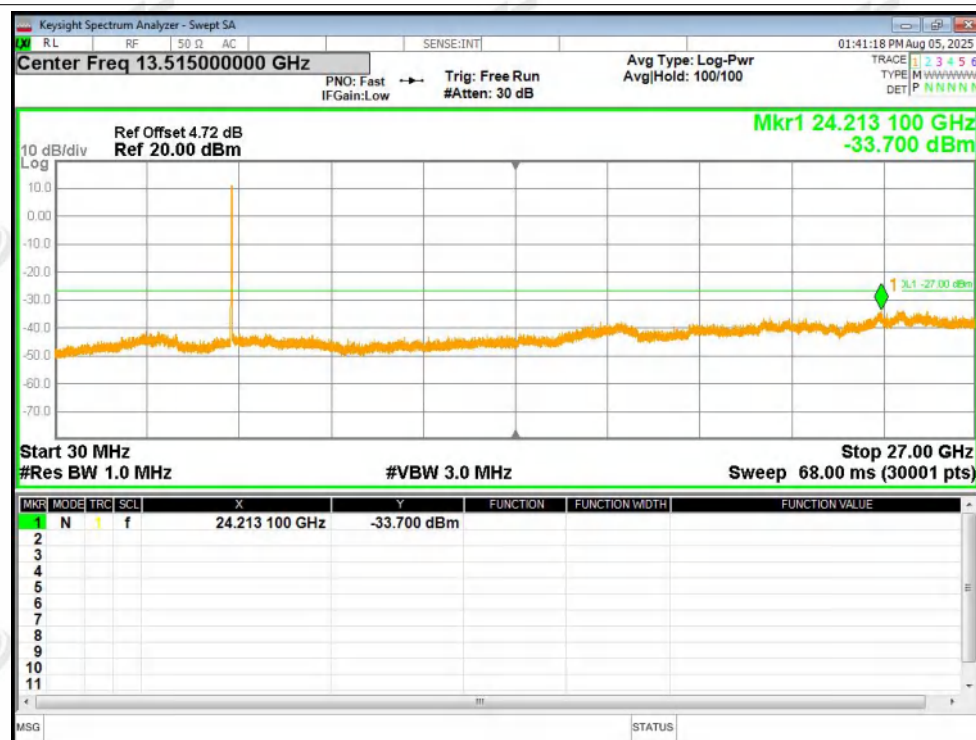


Test Graphs

Tx. Spurious NVNT a 5180MHz Ant1 Emission

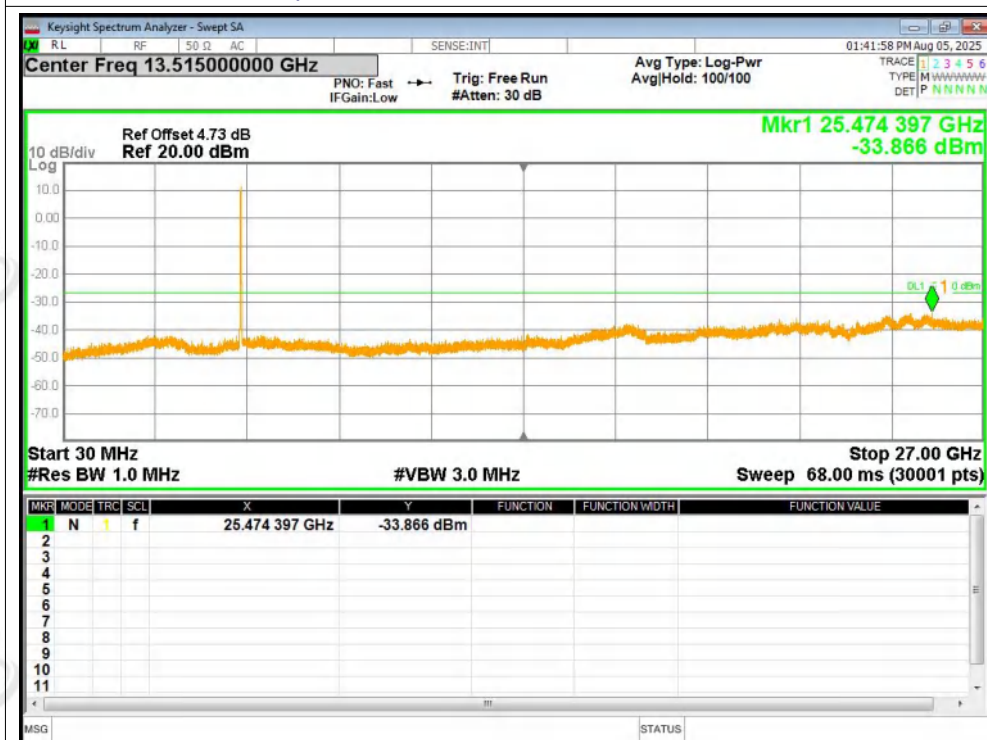


Tx. Spurious NVNT a 5200MHz Ant1 Emission





Tx. Spurious NVNT a 5240MHz Ant1 Emission

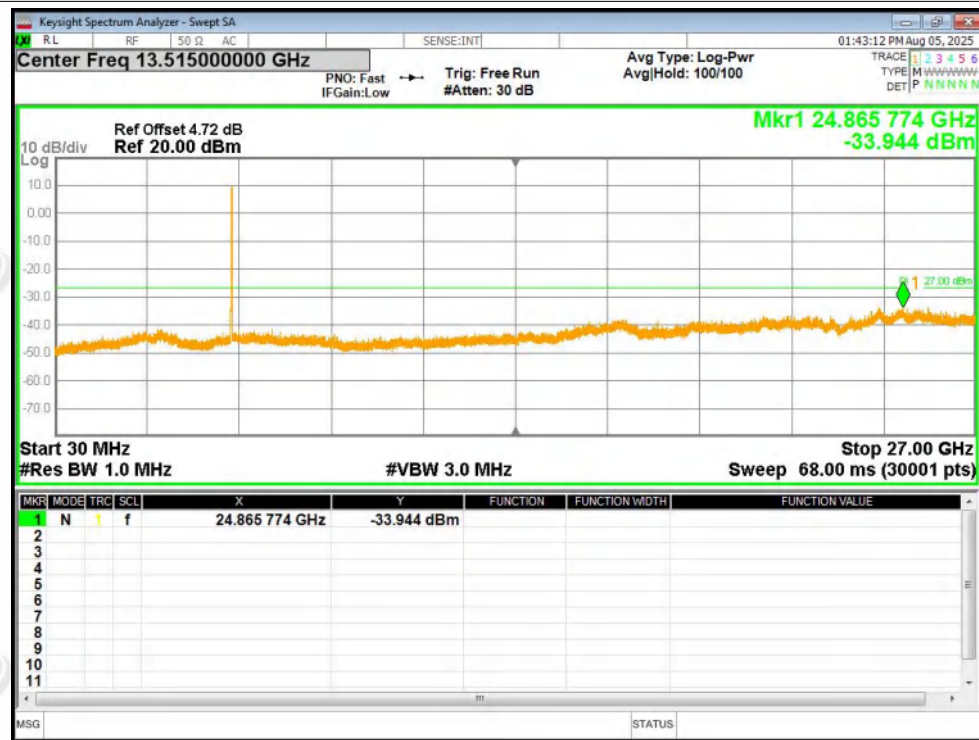


Tx. Spurious NVNT n20 5180MHz Ant1 Emission





Tx. Spurious NVNT n20 5200MHz Ant1 Emission

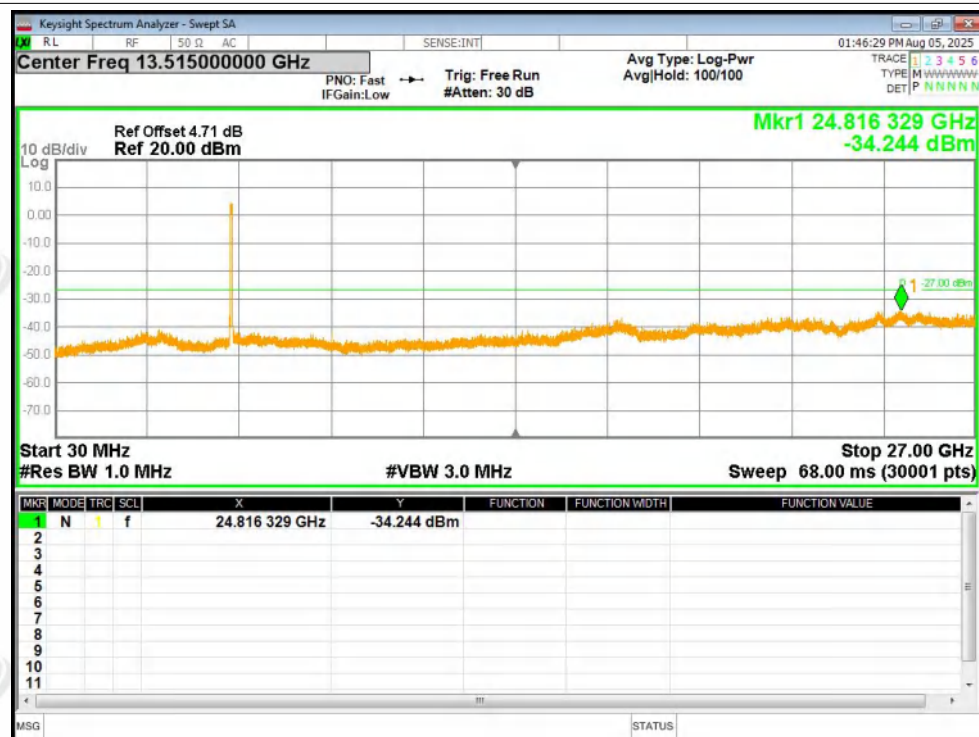


Tx. Spurious NVNT n20 5240MHz Ant1 Emission





Tx. Spurious NVNT n40 5190MHz Ant1 Emission

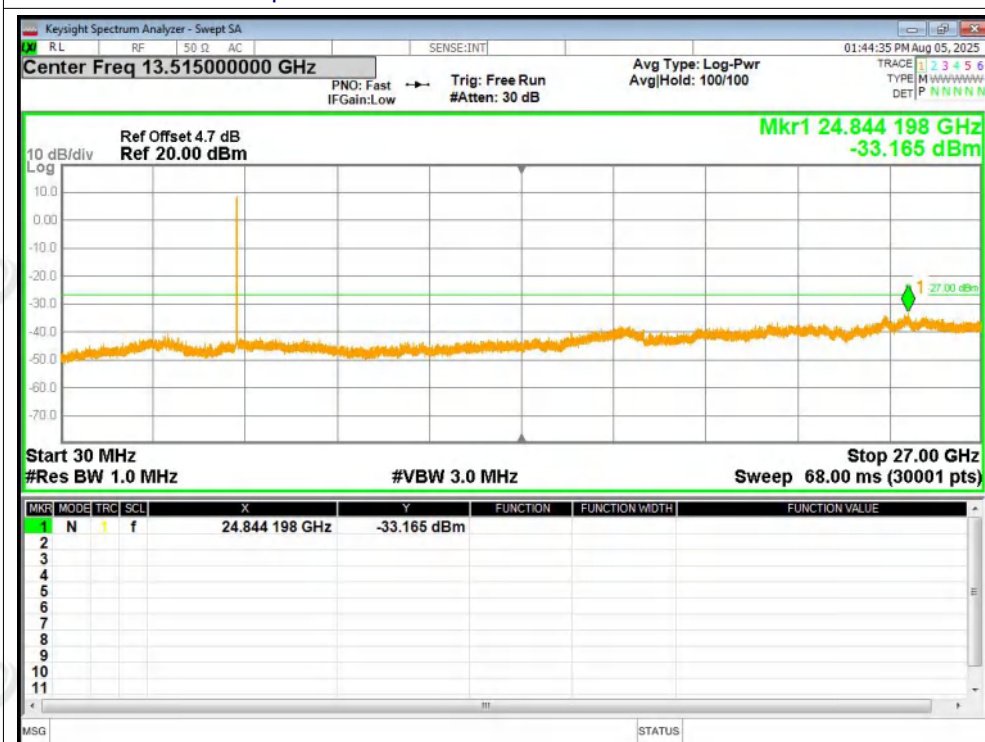


Tx. Spurious NVNT n40 5230MHz Ant1 Emission





Tx. Spurious NVNT ac20 5180MHz Ant1 Emission

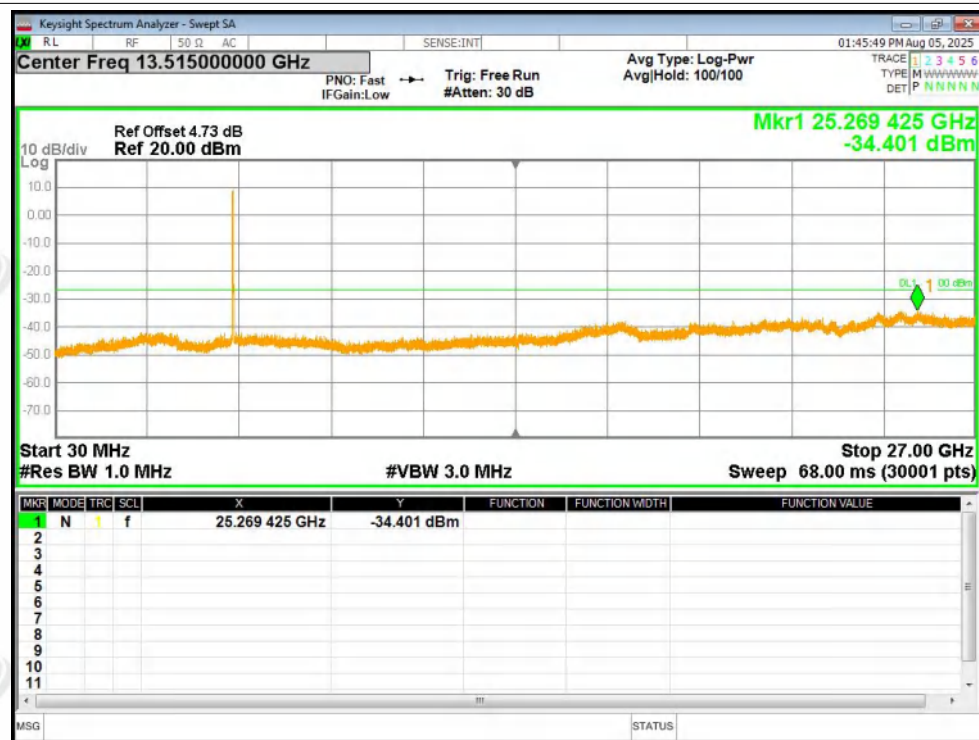


Tx. Spurious NVNT ac20 5200MHz Ant1 Emission





Tx. Spurious NVNT ac20 5240MHz Ant1 Emission



Tx. Spurious NVNT ac40 5190MHz Ant1 Emission



