



## Appendix B for 5.2GWIFI Test Data

Product Name: Car Player

Test Model: A3215

### Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52%
ATM Pressure:	101.0 kPa
Test Engineer:	Kevin Yang
Supervised by:	Baret Wu





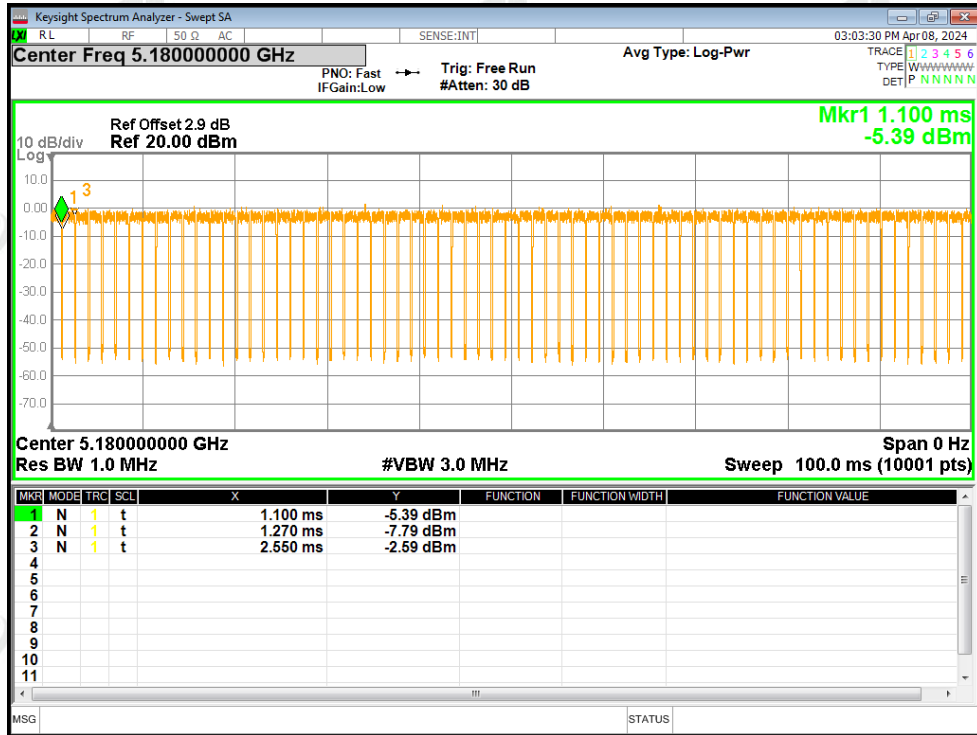
B1. Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	88.28	0.54	0.78
NVNT	a	5200	Ant1	88.28	0.54	0.78
NVNT	a	5240	Ant1	88.36	0.54	0.78
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	79.01	1.02	1.56
NVNT	n40	5230	Ant1	79.01	1.02	1.56

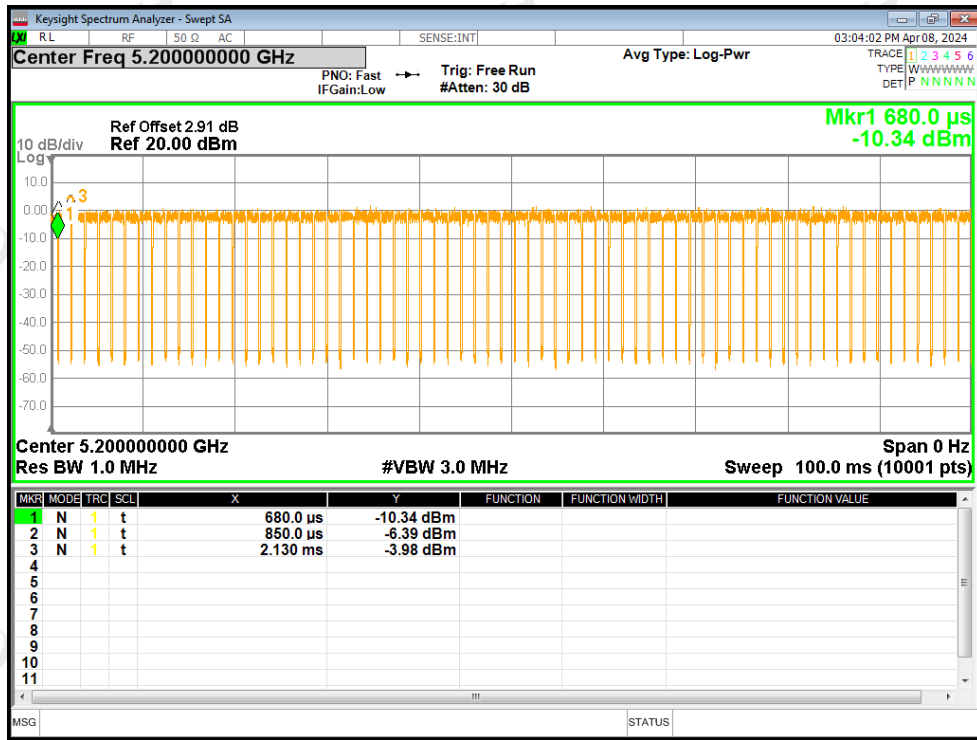


Test Graphs

Duty Cycle NVNT a 5180MHz Ant1

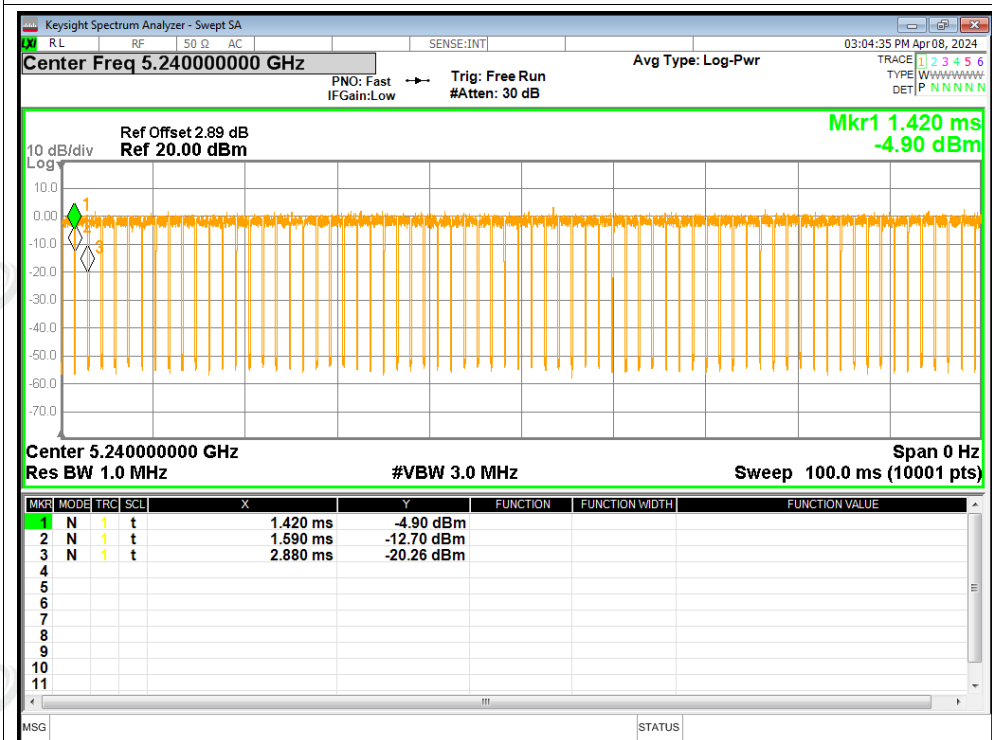


Duty Cycle NVNT a 5200MHz Ant1

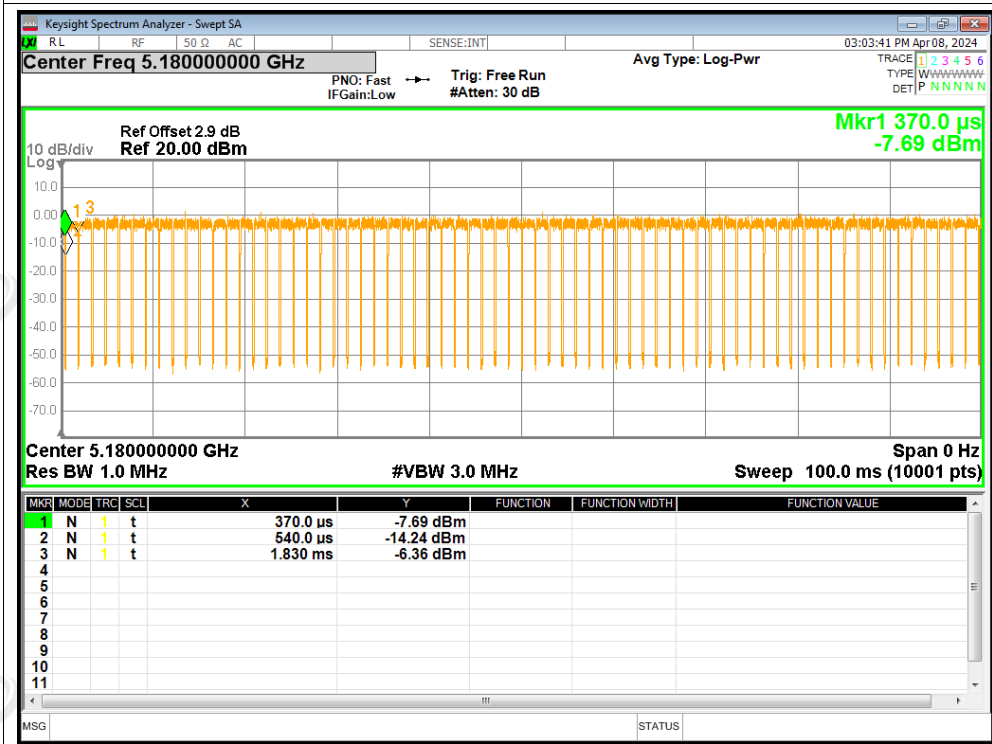




### Duty Cycle NVNT a 5240MHz Ant1

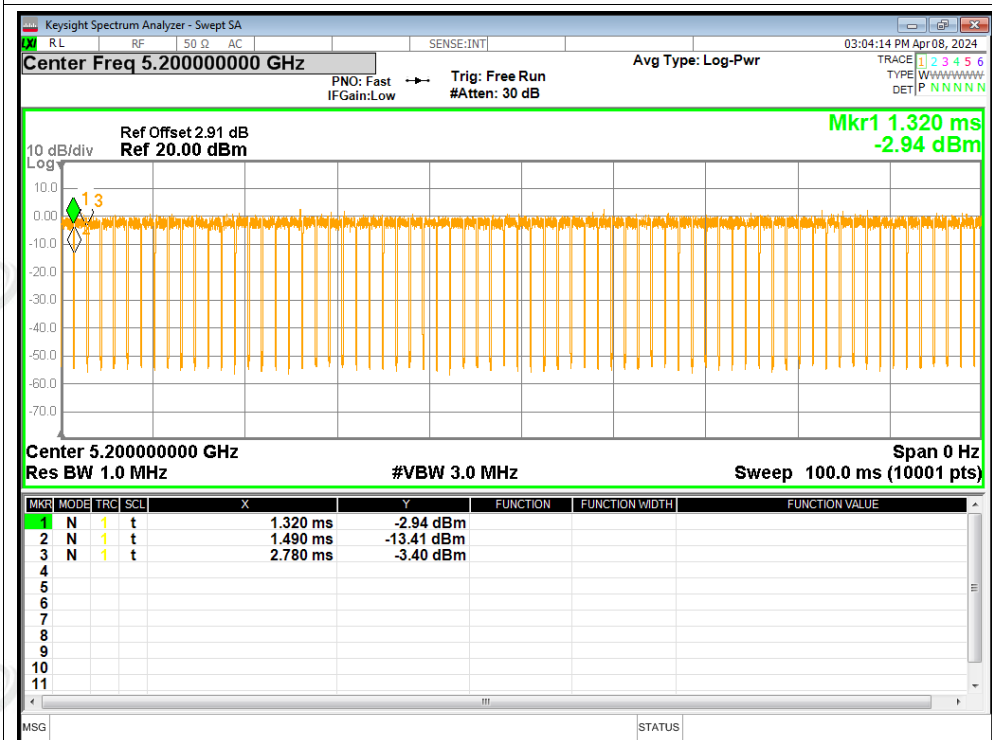


### Duty Cycle NVNT n20 5180MHz Ant1

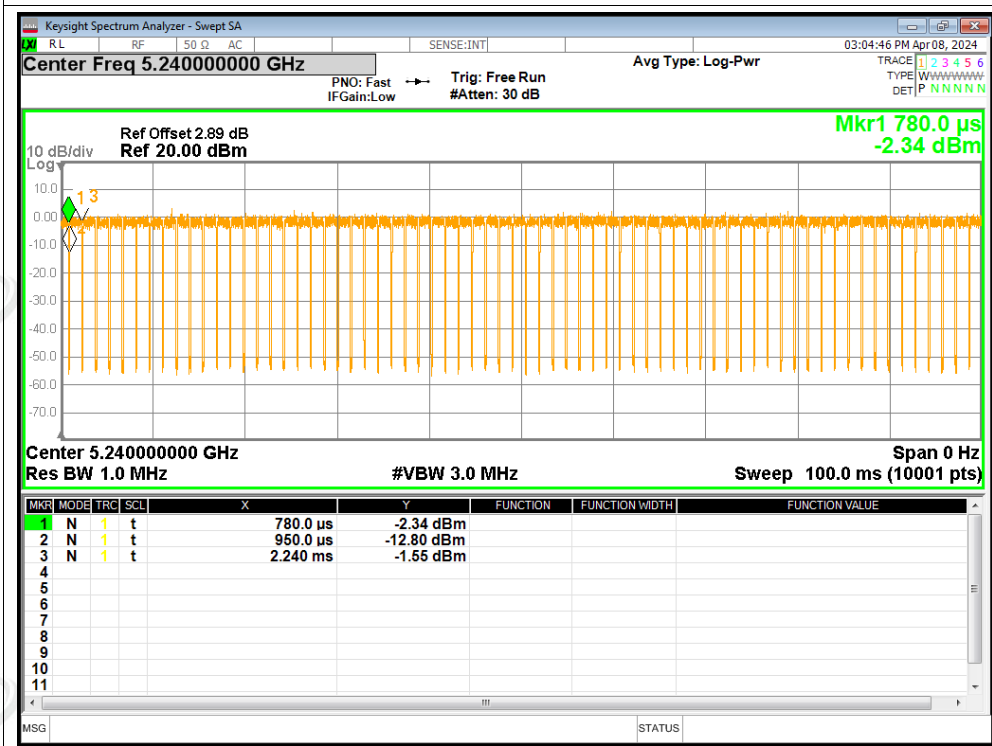




Duty Cycle NVNT n20 5200MHz Ant1

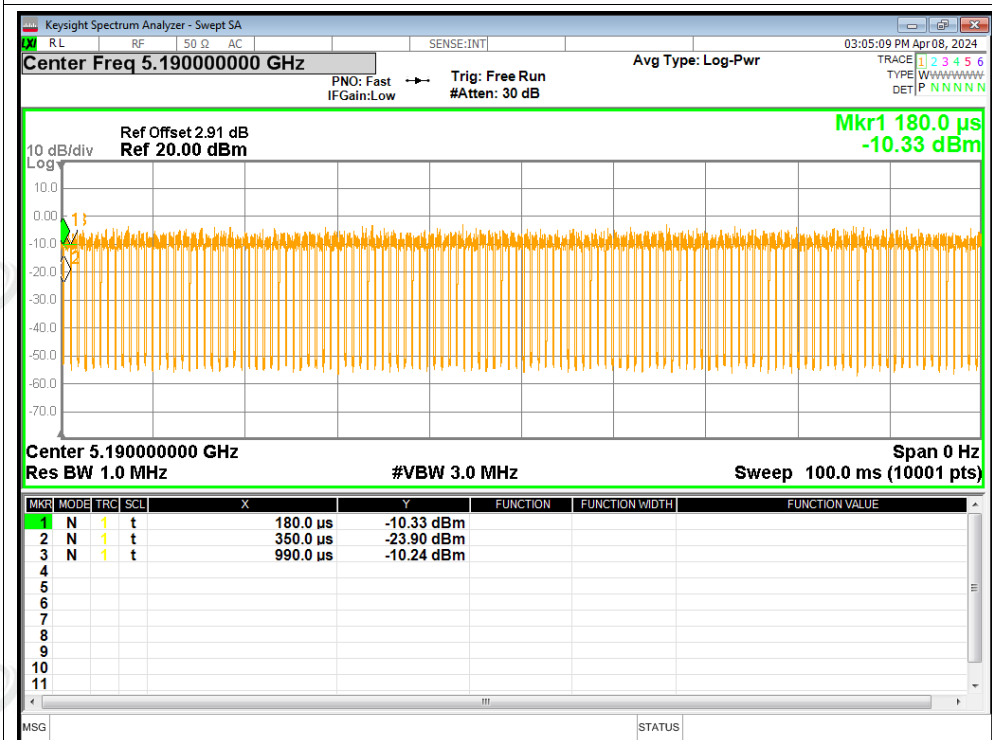


Duty Cycle NVNT n20 5240MHz Ant1

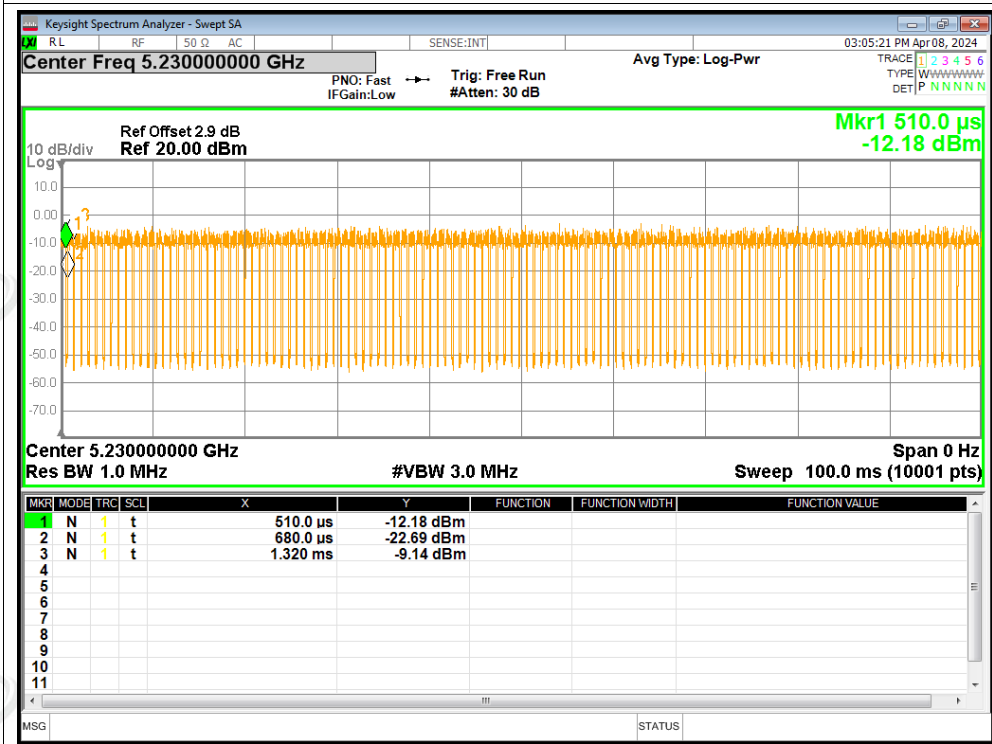




### Duty Cycle NVNT n40 5190MHz Ant1



### Duty Cycle NVNT n40 5230MHz Ant1





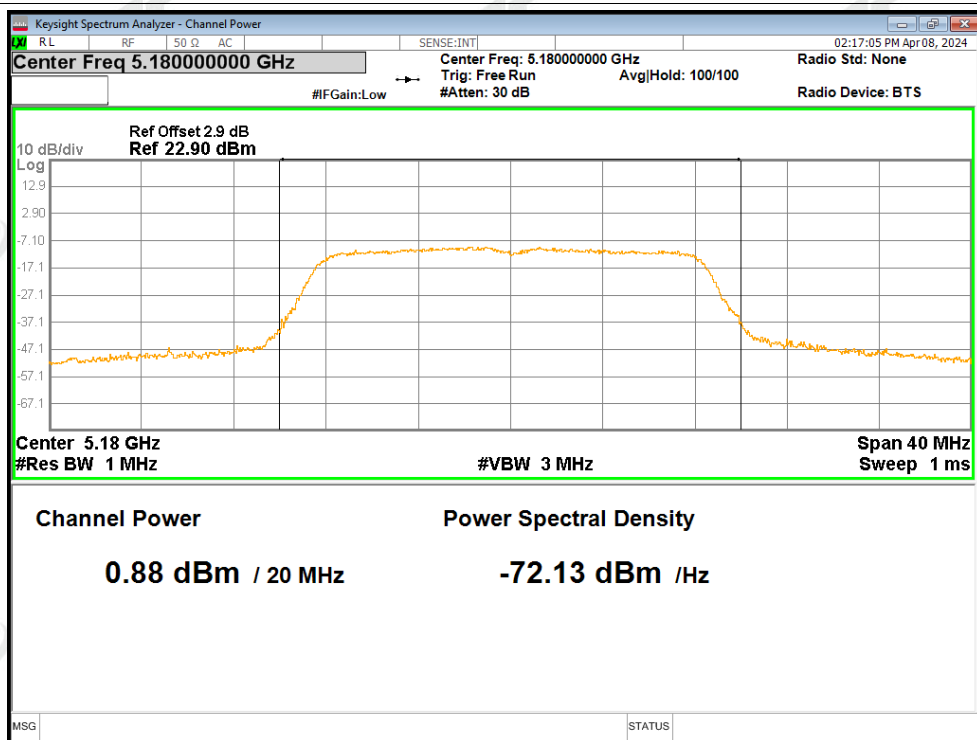
**B2. Maximum Conducted Output Power**

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	0.88	2.96	3.84	24	Pass
NVNT	a	5200	Ant1	1.57	2.91	4.48	24	Pass
NVNT	a	5240	Ant1	2.12	2.91	5.03	24	Pass
NVNT	n20	5180	Ant1	2.85	0.54	3.39	24	Pass
NVNT	n20	5200	Ant1	3.44	0.53	3.97	24	Pass
NVNT	n20	5240	Ant1	4.22	0.53	4.75	24	Pass
NVNT	n40	5190	Ant1	3.07	0	3.07	24	Pass
NVNT	n40	5230	Ant1	4.04	0	4.04	24	Pass

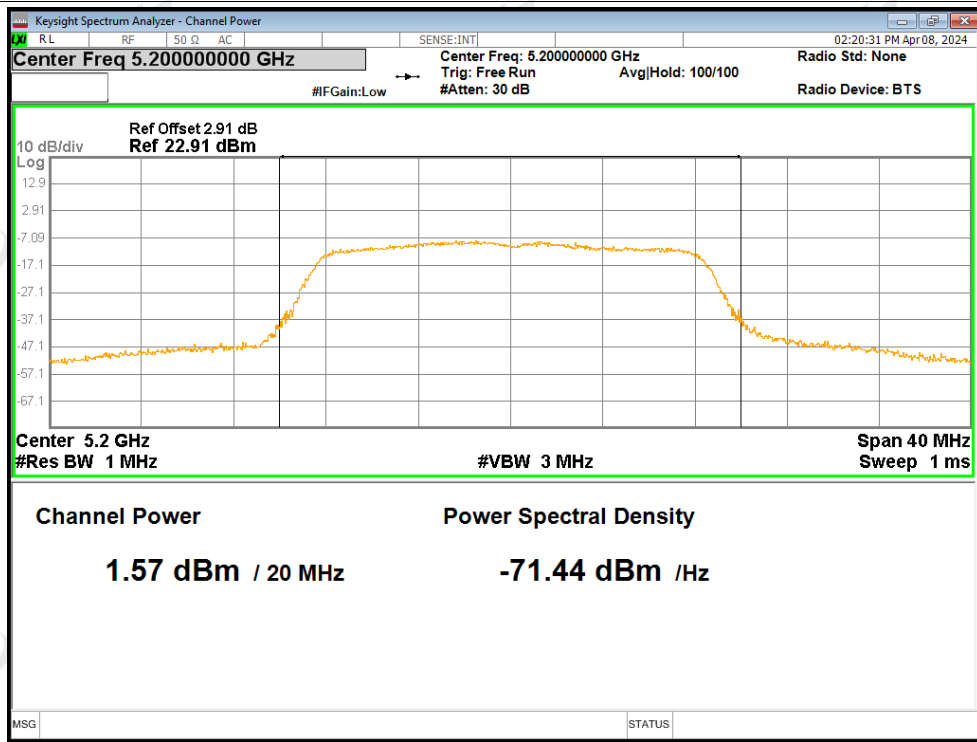


### Test Graphs

#### Power NVNT a 5180MHz Ant1



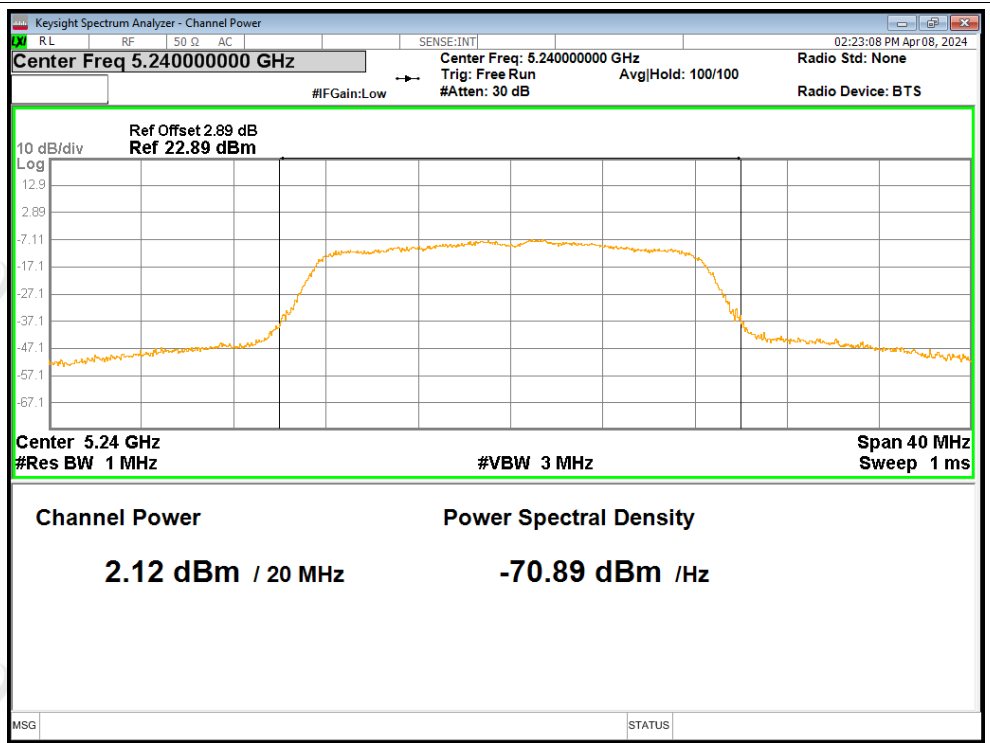
#### Power NVNT a 5200MHz Ant1



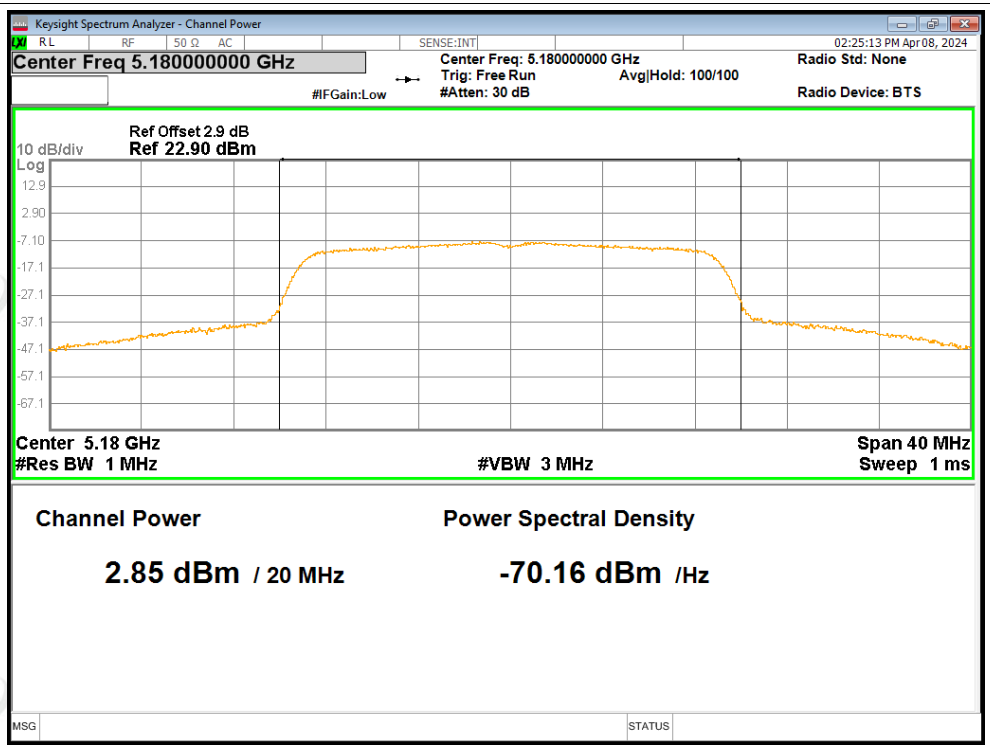




Power NVNT a 5240MHz Ant1

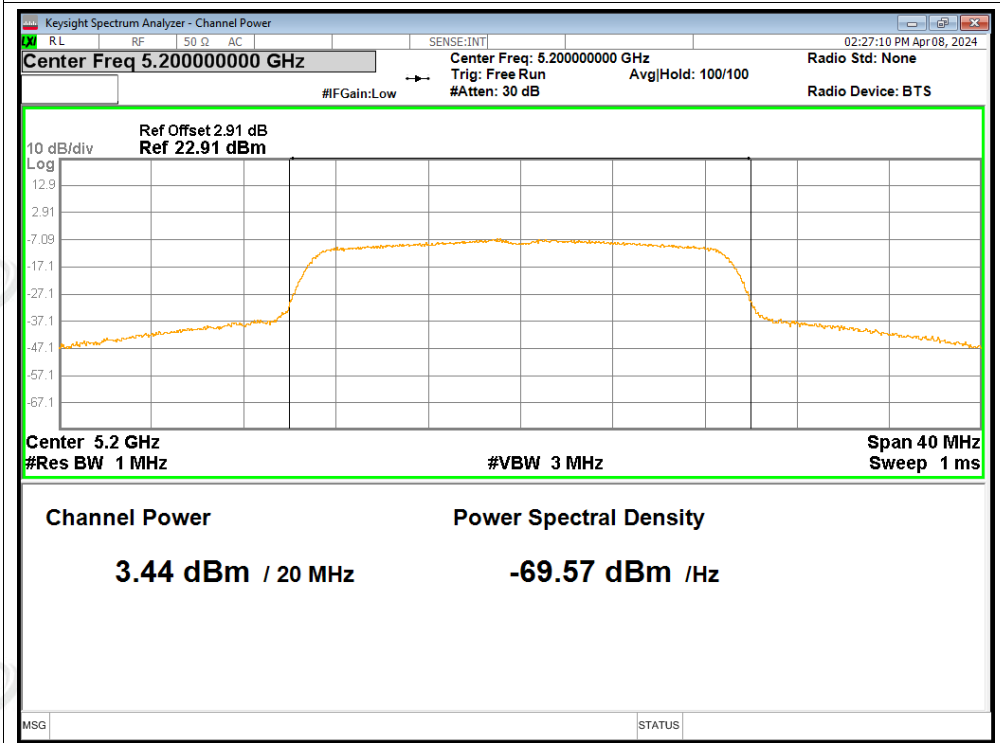


Power NVNT n20 5180MHz Ant1

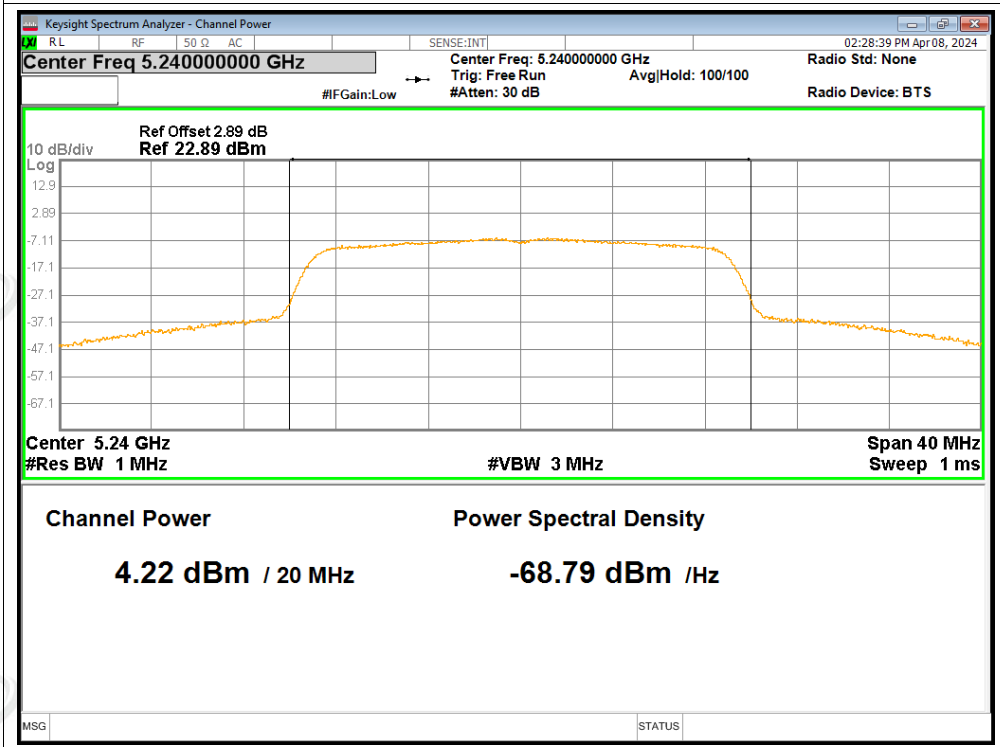




Power NVNT n20 5200MHz Ant1

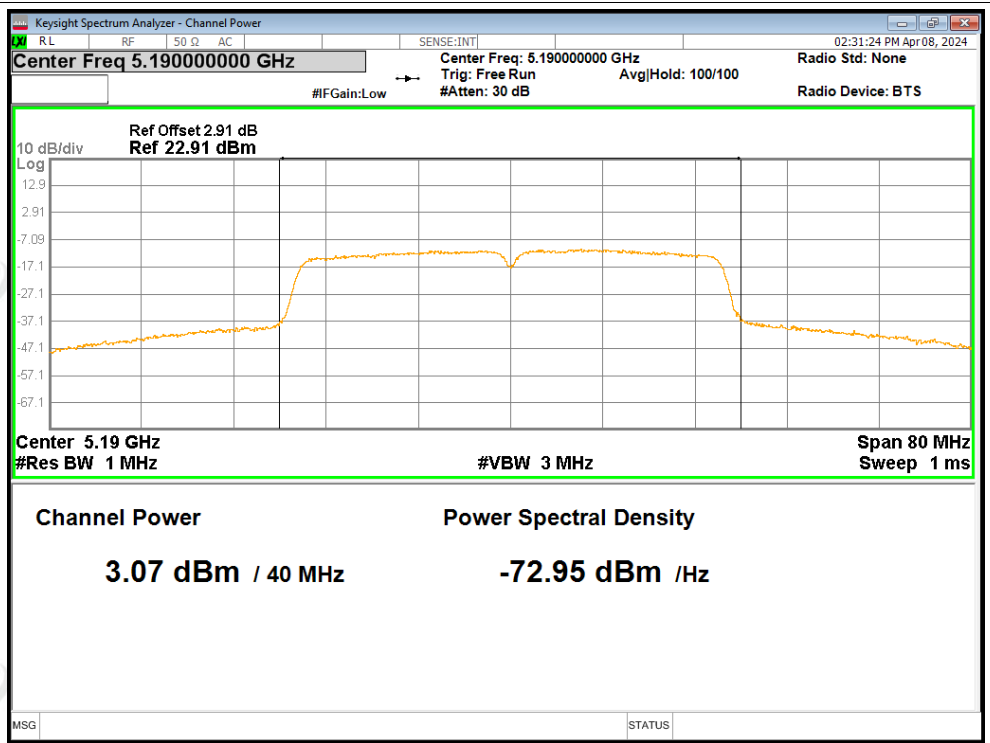


Power NVNT n20 5240MHz Ant1

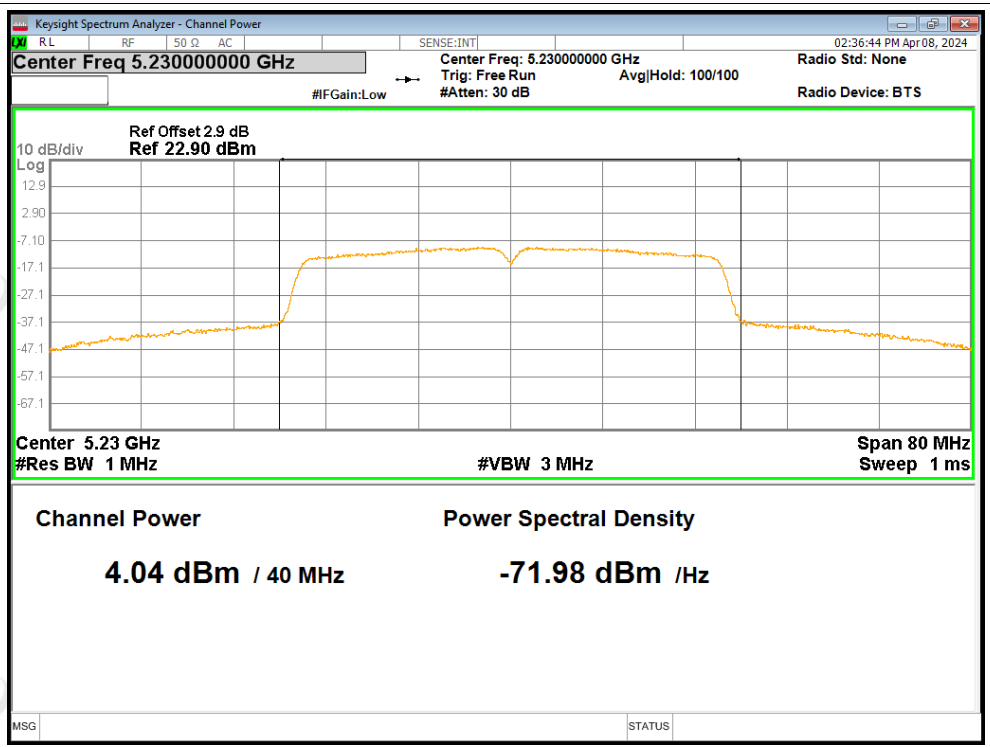




Power NVNT n40 5190MHz Ant1



Power NVNT n40 5230MHz Ant1





B3. -26dB Bandwidth

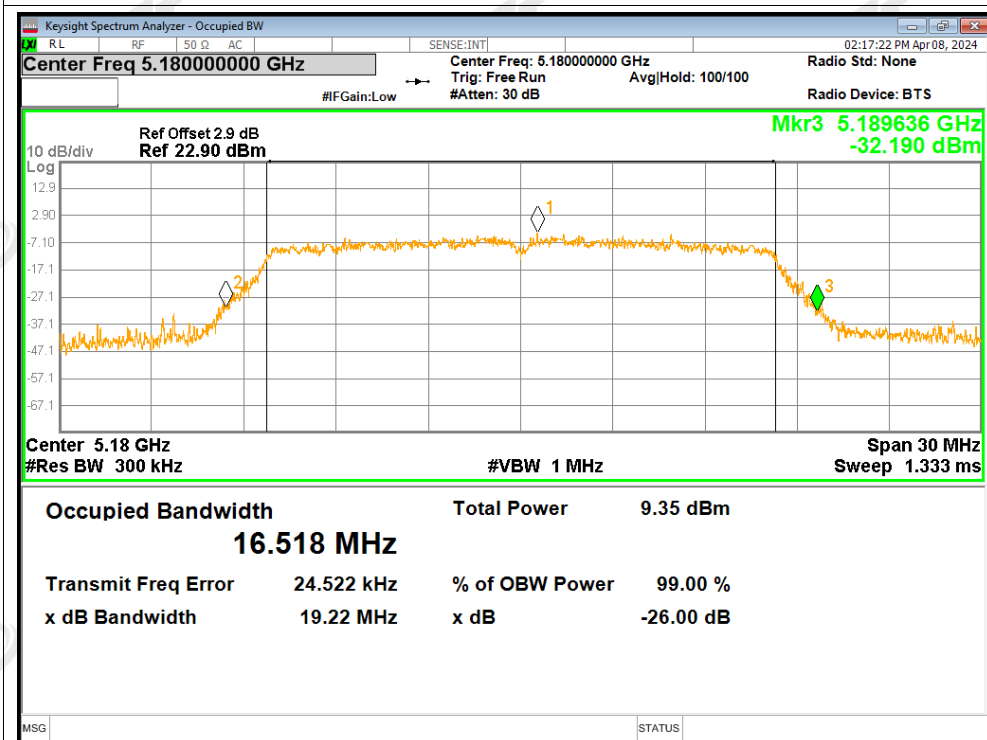
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Limit -26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	19.223	0.5	Pass
NVNT	a	5200	Ant1	19.314	0.5	Pass
NVNT	a	5240	Ant1	19.461	0.5	Pass
NVNT	n20	5180	Ant1	23.87	0.5	Pass
NVNT	n20	5200	Ant1	24.134	0.5	Pass
NVNT	n20	5240	Ant1	22.057	0.5	Pass
NVNT	n40	5190	Ant1	42.05	0.5	Pass
NVNT	n40	5230	Ant1	46.794	0.5	Pass



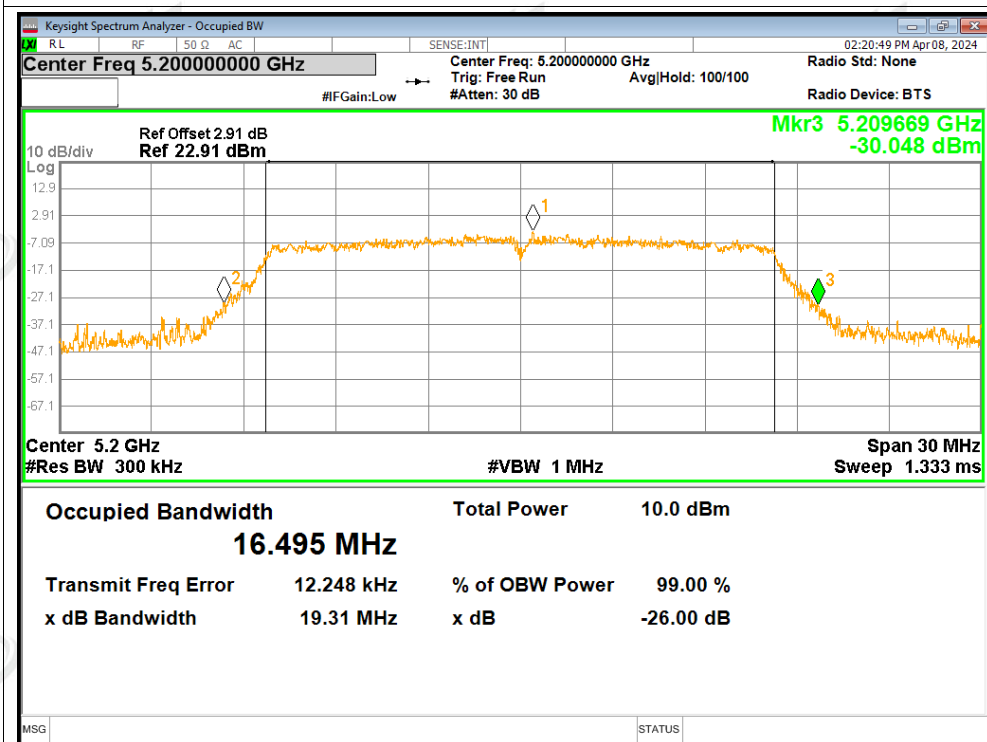


Test Graphs

-26dB Bandwidth NVNT a 5180MHz Ant1

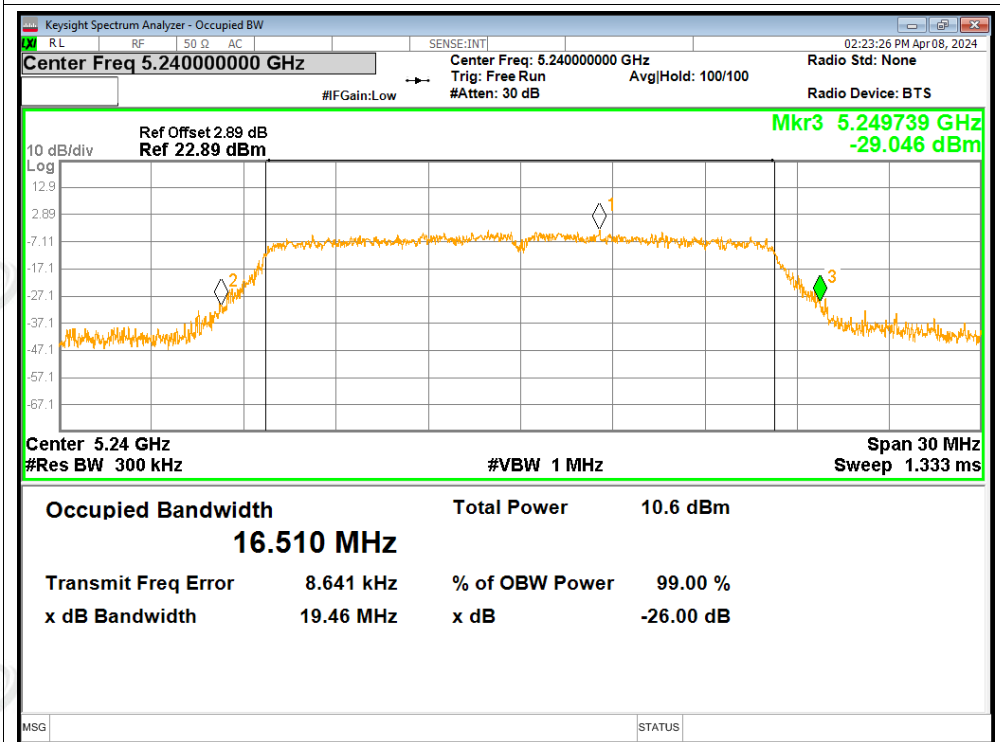


-26dB Bandwidth NVNT a 5200MHz Ant1

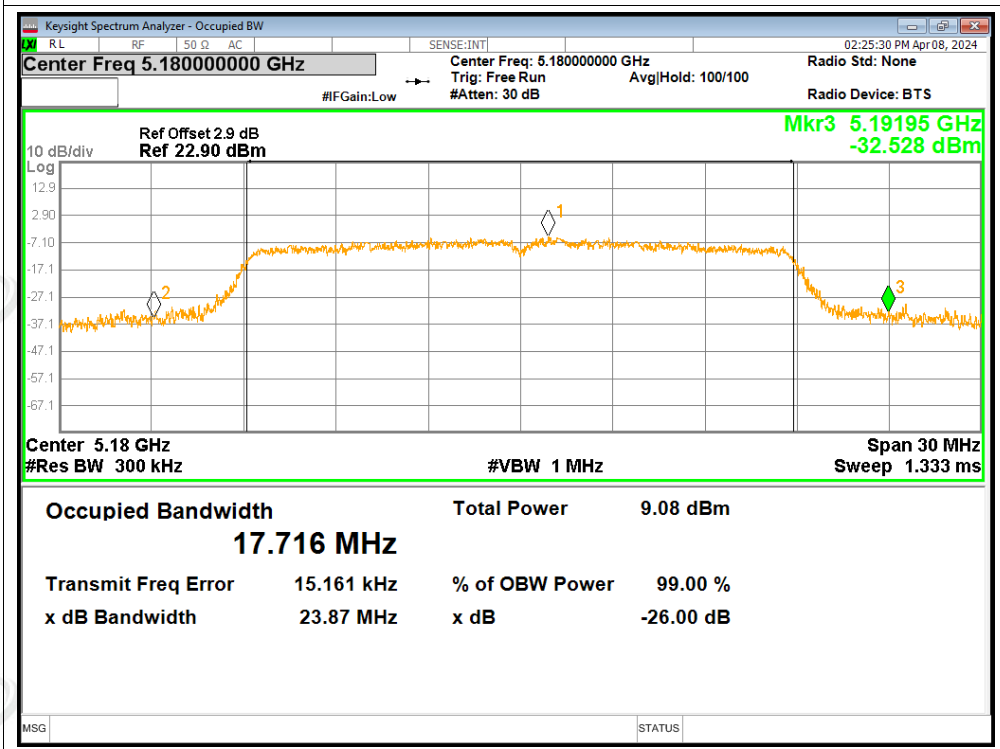




-26dB Bandwidth NVNT a 5240MHz Ant1

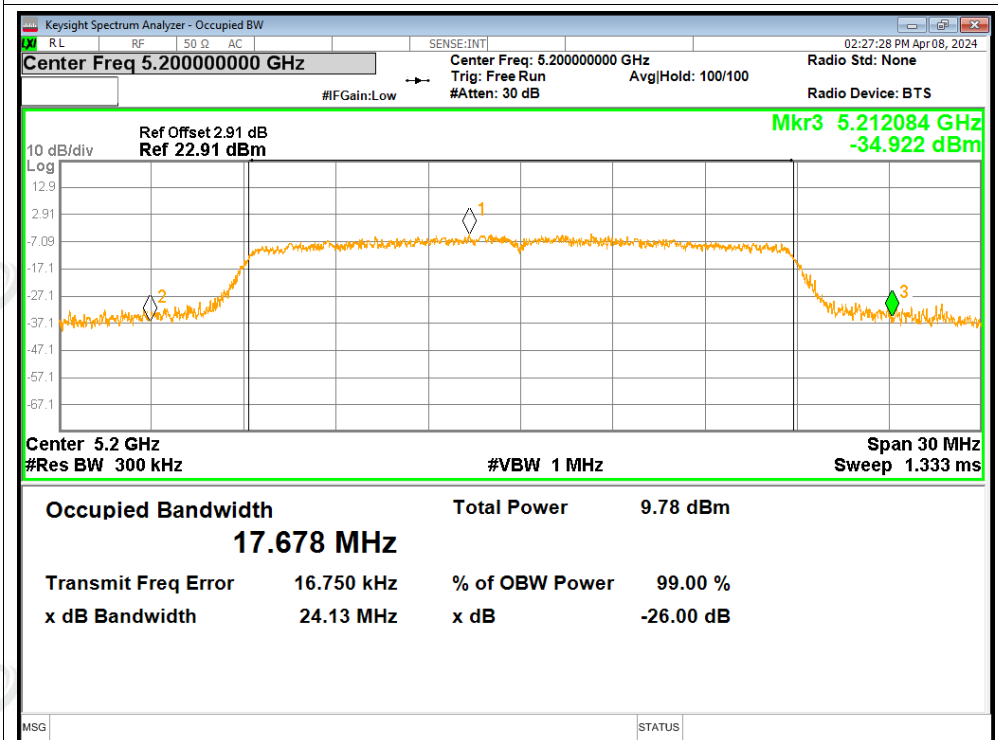


-26dB Bandwidth NVNT n20 5180MHz Ant1

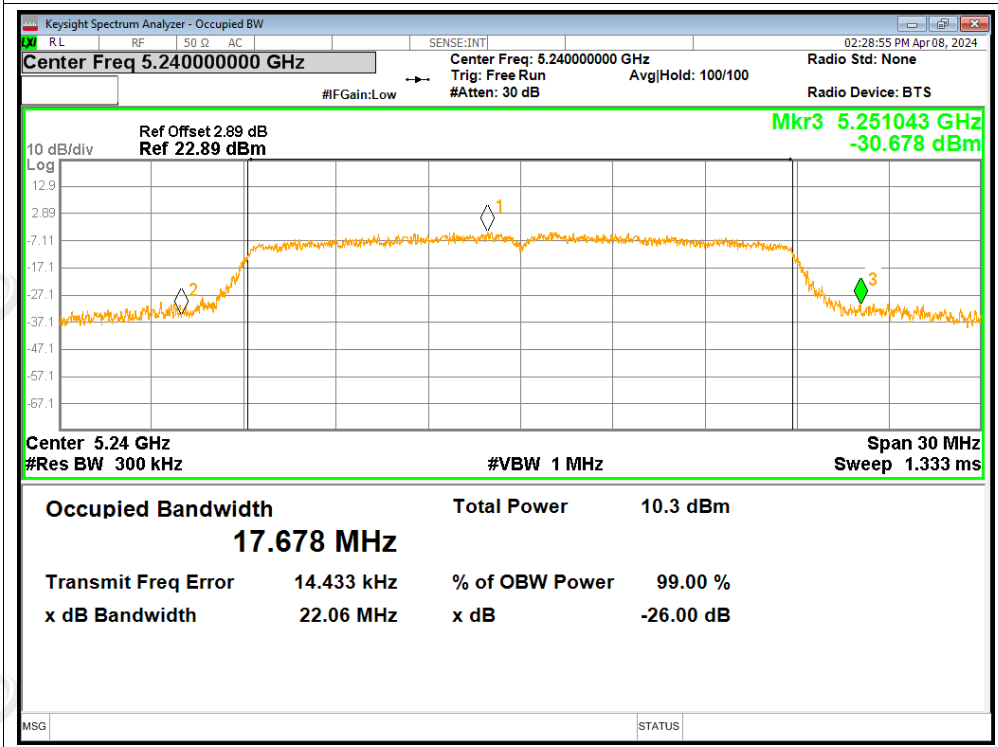




-26dB Bandwidth NVNT n20 5200MHz Ant1

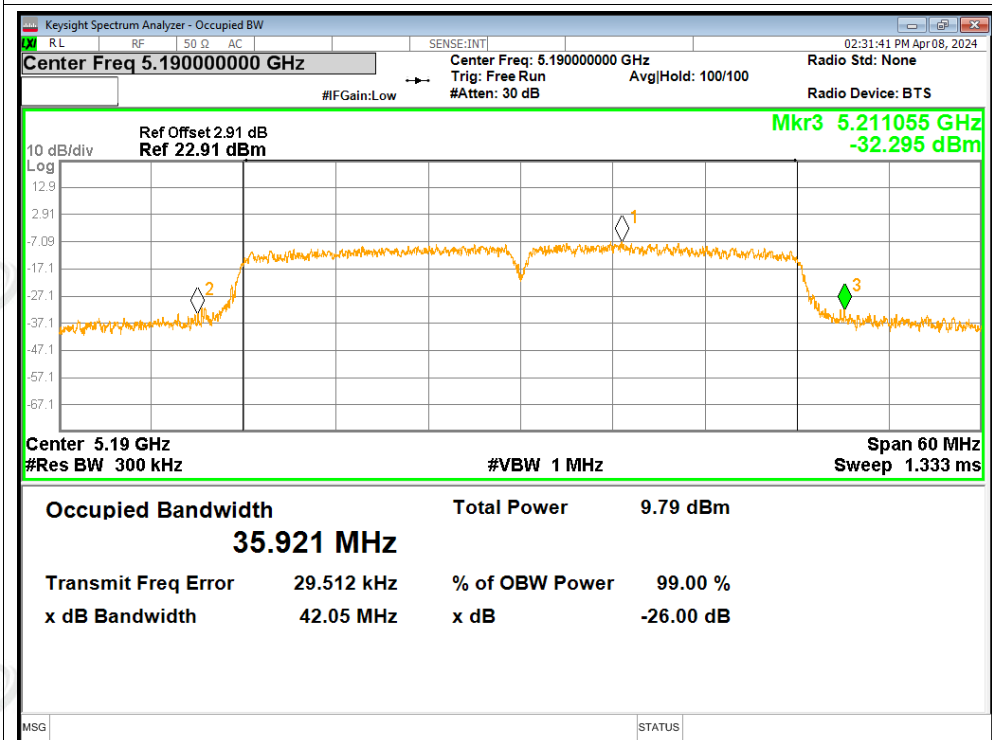


-26dB Bandwidth NVNT n20 5240MHz Ant1

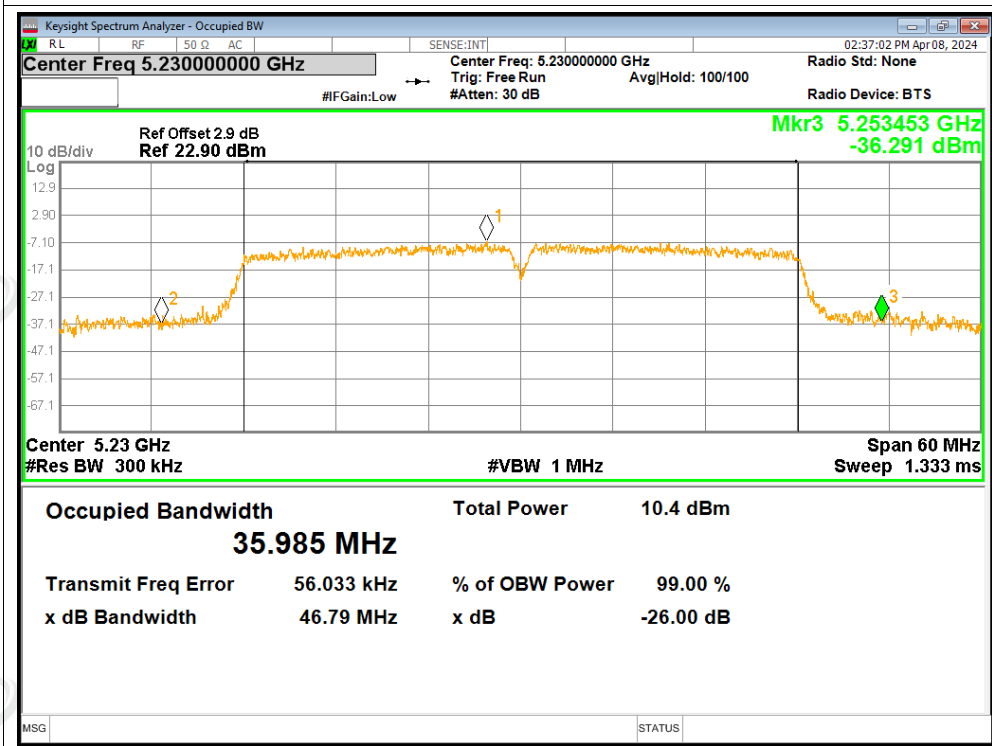




-26dB Bandwidth NVNT n40 5190MHz Ant1



-26dB Bandwidth NVNT n40 5230MHz Ant1







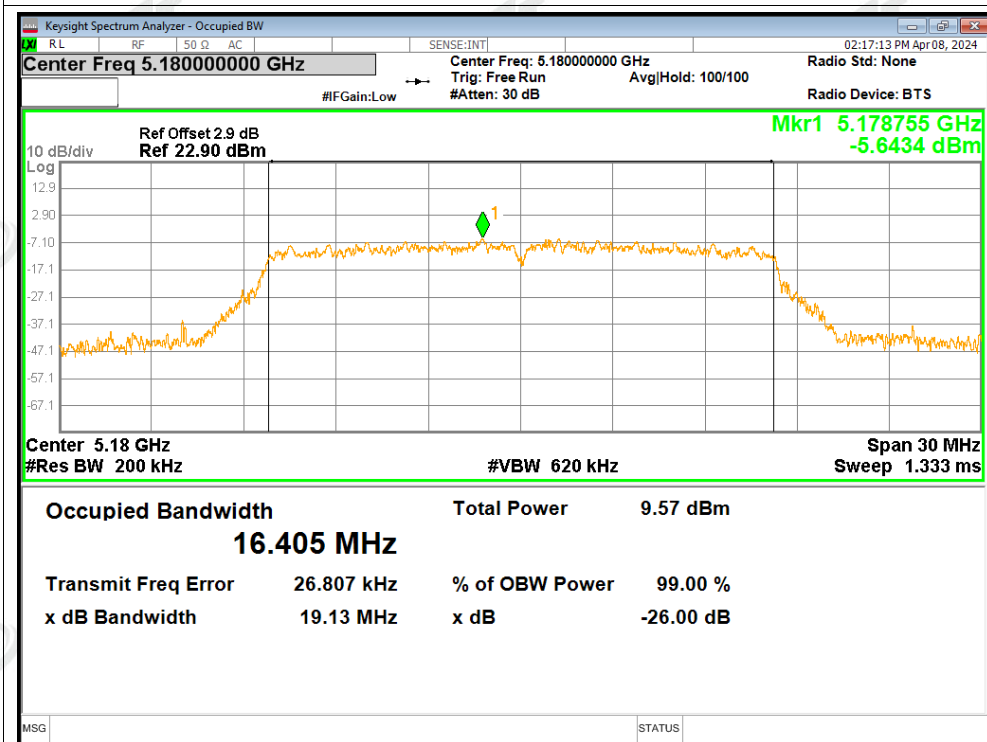
**B4. Occupied Channel Bandwidth**

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5180	Ant1	16.405
NVNT	a	5200	Ant1	16.396
NVNT	a	5240	Ant1	16.409
NVNT	n20	5180	Ant1	17.63
NVNT	n20	5200	Ant1	17.588
NVNT	n20	5240	Ant1	17.592
NVNT	n40	5190	Ant1	36.032
NVNT	n40	5230	Ant1	36.063

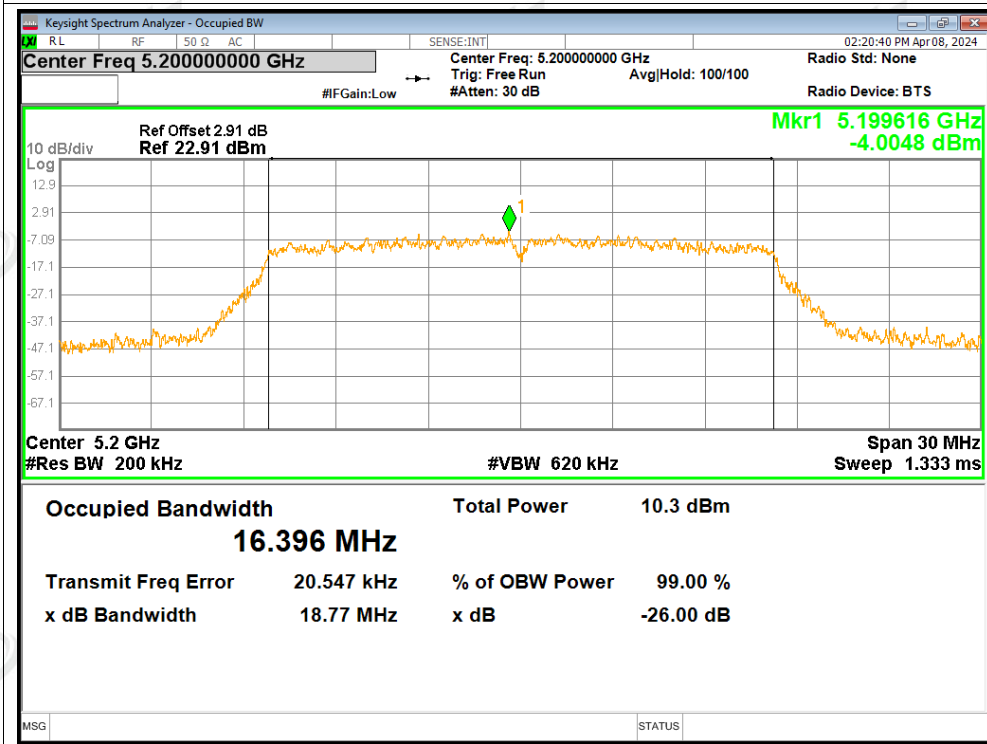


Test Graphs

OBW NVNT a 5180MHz Ant1

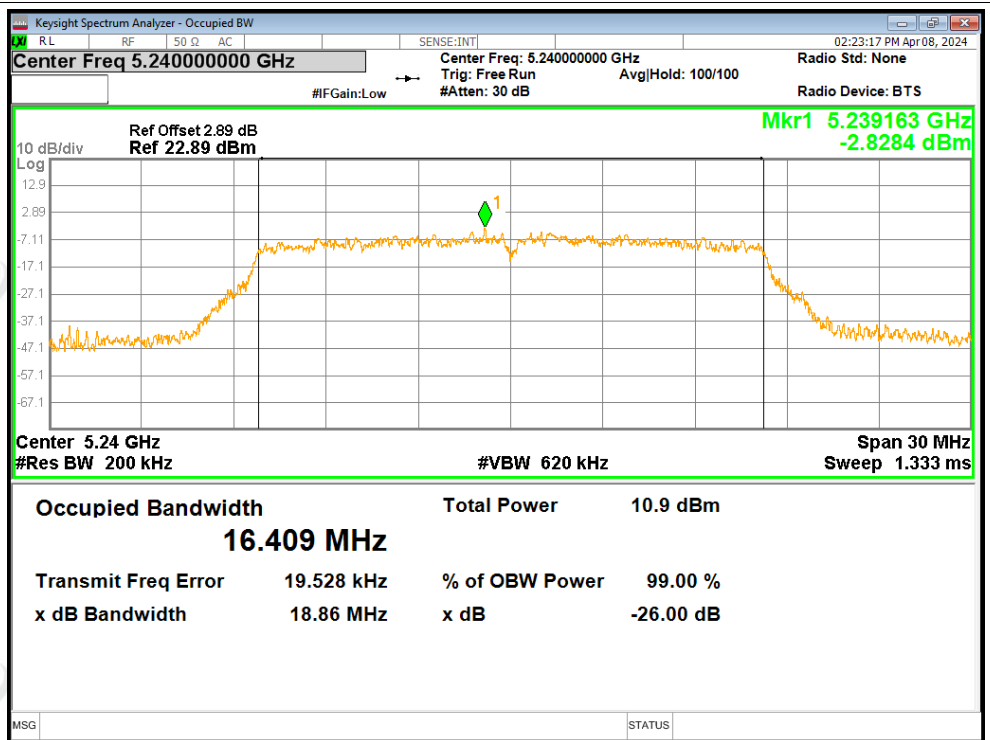


OBW NVNT a 5200MHz Ant1

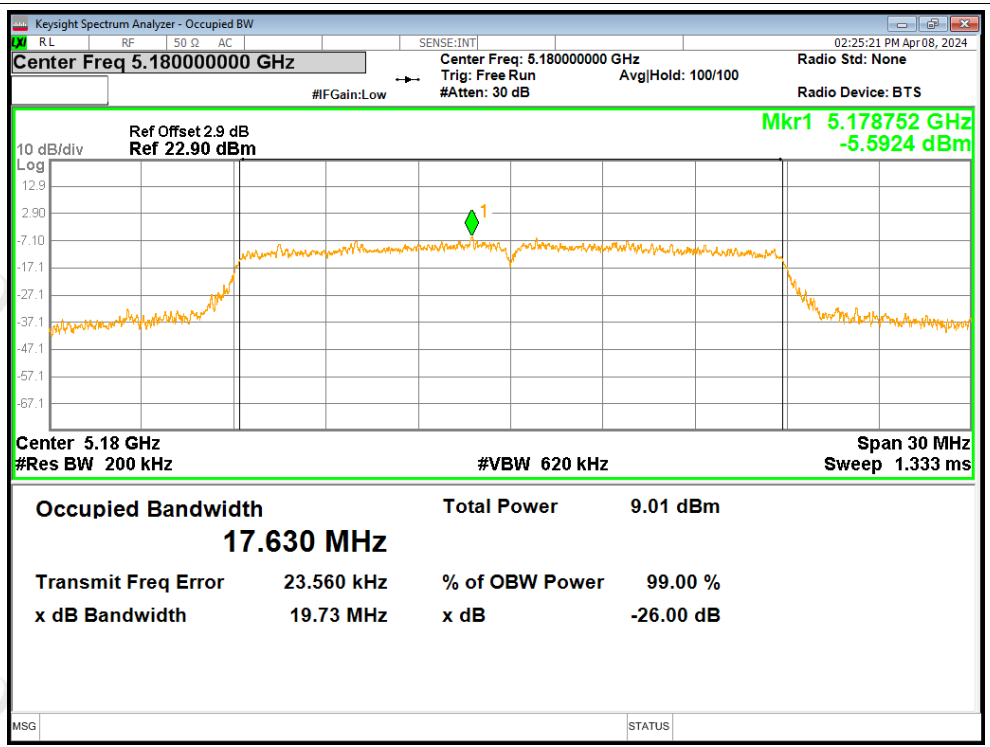




OBW NVNT a 5240MHz Ant1

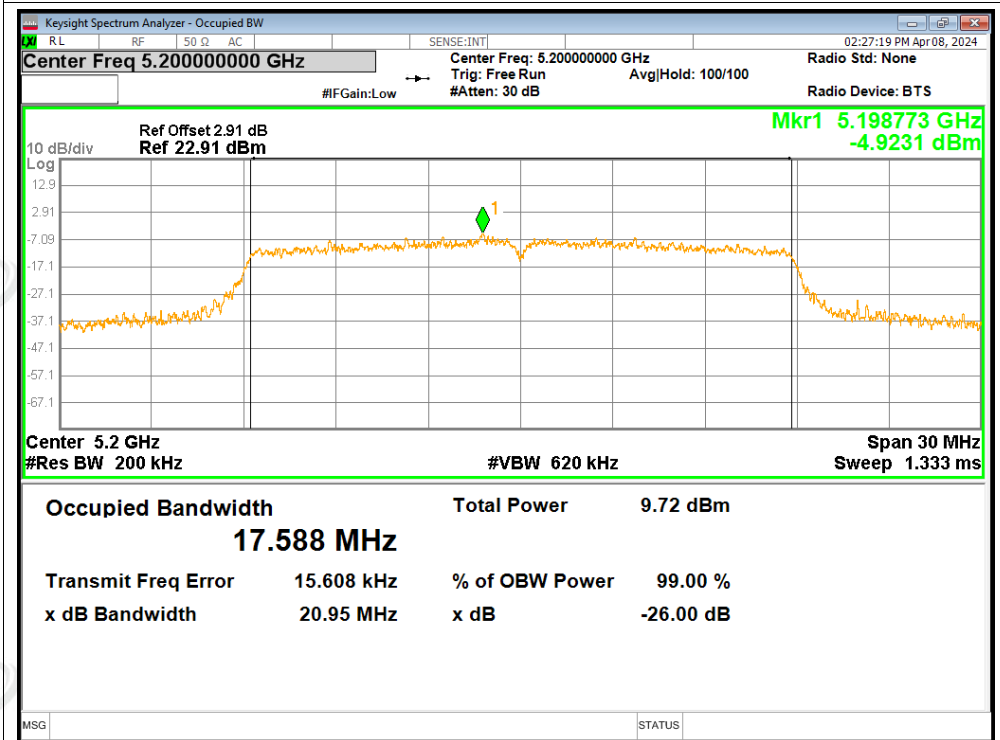


OBW NVNT n20 5180MHz Ant1

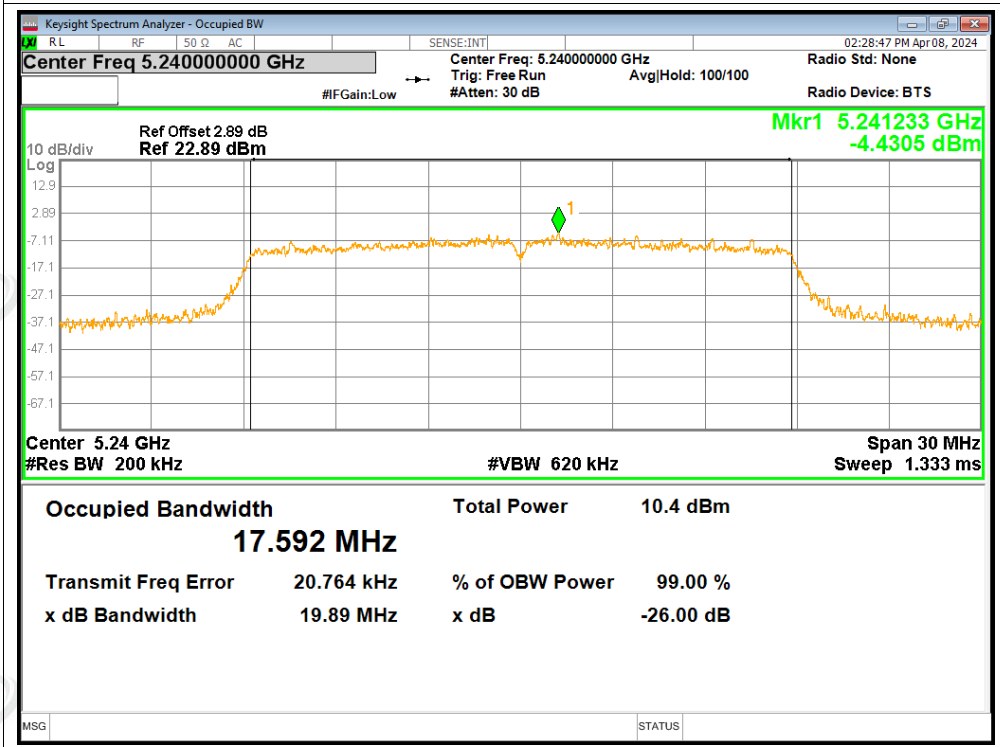




OBW NVNT n20 5200MHz Ant1

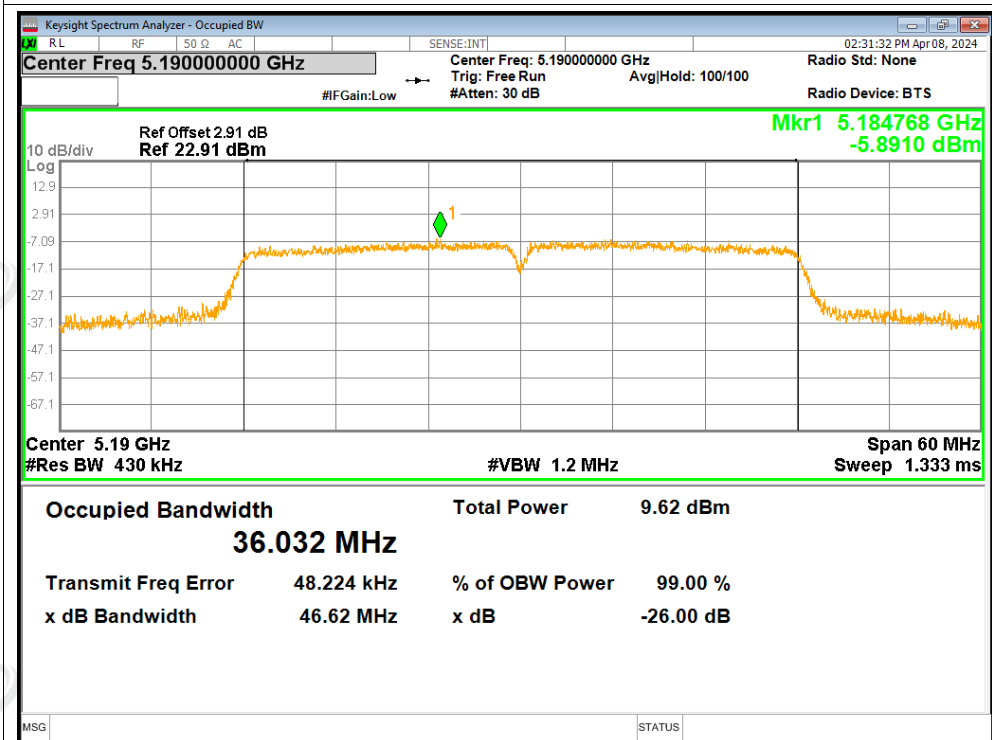


OBW NVNT n20 5240MHz Ant1

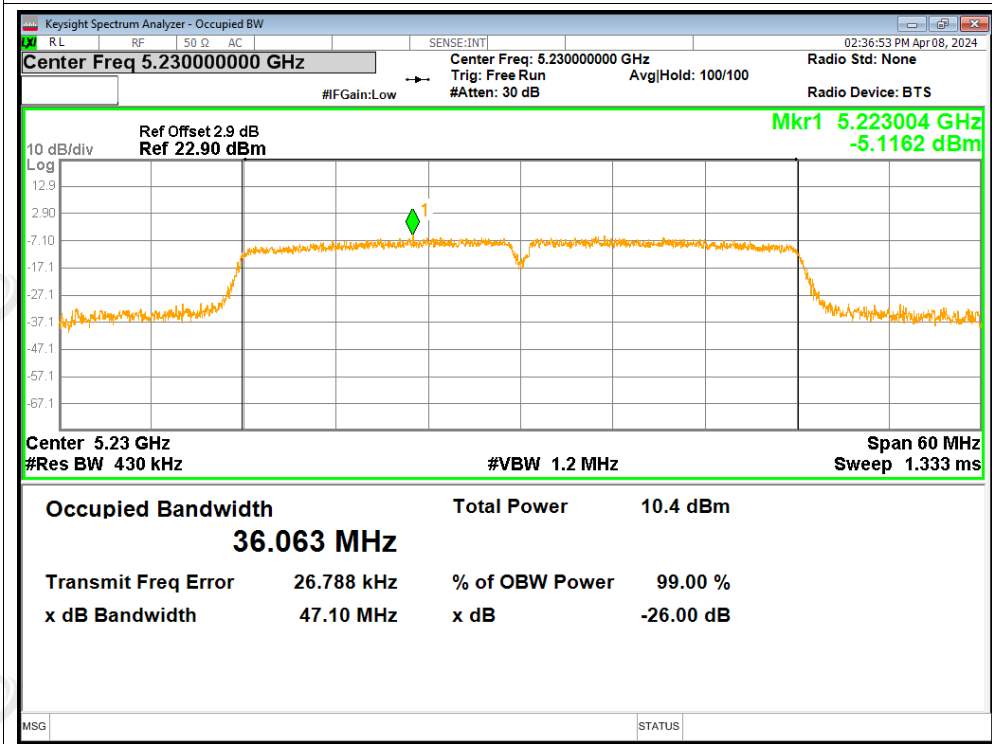




OBW NVNT n40 5190MHz Ant1



OBW NVNT n40 5230MHz Ant1





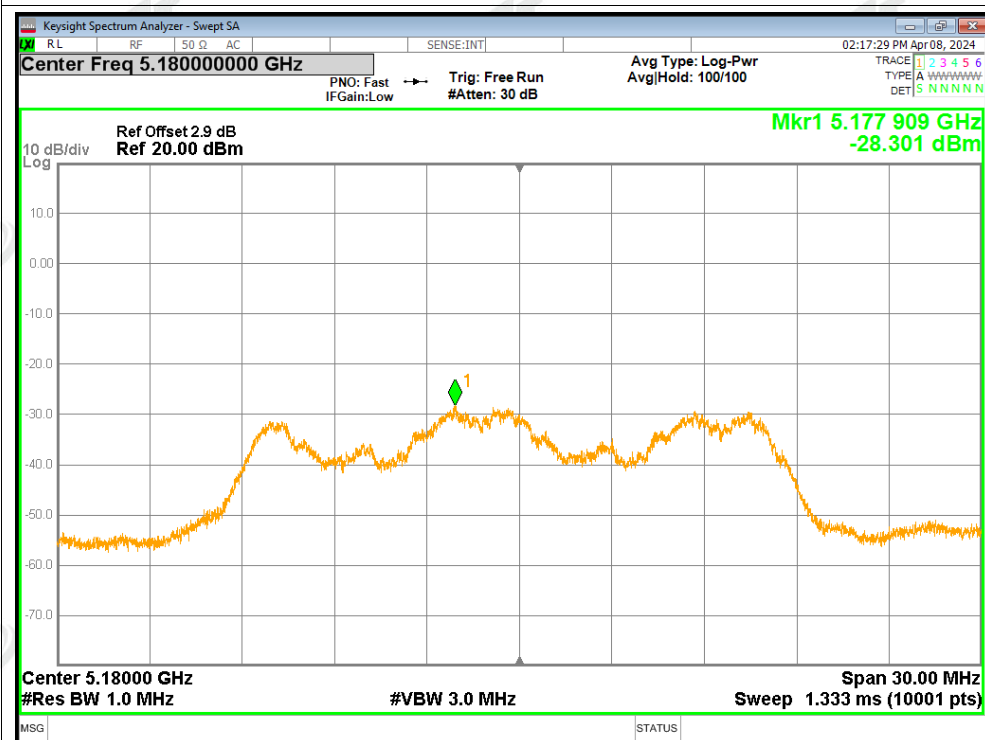
**B5. Maximum Power Spectral Density Level**

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	-28.3	2.96	-25.34	11	Pass
NVNT	a	5200	Ant1	-29.69	2.91	-26.78	11	Pass
NVNT	a	5240	Ant1	-28.57	2.91	-25.66	11	Pass
NVNT	n20	5180	Ant1	-12.53	0.54	-11.99	11	Pass
NVNT	n20	5200	Ant1	-11.66	0.53	-11.13	11	Pass
NVNT	n20	5240	Ant1	-11.77	0.53	-11.24	11	Pass
NVNT	n40	5190	Ant1	-16.5	0	-16.5	11	Pass
NVNT	n40	5230	Ant1	-19.02	0	-19.02	11	Pass

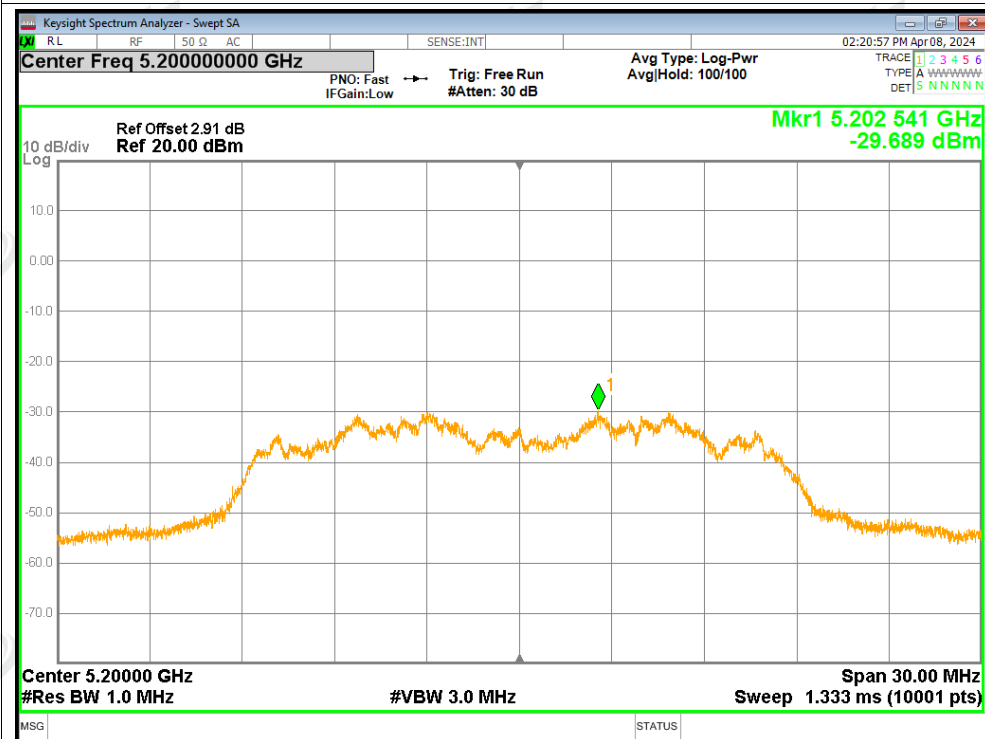


Test Graphs

PSD NVNT a 5180MHz Ant1

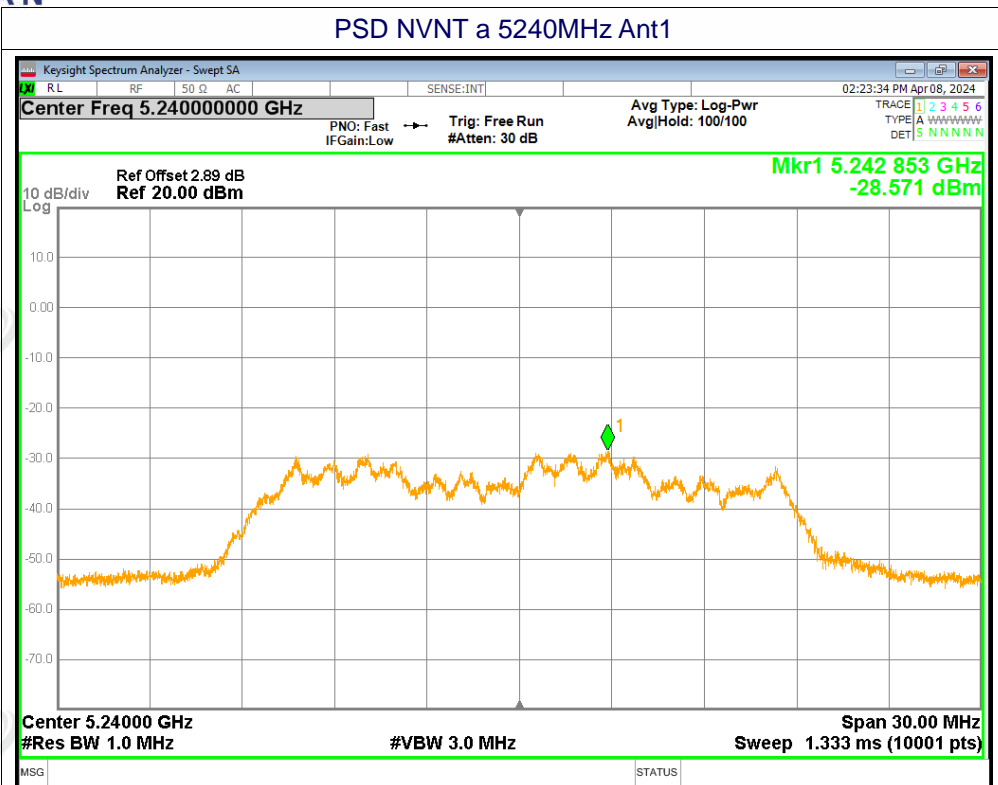


PSD NVNT a 5200MHz Ant1

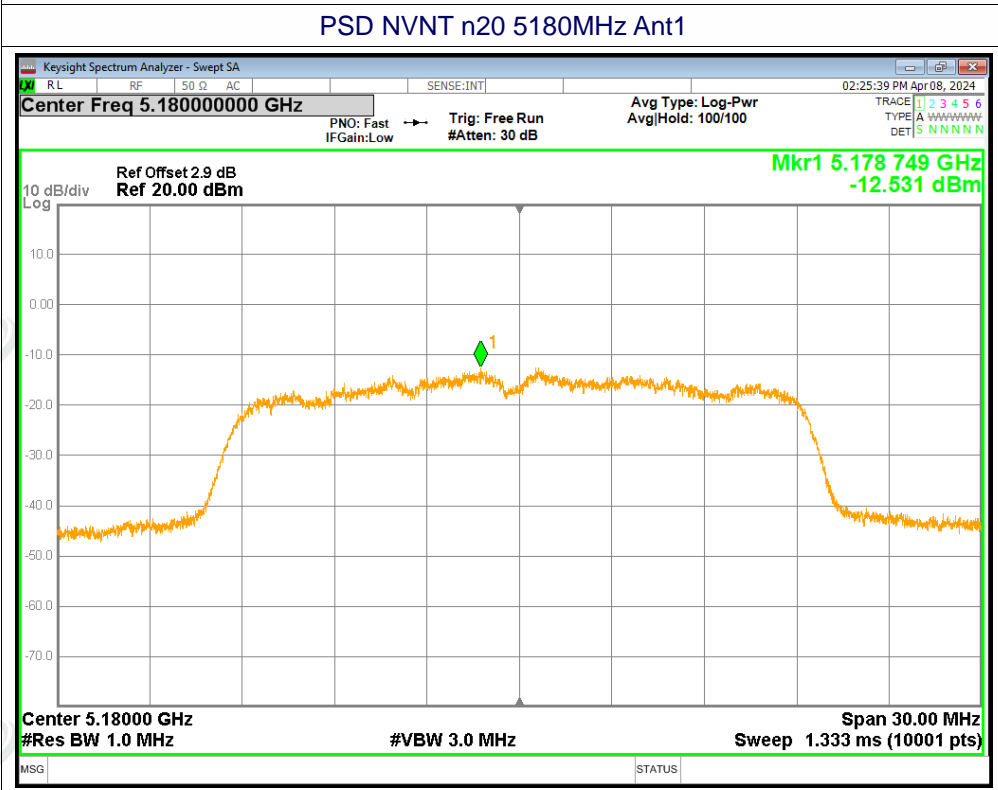




PSD NVNT a 5240MHz Ant1



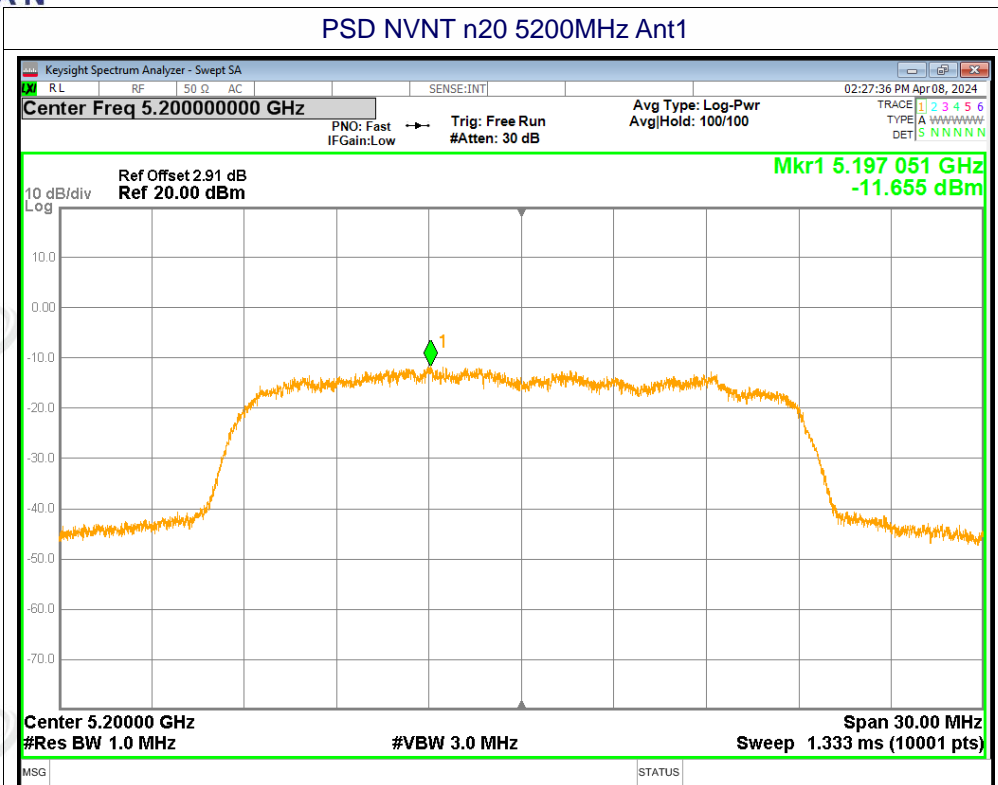
PSD NVNT n20 5180MHz Ant1



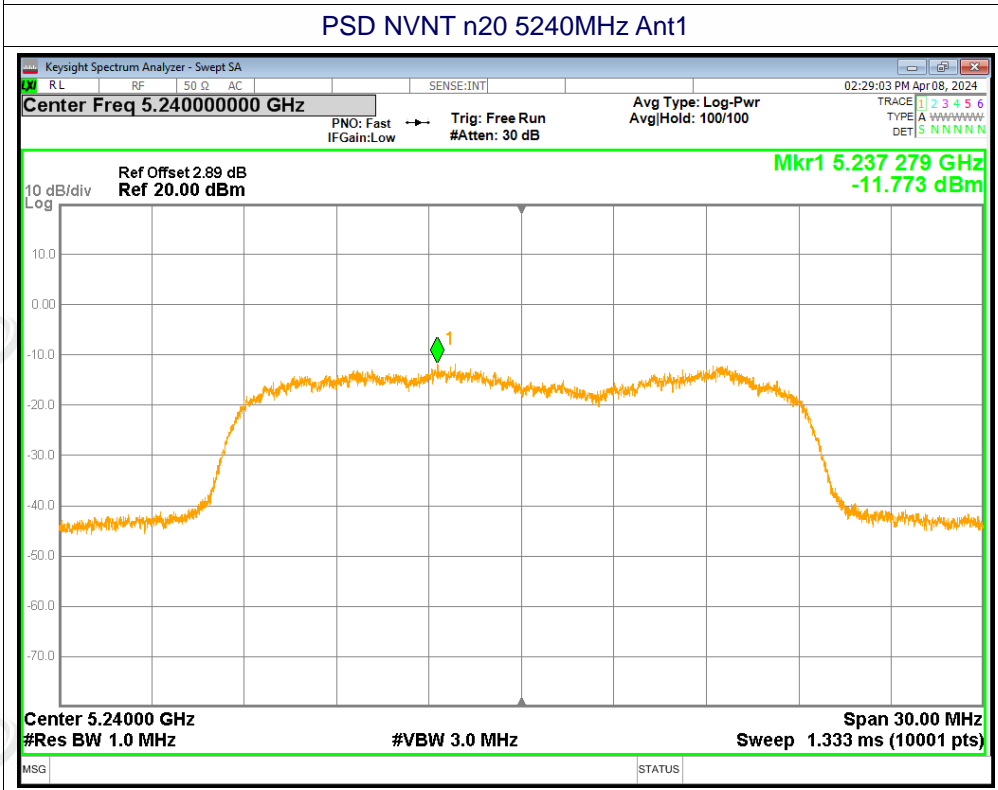




PSD NVNT n20 5200MHz Ant1

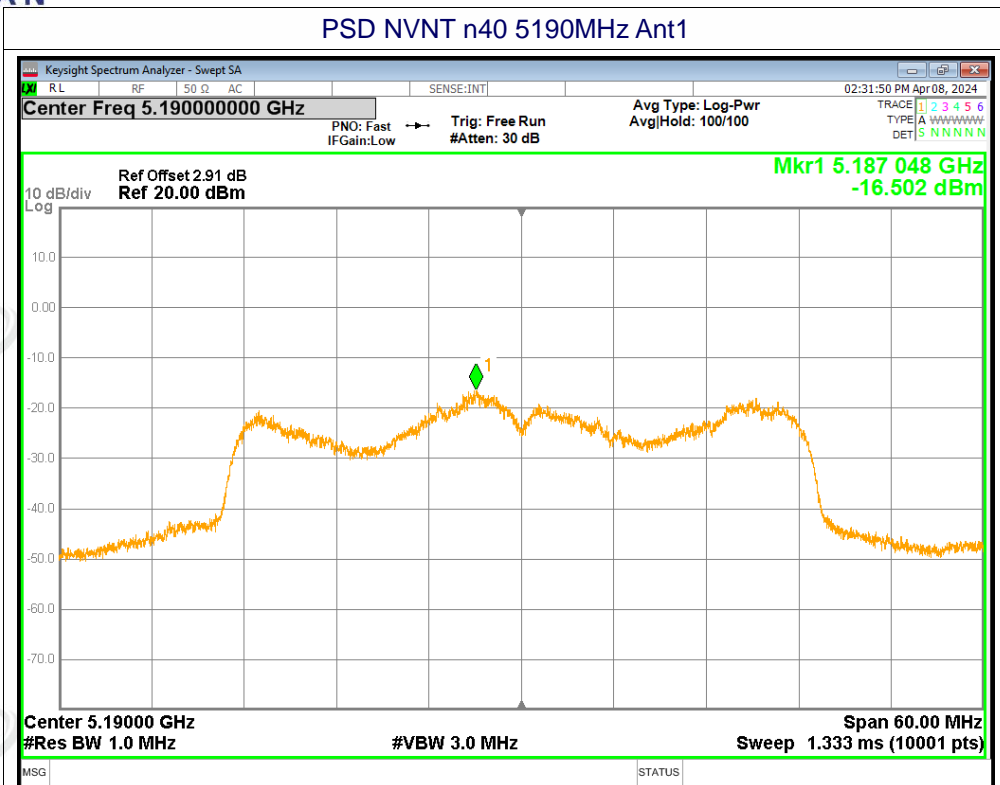


PSD NVNT n20 5240MHz Ant1

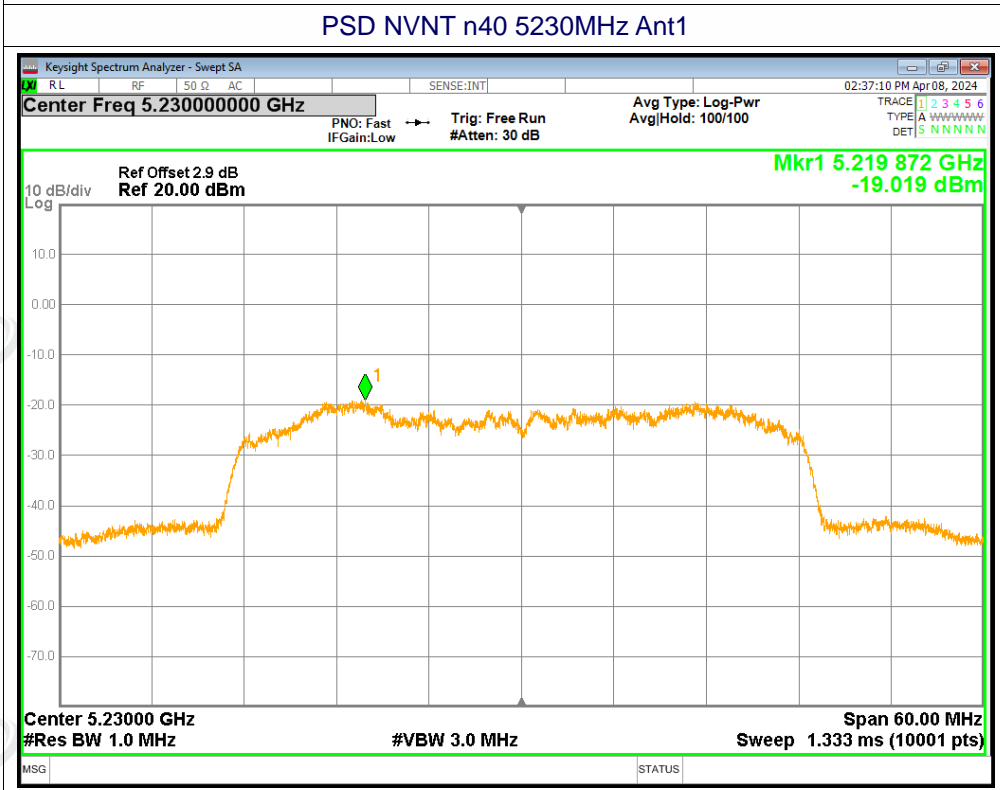




PSD NVNT n40 5190MHz Ant1



PSD NVNT n40 5230MHz Ant1





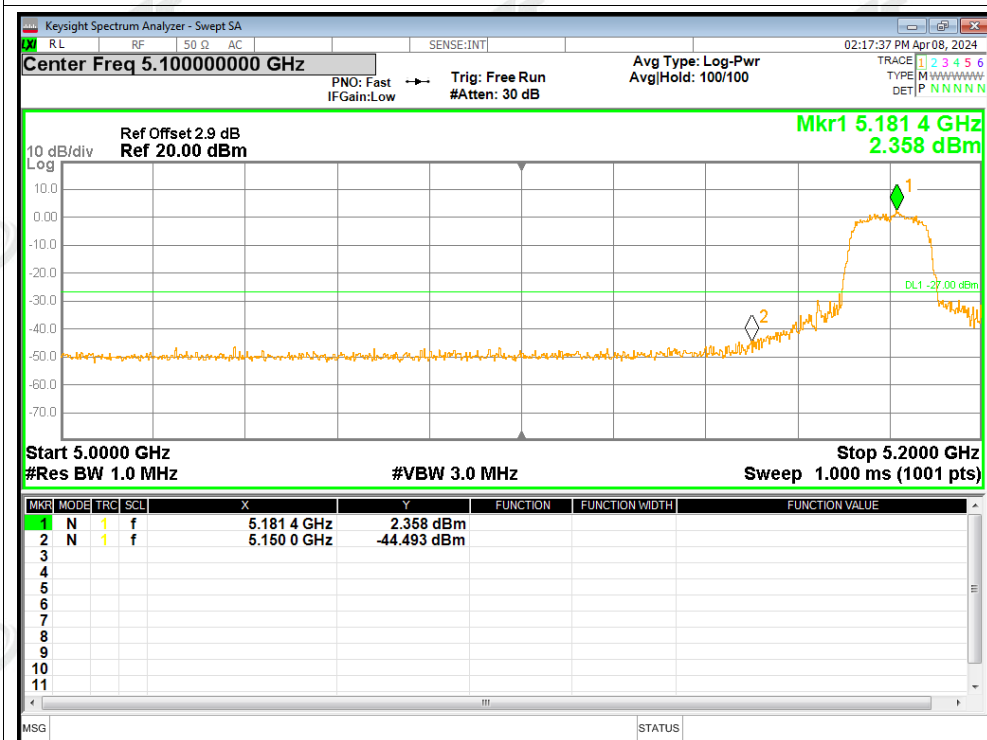
**B6. Band Edge**

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	Ant1	-44.49	-27	Pass
NVNT	a	5240	Ant1	-45.95	-27	Pass
NVNT	n20	5180	Ant1	-46.78	-27	Pass
NVNT	n20	5240	Ant1	-46.27	-27	Pass
NVNT	n40	5190	Ant1	-37.06	-27	Pass
NVNT	n40	5230	Ant1	-45.39	-27	Pass

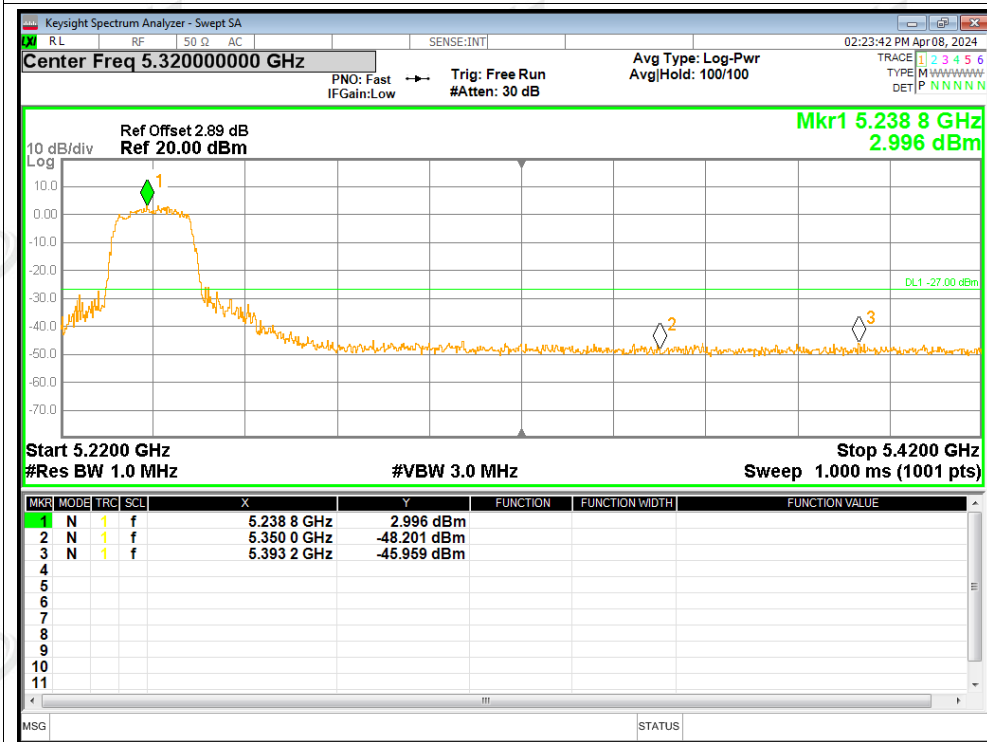


Test Graphs

Band Edge NVNT a 5180MHz Low Ant1

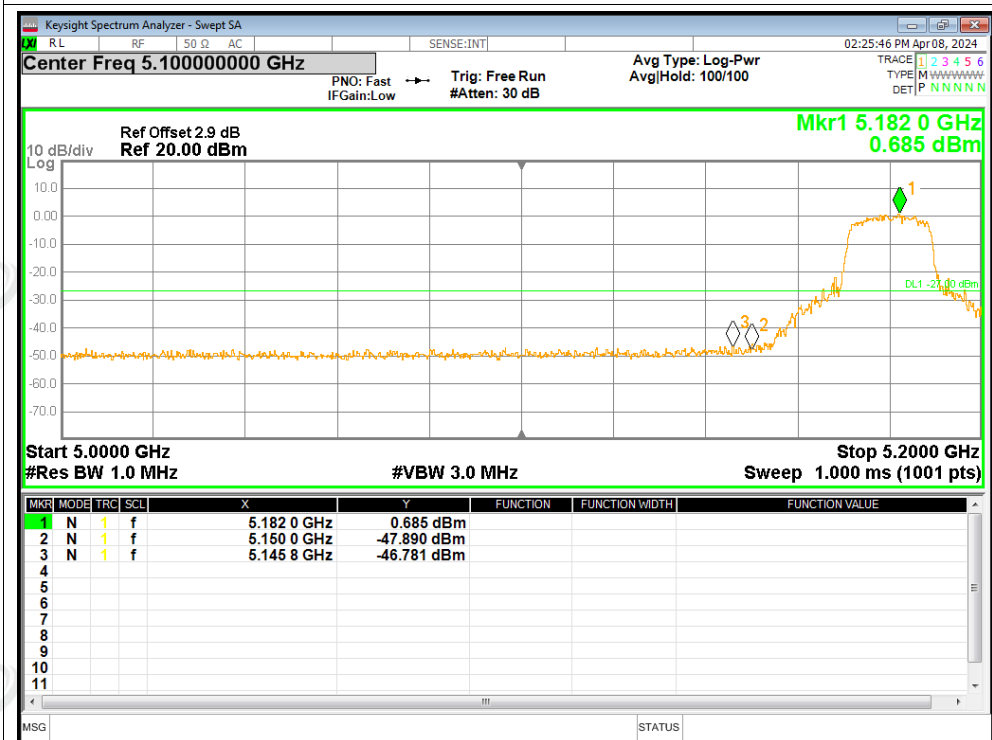


Band Edge NVNT a 5240MHz High Ant1

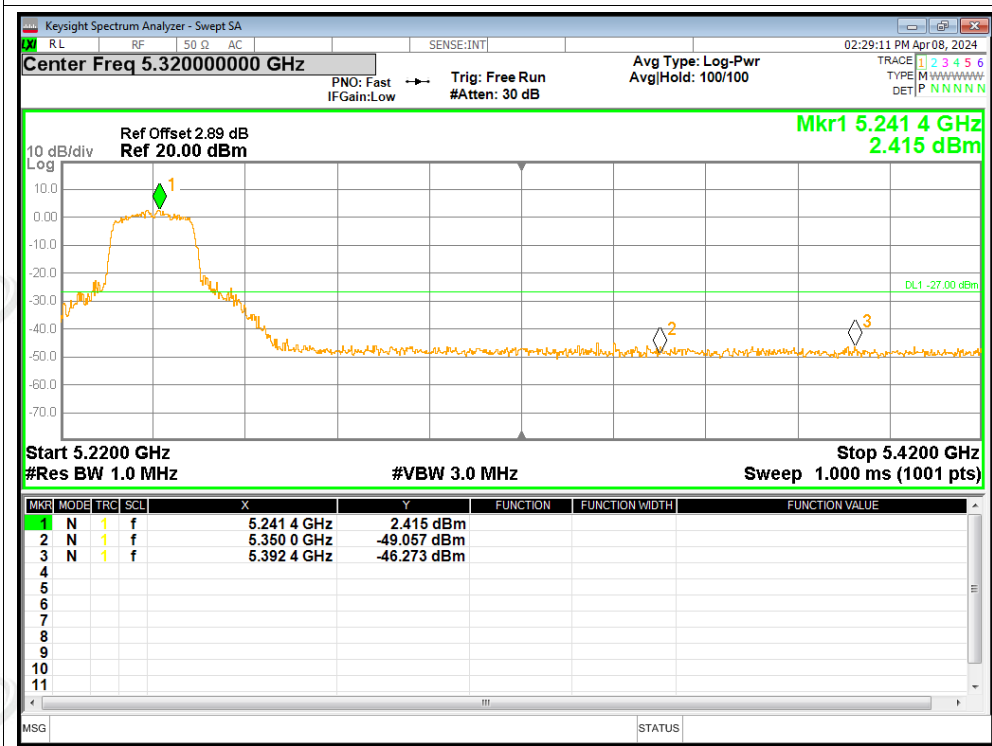




### Band Edge NVNT n20 5180MHz Low Ant1

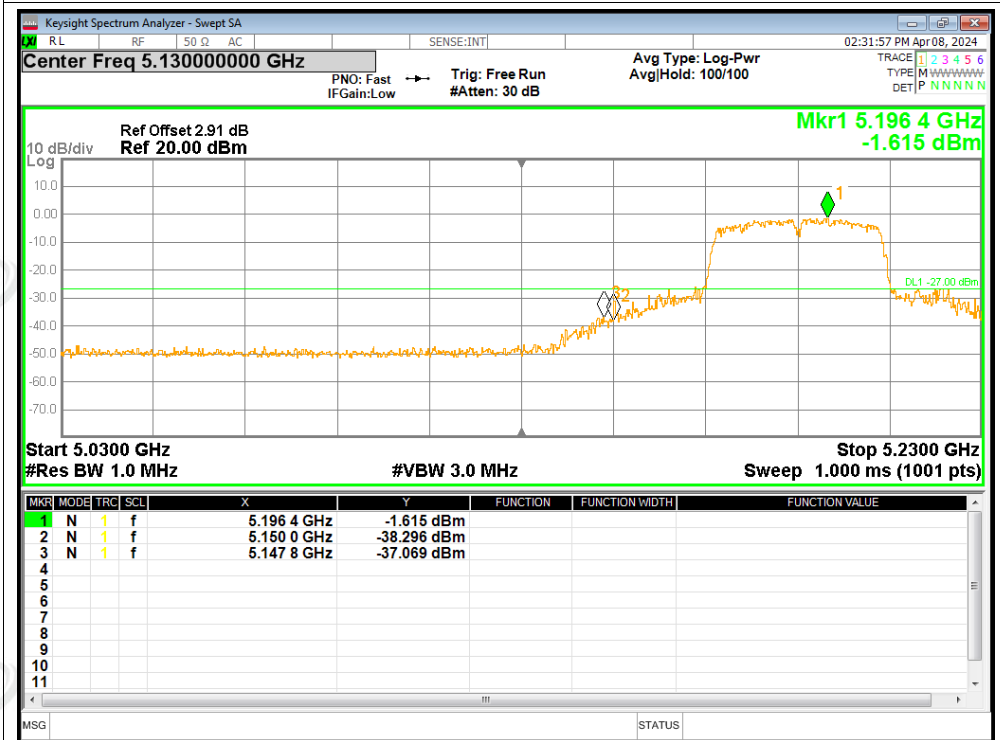


### Band Edge NVNT n20 5240MHz High Ant1

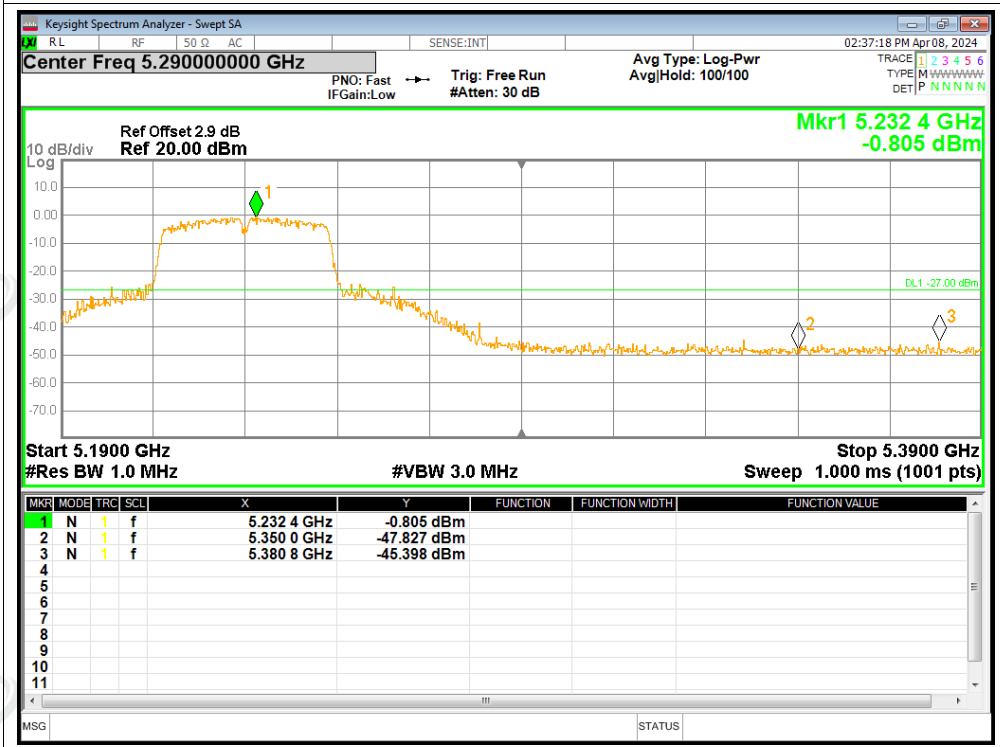




### Band Edge NVNT n40 5190MHz Low Ant1



### Band Edge NVNT n40 5230MHz High Ant1





**B7. Frequency Stability**

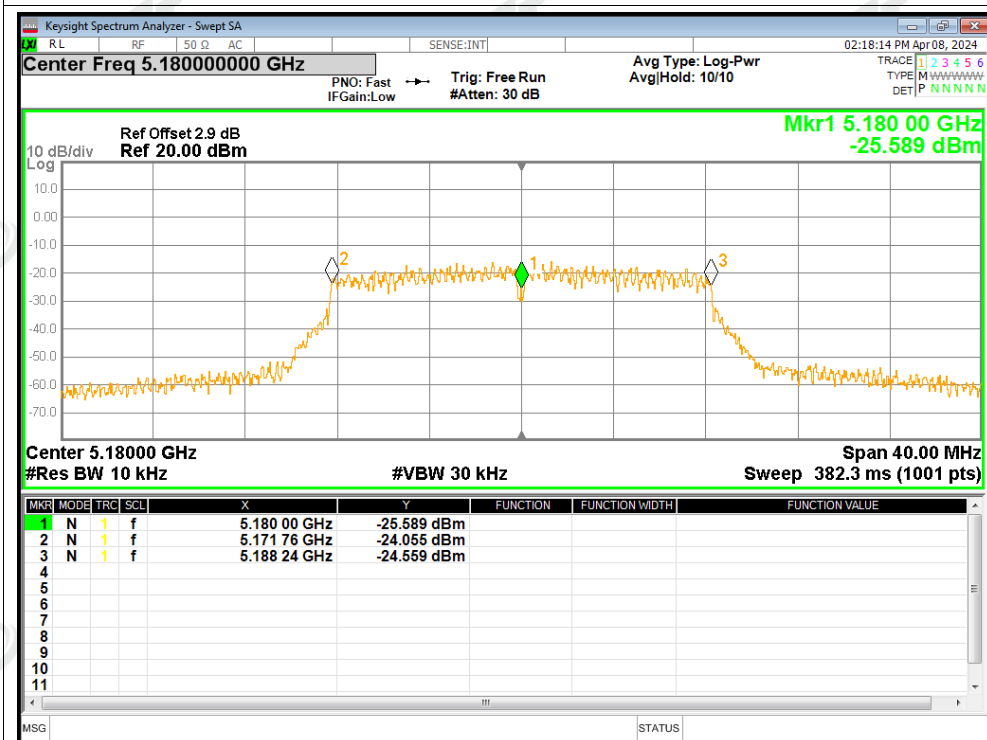
Mode	Frequency (MHz)	Antenna	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
a	5180	Ant1	0	0	Within 5180-5240MHz	Pass
a	5200	Ant1	-40000	-7.69		Pass
a	5240	Ant1	20000	3.82		Pass
n20	5180	Ant1	20000	3.86		Pass
n20	5200	Ant1	0	0		Pass
n20	5240	Ant1	20000	3.82		Pass
n40	5190	Ant1	0	0	Within 5190-5230MHz	Pass
n40	5230	Ant1	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.

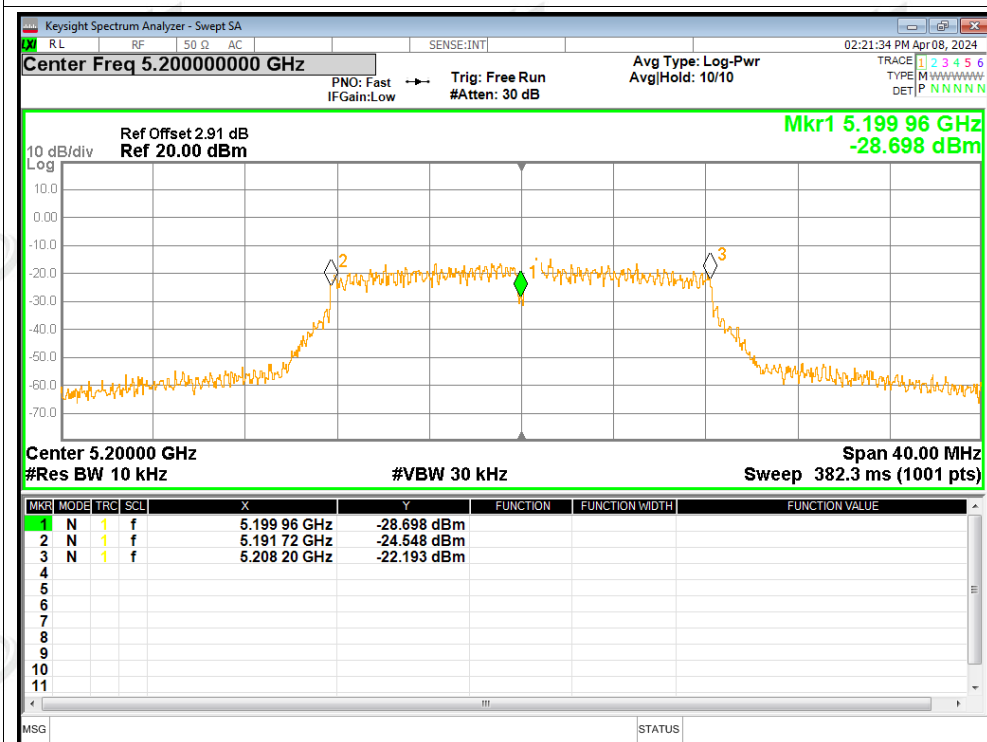


Test Graphs

Freq. Stability NVNT a 5180MHz Ant1



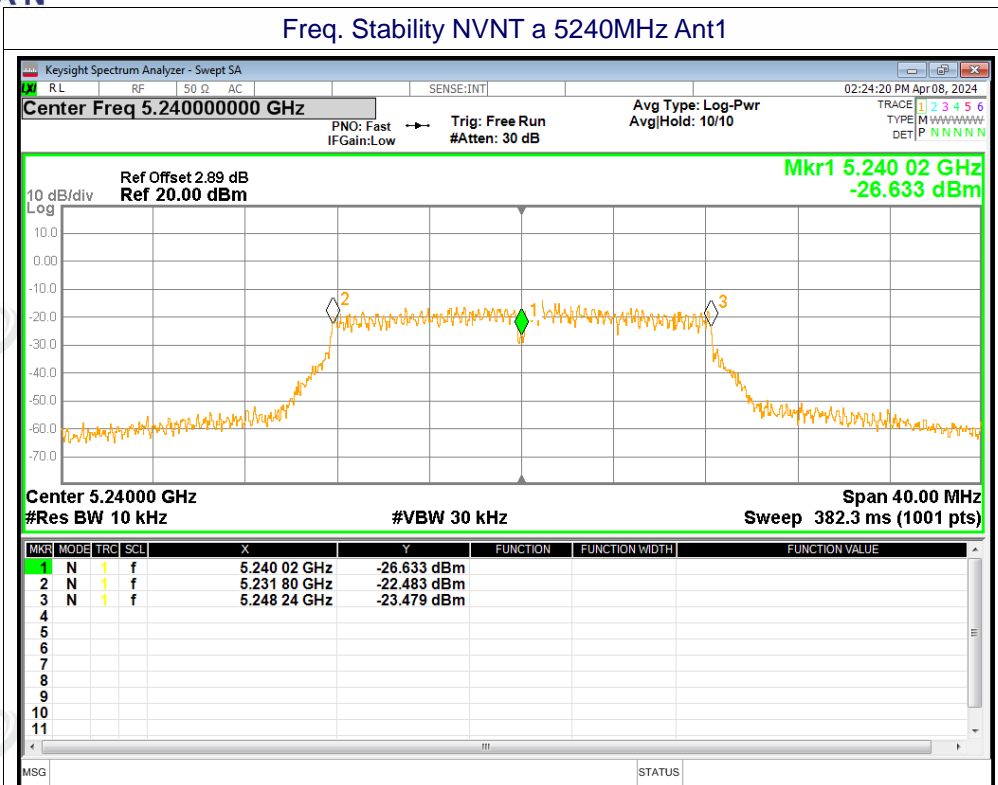
Freq. Stability NVNT a 5200MHz Ant1



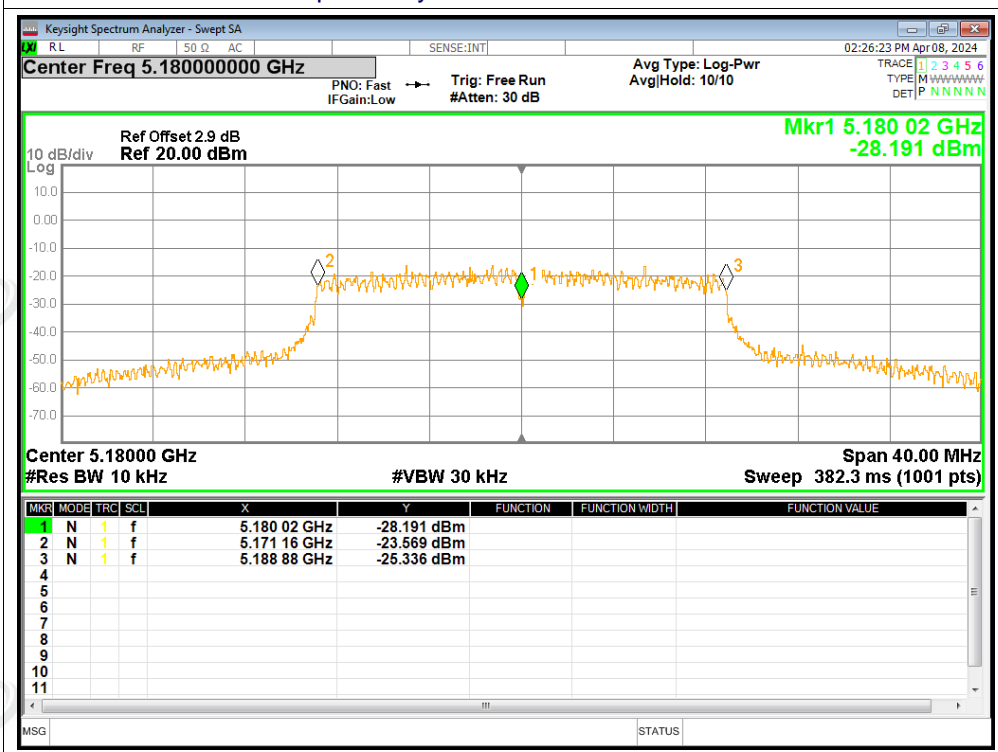




### Freq. Stability NVNT a 5240MHz Ant1

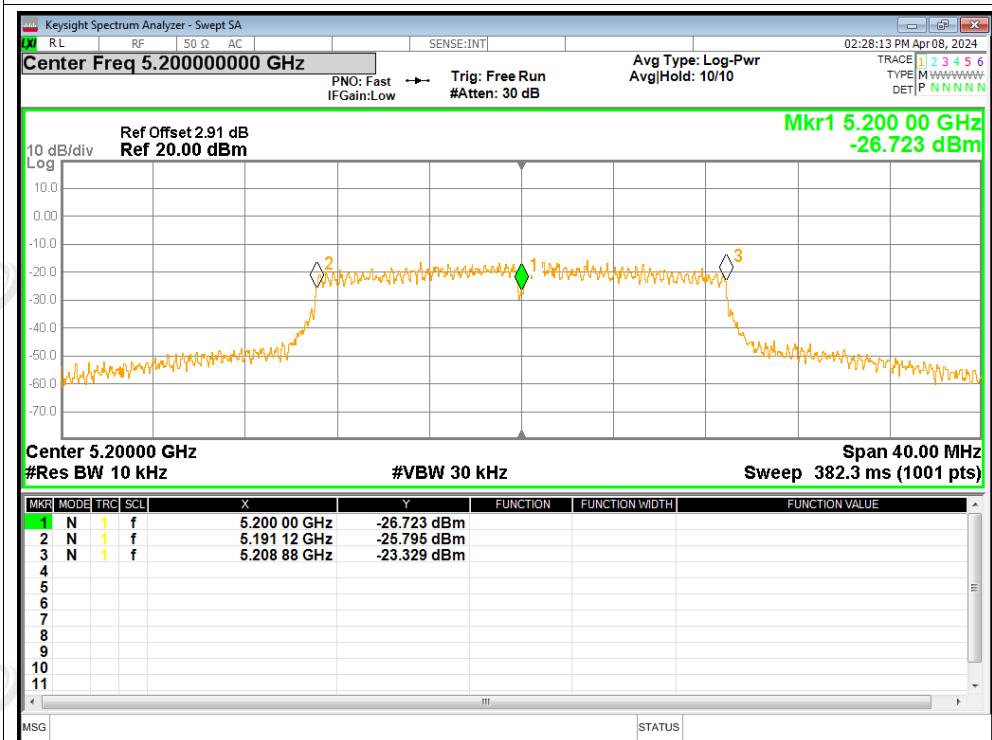


### Freq. Stability NVNT n20 5180MHz Ant1

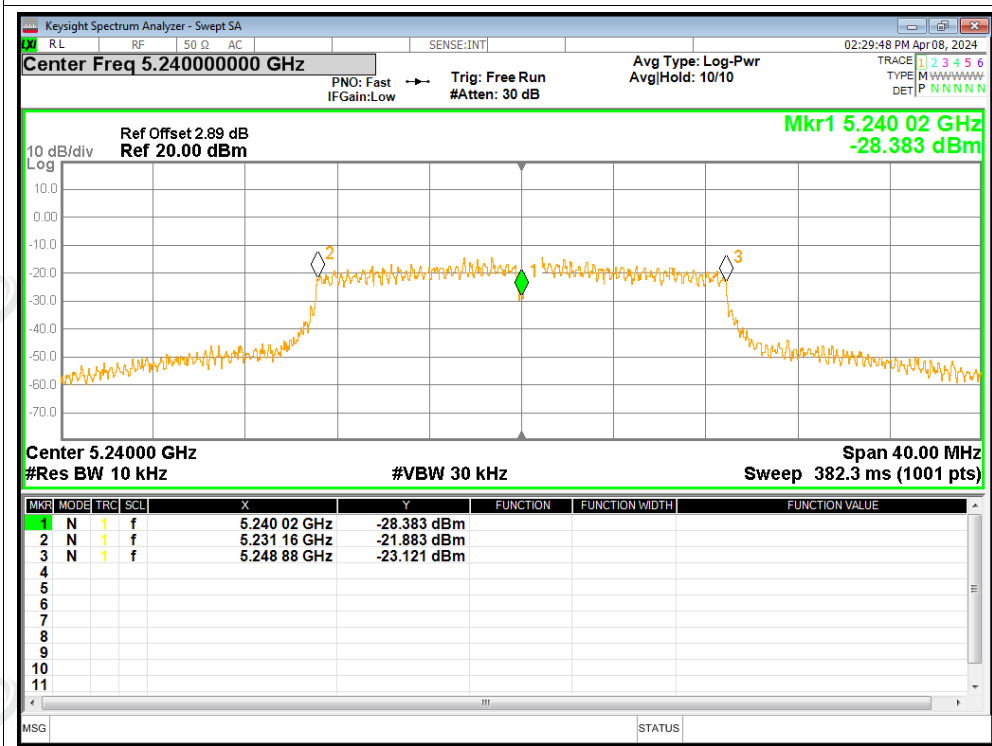




### Freq. Stability NVNT n20 5200MHz Ant1

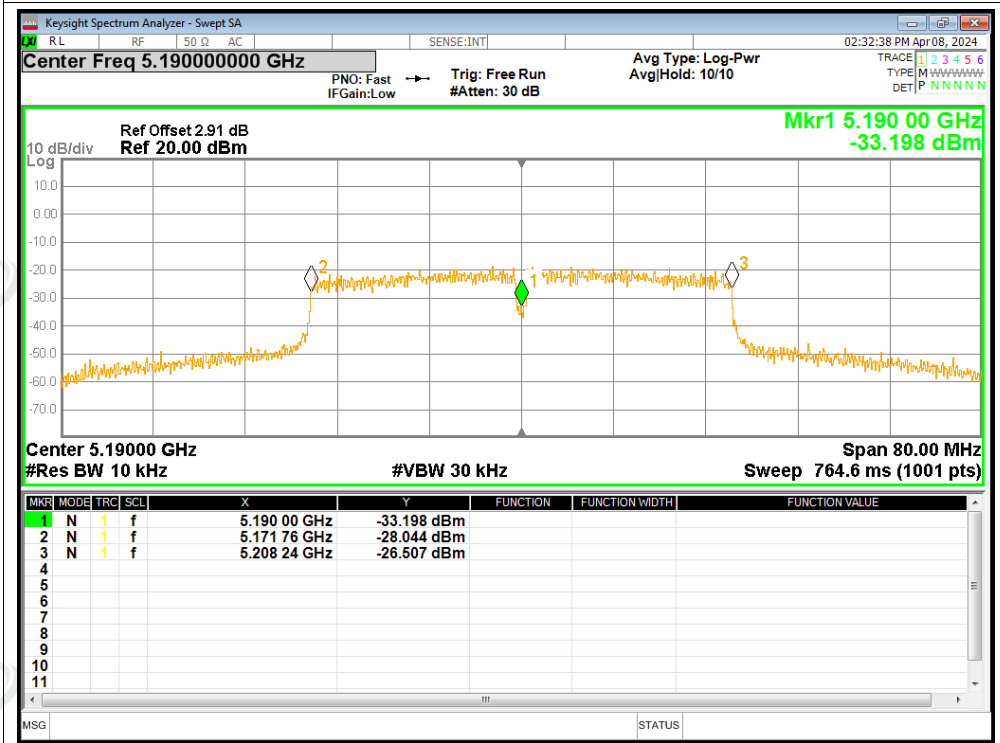


### Freq. Stability NVNT n20 5240MHz Ant1

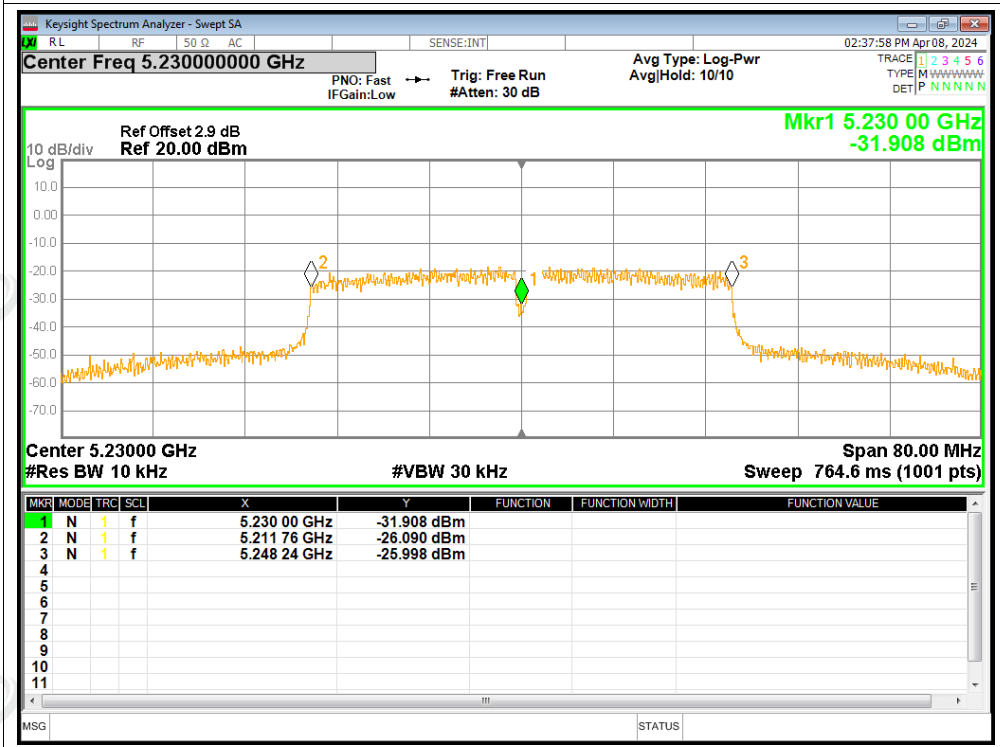




### Freq. Stability NVNT n40 5190MHz Ant1



### Freq. Stability NVNT n40 5230MHz Ant1





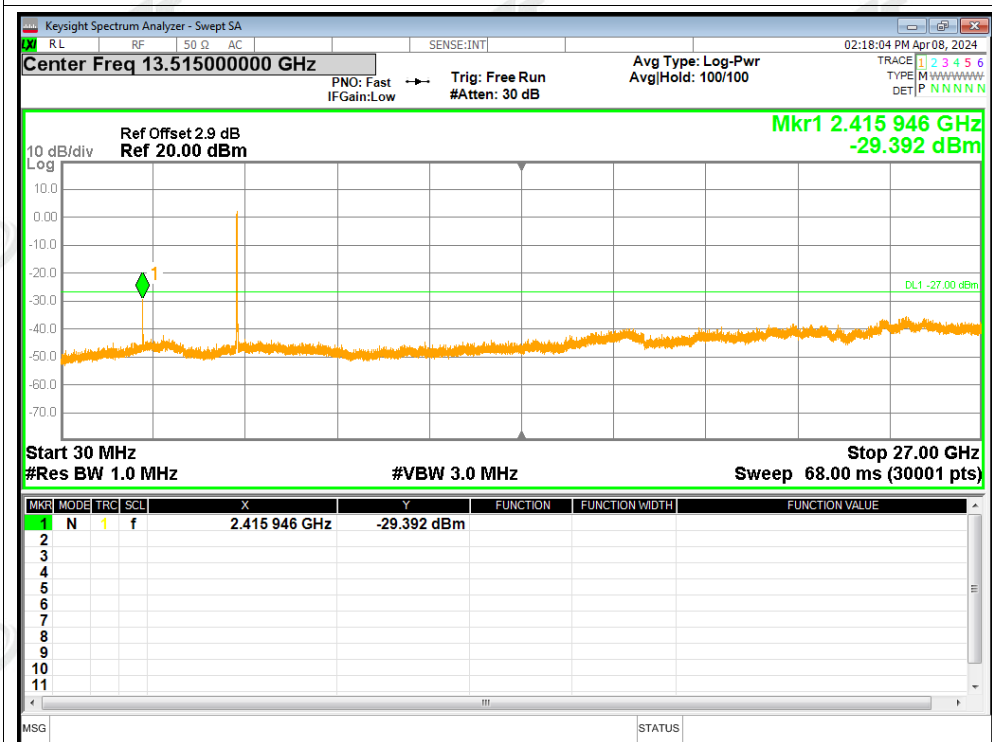
**B8. Conducted RF Spurious Emission**

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	Ant1	-29.39	-27	Pass
NVNT	a	5200	Ant1	-29.71	-27	Pass
NVNT	a	5240	Ant1	-34.15	-27	Pass
NVNT	n20	5180	Ant1	-36.13	-27	Pass
NVNT	n20	5200	Ant1	-35.99	-27	Pass
NVNT	n20	5240	Ant1	-30.62	-27	Pass
NVNT	n40	5190	Ant1	-35.26	-27	Pass
NVNT	n40	5230	Ant1	-29.53	-27	Pass

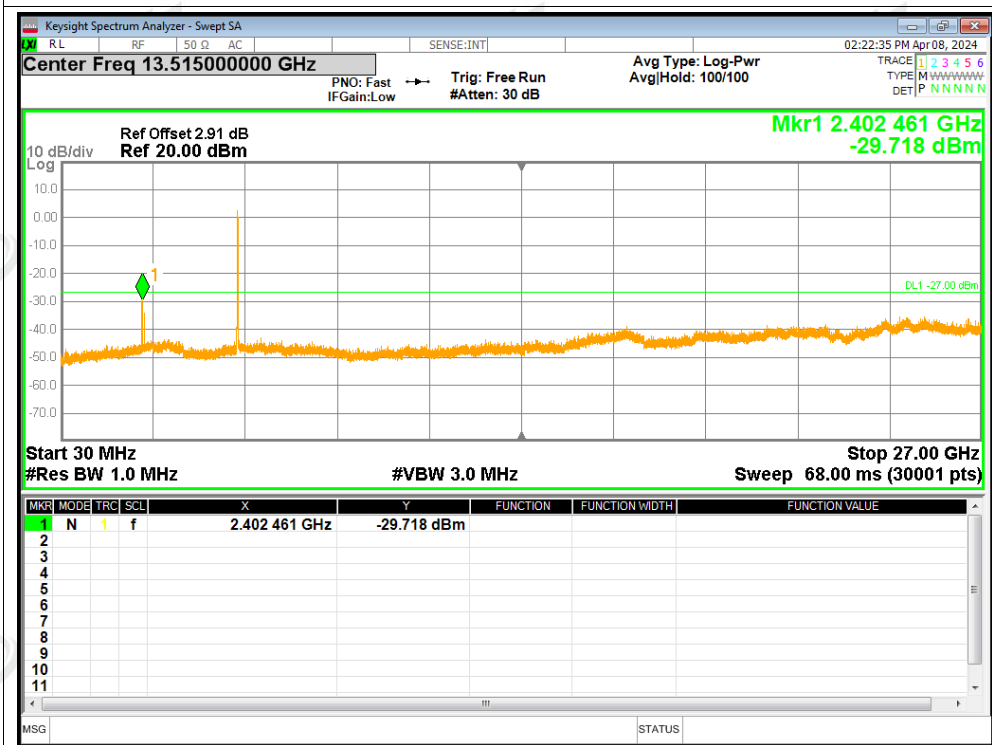


Test Graphs

Tx. Spurious NVNT a 5180MHz Ant1 Emission

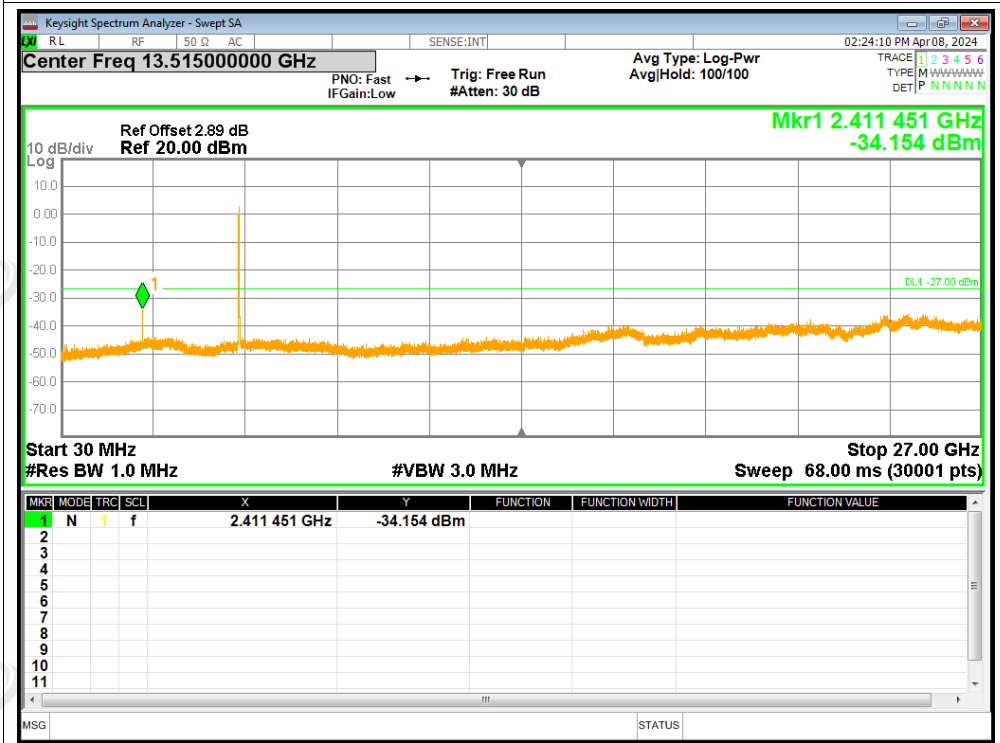


Tx. Spurious NVNT a 5200MHz Ant1 Emission

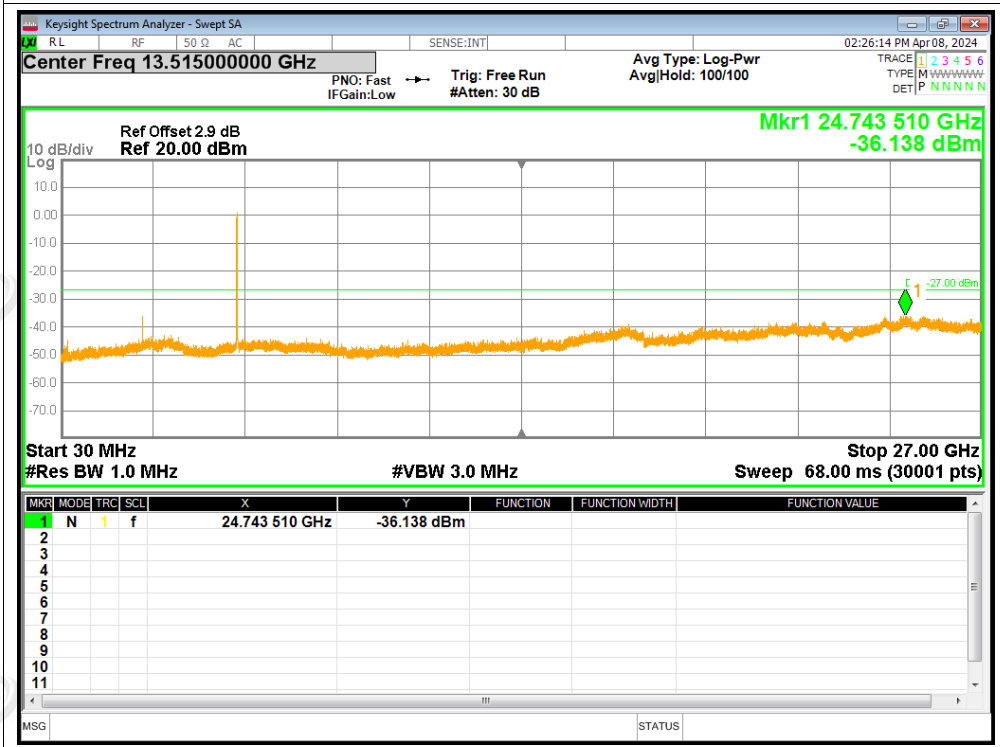




Tx. Spurious NVNT a 5240MHz Ant1 Emission

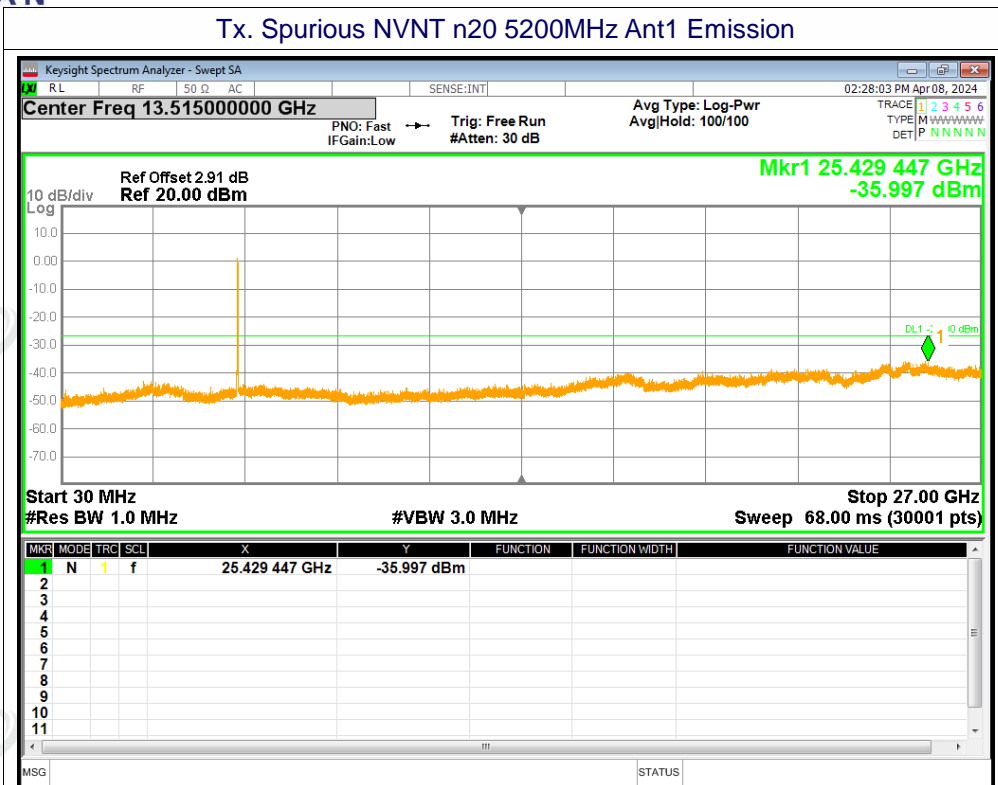


Tx. Spurious NVNT n20 5180MHz Ant1 Emission

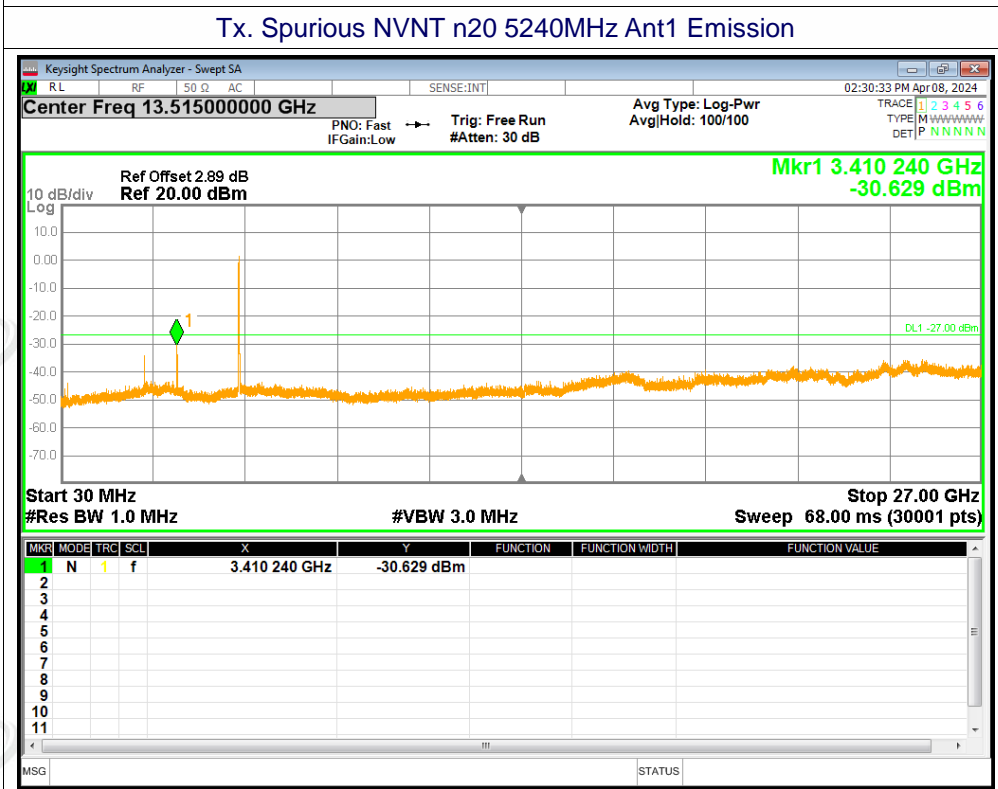




Tx. Spurious NVNT n20 5200MHz Ant1 Emission

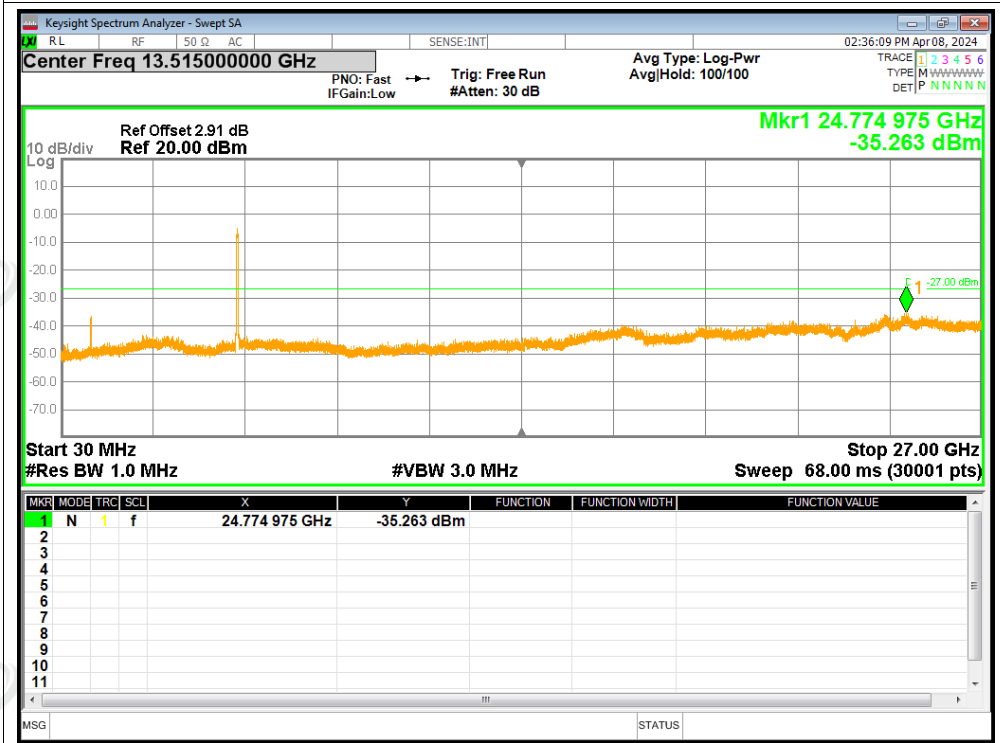


Tx. Spurious NVNT n20 5240MHz Ant1 Emission





Tx. Spurious NVNT n40 5190MHz Ant1 Emission



Tx. Spurious NVNT n40 5230MHz Ant1 Emission

