Appendix A for 5.2GWIFI Test Data

Product Name: Notebook computer

Test Model: SN140MIAU

Environmental Conditions

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

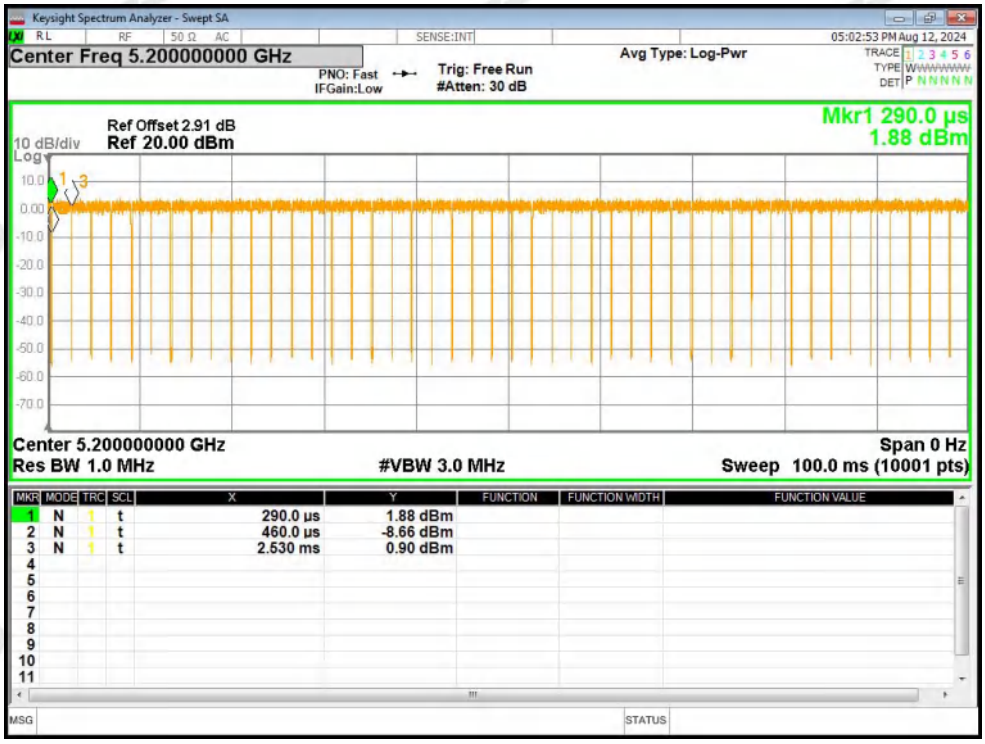
Duty Cycle

Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	Ant1	97.63	0.1	0.49
NVNT	a	5200	Ant1	92.41	0.34	0.48
NVNT	a	5240	Ant1	93.67	0.28	0.48
NVNT	n20	5180	Ant1	93.2	0.31	0.52
NVNT	n20	5200	Ant1	0	0	0
NVNT	n20	5240	Ant1	94.61	0.24	0.52
NVNT	n40	5190	Ant1	88.68	0.52	1.06
NVNT	n40	5230	Ant1	93.07	0.31	1.06
NVNT	ac20	5180	Ant1	92.82	0.32	0.52
NVNT	ac20	5200	Ant1	98.48	0	0.52
NVNT	ac20	5240	Ant1	96.02	0.18	0.52
NVNT	ac40	5190	Ant1	87.96	0.56	1.05
NVNT	ac40	5230	Ant1	84.82	0.72	1.05
NVNT	ac80	5210	Ant1	0	0	0

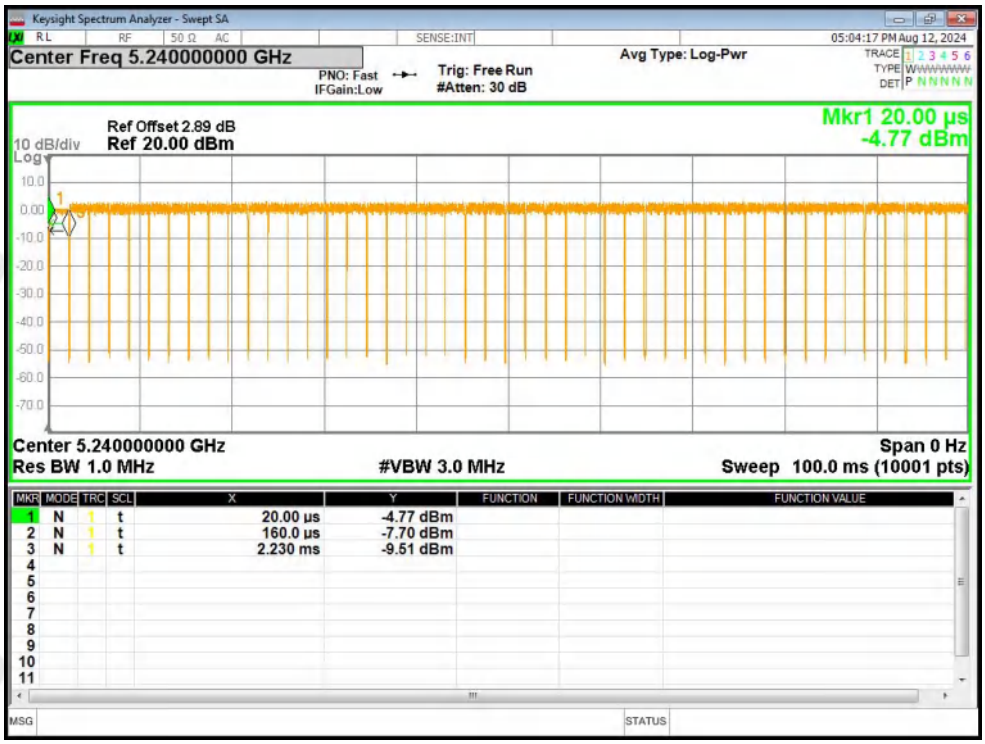
Test Graphs

Duty Cycle NVNT a 5180MHz Ant1

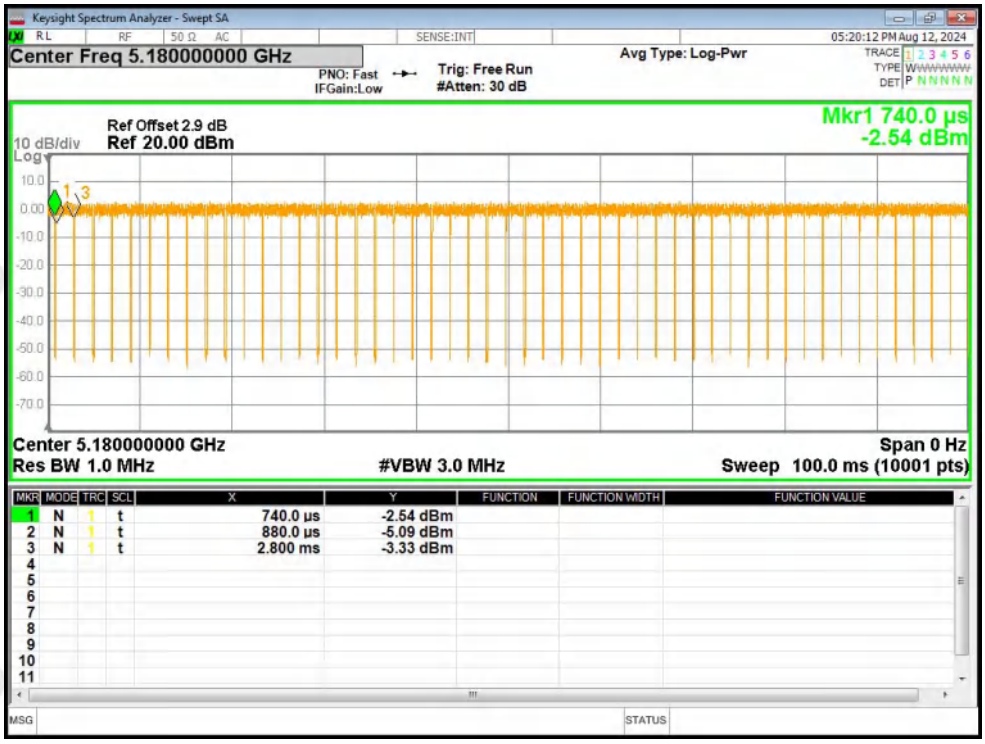
Duty Cycle NVNT a 5200MHz Ant1



Duty Cycle NVNT a 5240MHz Ant1

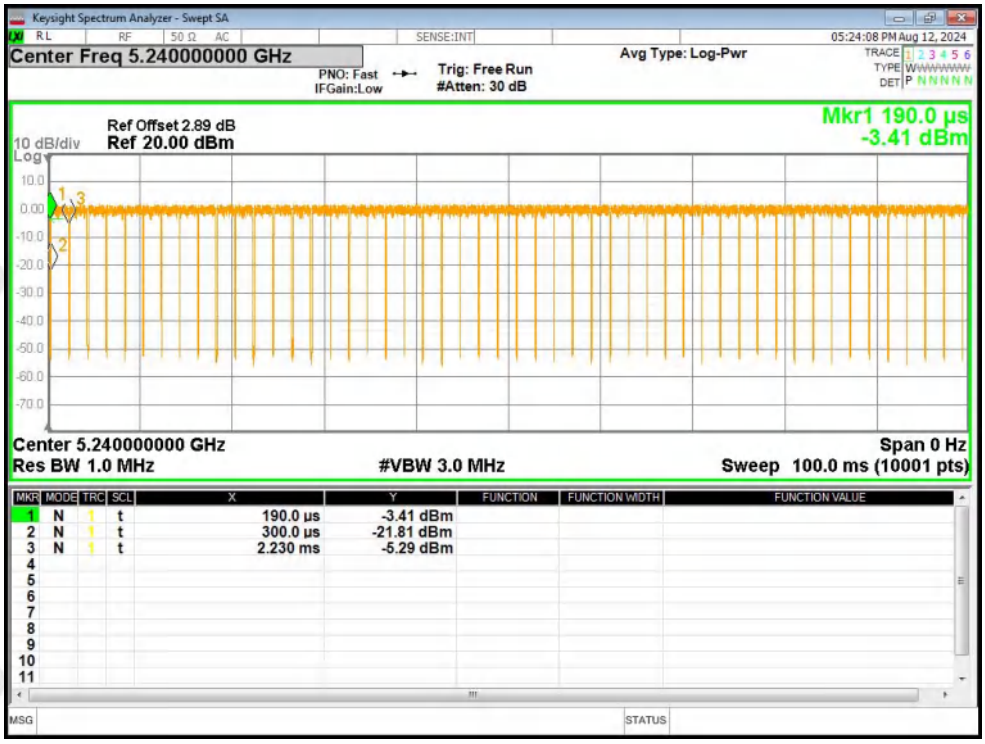


Duty Cycle NVNT n20 5180MHz Ant1

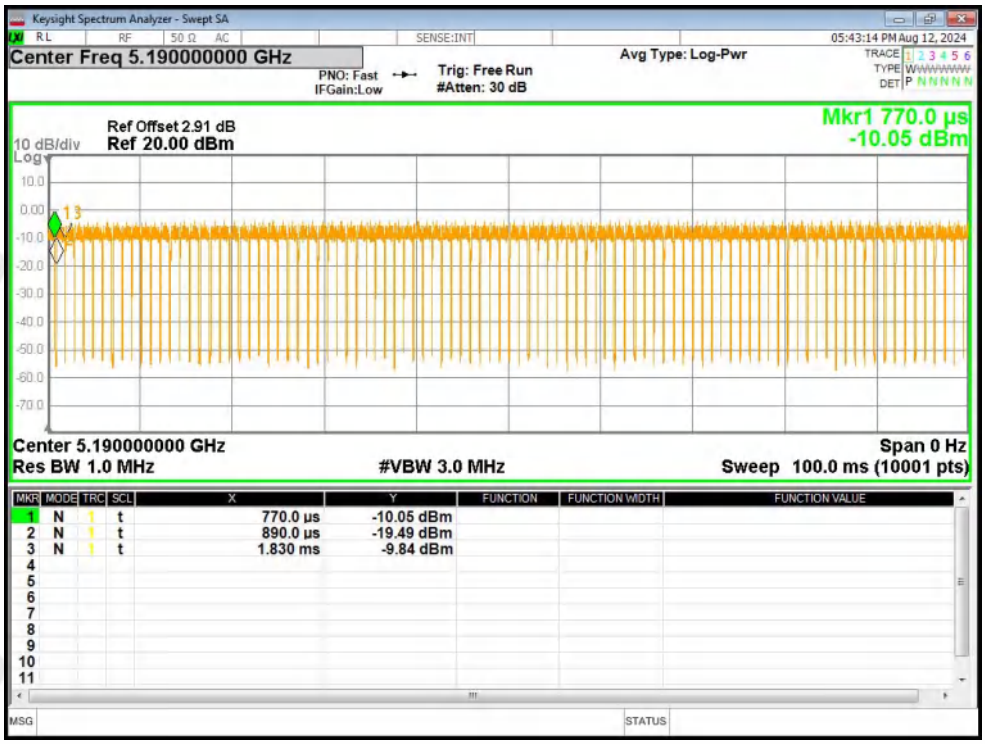


Duty Cycle NVNT n20 5200MHz Ant1

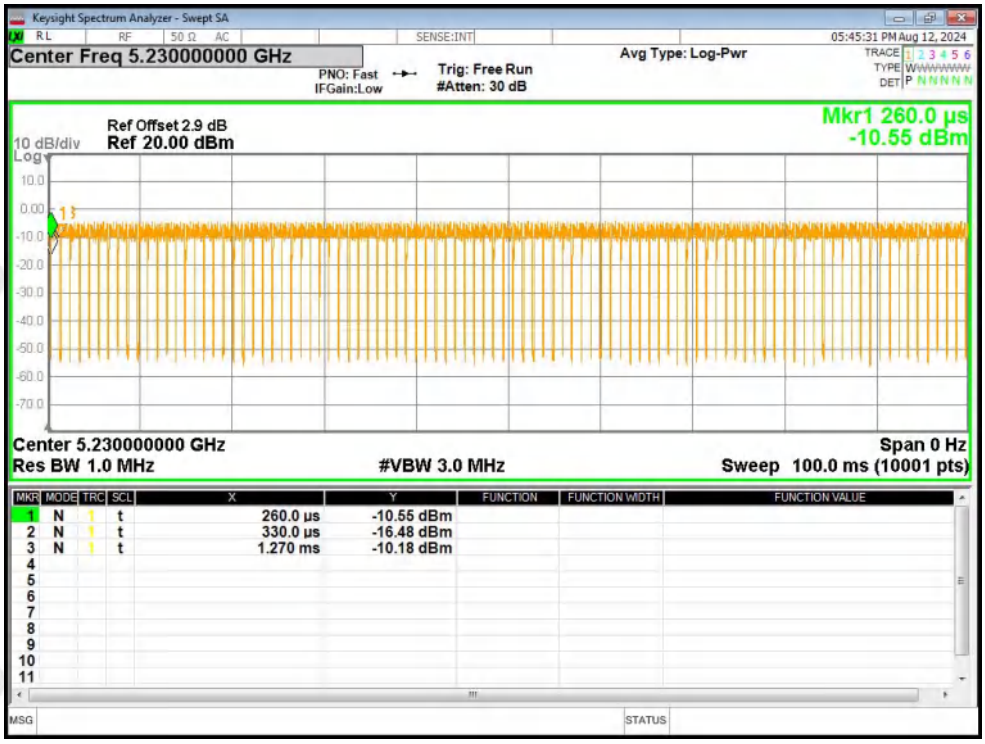
Duty Cycle NVNT n20 5240MHz Ant1



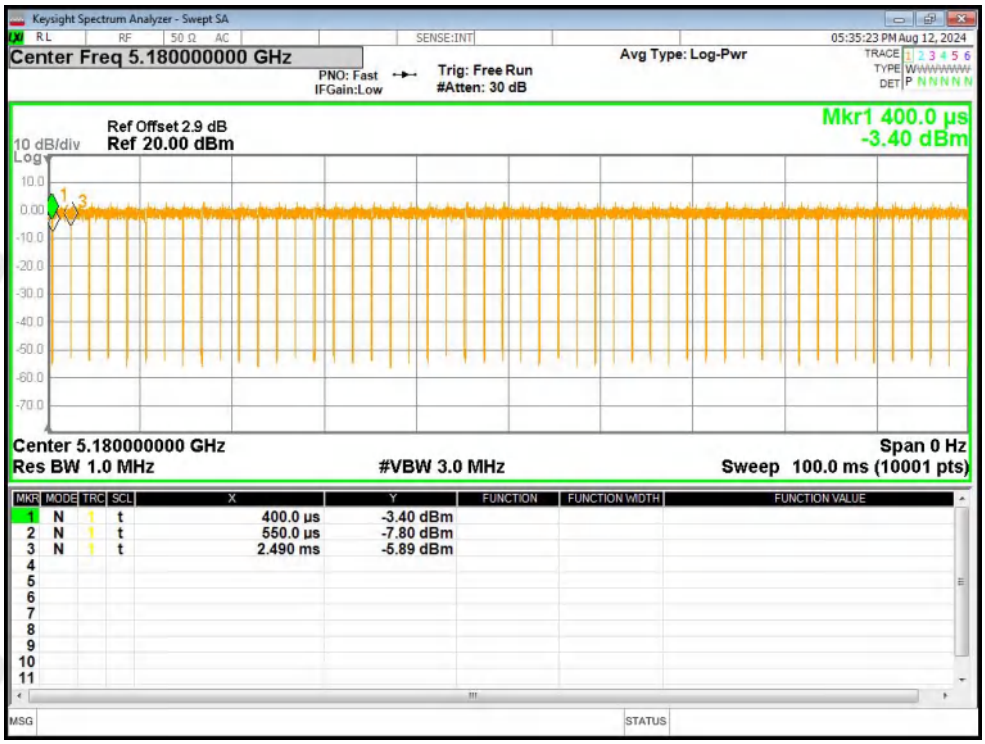
Duty Cycle NVNT n40 5190MHz Ant1



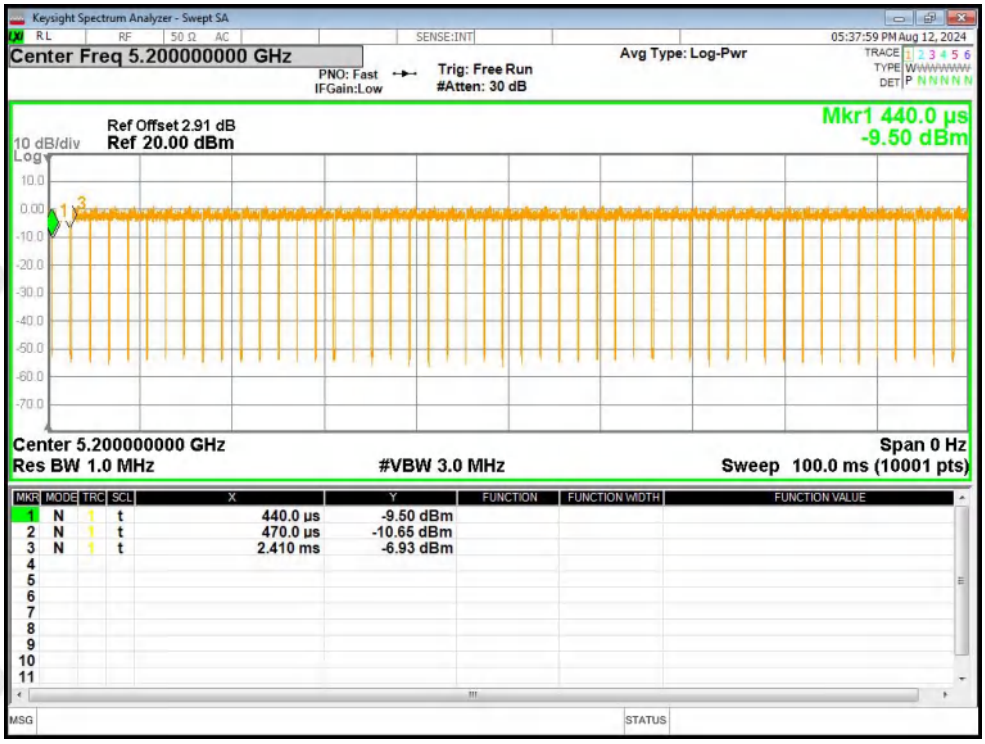
Duty Cycle NVNT n40 5230MHz Ant1



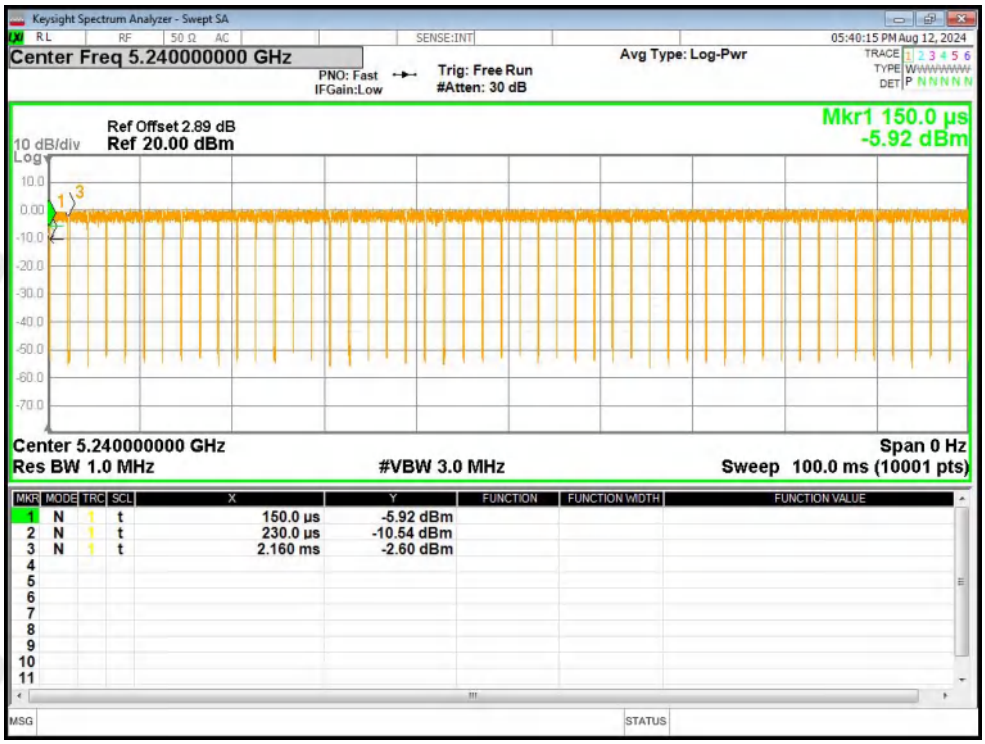
Duty Cycle NVNT ac20 5180MHz Ant1



Duty Cycle NVNT ac20 5200MHz Ant1

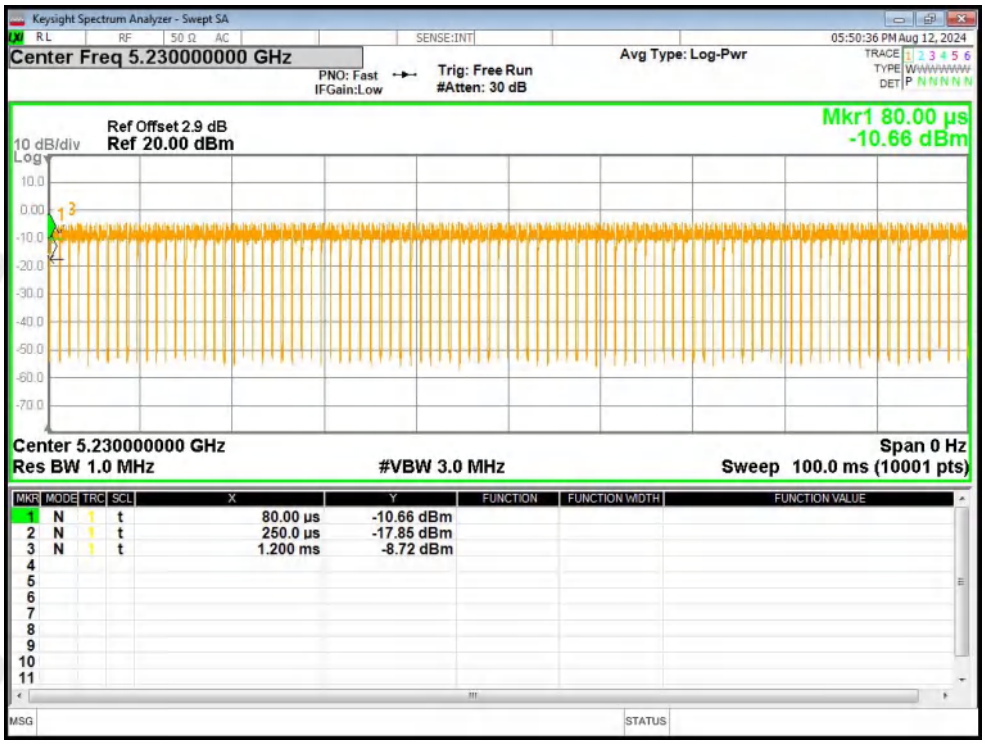


Duty Cycle NVNT ac20 5240MHz Ant1

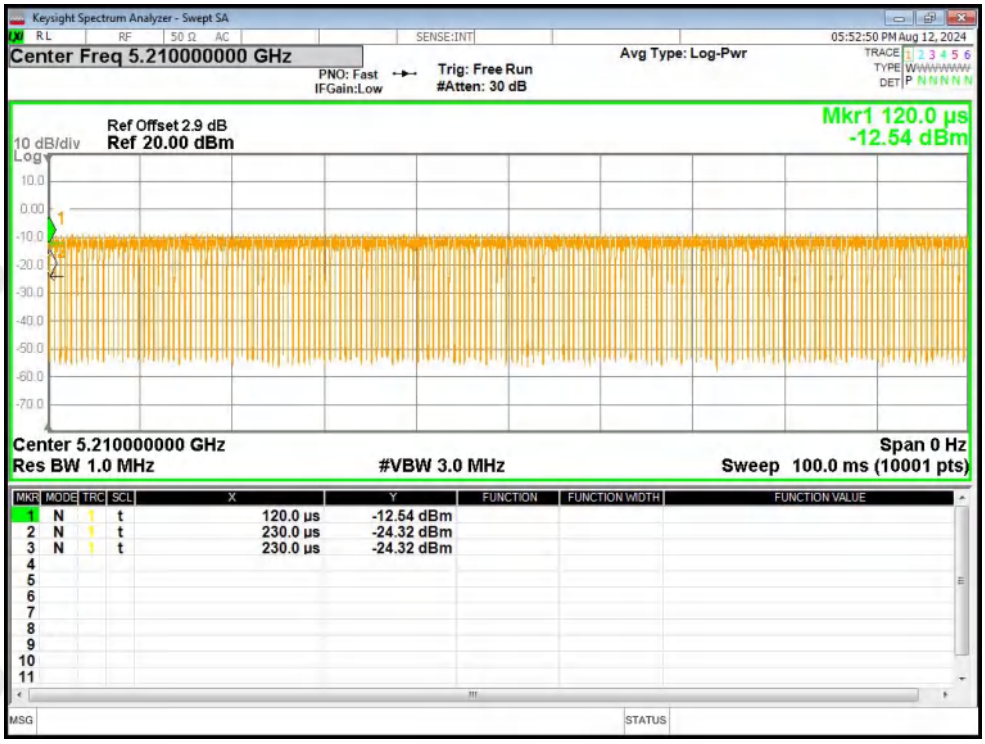


Duty Cycle NVNT ac40 5190MHz Ant1

Duty Cycle NVNT ac40 5230MHz Ant1



Duty Cycle NVNT ac80 5210MHz Ant1

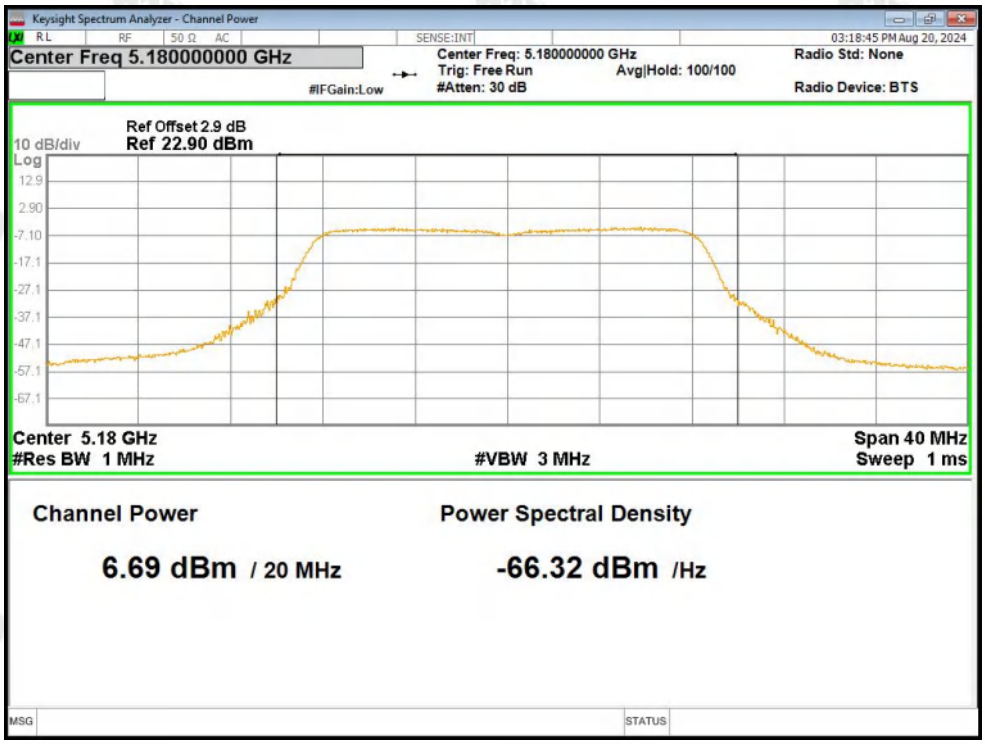


Maximum Conducted Output Power

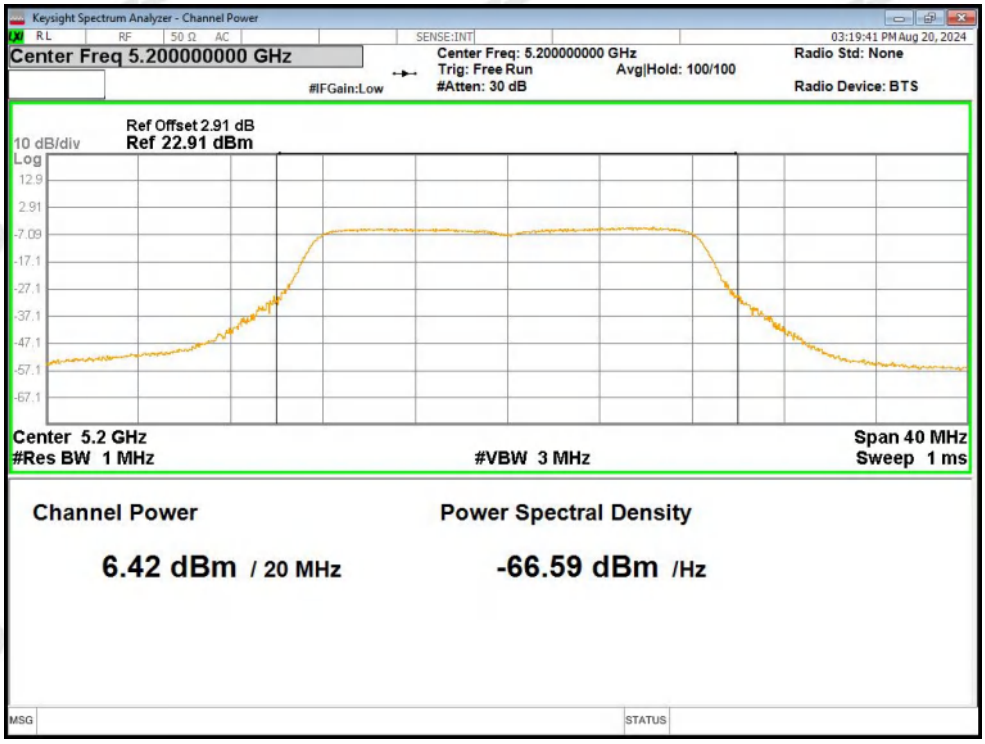
Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	6.69	0.1	6.79	24	Pass
NVNT	a	5200	Ant1	6.42	0.34	6.76	24	Pass
NVNT	a	5240	Ant1	6.48	0.28	6.76	24	Pass
NVNT	n20	5180	Ant1	5.26	0.31	5.57	24	Pass
NVNT	n20	5200	Ant1	5.31	0	5.31	24	Pass
NVNT	n20	5240	Ant1	5.57	0.24	5.81	24	Pass
NVNT	n40	5190	Ant1	3.59	0.52	4.11	24	Pass
NVNT	n40	5230	Ant1	3.91	0.31	4.22	24	Pass
NVNT	ac20	5180	Ant1	4.67	0.32	4.99	24	Pass
NVNT	ac20	5200	Ant1	4.63	0	4.63	24	Pass
NVNT	ac20	5240	Ant1	4.78	0.18	4.96	24	Pass
NVNT	ac40	5190	Ant1	2.46	0.56	3.02	24	Pass
NVNT	ac40	5230	Ant1	2.82	0.72	3.54	24	Pass
NVNT	ac80	5210	Ant1	1.54	0	1.54	24	Pass

Test Graphs

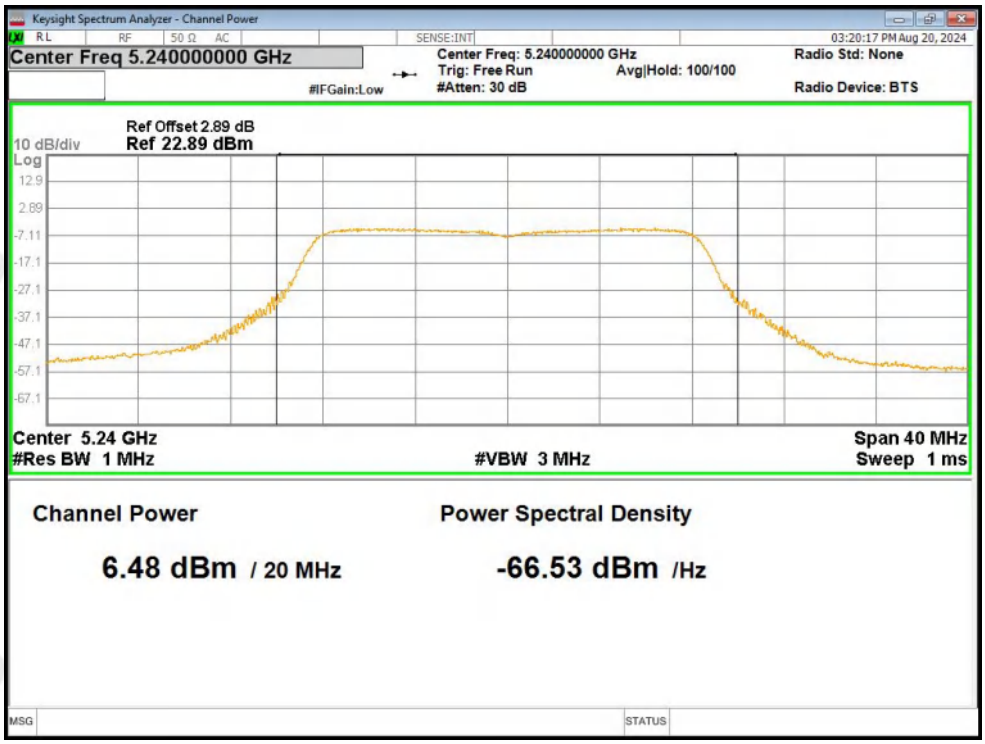
Power NVNT a 5180MHz Ant1



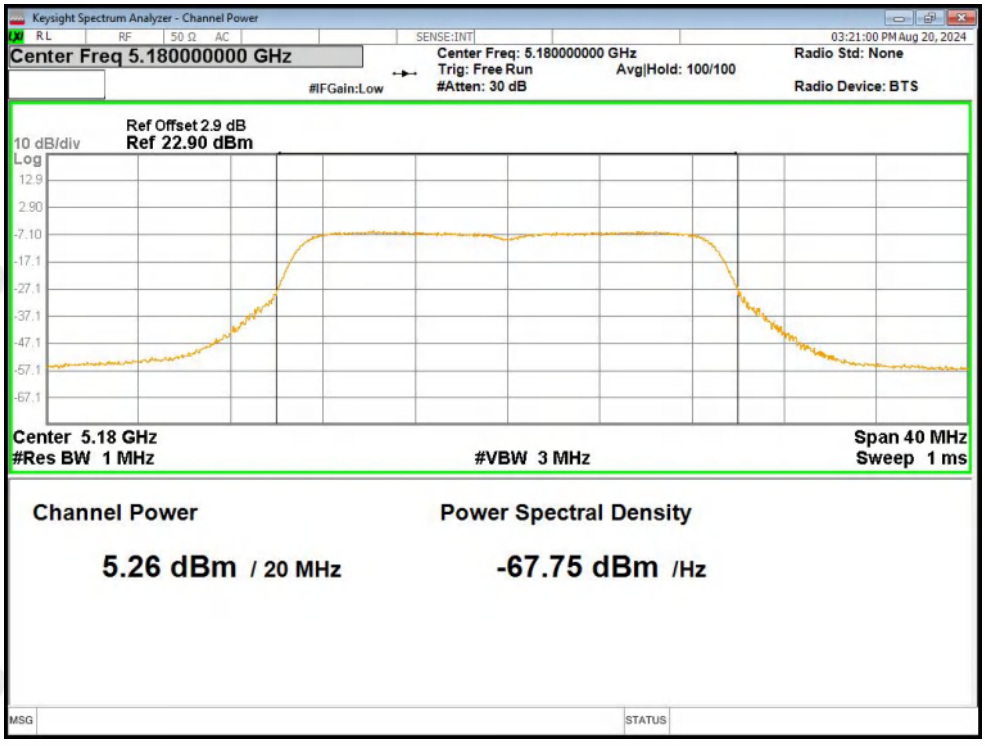
Power NVNT a 5200MHz Ant1



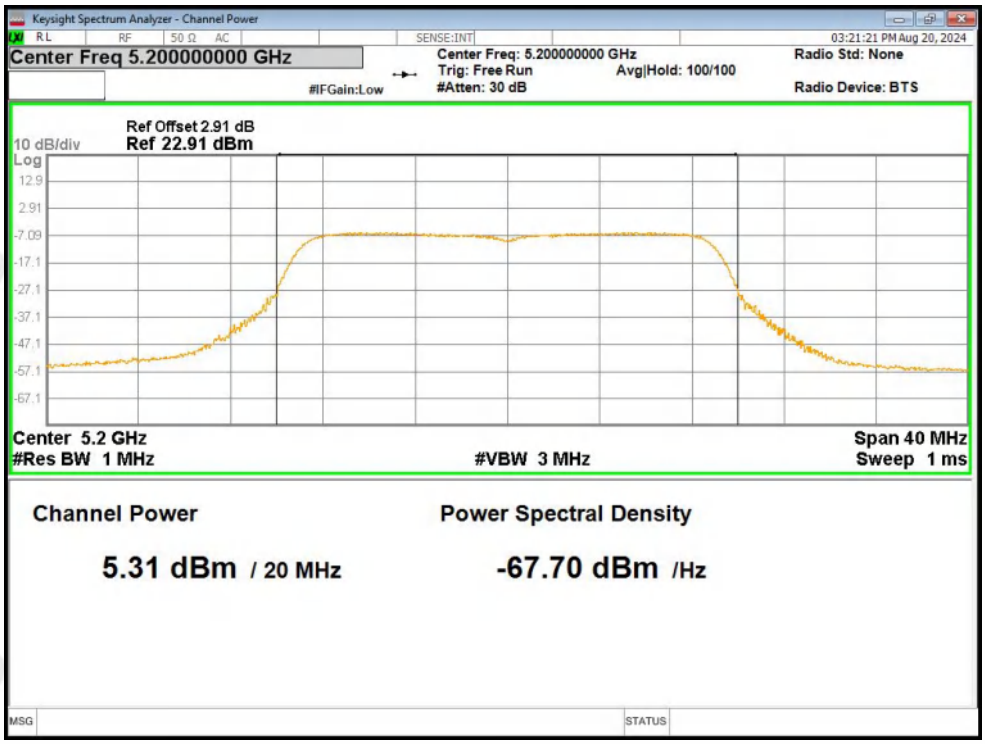
Power NVNT a 5240MHz Ant1



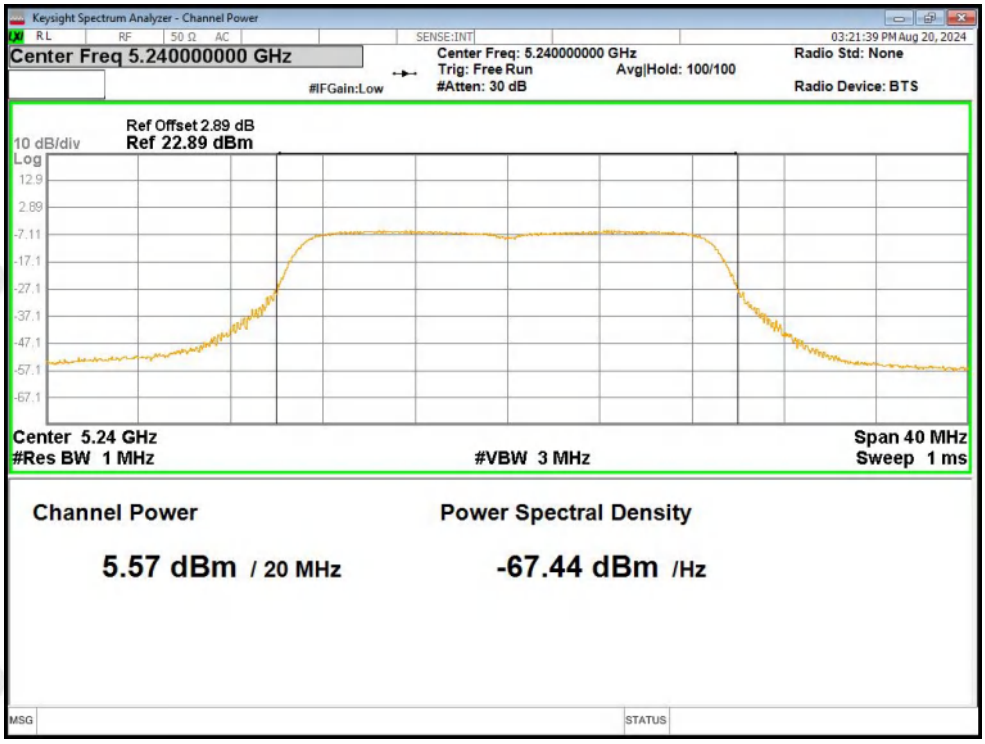
Power NVNT n20 5180MHz Ant1



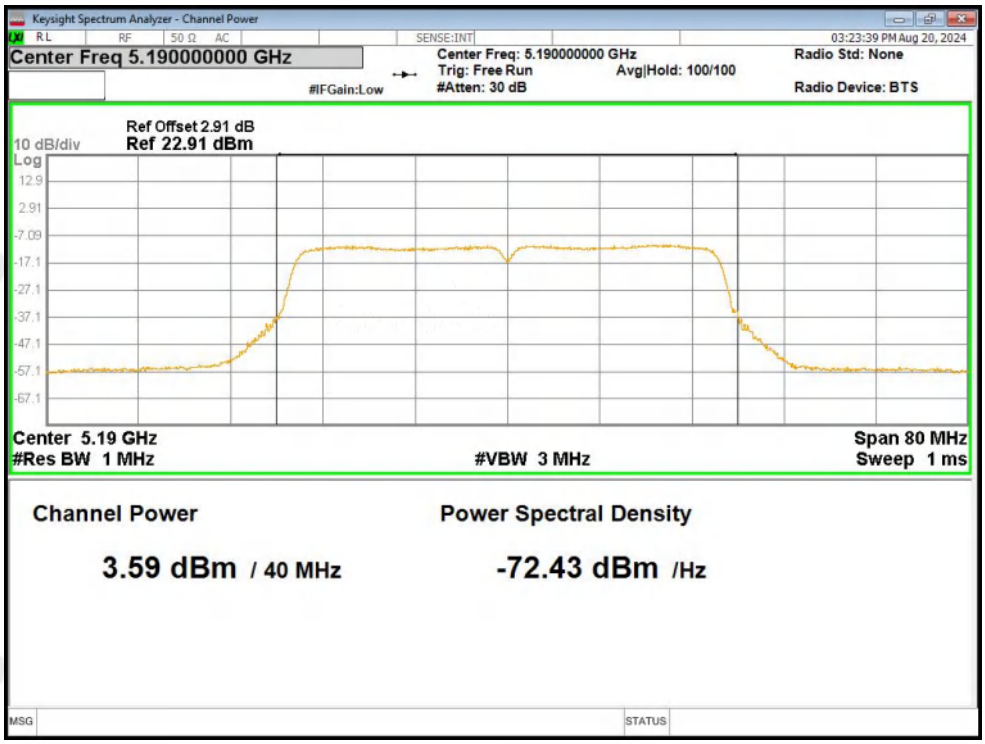
Power NVNT n20 5200MHz Ant1



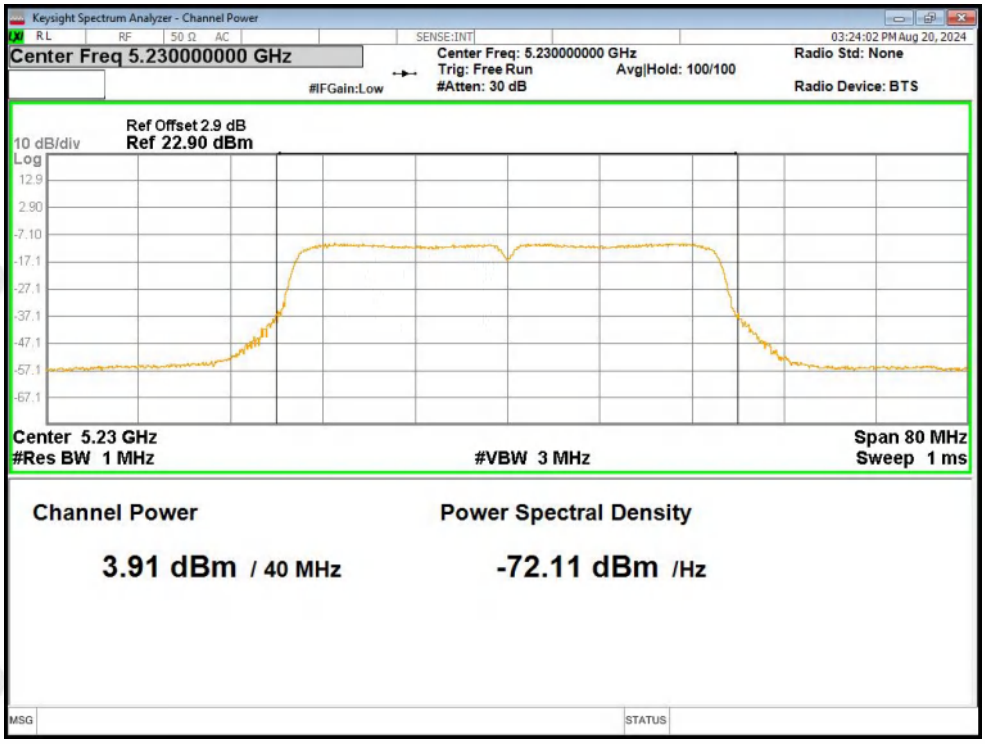
Power NVNT n20 5240MHz Ant1



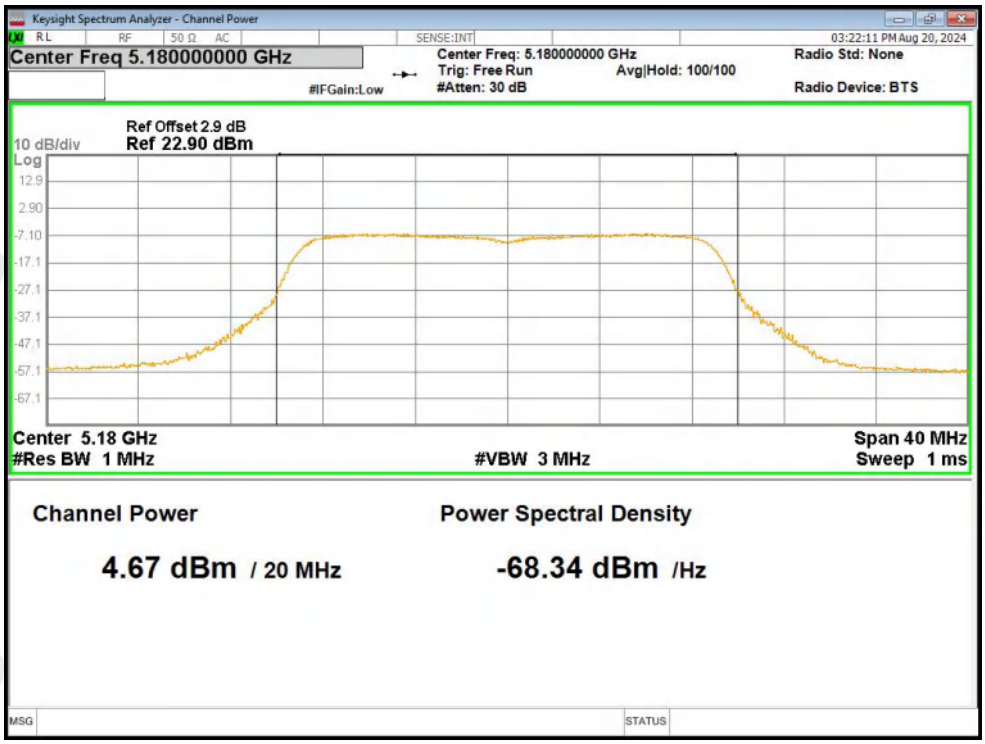
Power NVNT n40 5190MHz Ant1



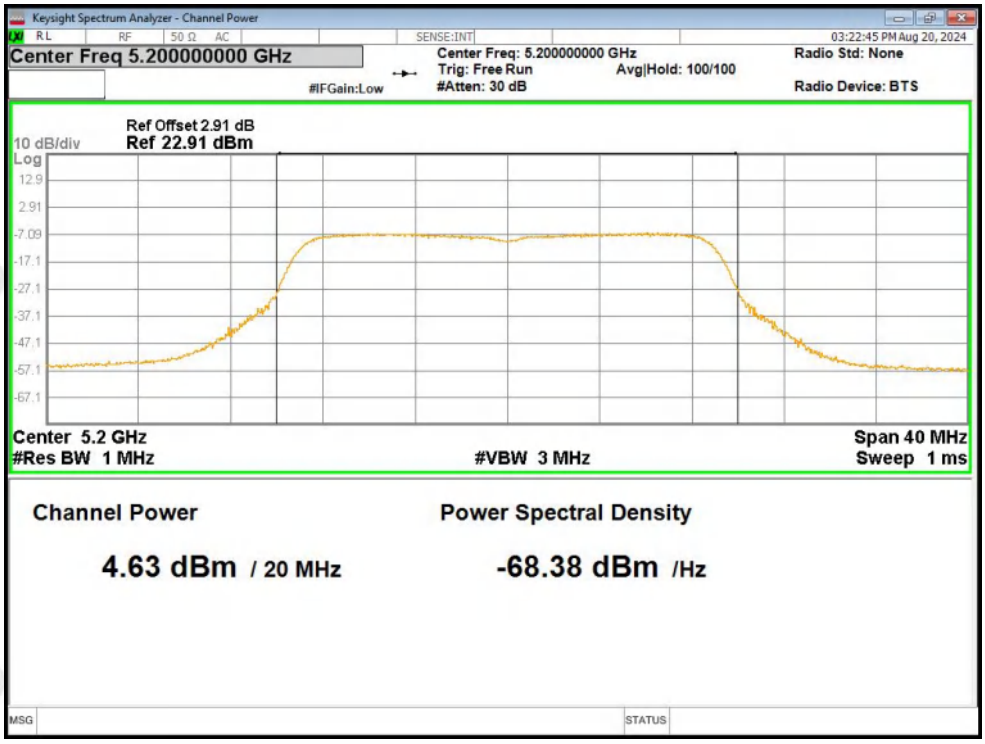
Power NVNT n40 5230MHz Ant1



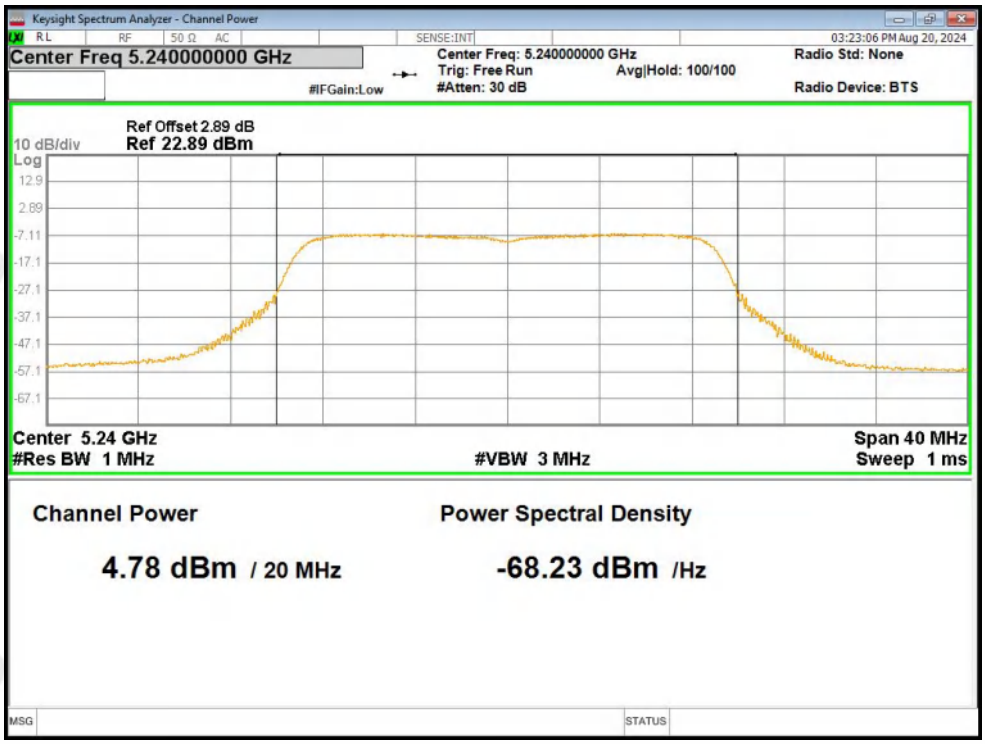
Power NVNT ac20 5180MHz Ant1



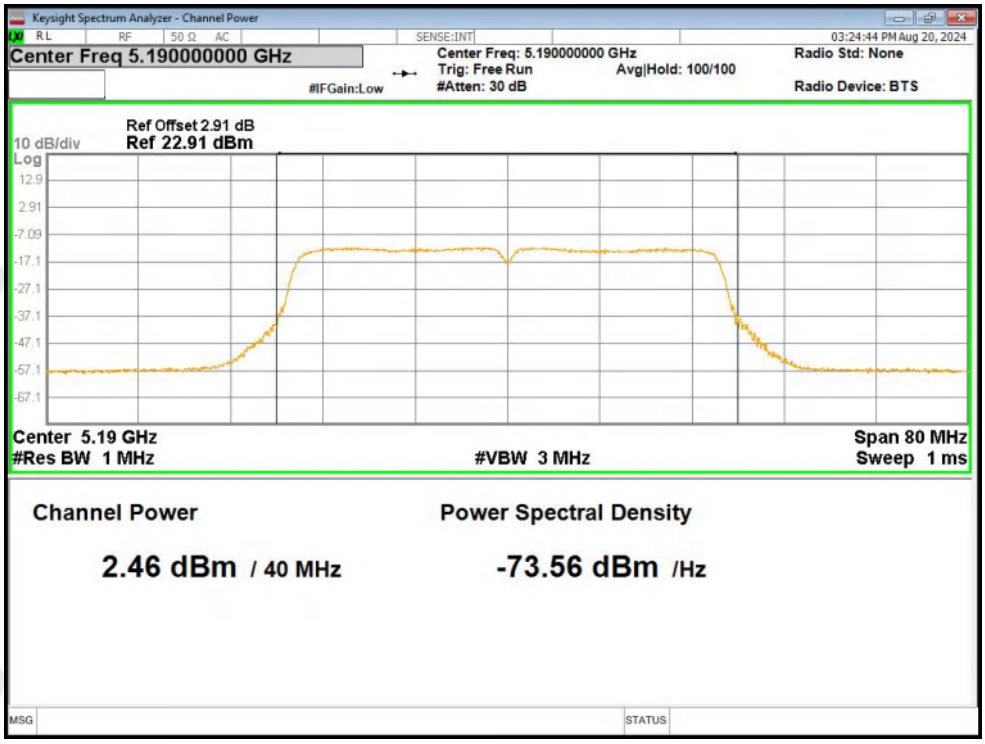
Power NVNT ac20 5200MHz Ant1



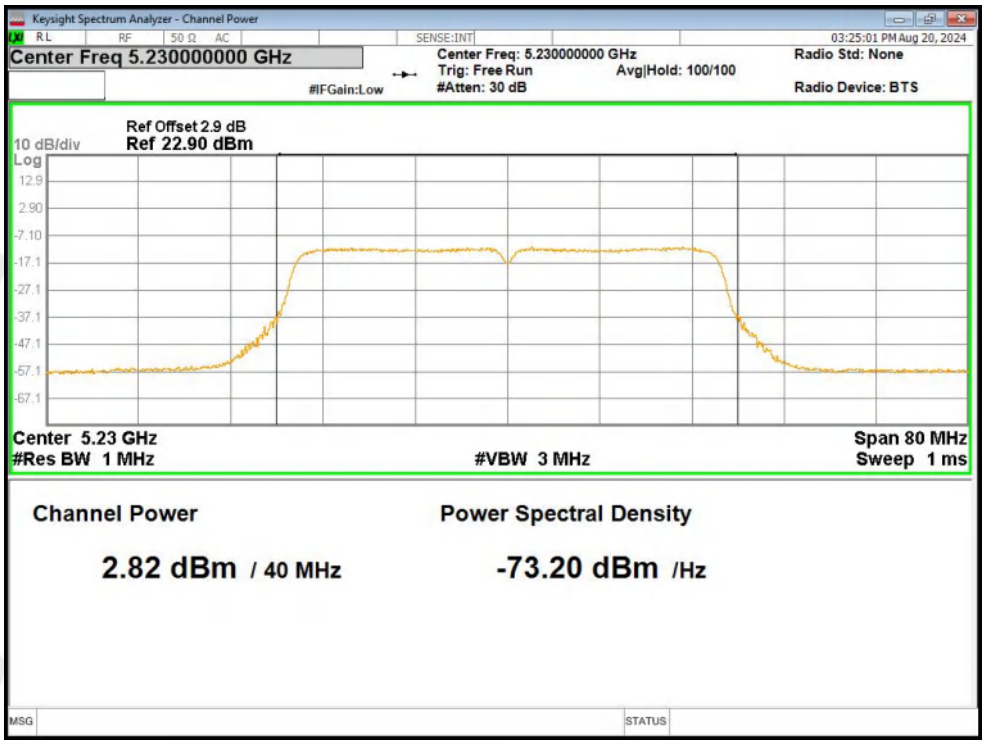
Power NVNT ac20 5240MHz Ant1



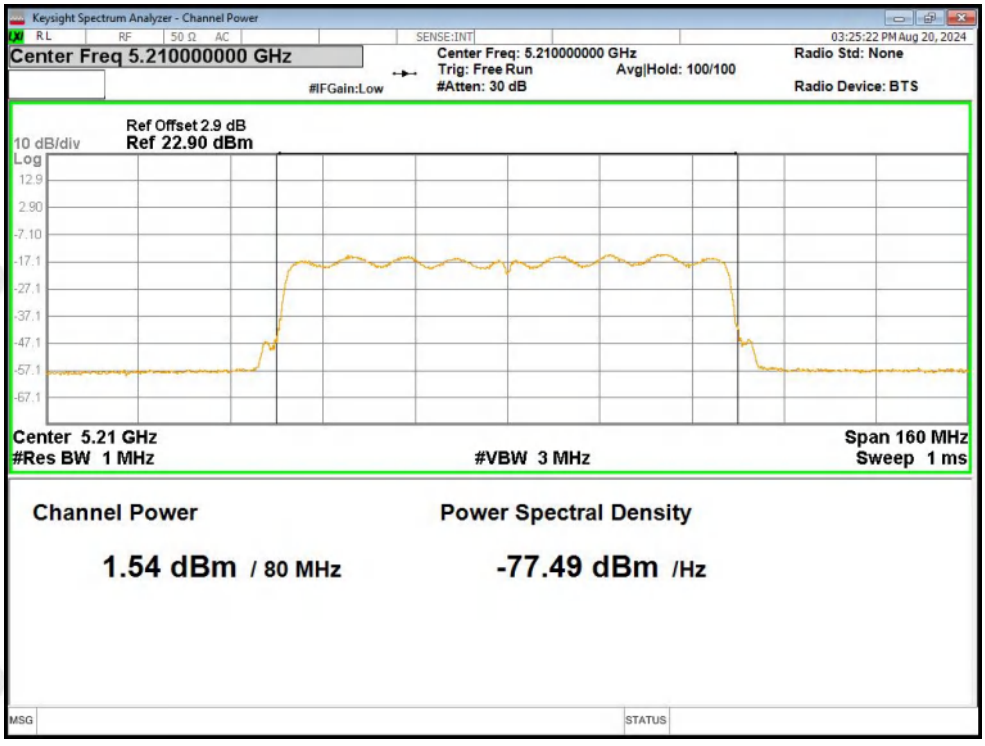
Power NVNT ac40 5190MHz Ant1



Power NVNT ac40 5230MHz Ant1



Power NVNT ac80 5210MHz Ant1

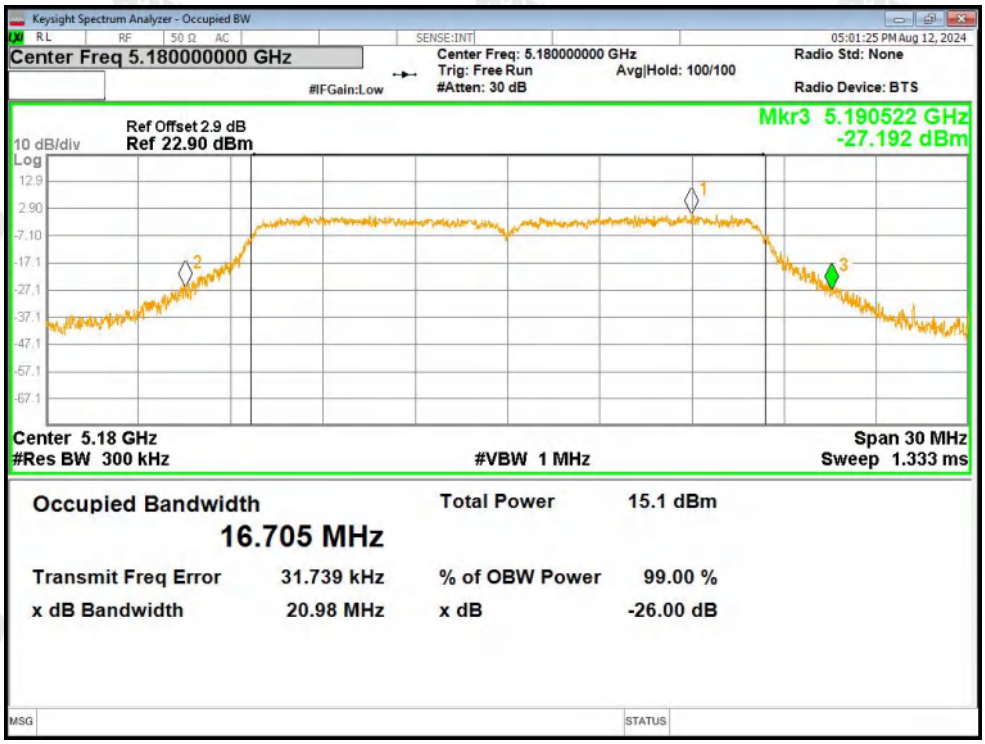


-26dB Bandwidth

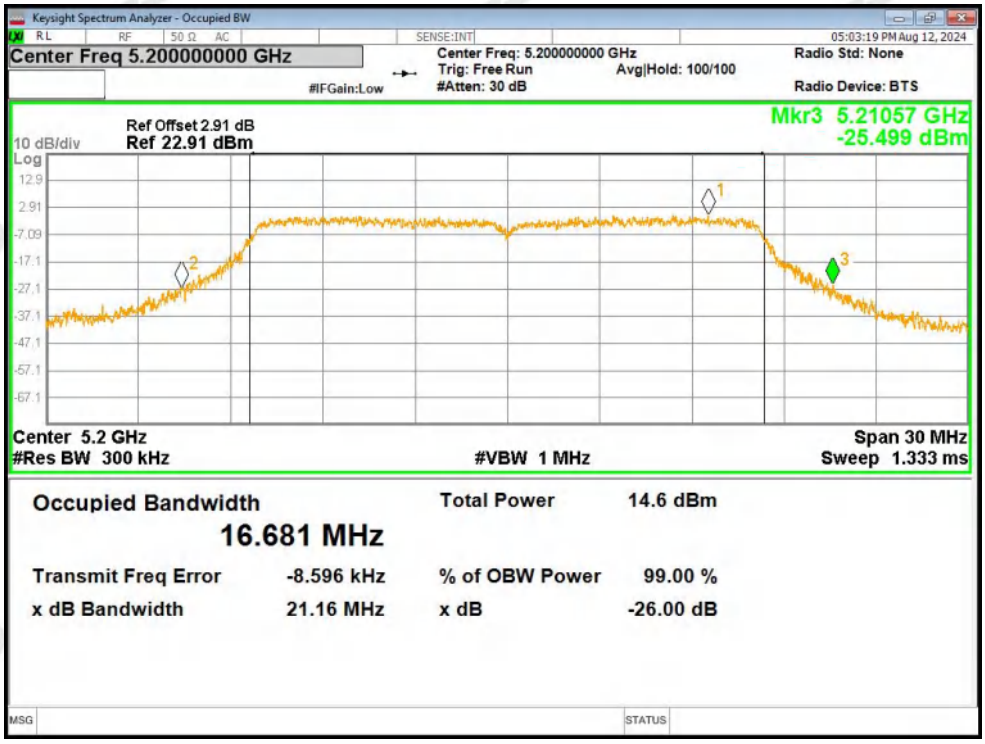
Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5180	Ant1	20.98	Pass
NVNT	a	5200	Ant1	21.157	Pass
NVNT	a	5240	Ant1	20.731	Pass
NVNT	n20	5180	Ant1	21.453	Pass
NVNT	n20	5200	Ant1	21.835	Pass
NVNT	n20	5240	Ant1	21.573	Pass
NVNT	n40	5190	Ant1	40.628	Pass
NVNT	n40	5230	Ant1	40.865	Pass
NVNT	ac20	5180	Ant1	21.463	Pass
NVNT	ac20	5200	Ant1	21.44	Pass
NVNT	ac20	5240	Ant1	21.29	Pass
NVNT	ac40	5190	Ant1	41.436	Pass
NVNT	ac40	5230	Ant1	40.225	Pass
NVNT	ac80	5210	Ant1	80.151	Pass

Test Graphs

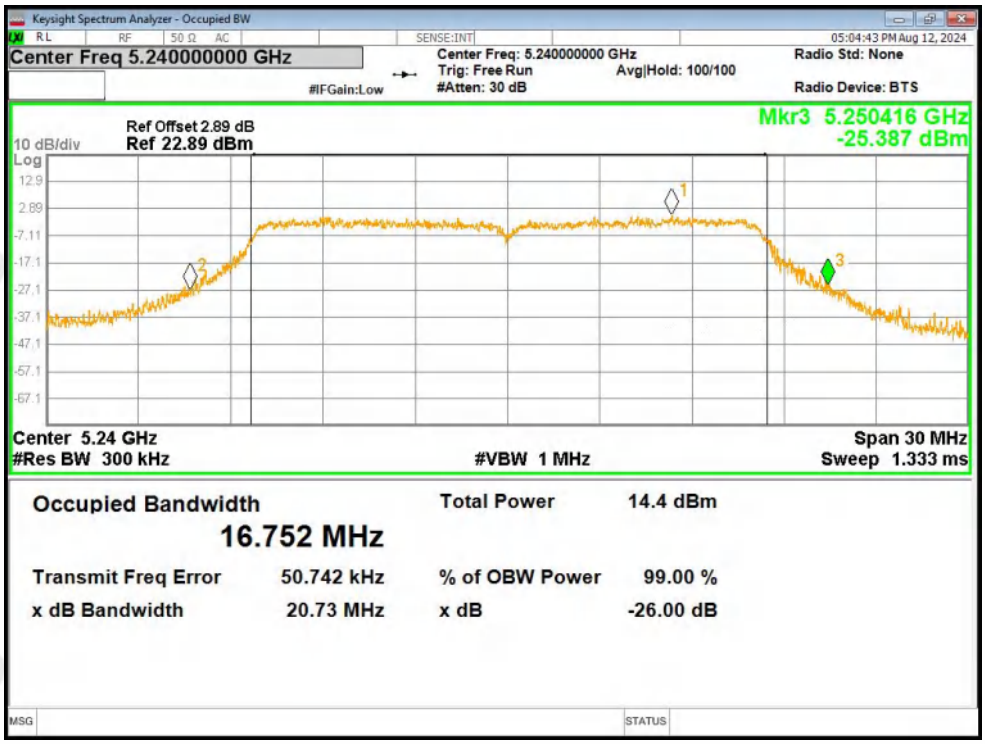
-26dB Bandwidth NVNT a 5180MHz Ant1



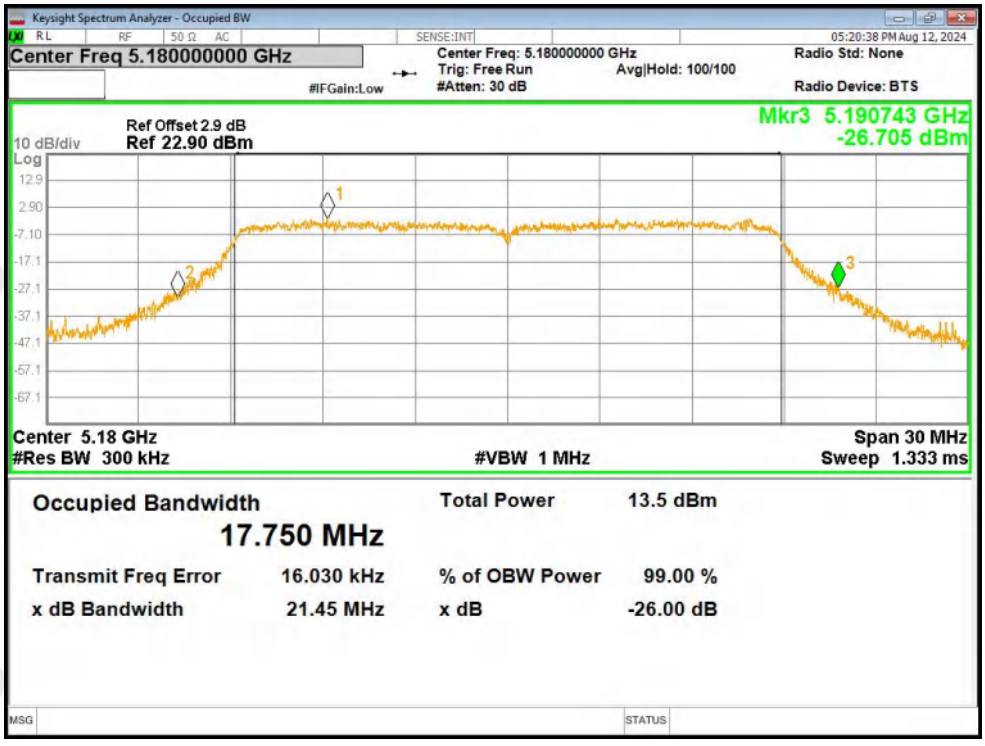
-26dB Bandwidth NVNT a 5200MHz Ant1



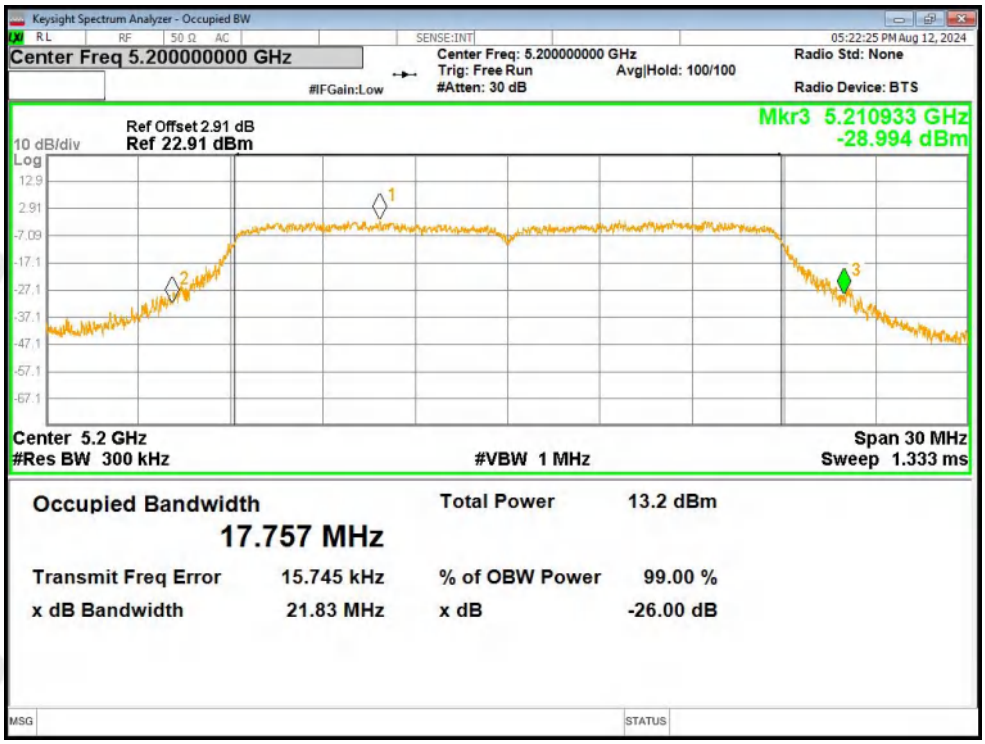
-26dB Bandwidth NVNT a 5240MHz Ant1



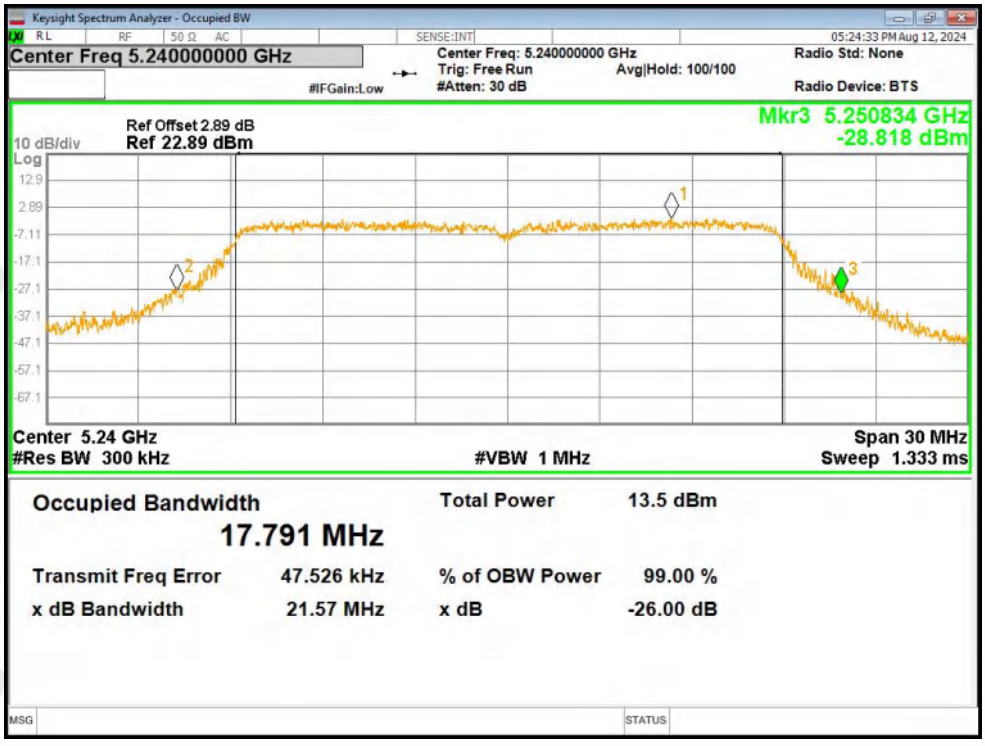
-26dB Bandwidth NVNT n20 5180MHz Ant1



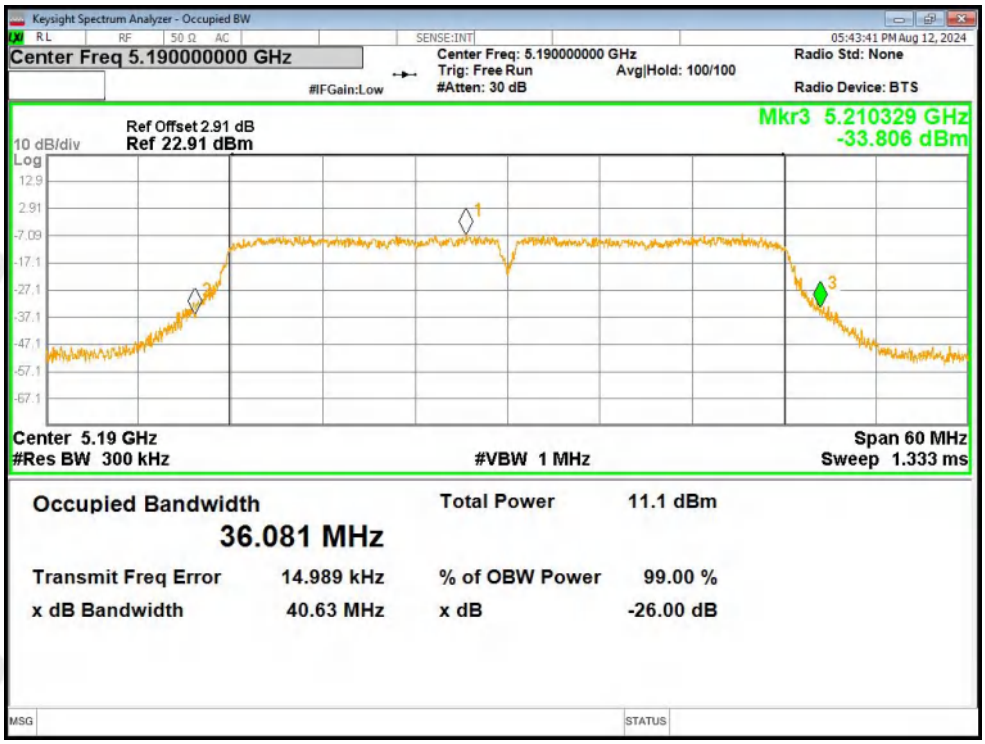
-26dB Bandwidth NVNT n20 5200MHz Ant1



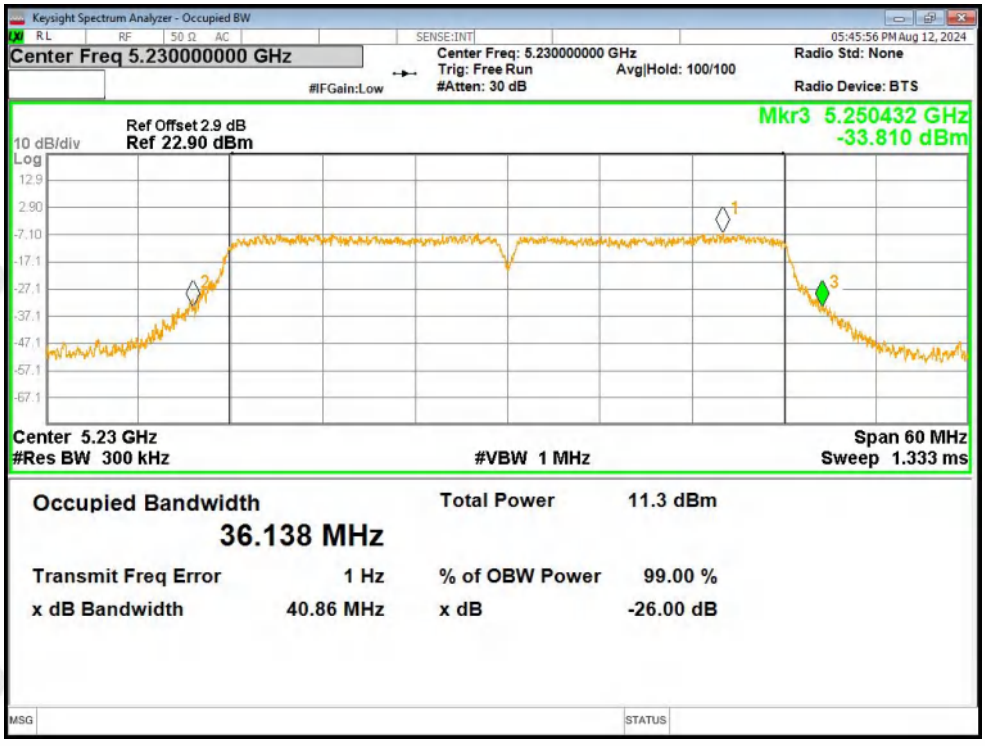
-26dB Bandwidth NVNT n20 5240MHz Ant1



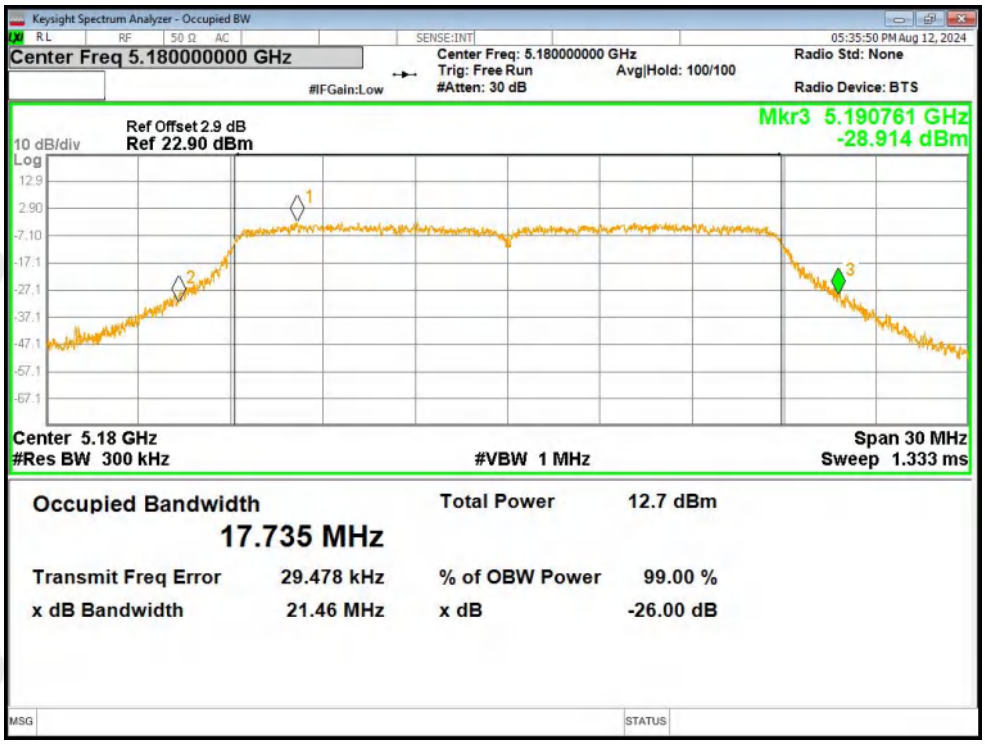
-26dB Bandwidth NVNT n40 5190MHz Ant1



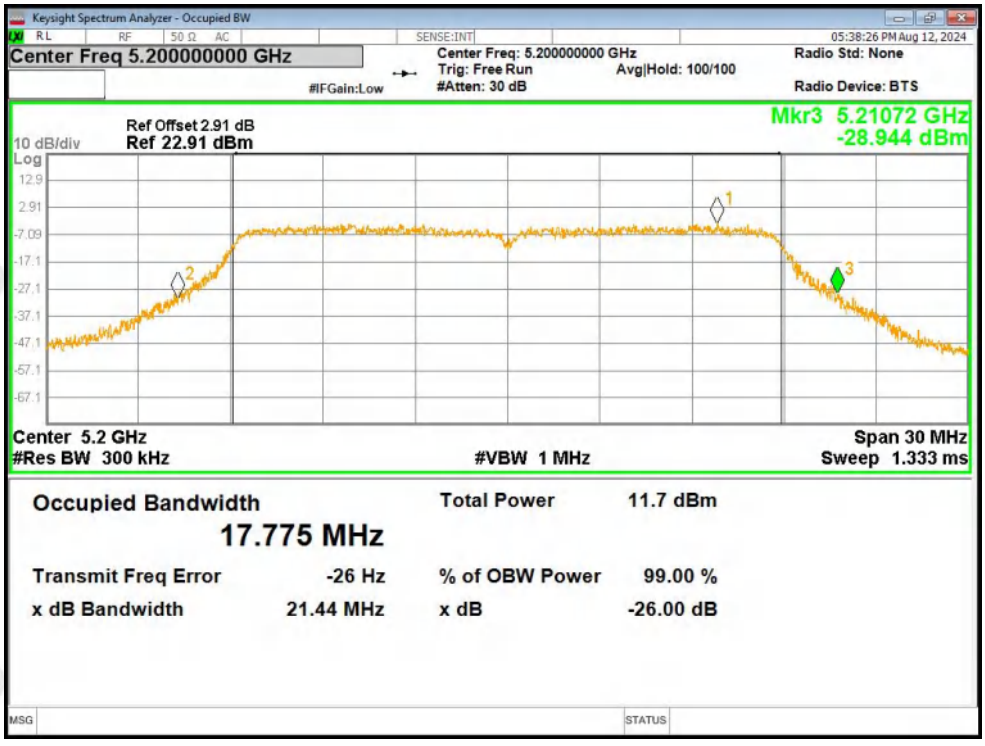
-26dB Bandwidth NVNT n40 5230MHz Ant1



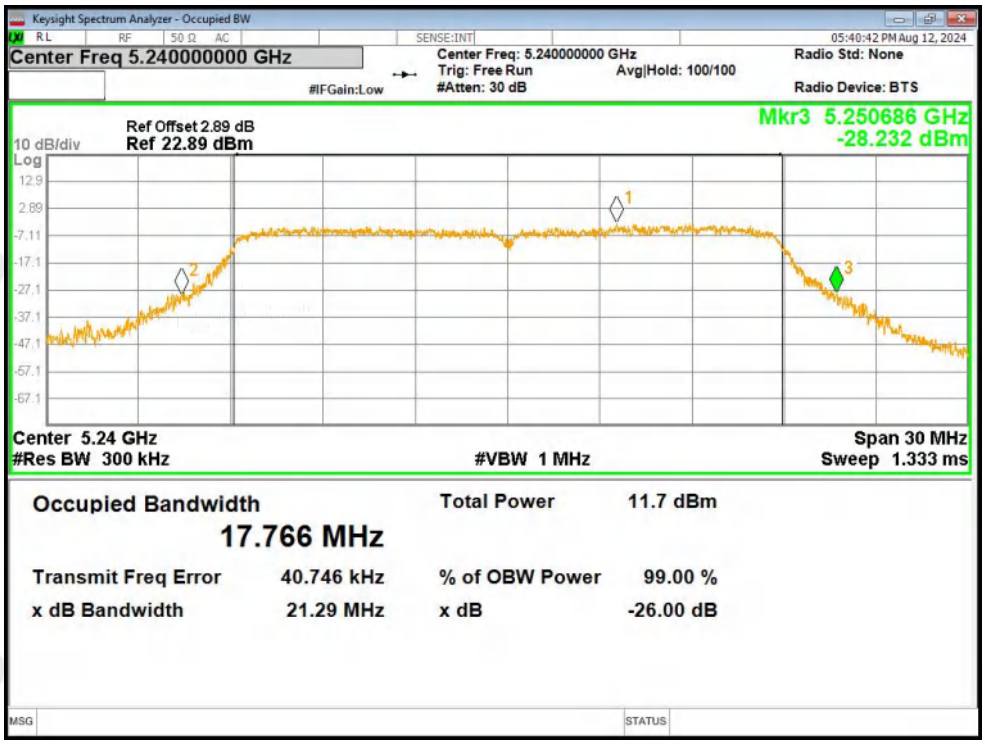
-26dB Bandwidth NVNT ac20 5180MHz Ant1



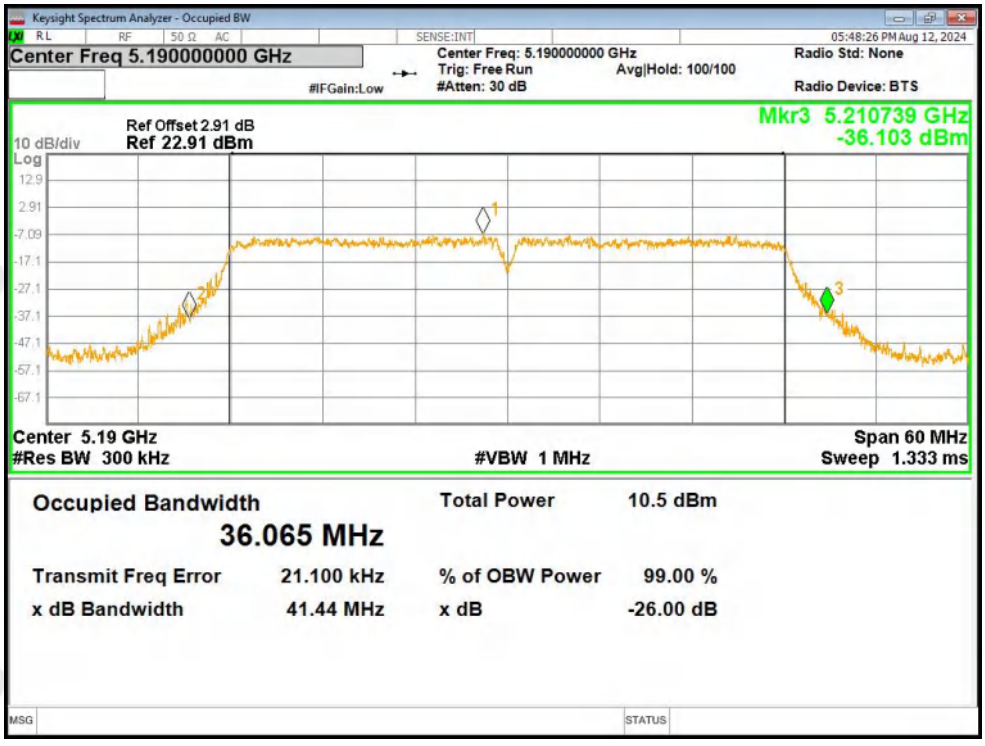
-26dB Bandwidth NVNT ac20 5200MHz Ant1



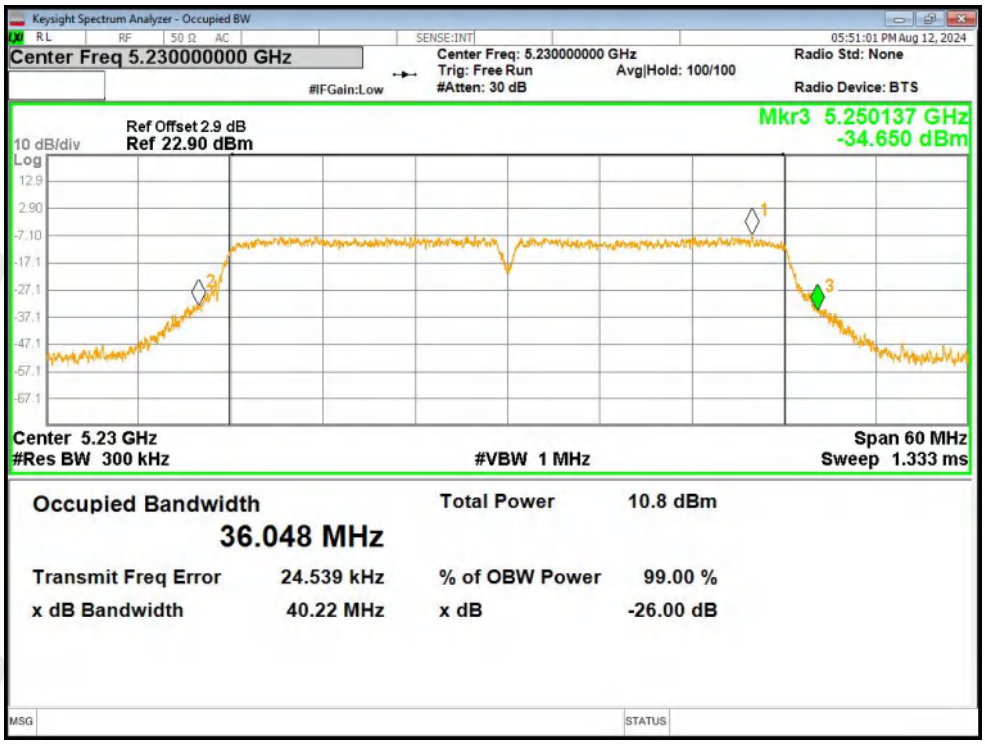
-26dB Bandwidth NVNT ac20 5240MHz Ant1



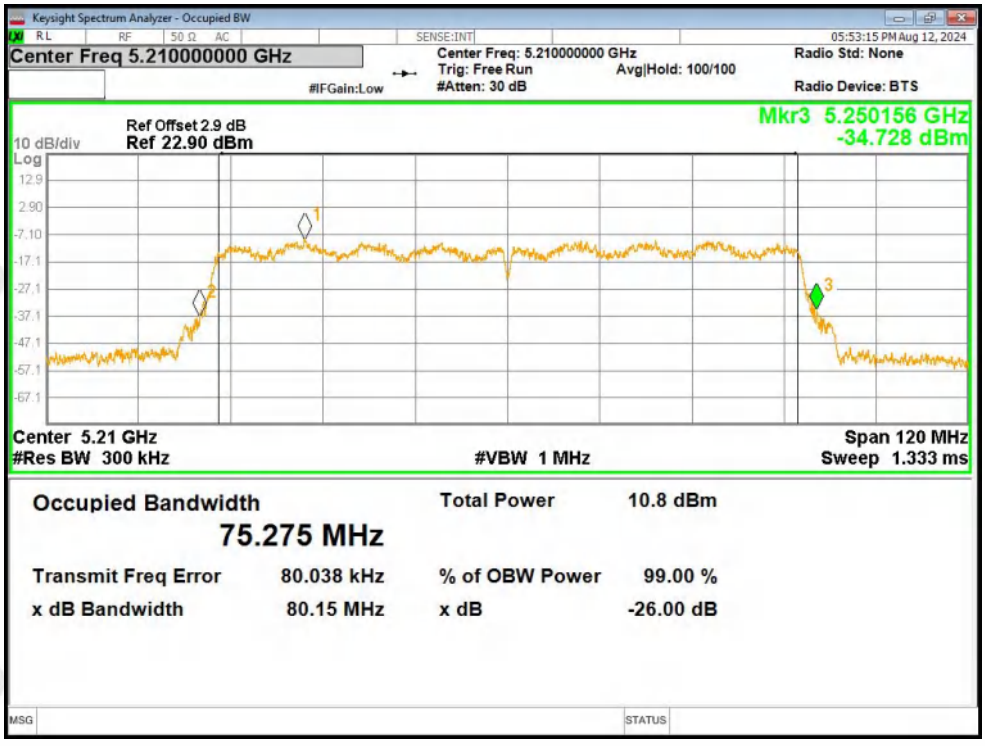
-26dB Bandwidth NVNT ac40 5190MHz Ant1



-26dB Bandwidth NVNT ac40 5230MHz Ant1



-26dB Bandwidth NVNT ac80 5210MHz Ant1

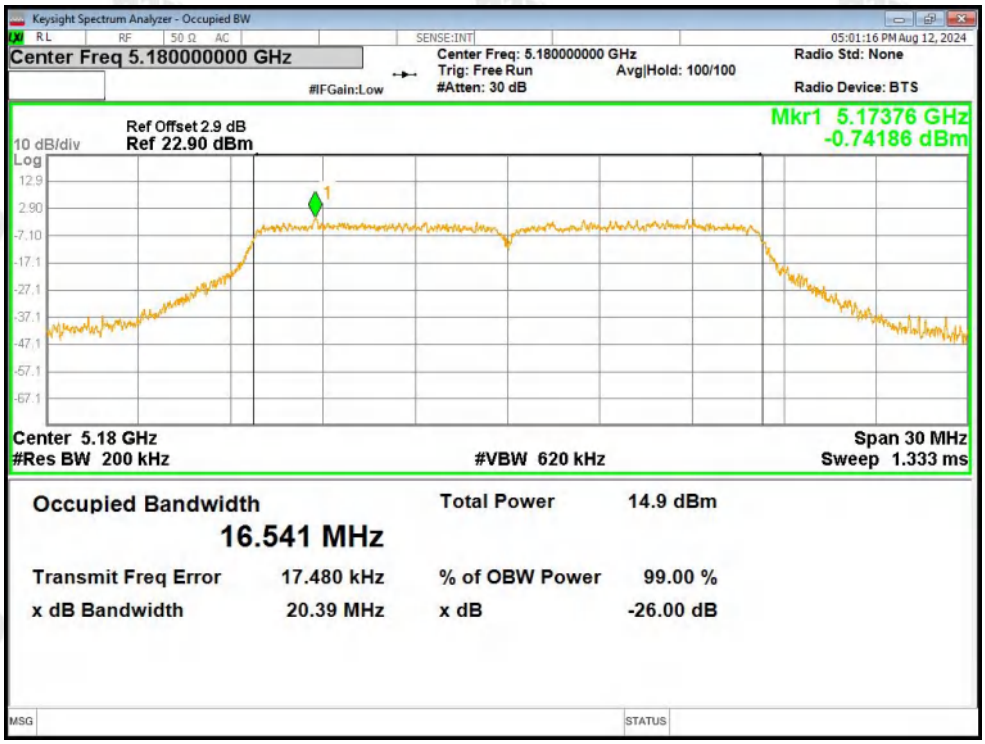


Occupied Channel Bandwidth

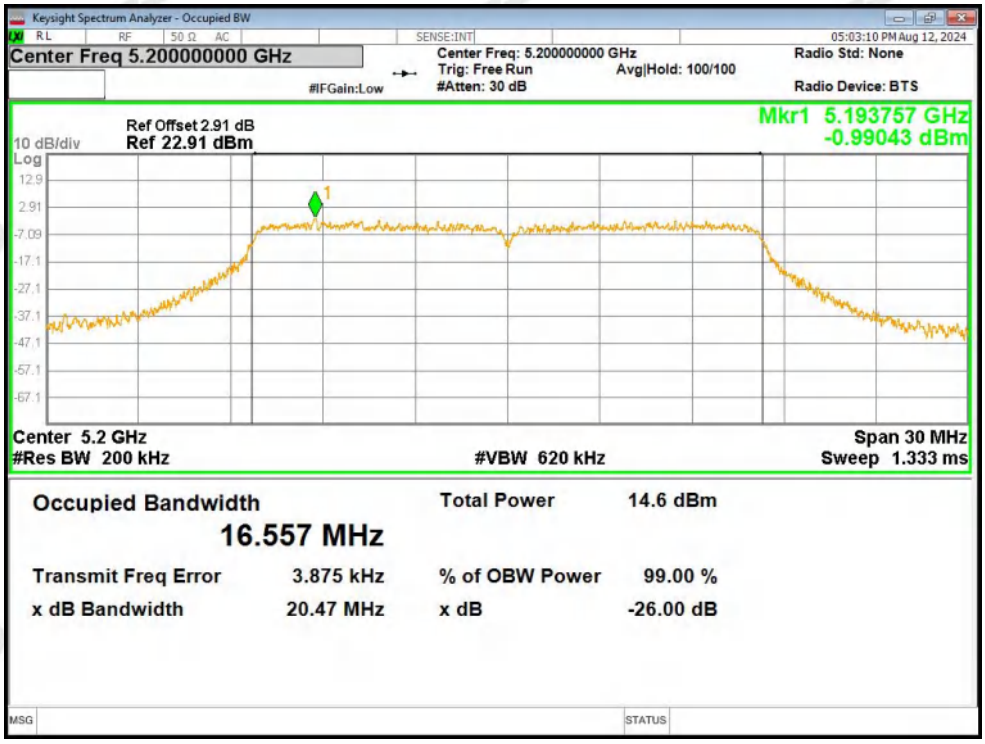
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5180	Ant1	16.541
NVNT	a	5200	Ant1	16.557
NVNT	a	5240	Ant1	16.555
NVNT	n20	5180	Ant1	17.643
NVNT	n20	5200	Ant1	17.651
NVNT	n20	5240	Ant1	17.689
NVNT	n40	5190	Ant1	36.138
NVNT	n40	5230	Ant1	36.236
NVNT	ac20	5180	Ant1	17.61
NVNT	ac20	5200	Ant1	17.628
NVNT	ac20	5240	Ant1	17.625
NVNT	ac40	5190	Ant1	36.131
NVNT	ac40	5230	Ant1	36.148
NVNT	ac80	5210	Ant1	75.325

Test Graphs

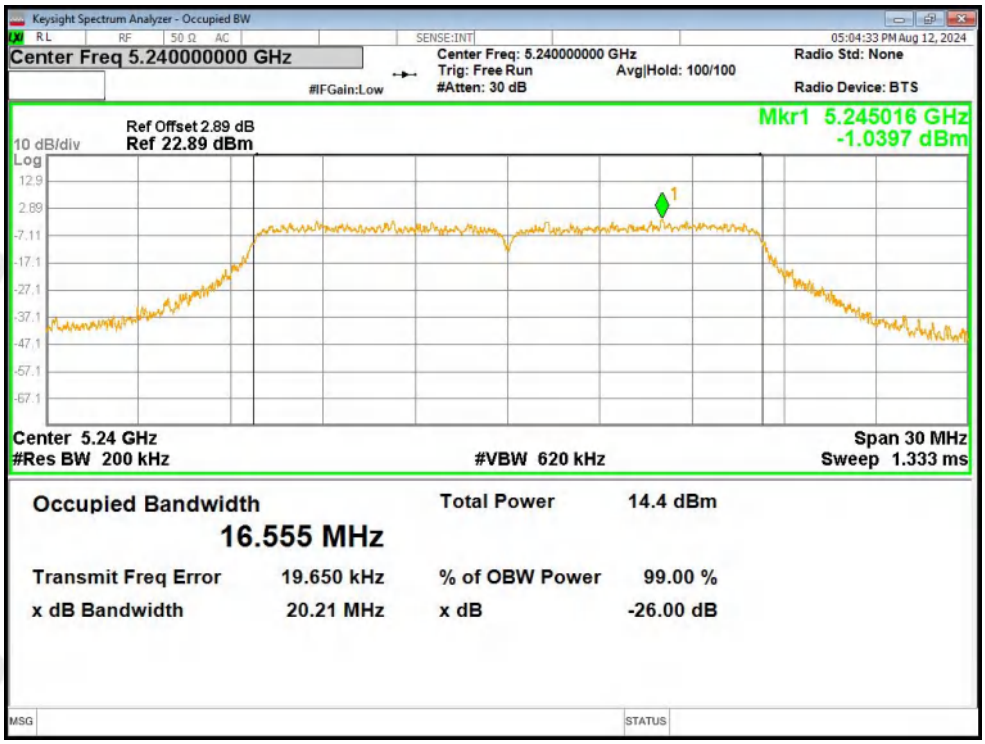
OBW NVNT a 5180MHz Ant1



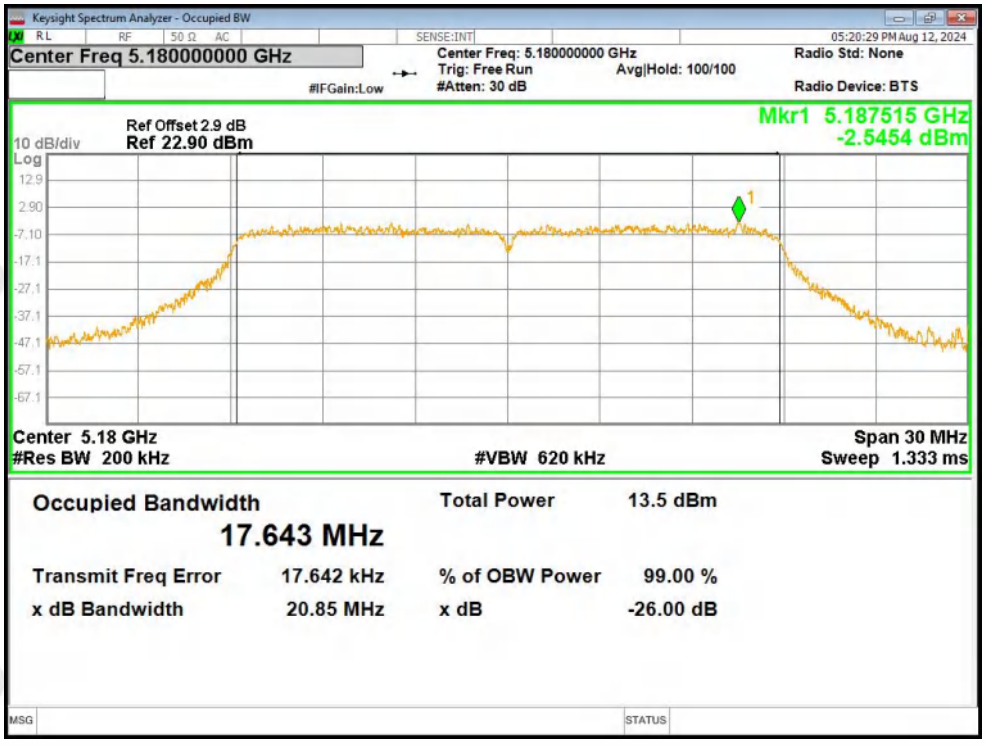
OBW NVNT a 5200MHz Ant1



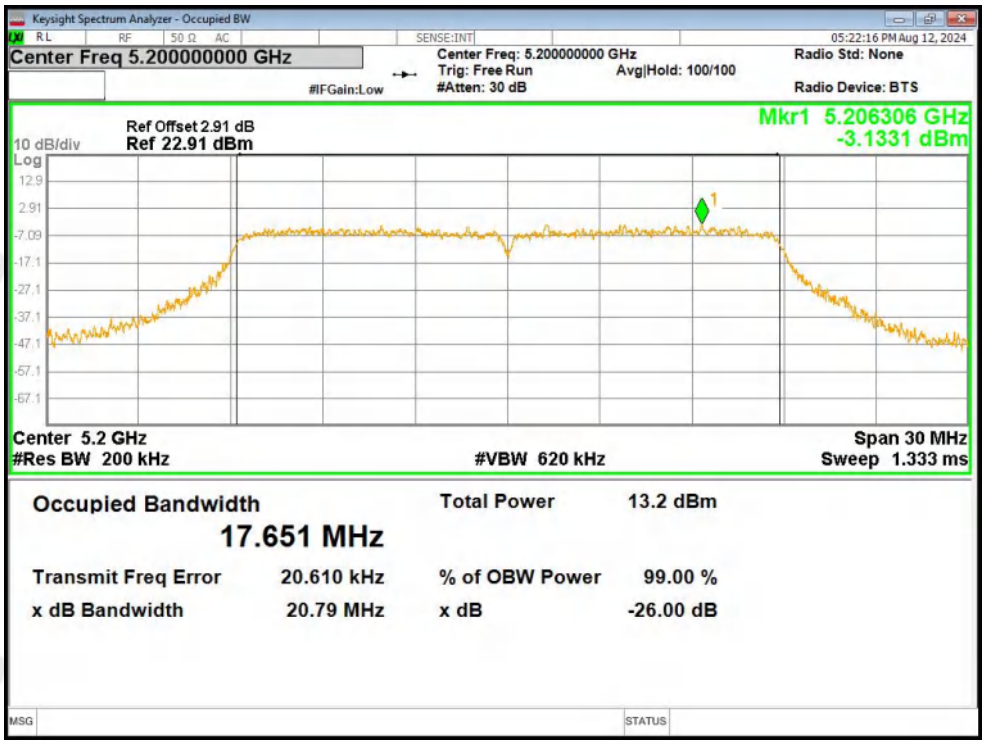
OBW NVNT a 5240MHz Ant1



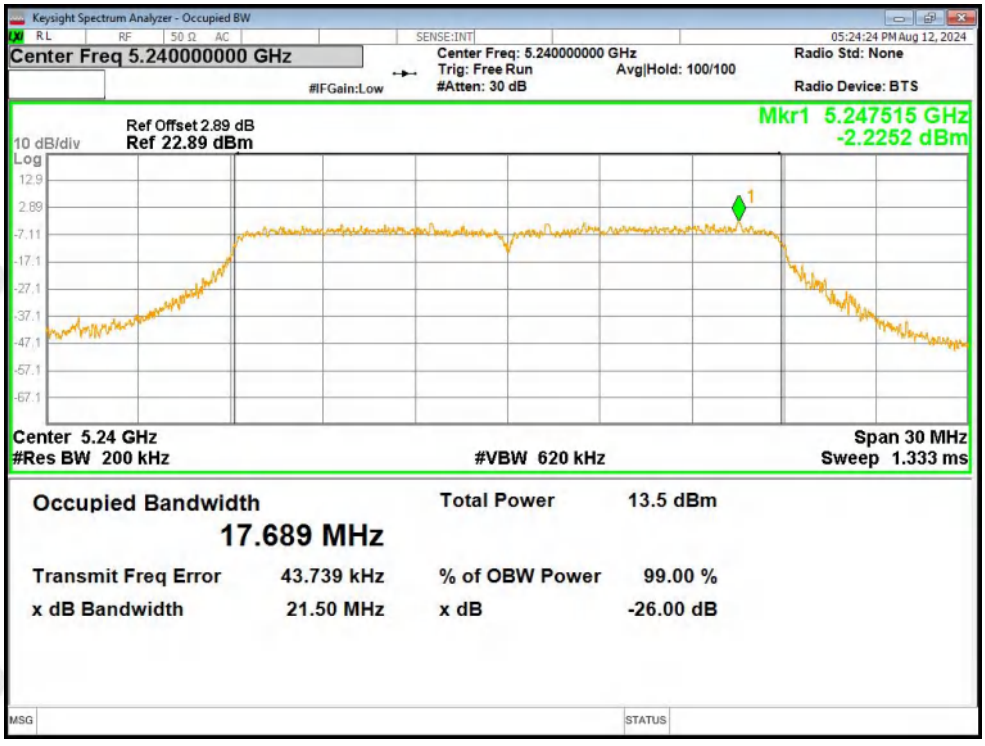
OBW NVNT n20 5180MHz Ant1



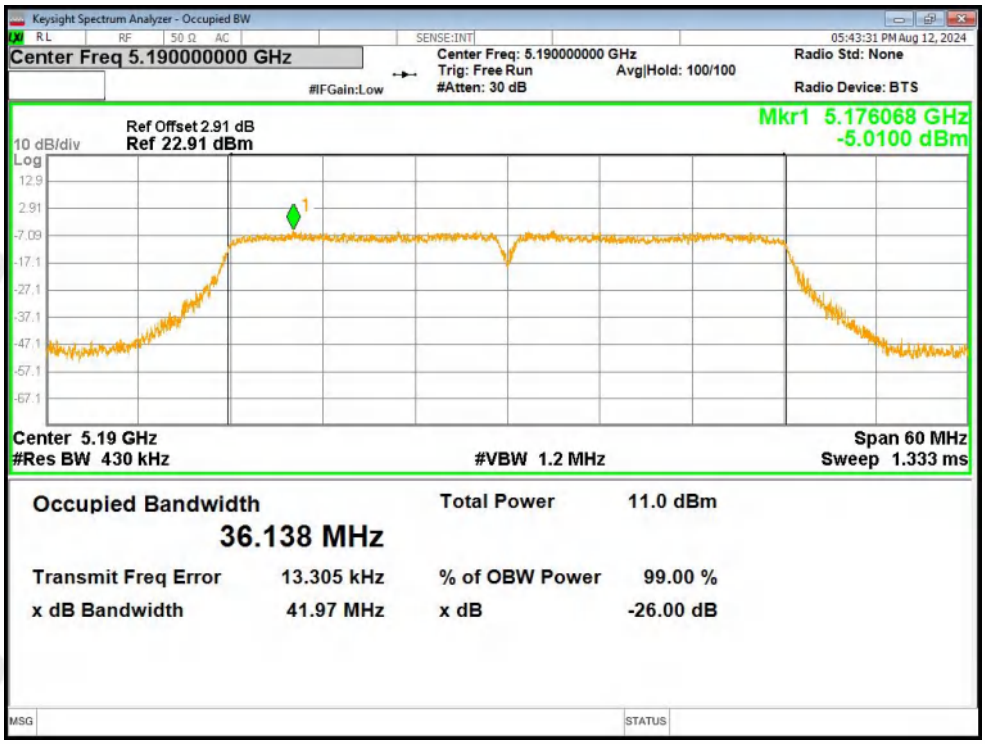
OBW NVNT n20 5200MHz Ant1



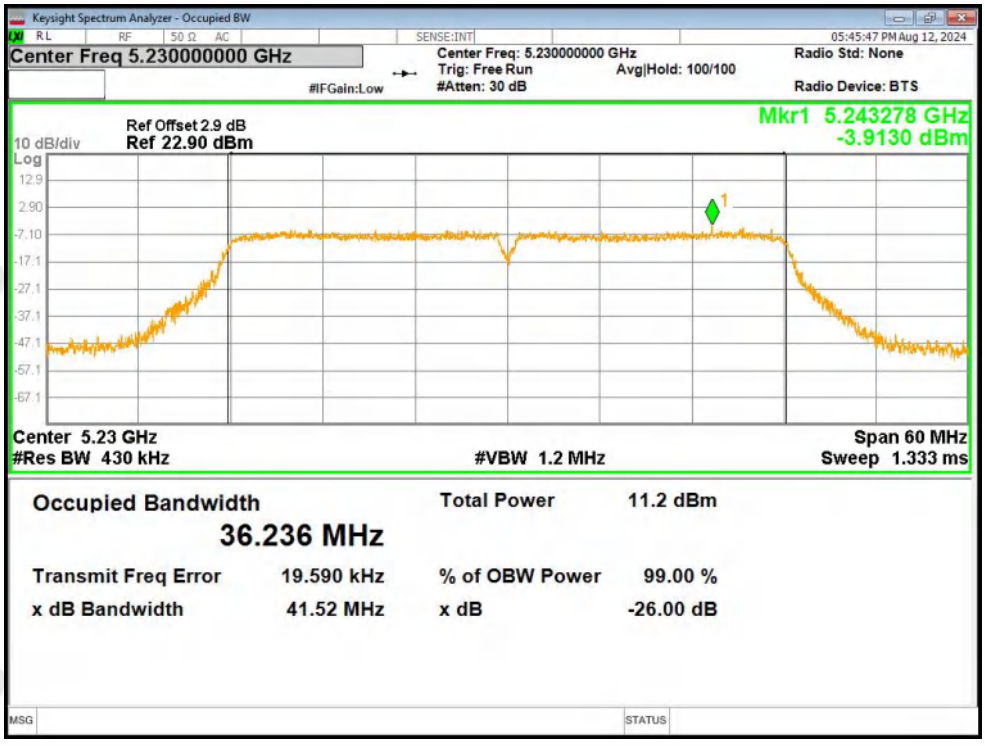
OBW NVNT n20 5240MHz Ant1



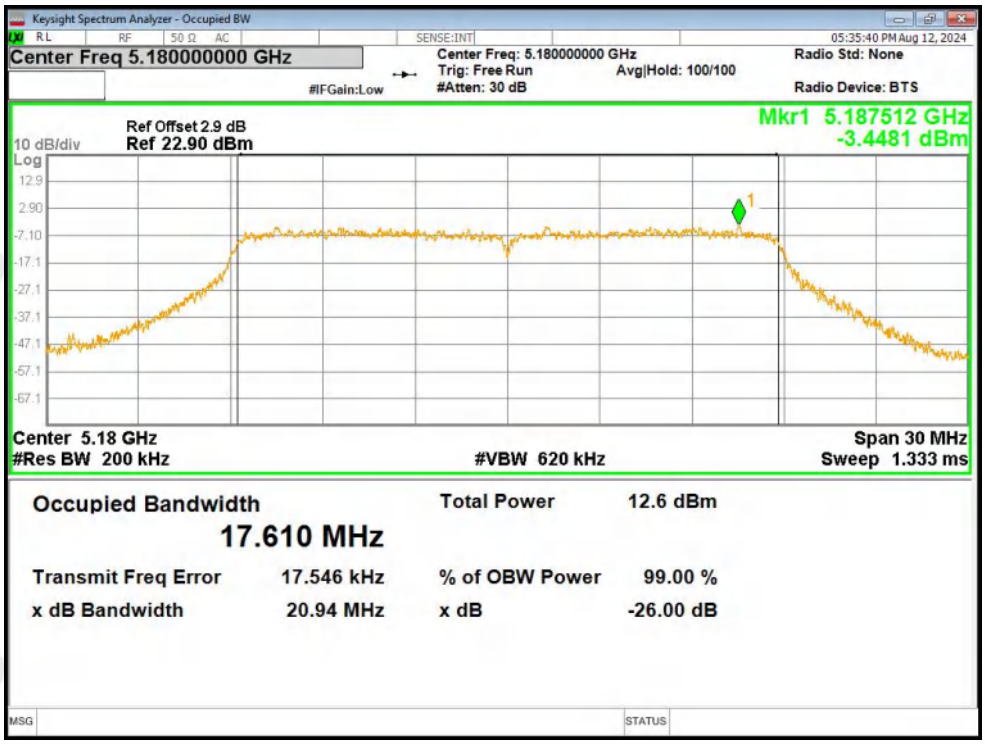
OBW NVNT n40 5190MHz Ant1



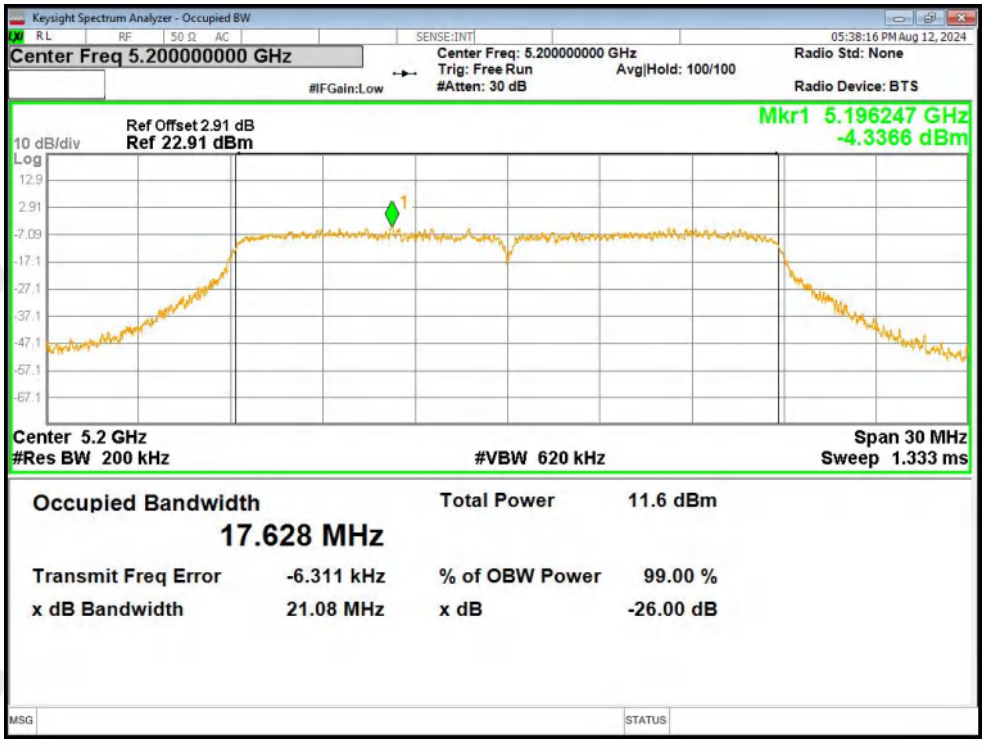
OBW NVNT n40 5230MHz Ant1



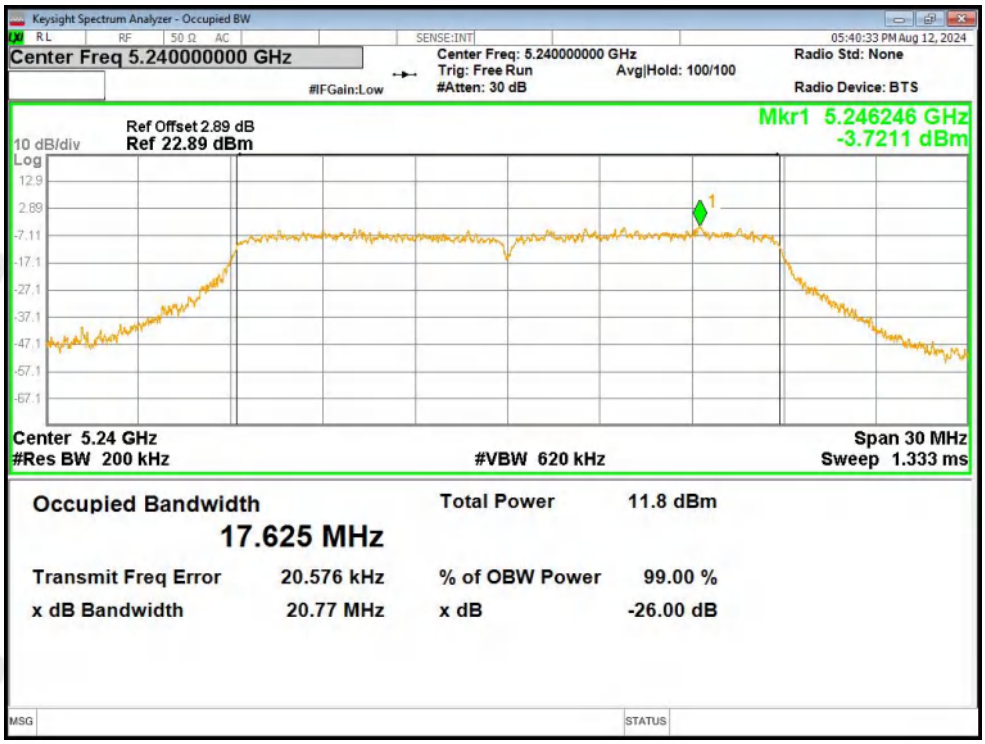
OBW NVNT ac20 5180MHz Ant1



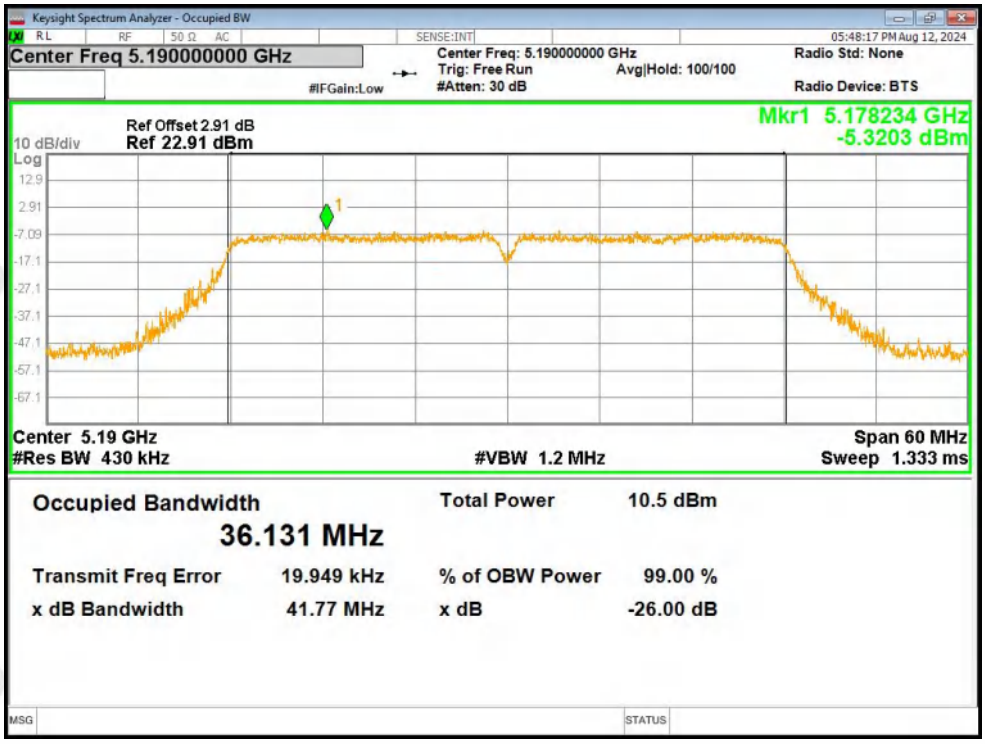
OBW NVNT ac20 5200MHz Ant1



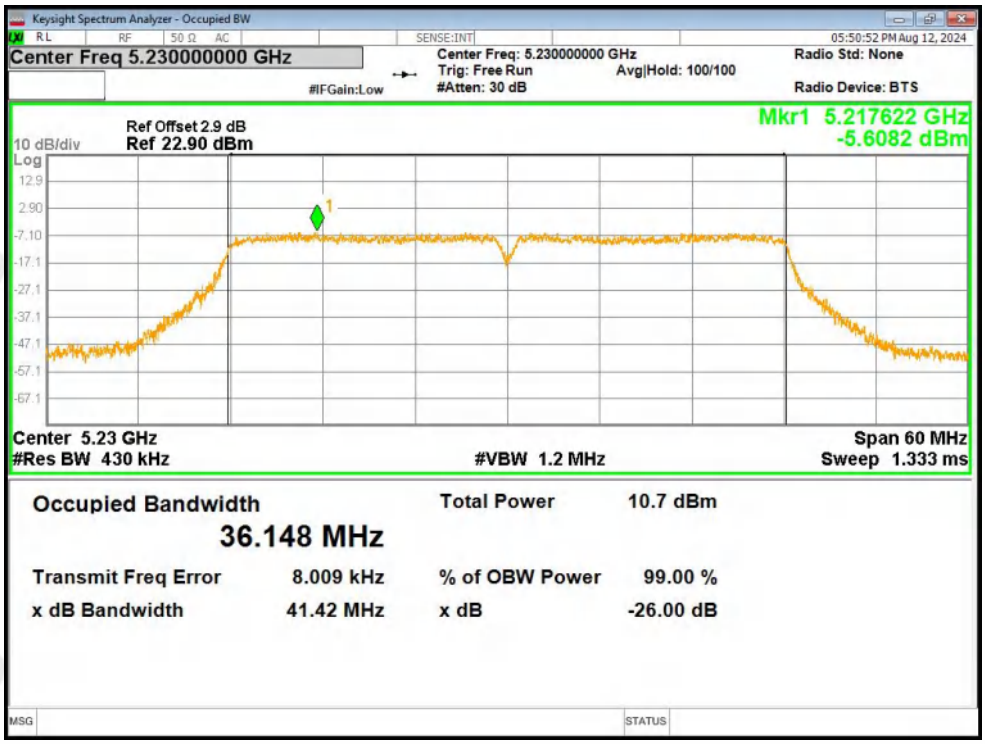
OBW NVNT ac20 5240MHz Ant1



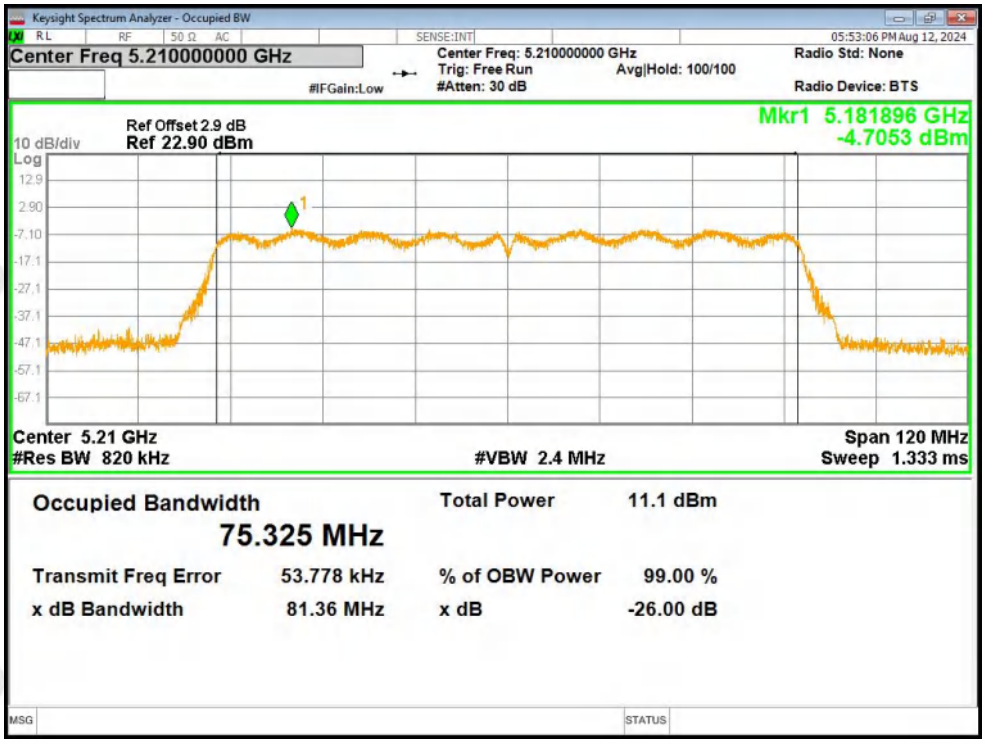
OBW NVNT ac40 5190MHz Ant1



OBW NVNT ac40 5230MHz Ant1



OBW NVNT ac80 5210MHz Ant1

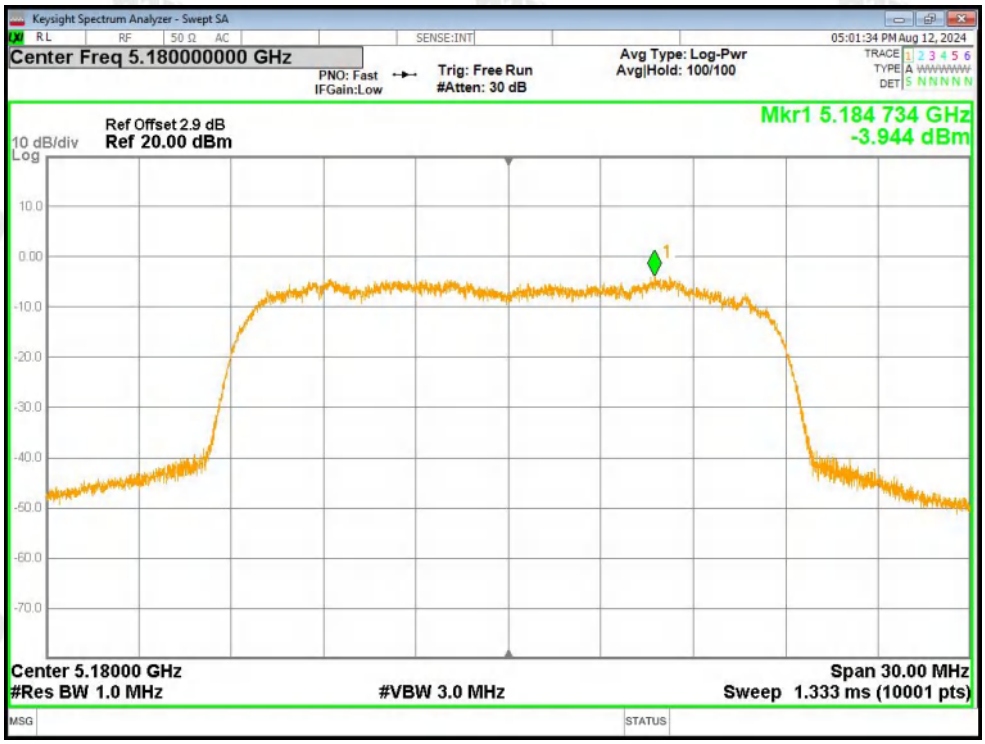


Maximum Power Spectral Density Level

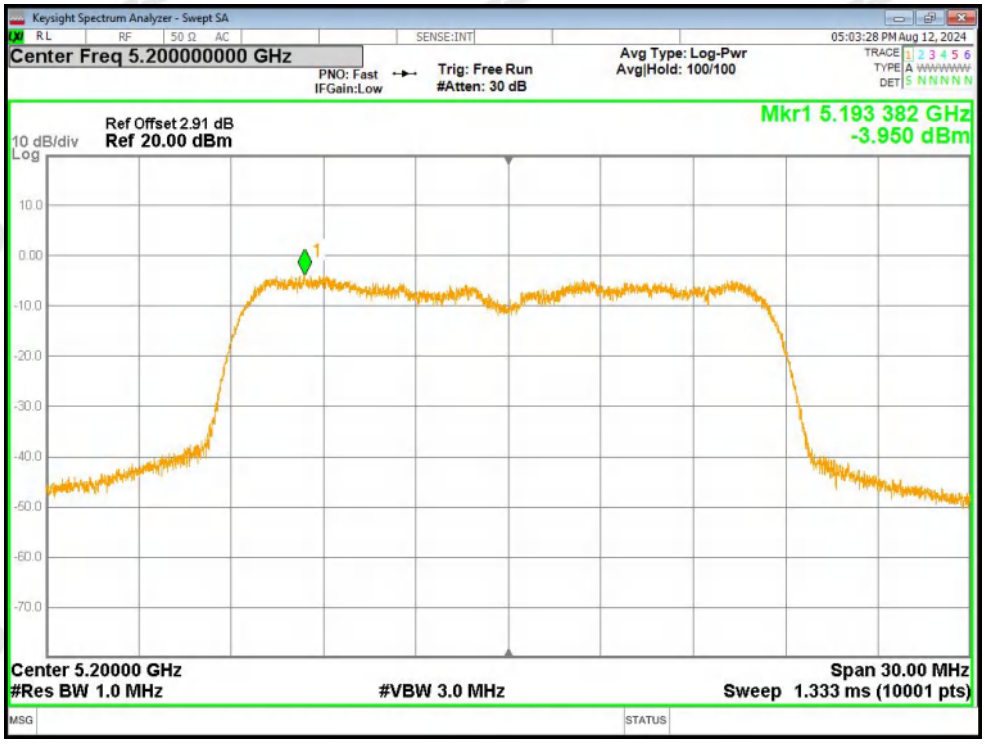
Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	Ant1	-3.94	0.1	-3.84	11	Pass
NVNT	a	5200	Ant1	-3.95	0.34	-3.61	11	Pass
NVNT	a	5240	Ant1	-4.74	0.28	-4.46	11	Pass
NVNT	n20	5180	Ant1	-6.46	0.31	-6.15	11	Pass
NVNT	n20	5200	Ant1	-6.2	0	-6.2	11	Pass
NVNT	n20	5240	Ant1	-6.17	0.24	-5.93	11	Pass
NVNT	n40	5190	Ant1	-12.07	0.52	-11.55	11	Pass
NVNT	n40	5230	Ant1	-13.31	0.31	-13	11	Pass
NVNT	ac20	5180	Ant1	-6.83	0.32	-6.51	11	Pass
NVNT	ac20	5200	Ant1	-7.23	0	-7.23	11	Pass
NVNT	ac20	5240	Ant1	-8.43	0.18	-8.25	11	Pass
NVNT	ac40	5190	Ant1	-13.43	0.56	-12.87	11	Pass
NVNT	ac40	5230	Ant1	-13.86	0.72	-13.14	11	Pass
NVNT	ac80	5210	Ant1	-19.04	0	-19.04	11	Pass

Test Graphs

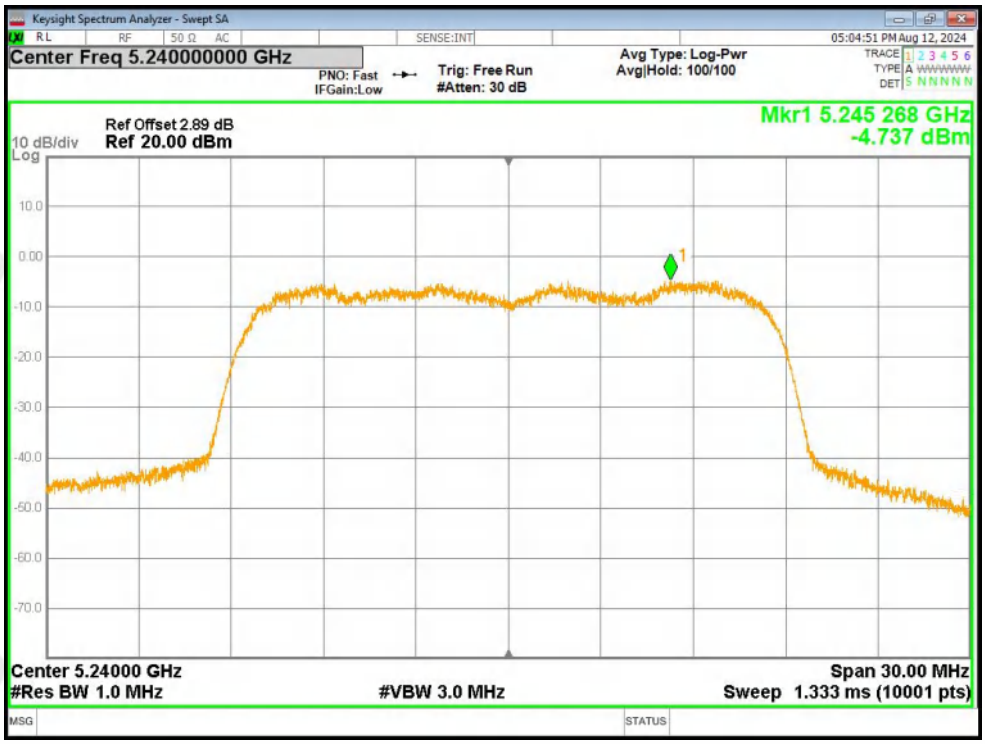
PSD NVNT a 5180MHz Ant1



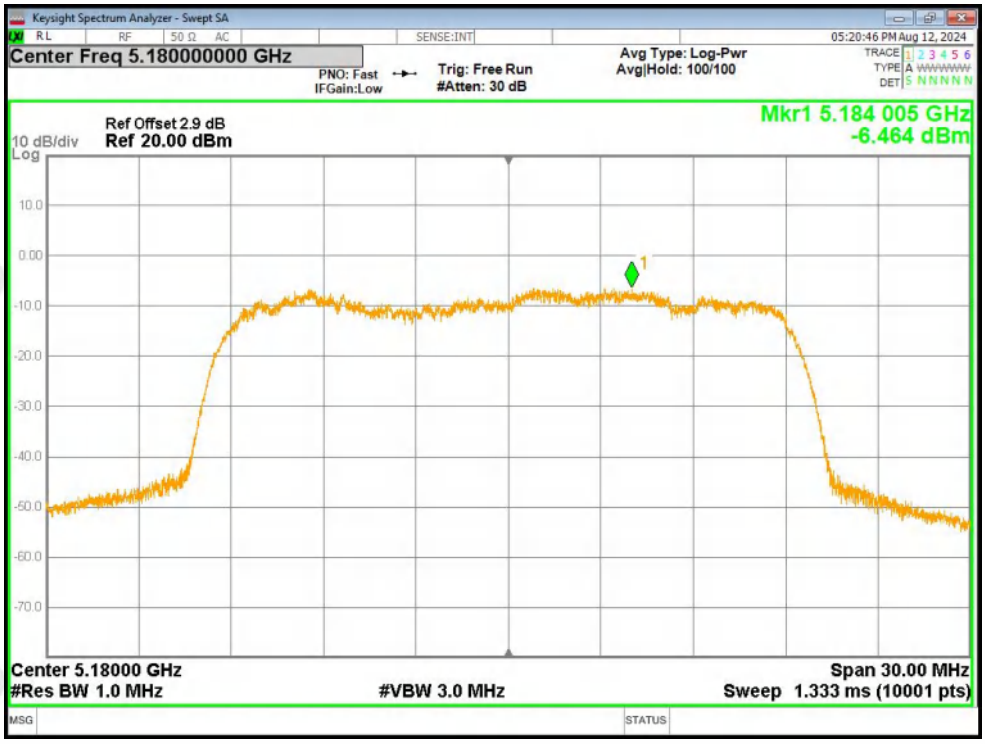
PSD NVNT a 5200MHz Ant1



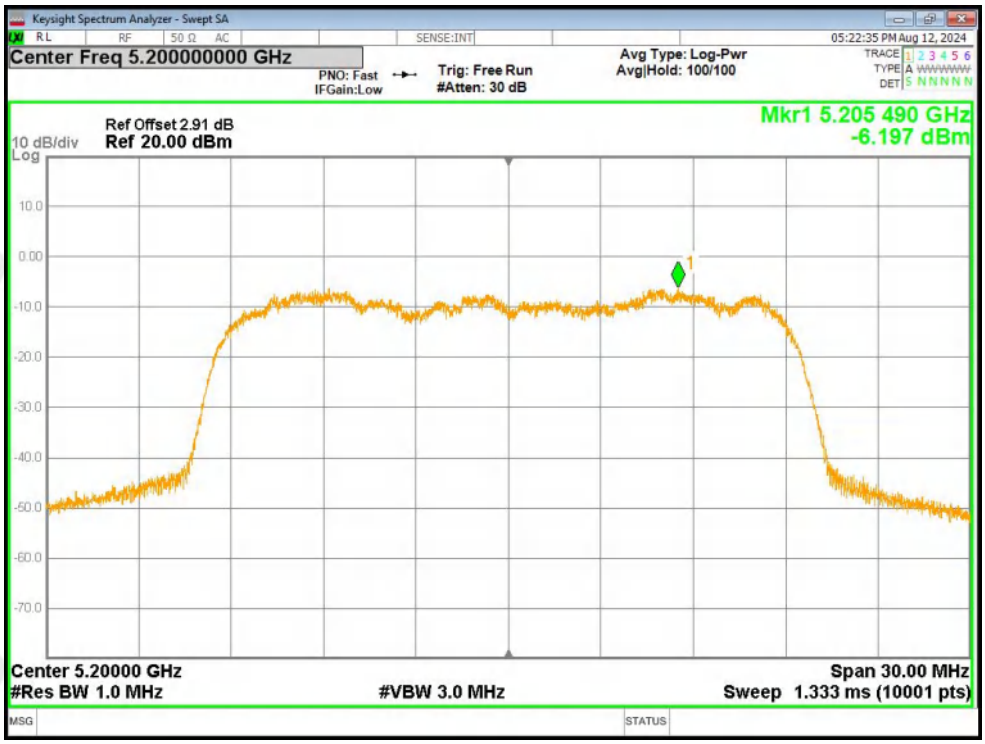
PSD NVNT a 5240MHz Ant1



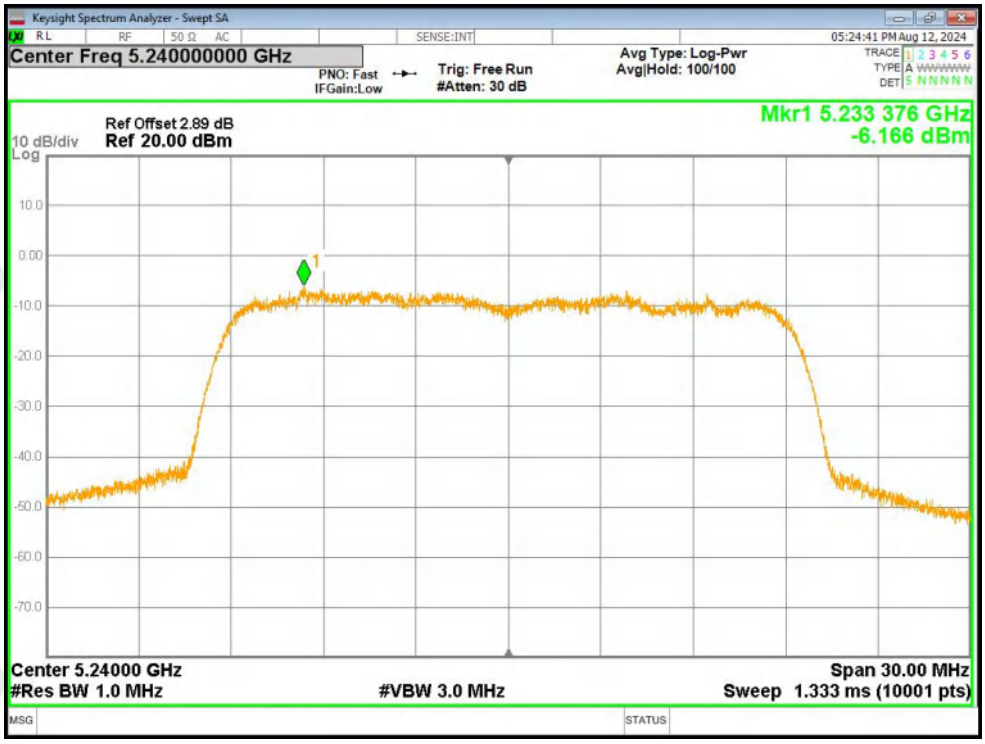
PSD NVNT n20 5180MHz Ant1



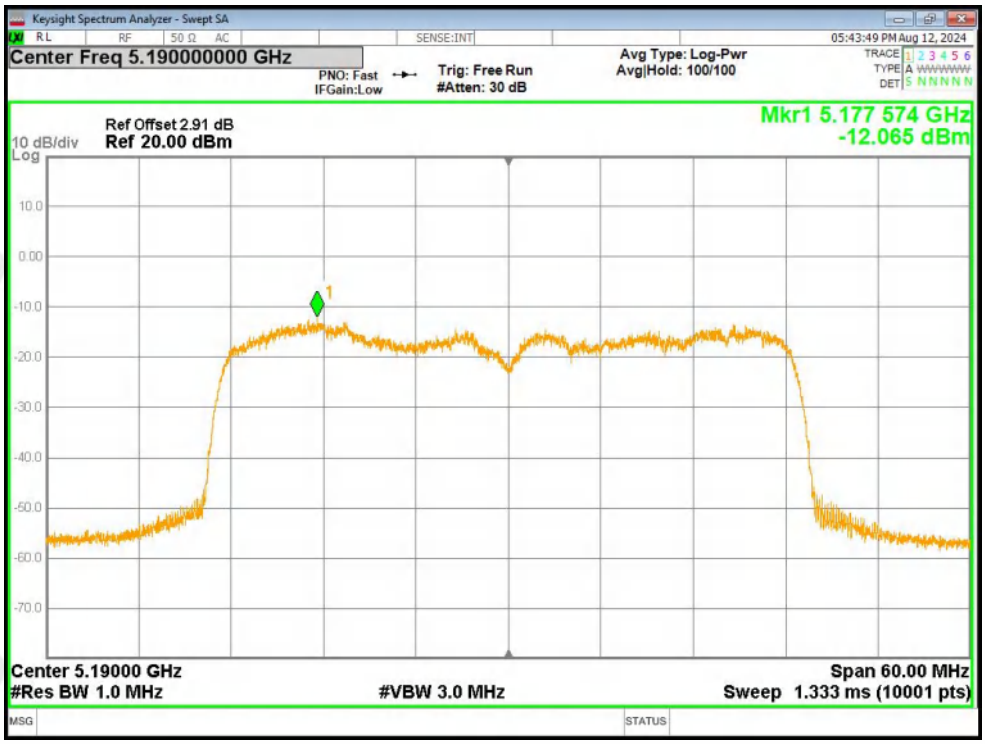
PSD NVNT n20 5200MHz Ant1



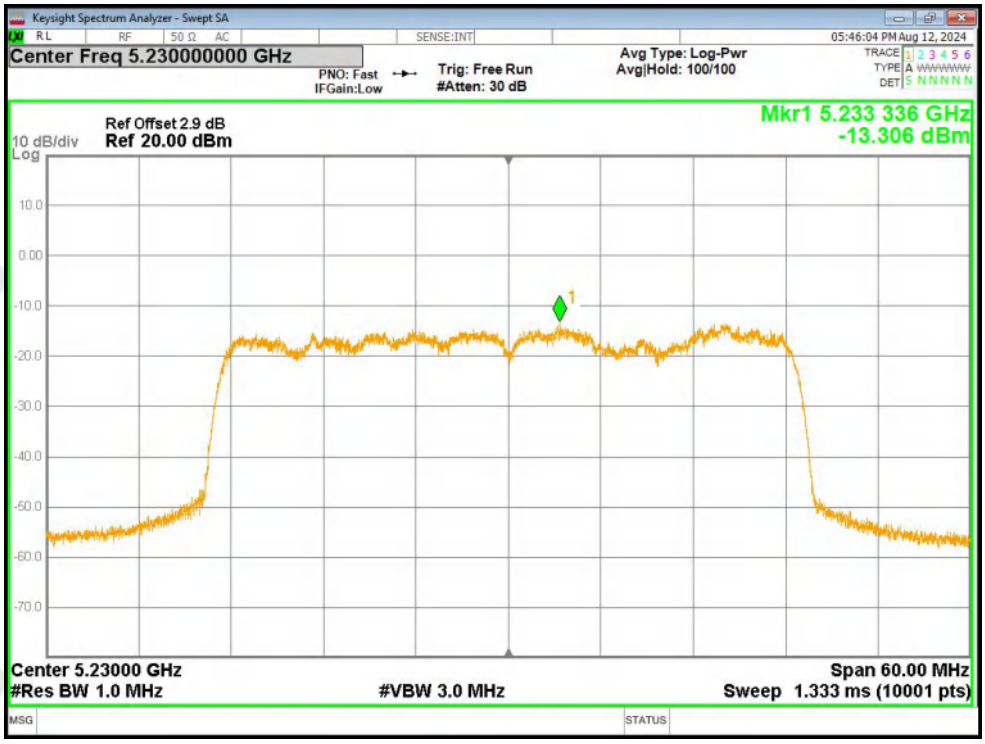
PSD NVNT n20 5240MHz Ant1



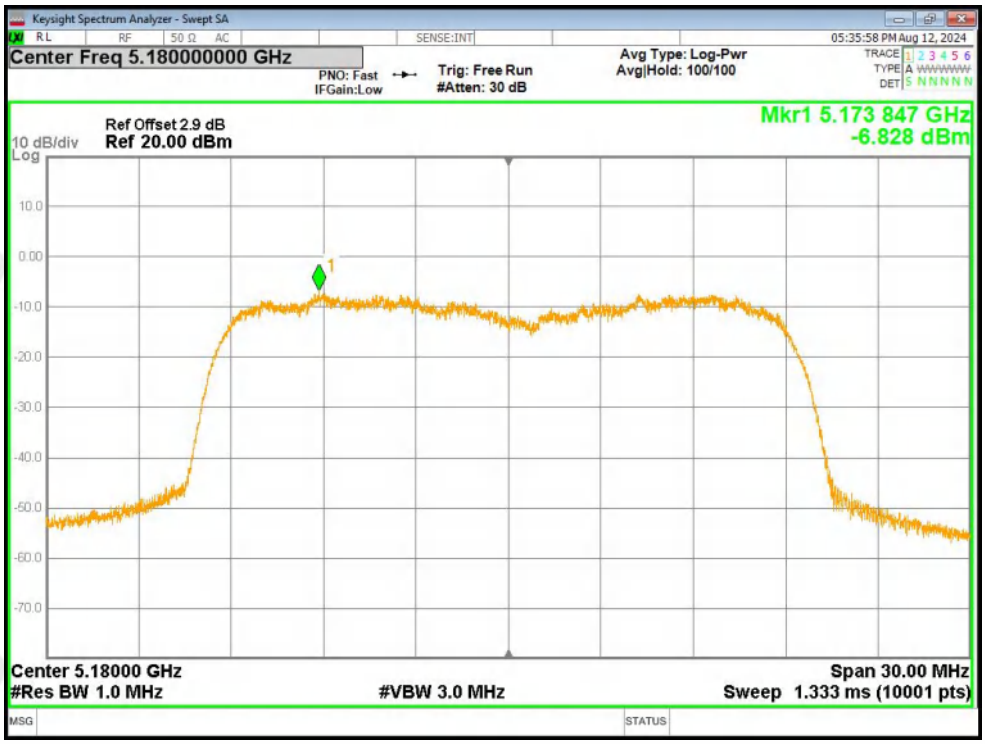
PSD NVNT n40 5190MHz Ant1



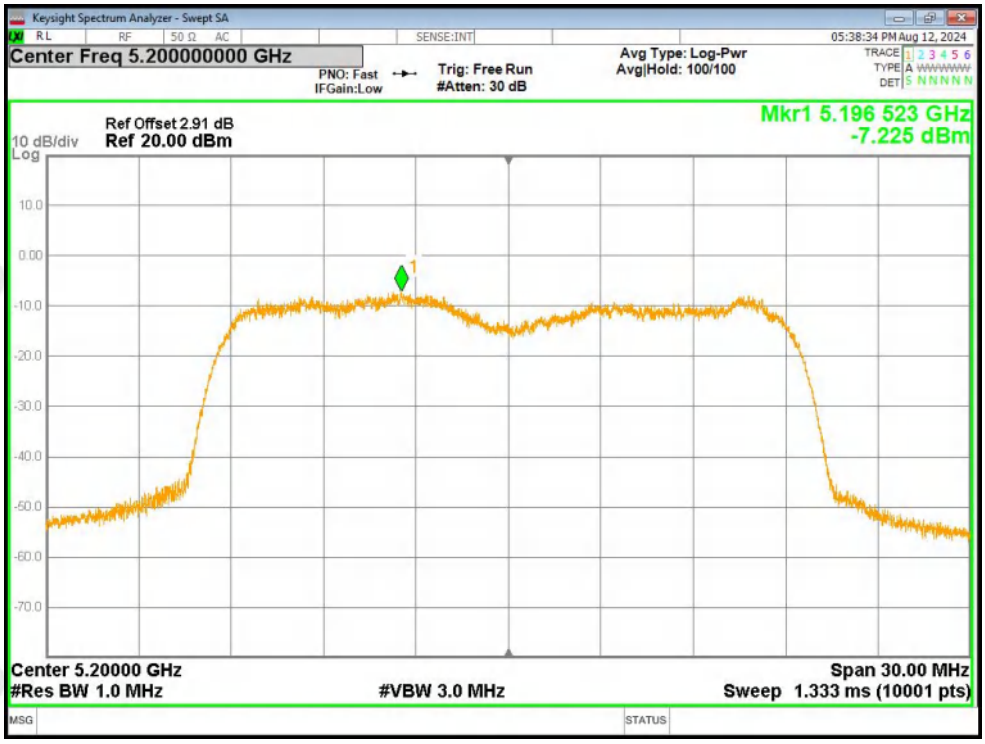
PSD NVNT n40 5230MHz Ant1



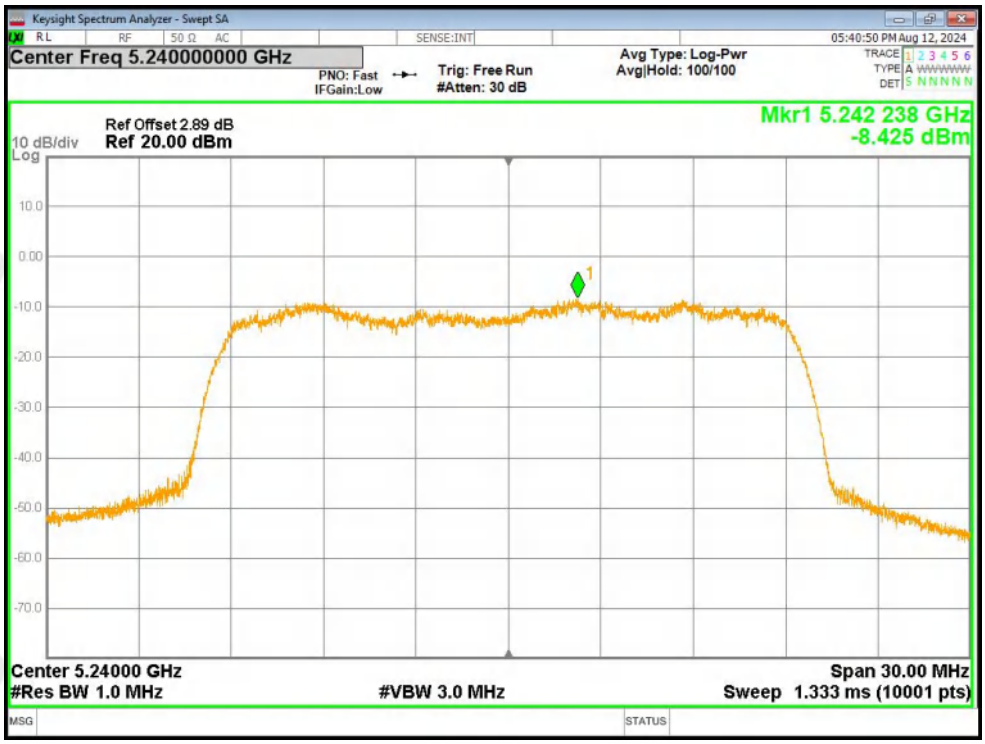
PSD NVNT ac20 5180MHz Ant1



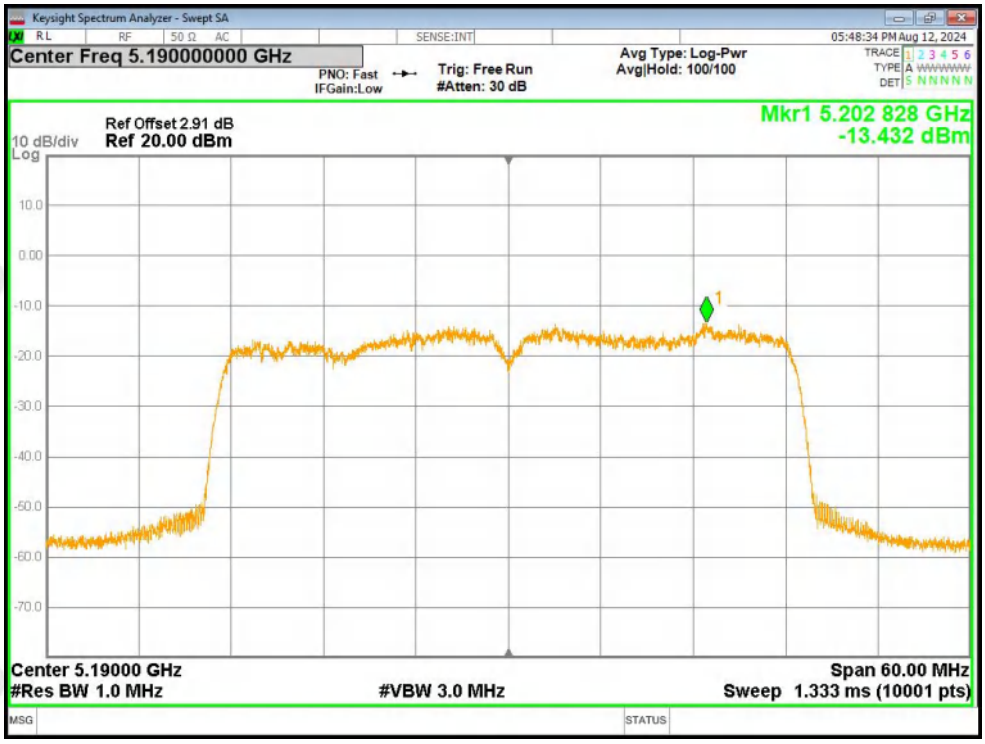
PSD NVNT ac20 5200MHz Ant1



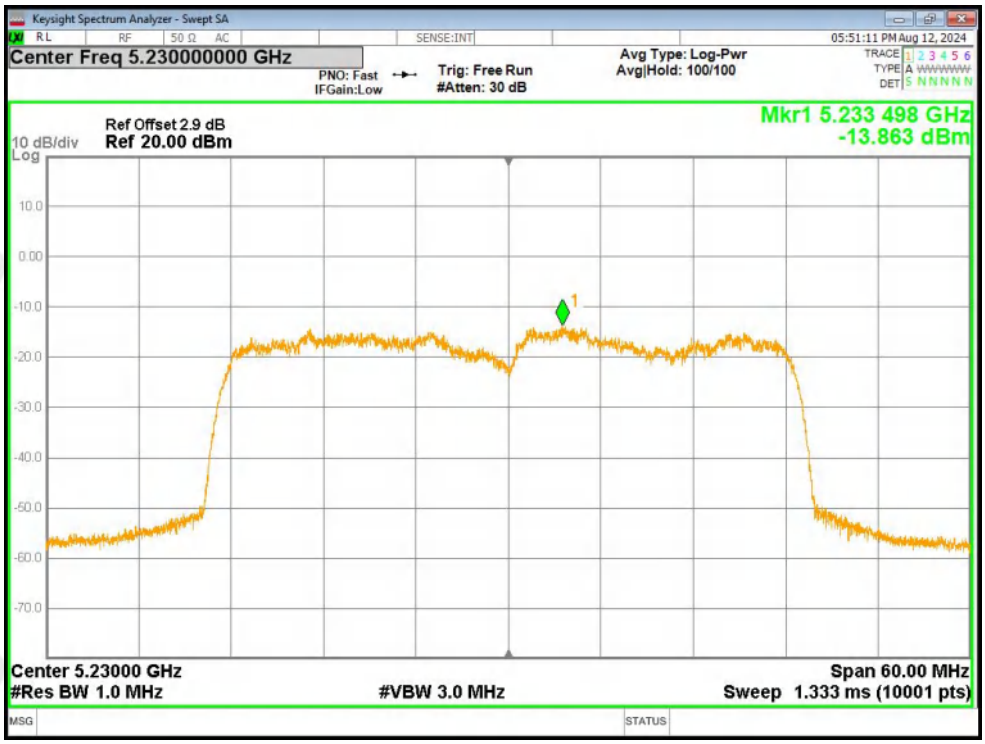
PSD NVNT ac20 5240MHz Ant1



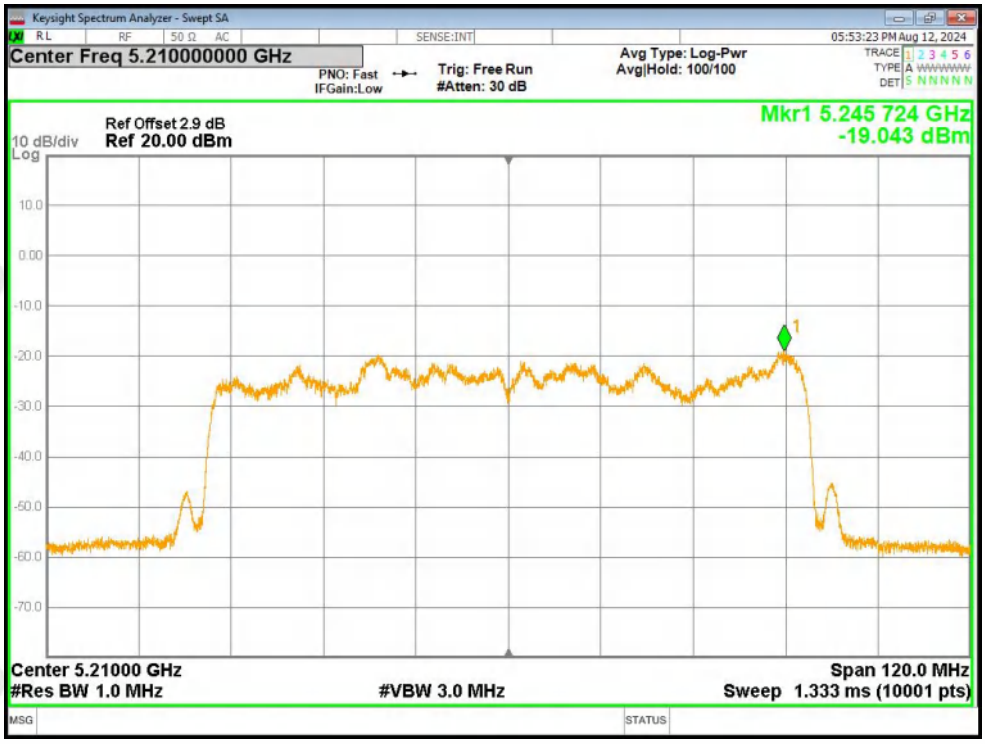
PSD NVNT ac40 5190MHz Ant1



PSD NVNT ac40 5230MHz Ant1



PSD NVNT ac80 5210MHz Ant1

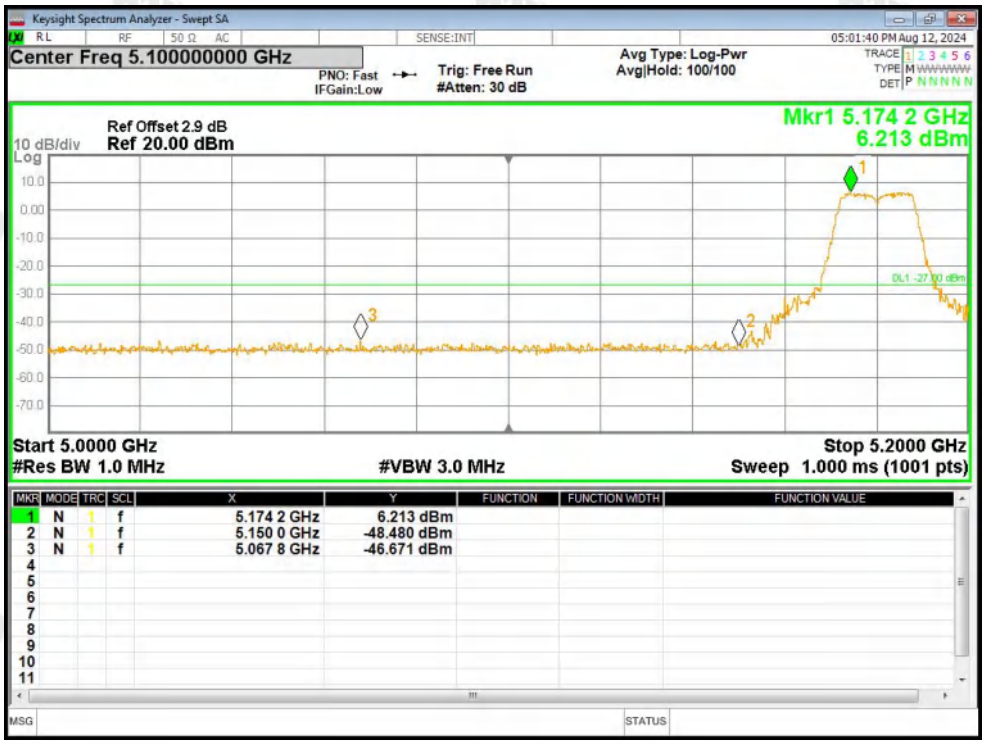


Band Edge

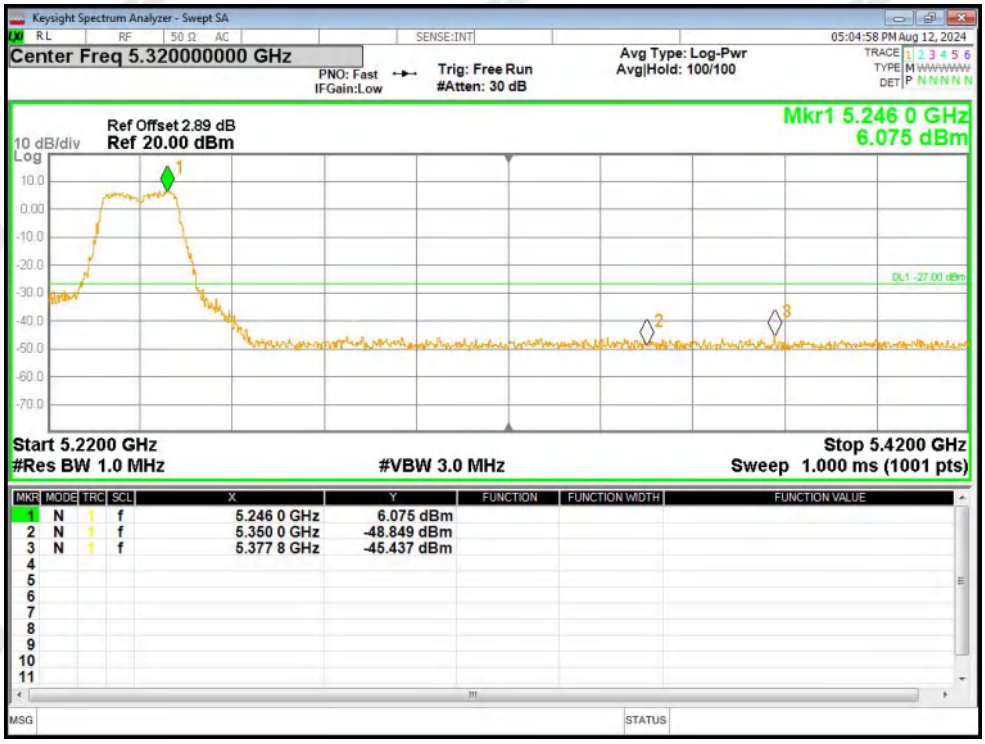
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	Ant1	-46.67	-27	Pass
NVNT	a	5240	Ant1	-45.43	-27	Pass
NVNT	n20	5180	Ant1	-46.71	-27	Pass
NVNT	n20	5240	Ant1	-45.92	-27	Pass
NVNT	n40	5190	Ant1	-45.95	-27	Pass
NVNT	n40	5230	Ant1	-45.81	-27	Pass
NVNT	ac20	5180	Ant1	-45.62	-27	Pass
NVNT	ac20	5240	Ant1	-46.21	-27	Pass
NVNT	ac40	5190	Ant1	-43.01	-27	Pass
NVNT	ac40	5230	Ant1	-45.55	-27	Pass
NVNT	ac80	5210	Ant1	-43.78	-27	Pass

Test Graphs

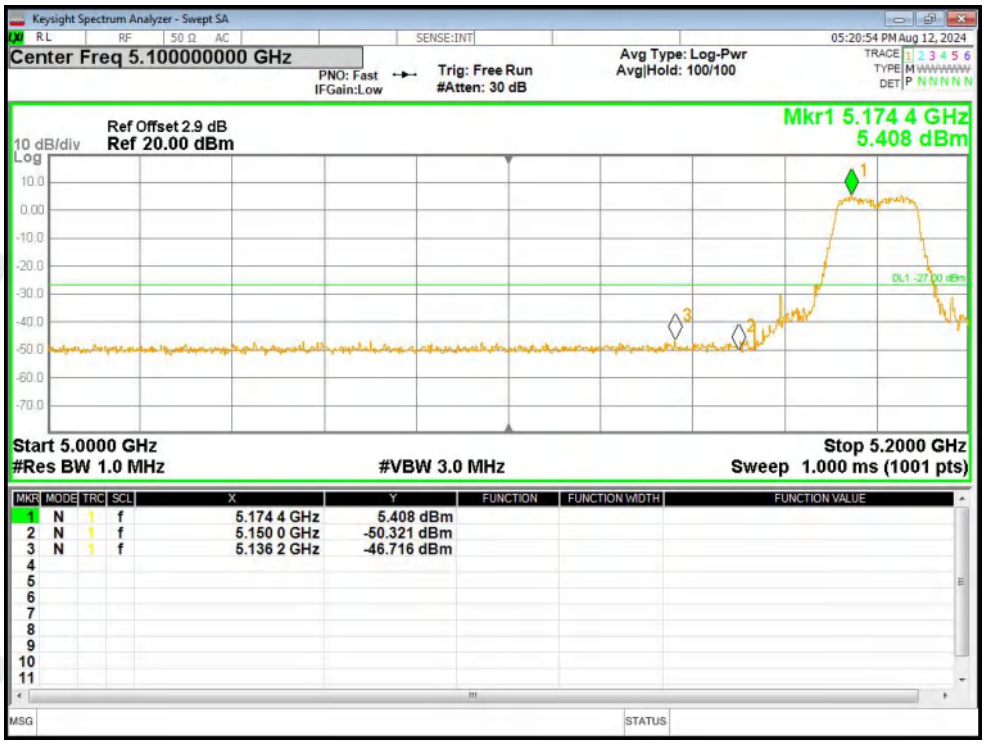
Band Edge NVNT a 5180MHz Low Ant1



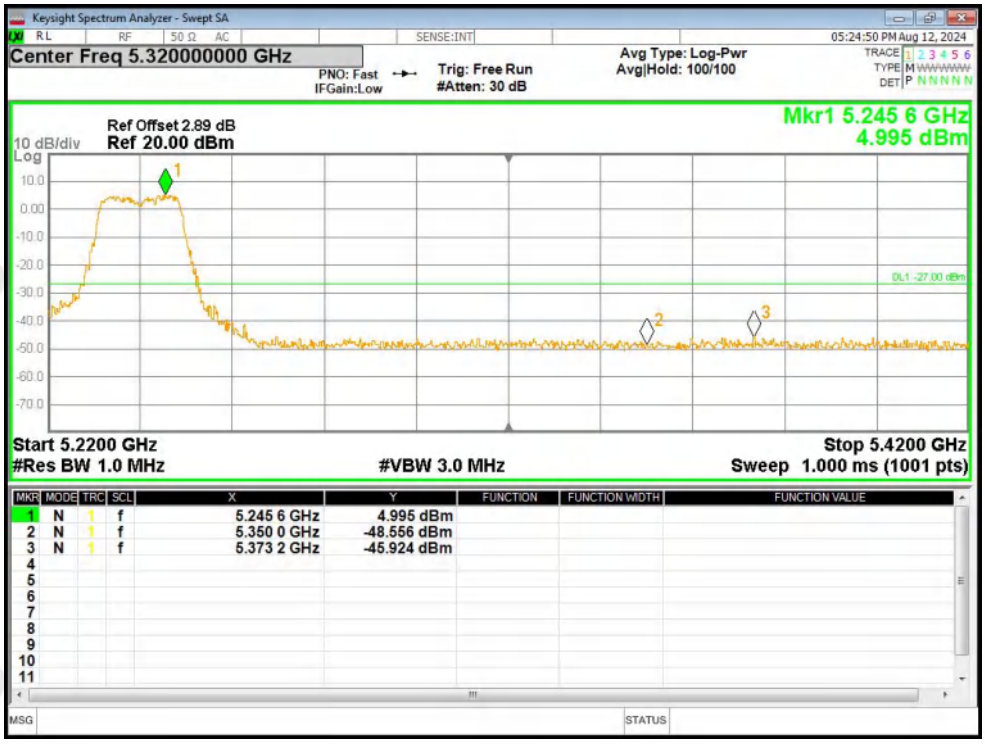
Band Edge NVNT a 5240MHz High Ant1



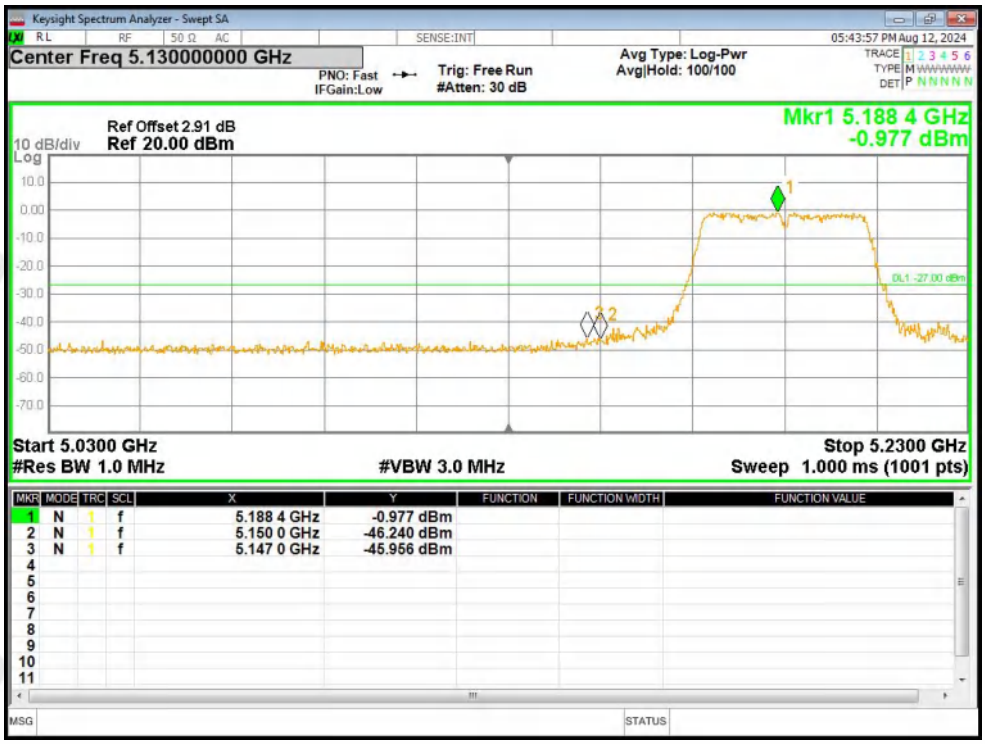
Band Edge NVNT n20 5180MHz Low Ant1



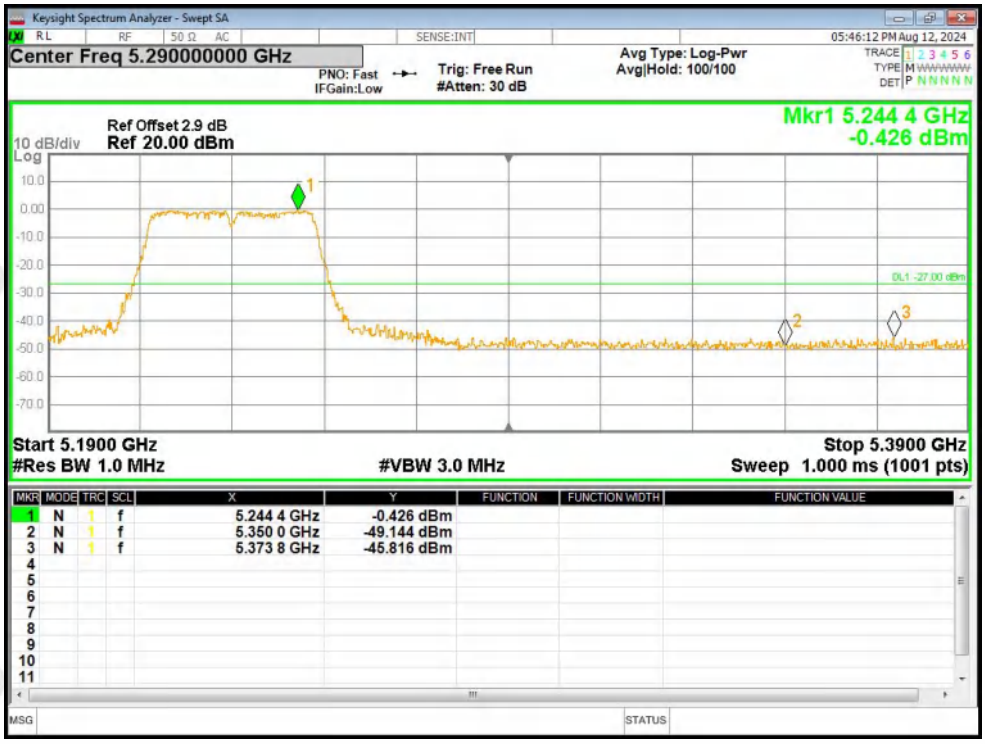
Band Edge NVNT n20 5240MHz High Ant1



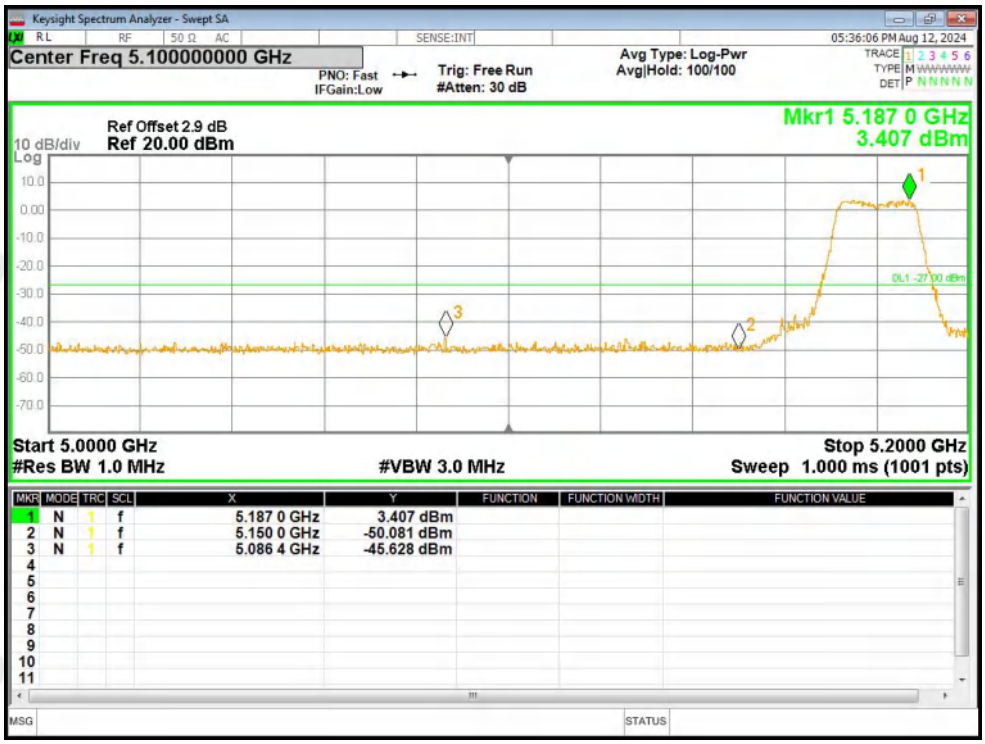
Band Edge NVNT n40 5190MHz Low Ant1



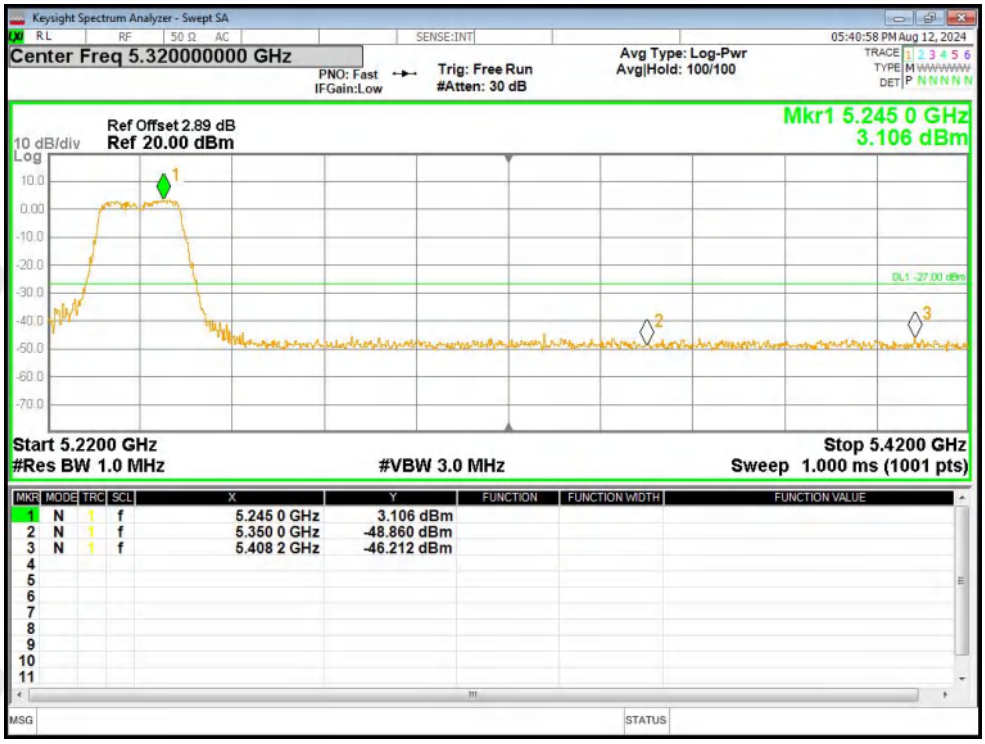
Band Edge NVNT n40 5230MHz High Ant1



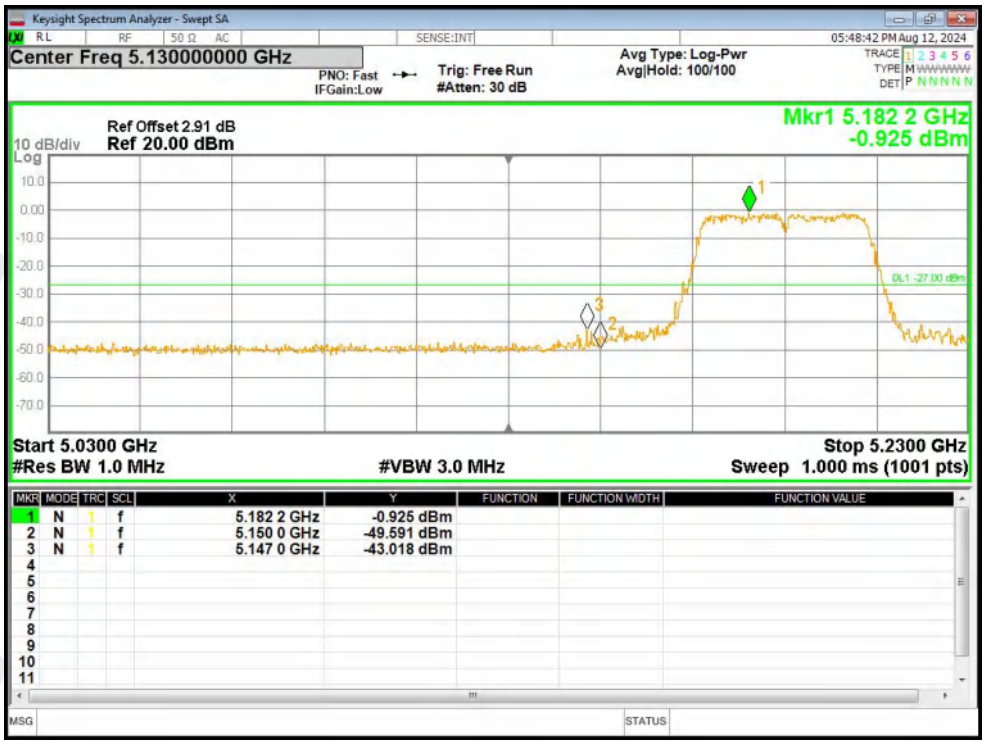
Band Edge NVNT ac20 5180MHz Low Ant1



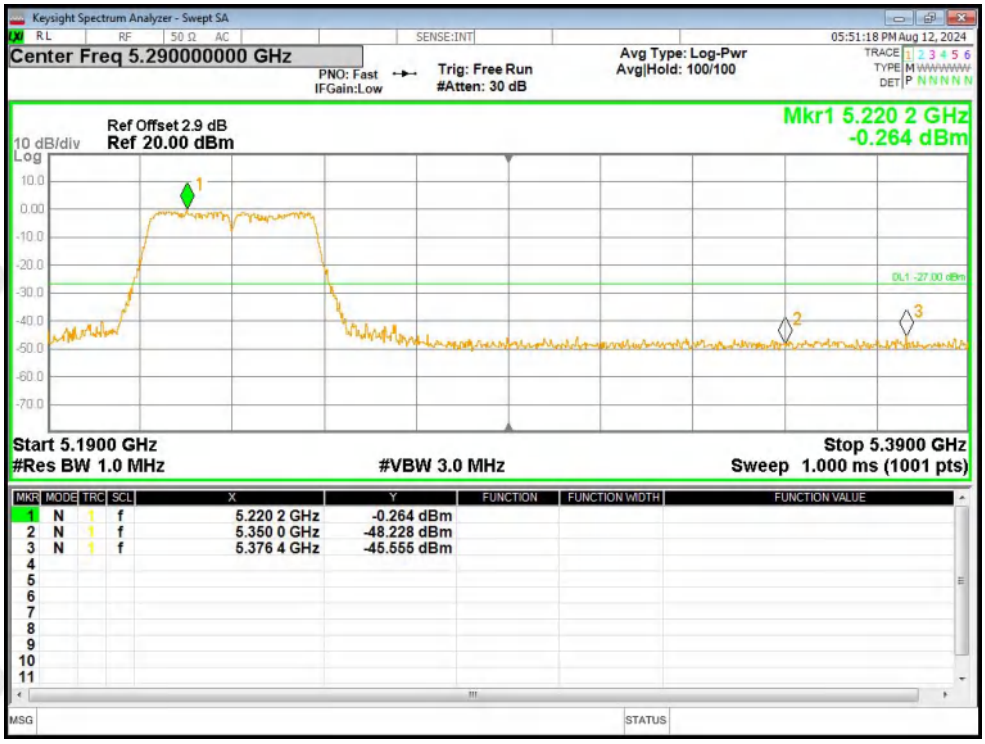
Band Edge NVNT ac20 5240MHz High Ant1



Band Edge NVNT ac40 5190MHz Low Ant1



Band Edge NVNT ac40 5230MHz High Ant1



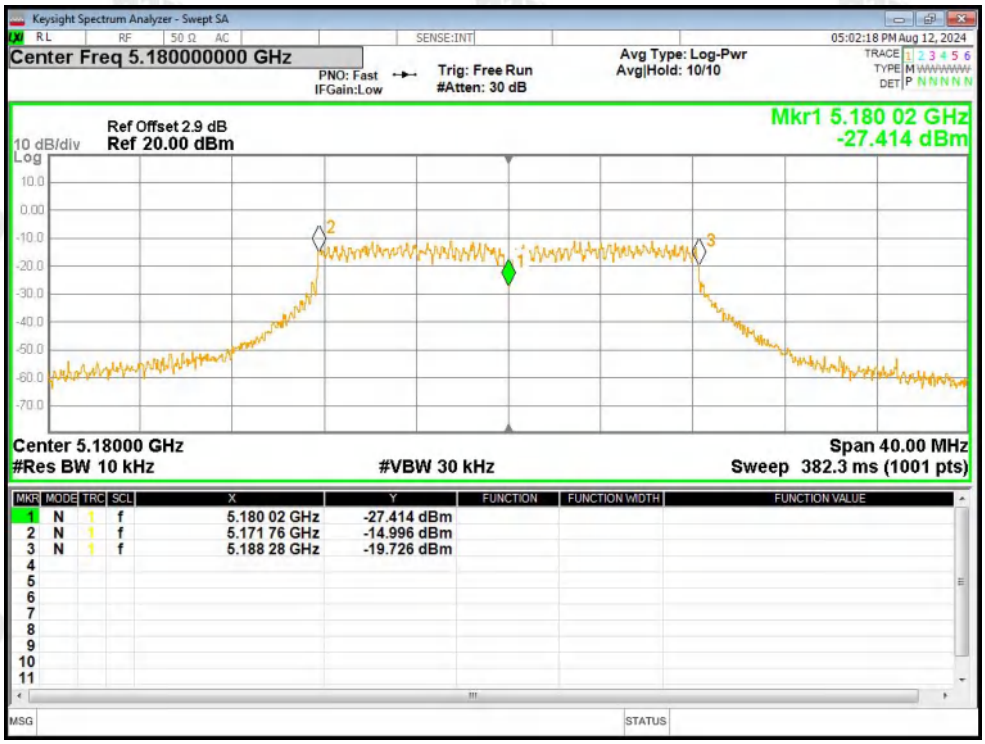
Band Edge NVNT ac80 5210MHz Low Ant1

Frequency Stability

Condition	Mode	Frequency (MHz)	Antenna	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	a	5180	Ant1	5180.02	20000	3.86	25	Pass
NVNT	a	5200	Ant1	5200	0	0	25	Pass
NVNT	a	5240	Ant1	5240	0	0	25	Pass
NVNT	n20	5180	Ant1	5180.02	20000	3.86	25	Pass
NVNT	n20	5200	Ant1	5200	0	0	25	Pass
NVNT	n20	5240	Ant1	5240.02	20000	3.82	25	Pass
NVNT	n40	5190	Ant1	5190	0	0	25	Pass
NVNT	n40	5230	Ant1	5230	0	0	25	Pass
NVNT	ac20	5180	Ant1	5179.98	-20000	-3.86	25	Pass
NVNT	ac20	5200	Ant1	5200	0	0	25	Pass
NVNT	ac20	5240	Ant1	5240.02	20000	3.82	25	Pass
NVNT	ac40	5190	Ant1	5190	0	0	25	Pass
NVNT	ac40	5230	Ant1	5230	0	0	25	Pass
NVNT	ac80	5210	Ant1	5210	0	0	25	Pass

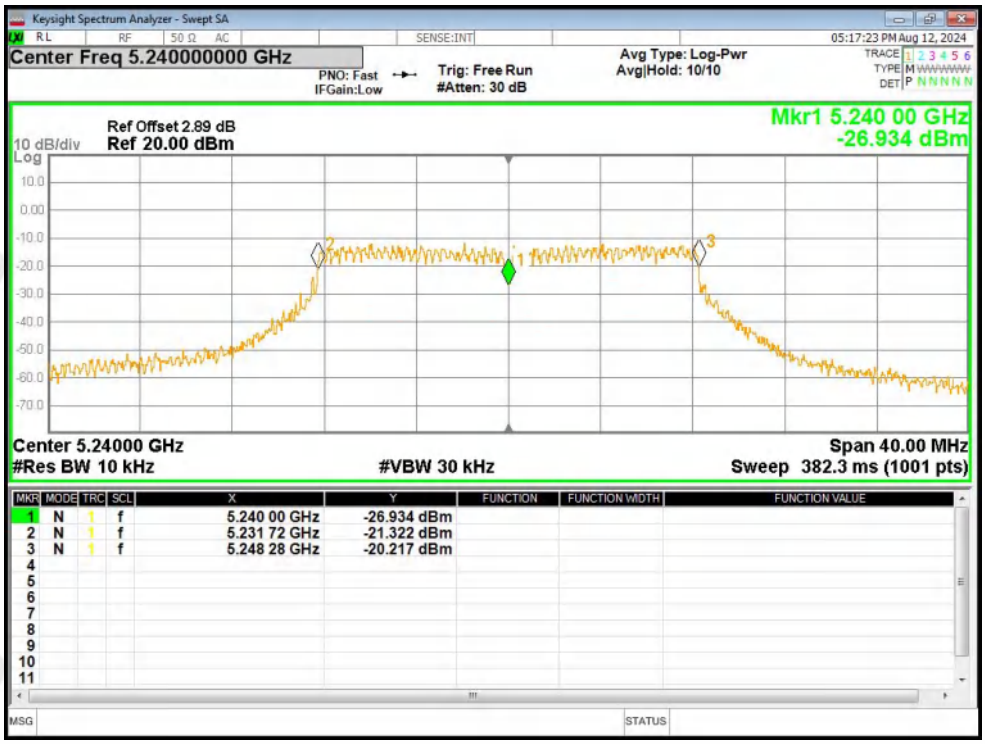
Test Graphs

Freq. Stability NVNT a 5180MHz Ant1



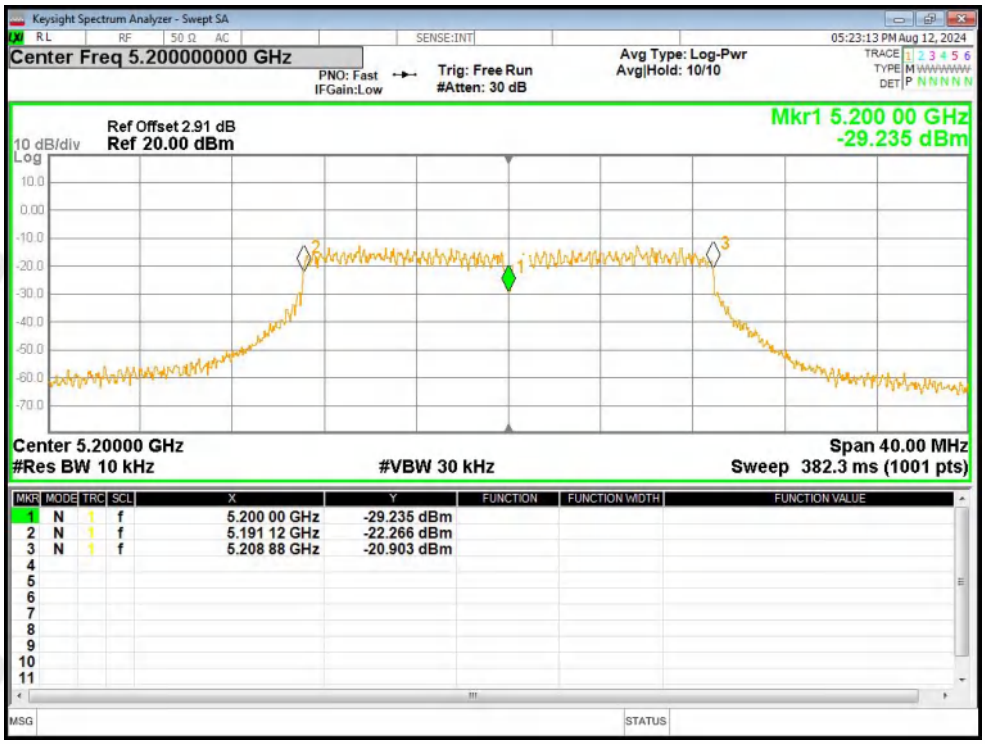
Freq. Stability NVNT a 5200MHz Ant1

Freq. Stability NVNT a 5240MHz Ant1

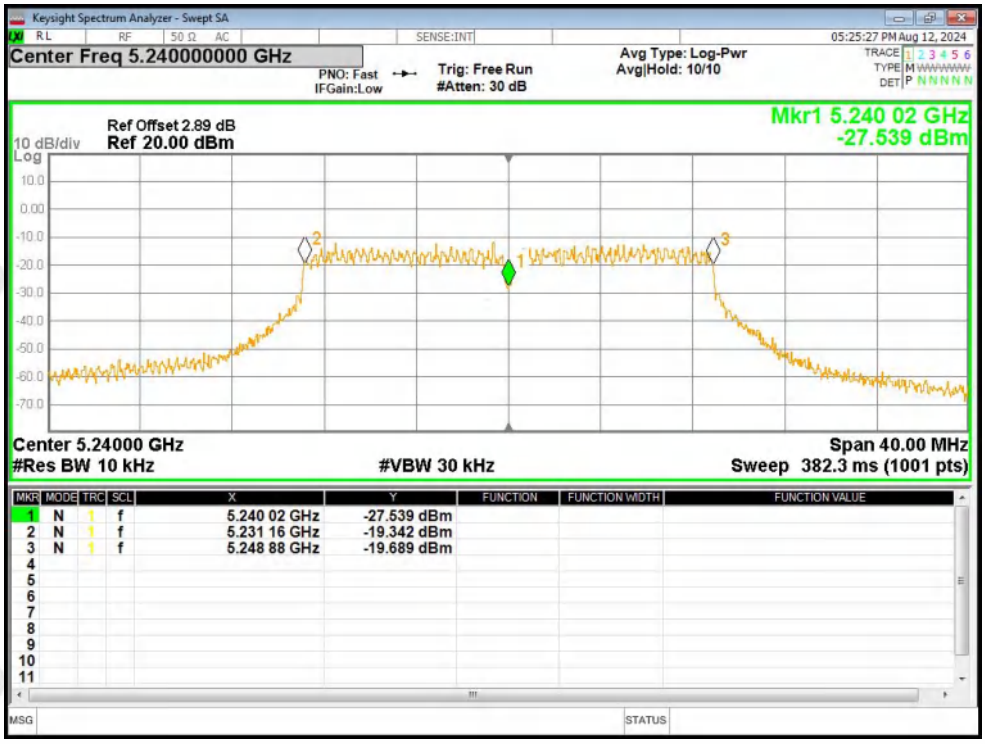


Freq. Stability NVNT n20 5180MHz Ant1

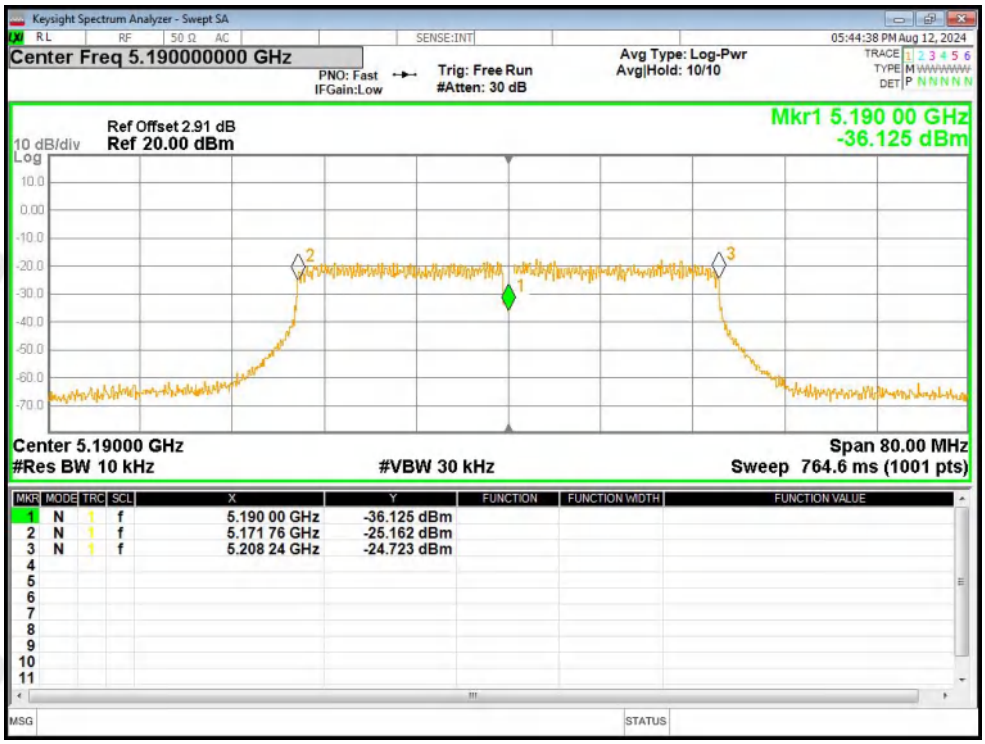
Freq. Stability NVNT n20 5200MHz Ant1



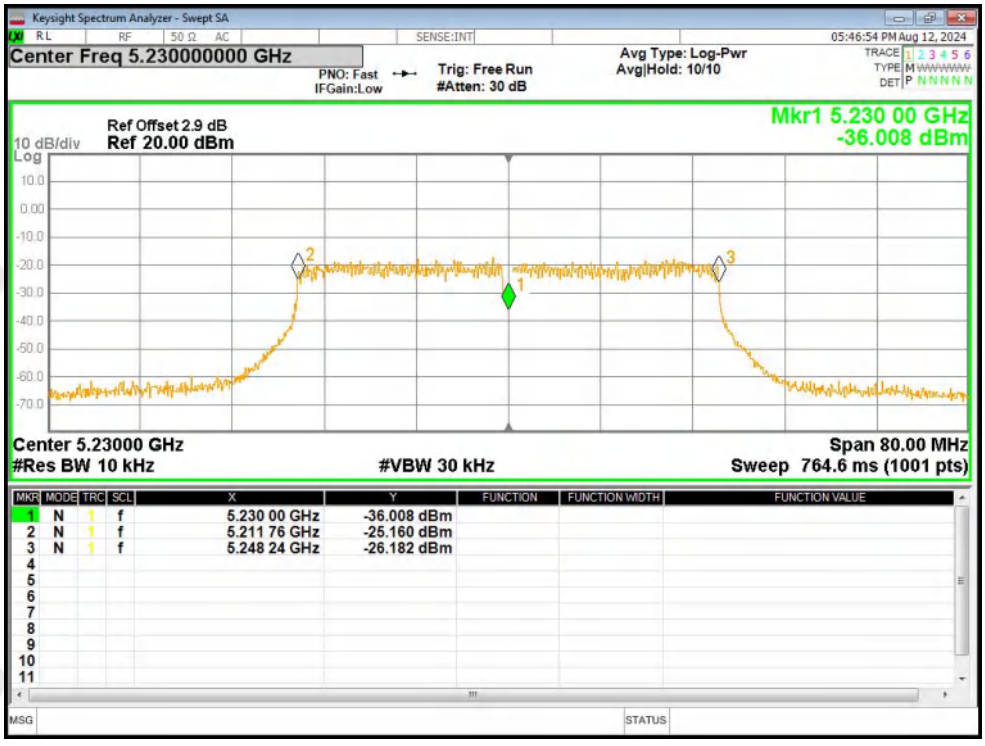
Freq. Stability NVNT n20 5240MHz Ant1



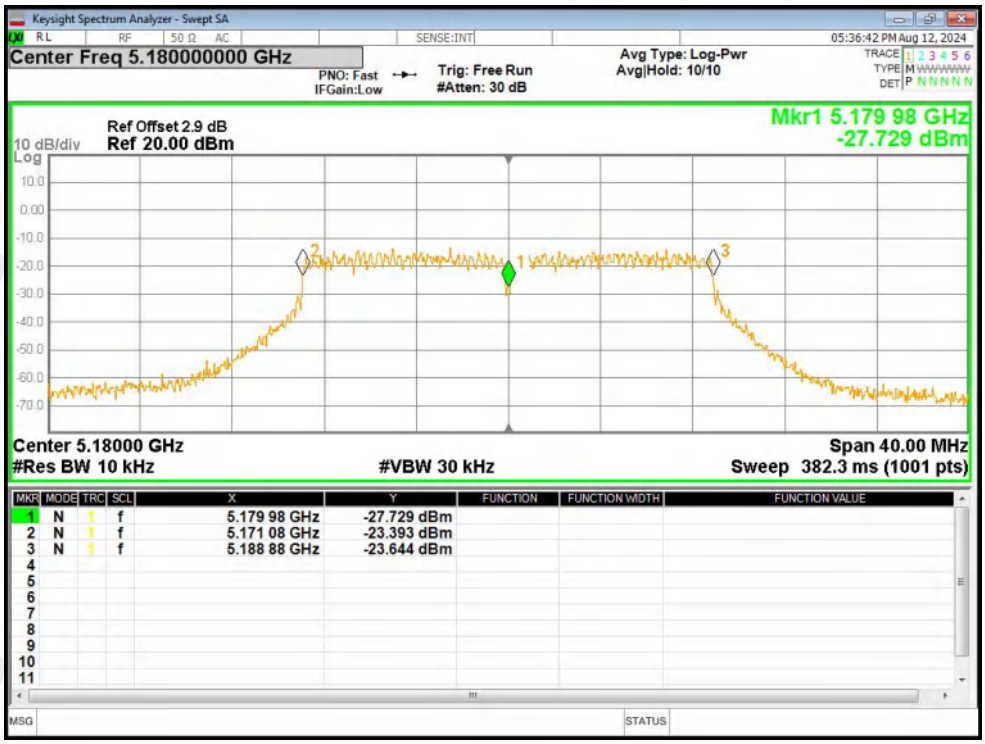
Freq. Stability NVNT n40 5190MHz Ant1



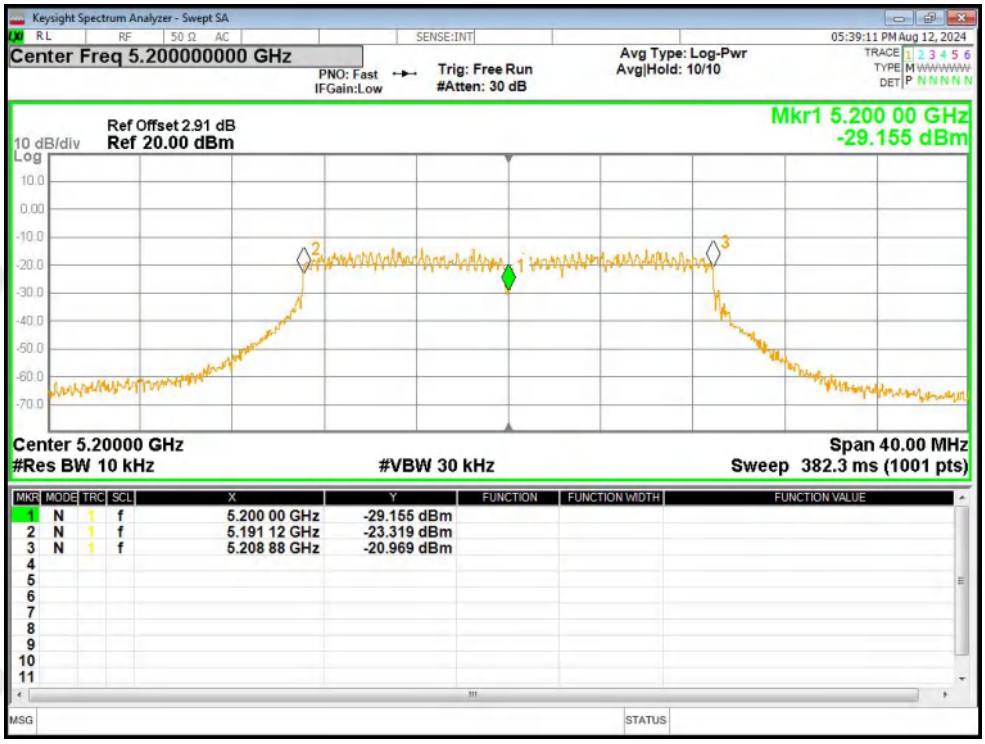
Freq. Stability NVNT n40 5230MHz Ant1



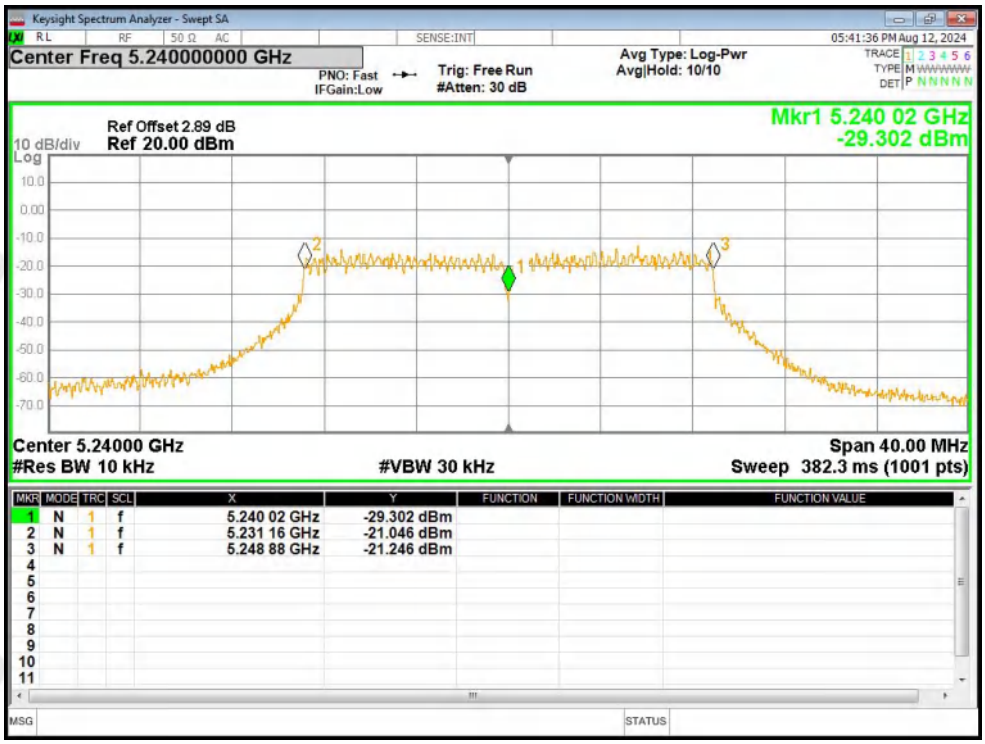
Freq. Stability NVNT ac20 5180MHz Ant1



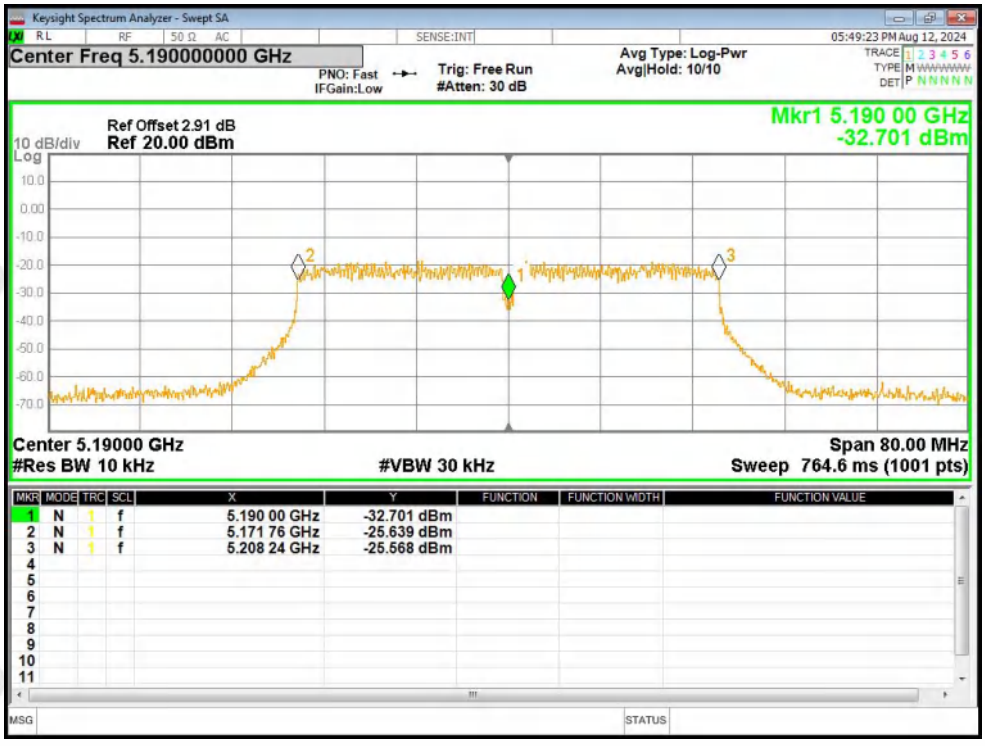
Freq. Stability NVNT ac20 5200MHz Ant1



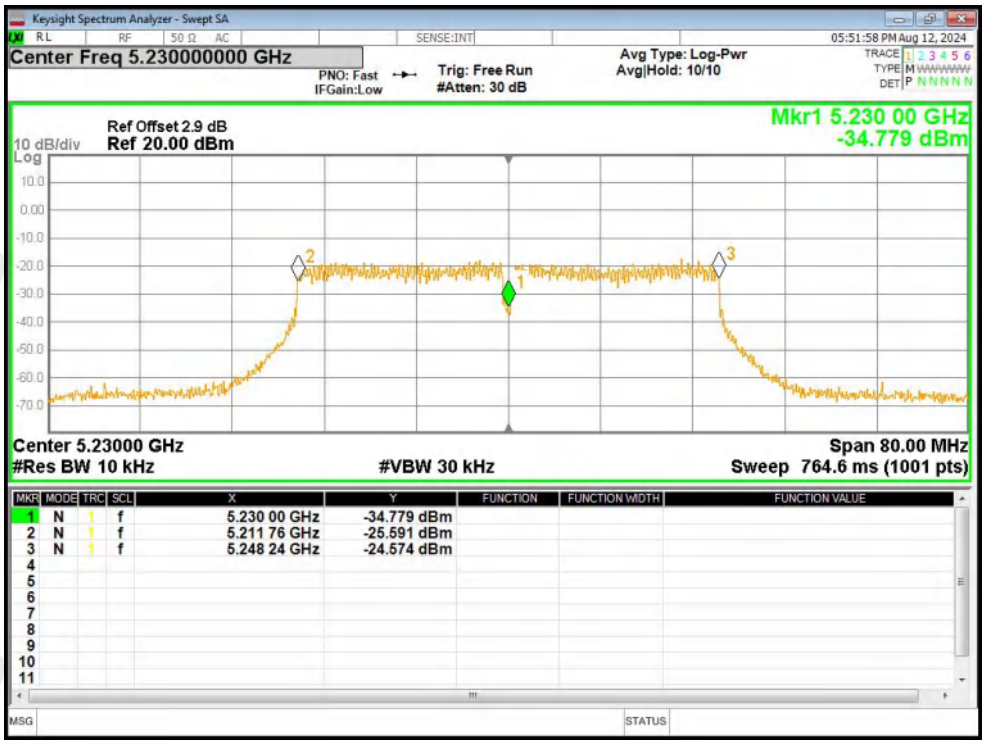
Freq. Stability NVNT ac20 5240MHz Ant1



Freq. Stability NVNT ac40 5190MHz Ant1



Freq. Stability NVNT ac40 5230MHz Ant1



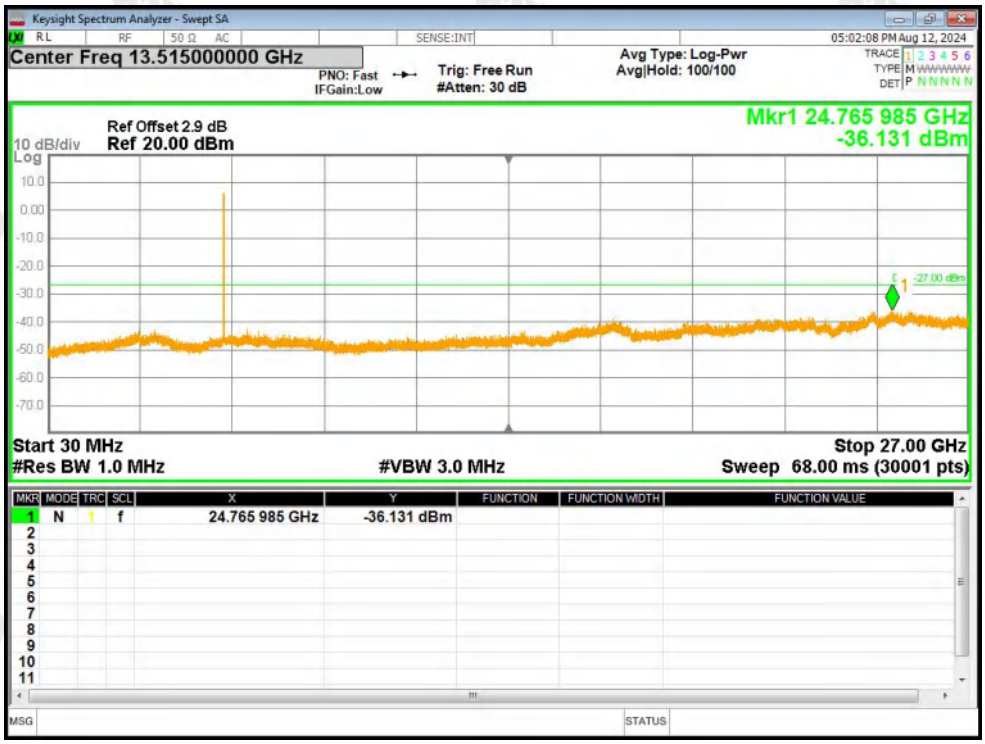
Freq. Stability NVNT ac80 5210MHz Ant1

Conducted RF Spurious Emission

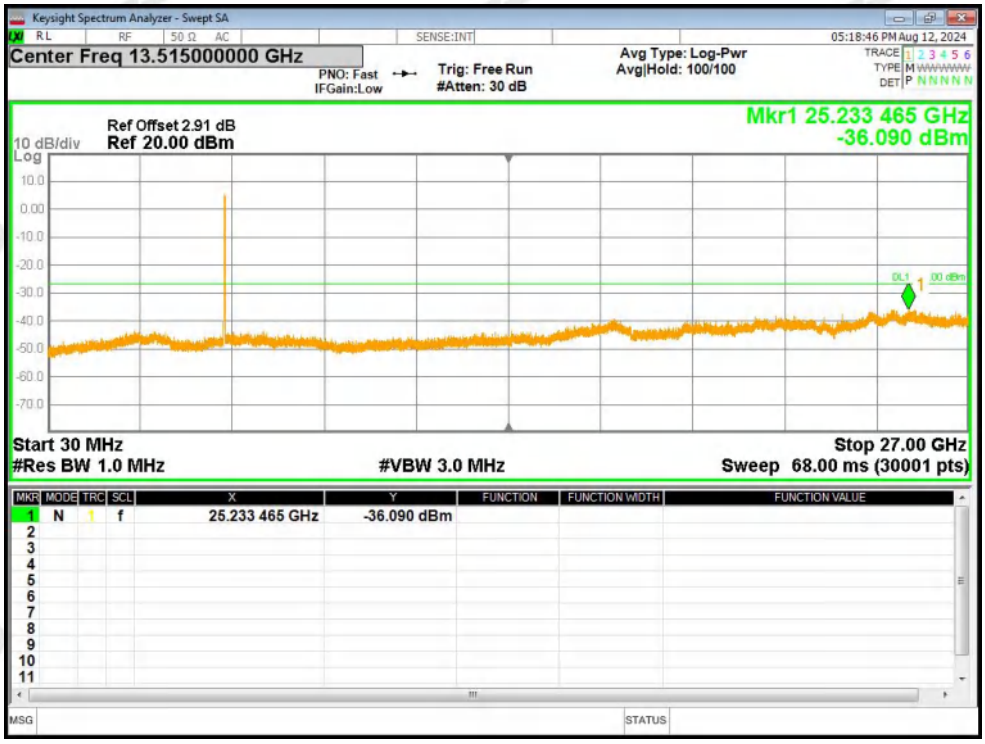
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	Ant1	-36.13	-27	Pass
NVNT	a	5200	Ant1	-36.09	-27	Pass
NVNT	a	5240	Ant1	-35.24	-27	Pass
NVNT	n20	5180	Ant1	-35.46	-27	Pass
NVNT	n20	5200	Ant1	-35.69	-27	Pass
NVNT	n20	5240	Ant1	-35.14	-27	Pass
NVNT	n40	5190	Ant1	-35.98	-27	Pass
NVNT	n40	5230	Ant1	-35.93	-27	Pass
NVNT	ac20	5180	Ant1	-35.84	-27	Pass
NVNT	ac20	5200	Ant1	-35.46	-27	Pass
NVNT	ac20	5240	Ant1	-36	-27	Pass
NVNT	ac40	5190	Ant1	-36.25	-27	Pass
NVNT	ac40	5230	Ant1	-35.57	-27	Pass
NVNT	ac80	5210	Ant1	-35.91	-27	Pass

Test Graphs

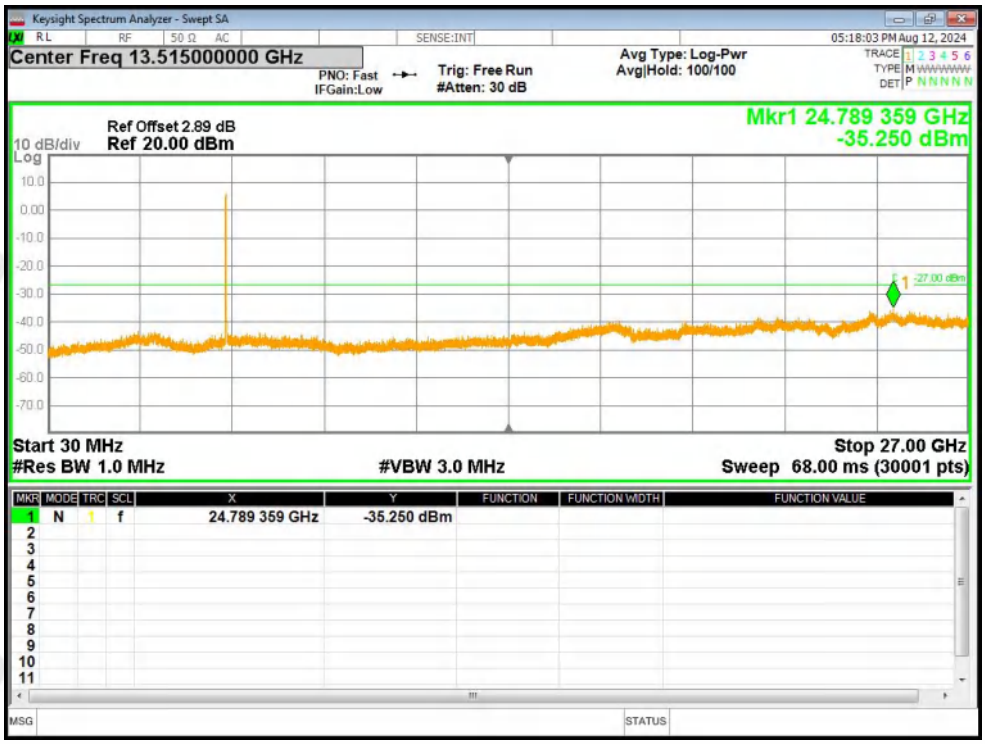
Tx. Spurious NVNT a 5180MHz Ant1 Emission



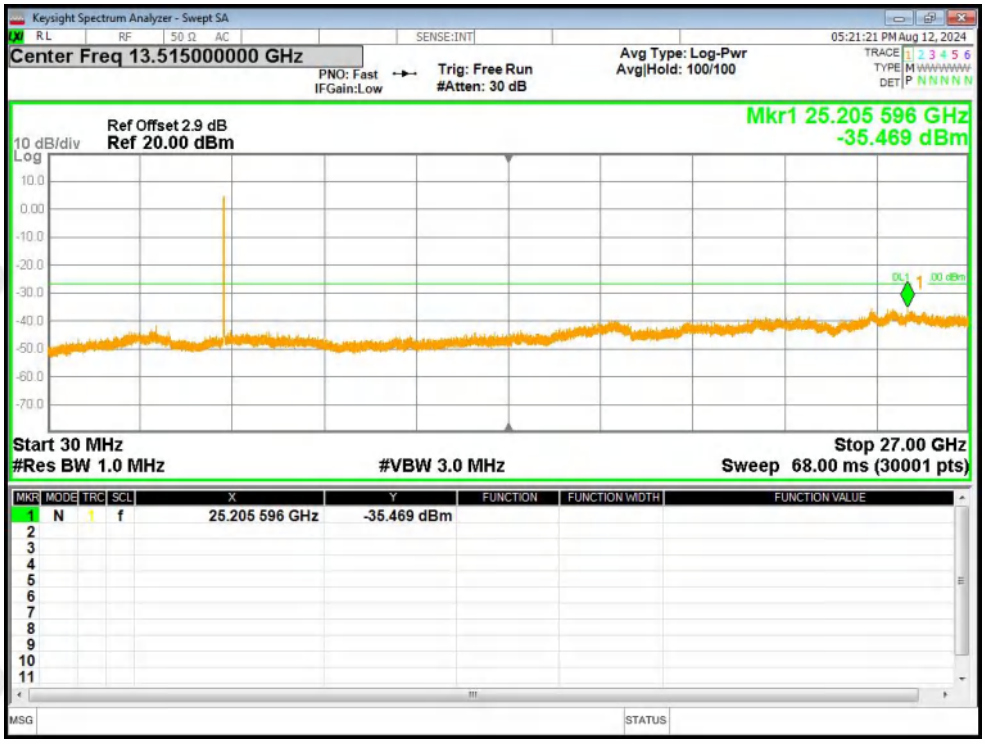
Tx. Spurious NVNT a 5200MHz Ant1 Emission



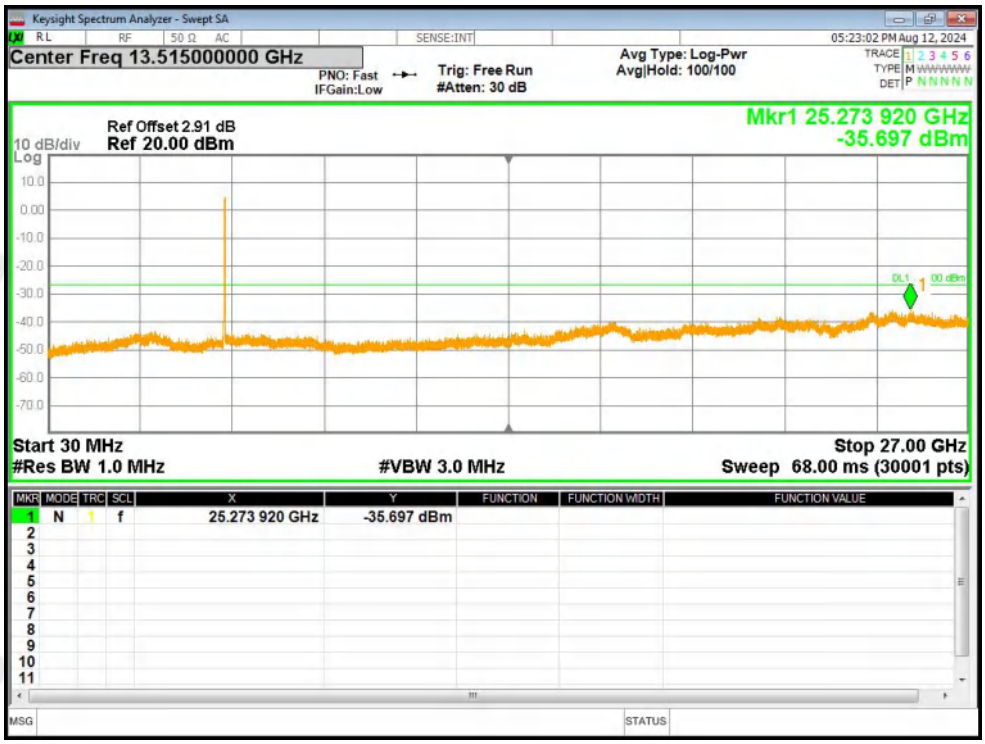
Tx. Spurious NVNT a 5240MHz Ant1 Emission



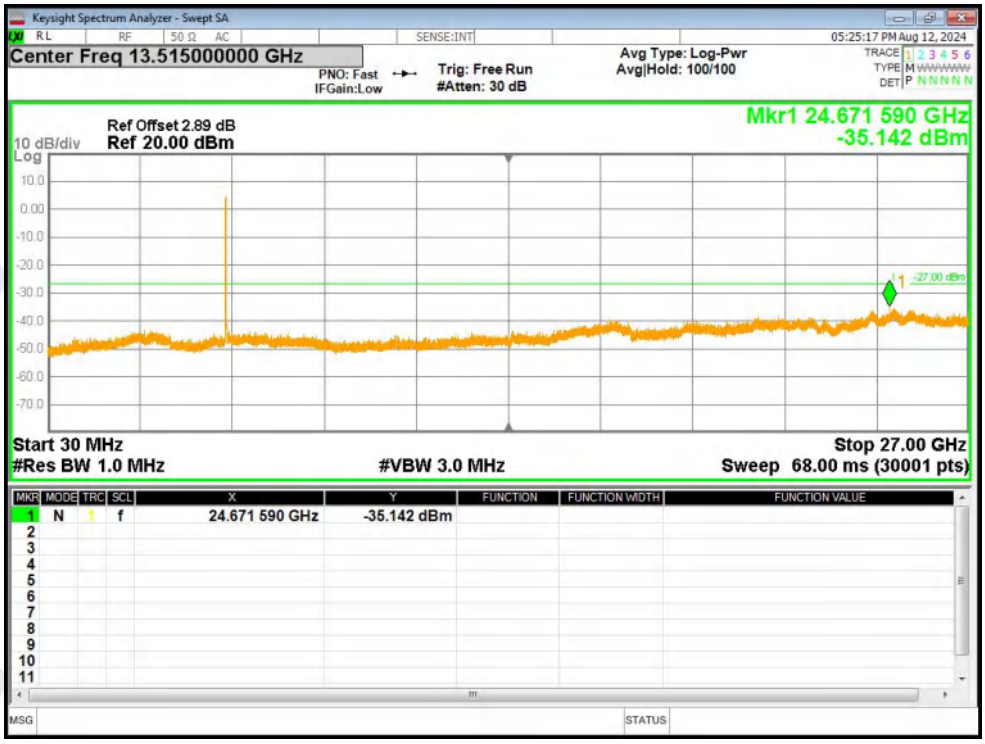
Tx. Spurious NVNT n20 5180MHz Ant1 Emission



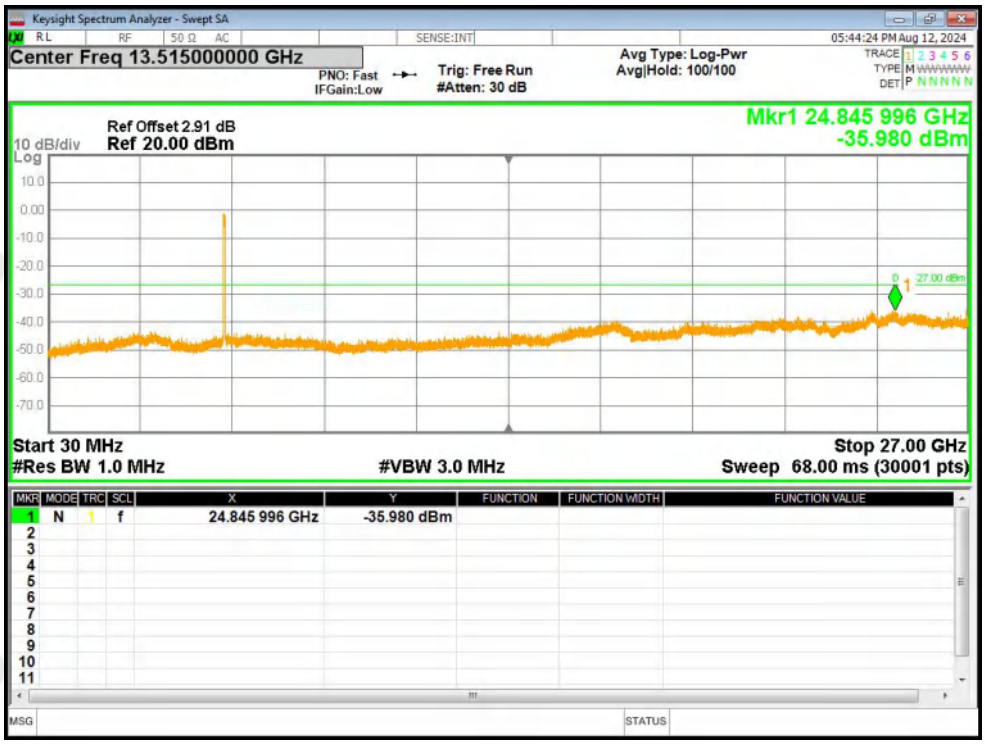
Tx. Spurious NVNT n20 5200MHz Ant1 Emission



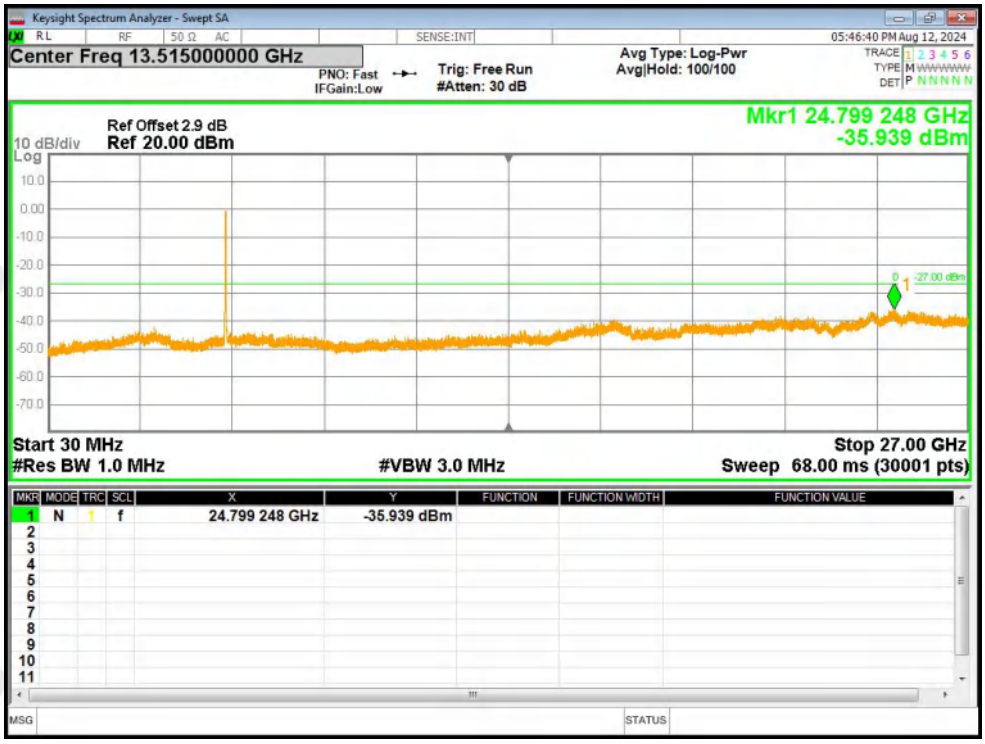
Tx. Spurious NVNT n20 5240MHz Ant1 Emission



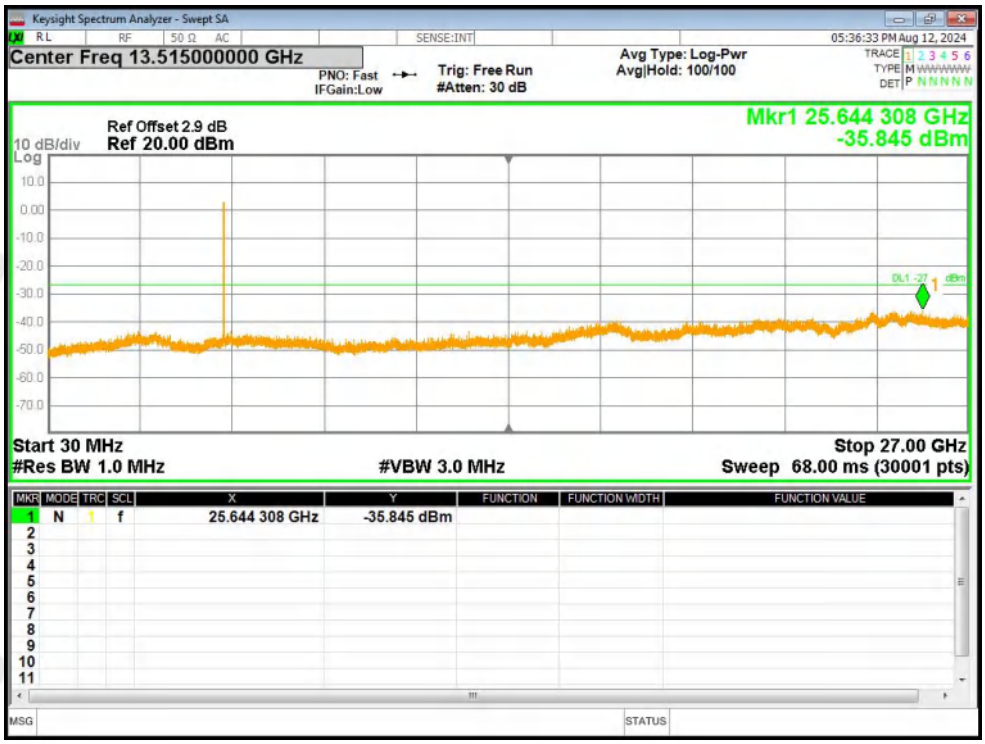
Tx. Spurious NVNT n40 5190MHz Ant1 Emission



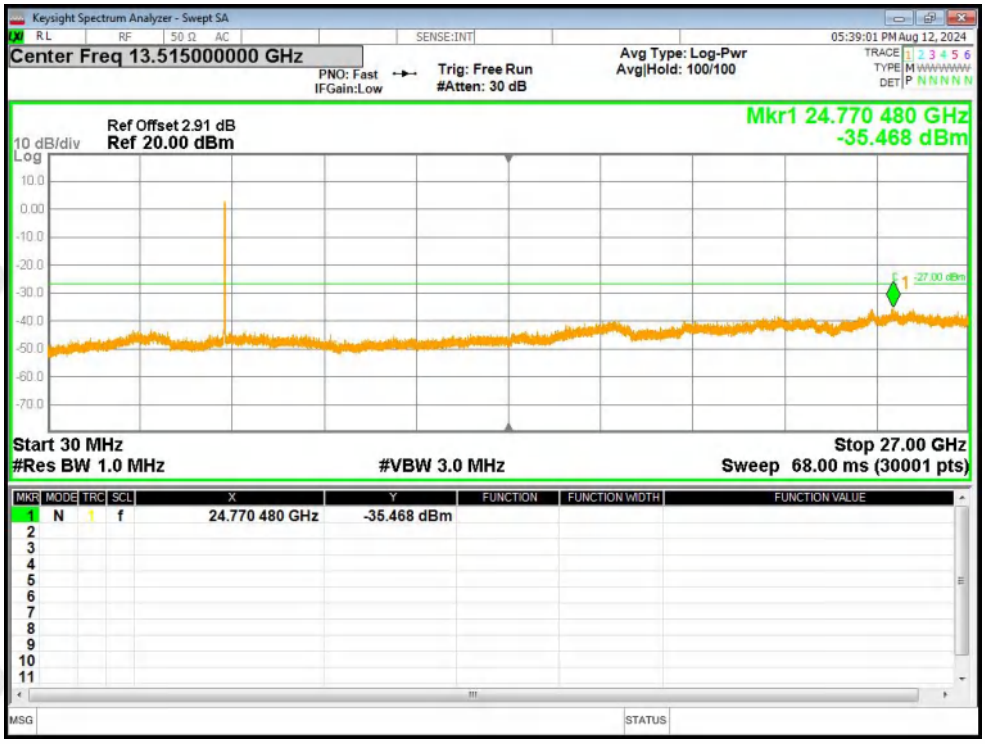
Tx. Spurious NVNT n40 5230MHz Ant1 Emission



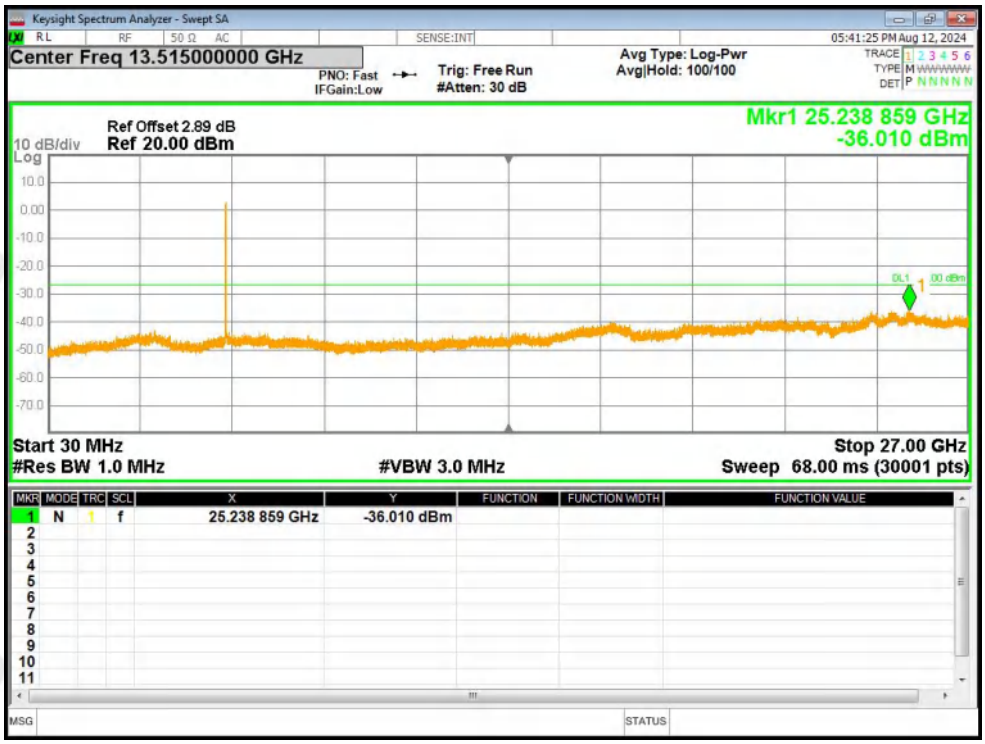
Tx. Spurious NVNT ac20 5180MHz Ant1 Emission



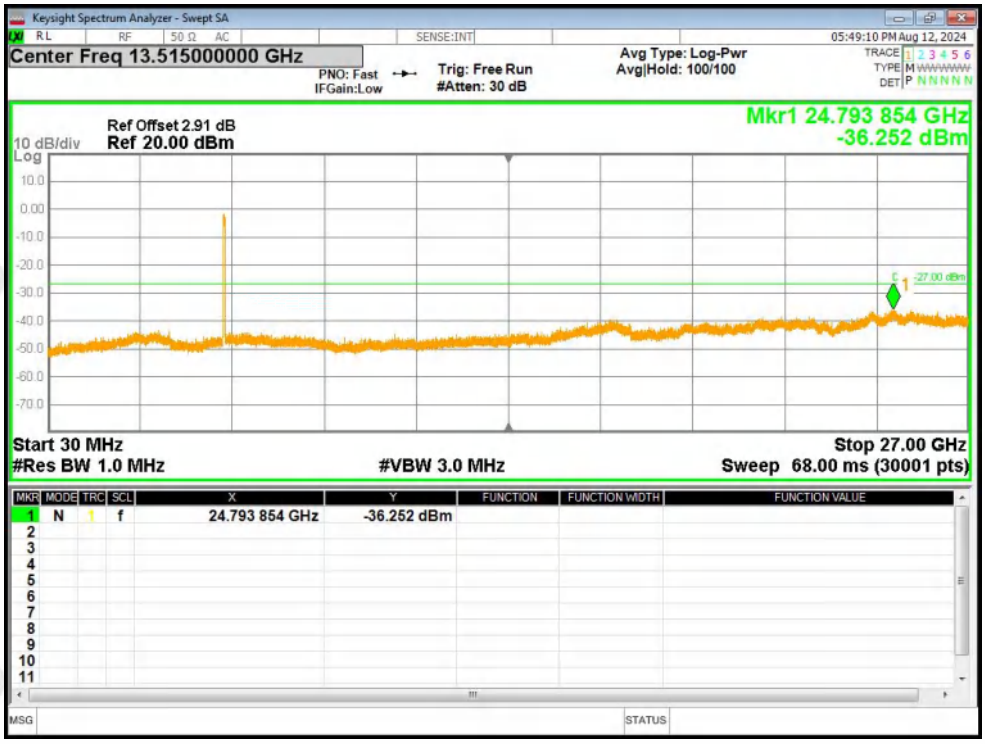
Tx. Spurious NVNT ac20 5200MHz Ant1 Emission



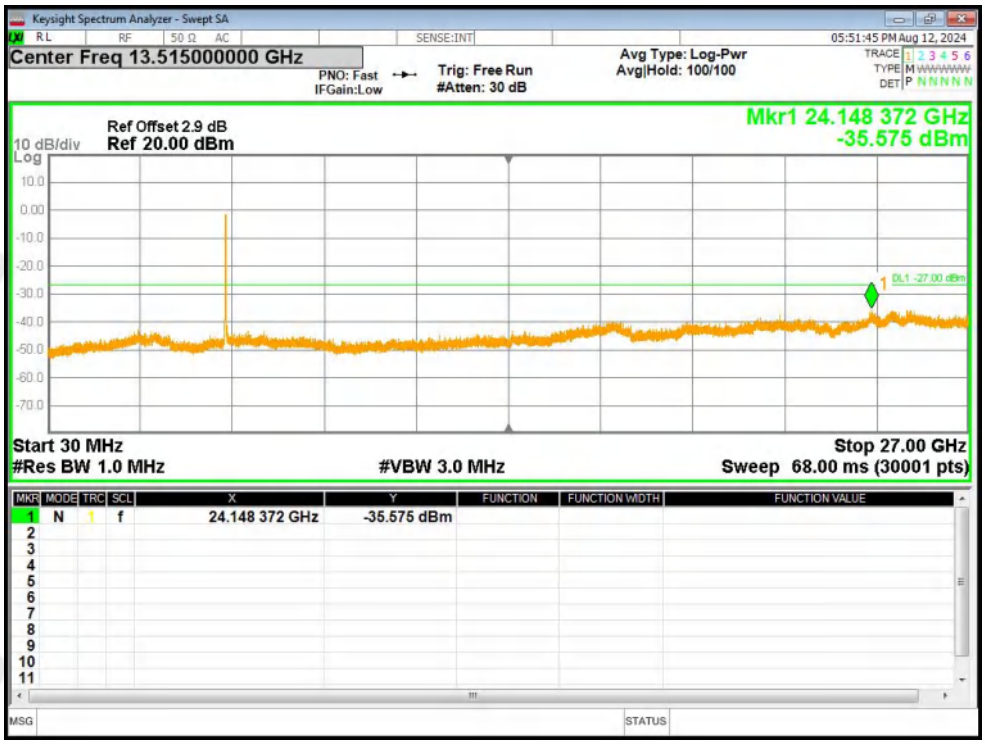
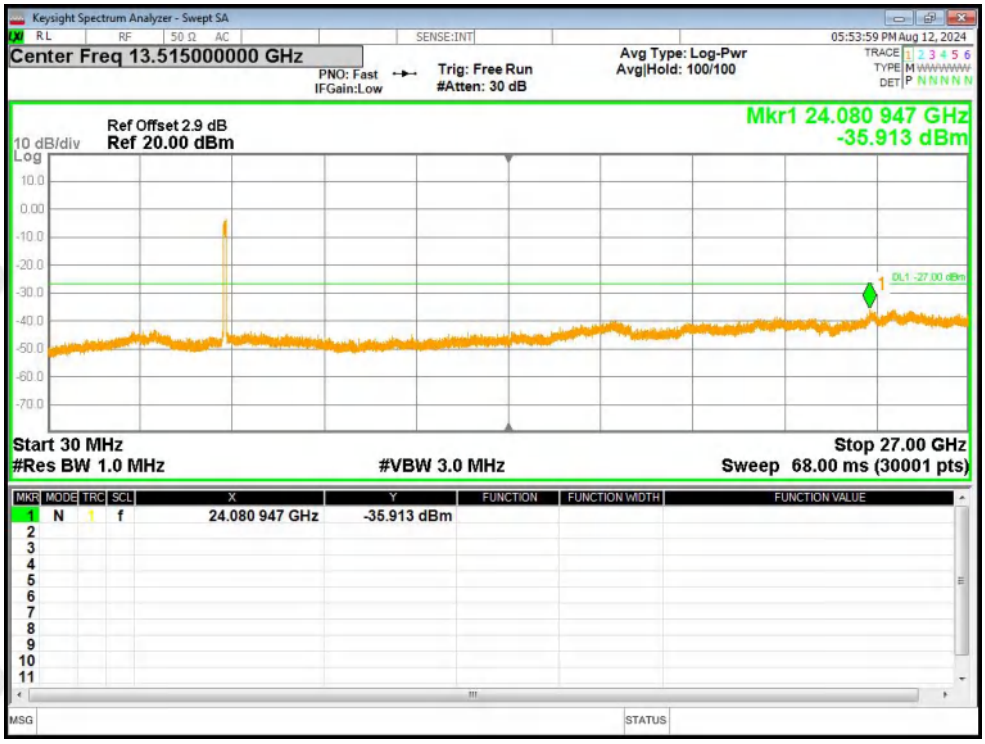
Tx. Spurious NVNT ac20 5240MHz Ant1 Emission



Tx. Spurious NVNT ac40 5190MHz Ant1 Emission



Tx. Spurious NVNT ac40 5230MHz Ant1 Emission



Tx. Spurious NVNT ac80 5210MHz Ant1 Emission