

Appendix C for 5.6GWIFI Test Data
Product Name: CR-S1 Handheld Mapping System
Test Model: CR-S1

Environmental Conditions

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

C.1 Duty Cycle

Mode	Frequency (MHz)	Antenna	T _{on} ms	T _{total} ms	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5500	Ant1	2.06	2.15	95.81	0.19	0.49
a	5600	Ant1	2.07	2.15	96.28	0.16	0.48
a	5700	Ant1	2.06	2.20	93.64	0.29	0.49
n20	5500	Ant1	1.92	2.07	92.75	0.33	0.52
n20	5600	Ant1	1.92	2.01	95.52	0.2	0.52
n20	5700	Ant1	1.92	2.03	94.58	0.24	0.52
n40	5510	Ant1	0.94	1.06	88.68	0.52	1.06
n40	5550	Ant1	0.94	1.11	84.68	0.72	1.06
n40	5670	Ant1	0.94	1.02	92.16	0.35	1.06
ac20	5500	Ant1	1.94	2.08	93.27	0.3	0.52
ac20	5600	Ant1	1.93	2.04	94.61	0.24	0.52
ac20	5700	Ant1	1.93	1.99	96.98	0.13	0.52
ac40	5510	Ant1	0.95	1.02	93.14	0.31	1.05
ac40	5550	Ant1	0.95	1.05	90.48	0.43	1.05
ac40	5670	Ant1	0.95	1.10	86.36	0.64	1.05
ac80	5530	Ant1	0.46	0.57	80.7	0.93	2.17
ac80	5610	Ant1	0.46	0.62	74.19	1.3	2.17
ac80	5690	Ant1	0.46	0.62	74.19	1.3	2.17

Note:

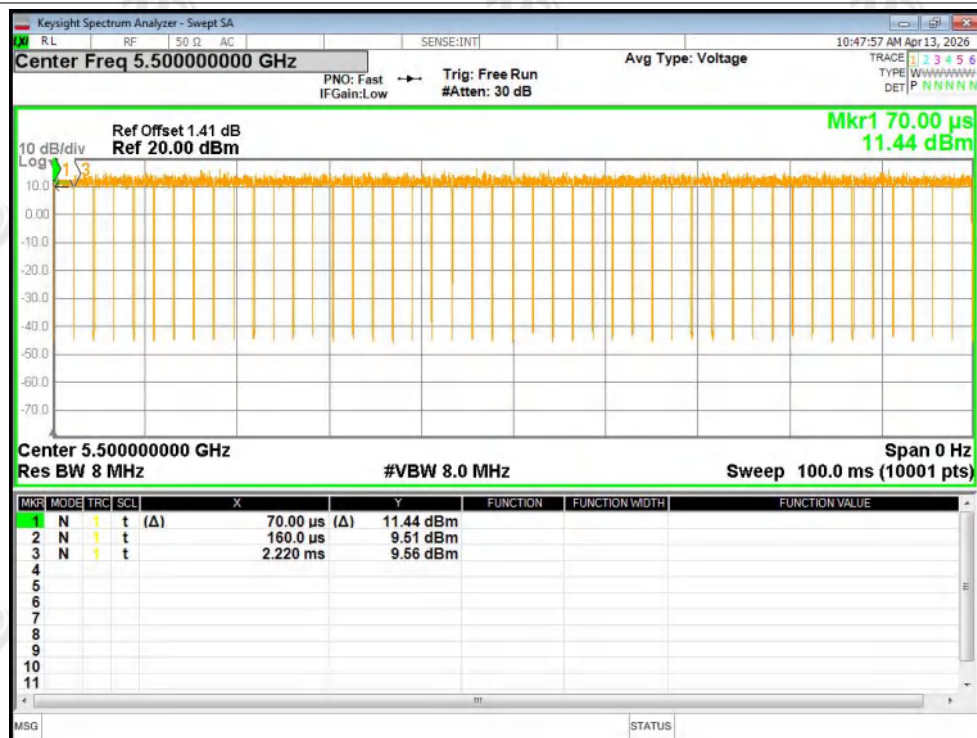
1. Duty Cycle = T_{on} / T_{total}

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

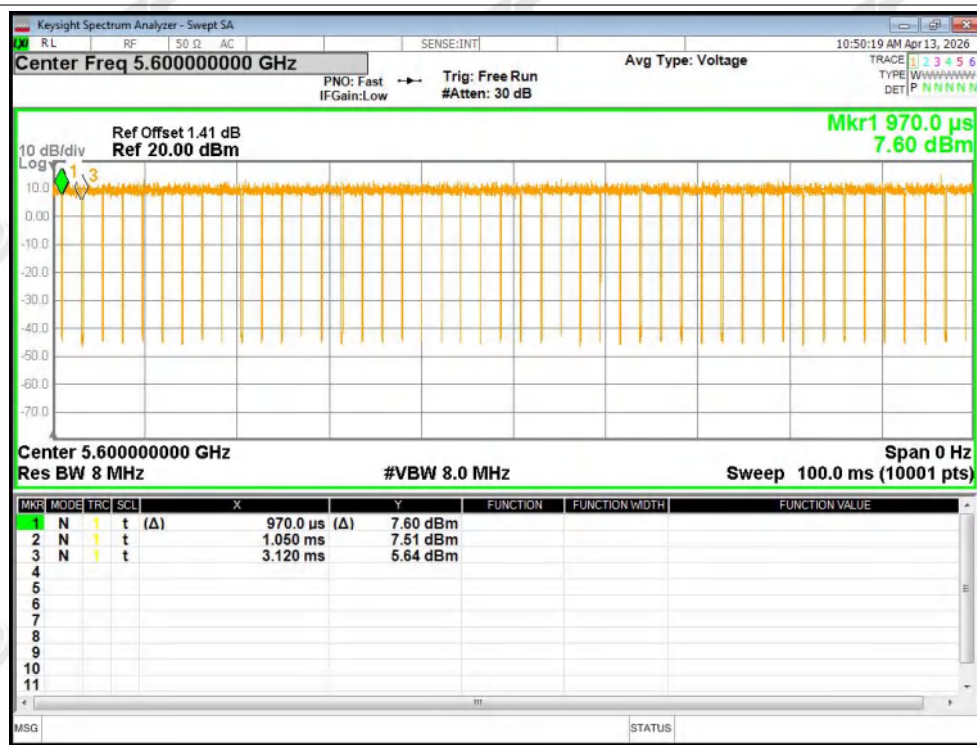
3. $1/T = 1/T_{on}$

Test Graphs

Duty Cycle NVNT a 5500MHz Ant1

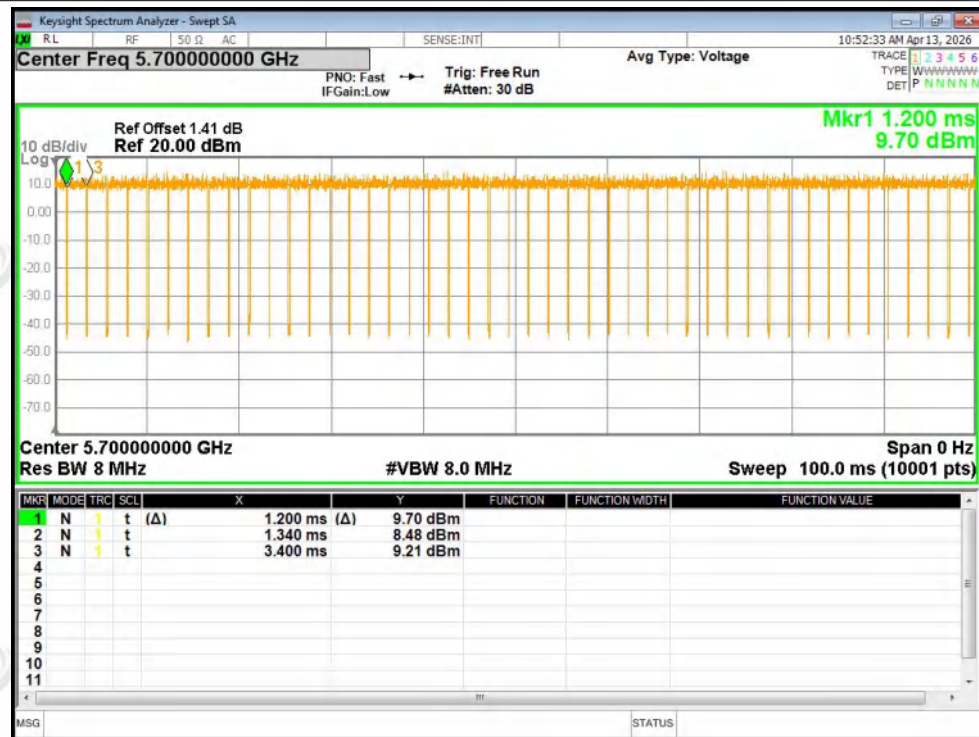


Duty Cycle NVNT a 5600MHz Ant1

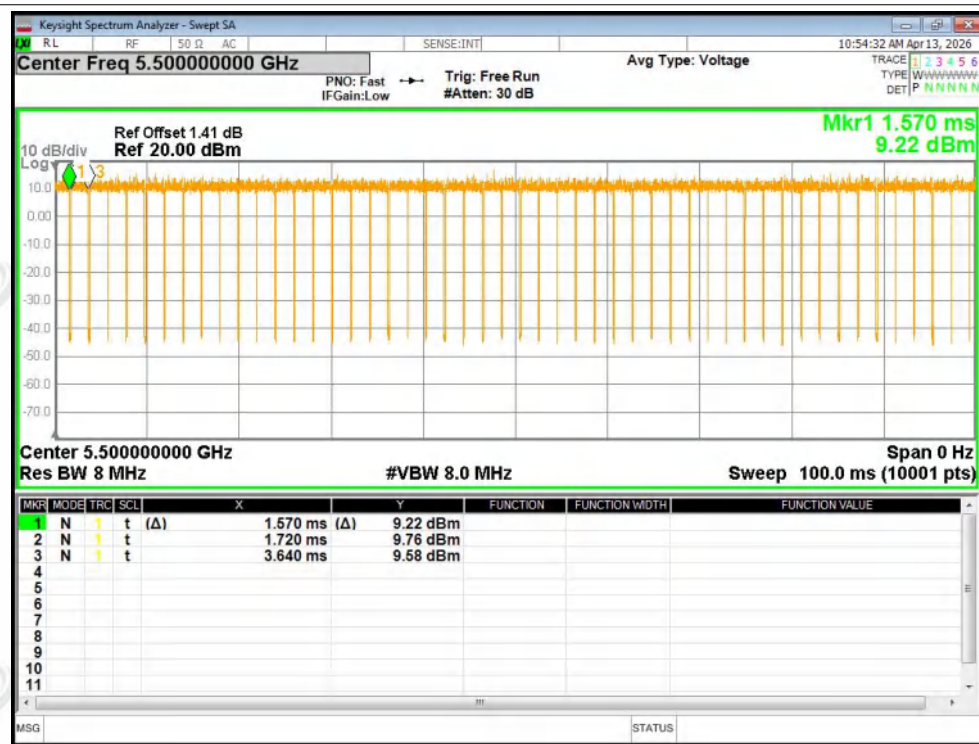




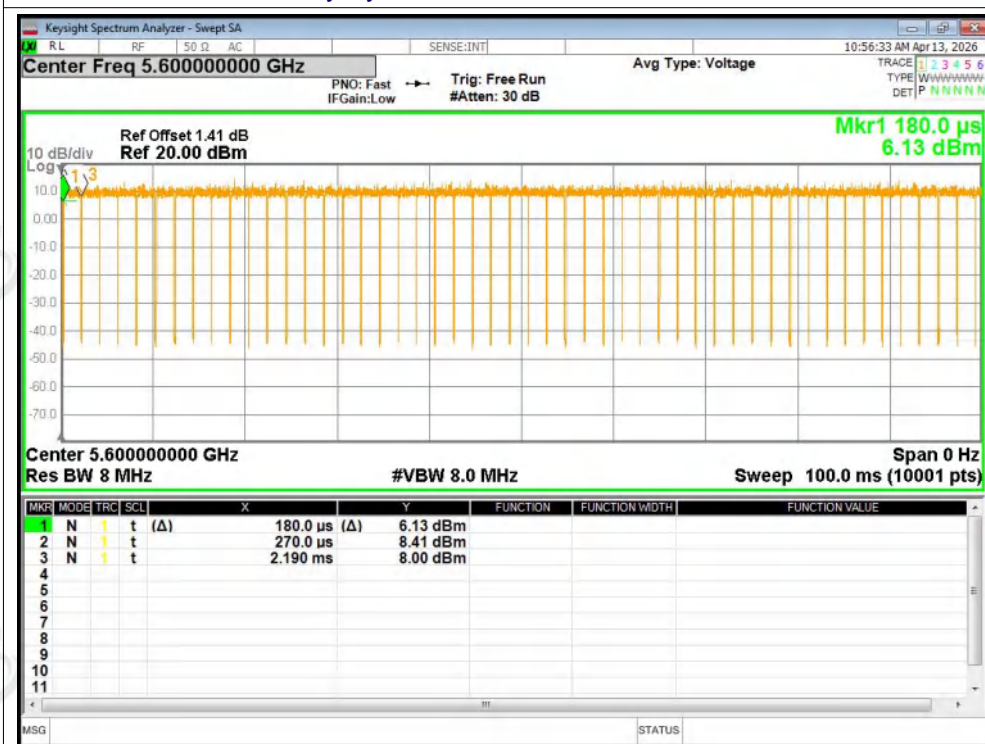
Duty Cycle NVNT a 5700MHz Ant1



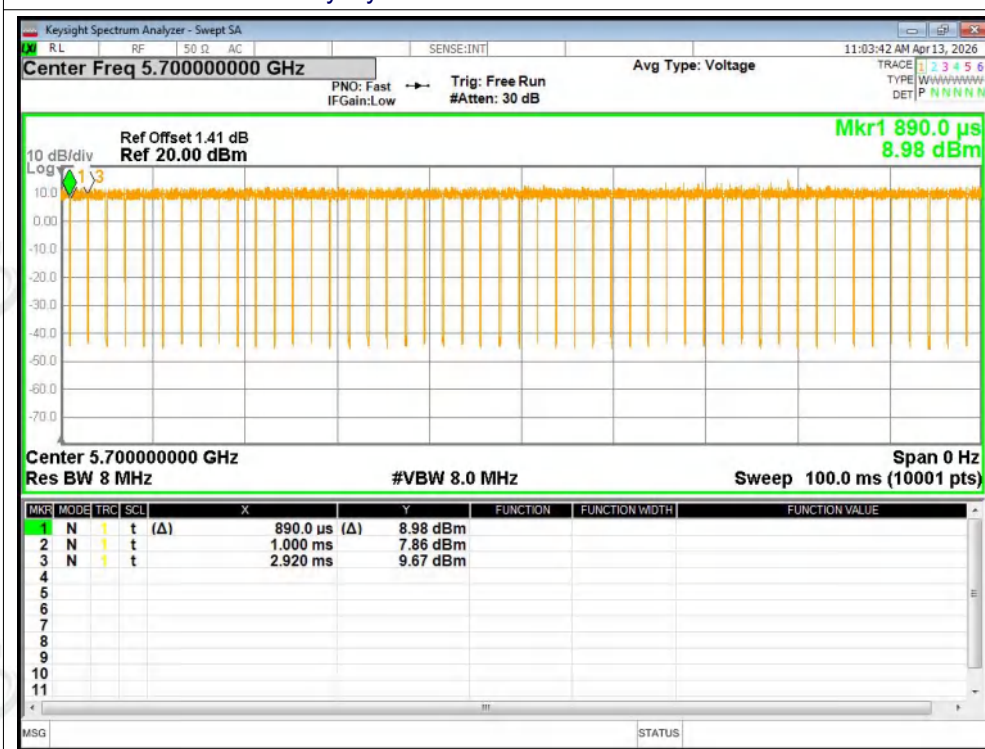
Duty Cycle NVNT n20 5500MHz Ant1



Duty Cycle NVNT n20 5600MHz Ant1

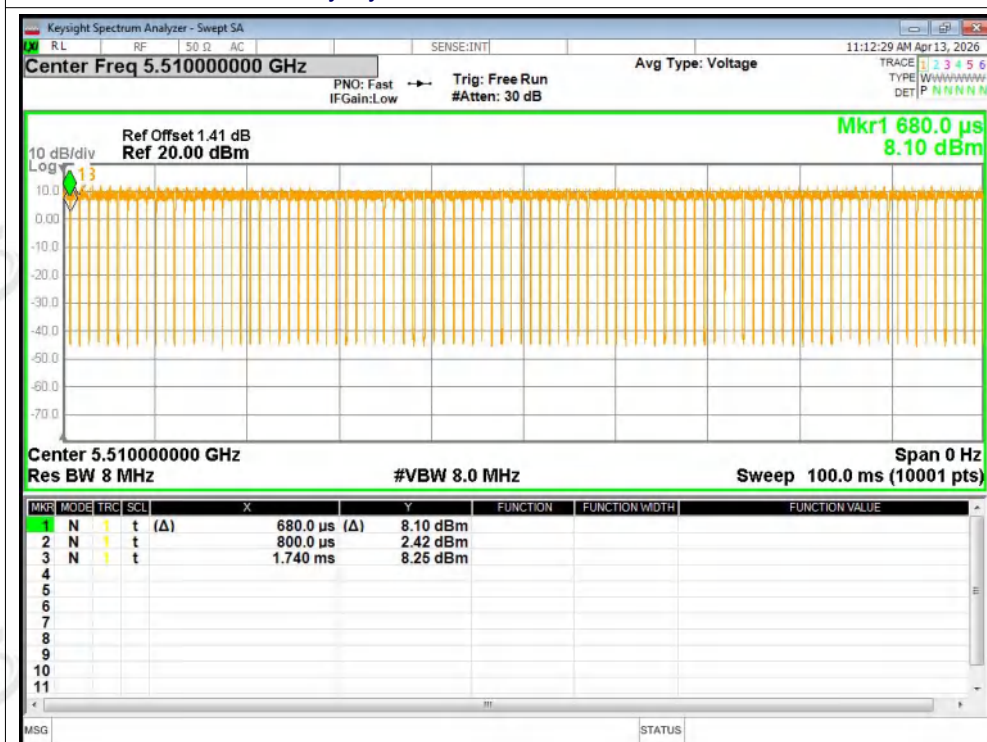


Duty Cycle NVNT n20 5700MHz Ant1

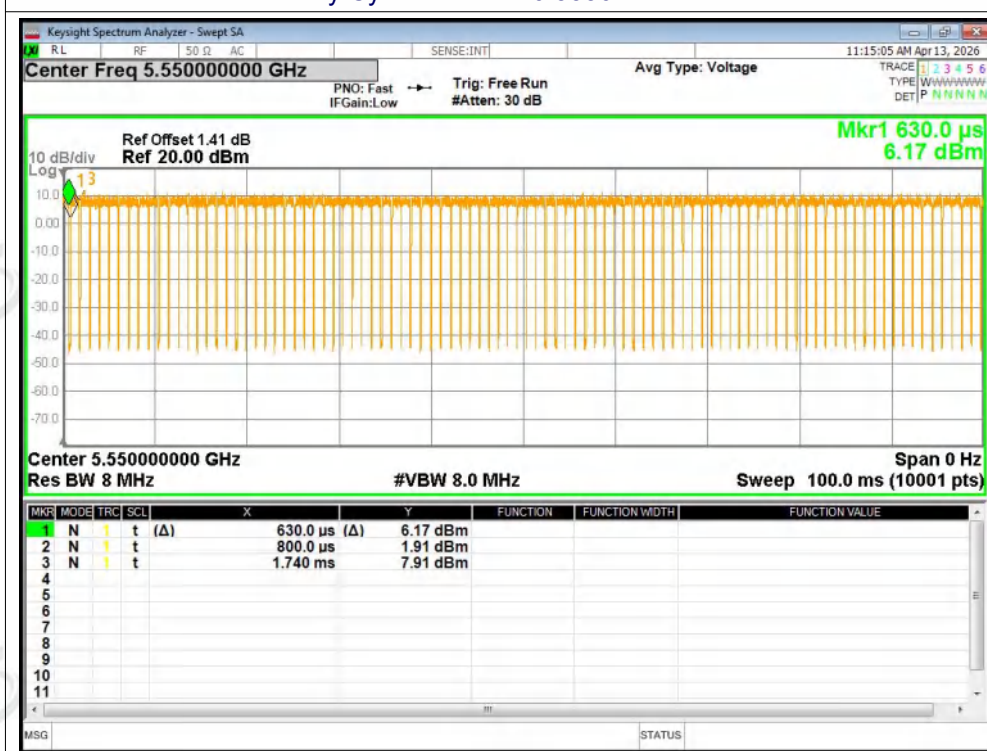




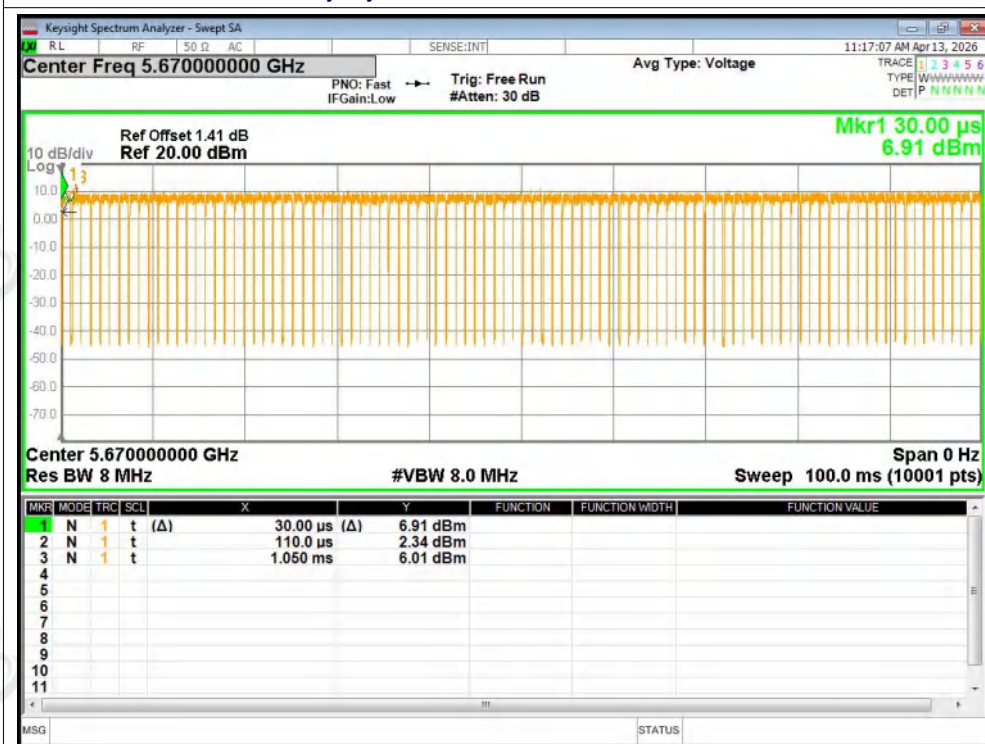
Duty Cycle NVNT n40 5510MHz Ant1



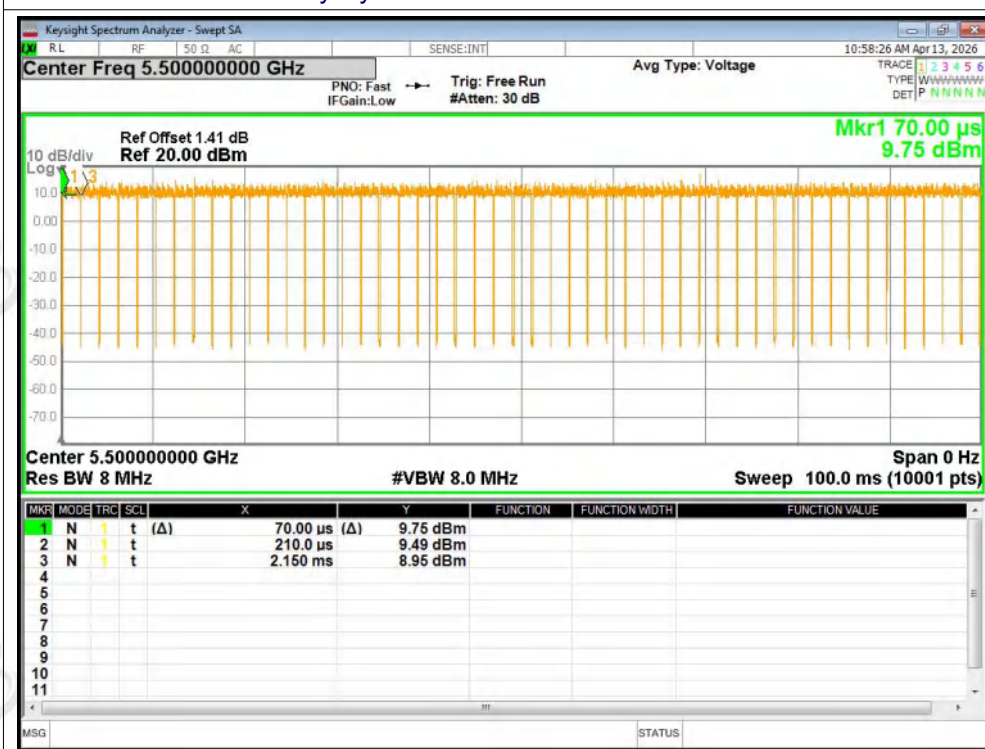
Duty Cycle NVNT n40 5550MHz Ant1



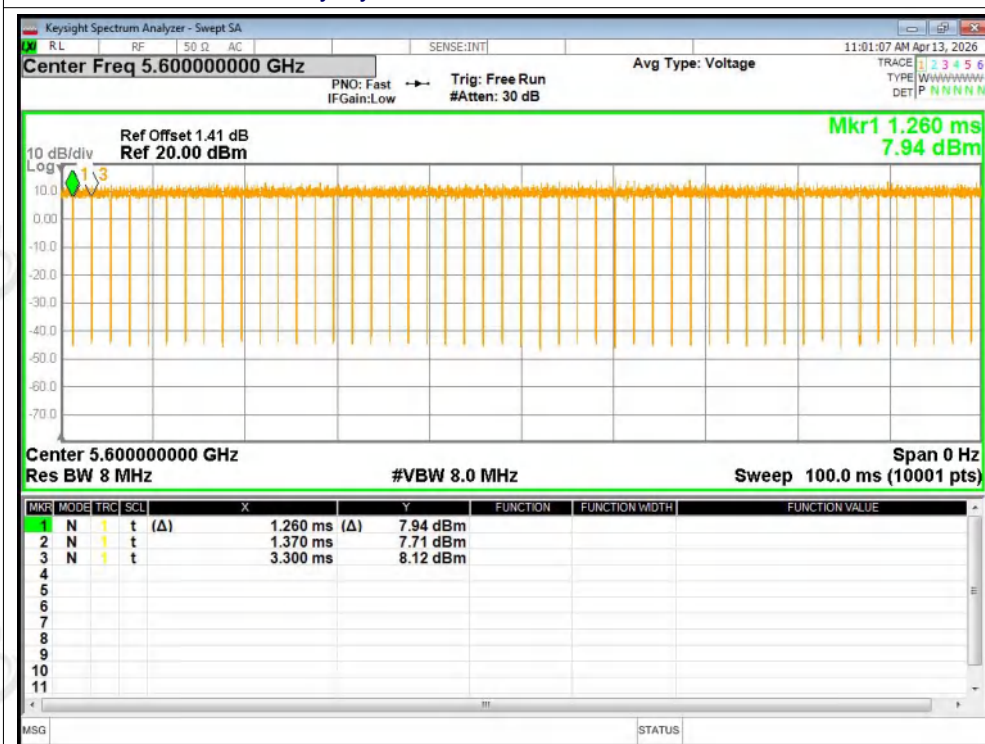
Duty Cycle NVNT n40 5670MHz Ant1



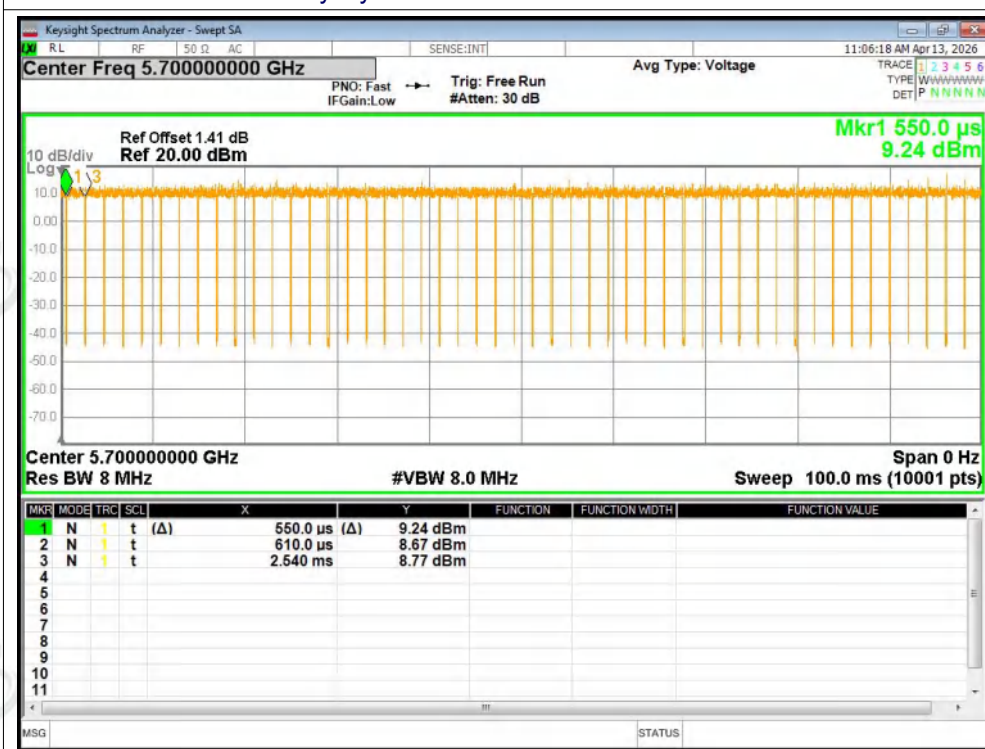
Duty Cycle NVNT ac20 5500MHz Ant1



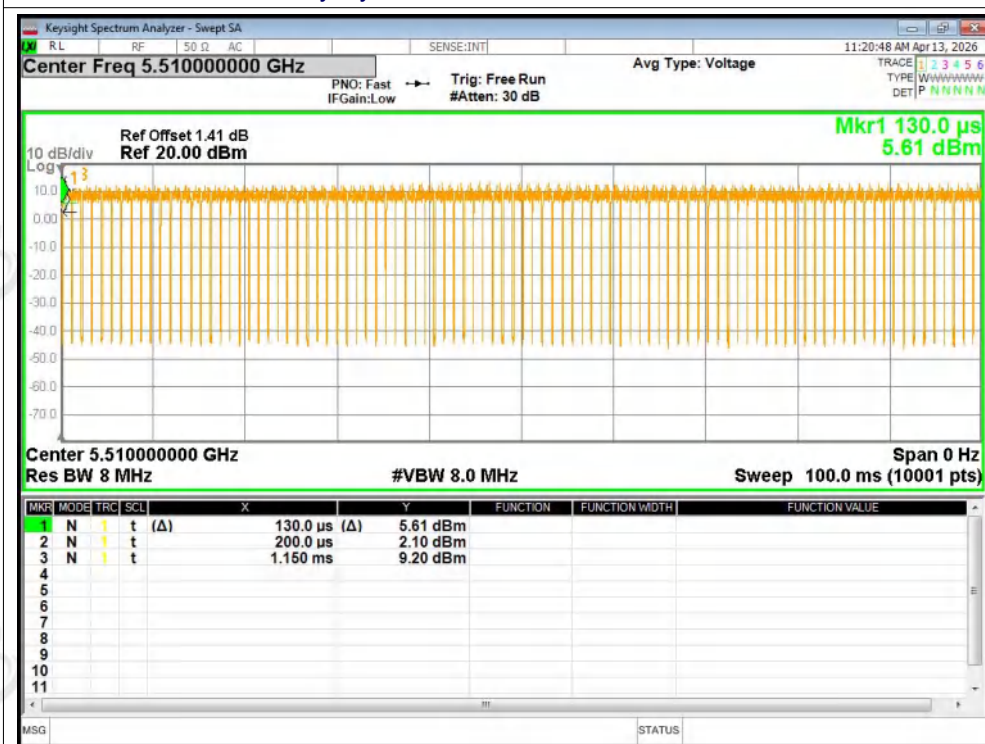
Duty Cycle NVNT ac20 5600MHz Ant1



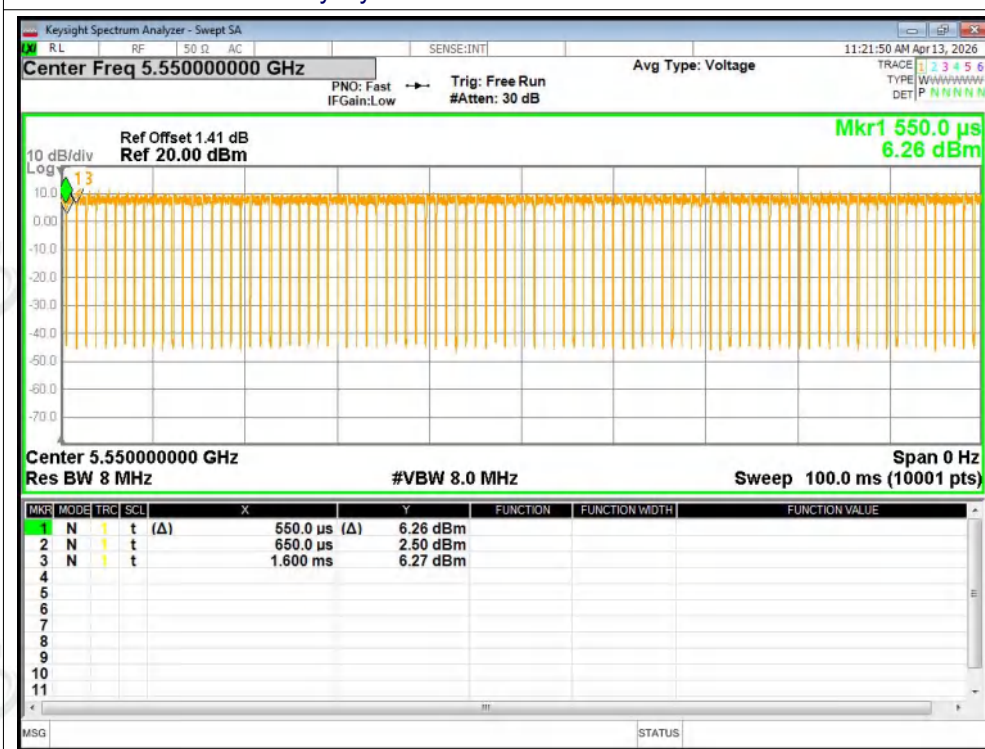
Duty Cycle NVNT ac20 5700MHz Ant1



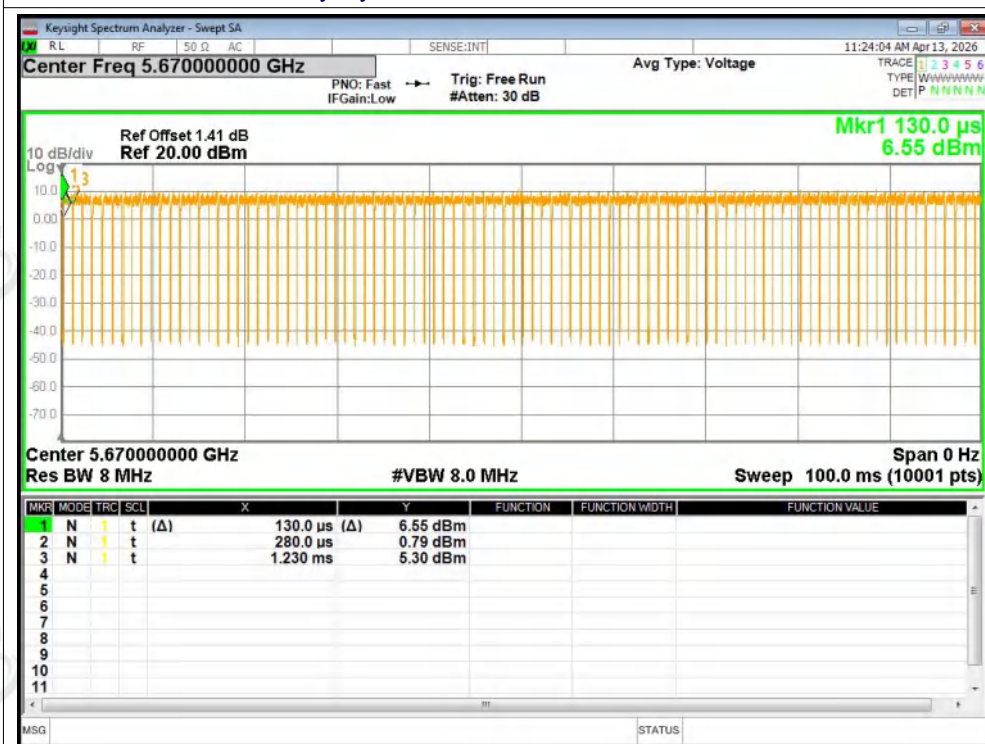
Duty Cycle NVNT ac40 5510MHz Ant1



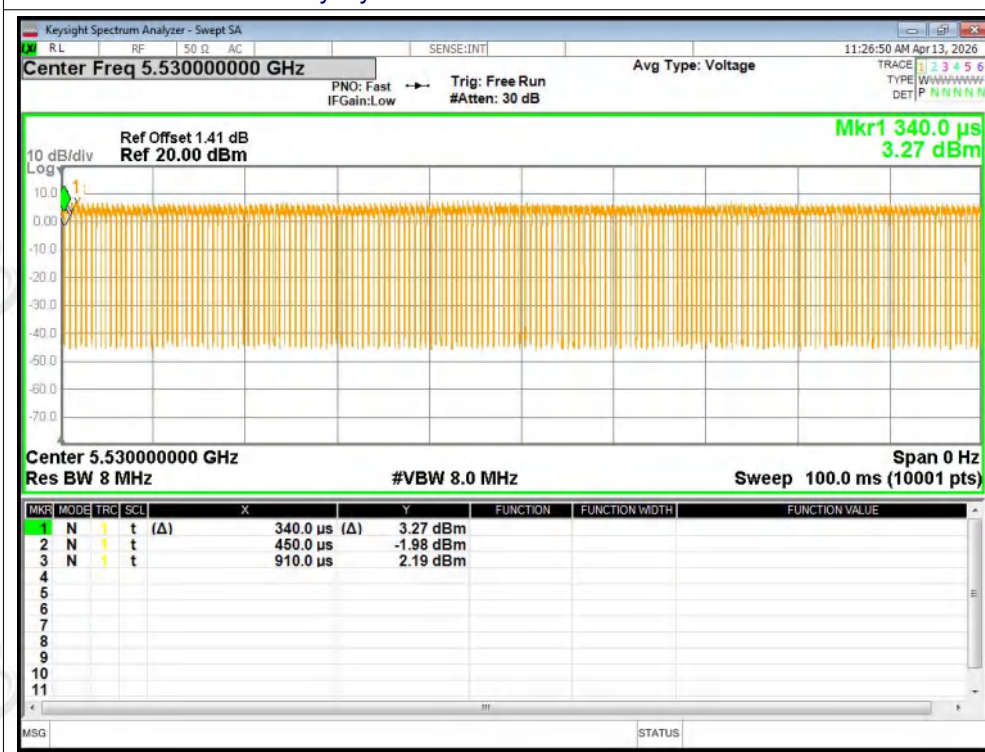
Duty Cycle NVNT ac40 5550MHz Ant1



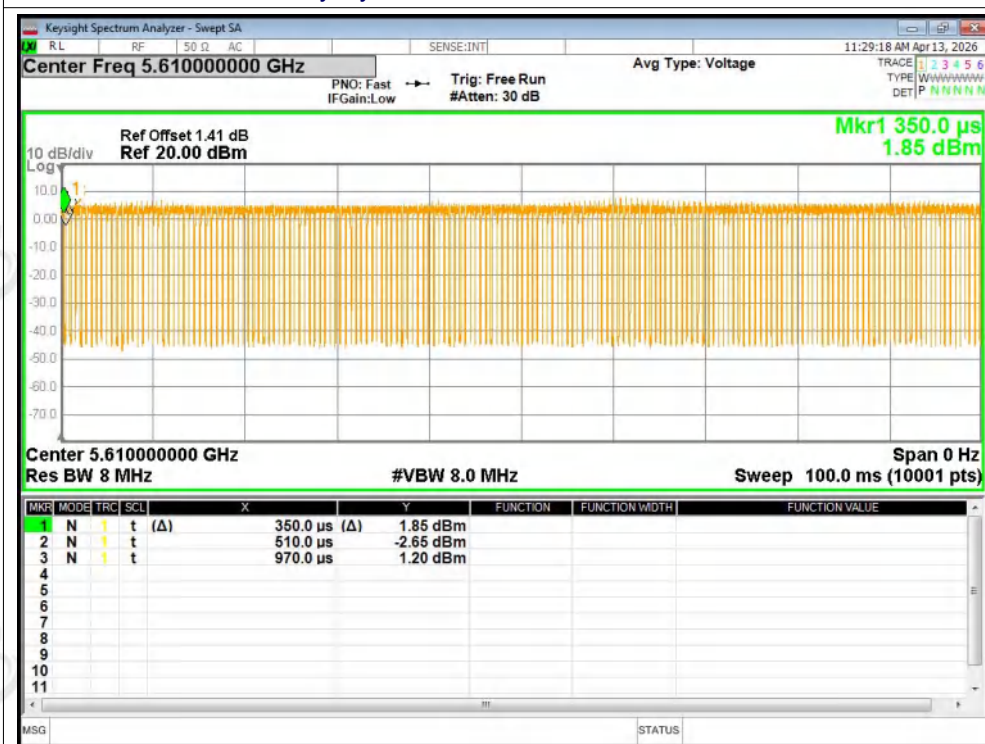
Duty Cycle NVNT ac40 5670MHz Ant1



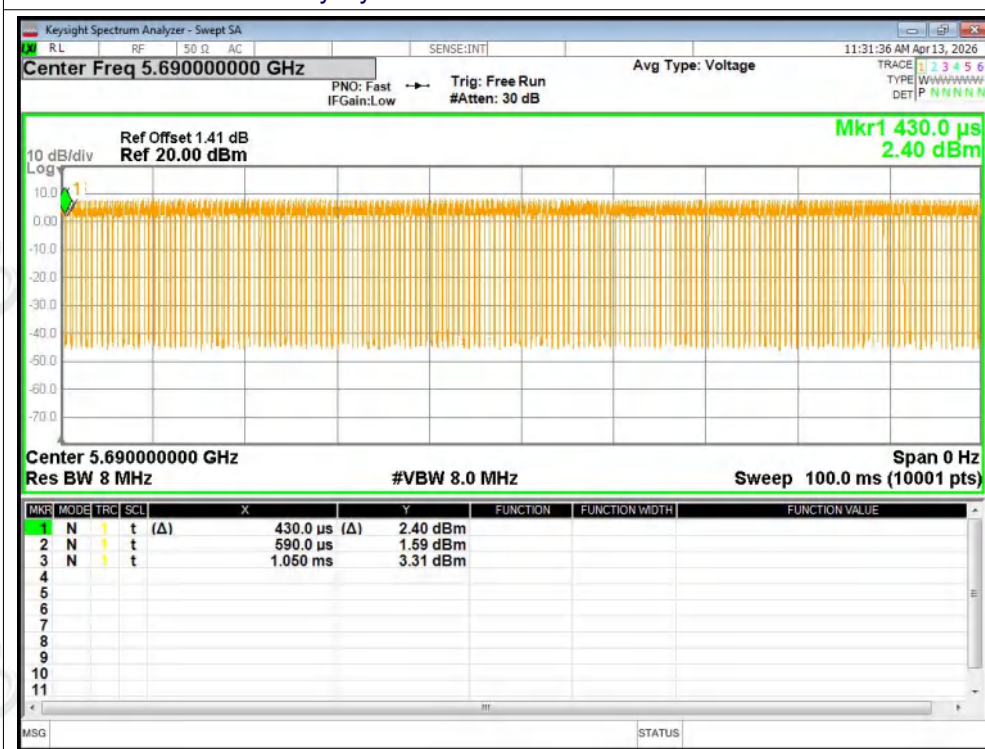
Duty Cycle NVNT ac80 5530MHz Ant1



Duty Cycle NVNT ac80 5610MHz Ant1



Duty Cycle NVNT ac80 5690MHz Ant1



C.2 Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5500	Ant1	6.69	0.19	6.88	24	Pass
NVNT	a	5600	Ant1	6.36	0.16	6.52	24	Pass
NVNT	a	5700	Ant1	5.84	0.29	6.13	24	Pass
NVNT	n20	5500	Ant1	7.09	0.33	7.42	24	Pass
NVNT	n20	5600	Ant1	5.91	0.2	6.11	24	Pass
NVNT	n20	5700	Ant1	6.18	0.24	6.42	24	Pass
NVNT	n40	5510	Ant1	7.05	0.52	7.57	24	Pass
NVNT	n40	5550	Ant1	6.19	0.72	6.91	24	Pass
NVNT	n40	5670	Ant1	5.91	0.35	6.26	24	Pass
NVNT	ac20	5500	Ant1	6.93	0.3	7.23	24	Pass
NVNT	ac20	5600	Ant1	5.82	0.24	6.06	24	Pass
NVNT	ac20	5700	Ant1	6.38	0.13	6.51	24	Pass
NVNT	ac40	5510	Ant1	7.26	0.31	7.57	24	Pass
NVNT	ac40	5550	Ant1	6.39	0.43	6.82	24	Pass
NVNT	ac40	5670	Ant1	5.52	0.64	6.16	24	Pass
NVNT	ac80	5530	Ant1	5.99	0.93	6.92	24	Pass
NVNT	ac80	5610	Ant1	5.50	1.3	6.8	24	Pass
NVNT	ac80	5690	Ant1	5.10	1.3	6.4	24	Pass

Note: Total Power = Output Power + Duty cycle factor.



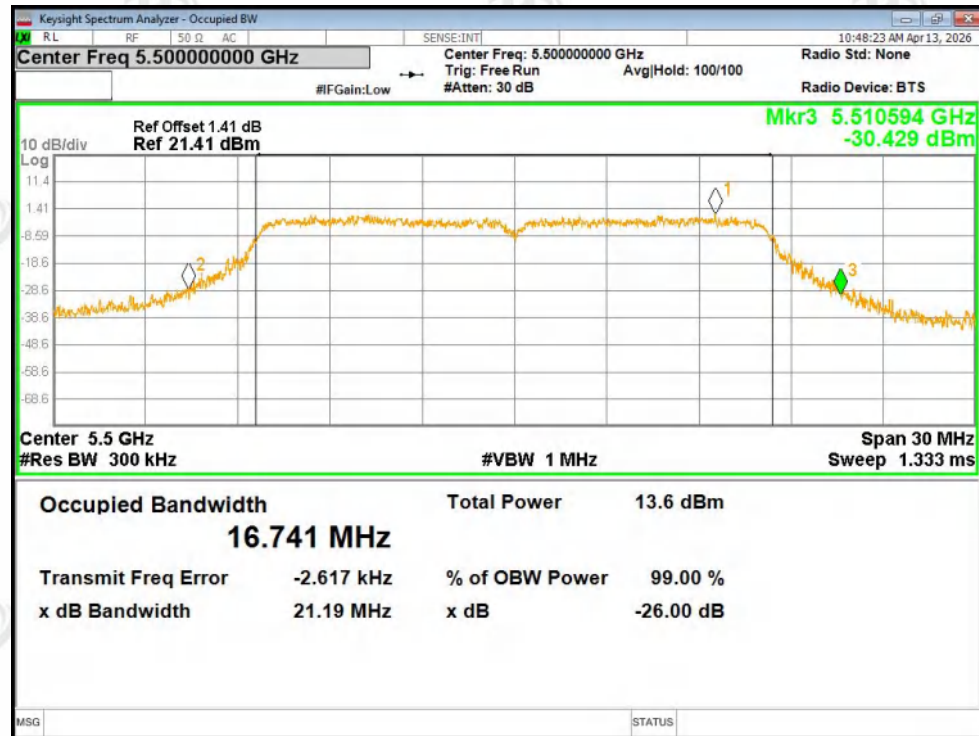
C.3 -26dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5500	Ant1	21.194	Pass
NVNT	a	5600	Ant1	21.367	Pass
NVNT	a	5700	Ant1	20.847	Pass
NVNT	n20	5500	Ant1	21.675	Pass
NVNT	n20	5600	Ant1	21.921	Pass
NVNT	n20	5700	Ant1	21.548	Pass
NVNT	n40	5510	Ant1	41.590	Pass
NVNT	n40	5550	Ant1	41.442	Pass
NVNT	n40	5670	Ant1	41.534	Pass
NVNT	ac20	5500	Ant1	21.837	Pass
NVNT	ac20	5600	Ant1	21.930	Pass
NVNT	ac20	5700	Ant1	21.626	Pass
NVNT	ac40	5510	Ant1	42.570	Pass
NVNT	ac40	5550	Ant1	41.715	Pass
NVNT	ac40	5670	Ant1	41.479	Pass
NVNT	ac80	5530	Ant1	80.604	Pass
NVNT	ac80	5610	Ant1	81.979	Pass
NVNT	ac80	5690	Ant1	80.259	Pass

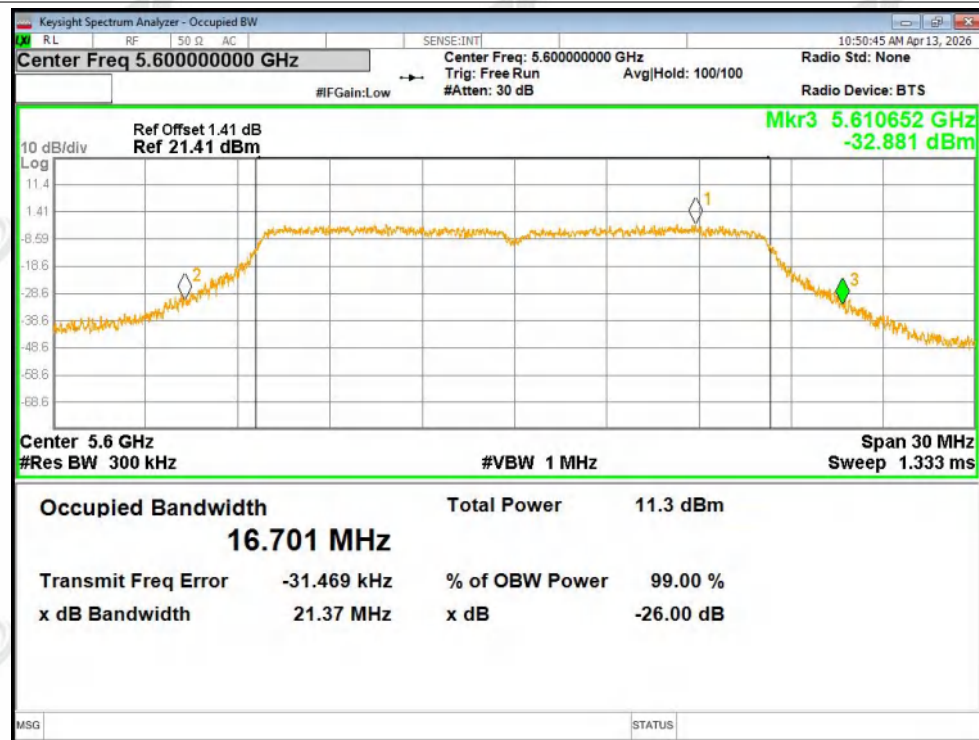


Test Graphs

-26dB Bandwidth NVNT a 5500MHz Ant1

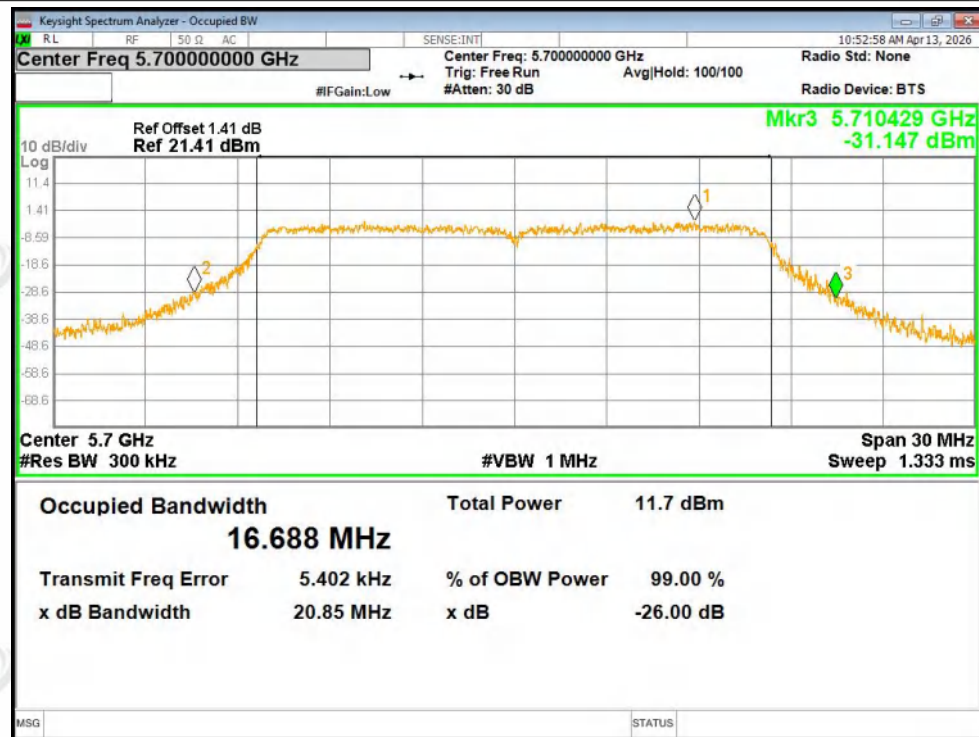


-26dB Bandwidth NVNT a 5600MHz Ant1

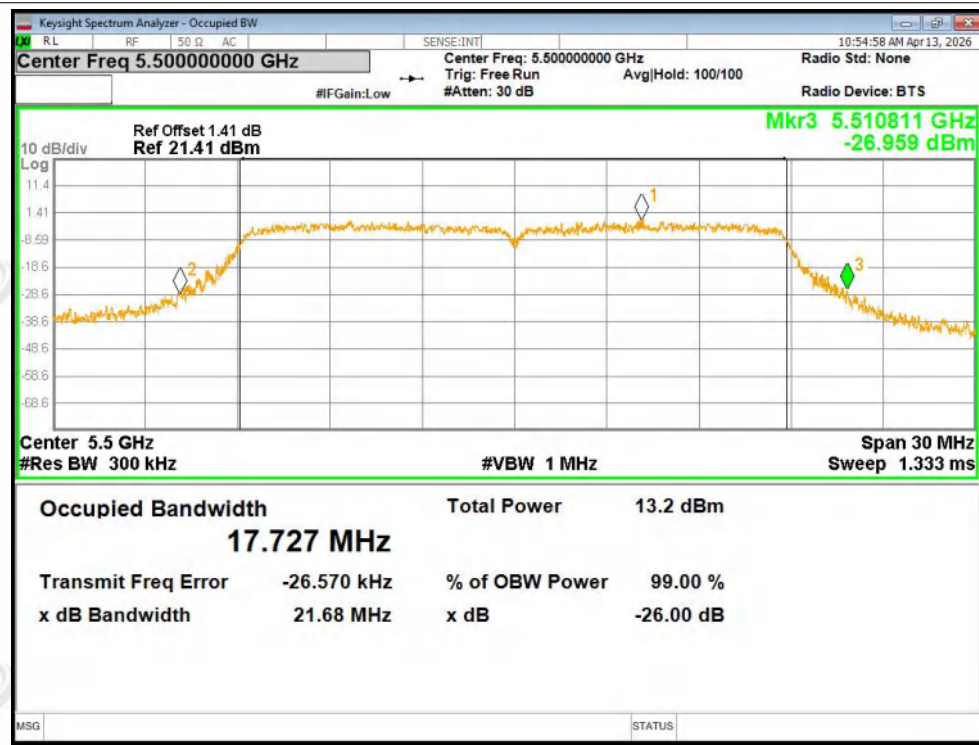




-26dB Bandwidth NVNT a 5700MHz Ant1

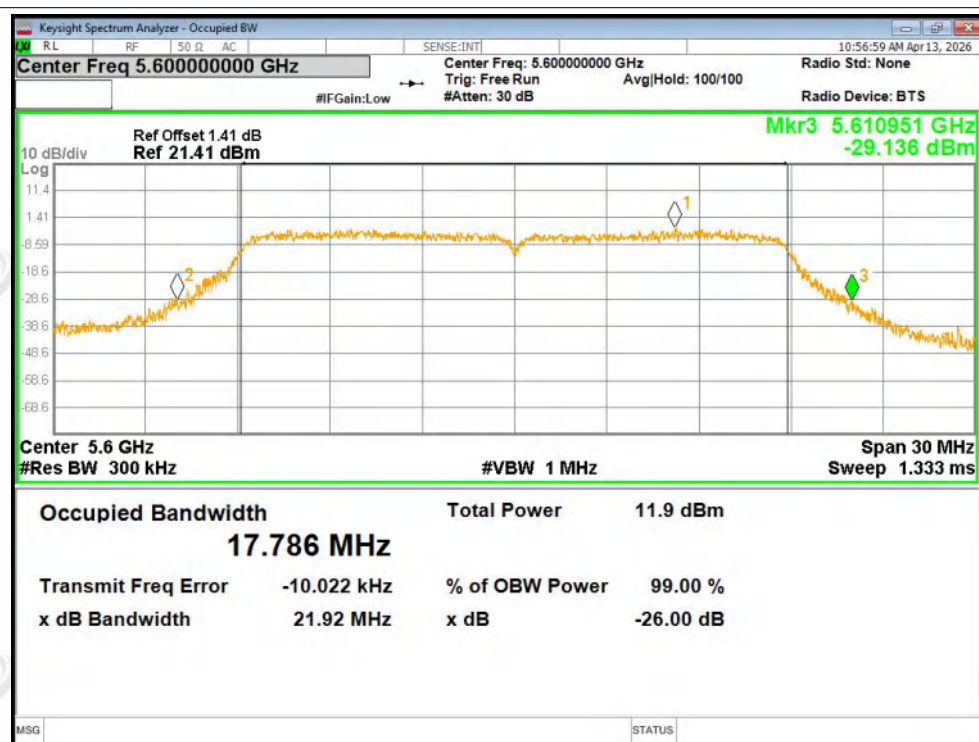


-26dB Bandwidth NVNT n20 5500MHz Ant1

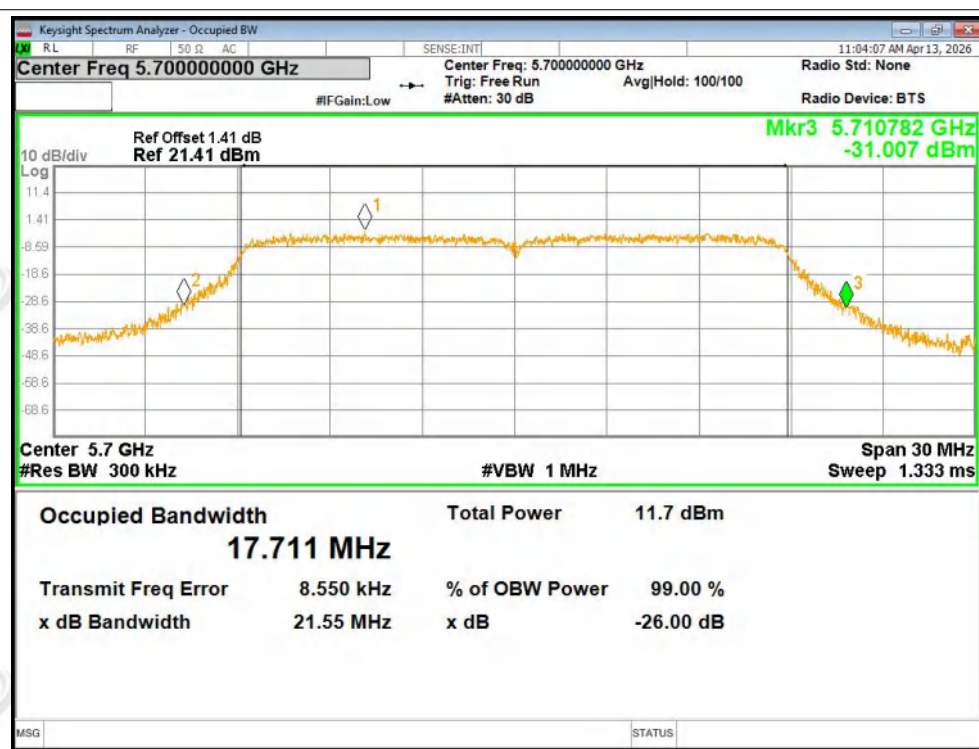




-26dB Bandwidth NVNT n20 5600MHz Ant1

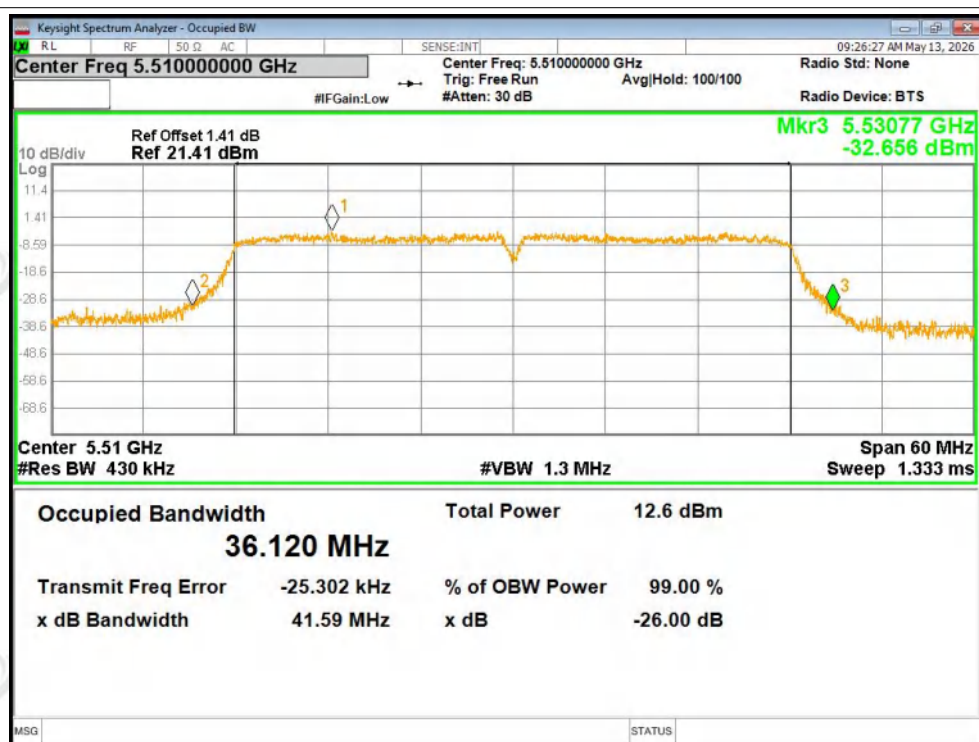


-26dB Bandwidth NVNT n20 5700MHz Ant1

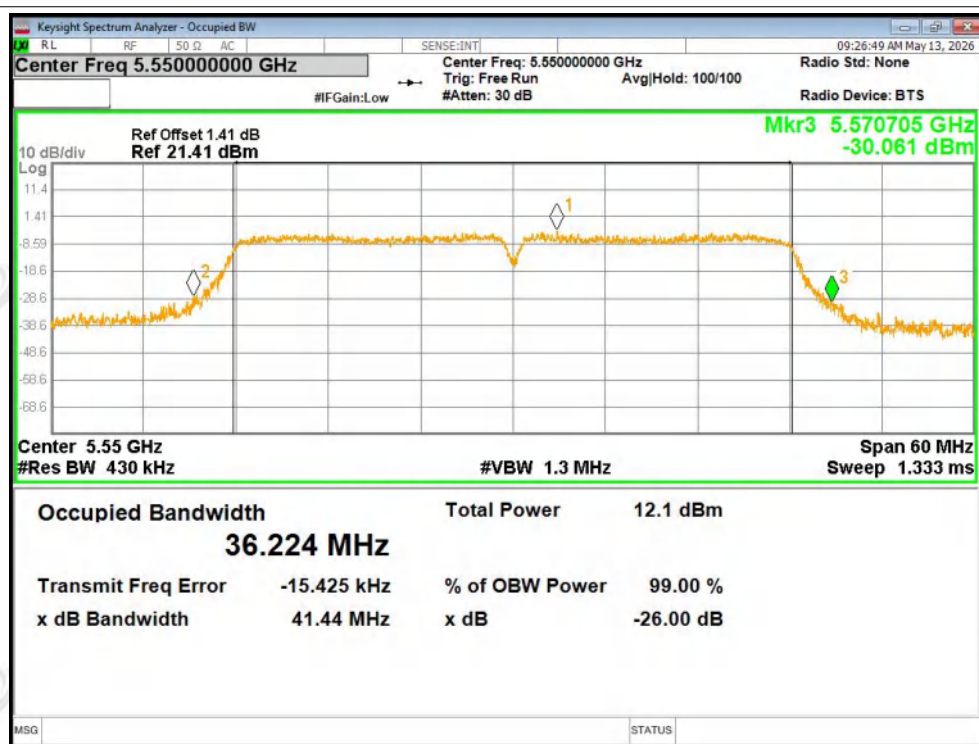




-26dB Bandwidth NVNT n40 5510MHz Ant1

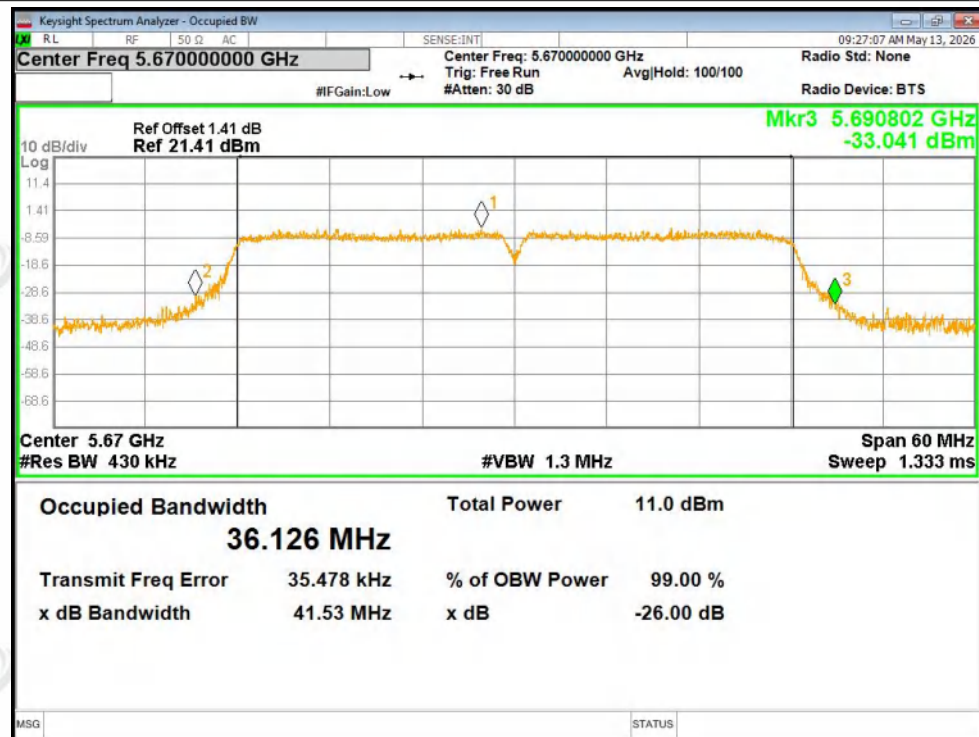


-26dB Bandwidth NVNT n40 5550MHz Ant1

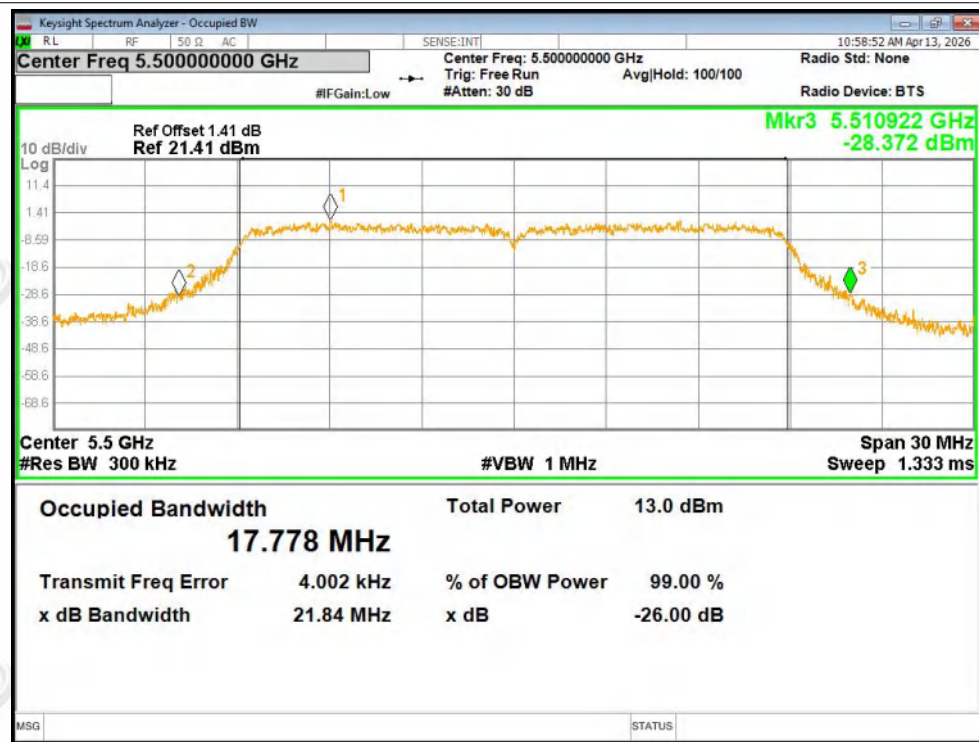




-26dB Bandwidth NVNT n40 5670MHz Ant1

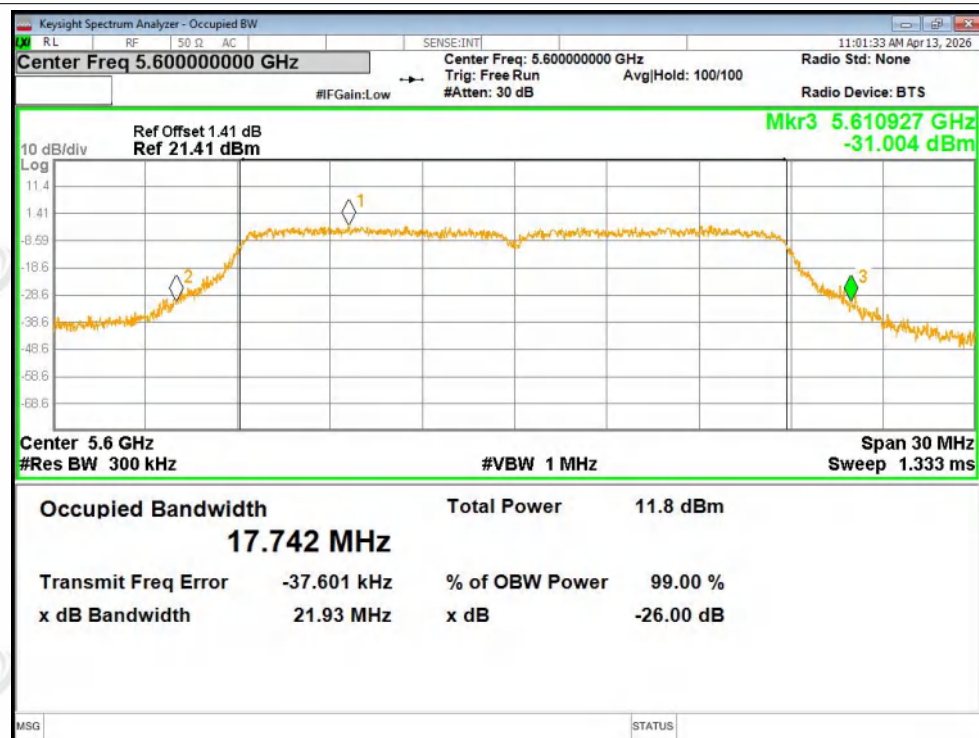


-26dB Bandwidth NVNT ac20 5500MHz Ant1

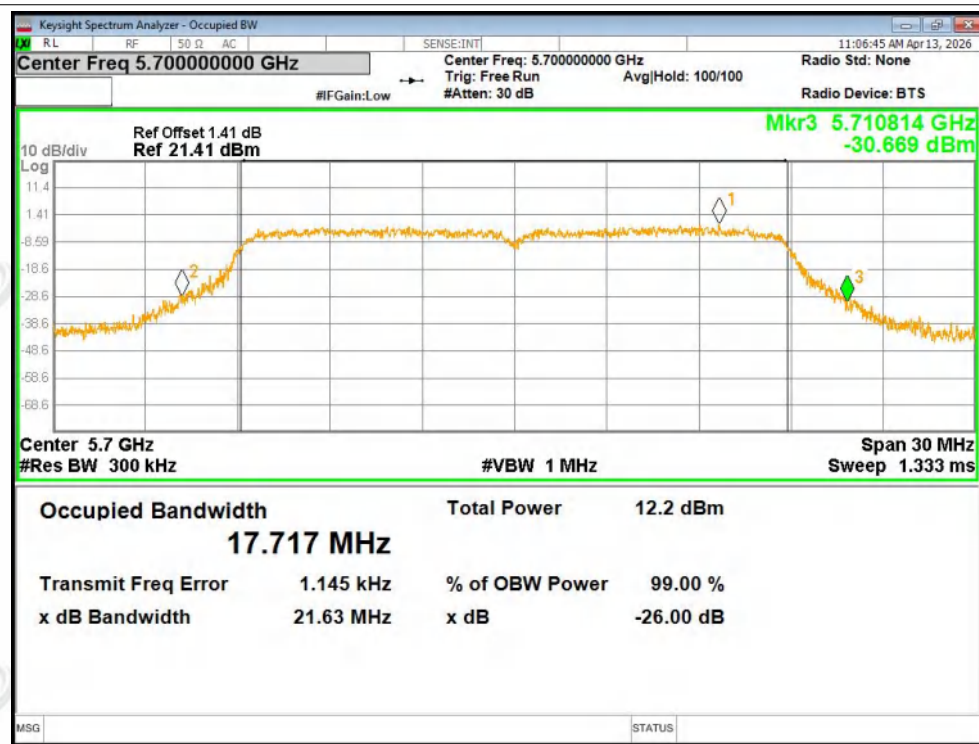




-26dB Bandwidth NVNT ac20 5600MHz Ant1

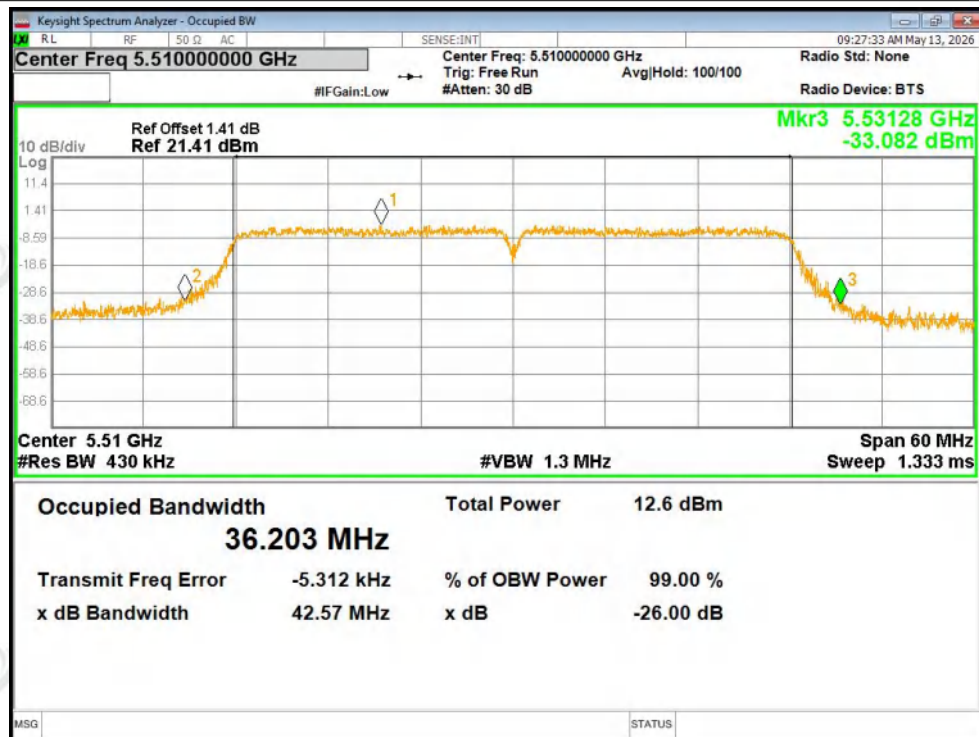


-26dB Bandwidth NVNT ac20 5700MHz Ant1





-26dB Bandwidth NVNT ac40 5510MHz Ant1

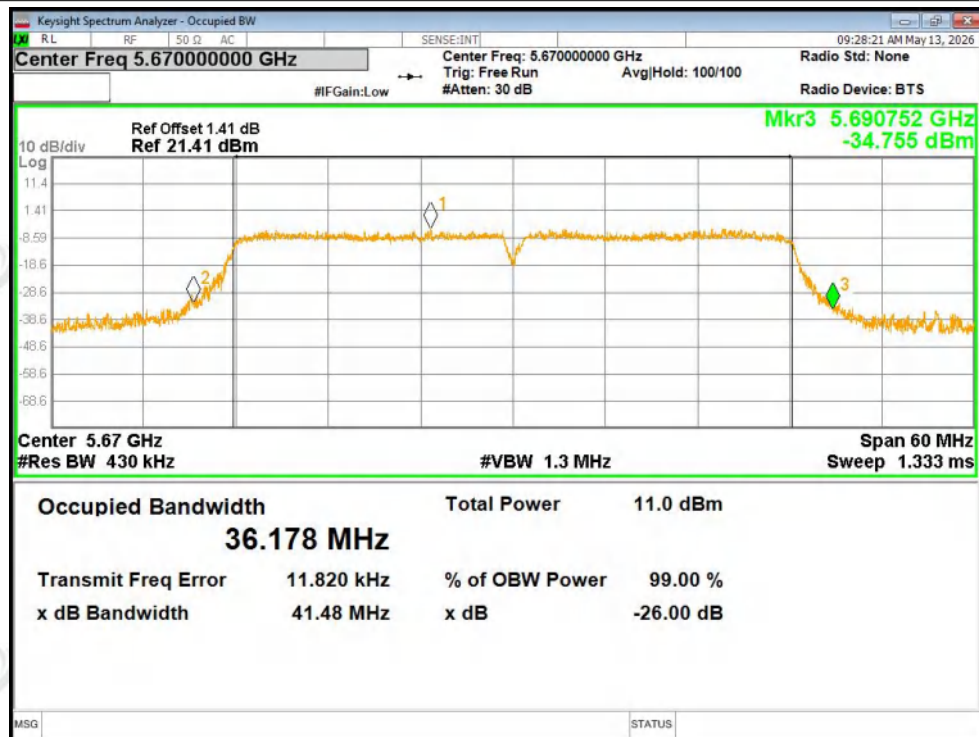


-26dB Bandwidth NVNT ac40 5550MHz Ant1

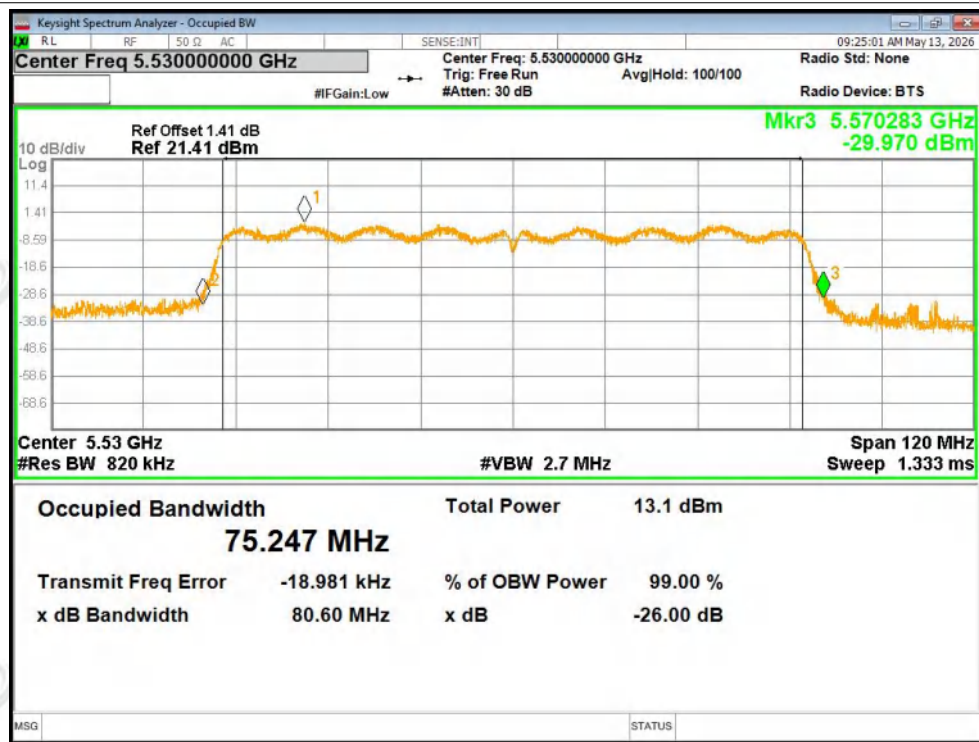




-26dB Bandwidth NVNT ac40 5670MHz Ant1

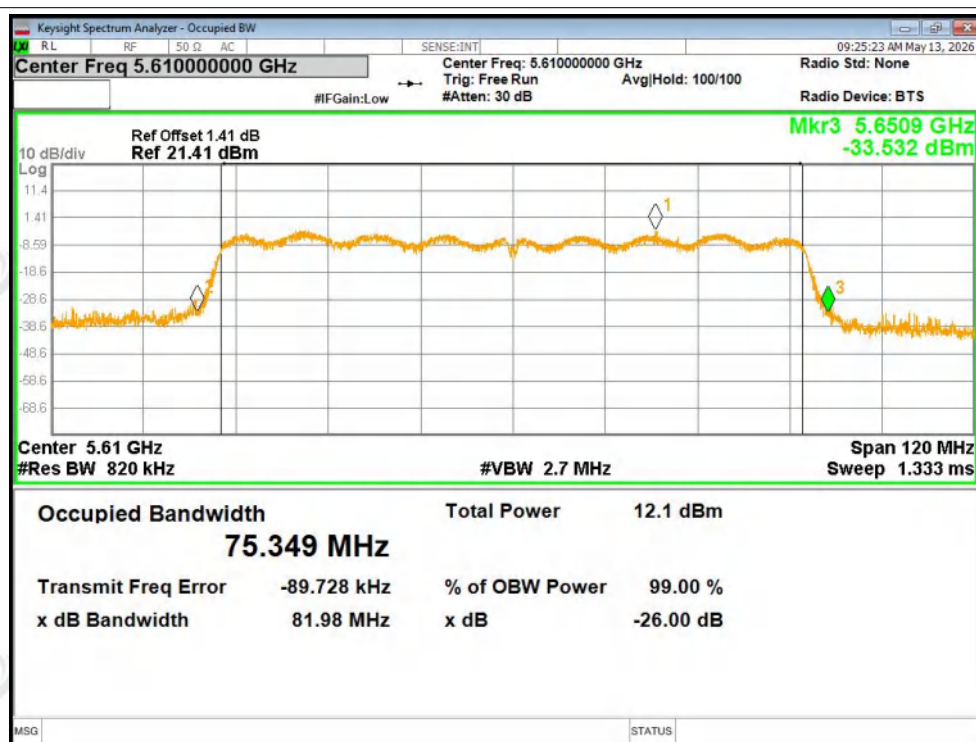


-26dB Bandwidth NVNT ac80 5530MHz Ant1

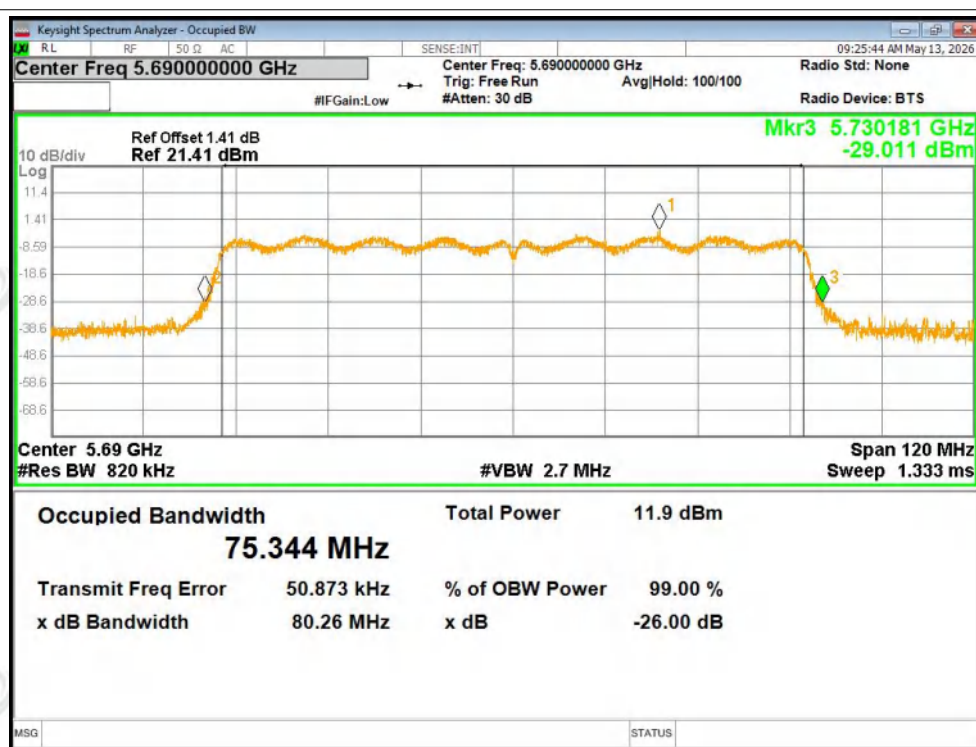




-26dB Bandwidth NVNT ac80 5610MHz Ant1



-26dB Bandwidth NVNT ac80 5690MHz Ant1

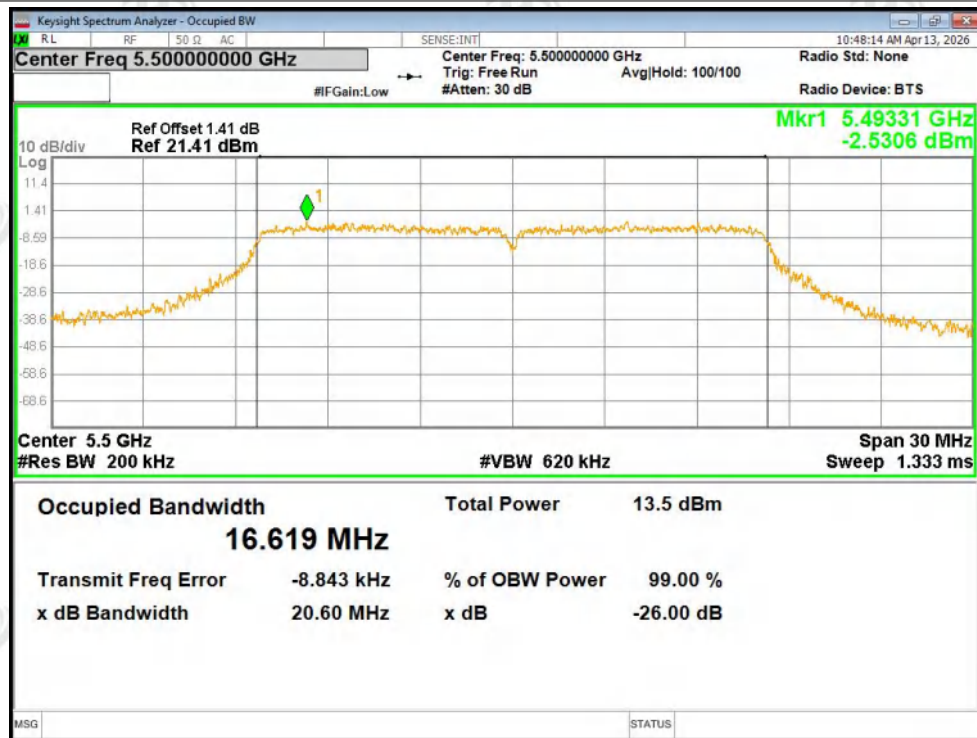


C.4 Occupied Channel Bandwidth

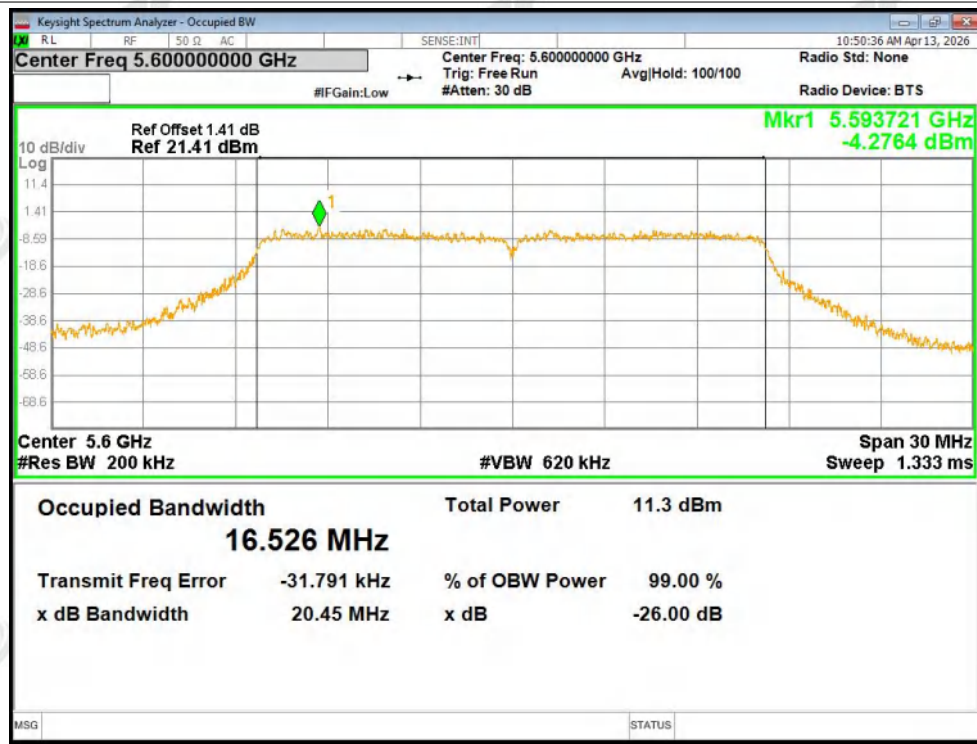
Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	a	5500	Ant1	16.619
NVNT	a	5600	Ant1	16.526
NVNT	a	5700	Ant1	16.514
NVNT	n20	5500	Ant1	17.656
NVNT	n20	5600	Ant1	17.677
NVNT	n20	5700	Ant1	17.639
NVNT	n40	5510	Ant1	36.148
NVNT	n40	5550	Ant1	36.2
NVNT	n40	5670	Ant1	36.18
NVNT	ac20	5500	Ant1	17.697
NVNT	ac20	5600	Ant1	17.641
NVNT	ac20	5700	Ant1	17.625
NVNT	ac40	5510	Ant1	36.187
NVNT	ac40	5550	Ant1	36.165
NVNT	ac40	5670	Ant1	36.156
NVNT	ac80	5530	Ant1	75.231
NVNT	ac80	5610	Ant1	75.253
NVNT	ac80	5690	Ant1	75.251

Test Graphs

OBW NVNT a 5500MHz Ant1

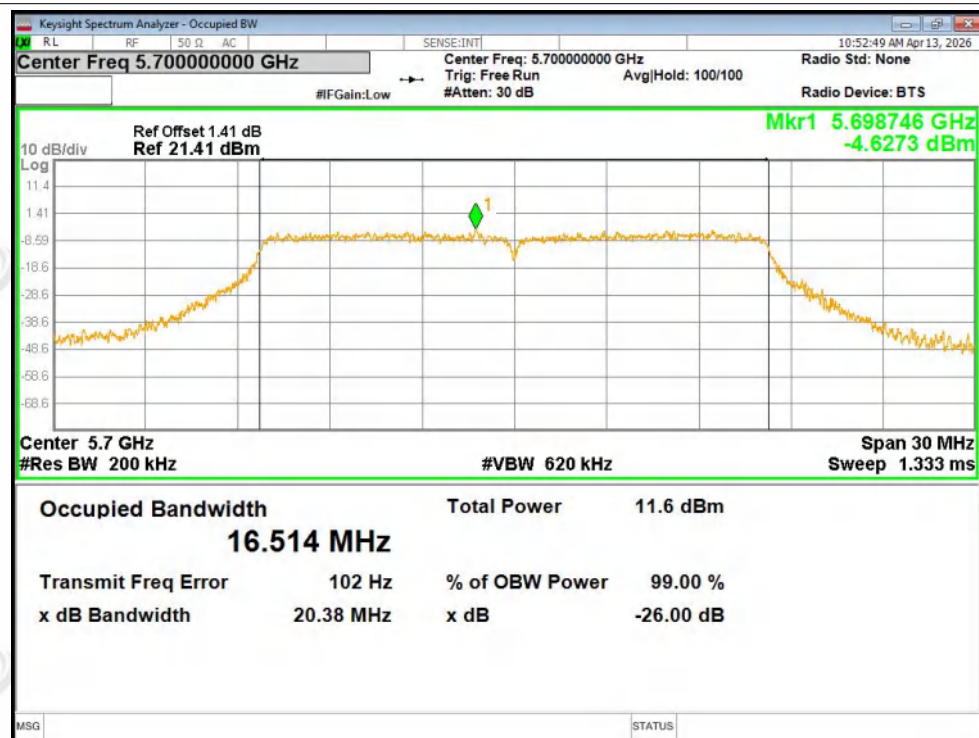


OBW NVNT a 5600MHz Ant1

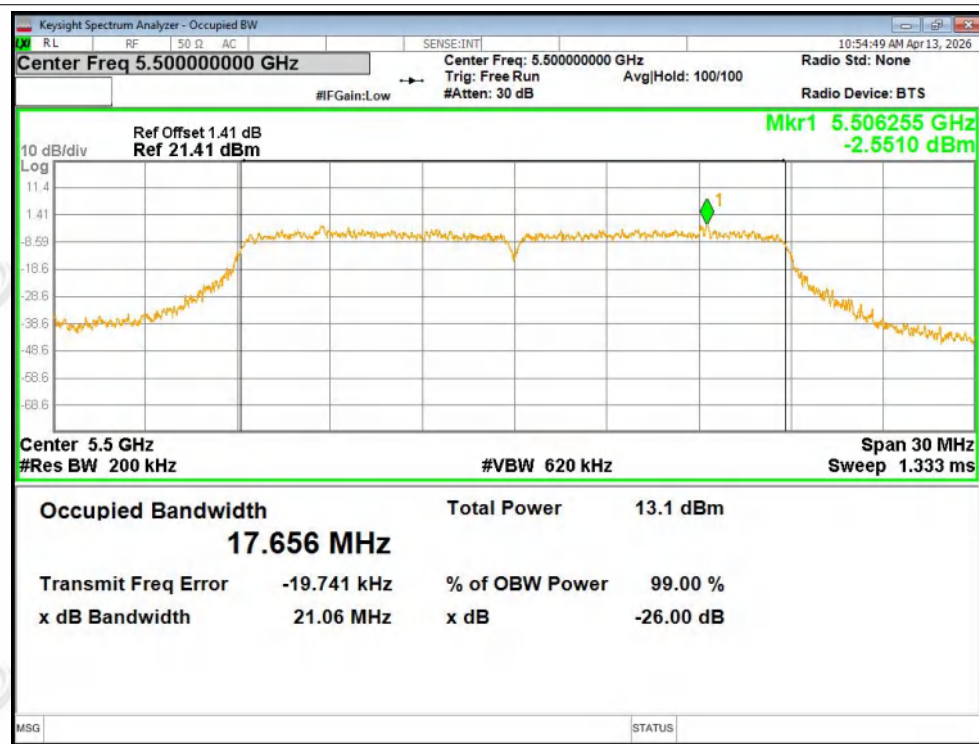




OBW NVNT a 5700MHz Ant1

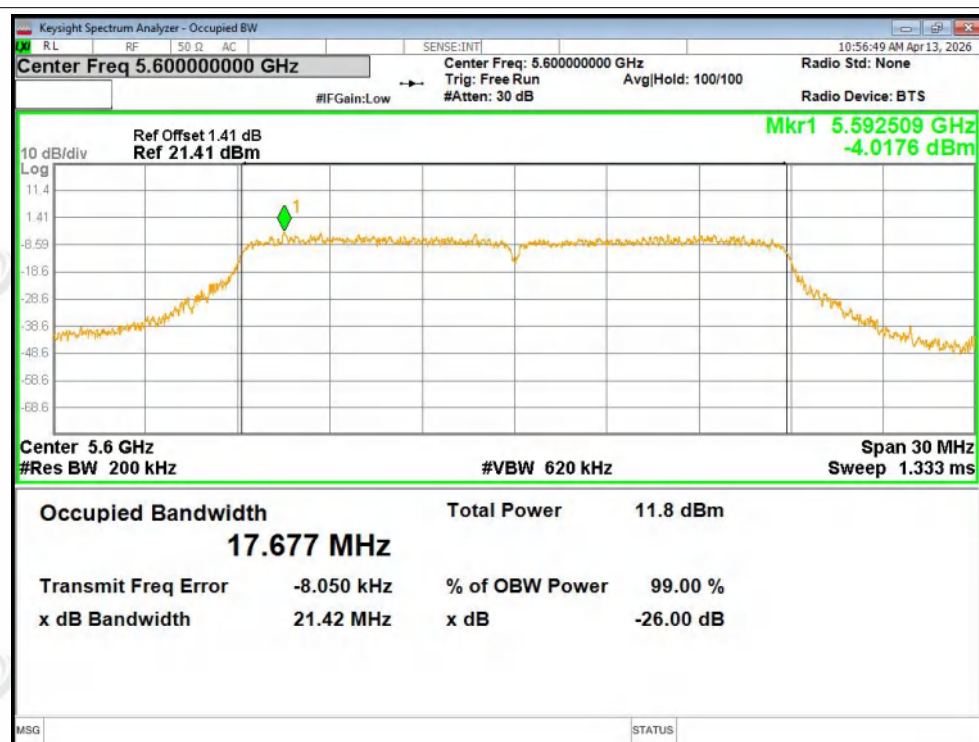


OBW NVNT n20 5500MHz Ant1

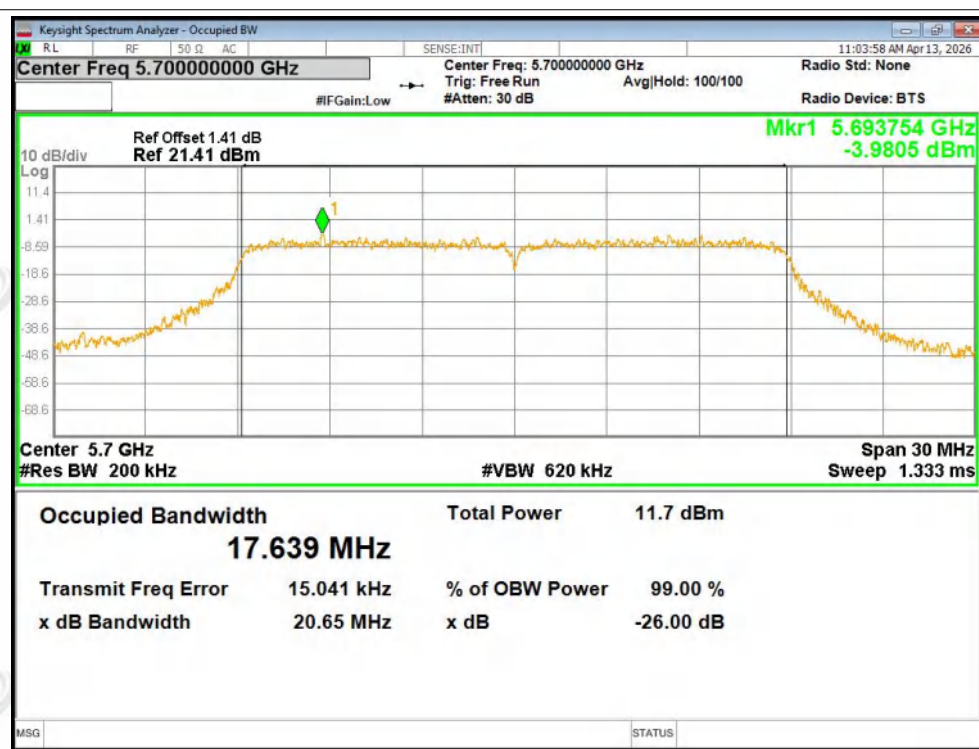




OBW NVNT n20 5600MHz Ant1

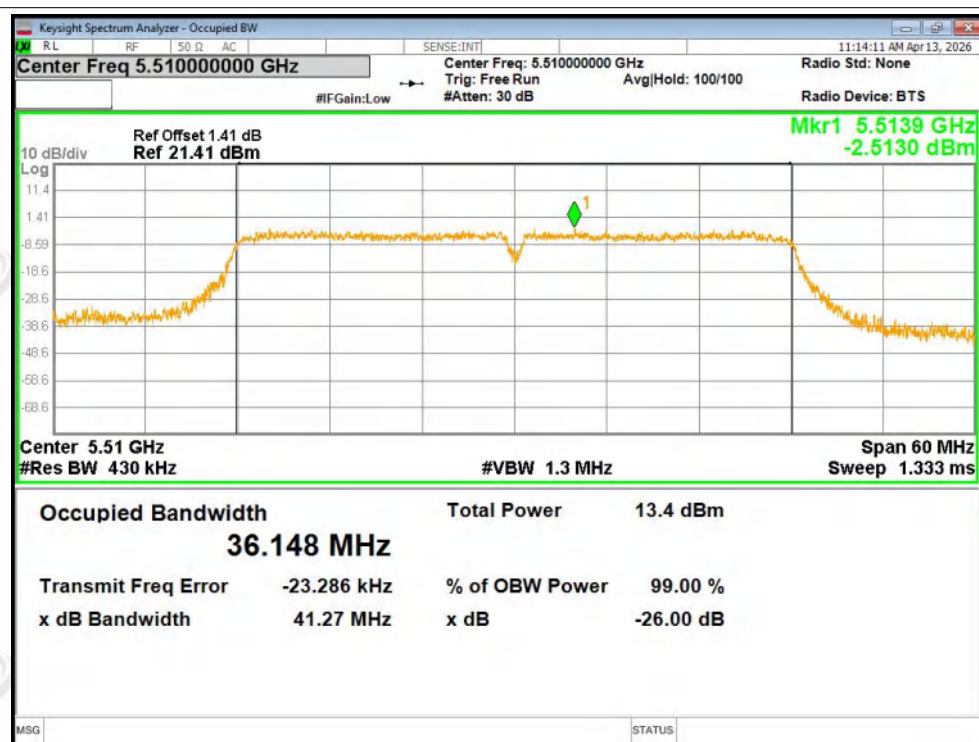


OBW NVNT n20 5700MHz Ant1

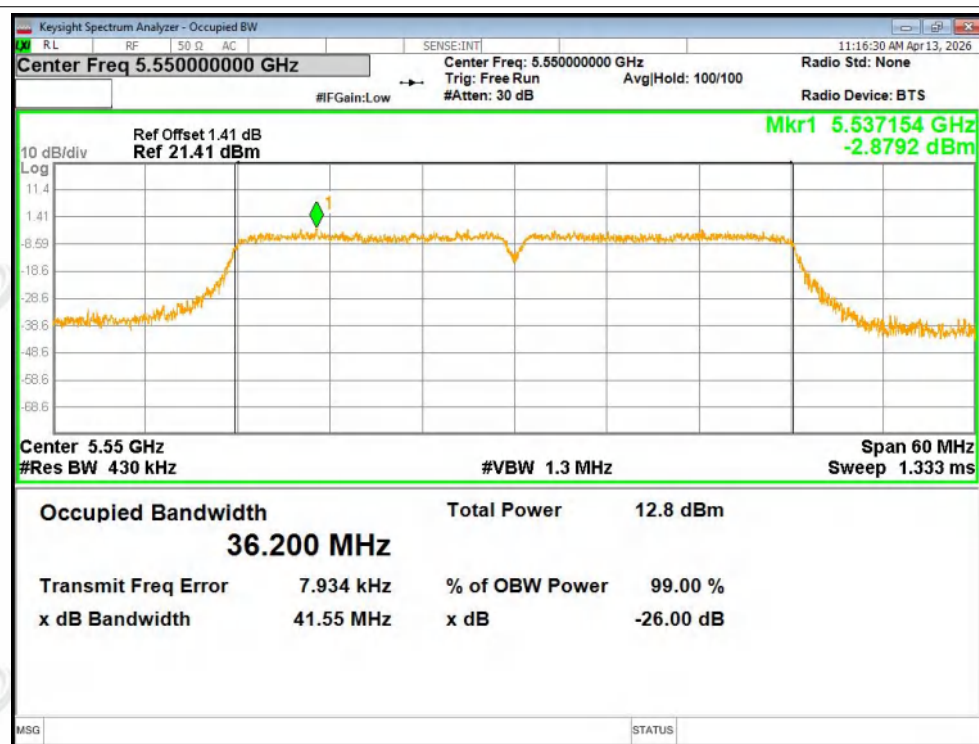




OBW NVNT n40 5510MHz Ant1

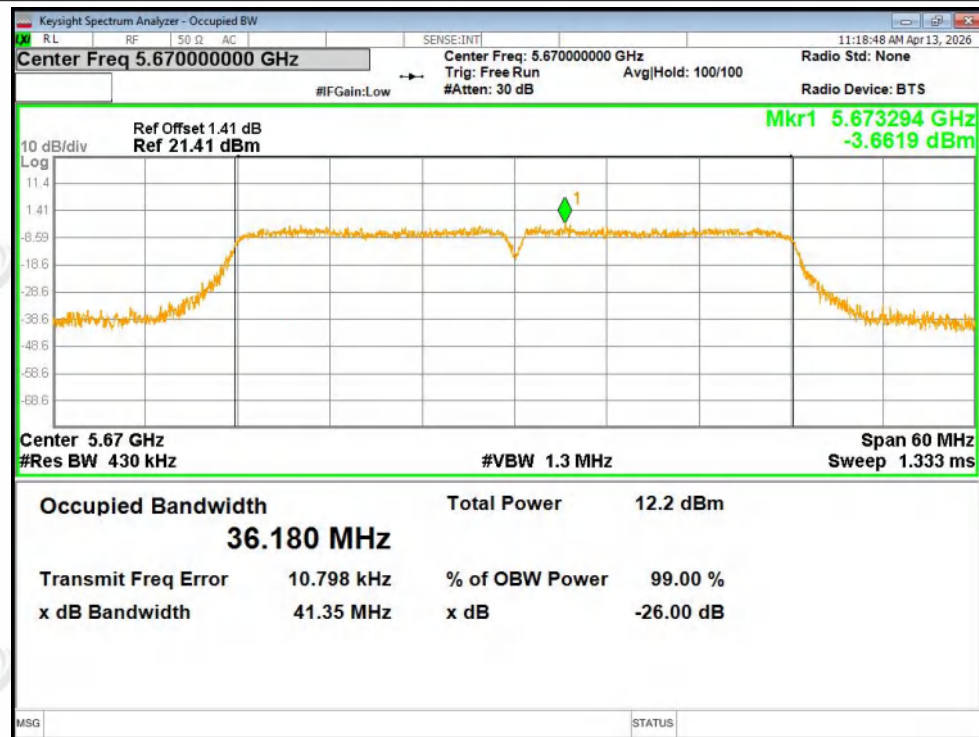


OBW NVNT n40 5550MHz Ant1

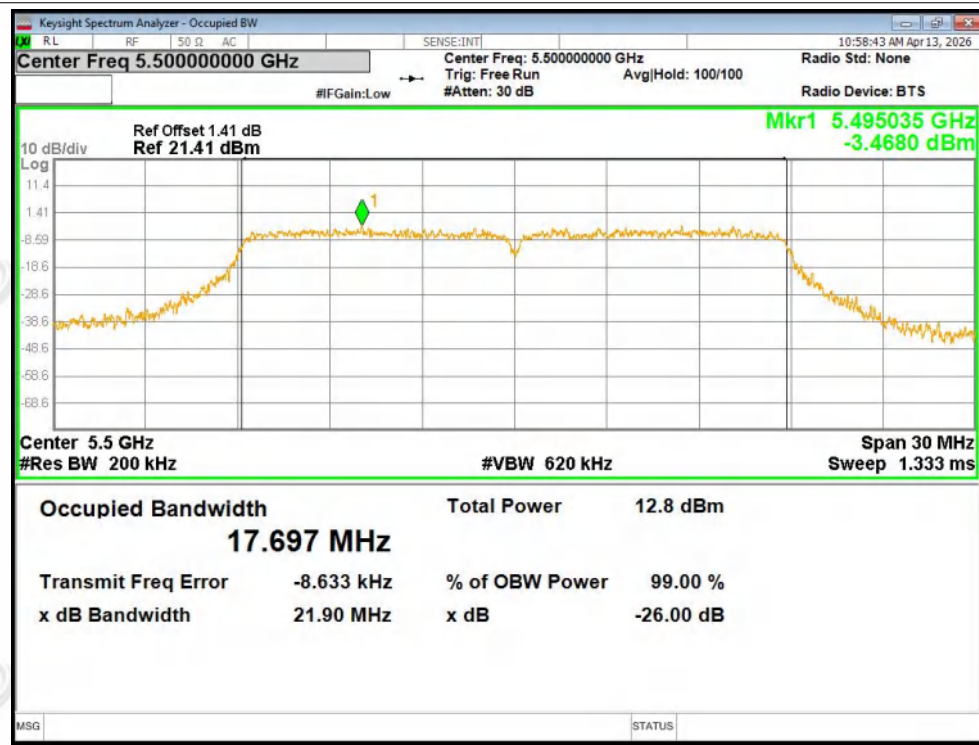




OBW NVNT n40 5670MHz Ant1

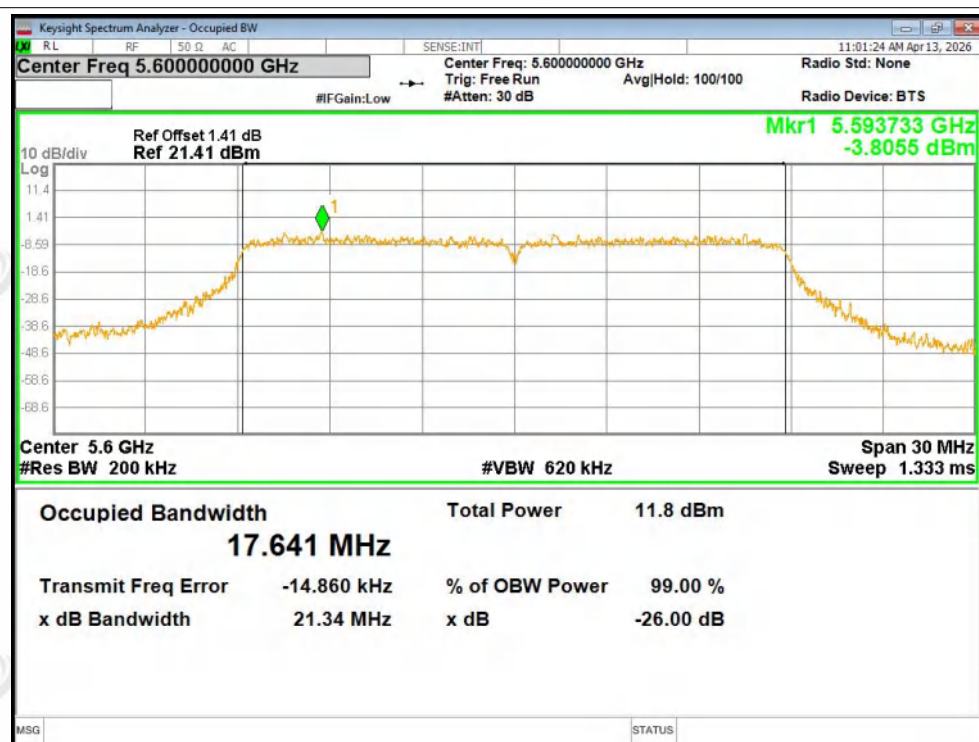


OBW NVNT ac20 5500MHz Ant1

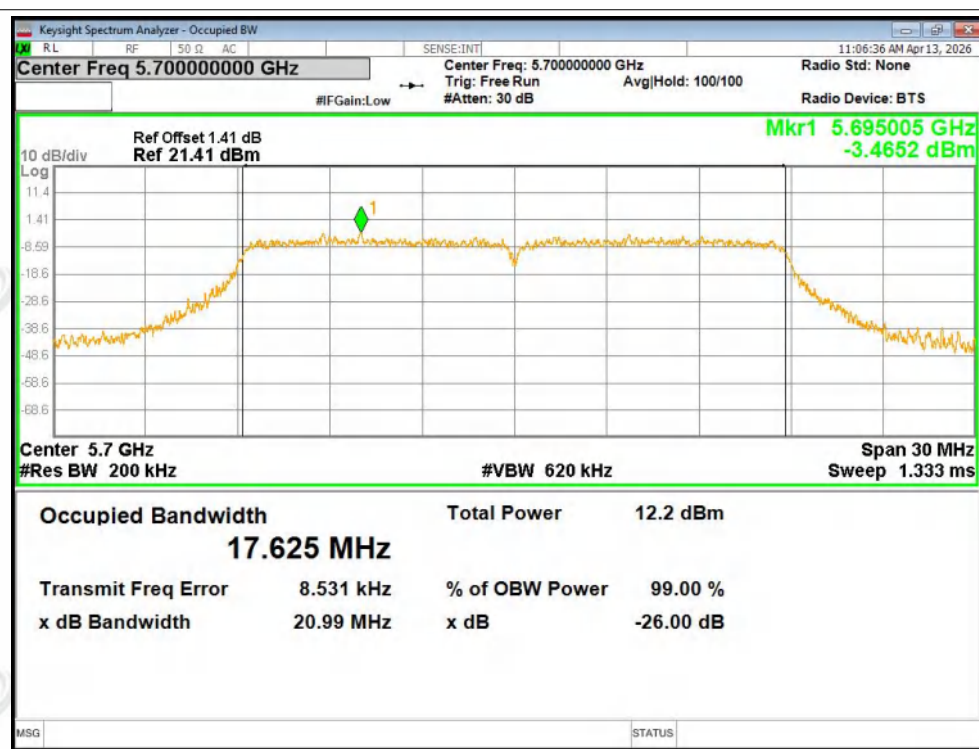




OBW NVNT ac20 5600MHz Ant1

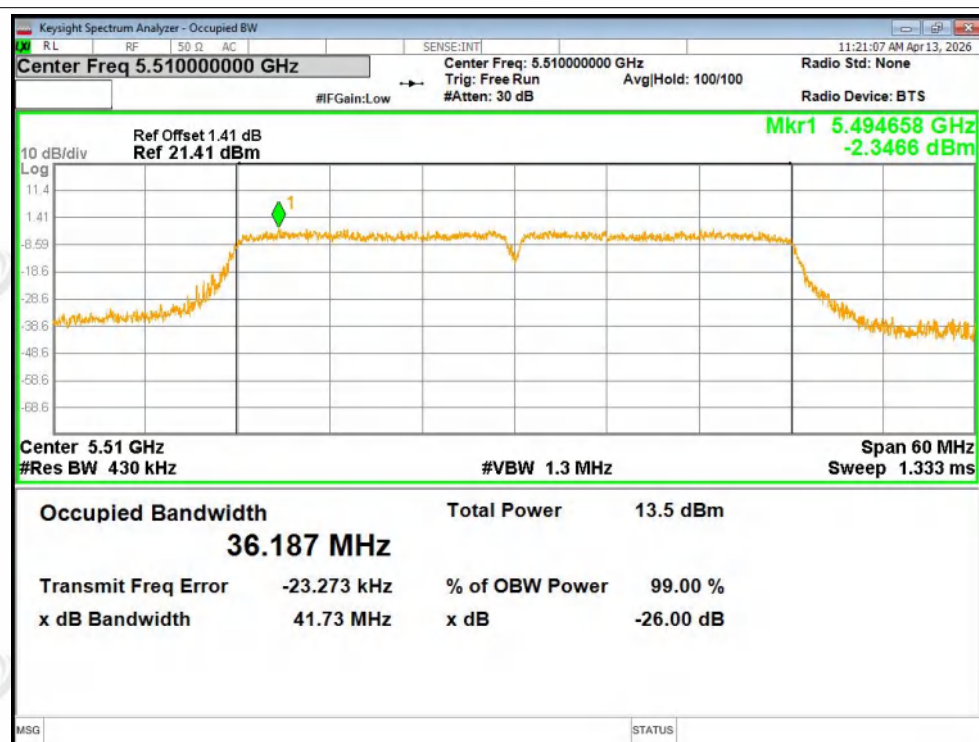


OBW NVNT ac20 5700MHz Ant1

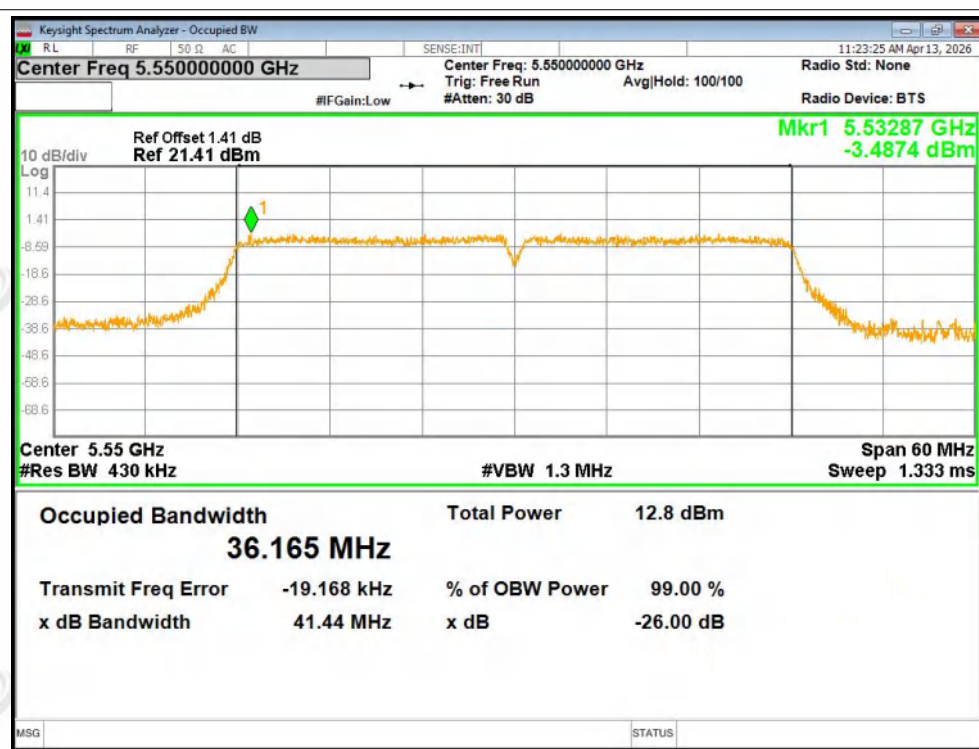




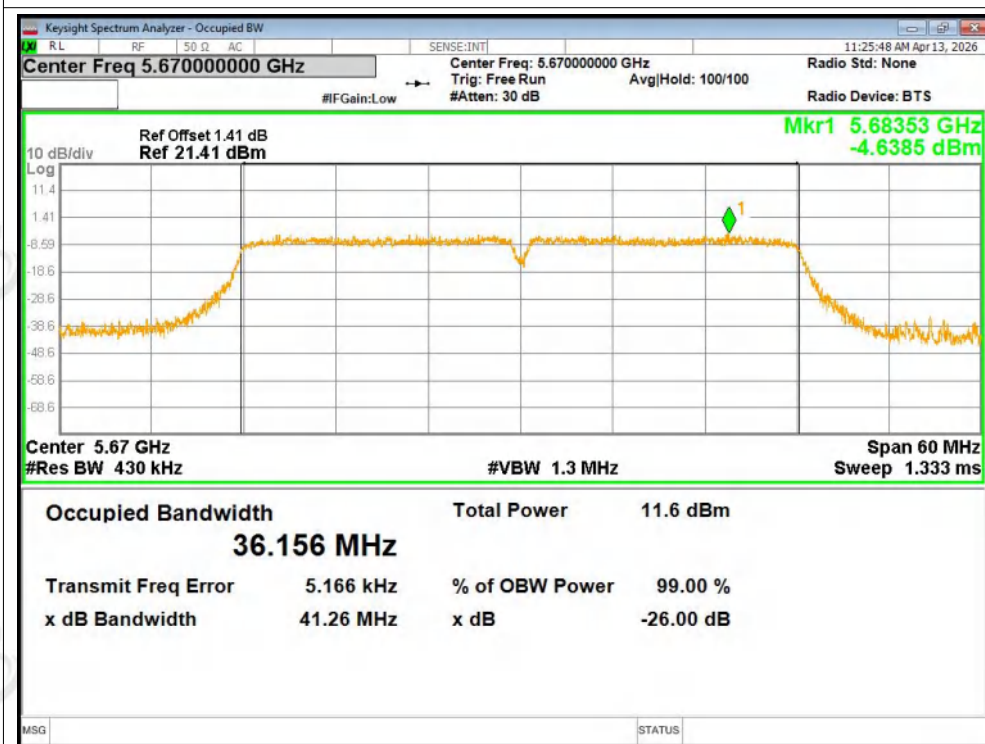
OBW NVNT ac40 5510MHz Ant1



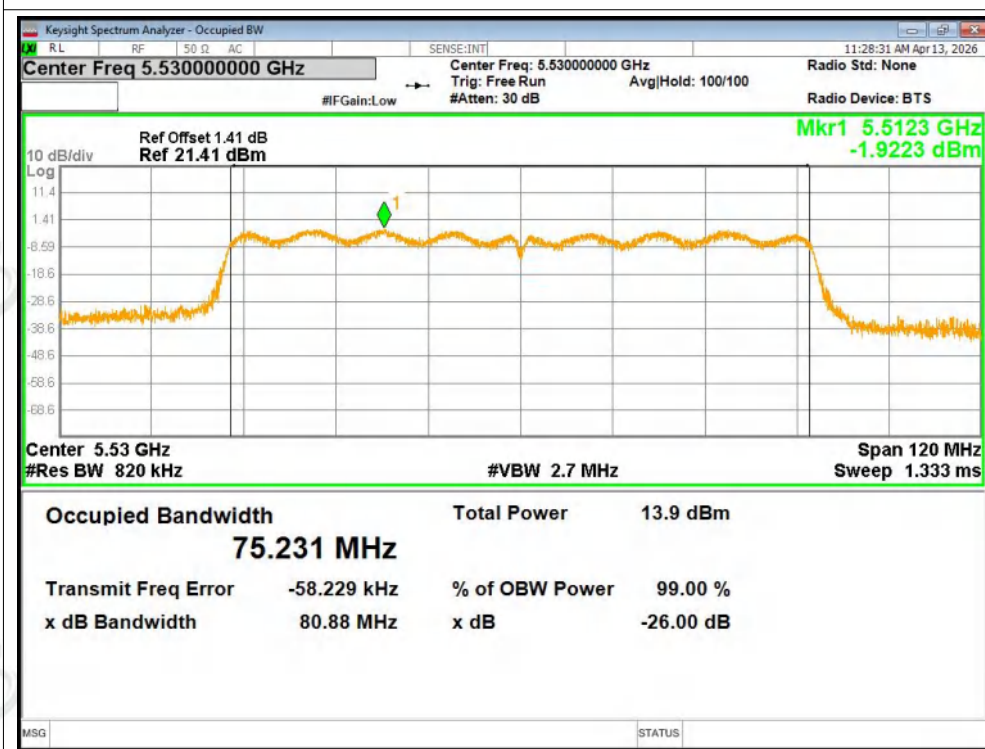
OBW NVNT ac40 5550MHz Ant1



OBW NVNT ac40 5670MHz Ant1

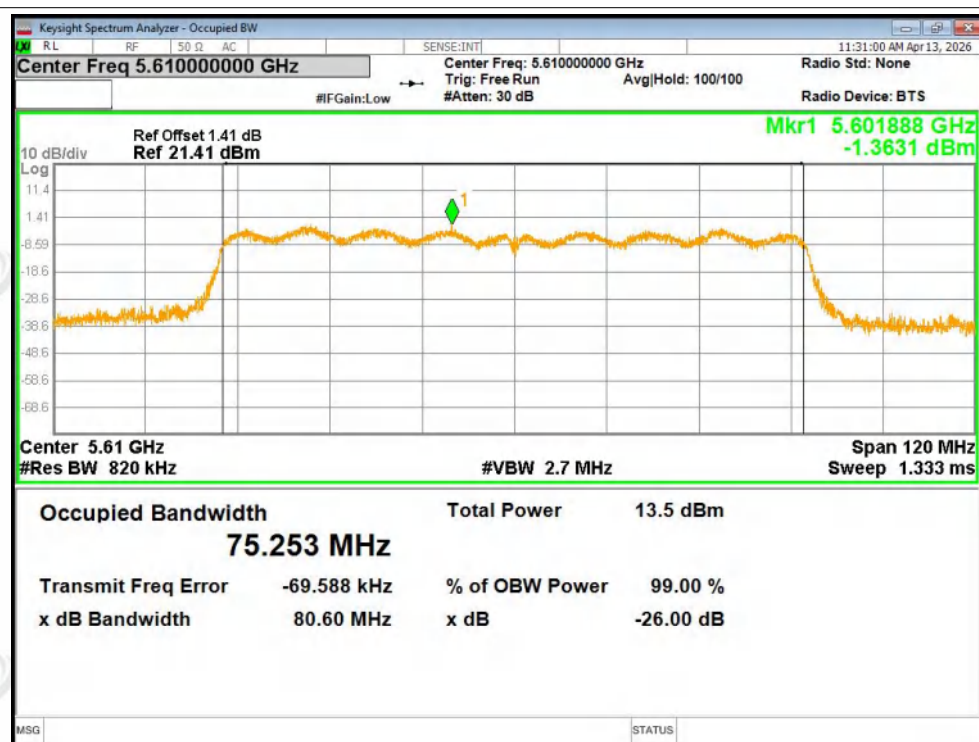


OBW NVNT ac80 5530MHz Ant1

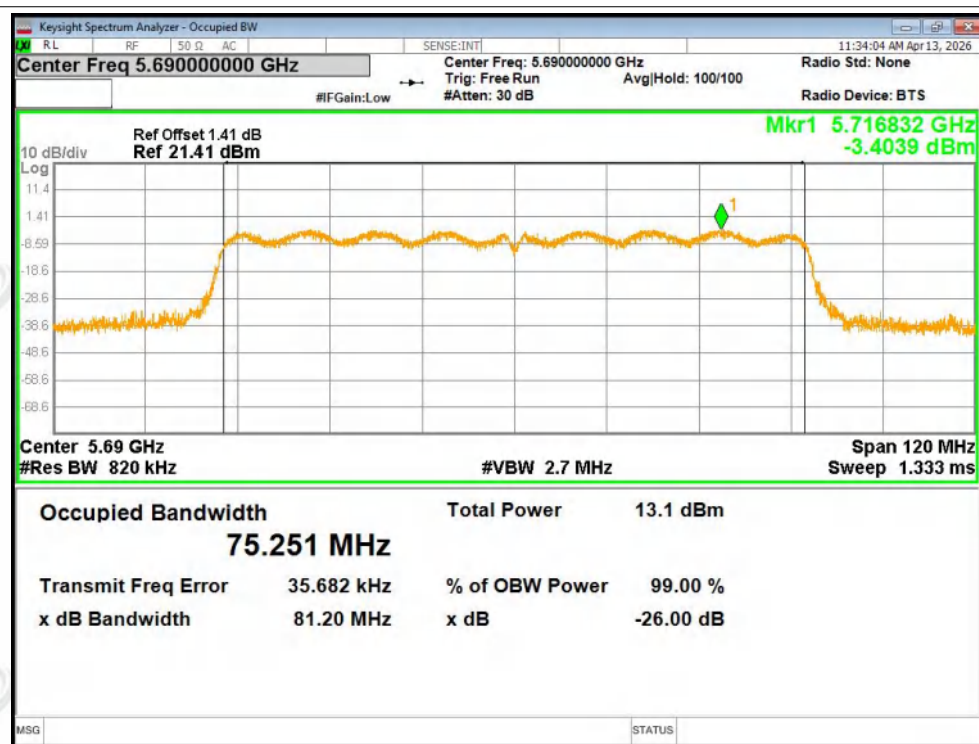




OBW NVNT ac80 5610MHz Ant1



OBW NVNT ac80 5690MHz Ant1





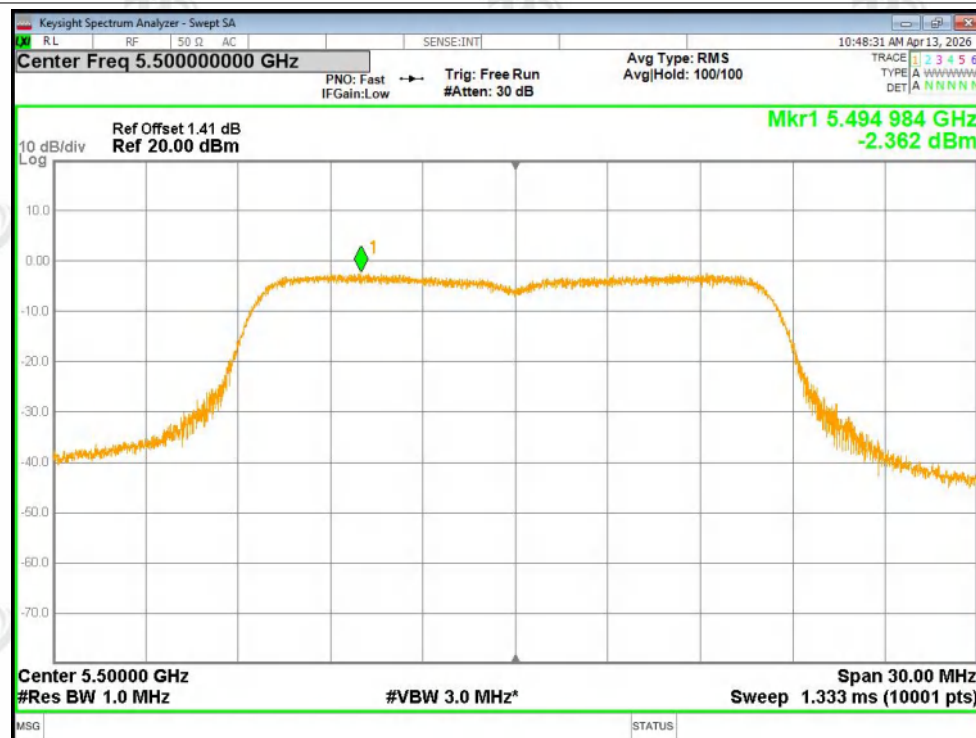
C.5 Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
NVNT	a	5500	Ant1	-2.36	0.19	7.29	11	Pass
NVNT	a	5600	Ant1	-4.62	0.16	6.36	11	Pass
NVNT	a	5700	Ant1	-4.29	0.29	7.17	11	Pass
NVNT	n20	5500	Ant1	-3.3	0.33	6.30	11	Pass
NVNT	n20	5600	Ant1	-4.31	0.2	6.93	11	Pass
NVNT	n20	5700	Ant1	-4.6	0.24	7.62	11	Pass
NVNT	n40	5510	Ant1	-5.99	0.52	7.23	11	Pass
NVNT	n40	5550	Ant1	-6.77	0.72	7.70	11	Pass
NVNT	n40	5670	Ant1	-7.51	0.35	6.56	11	Pass
NVNT	ac20	5500	Ant1	-3.53	0.3	6.99	11	Pass
NVNT	ac20	5600	Ant1	-4.28	0.24	7.48	11	Pass
NVNT	ac20	5700	Ant1	-4.25	0.13	7.28	11	Pass
NVNT	ac40	5510	Ant1	-6.24	0.31	7.28	11	Pass
NVNT	ac40	5550	Ant1	-6.73	0.43	7.40	11	Pass
NVNT	ac40	5670	Ant1	-8.09	0.64	7.29	11	Pass
NVNT	ac80	5530	Ant1	-8.17	0.93	6.36	11	Pass
NVNT	ac80	5610	Ant1	-8.22	1.3	7.17	11	Pass
NVNT	ac80	5690	Ant1	-9.72	1.3	6.30	11	Pass

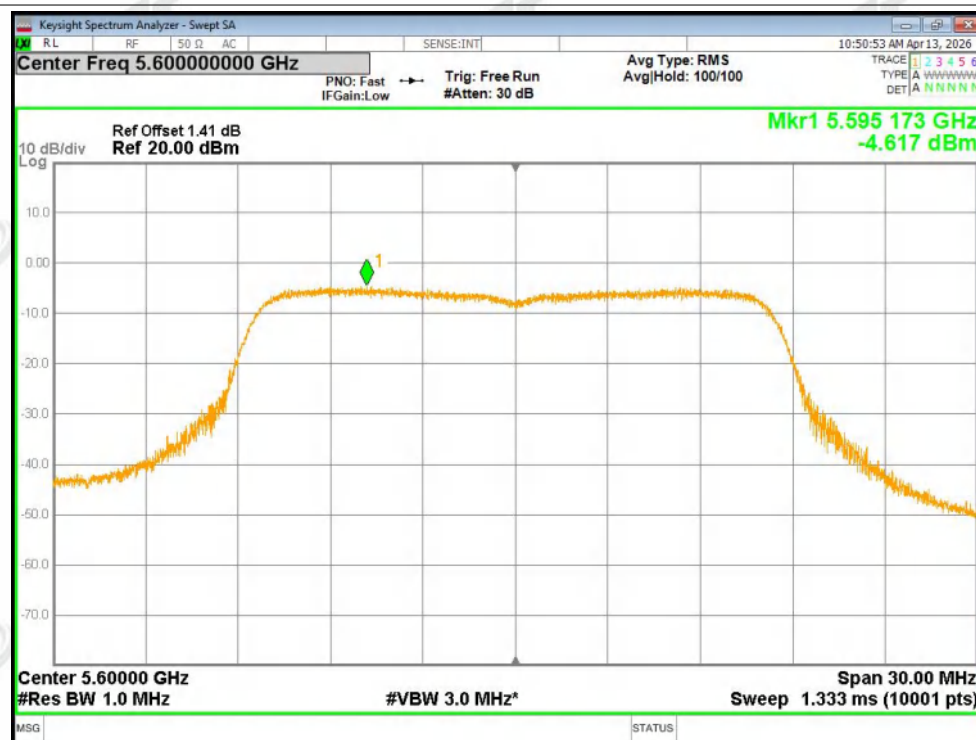


Test Graphs

PSD NVNT a 5500MHz Ant1

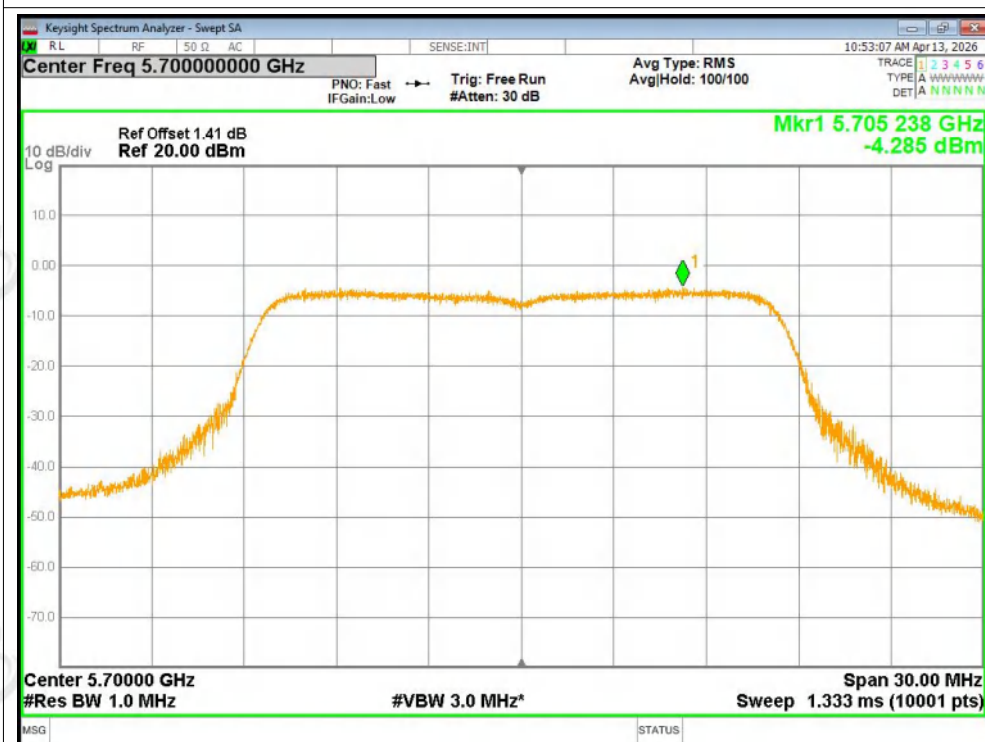


PSD NVNT a 5600MHz Ant1

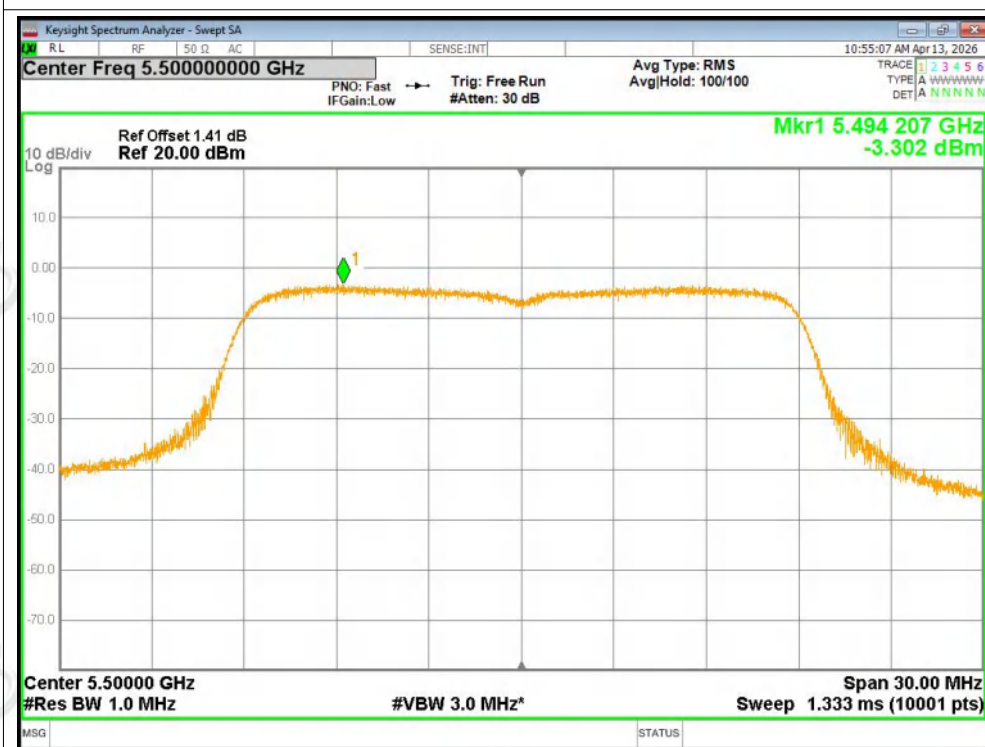




PSD NVNT a 5700MHz Ant1

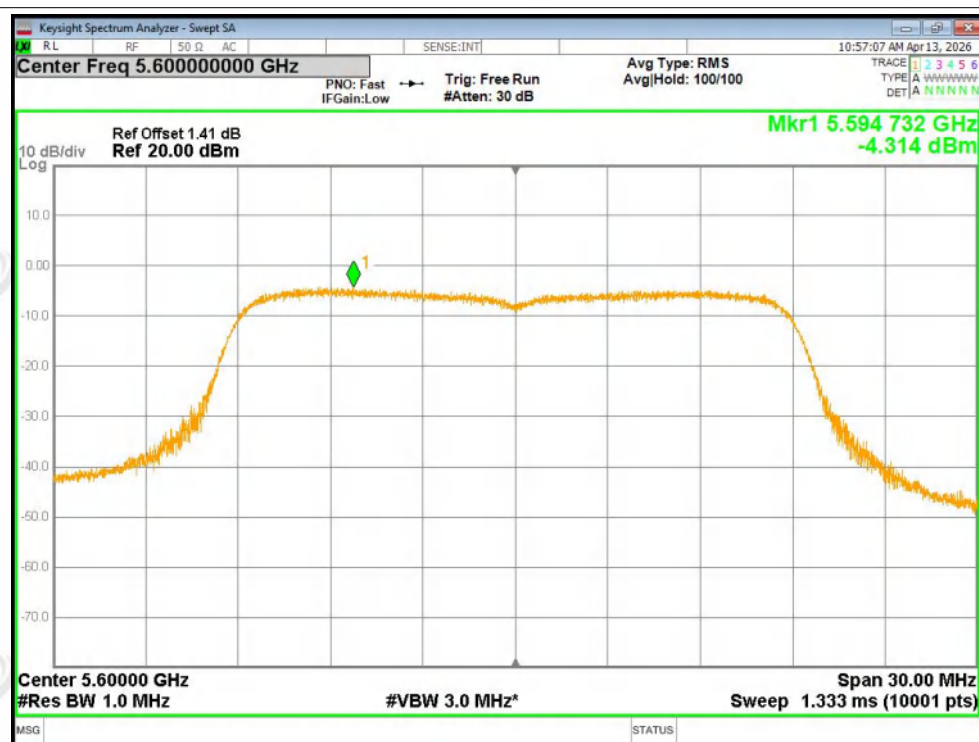


PSD NVNT n20 5500MHz Ant1

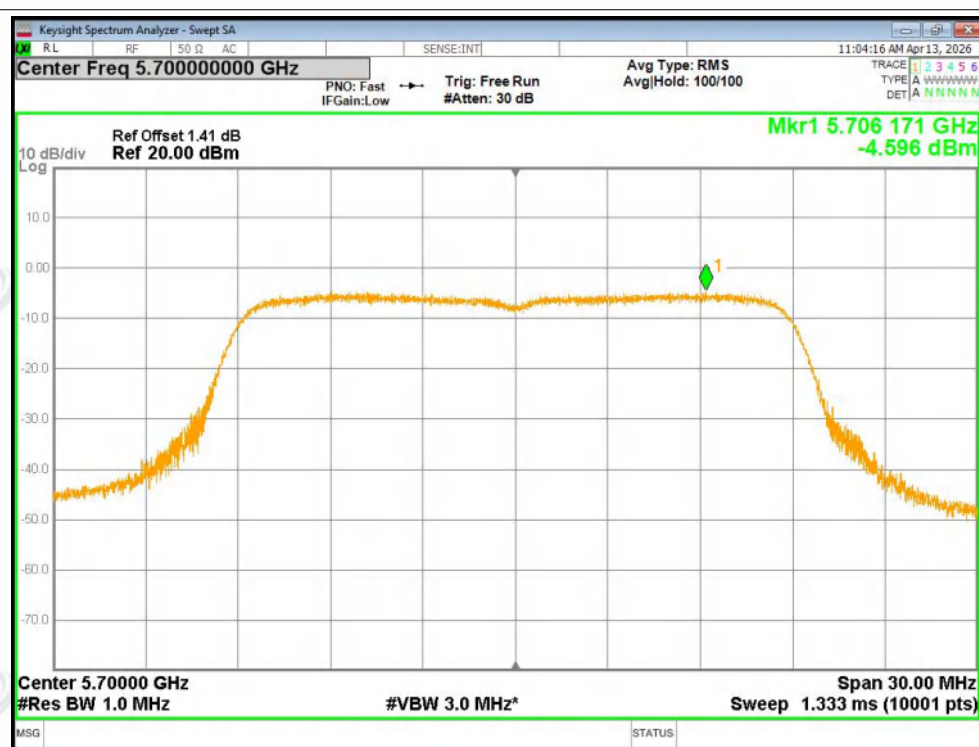




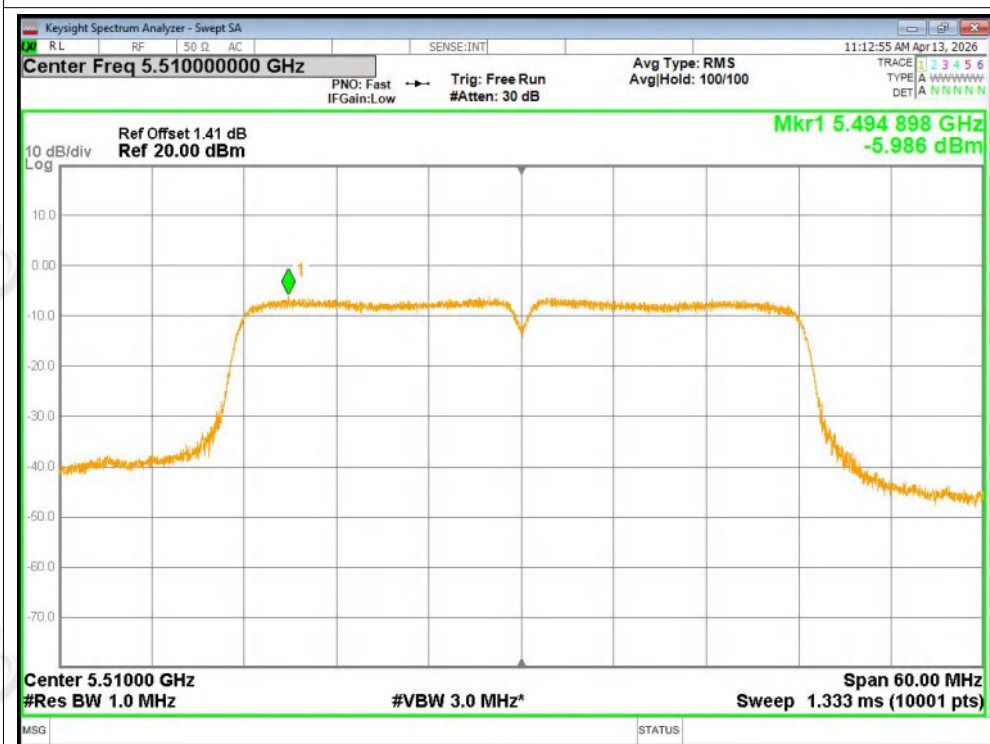
PSD NVNT n20 5600MHz Ant1



PSD NVNT n20 5700MHz Ant1



PSD NVNT n40 5510MHz Ant1

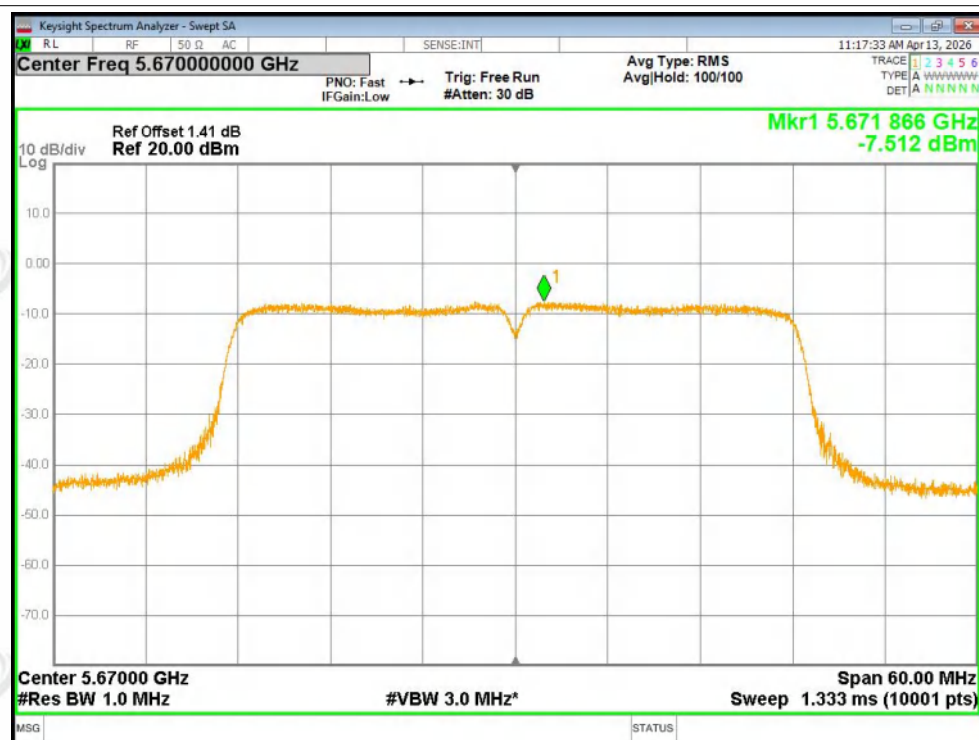


PSD NVNT n40 5550MHz Ant1

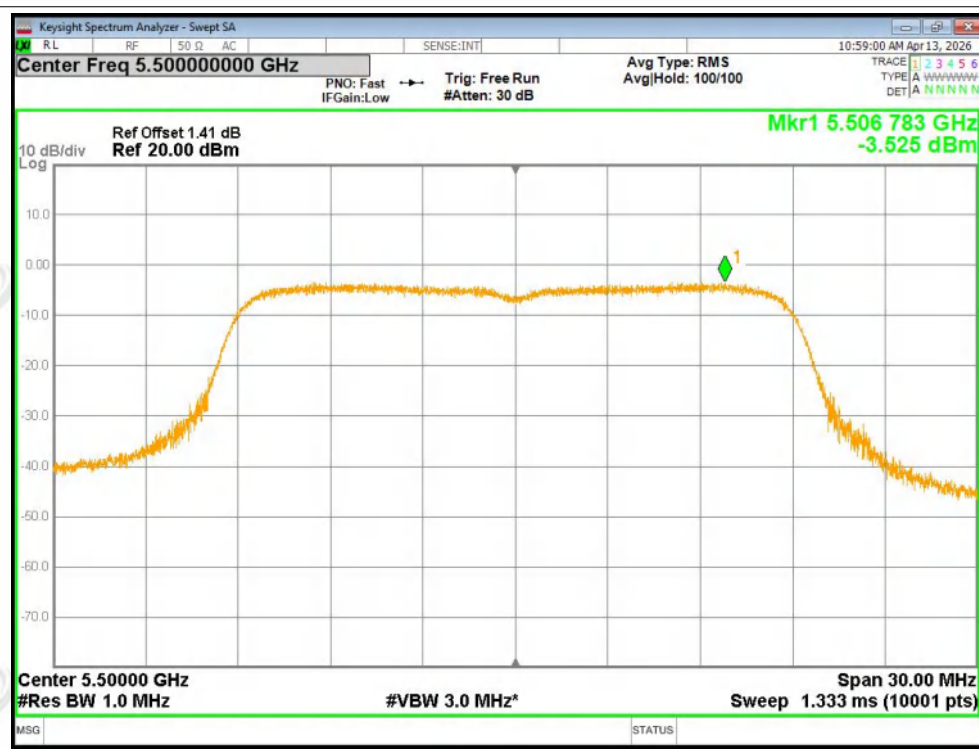




PSD NVNT n40 5670MHz Ant1

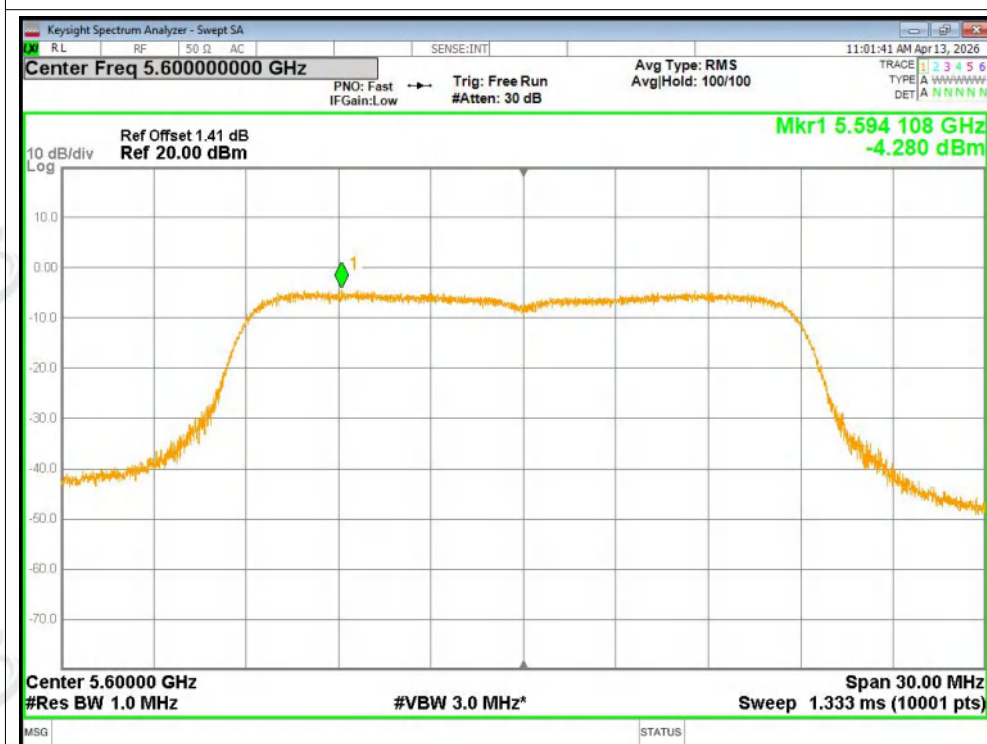


PSD NVNT ac20 5500MHz Ant1

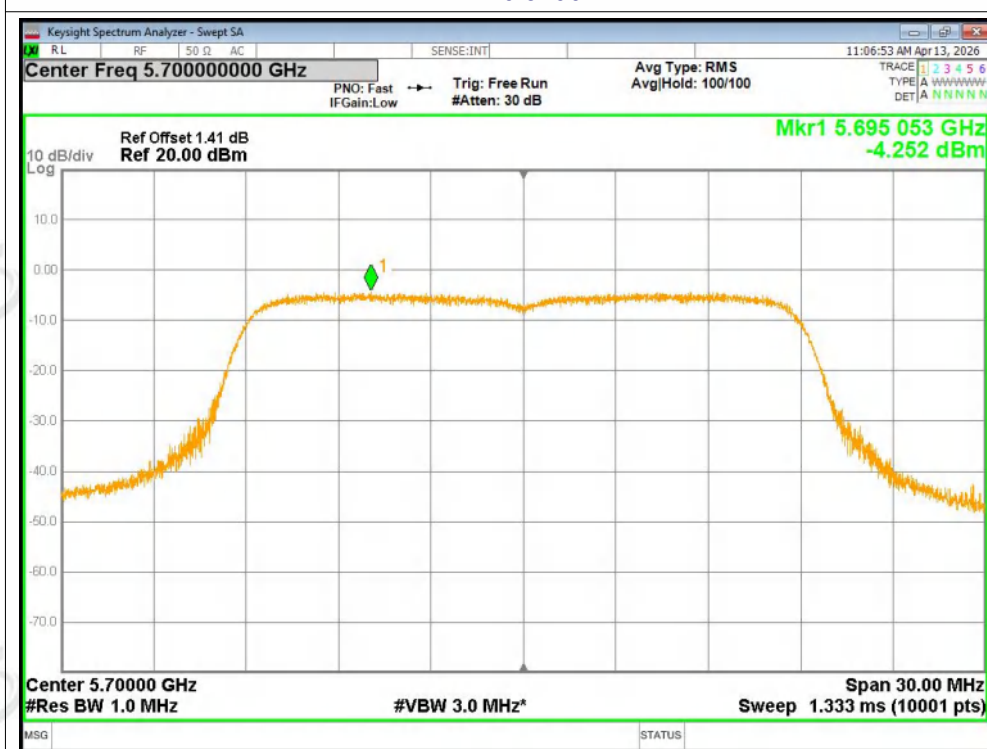




PSD NVNT ac20 5600MHz Ant1

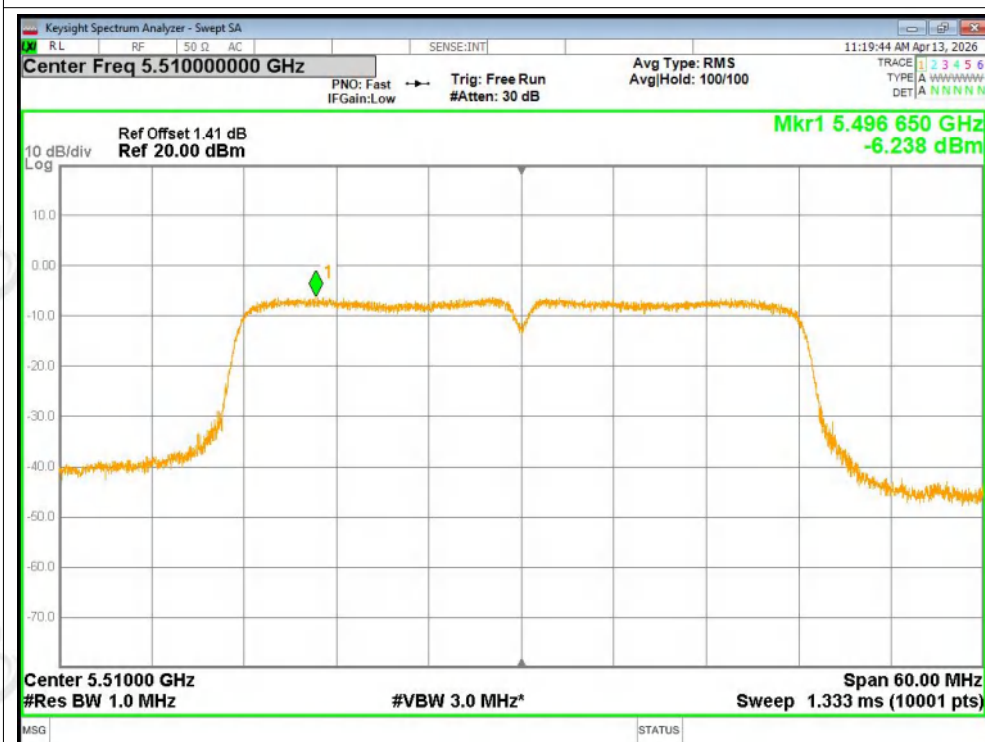


PSD NVNT ac20 5700MHz Ant1

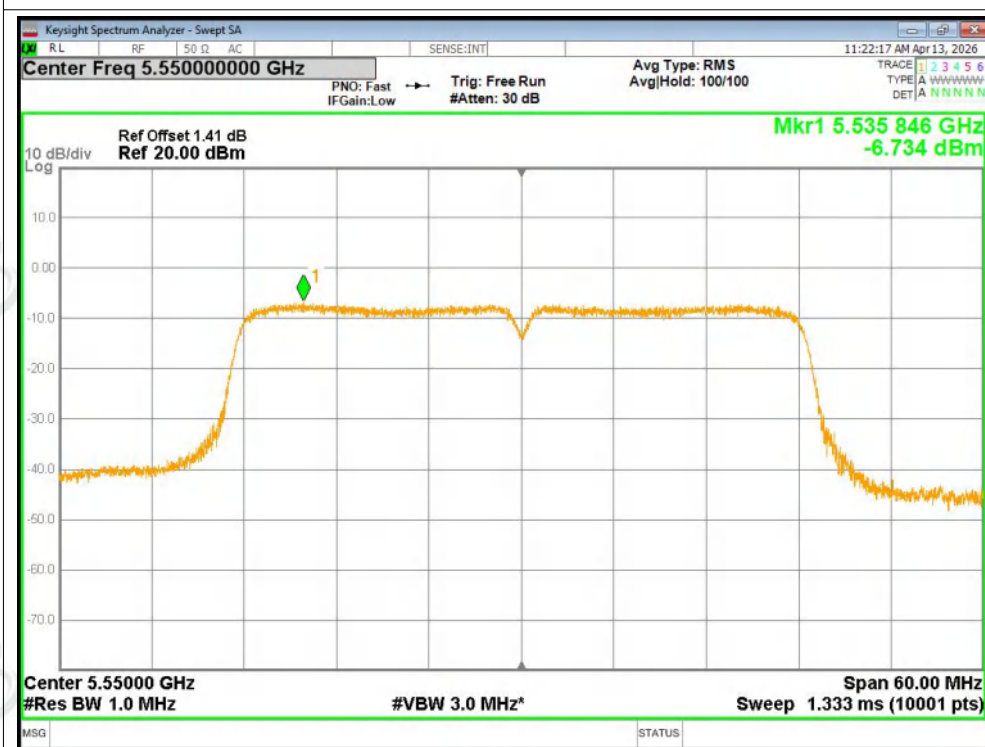




PSD NVNT ac40 5510MHz Ant1

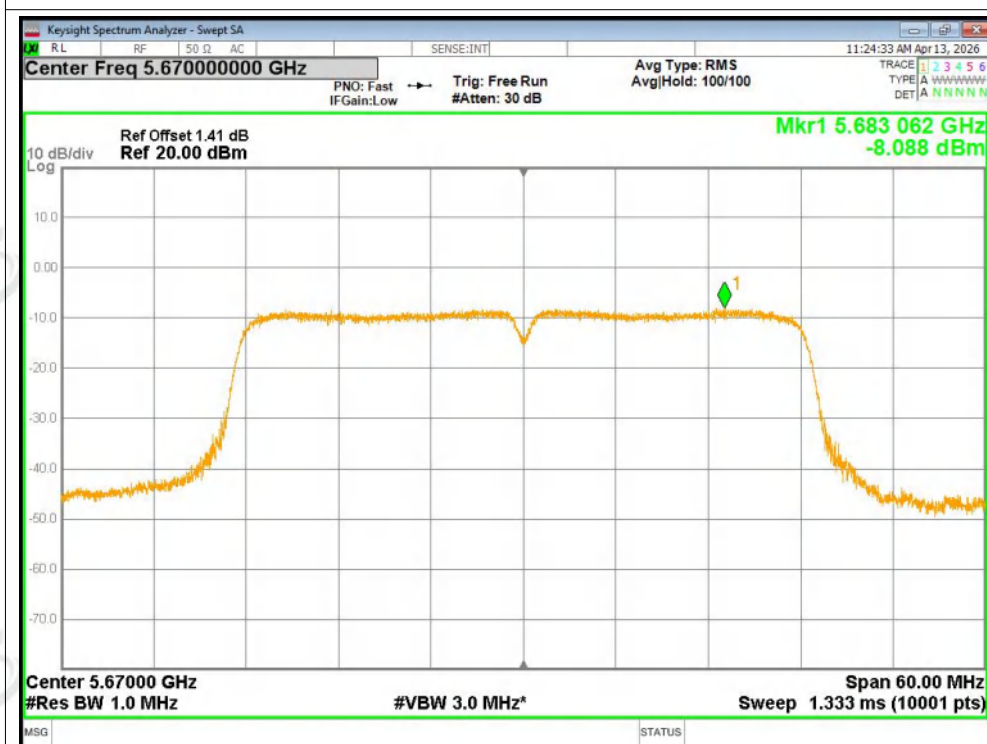


PSD NVNT ac40 5550MHz Ant1

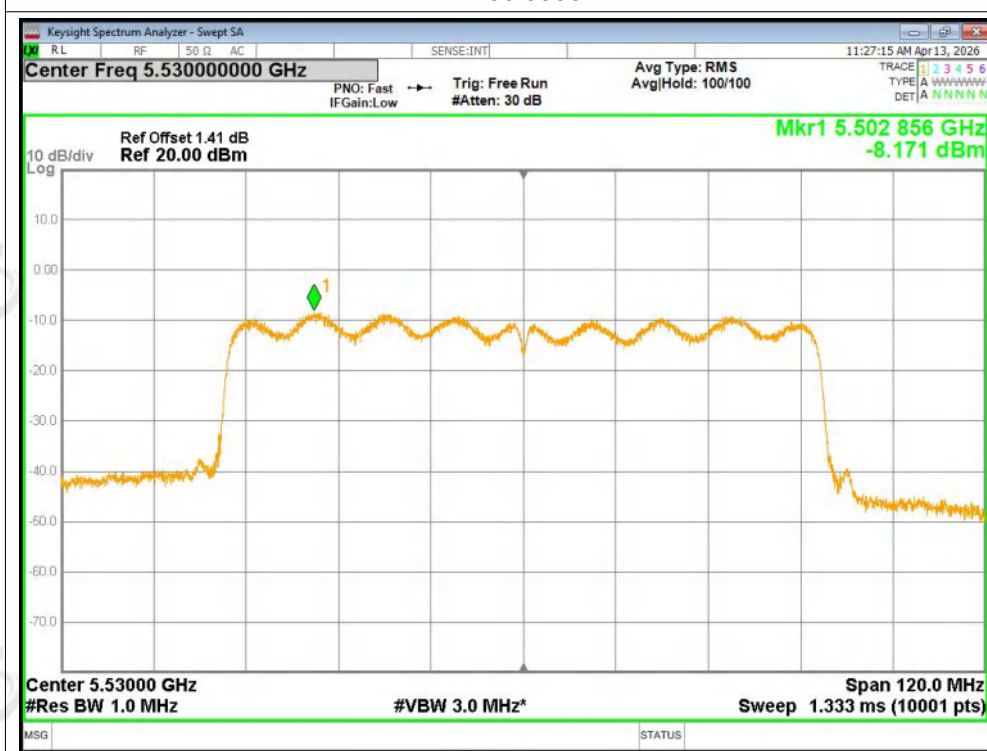




PSD NVNT ac40 5670MHz Ant1

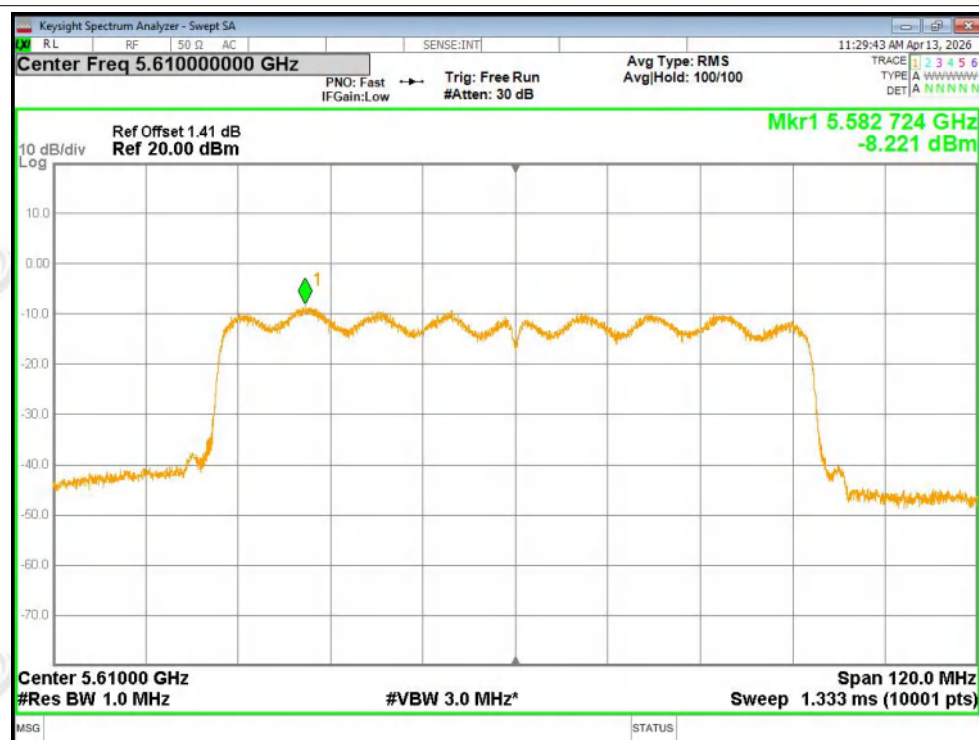


PSD NVNT ac80 5530MHz Ant1

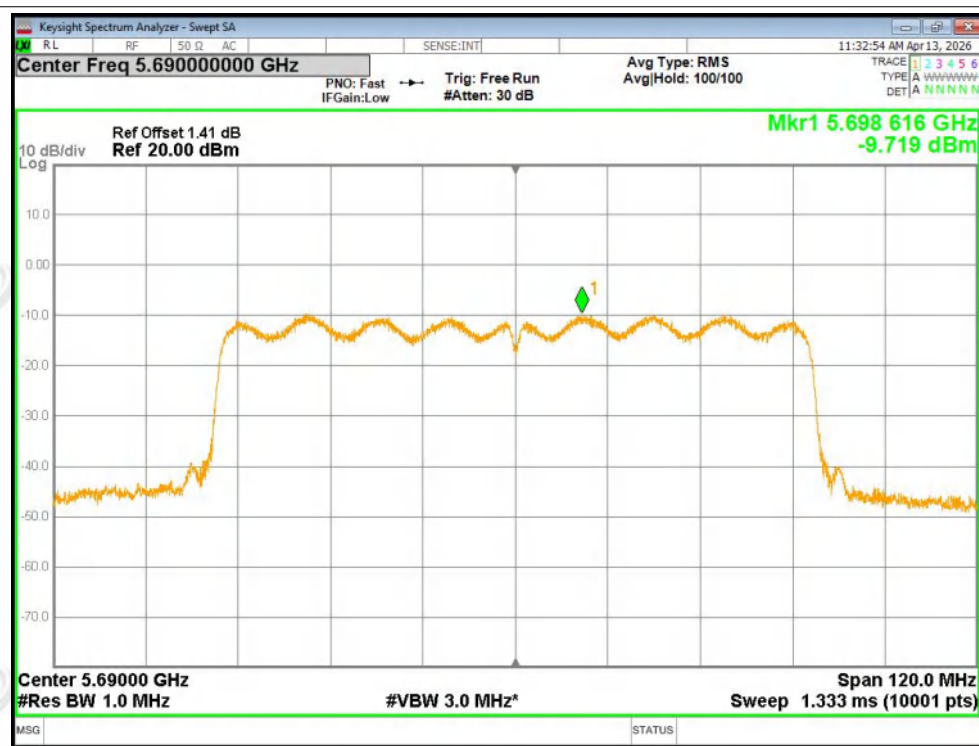




PSD NVNT ac80 5610MHz Ant1



PSD NVNT ac80 5690MHz Ant1



C.6 Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBm)	Antenna gain (dBi)	EIRP Value (dBm)	Limit (dBm)	Verdict
NVNT	a	5500	Ant1	-44.40	4.2	-40.20	-27	Pass
NVNT	a	5700	Ant1	-45.42	4.2	-41.22	-27	Pass
NVNT	n20	5500	Ant1	-41.97	4.2	-37.77	-27	Pass
NVNT	n20	5700	Ant1	-43.08	4.2	-38.88	-27	Pass
NVNT	n40	5510	Ant1	-31.24	4.2	-27.04	-27	Pass
NVNT	n40	5670	Ant1	-47.66	4.2	-43.46	-27	Pass
NVNT	ac20	5500	Ant1	-44.01	4.2	-39.81	-27	Pass
NVNT	ac20	5700	Ant1	-45.71	4.2	-41.51	-27	Pass
NVNT	ac40	5510	Ant1	-31.13	4.2	-26.93	-27	Pass
NVNT	ac40	5670	Ant1	-47.88	4.2	-43.68	-27	Pass
NVNT	ac80	5530	Ant1	-30.02	4.2	-25.82	-27	Pass