

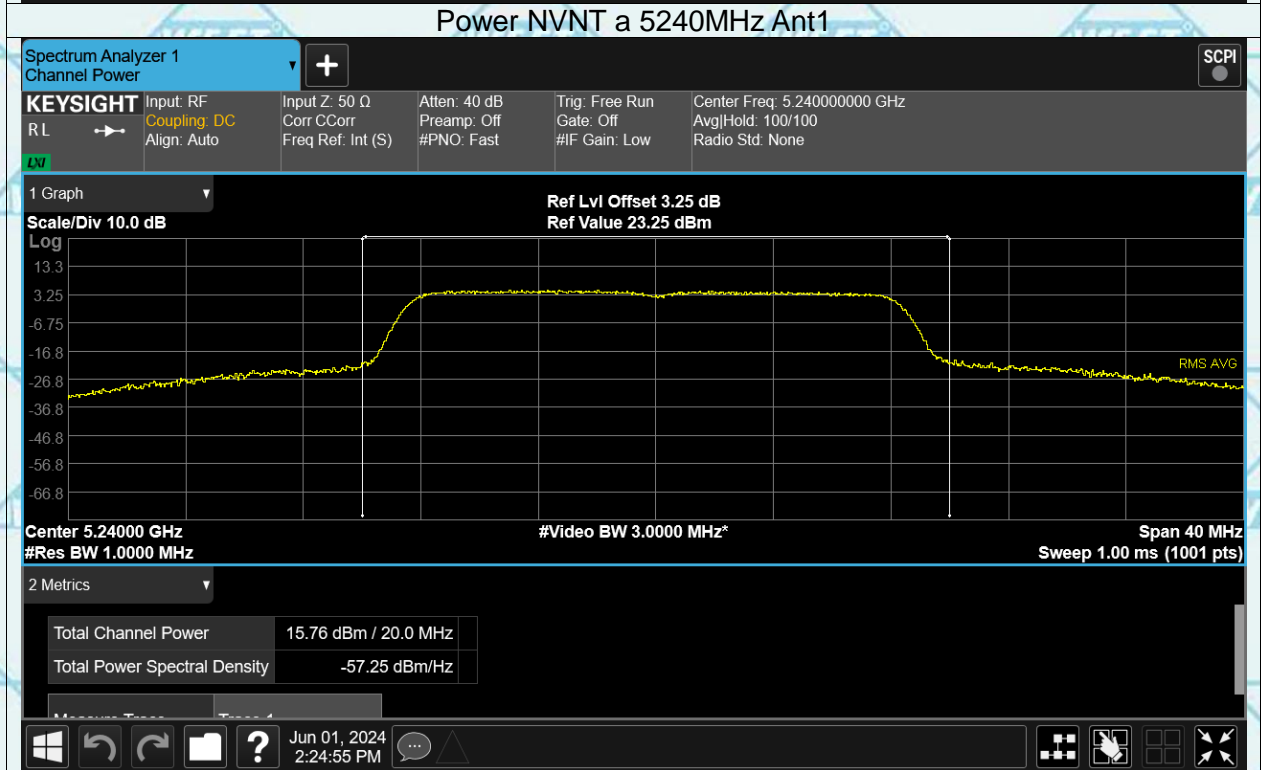
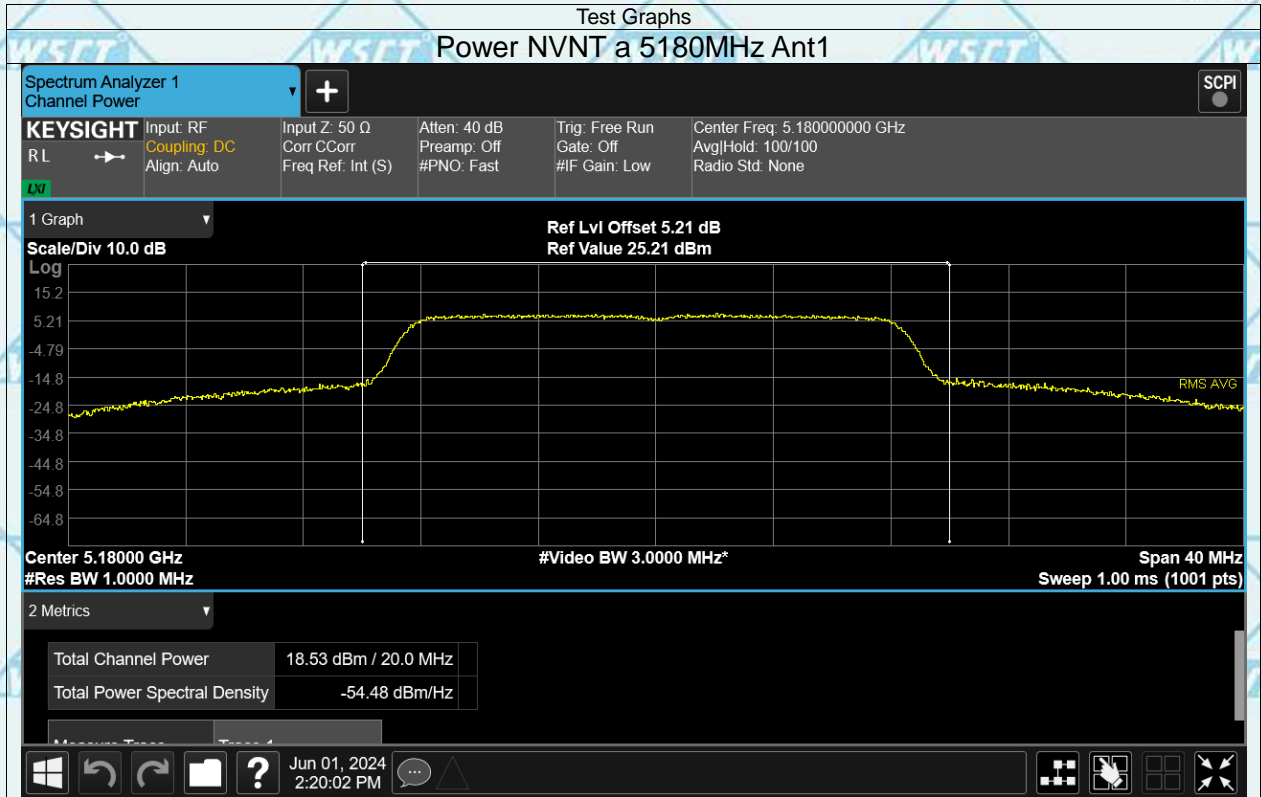


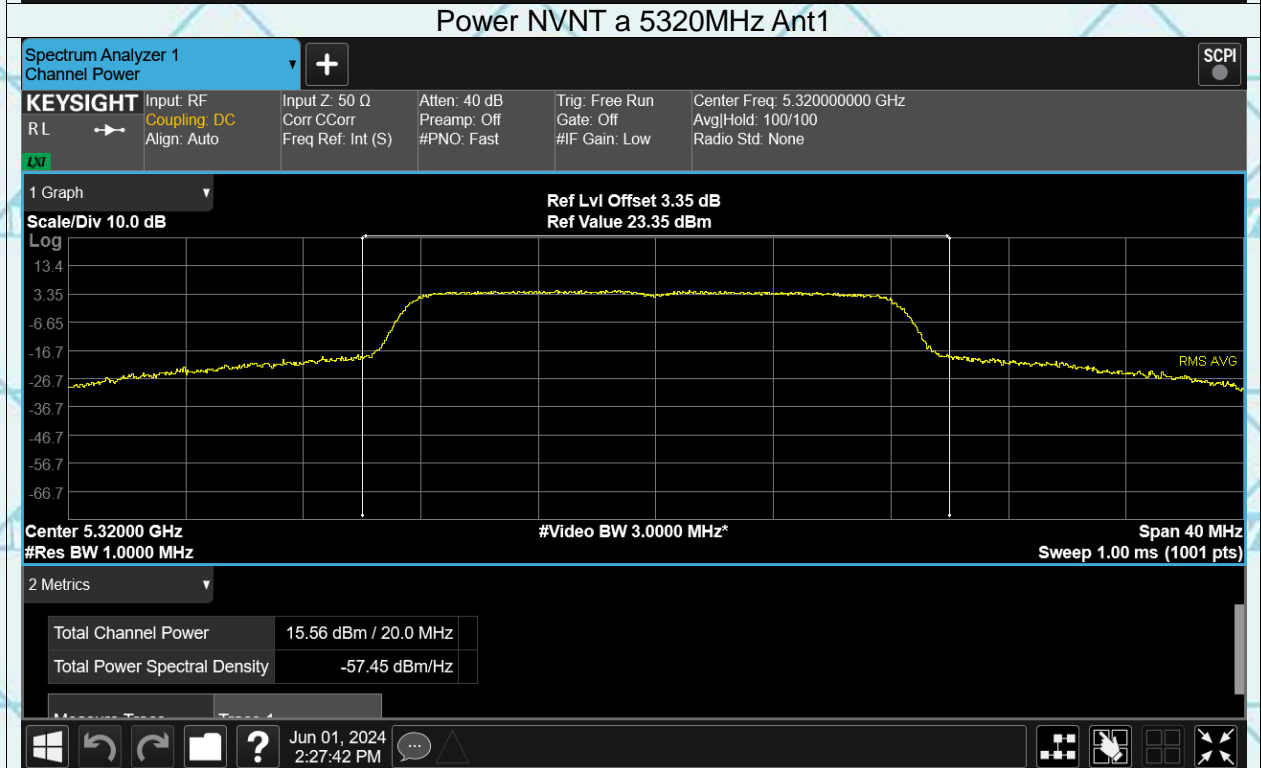
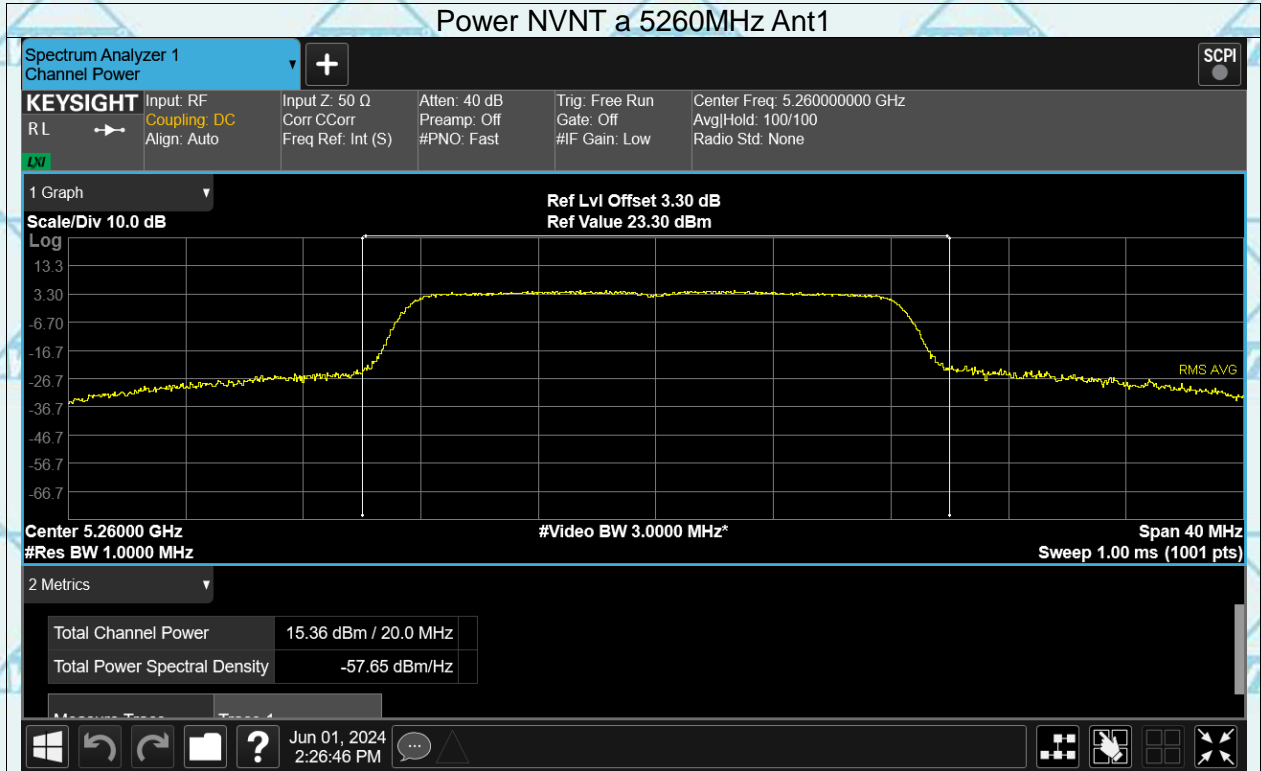
Report No.: WSCT-A2LA-R&E240300014A-Wi-Fi2

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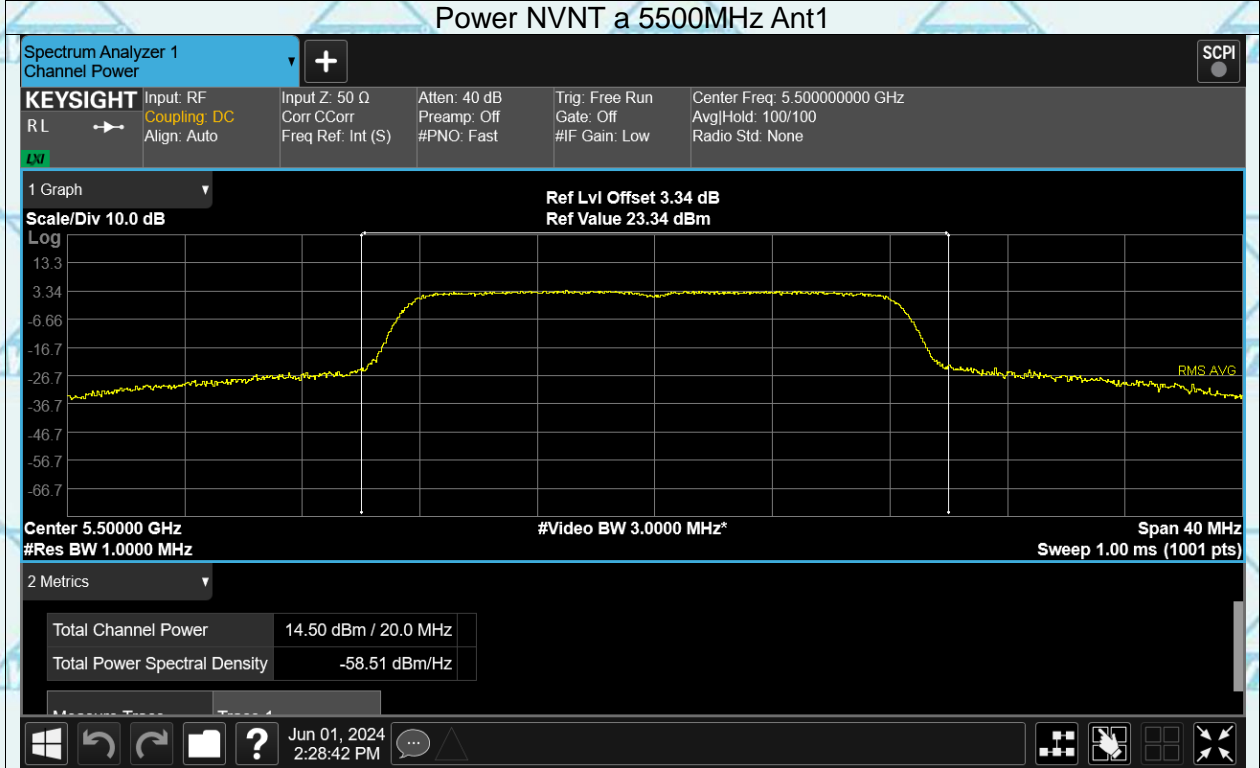
### AUX Ant2



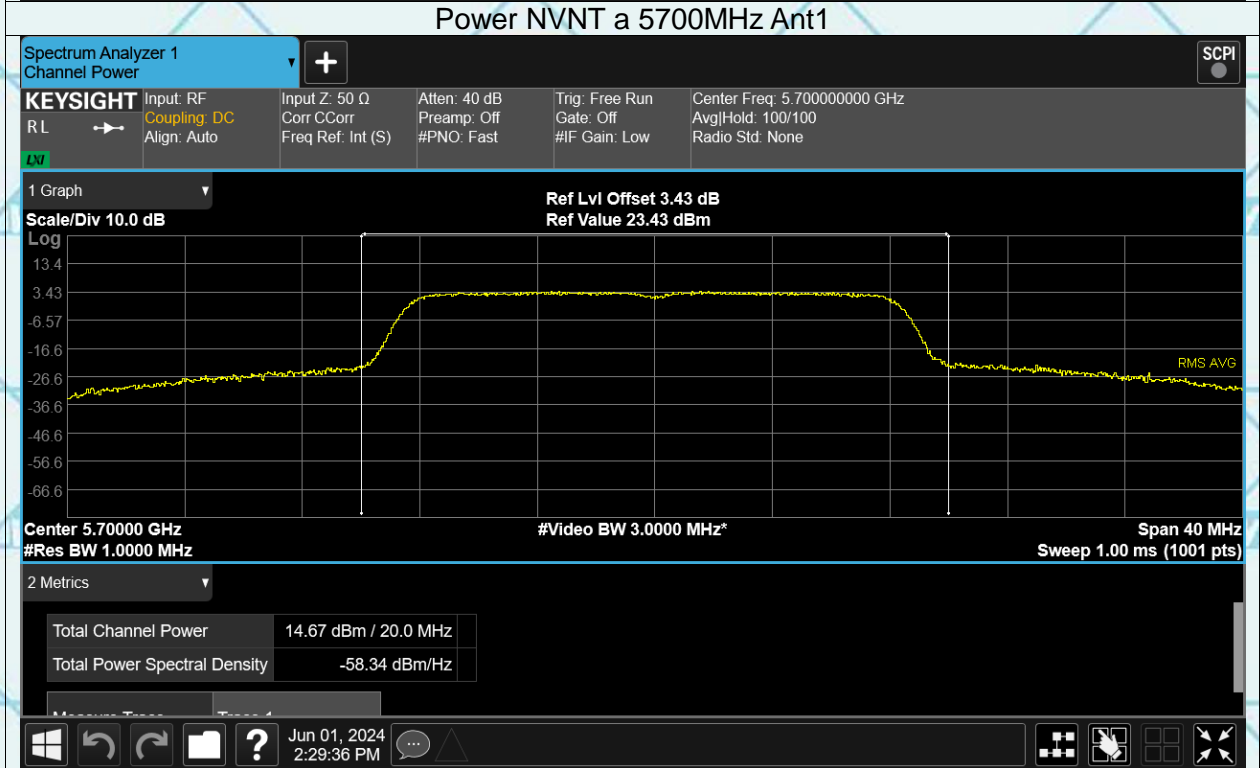




Power NVNT a 5500MHz Ant1

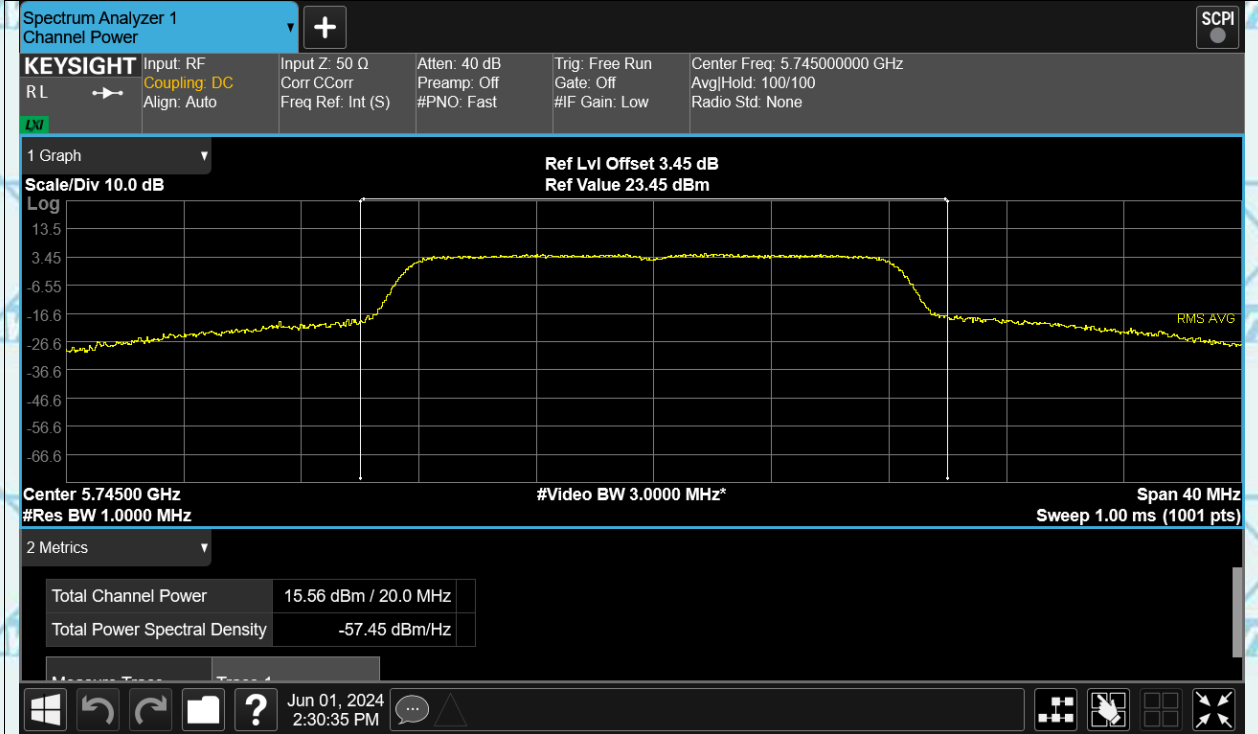


Power NVNT a 5700MHz Ant1

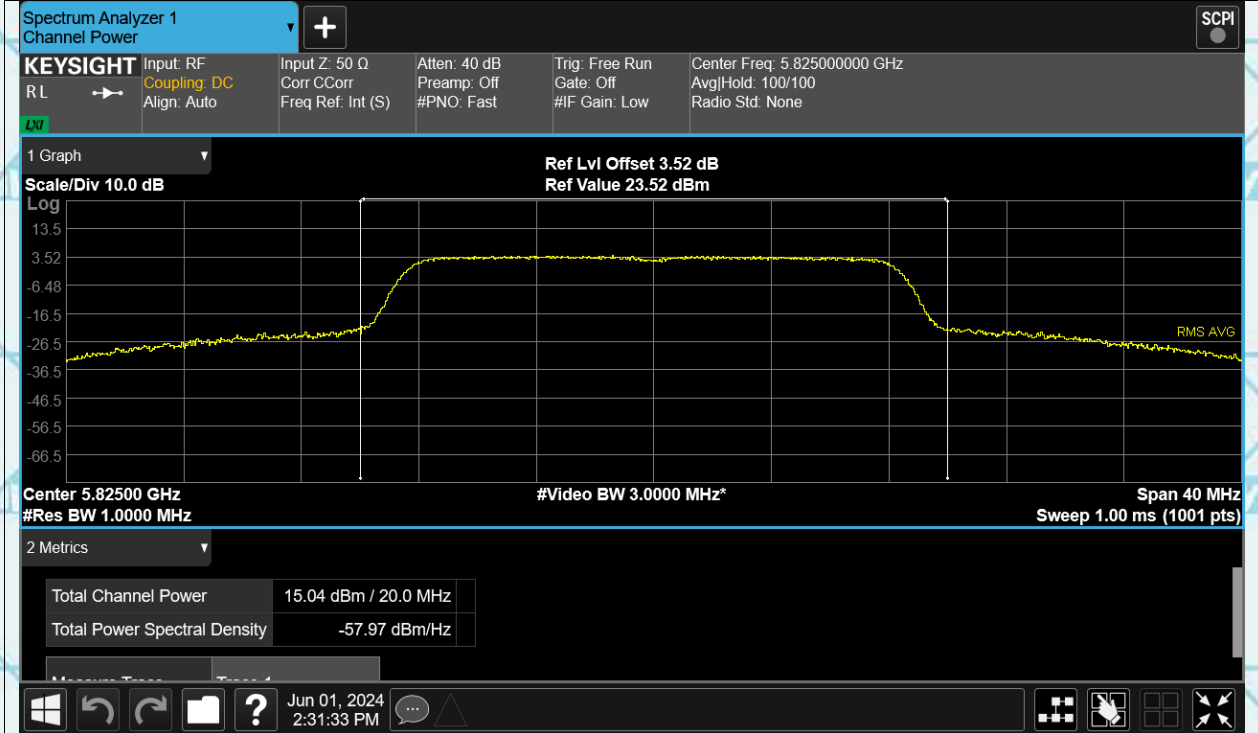




Power NVNT a 5745MHz Ant1



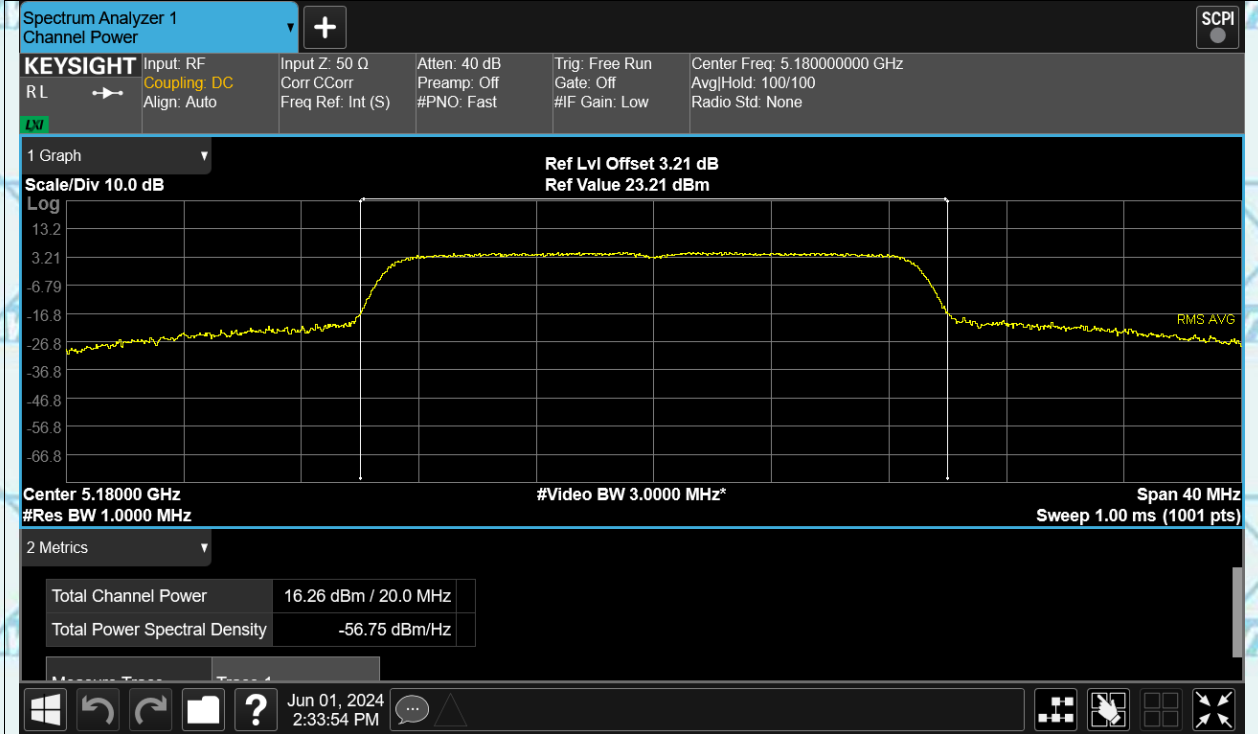
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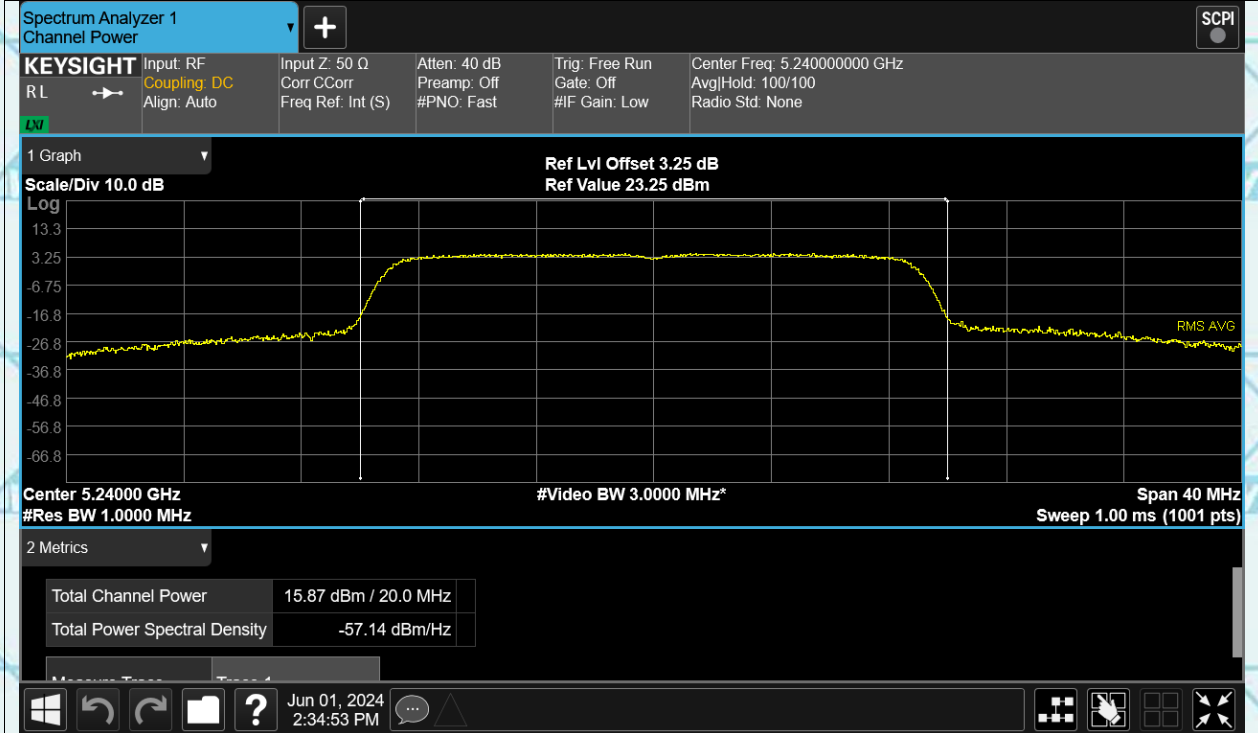


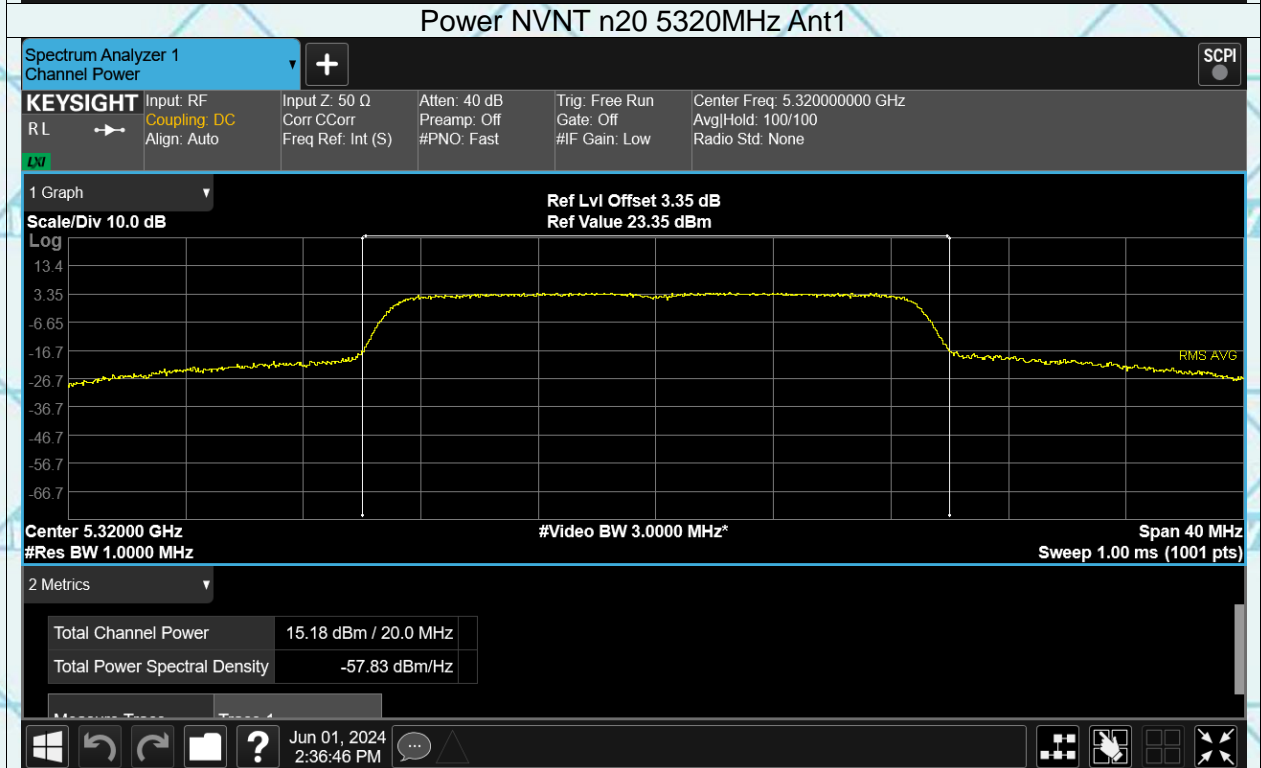
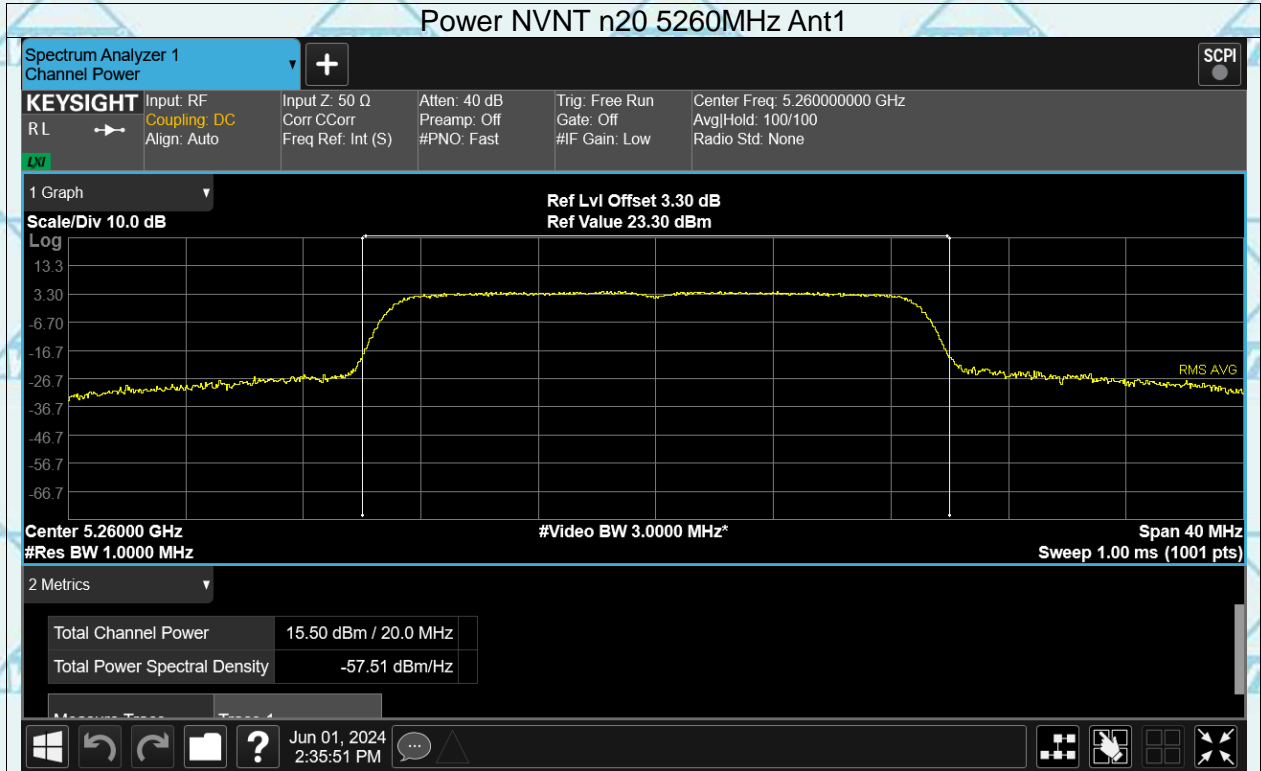


Power NVNT n20 5180MHz Ant1



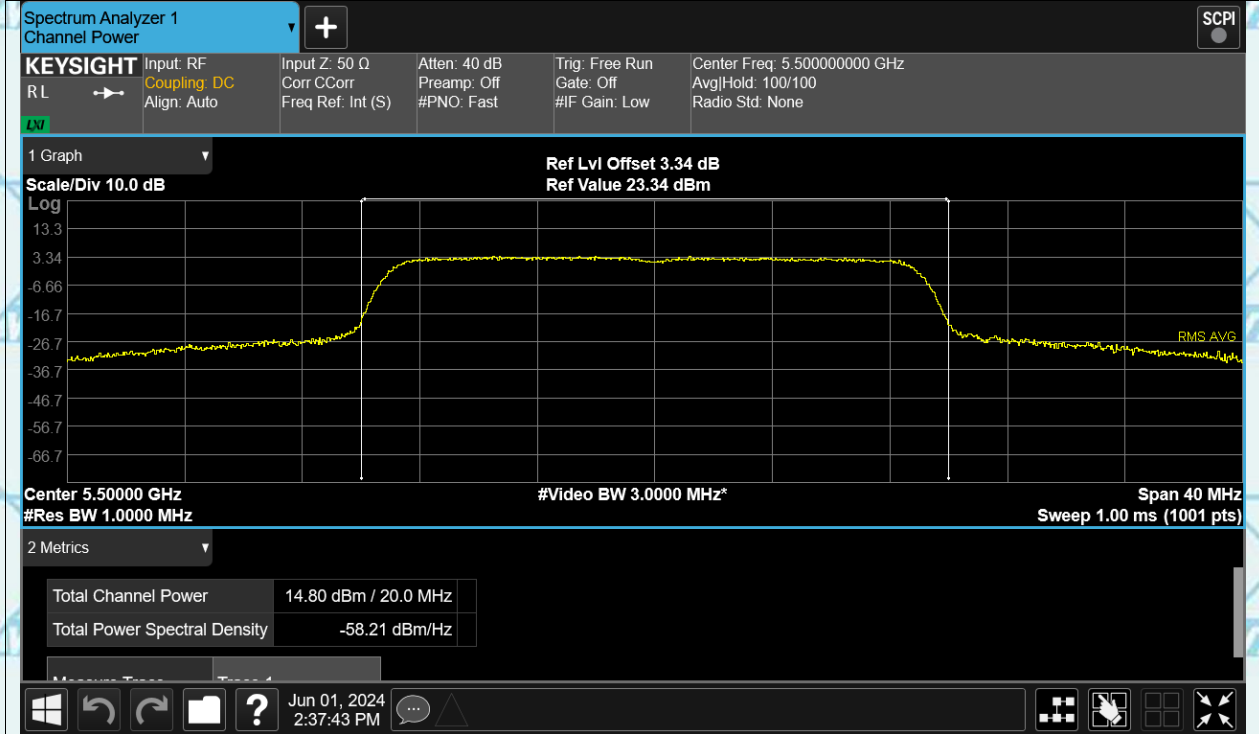
Power NVNT n20 5240MHz Ant1



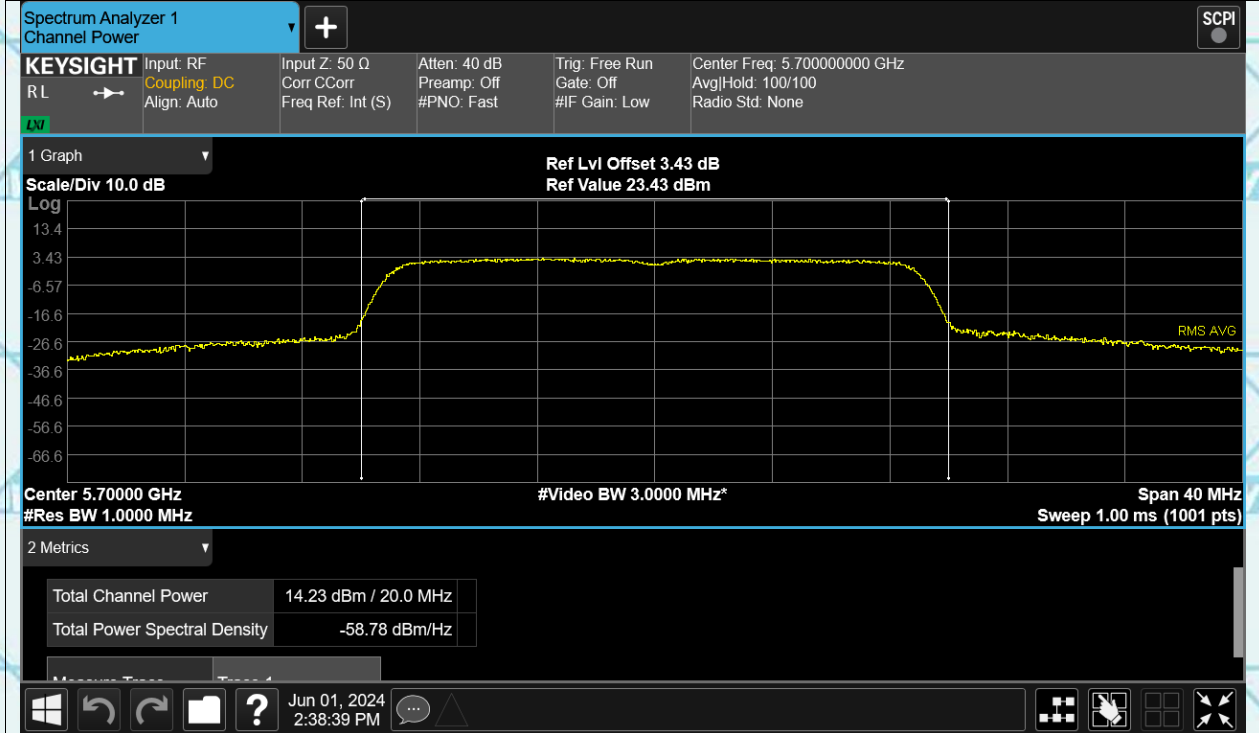


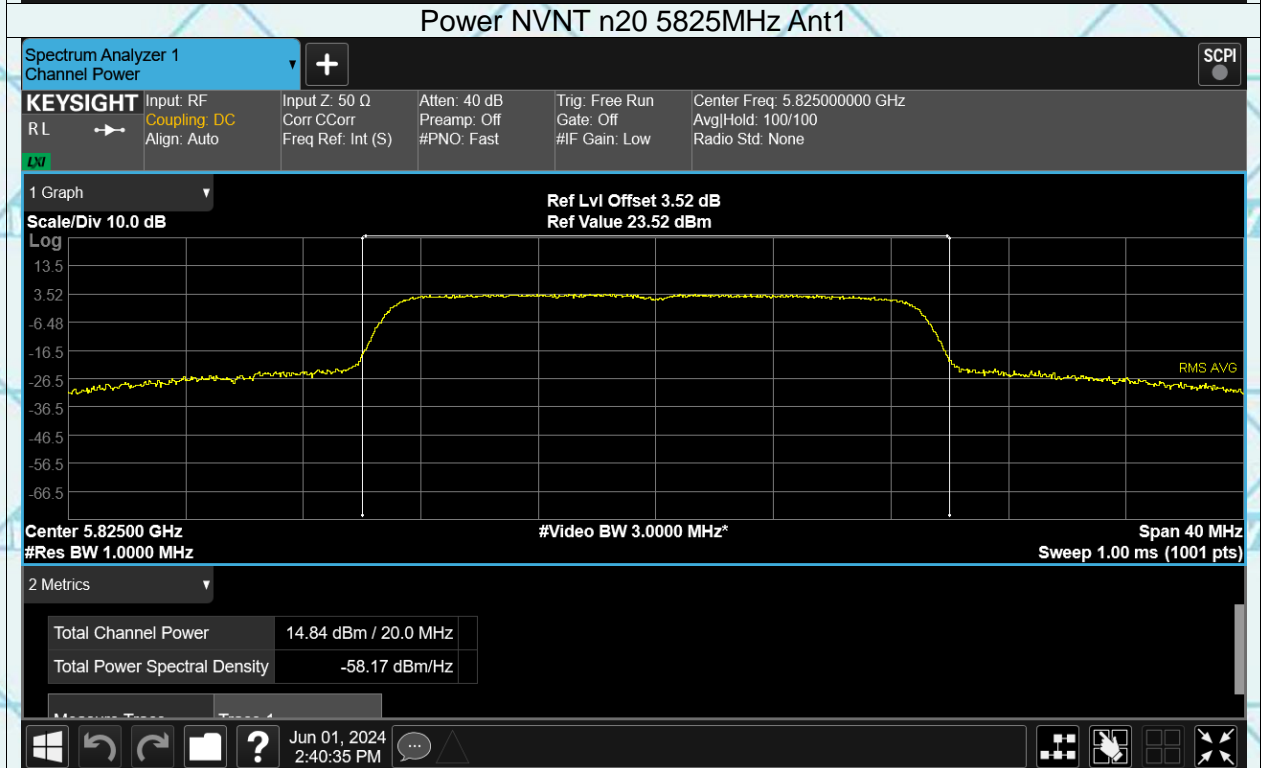
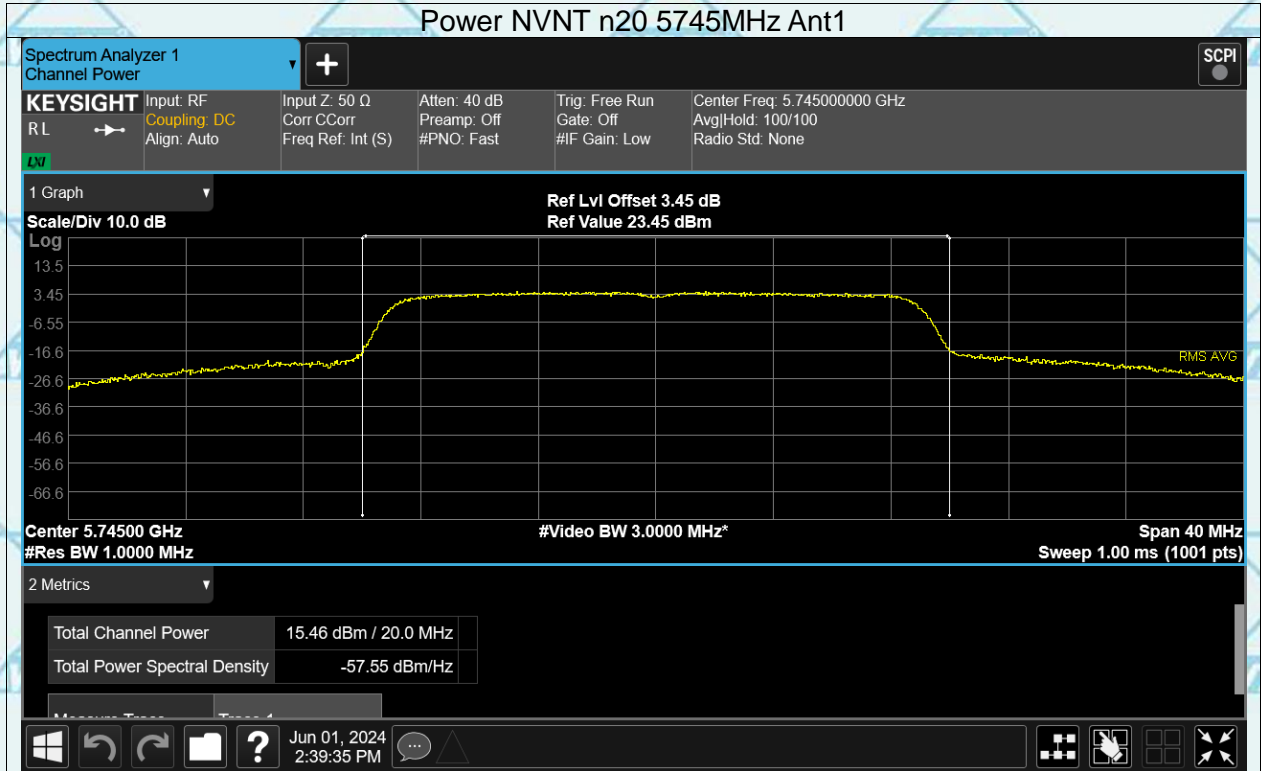


Power NVNT n20 5500MHz Ant1



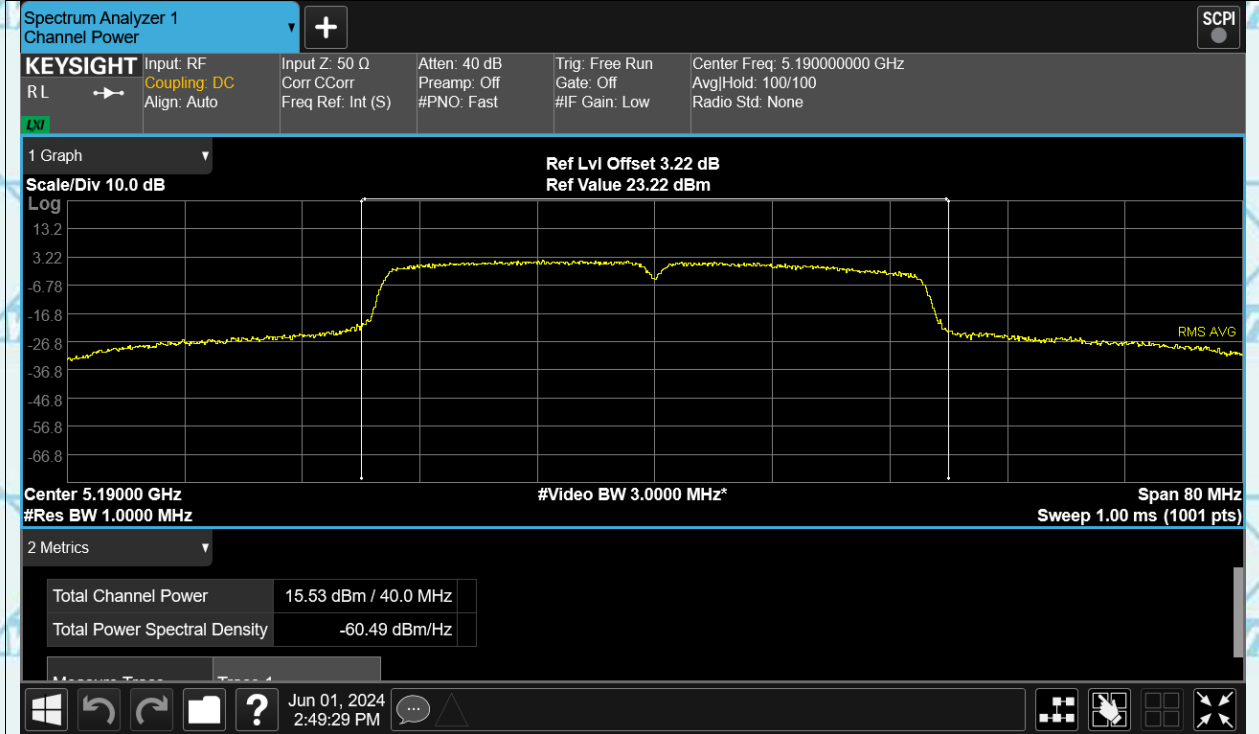
Power NVNT n20 5700MHz Ant1



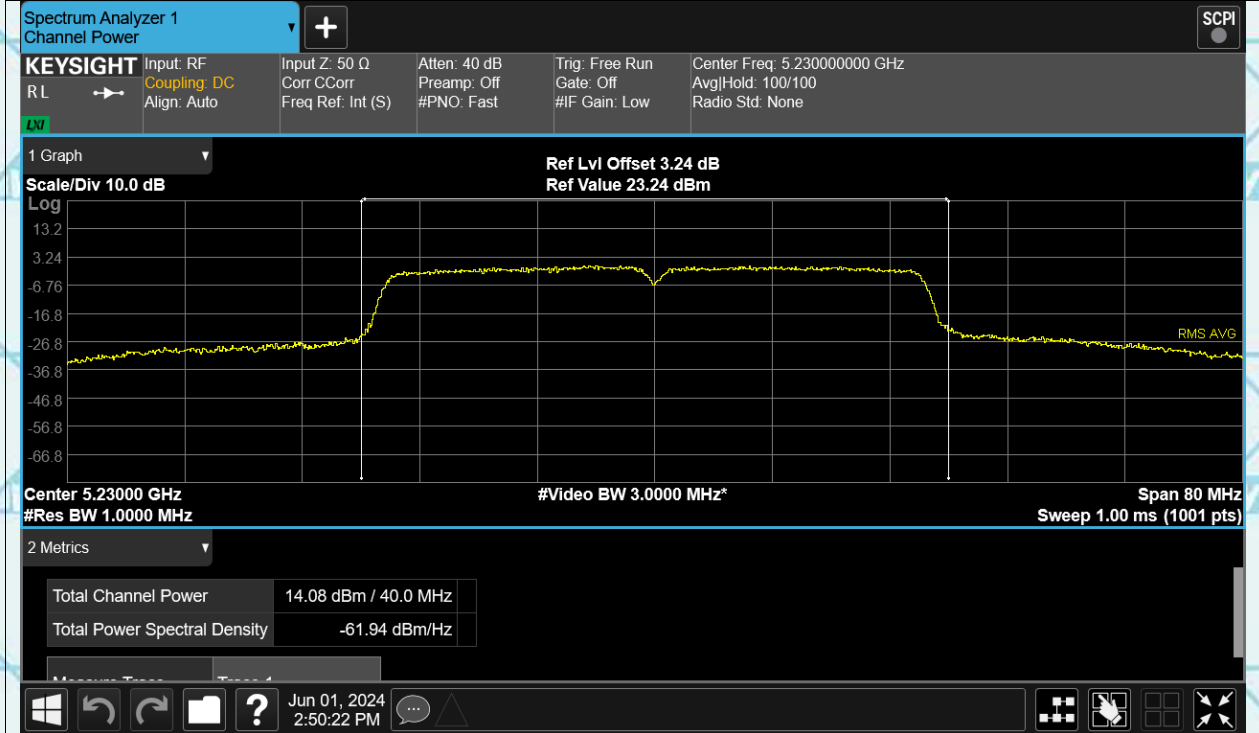


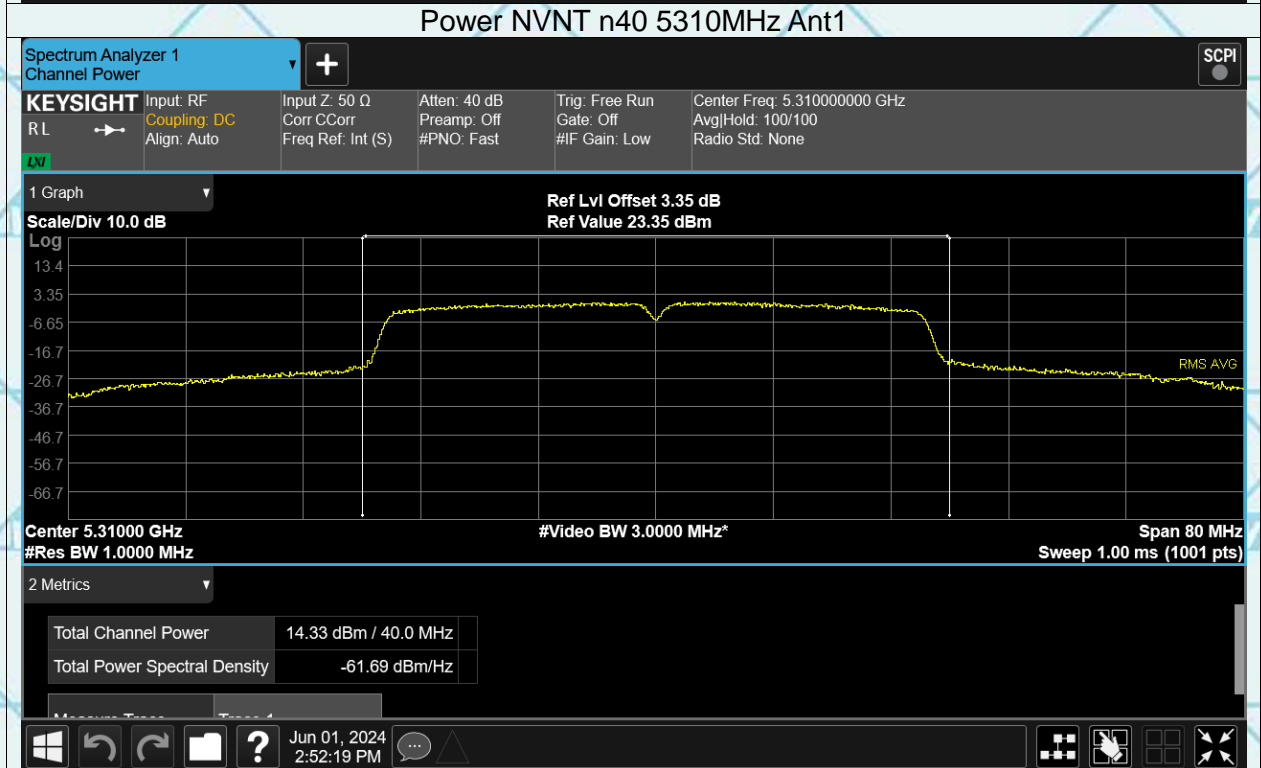
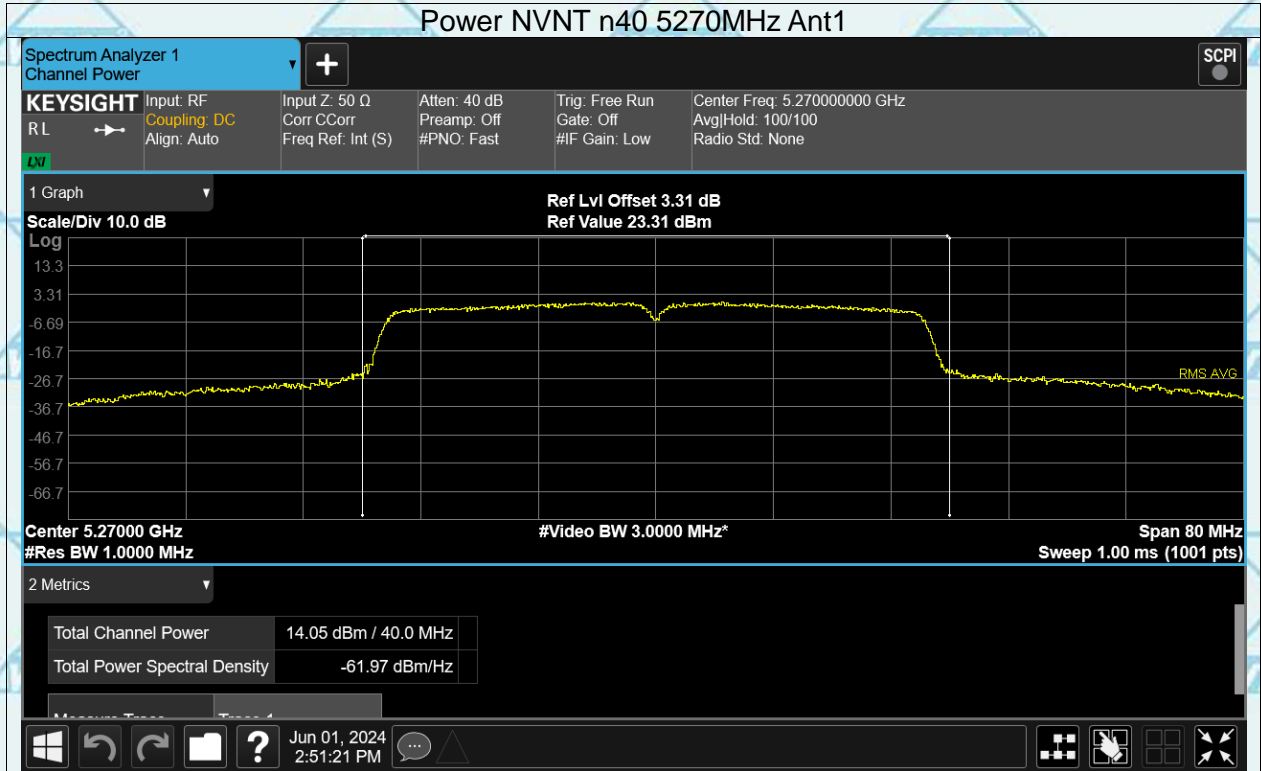


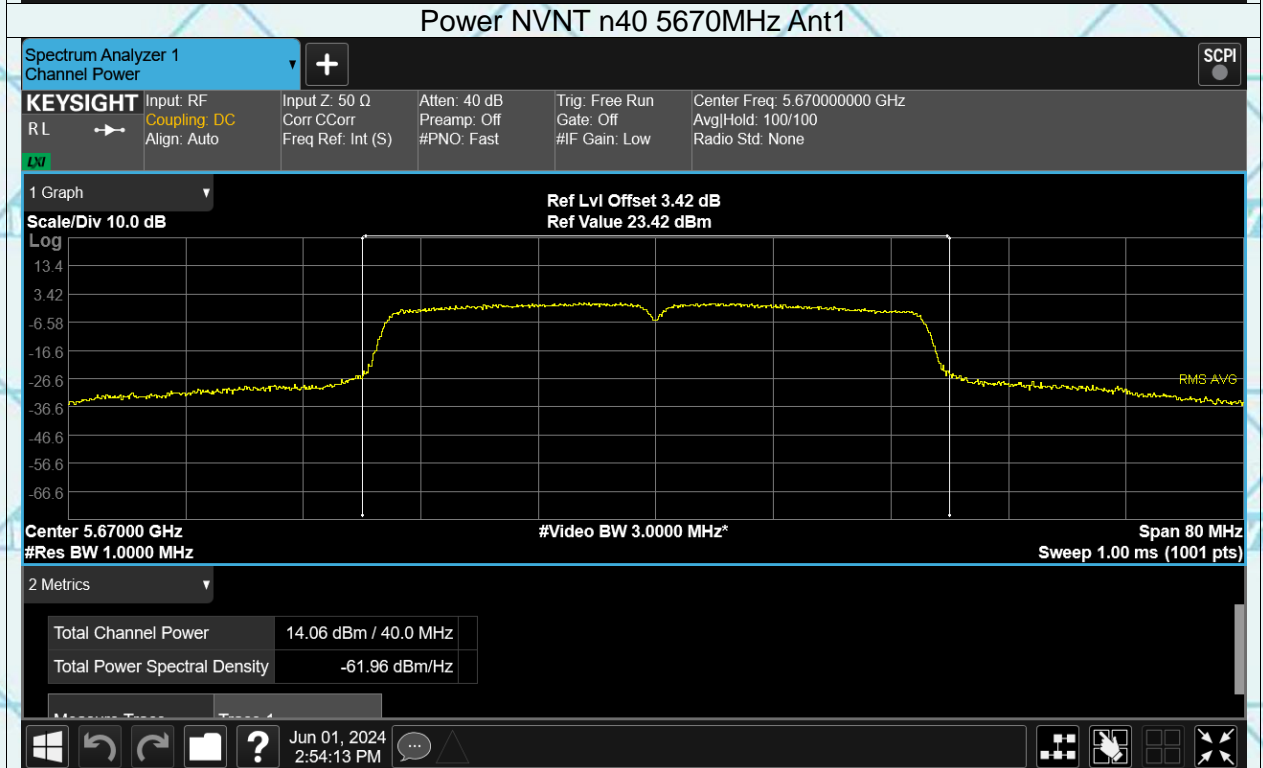
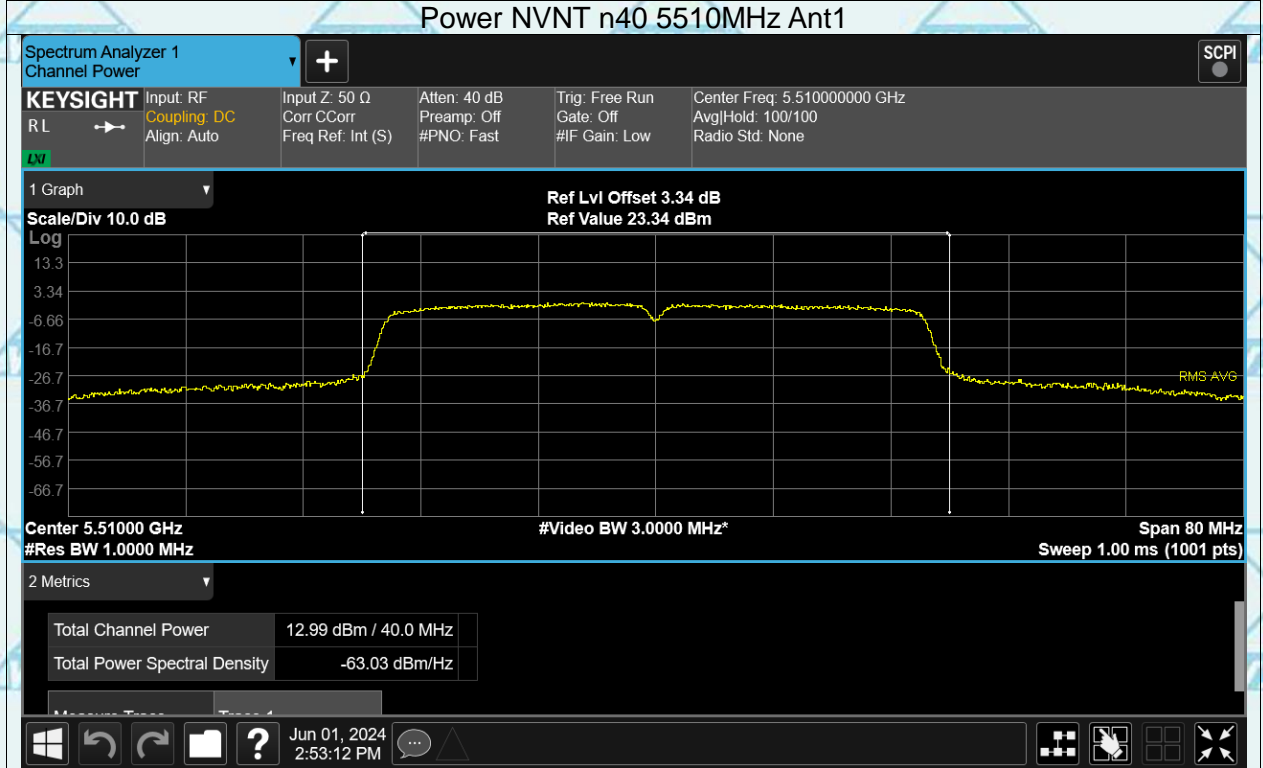
Power NVNT n40 5190MHz Ant1

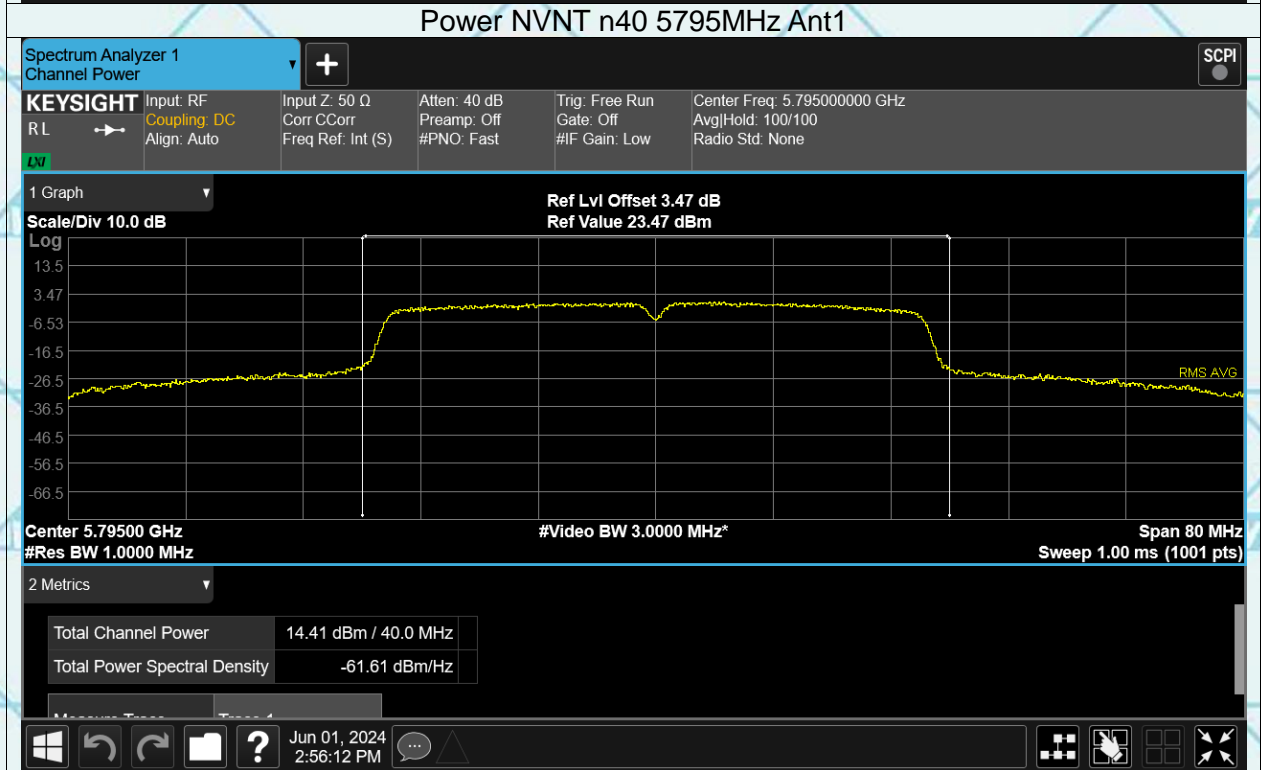
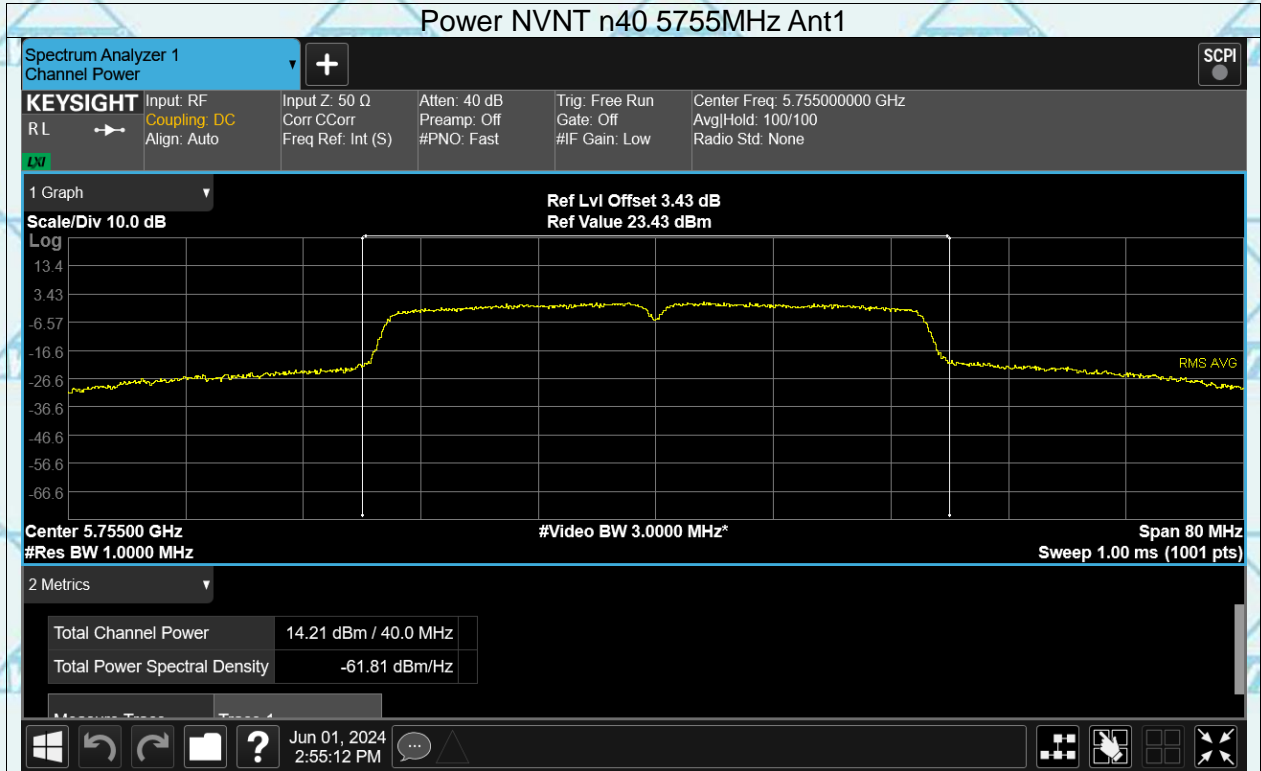


Power NVNT n40 5230MHz Ant1

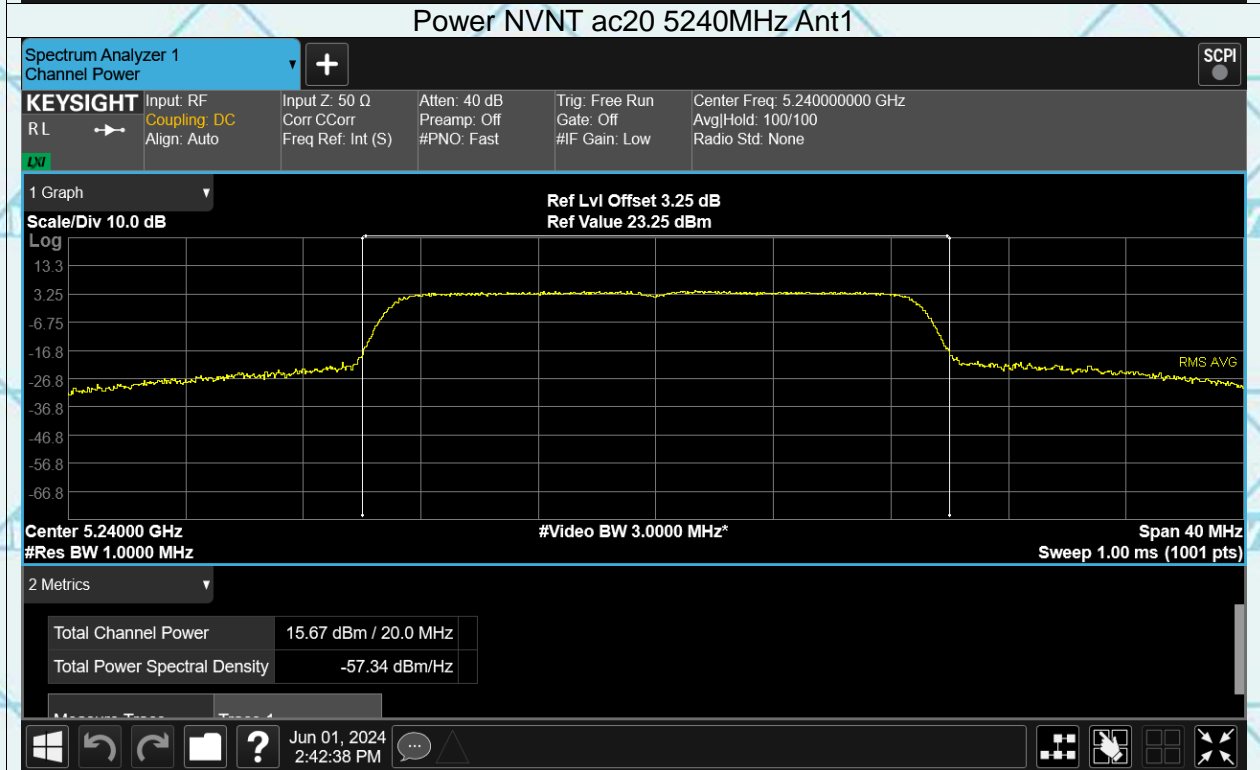
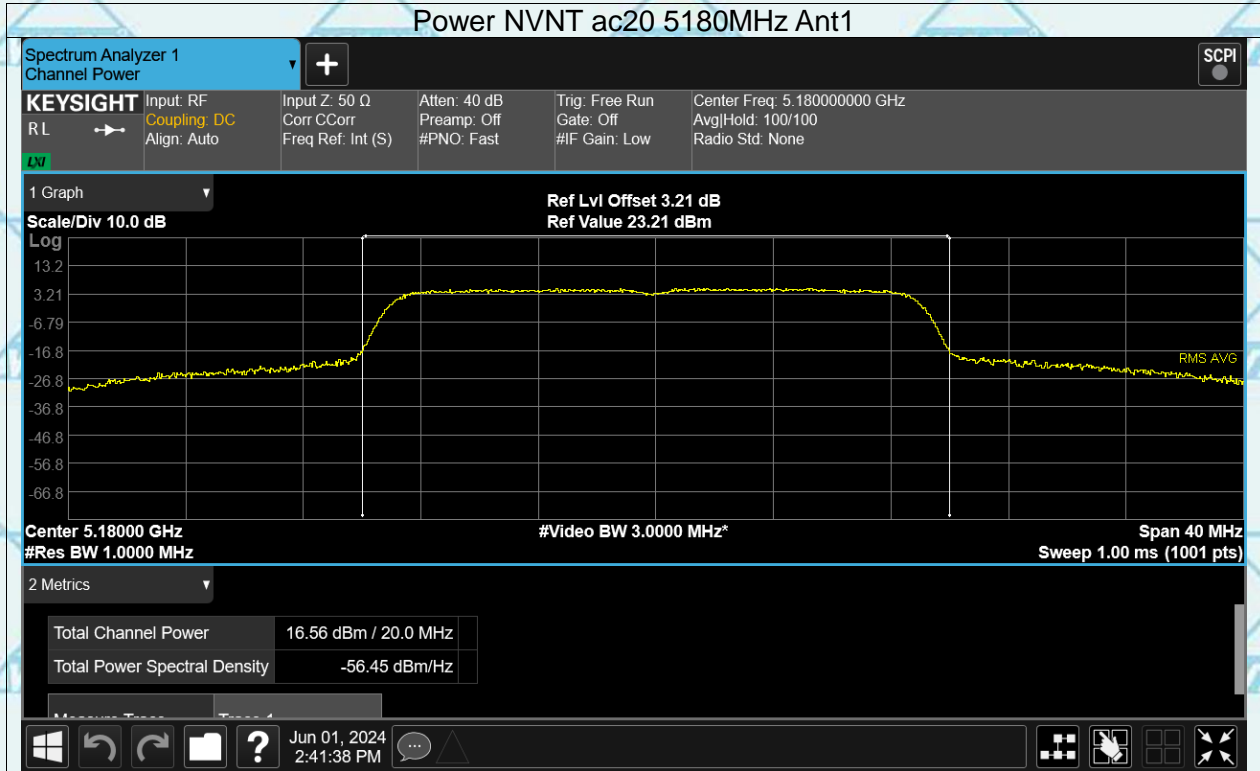


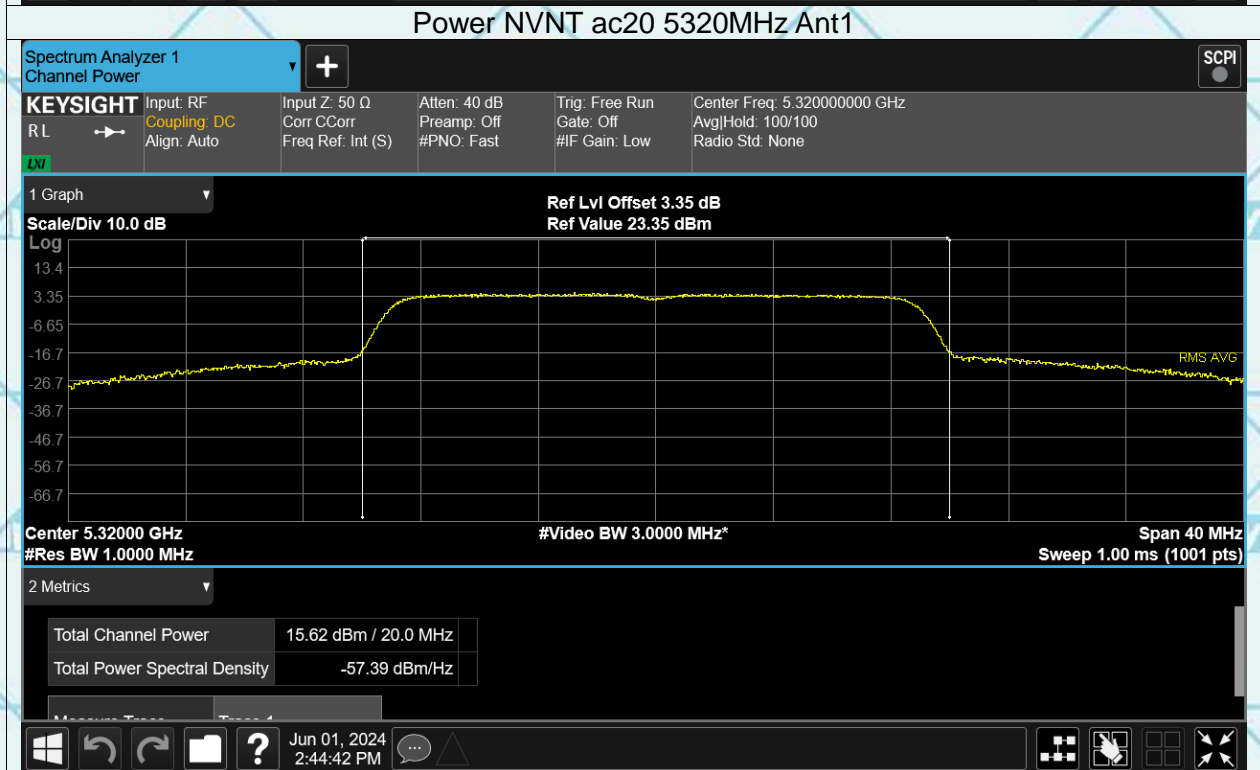
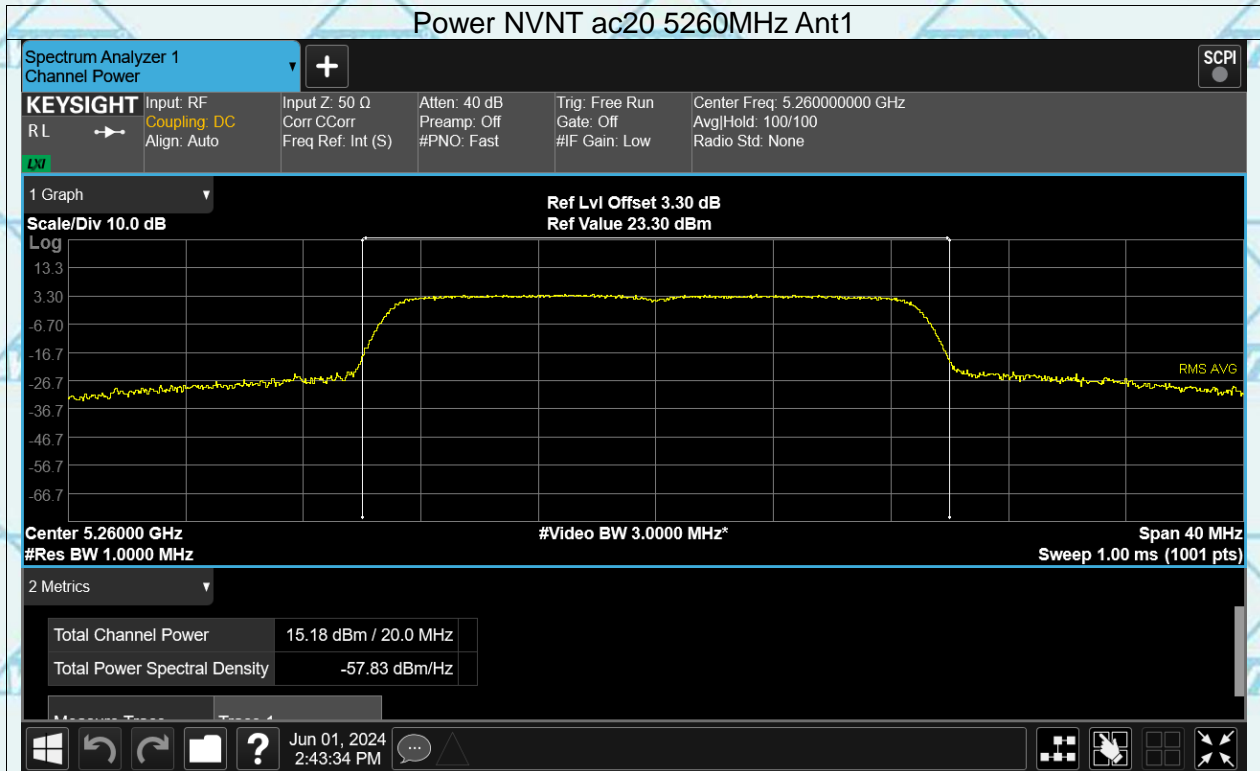


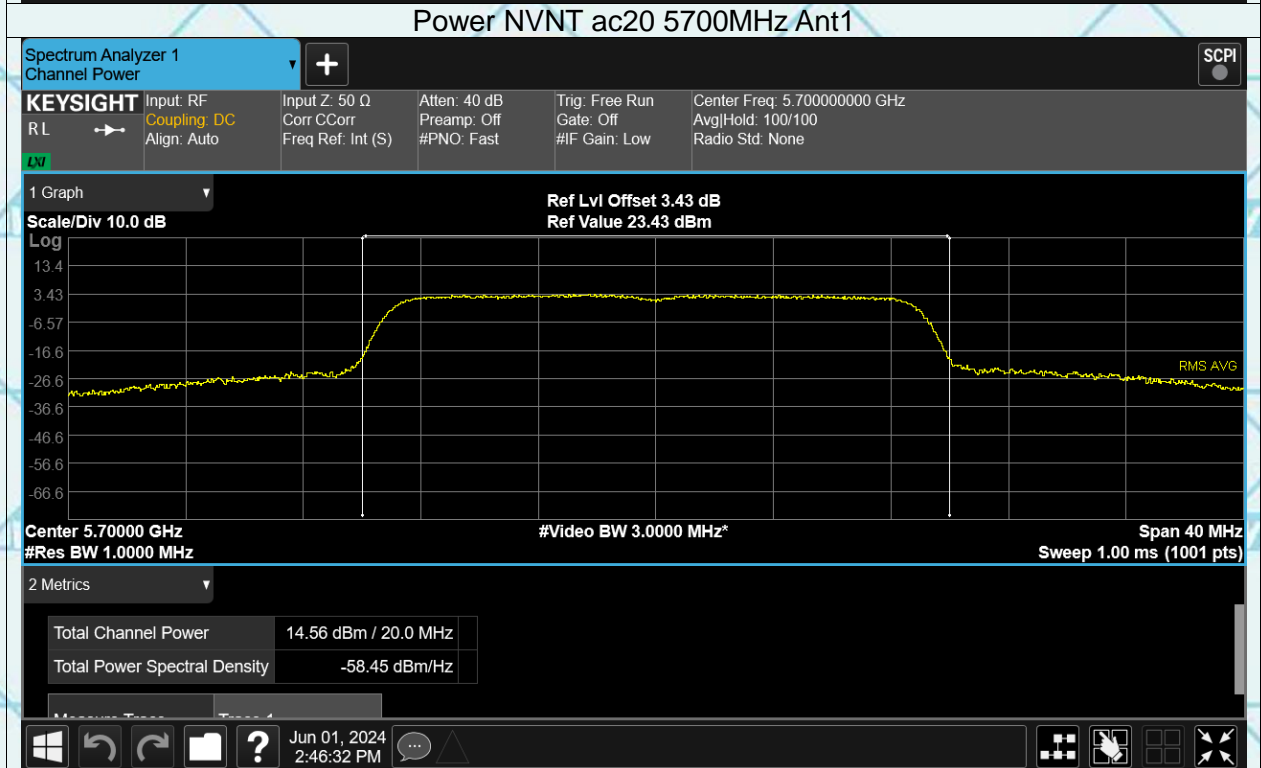
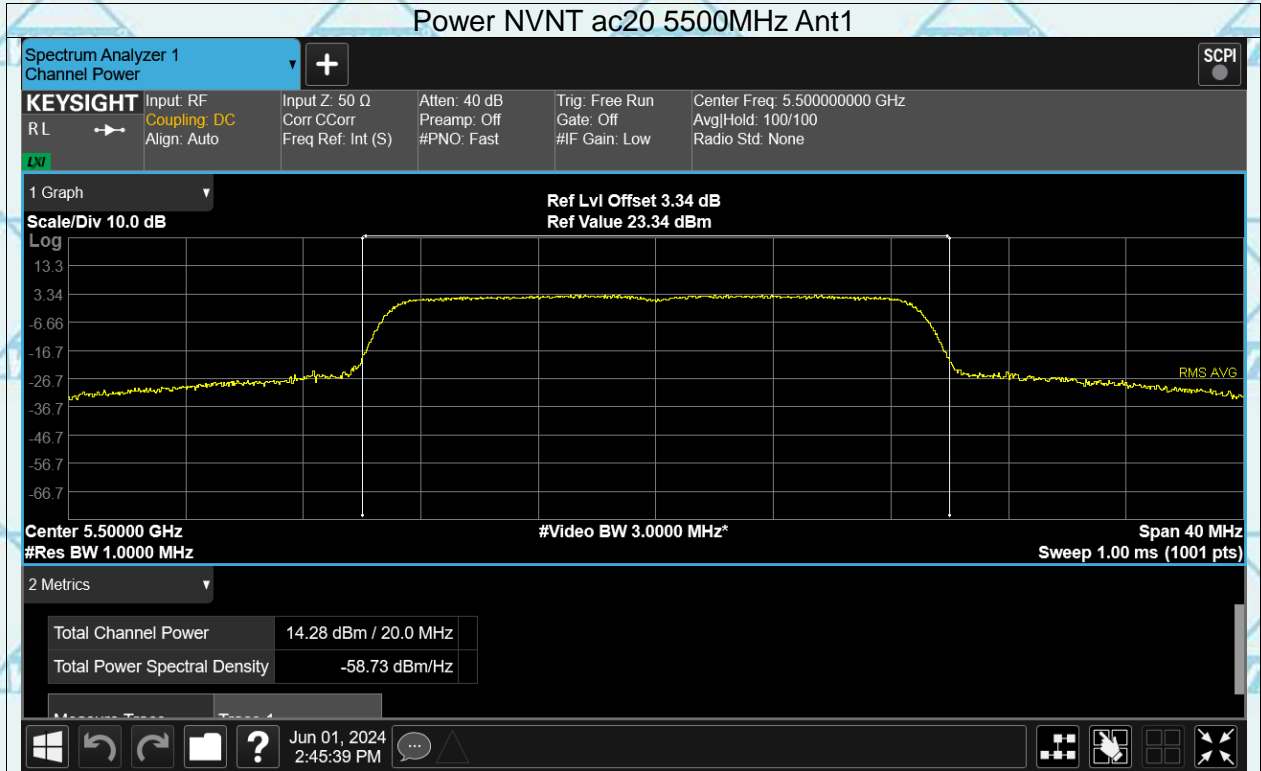


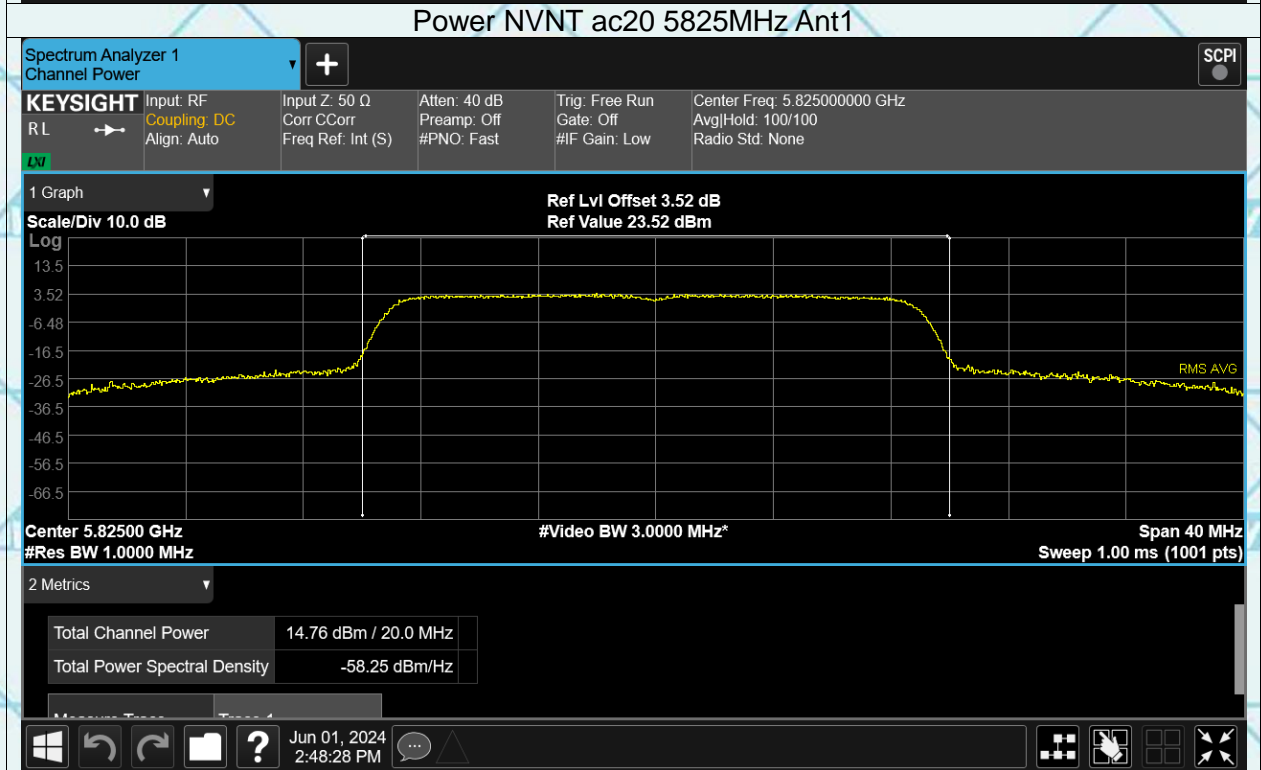
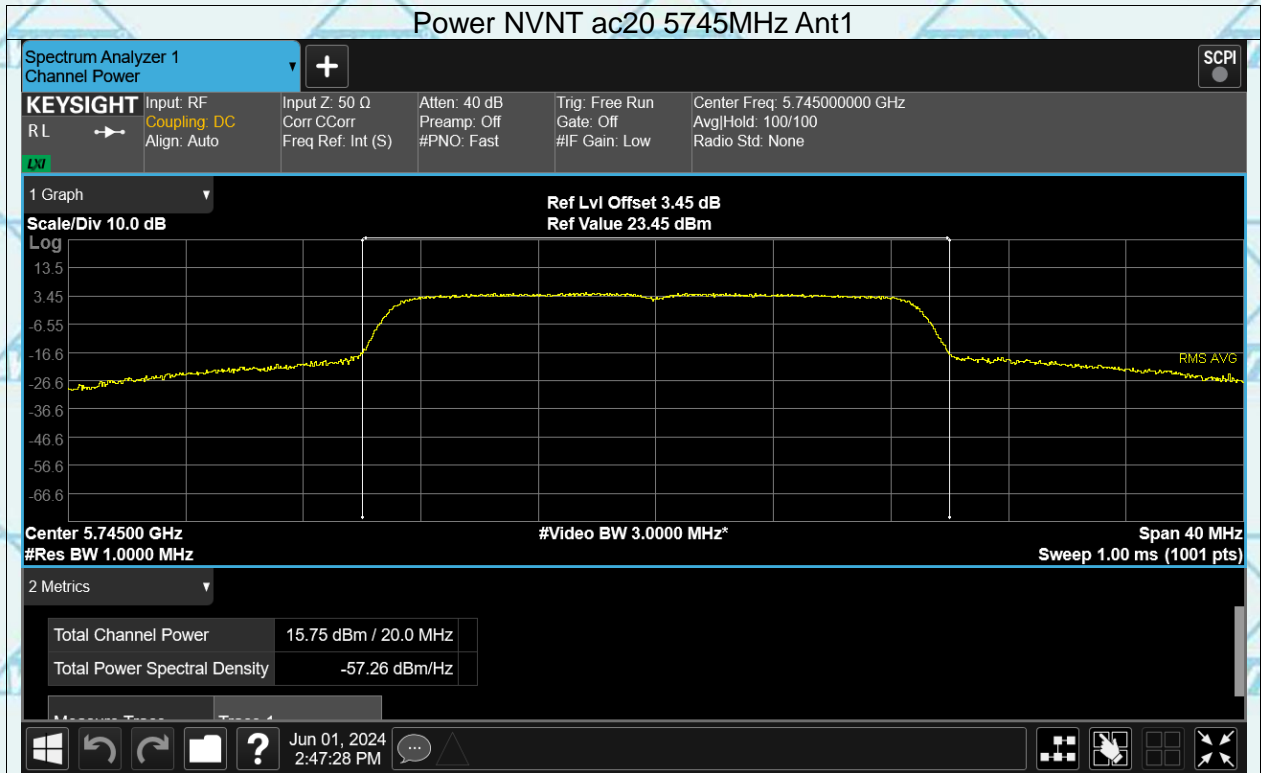


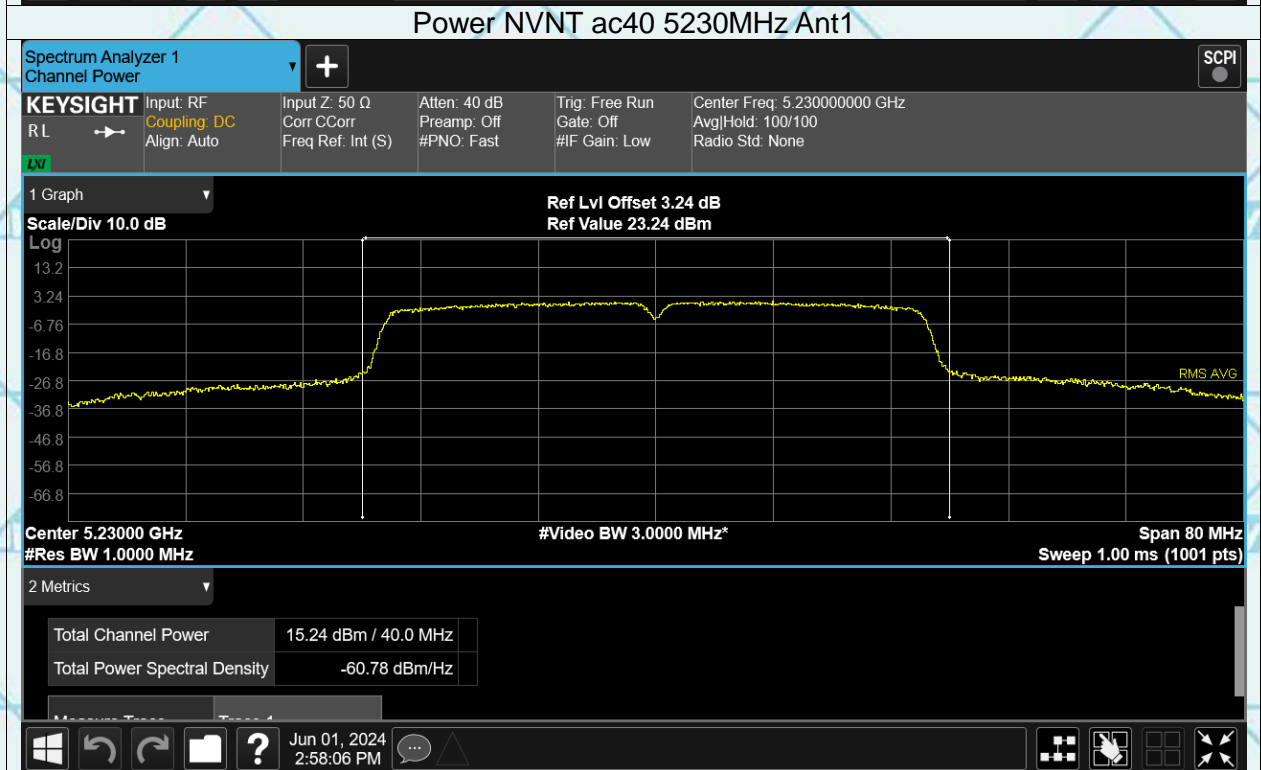
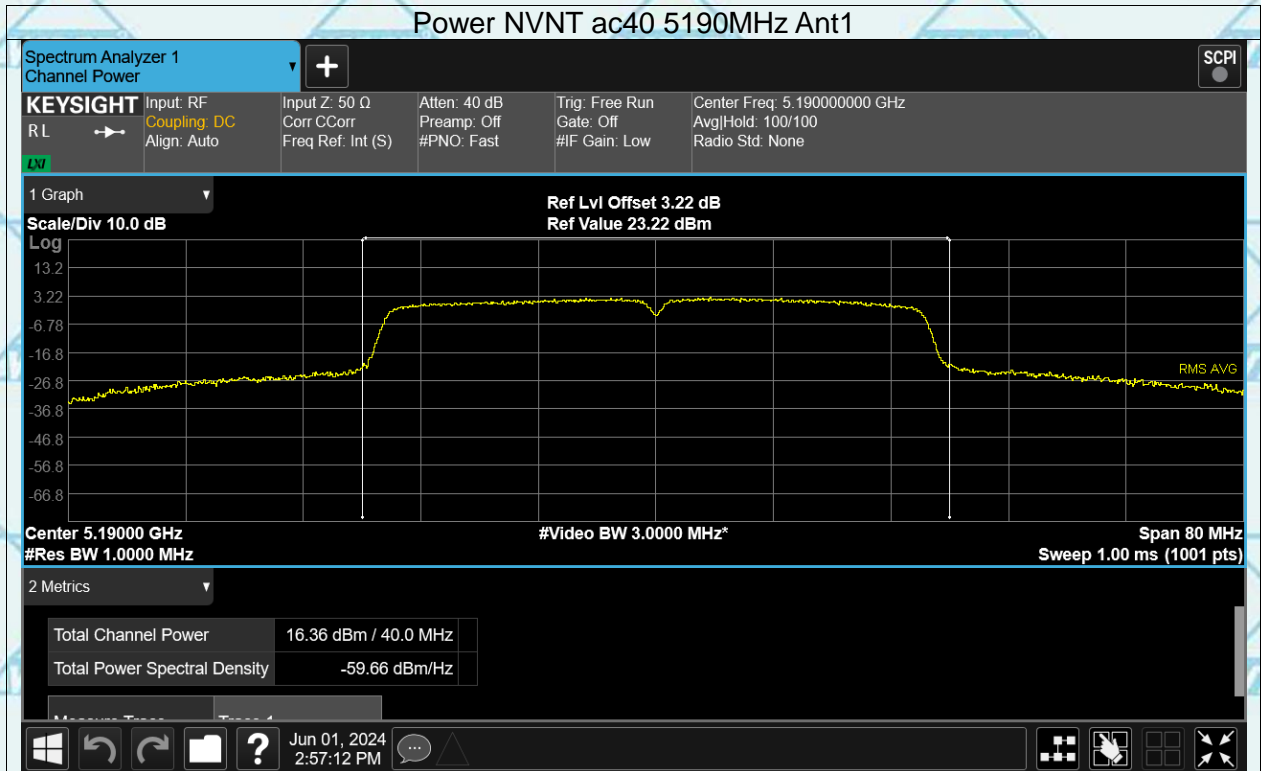


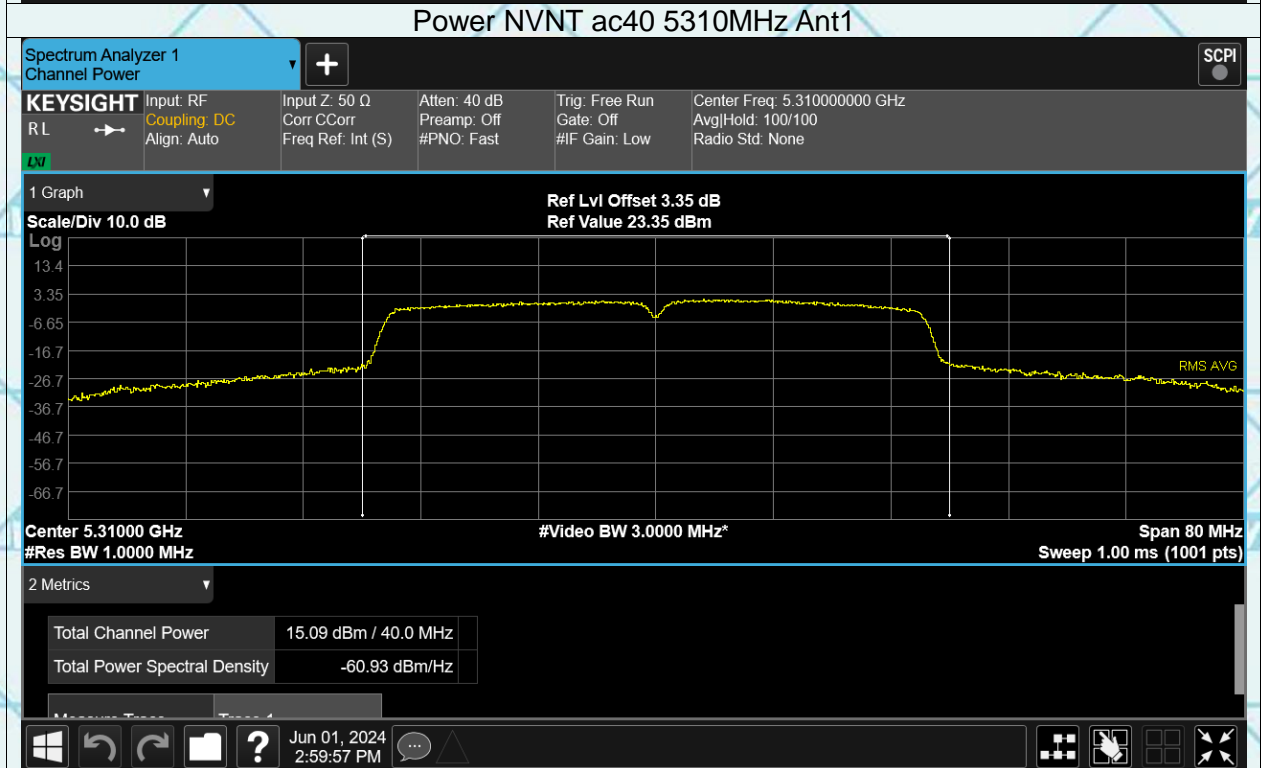
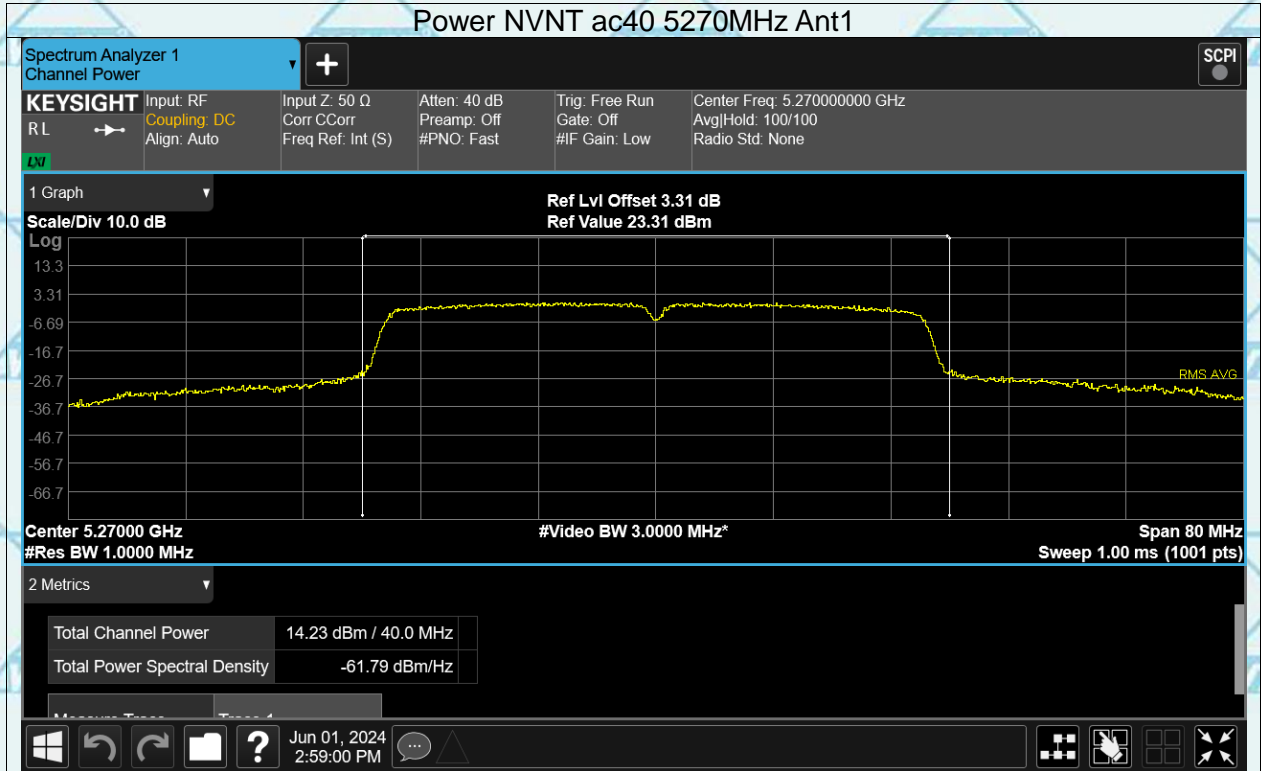


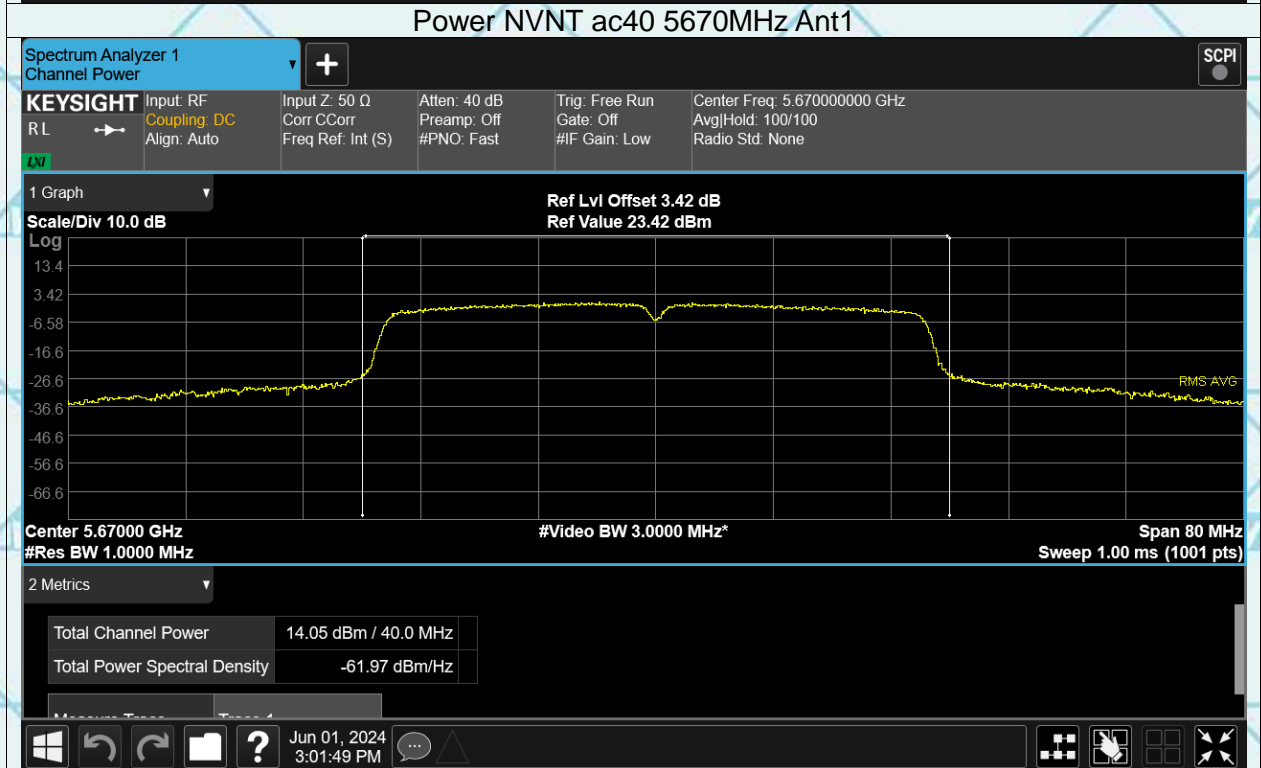
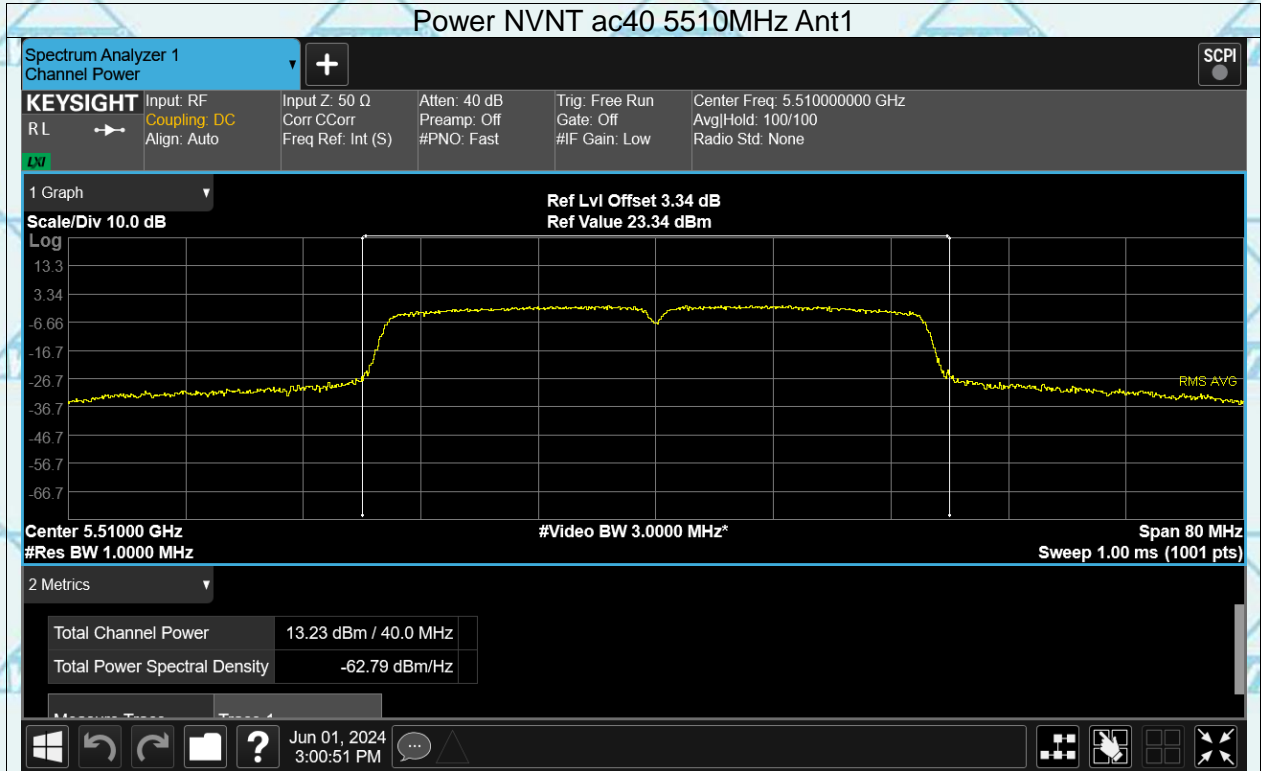


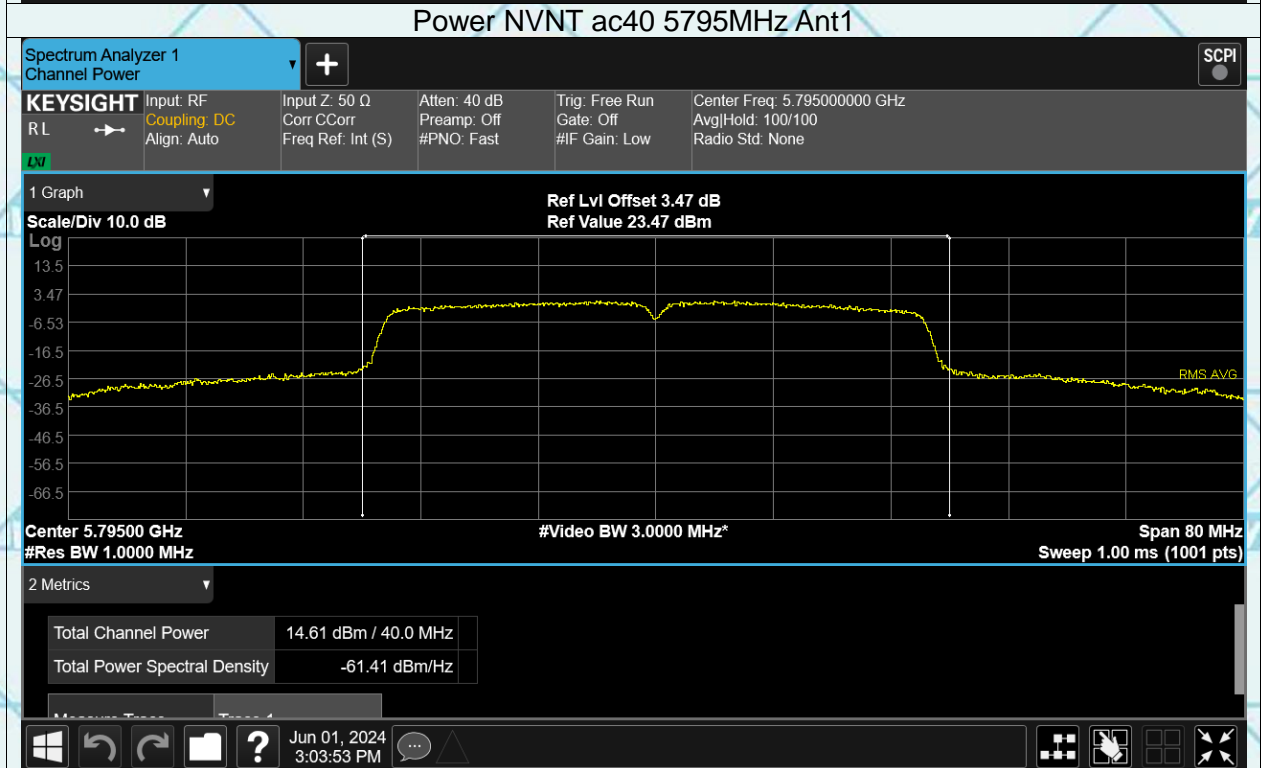
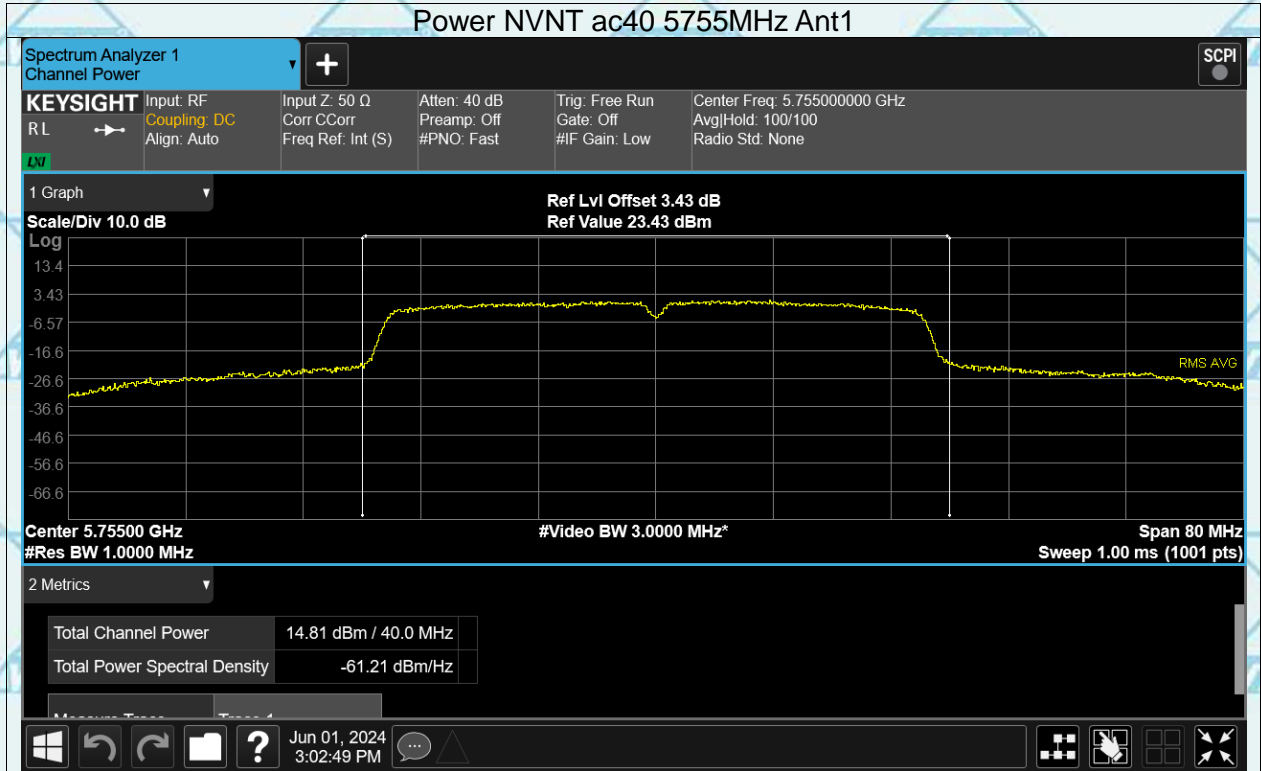




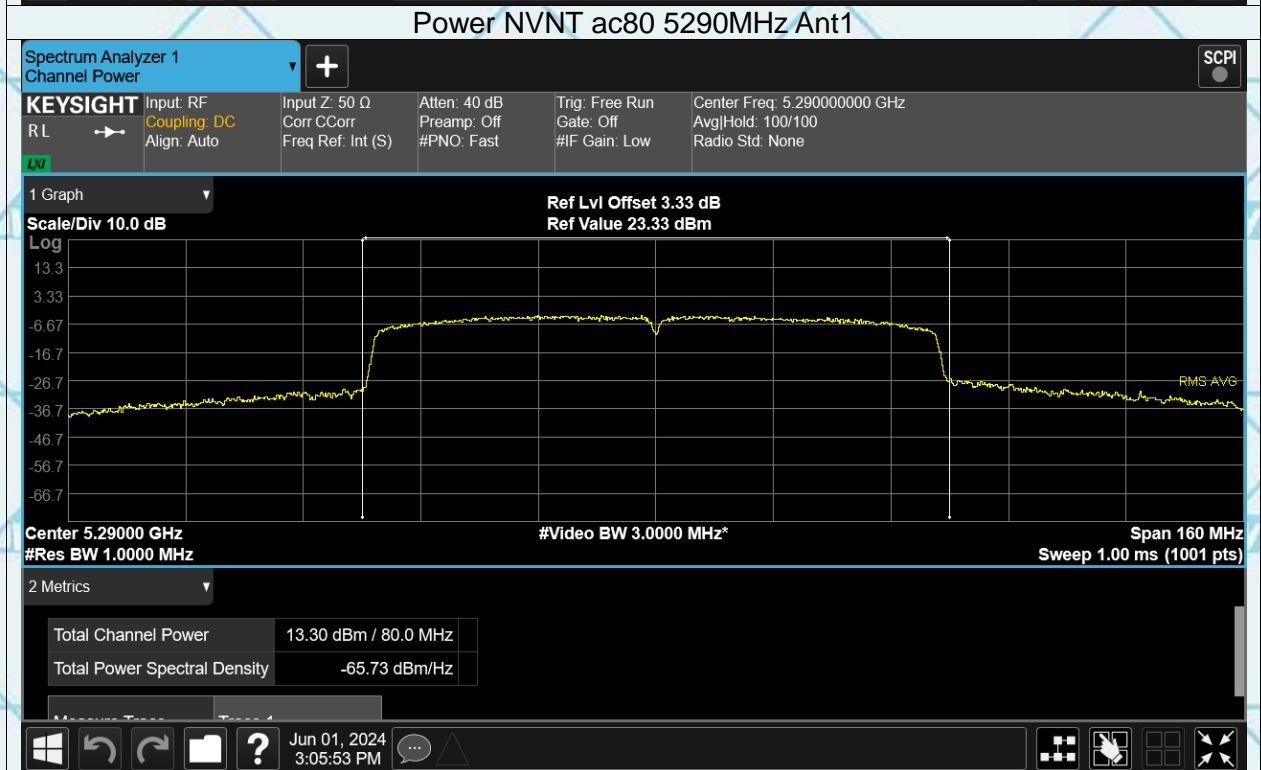
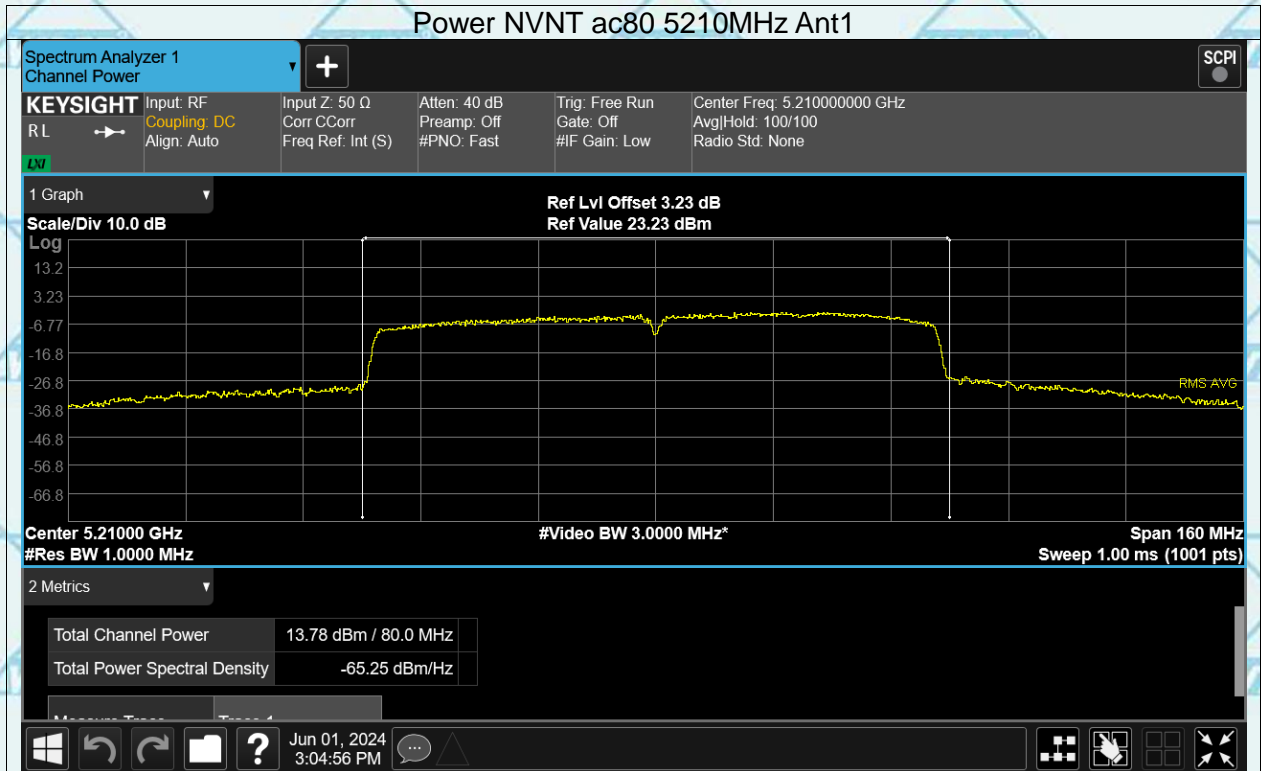


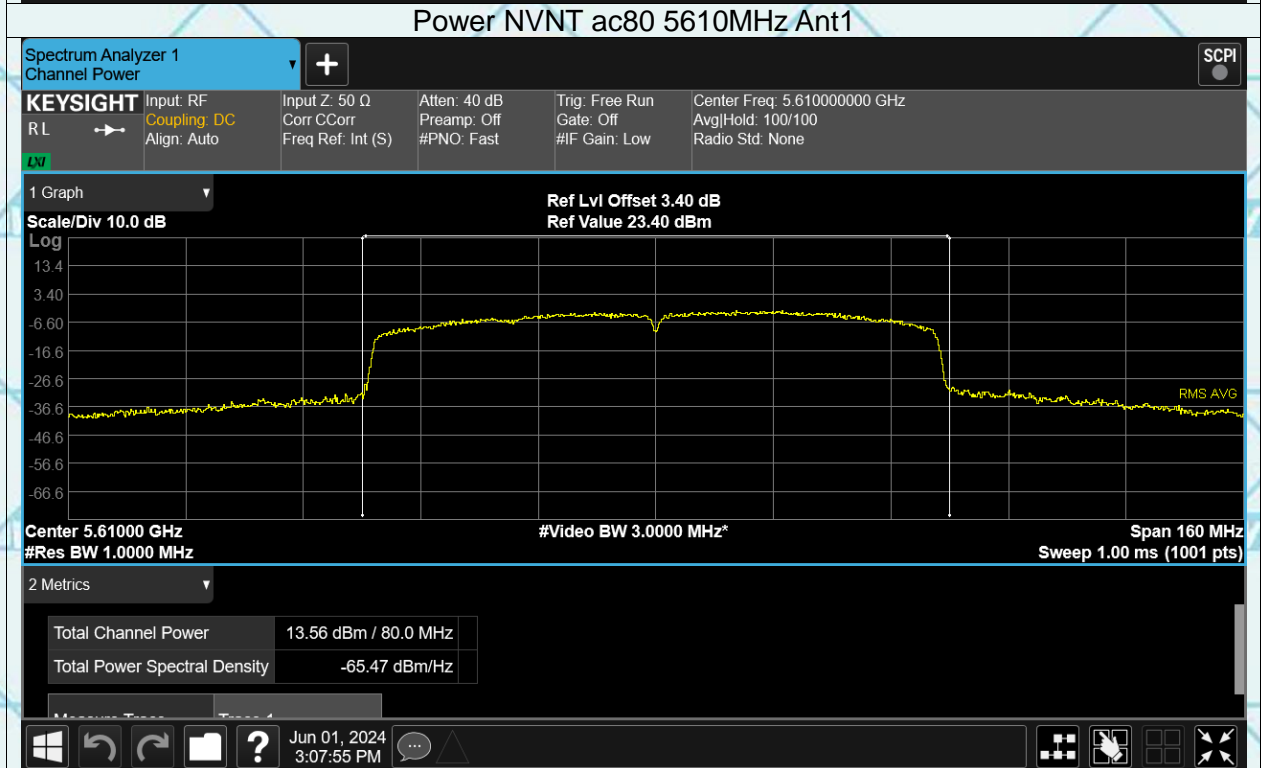
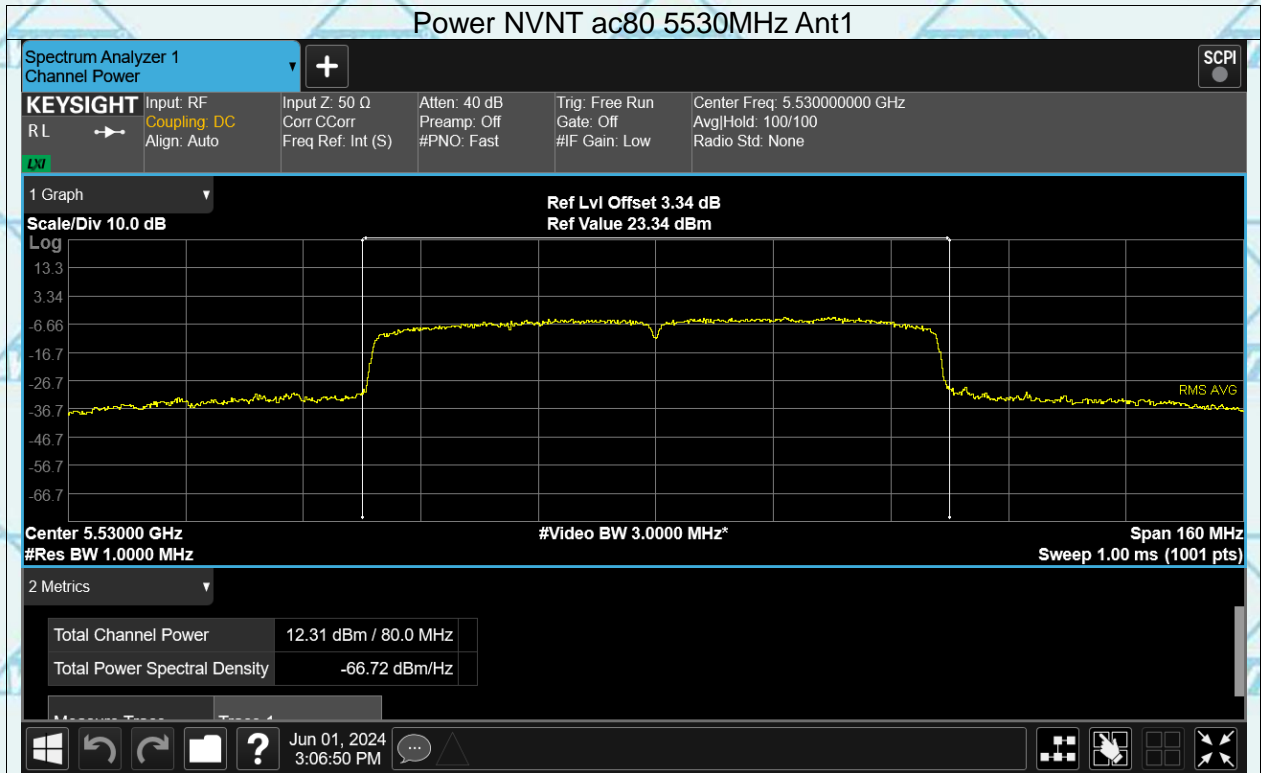


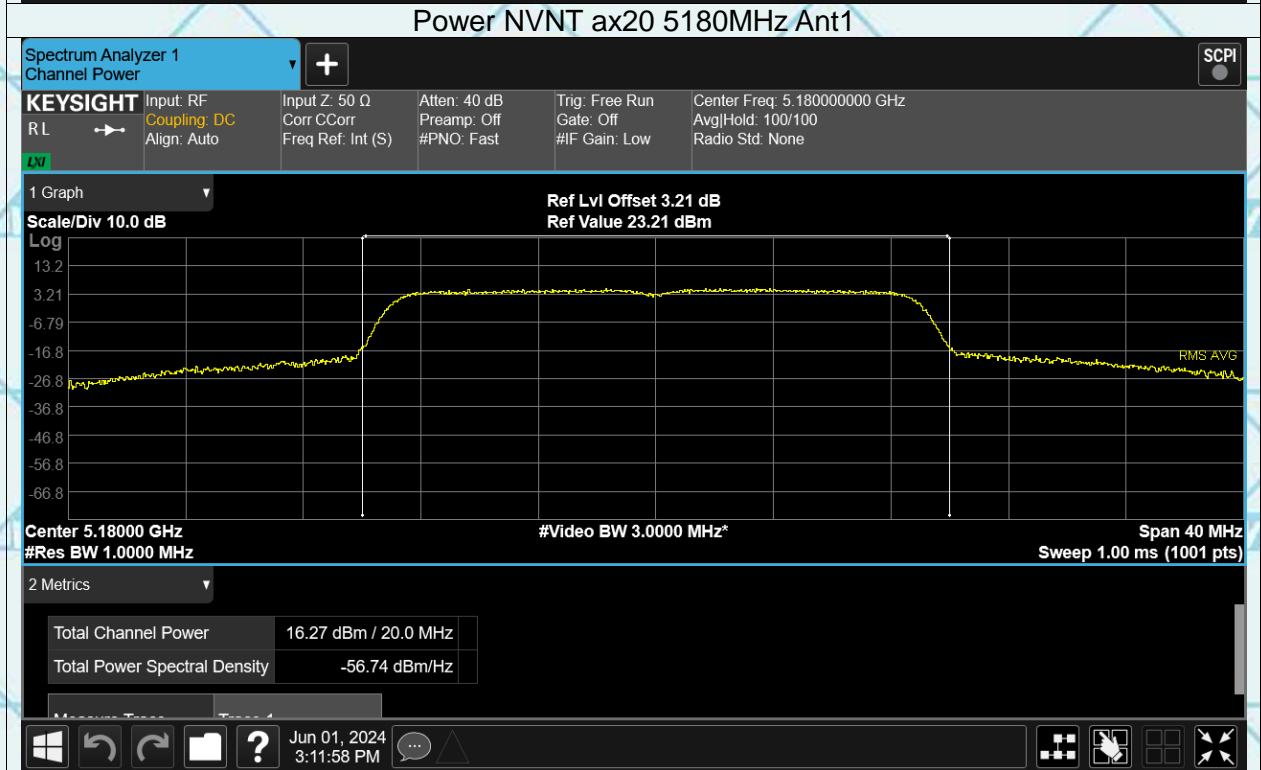
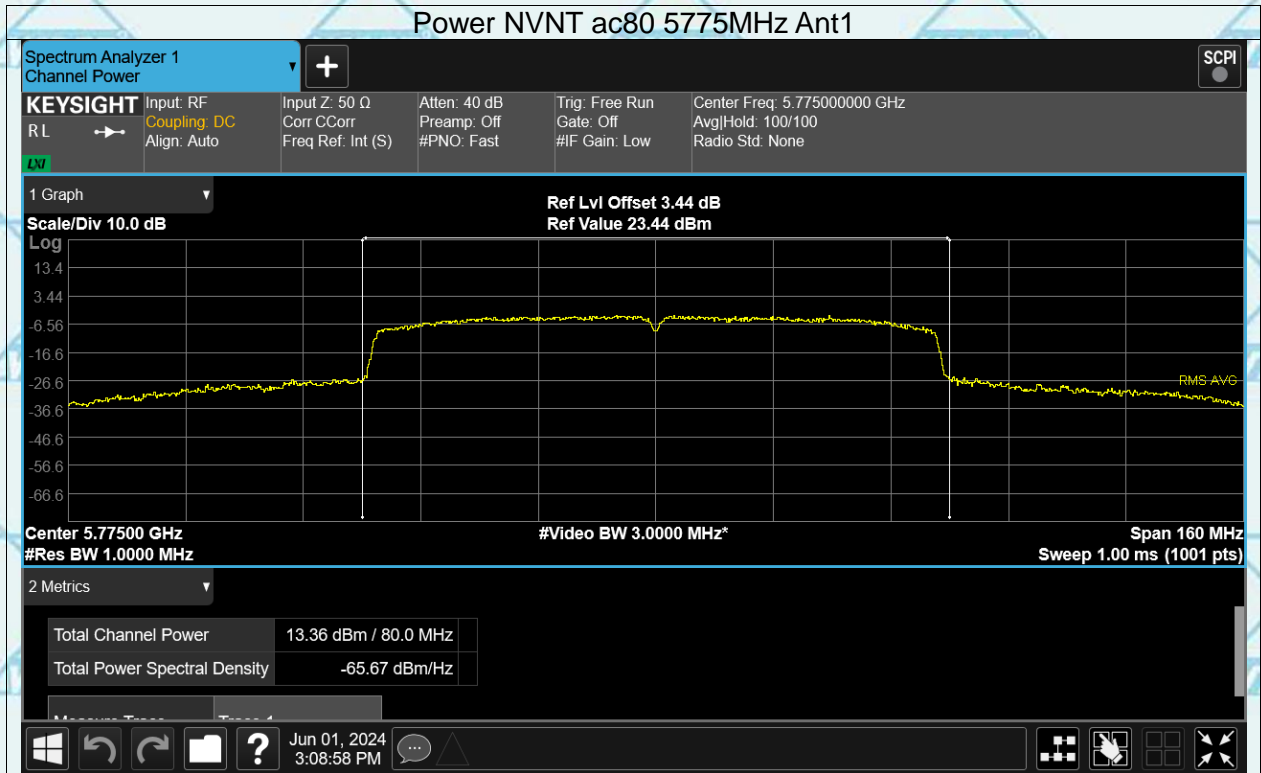


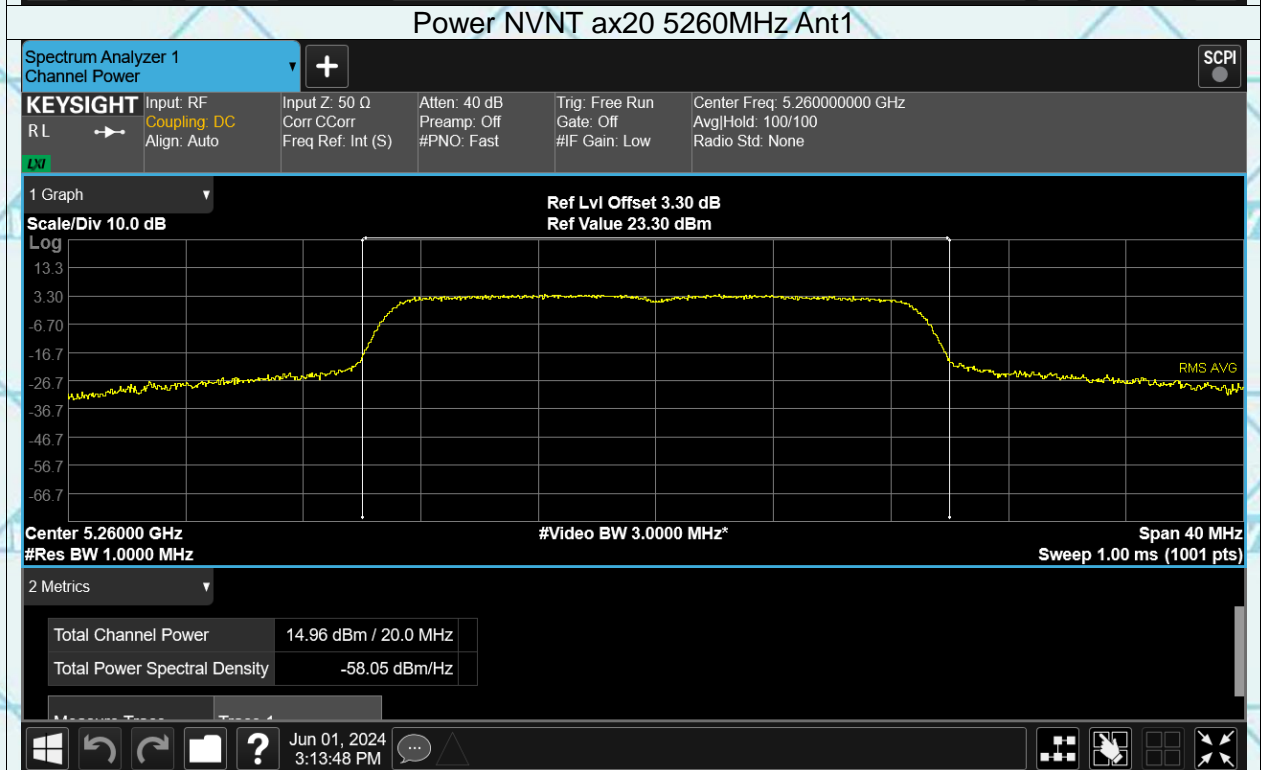
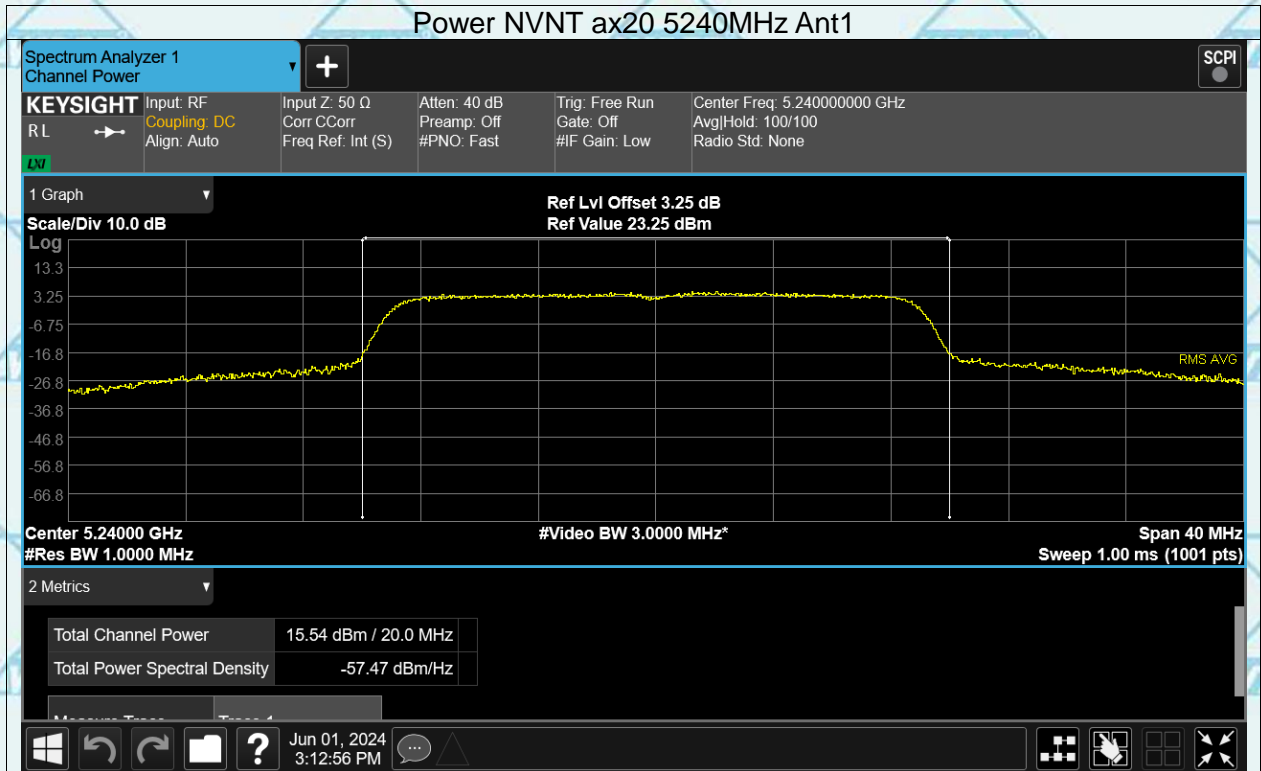


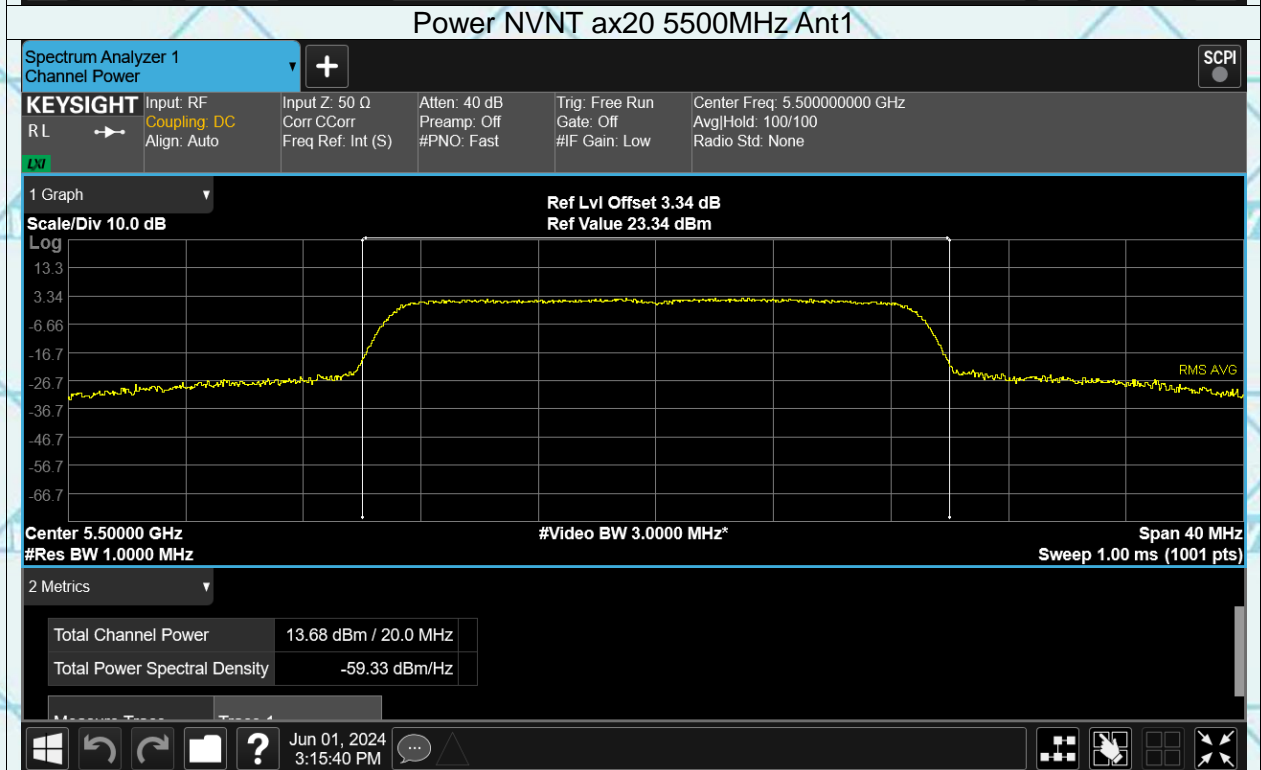
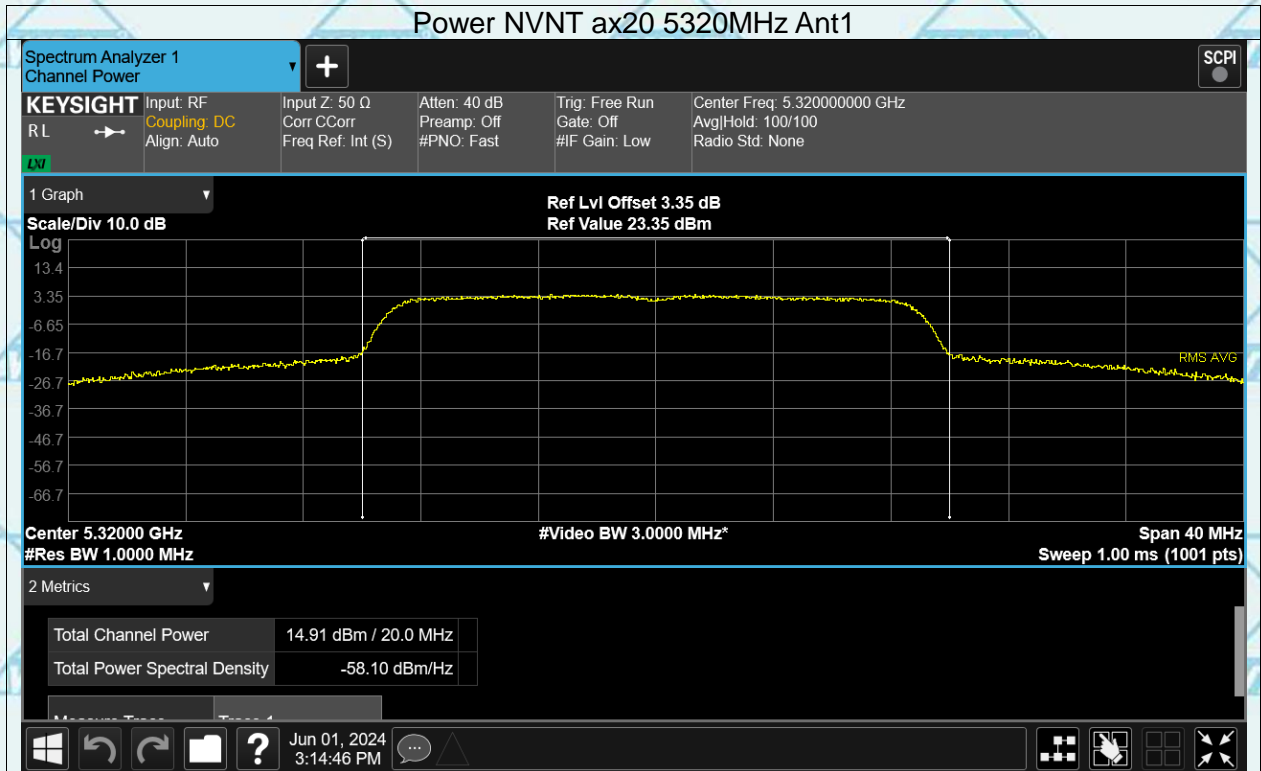


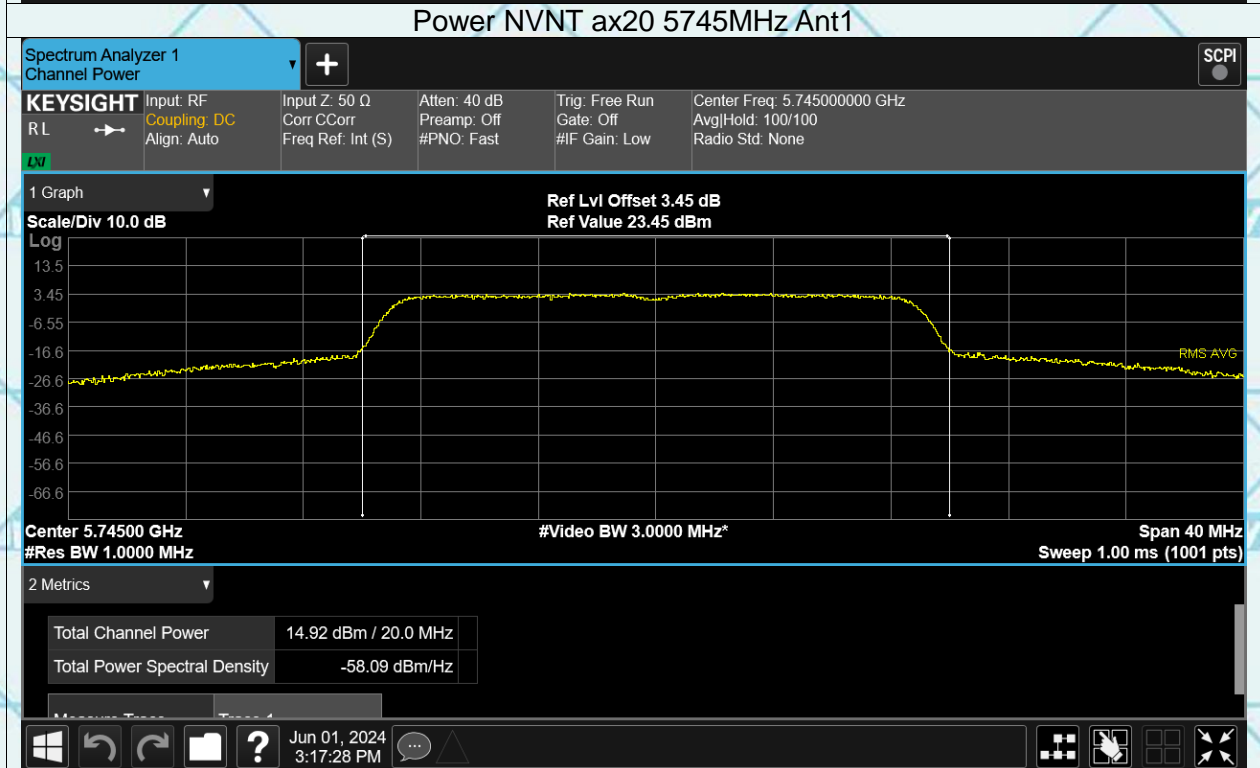
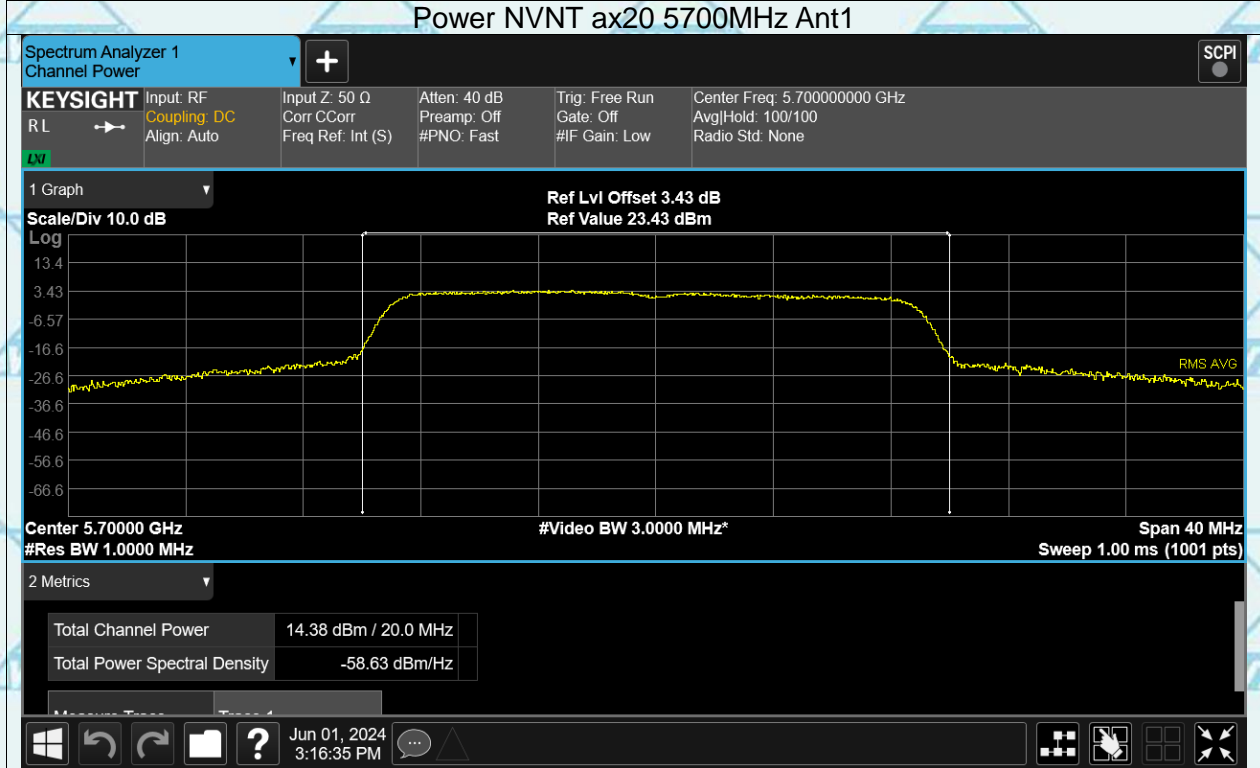


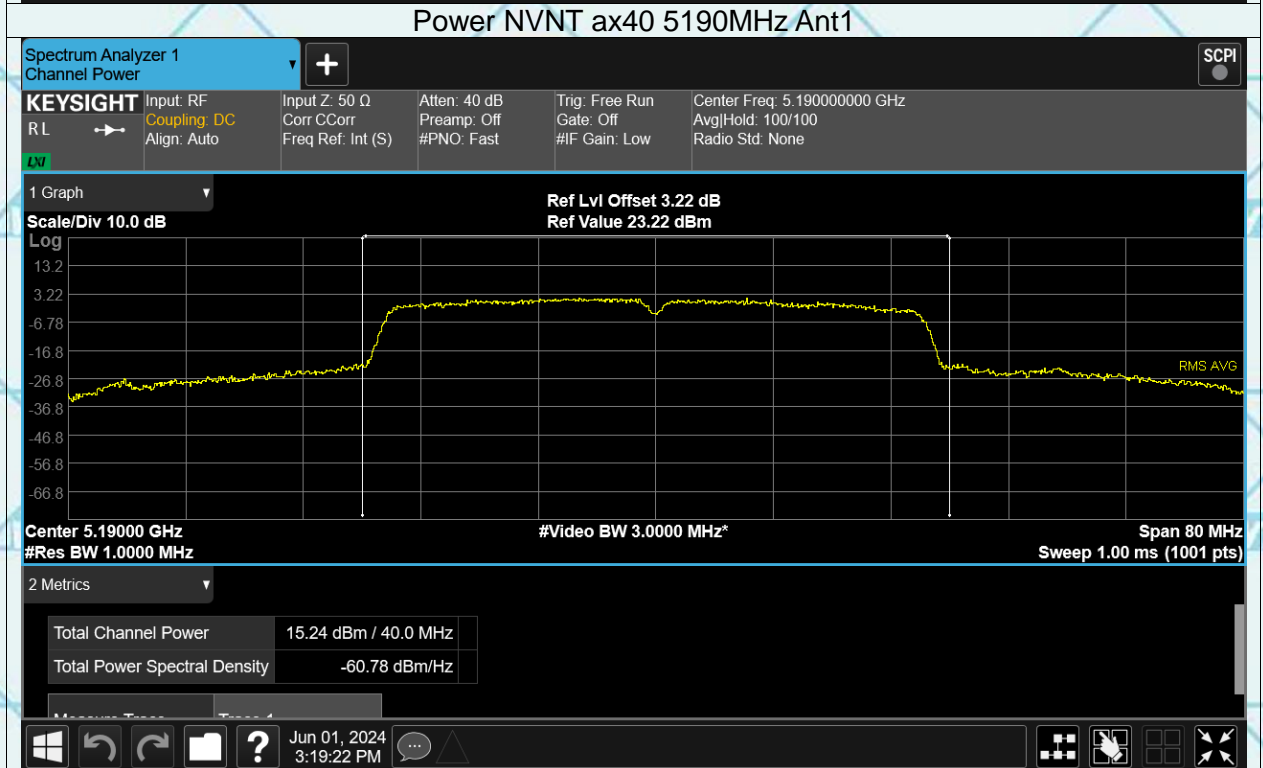
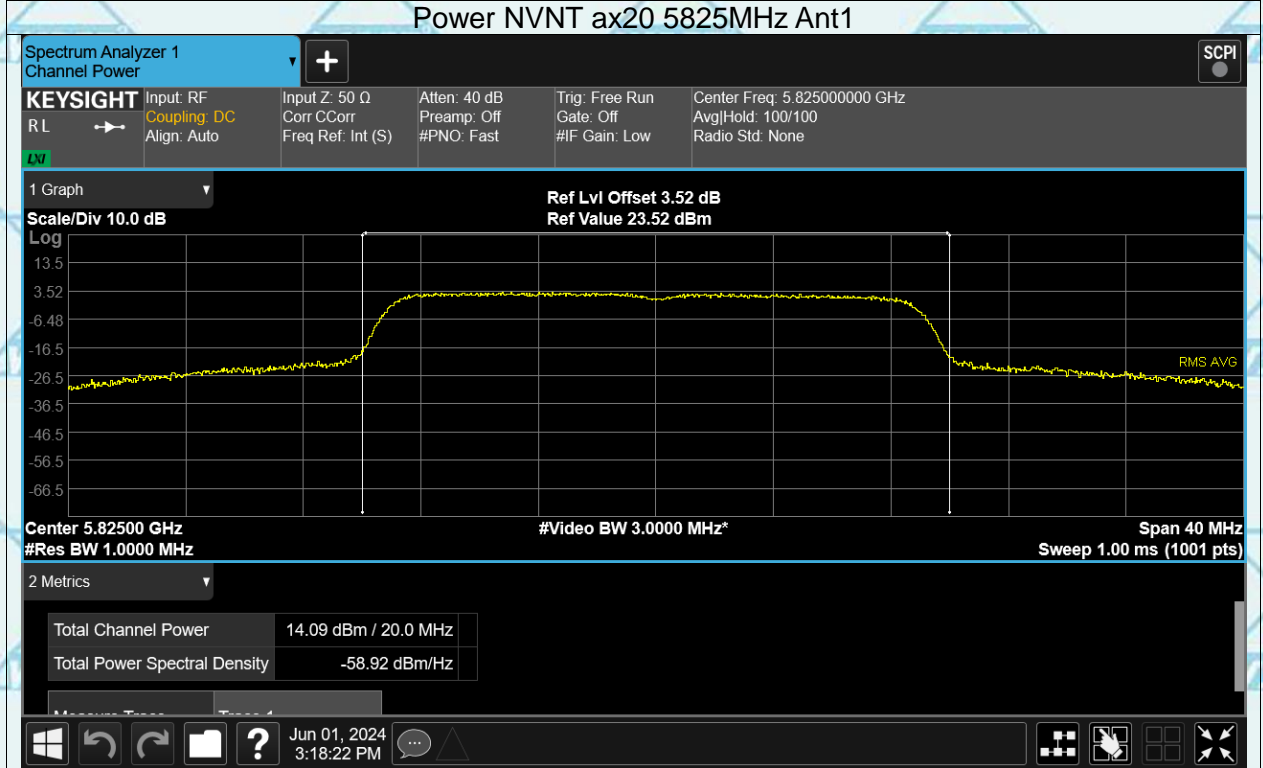


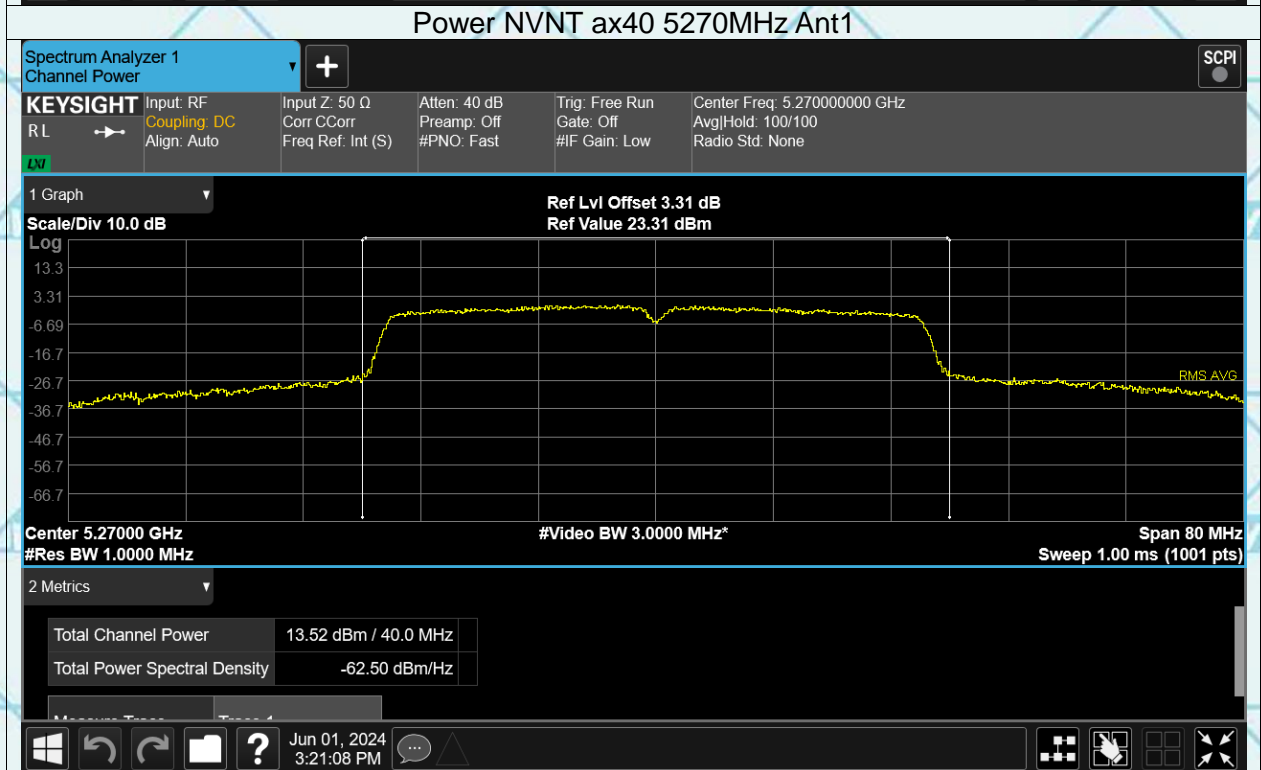
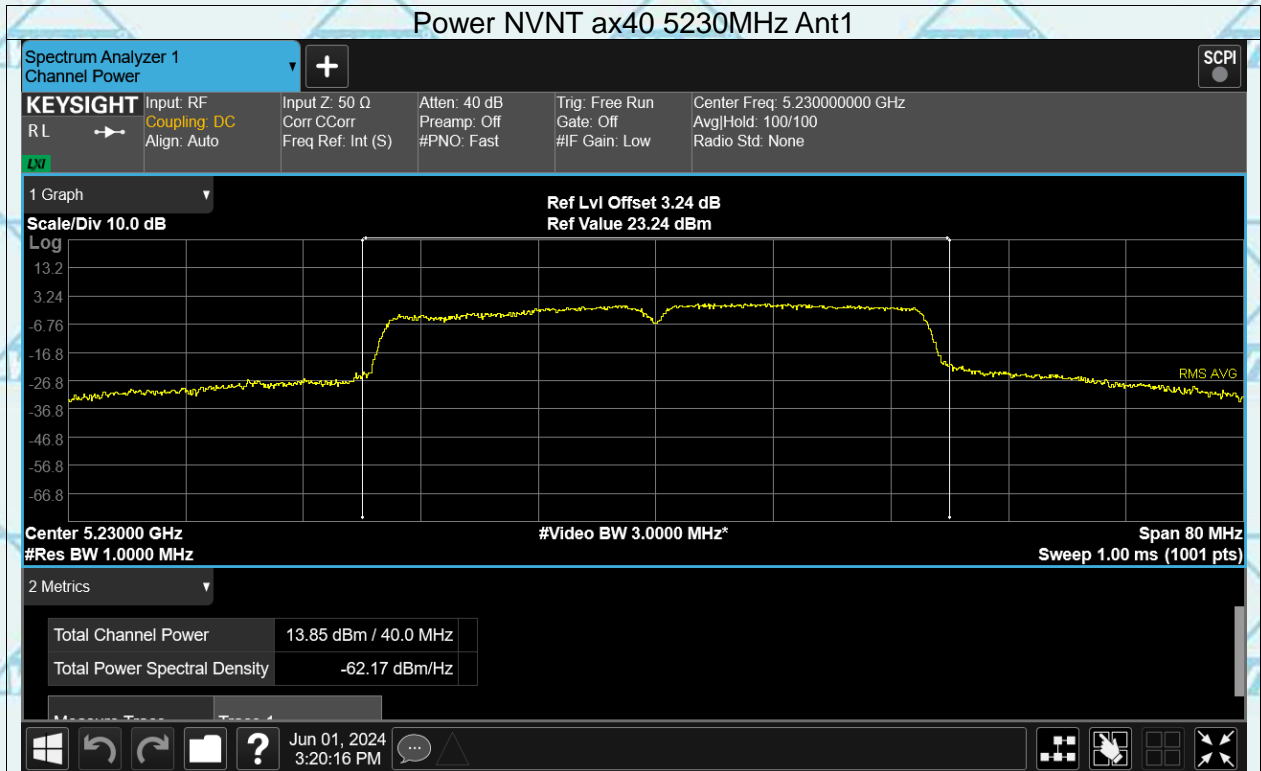




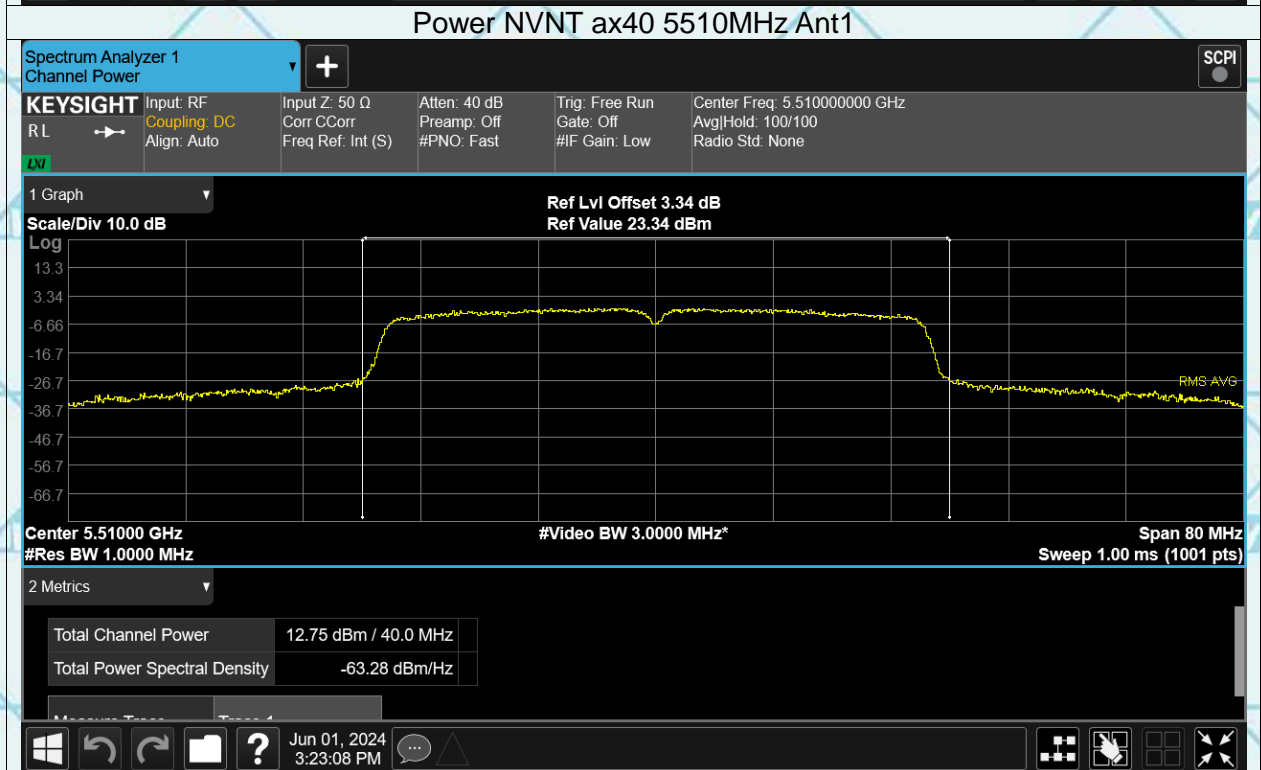
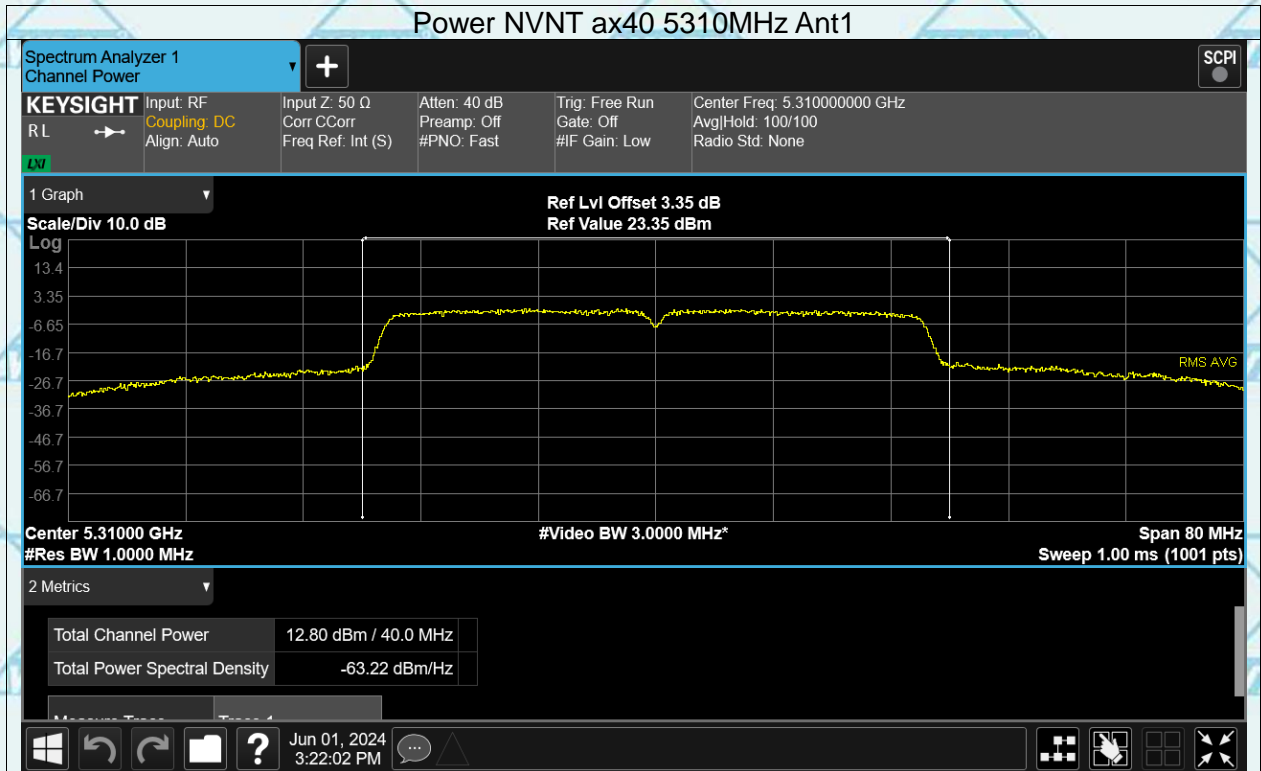


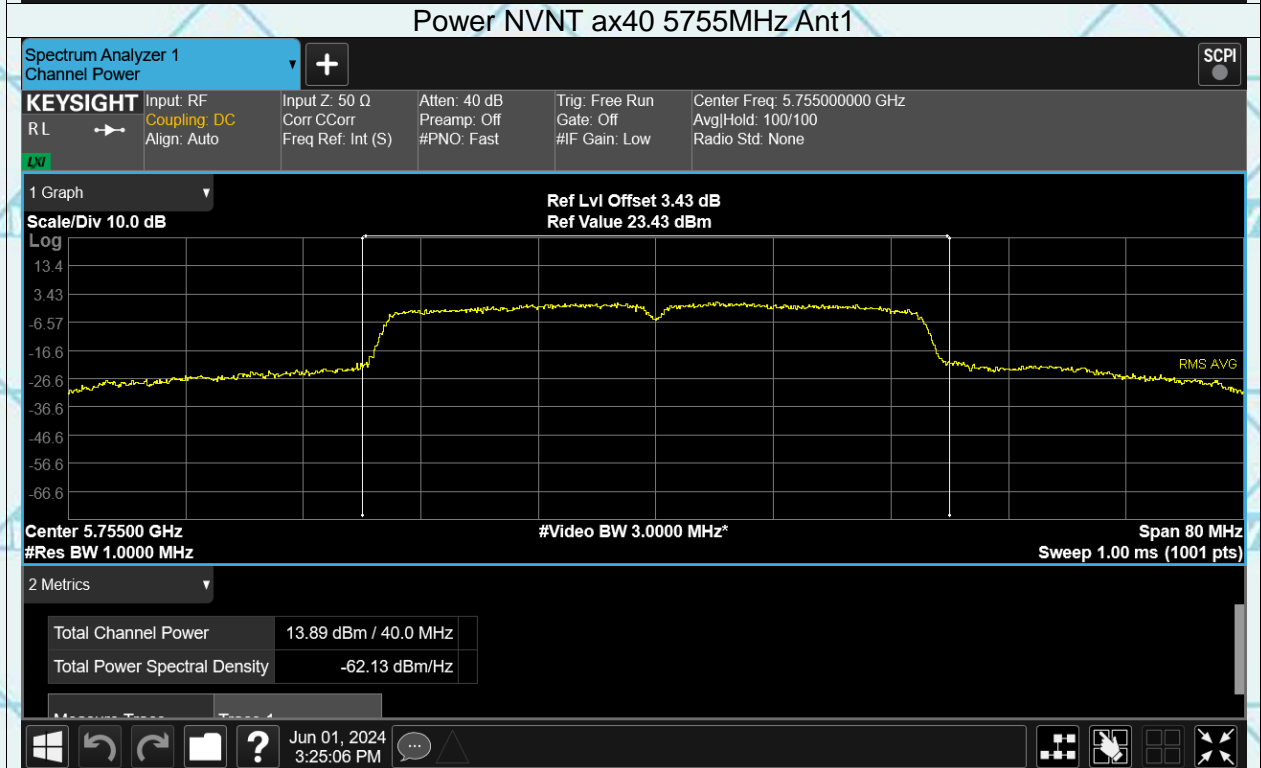
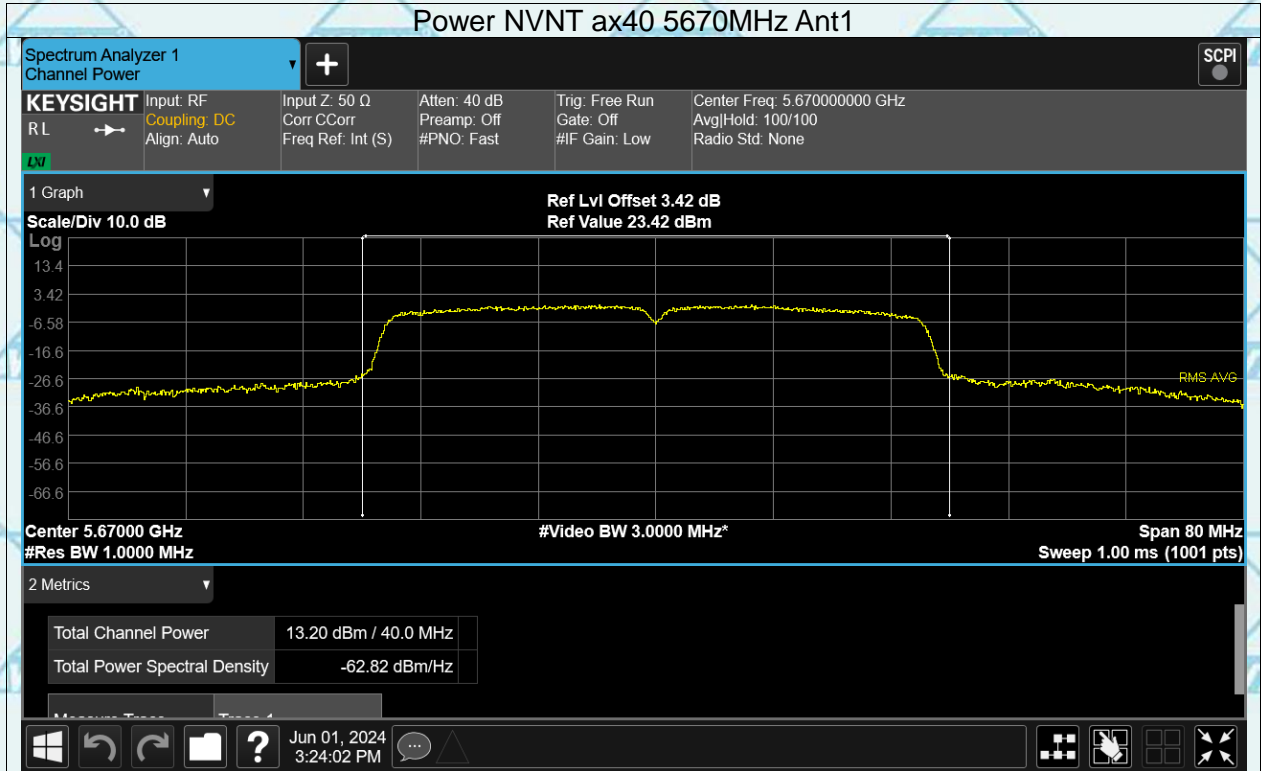


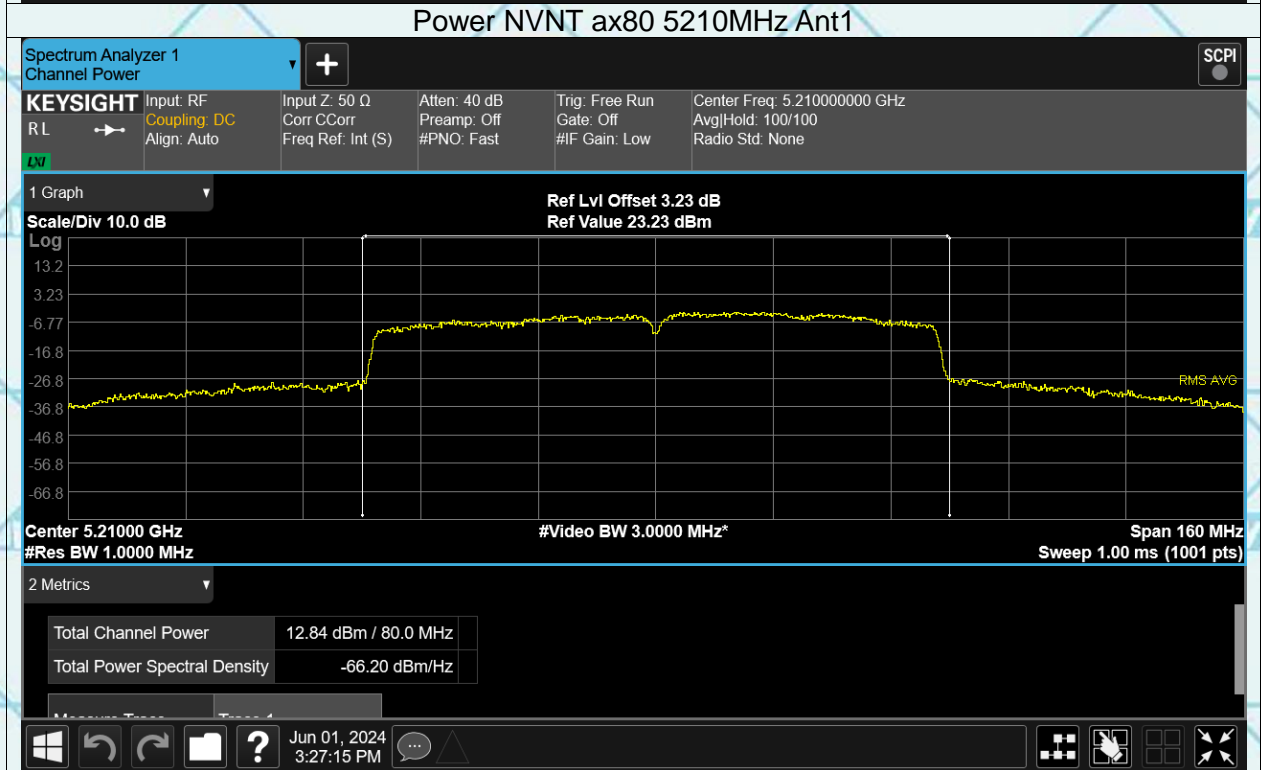
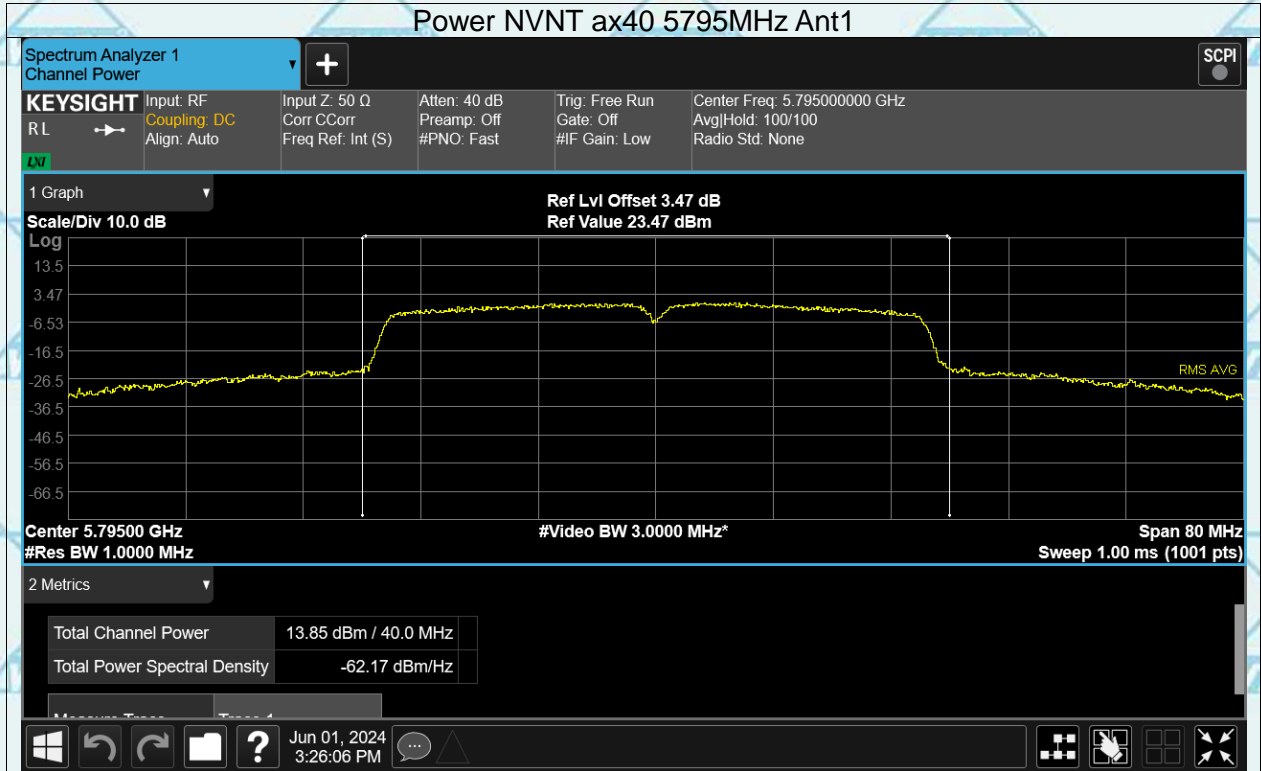


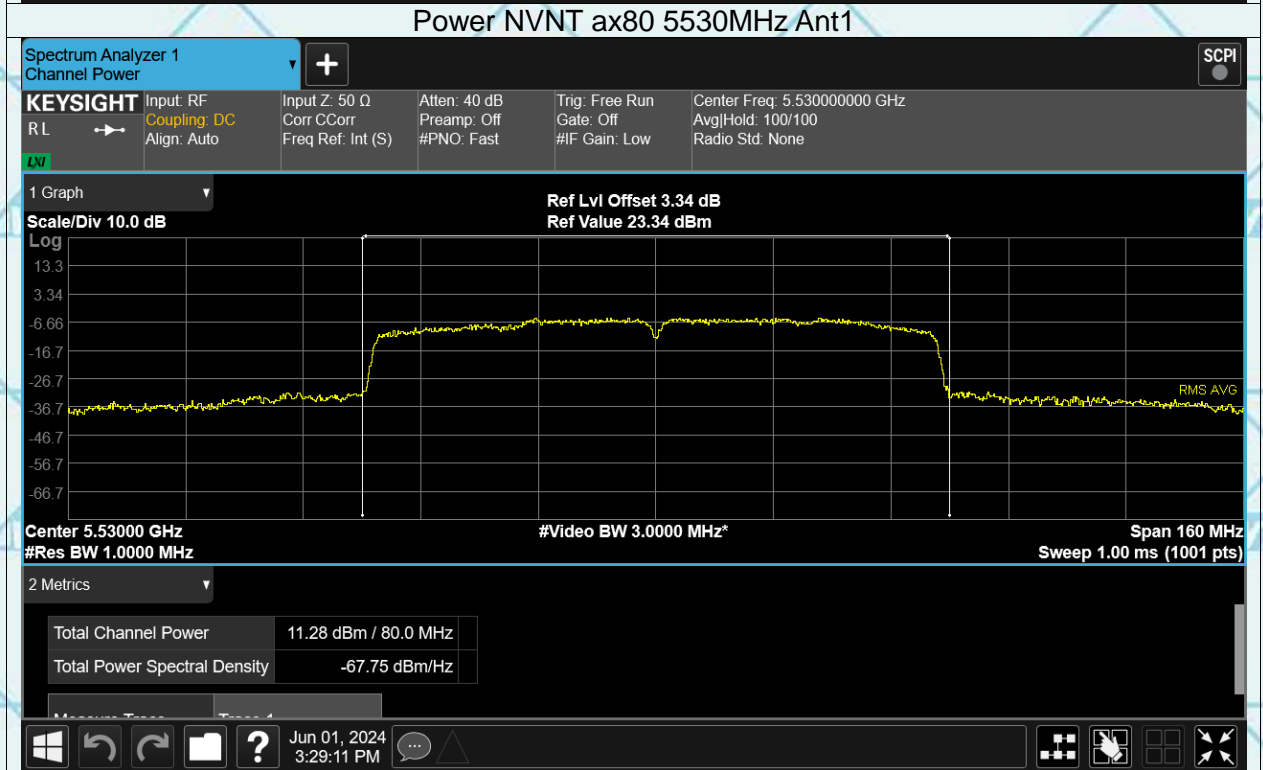
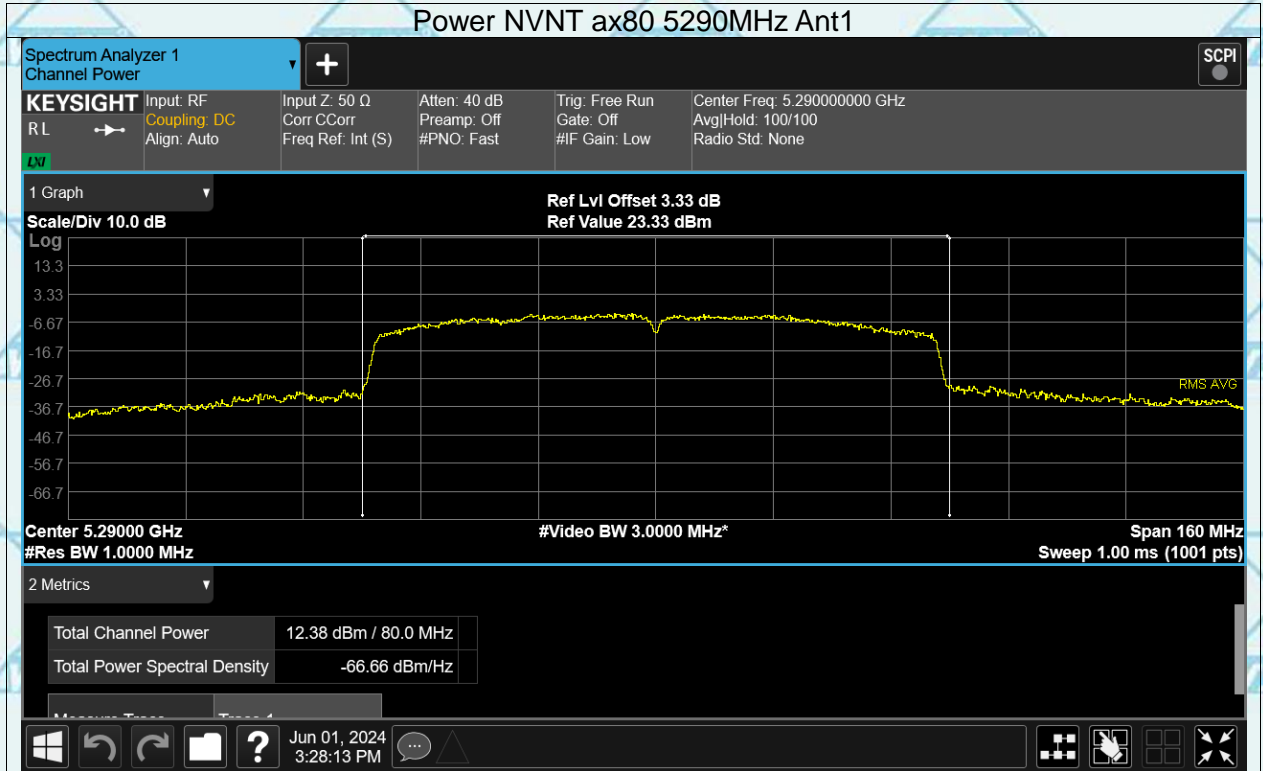


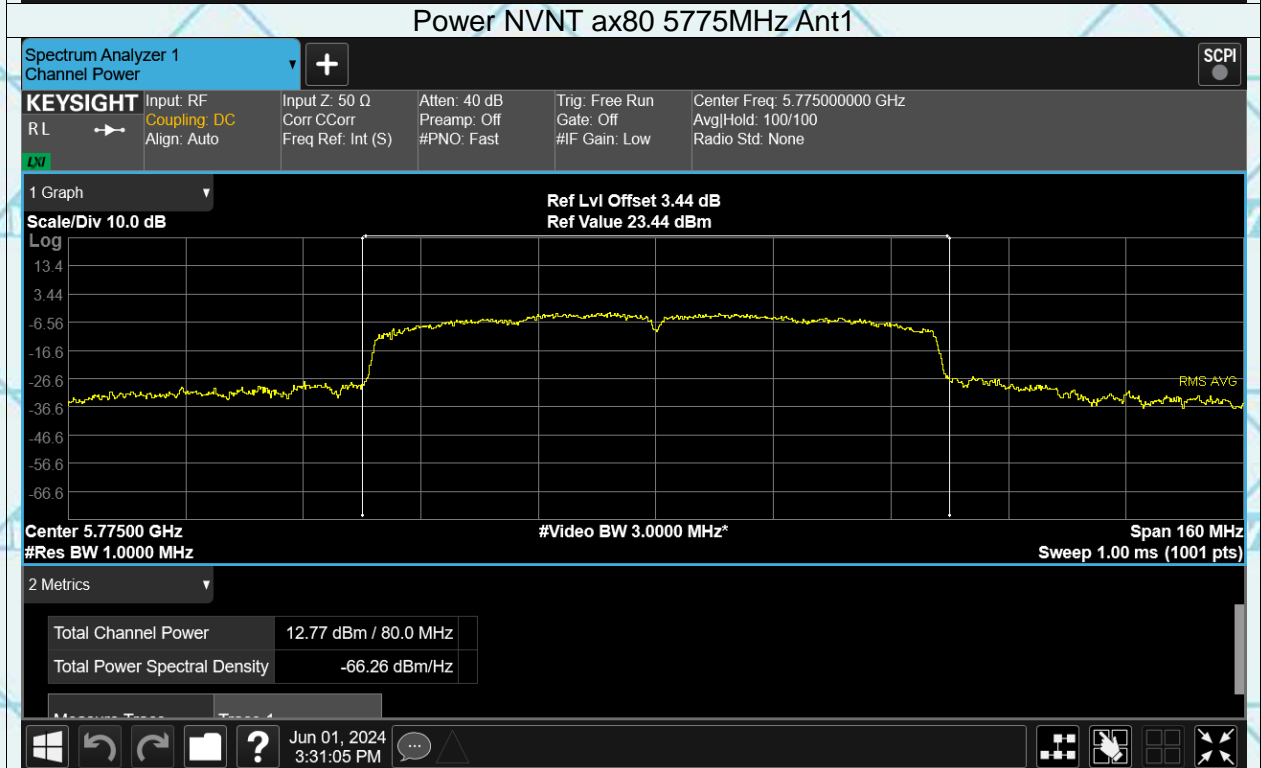
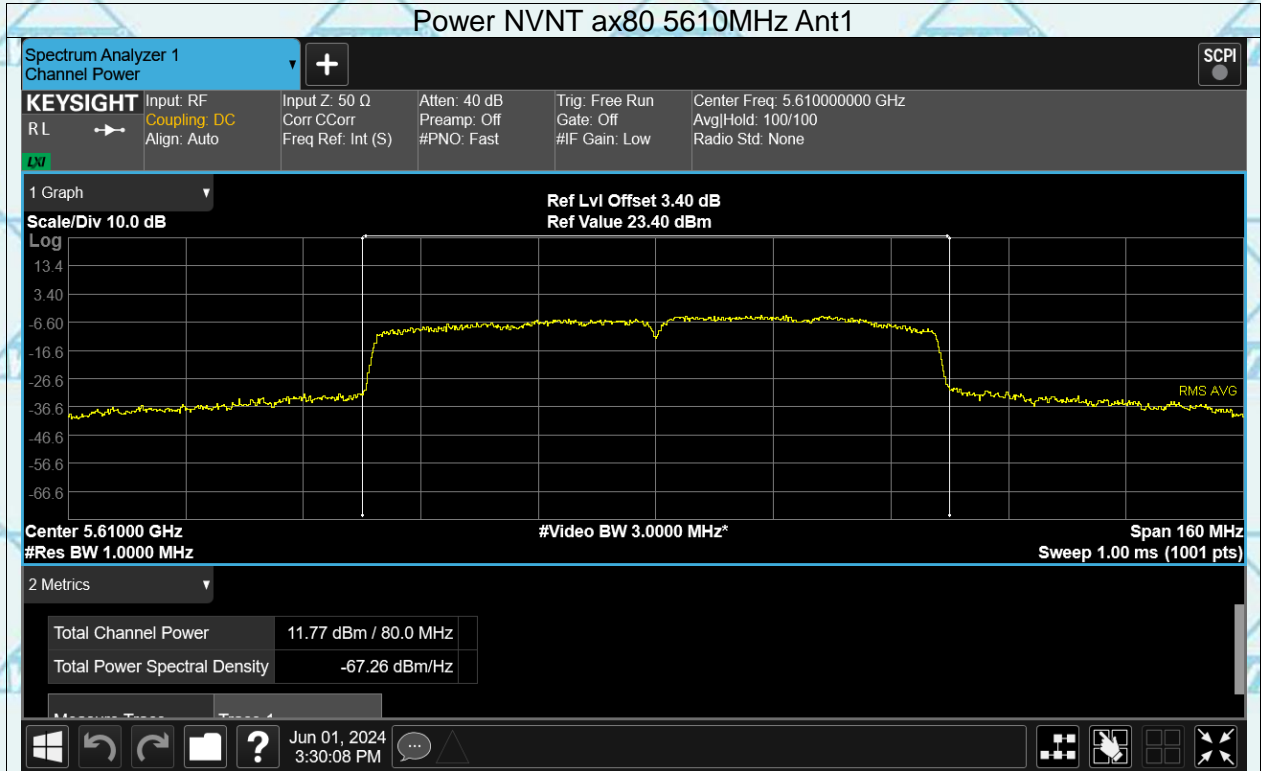














## 7.6 MAXIMUM POWER SPECTRAL DENSITY

- (i) If all antennas have the same gain,  $G_{ANT}$ :  
*Directional gain* =  $G_{ANT} + 10 \log(N_{ANT}/N_{SS})$  dBi, where  $N_{SS}$  = the number of independent spatial streams of data and  $G_{ANT}$  is the antenna gain in dBi. (This formula can also be applied when antennas have different gains if the highest antenna gain is substituted for  $G_{ANT}$ .)
- (ii) If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following two formulas.
- *Directional gain* =  $G_{ANT\ MAX} + 10 \log(N_{ANT}/N_{SS})$  dBi, where  $N_{SS}$  = the number of independent spatial streams of data and  $G_{ANT\ MAX}$  is the gain of the antenna having the highest gain (in dBi).

Or,

$$\bullet \text{ Directional Gain} = 10 \cdot \log \left[ \frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

$N_{SS}$  = the number of independent spatial streams of data;

$N_{ANT}$  = the total number of antennas

$g_{j,k} = 10^{G_k/20}$  if the  $k$ th antenna is being fed by spatial stream  $j$ , or zero if it is not;  
 $G_k$  is the gain in dBi of the  $k$ th antenna.

For power spectral density (PSD) measurements on all devices,  
 Array Gain =  $10 \log(N_{ANT}/N_{SS})$  dB.

Note:  $N_{ANT}=2$ , Array gain= $10 \log(N_{ANT}/N_{SS})=10 \log(2/1)=3.01$  dB,

Directional gain= $G_{ANT}$ +Array gain= $4.39$  dBi+ $3.01$  dB= $7.40$  dBi, exceeding 6,  
 so psd limit= Standard limit - (directional gain-6dBi) = Standard limit - 1.40.



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<b>Product</b>	: EUT-Sample	<b>Test Mode</b>	: See Section 3.4
<b>Test Item</b>	: Maximum Power Spectral Density	<b>Temperature</b>	: 25 °C
<b>Test Voltage</b>	: DC 11.61V	<b>Humidity</b>	: 56%RH
<b>Test Result</b>	: PASS		

**MAIN Antenna**

Mode	Frequency (MHz)	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
a	5180	5.99	0	5.99	9.6	Pass
a	5240	3.92	0	3.92	9.6	Pass
a	5260	3.38	0	3.38	9.6	Pass
a	5320	3.31	0	3.31	9.6	Pass
a	5500	3.01	0	3.01	9.6	Pass
a	5700	4.04	0	4.04	9.6	Pass
a	5745	0.61	0	0.61	28.6	Pass
a	5825	0.36	0	0.36	28.6	Pass
n20	5180	3	0	3	9.6	Pass
n20	5240	3.34	0	3.34	9.6	Pass
n20	5260	2.93	0	2.93	9.6	Pass
n20	5320	2.84	0	2.84	9.6	Pass
n20	5500	2.79	0	2.79	9.6	Pass
n20	5700	3.55	0	3.55	9.6	Pass
n20	5745	0.77	0	0.77	28.6	Pass
n20	5825	-0.06	0	-0.06	28.6	Pass
n40	5190	-6.9	0	-6.9	9.6	Pass
n40	5230	0.12	0	0.12	9.6	Pass
n40	5270	-0.43	0	-0.43	9.6	Pass
n40	5310	-0.39	0	-0.39	9.6	Pass
n40	5510	-1.25	0	-1.25	9.6	Pass
n40	5670	-0.18	0	-0.18	9.6	Pass
n40	5755	-1.28	0	-1.28	28.6	Pass
n40	5795	-1.19	0	-1.19	28.6	Pass
ac20	5180	-4.29	0	-4.29	9.6	Pass
ac20	5240	-3.28	0	-3.28	9.6	Pass
ac20	5260	-4.42	0	-4.42	9.6	Pass
ac20	5320	-4.07	0	-4.07	9.6	Pass
ac20	5500	-4.59	0	-4.59	9.6	Pass
ac20	5700	-3.79	0	-3.79	9.6	Pass
ac20	5745	-6.72	0	-6.72	28.6	Pass
ac20	5825	-7.48	0	-7.48	28.6	Pass
ac40	5190	1.42	0	1.42	9.6	Pass
ac40	5230	0.95	0	0.95	9.6	Pass
ac40	5270	-0.44	0	-0.44	9.6	Pass
ac40	5310	0.55	0	0.55	9.6	Pass
ac40	5510	-1.98	0	-1.98	9.6	Pass
ac40	5670	0.07	0	0.07	9.6	Pass
ac40	5755	-0.6	0	-0.6	28.6	Pass
ac40	5795	-1.38	0	-1.38	28.6	Pass
ac80	5210	-3.11	0	-3.11	9.6	Pass





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ac80	5290	-3.5	0	-3.5	9.6	Pass
ac80	5530	-5.71	0	-5.71	9.6	Pass
ac80	5610	-4.13	0	-4.13	9.6	Pass
ac80	5775	-5.83	0	-5.83	28.6	Pass
ax20	5180	3.69	0	3.69	9.6	Pass
ax20	5240	4.25	0	4.25	9.6	Pass
ax20	5260	4.33	0	4.33	9.6	Pass
ax20	5320	4.31	0	4.31	9.6	Pass
ax20	5500	-0.25	0	-0.25	9.6	Pass
ax20	5700	1.48	0	1.48	9.6	Pass
ax20	5745	-0.64	0	-0.64	28.6	Pass
ax20	5825	-1.91	0	-1.91	28.6	Pass
ax40	5190	-0.23	0	-0.23	9.6	Pass
ax40	5230	1.37	0	1.37	9.6	Pass
ax40	5270	0.3	0	0.3	9.6	Pass
ax40	5310	0.48	0	0.48	9.6	Pass
ax40	5510	0.47	0	0.47	9.6	Pass
ax40	5670	0.52	0	0.52	9.6	Pass
ax40	5755	0.26	0	0.26	28.6	Pass
ax40	5795	-5.26	0	-5.26	28.6	Pass
ax80	5210	-9	0	-9	9.6	Pass
ax80	5290	-4.51	0	-4.51	9.6	Pass
ax80	5530	-4.77	0	-4.77	9.6	Pass
ax80	5610	-5.61	0	-5.61	9.6	Pass
ax80	5775	-8.3	0	-8.3	28.6	Pass







**AUX Antenna**

Mode	Frequency (MHz)	Conducted PSD (dBm)	Duty Factor (dB)	Total PSD (dBm)	Limit (dBm)	Verdict
a	5180	7.58	0	7.58	9.6	Pass
a	5240	5.07	0	5.07	9.6	Pass
a	5260	4.24	0	4.24	9.6	Pass
a	5320	5.27	0	5.27	9.6	Pass
a	5500	4.04	0	4.04	9.6	Pass
a	5700	3.89	0	3.89	9.6	Pass
a	5745	1.3	0	1.3	28.6	Pass
a	5825	0.78	0	0.78	28.6	Pass
n20	5180	4.91	0	4.91	9.6	Pass
n20	5240	4.62	0	4.62	9.6	Pass
n20	5260	4.24	0	4.24	9.6	Pass
n20	5320	4.3	0	4.3	9.6	Pass
n20	5500	3.75	0	3.75	9.6	Pass
n20	5700	3.58	0	3.58	9.6	Pass
n20	5745	0.75	0	0.75	28.6	Pass
n20	5825	0.34	0	0.34	28.6	Pass
n40	5190	3.05	0	3.05	9.6	Pass
n40	5230	1.82	0	1.82	9.6	Pass
n40	5270	1.42	0	1.42	9.6	Pass
n40	5310	1.96	0	1.96	9.6	Pass
n40	5510	-0.41	0	-0.41	9.6	Pass
n40	5670	0.76	0	0.76	9.6	Pass
n40	5755	-1.76	0	-1.76	28.6	Pass
n40	5795	-1.76	0	-1.76	28.6	Pass
ac20	5180	4.93	0	4.93	9.6	Pass
ac20	5240	4.71	0	4.71	9.6	Pass
ac20	5260	4.6	0	4.6	9.6	Pass
ac20	5320	4.82	0	4.82	9.6	Pass
ac20	5500	3.48	0	3.48	9.6	Pass
ac20	5700	3.61	0	3.61	9.6	Pass
ac20	5745	1.28	0	1.28	28.6	Pass
ac20	5825	0.13	0	0.13	28.6	Pass
ac40	5190	3.3	0	3.3	9.6	Pass
ac40	5230	2.34	0	2.34	9.6	Pass
ac40	5270	1.15	0	1.15	9.6	Pass
ac40	5310	1.86	0	1.86	9.6	Pass
ac40	5510	0.39	0	0.39	9.6	Pass
ac40	5670	0.58	0	0.58	9.6	Pass
ac40	5755	-1.4	0	-1.4	28.6	Pass
ac40	5795	-1.73	0	-1.73	28.6	Pass
ac80	5210	-1.33	0	-1.33	9.6	Pass
ac80	5290	-2.63	0	-2.63	9.6	Pass
ac80	5530	-3.33	0	-3.33	9.6	Pass
ac80	5610	-2.53	0	-2.53	9.6	Pass
ac80	5775	-5.21	0	-5.21	28.6	Pass
ax20	5180	5.06	0	5.06	9.6	Pass
ax20	5240	5.05	0	5.05	9.6	Pass
ax20	5260	3.57	0	3.57	9.6	Pass





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ax20	5320	4.54	0	4.54	9.6	Pass
ax20	5500	3.1	0	3.1	9.6	Pass
ax20	5700	3.21	0	3.21	9.6	Pass
ax20	5745	0.3	0	0.3	28.6	Pass
ax20	5825	0.07	0	0.07	28.6	Pass
ax40	5190	2.82	0	2.82	9.6	Pass
ax40	5230	1.57	0	1.57	9.6	Pass
ax40	5270	1.01	0	1.01	9.6	Pass
ax40	5310	1.16	0	1.16	9.6	Pass
ax40	5510	-0.65	0	-0.65	9.6	Pass
ax40	5670	0.33	0	0.33	9.6	Pass
ax40	5755	-2.19	0	-2.19	28.6	Pass
ax40	5795	-2.59	0	-2.59	28.6	Pass
ax80	5210	-1.98	0	-1.98	9.6	Pass
ax80	5290	-3.04	0	-3.04	9.6	Pass
ax80	5530	-4.6	0	-4.6	9.6	Pass
ax80	5610	-3.4	0	-3.4	9.6	Pass
ax80	5775	-5.8	0	-5.8	28.6	Pass





MiMO Mode

Mode	Frequency (MHz)	Conducted PSD (dBm)	Total PSD (dBm)	Limit (dBm)	Verdict
a	5180	7.07	7.07	9.6	Pass
a	5240	7.04	7.04	9.6	Pass
a	5260	6.64	6.64	9.6	Pass
a	5320	6.64	6.64	9.6	Pass
a	5500	6.31	6.31	9.6	Pass
a	5700	6.58	6.58	9.6	Pass
a	5745	3.77	3.77	28.6	Pass
a	5825	3.15	3.15	28.6	Pass
n20	5180	3.47	3.47	9.6	Pass
n20	5240	4.06	4.06	9.6	Pass
n20	5260	3.60	3.60	9.6	Pass
n20	5320	3.95	3.95	9.6	Pass
n20	5500	2.20	2.20	9.6	Pass
n20	5700	3.33	3.33	9.6	Pass
n20	5745	1.5	1.5	28.6	Pass
n20	5825	1.54	1.54	28.6	Pass
n40	5190	5.42	5.42	9.6	Pass
n40	5230	5.35	5.35	9.6	Pass
n40	5270	5.11	5.11	9.6	Pass
n40	5310	5.35	5.35	9.6	Pass
n40	5510	4.11	4.11	9.6	Pass
n40	5670	4.34	4.34	9.6	Pass
n40	5755	1.92	1.92	28.6	Pass
n40	5795	0.82	0.82	28.6	Pass
ac20	5180	5.47	5.47	9.6	Pass
ac20	5240	4.71	4.71	9.6	Pass
ac20	5260	3.44	3.44	9.6	Pass
ac20	5320	4.26	4.26	9.6	Pass
ac20	5500	2.38	2.38	9.6	Pass
ac20	5700	3.34	3.34	9.6	Pass
ac20	5745	2.03	2.03	28.6	Pass
ac20	5825	1.46	1.46	28.6	Pass
ac40	5190	0.88	0.88	9.6	Pass
ac40	5230	-0.03	-0.03	9.6	Pass
ac40	5270	-1.35	-1.35	9.6	Pass
ac40	5310	-0.25	-0.25	9.6	Pass
ac40	5510	-2.50	-2.50	28.6	Pass
ac40	5670	7.44	7.44	9.6	Pass
ac40	5755	7.68	<b>7.68</b>	9.6	Pass
ac40	5795	6.98	6.98	9.6	Pass
ac80	5210	7.44	7.44	9.6	Pass
ac80	5290	4.75	4.75	9.6	Pass
ac80	5530	5.44	5.44	9.6	Pass
ac80	5610	2.87	2.87	28.6	Pass
ac80	5775	2.20	2.20	28.6	Pass
ax20	5180	4.57	4.57	9.6	Pass
ax20	5240	4.48	4.48	9.6	Pass
ax20	5260	3.68	3.68	9.6	Pass
ax20	5320	3.84	3.84	9.6	Pass





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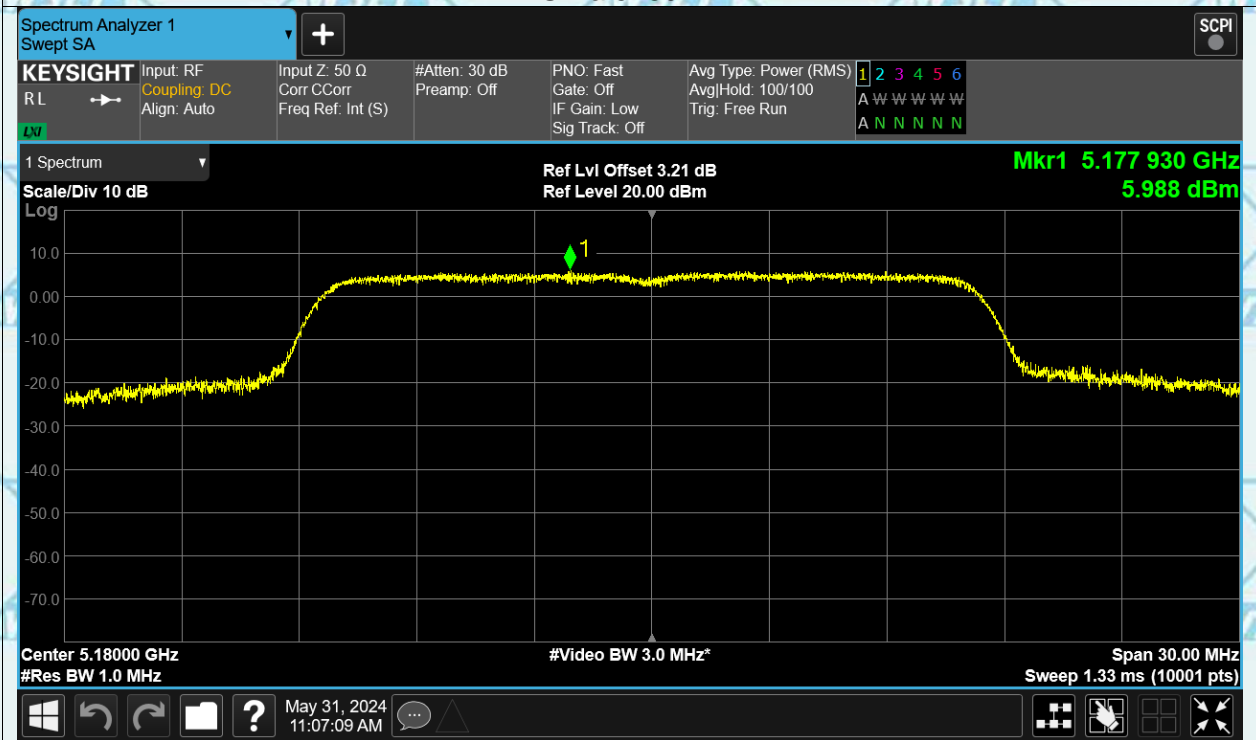
ax20	5500	2.96	2.96	9.6	Pass
ax20	5700	3.44	3.44	9.6	Pass
ax20	5745	2.22	2.22	28.6	Pass
ax20	5825	-0.71	-0.71	28.6	Pass
ax40	5190	-1.19	-1.19	9.6	Pass
ax40	5230	-0.7	-0.7	9.6	Pass
ax40	5270	-1.67	-1.67	9.6	Pass
ax40	5310	-1.36	-1.36	9.6	Pass
ax40	5510	-3.86	-3.86	28.6	Pass





MAIN

Test Graphs PSD a 5180MHz



PSD a 5240MHz

