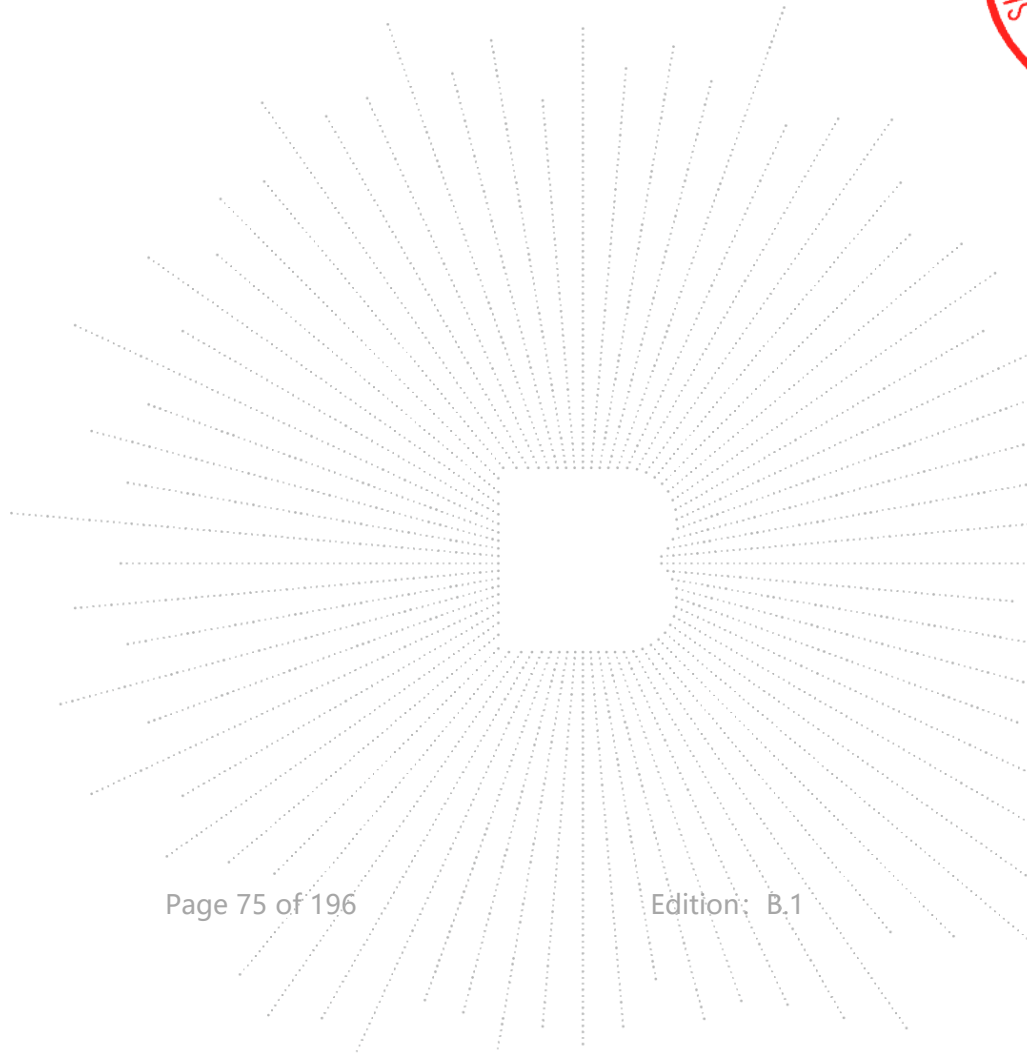
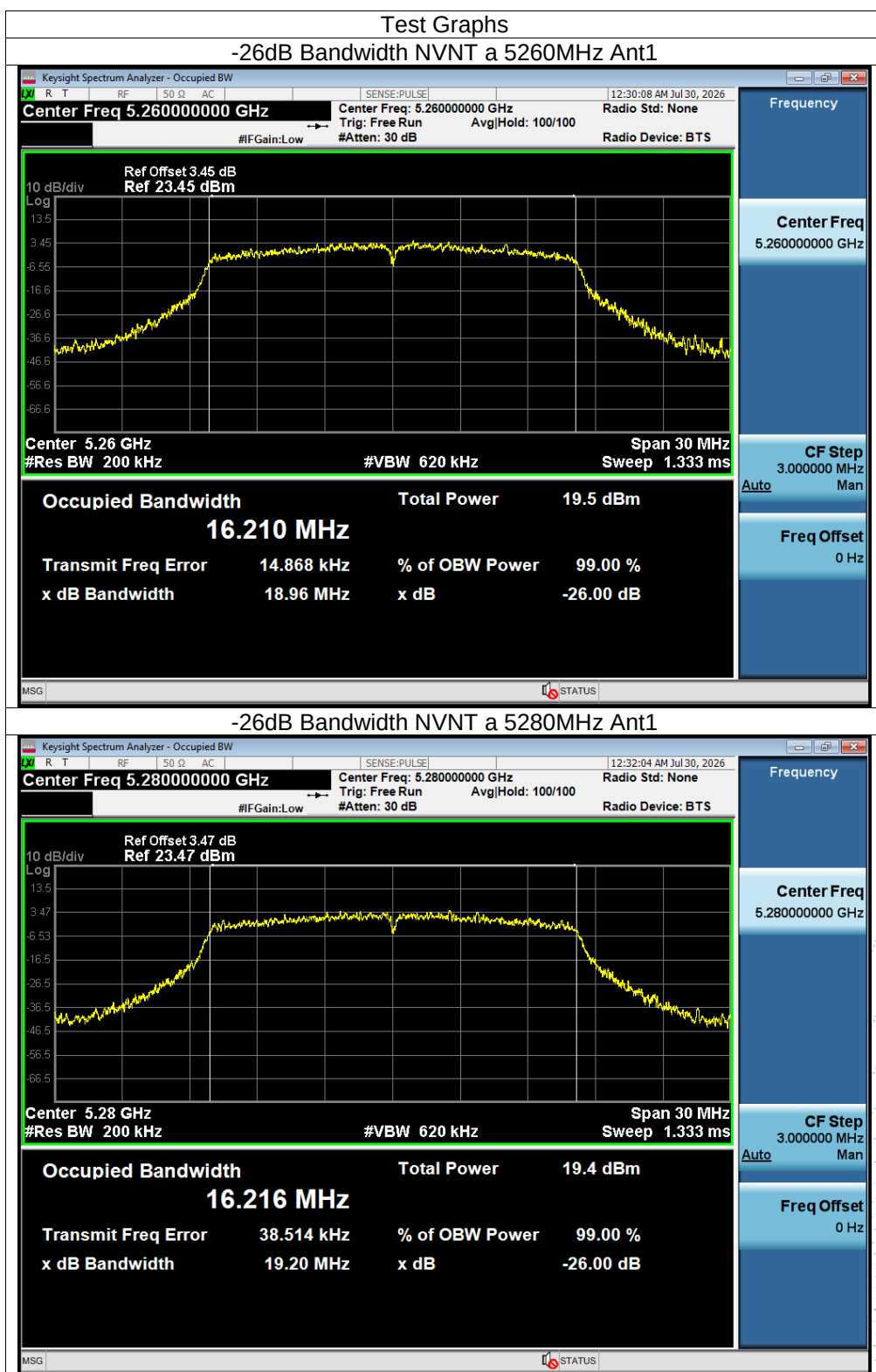


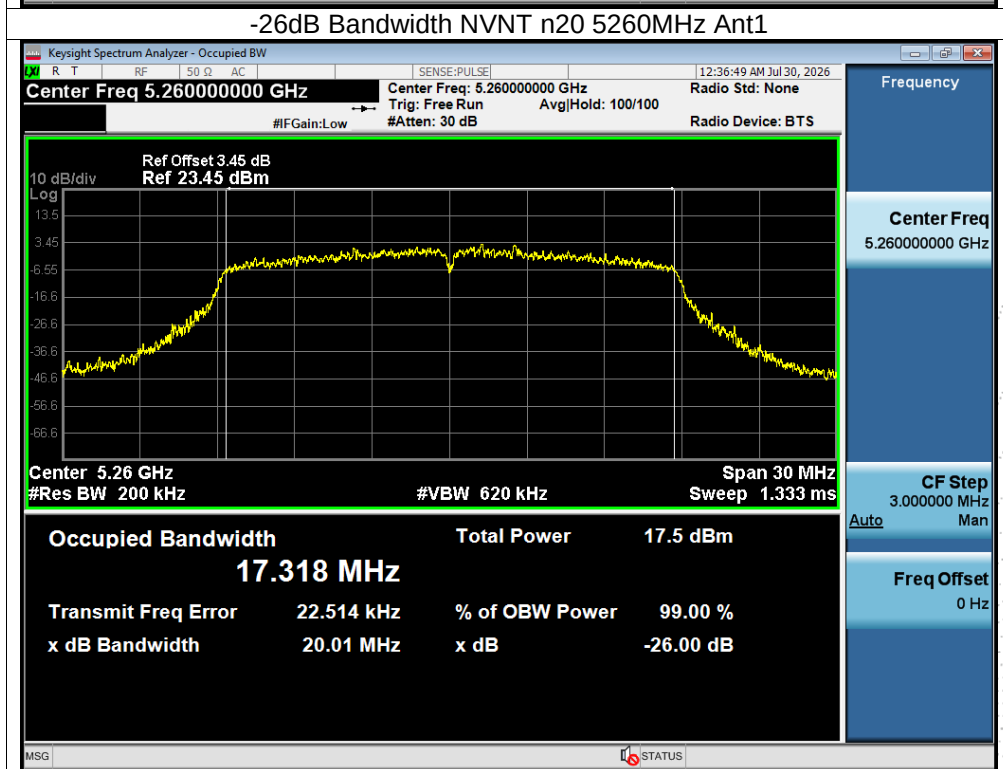
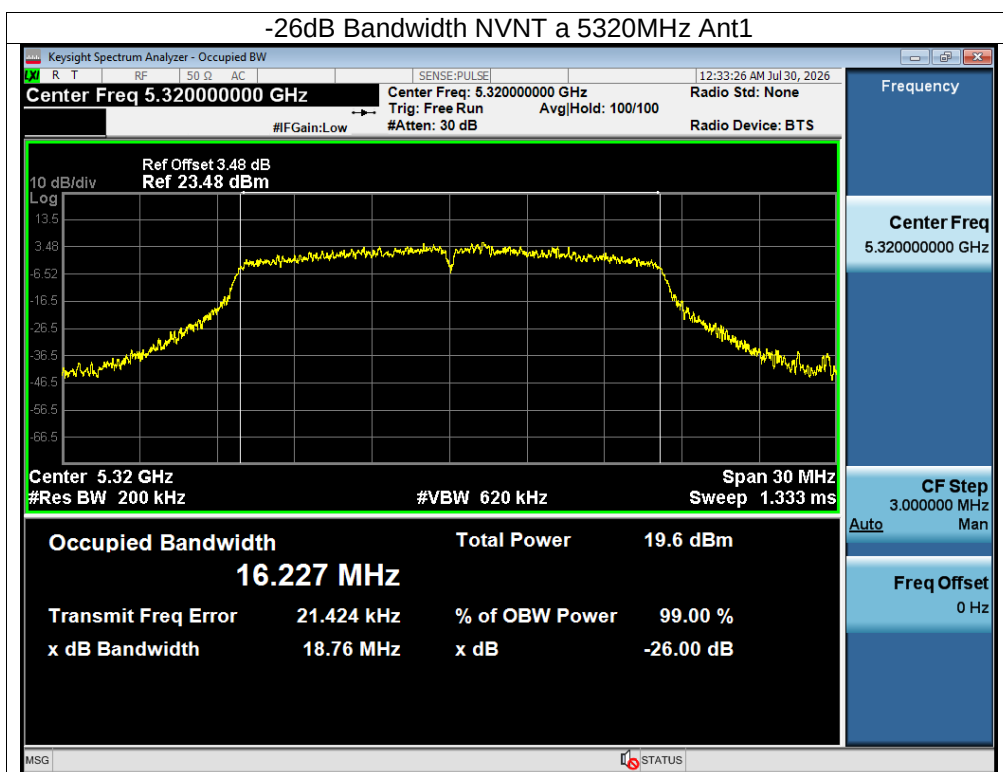
Temperature:	23.7°C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5260-5320MHz)		

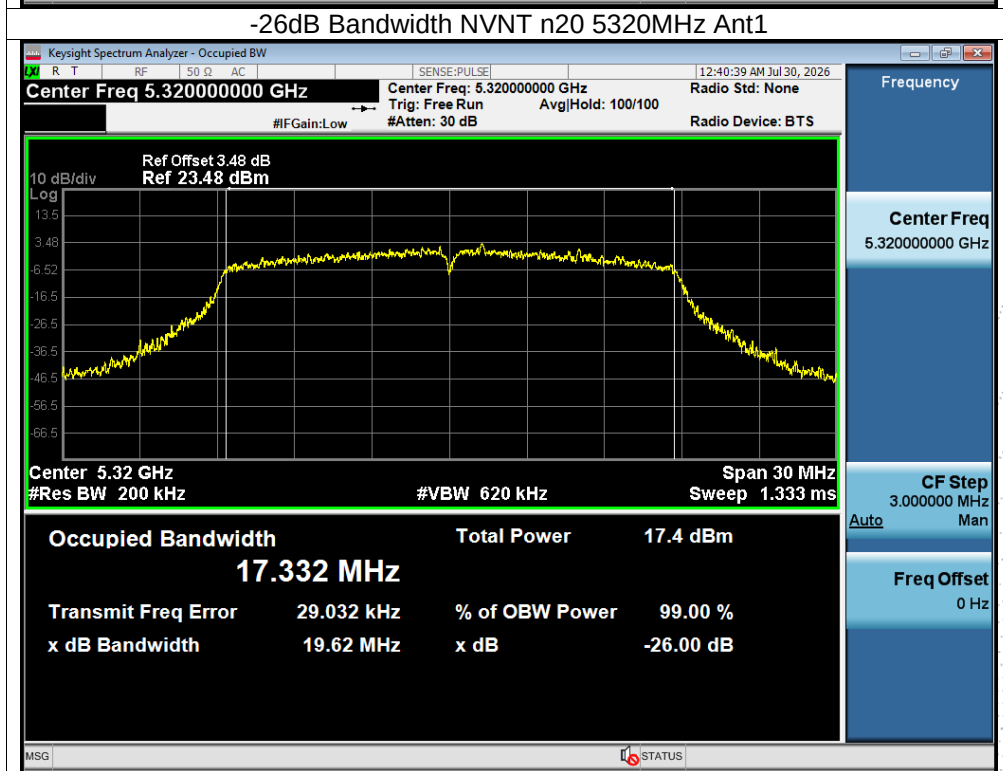
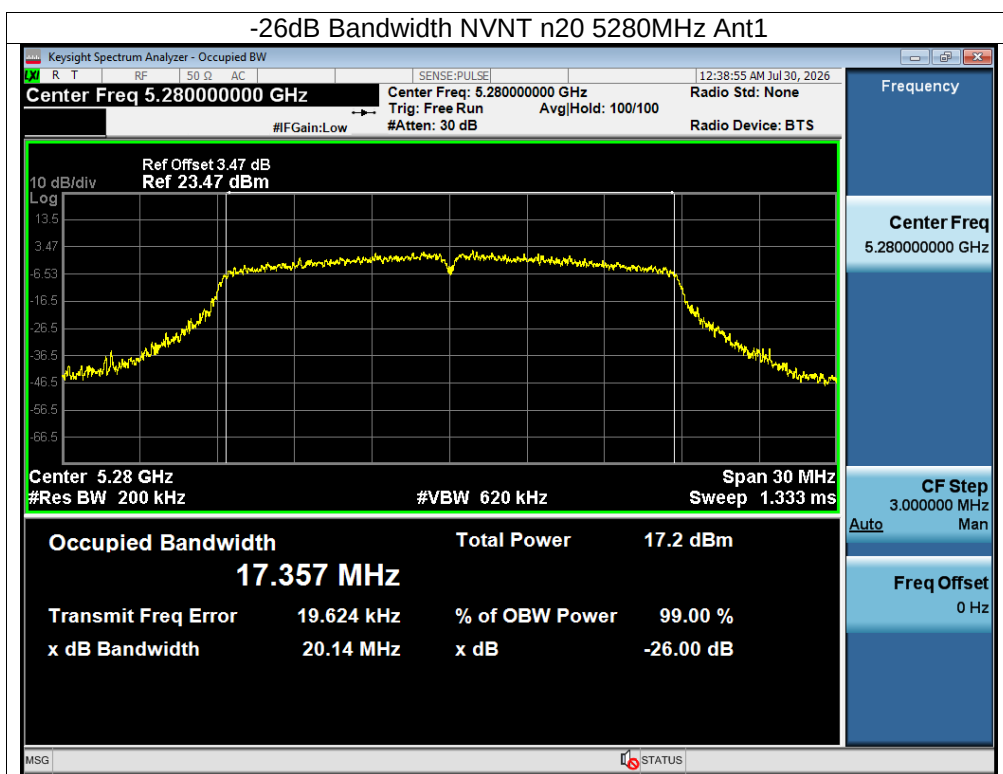
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5260	18.963	Pass
NVNT	a	5280	19.195	Pass
NVNT	a	5320	18.758	Pass
NVNT	n20	5260	20.011	Pass
NVNT	n20	5280	20.144	Pass
NVNT	n20	5320	19.616	Pass
NVNT	n40	5270	37.924	Pass
NVNT	n40	5310	37.764	Pass

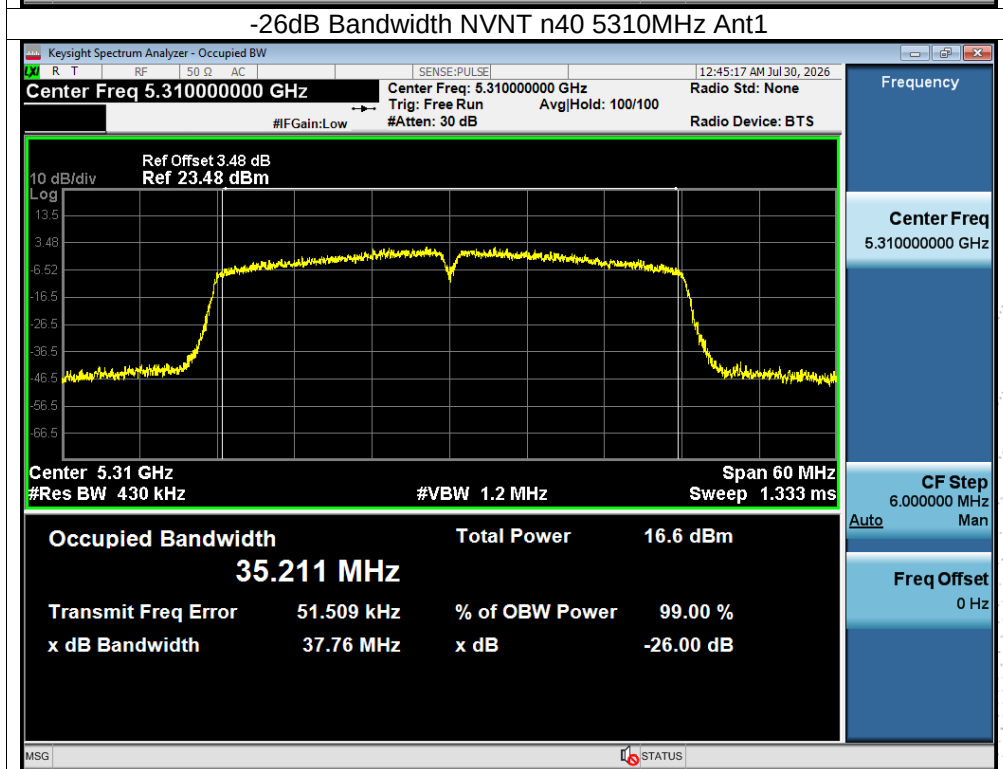
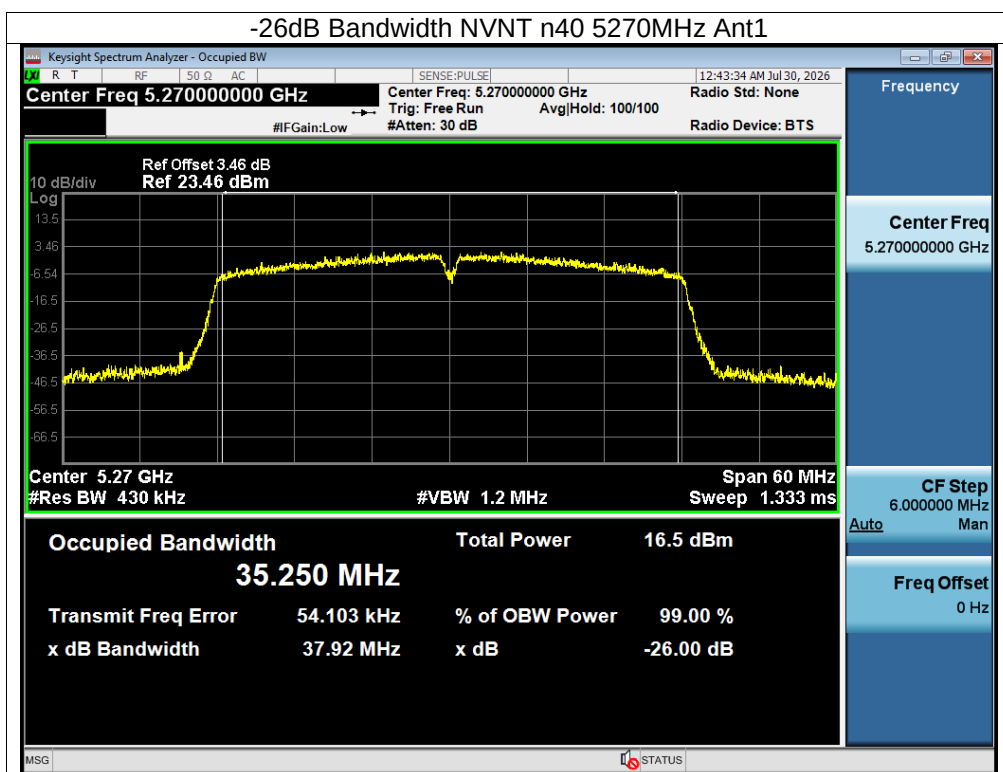
Condition	Mode	Frequency (MHz)	99% OBW (MHz)
NVNT	a	5260	16.231
NVNT	a	5280	16.211
NVNT	a	5320	16.204
NVNT	n20	5260	17.331
NVNT	n20	5280	17.345
NVNT	n20	5320	17.318
NVNT	n40	5270	35.23
NVNT	n40	5310	35.162

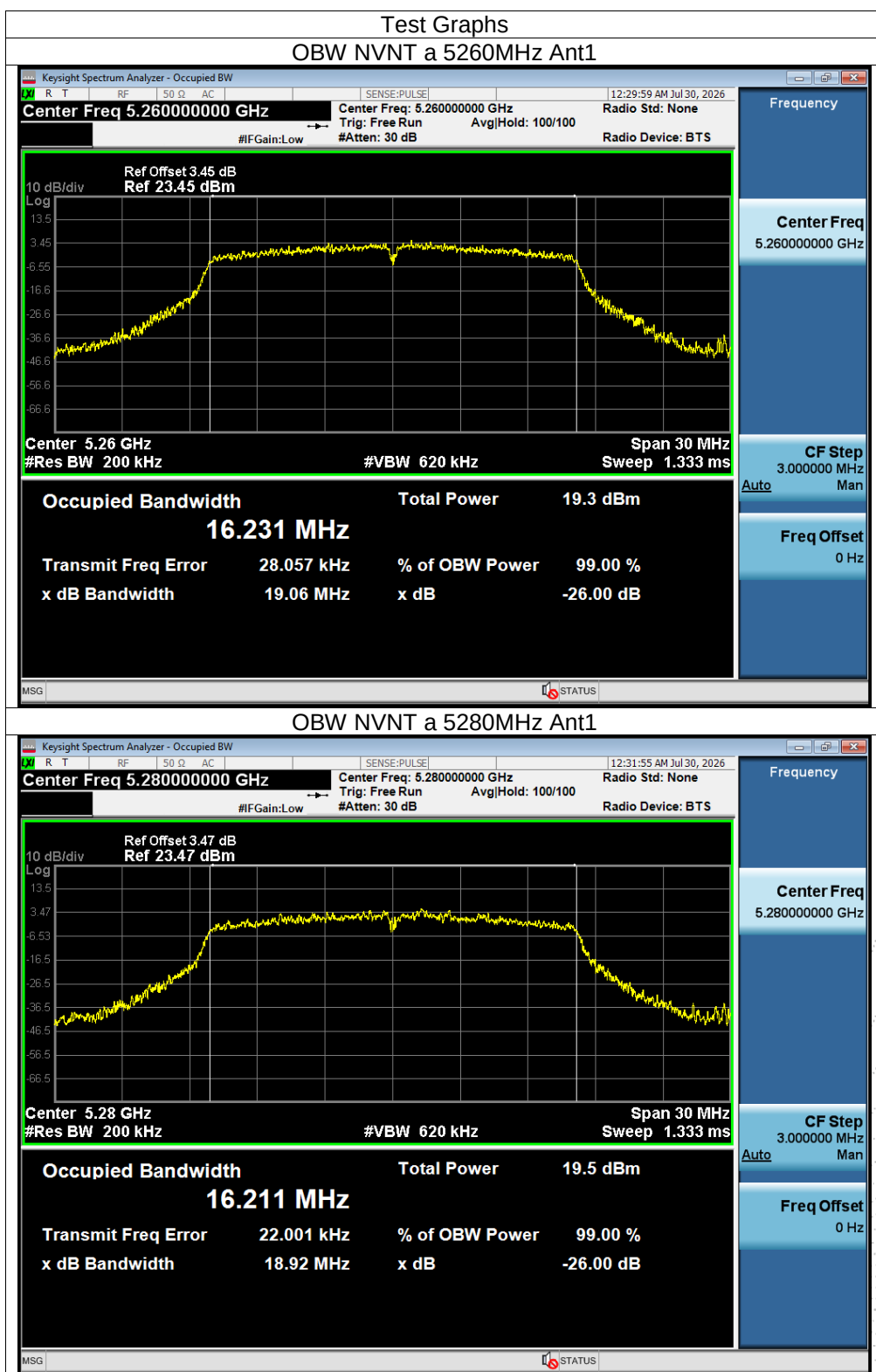




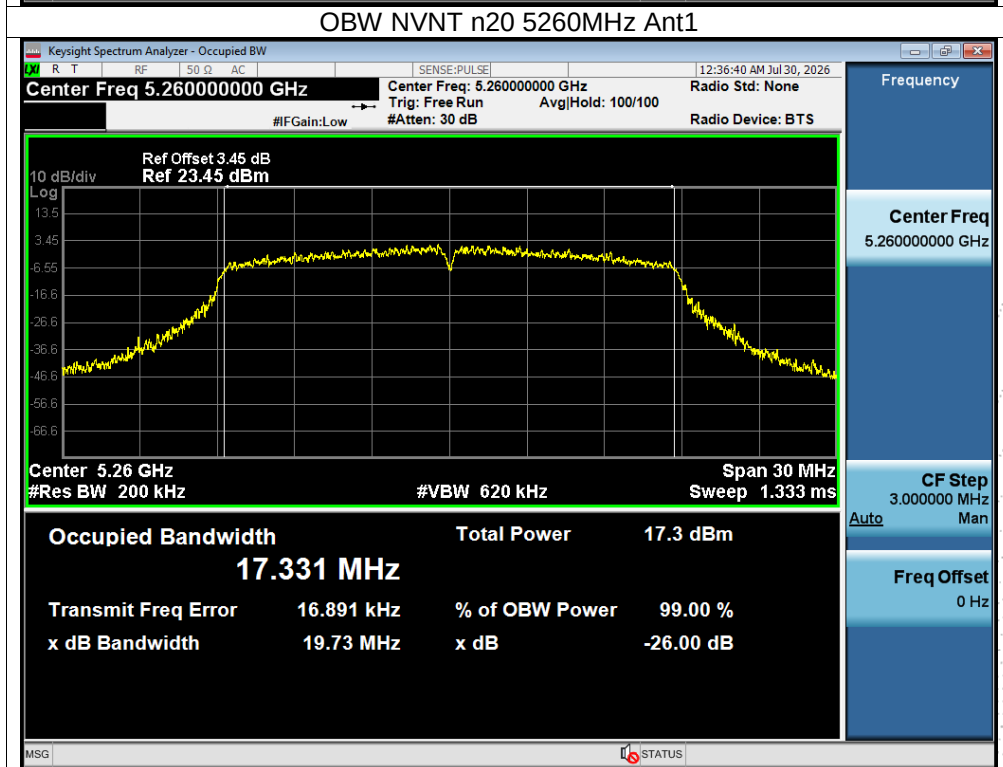
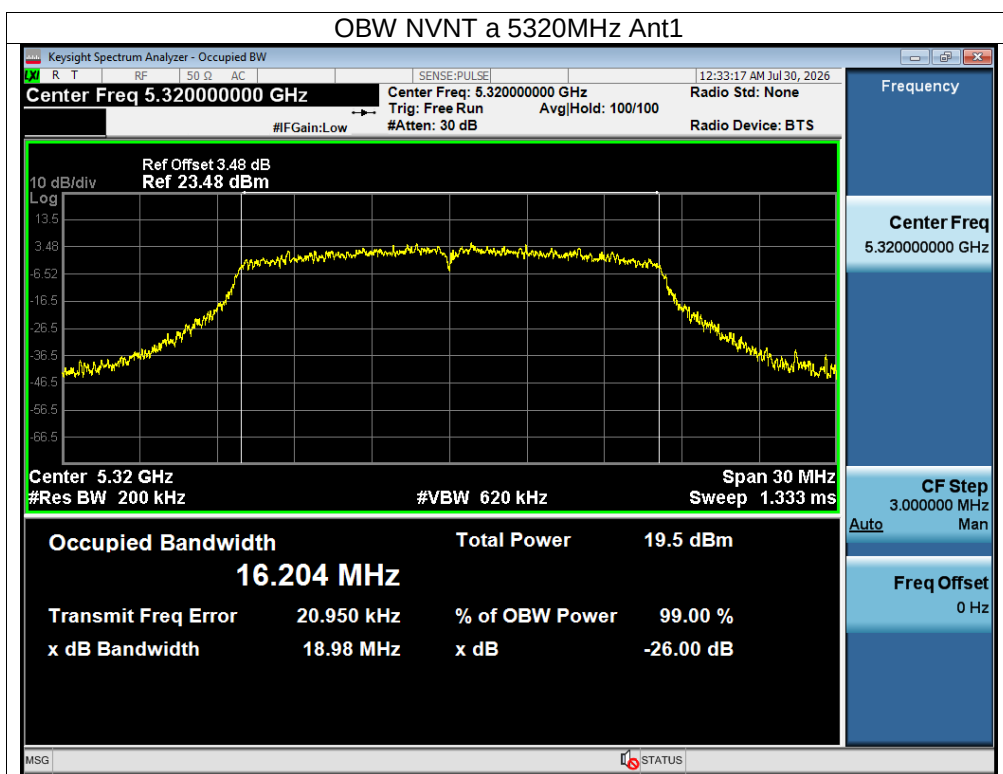


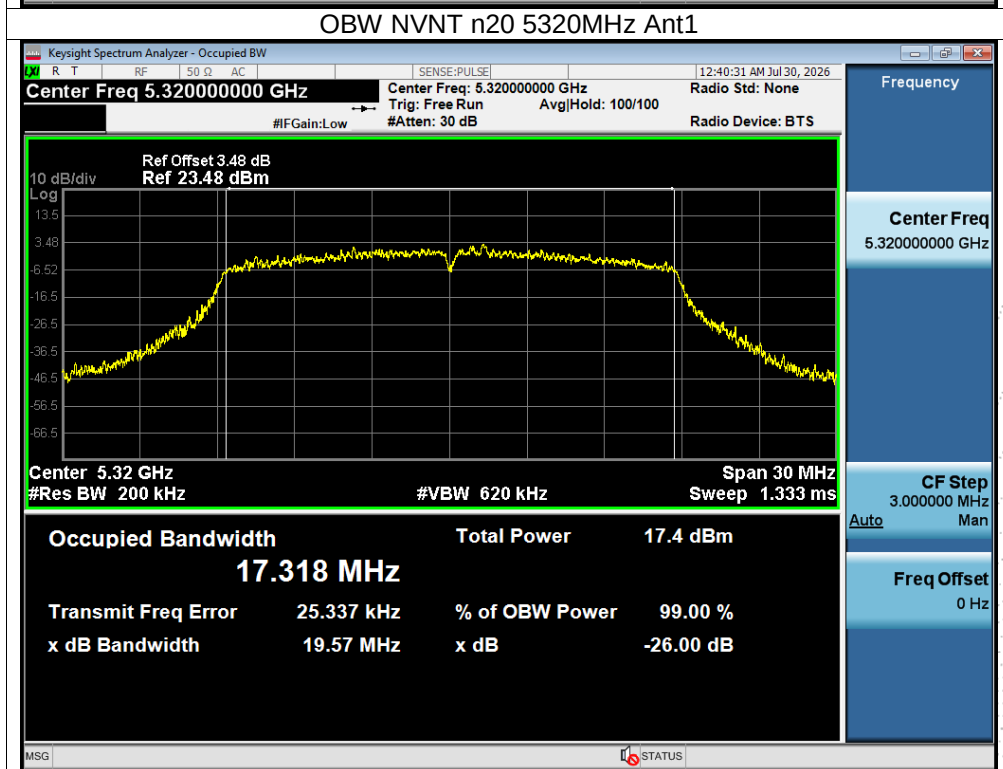
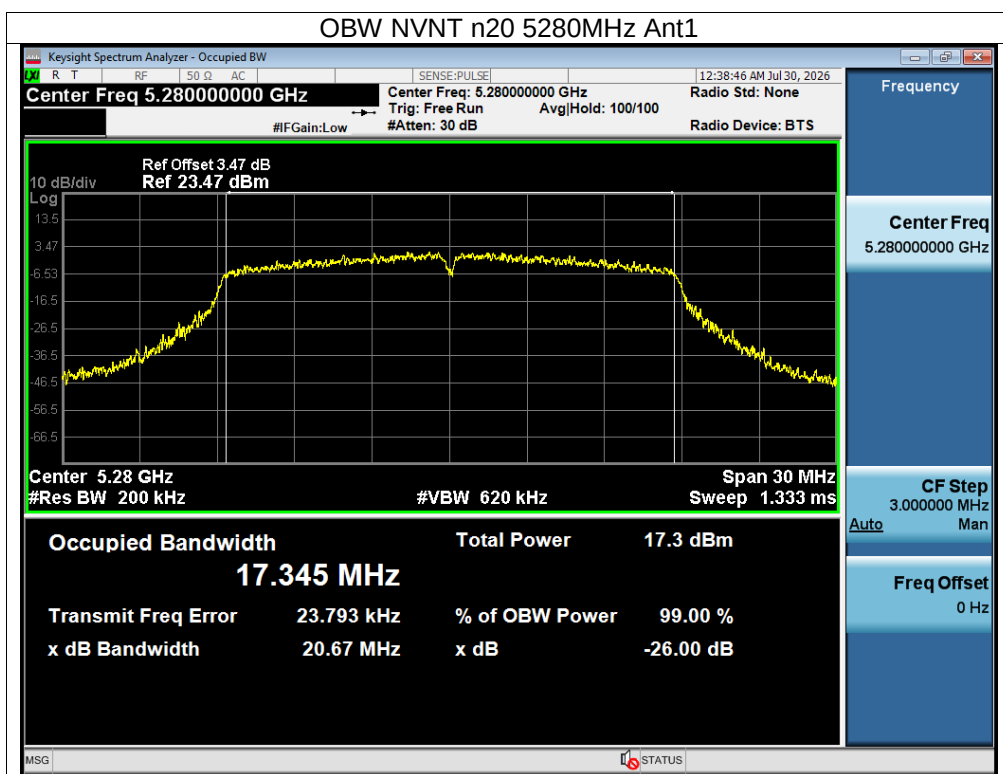


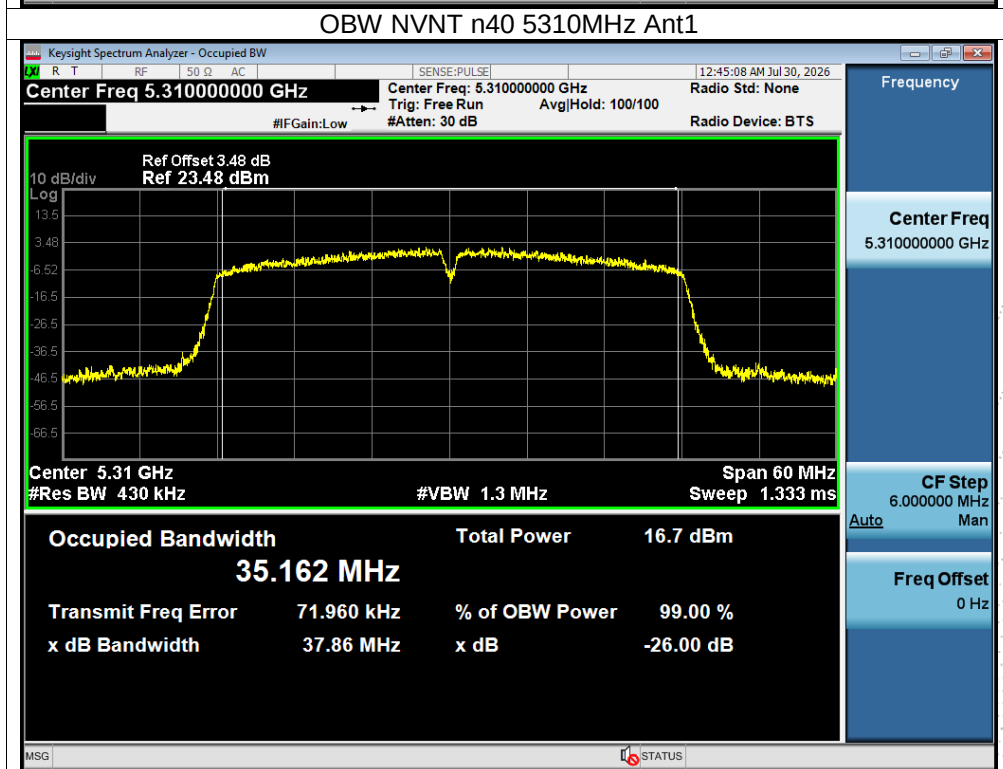
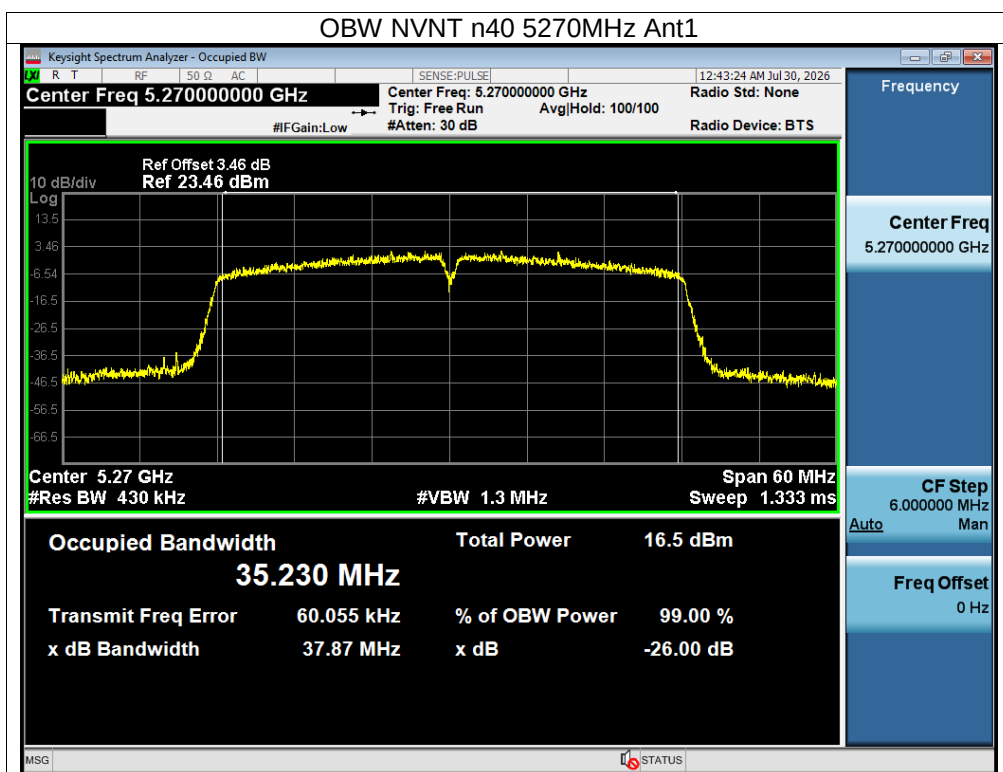




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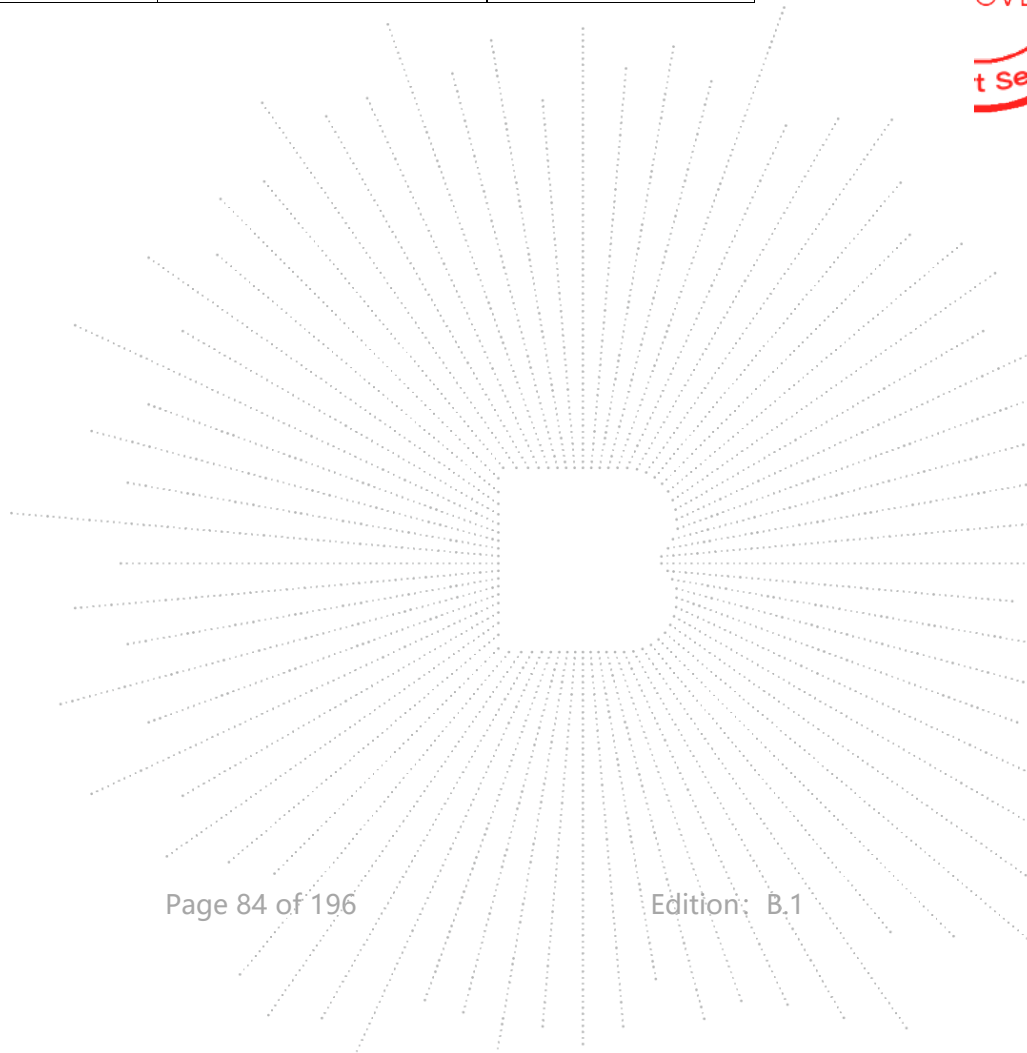


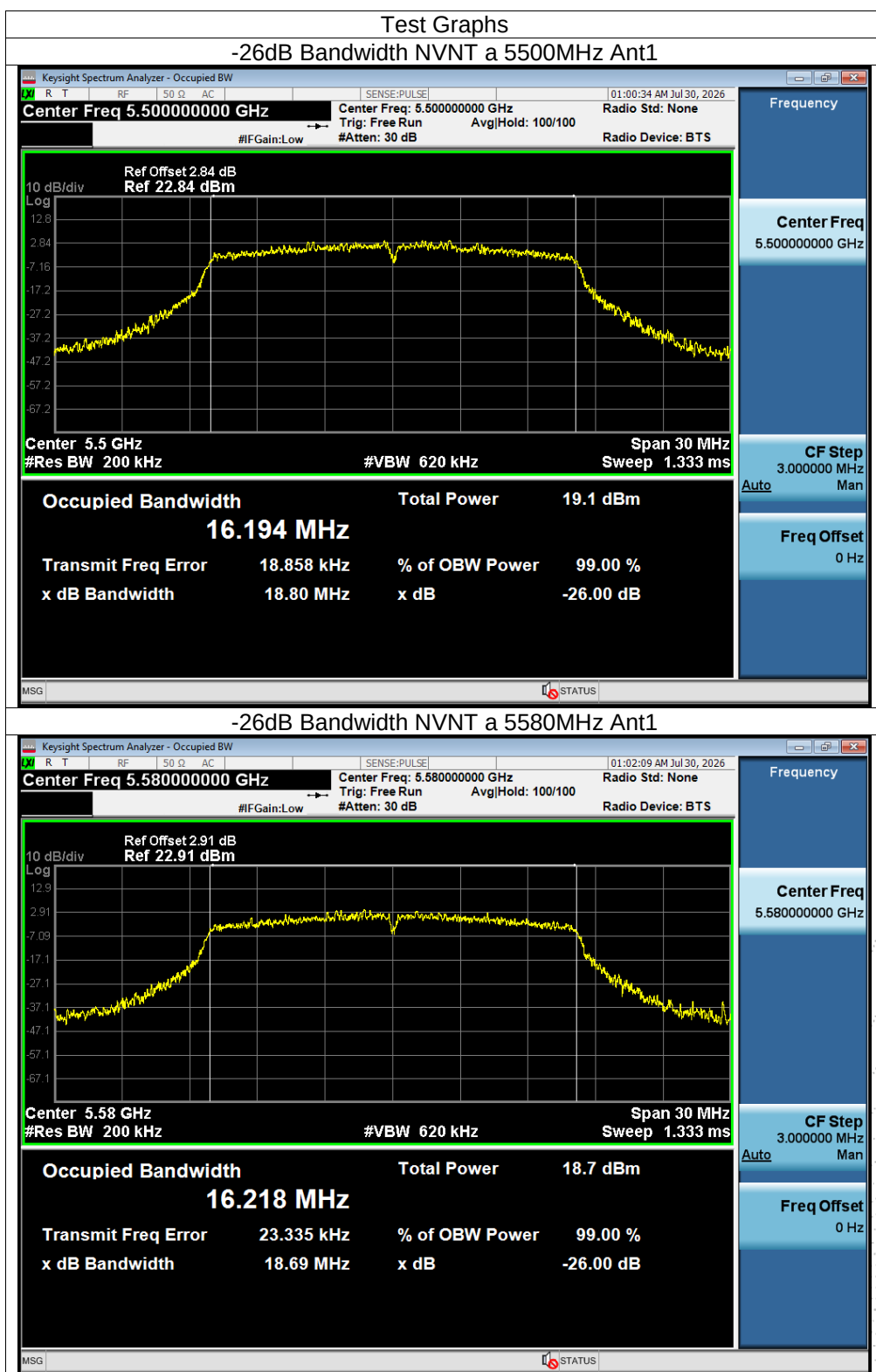


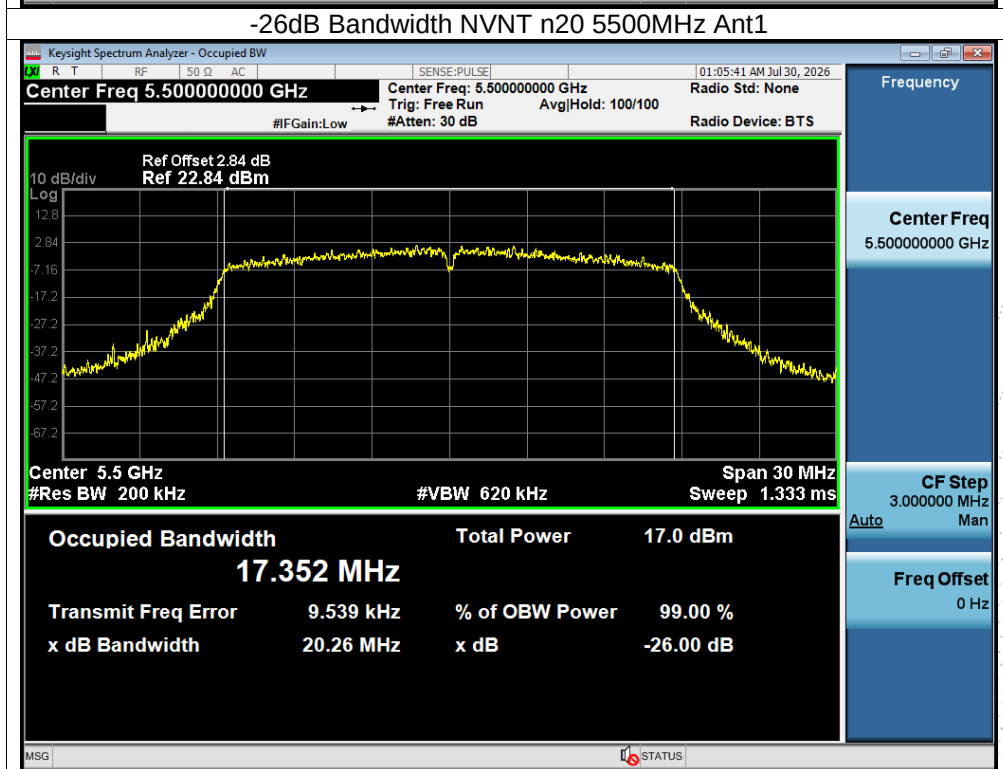
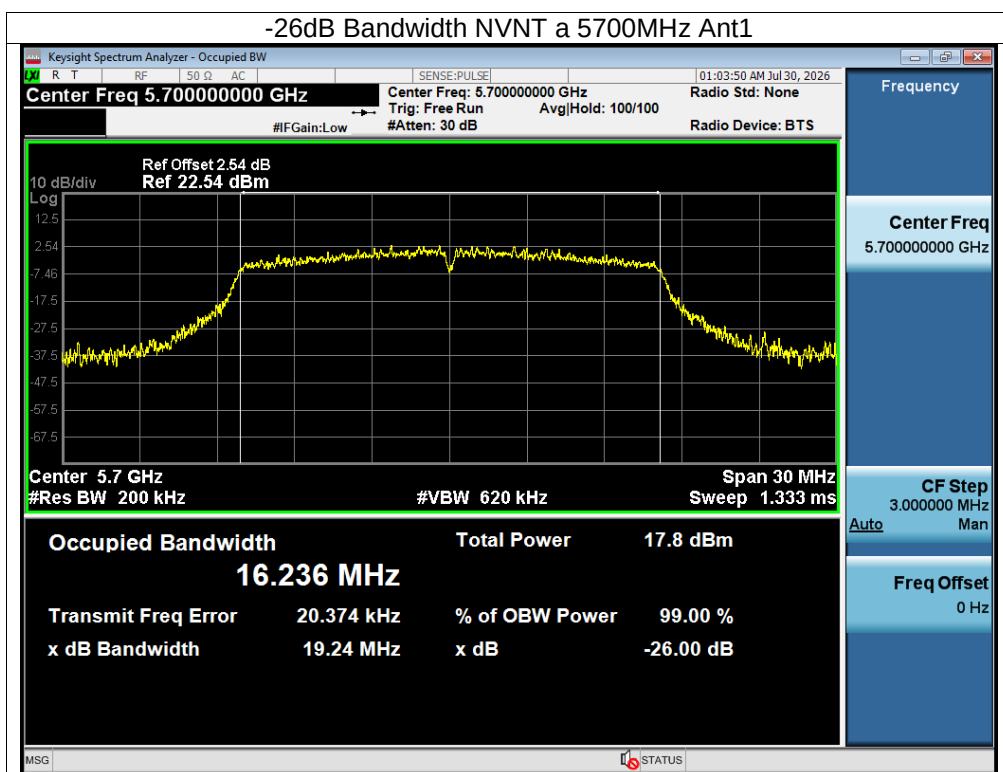
Temperature:	23.7 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5500-5700MHz)		

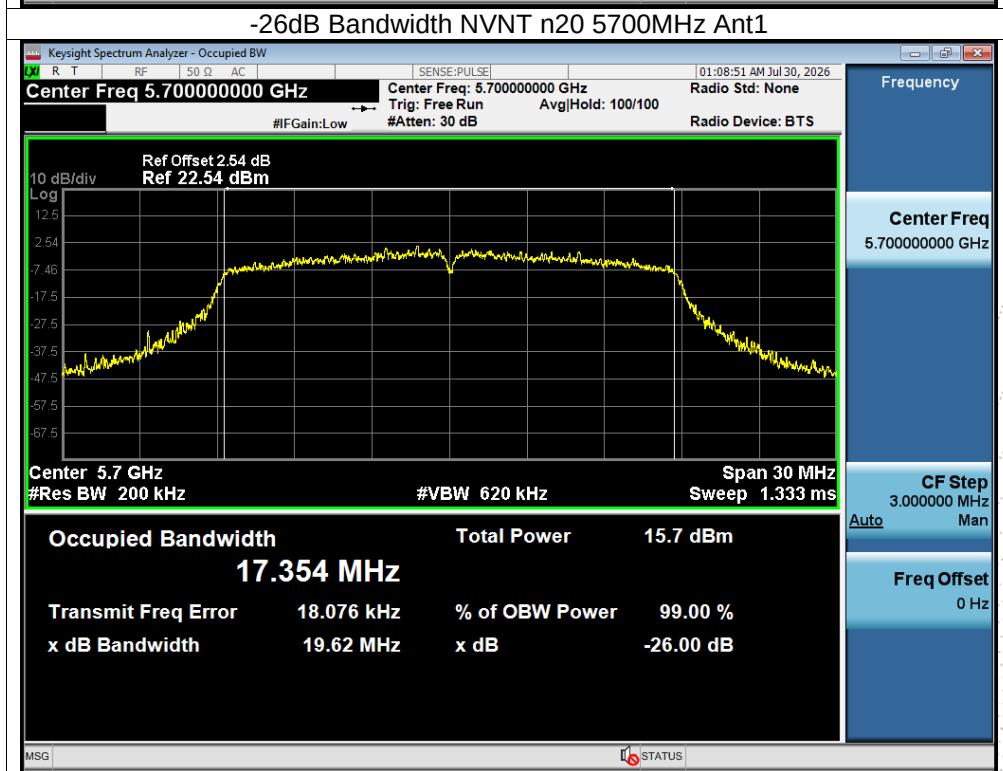
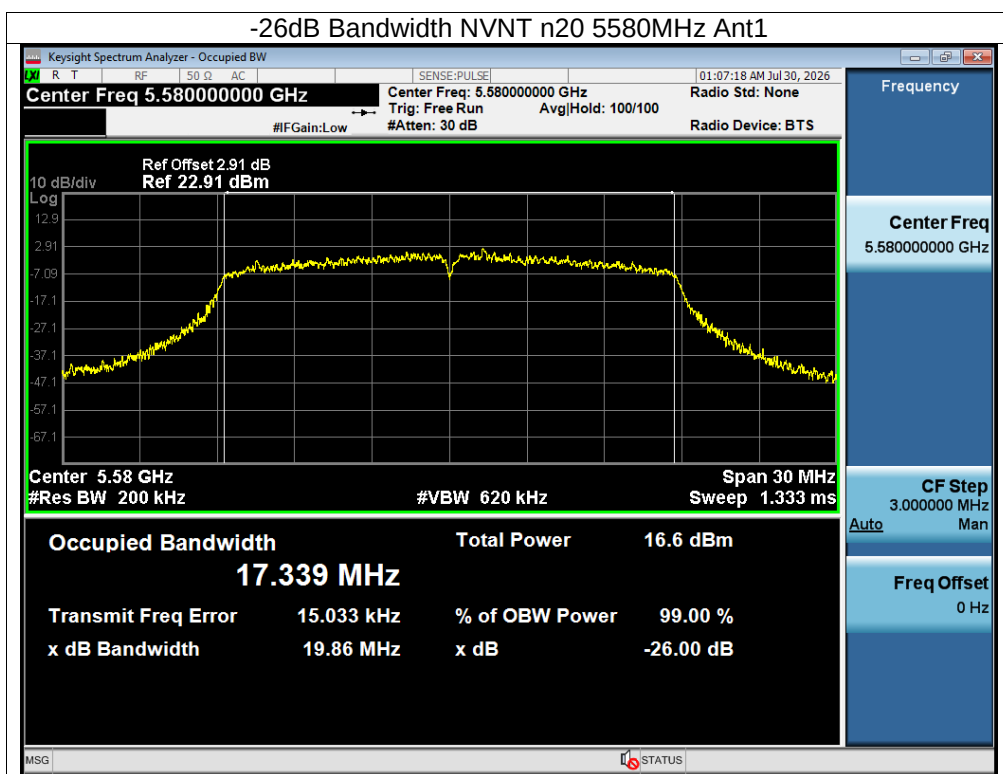
Condition	Mode	Frequency (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	a	5500	18.802	Pass
NVNT	a	5580	18.694	Pass
NVNT	a	5700	19.243	Pass
NVNT	n20	5500	20.264	Pass
NVNT	n20	5580	19.864	Pass
NVNT	n20	5700	19.625	Pass
NVNT	n40	5510	37.86	Pass
NVNT	n40	5550	37.913	Pass
NVNT	n40	5670	37.887	Pass

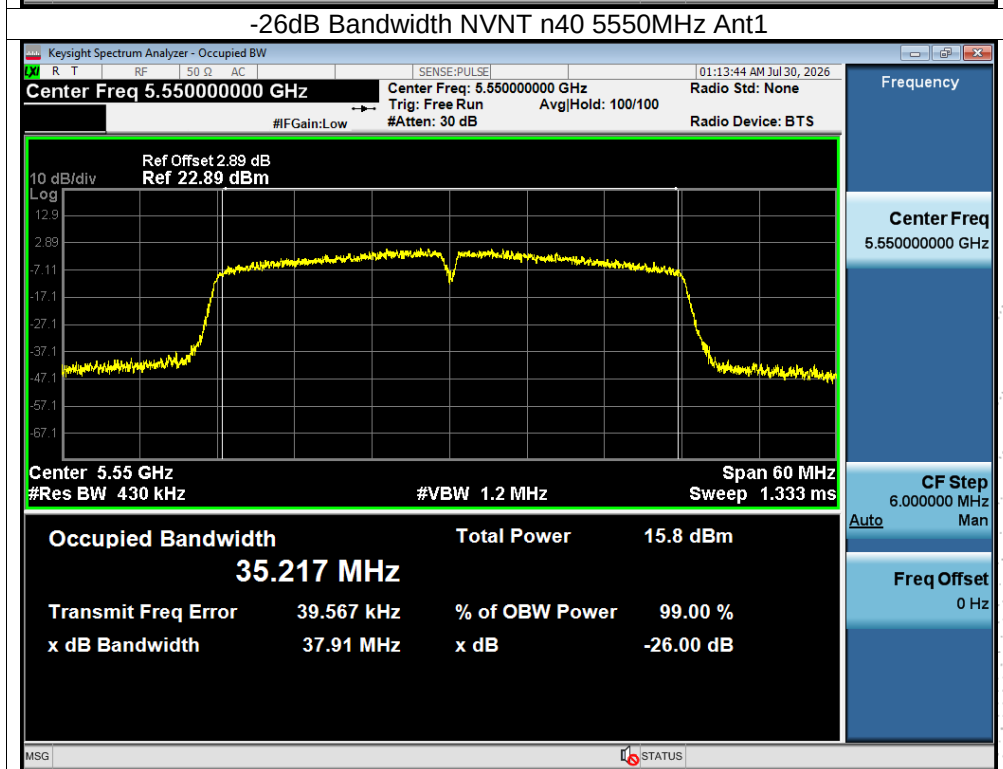
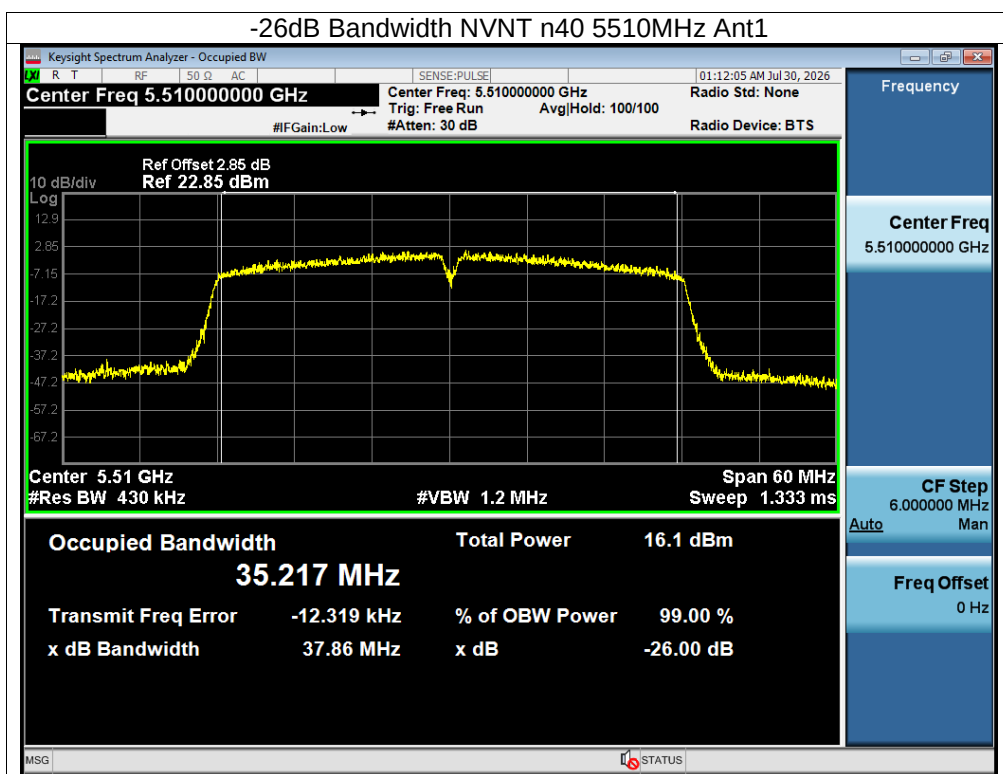
Condition	Mode	Frequency (MHz)	99% OBW (MHz)
NVNT	a	5500	16.209
NVNT	a	5580	16.215
NVNT	a	5700	16.217
NVNT	n20	5500	17.306
NVNT	n20	5580	17.311
NVNT	n20	5700	17.345
NVNT	n40	5510	35.236
NVNT	n40	5550	35.21
NVNT	n40	5670	35.221

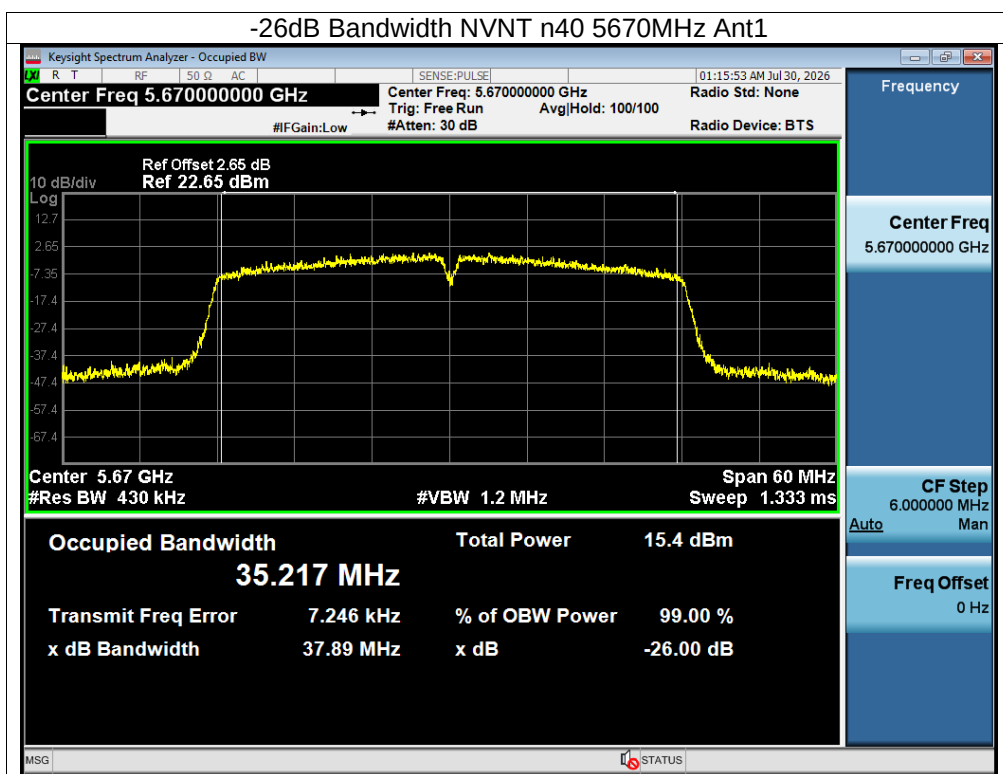


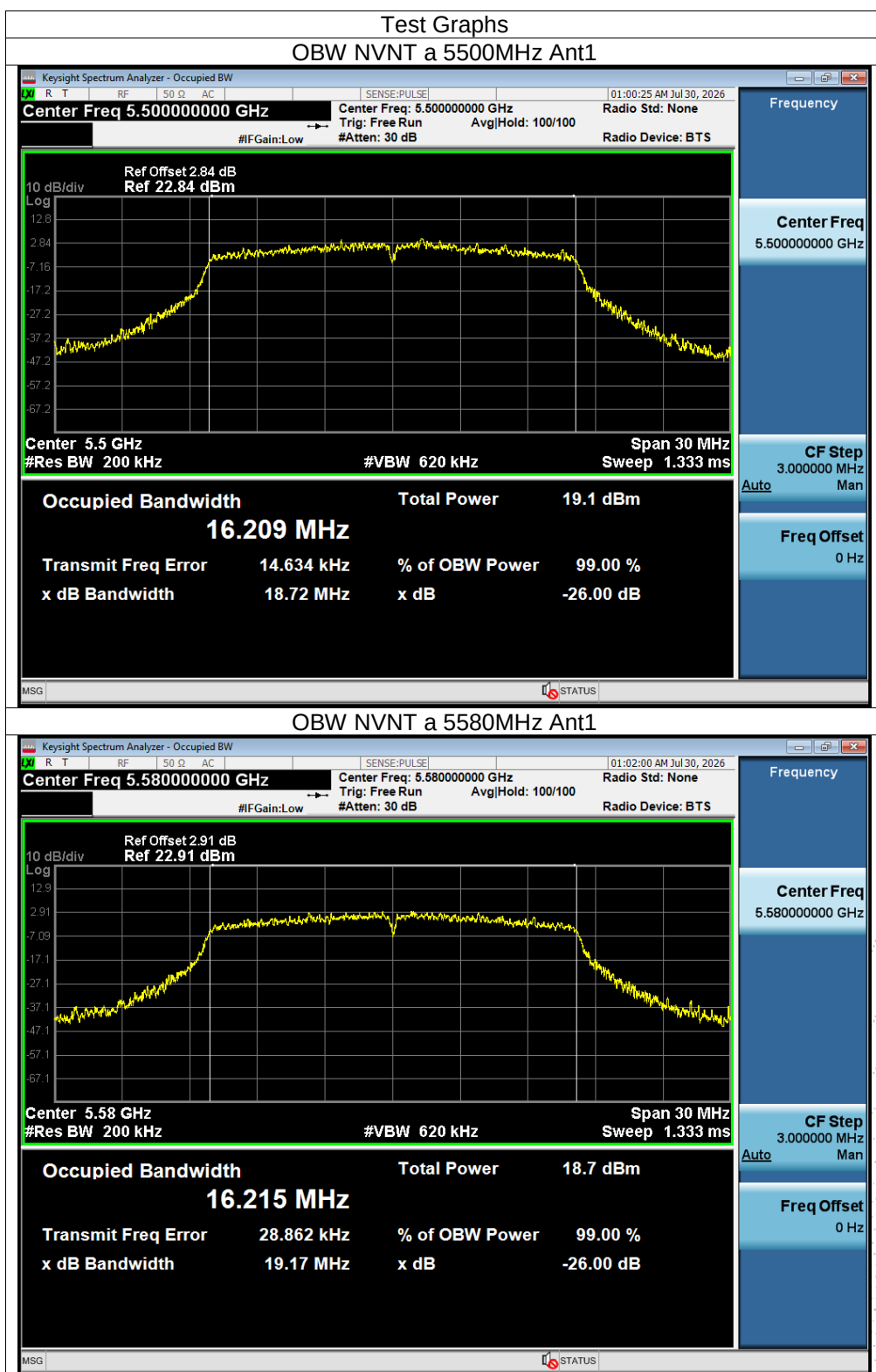


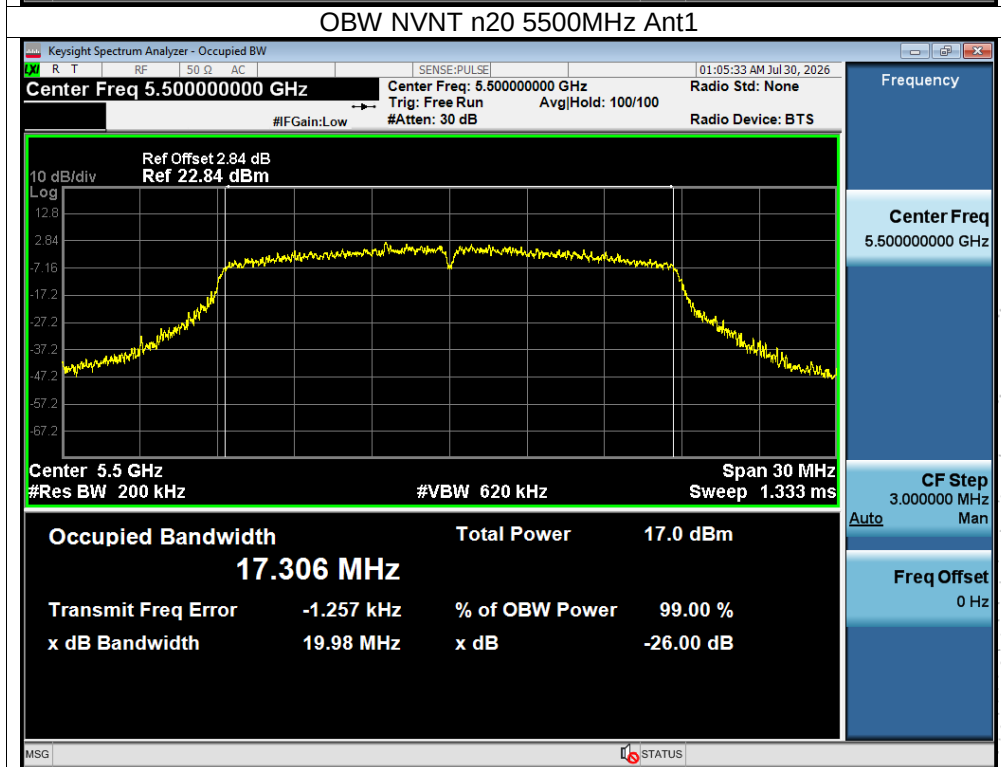
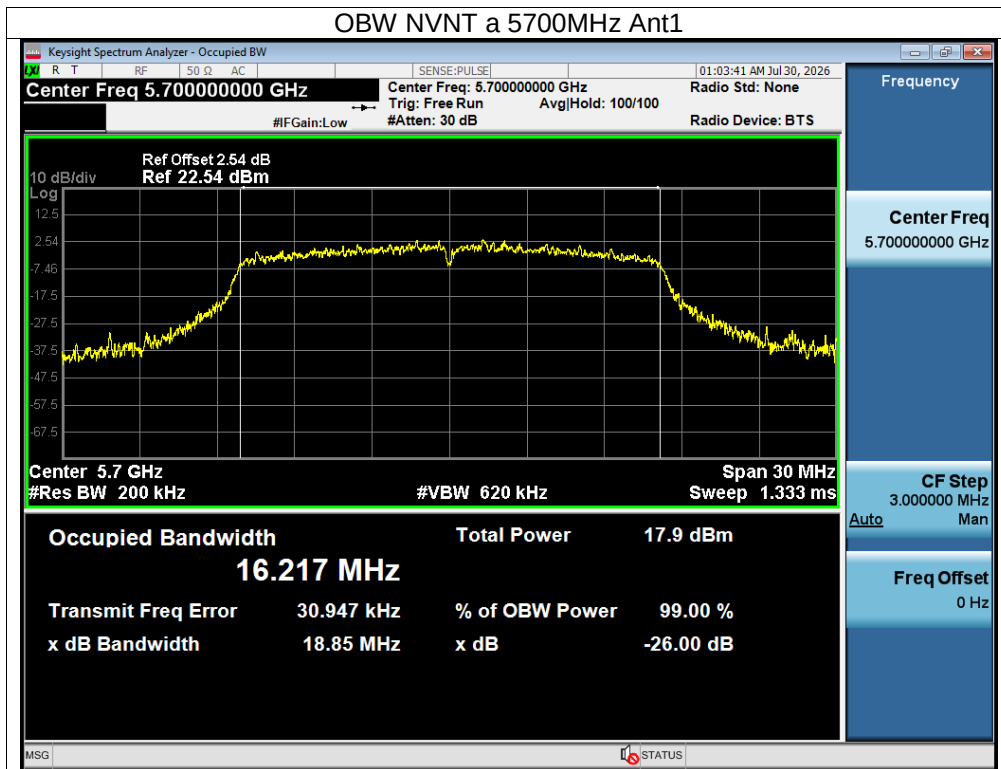


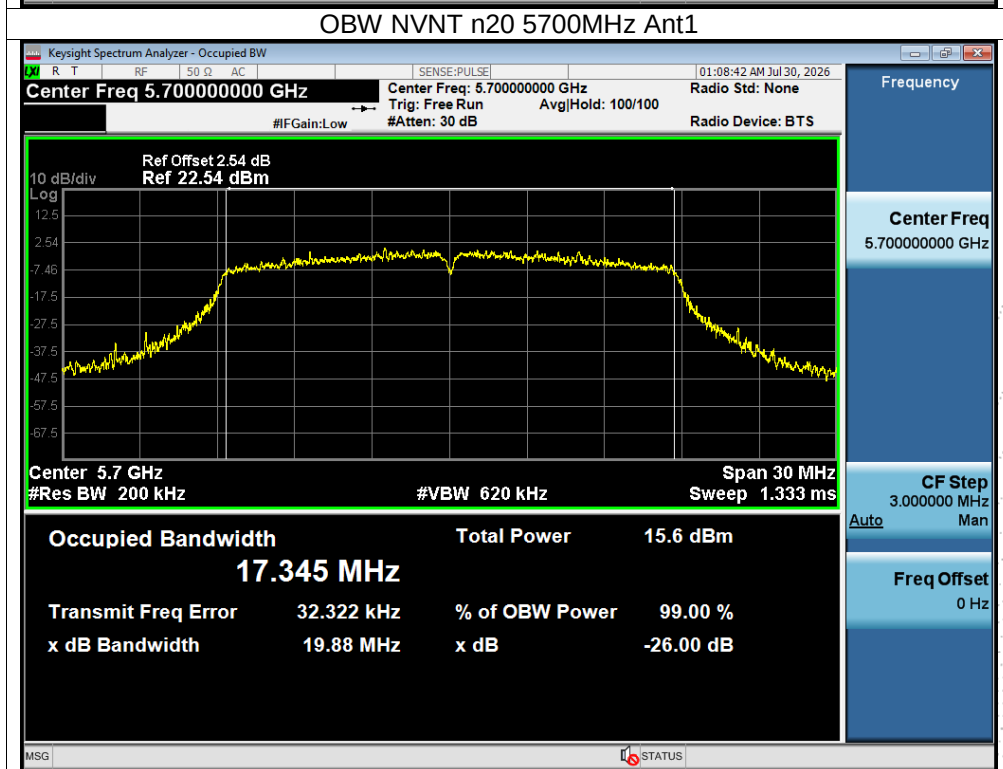
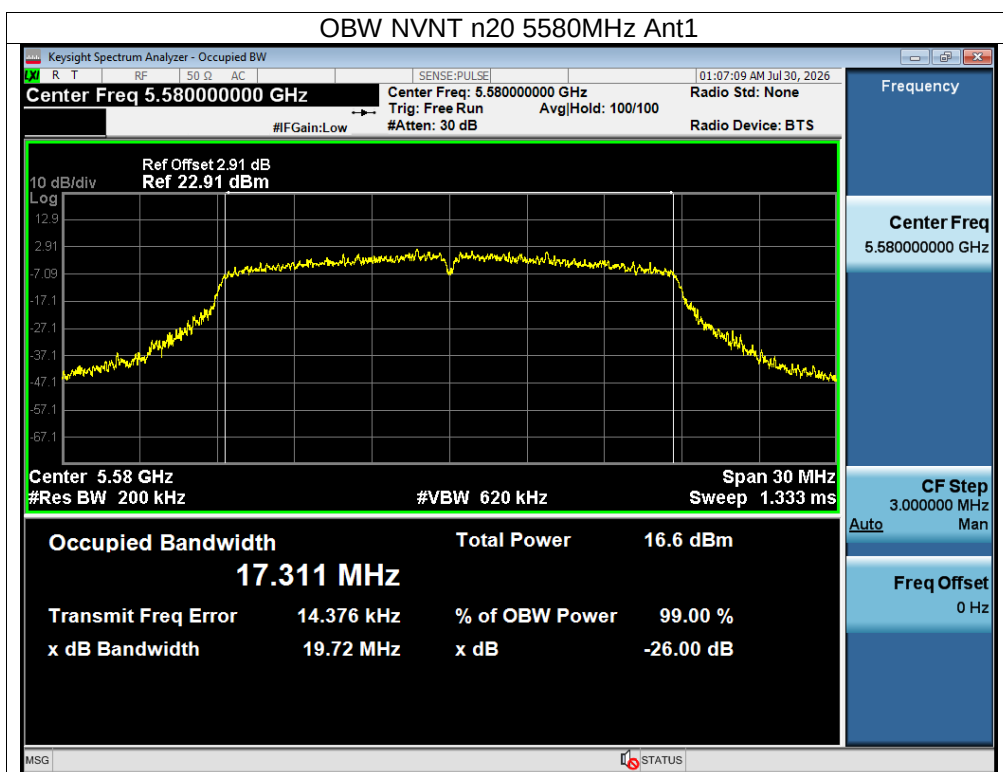




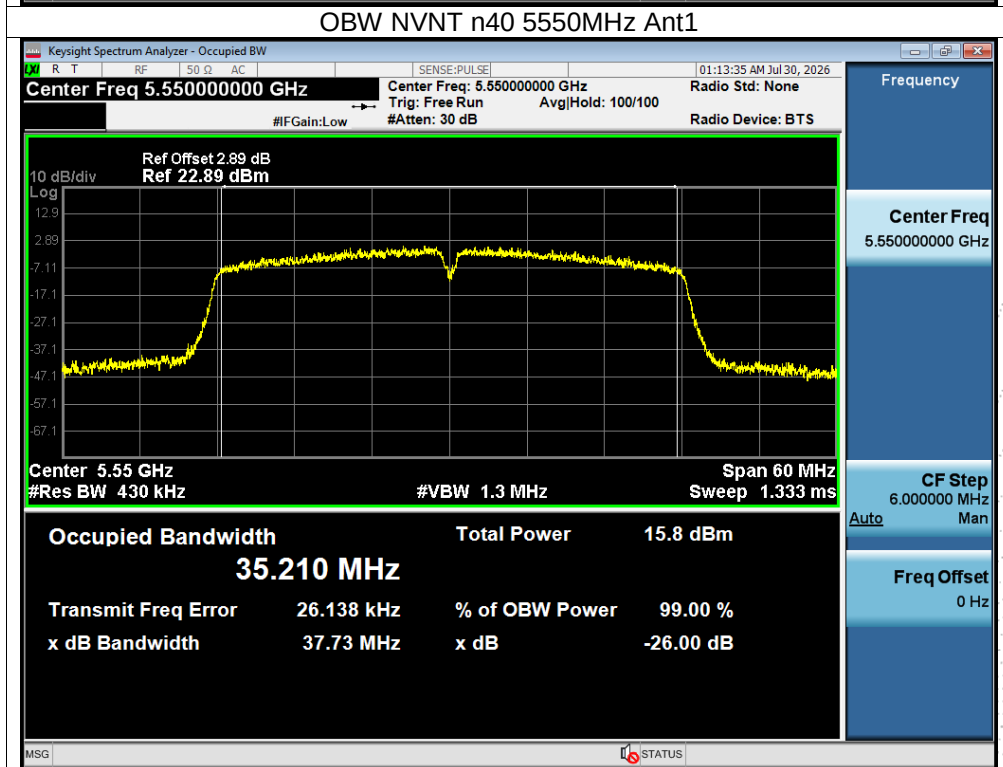
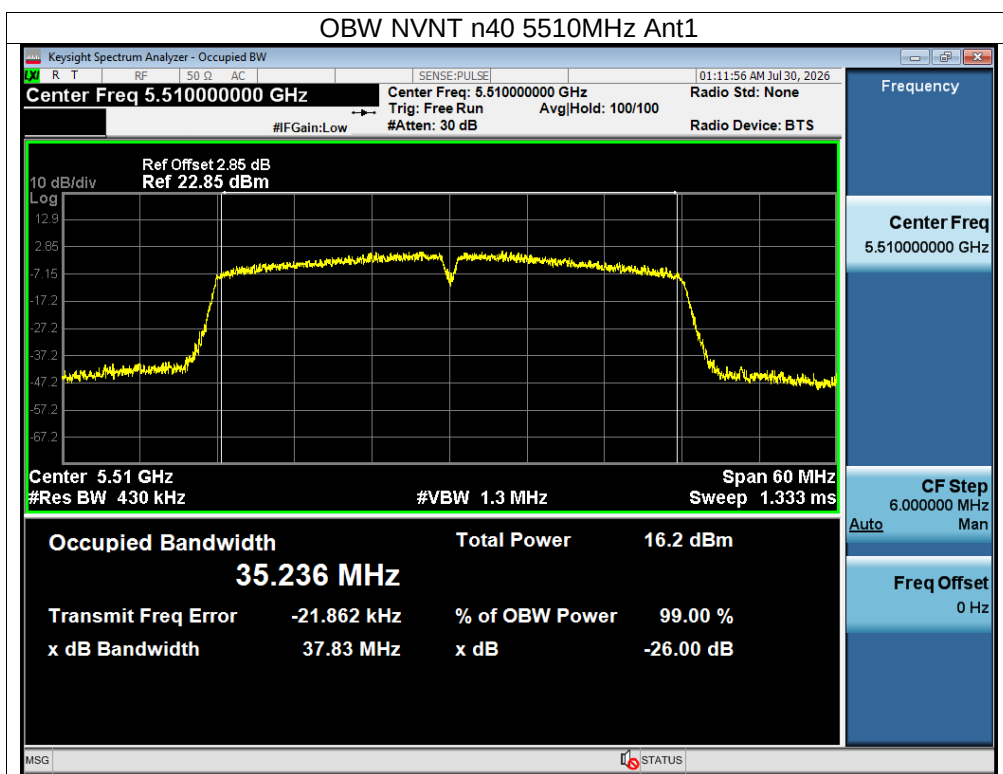


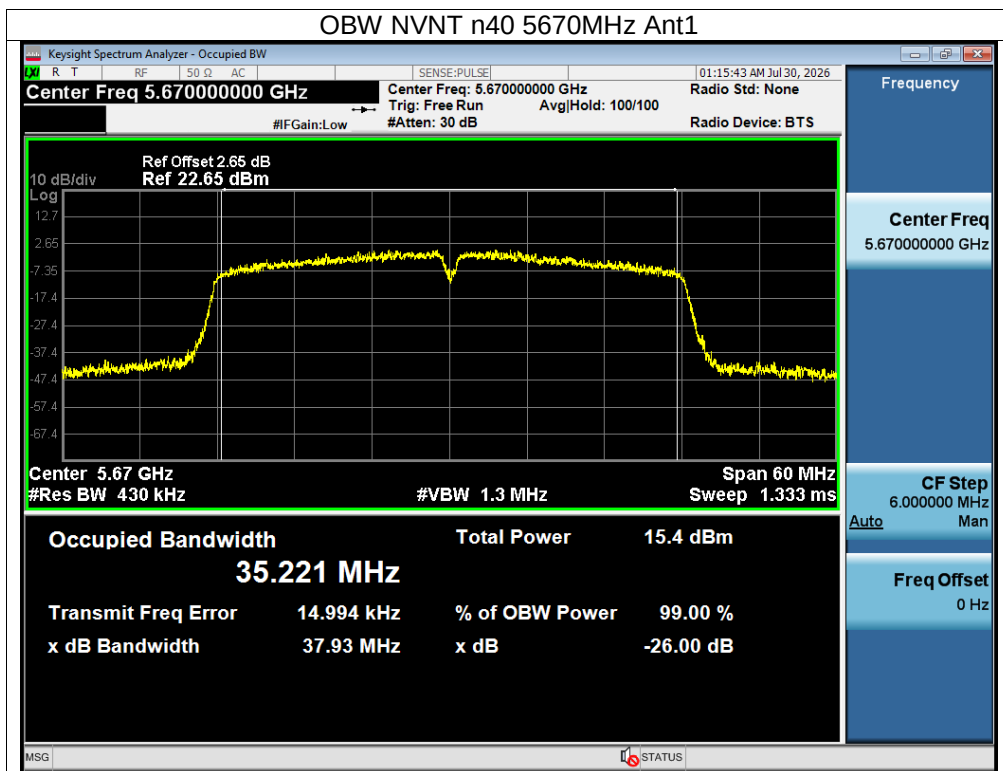






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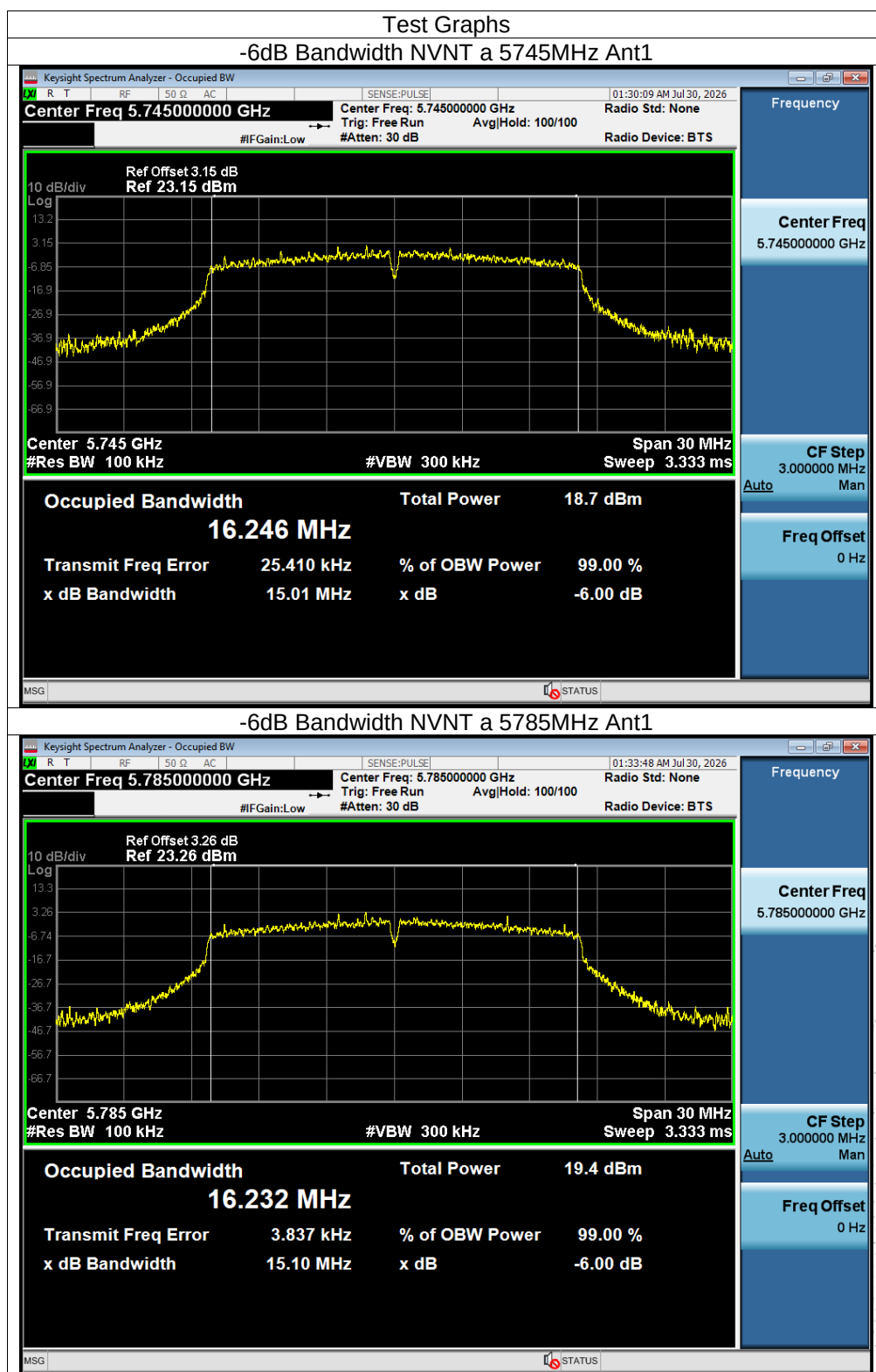


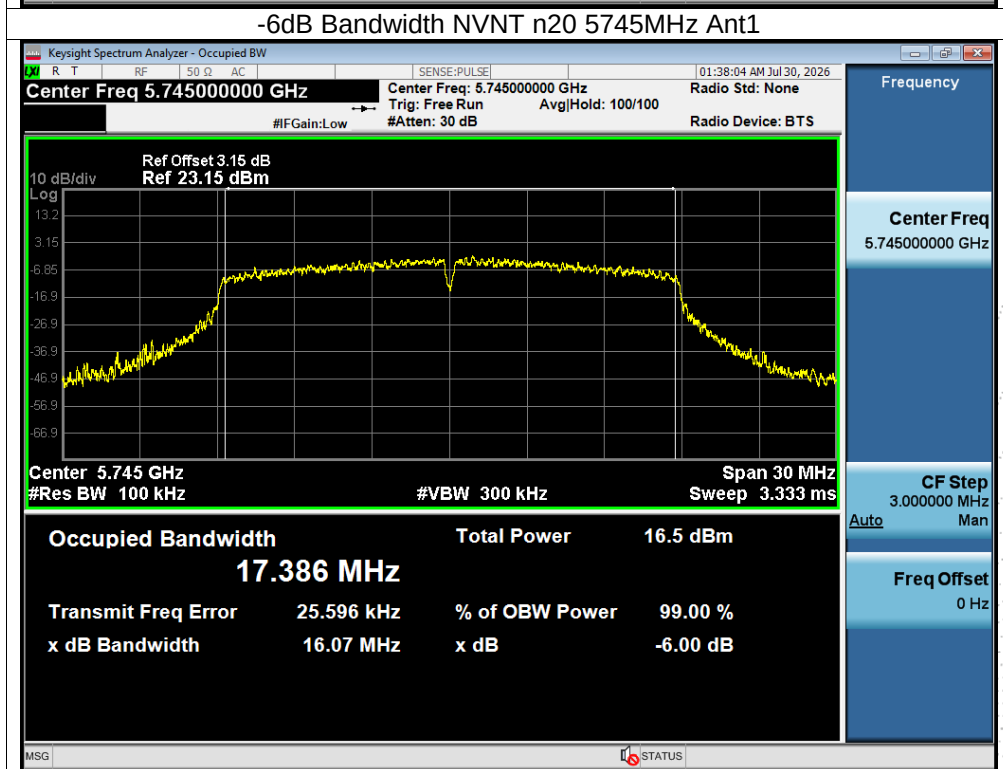
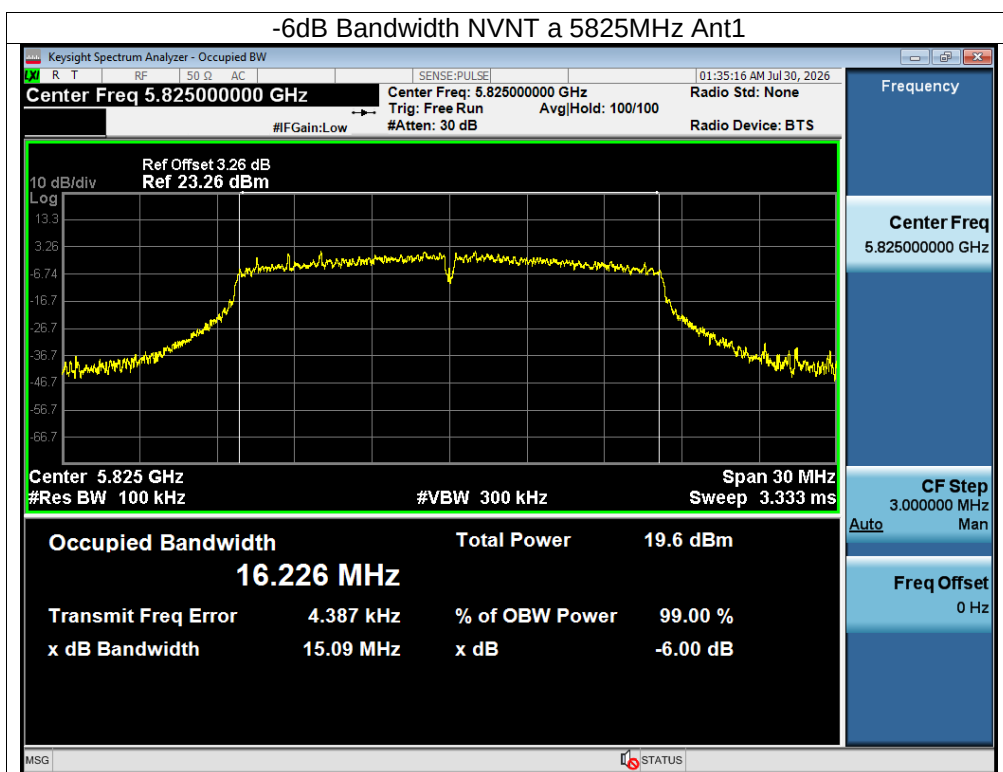
Temperature:	23.7 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	(5745-5825MHz)		

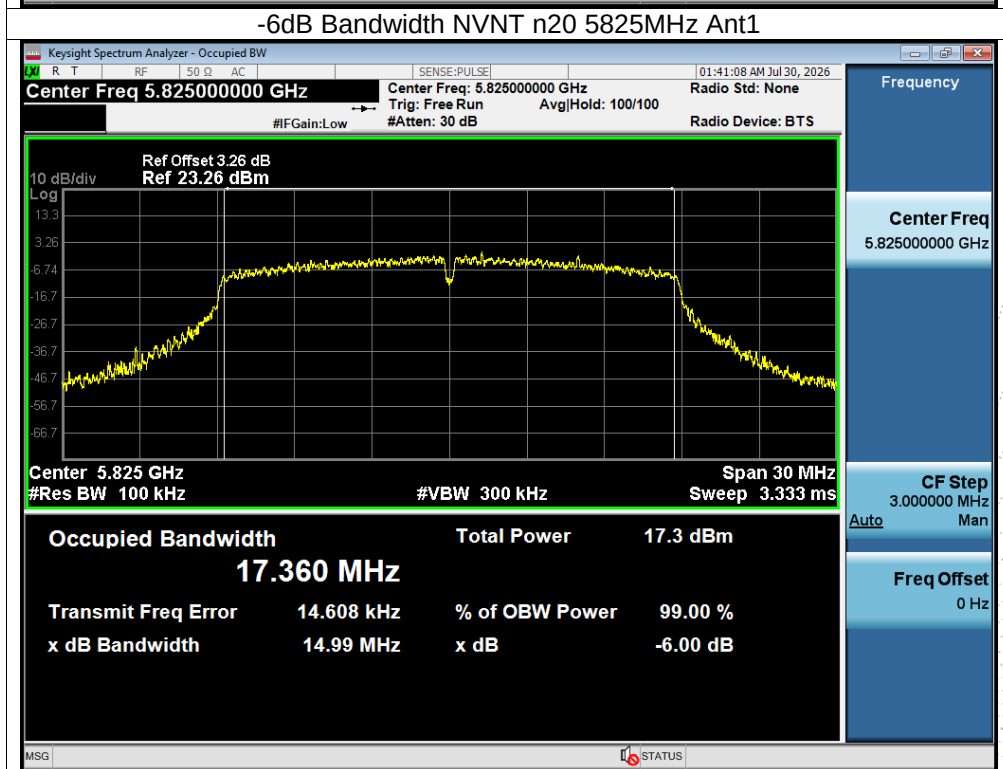
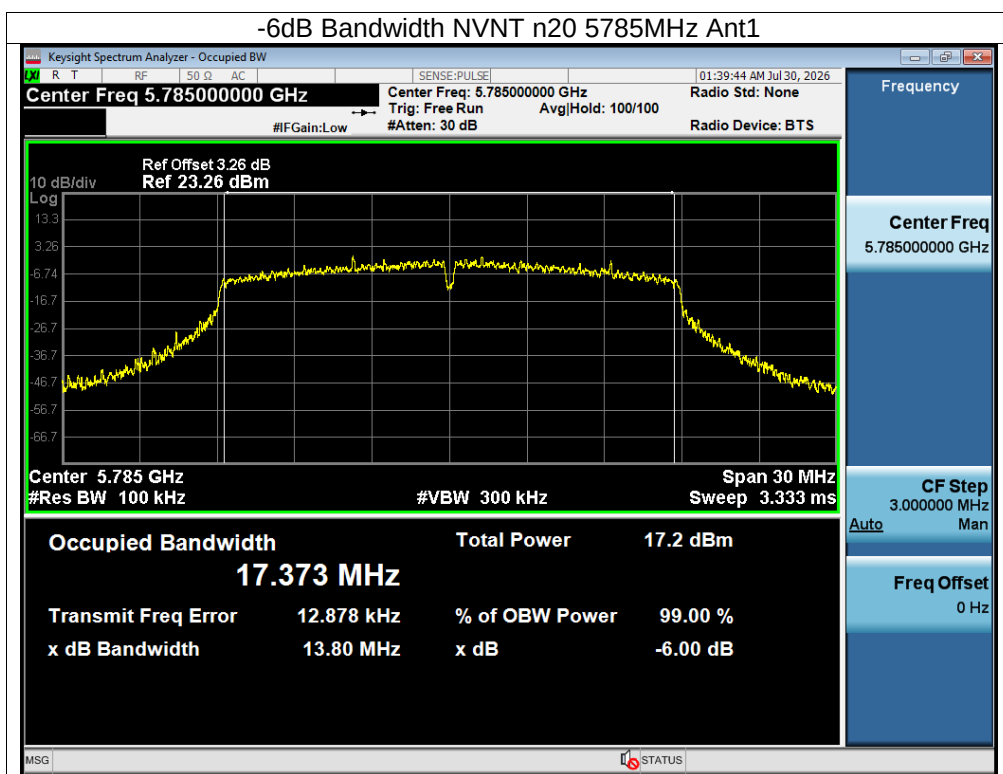
Condition	Mode	Frequency (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth(MHz)	Verdict
NVNT	a	5745	15.007	0.5	Pass
NVNT	a	5785	15.102	0.5	Pass
NVNT	a	5825	15.087	0.5	Pass
NVNT	n20	5745	16.074	0.5	Pass
NVNT	n20	5785	13.797	0.5	Pass
NVNT	n20	5825	14.986	0.5	Pass
NVNT	n40	5755	32.933	0.5	Pass
NVNT	n40	5795	25.604	0.5	Pass

Condition	Mode	Frequency (MHz)	99% OBW (MHz)
NVNT	a	5745	16.227
NVNT	a	5785	16.21
NVNT	a	5825	16.219
NVNT	n20	5745	17.35
NVNT	n20	5785	17.328
NVNT	n20	5825	17.347
NVNT	n40	5755	35.129
NVNT	n40	5795	35.169

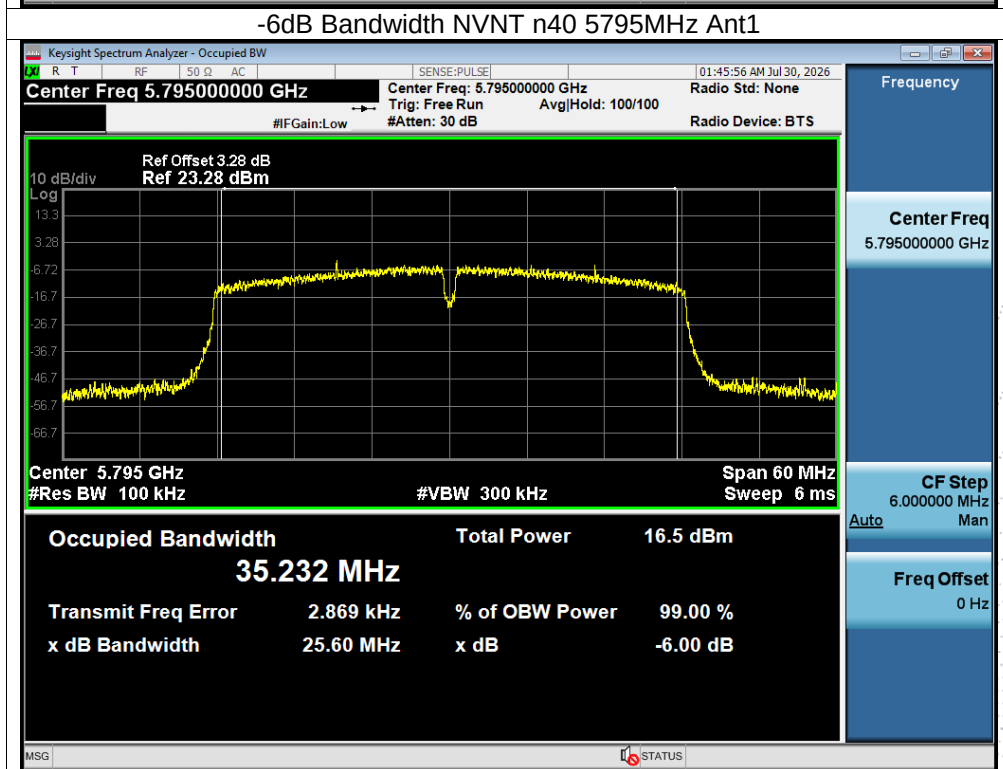
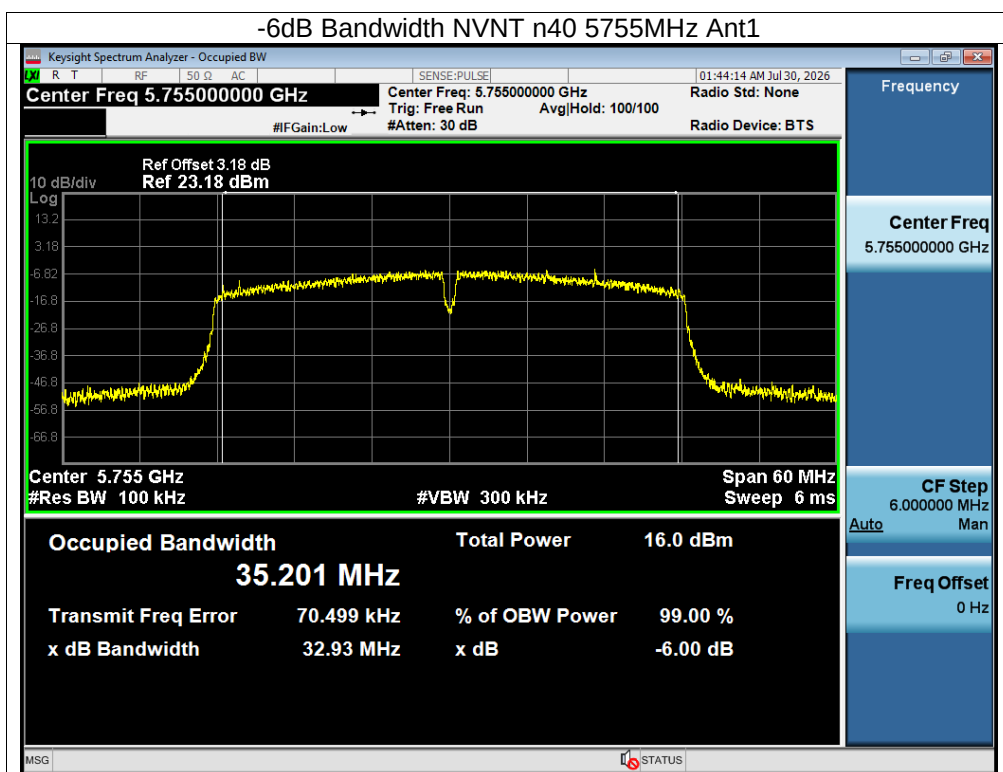
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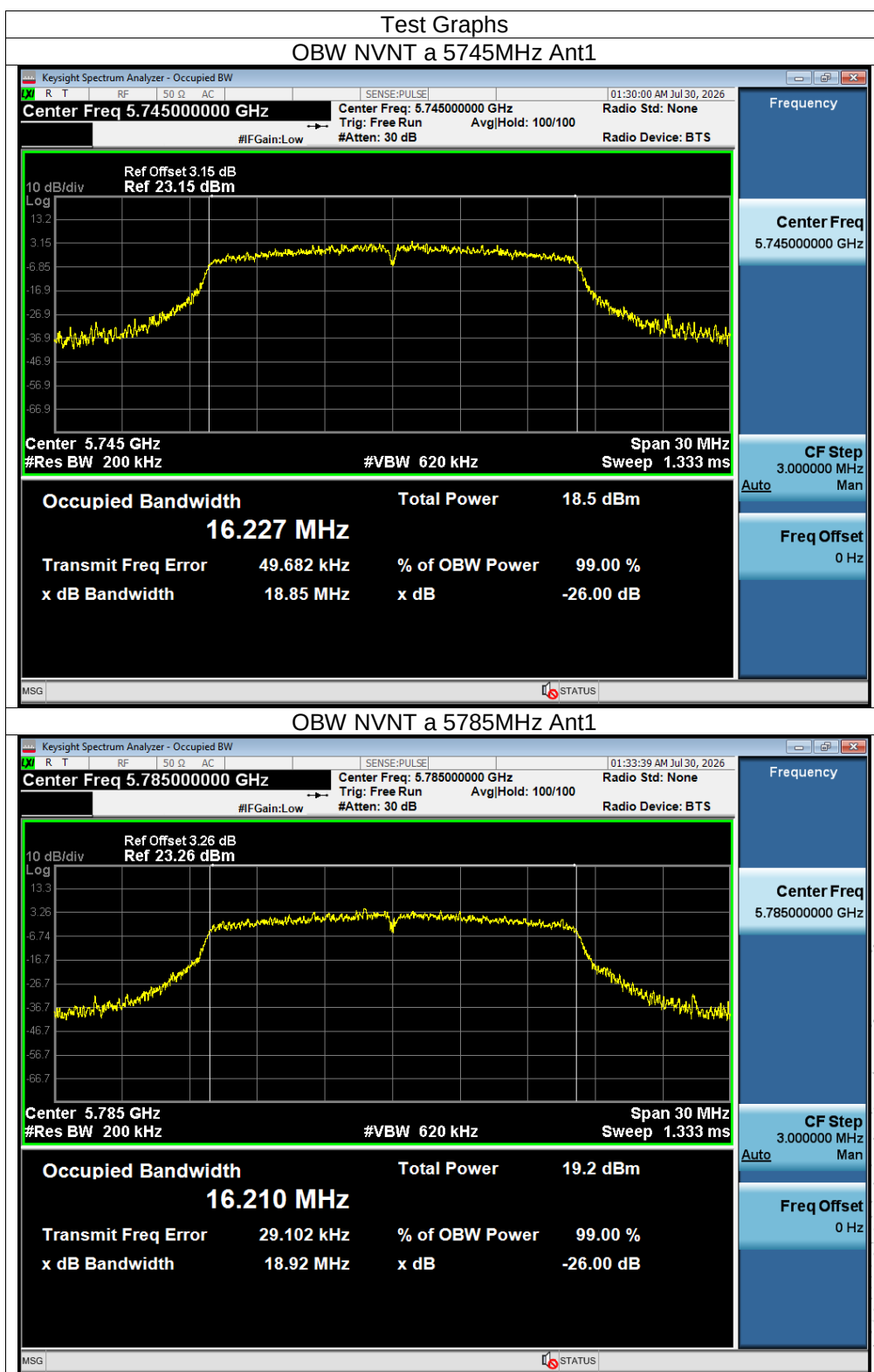


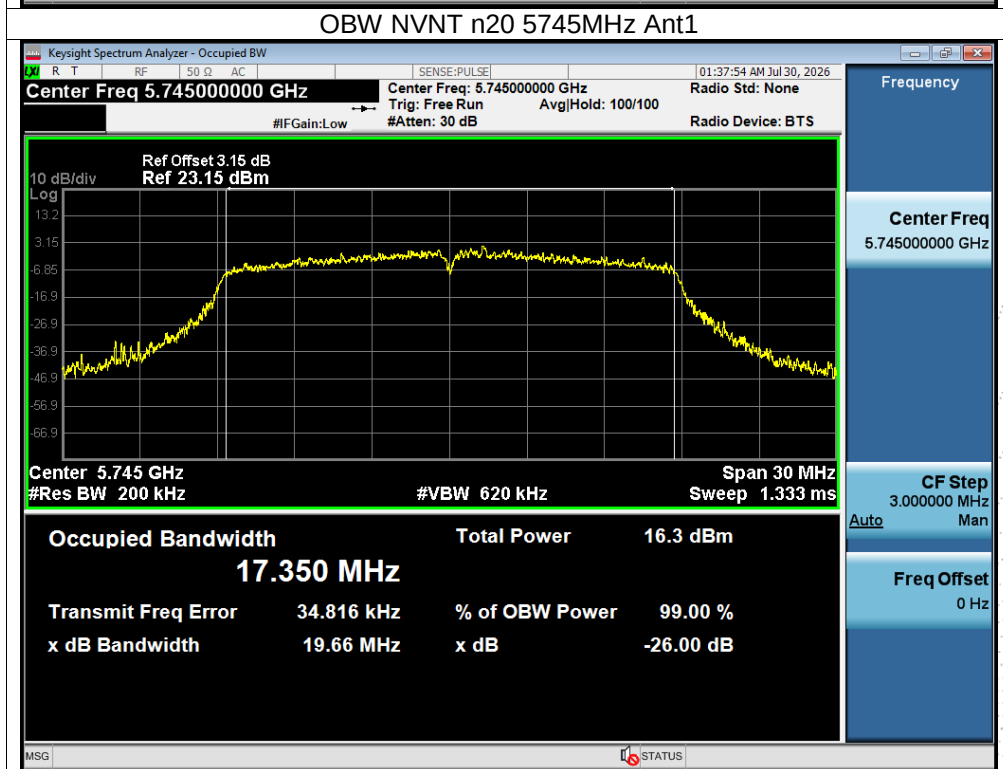
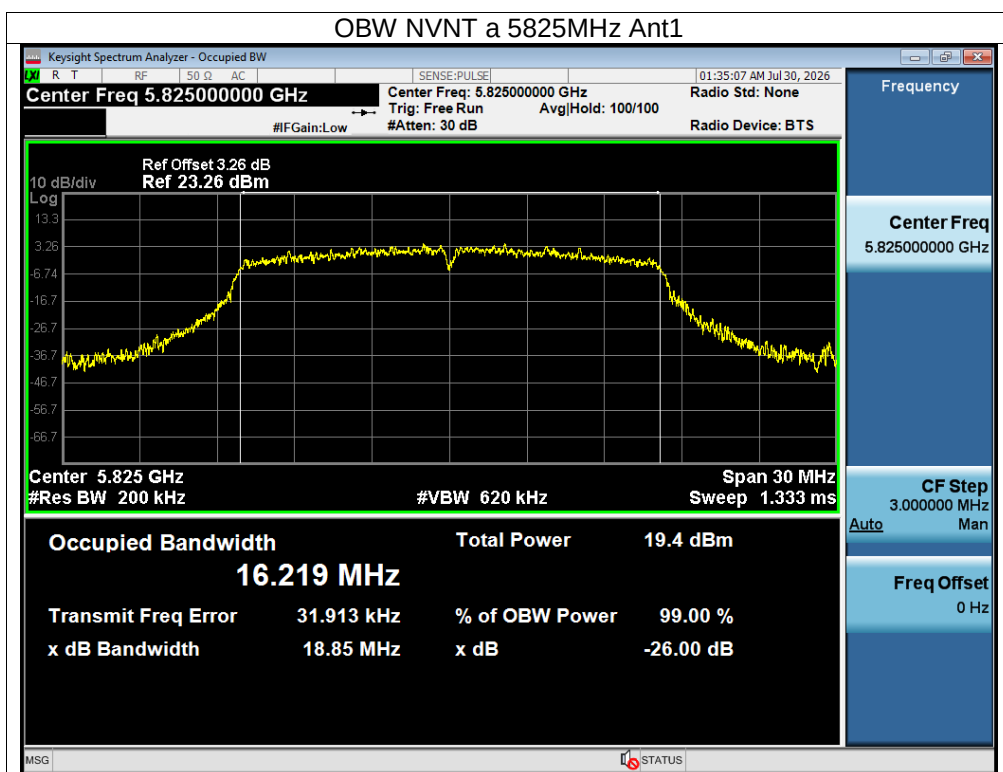


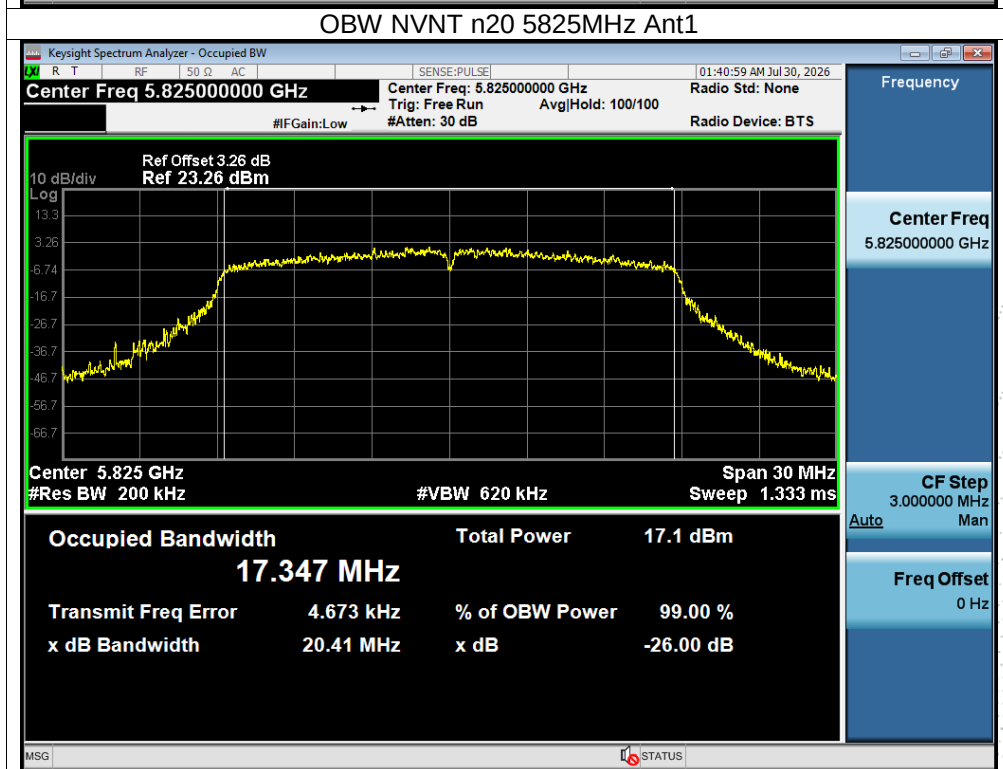
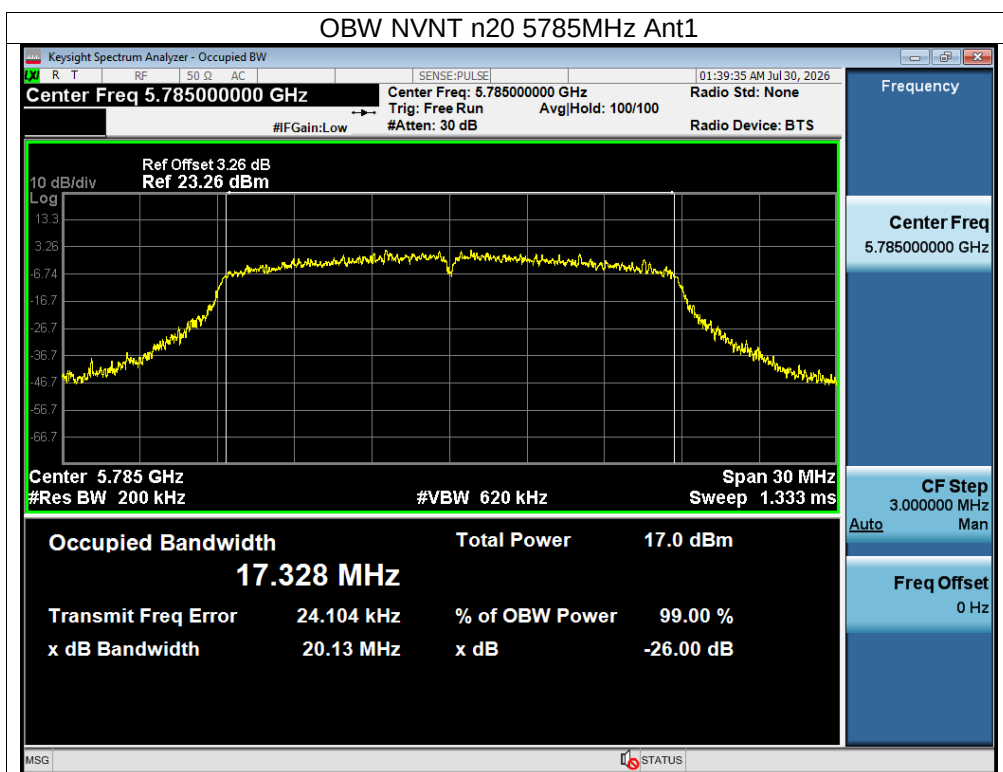


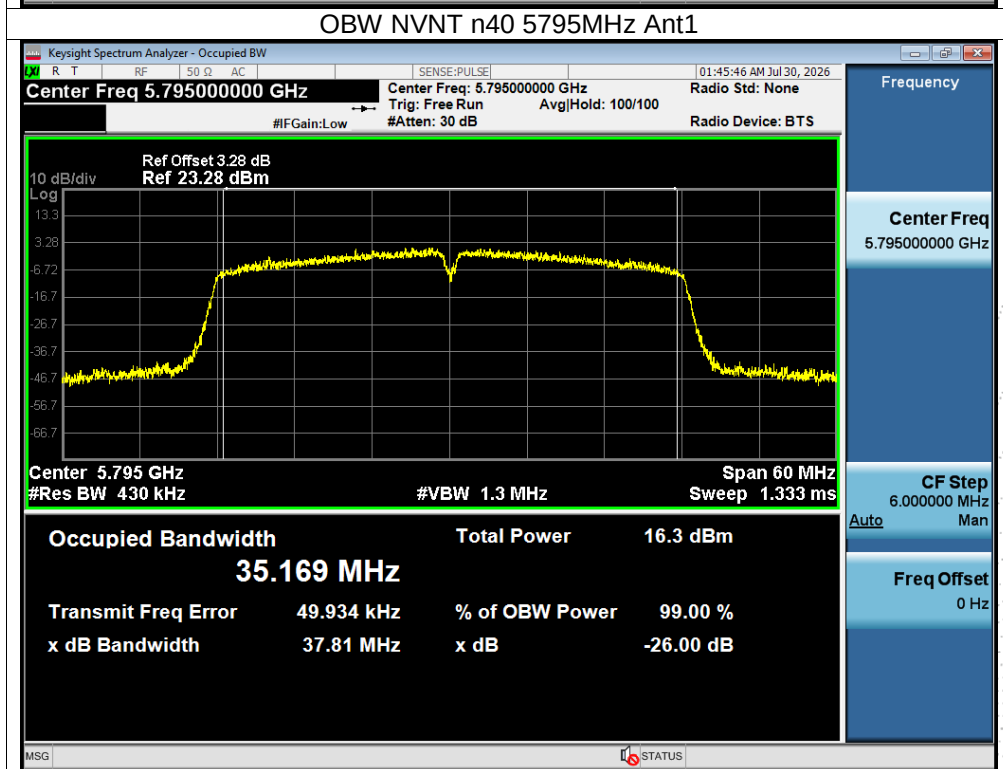
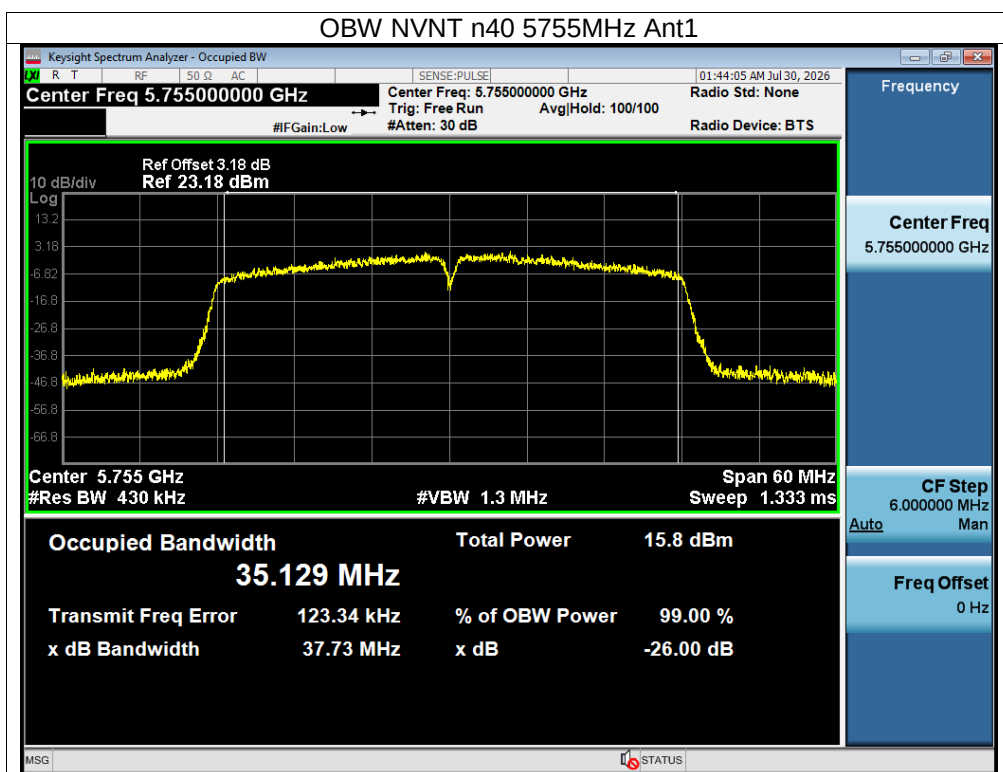
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10. Maximum Conducted Output Power

10.1 Block Diagram Of Test Setup



10.2 Limit

According to FCC §15.407

The maximum conducted output power should not exceed:

Frequency Band(MHz)	Limit
5150~5250	0.25W
5250~5350	250 mW or 11 dBm + 10log B, whichever is less.
5470~5725	250 mW or 11 dBm + 10log B, whichever is less.
5725~5850	1W
Note: Where "B" is the 26 dB emissions bandwidth in MHz.	

10.3 Test Procedure

Method SA-1 or method SA-1A (alternative) shall be applied if either of the following conditions can be satisfied:

1) The EUT transmits continuously (or with a $D \geq 98\%$).

Method SA-1 uses trace averaging with the EUT transmitting at full power throughout each sweep. The procedure for this method is as follows:

- Set span to encompass the entire 99% OBW of the signal.
- Set RBW = 1 MHz.
- Set VBW ≥ 3 MHz.
- Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- Sweep time = auto.
- Detector = Power averaging (rms), if available. Otherwise, use sample detector mode.
- If transmit duty cycle $< 98\%$, use a video trigger with the trigger level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF intervals) or at duty

cycle $\geq 98\%$, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run.”

- h) Trace average at least 100 traces in power averaging (rms) mode.
- i) Compute power by integrating the spectrum across the 99% OBW of the signal using the instrument's band-power measurement function, with band limits set equal to the OBW band-edges. If the instrument does not have a band-power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 99% OBW of the spectrum.

Method SA-2 or method SA-2A (alternative) shall be applied if the conditions of the preceding item a) cannot be achieved, and the transmissions exhibit a constant duty cycle during the measurement duration. Duty cycle will be considered to be constant if variations are less than $\pm 2\%$. Method SA-2 uses trace averaging across ON and OFF times of the EUT transmissions, followed by duty cycle correction. The procedure for this method is as follows:

- a) Measure the duty cycle D of the transmitter output signal as described in 12.2.
- b) Set span to encompass the entire 99% OBW of the signal.
- c) Set RBW = 1 MHz.
- d) Set VBW ≥ 3 MHz.
- e) Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$. (This gives bin-to-bin spacing $\leq \text{RBW} / 2$, so that narrowband signals are not lost between frequency bins.)
- f) Sweep time = auto.
- g) Detector = Power averaging (rms), if available. Otherwise, use sample detector mode.
- h) Do not use sweep triggering. Allow the sweep to “free run.”
- i) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.
- j) Compute power by integrating the spectrum across the 99% OBW of the signal using the instrument's band-power measurement function with band limits set equal to the EBW or OBW band-edges. If the instrument does not have a band-power function, then sum the spectrum levels (in power units) at 1 MHz intervals extending across the 99% OBW of the spectrum.
- k) Add $[10 \log (1 / D)]$, where D is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add $[10 \log (1 / 0.25)] = 6$ dB if the duty cycle is 25%.

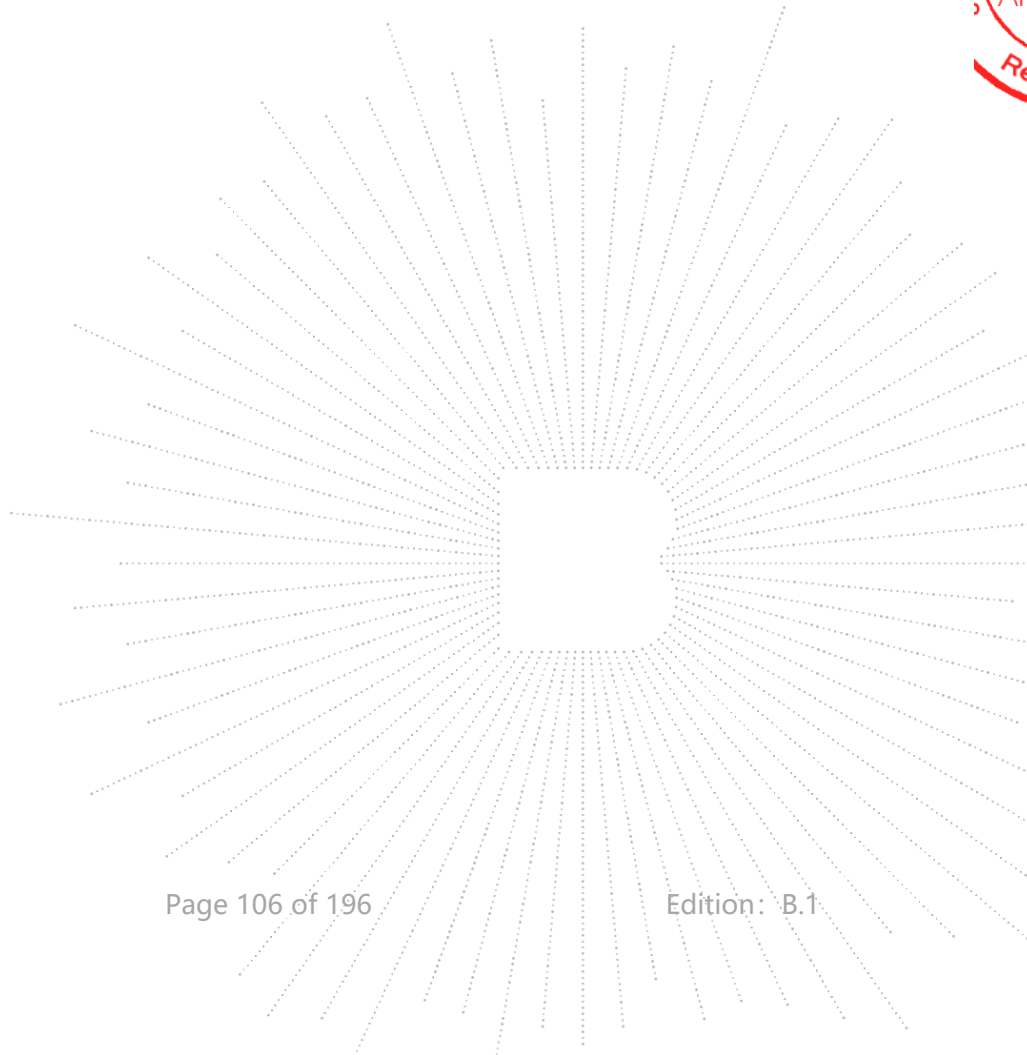
10.4 EUT Operating Conditions

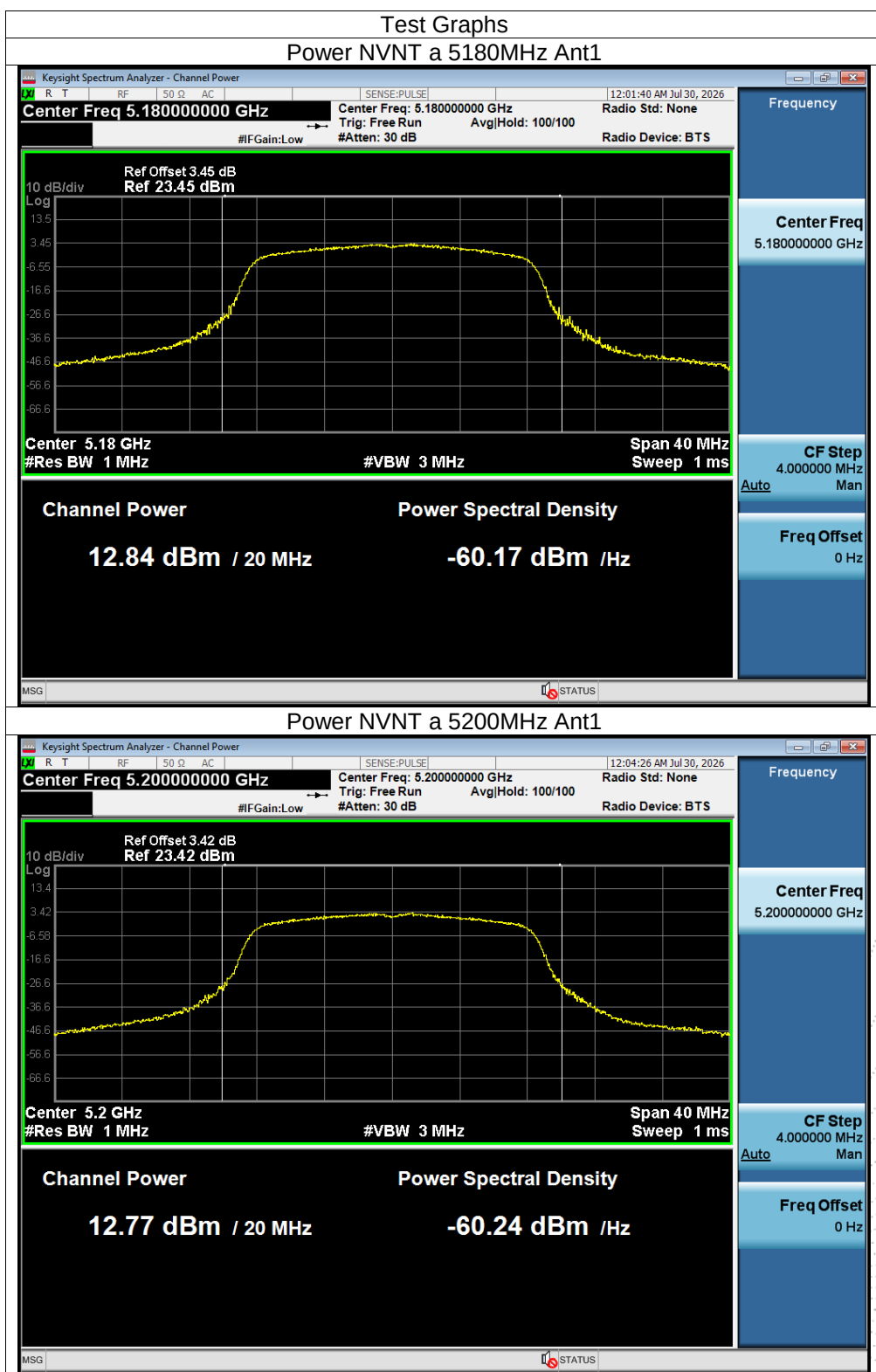
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

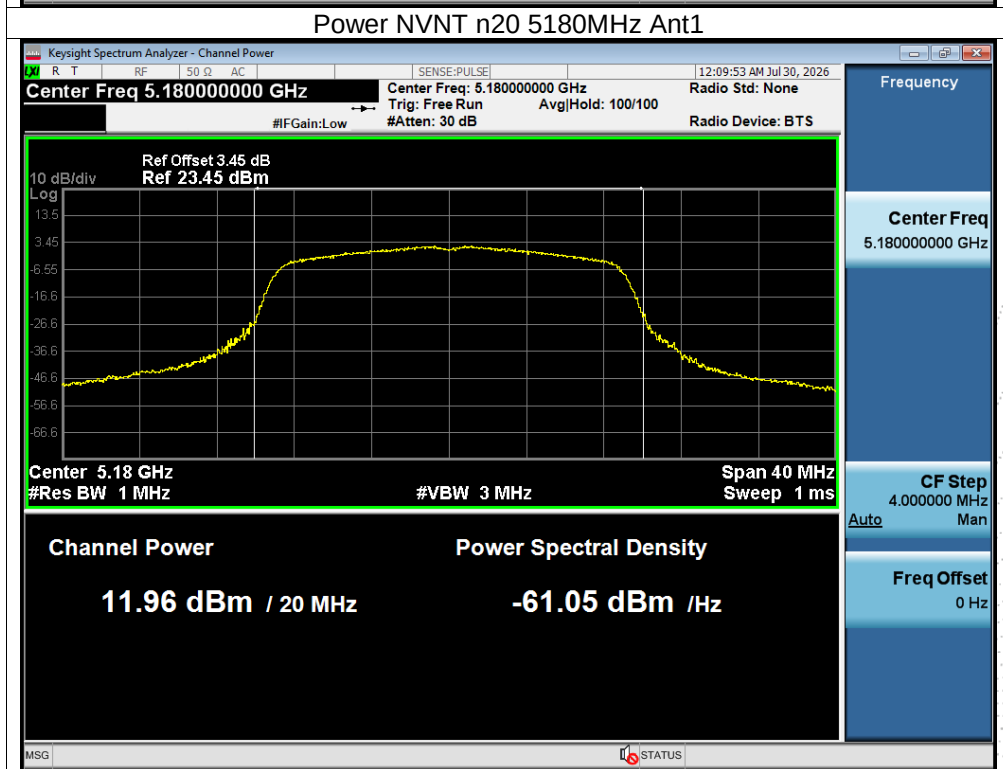
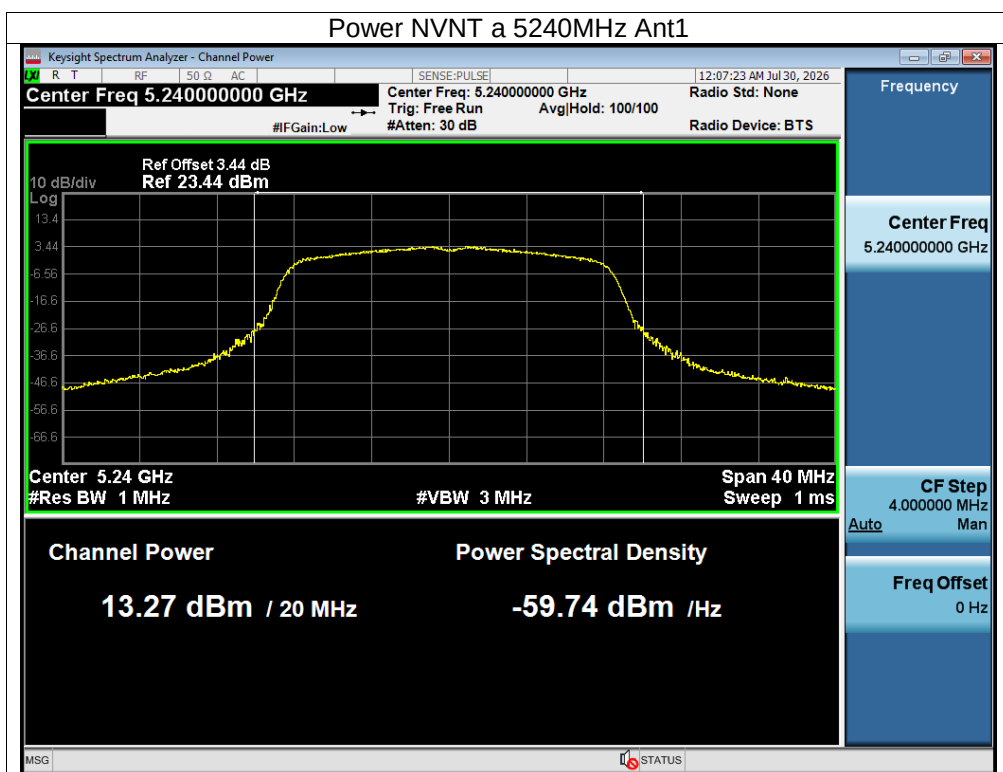
10.5 Test Result

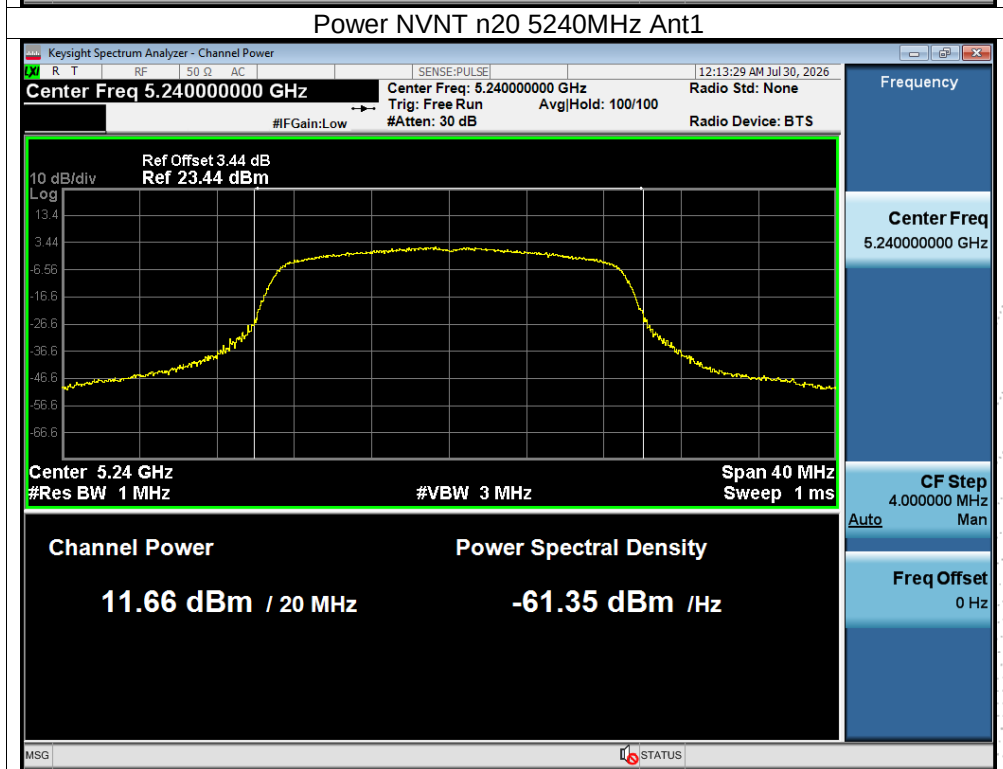
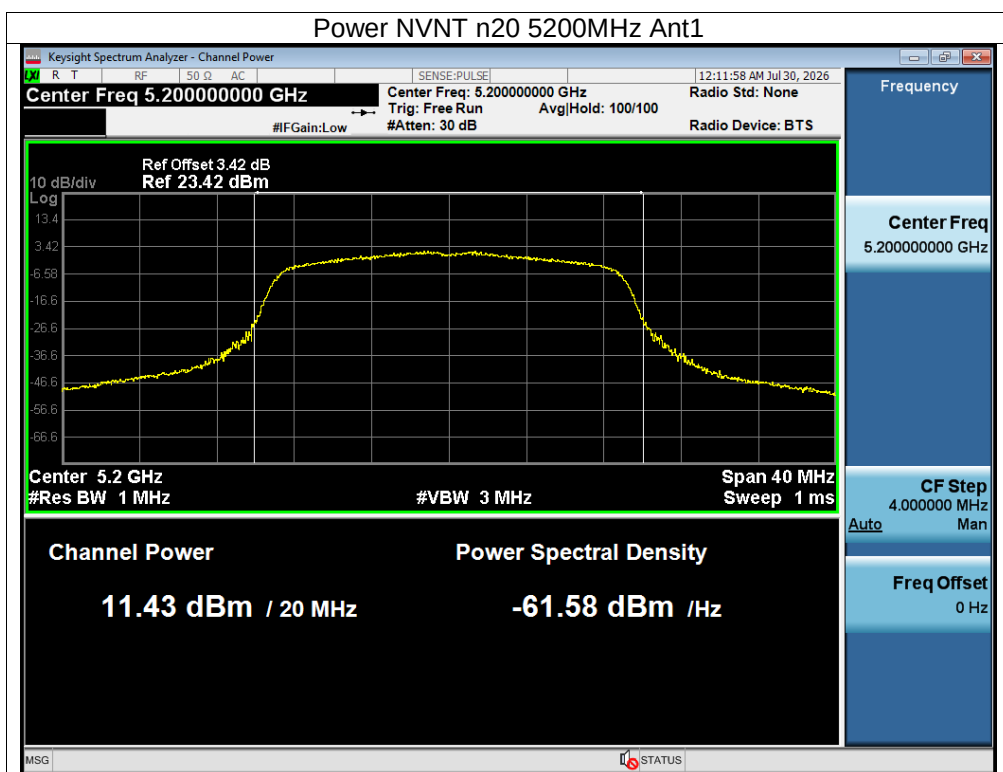
Temperature:	23.7 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	5180-5240MHz		

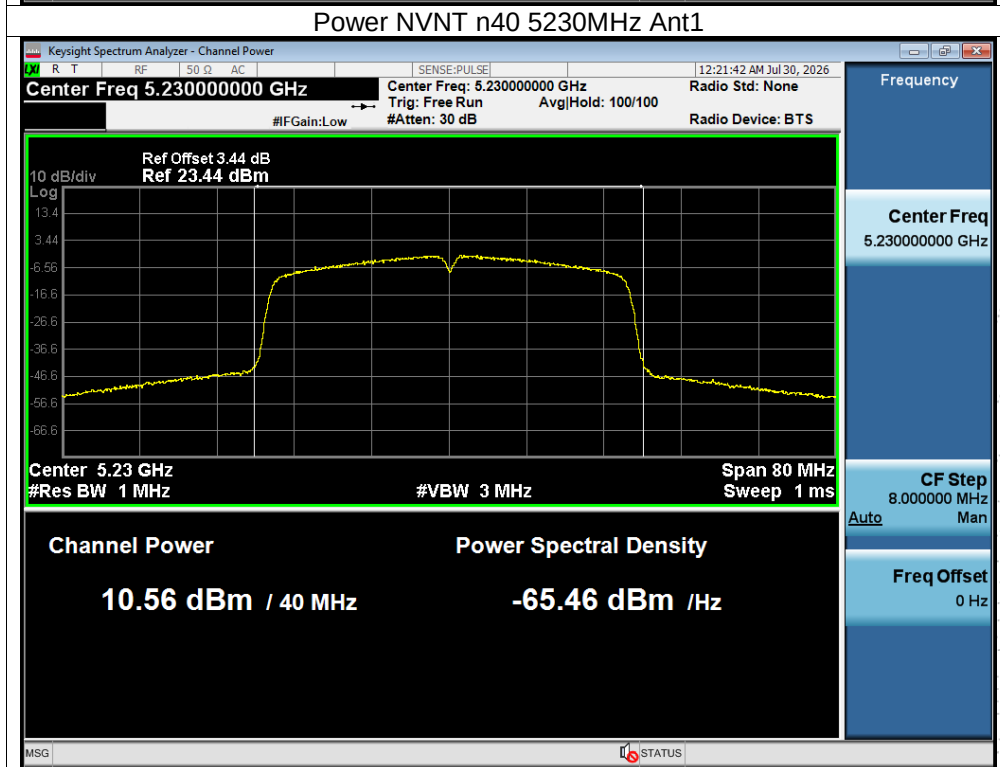
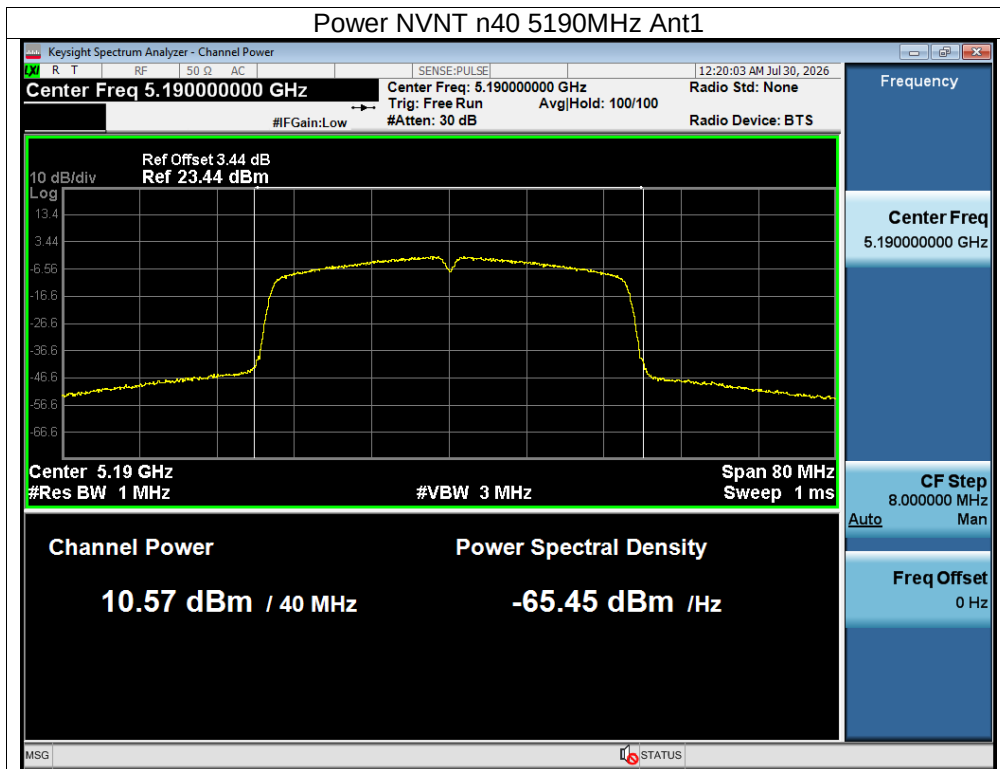
Mode	Frequency (MHz)	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
a	5180	12.84	0.96	13.8	24	Pass
a	5200	12.77	0.96	13.73	24	Pass
a	5240	13.27	0.98	14.25	24	Pass
n20	5180	11.96	1.02	12.98	24	Pass
n20	5200	11.43	1.02	12.45	24	Pass
n20	5240	11.66	1.02	12.68	24	Pass
n40	5190	10.57	0.42	10.99	24	Pass
n40	5230	10.56	0.42	10.98	24	Pass





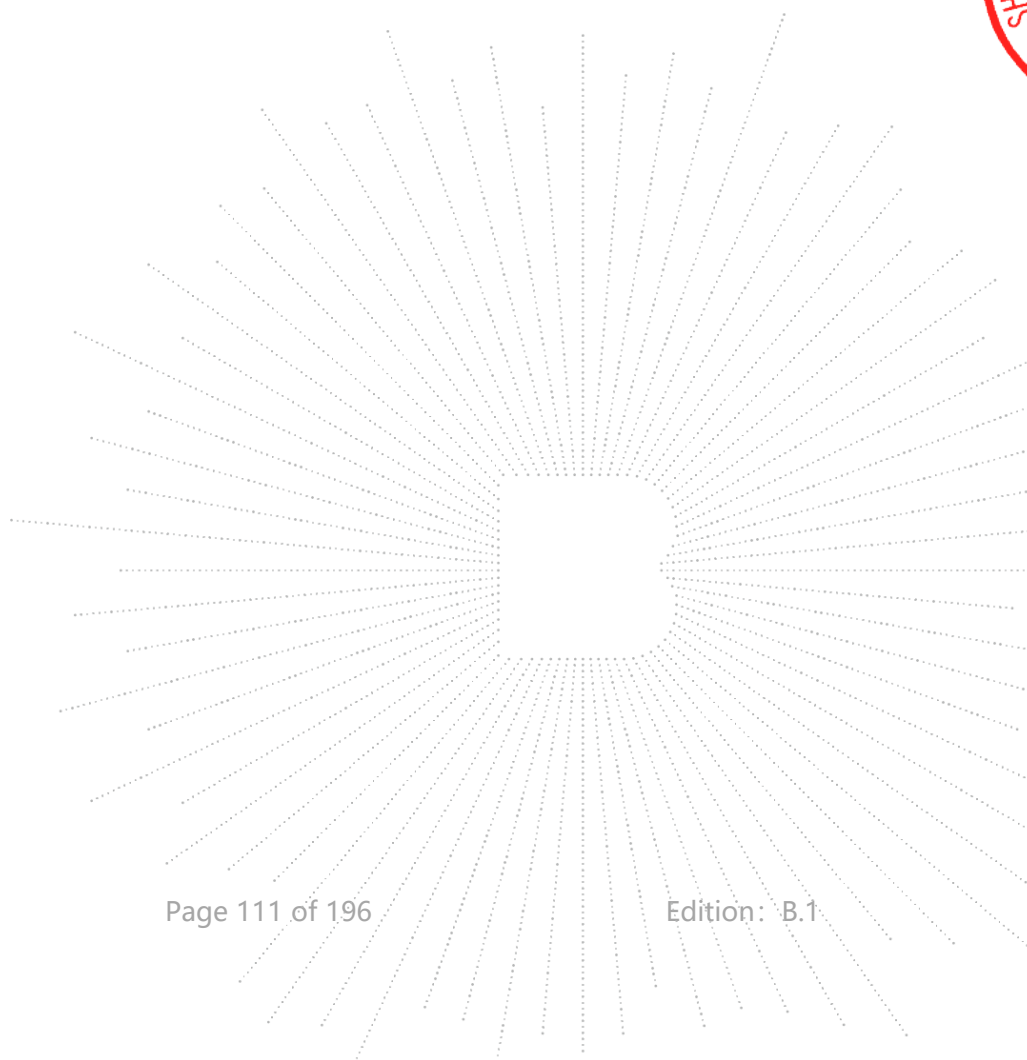


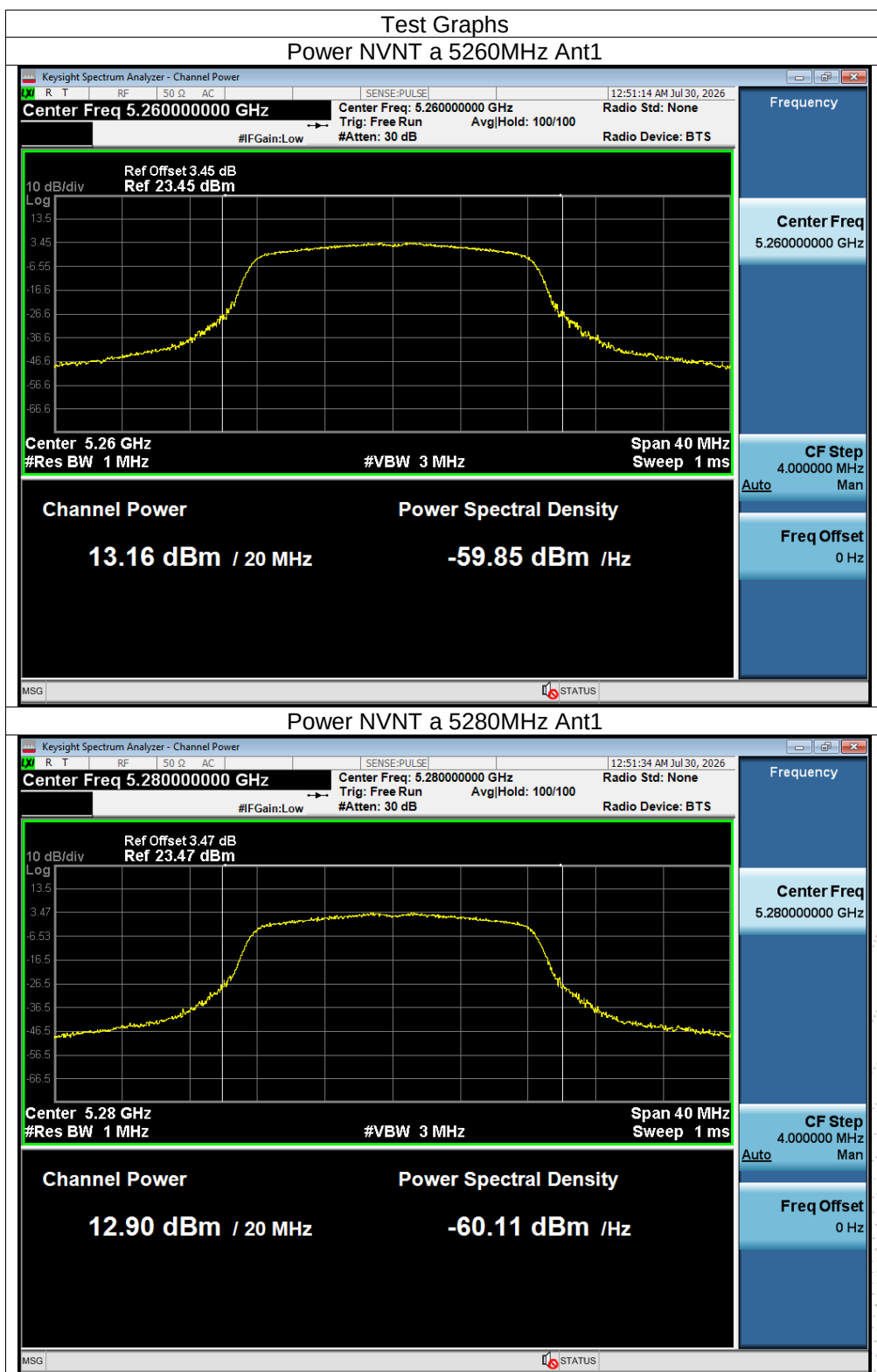


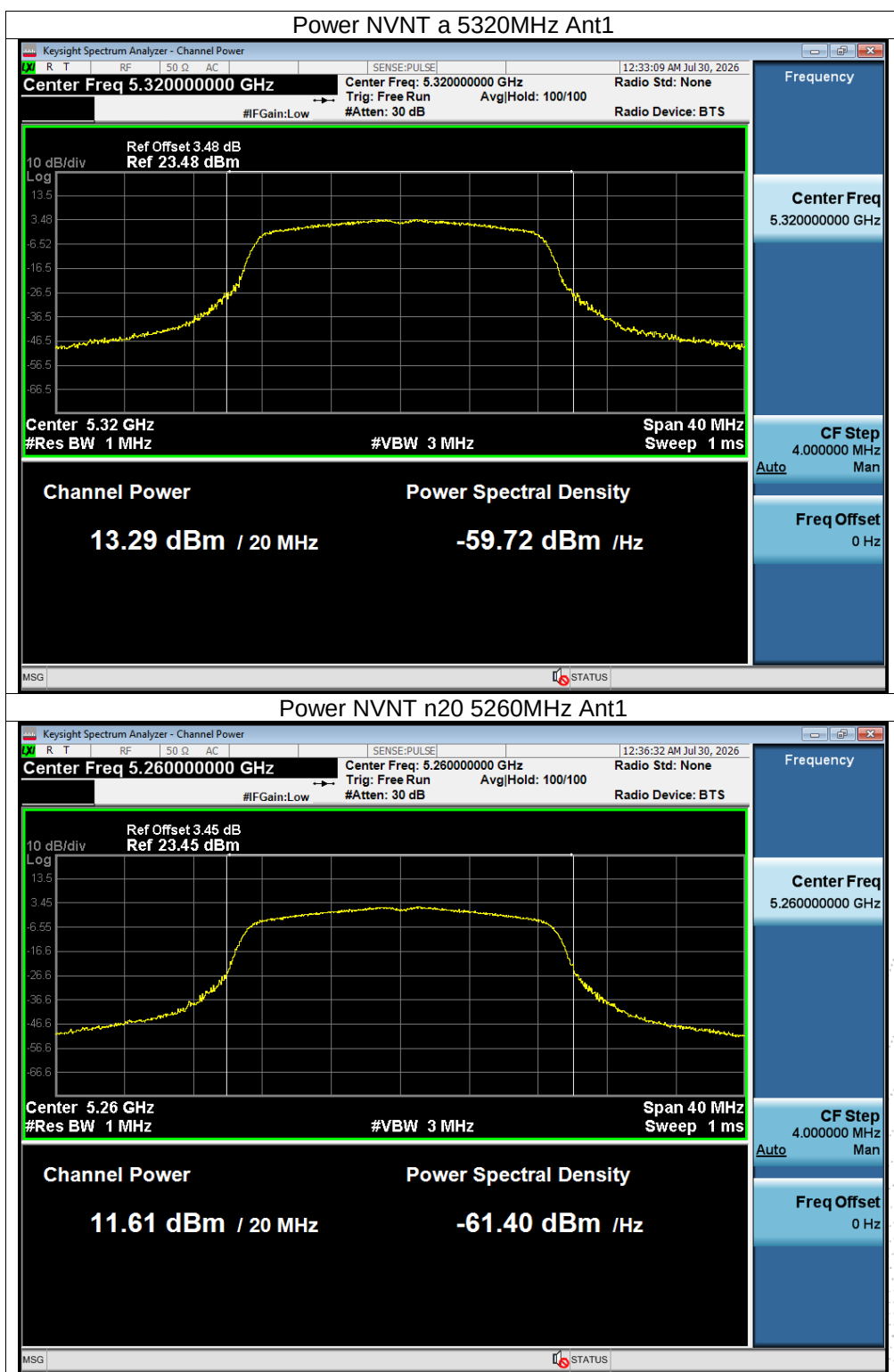


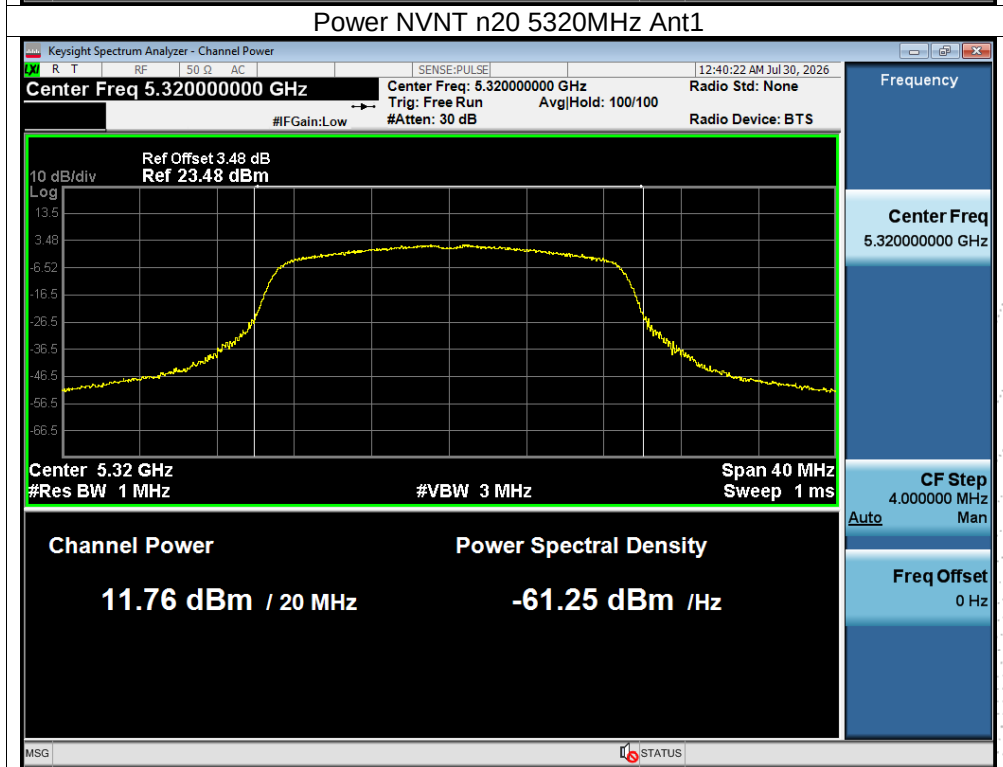
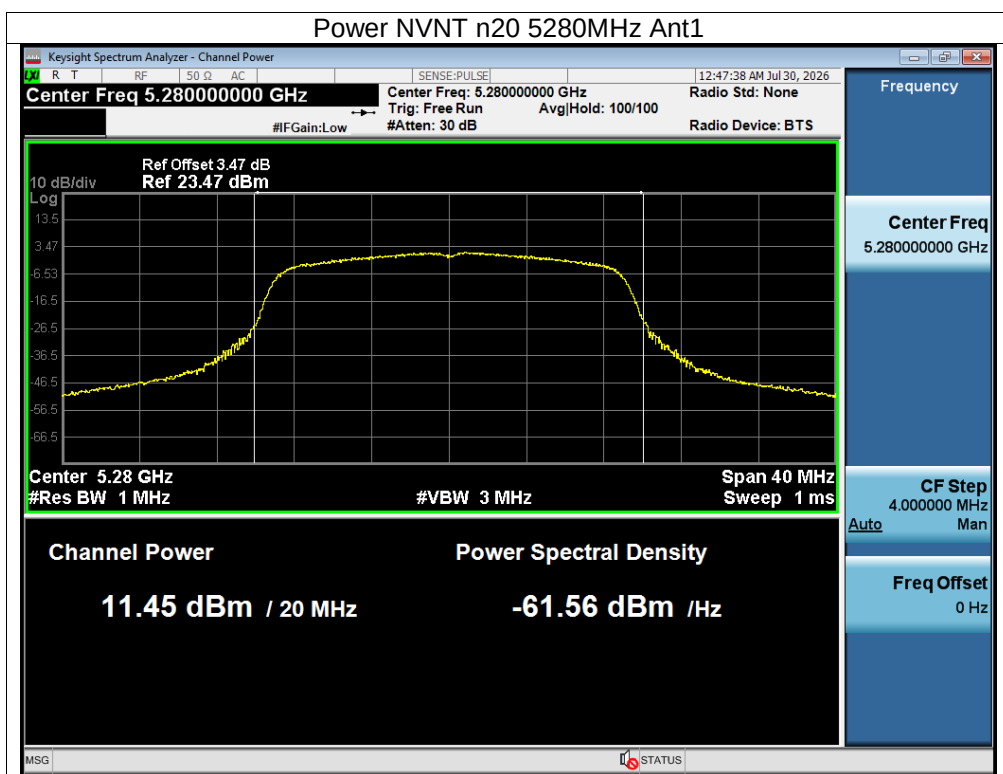
Temperature:	23.7 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	5260-5320MHz		

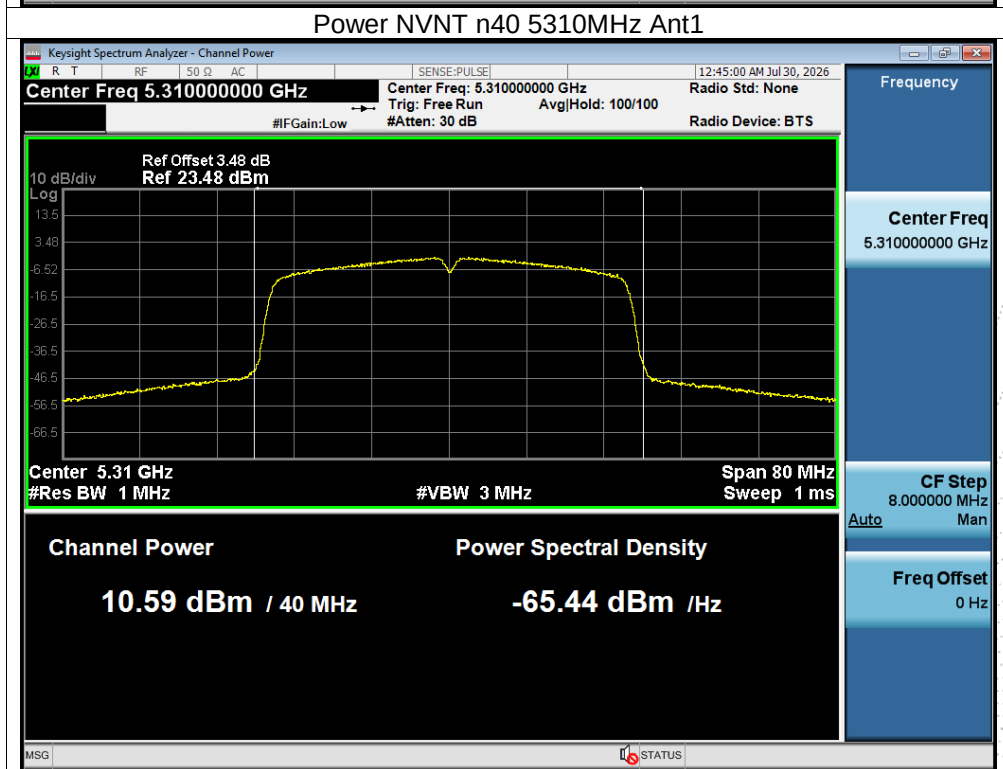
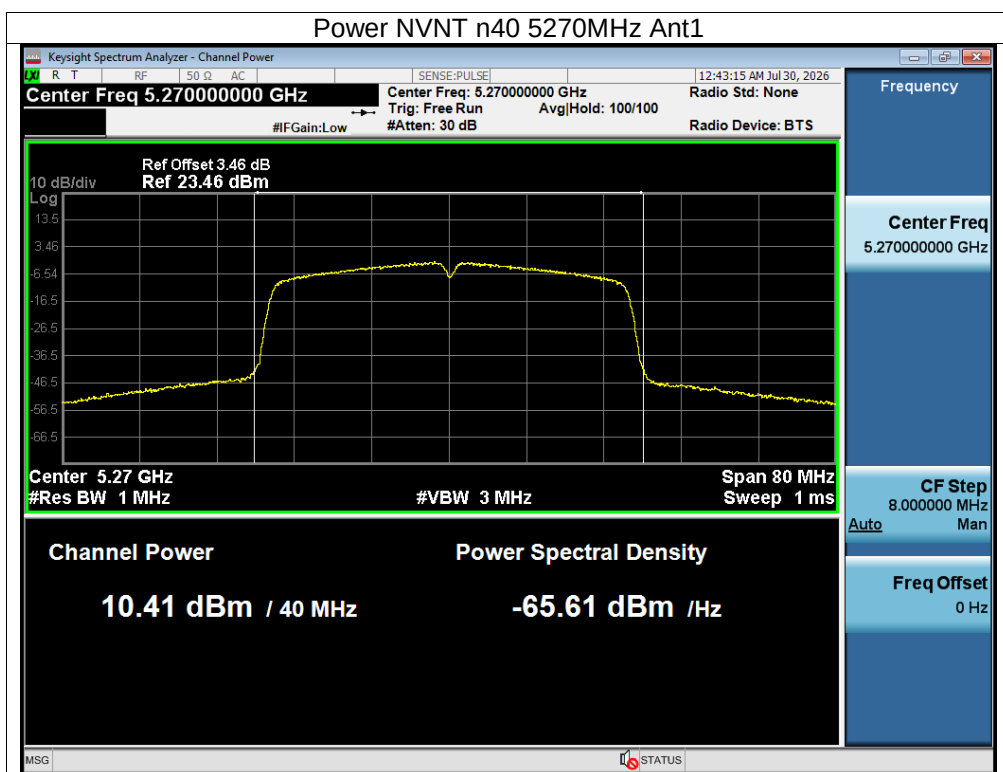
Mode	Frequency (MHz)	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	11 + 10 logB (dBm)	Limit (dBm)	Verdict
a	5260	11.22	1.01	12.23	23.10	24	Pass
a	5280	11.89	0.34	12.23	23.10	24	Pass
a	5320	11.85	0.37	12.22	23.10	24	Pass
n20	5260	11.73	0.13	11.86	23.39	24	Pass
n20	5280	11.32	0.36	11.68	23.39	24	Pass
n20	5320	11.57	0.39	11.96	23.38	24	Pass
n40	5270	10.42	1.89	12.31	26.47	24	Pass
n40	5310	10.87	0.7	11.57	26.46	24	Pass







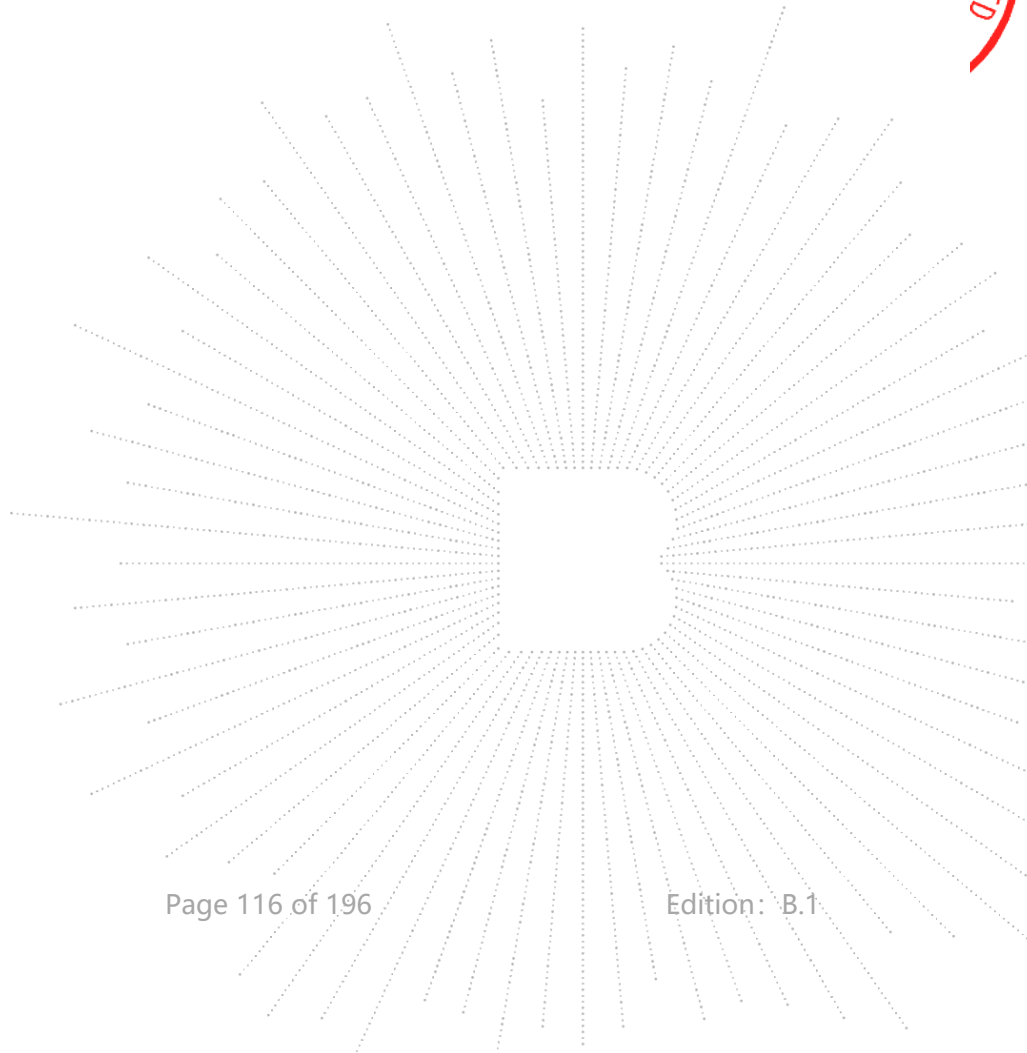


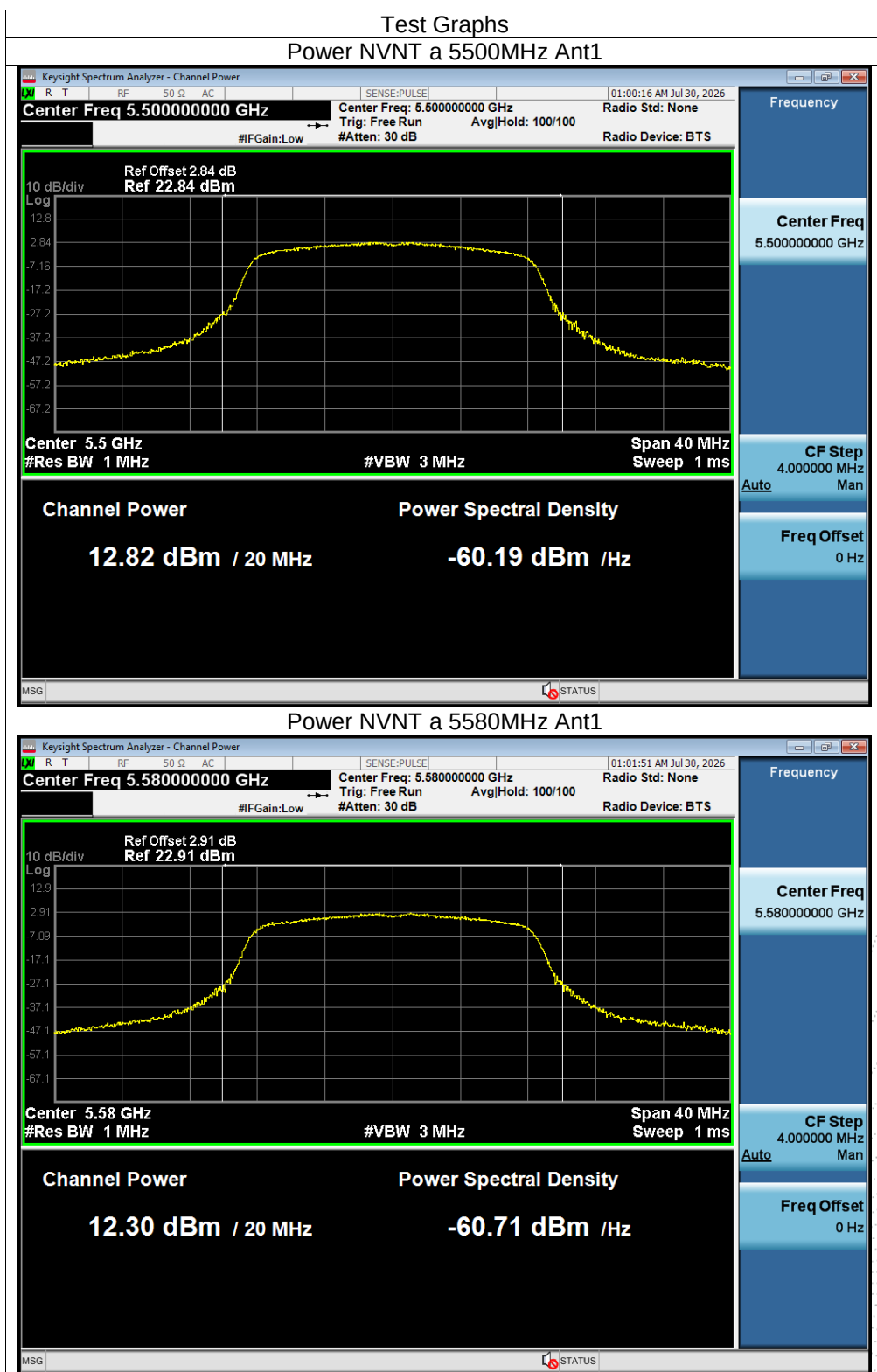


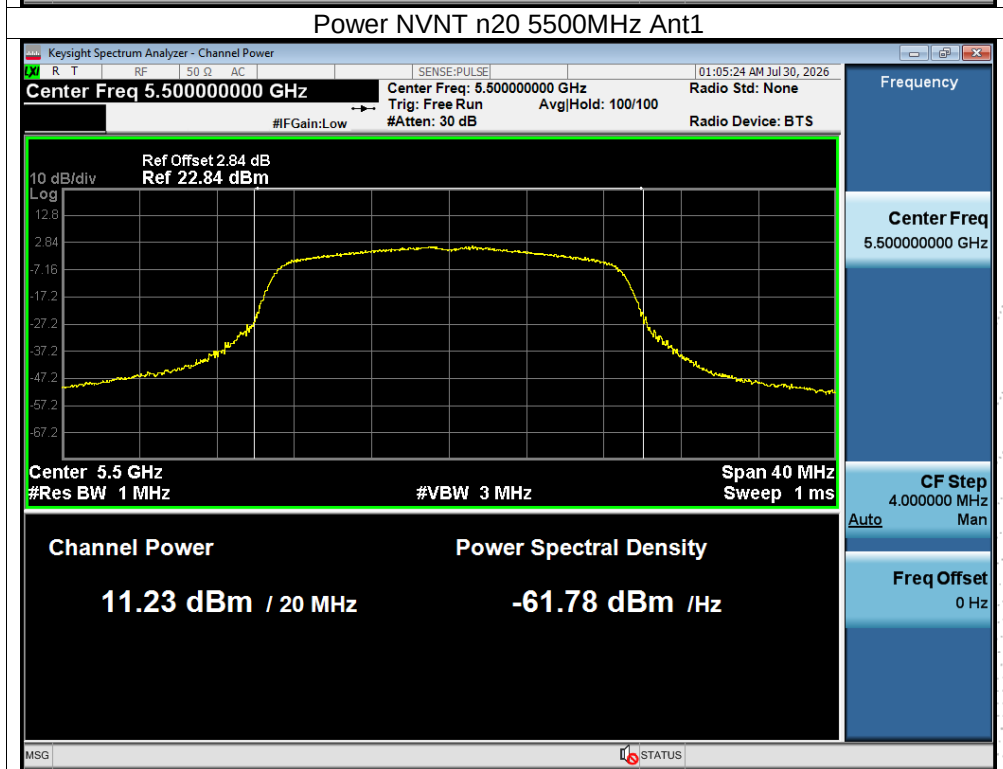
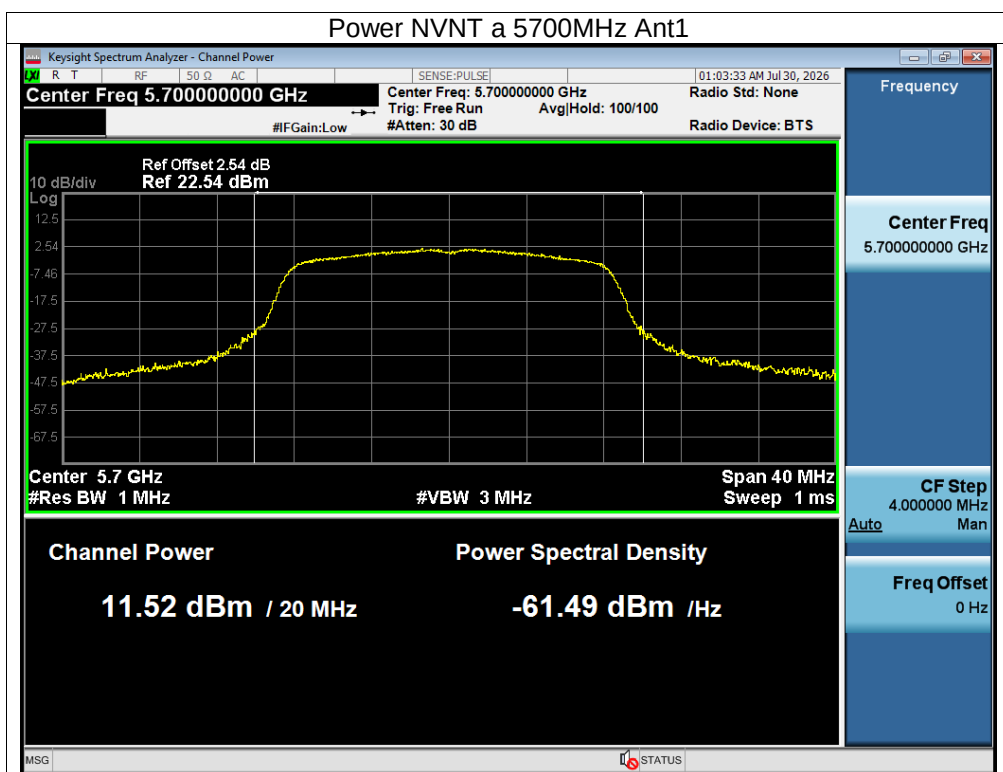
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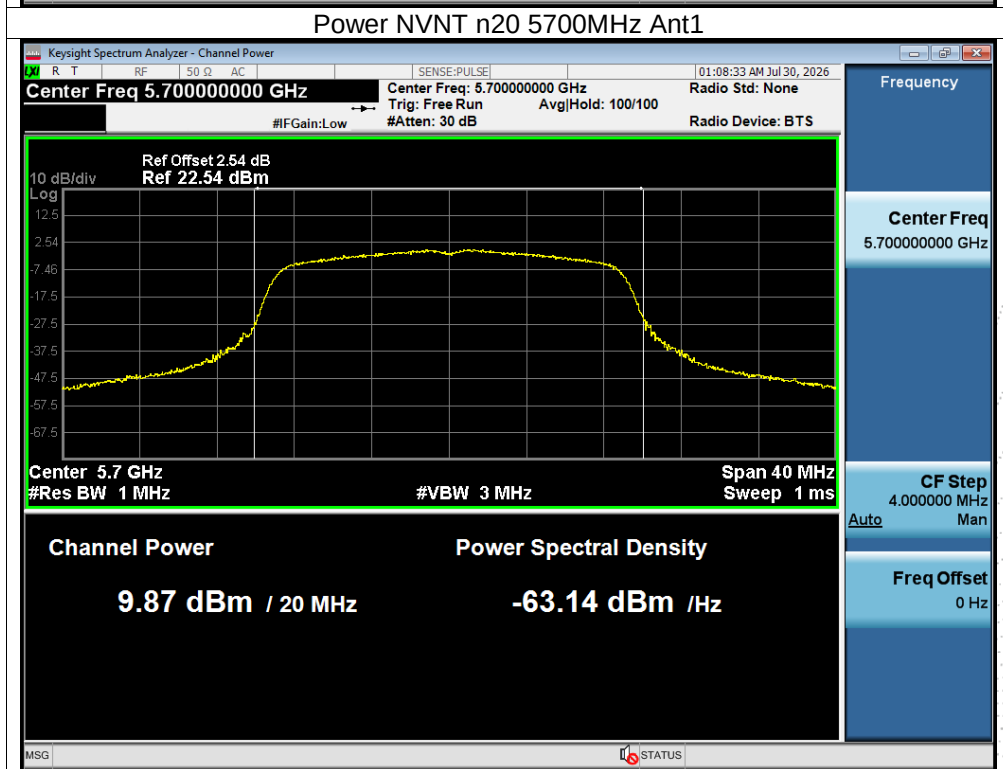
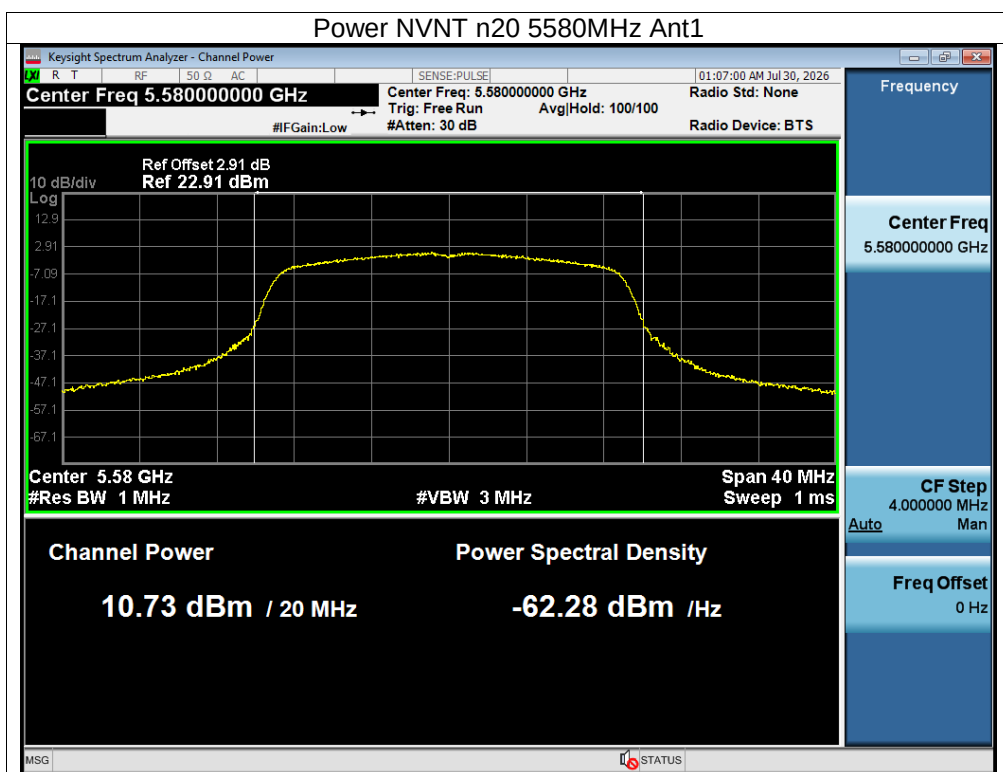
Temperature:	23.7 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	5500-5700MHz		

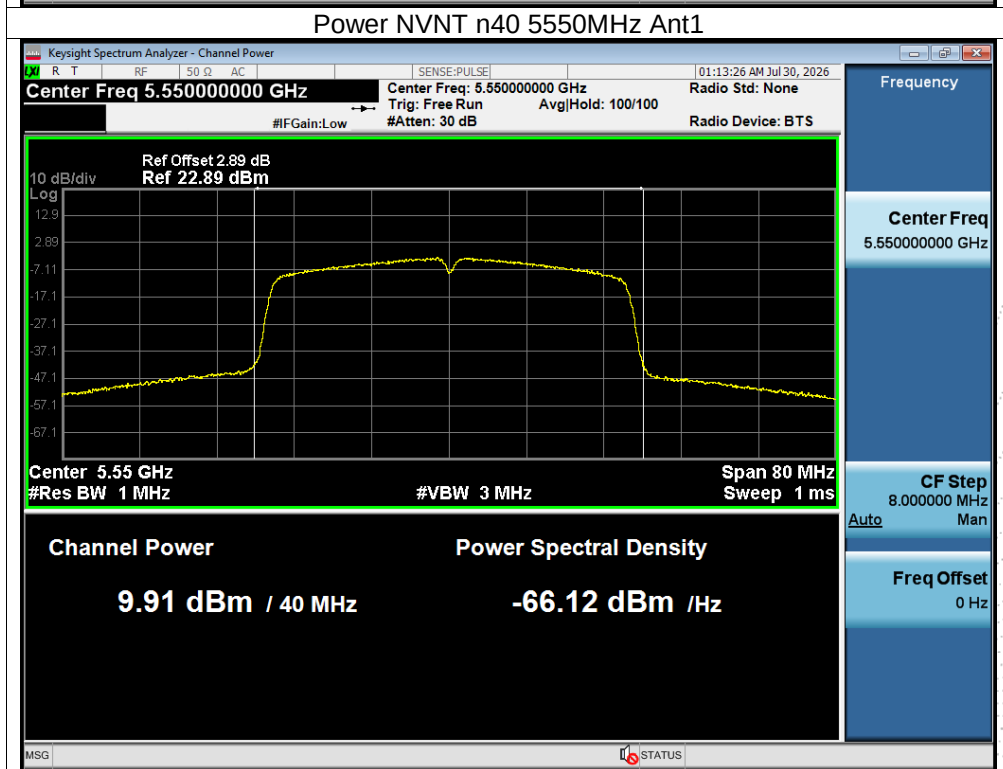
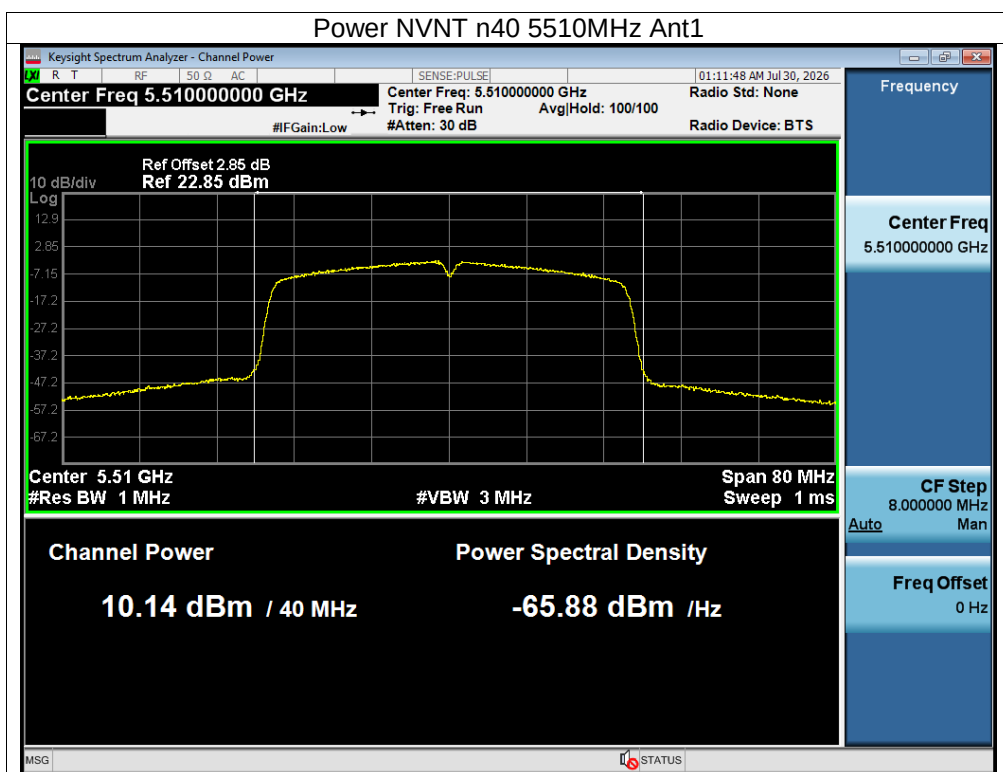
Mode	Frequency (MHz)	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	11 + 10 logB (dBm)	Limit (dBm)	Verdict
a	5500	12.82	0.96	13.78	23.10	24	Pass
a	5580	12.3	0.96	13.26	23.10	24	Pass
a	5700	11.52	0.96	12.48	23.10	24	Pass
n20	5500	11.23	0.41	11.64	23.38	24	Pass
n20	5580	10.73	0.41	11.14	23.38	24	Pass
n20	5700	9.87	0.41	10.28	23.39	24	Pass
n40	5510	10.14	0.42	10.56	26.47	24	Pass
n40	5550	9.91	0.42	10.33	26.47	24	Pass
n40	5670	9.43	0.42	9.85	26.47	24	Pass

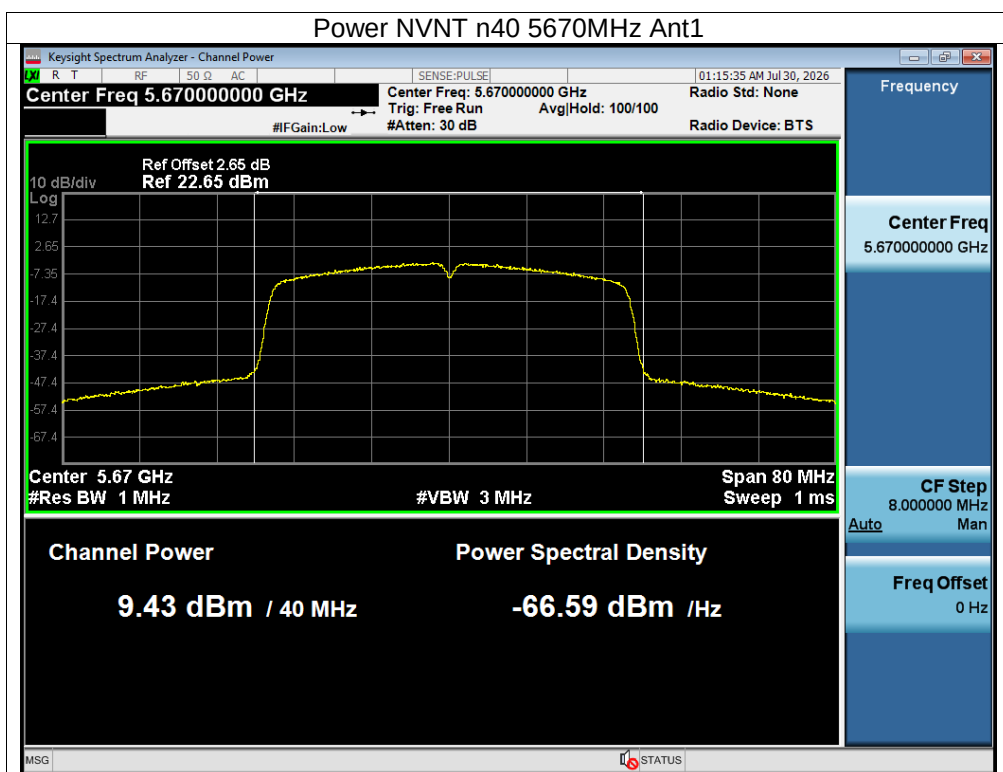






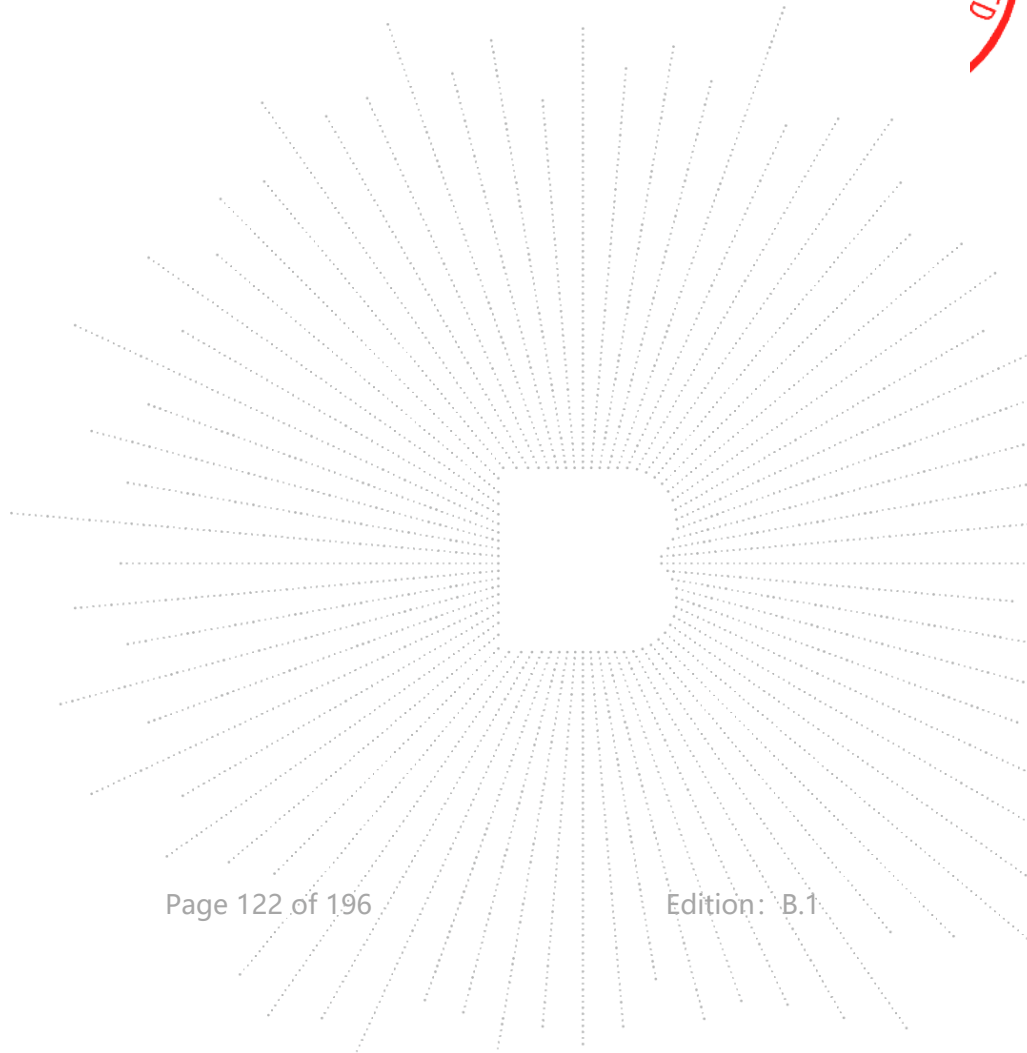


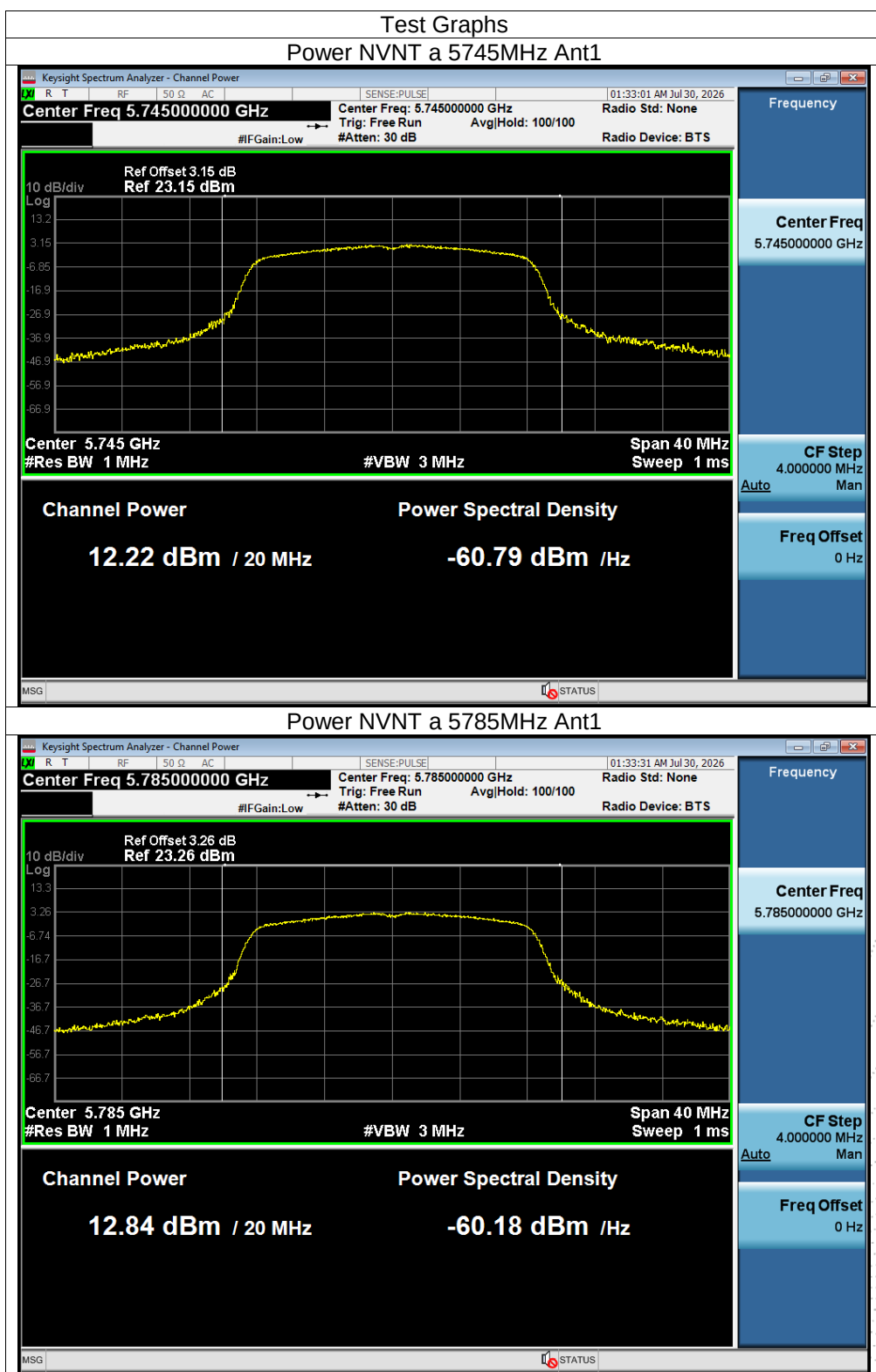


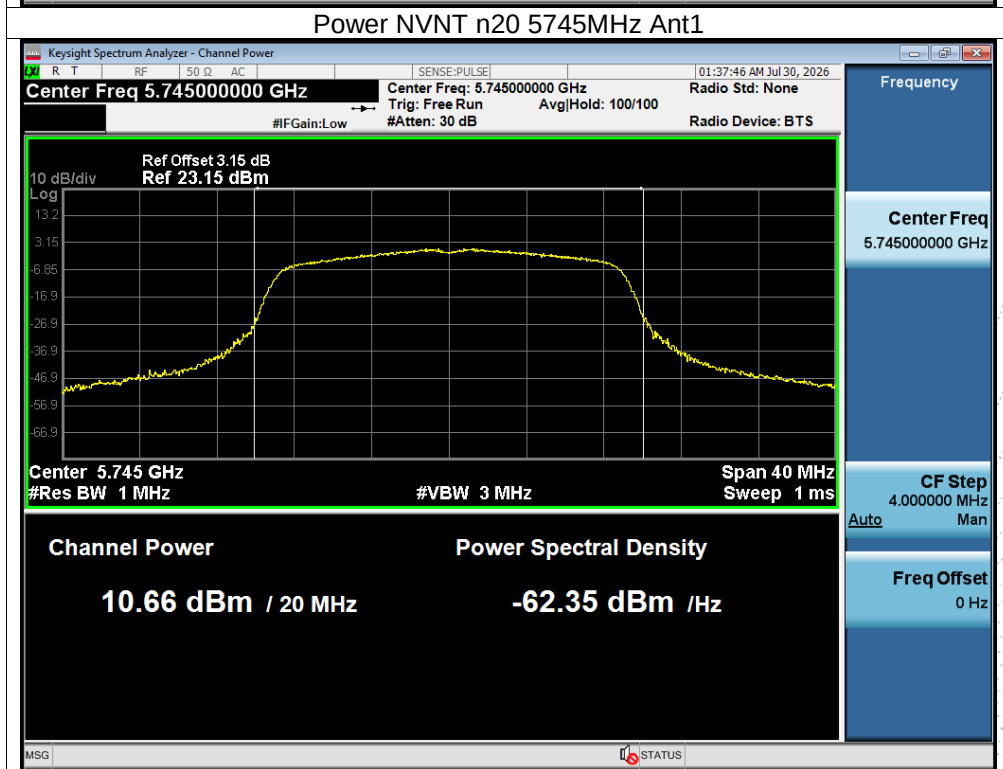
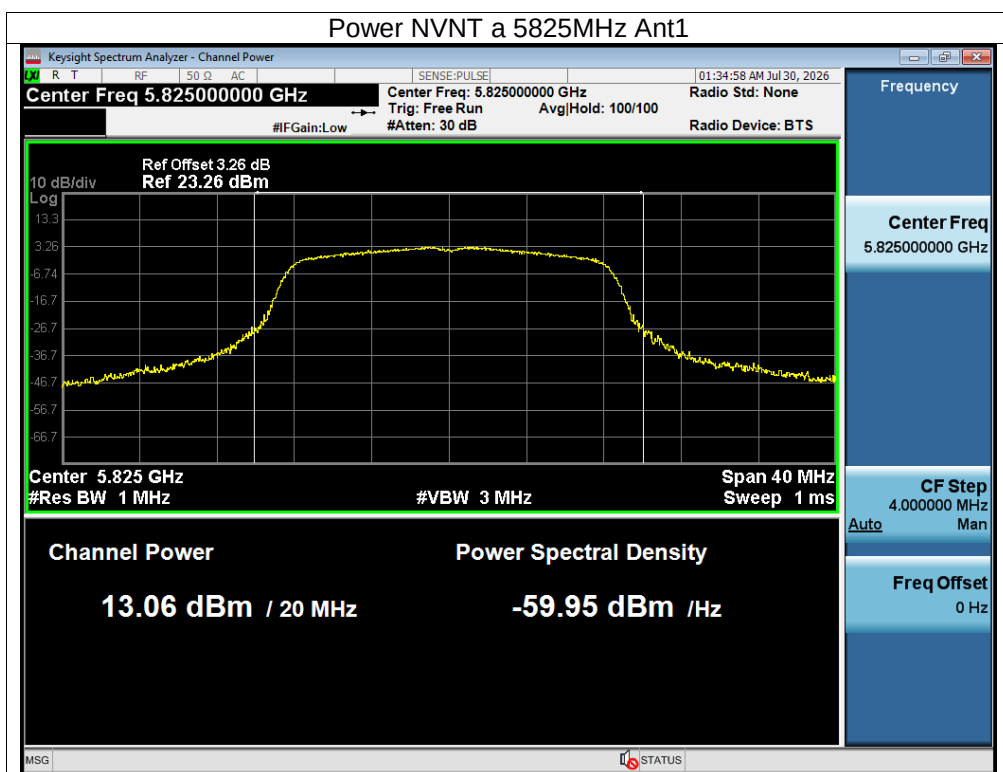


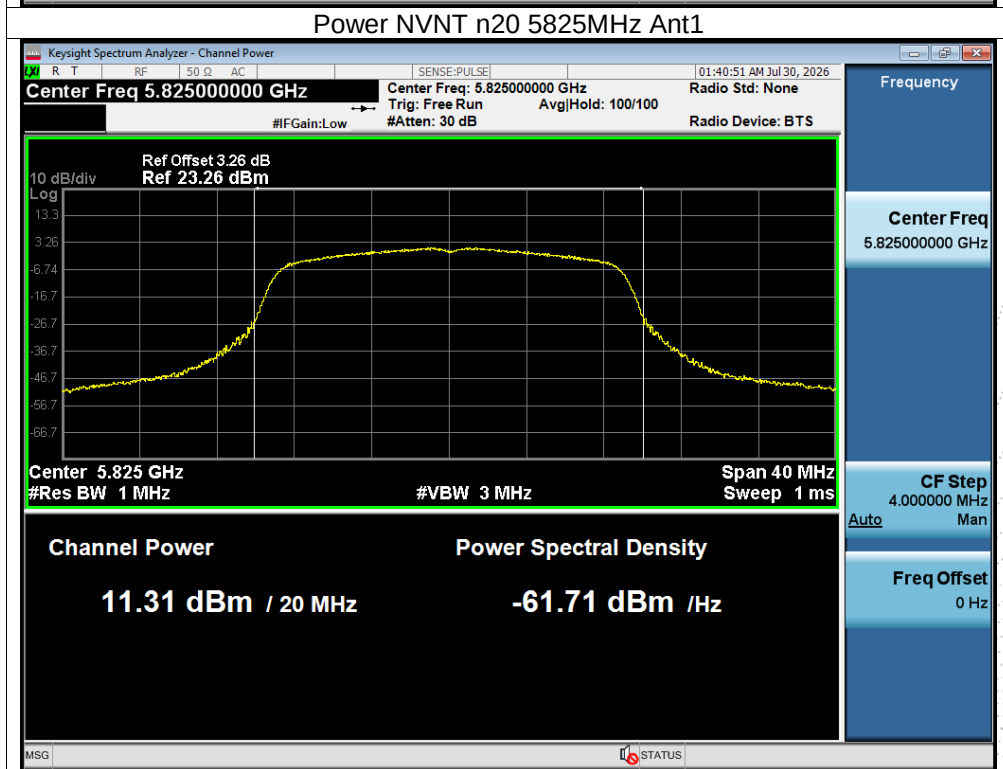
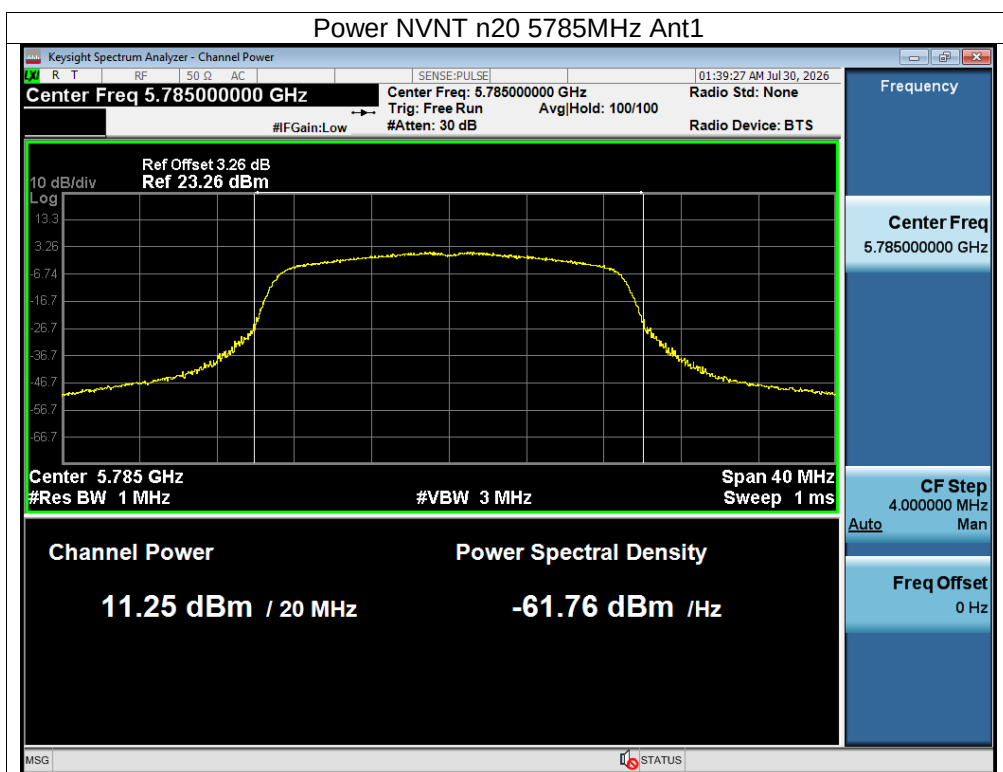
Temperature:	23.7 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
Test Mode:	5745-5825MHz		

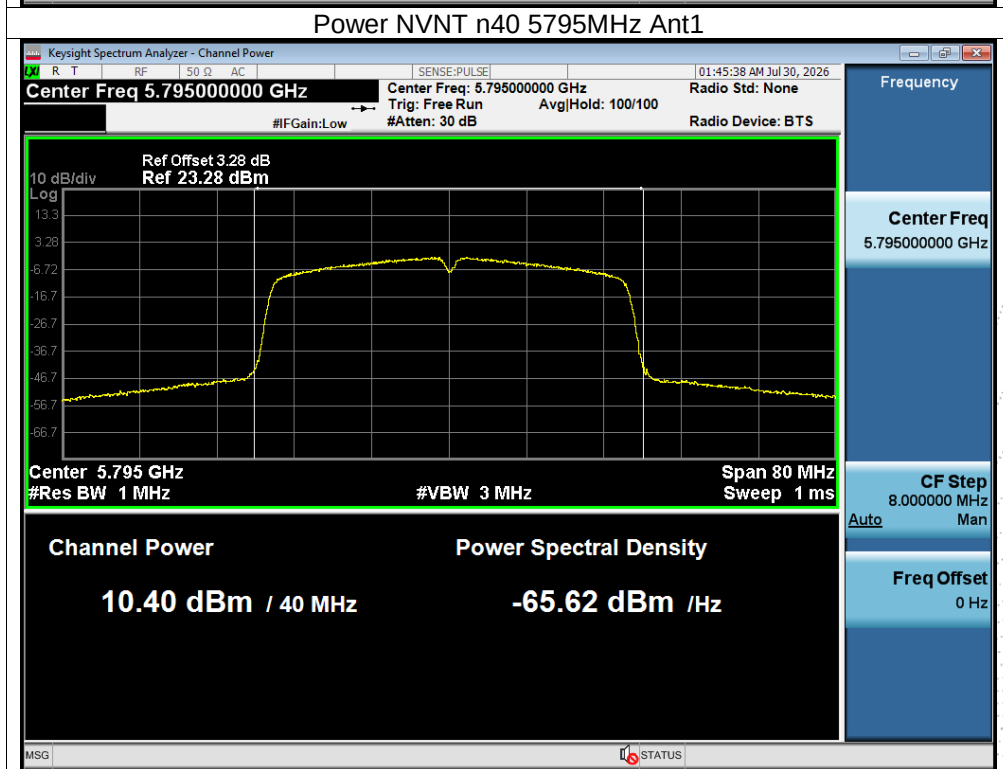
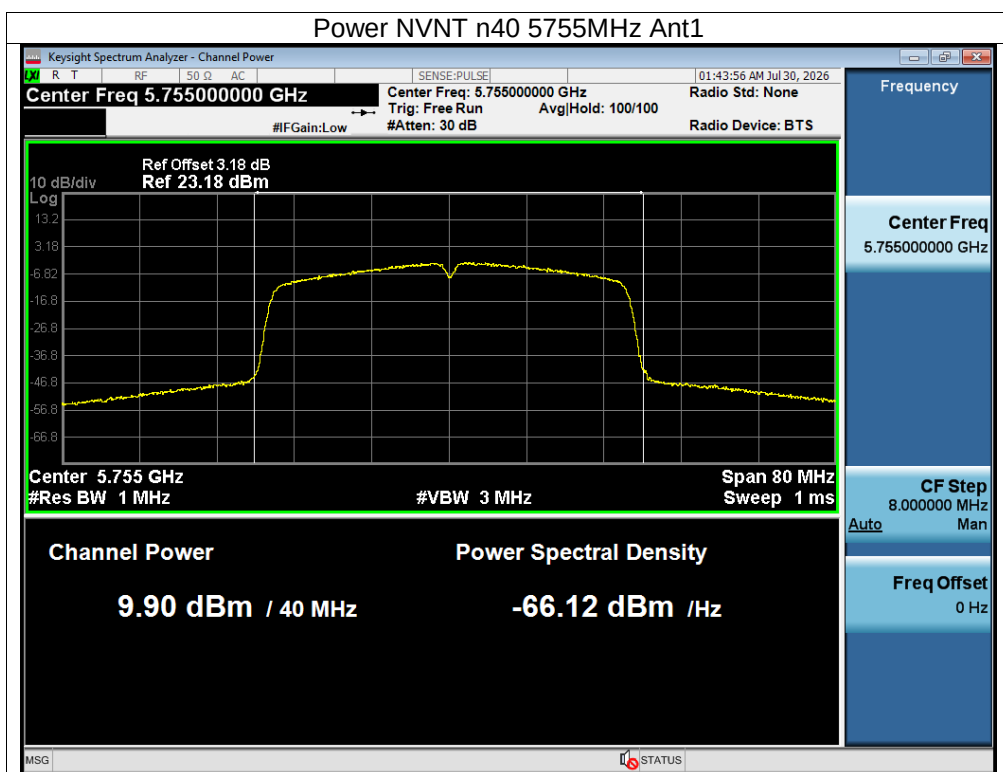
Mode	Frequency (MHz)	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
a	5745	12.22	0.96	13.18	30	Pass
a	5785	12.84	0.96	13.8	30	Pass
a	5825	13.06	0.98	14.04	30	Pass
n20	5745	10.66	0.41	11.07	30	Pass
n20	5785	11.25	0.41	11.66	30	Pass
n20	5825	11.31	0.42	11.73	30	Pass
n40	5755	9.9	0.42	10.32	30	Pass
n40	5795	10.4	0.42	10.82	30	Pass











11. Out Of Band Emissions

11.1 Block Diagram Of Test Setup



11.2 Limit

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(10) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz (68.2 dBuV/m@3m).

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz (68.2 dBuV/m@3m).

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz (68.2 dBuV/m@3m).

(4) For transmitters operating solely in the 5.725-5.850 GHz band:

(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

11.3 Test Procedure

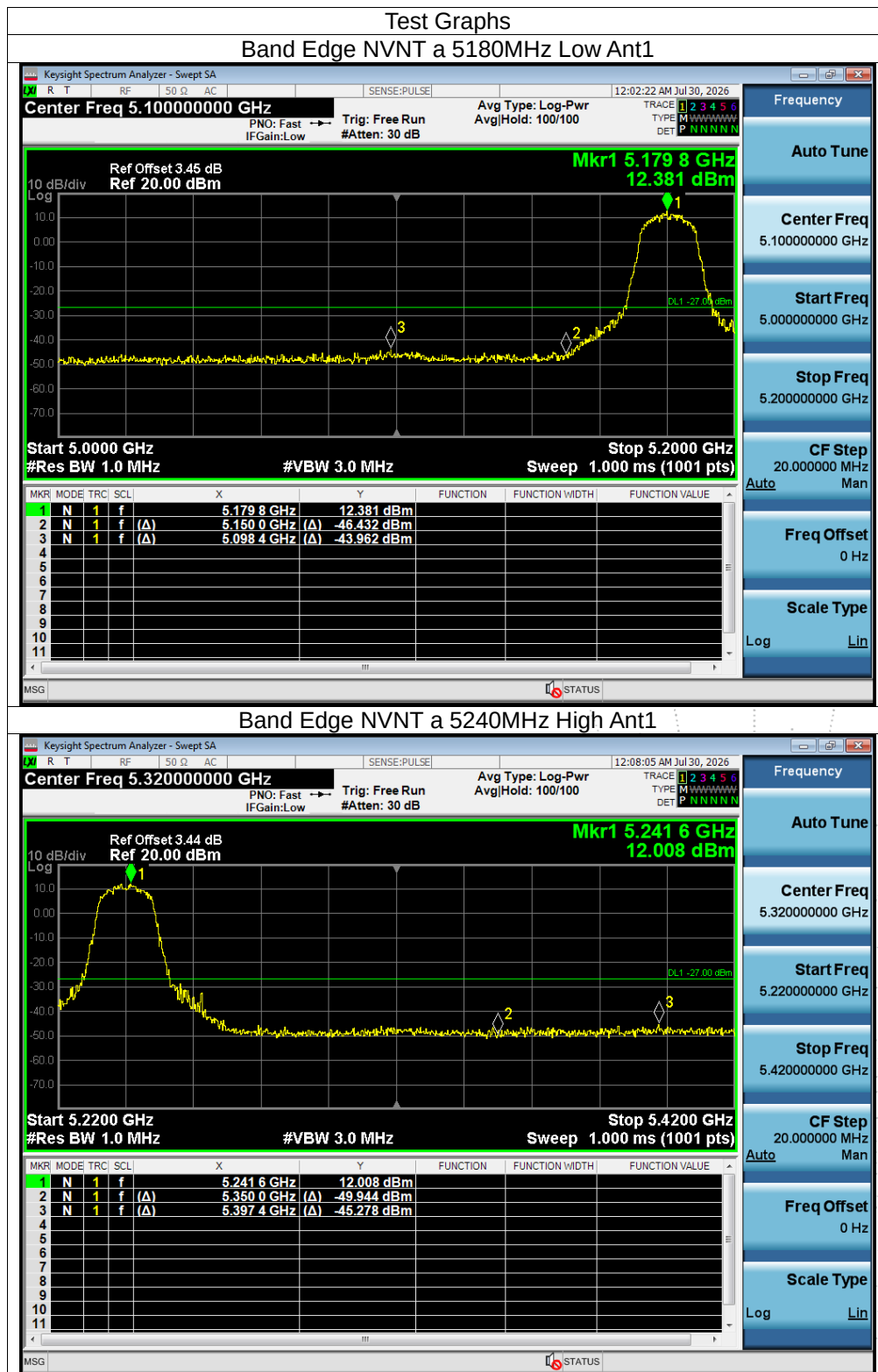
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

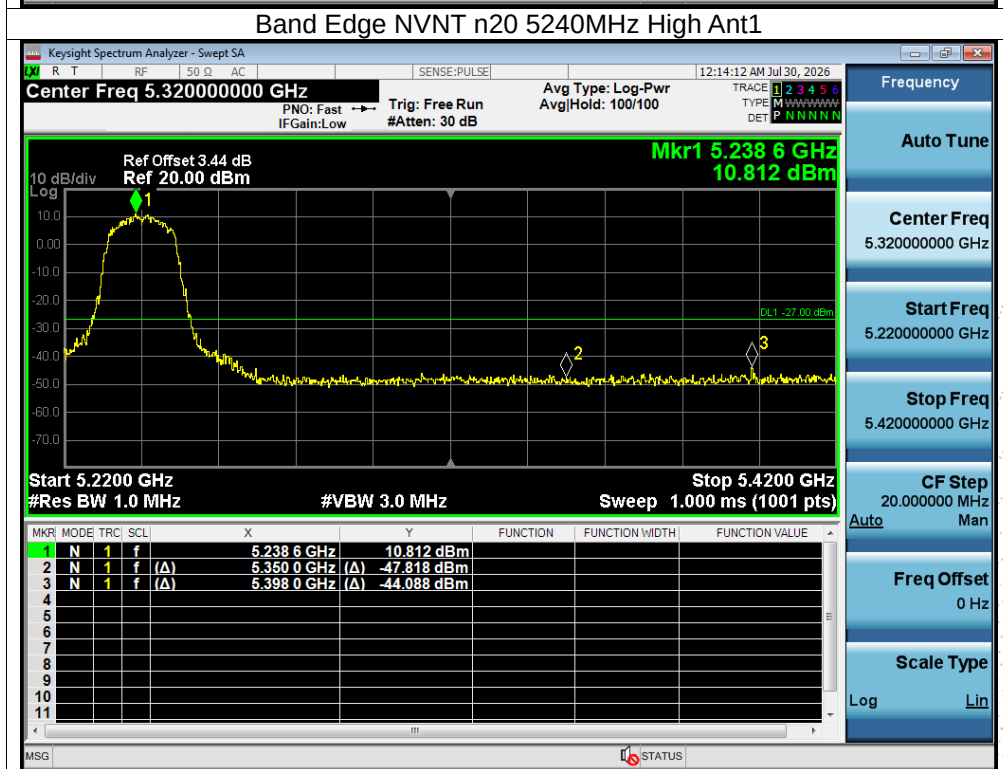
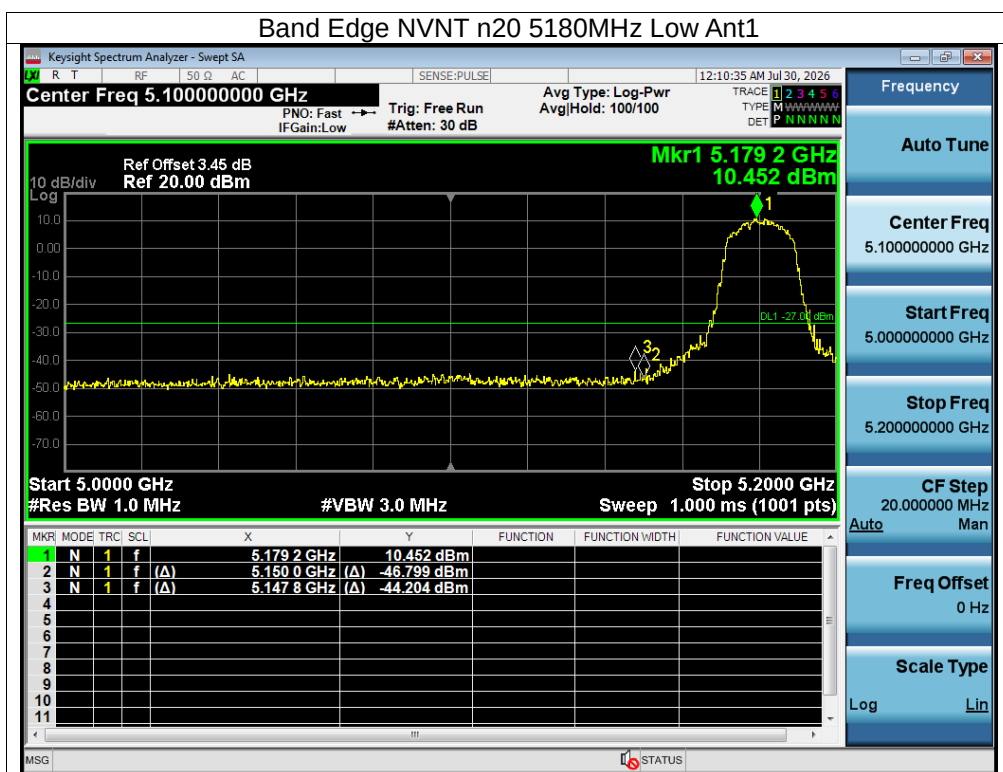
11.4 EUT Operating Conditions

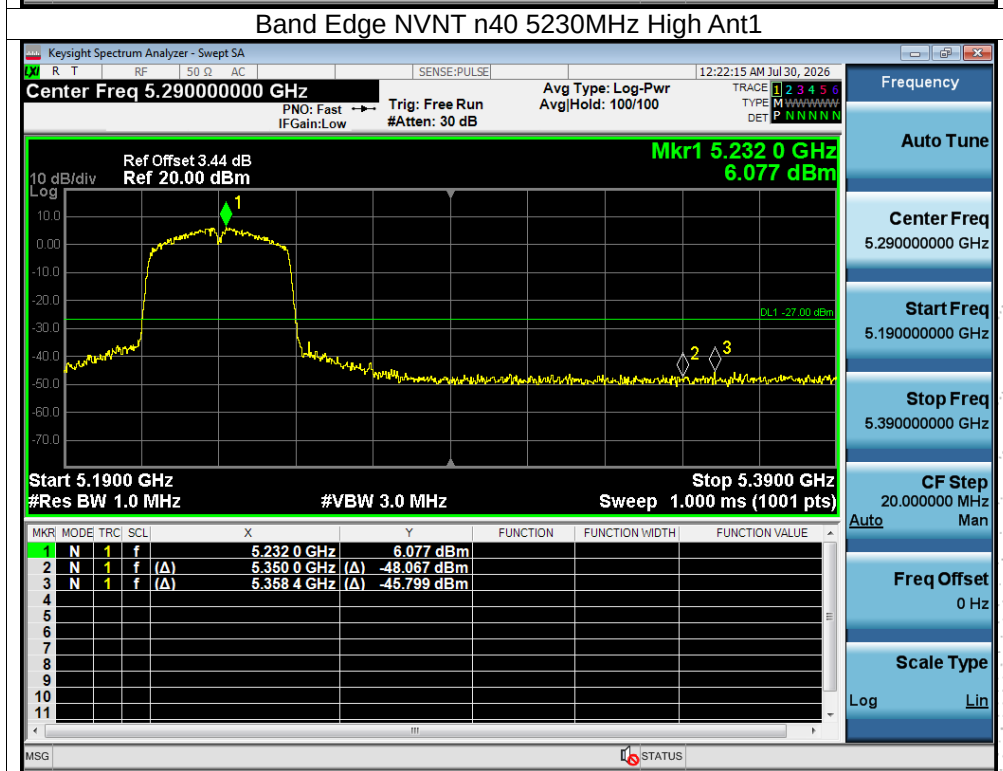
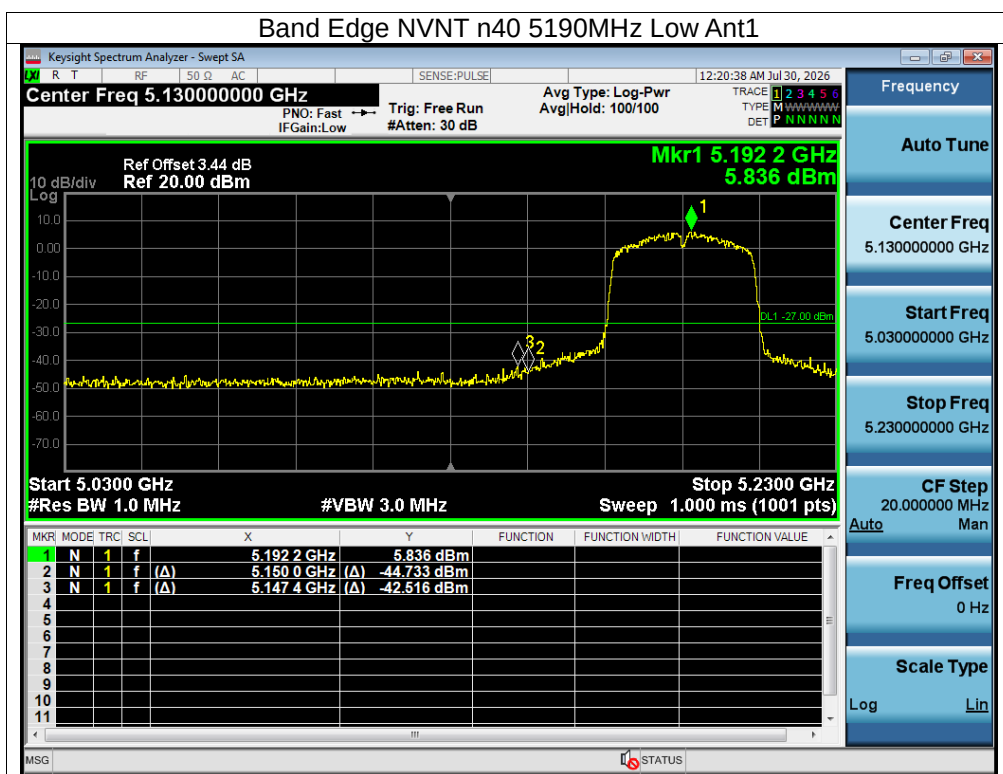
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data

11.5 Test Result

Test Mode:	5180-5240MHz
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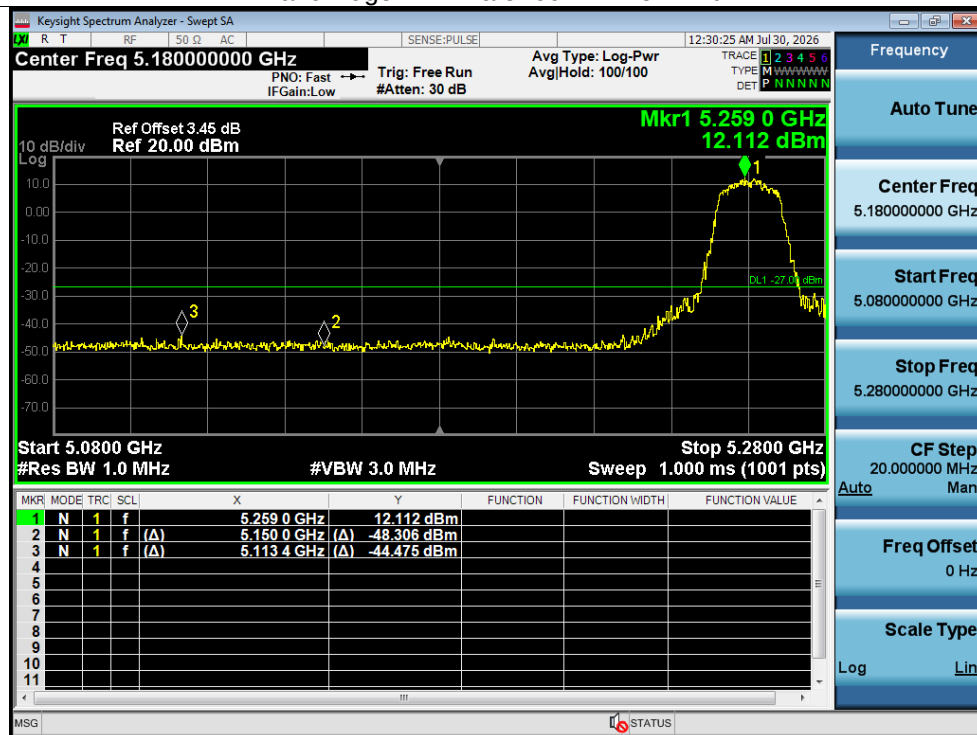




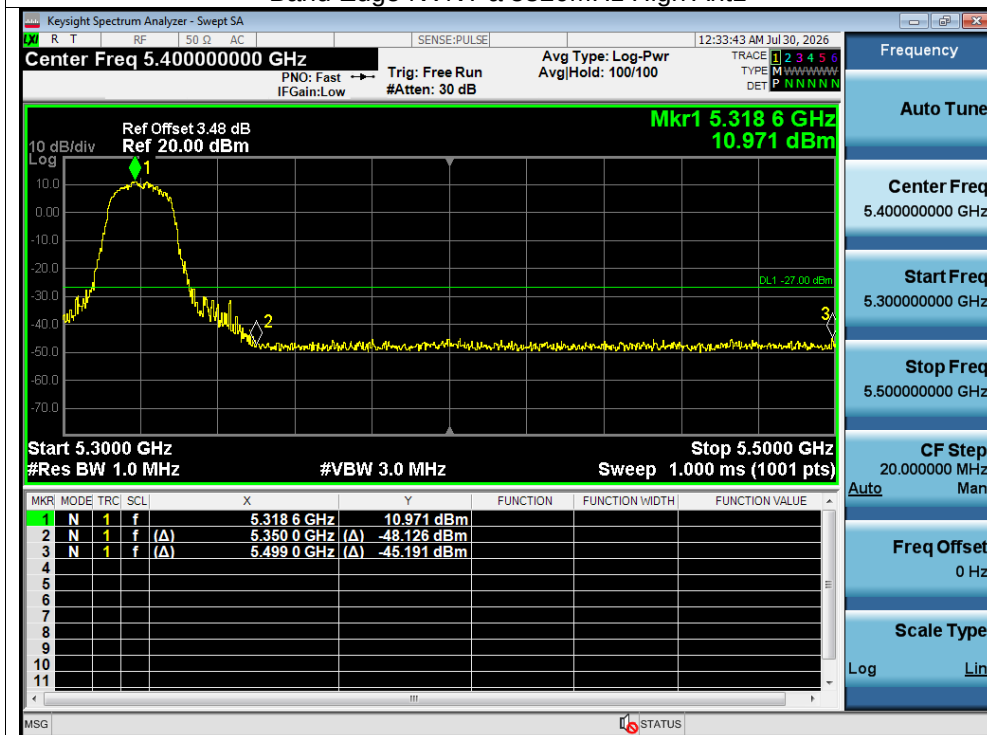
Test Mode: 5260-5230MHz

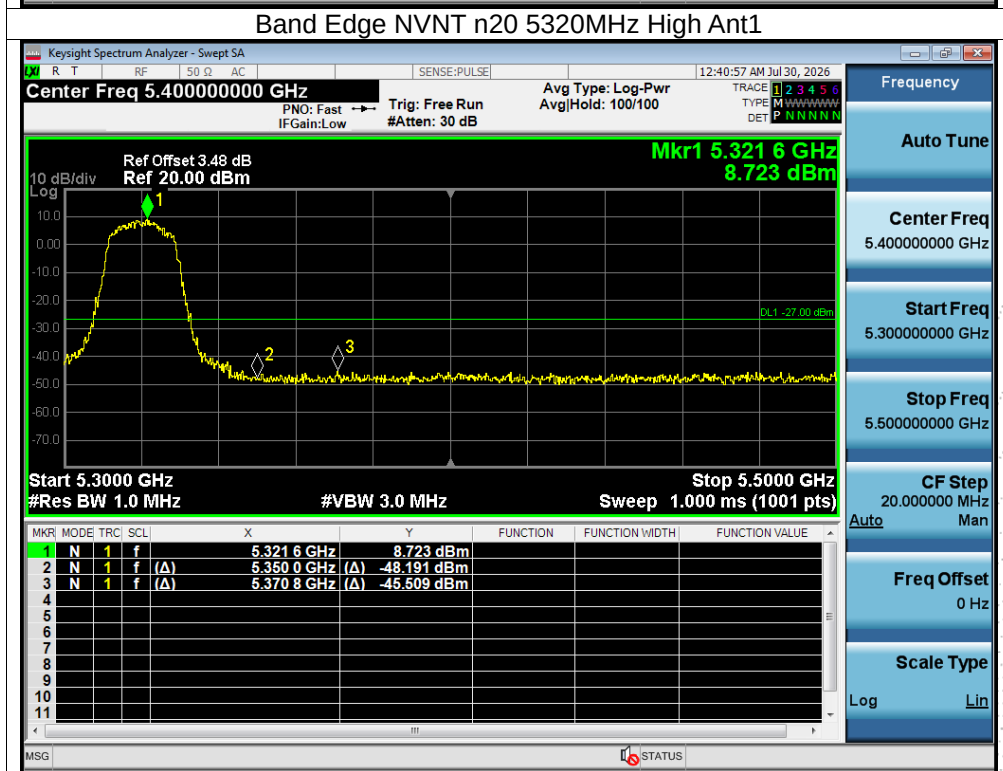
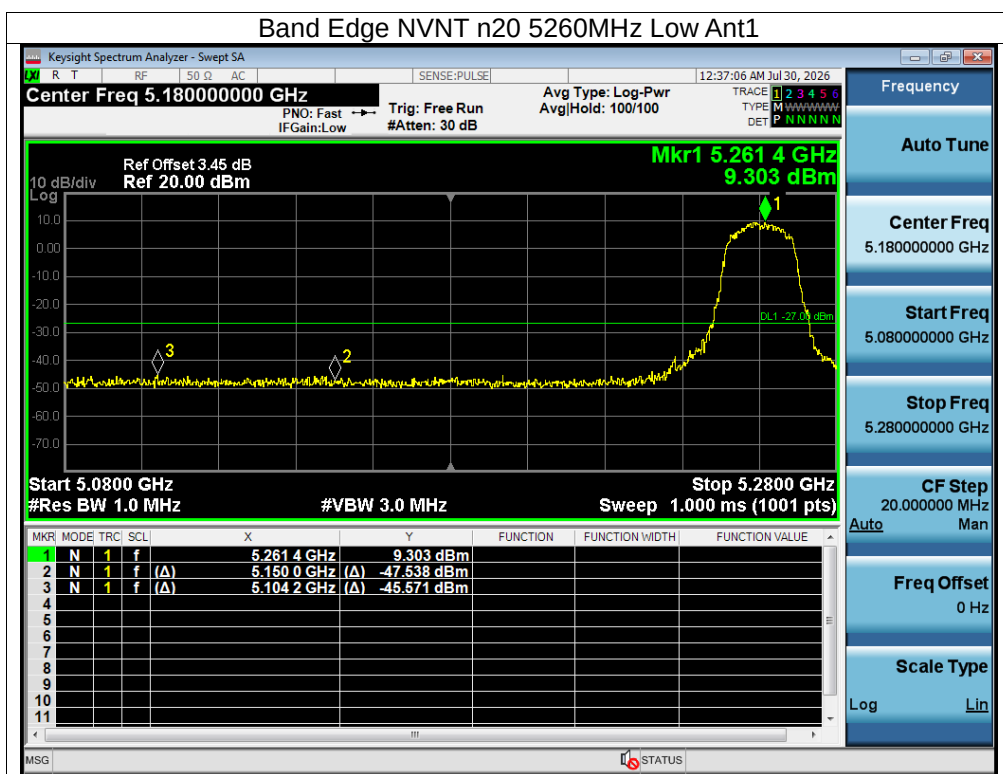
Test Graphs

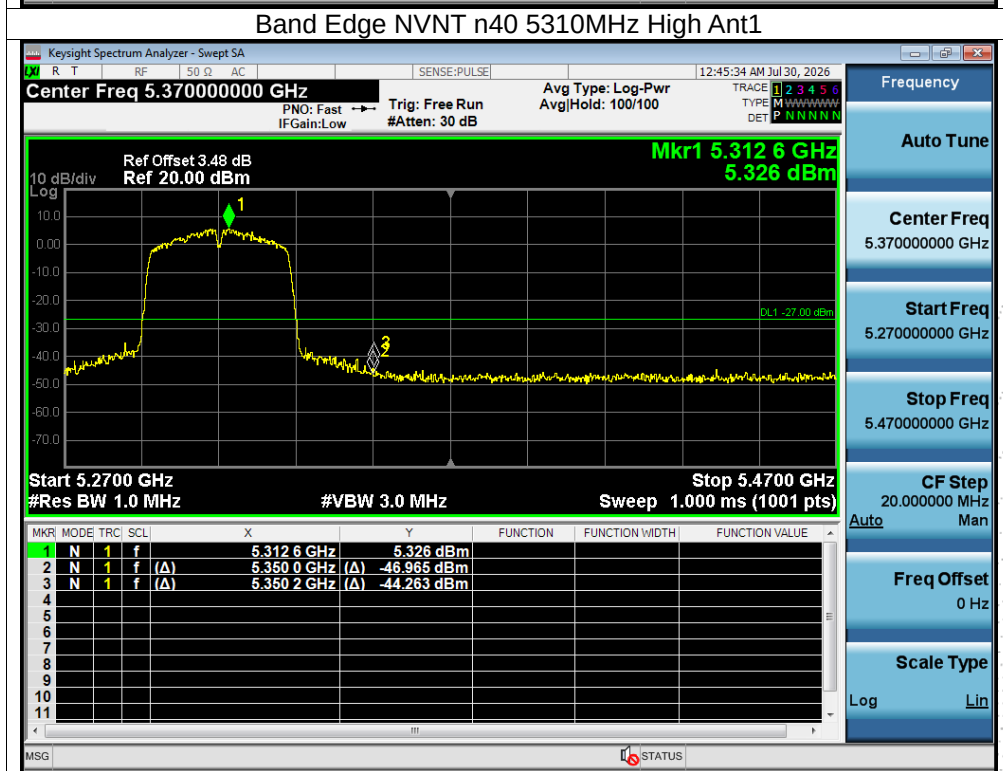
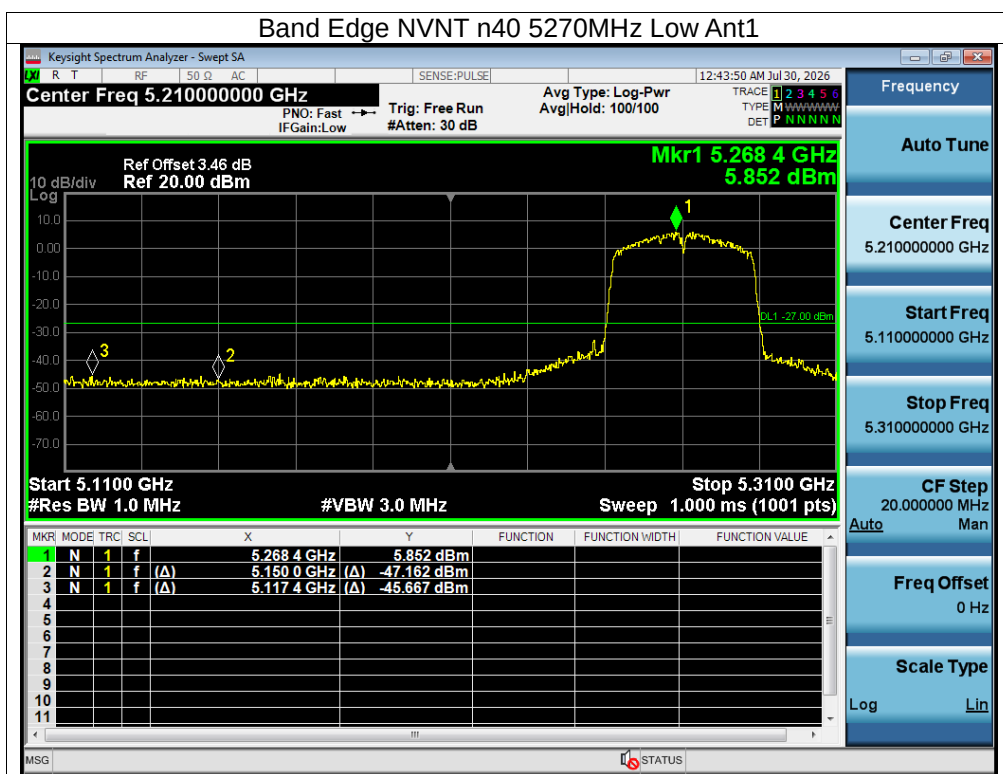
Band Edge NVNT a 5260MHz Low Ant1



Band Edge NVNT a 5320MHz High Ant1







Test Mode:	5500-5700MHz
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