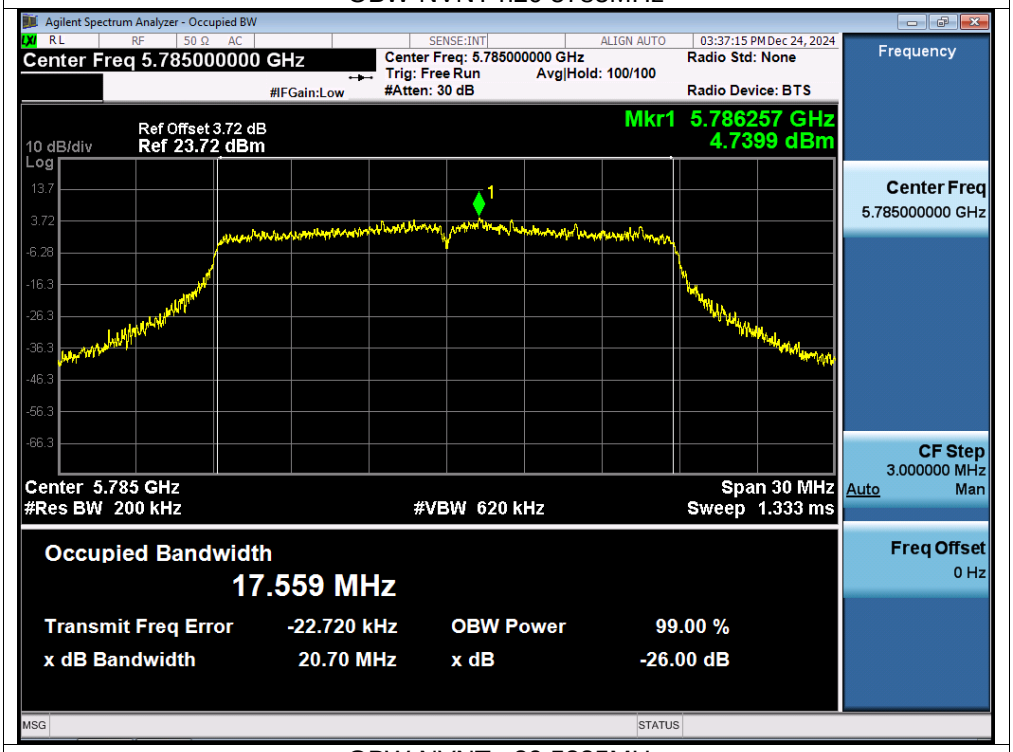
OBW NVNT n20 5785MHz



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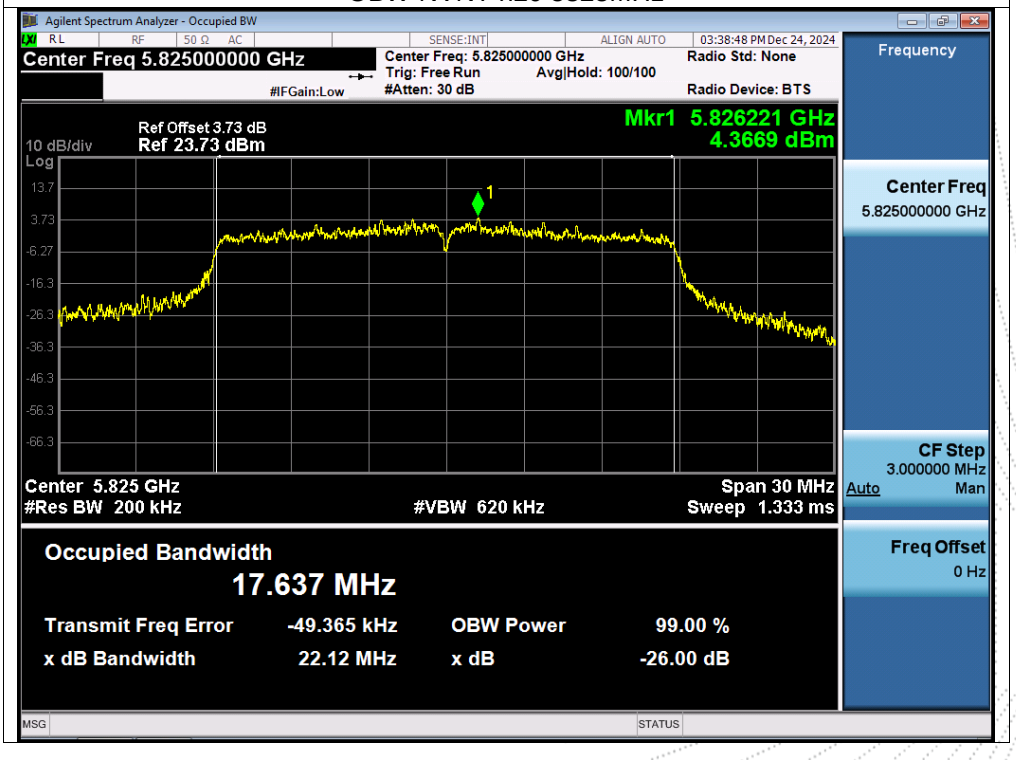
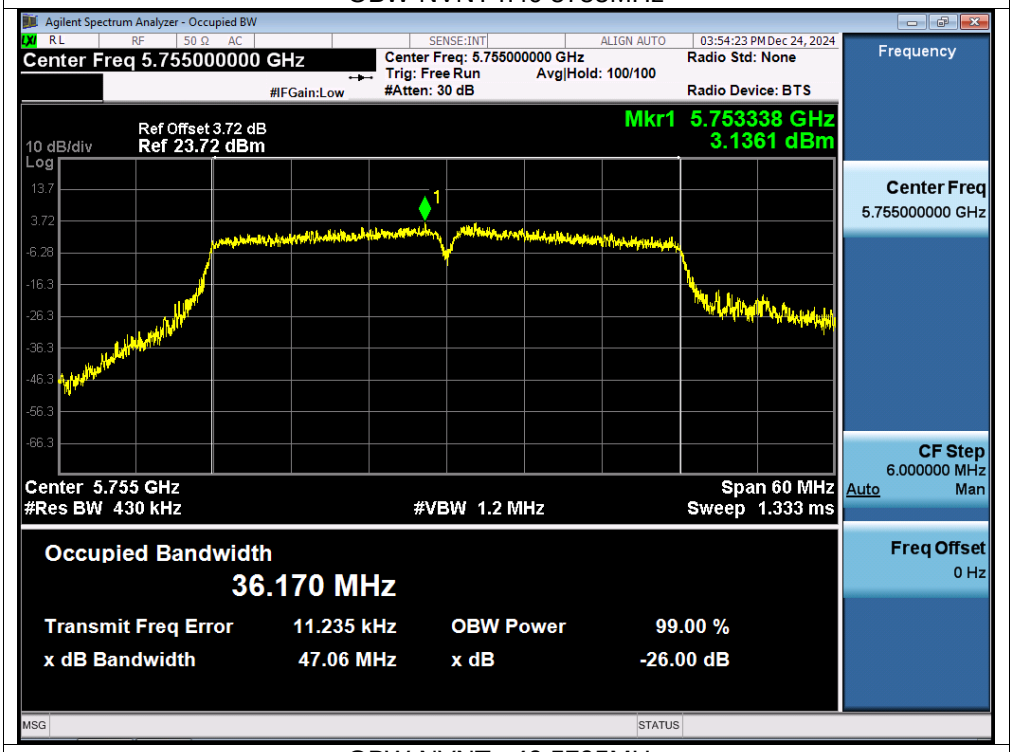


OBW NVNT n40 5755MHz



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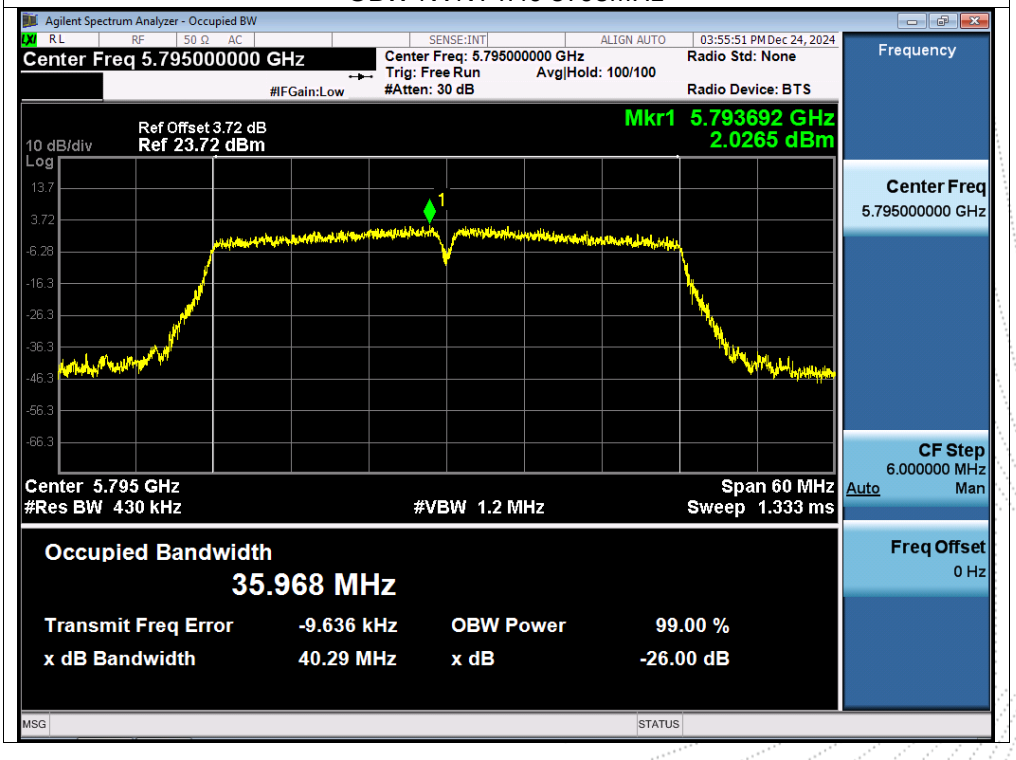

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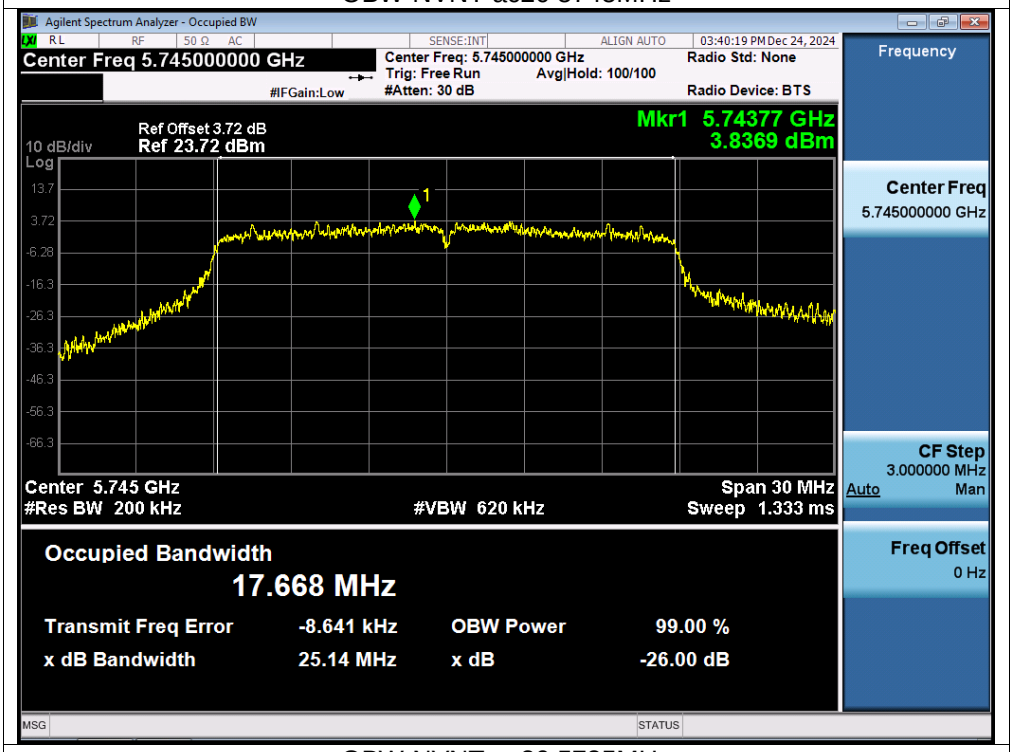

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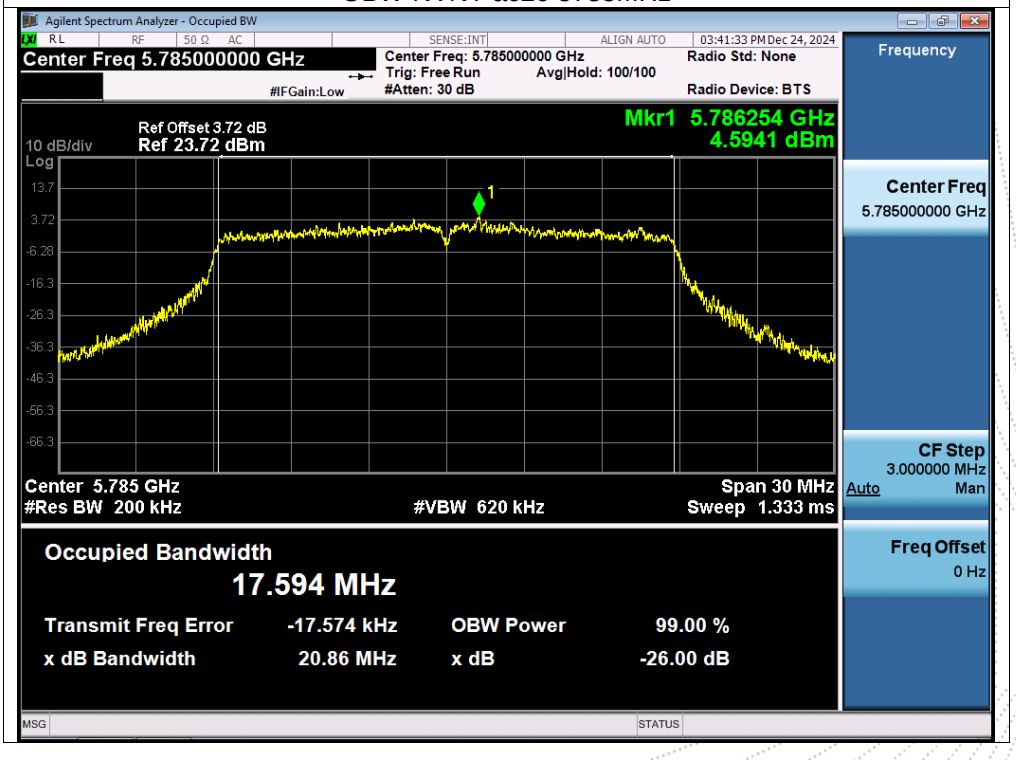

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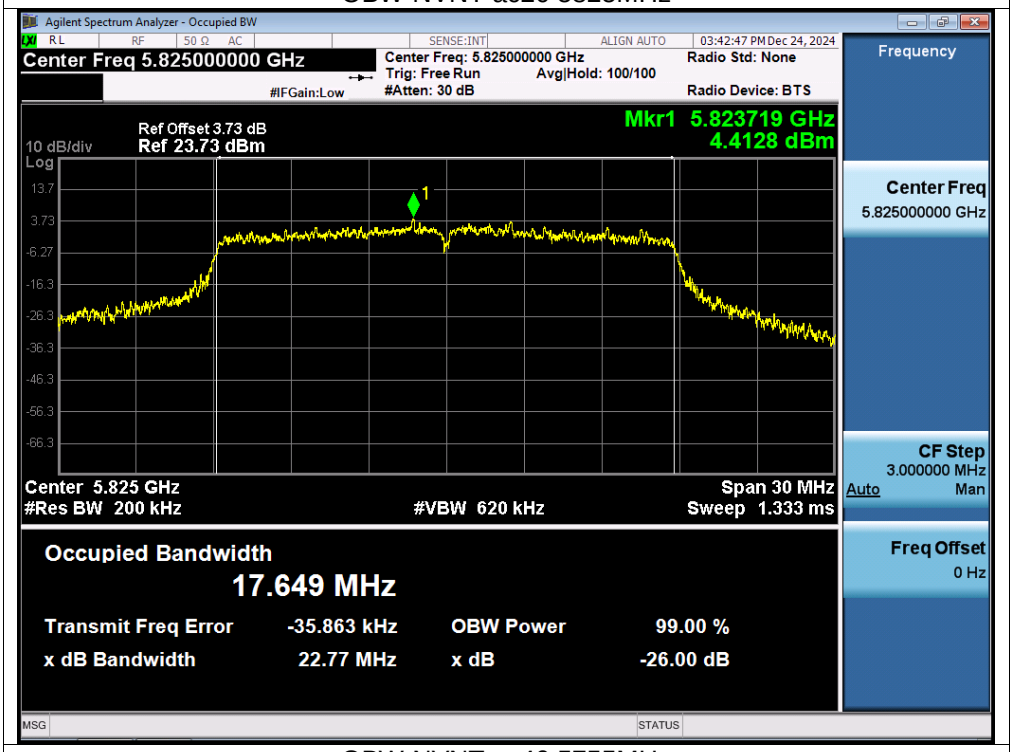

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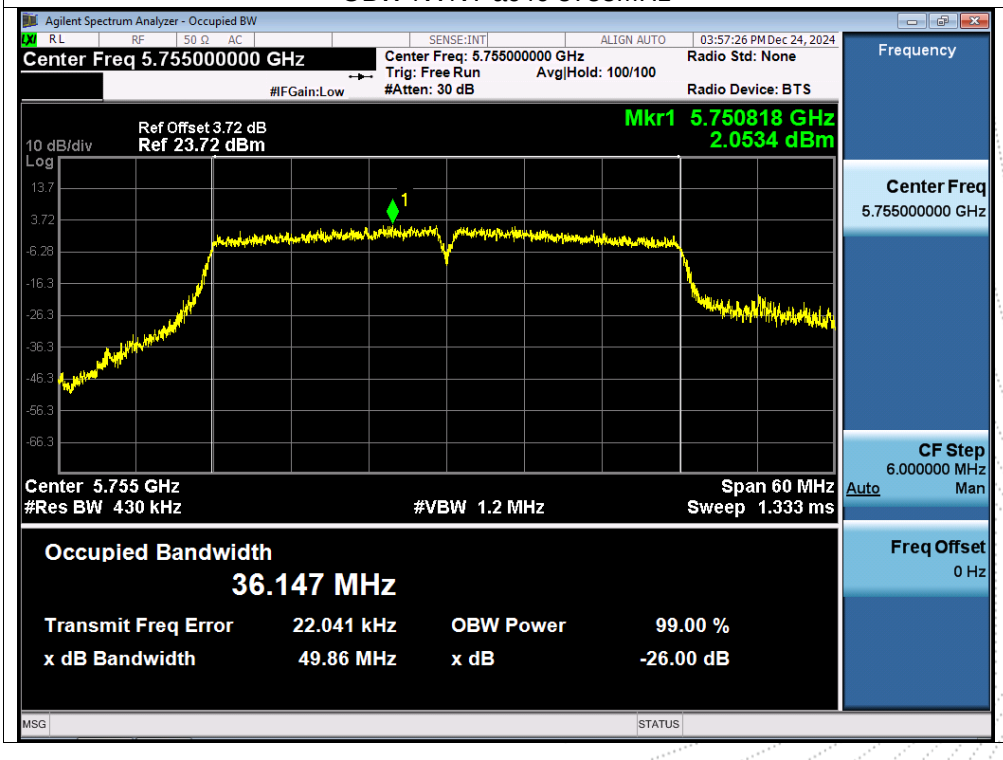

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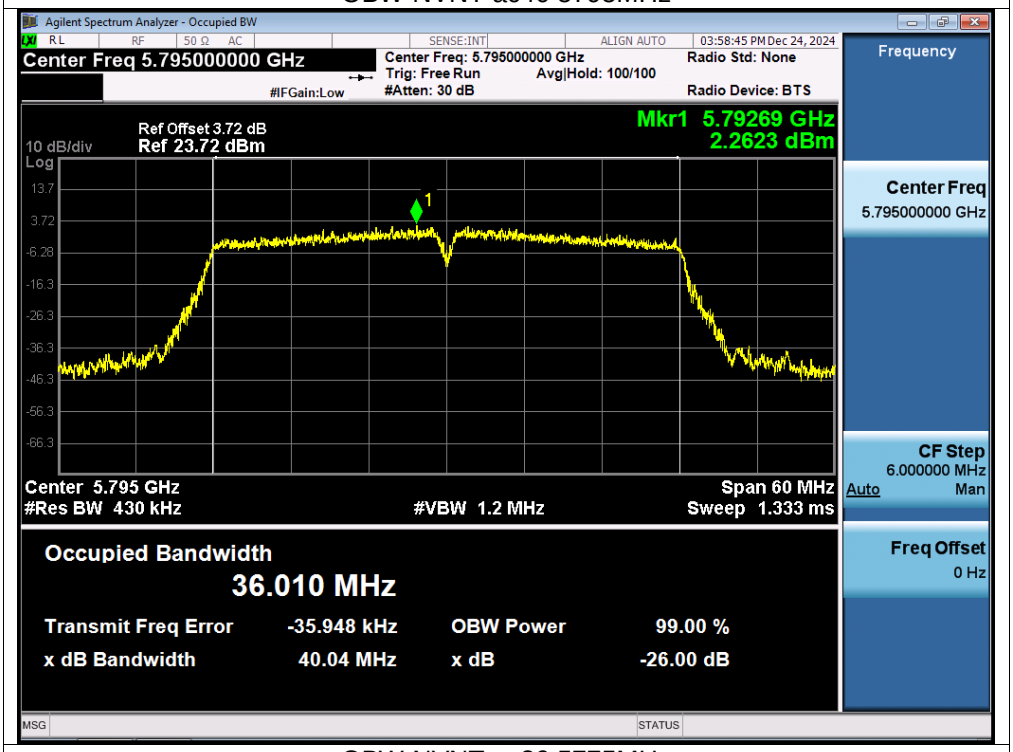

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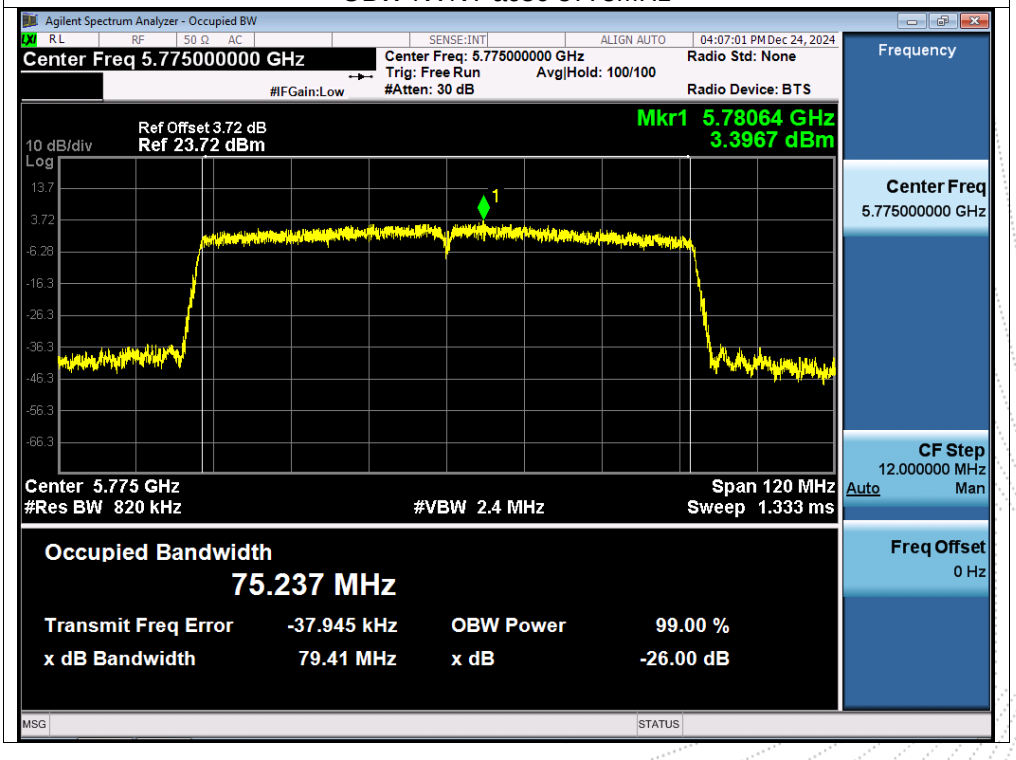

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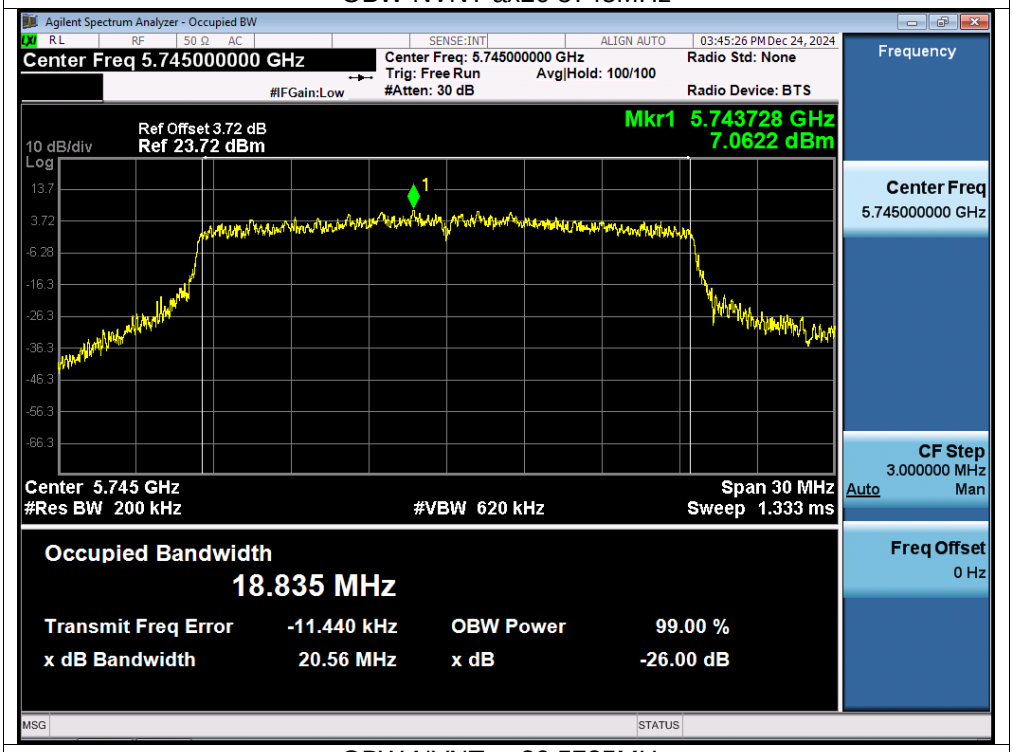

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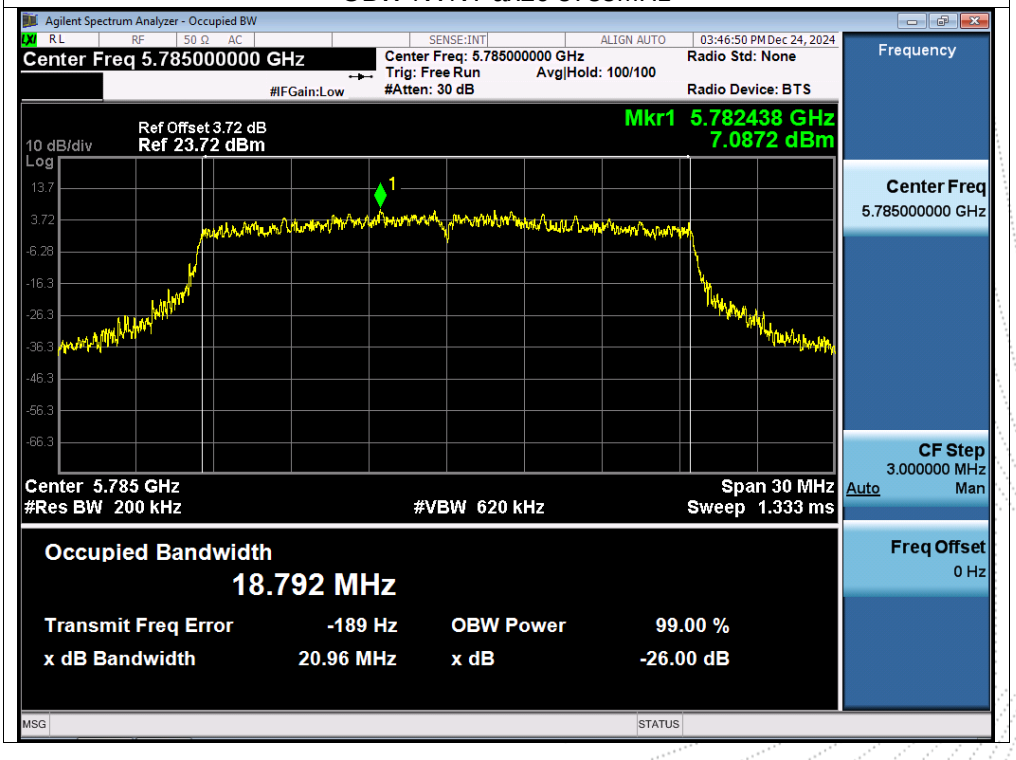

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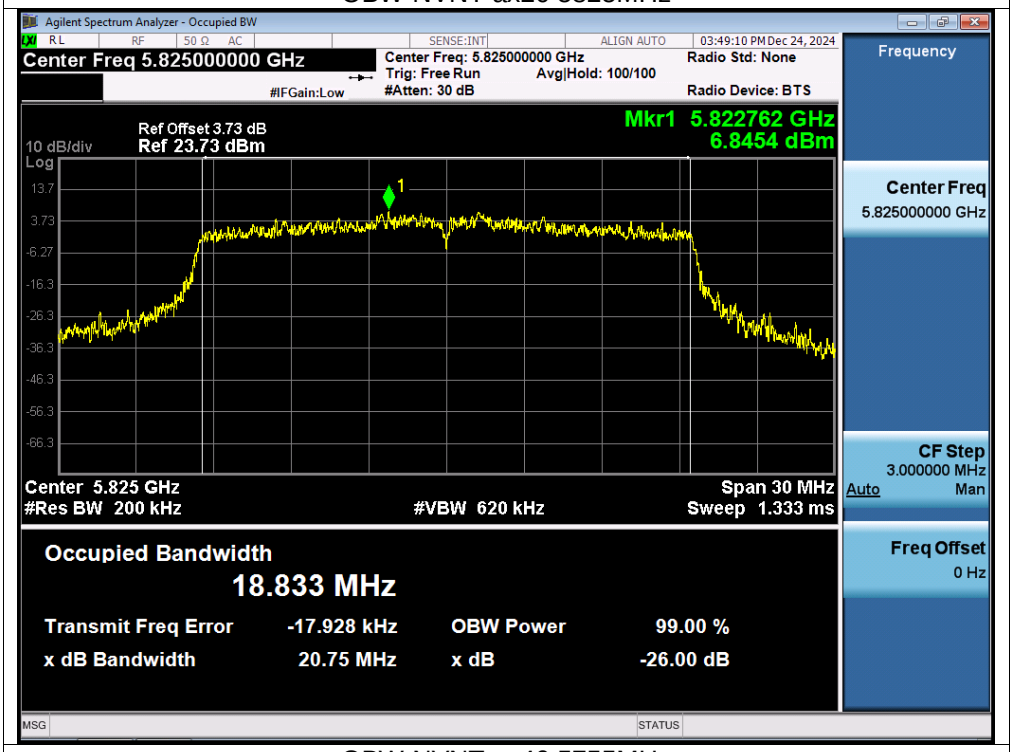
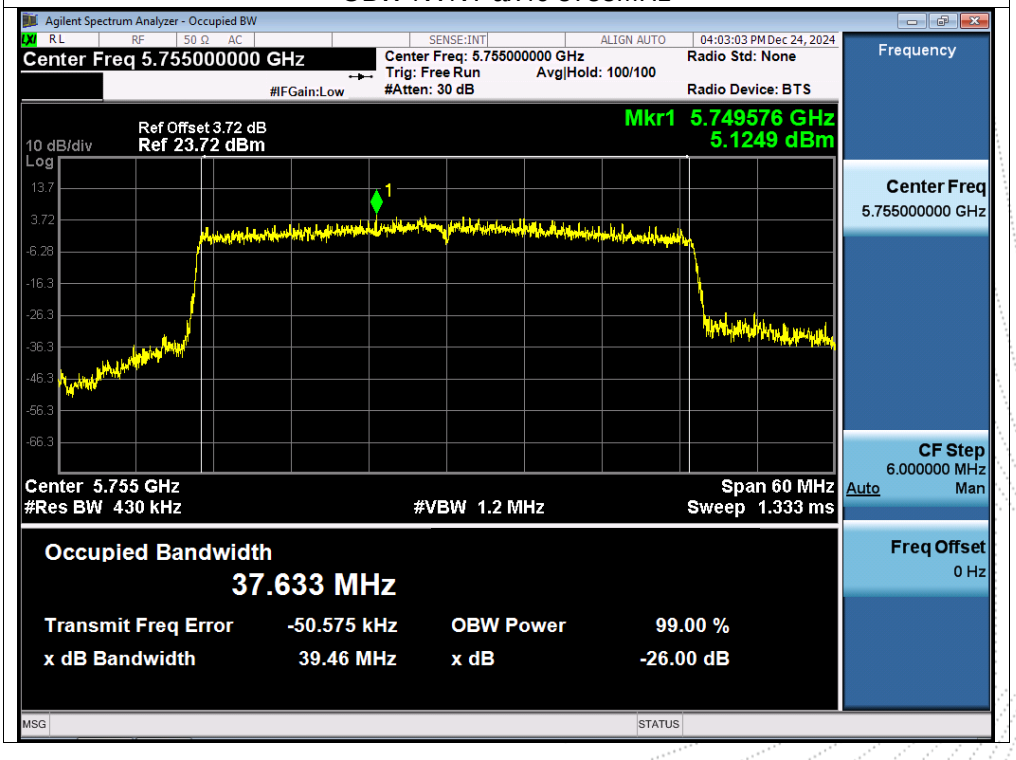


OBW NVNT ax40 5755MHz



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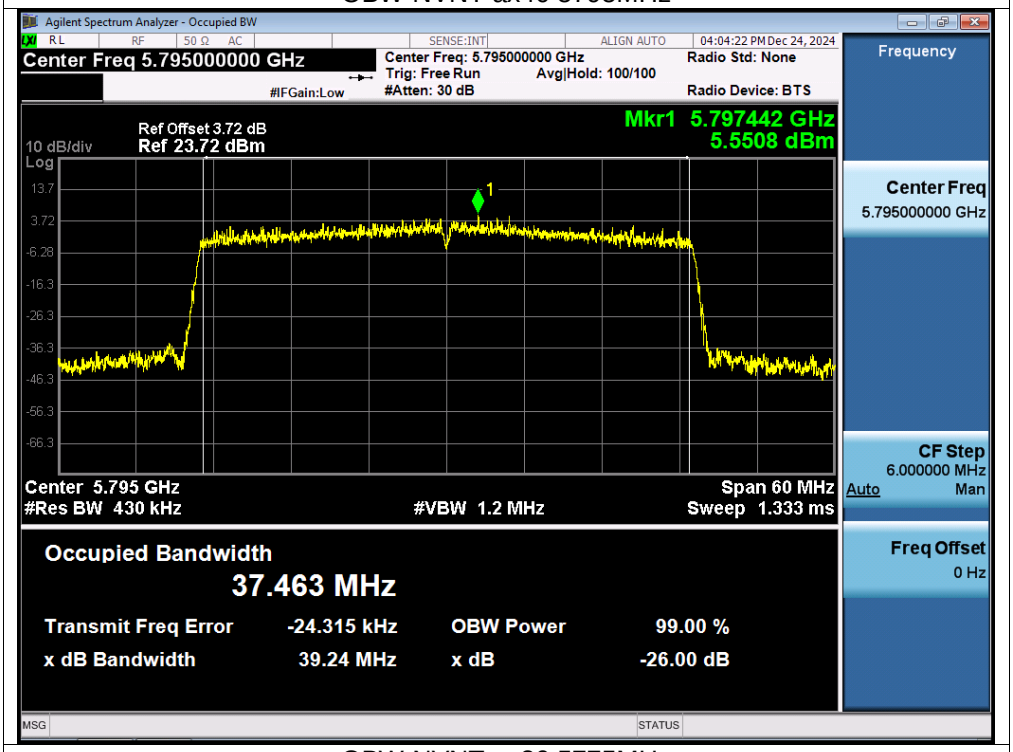
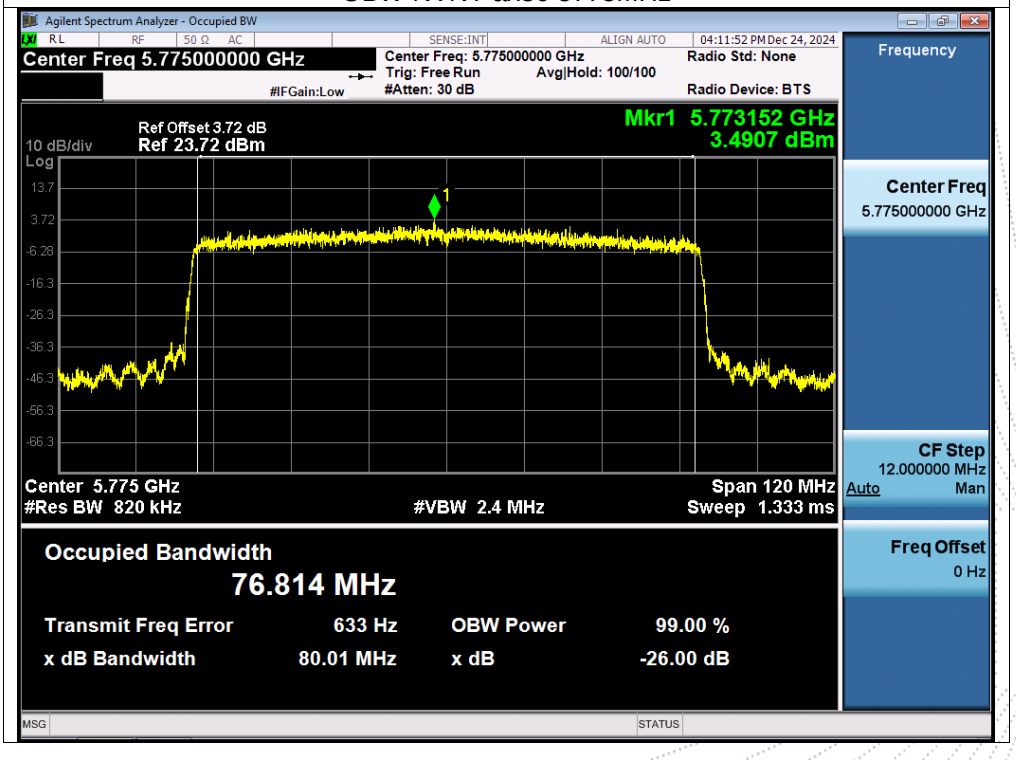
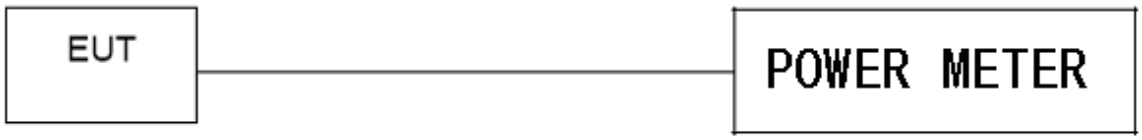


OBW NVNT ax80 5775MHz



10. Maximum Conducted Output Power

10.1 Block Diagram Of Test Setup



10.2 Limit

According to FCC §15.407
The maximum conduced output power should not exceed**:**

Frequency Band(MHz)	Limit
5150~5250	1W
5250~5350	0.25W
5500~5700	0.25W
5725~5850	1W

10.3 Test Procedure

Maximum conducted output power may be measured using a spectrum analyzer/EMI receiver or an RF power meter.

1. Device Configuration
If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level (see section II.B.).
a) The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (to no lower than 98 percent) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.
b) If continuous transmission (or at least 98 percent duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level with the transmit duration as long as possible and the duty cycle as high as possible.

2. Measurement using a Spectrum Analyzer or EMI Receiver (SA)
Measurement of maximum conducted output power using a spectrum analyzer requires integrating the spectrum across a frequency span that encompasses, at a minimum, either the EBW or the 99-percent occupied bandwidth of the signal.1 However, the EBW must be used to determine bandwidth dependent limits on maximum conducted output power in accordance with § 15.407(a).
a) The test method shall be selected as follows: (i) Method SA-1 or SA-1 Alternative (averaging with the EUT transmitting at full power throughout each sweep) shall be applied if either of the following conditions can be satisfied:
• The EUT transmits continuously (or with a duty cycle ≥ 98 percent).
• Sweep triggering or gating can be implemented in a way that the device transmits at the maximum power control level throughout the duration of each of the instrument sweeps to be averaged. This condition can generally be achieved by triggering the instrument's sweep if the duration of the sweep (with the analyzer configured as in Method SA-1, below) is equal to or shorter than the duration T of each transmission from the EUT and if those transmissions exhibit full power throughout their durations.

(ii) Method SA-2 or SA-2 Alternative (averaging across on and off times of the EUT transmissions, followed by duty cycle correction) shall be applied if the conditions of (i) 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 ± 2 percent.

(iii) Method SA-3 (RMS detection with max hold) or SA-3 Alternative (reduced VBW with max hold) shall be applied if the conditions of (i) and (ii) cannot be achieved.

b) Method SA-1 (trace averaging with the EUT transmitting at full power throughout each sweep): (i) Set span to encompass the entire emission bandwidth (EBW) (or, alternatively, the entire 99% occupied bandwidth) of the signal.
(ii) Set RBW = 1 MHz.
(iii) Set VBW ≥ 3 MHz.
(iv) Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
(v) Sweep time = auto.
(vi) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
(vii) If transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must 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 ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to “free run”.
(viii) Trace average at least 100 traces in power averaging (i.e., RMS) mode.
(ix) Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument’s band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges. If the instrument does not have a band power function, sum the spectrum

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:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V
Test Mode:	5180-5240MHz		

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5180	17.71	24	Pass
NVNT	a	5200	17.2	24	Pass
NVNT	a	5240	17.45	24	Pass
NVNT	n20	5180	15.75	24	Pass
NVNT	n20	5200	16.07	24	Pass
NVNT	n20	5240	16.12	24	Pass
NVNT	n40	5190	14.48	24	Pass
NVNT	n40	5230	14.34	24	Pass
NVNT	ac20	5180	16.14	24	Pass
NVNT	ac20	5200	16.27	24	Pass
NVNT	ac20	5240	16.6	24	Pass
NVNT	ac40	5190	14.57	24	Pass
NVNT	ac40	5230	14.39	24	Pass
NVNT	ac80	5210	11	24	Pass
NVNT	ax20	5180	16.33	24	Pass
NVNT	ax20	5200	16.42	24	Pass
NVNT	ax20	5240	16.41	24	Pass
NVNT	ax40	5190	13.66	24	Pass
NVNT	ax40	5230	13.22	24	Pass
NVNT	ax80	5210	12.53	24	Pass

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V
Test Mode:	5260-5320MHz		

Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5260	16.99	24	Pass
NVNT	a	5280	16.08	24	Pass
NVNT	a	5320	15.41	24	Pass
NVNT	n20	5260	14.29	24	Pass
NVNT	n20	5280	13.81	24	Pass
NVNT	n20	5320	13.32	24	Pass
NVNT	n40	5270	12.75	24	Pass
NVNT	n40	5310	13	24	Pass
NVNT	ac20	5260	14.34	24	Pass
NVNT	ac20	5280	13.45	24	Pass
NVNT	ac20	5320	13.75	24	Pass
NVNT	ac40	5270	12.76	24	Pass
NVNT	ac40	5310	13.39	24	Pass
NVNT	ac80	5290	10.94	24	Pass
NVNT	ax20	5260	11.93	24	Pass
NVNT	ax20	5280	11.46	24	Pass
NVNT	ax20	5320	11.77	24	Pass
NVNT	ax40	5270	11.67	24	Pass
NVNT	ax40	5310	11.89	24	Pass
NVNT	ax80	5290	11.12	24	Pass

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V
Test Mode:	5500-5700MHz		

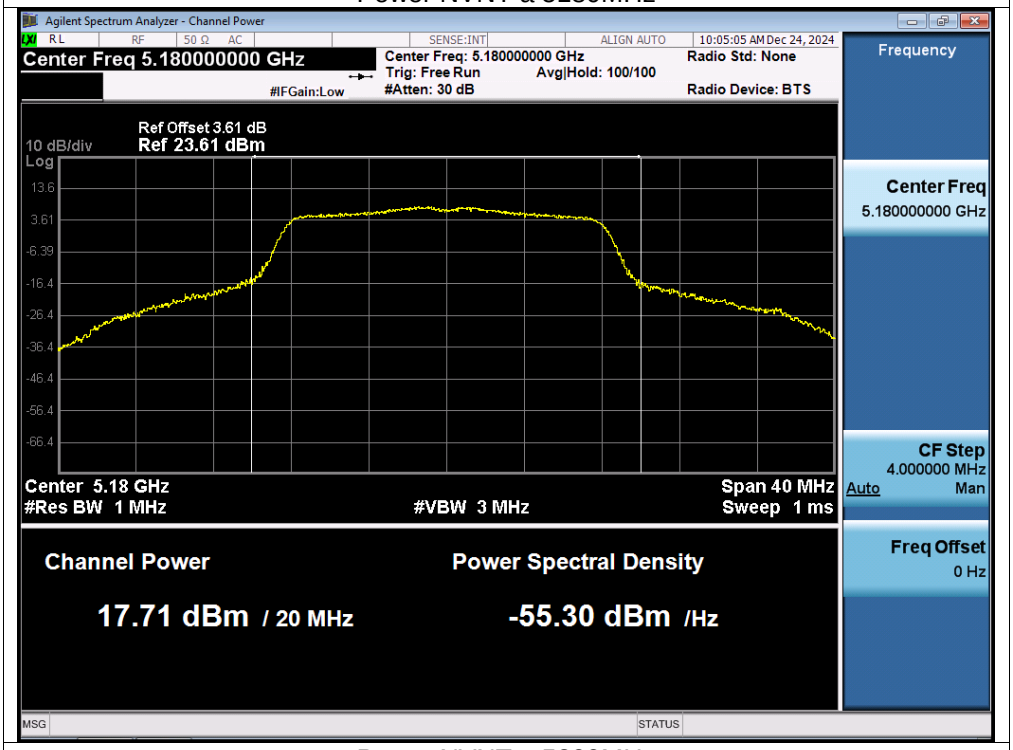
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5500	16.31	24	Pass
NVNT	a	5580	16.86	24	Pass
NVNT	a	5700	17.01	24	Pass
NVNT	n20	5500	14.13	24	Pass
NVNT	n20	5580	14.94	24	Pass
NVNT	n20	5700	15.76	24	Pass
NVNT	n40	5510	12.09	24	Pass
NVNT	n40	5550	12.65	24	Pass
NVNT	n40	5670	12.99	24	Pass
NVNT	ac20	5500	14.2	24	Pass
NVNT	ac20	5580	13.85	24	Pass
NVNT	ac20	5700	14.59	24	Pass
NVNT	ac40	5510	12.27	24	Pass
NVNT	ac40	5550	12.42	24	Pass
NVNT	ac40	5670	12.53	24	Pass
NVNT	ac80	5530	10.42	24	Pass
NVNT	ax20	5500	14.88	24	Pass
NVNT	ax20	5580	15.69	24	Pass
NVNT	ax20	5700	15.7	24	Pass
NVNT	ax40	5510	12.36	24	Pass
NVNT	ax40	5550	12.44	24	Pass
NVNT	ax40	5670	12.42	24	Pass
NVNT	ax80	5530	10.02	24	Pass

Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	AC 120V
Test Mode:	5745-5825MHz		

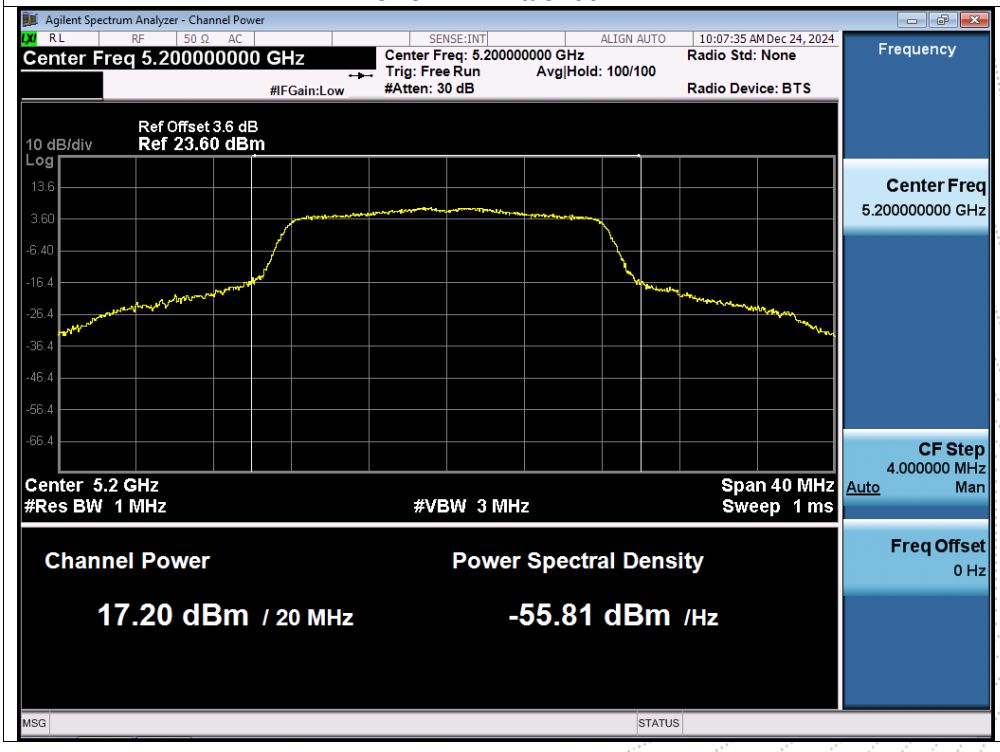
Condition	Mode	Frequency (MHz)	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	a	5745	17.12	30	Pass
NVNT	a	5785	16.94	30	Pass
NVNT	a	5825	16.11	30	Pass
NVNT	n20	5745	15.74	30	Pass
NVNT	n20	5785	14.9	30	Pass
NVNT	n20	5825	14.96	30	Pass
NVNT	n40	5755	12.99	30	Pass
NVNT	n40	5795	12	30	Pass
NVNT	ac20	5745	15.83	30	Pass
NVNT	ac20	5785	15.23	30	Pass
NVNT	ac20	5825	15.25	30	Pass
NVNT	ac40	5755	12.12	30	Pass
NVNT	ac40	5795	12.42	30	Pass
NVNT	ac80	5775	10.98	30	Pass
NVNT	ax20	5745	15.54	30	Pass
NVNT	ax20	5785	15.56	30	Pass
NVNT	ax20	5825	14.84	30	Pass
NVNT	ax40	5755	12.58	30	Pass
NVNT	ax40	5795	12.28	30	Pass
NVNT	ax80	5775	10.4	30	Pass

Test Graphs

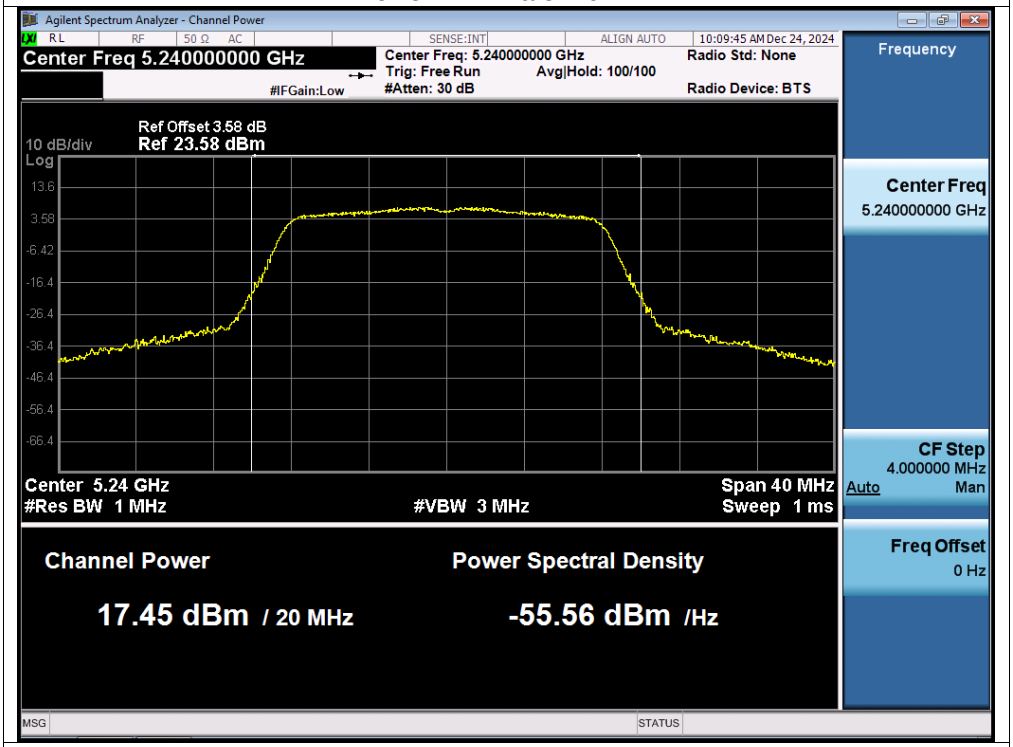
Power NVNT a 5180MHz



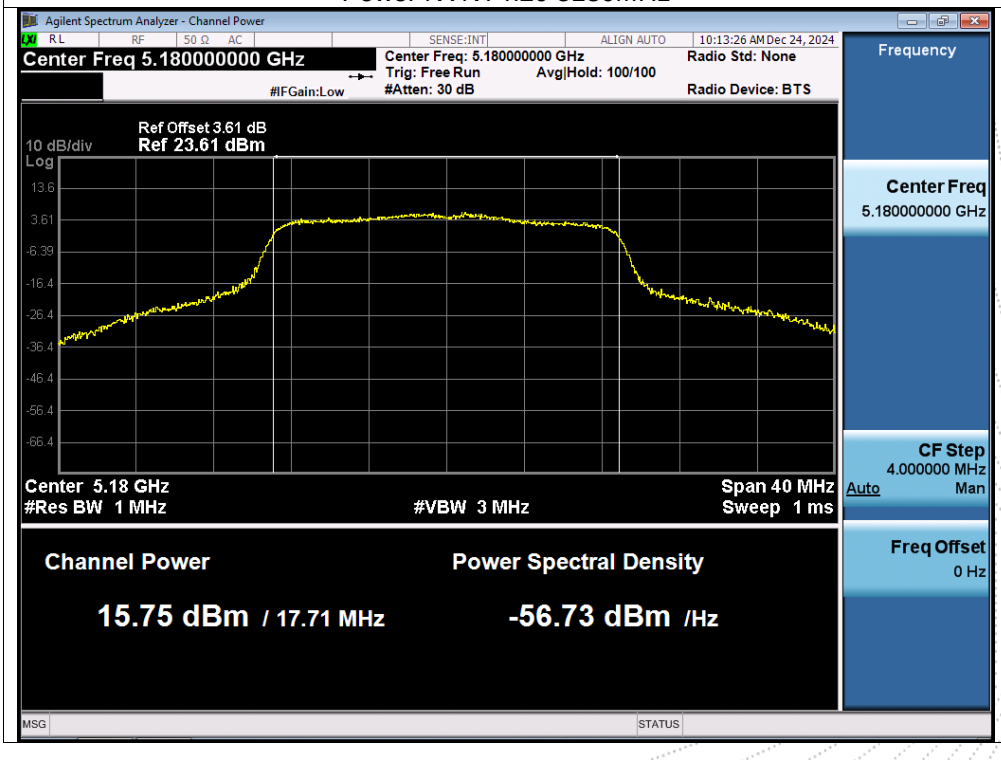
Power NVNT a 5200MHz



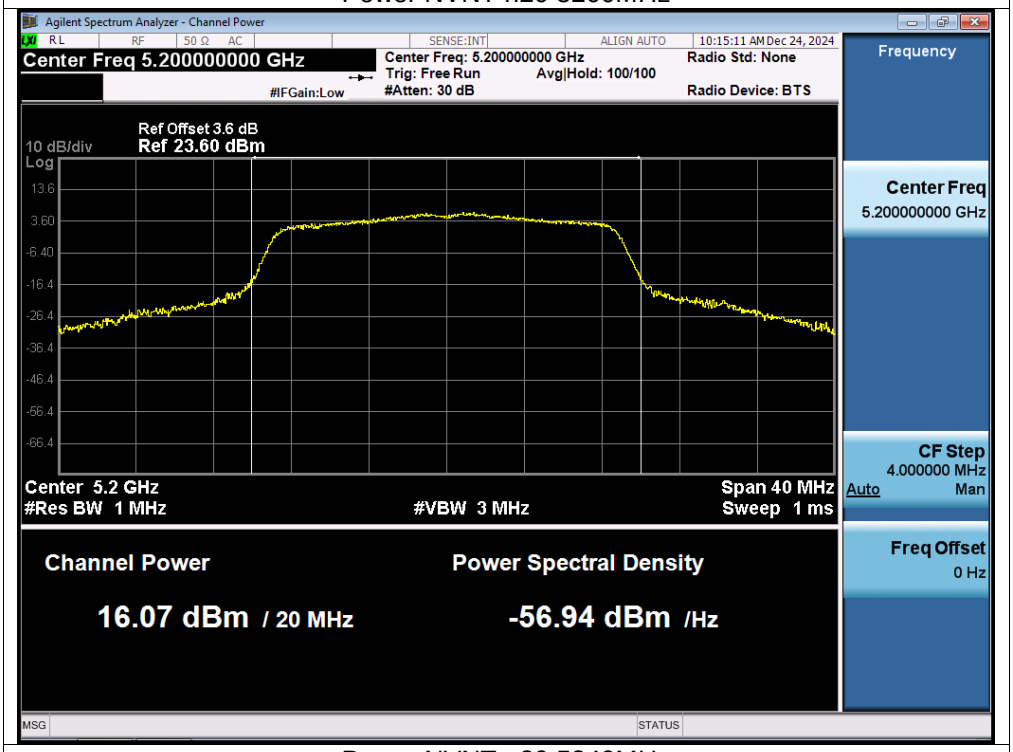
Power NVNT a 5240MHz



Power NVNT n20 5180MHz



Power NVNT n20 5200MHz



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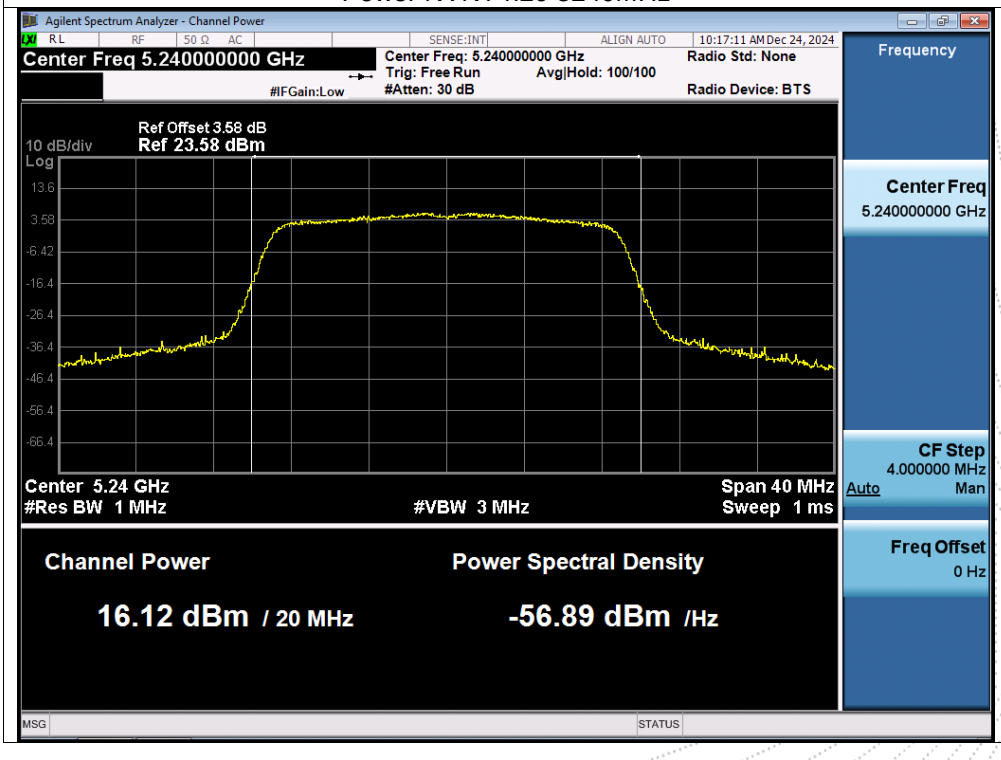
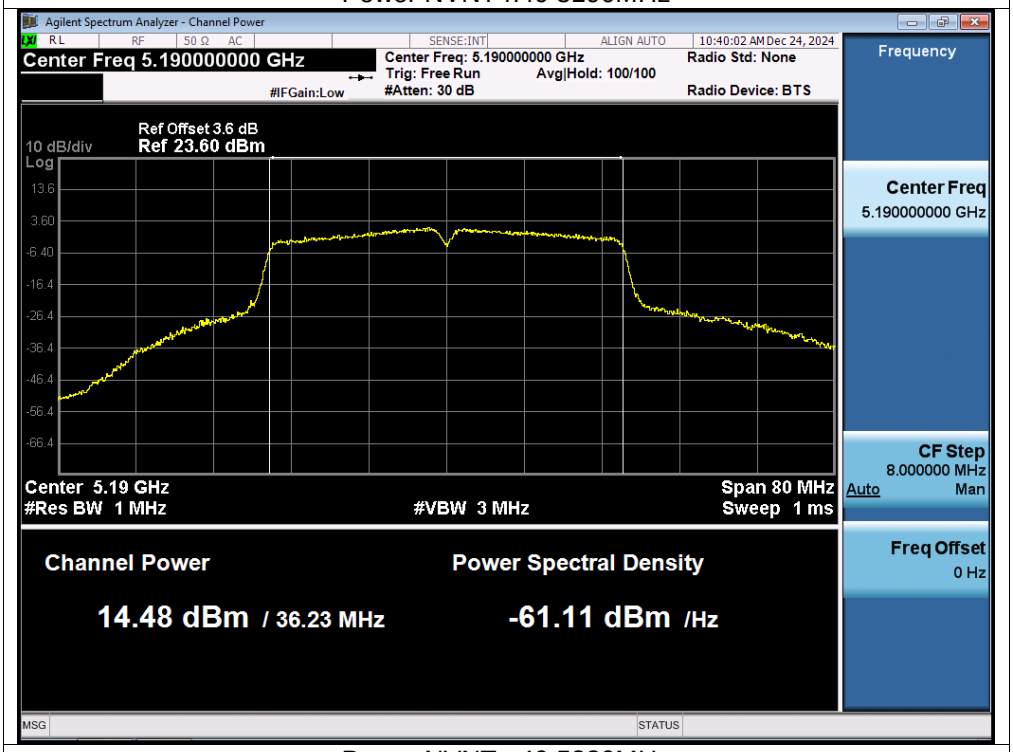
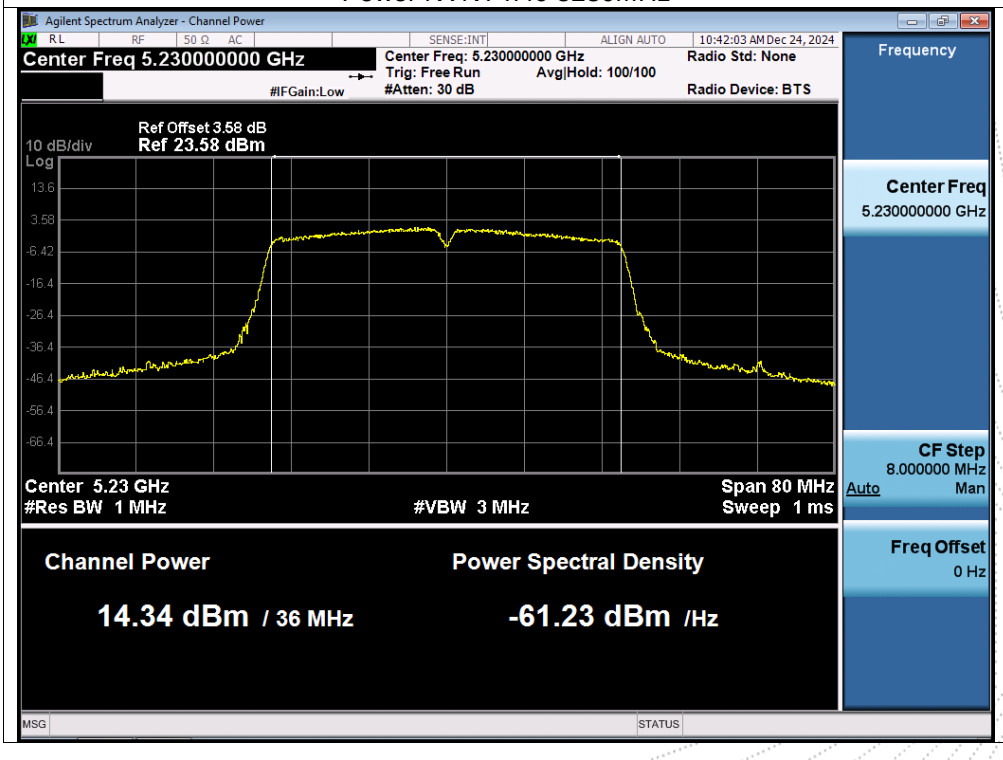


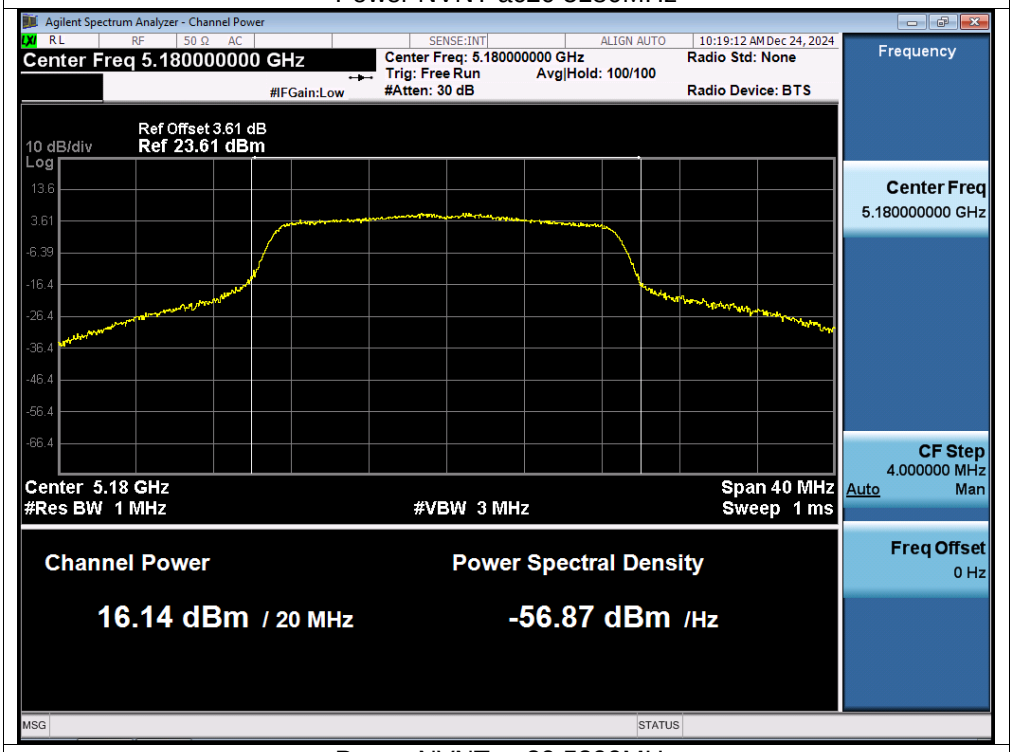
Power NVNT n40 5190MHz



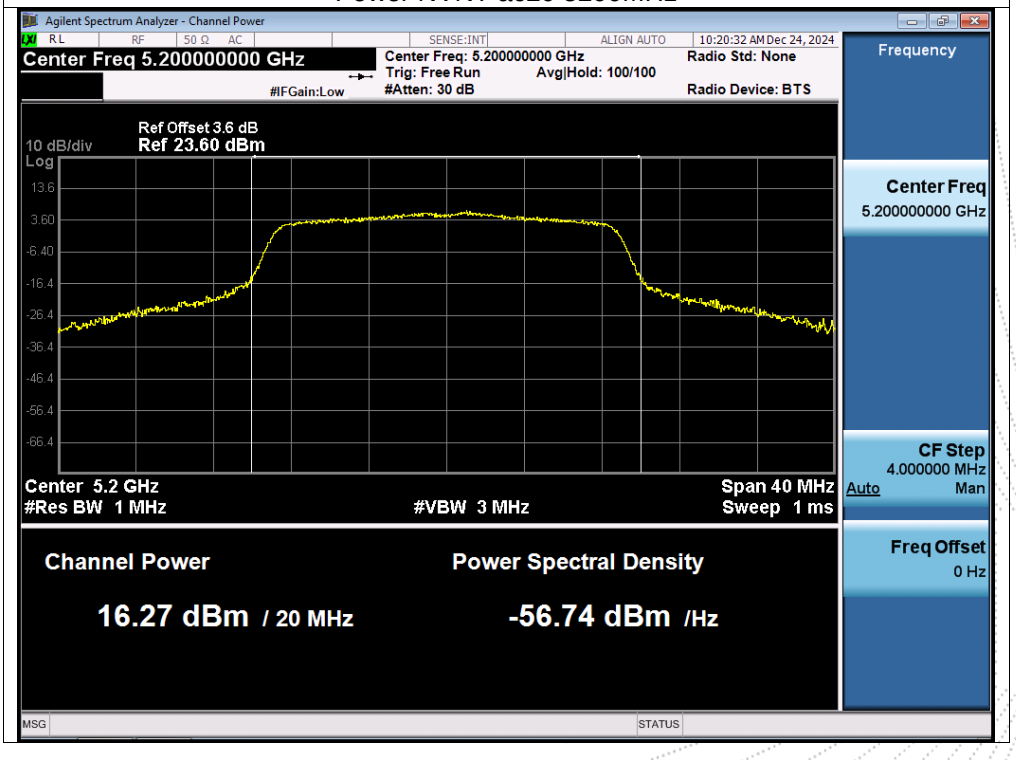
Power NVNT n40 5230MHz



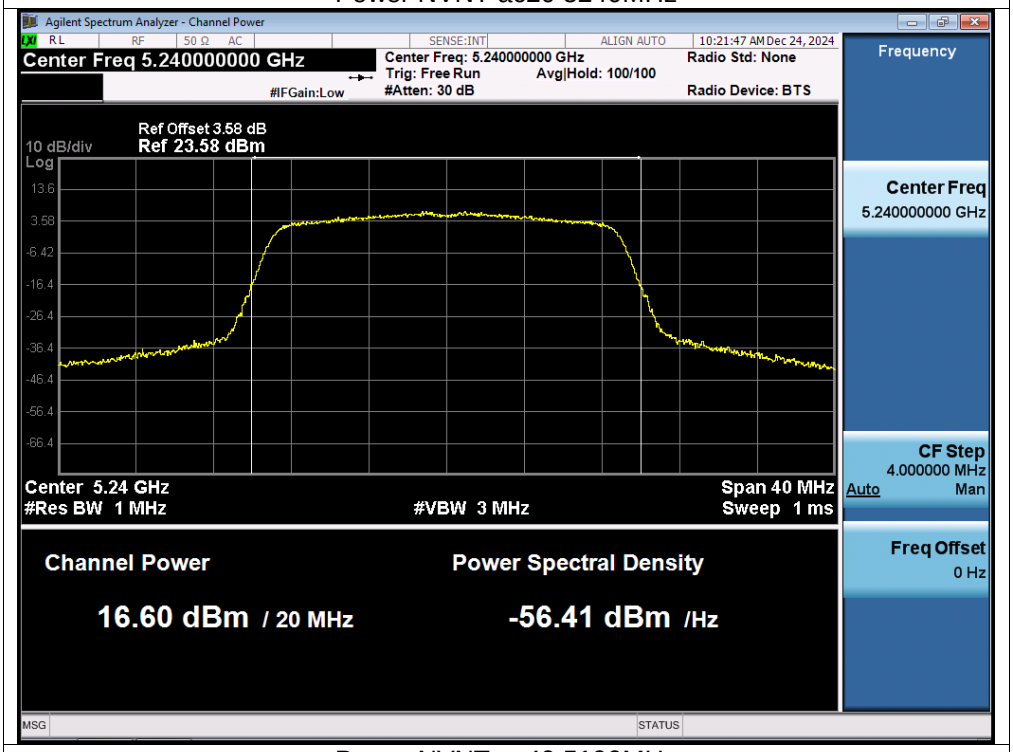
Power NVNT ac20 5180MHz



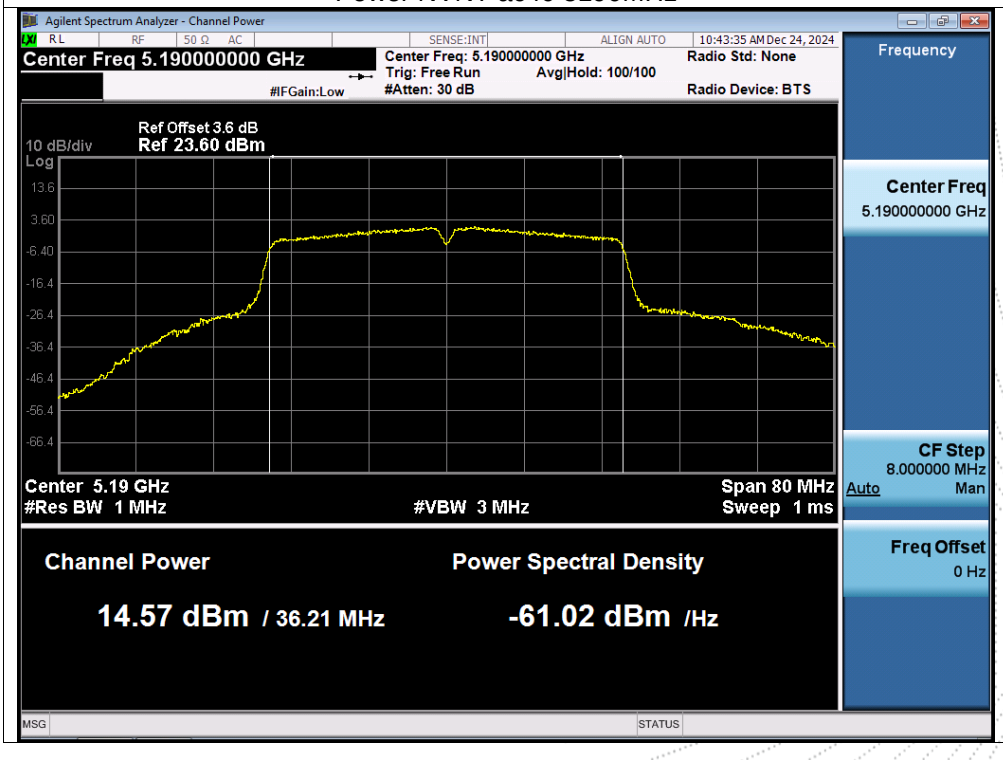
Power NVNT ac20 5200MHz



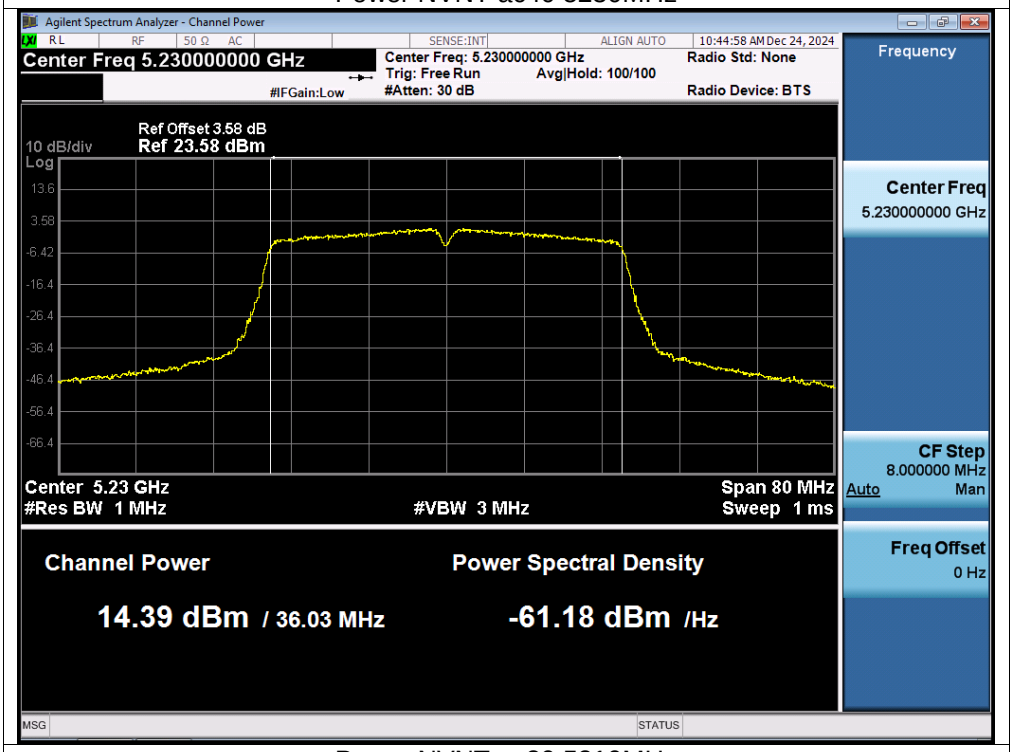
Power NVNT ac20 5240MHz



Power NVNT ac40 5190MHz

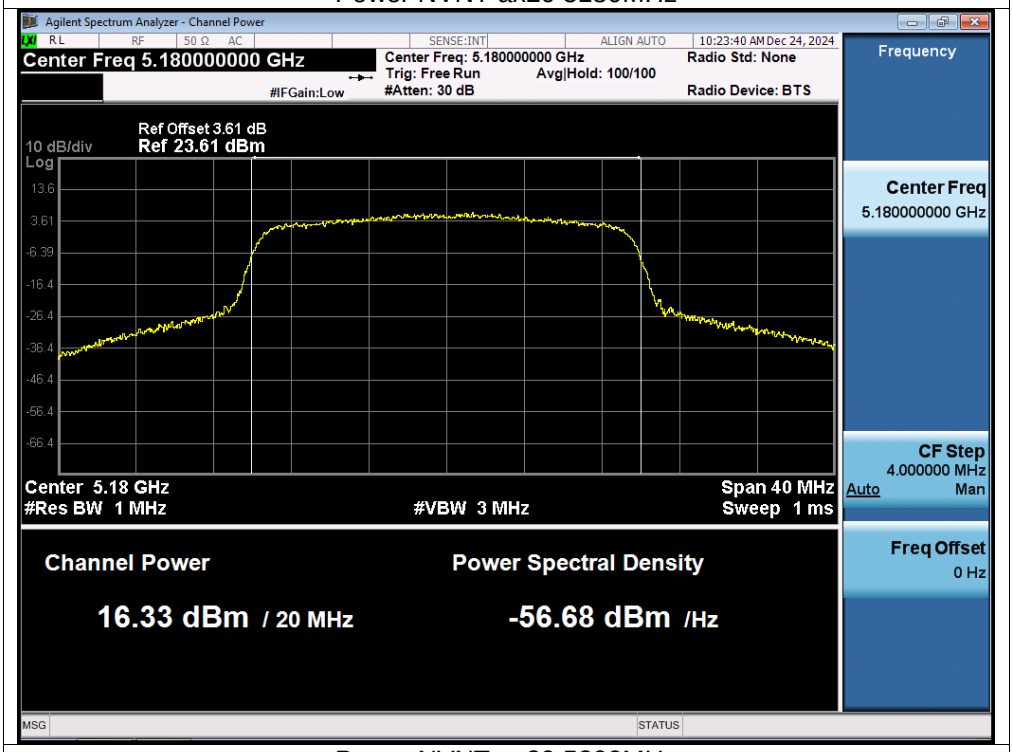


Power NVNT ac40 5230MHz

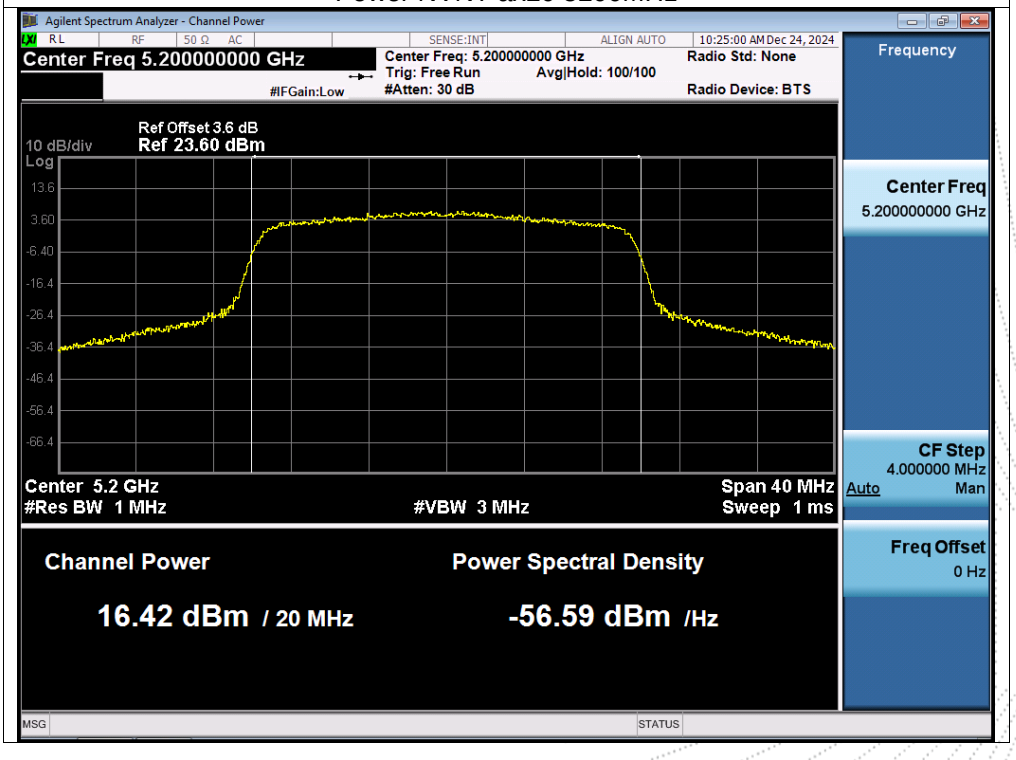


Power NVNT ac80 5210MHz

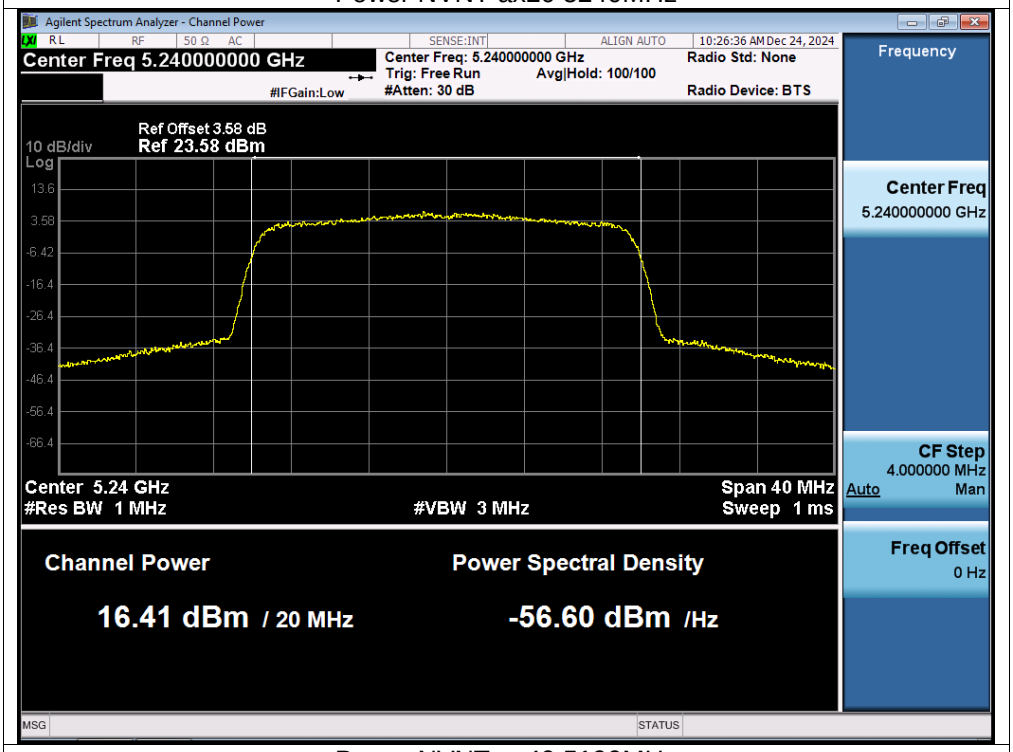
Power NVNT ax20 5180MHz



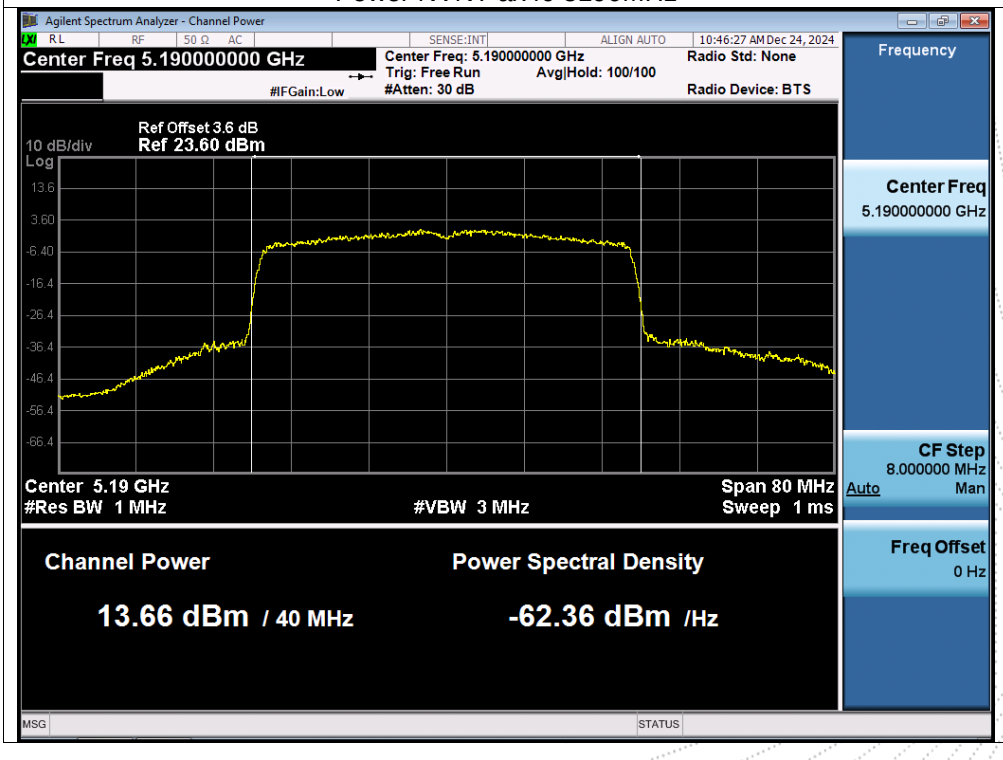
Power NVNT ax20 5200MHz



Power NVNT ax20 5240MHz

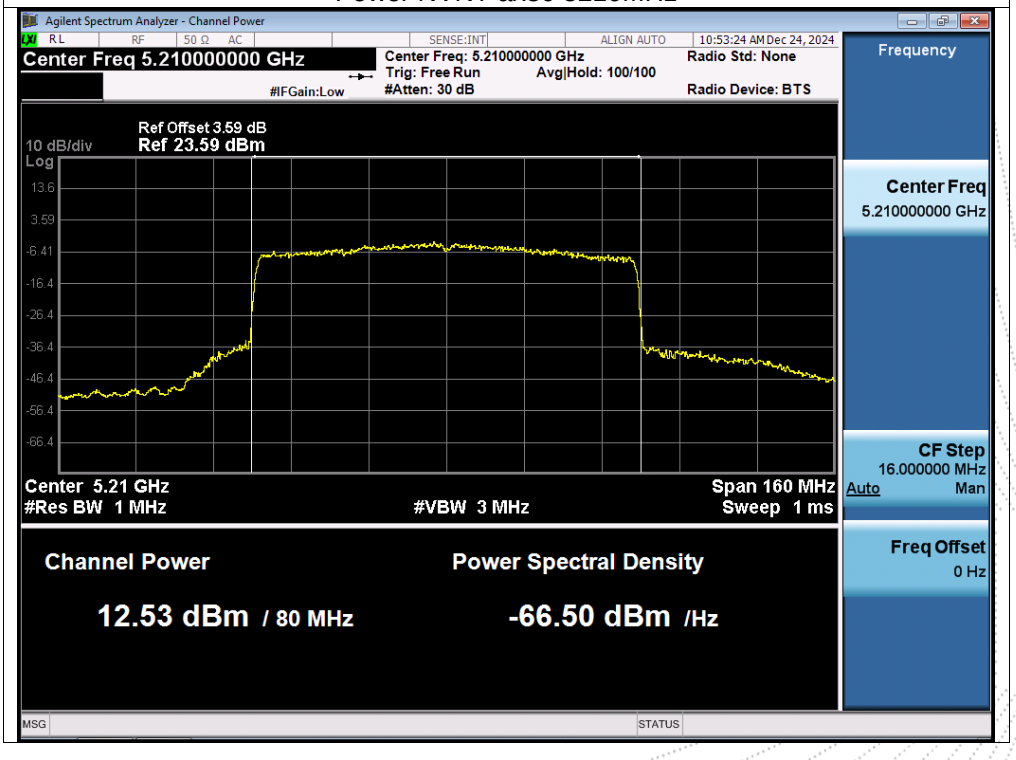


Power NVNT ax40 5190MHz



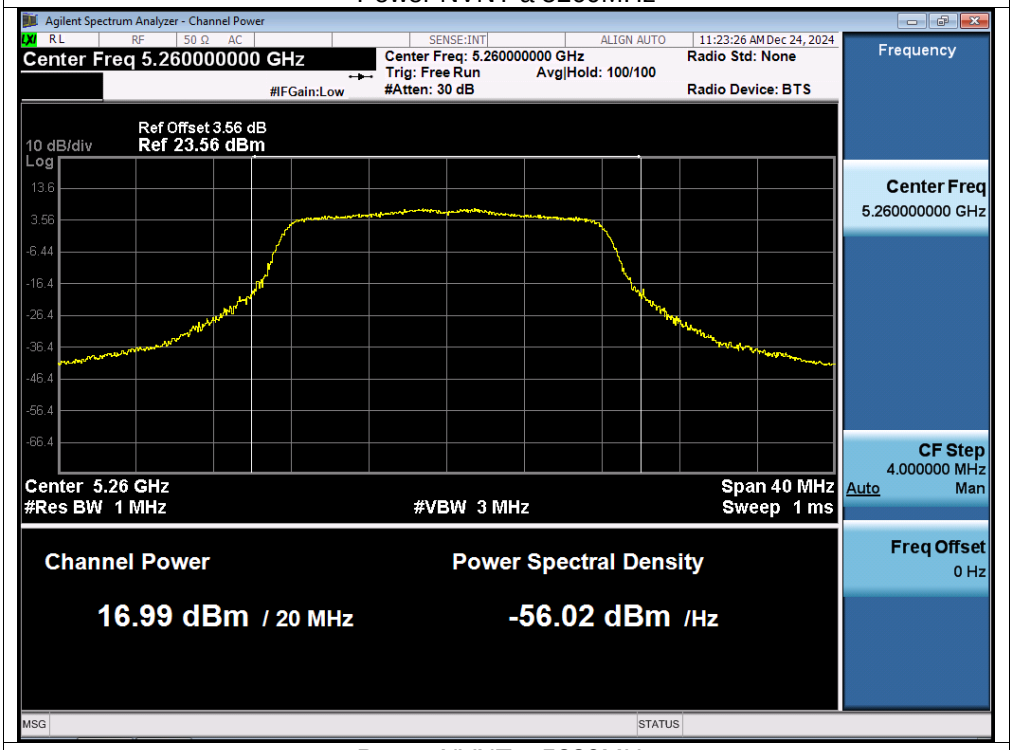
Power NVNT ax40 5230MHz

Power NVNT ax80 5210MHz



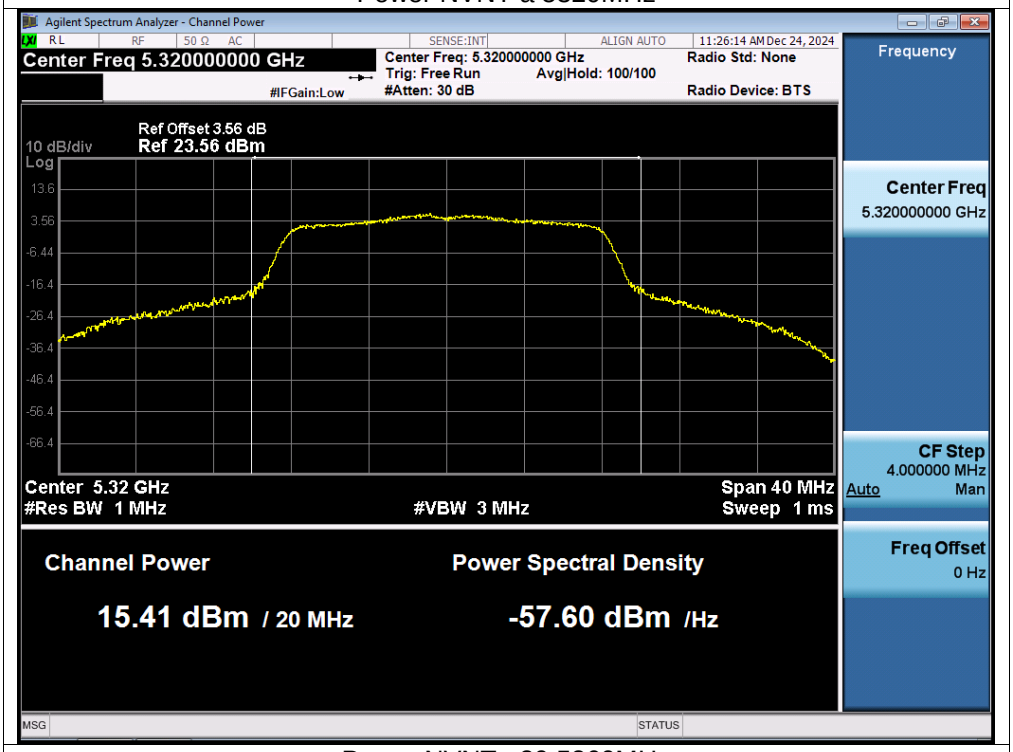
Test Graphs

Power NVNT a 5260MHz

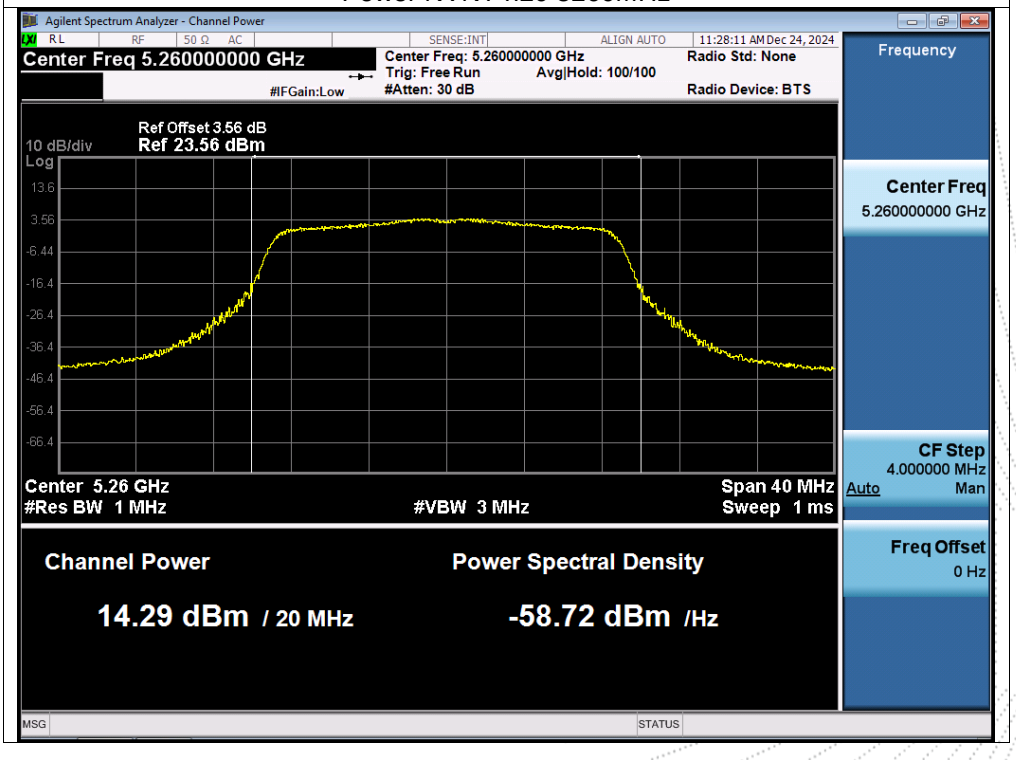


Power NVNT a 5280MHz

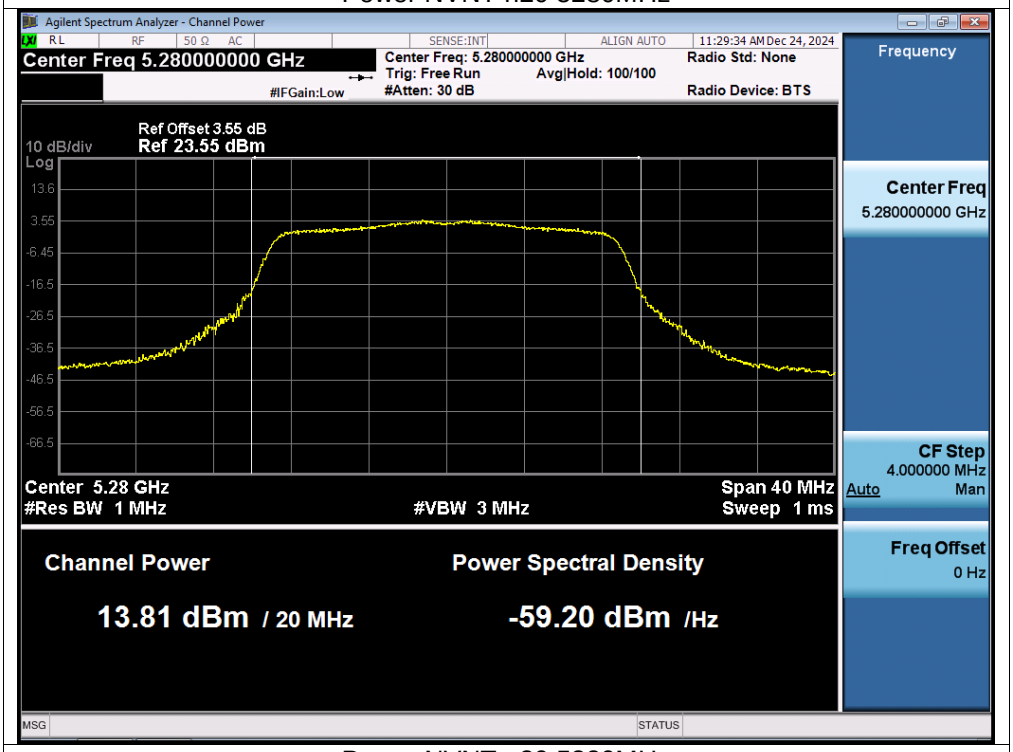
Power NVNT a 5320MHz



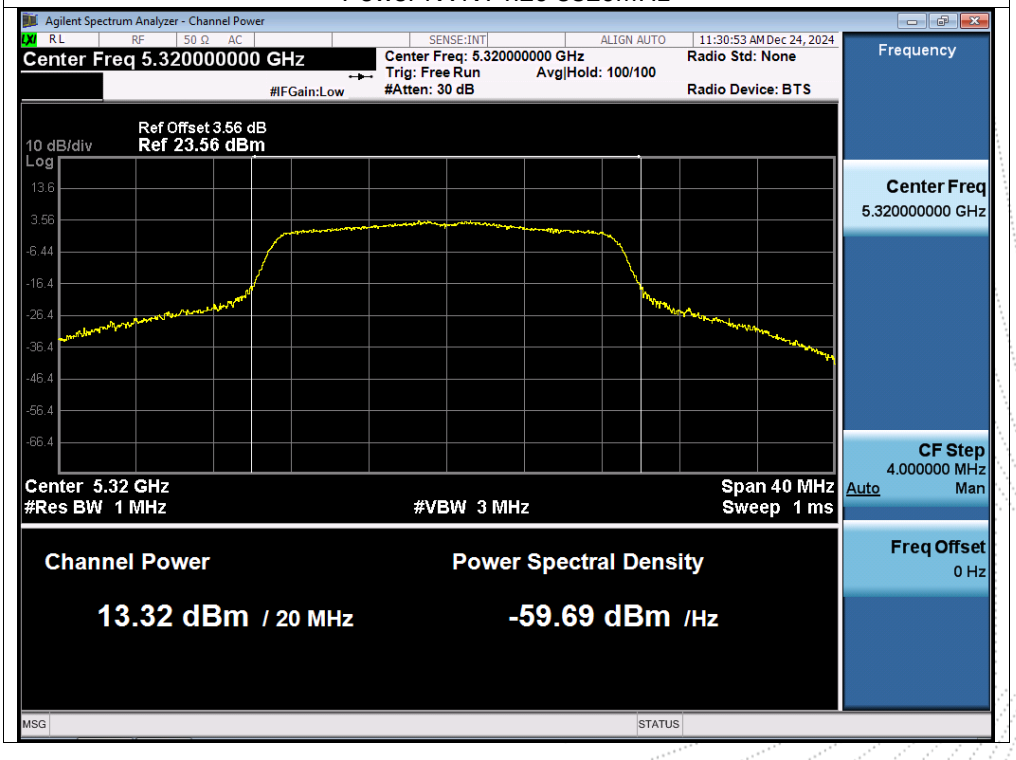
Power NVNT n20 5260MHz



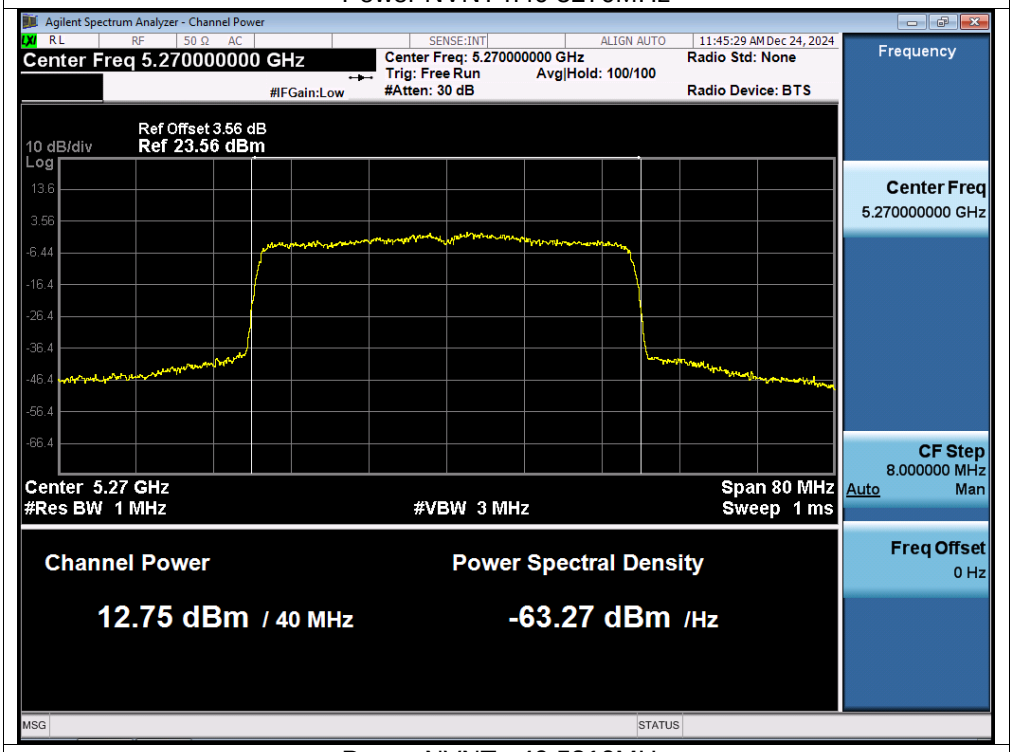
Power NVNT n20 5280MHz



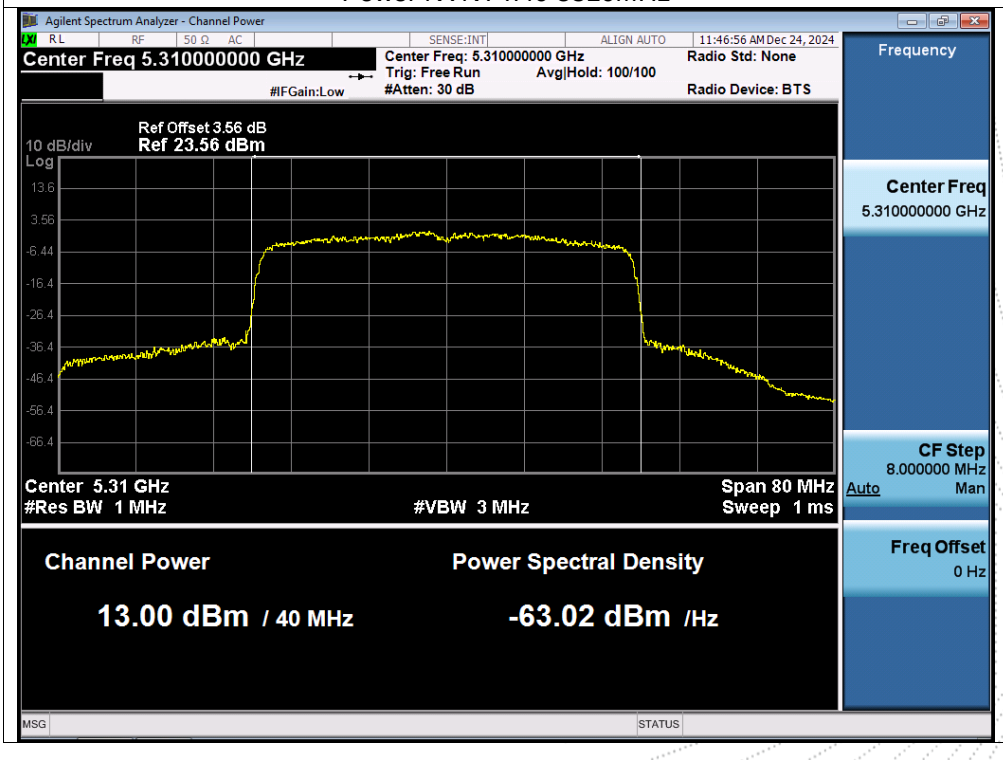
Power NVNT n20 5320MHz



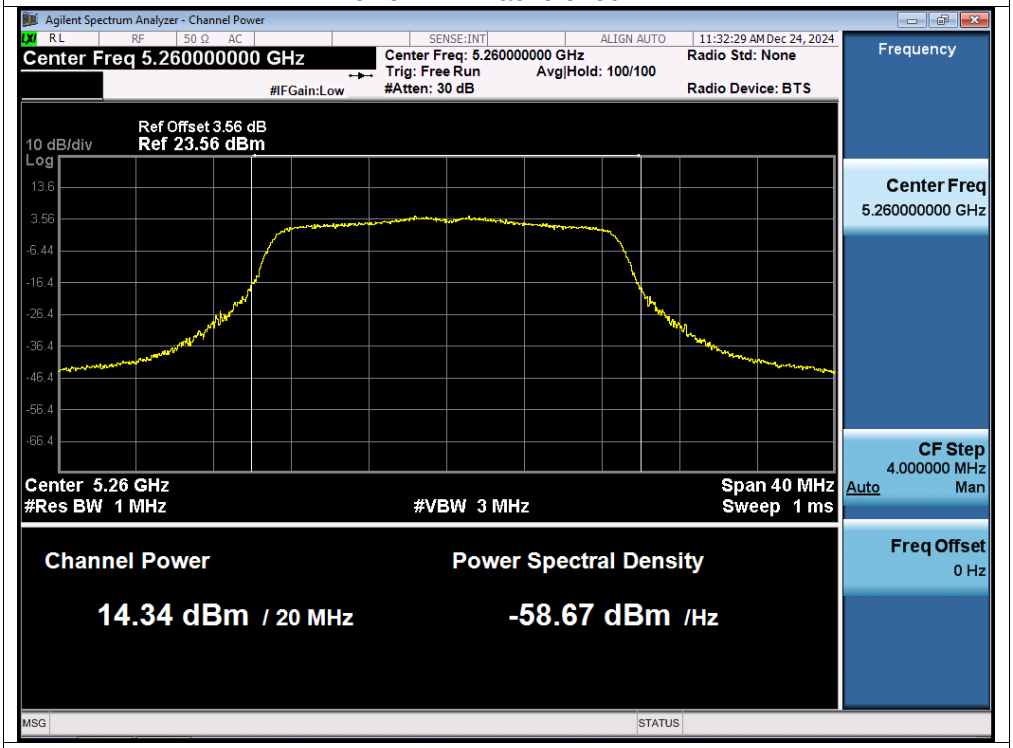
Power NVNT n40 5270MHz



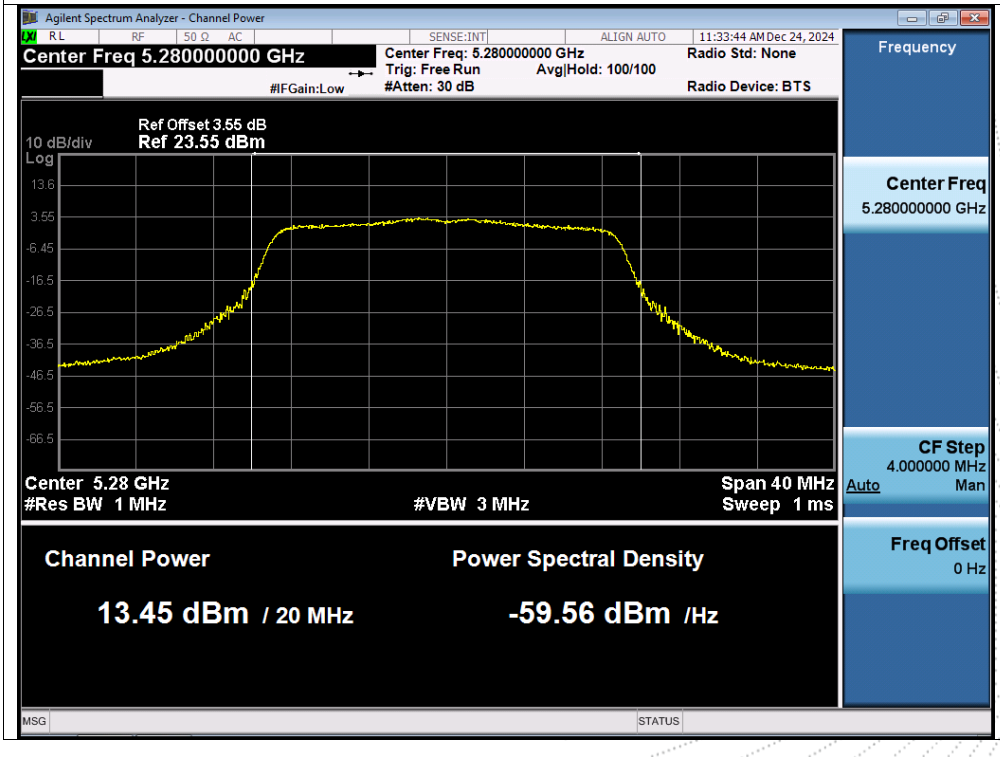
Power NVNT n40 5310MHz



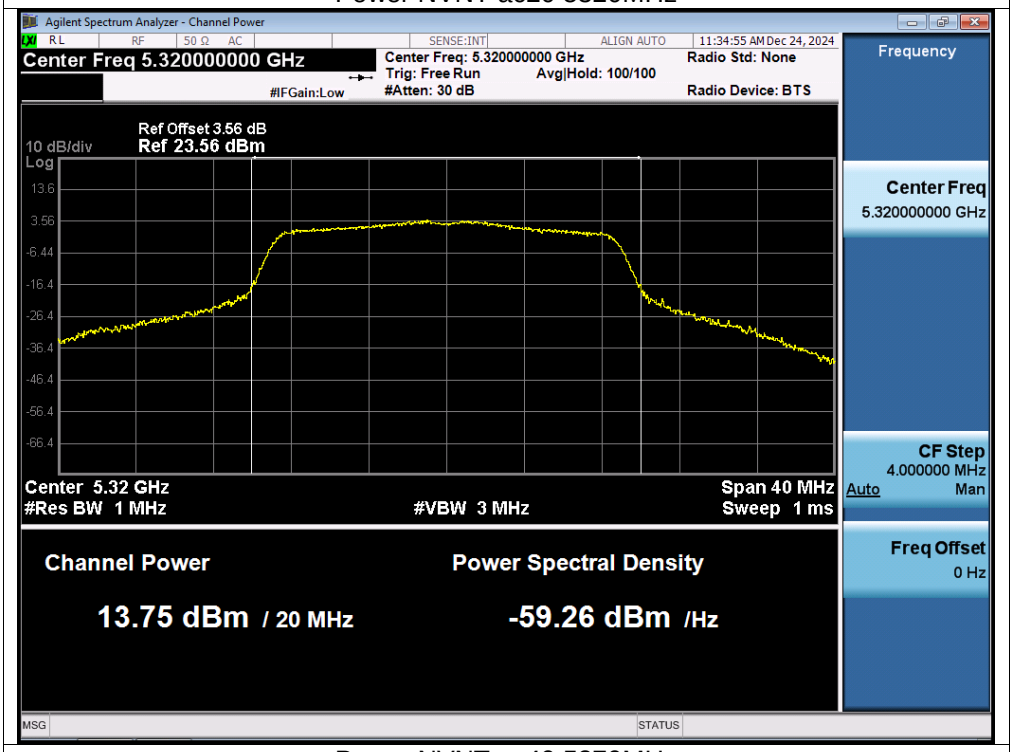
Power NVNT ac20 5260MHz



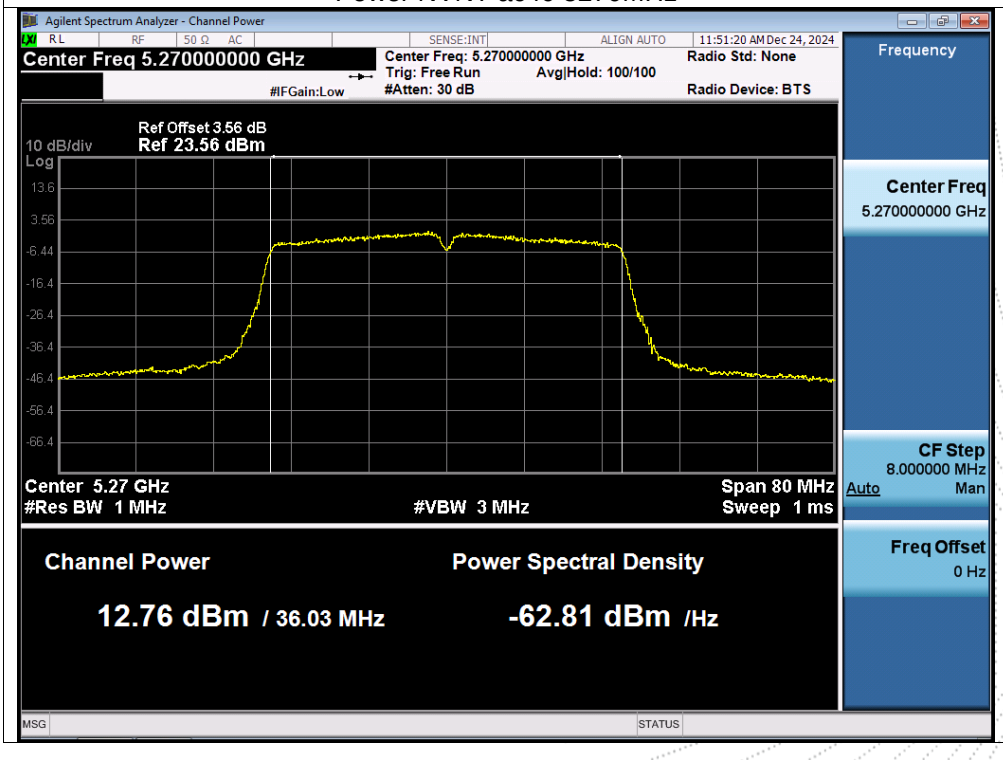
Power NVNT ac20 5280MHz



Power NVNT ac20 5320MHz



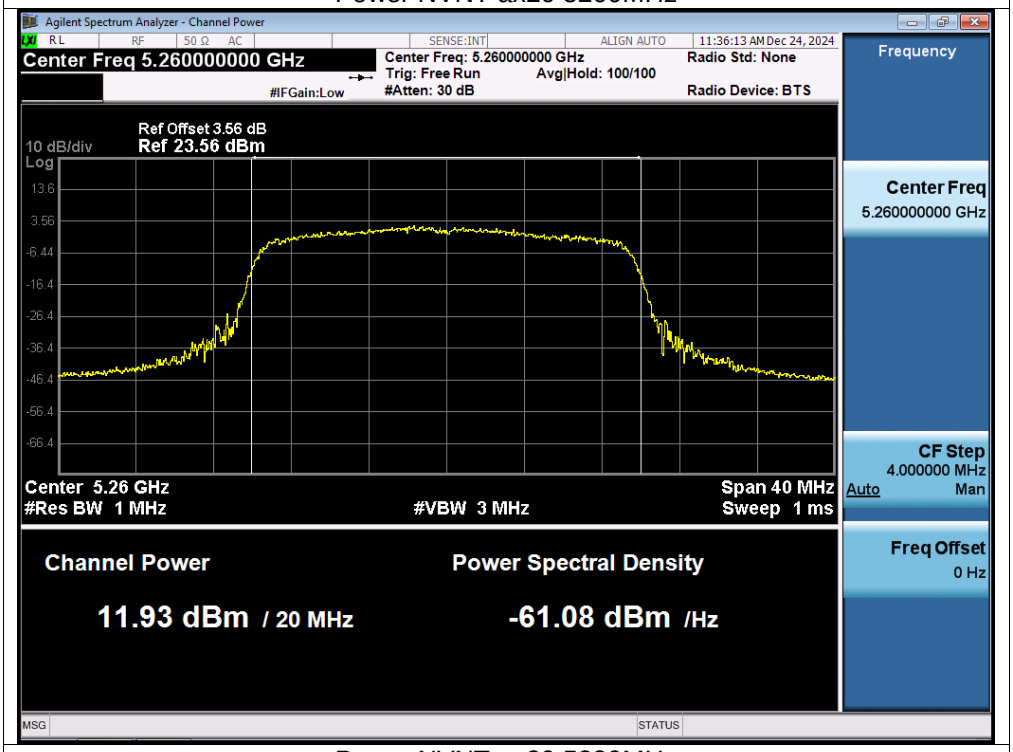
Power NVNT ac40 5270MHz



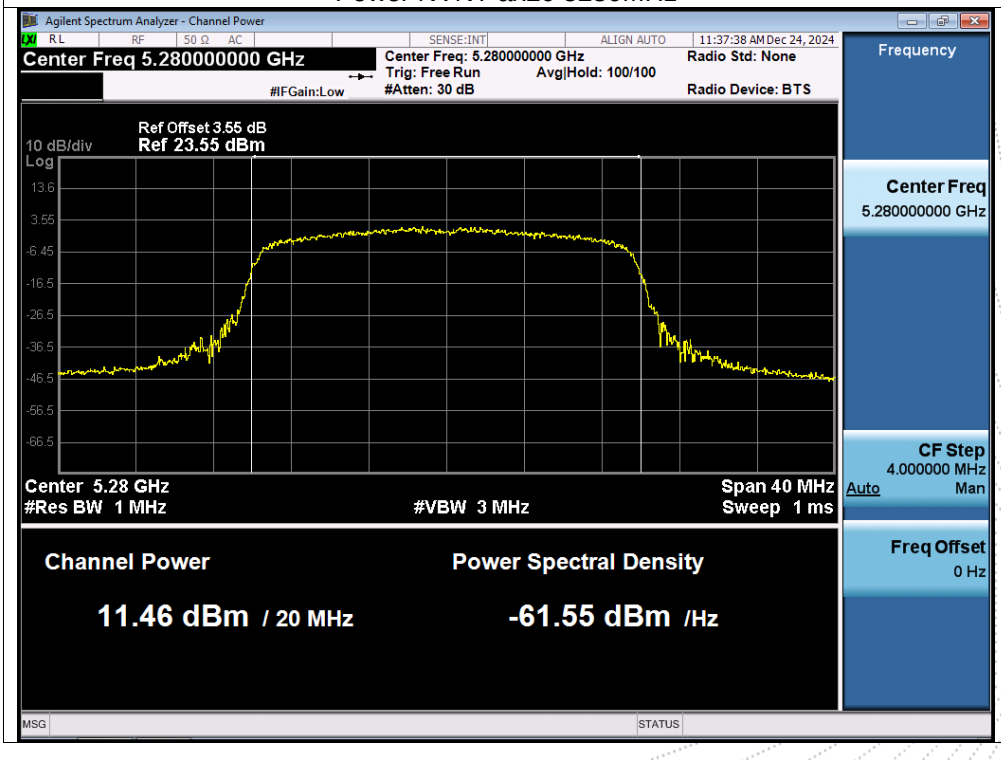
Power NVNT ac40 5310MHz

Power NVNT ac80 5290MHz

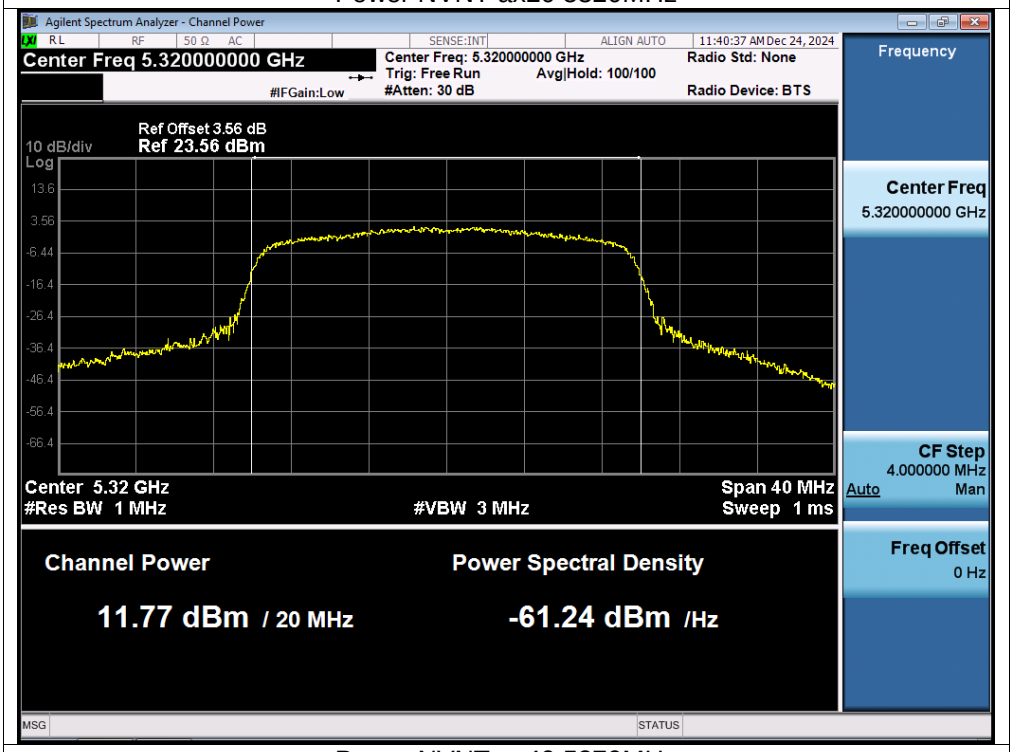
Power NVNT ax20 5260MHz



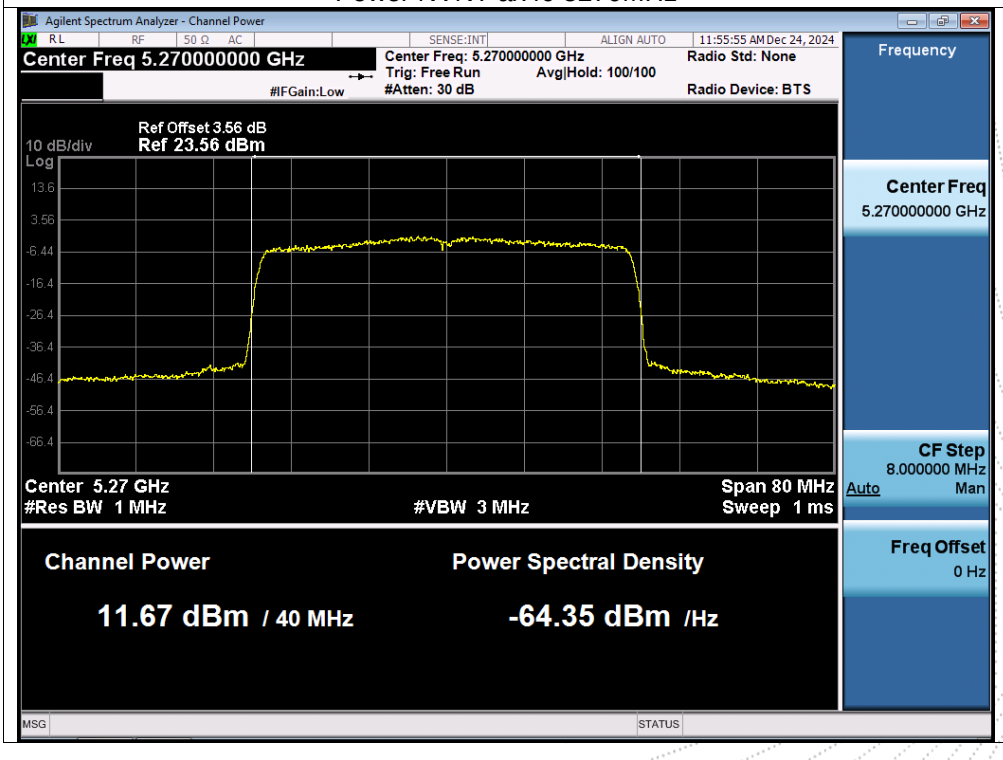
Power NVNT ax20 5280MHz



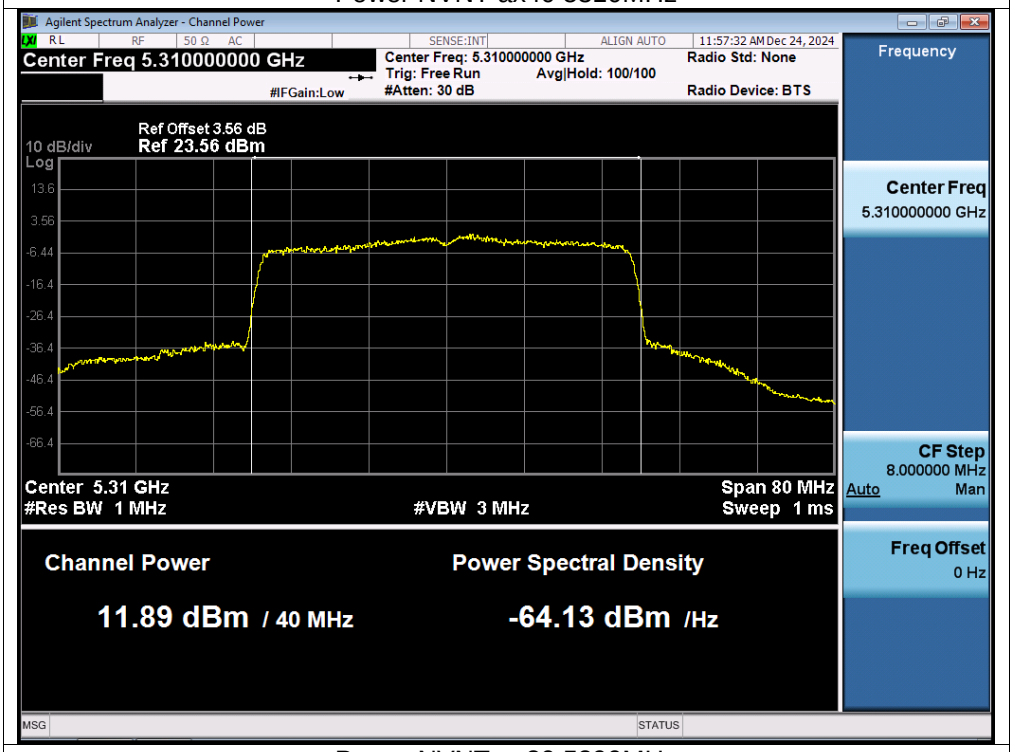
Power NVNT ax20 5320MHz



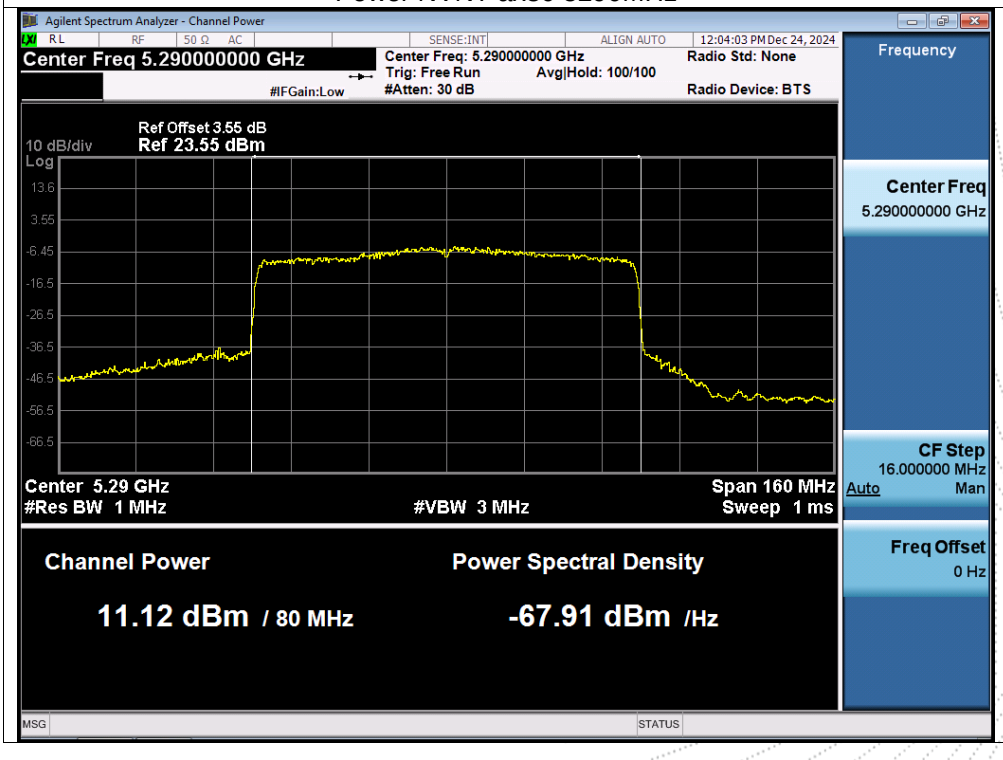
Power NVNT ax40 5270MHz



Power NVNT ax40 5310MHz

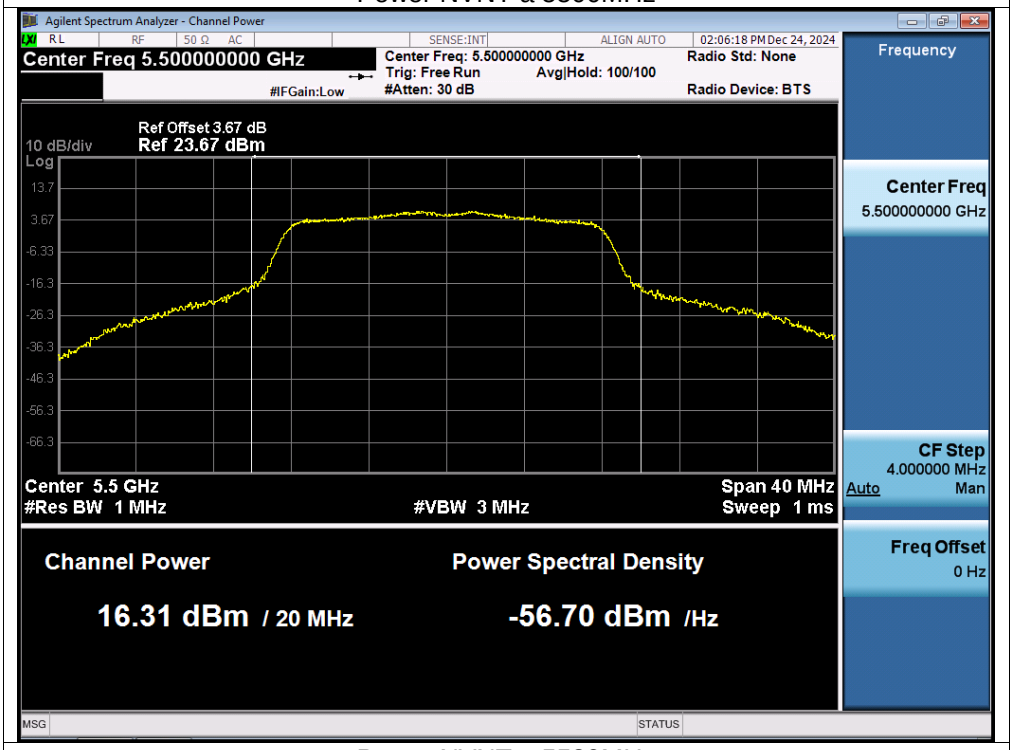


Power NVNT ax80 5290MHz

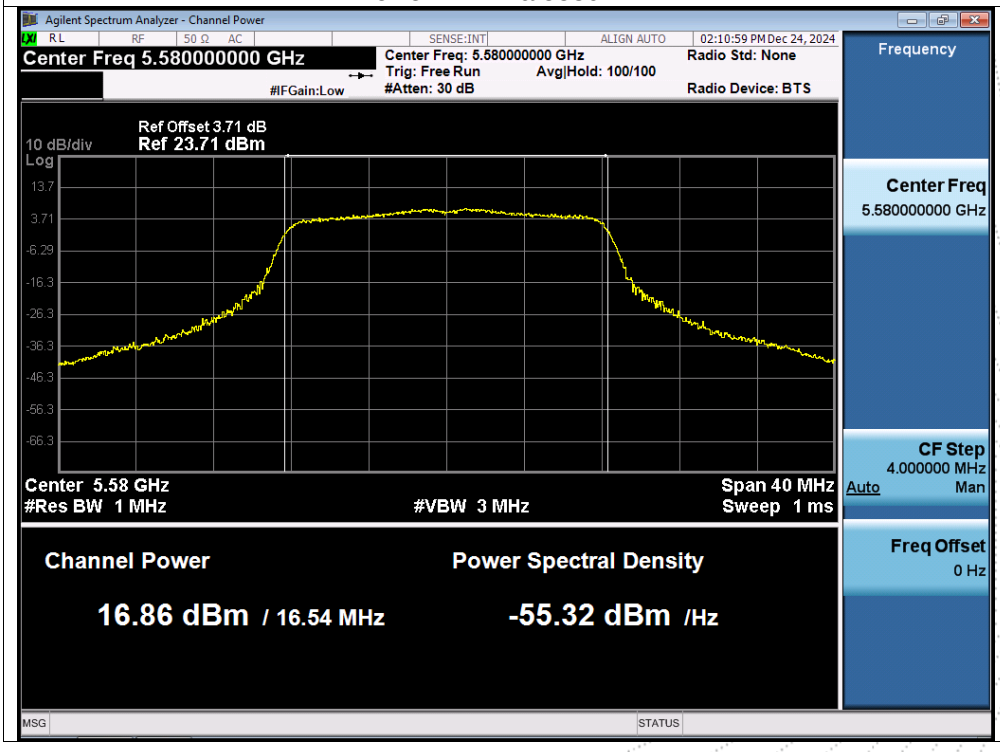


Test Graphs

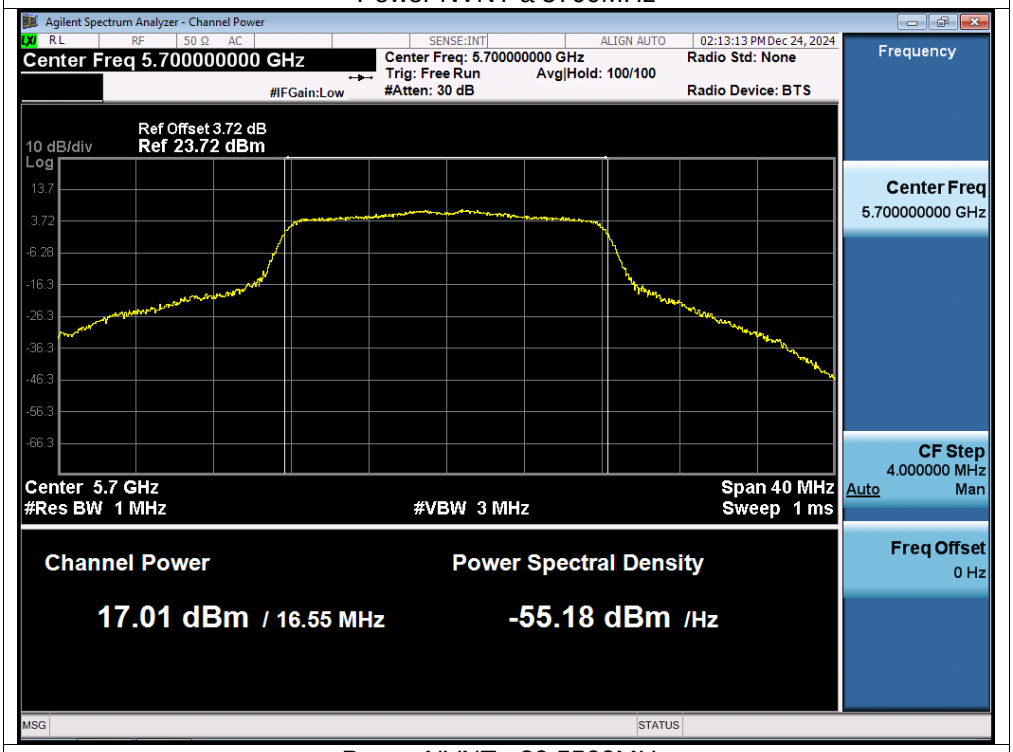
Power NVNT a 5500MHz



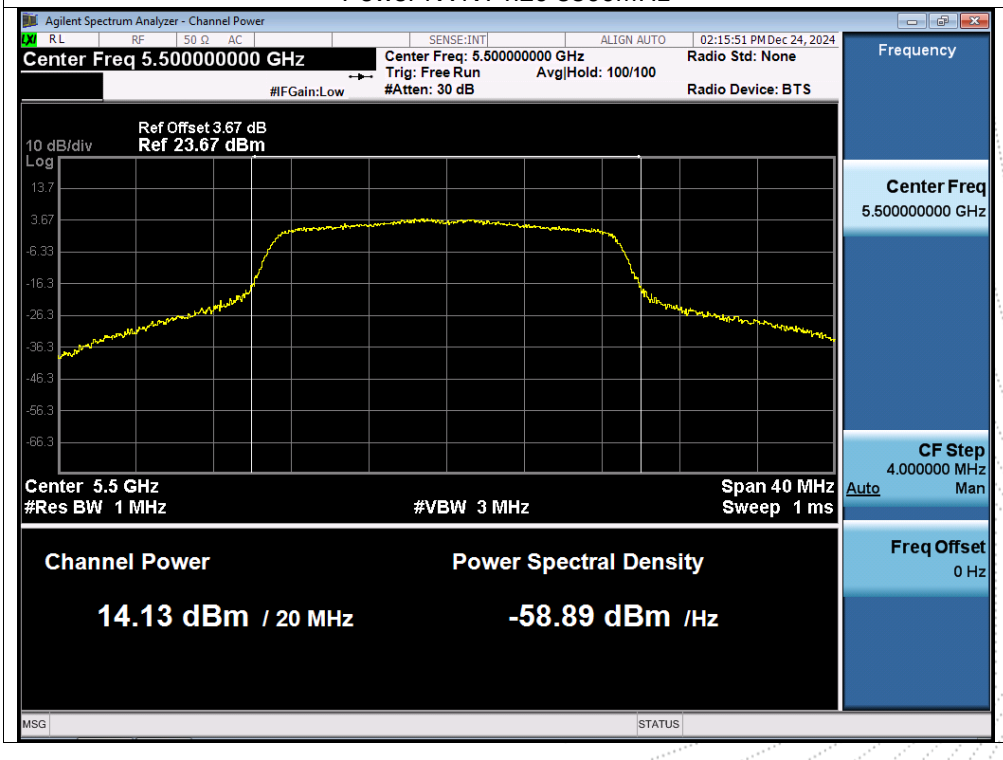
Power NVNT a 5580MHz



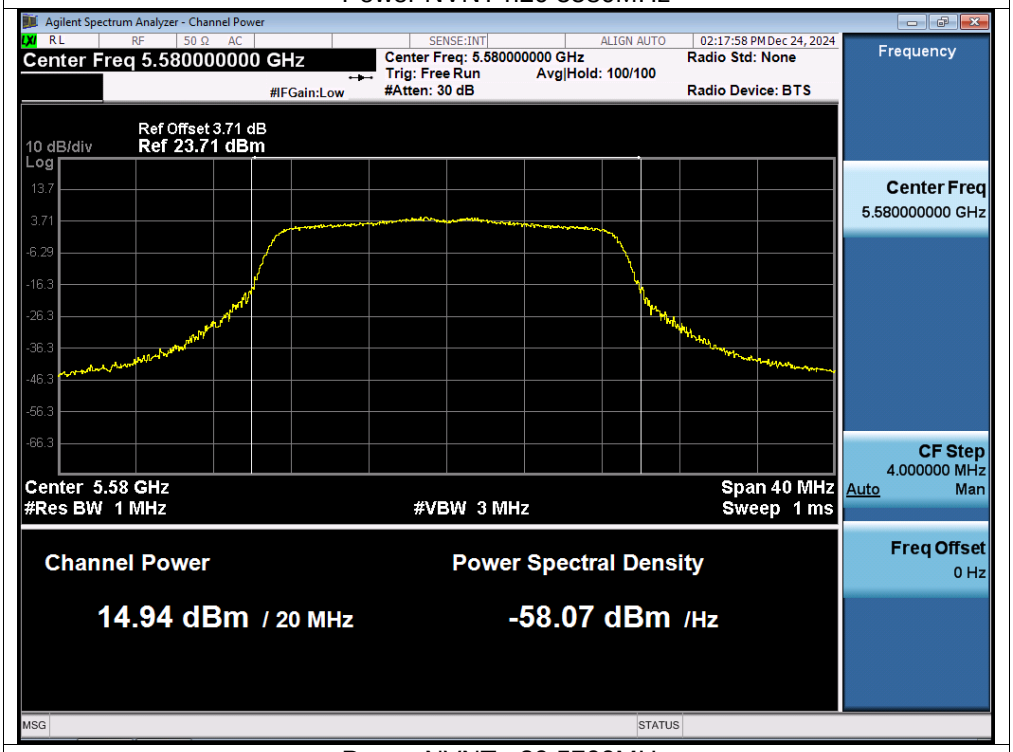
Power NVNT a 5700MHz



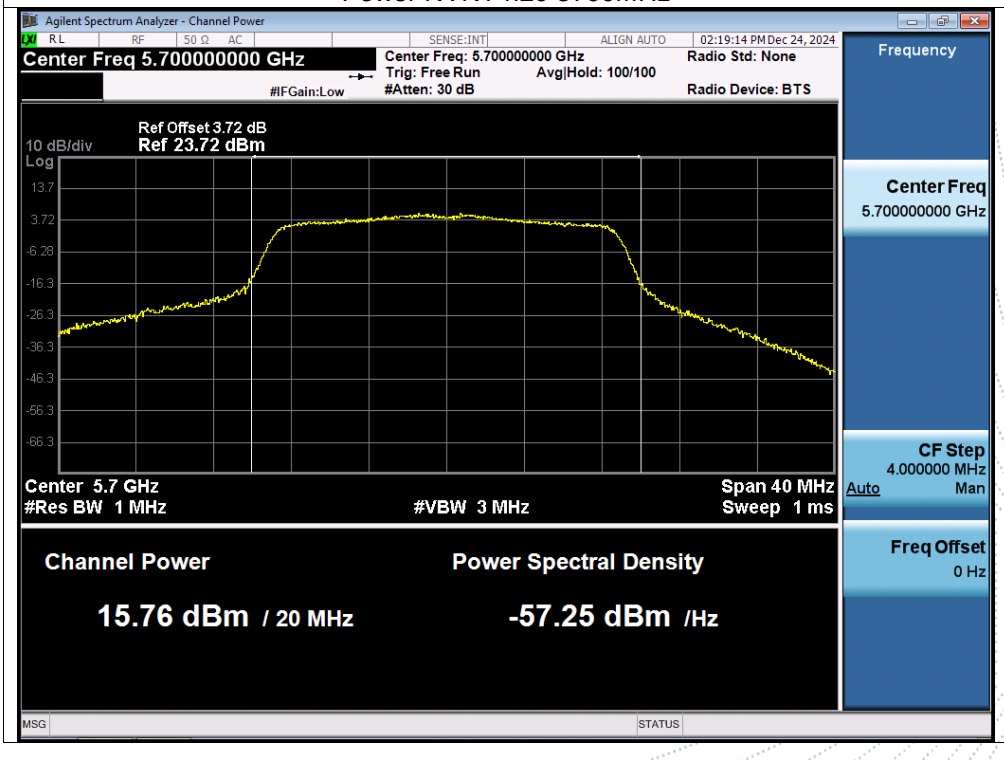
Power NVNT n20 5500MHz



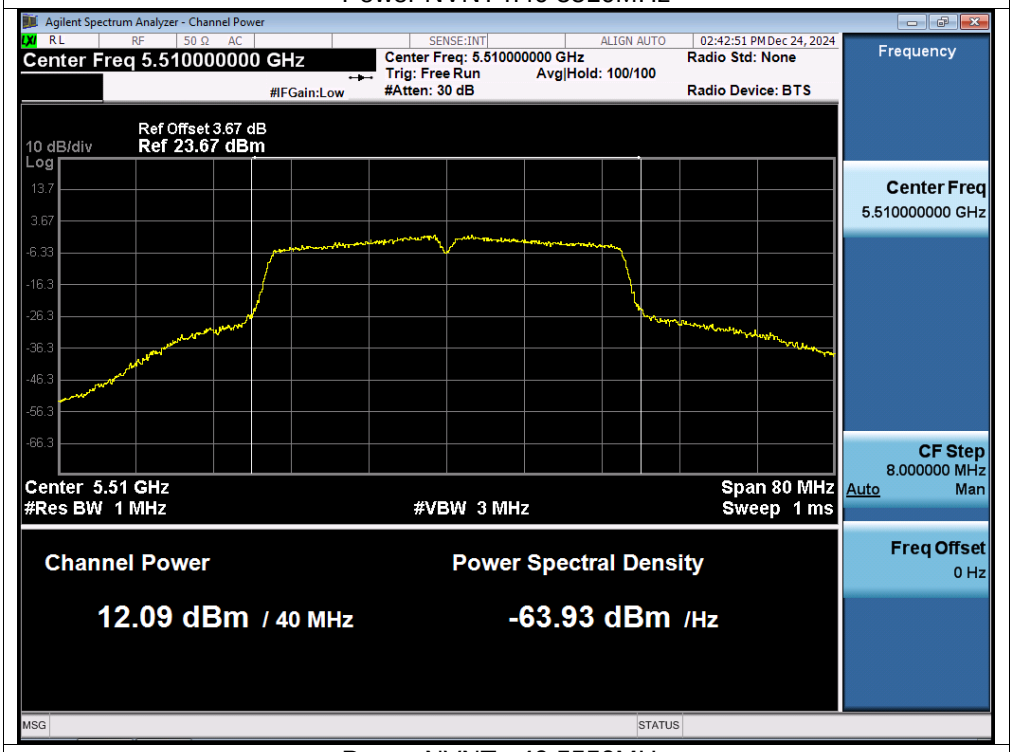
Power NVNT n20 5580MHz



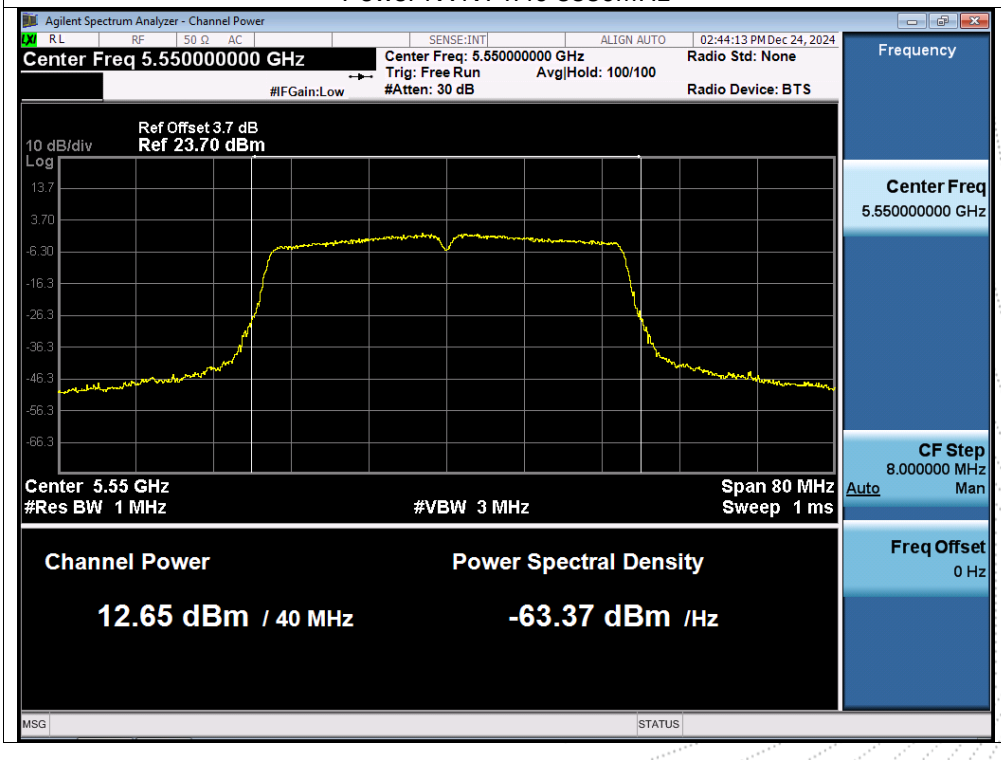
Power NVNT n20 5700MHz



Power NVNT n40 5510MHz

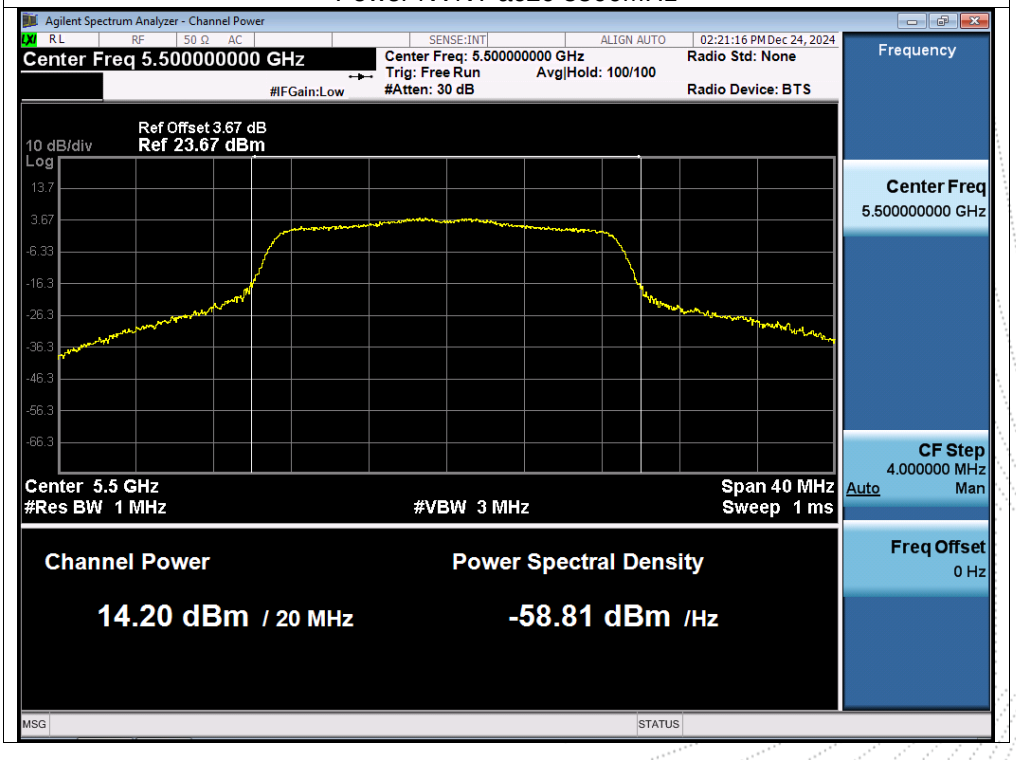


Power NVNT n40 5550MHz

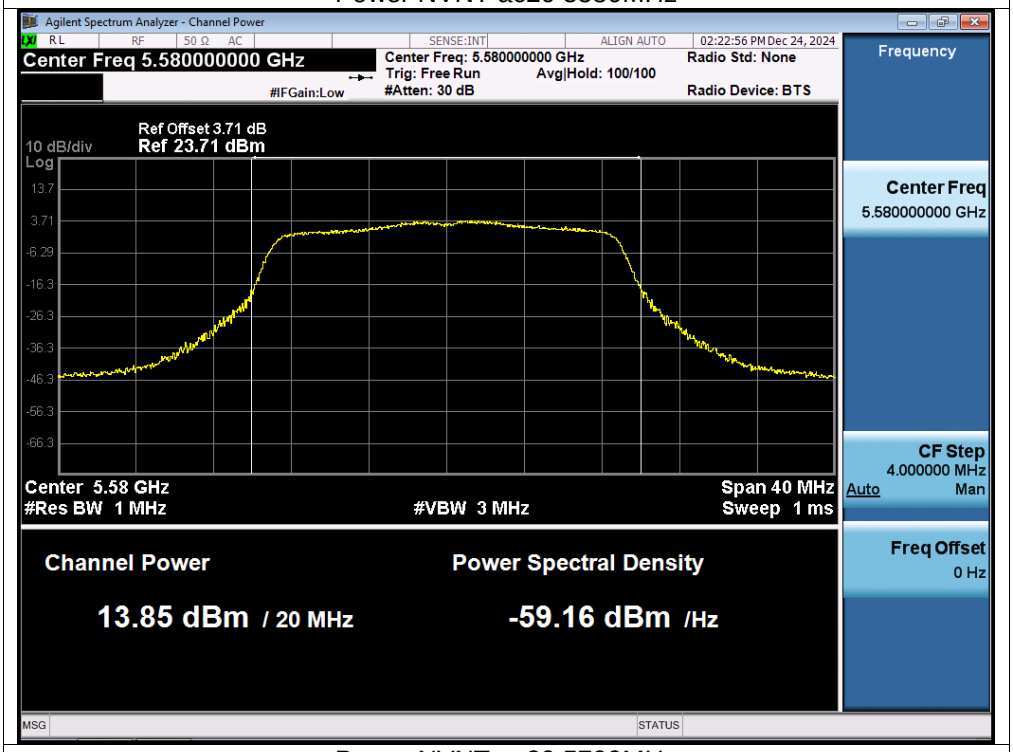


Power NVNT n40 5670MHz

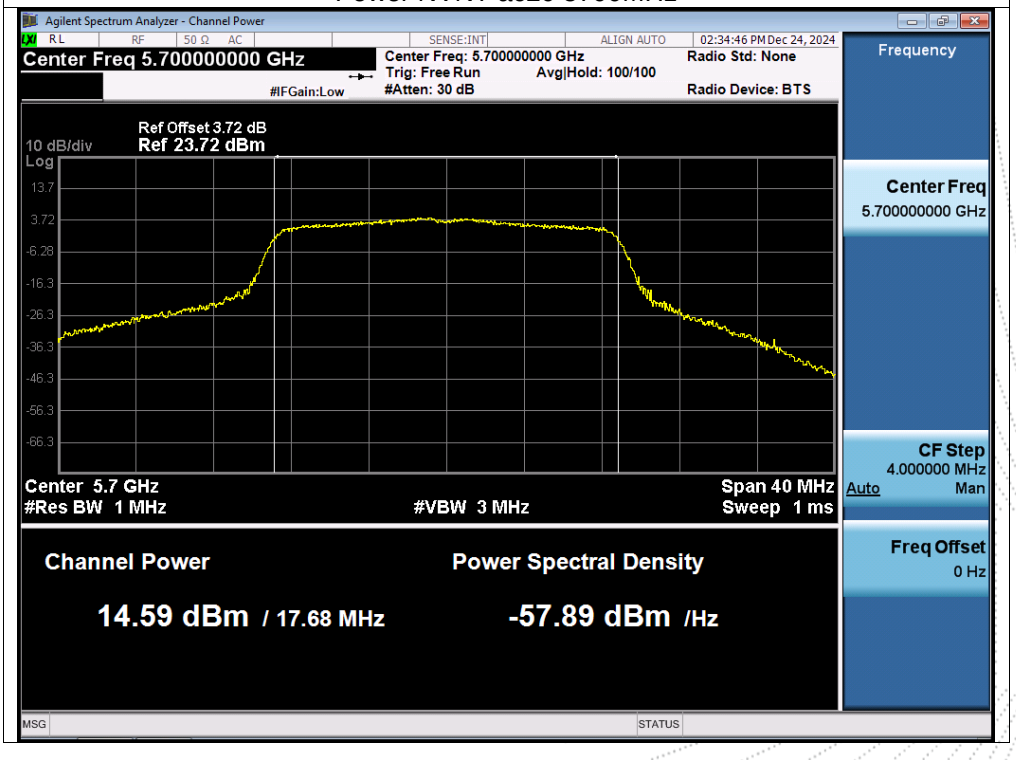
Power NVNT ac20 5500MHz



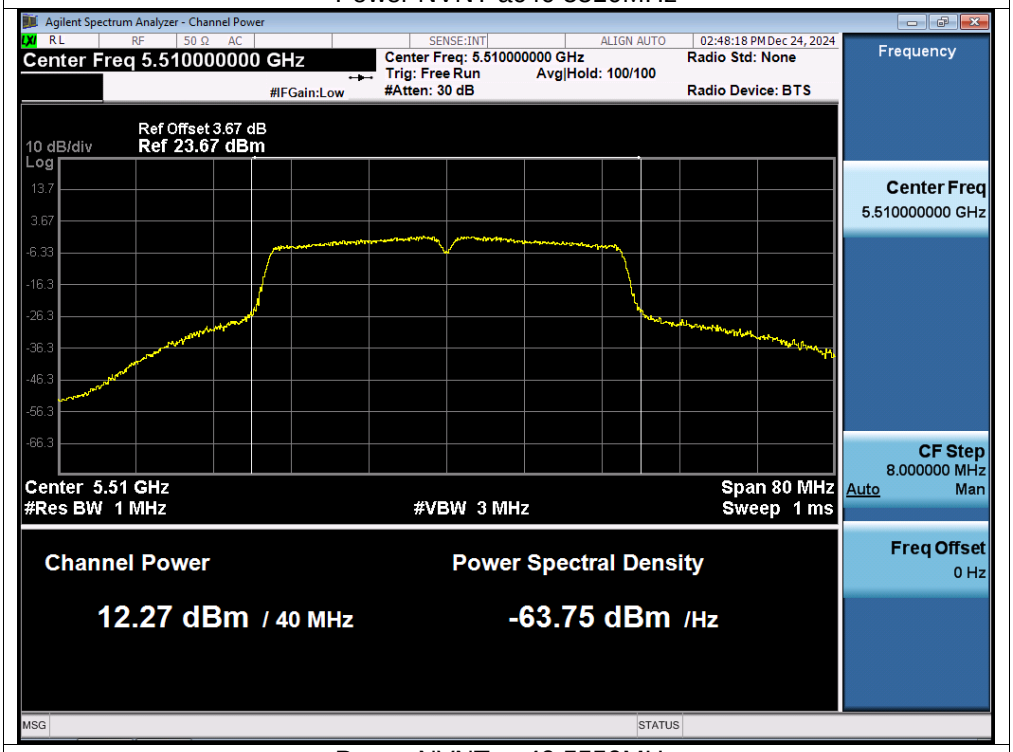
Power NVNT ac20 5580MHz



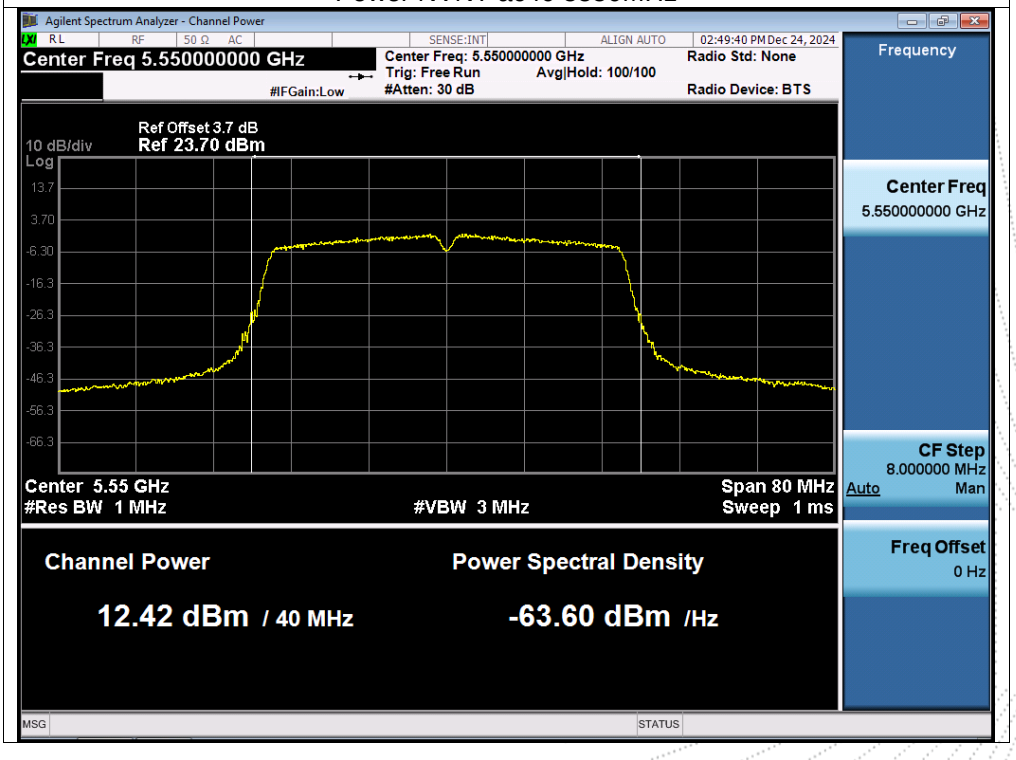
Power NVNT ac20 5700MHz



Power NVNT ac40 5510MHz



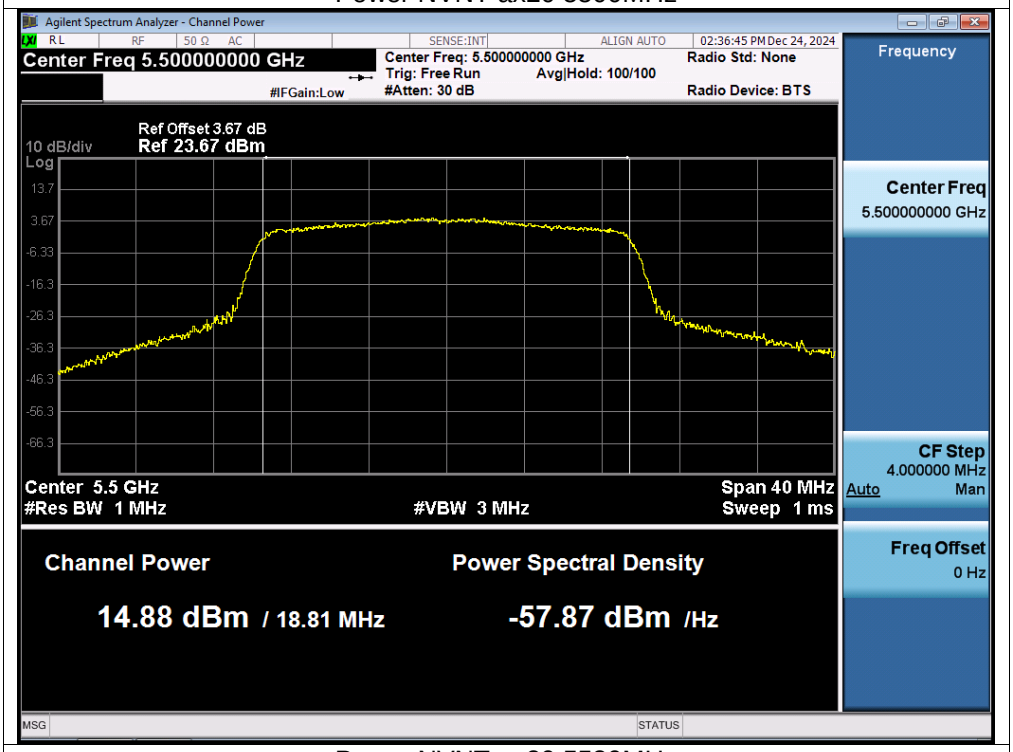
Power NVNT ac40 5550MHz



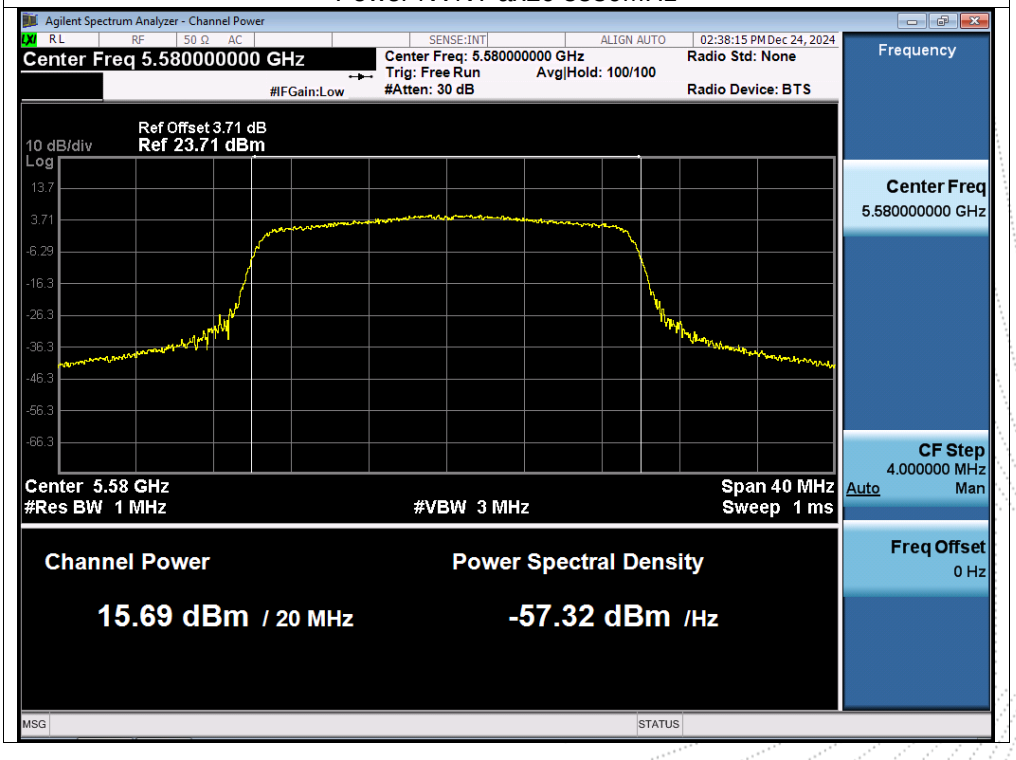
Power NVNT ac40 5670MHz

Power NVNT ac80 5530MHz

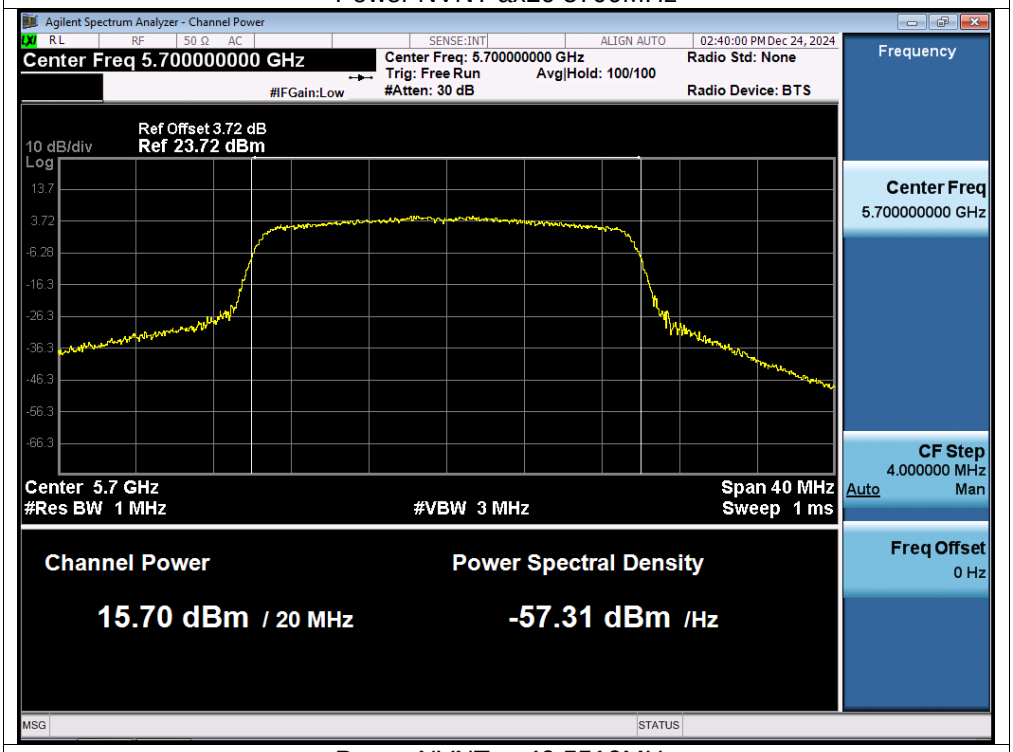
Power NVNT ax20 5500MHz



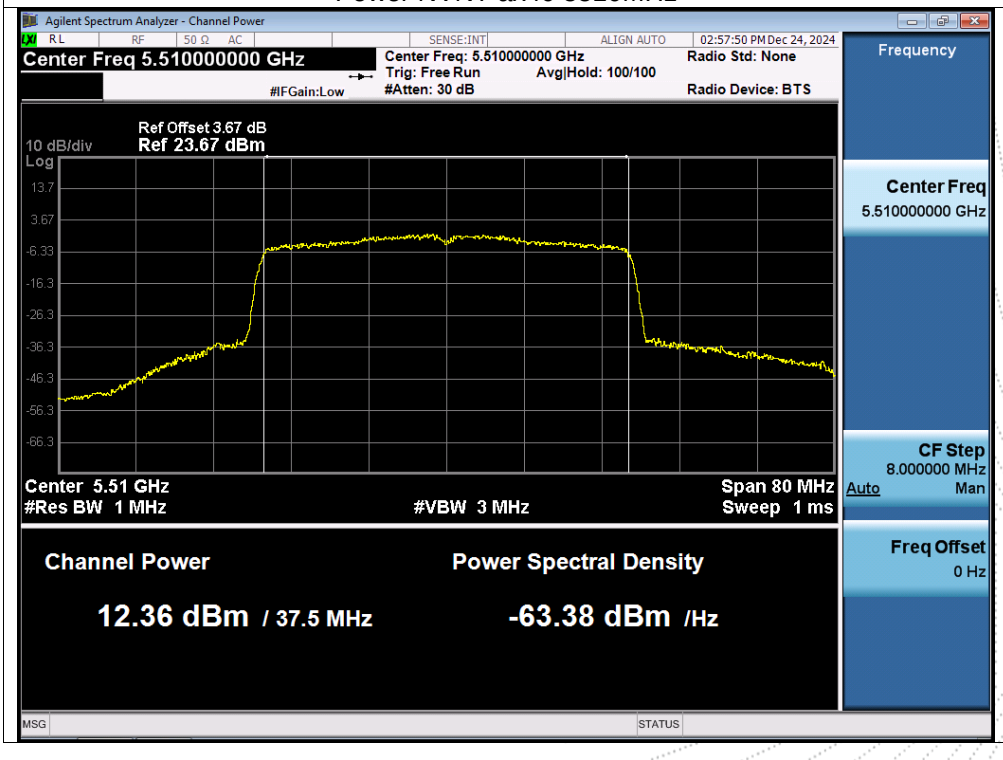
Power NVNT ax20 5580MHz



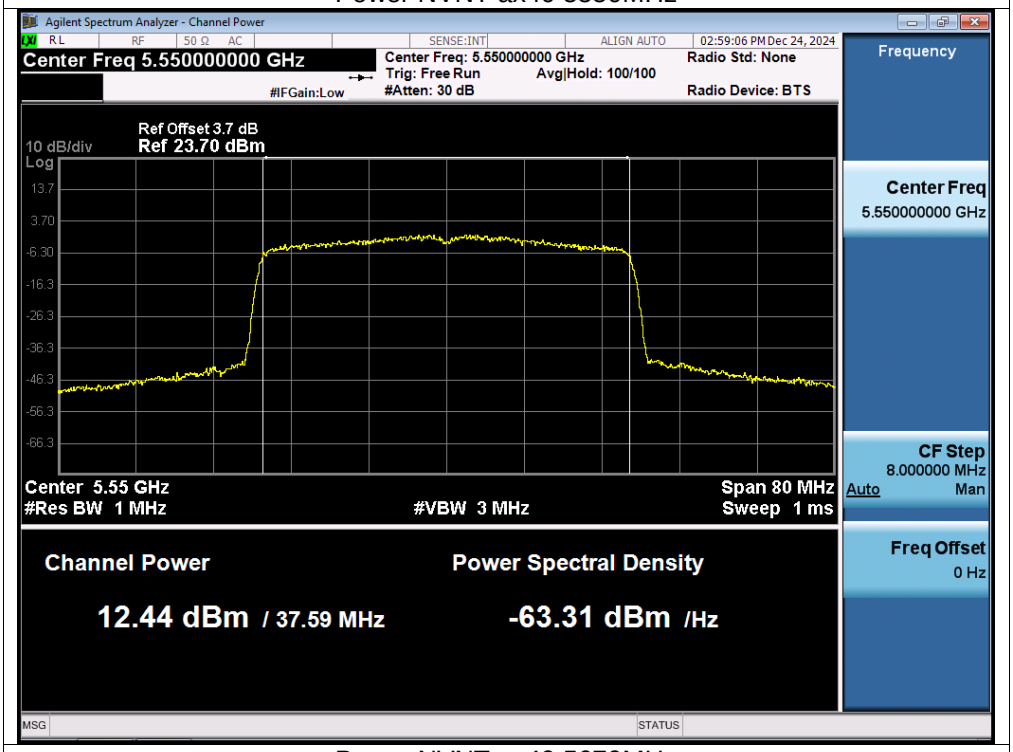
Power NVNT ax20 5700MHz



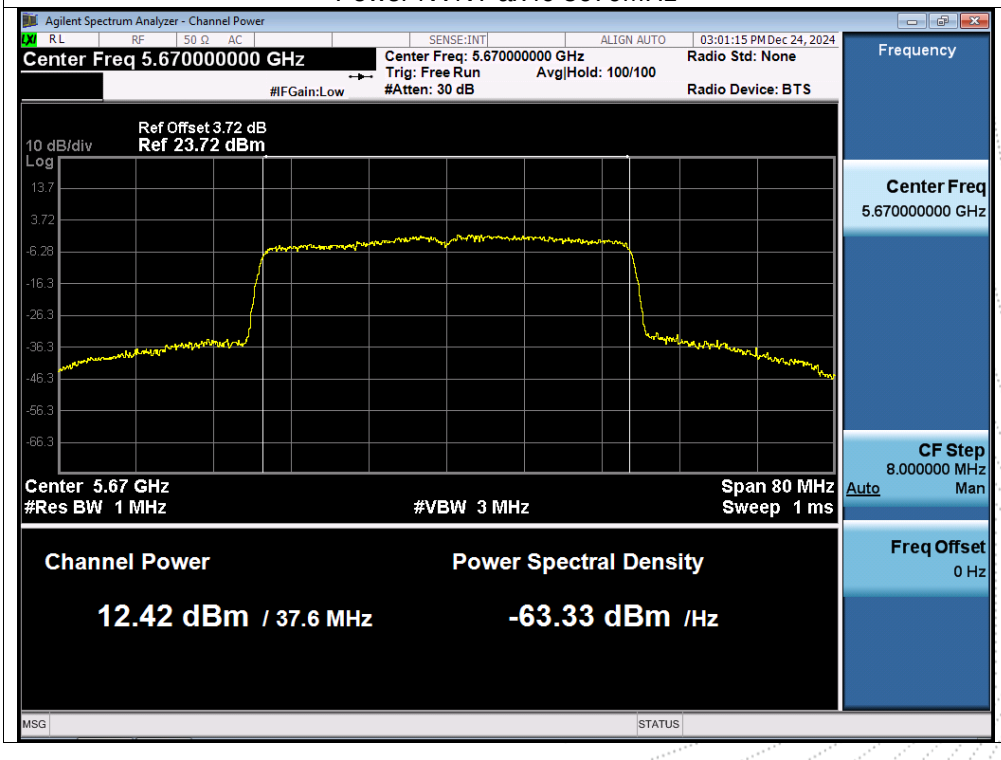
Power NVNT ax40 5510MHz



Power NVNT ax40 5550MHz



Power NVNT ax40 5670MHz



Power NVNT ax80 5530MHz