

8.5 Test Result

Battery 1

Battery 1

Test mode	Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measurement (dBuV/m)	Limits (dBuV/m)		Result
					PK	PK	AV	
802.11b	Low Channel 2412MHz							
	H	2390.00	72.94	-25.43	47.51	74.00	54.00	PASS
	H	2400.00	76.72	-25.40	51.32	74.00	54.00	PASS
	V	2390.00	73.37	-25.43	47.94	74.00	54.00	PASS
	V	2400.00	77.06	-25.40	51.66	74.00	54.00	PASS
	High Channel 2462MHz							
	H	2483.50	75.11	-25.15	49.96	74.00	54.00	PASS
	H	2500.00	71.88	-25.10	46.78	74.00	54.00	PASS
	V	2483.50	75.40	-25.15	50.25	74.00	54.00	PASS
	V	2500.00	72.63	-25.10	47.53	74.00	54.00	PASS
802.11g	Low Channel 2412MHz							
	H	2390.00	72.85	-25.43	47.42	74.00	54.00	PASS
	H	2400.00	76.96	-25.40	51.56	74.00	54.00	PASS
	V	2390.00	73.65	-25.43	48.22	74.00	54.00	PASS
	V	2400.00	78.16	-25.40	52.76	74.00	54.00	PASS
	High Channel 2462MHz							
	H	2483.50	74.96	-25.15	49.81	74.00	54.00	PASS
	H	2500.00	71.33	-25.10	46.23	74.00	54.00	PASS
	V	2483.50	75.88	-25.15	50.73	74.00	54.00	PASS
	V	2500.00	72.85	-25.10	47.75	74.00	54.00	PASS

Remark:

- 1.Measurement = Reading Level + Correct Factor,
Correct Factor = Antenna Factor + Cable Loss – Pre-amplifier,
Over= Measurement – Limit
2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.
- 3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB
- 4.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
- 5.The worst case is Antenna A.

Test mode	Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m)	Limits (dBuV/m)		Result
					PK	PK	AV	
802.11n20	Low Channel 2412MHz							
	H	2390.00	72.40	-25.43	46.97	74.00	54.00	PASS
	H	2400.00	76.48	-25.40	51.08	74.00	54.00	PASS
	V	2390.00	71.76	-25.43	46.33	74.00	54.00	PASS
	V	2400.00	76.07	-25.40	50.67	74.00	54.00	PASS
	High Channel 2462MHz							
	H	2483.50	76.53	-25.15	51.38	74.00	54.00	PASS
	H	2500.00	71.81	-25.10	46.71	74.00	54.00	PASS
	V	2483.50	76.19	-25.15	51.04	74.00	54.00	PASS
	V	2500.00	71.40	-25.10	46.30	74.00	54.00	PASS
802.11n40	Low Channel 2422MHz							
	H	2390.00	72.31	-25.43	46.88	74.00	54.00	PASS
	H	2400.00	75.80	-25.40	50.40	74.00	54.00	PASS
	V	2390.00	71.62	-25.43	46.19	74.00	54.00	PASS
	V	2400.00	74.94	-25.40	49.54	74.00	54.00	PASS
	High Channel 2452MHz							
	H	2483.50	74.75	-25.15	49.60	74.00	54.00	PASS
	H	2500.00	70.76	-25.10	45.66	74.00	54.00	PASS
	V	2483.50	74.30	-25.15	49.15	74.00	54.00	PASS
	V	2500.00	71.51	-25.10	46.41	74.00	54.00	PASS
Remark: 1.Measurement = Reading Level + Correct Factor, Correct Factor = Antenna Factor + Cable Loss – Pre-amplifier, Over= Measurement – Limit 2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit. 3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB 4.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. 5.Test Mode is MIMO Mode.								



Test mode	Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measurement (dBuV/m)	Limits (dBuV/m)		Result
					PK	PK	AV	
802.11ax20	Low Channel 2412MHz							
	H	2390.00	72.64	-25.43	47.21	74.00	54.00	PASS
	H	2400.00	77.47	-25.40	52.07	74.00	54.00	PASS
	V	2390.00	72.69	-25.43	47.26	74.00	54.00	PASS
	V	2400.00	77.24	-25.40	51.84	74.00	54.00	PASS
	High Channel 2462MHz							
	H	2483.50	75.34	-25.15	50.19	74.00	54.00	PASS
	H	2500.00	70.03	-25.10	44.93	74.00	54.00	PASS
	V	2483.50	75.10	-25.15	49.95	74.00	54.00	PASS
	V	2500.00	70.60	-25.10	45.50	74.00	54.00	PASS
802.11ax40	Low Channel 2422MHz							
	H	2390.00	72.95	-25.43	47.52	74.00	54.00	PASS
	H	2400.00	76.64	-25.40	51.24	74.00	54.00	PASS
	V	2390.00	72.66	-25.43	47.23	74.00	54.00	PASS
	V	2400.00	76.86	-25.40	51.46	74.00	54.00	PASS
	High Channel 2452MHz							
	H	2483.50	75.69	-25.15	50.54	74.00	54.00	PASS
	H	2500.00	70.65	-25.10	45.55	74.00	54.00	PASS
	V	2483.50	76.11	-25.15	50.96	74.00	54.00	PASS
	V	2500.00	71.55	-25.10	46.45	74.00	54.00	PASS
Remark: 1.Measurement = Reading Level + Correct Factor, Correct Factor = Antenna Factor + Cable Loss – Pre-amplifier, Over= Measurement – Limit 2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit. 3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB 4.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. 5.Test Mode is MIMO Mode.								

Battery 2

Battery 2

Test mode	Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measurement (dBuV/m)	Limits (dBuV/m)		Result
					PK	PK	AV	
802.11b	Low Channel 2412MHz							
	H	2390.00	72.16	-25.43	46.73	74.00	54.00	PASS
	H	2400.00	76.59	-25.40	51.19	74.00	54.00	PASS
	V	2390.00	71.70	-25.43	46.27	74.00	54.00	PASS
	V	2400.00	75.53	-25.40	50.13	74.00	54.00	PASS
	High Channel 2462MHz							
	H	2483.50	76.29	-25.15	51.14	74.00	54.00	PASS
	H	2500.00	70.88	-25.10	45.78	74.00	54.00	PASS
	V	2483.50	73.71	-25.15	48.56	74.00	54.00	PASS
	V	2500.00	70.75	-25.10	45.65	74.00	54.00	PASS
802.11g	Low Channel 2412MHz							
	H	2390.00	71.29	-25.43	45.86	74.00	54.00	PASS
	H	2400.00	74.81	-25.40	49.41	74.00	54.00	PASS
	V	2390.00	72.11	-25.43	46.68	74.00	54.00	PASS
	V	2400.00	77.03	-25.40	51.63	74.00	54.00	PASS
	High Channel 2462MHz							
	H	2483.50	74.12	-25.15	48.97	74.00	54.00	PASS
	H	2500.00	69.85	-25.10	44.75	74.00	54.00	PASS
	V	2483.50	76.00	-25.15	50.85	74.00	54.00	PASS
	V	2500.00	73.45	-25.10	48.35	74.00	54.00	PASS
Remark:								
1.Measurement = Reading Level + Correct Factor, Correct Factor = Antenna Factor + Cable Loss – Pre-amplifier, Over= Measurement – Limit								
2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.								
3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB								
4.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.								
5.The worst case is Antenna A.								

Test mode	Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measure- ment (dBuV/m)	Limits (dBuV/m)		Result
					PK	PK	AV	
802.11n20	Low Channel 2412MHz							
	H	2390.00	72.28	-25.43	46.85	74.00	54.00	PASS
	H	2400.00	76.26	-25.40	50.86	74.00	54.00	PASS
	V	2390.00	73.24	-25.43	47.81	74.00	54.00	PASS
	V	2400.00	78.05	-25.40	52.65	74.00	54.00	PASS
	High Channel 2462MHz							
	H	2483.50	76.54	-25.15	51.39	74.00	54.00	PASS
	H	2500.00	70.10	-25.10	45.00	74.00	54.00	PASS
	V	2483.50	76.17	-25.15	51.02	74.00	54.00	PASS
	V	2500.00	71.85	-25.10	46.75	74.00	54.00	PASS
802.11n40	Low Channel 2422MHz							
	H	2390.00	72.11	-25.43	46.68	74.00	54.00	PASS
	H	2400.00	75.96	-25.40	50.56	74.00	54.00	PASS
	V	2390.00	72.89	-25.43	47.46	74.00	54.00	PASS
	V	2400.00	76.57	-25.40	51.17	74.00	54.00	PASS
	High Channel 2452MHz							
	H	2483.50	74.82	-25.15	49.67	74.00	54.00	PASS
	H	2500.00	71.12	-25.10	46.02	74.00	54.00	PASS
	V	2483.50	74.94	-25.15	49.79	74.00	54.00	PASS
	V	2500.00	71.13	-25.10	46.03	74.00	54.00	PASS
Remark: 1.Measurement = Reading Level + Correct Factor, Correct Factor = Antenna Factor + Cable Loss – Pre-amplifier, Over= Measurement – Limit 2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit. 3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB 4.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. 5.Test Mode is MIMO Mode.								

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Test mode	Polar (H/V)	Frequency (MHz)	Reading Level (dBuV/m)	Correct Factor (dB)	Measurement (dBuV/m)	Limits (dBuV/m)		Result
					PK	PK	AV	
802.11ax20	Low Channel 2412MHz							
	H	2390.00	72.22	-25.43	46.79	74.00	54.00	PASS
	H	2400.00	75.99	-25.40	50.59	74.00	54.00	PASS
	V	2390.00	72.30	-25.43	46.87	74.00	54.00	PASS
	V	2400.00	76.37	-25.40	50.97	74.00	54.00	PASS
	High Channel 2462MHz							
	H	2483.50	74.96	-25.15	49.81	74.00	54.00	PASS
	H	2500.00	69.64	-25.10	44.54	74.00	54.00	PASS
	V	2483.50	76.38	-25.15	51.23	74.00	54.00	PASS
	V	2500.00	72.93	-25.10	47.83	74.00	54.00	PASS
802.11ax40	Low Channel 2422MHz							
	H	2390.00	71.82	-25.43	46.39	74.00	54.00	PASS
	H	2400.00	74.96	-25.40	49.56	74.00	54.00	PASS
	V	2390.00	72.65	-25.43	47.22	74.00	54.00	PASS
	V	2400.00	77.48	-25.40	52.08	74.00	54.00	PASS
	High Channel 2452MHz							
	H	2483.50	75.74	-25.15	50.59	74.00	54.00	PASS
	H	2500.00	70.26	-25.10	45.16	74.00	54.00	PASS
	V	2483.50	74.98	-25.15	49.83	74.00	54.00	PASS
	V	2500.00	71.42	-25.10	46.32	74.00	54.00	PASS
Remark: 1.Measurement = Reading Level + Correct Factor, Correct Factor = Antenna Factor + Cable Loss – Pre-amplifier, Over= Measurement – Limit 2. If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit. 3 In restricted bands of operation, The spurious emissions below the permissible value more than 20dB 4.The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. 5.Test Mode is MIMO Mode.								

9. Power Spectral Density Test

9.1 Block Diagram Of Test Setup



9.2 Limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

Limits Of Radiated Emission Measurement (Above 1000MHz)

9.3 Test procedure

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: 3 kHz
4. Set the VBW $\geq 3 \times$ RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

9.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

Note: Power Spectral Density(dBm)=Reading+Cable Loss

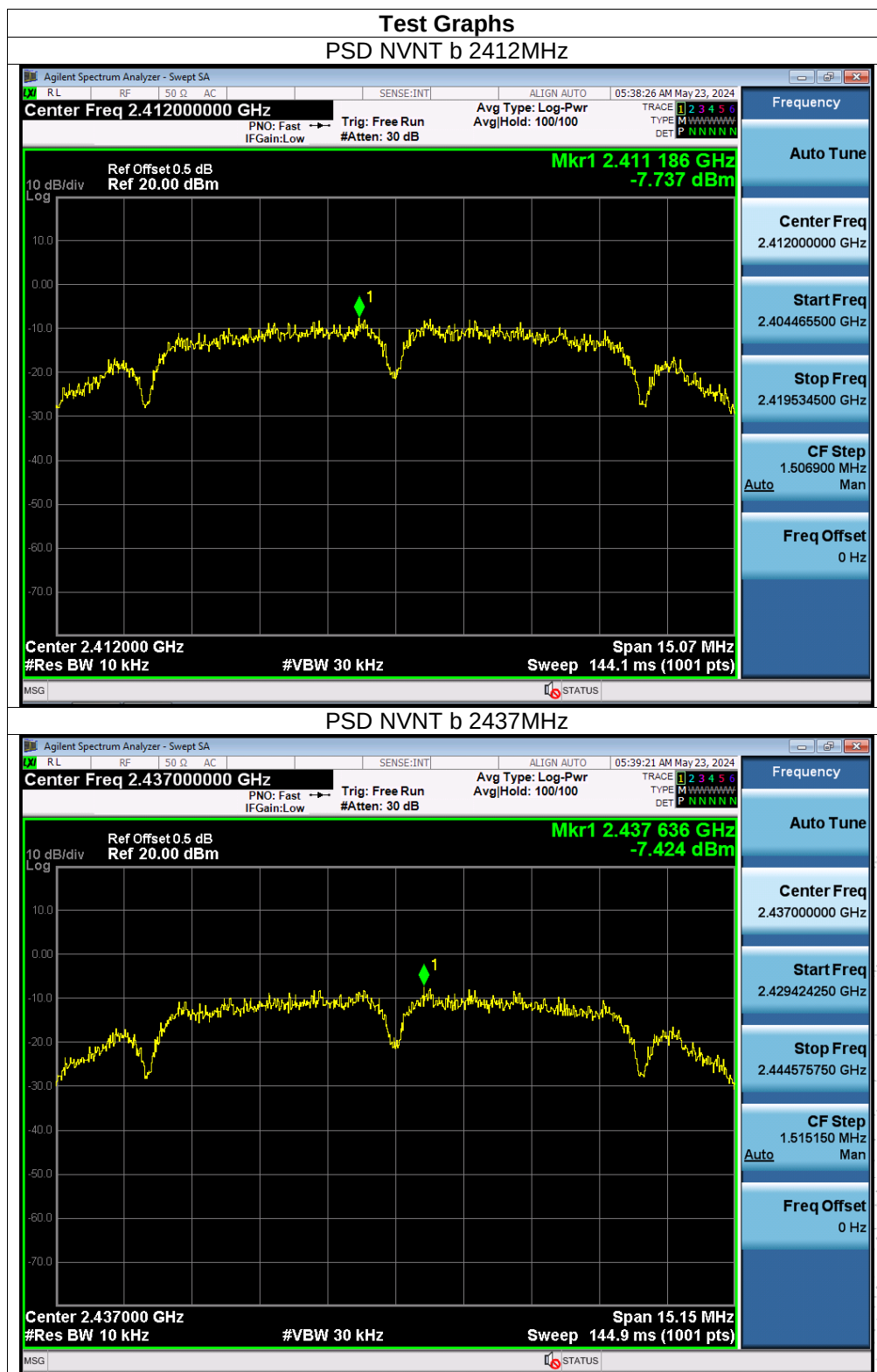
9.5 Test Result

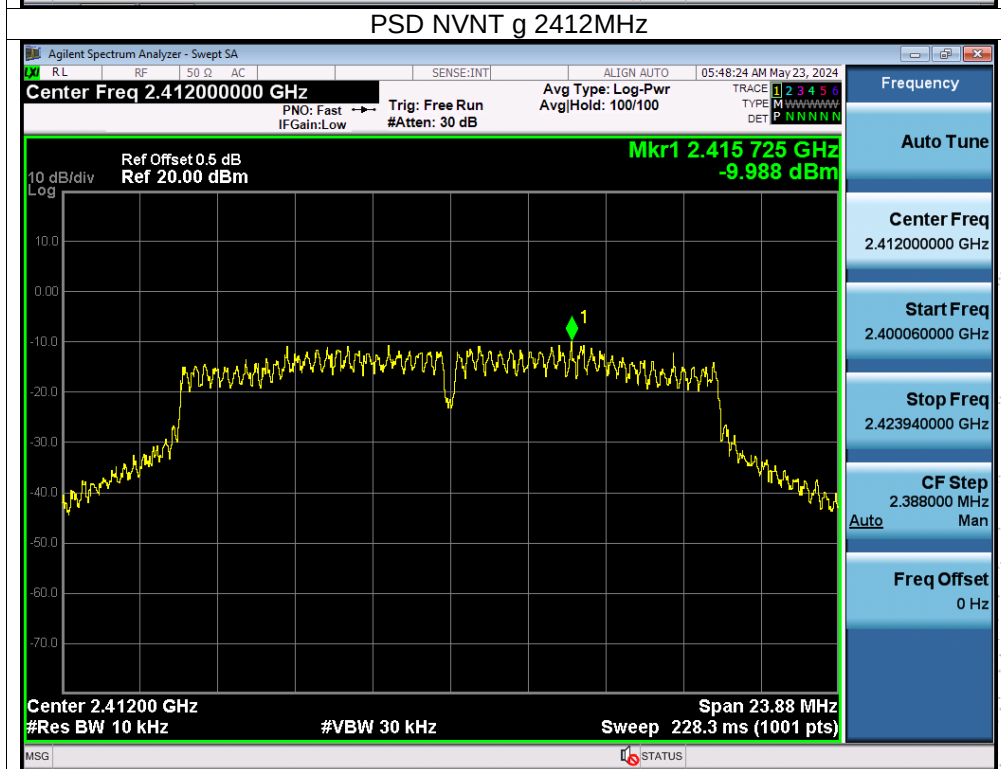
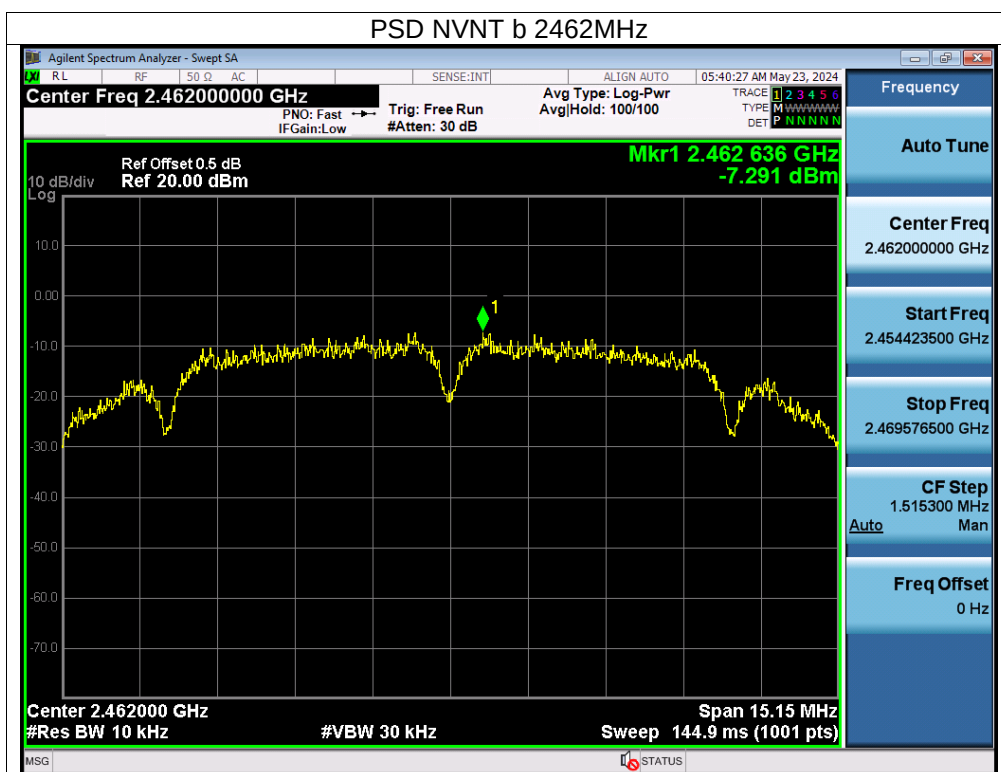
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 11.4V

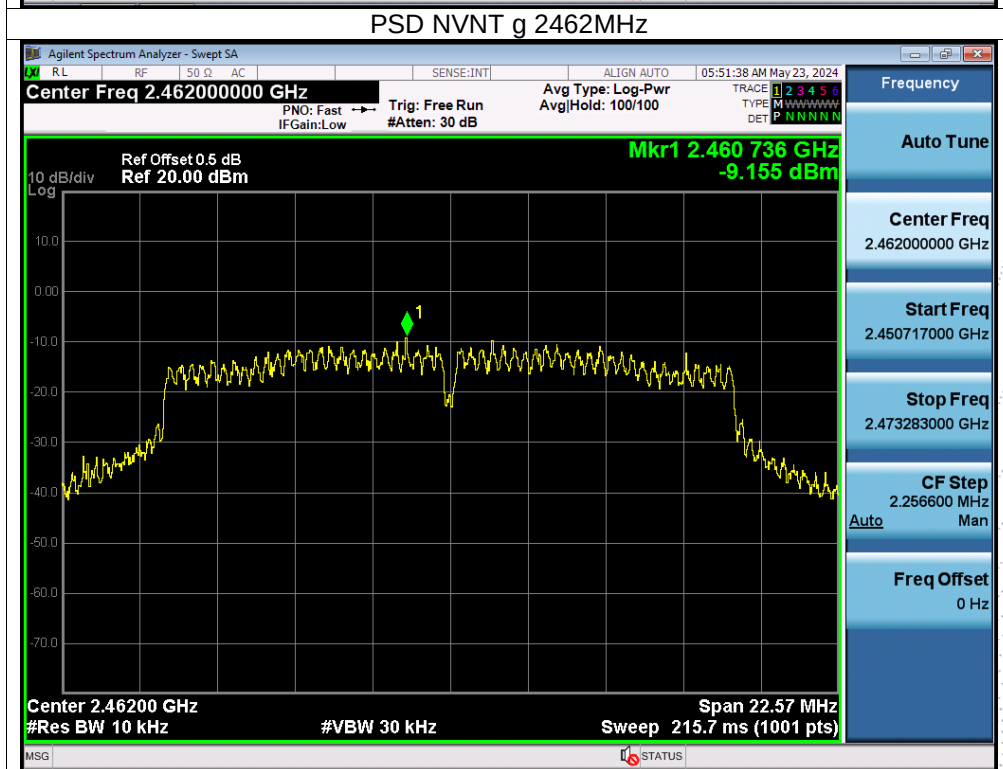
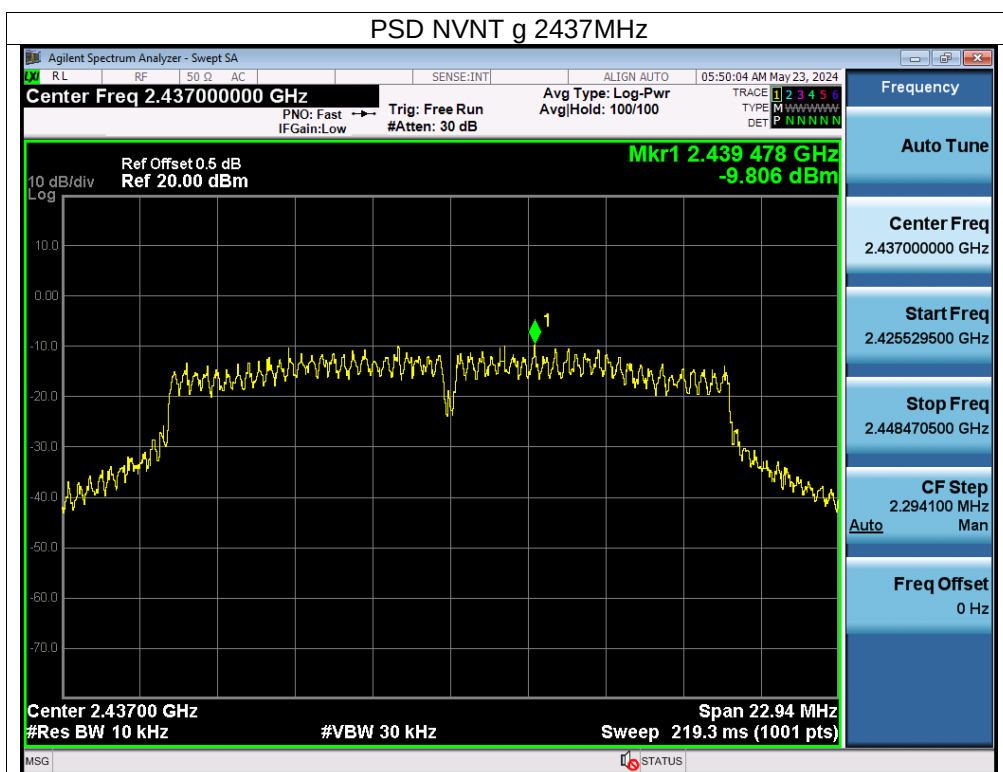
Test Mode	Frequency	Power Spectral Density (dBm/10kHz)		Power Spectral Density (dBm/3kHz)		Total power density (dBm/3KHz)	Limit (dBm/3k Hz)
		Ant. A	Ant. B	Ant. A	Ant. B		
TX b Mode	2412 MHz	-7.74	-8.01	-12.97	-13.24	/	8
	2437 MHz	-7.42	-7.64	-12.65	-12.87	/	8
	2462 MHz	-7.29	-7.31	-12.52	-12.54	/	8
TX g Mode	2412 MHz	-9.99	-9.24	-15.22	-14.47	/	8
	2437 MHz	-9.81	-9.99	-15.04	-15.22	/	8
	2462 MHz	-9.15	-8.65	-14.38	-13.88	/	8
TX n Mode(20M)	2412 MHz	-11.39	-10.62	-16.62	-15.85	-13.21	8
	2437 MHz	-9.91	-11.48	-15.14	-16.71	-12.84	8
	2462 MHz	-10.89	-10.13	-16.12	-15.36	-12.71	8
TX n Mode(40M)	2422 MHz	-15.71	-14.32	-20.94	-19.55	-17.18	8
	2437 MHz	-13.63	-15.04	-18.86	-20.27	-16.50	8
	2452 MHz	-14.42	-15.18	-19.65	-20.41	-17.00	8
TX ax Mode(20M)	2412 MHz	-12.28	-11.97	-17.51	-17.20	-14.34	8
	2437 MHz	-12.87	-12.52	-18.10	-17.75	-14.91	8
	2462 MHz	-12.54	-12.69	-17.77	-17.92	-14.83	8
TX ax Mode(40M)	2422 MHz	-16.59	-16.51	-21.82	-21.74	-18.77	8
	2437 MHz	-16.26	-16.69	-21.49	-21.92	-18.69	8
	2452 MHz	-15.95	-16.17	-21.18	-21.40	-18.28	8

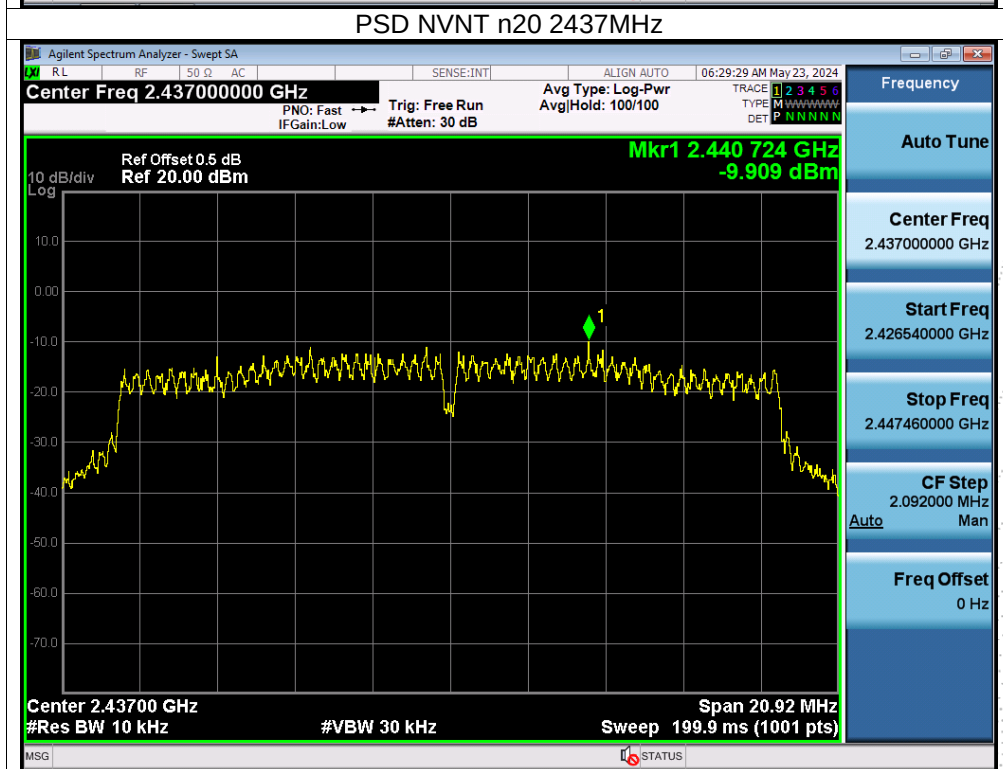
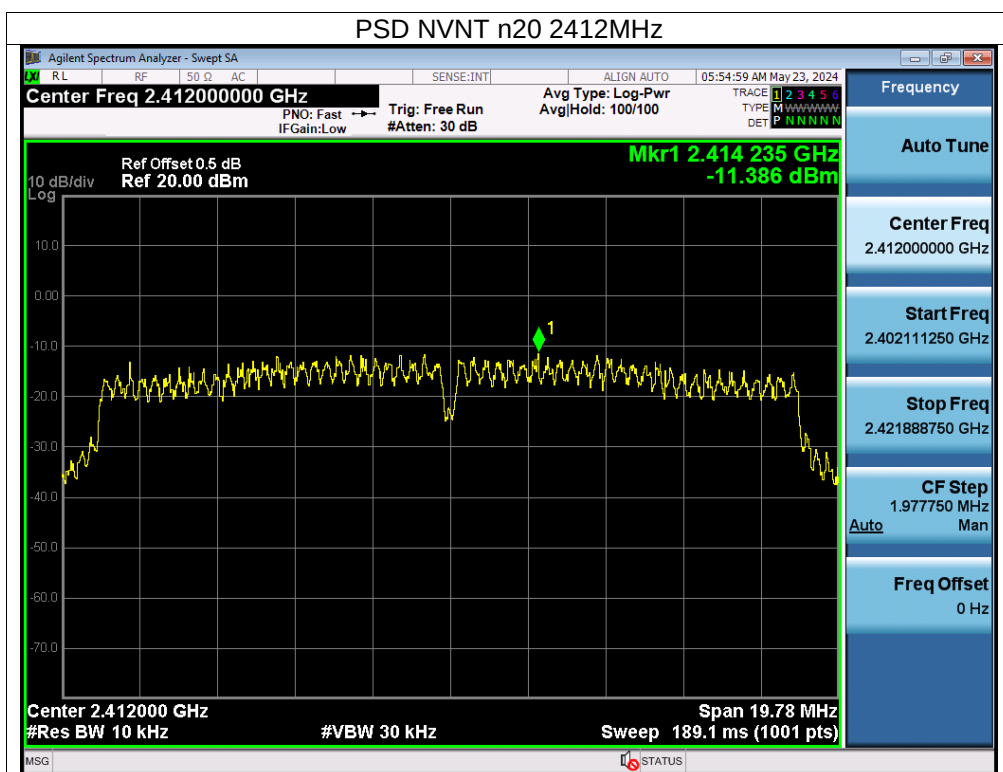
Note: Correction Factor = $10\log(3\text{KHz}/\text{RBW in measurement}) = -5.23$

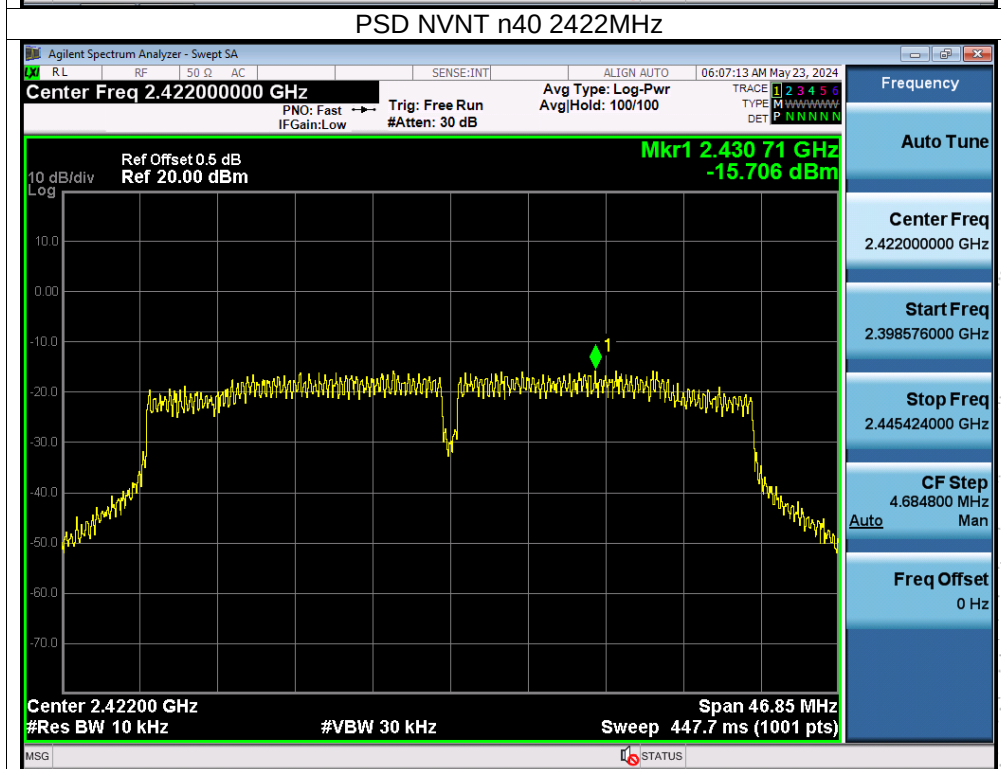
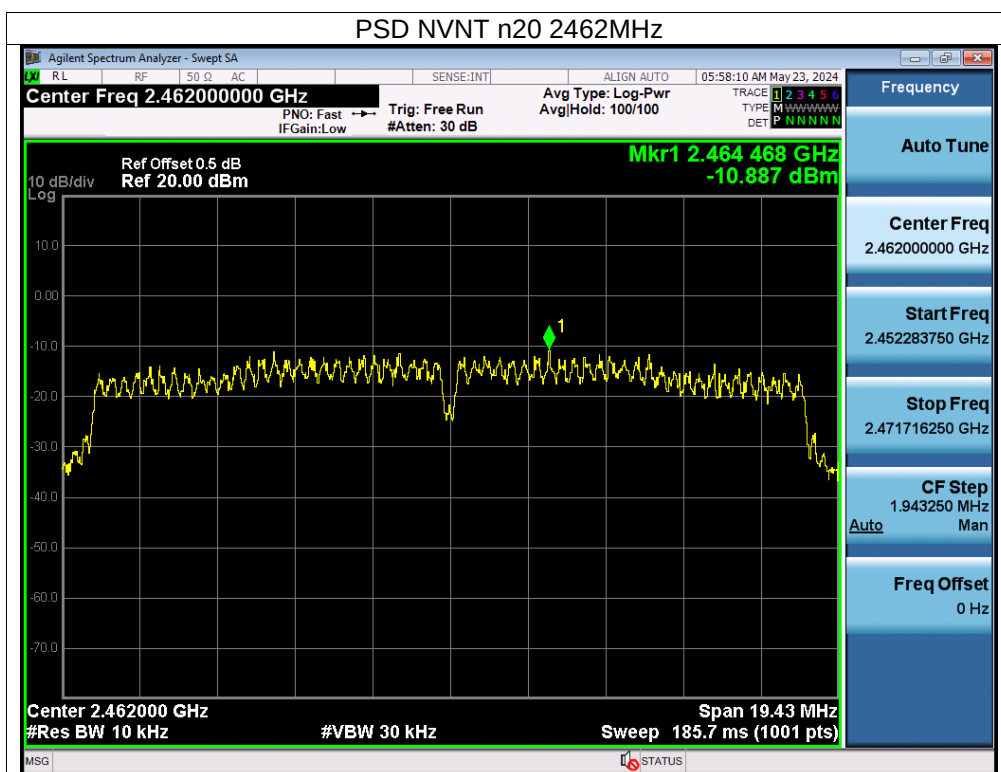
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.

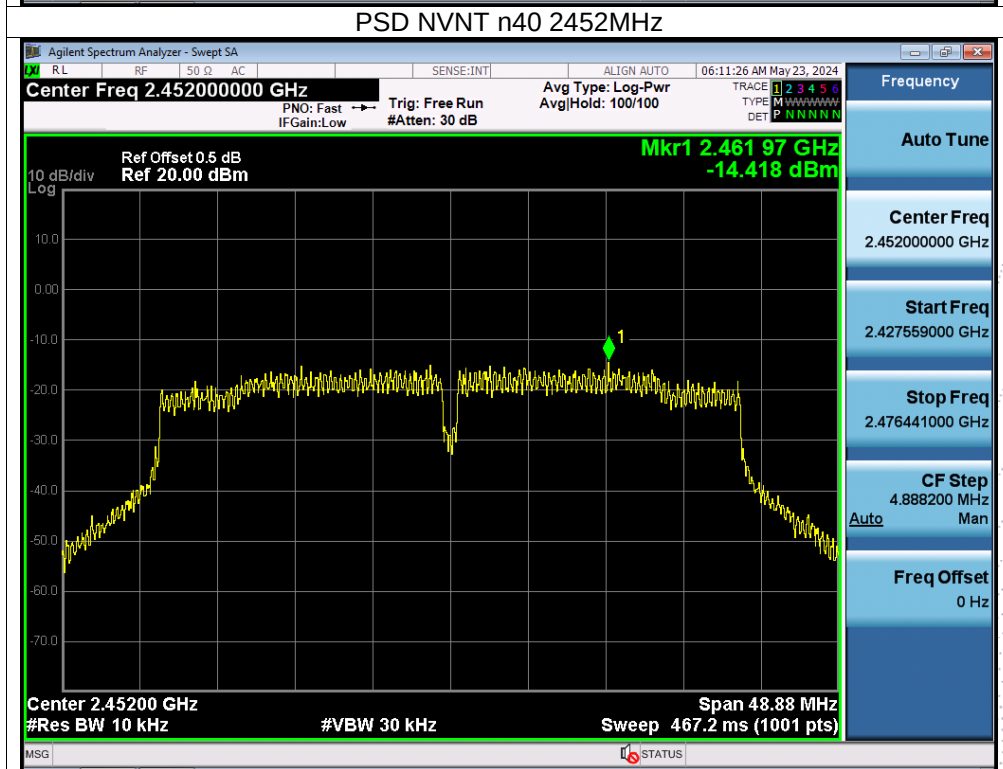
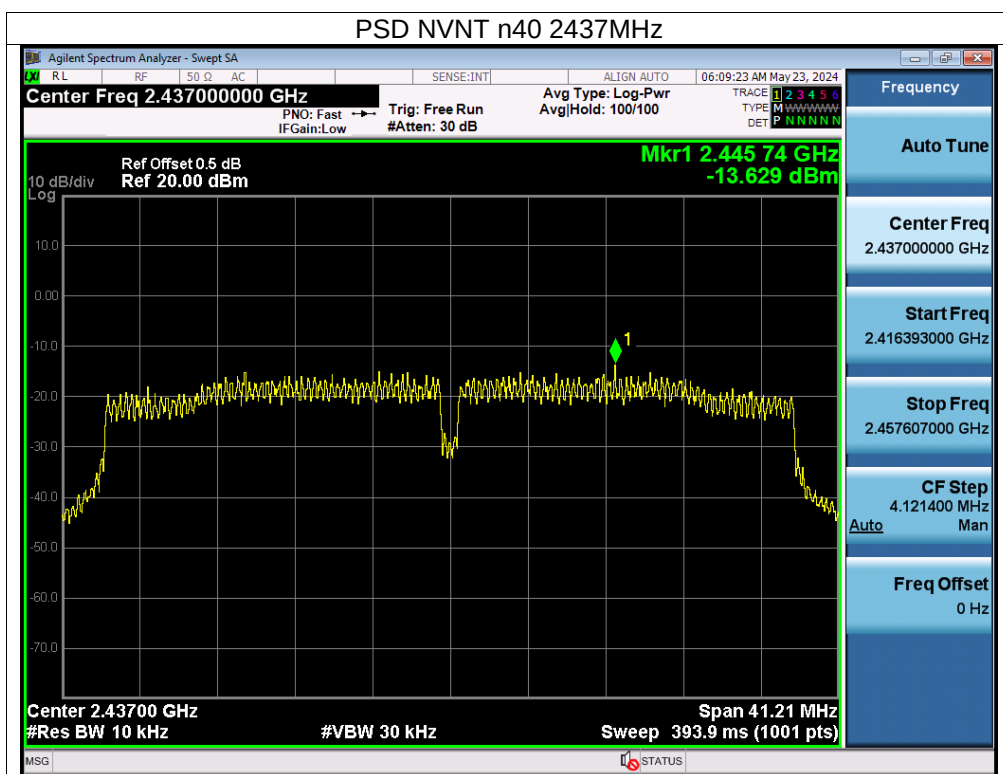


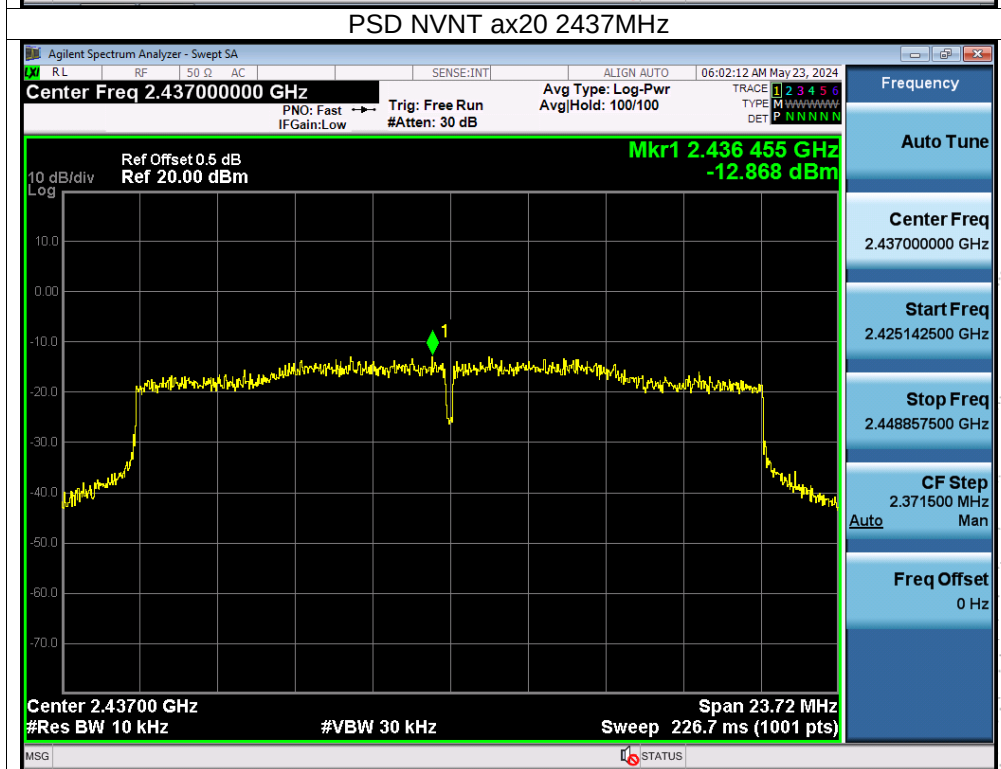
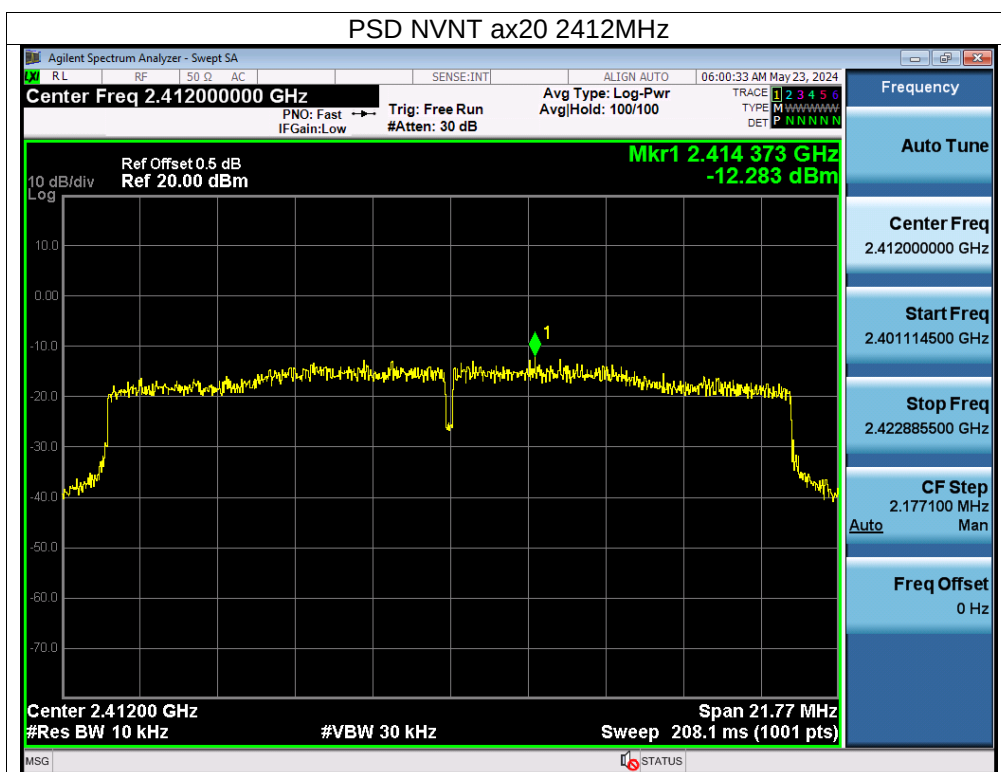


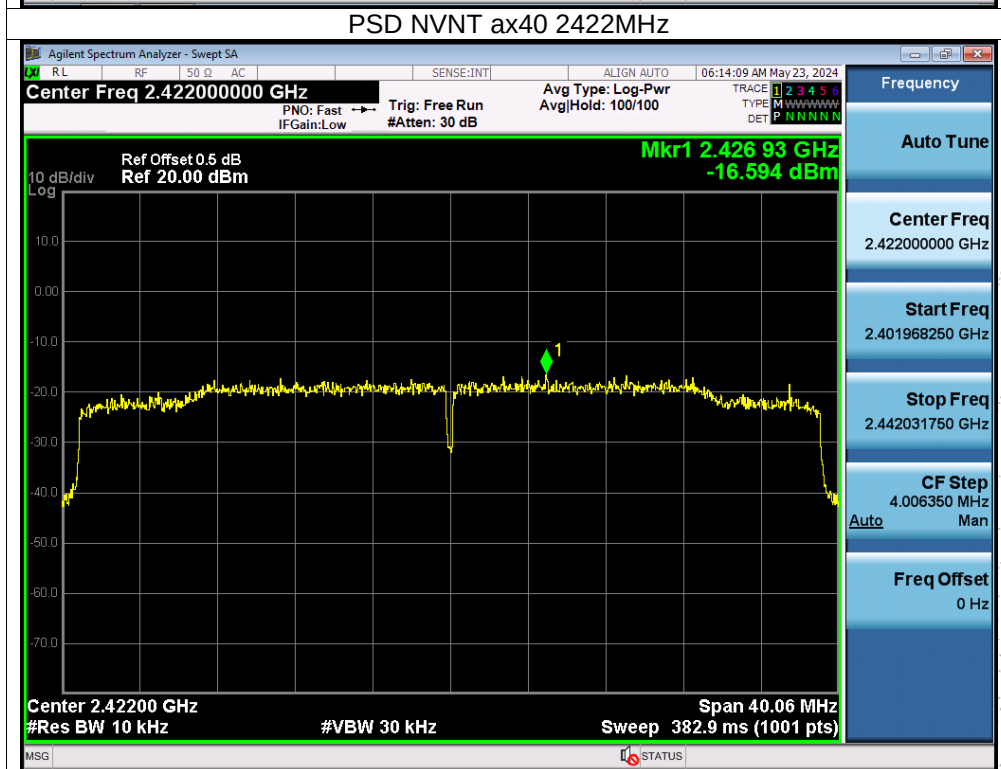
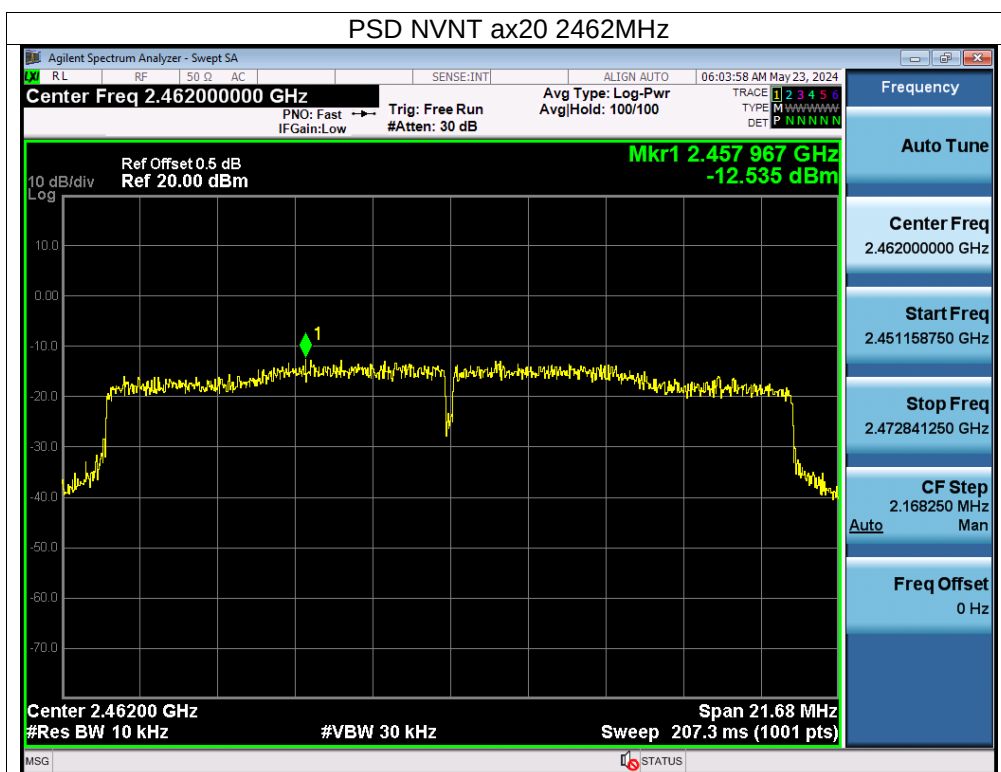


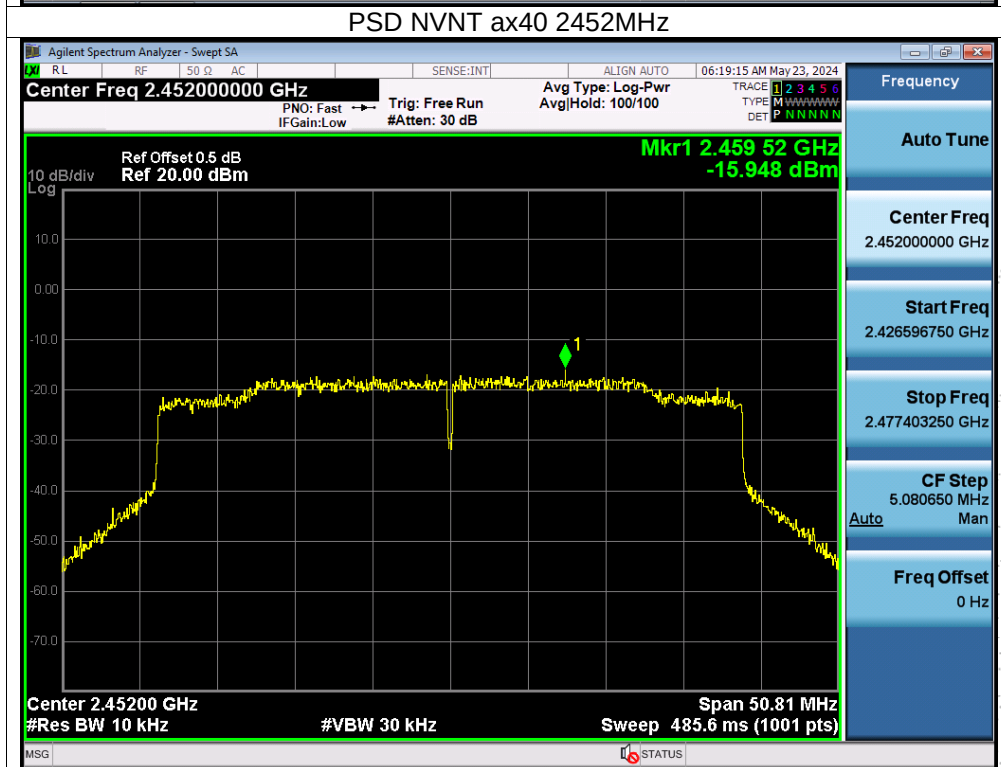
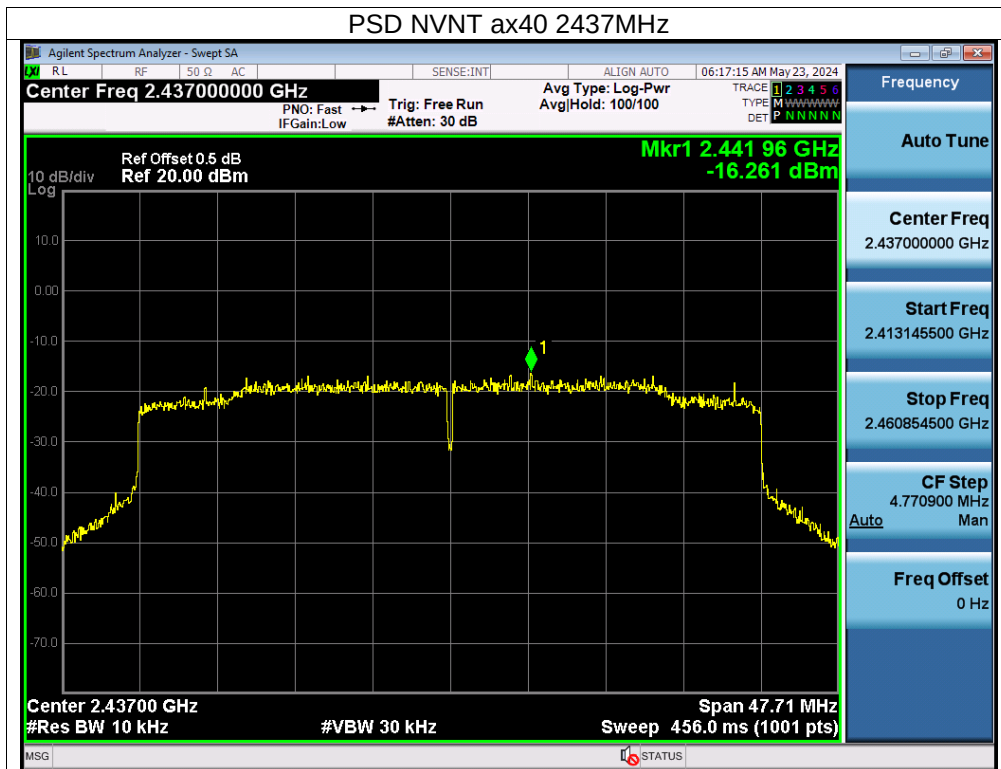












10. Bandwidth Test

10.1 Block Diagram Of Test Setup



10.2 Limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (-6dB bandwidth)	2400-2483.5	PASS

10.3 Test procedure

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

10.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

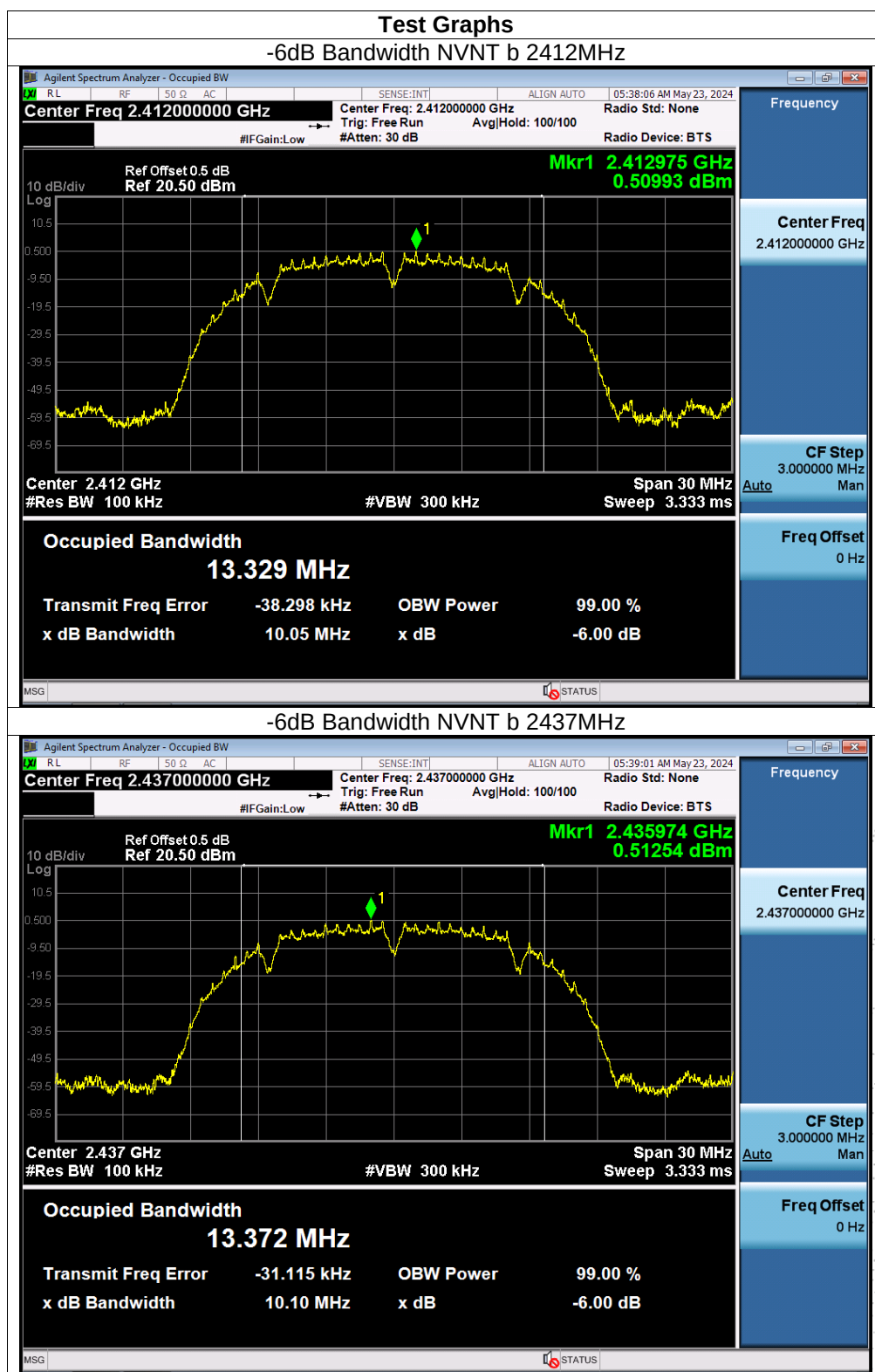
Note: Power Spectral Density(dBm)=Reading+Cable Loss

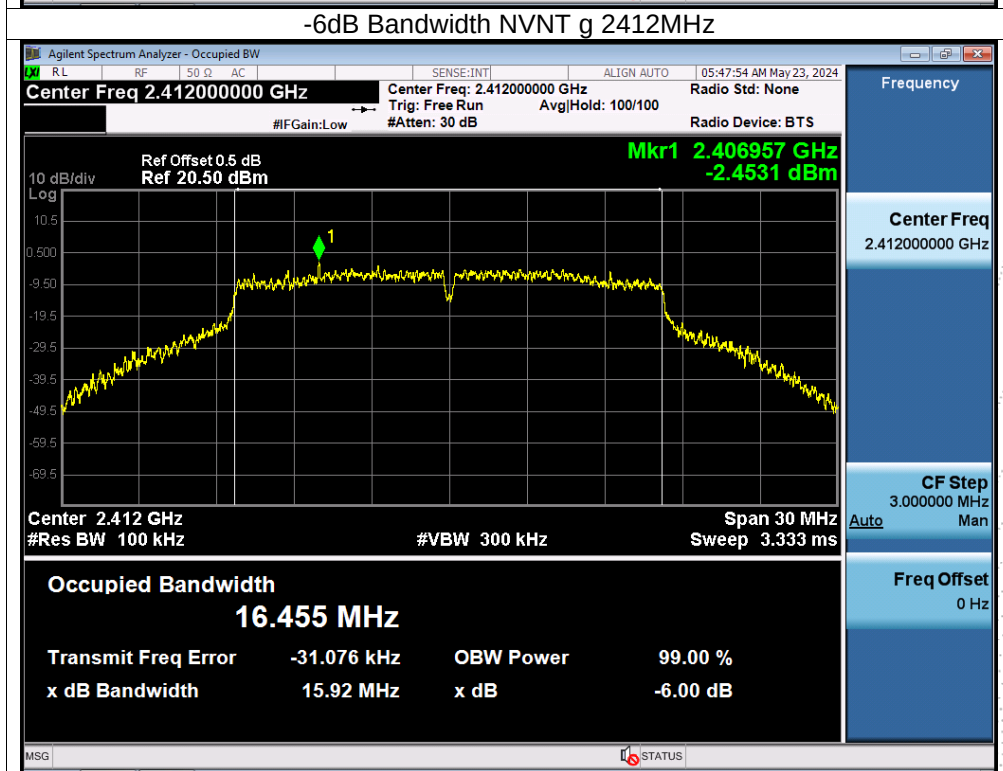
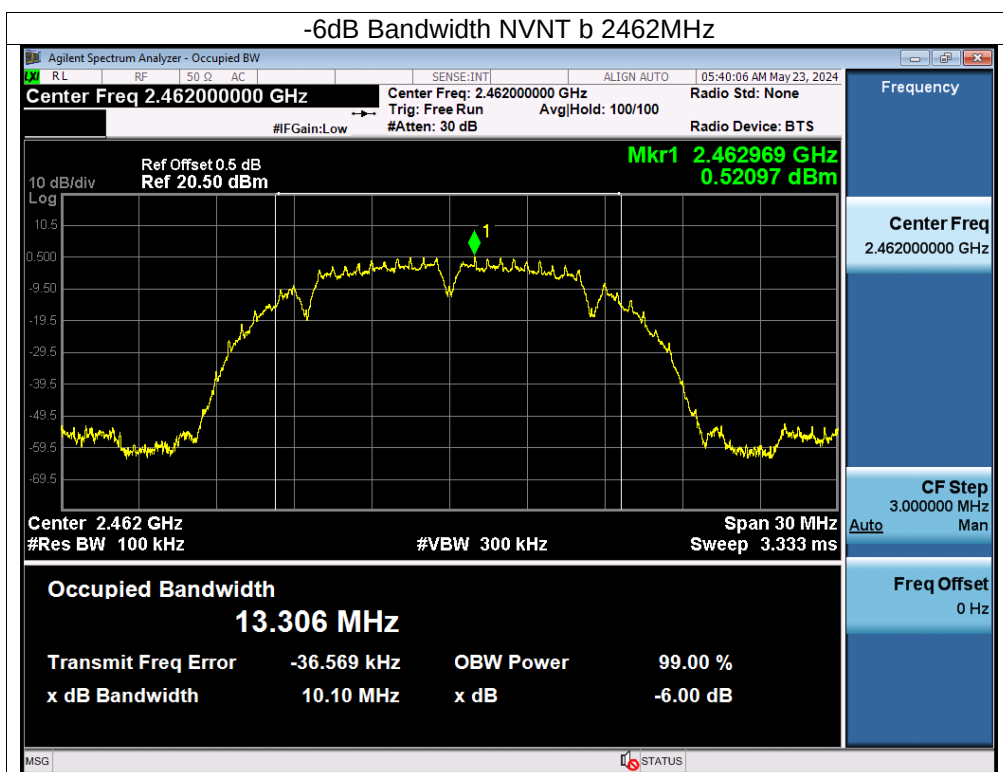
10.5 Test Result

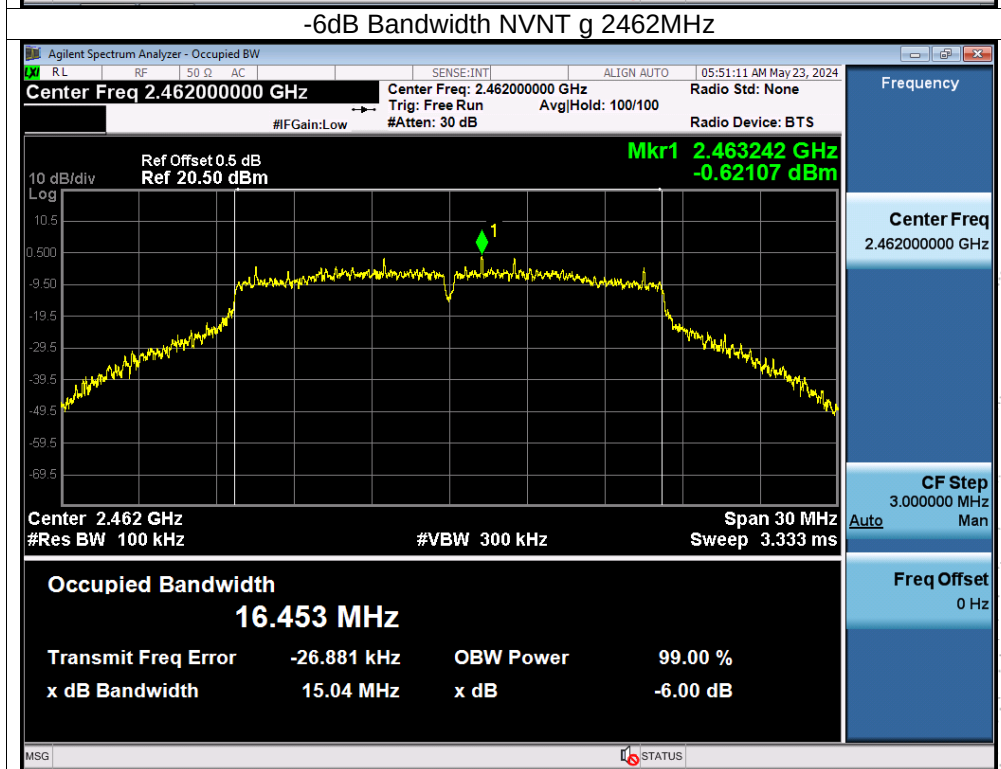
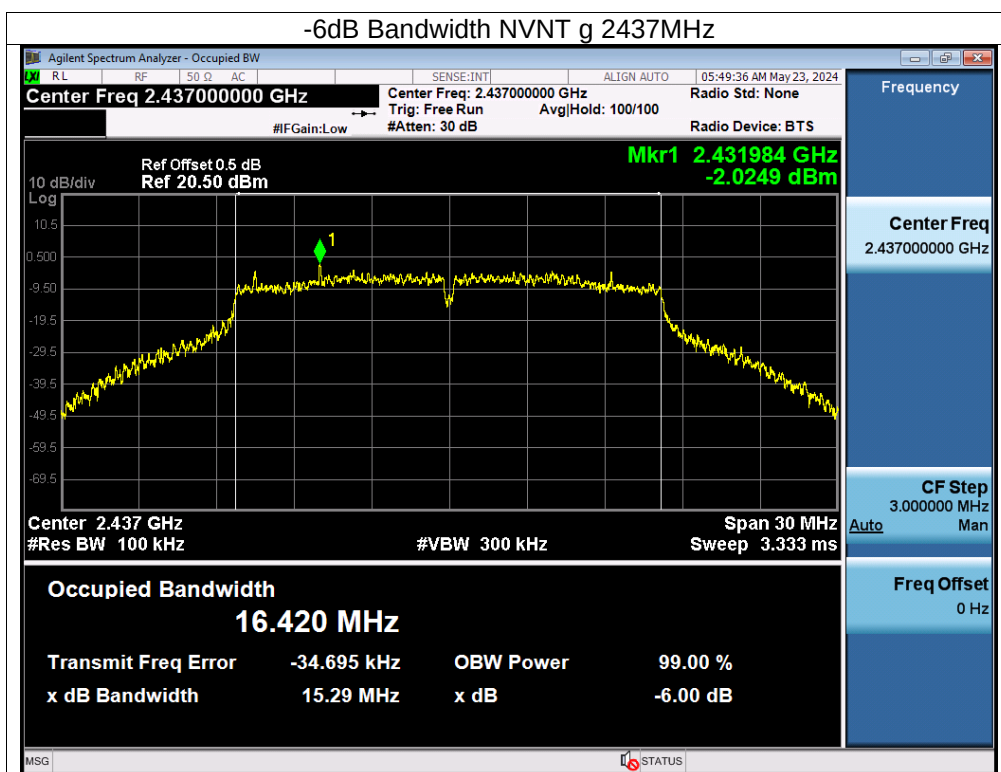
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 11.4V

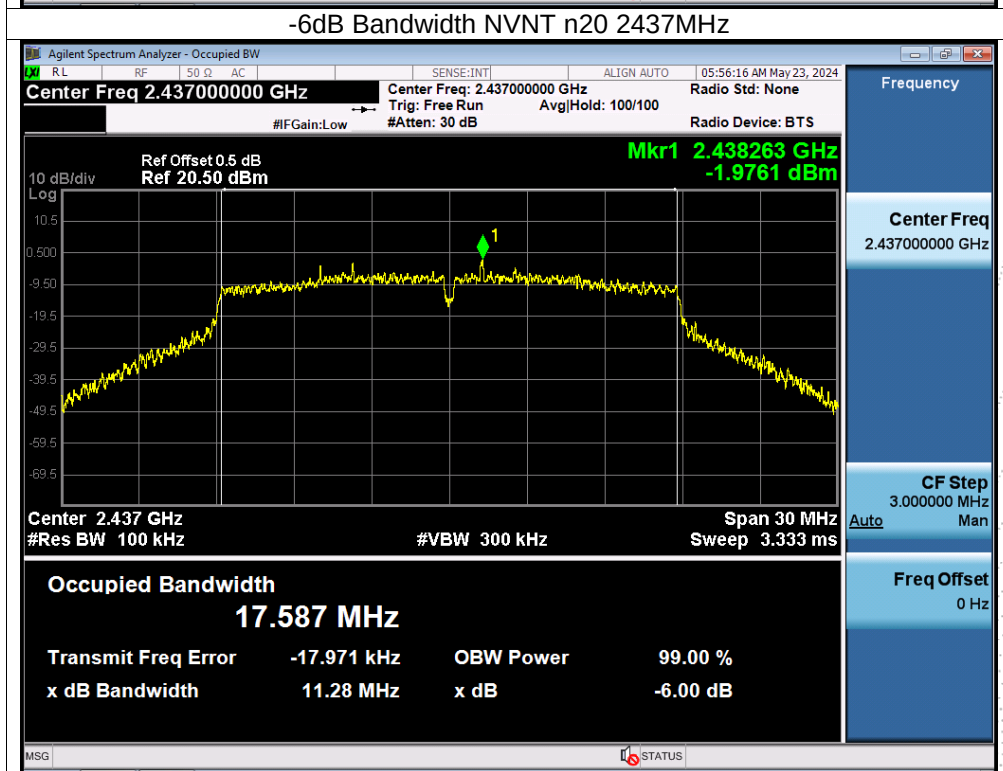
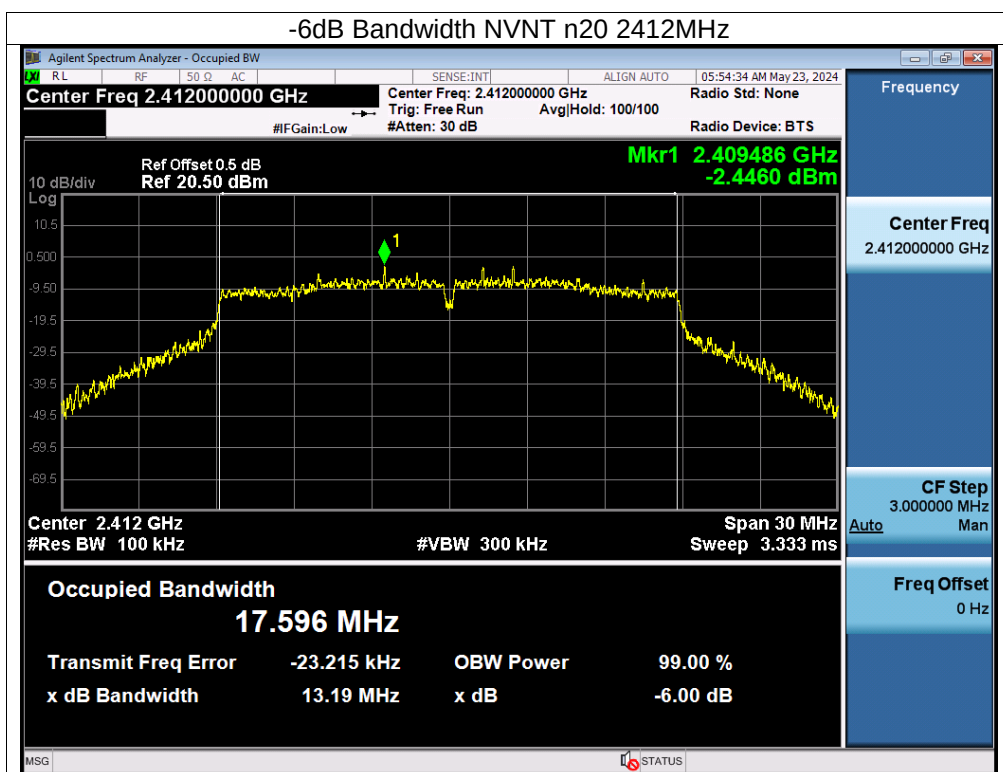
Condition	Test Mode	Frequency (MHz)	-6dB bandwidth (MHz)		Limit (kHz)	Result
			Ant. A	Ant. B		
NVNT	b	2412	10.046	10.064	500	Pass
NVNT	b	2437	10.101	10.044	500	Pass
NVNT	b	2462	10.102	10.076	500	Pass
NVNT	g	2412	15.92	14.851	500	Pass
NVNT	g	2437	15.294	15.044	500	Pass
NVNT	g	2462	15.044	13.375	500	Pass
NVNT	n20	2412	13.185	14.739	500	Pass
NVNT	n20	2437	11.282	17.292	500	Pass
NVNT	n20	2462	12.955	15.927	500	Pass
NVNT	n40	2422	31.232	29.838	500	Pass
NVNT	n40	2437	27.476	31.337	500	Pass
NVNT	n40	2452	32.588	29.691	500	Pass
NVNT	ax20	2412	14.514	16.136	500	Pass
NVNT	ax20	2437	15.81	18.161	500	Pass
NVNT	ax20	2462	14.455	16.422	500	Pass
NVNT	ax40	2422	26.709	31.966	500	Pass
NVNT	ax40	2437	31.806	30.335	500	Pass
NVNT	ax40	2452	33.871	29.755	500	Pass

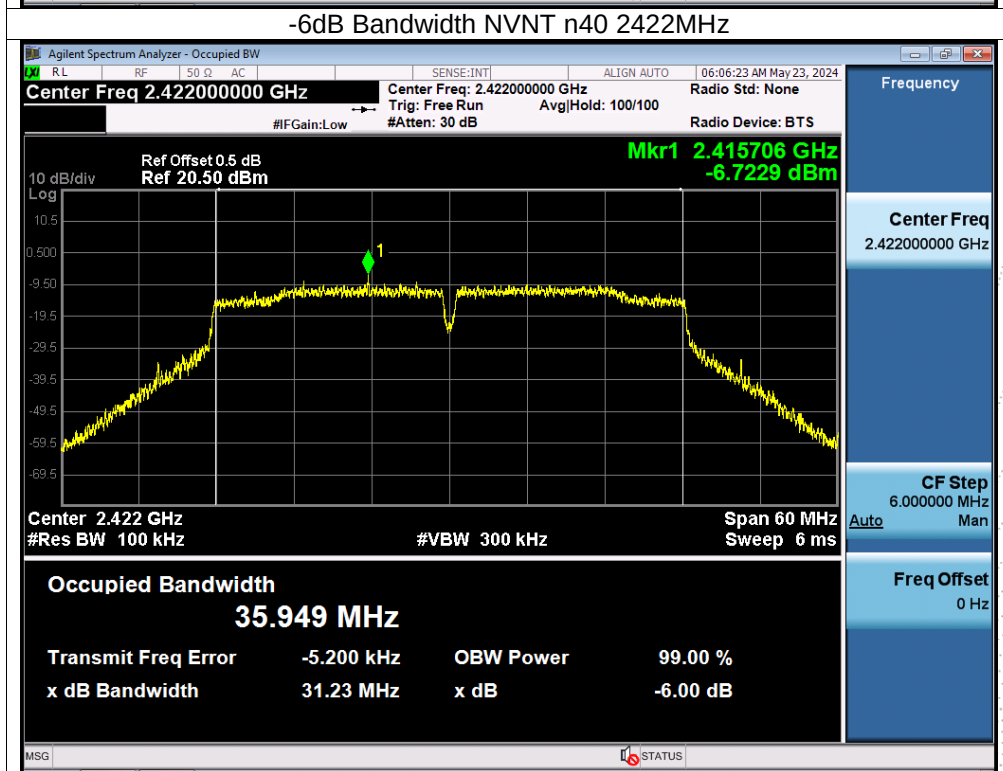
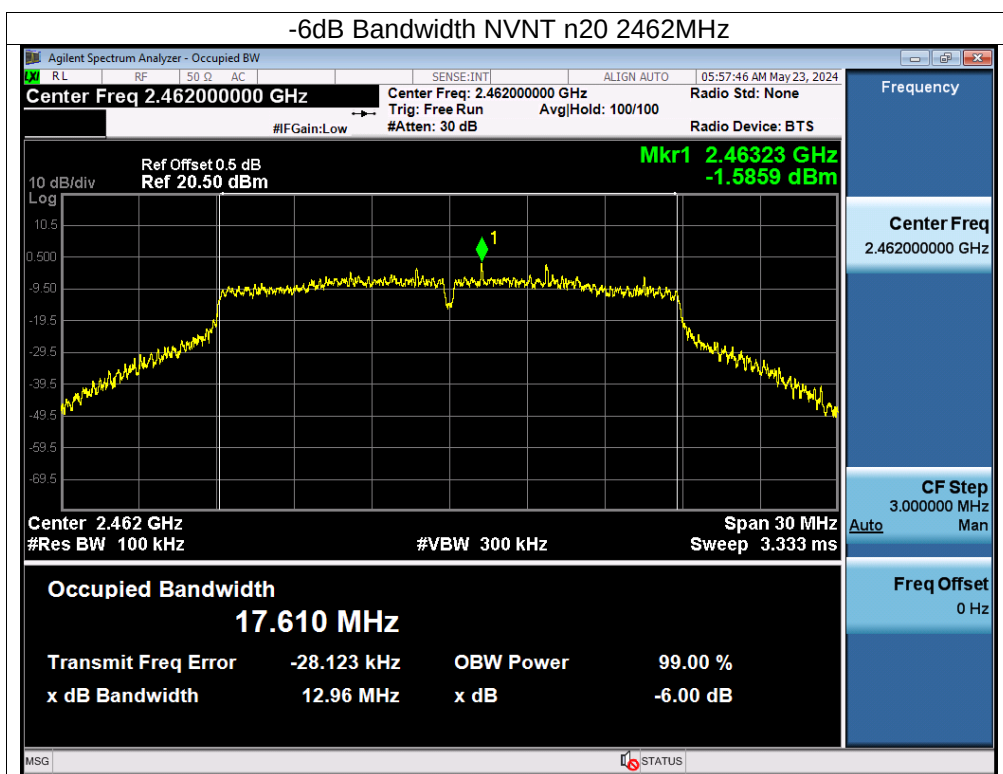
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.



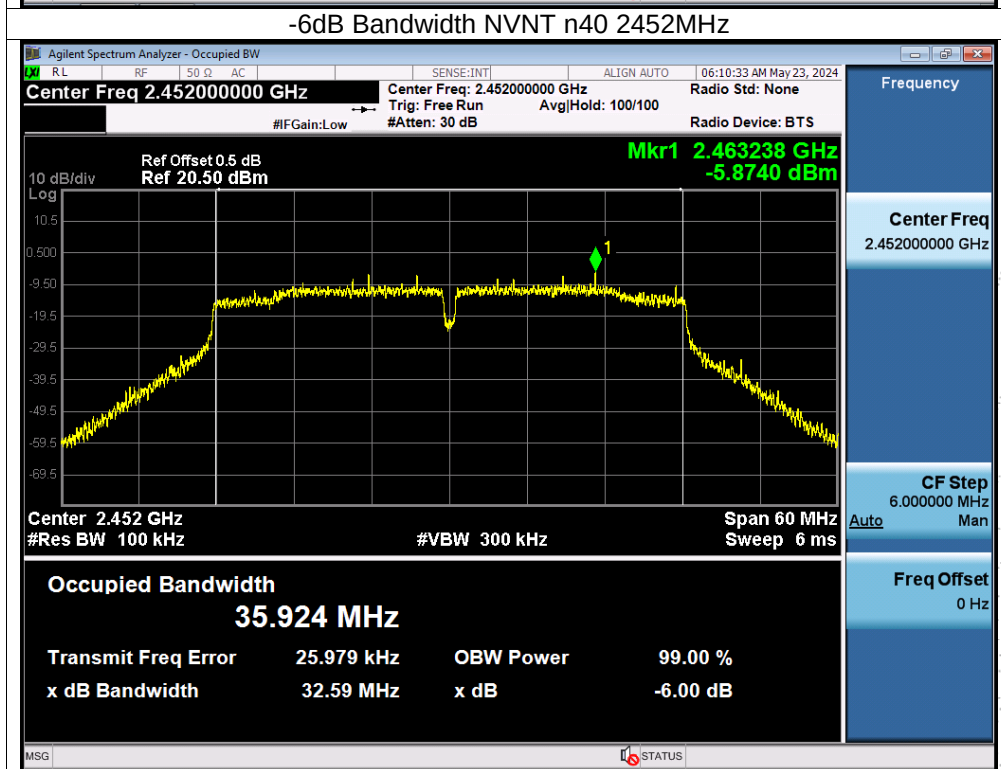
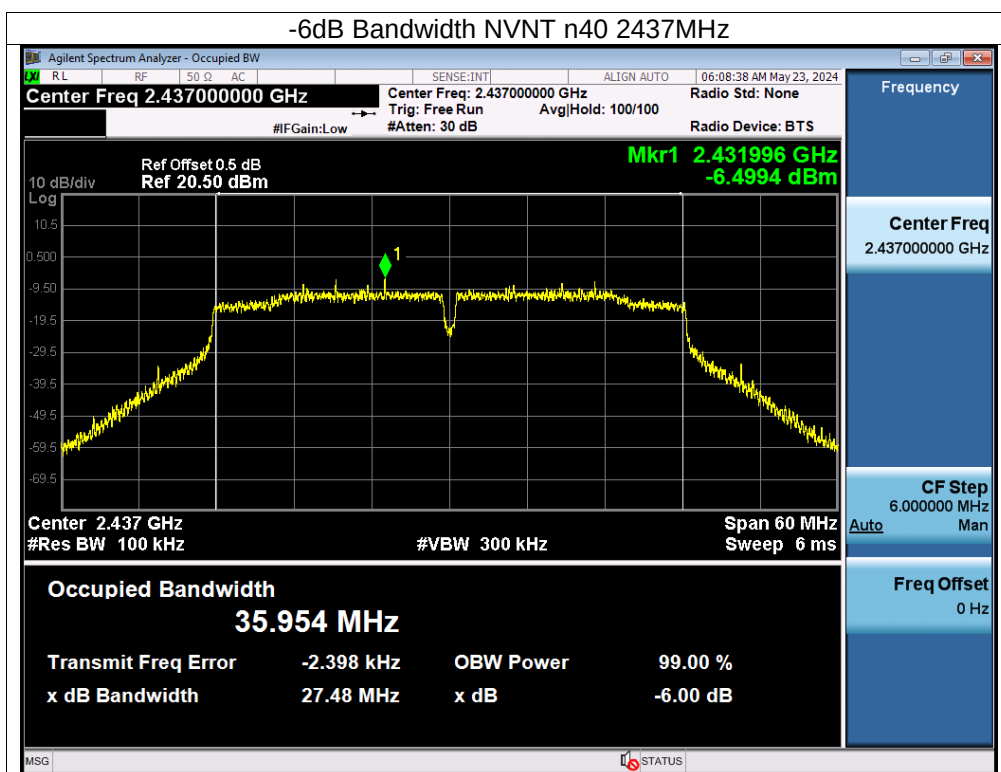


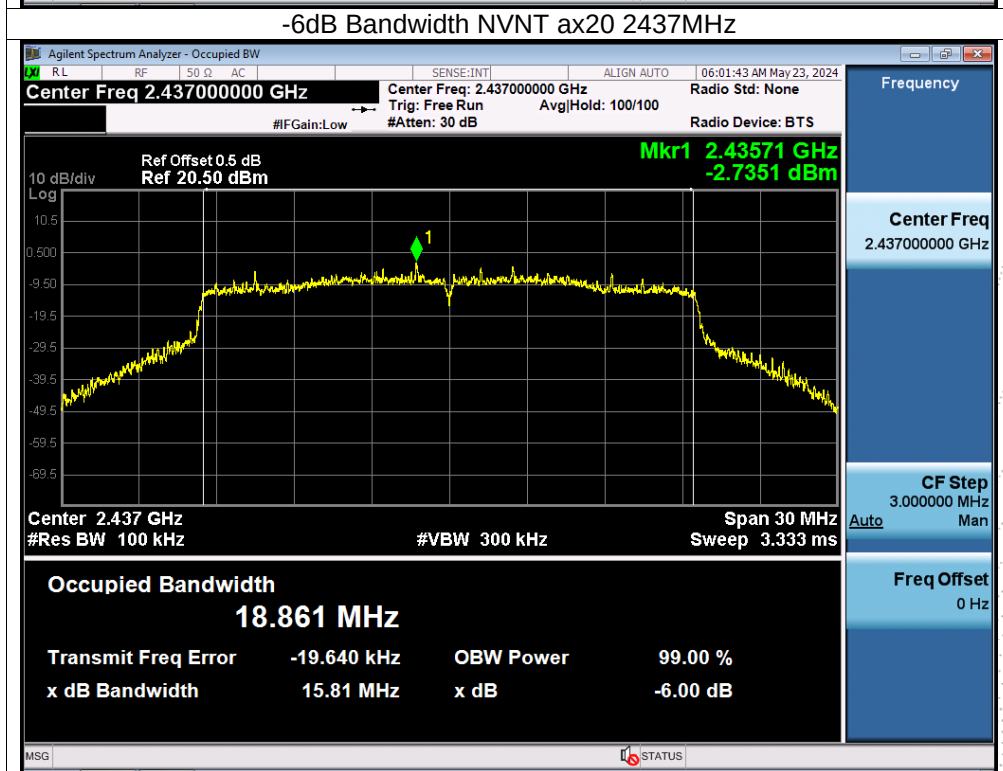
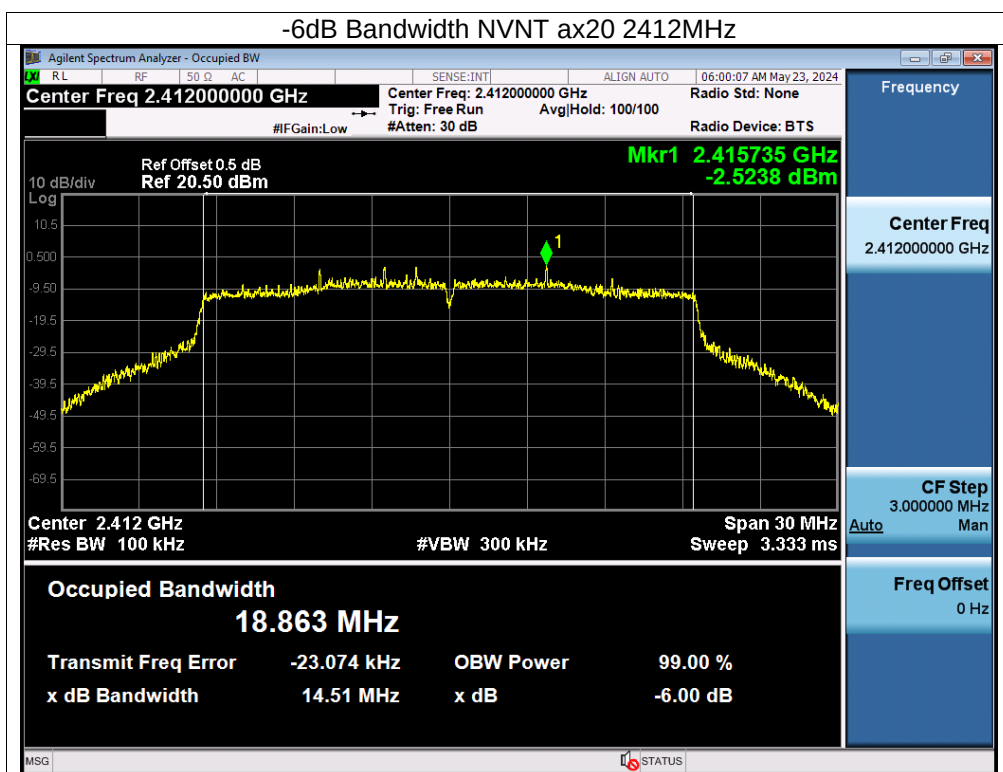


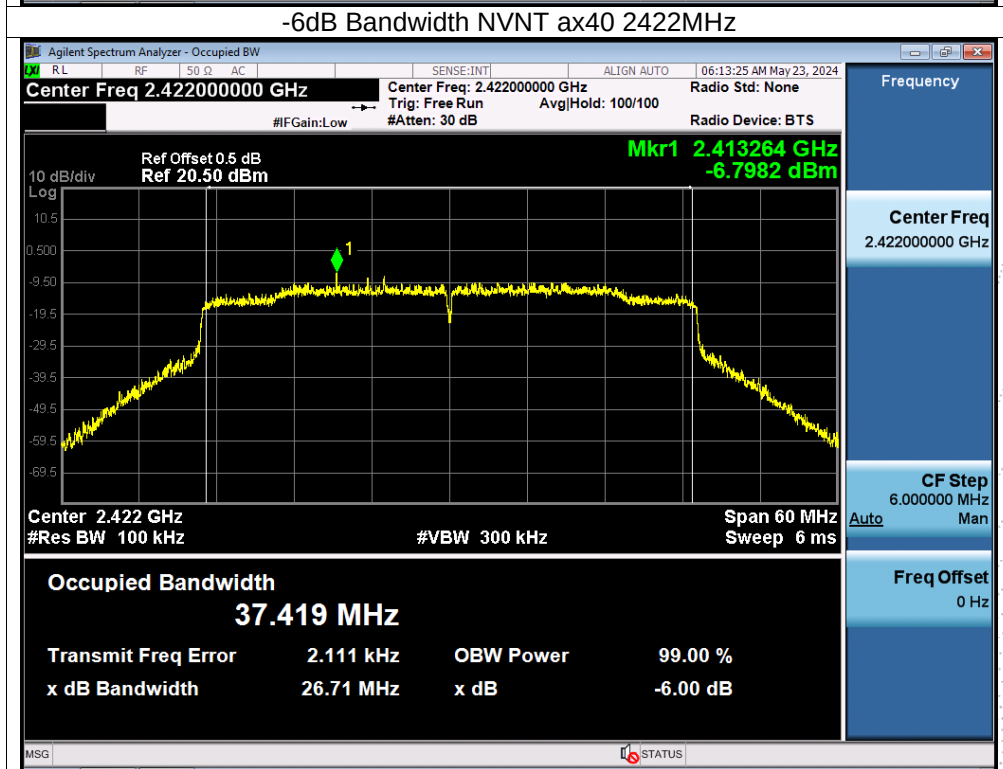
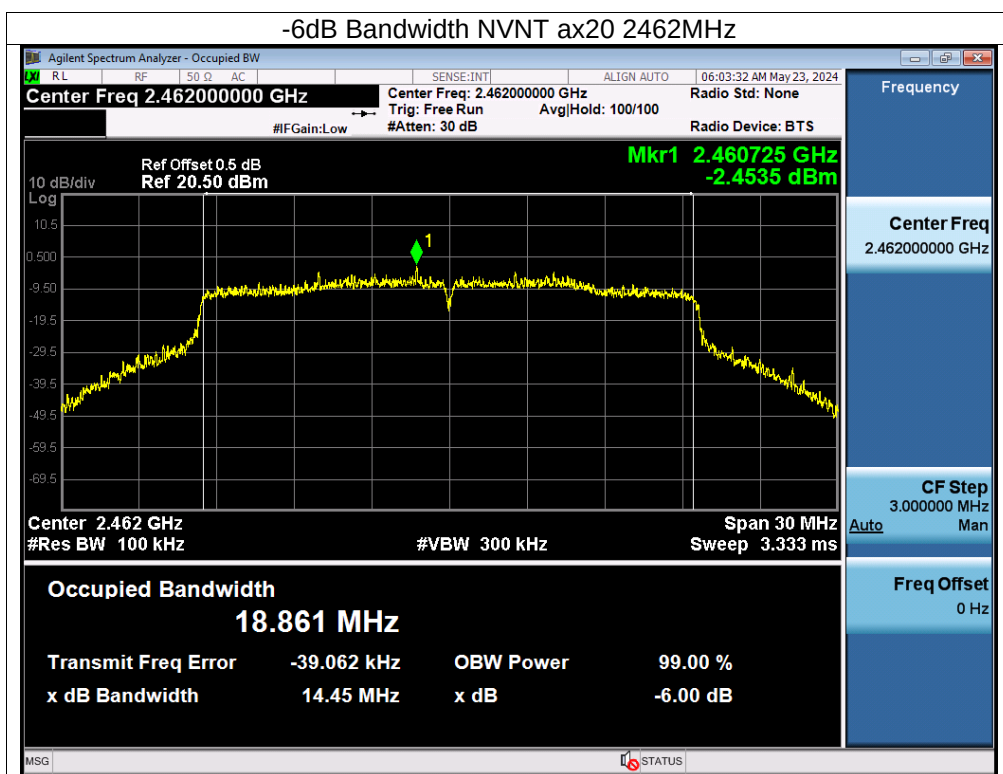


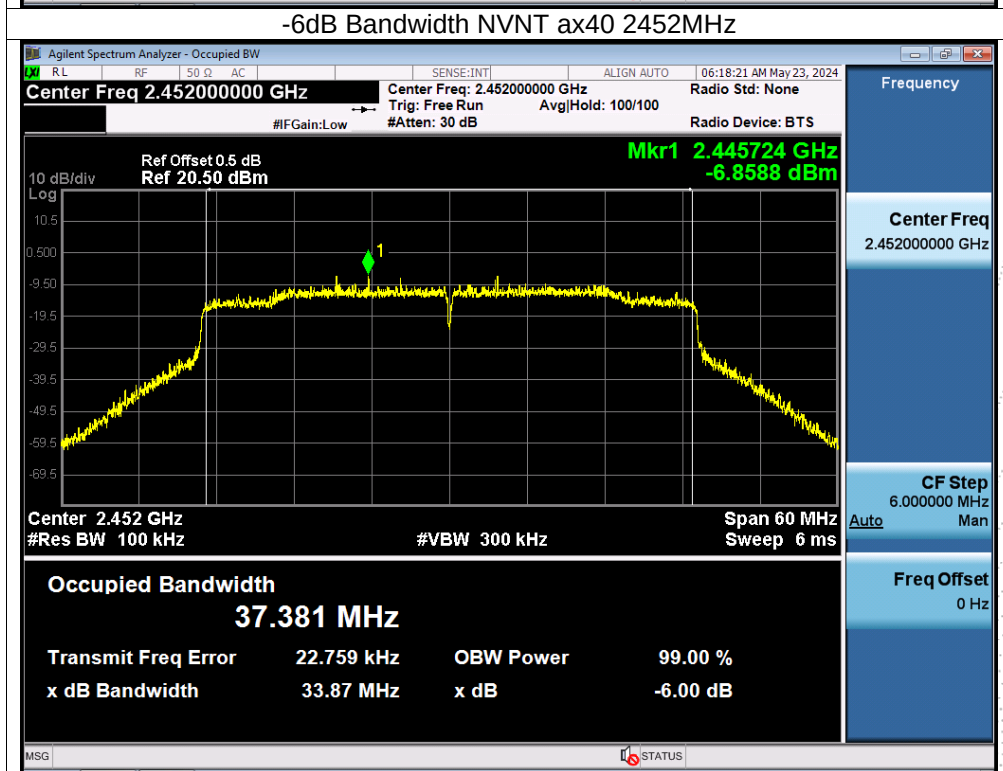
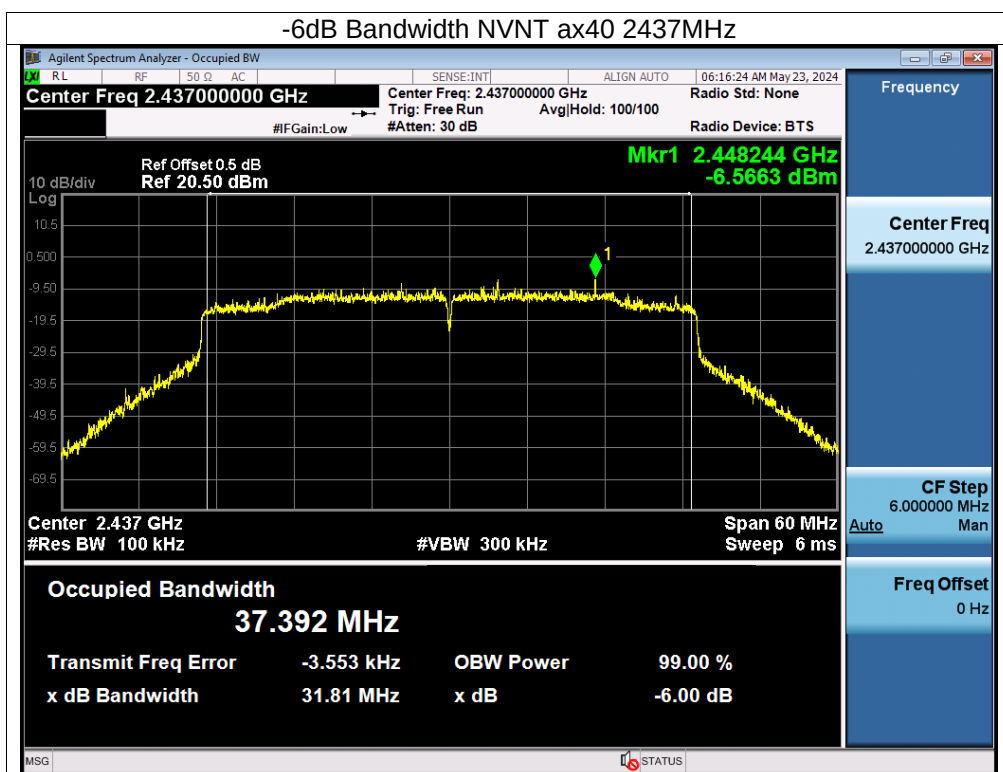


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11. Peak Output Power Test

11.1 Block Diagram Of Test Setup



11.2 Limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

11.3 Test Procedure

- The EUT was directly connected to the Power meter

11.4 EUT Operating Conditions

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

Note: Power Spectral Density(dBm)=Reading+Cable Loss

11.5 Test Result

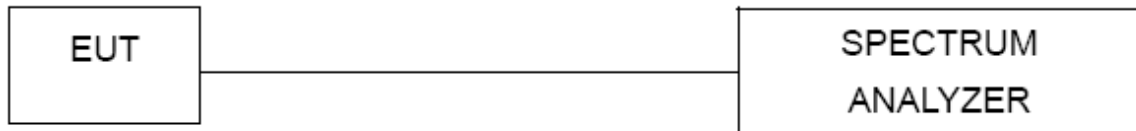
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 11.4V

Condition	Mode	Frequency (MHz)	Maximum Conducted Output Power(PK) (dBm)		Total Power Conducted Output Power(PK) (dBm)	Limit (dBm)
			Ant A	Ant B		
NVNT	b	2412	12.27	12.05	/	30
NVNT	b	2437	12.28	12.18	/	30
NVNT	b	2462	12.54	12.4	/	30
NVNT	g	2412	11.4	11.16	/	30
NVNT	g	2437	11.38	11.42	/	30
NVNT	g	2462	11.56	11.45	/	30
NVNT	n20	2412	10.33	10.11	13.23	30
NVNT	n20	2437	10.35	10.35	13.36	30
NVNT	n20	2462	10.67	10.46	13.58	30
NVNT	n40	2422	9.64	9.51	12.59	30
NVNT	n40	2437	9.69	9.52	12.62	30
NVNT	n40	2452	9.82	9.62	12.73	30
NVNT	ax20	2412	10.17	10.02	13.11	30
NVNT	ax20	2437	10.15	10.26	13.22	30
NVNT	ax20	2462	10.47	10.36	13.43	30
NVNT	ax40	2422	9.28	9.23	12.27	30
NVNT	ax40	2437	9.33	9.19	12.27	30
NVNT	ax40	2452	9.48	9.45	12.48	30

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12. 100 kHz Bandwidth Of Frequency Band Edge

12.1 Block Diagram Of Test Setup



12.2 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

12.3 Test Procedure

Using the following spectrum analyzer setting:

- a) Set the RBW = 100KHz.
- b) Set the VBW = 300KHz.
- c) Sweep time = auto couple.
- d) Detector function = peak.
- e) Trace mode = max hold.
- f) Allow trace to fully stabilize..

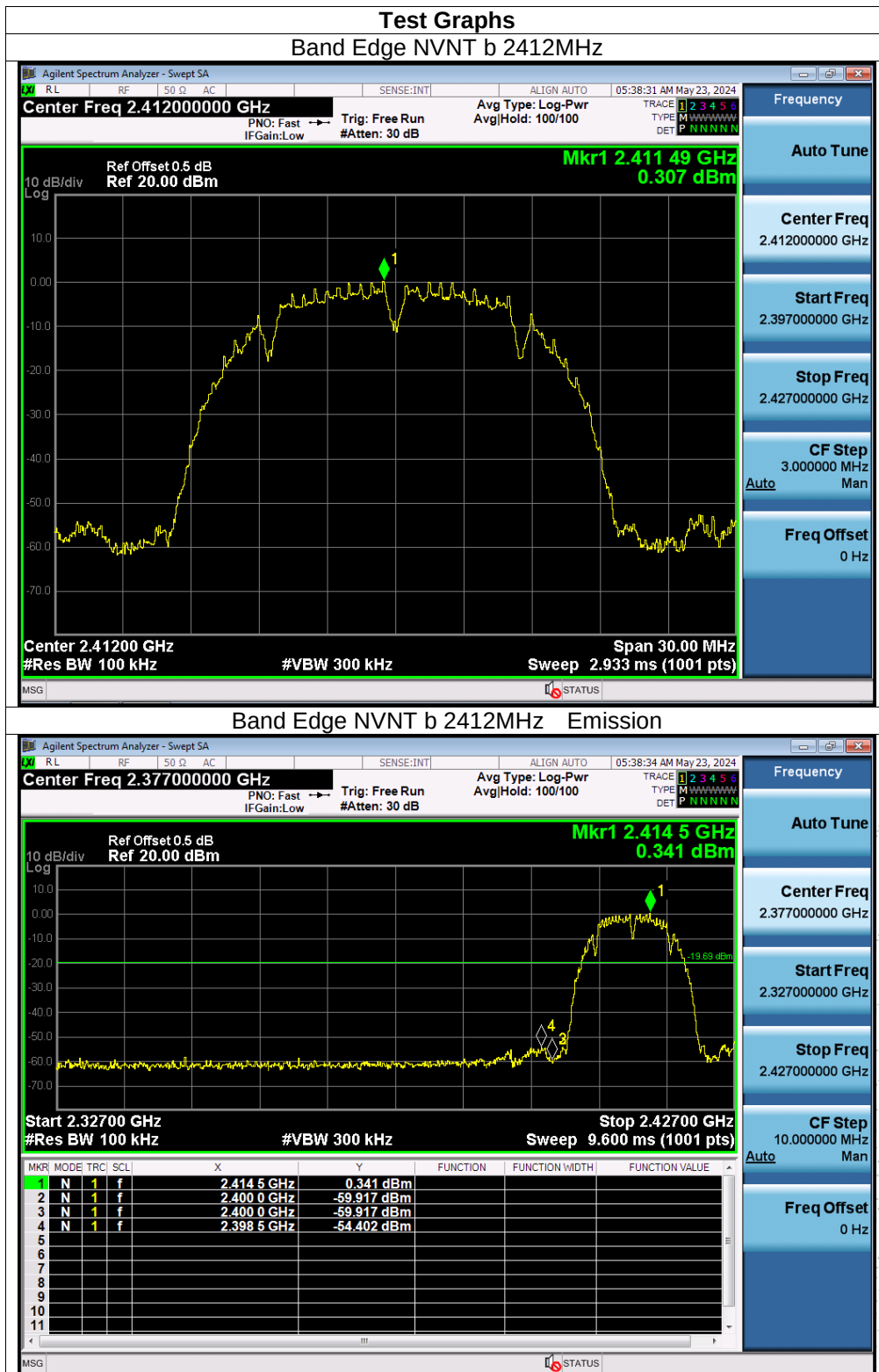
12.4 EUT Operating Conditions

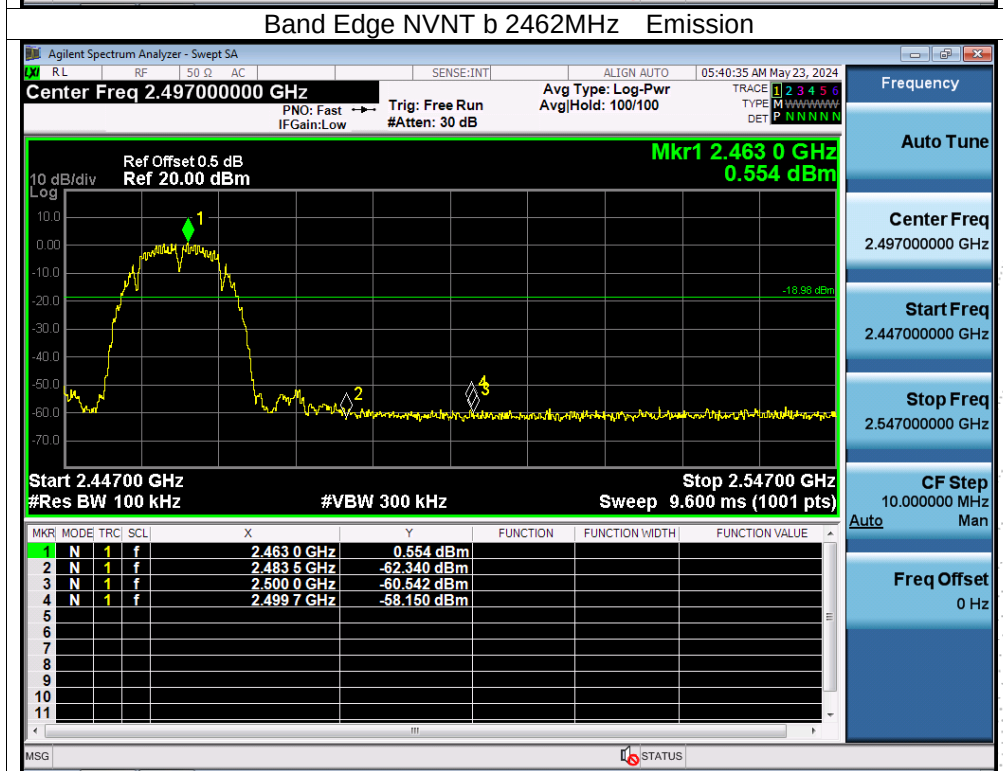
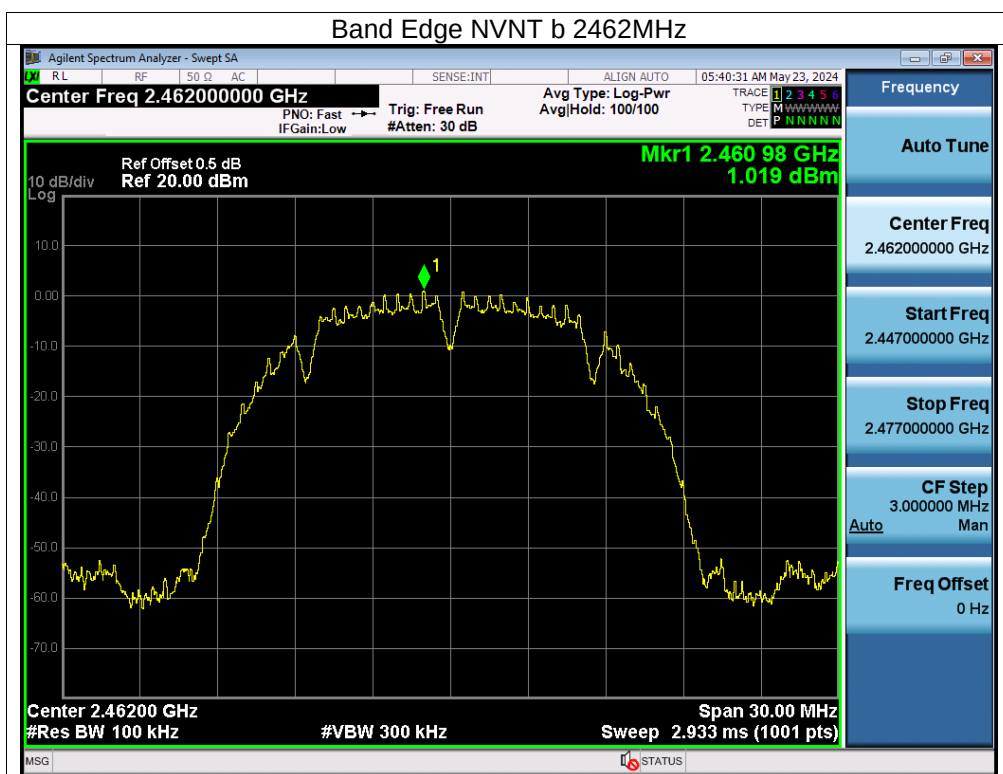
The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

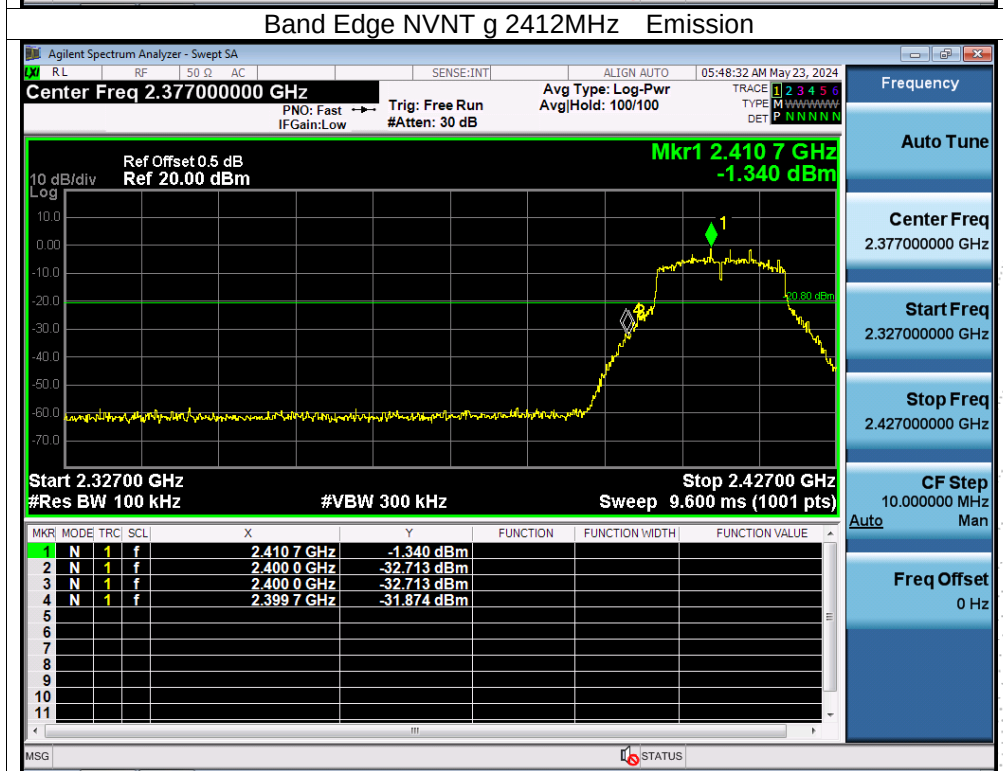
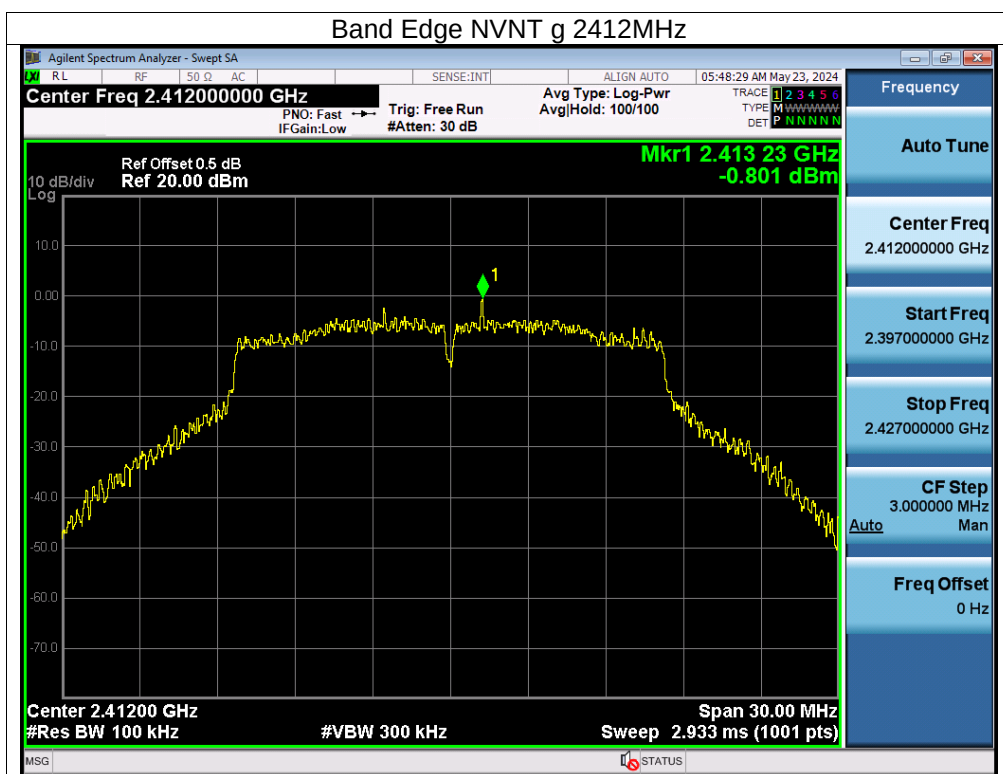
Note: Power Spectral Density(dBm)=Reading+Cable Loss

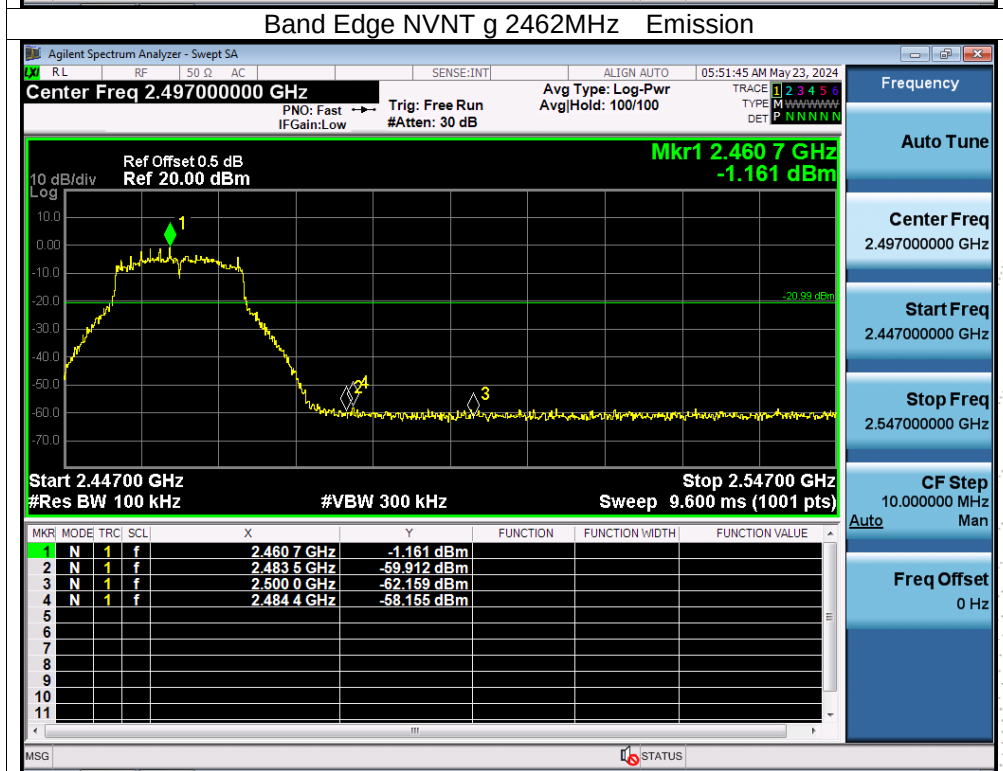
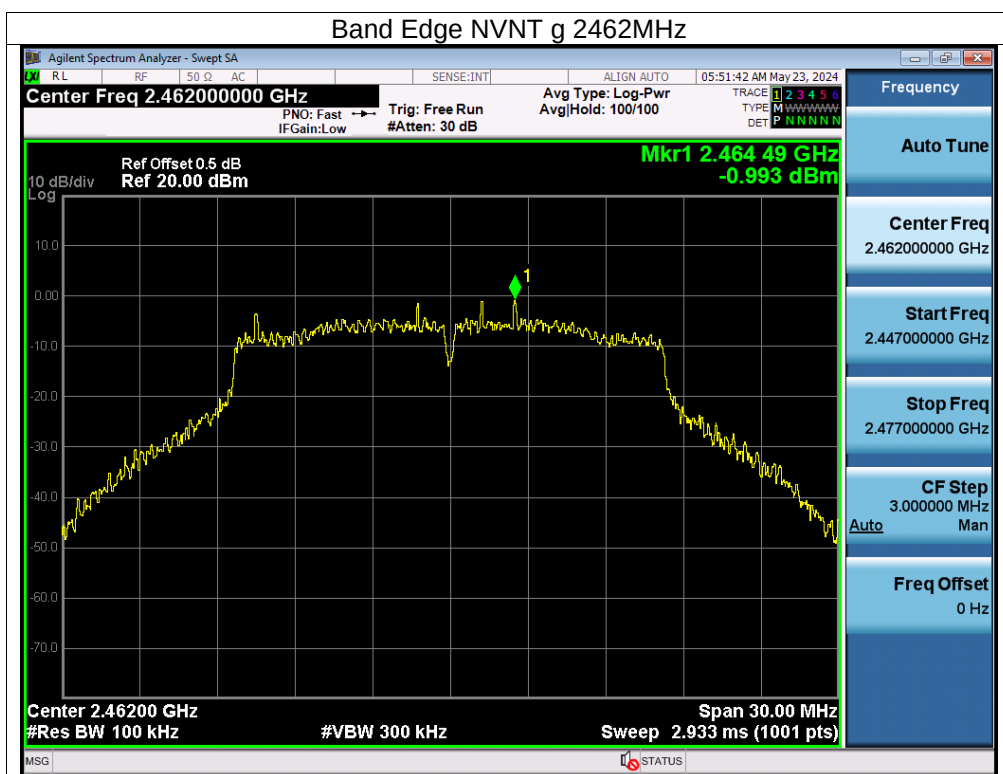
12.5 Test Result

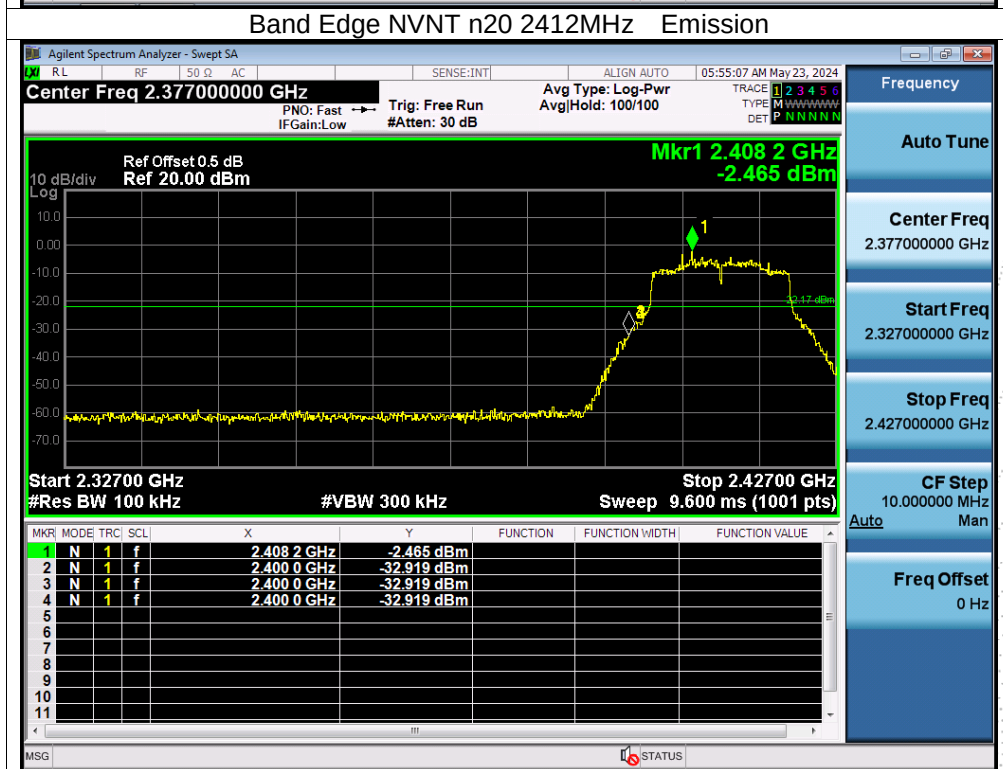
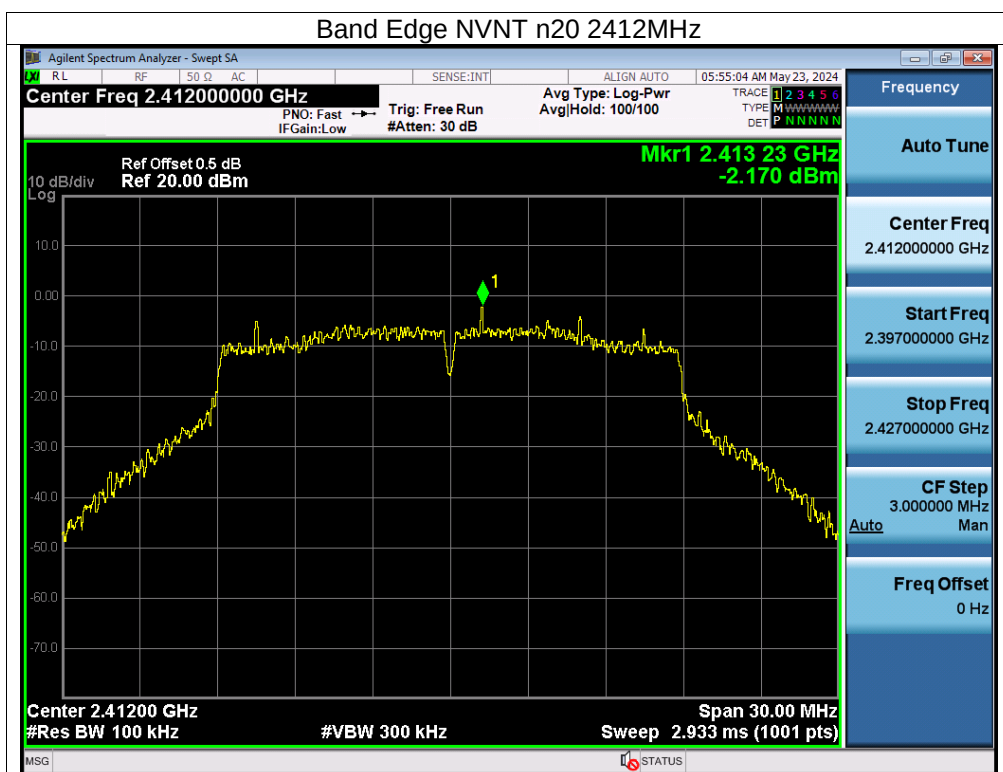
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A Plot.



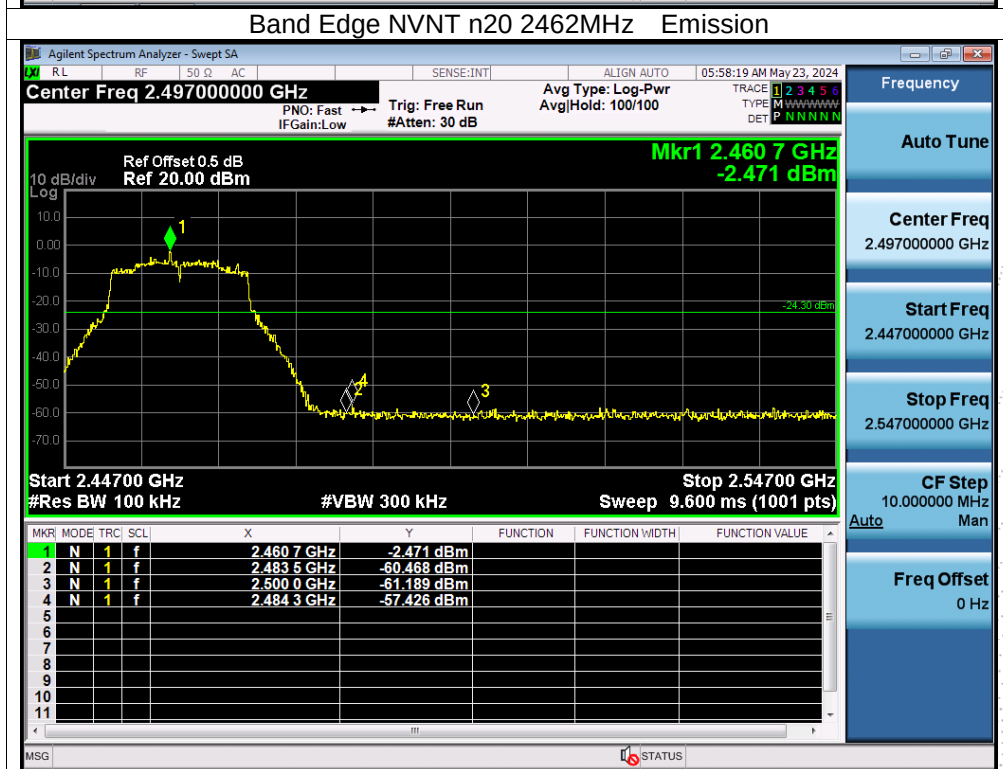
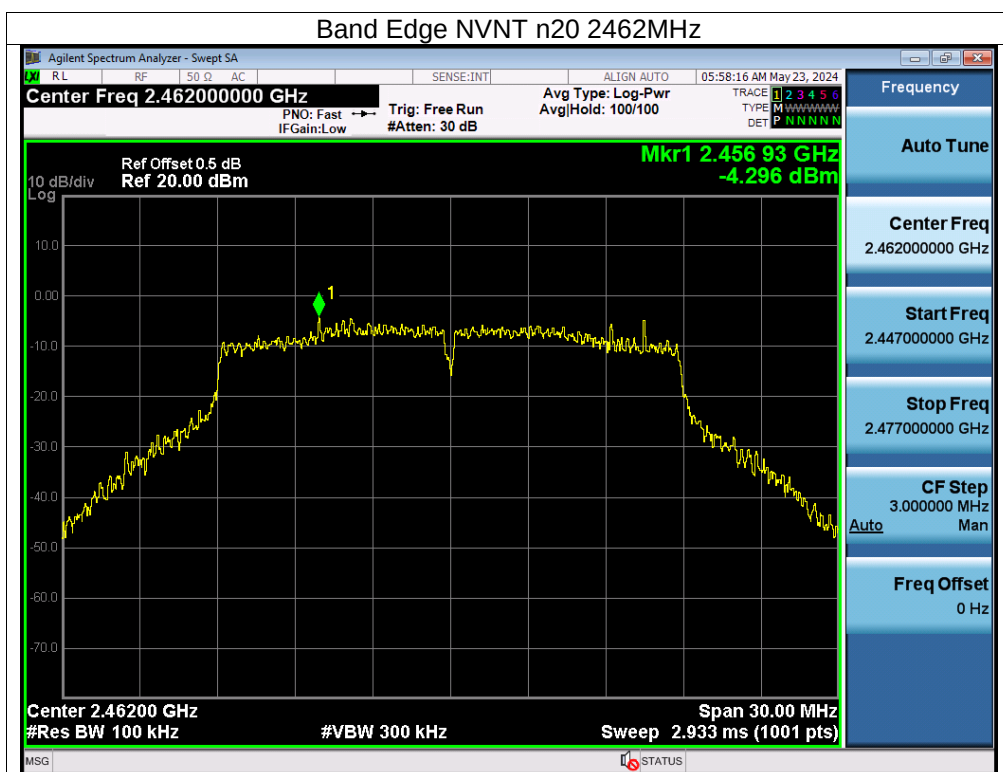


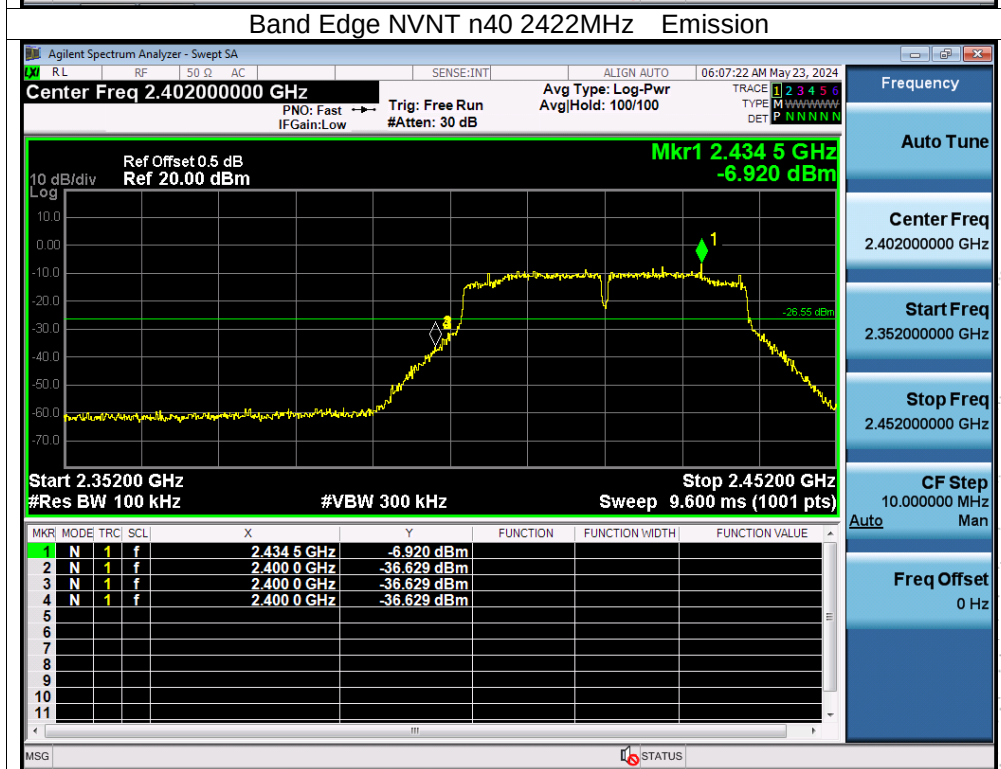
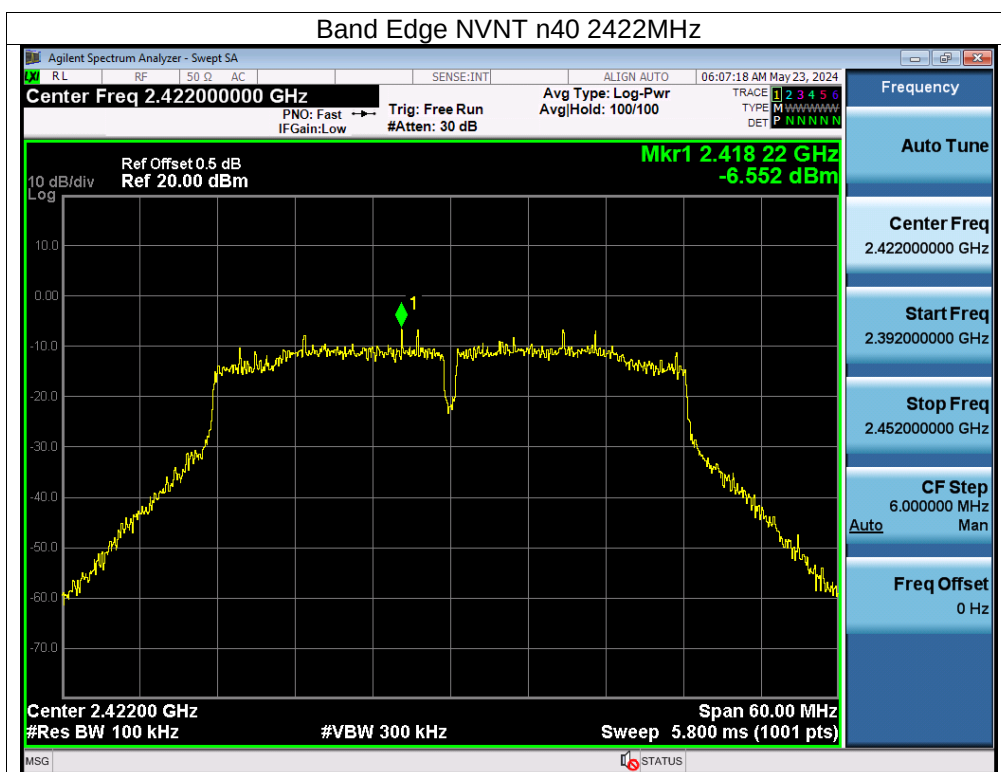


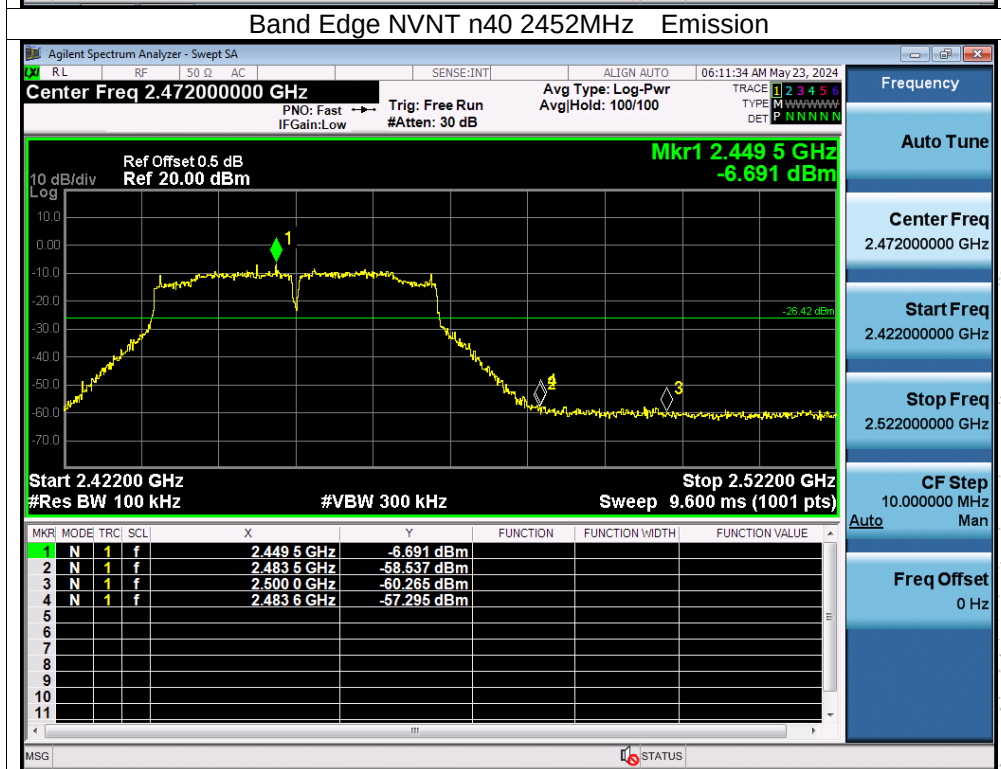
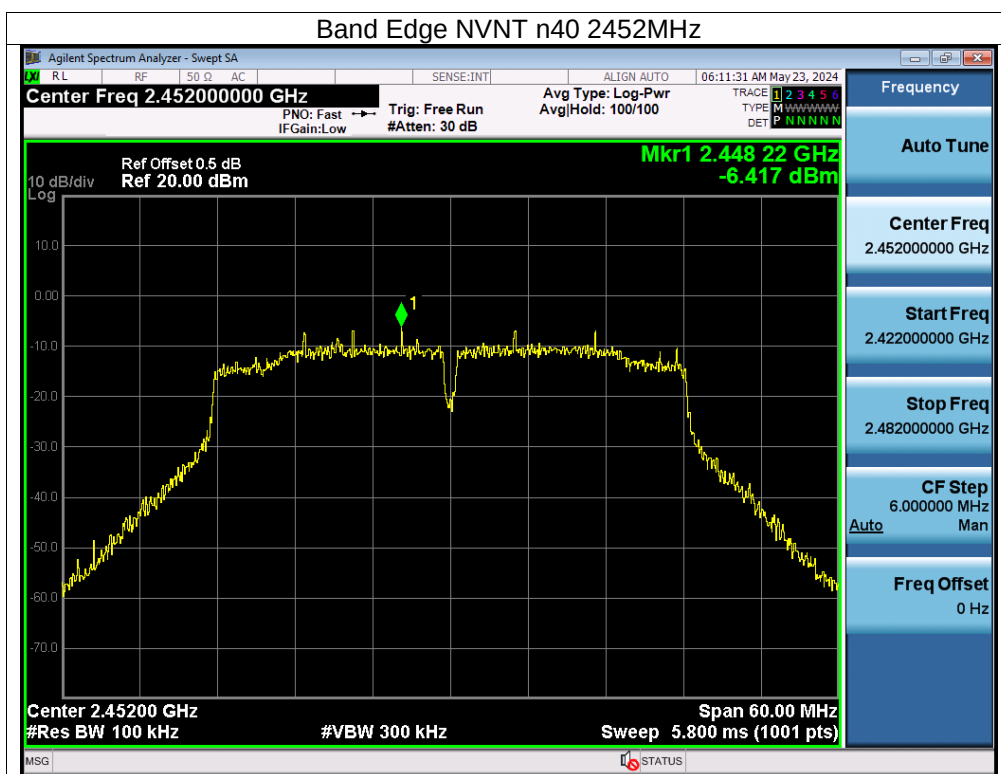


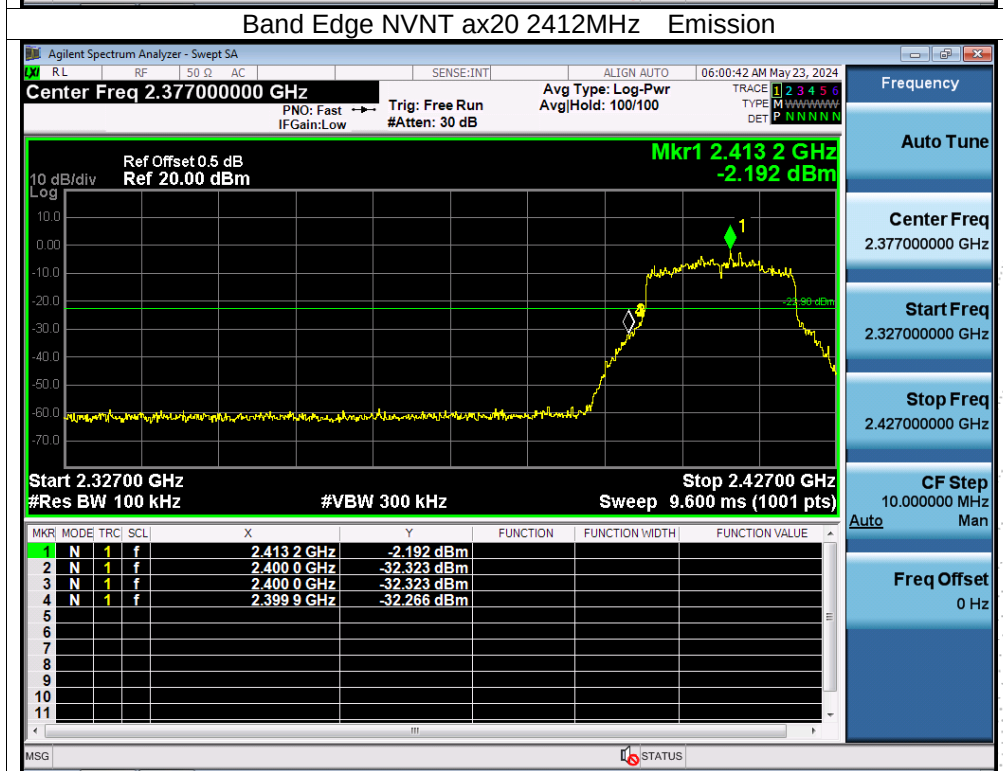
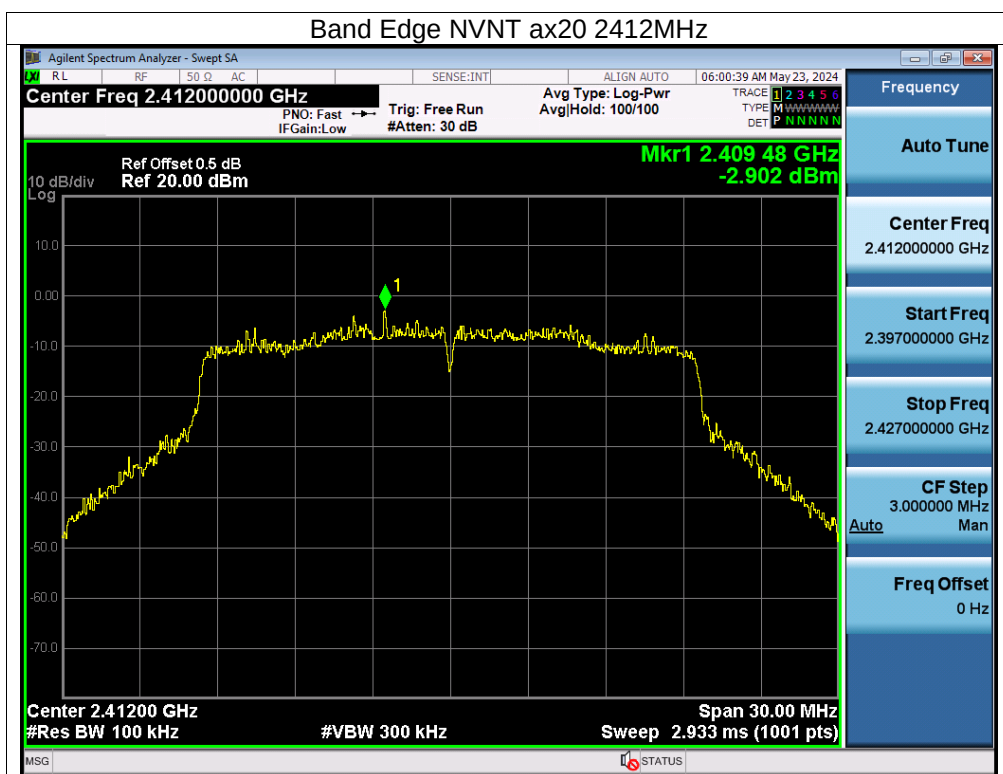


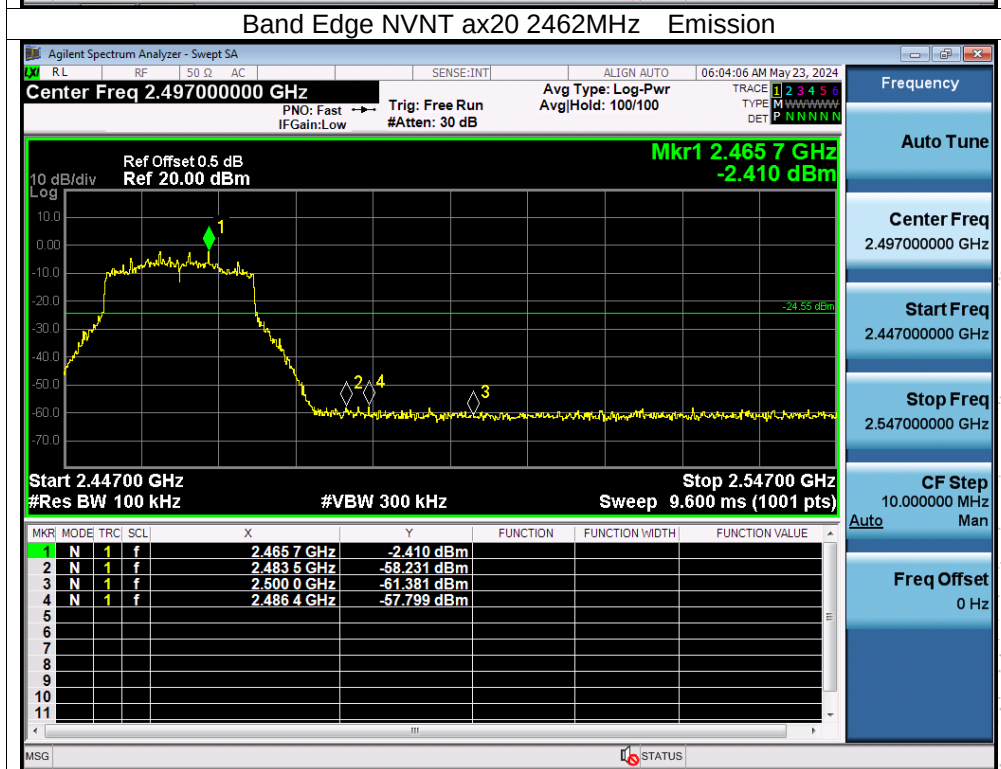
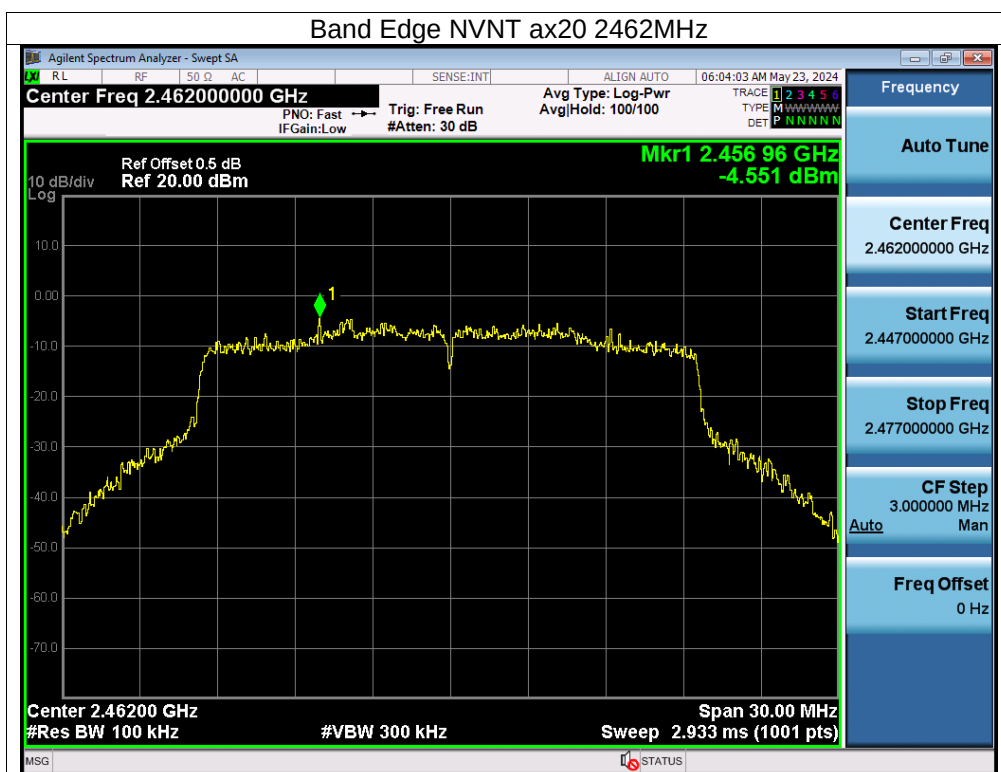
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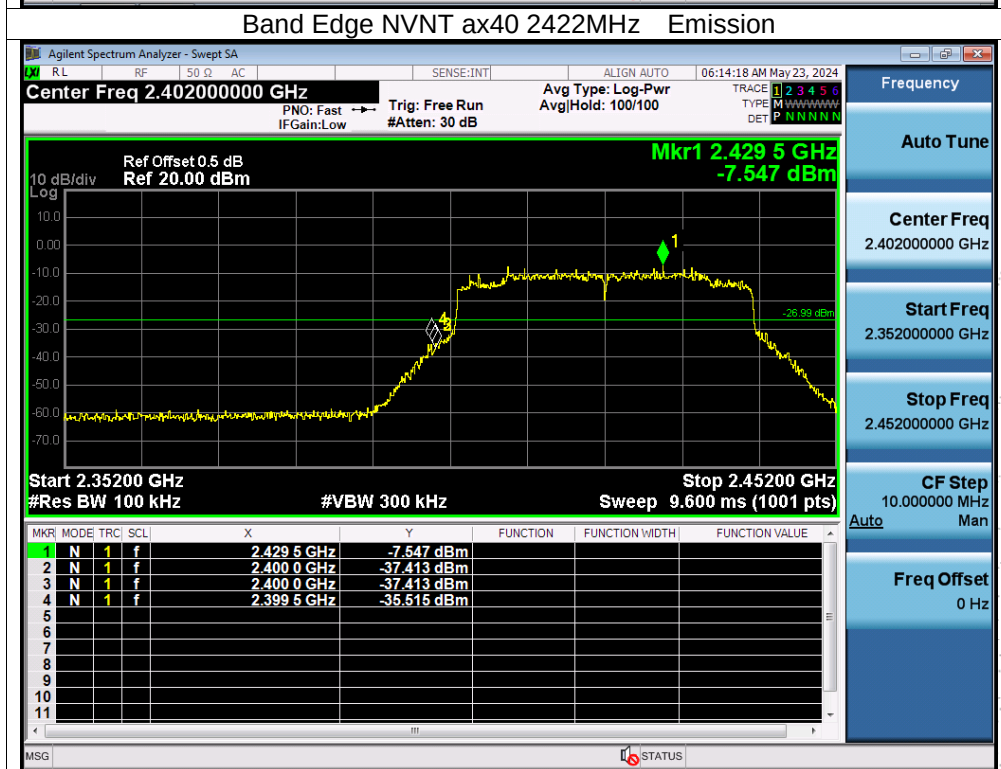
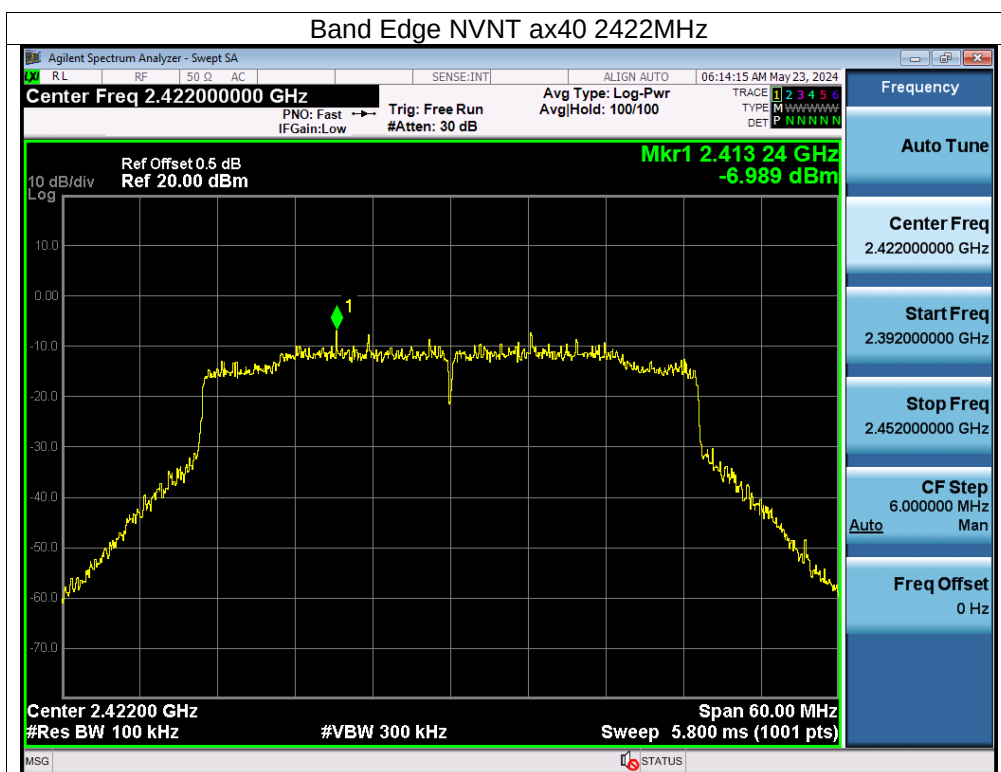












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