

TEST REPORT

Report No.: BCTC2410830549-4E

Applicant: Radxa Computer (Shenzhen) Co.,Ltd.

Product Name: Radxa ZERO 3W

Test Model: Radxa ZERO 3W D1E0H1W15

Tested Date: 2024-10-10 to 2024-11-15

Issued Date: 2024-11-15

Shenzhen BCTC Testing Co., Ltd.



Product Name: Radxa ZERO 3W

Trademark: 
Radxa ZERO 3W D1E0H1W15
Radxa ZERO 3W D1E0H0W15, Radxa ZERO 3W D2E0H0W15,
Radxa ZERO 3W D4E0H0W15, Radxa ZERO 3W D8E0H0W15,
Radxa ZERO 3W D2E0H1W15, Radxa ZERO 3W D4E0H1W15,
Radxa ZERO 3W D8E0H1W15, Radxa ZERO 3W D1E8H0W15,
Radxa ZERO 3W D2E16H0W15, Radxa ZERO 3W D4E32H0W15,
Radxa ZERO 3W D8E64H0W15, Radxa ZERO 3W D1E8H1W15,
Radxa ZERO 3W D2E16H1W15, Radxa ZERO 3W D4E32H1W15,
Radxa ZERO 3W D8E64H1W15

Model/Type reference: Radxa ZERO 3W D1E0H1W15
Radxa ZERO 3W D1E0H0W15, Radxa ZERO 3W D2E0H0W15,
Radxa ZERO 3W D4E0H0W15, Radxa ZERO 3W D8E0H0W15,
Radxa ZERO 3W D2E0H1W15, Radxa ZERO 3W D4E0H1W15,
Radxa ZERO 3W D8E0H1W15, Radxa ZERO 3W D1E8H0W15,
Radxa ZERO 3W D2E16H0W15, Radxa ZERO 3W D4E32H0W15,
Radxa ZERO 3W D8E64H0W15, Radxa ZERO 3W D1E8H1W15,
Radxa ZERO 3W D2E16H1W15, Radxa ZERO 3W D4E32H1W15,
Radxa ZERO 3W D8E64H1W15

Prepared For: Radxa Computer (Shenzhen) Co.,Ltd.

Address: 1602, Smart Valley, tiezai Road, Gongle community, Xixiang, Baoan, Shenzhen, China

Manufacturer: Radxa Computer (Shenzhen) Co.,Ltd.

Address: 1602, Smart Valley, tiezai Road, Gongle community, Xixiang, Baoan, Shenzhen, China

Prepared By: Shenzhen BCTC Testing Co., Ltd.

Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

Sample Received Date: 2024-10-10

Sample tested Date: 2024-10-10 to 2024-11-15

Issue Date: 2024-11-15

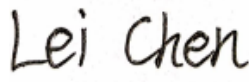
Report No.: BCTC2410830549-4E

Test Standards: ARIB STD-T71 Ver.6.1
Article2 Paragraph 1, item 19-3
MIC Notice No.88 Appendix No.45

Test Results: PASS

Remark: This is JAPAN RADIO test report.

Tested by:



Lei Chen/Project Handler

Approved by:



Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.

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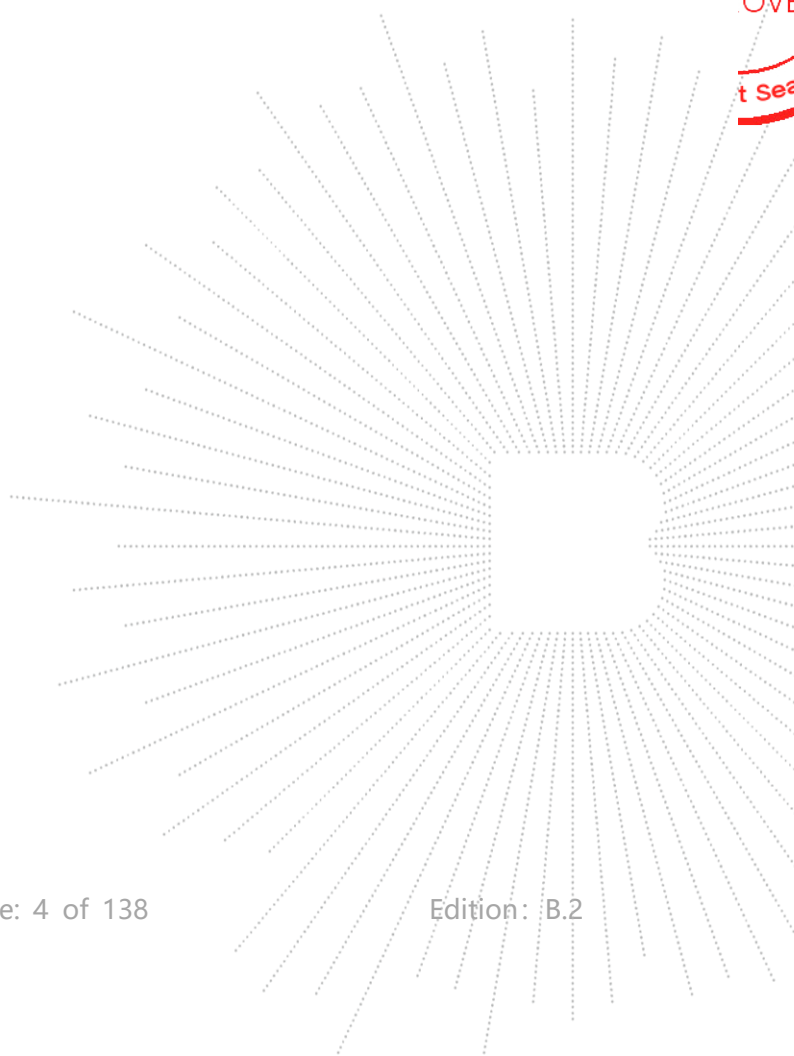
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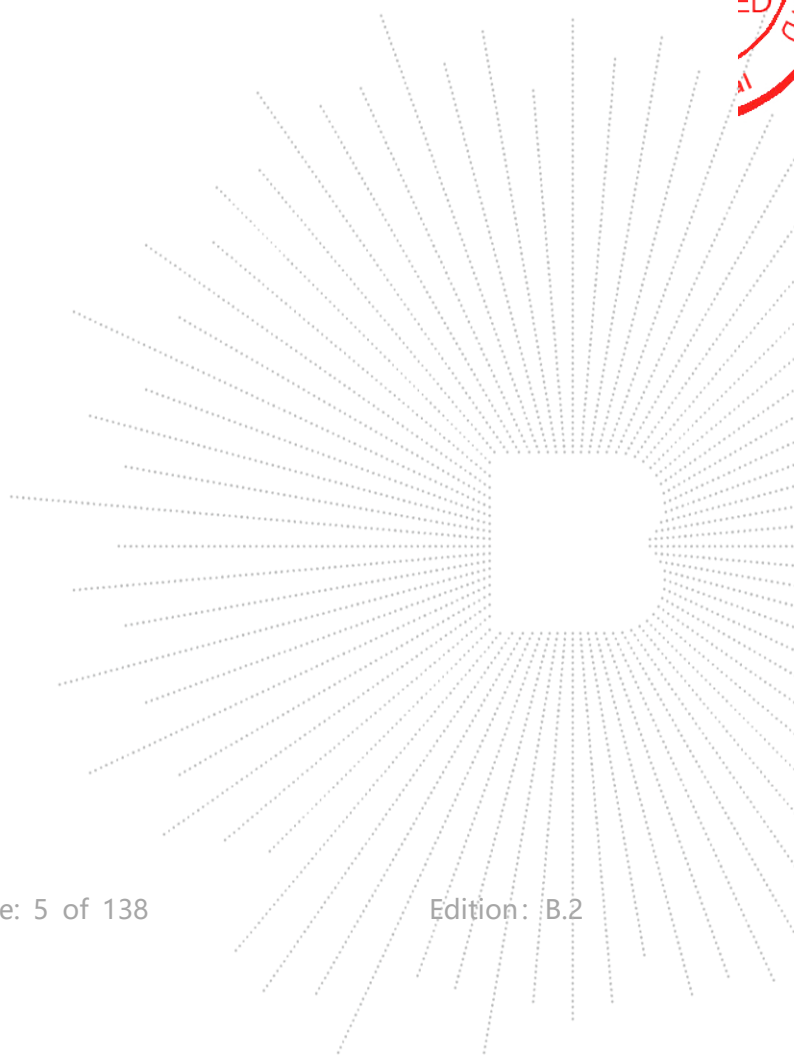
(Note: N/A Means Not Applicable)

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1. Version

Report No.	Issue Date	Description	Approved
BCTC2410830549-4E	2024-11-15	Original	Valid



2. Test Summary

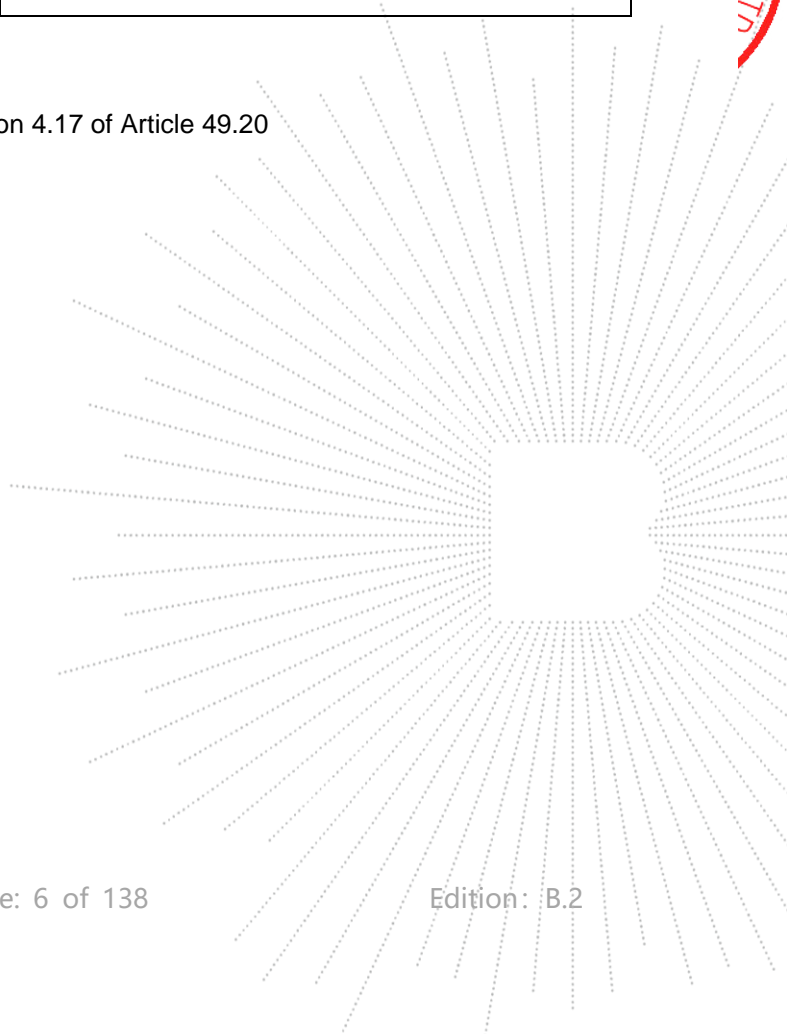
Test procedures according to the technical standards:

Article 49-20	
Description of Test	Result
Frequency Error	Complies
Occupied Bandwidth (99%)	Complies
Unwanted Emission Intensity	Complies
Antenna Power and Tolerance	Complies
Secondary Radiated Emissions	Complies
Transmitter Burst Length	Complies
Interference Prevention Function	Complies
Carrier Sense Capability	Complies
Adjacent Channel Emitted Power	Complies
Out-Band Leakage Power	Complies
Construction Protection Confirmation	Complies

NOTE:

1. MIC Notice No.88 Appendix No.45
2. MIC Ordinance Regulating Radio Equipment Section 4.17 of Article 49.20

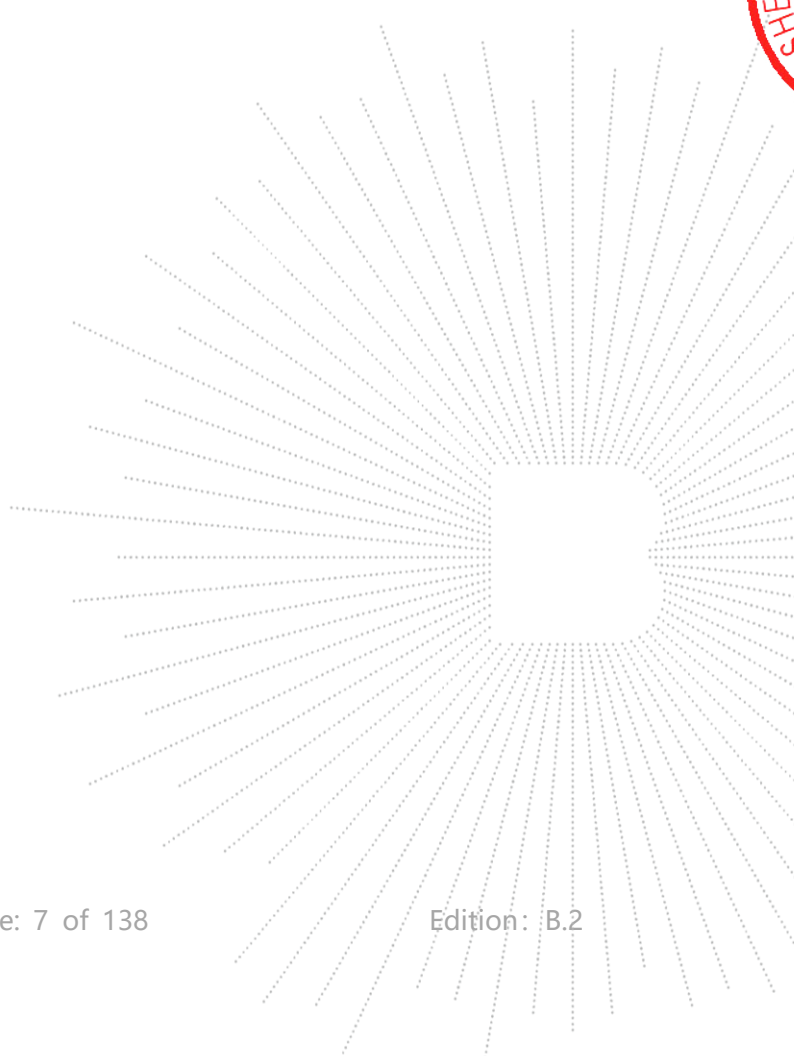
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3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

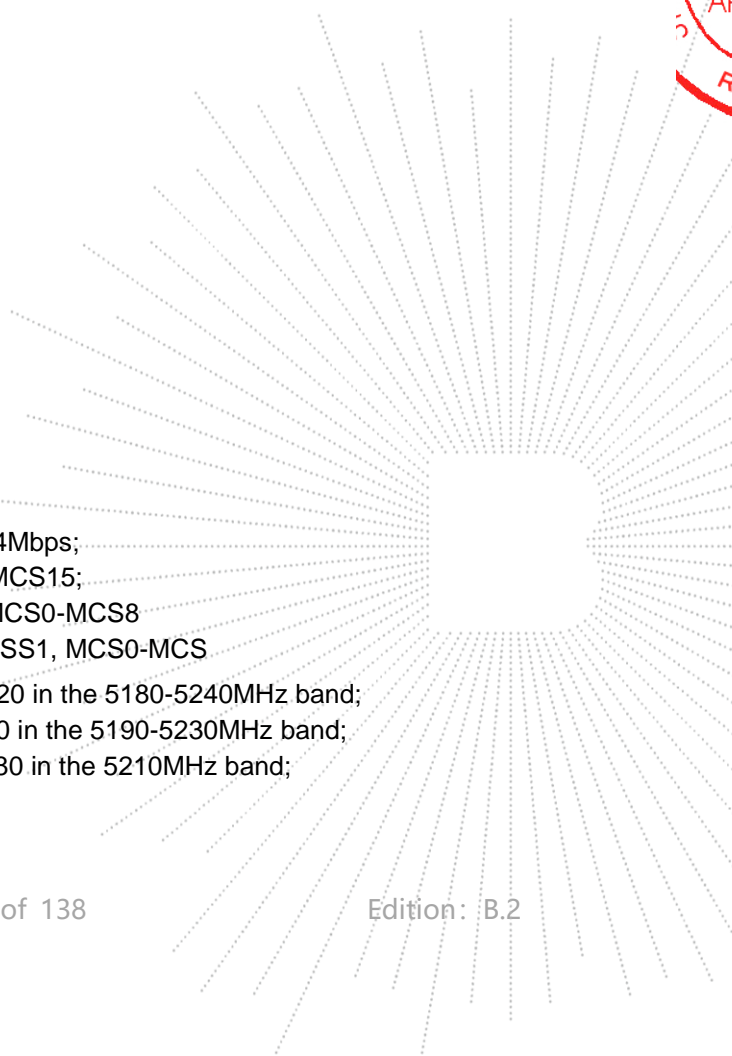
No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 3.2\text{dB}$
2	Radiated Emission Test	$\pm 4.7\text{dB}$
3	RF power,conducted	$\pm 0.16\text{dB}$
4	Spurious emissions,conducted	$\pm 0.21\text{dB}$
5	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
6	All emissions,radiated(>1G)	$\pm 5.0\text{dB}$
7	frequency error ppm	$\pm 0.5\text{ppm}$



4. Product Information And Test Setup

4.1 Product Information

Model/Type reference:	Radxa ZERO 3W D1E0H1W15 Radxa ZERO 3W D1E0H0W15, Radxa ZERO 3W D2E0H0W15, Radxa ZERO 3W D4E0H0W15, Radxa ZERO 3W D8E0H0W15, Radxa ZERO 3W D2E0H1W15, Radxa ZERO 3W D4E0H1W15, Radxa ZERO 3W D8E0H1W15, Radxa ZERO 3W D1E8H0W15, Radxa ZERO 3W D2E16H0W15, Radxa ZERO 3W D4E32H0W15, Radxa ZERO 3W D8E64H0W15, Radxa ZERO 3W D1E8H1W15, Radxa ZERO 3W D2E16H1W15, Radxa ZERO 3W D4E32H1W15, Radxa ZERO 3W D8E64H1W15
Model differences:	All the model are the same circuit and RF module, except model names and appearance of the color.
Hardware Version:	V1.11
Software Version:	b6
Wi-Fi Specification:	802.11a/n/ac/ax(20MHz channel bandwidth) 802.11n/ac/ax(40MHz channel bandwidth) 802.11ac/ax(80MHz channel bandwidth)
Operation Frequency:	5180MHz-5240MHz for 802.11a/n(HT20)/ac(VHT20)/ax(HE20); 5190MHz-5230MHz for 802.11n(HT40)/ac(VHT40)/ax(HE40); 5210MHz for 802.11 ac(VHT80)/ax(HE80); 802.11a: 2 mW/MHz ; 802.11n20: 1 mW/MHz; 802.11 n40: 1 mW/MHz;
Rated RF Output Power Density	802.11 ac20: 1 mW/MHz; 802.11 ac40: 1 mW/MHz; 802.11 ac80: 1 mW/MHz; 802.11 ax20: 2 mW/MHz; 802.11 ax40: 1 mW/MHz; 802.11 ax80: 1 mW/MHz; 802.11a: 1.26 mW/MHz ; 802.11n20: 0.86 mW/MHz; 802.11 n40: 0.57 mW/MHz;
Conducted Power Density	802.11 ac20: 0.86 mW/MHz; 802.11 ac40: 0.60 mW/MHz; 802.11 ac80: 0.35 mW/MHz; 802.11 ax20: 1.24 mW/MHz; 802.11 ax40: 0.47 mW/MHz; 802.11 ax80: 0.56 mW/MHz;
Type of Modulation:	OFDM/OFDMA
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40): MCS0-MCS15; 802.11ac/ax(VHT20): NSS1, MCS0-MCS8 802.11ac/ax(VHT40/VHT80):NSS1, MCS0-MCS
Number Of Channel:	4 channels for 802.11a/n20/ax20 in the 5180-5240MHz band; 2 channels for 802.11 n40/ax40 in the 5190-5230MHz band; 1 channels for 802.11 ac80/ax80 in the 5210MHz band;
Antenna installation:	Chip antenna
Antenna Gain:	2.3 dBi



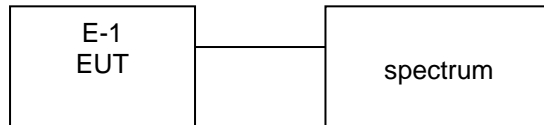
Remark:

- The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information.
- The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.


Ratings:

DC 5V

4.2 Block Diagram Parameters Of Text Software Setting



4.3 Description Of Support Units (Conducted Mode)

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Radxa ZERO 3W		Radxa ZERO 3W D1E0H1W15	N/A	EUT

Notes:

- The support equipment was authorized by Declaration of Confirmation.
- For detachable type I/O cable should be specified the length in cm in 『Length』 column
- “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

4.4 Channel List

802.11a/n/ac/ax (20MHz) Frequency Channel			
Channel	Frequency (GHz)	Channel	Frequency (GHz)
36	5.180	44	5.220
40	5.200	48	5.240

802.11n/ac/ax (40MHz) Frequency Channel			
Channel	Frequency (GHz)	Channel	Frequency (GHz)
38	5.190	45	5.230

802.11ac/ax (80MHz) Frequency Channel			
Channel	Frequency (GHz)	Channel	Frequency (GHz)
42	5.210	\	\

4.5 Test Mode

Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description	
Mode 1	CH36	802.11a
Mode 2	CH40	
Mode 3	CH48	
Mode 4	RX	802.11n20
Mode 5	CH36	
Mode 6	CH40	
Mode 7	CH48	
Mode 8	RX	802.11n40
Mode 9	CH38	
Mode 10	CH45	
Mode 11	RX	802.11ac20/ax20
Mode 12	CH36	
Mode 13	CH40	
Mode 14	CH48	
Mode 15	RX	802.11ac40/ax40
Mode 16	CH38	
Mode 17	CH45	
Mode 18	RX	802.11ac80/ax80
Mode 19	CH42	

Notes: This product does not support RU mode.

4.6 Test Conditions

The EUT was tested while in a continuous transmitter/receiver mode. The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in all Modes to determine worst case levels.

Power Supply Voltage Fluctuation Test

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
Input DC Power	5V	5.5V	4.5V
Voltage Variation (%)	0%	+10%	-10%

Note:

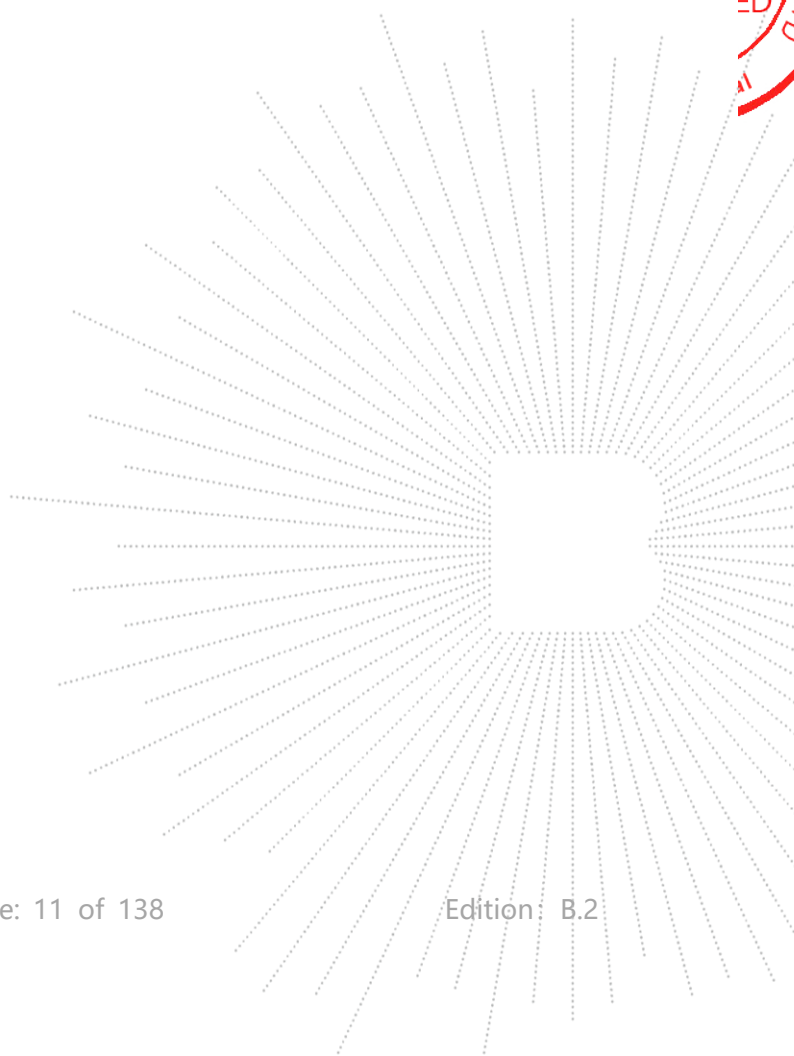
Voltage Variation (%)= (Output high or Low Voltage - Output Normal Voltage)/ Output Normal Voltage* 100

During the input supply voltage to the EUT from the external power source is varied by $\pm 10\%$, $\pm 10\%$ of the external power change, will not affect the voltage of the RF, so only operated in normal voltage to test all regulations.

4.7 Table Of Parameters Of Test Software Setting

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters

Test software Version	CMD		
	DEF	DEF	DEF
Frequency	DEF	DEF	DEF
Parameters	5180 MHz	5190 MHz	5200MHz
Frequency	DEF	DEF	DEF
Parameters	5210 MHz	5230 MHz	5240MHz



5. Test Facility And Test Instrument Used

5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address:1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850

A2LA certificate registration number is: CN1212

ISED Registered No.: 23583

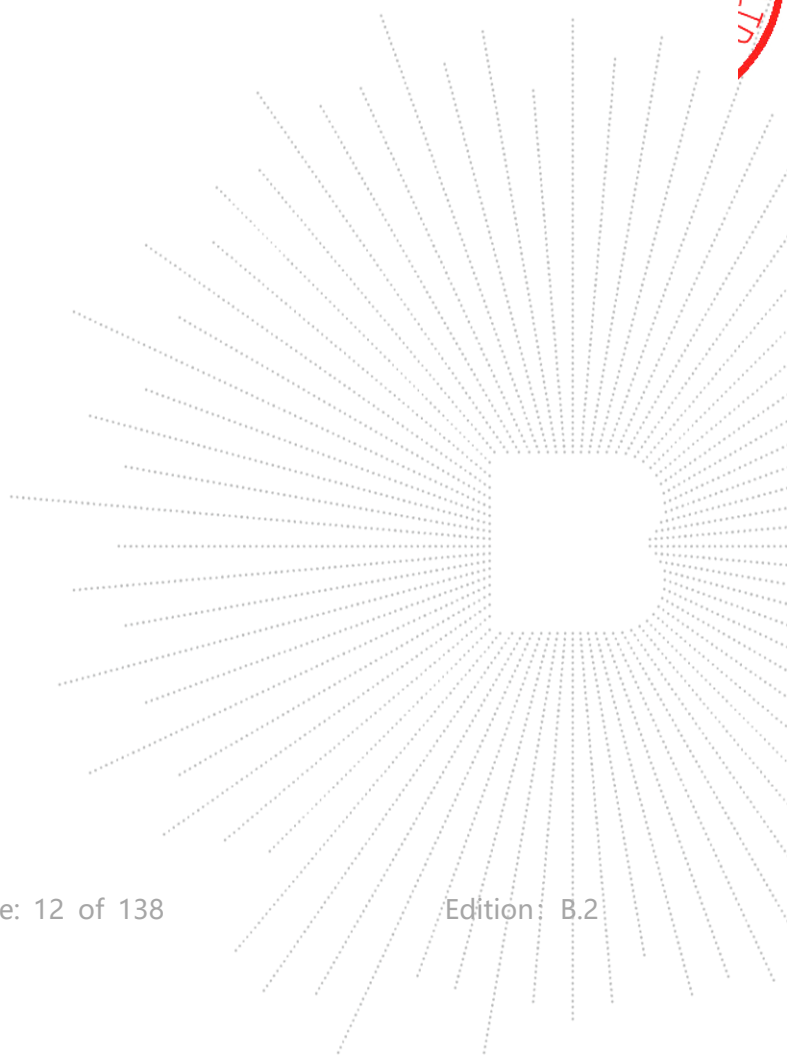
ISED CAB identifier: CN0017

5.2 Test Instrument Used

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1.	Power Meter	Keysight	E4419	\	May 16, 2024	May 15, 2025
2.	Signal Analyzer 20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 16, 2024	May 15, 2025
3.	Signal Generator	Keysight	N5182B	MY56200519	May 16, 2024	May 15, 2025
4.	Pulse limiter	Schwarzbeck	VTSD 9561-F	01323	May 16, 2024	May 15, 2025
5.	Hygrothermograph	Thermo	HTC-1	\	Nov. 13, 2023	Nov. 12, 2024

Calibration laboratory: CCIC(Shenzhen) Co., Ltd

CCIC CO., LTD



6. RF Shielding Method

Chipset:

The product structure is uses SMD patch process.

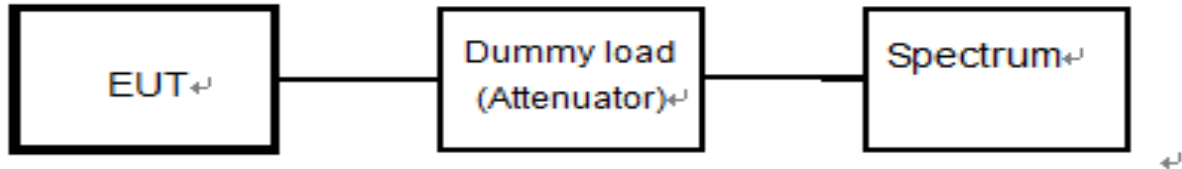
As shown in the picture, If the will be open so the product be damage.

Number of the pins: 48 interval distance 0.5mm



7. Frequency Error

7.1 Block Diagram Of Test Setup



7.2 Limit

Item	Limits
Frequency Error	±20ppm

7.3 Measuring Instruments And Setting

The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	30KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.4 Test Procedure

(1) In the case of unmodulated signal (continuous or continuous burst), measure the frequency directly by a frequency meter.

(2) In the case of burst waves, the measurement shall be done for enough time in order to obtain the enough measuring accuracy, and the average of the measured values becomes the final value.

(3) In the case of a test mode with a specific frequency spectrum, measure the frequency of the specific spectrum by a spectrum analyzer.

(4) In the cases above, if the frequency equivalent to the test frequency is not directly measured in principle, it shall be obtained by necessary calculation.

In the case of modulated signal, if there is no specific spectrum measurable by a spectrum analyzer but a specific dip is observed, it is allowed to measure the frequency with the signal generator (synthesized).

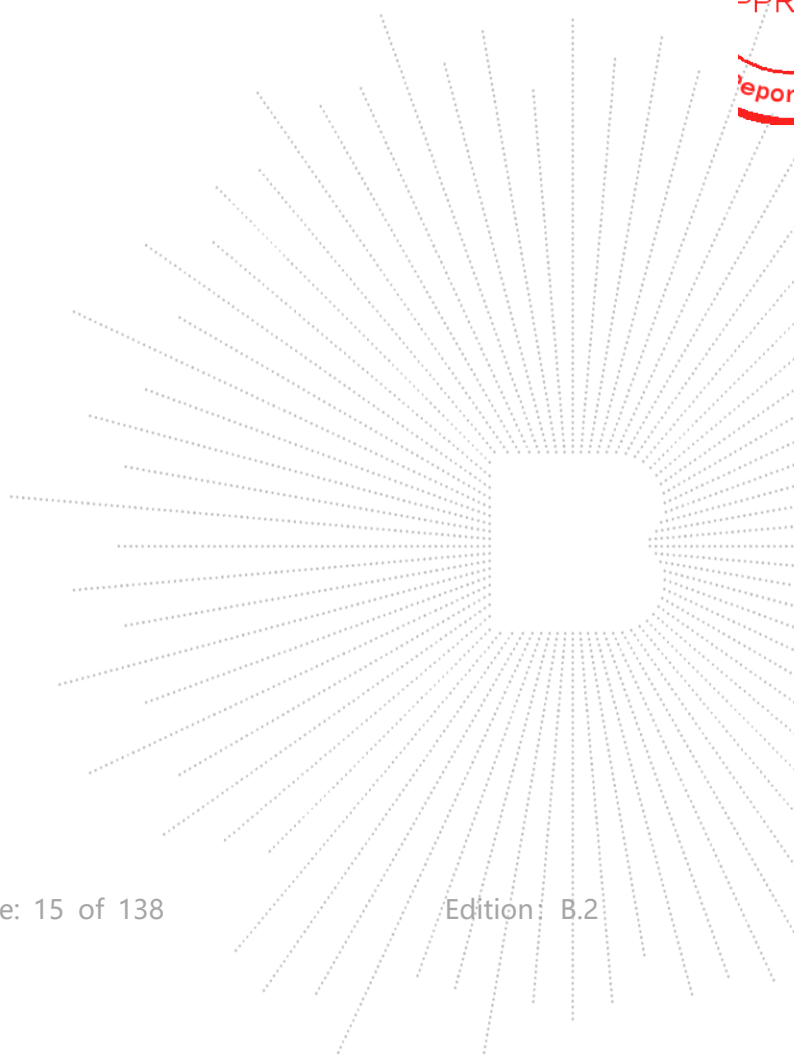
That is, observe a signal of the signal generator concurrently (or alternately) with the tested signal using the spectrum analyzer while setting the frequency of the signal generator to the position of the dip on the screen of the spectrum analyzer, and determine the frequency of the signal generator at the time as a measured value.

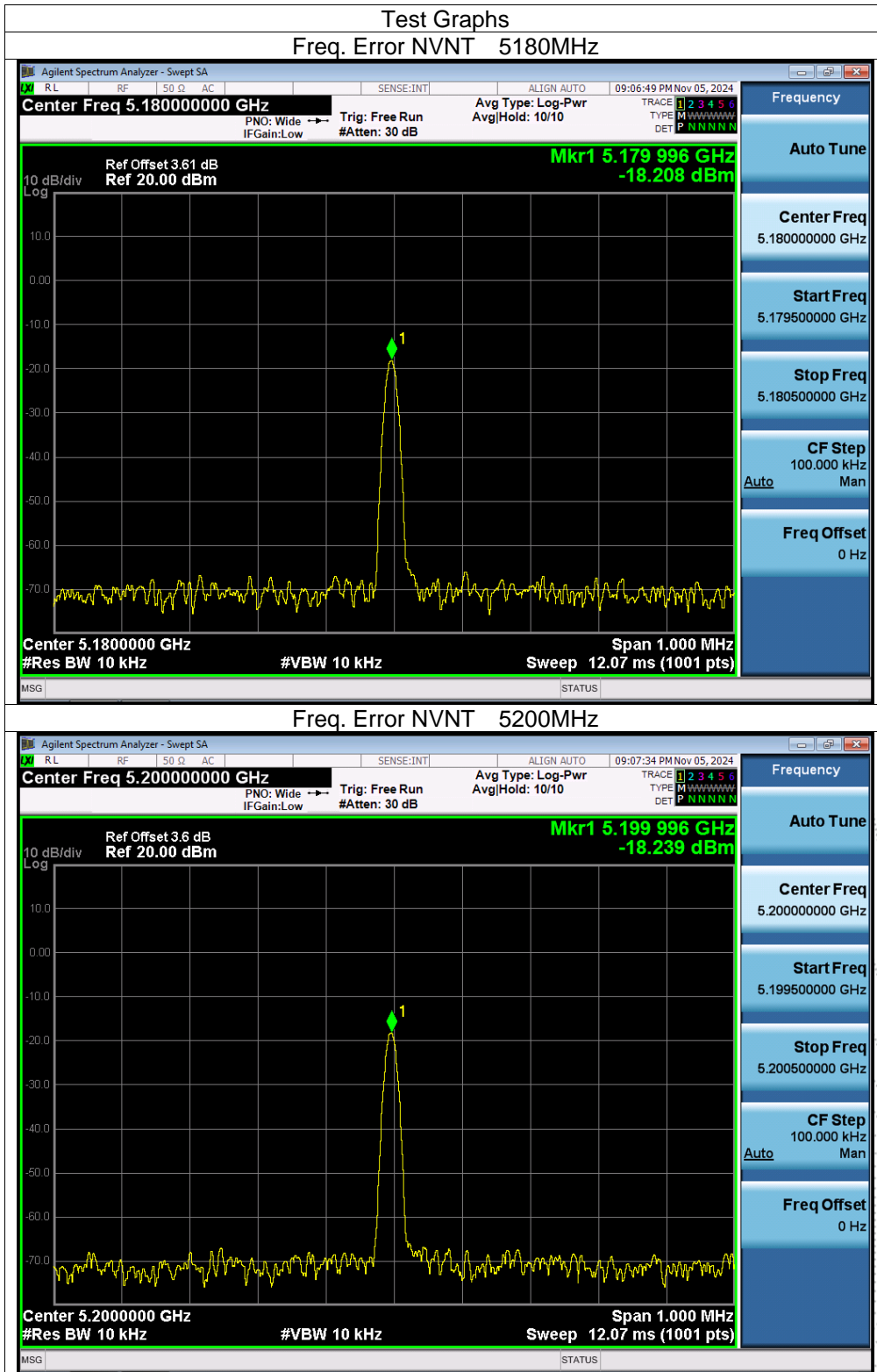
7.5 Test Result

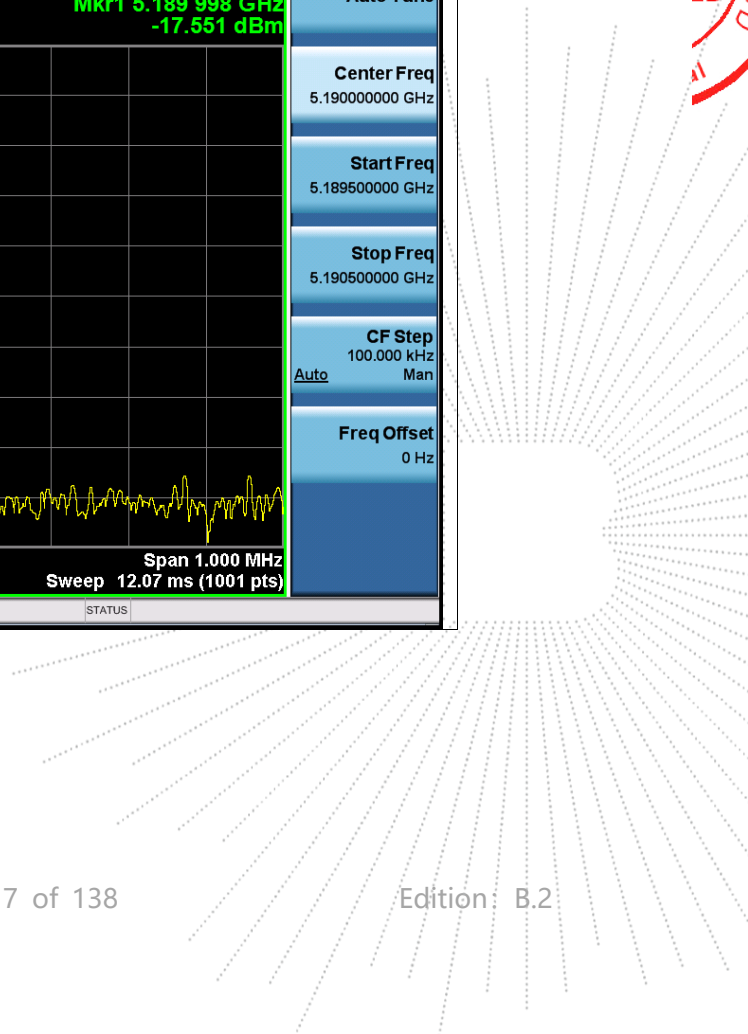
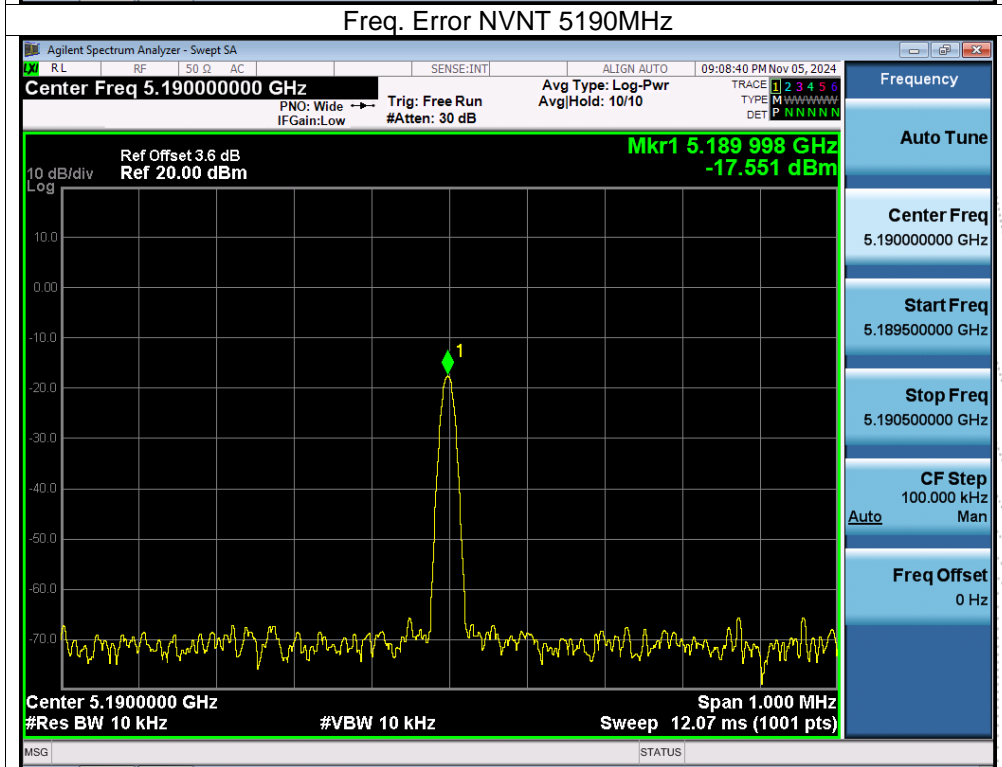
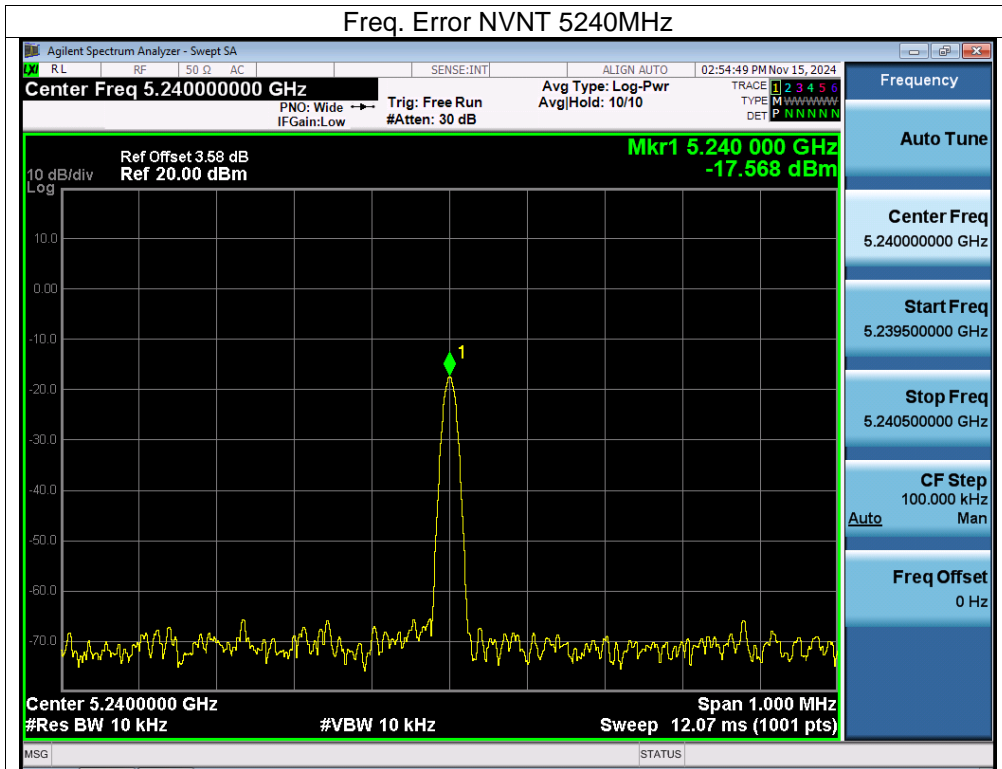
Temperature:	25°C		
Humidity:	55 % RH	Test Voltage	DC 5V

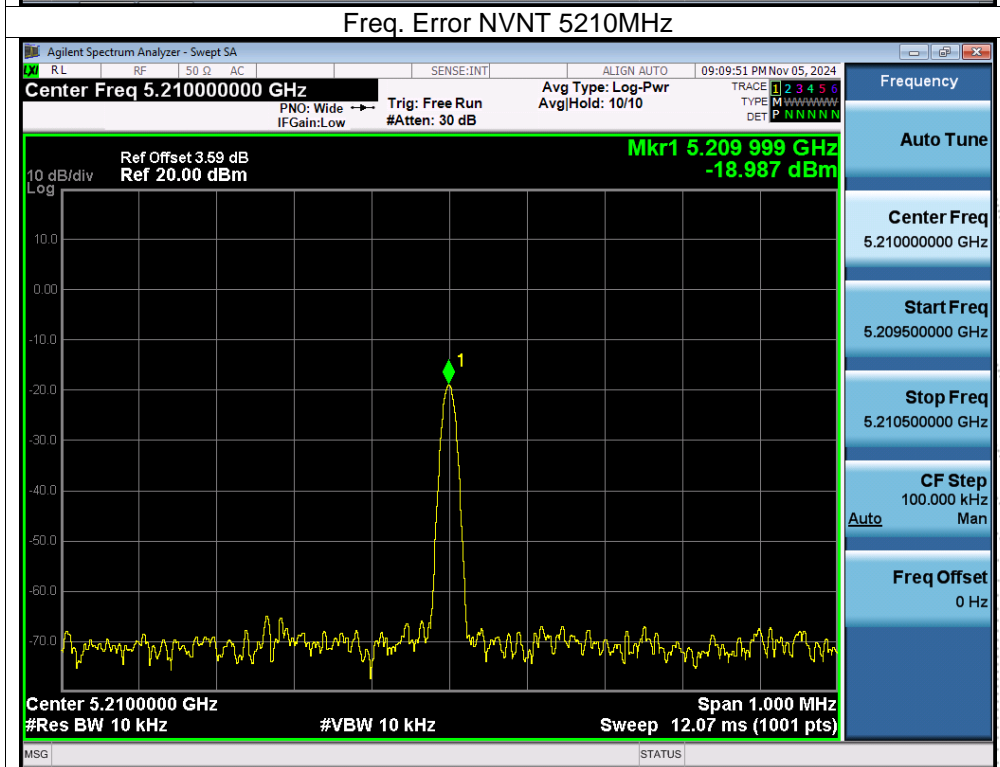
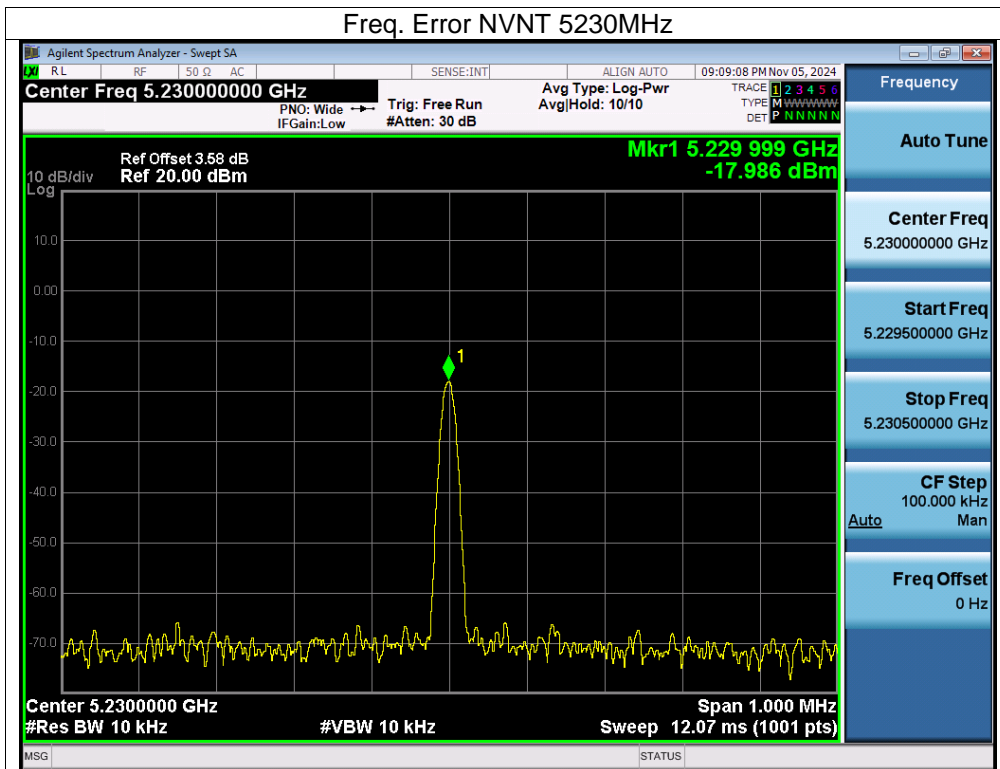
Condition	Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
NVNT	5180	5179.996	-4000	-0.77	20	Pass
NVNT	5200	5199.996	-4000	-0.77	20	Pass
NVNT	5240	5240	0	0	20	Pass
NVNT	5190	5229.999	-1000	-0.19	20	Pass
NVNT	5230	5209.999	-1000	-0.19	20	Pass
NVNT	5210	5179.996	-4000	-0.77	20	Pass

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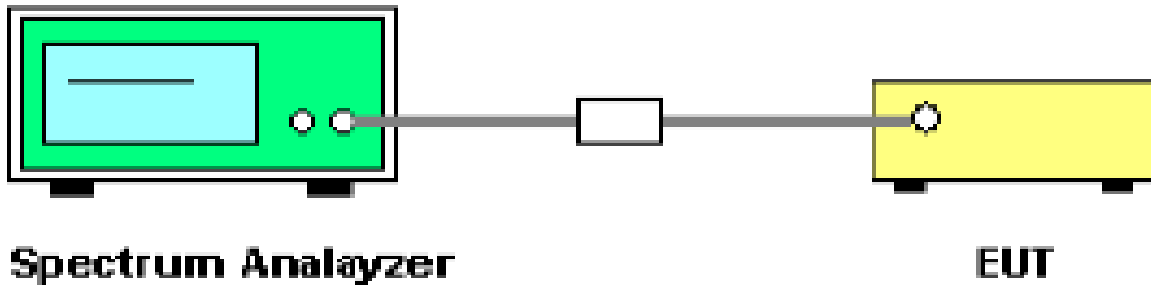




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8. Antenna Power

8.1 Block Diagram Of Test Setup



8.2 Limit

Item	Limits
Antenna Power	802.11a20/n20/ac20 \leq 10mW/MHz 802.11n40/ac40 \leq 5mW/MHz 802.11ac80 \leq 2.5mW/MHz
Antenna Power tolerance	+20%, -80% (Base on manufacturer declare antenna power density)

8.3 Measuring Instruments And Setting

The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	1 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.4 Test Procedure

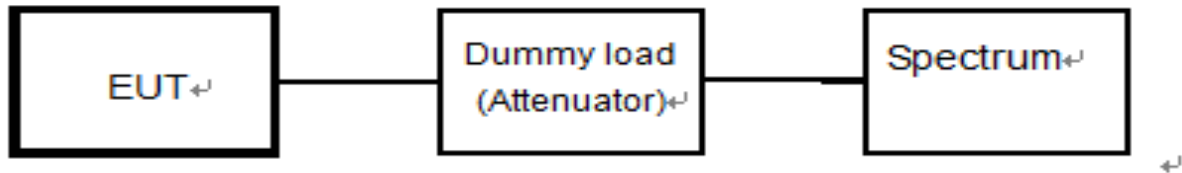
1. EUT Connect the to the spectrum analyzer.
2. Adjust the spectrum analyzer to have the center frequency the same with the measured carrier. RBW=VBW=1MHz, detector mode is positive peak. Turn off the averaging function and use zero span.
3. The calibrating signal power shall be reduced to 0 dBm and it shall be verified that the power meter reading also reduces by 10 dB.
4. Connect the equipment to be measured. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operating frequency; RBW & VBW: 1 MHz; detector mode: positive peak; averaging: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument' range. The frequency found shall be recorded.
5. Set the center frequency of the spectrum analyzer to the found frequency and switch to zero span. The power meter indicates the measured power density "E".
6. Calculate antenna power density by the formula below $PD = Pt + 10 \cdot \log(1/x)$.
x: The duty cycle of the EUT in continuously transmitting mode Pt: Output power of the SSG
7. Antenna Power Error is definition that actual measure antenna power tolerance between + 20% to - 80% power range that base on manufacturer declare the conducted power density.

8.5 Test Result

Condition	Mode	Frequency (MHz)	Power (dBm/MHz)	Antenna Power (mW/MHz)	Rated power density (mW/MHz)	Antenna Gain (dBi)	EIRP (mW/MHz)	EIRP Limit (mW/MHz)	Antenna Power Error (%)	Verdict
NVNT	a	5180	0.99	1.26	2	2.3	2.13	10	-37	Pass
NVNT	a	5200	0.3	1.07	2	2.3	1.82	10	-46	Pass
NVNT	a	5240	0.12	1.03	2	2.3	1.75	10	-49	Pass
NVNT	n20	5180	-0.64	0.86	1	2.3	1.47	10	-14	Pass
NVNT	n20	5200	-0.9	0.81	1	2.3	1.38	10	-19	Pass
NVNT	n20	5240	-0.97	0.80	1	2.3	1.36	10	-20	Pass
NVNT	n40	5190	-2.95	0.51	1	2.3	0.86	5	-49	Pass
NVNT	n40	5230	-2.42	0.57	1	2.3	0.97	5	-43	Pass
NVNT	ac20	5180	-0.69	0.85	1	2.3	1.45	10	-15	Pass
NVNT	ac20	5200	-1.17	0.76	1	2.3	1.30	10	-24	Pass
NVNT	ac20	5240	-0.63	0.86	1	2.3	1.47	10	-14	Pass
NVNT	ac40	5190	-2.64	0.54	1	2.3	0.92	5	-46	Pass
NVNT	ac40	5230	-2.25	0.60	1	2.3	1.01	5	-40	Pass
NVNT	ac80	5210	-4.52	0.35	1	2.3	0.60	2.5	-65	Pass
NVNT	ax20	5180	-1.36	0.73	2	2.3	1.24	10	-63	Pass
NVNT	ax20	5200	0.94	1.24	2	2.3	2.11	10	-38	Pass
NVNT	ax20	5240	0.28	1.07	2	2.3	1.81	10	-47	Pass
NVNT	ax40	5190	-3.25	0.47	1	2.3	0.80	5	-53	Pass
NVNT	ax40	5230	-3.33	0.46	1	2.3	0.79	5	-54	Pass
NVNT	ax80	5210	-2.54	0.56	1	2.3	0.95	2.5	-44	Pass
Antenna Power Error Limit : +20%, -80% (Base on manufacturer declare antenna power density)										

9. Occupied Bandwidth

9.1 Block Diagram Of Test Setup



9.2 Limit

Item	Limits
Occupied Bandwidth	Not exceed 20MHz (DSSS 20MHz system) 20MHz (OFDM 20MHz system), 40MHz (OFDM 40MHz system), 80MHz (OFDM 80MHz system)

9.3 Test Procedure

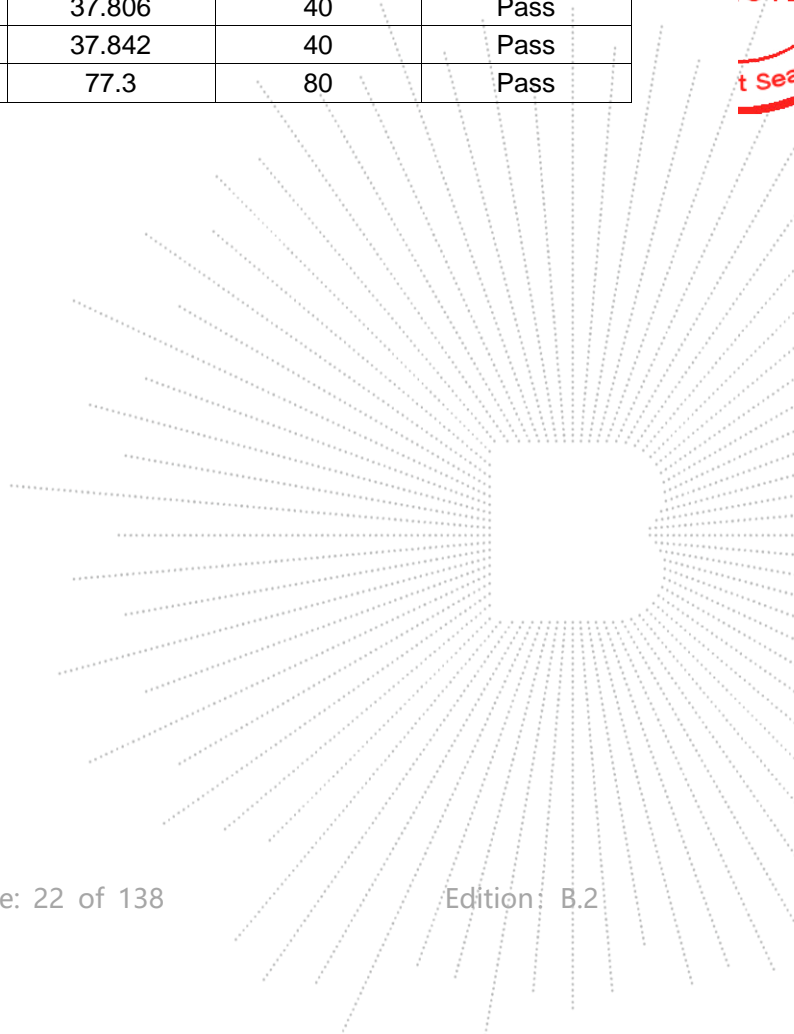
- Setting of SA is following as: RB: 300kHz / VB:300kHz / SPAN: 3MHz / AT: 20dB Ref: 10dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- EUT have transmitted the maximum modulation signal and fixed channelize (For DSSS or OFDM Device) or continuous maximum power of hopping mode (For FHSS Device).

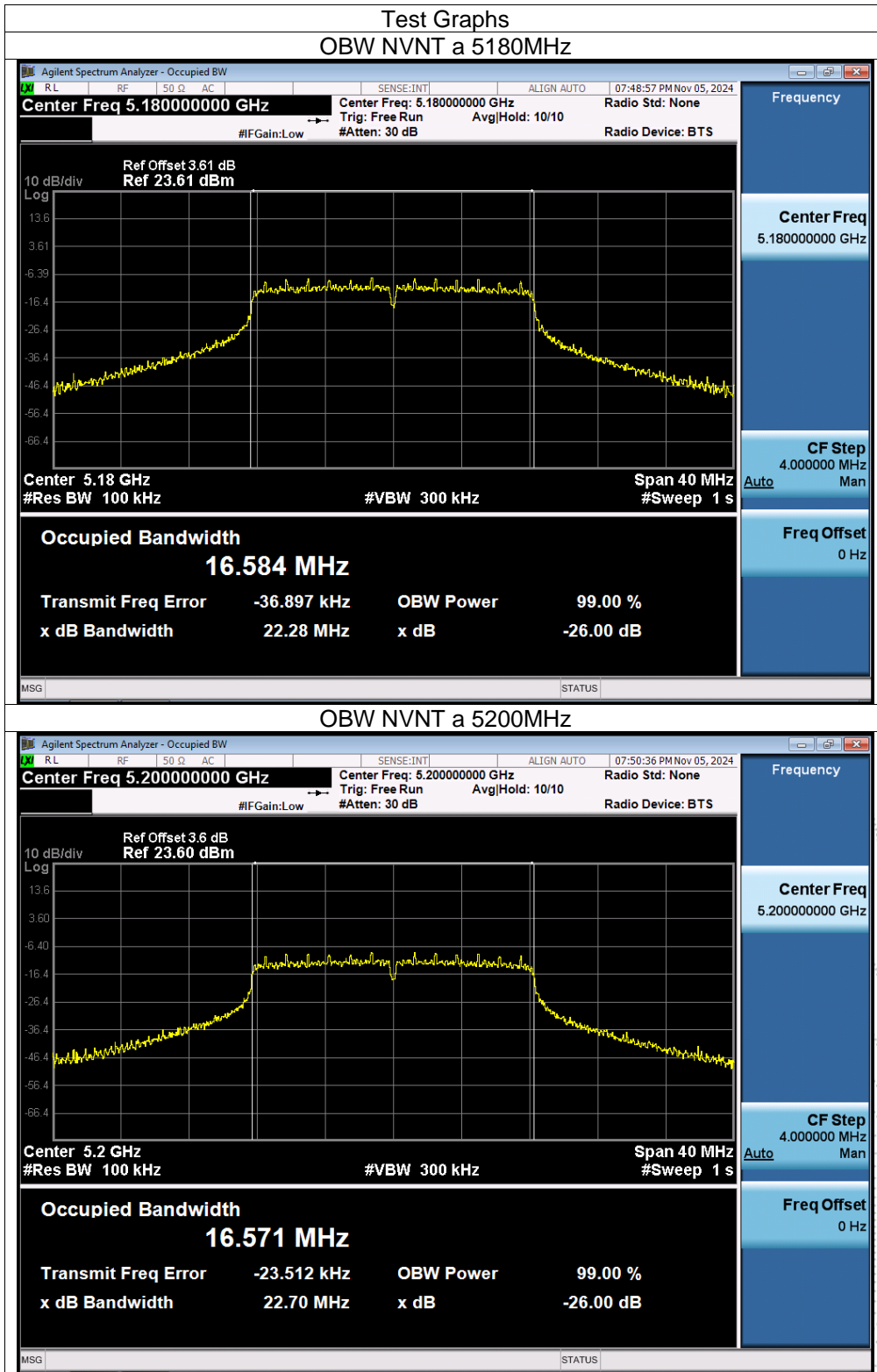
9.4 Test Result

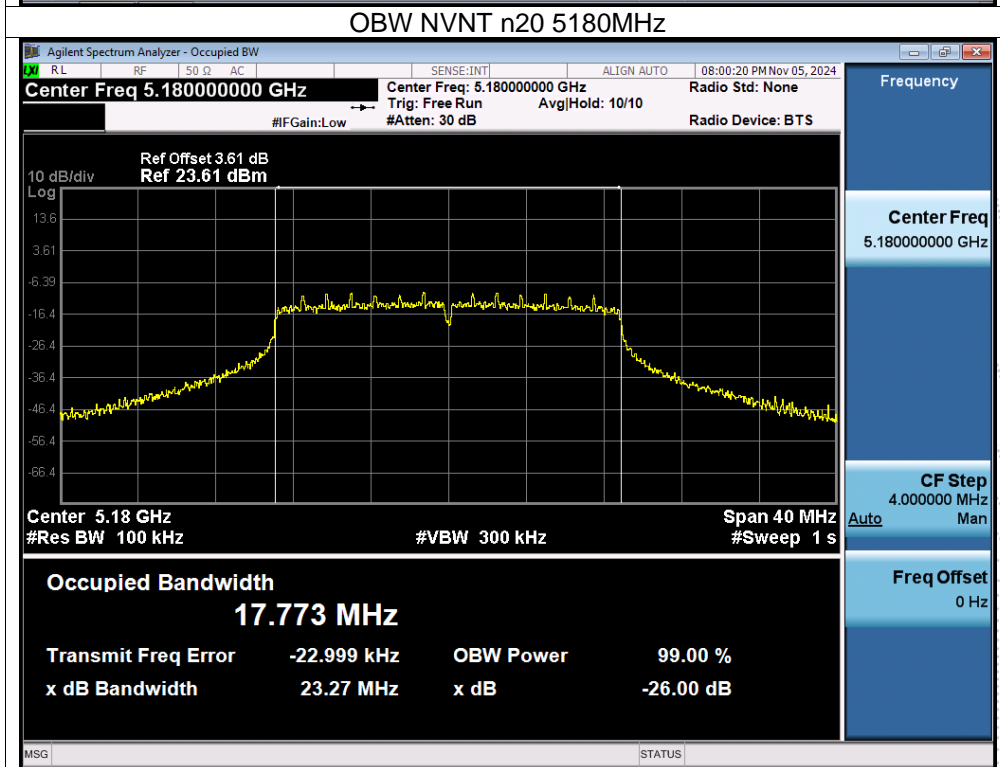
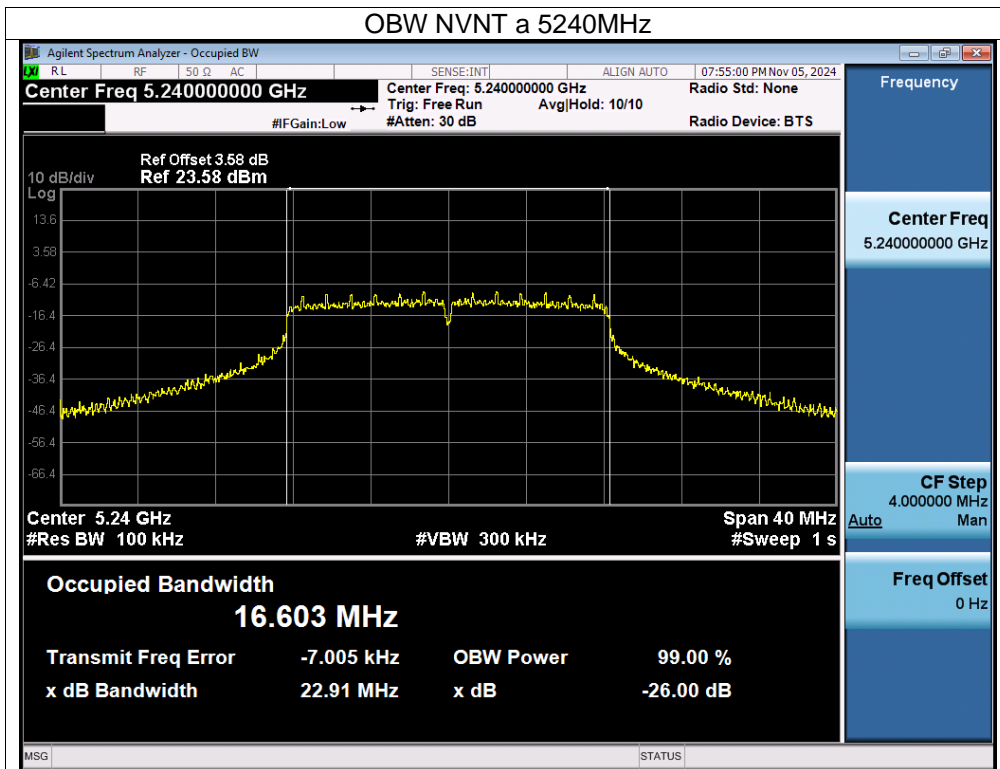
Temperature:	25°C		
Humidity:	55 % RH	Test Voltage	DC 5V

Condition	Mode	Frequency (MHz)	99% OBW (MHz)	Limit (MHz)	Verdict
NVNT	a	5180	16.584	20	Pass
NVNT	a	5200	16.571	20	Pass
NVNT	a	5240	16.603	20	Pass
NVNT	n20	5180	17.773	20	Pass
NVNT	n20	5200	17.761	20	Pass
NVNT	n20	5240	17.786	20	Pass
NVNT	n40	5190	36.173	40	Pass
NVNT	n40	5230	36.216	40	Pass
NVNT	ac20	5180	17.766	20	Pass
NVNT	ac20	5200	17.771	20	Pass
NVNT	ac20	5240	17.787	20	Pass
NVNT	ac40	5190	36.191	40	Pass
NVNT	ac40	5230	36.212	40	Pass
NVNT	ac80	5210	75.681	80	Pass
NVNT	ax20	5180	19.009	20	Pass
NVNT	ax20	5200	18.987	20	Pass
NVNT	ax20	5240	18.99	20	Pass
NVNT	ax40	5190	37.806	40	Pass
NVNT	ax40	5230	37.842	40	Pass
NVNT	ax80	5210	77.3	80	Pass

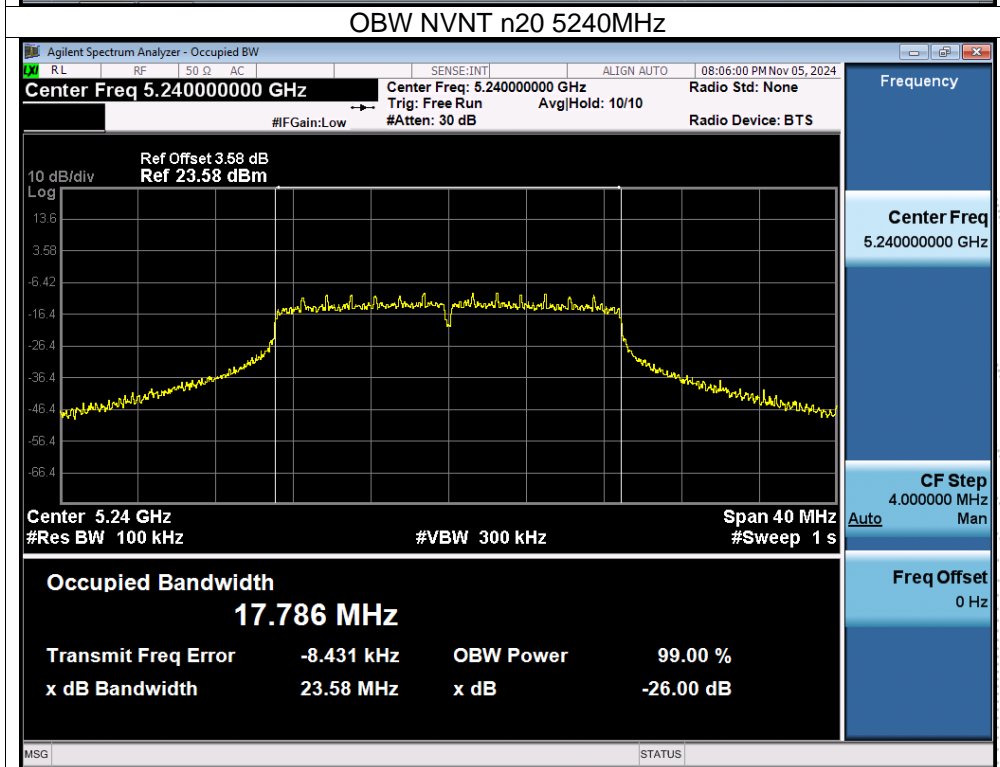
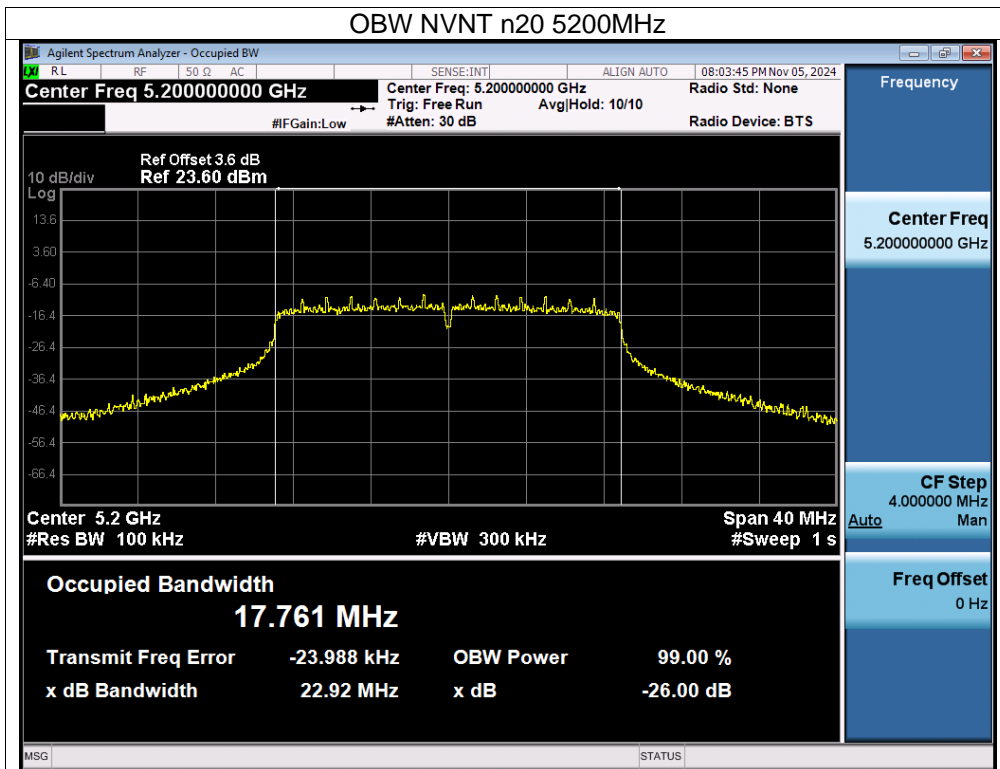
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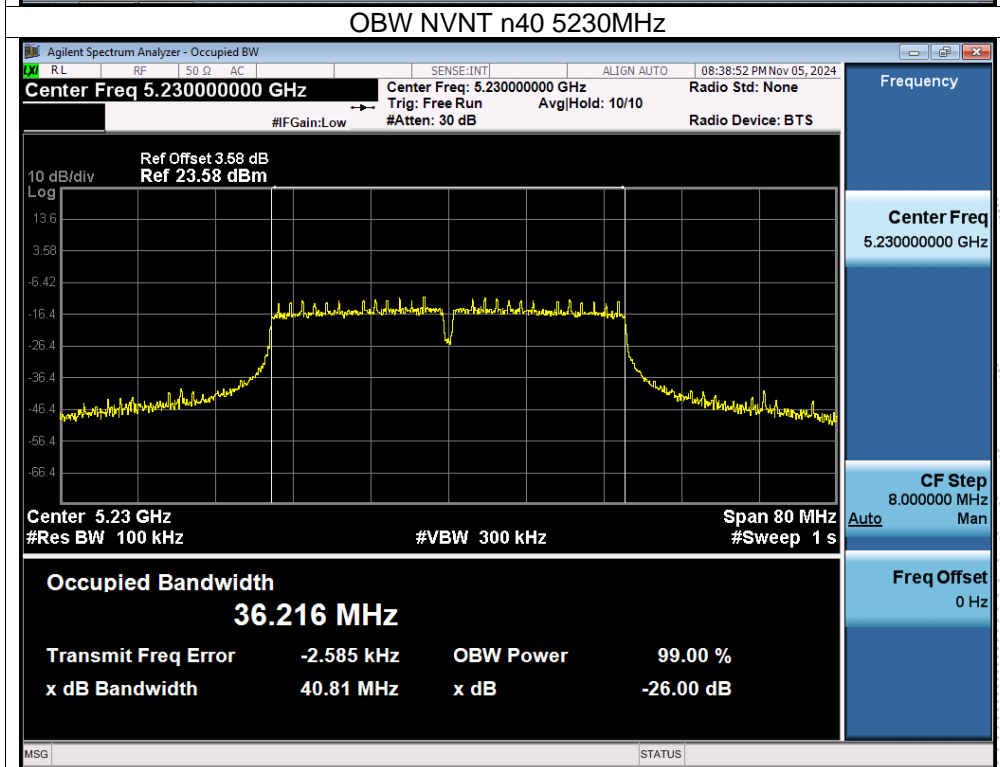
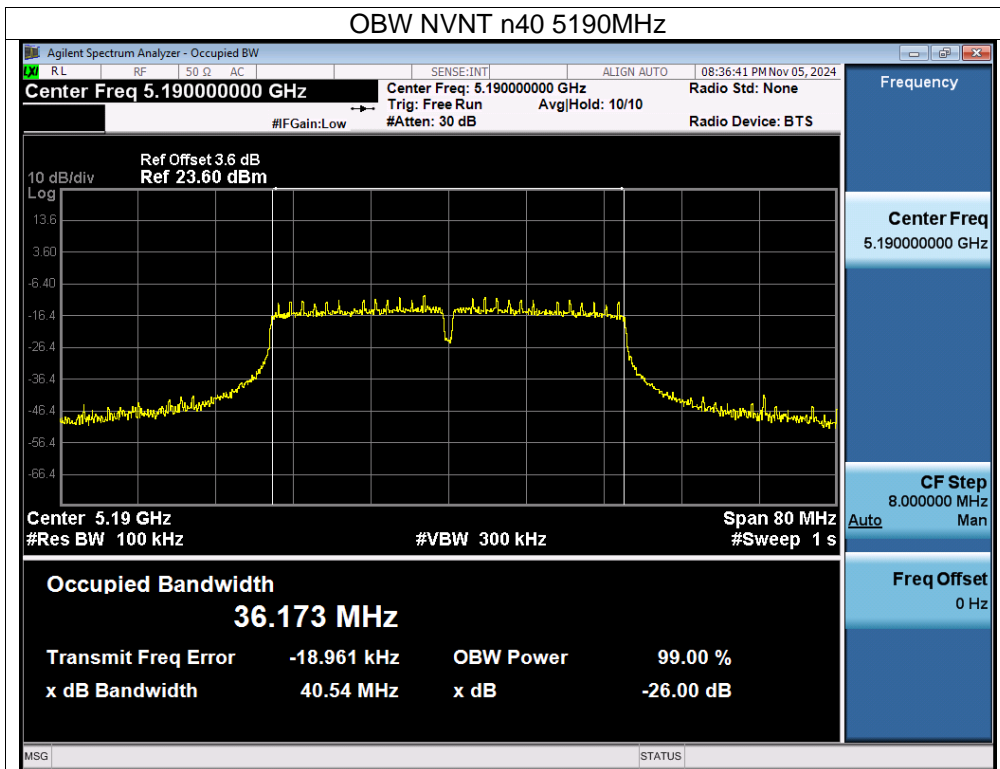


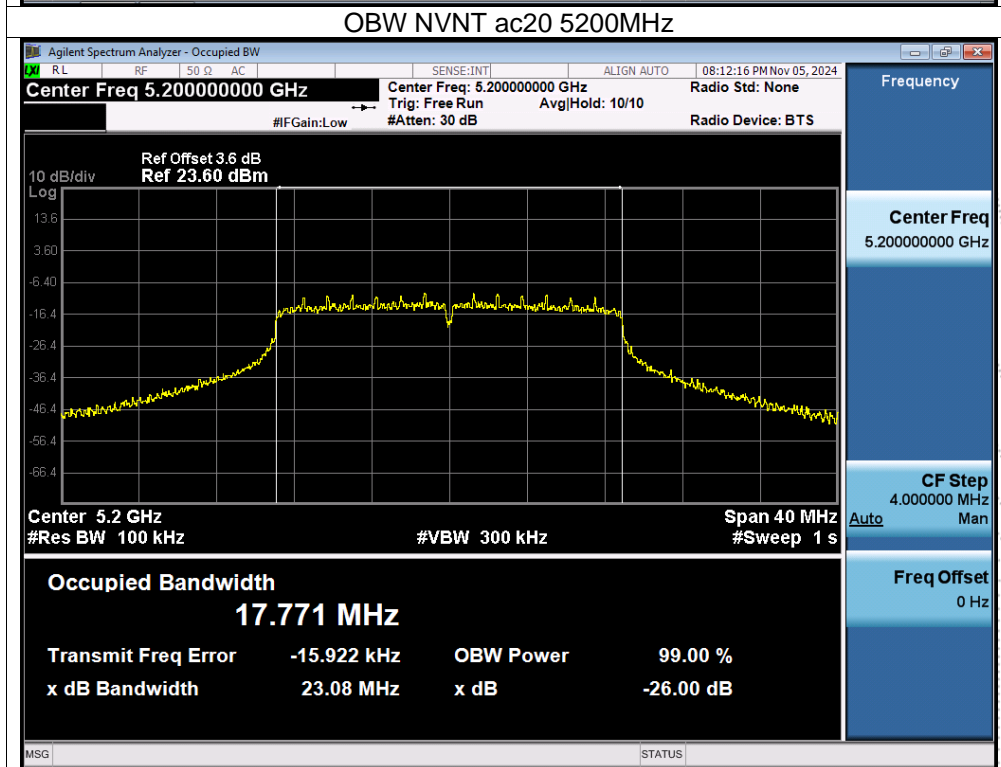
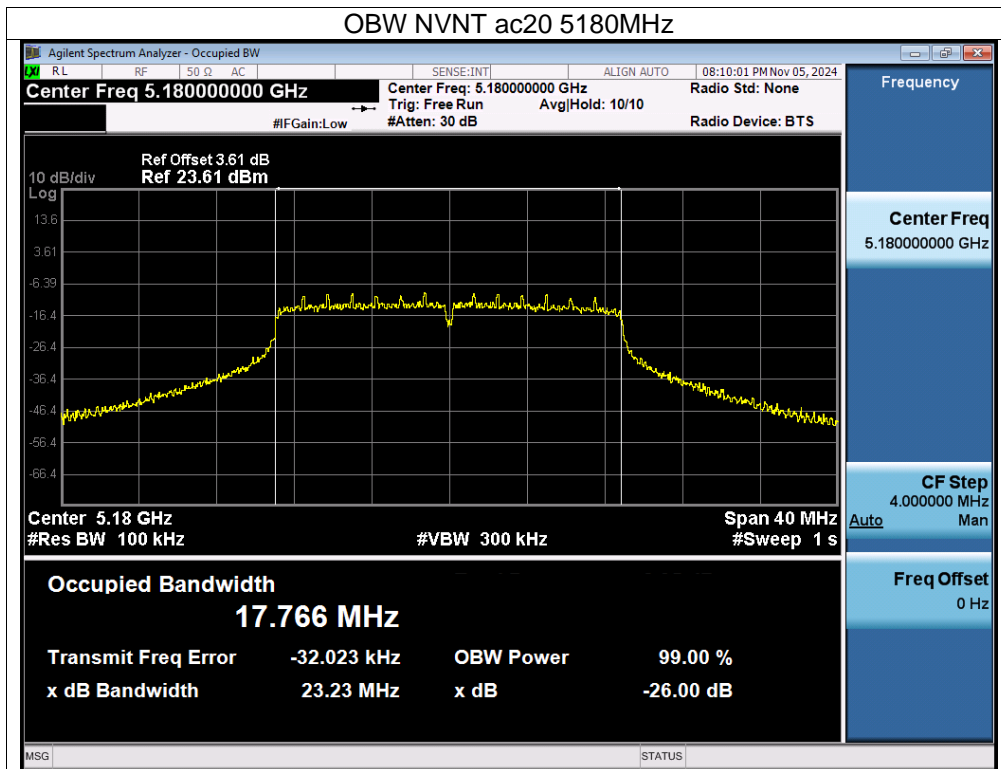


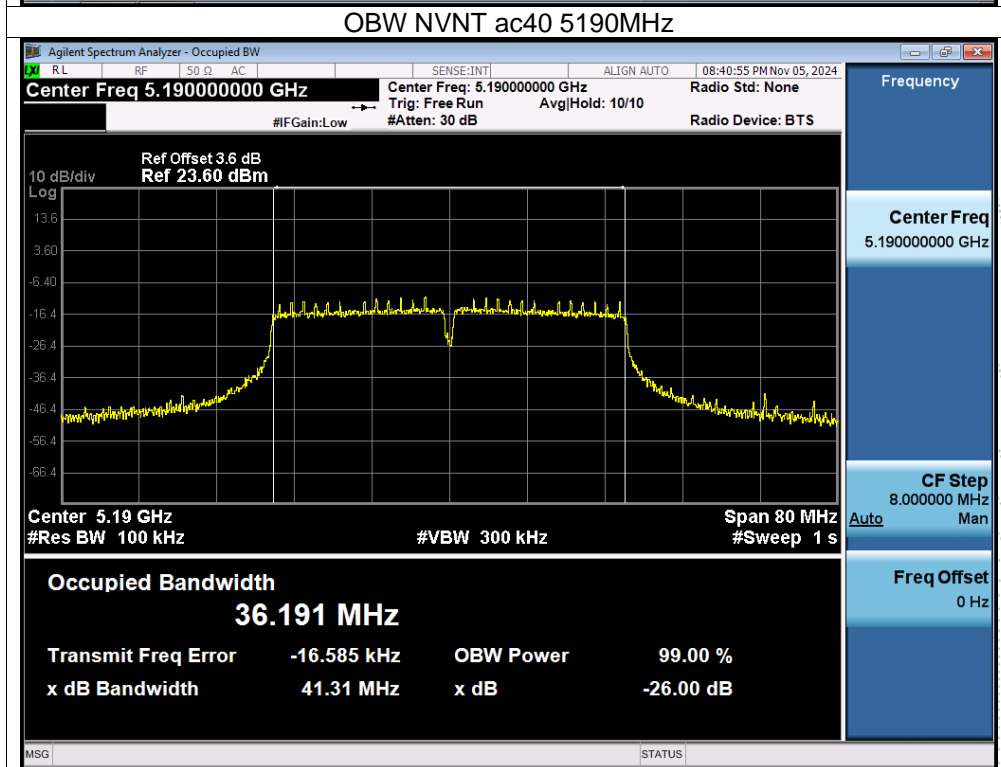
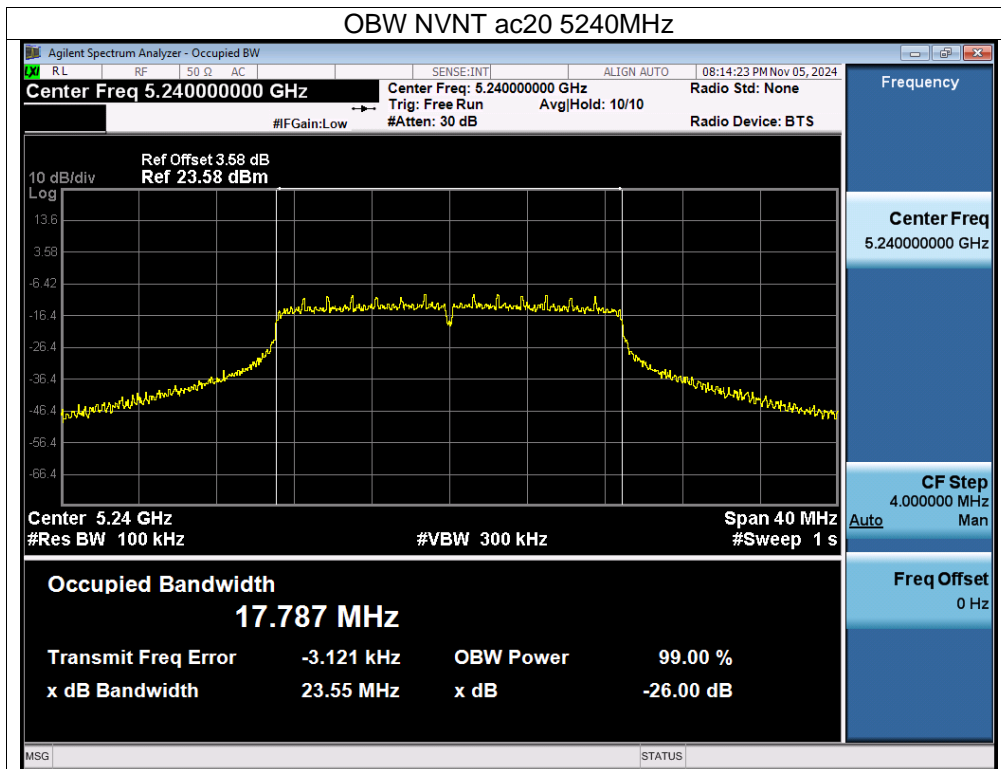
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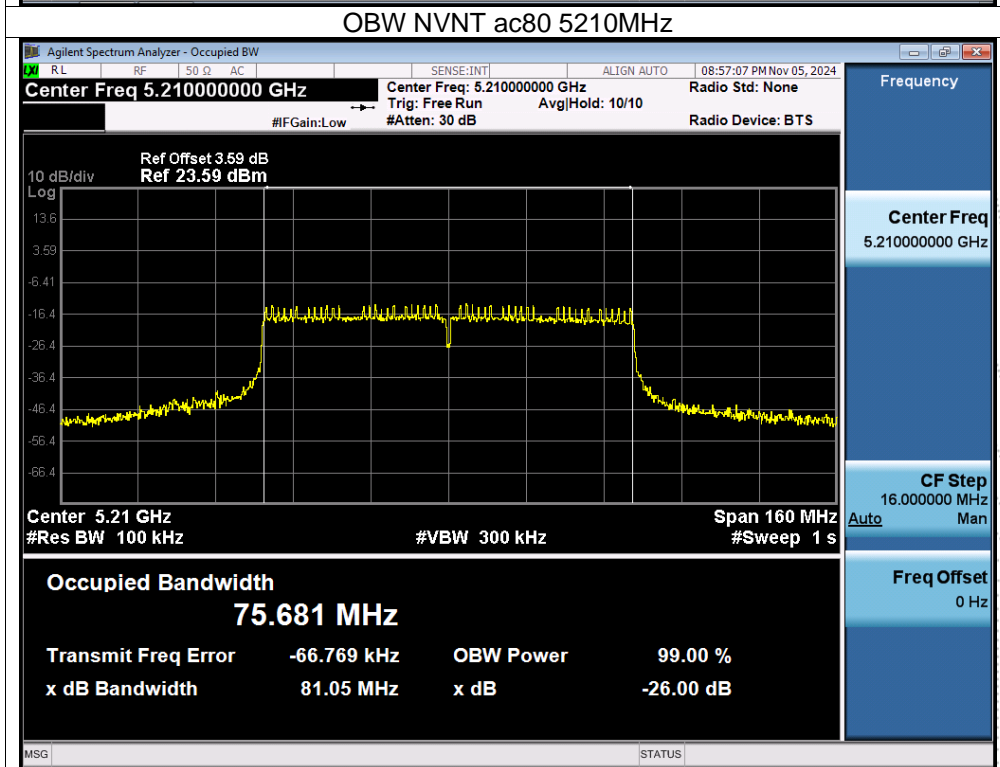
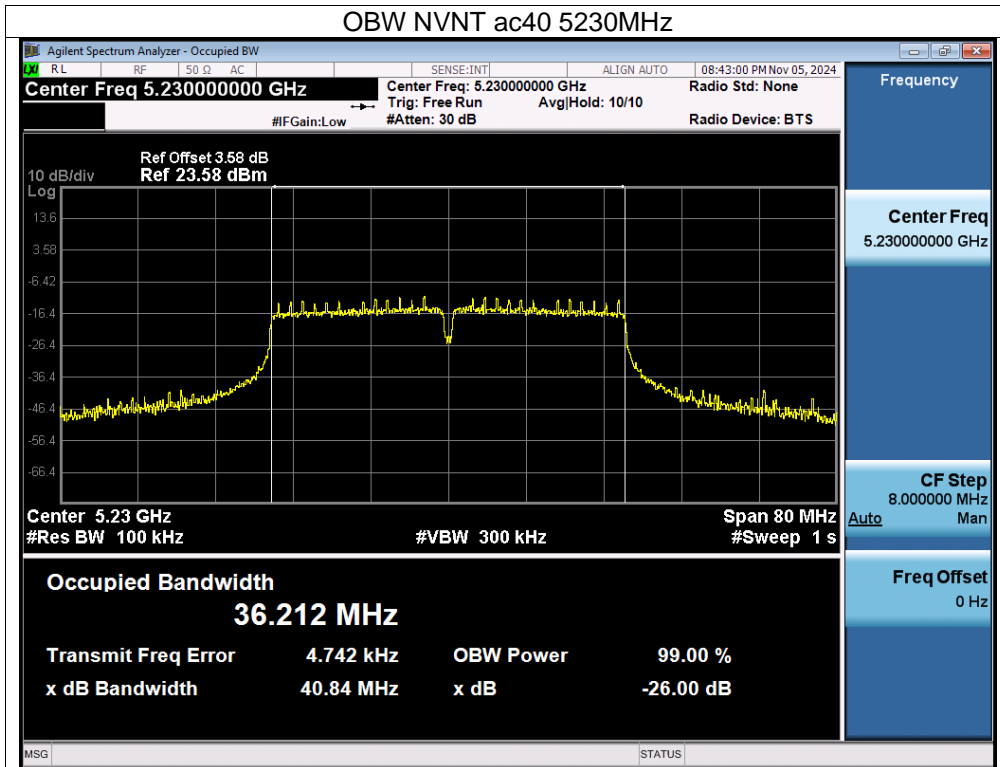


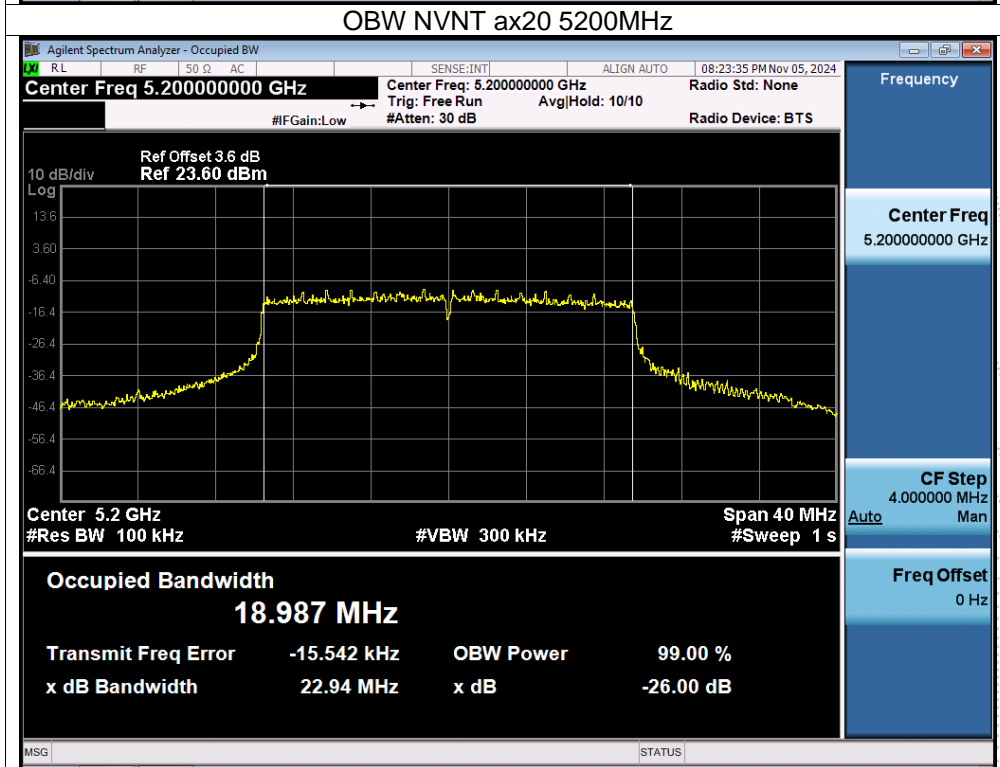
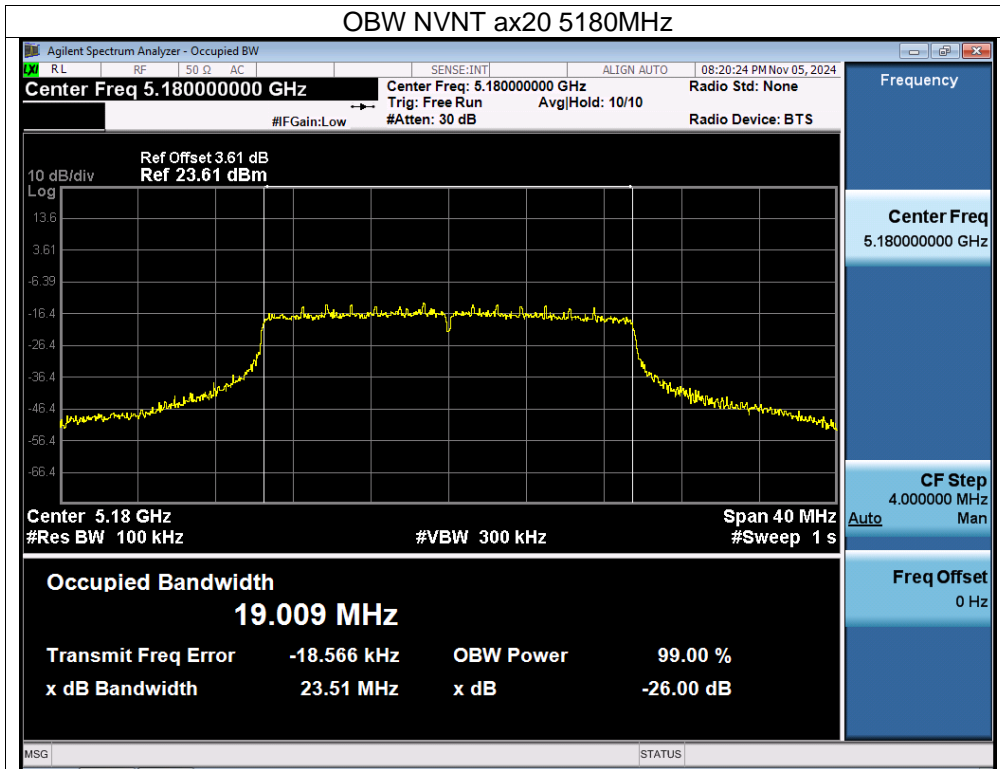
CHENZHEN



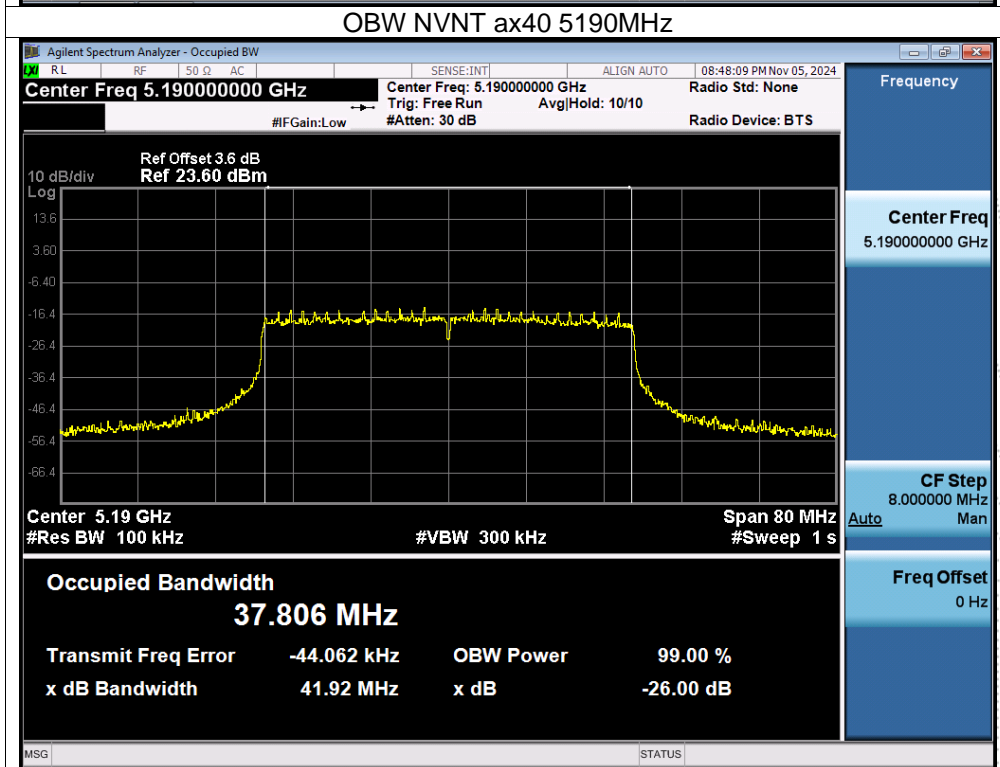
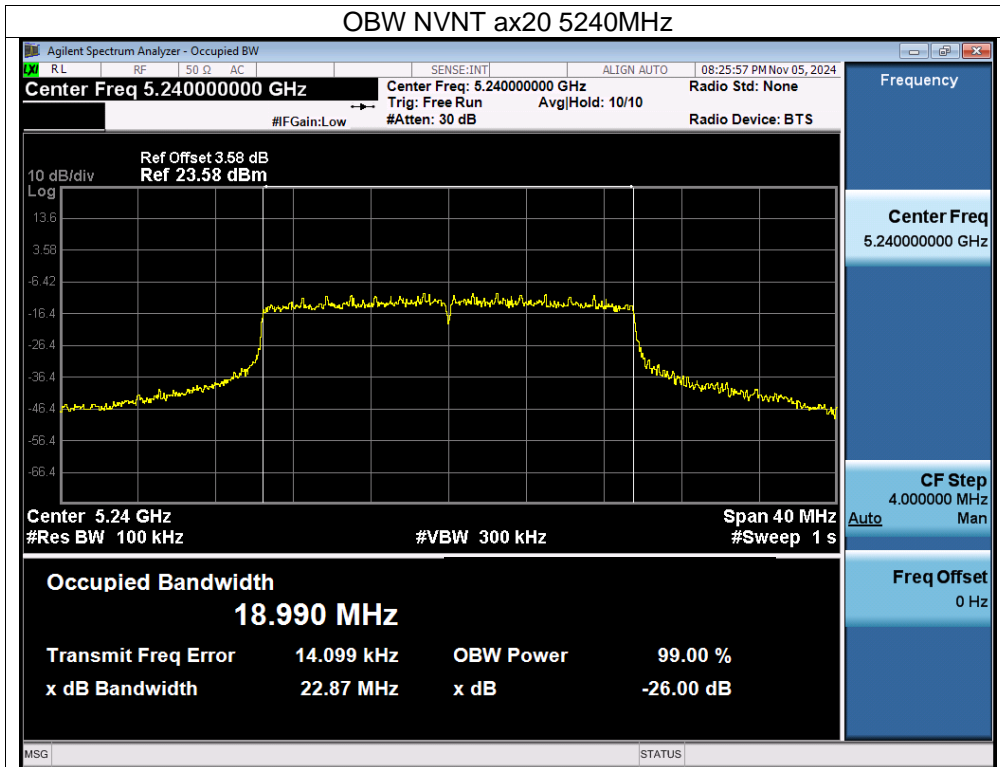




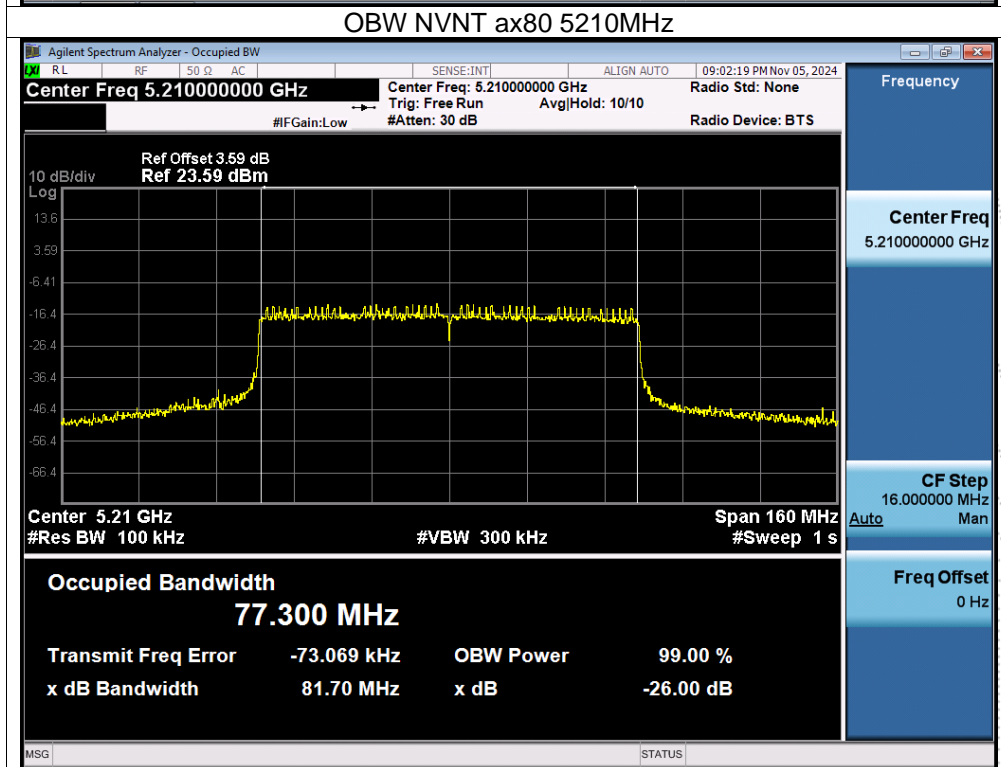
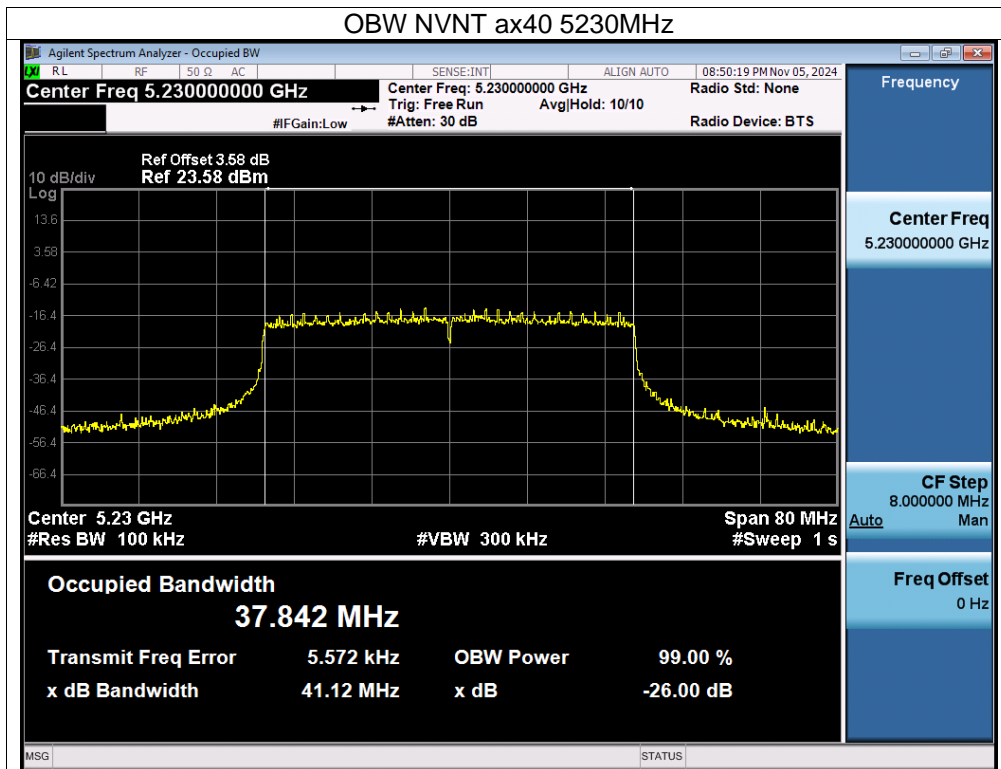




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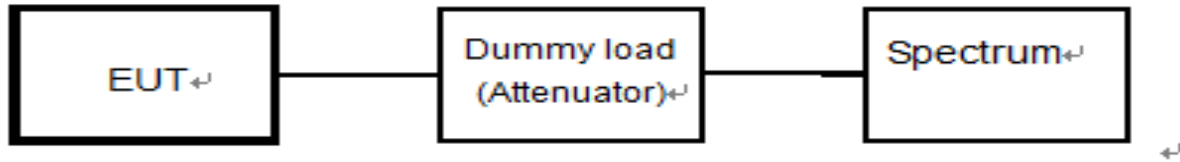


SHENZHEN



10. Unwanted Emission Intensity Measurement

10.1 Block Diagram Of Test Setup



10.2 Limit

20MHz system	
OBW:18-20MHz or less	OBW:18-20MHz
5,142MHz or less: 2.5 μ W/MHz (-26dBm/MHz) 5,142-5,150 MHz :15 μ W/MHz (-18.24dBm/MHz) 5,250-5,251MHz : $10^{1-(f-9)}$ mW/MHz (-10 ~ 0dBm/MHz) 5,251 - 5,260 MHz: $10^{1-(8/90)(f-11)}$ mW/MHz (-18~-10dBm/MHz) 5,260 - 5,266.7 MHz: $10^{-1.8-(6/50)(f-20)}$ mW/MHz (-26 ~ -18dBm/MHz) 5,266.7MHz or more: 2.5 μ W/MHz (-26dBm/MHz)	5,142MHz or less: 2.5 μ W/MHz (-26dBm/MHz) 5,142-5,150 MHz :15 μ W/MHz (-18.24dBm/MHz) 5,250-5,250.2 MHz : $10^{1-(8/3)(f-9.75)}$ mW/MHz (-2 ~ -3.3dBm/MHz) 5,250.2 - 5,251 MHz: $10^{1-(f-9)}$ mW/MHz (-10 ~ -2dBm/MHz) 5,251 - 5,260 MHz: $10^{1-(8/90)(f-11)}$ mW/MHz (-18 ~ -10dBm/MHz) 5,260 - 5,266.7 MHz: $10^{-1.8-(6/50)(f-20)}$ mW/MHz (-26 ~ -18dBm/MHz) 5,266.7MHz or more: 2.5 μ W/MHz (-26dBm/MHz)
40MHz system	80MHz system
5,141.6MHz or less: 2.5 μ W/MHz (-26dBm/MHz) 5,141.6-5,150 MHz :15 μ W/MHz (-18.24dBm/MHz) 5,250-5,251MHz : $10^{-(f-20)+\log(1/2)}$ mW/MHz (-13 ~ -3dBm/MHz) 5,251 - 5,270 MHz: $10^{-(8/190)(f-21)-1+\log(1/2)}$ mW/MHz (-21 ~ -13dBm/MHz) 5,270 - 5,278.4 MHz: $10^{-(3/50)(f-40)-1.8+\log(1/2)}$ mW/MHz (-26 ~ -21dBm/MHz) 5,278.4MHz or more: 2.5 μ W/MHz (-26dBm/MHz)	5,123.2MHz or less: 2.5 μ W/MHz (-26dBm/MHz) 5,123.2-5,150 MHz :15 μ W/MHz (-18.24dBm/MHz) 5,250-5,251MHz : $10^{-(f-40)+\log(1/4)}$ mW/MHz (-16 ~ -6dBm/MHz) 5,251 - 5,290 MHz: $10^{-(8/390)(f-41)-1+\log(1/4)}$ mW/MHz (-24 ~ -16dBm/MHz) 5,290 - 5,296.7MHz: $10^{-(3/10)(f-80)-1.8+\log(1/4)}$ mW/MHz (-26 ~ -24dBm/MHz) 5,296.7MHz or more: 2.5 μ W/MHz (-26dBm/MHz)

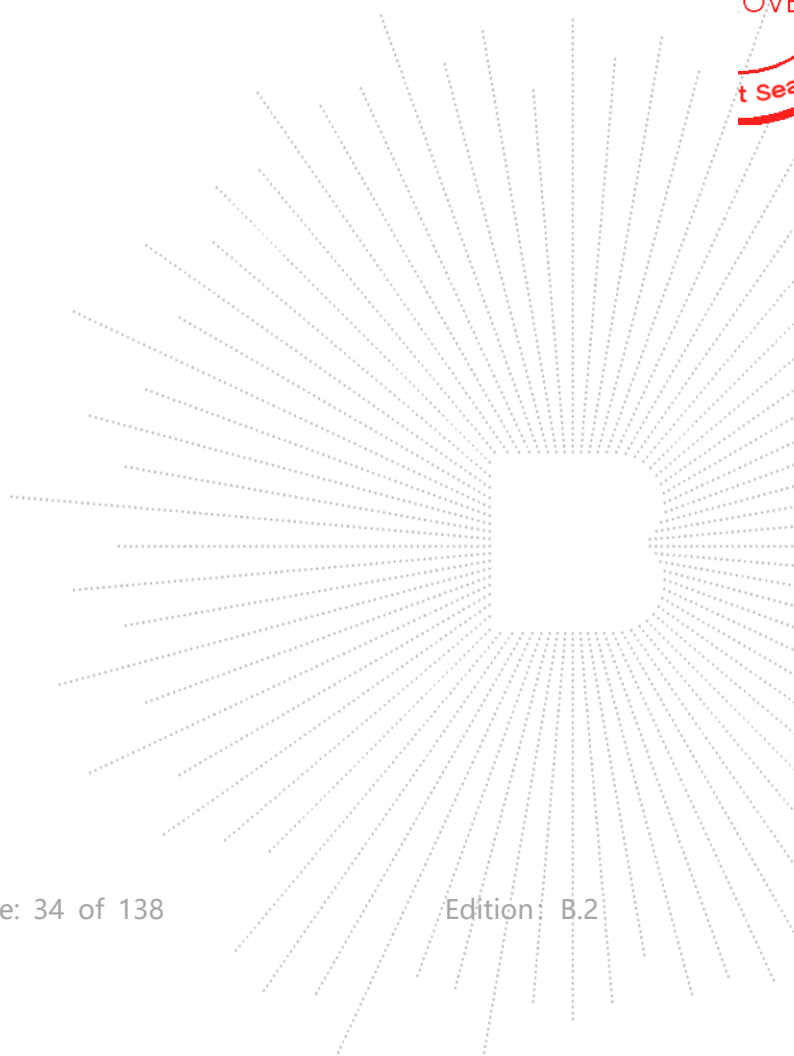
10.3 Measuring Instruments And Setting

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	Below 1GHz: 1 MHz Above 1Ghz: 1 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

10.4 Test Procedure

1. EUT have transmitted the maximum modulation signal and fixed channelize.
2. Setting of SA is following as: Below 1GHz RB:100KHz / VB:100KHz
Above 1GHz RB:1MHz / VB:1MHz / AT: 20dB Ref: 10dBm / Sweep time: Auto
Sweep Mode: Continuous sweep / Detect mode: Positive peak
Trace mode: Max hold



10.5 Test Result

Temperature:	25°C		
Humidity:	55 % RH	Test Voltage	DC 5V

Condition	Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Limit Start (dBm)	Limit Stop (dBm)	Verdict
NVNT	a	5180	30-5142	2432.64	-34.52	-26	-26	Pass
NVNT	a	5180	5142-5150	5148.84	-35.25	-18	-18	Pass
NVNT	a	5180	5250-5251	5250.04	-45.8	0	-10	Pass
NVNT	a	5180	5251-5260	5259.31	-45.85	-10	-18	Pass
NVNT	a	5180	5260-5266.7	5261.11	-45.47	-18	-26	Pass
NVNT	a	5180	5266.7-26000	10367.09	-29.54	-26	-26	Pass
NVNT	a	5200	30-5142	2432.64	-30.85	-26	-26	Pass
NVNT	a	5200	5142-5150	5148.5	-44.52	-18	-18	Pass
NVNT	a	5200	5250-5251	5250.11	-44.66	0	-10	Pass
NVNT	a	5200	5251-5260	5258.53	-45.12	-10	-18	Pass
NVNT	a	5200	5260-5266.7	5261.99	-45.57	-18	-26	Pass
NVNT	a	5200	5266.7-26000	10408.56	-28.39	-26	-26	Pass
NVNT	a	5240	30-5142	2432.64	-34.96	-26	-26	Pass
NVNT	a	5240	5142-5150	5143.71	-44.55	-18	-18	Pass
NVNT	a	5240	5250-5251	5250.05	-14.4	0	-10	Pass
NVNT	a	5240	5251-5260	5251.59	-17.81	-10	-18	Pass
NVNT	a	5240	5260-5266.7	5261	-33.05	-18	-26	Pass
NVNT	a	5240	5266.7-26000	10491.49	-26.54	-26	-26	Pass
NVNT	n20	5180	30-5142	2432.64	-33.94	-26	-26	Pass
NVNT	n20	5180	5142-5150	5146.2	-42.35	-18	-18	Pass
NVNT	n20	5180	5250-5251	5250.82	-46.24	0	-10	Pass
NVNT	n20	5180	5251-5260	5254.58	-45.3	-10	-18	Pass
NVNT	n20	5180	5260-5266.7	5260.17	-45.94	-18	-26	Pass
NVNT	n20	5180	5266.7-26000	25606.07	-30.84	-26	-26	Pass
NVNT	n20	5200	30-5142	2432.64	-35.75	-26	-26	Pass
NVNT	n20	5200	5142-5150	5149.26	-44.41	-18	-18	Pass
NVNT	n20	5200	5250-5251	5250.19	-44.97	0	-10	Pass
NVNT	n20	5200	5251-5260	5253.03	-45.64	-10	-18	Pass
NVNT	n20	5200	5260-5266.7	5260.36	-45.44	-18	-26	Pass
NVNT	n20	5200	5266.7-26000	10408.56	-29.71	-26	-26	Pass
NVNT	n20	5240	30-5142	2432.64	-32.68	-26	-26	Pass
NVNT	n20	5240	5142-5150	5146.83	-45.8	-18	-18	Pass
NVNT	n20	5240	5250-5251	5250.02	-12.68	0	-10	Pass
NVNT	n20	5240	5251-5260	5251.24	-19.5	-10	-18	Pass
NVNT	n20	5240	5260-5266.7	5260.2	-34.53	-18	-26	Pass
NVNT	n20	5240	5266.7-26000	10470.76	-28.24	-26	-26	Pass
NVNT	n40	5190	30-5141.6	5141.6	-41.47	-26	-26	Pass
NVNT	n40	5190	5141.6-5150	5149.79	-35.4	-18	-18	Pass
NVNT	n40	5190	5250-5251	5250.3	-39.1	-3	-13	Pass



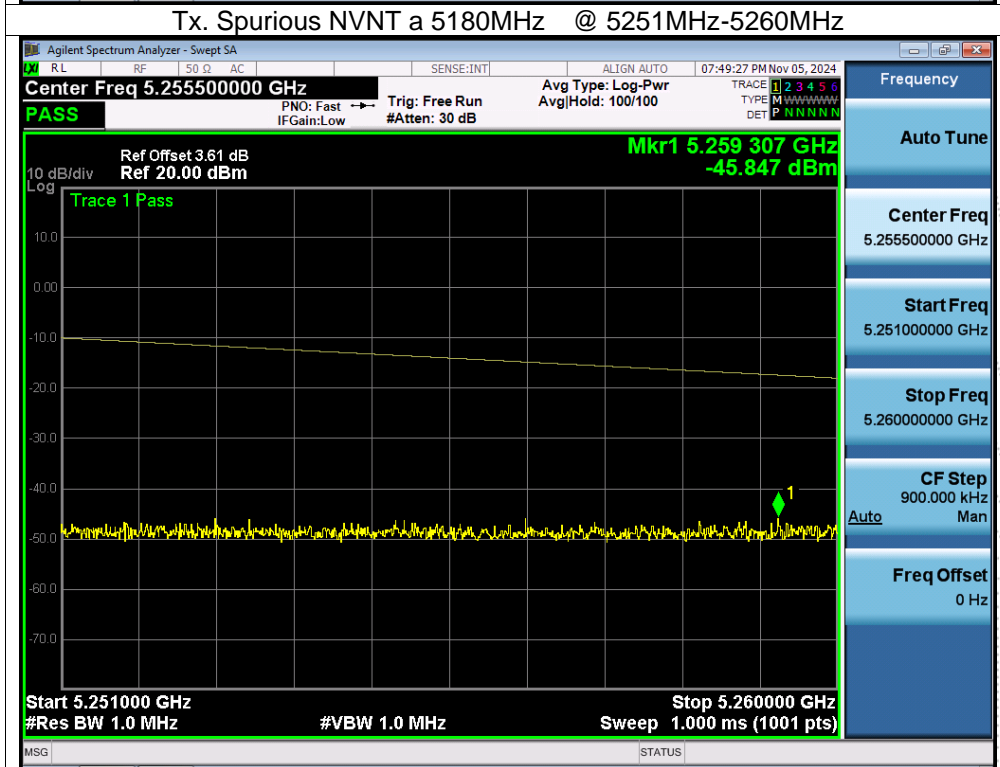
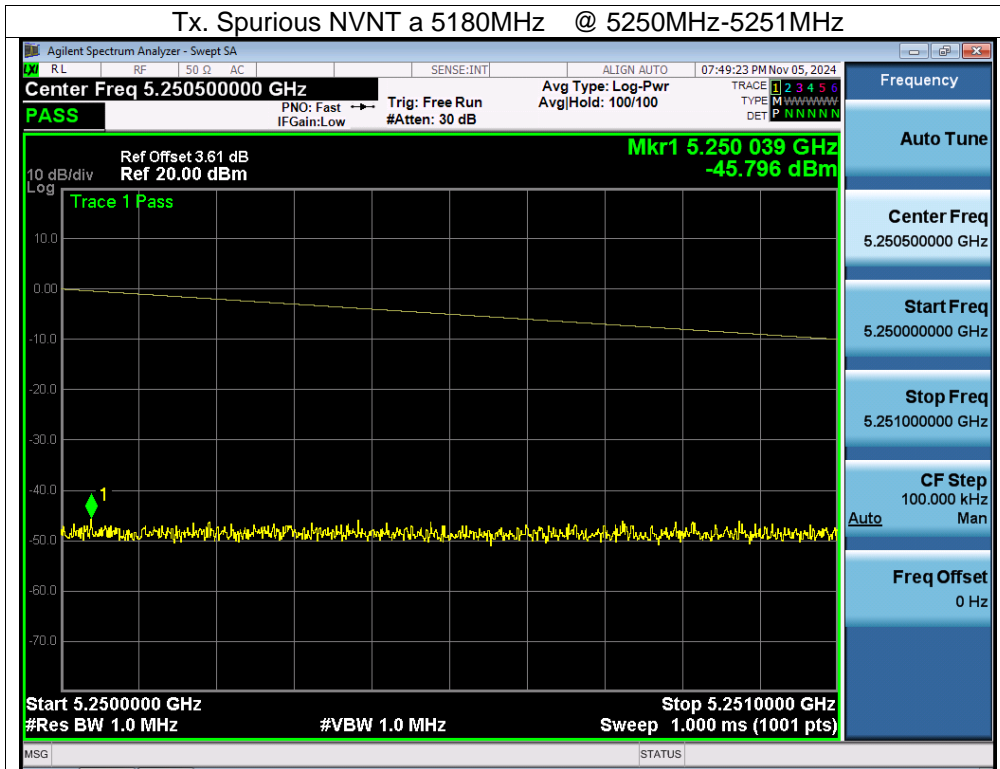
NVNT	n40	5190	5251-5270	5256.13	-44.7	-13	-21	Pass
NVNT	n40	5190	5270-5278.4	5277.97	-45.77	-21	-26	Pass
NVNT	n40	5190	5278.4-26000	10375.91	-30.33	-26	-26	Pass
NVNT	n40	5230	30-5141.6	4185.73	-35.99	-26	-26	Pass
NVNT	n40	5230	5141.6-5150	5149.7	-44.93	-18	-18	Pass
NVNT	n40	5230	5250-5251	5250.44	-19.45	-3	-13	Pass
NVNT	n40	5230	5251-5270	5251.34	-23.09	-13	-21	Pass
NVNT	n40	5230	5270-5278.4	5277.44	-35.27	-21	-26	Pass
NVNT	n40	5230	5278.4-26000	10458.8	-26.8	-26	-26	Pass
NVNT	ac20	5180	30-5142	3173.88	-43.02	-26	-26	Pass
NVNT	ac20	5180	5142-5150	5148.23	-42.43	-18	-18	Pass
NVNT	ac20	5180	5250-5251	5250.51	-45.55	0	-10	Pass
NVNT	ac20	5180	5251-5260	5259.26	-45.59	-10	-18	Pass
NVNT	ac20	5180	5260-5266.7	5266.24	-46.02	-18	-26	Pass
NVNT	ac20	5180	5266.7-26000	25647.53	-30.65	-26	-26	Pass
NVNT	ac20	5200	30-5142	2519.54	-43.12	-26	-26	Pass
NVNT	ac20	5200	5142-5150	5149.42	-44.98	-18	-18	Pass
NVNT	ac20	5200	5250-5251	5250.48	-45.52	0	-10	Pass
NVNT	ac20	5200	5251-5260	5252.78	-45.65	-10	-18	Pass
NVNT	ac20	5200	5260-5266.7	5260.05	-45.59	-18	-26	Pass
NVNT	ac20	5200	5266.7-26000	10387.83	-29.94	-26	-26	Pass
NVNT	ac20	5240	30-5142	4191.17	-36.81	-26	-26	Pass
NVNT	ac20	5240	5142-5150	5142.58	-45.67	-18	-18	Pass
NVNT	ac20	5240	5250-5251	5250.07	-12.37	0	-10	Pass
NVNT	ac20	5240	5251-5260	5251.07	-19.09	-10	-18	Pass
NVNT	ac20	5240	5260-5266.7	5260.53	-32.41	-18	-26	Pass
NVNT	ac20	5240	5266.7-26000	10470.76	-27.59	-26	-26	Pass
NVNT	ac40	5190	30-5141.6	5141.6	-40.67	-26	-26	Pass
NVNT	ac40	5190	5141.6-5150	5146.96	-34.58	-18	-18	Pass
NVNT	ac40	5190	5250-5251	5250.76	-42.48	-3	-13	Pass
NVNT	ac40	5190	5251-5270	5251.15	-45.45	-13	-21	Pass
NVNT	ac40	5190	5270-5278.4	5270.65	-45.81	-21	-26	Pass
NVNT	ac40	5190	5278.4-26000	25627.01	-31	-26	-26	Pass
NVNT	ac40	5230	30-5141.6	2059.31	-42.74	-26	-26	Pass
NVNT	ac40	5230	5141.6-5150	5148.98	-44.96	-18	-18	Pass
NVNT	ac40	5230	5250-5251	5250.13	-18.15	-3	-13	Pass
NVNT	ac40	5230	5251-5270	5251.51	-24.08	-13	-21	Pass
NVNT	ac40	5230	5270-5278.4	5272.1	-37.57	-21	-26	Pass
NVNT	ac40	5230	5278.4-26000	10458.8	-29.4	-26	-26	Pass
NVNT	ac80	5210	30-5123.2	5123.2	-38.43	-26	-26	Pass
NVNT	ac80	5210	5123.2-5150	5148.37	-32.37	-18	-18	Pass
NVNT	ac80	5210	5250-5251	5250.1	-19.9	-6	-16	Pass
NVNT	ac80	5210	5251-5290	5251.59	-25.53	-16	-24	Pass
NVNT	ac80	5210	5290-5296.7	5290.15	-37.7	-24	-26	Pass
NVNT	ac80	5210	5296.7-26000	25689.45	-30.26	-26	-26	Pass
NVNT	ax20	5180	30-5142	4145.16	-35.09	-26	-26	Pass

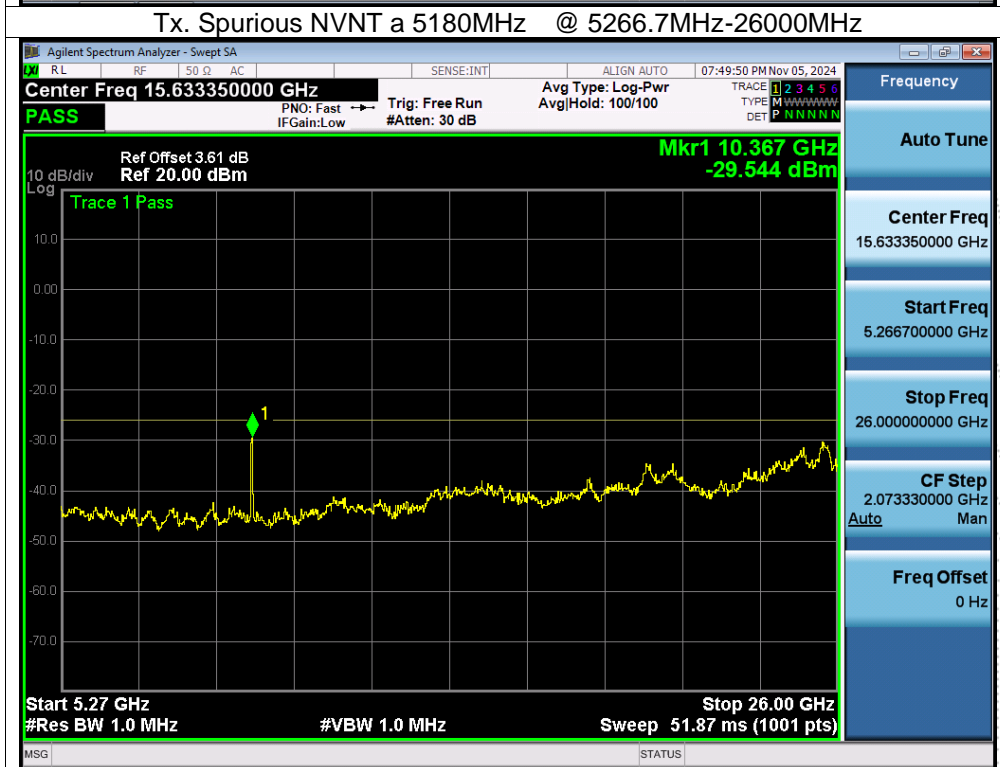
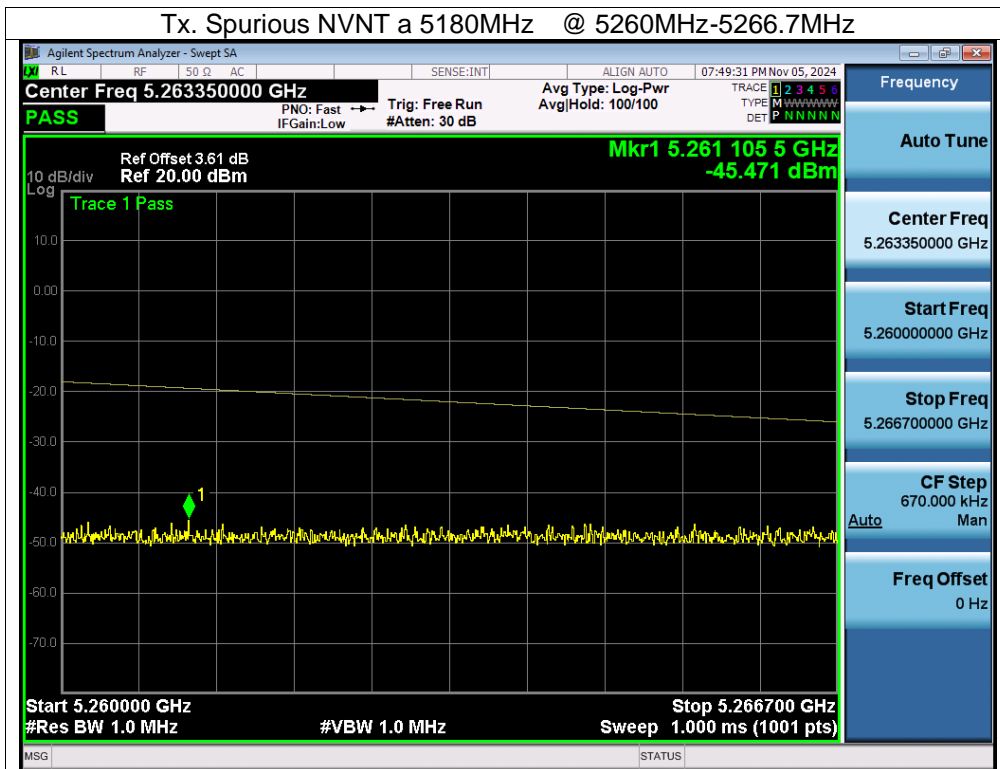
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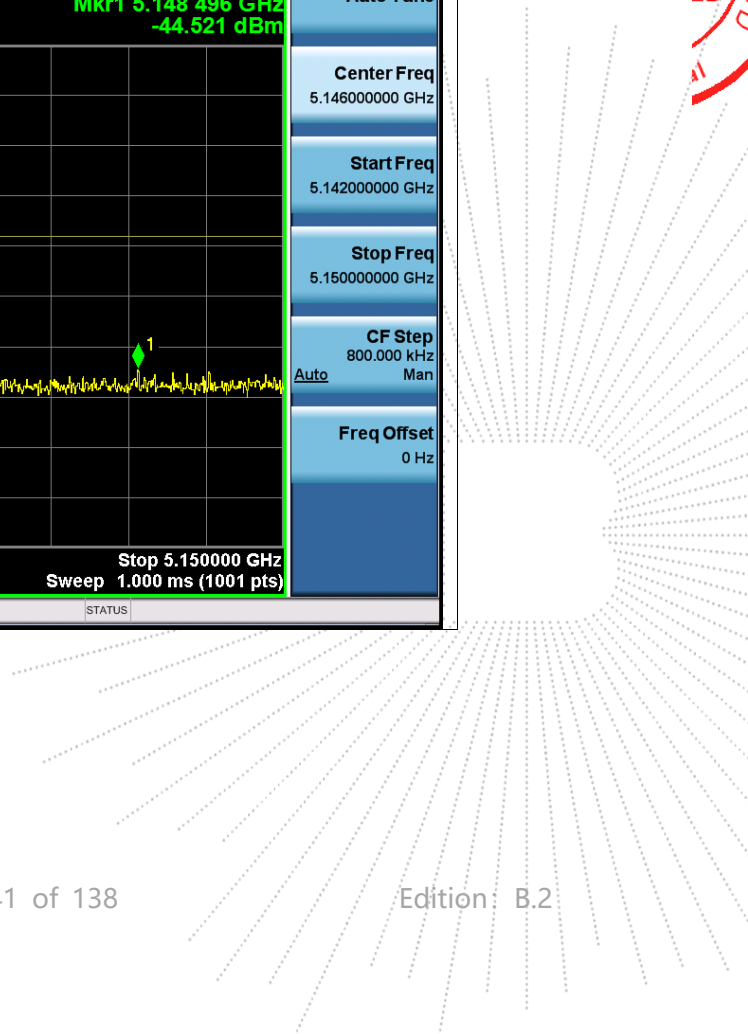
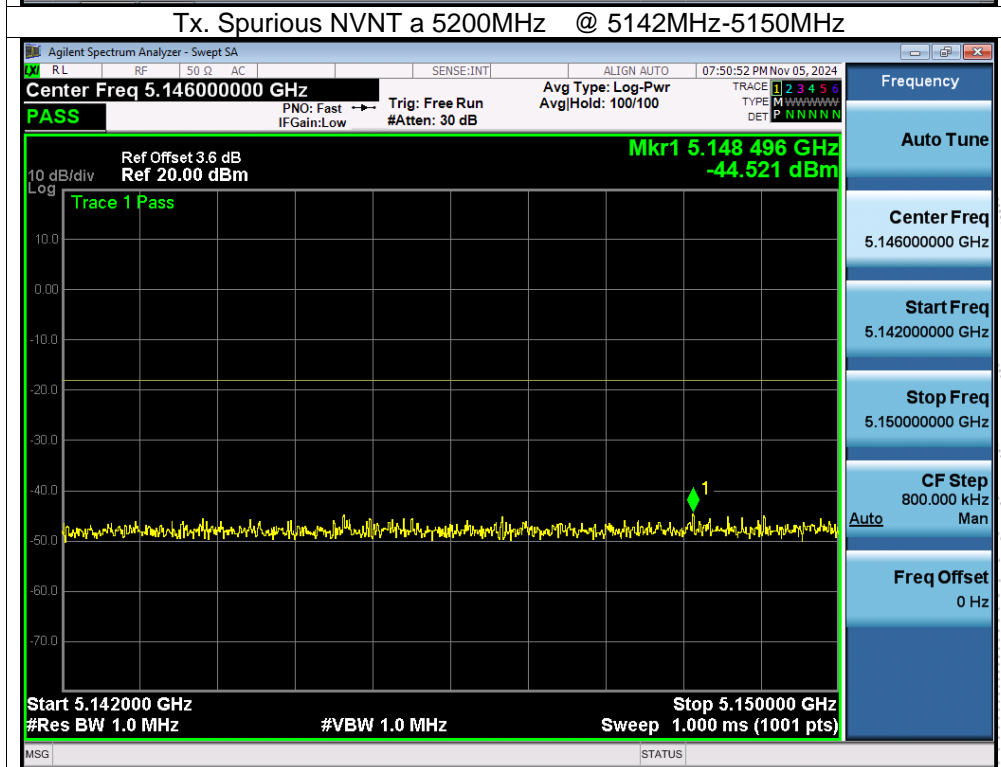
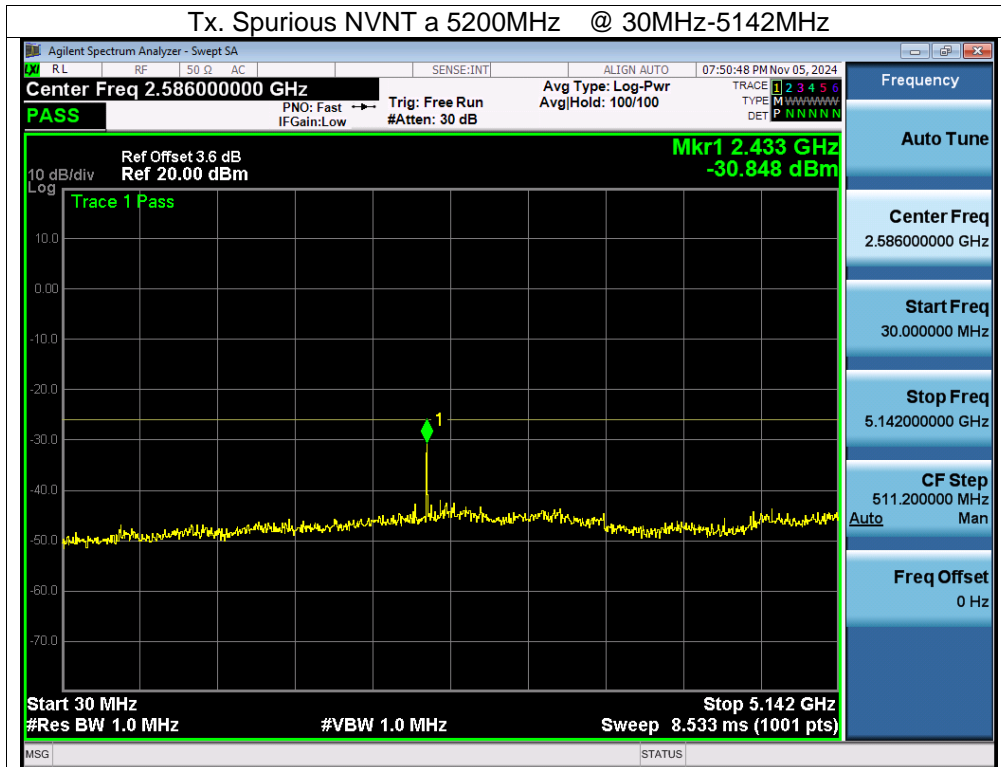
NVNT	ax20	5180	5142-5150	5148.45	-43.85	-18	-18	Pass
NVNT	ax20	5180	5250-5250.2	5250.02	-44.92	3	-2	Pass
NVNT	ax20	5180	5250.2-5251	5250.24	-46.04	-2	-10	Pass
NVNT	ax20	5180	5251-5260	5256.02	-44.93	-10	-18	Pass
NVNT	ax20	5180	5260-5266.7	5265.93	-45.36	-18	-26	Pass
NVNT	ax20	5180	5266.7-26000	25647.53	-29.93	-26	-26	Pass
NVNT	ax20	5200	30-5142	4160.5	-36.82	-26	-26	Pass
NVNT	ax20	5200	5142-5150	5142.81	-45.59	-18	-18	Pass
NVNT	ax20	5200	5250-5250.2	5250.07	-46.04	3	-2	Pass
NVNT	ax20	5200	5250.2-5251	5250.51	-45.17	-2	-10	Pass
NVNT	ax20	5200	5251-5260	5258.62	-45.83	-10	-18	Pass
NVNT	ax20	5200	5260-5266.7	5266.15	-45.43	-18	-26	Pass
NVNT	ax20	5200	5266.7-26000	10387.83	-30.4	-26	-26	Pass
NVNT	ax20	5240	30-5142	4191.17	-34.42	-26	-26	Pass
NVNT	ax20	5240	5142-5150	5148.58	-45.5	-18	-18	Pass
NVNT	ax20	5240	5250-5250.2	5250.01	-8.64	3	-2	Pass
NVNT	ax20	5240	5250.2-5251	5250.22	-9.68	-2	-10	Pass
NVNT	ax20	5240	5251-5260	5251.01	-16.75	-10	-18	Pass
NVNT	ax20	5240	5260-5266.7	5260.02	-30.93	-18	-26	Pass
NVNT	ax20	5240	5269-26000	10472.48	-27.48	-26	-26	Pass
NVNT	ax40	5190	30-5141.6	3188.97	-42.74	-26	-26	Pass
NVNT	ax40	5190	5141.6-5150	5148.48	-38.68	-18	-18	Pass
NVNT	ax40	5190	5250-5251	5250.98	-44.92	-3	-13	Pass
NVNT	ax40	5190	5251-5270	5267.04	-44.7	-13	-21	Pass
NVNT	ax40	5190	5270-5278.4	5276.08	-45.72	-21	-26	Pass
NVNT	ax40	5190	5278.4-26000	25730.62	-31.18	-26	-26	Pass
NVNT	ax40	5230	30-5141.6	4185.73	-42.77	-26	-26	Pass
NVNT	ax40	5230	5141.6-5150	5146.97	-45.12	-18	-18	Pass
NVNT	ax40	5230	5250-5251	5250.05	-16.89	-3	-13	Pass
NVNT	ax40	5230	5251-5270	5251.51	-26.25	-13	-21	Pass
NVNT	ax40	5230	5270-5278.4	5274.4	-40.03	-21	-26	Pass
NVNT	ax40	5230	5278.4-26000	25627.01	-31.19	-26	-26	Pass
NVNT	ax80	5210	30-5123.2	5113.01	-41.3	-26	-26	Pass
NVNT	ax80	5210	5123.2-5150	5149.87	-35.27	-18	-18	Pass
NVNT	ax80	5210	5250-5251	5250.01	-17.77	-6	-16	Pass
NVNT	ax80	5210	5251-5290	5251.08	-24.49	-16	-24	Pass
NVNT	ax80	5210	5290-5296.7	5293.87	-38.71	-24	-26	Pass
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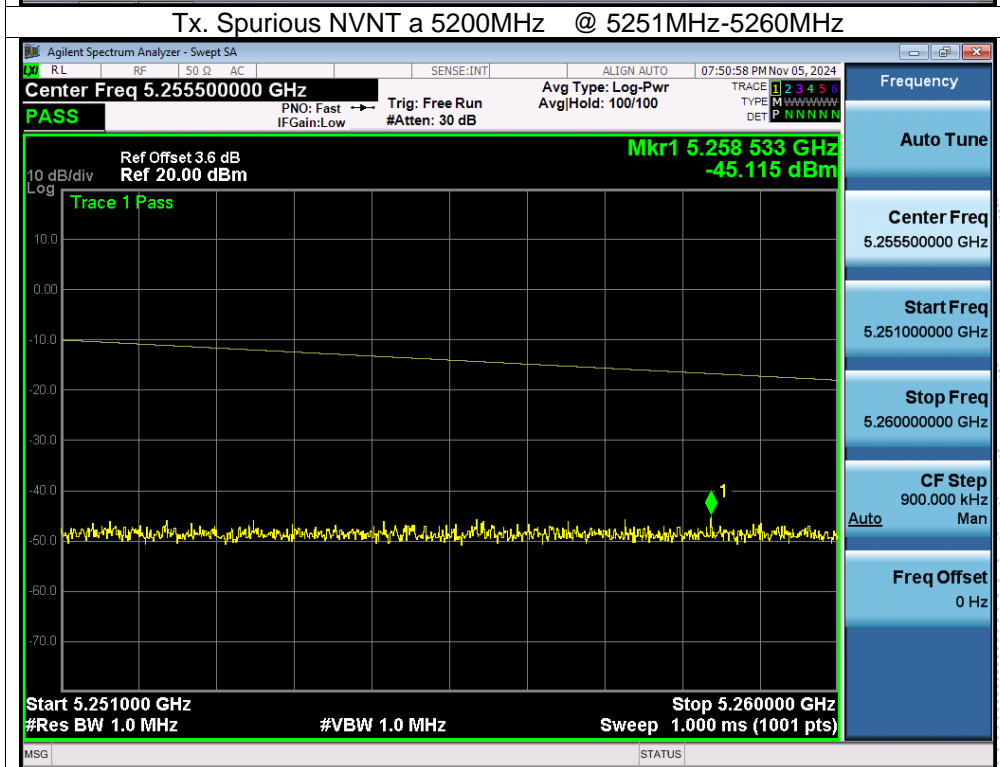
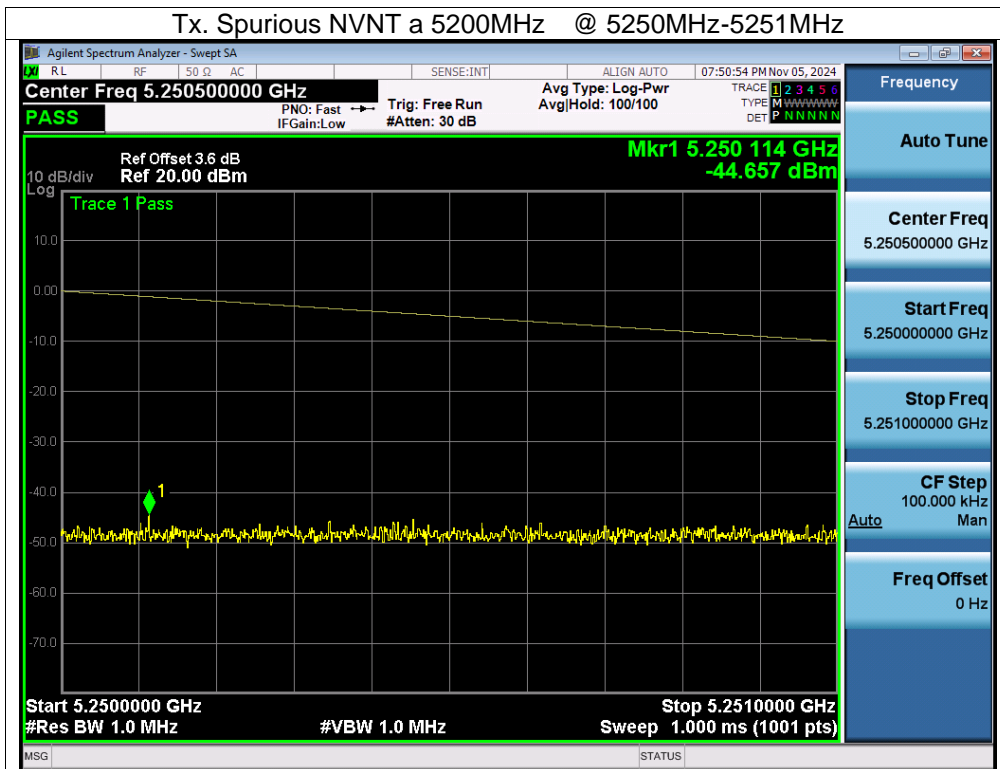
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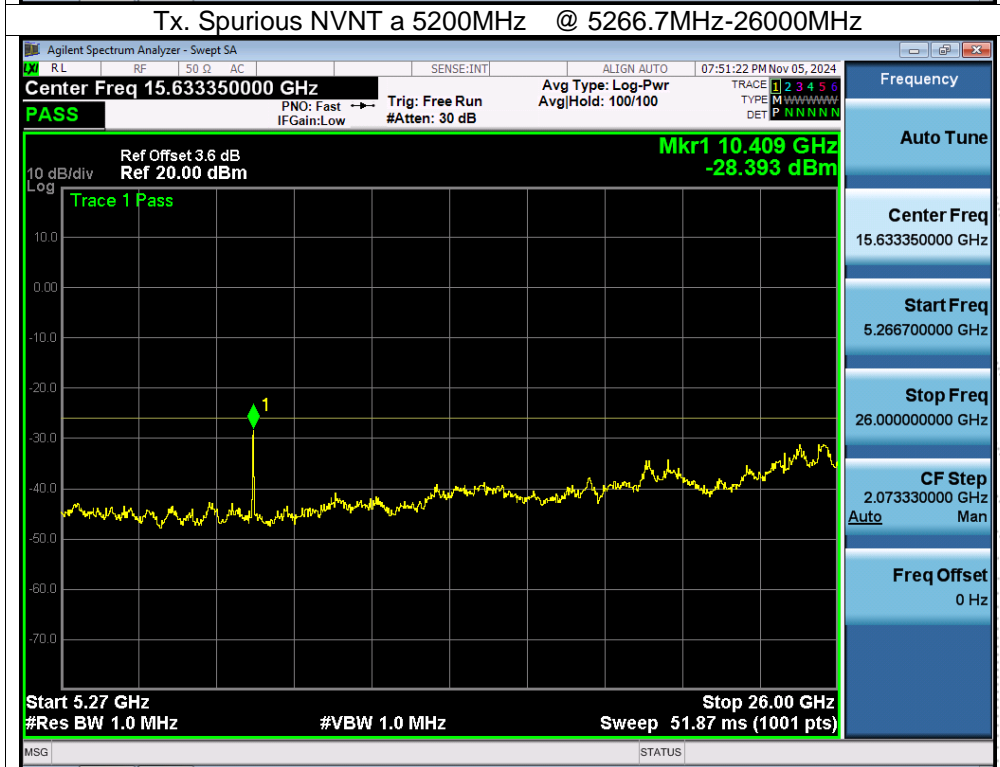
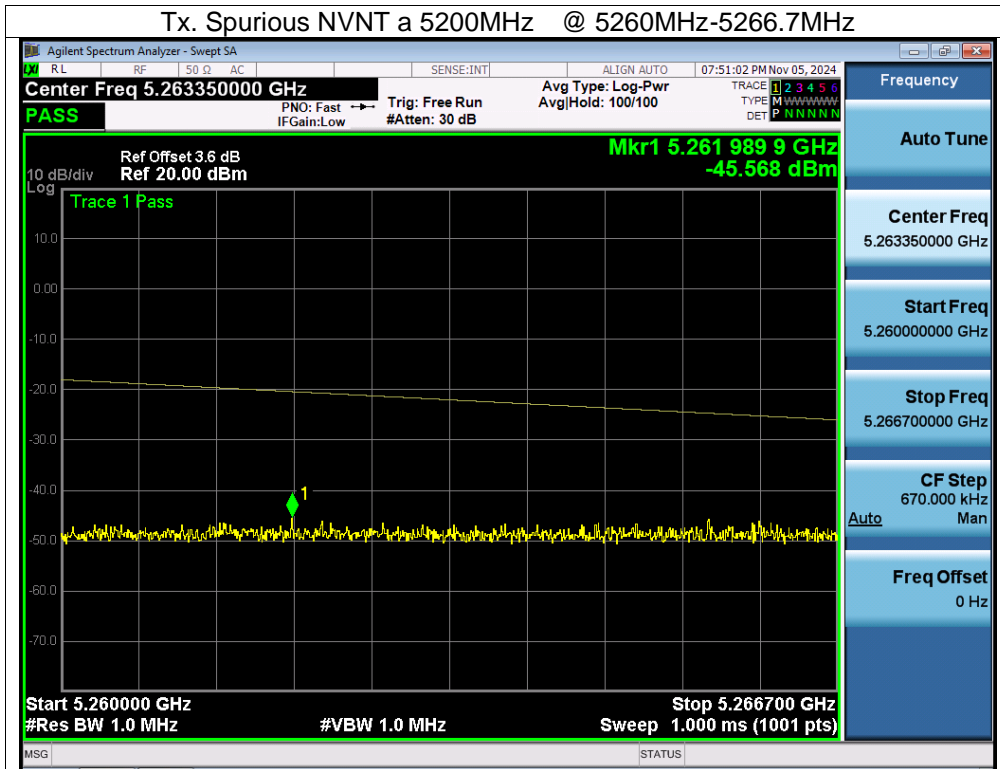




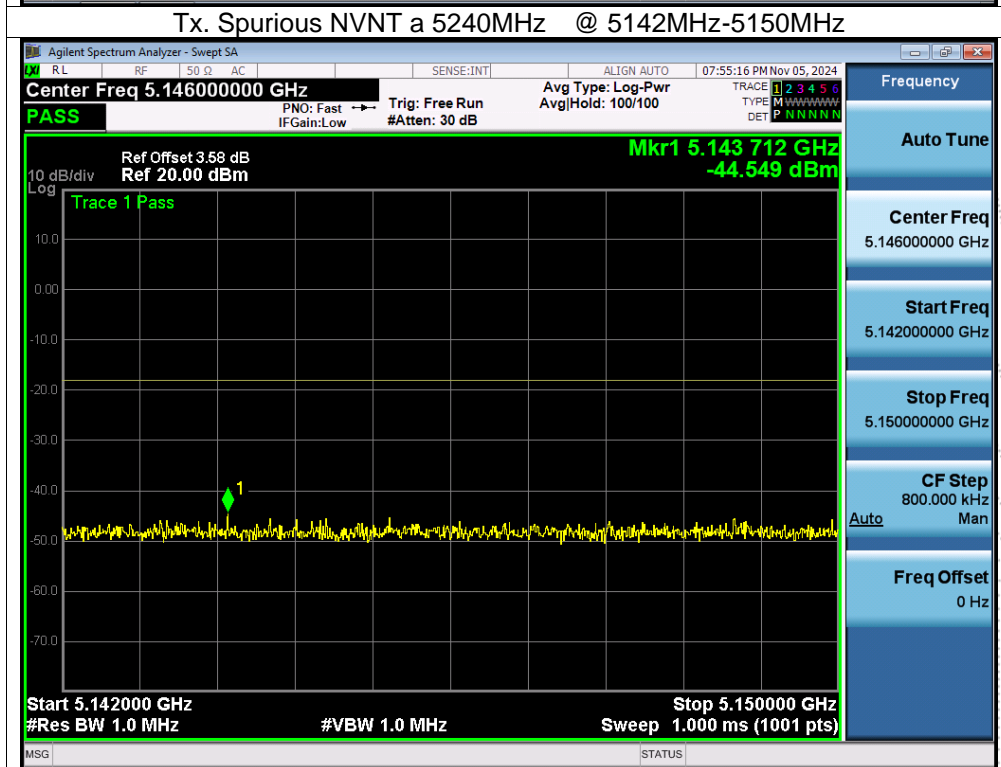
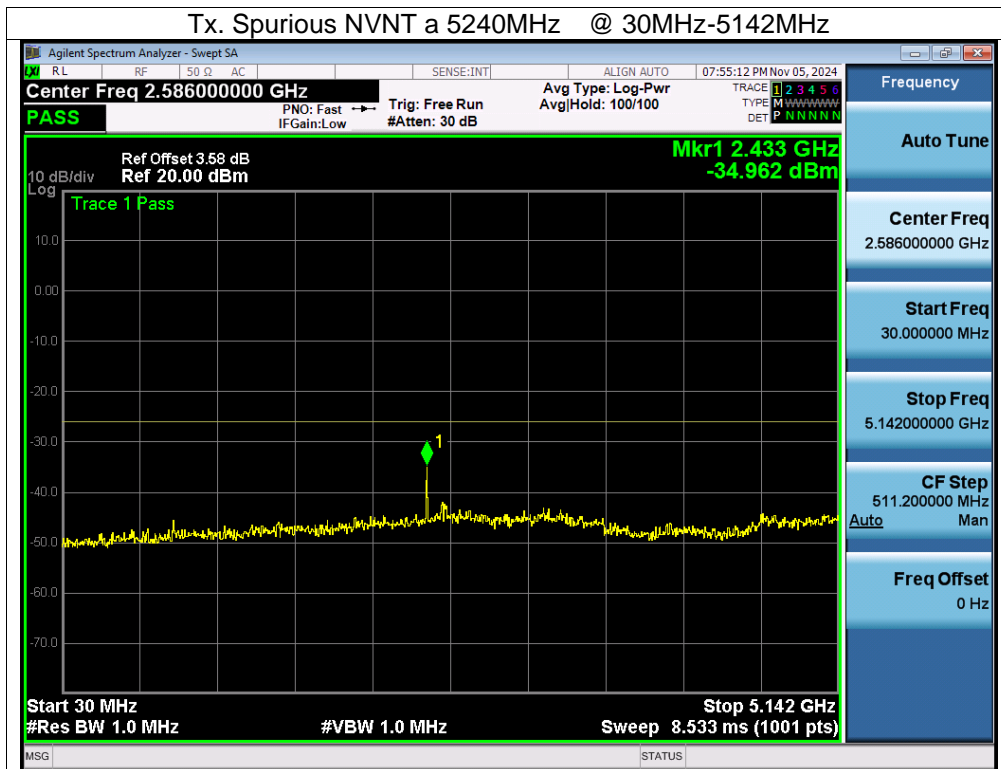


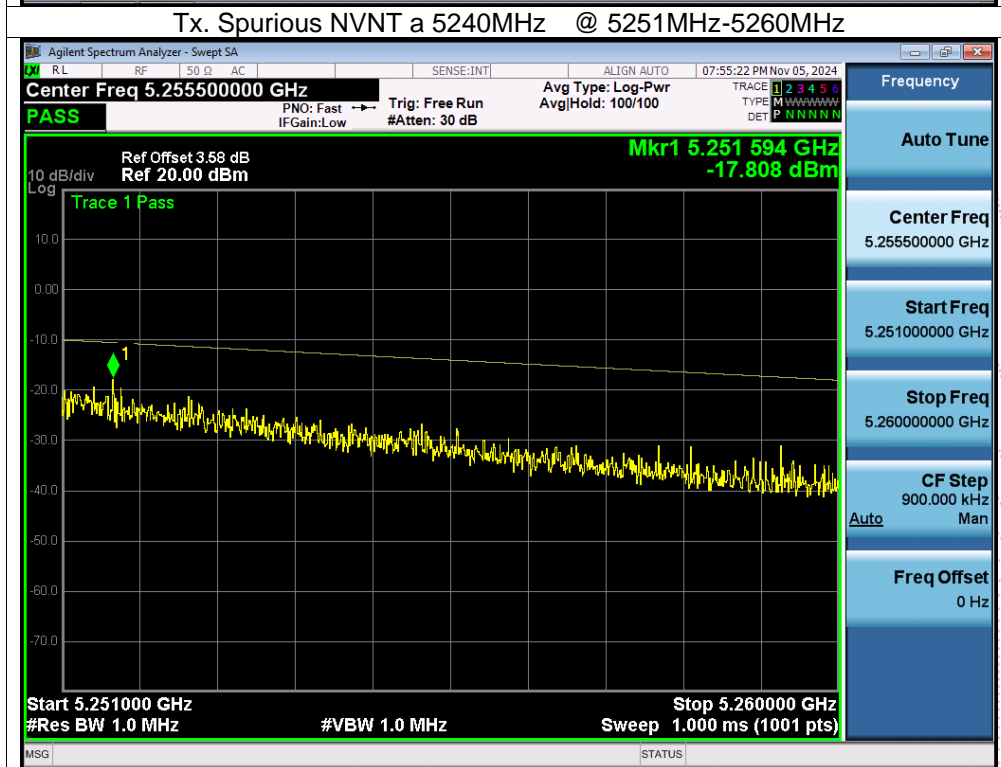
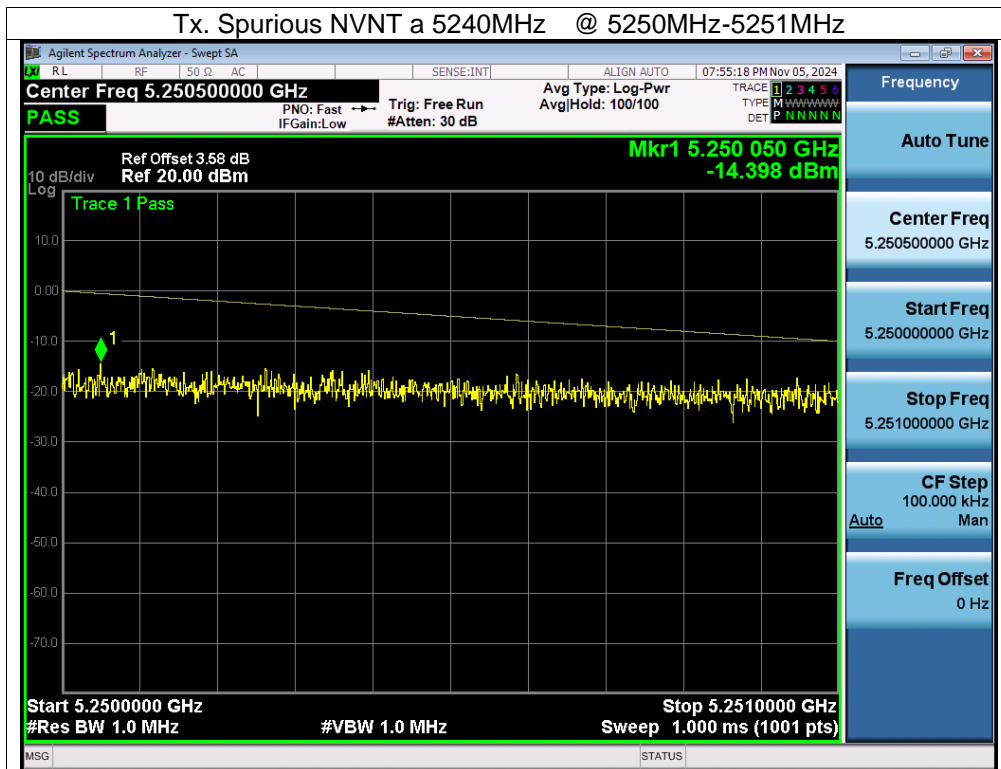


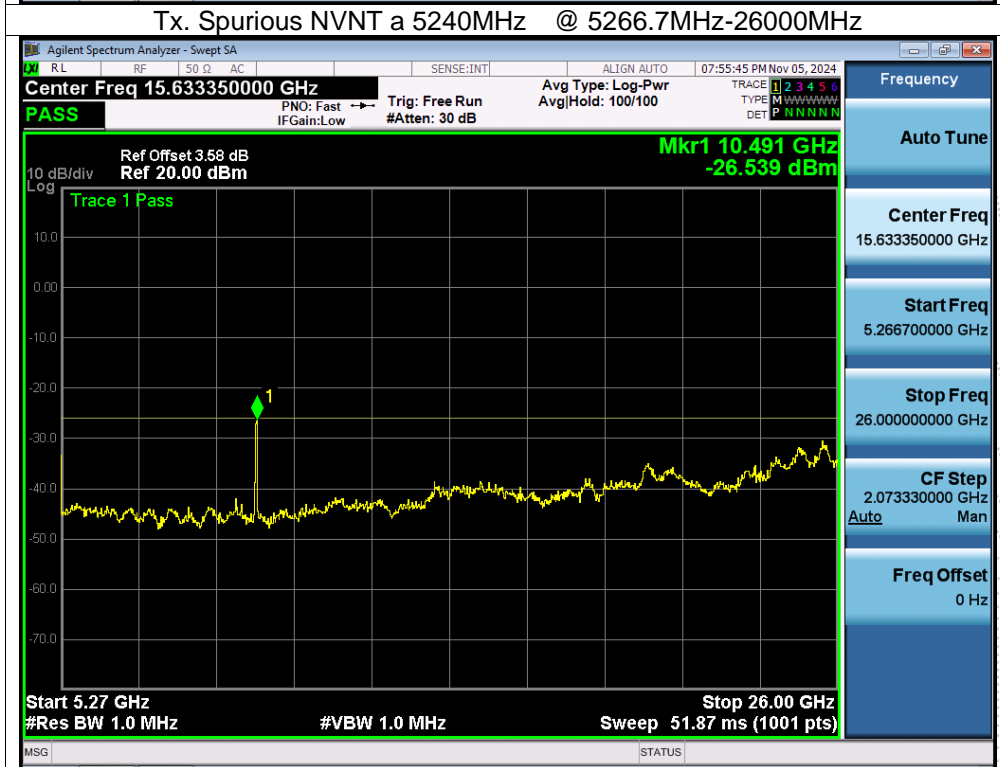
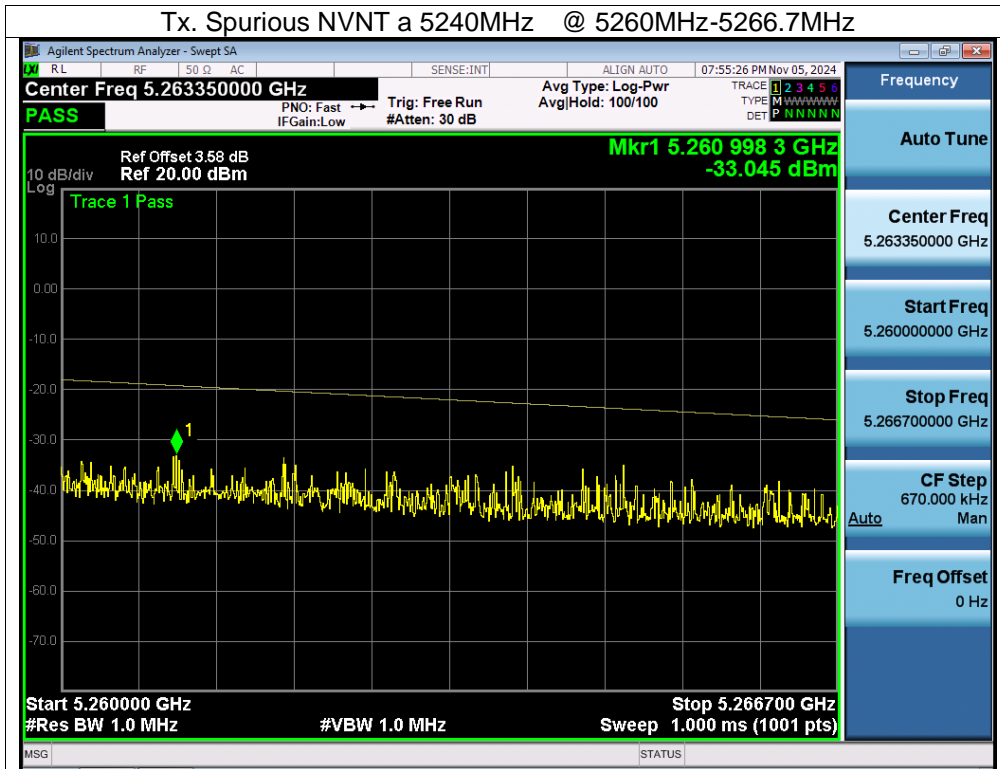
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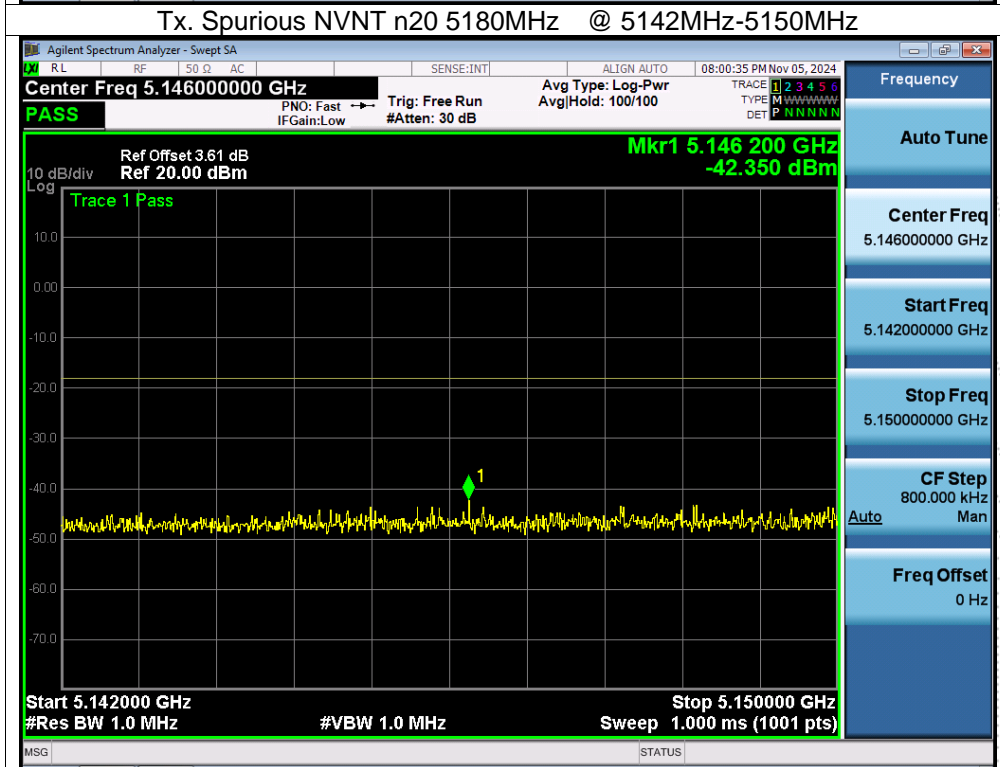
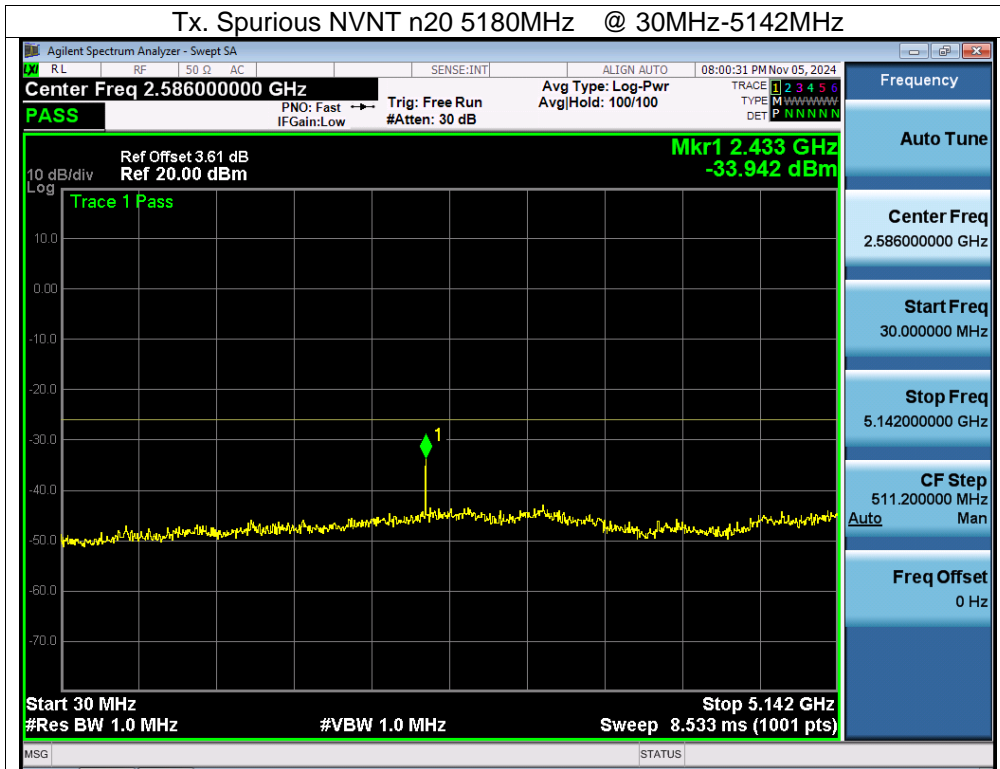


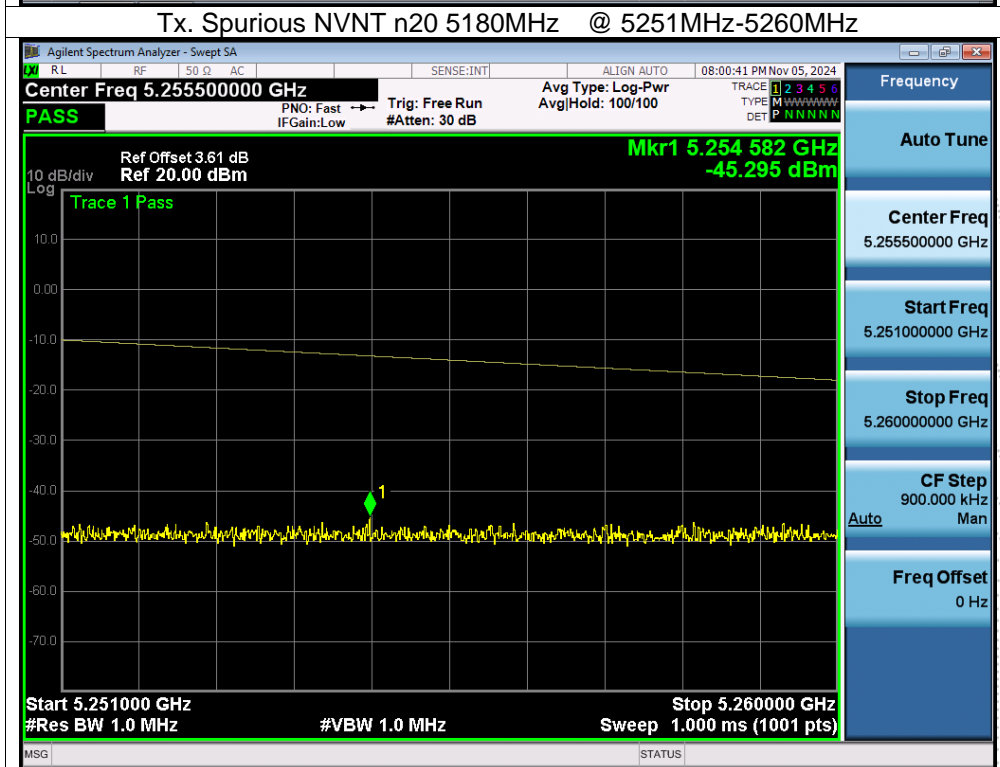
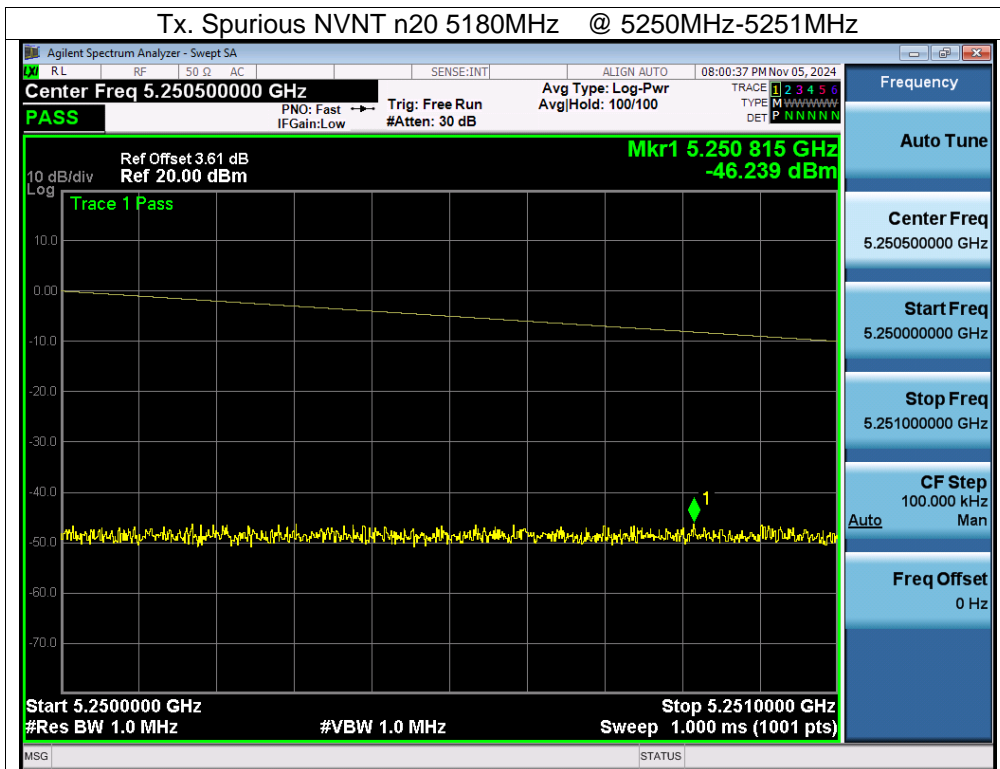
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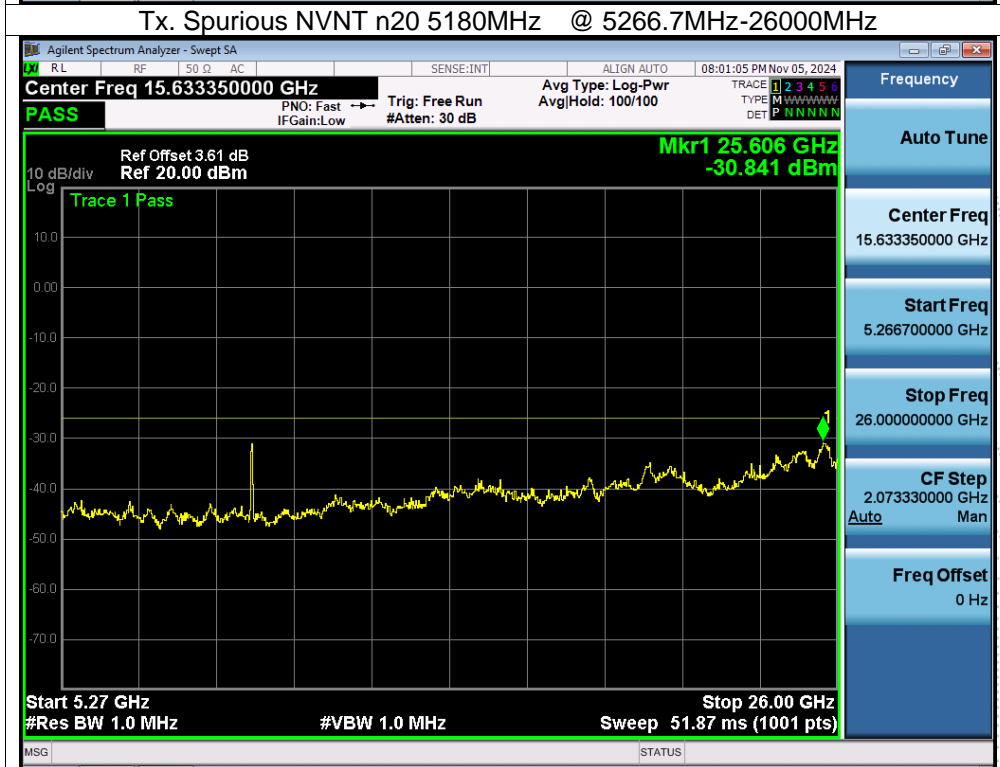
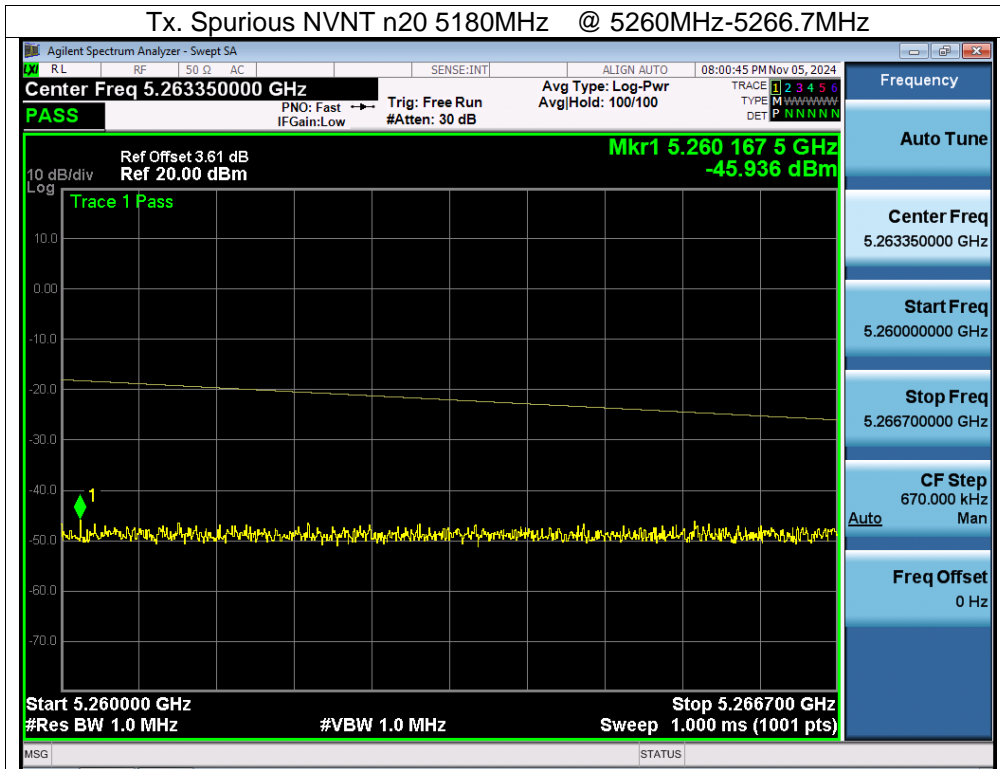




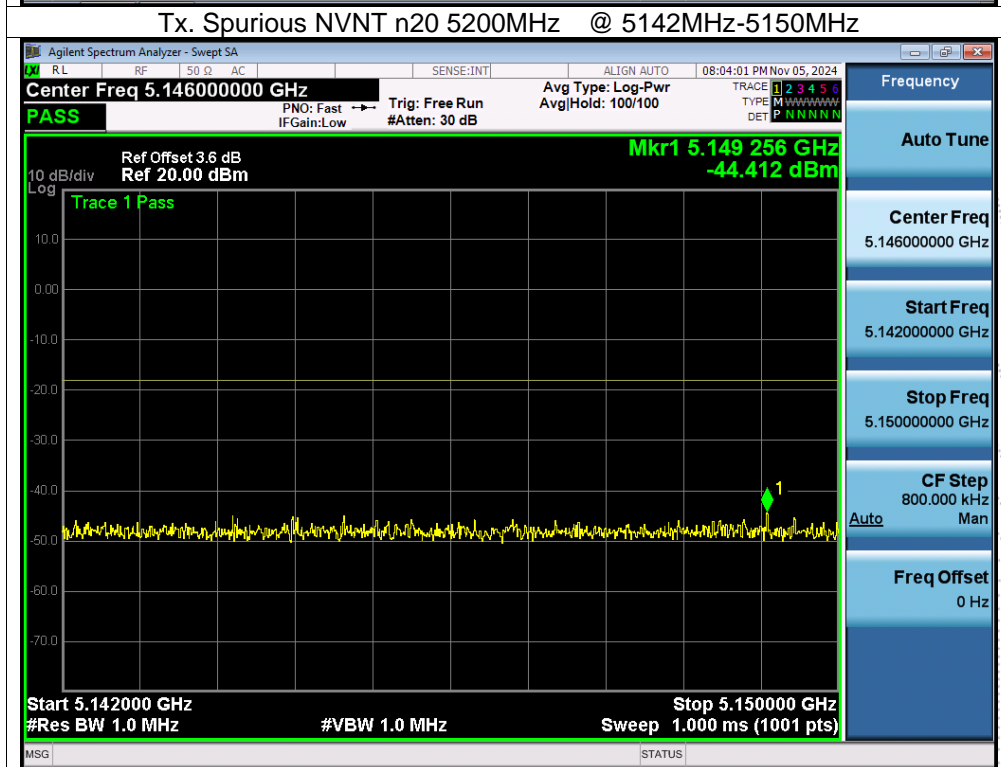
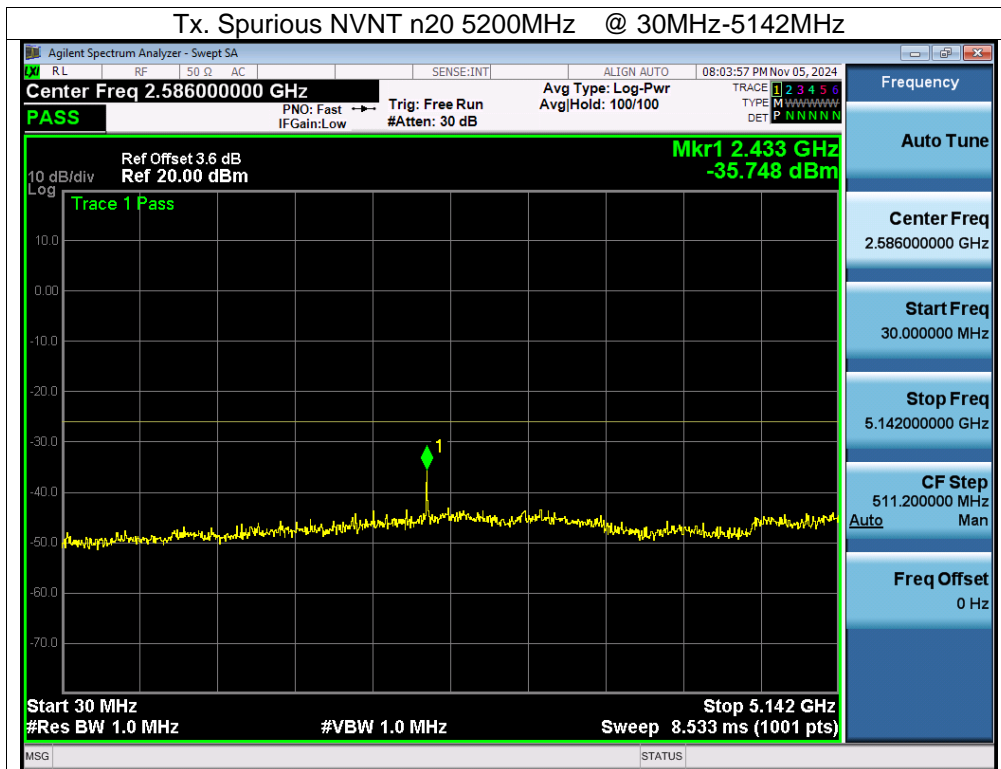


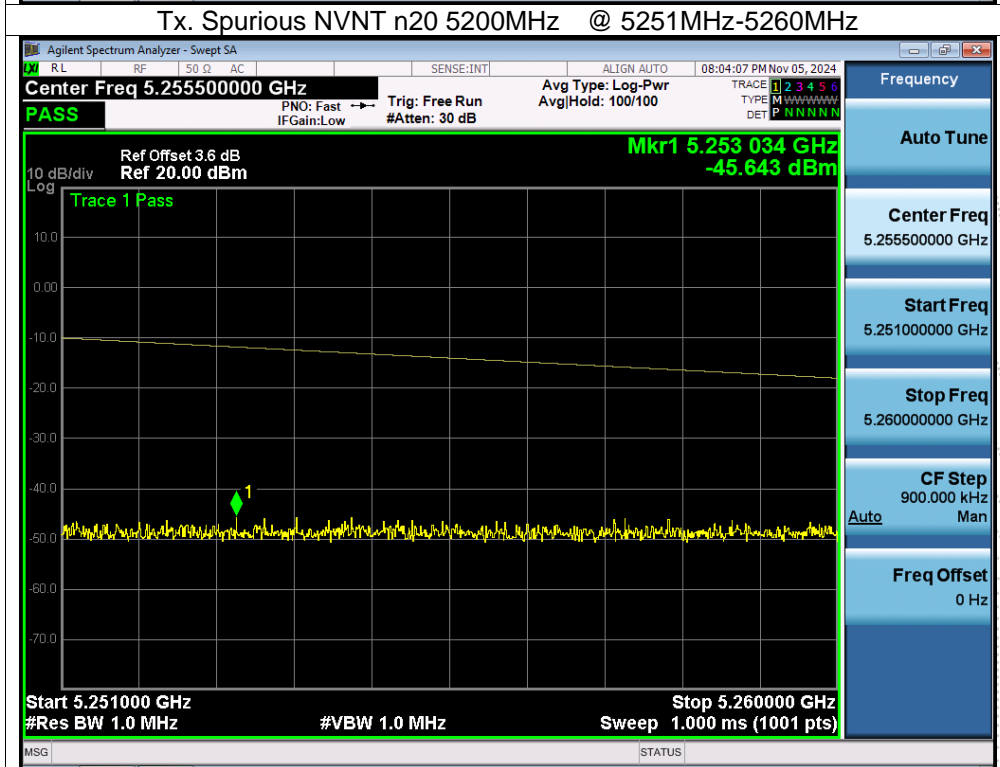
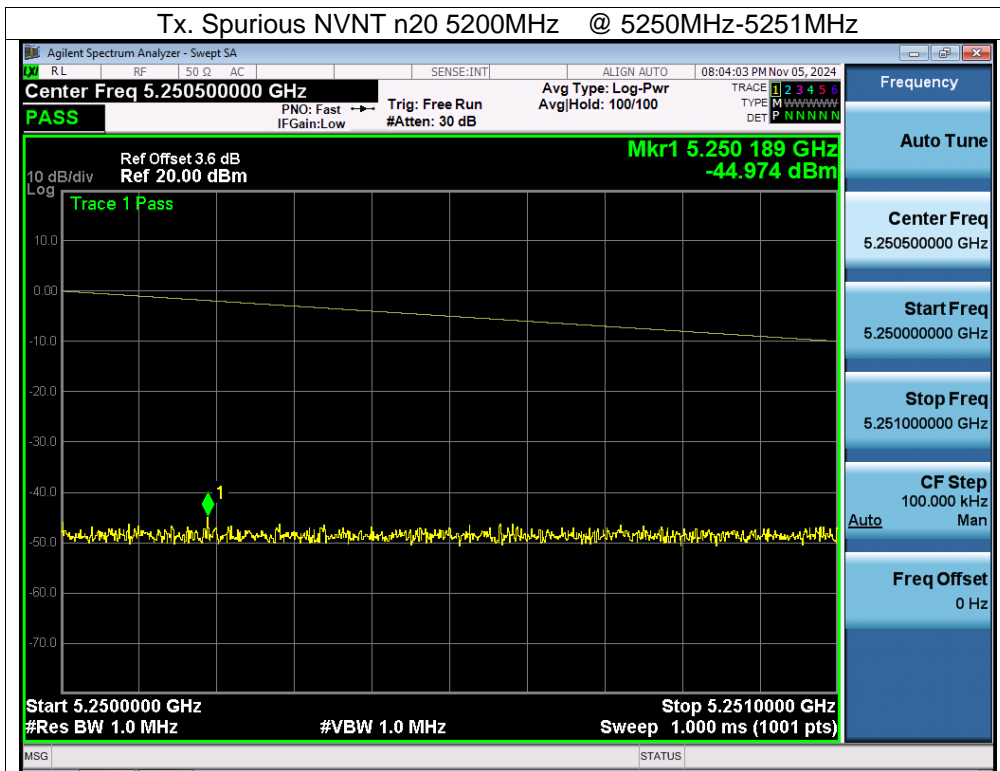


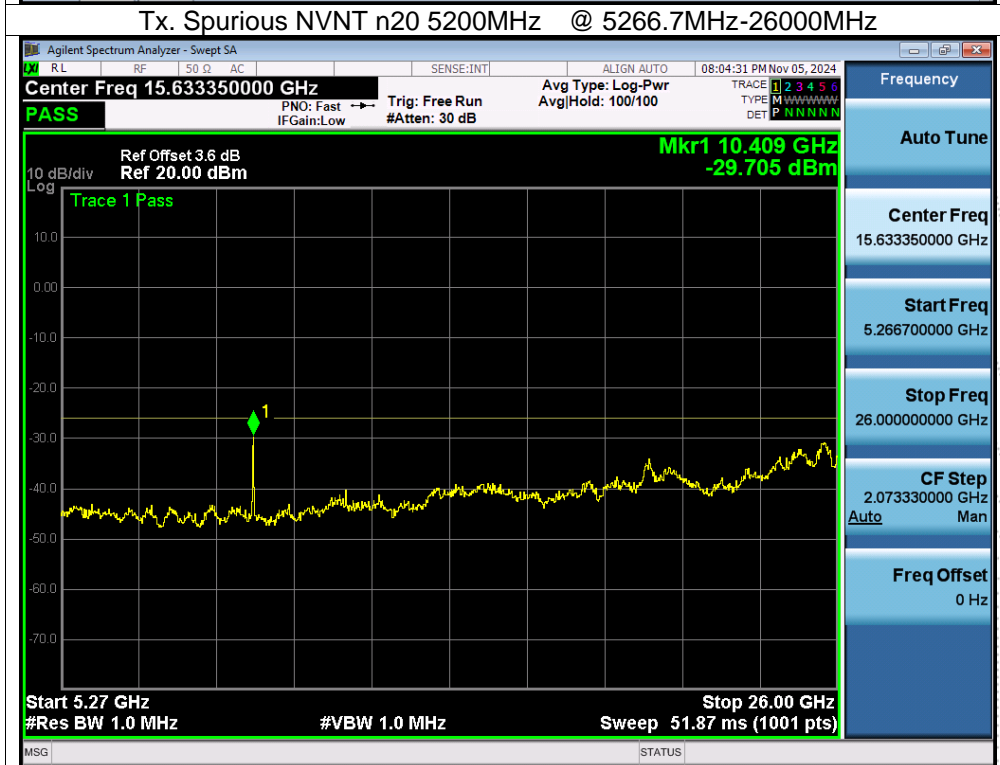
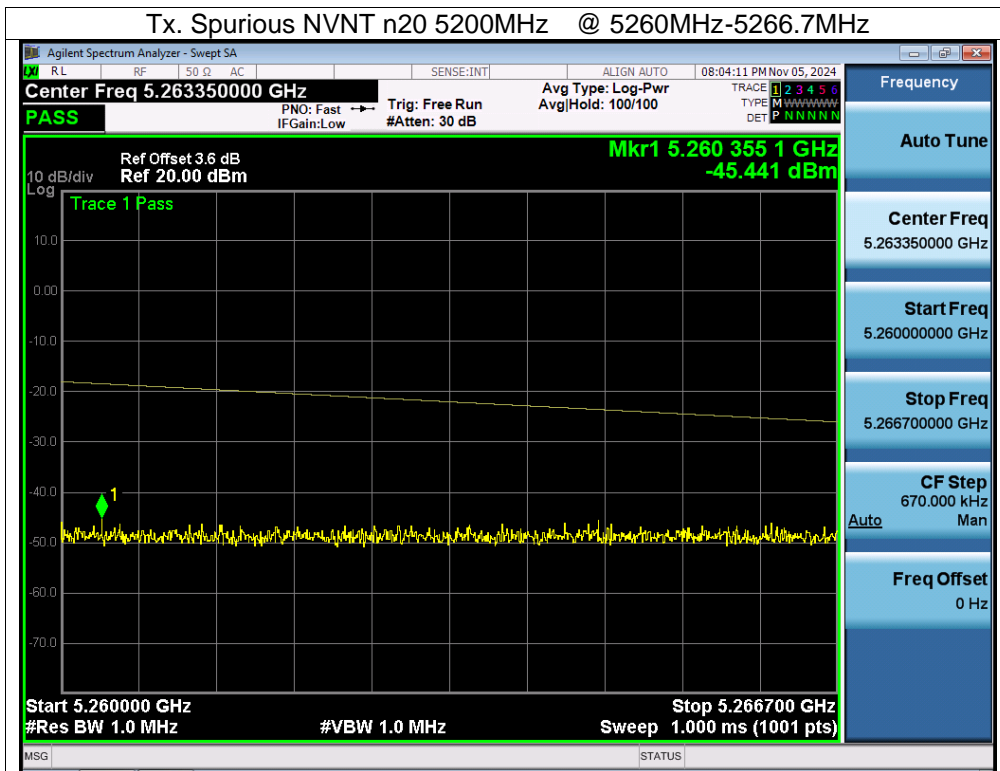


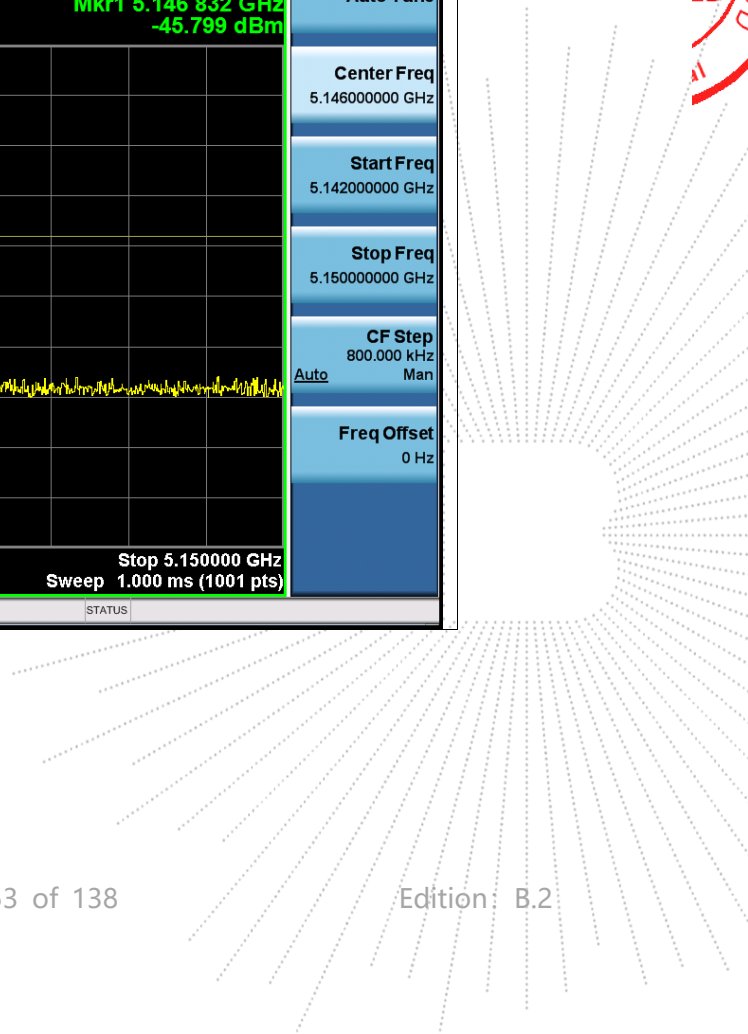
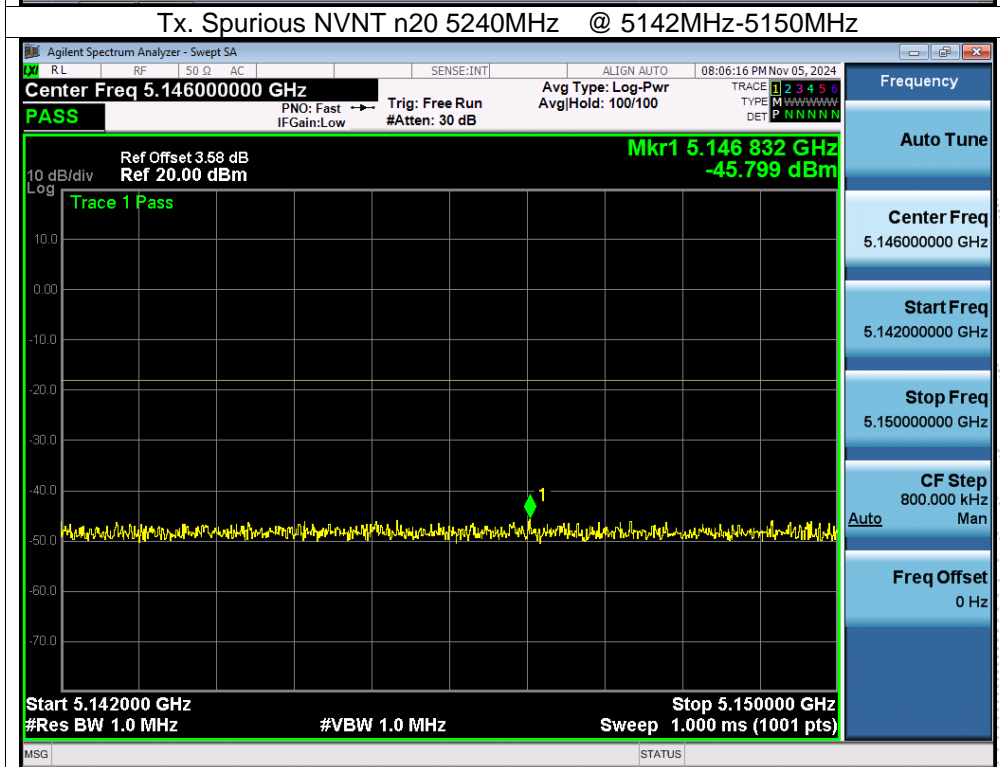
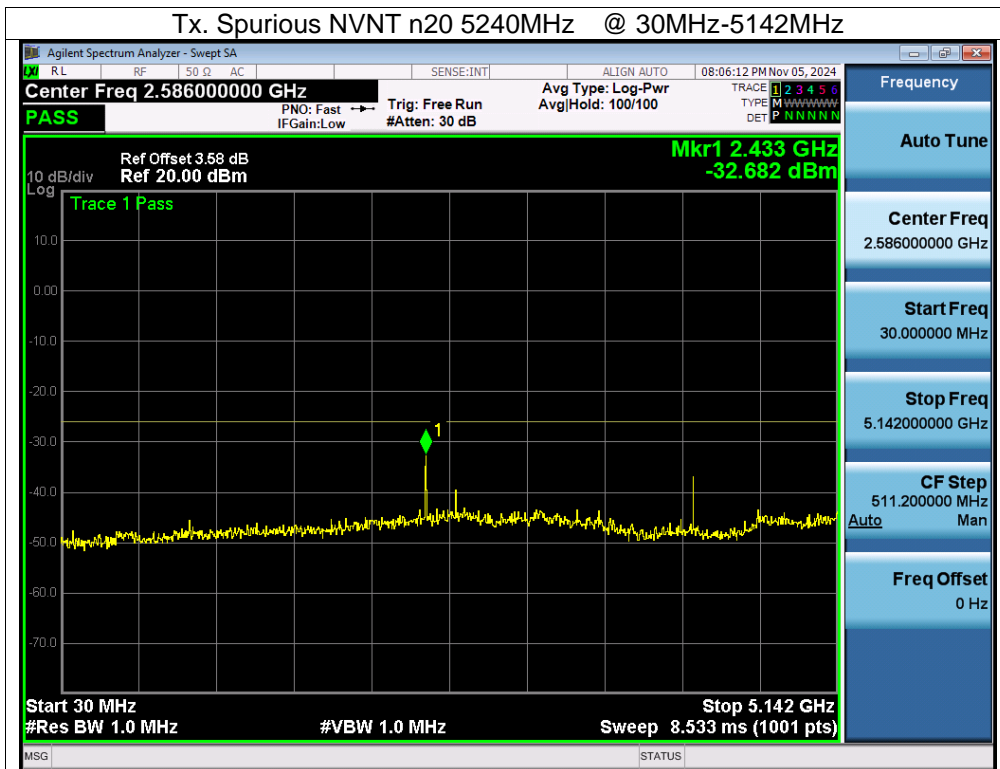


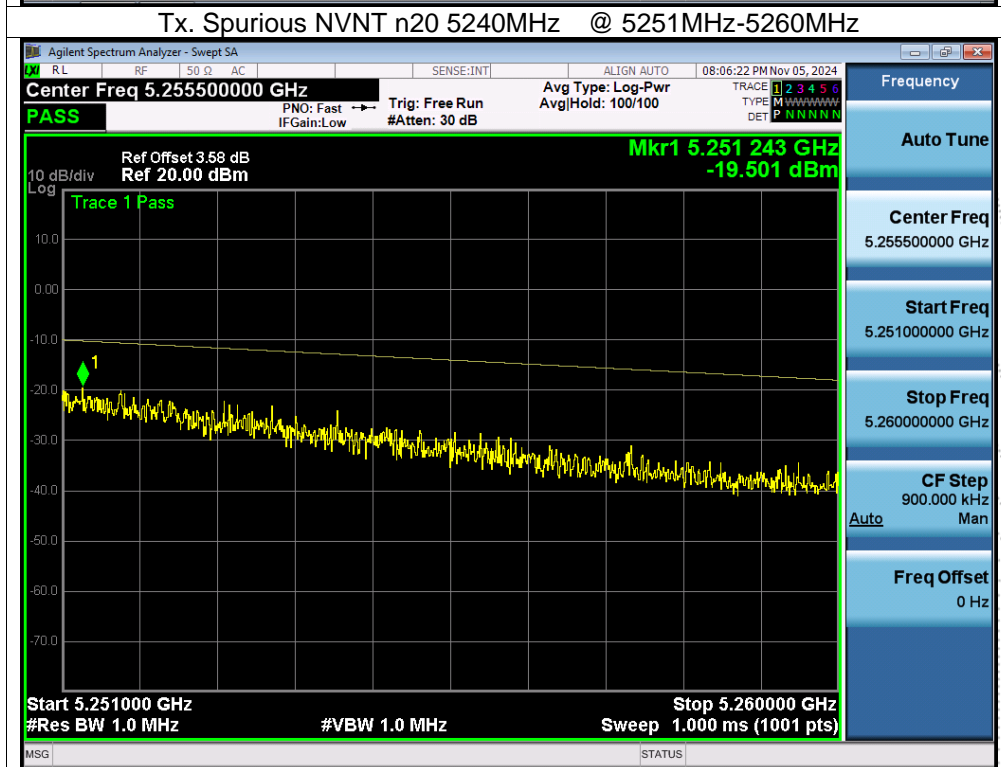
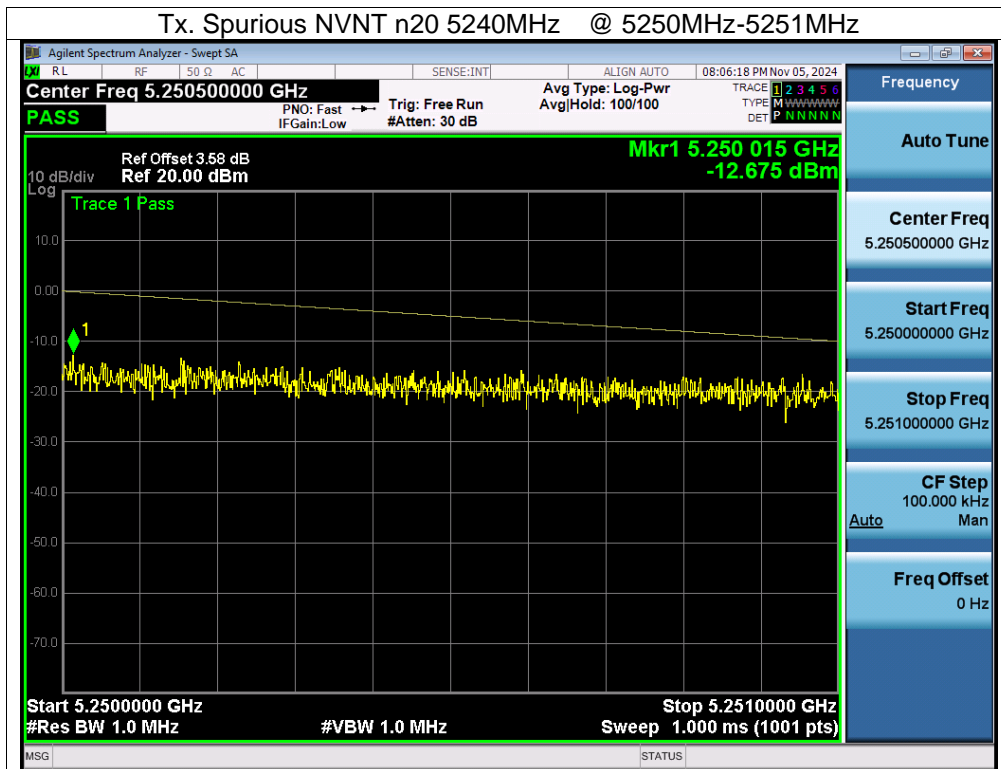
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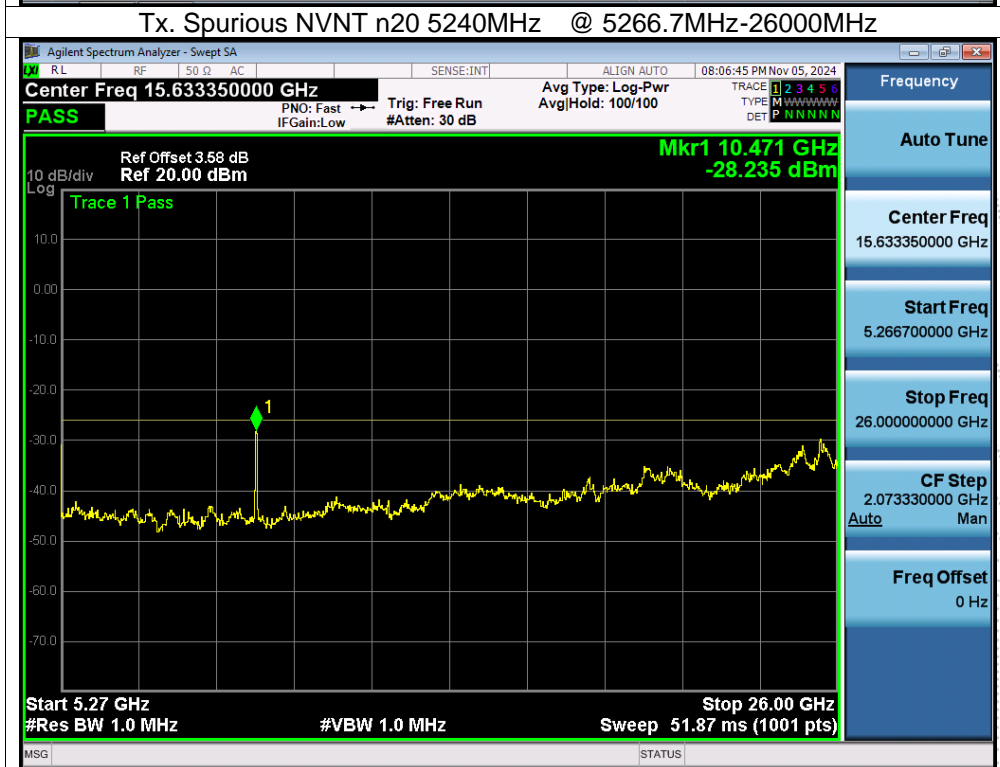
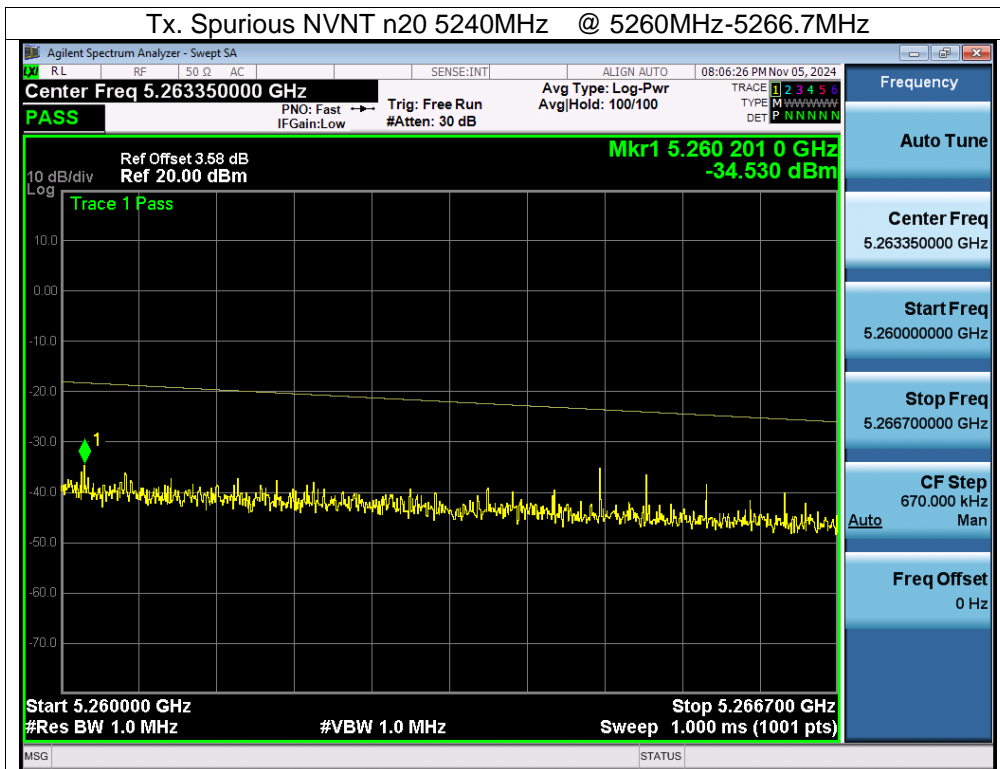




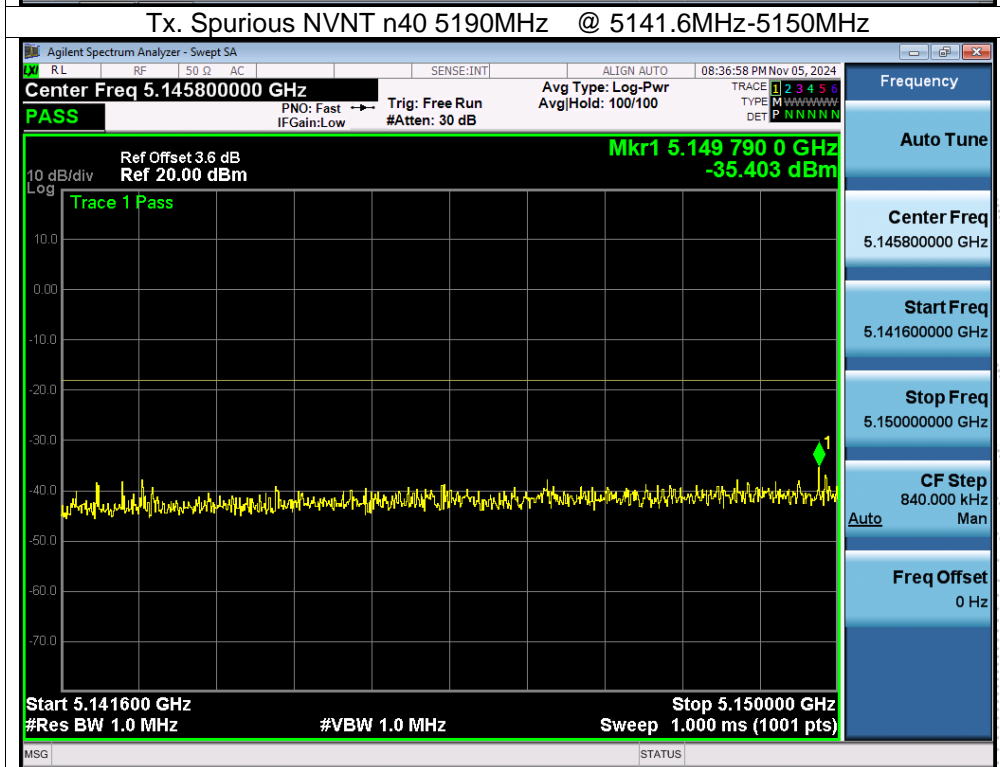
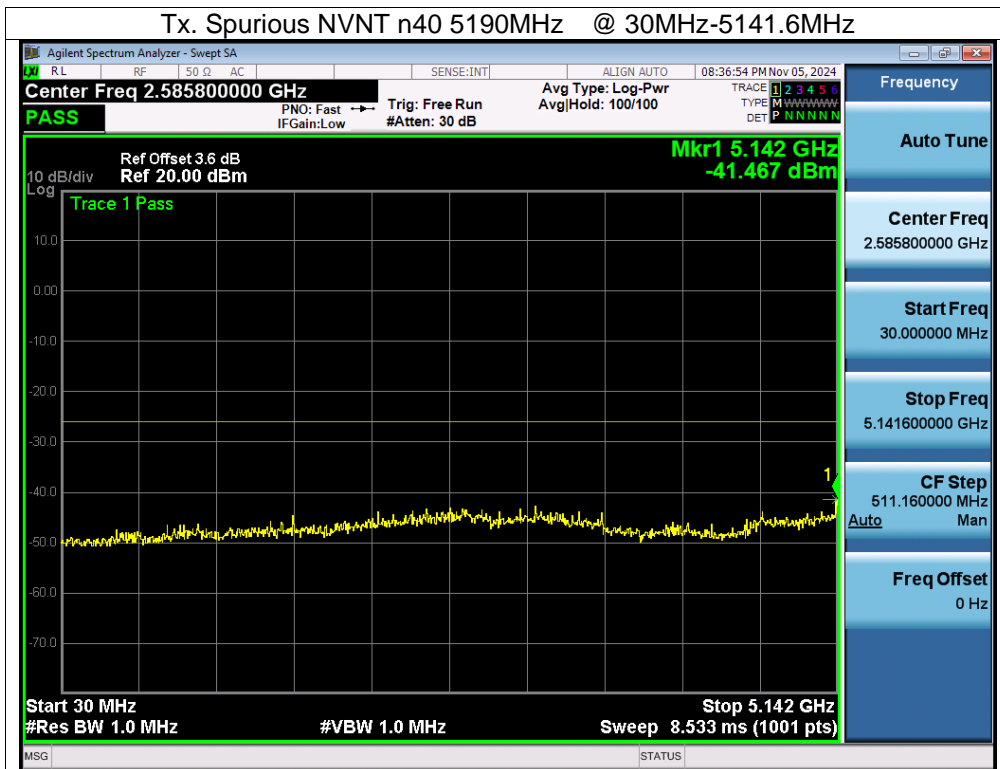


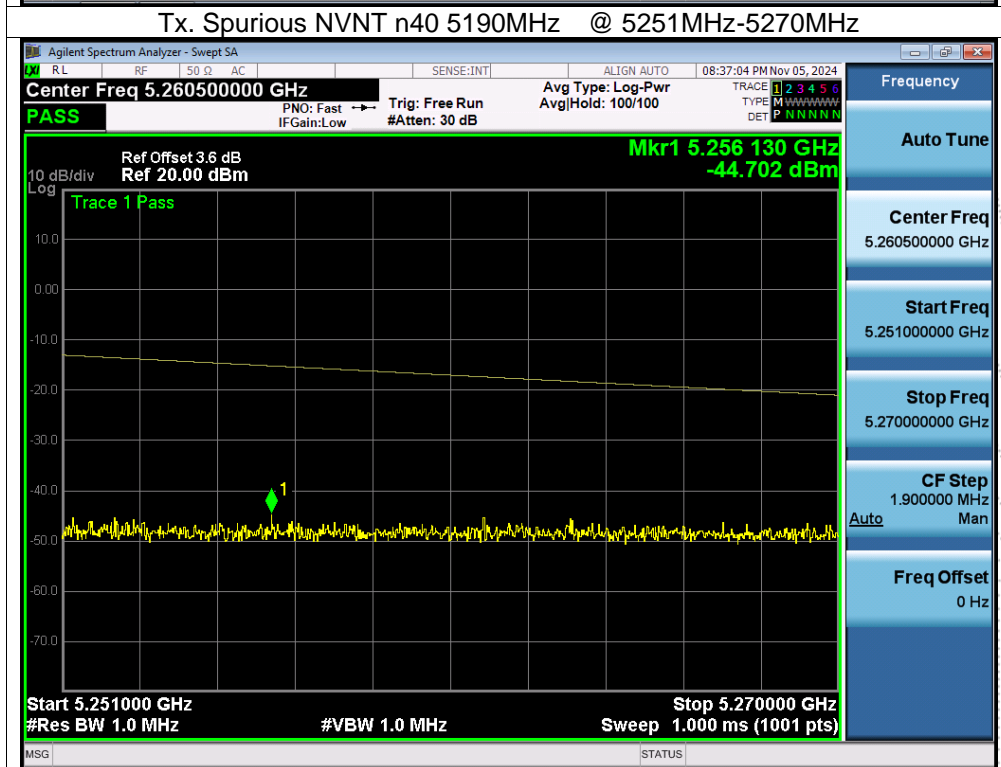
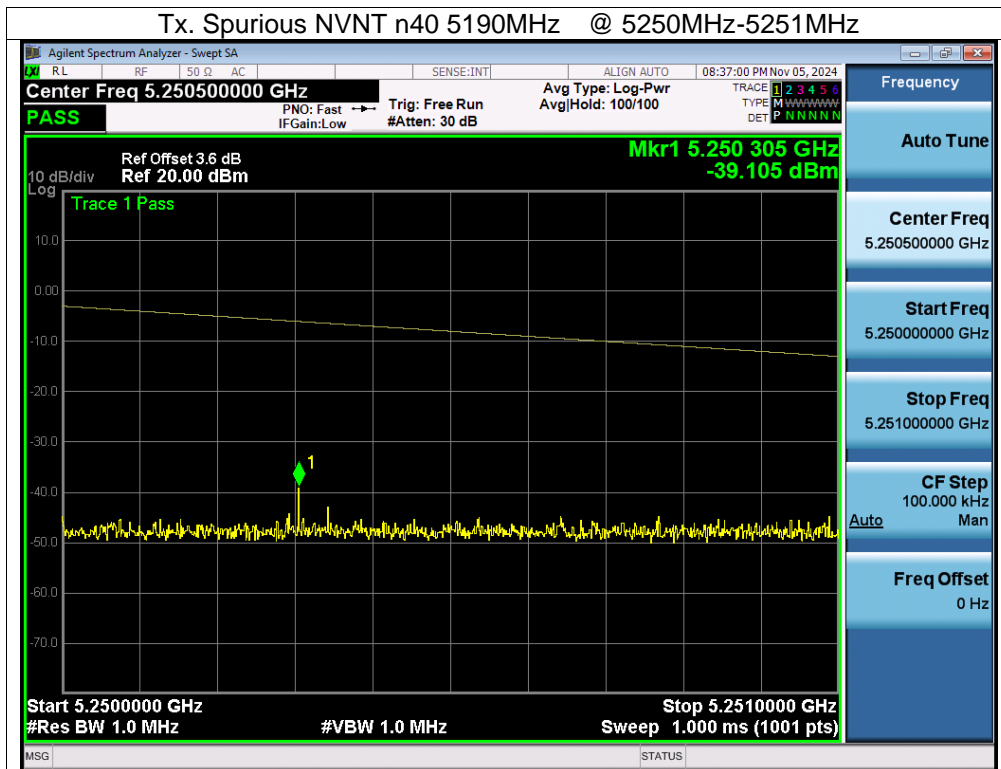


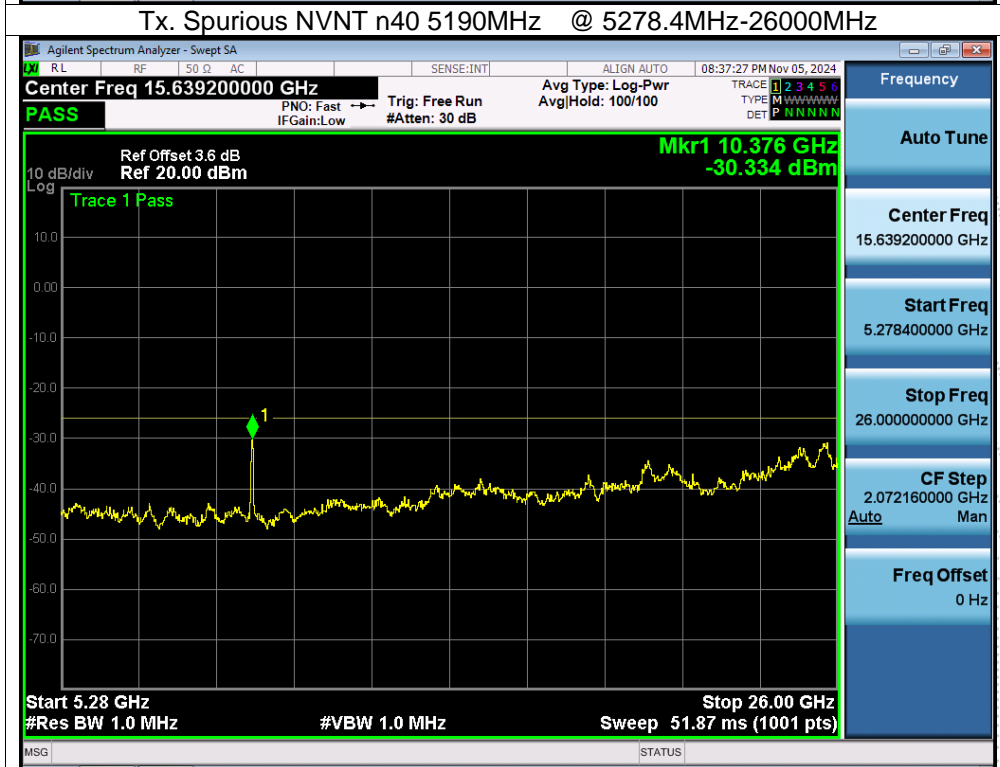
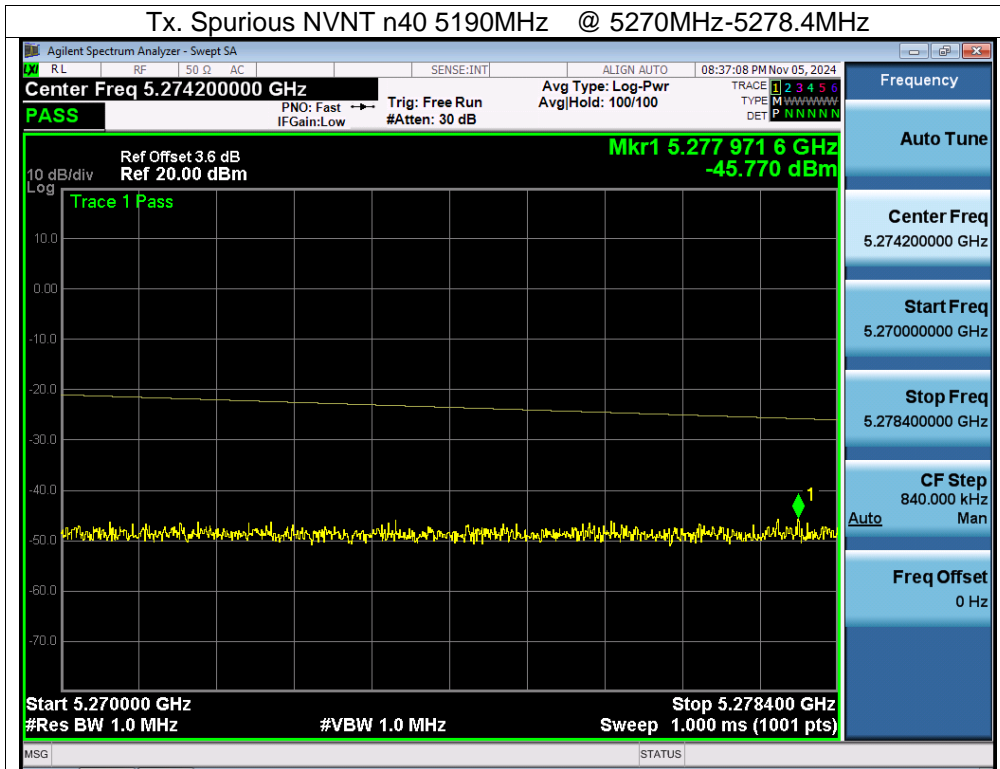


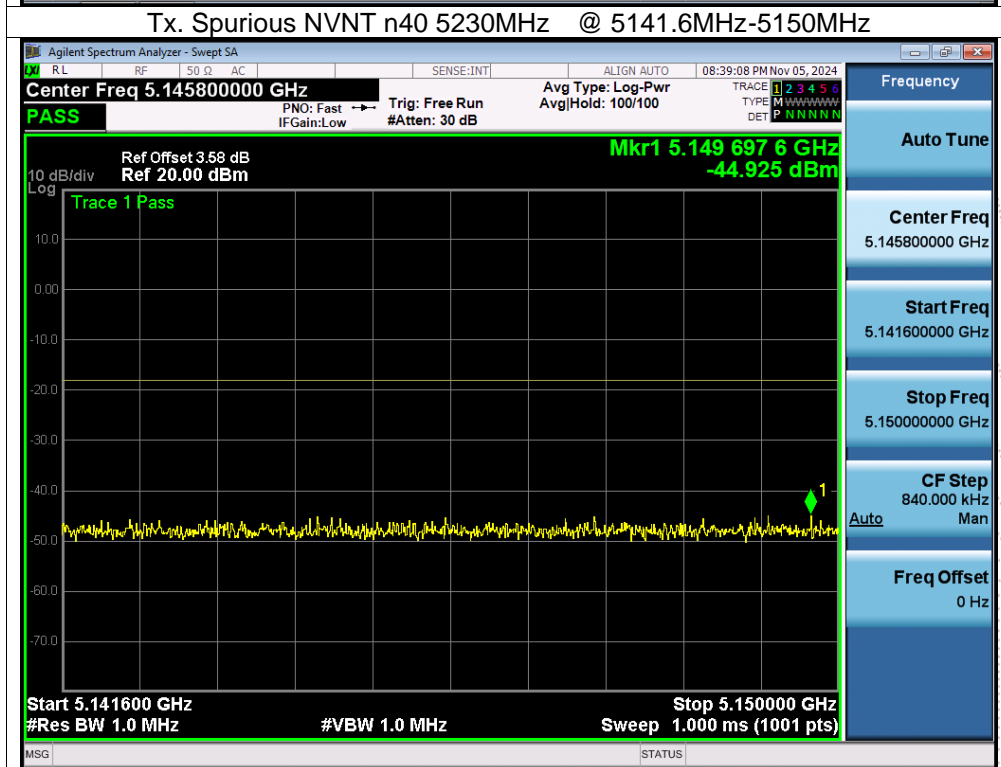
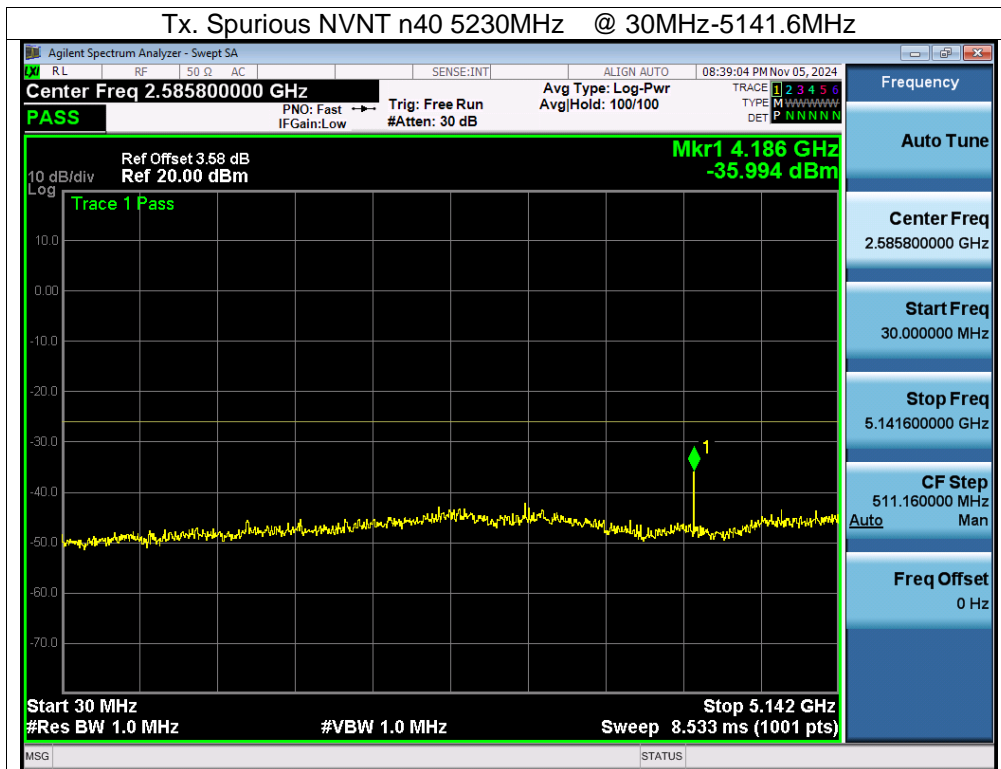


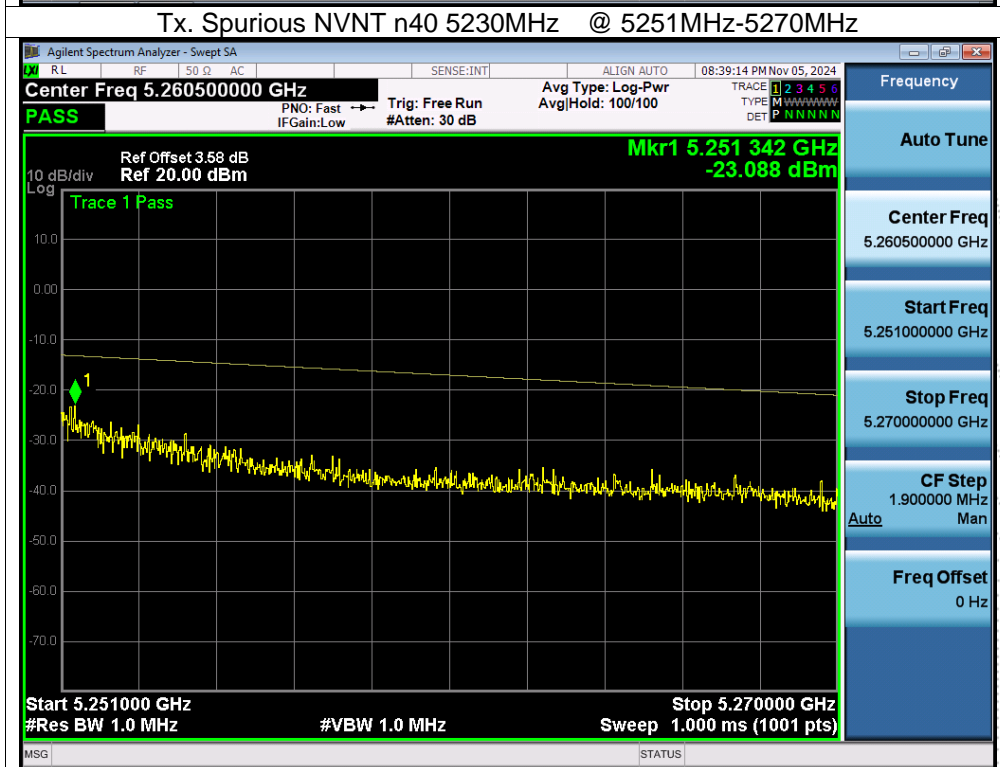
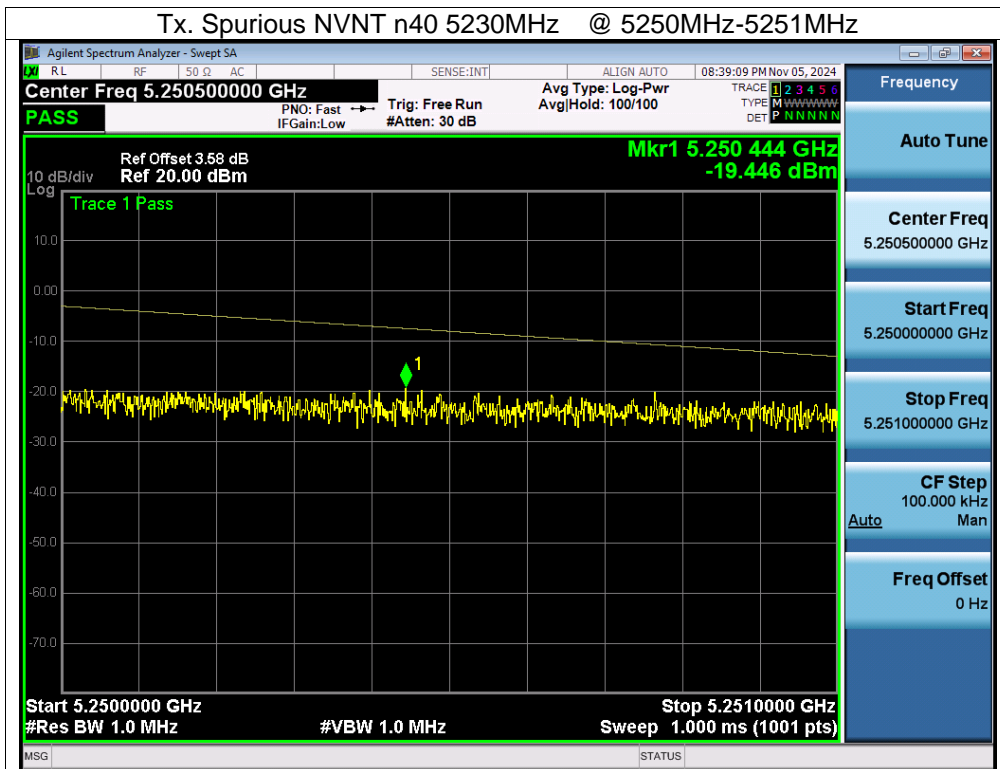
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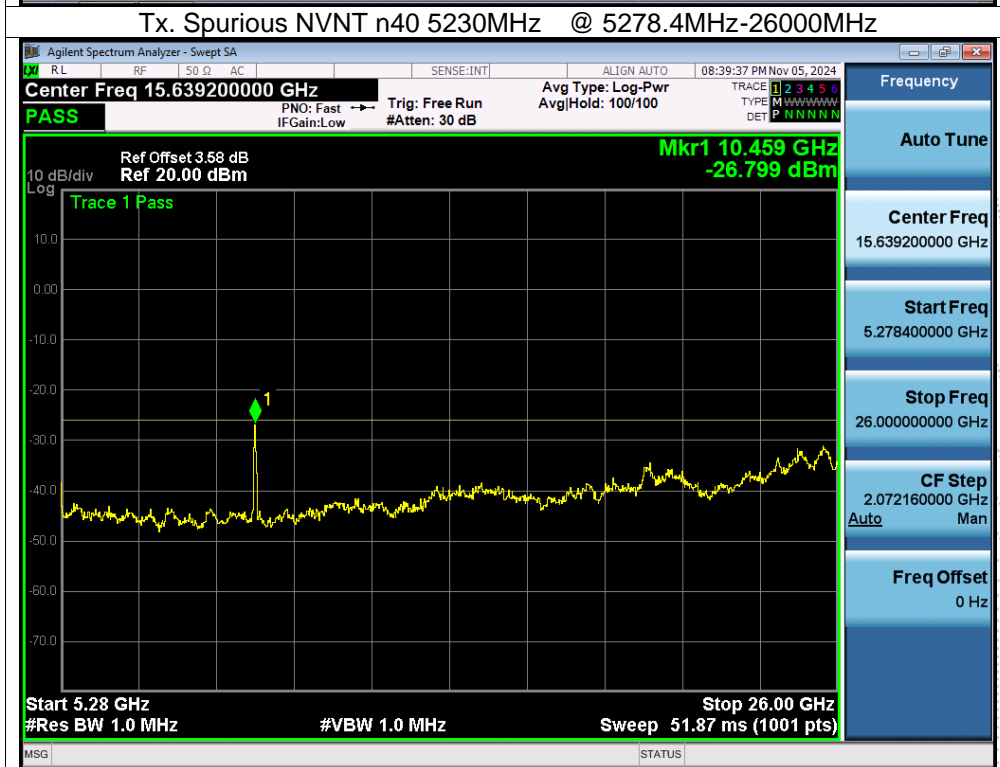
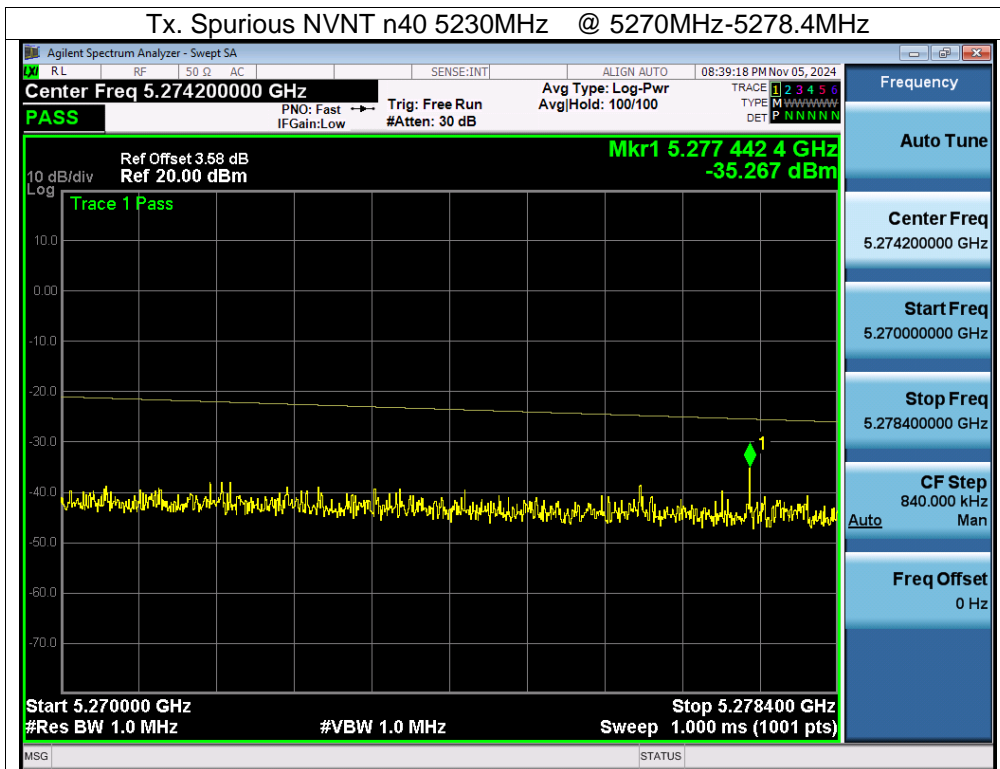




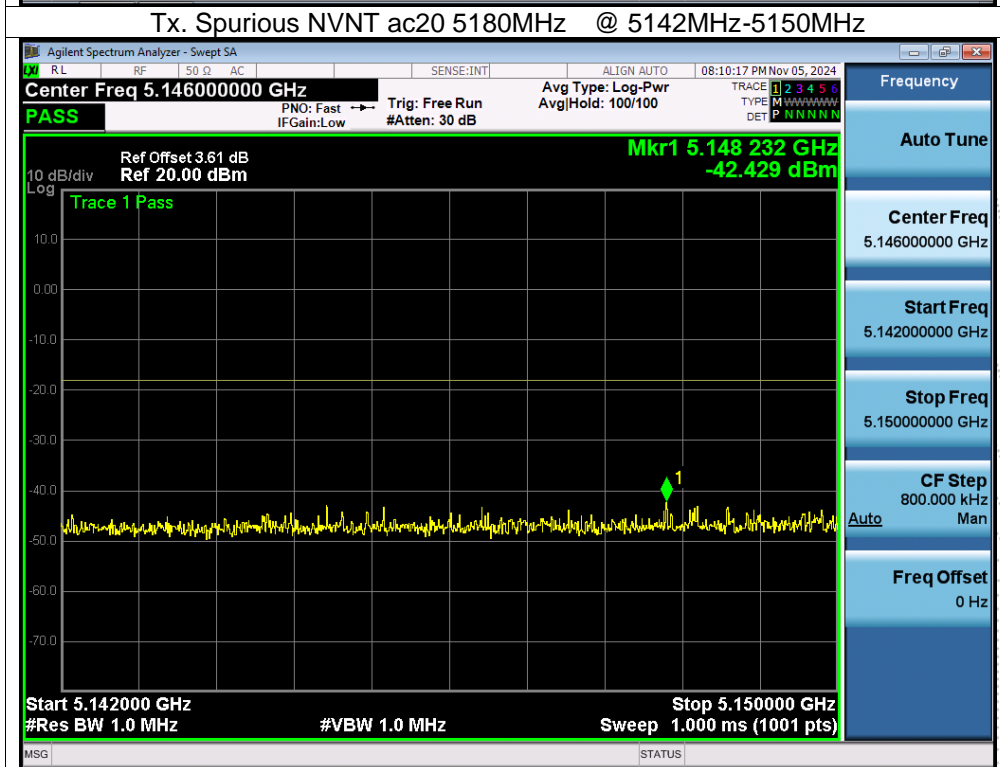
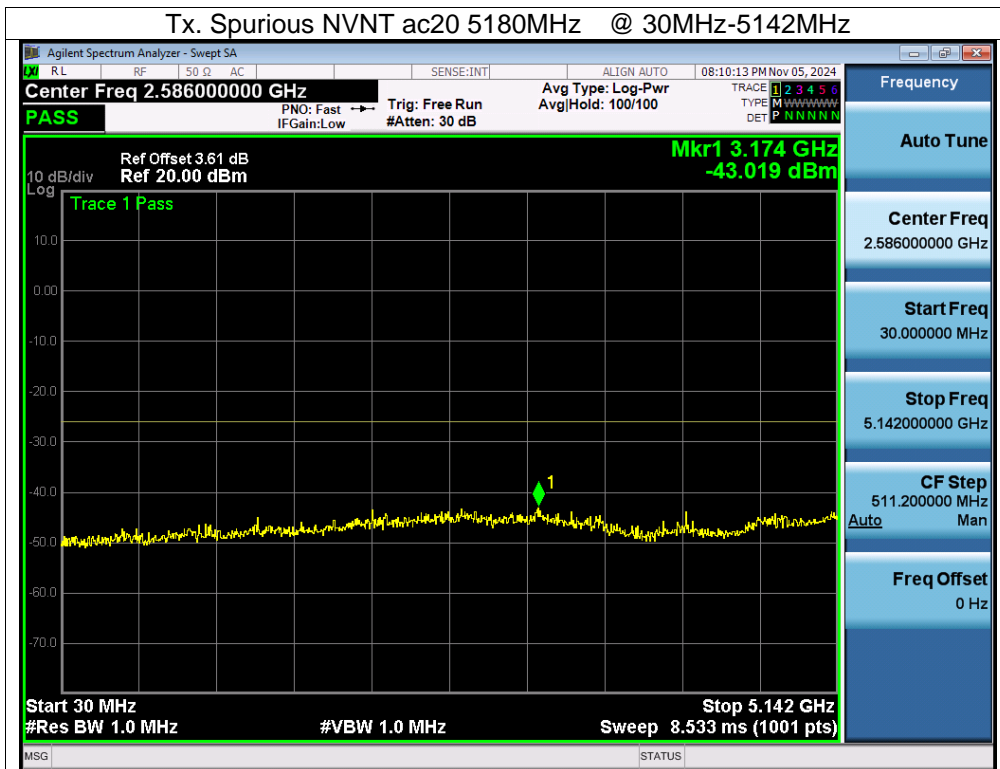


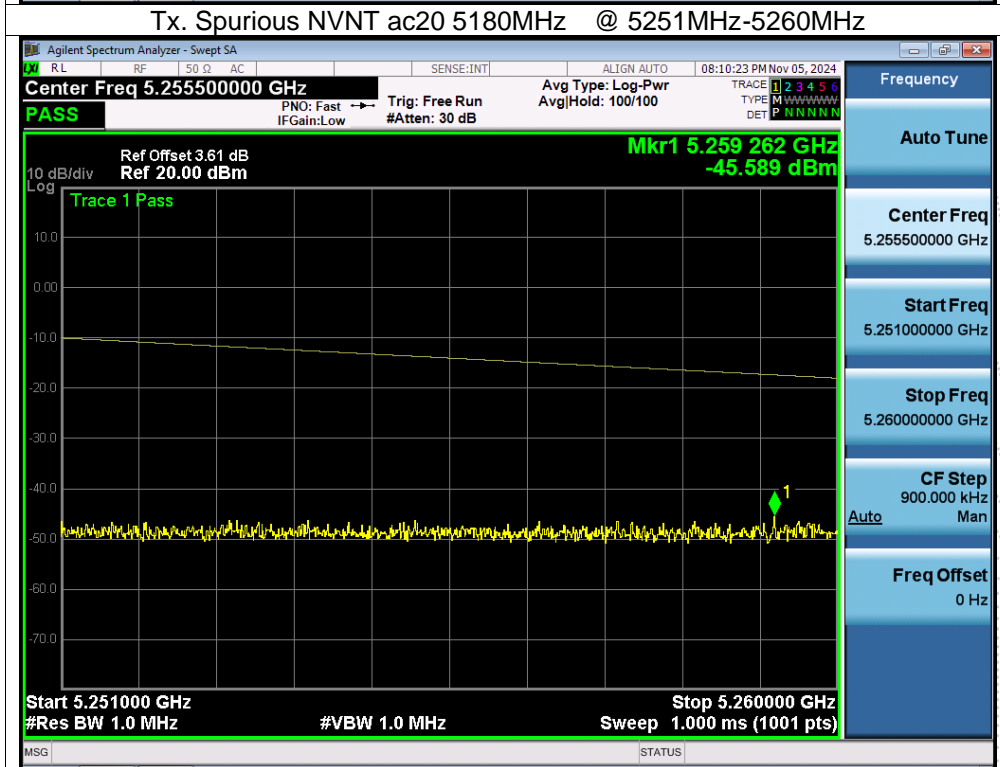
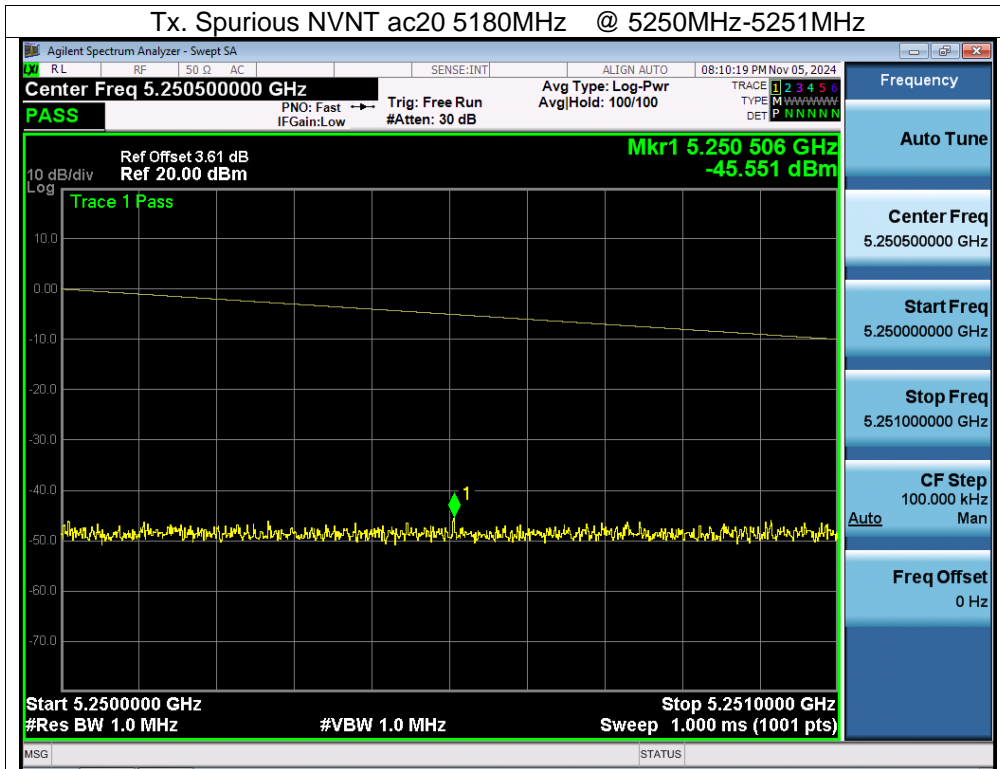


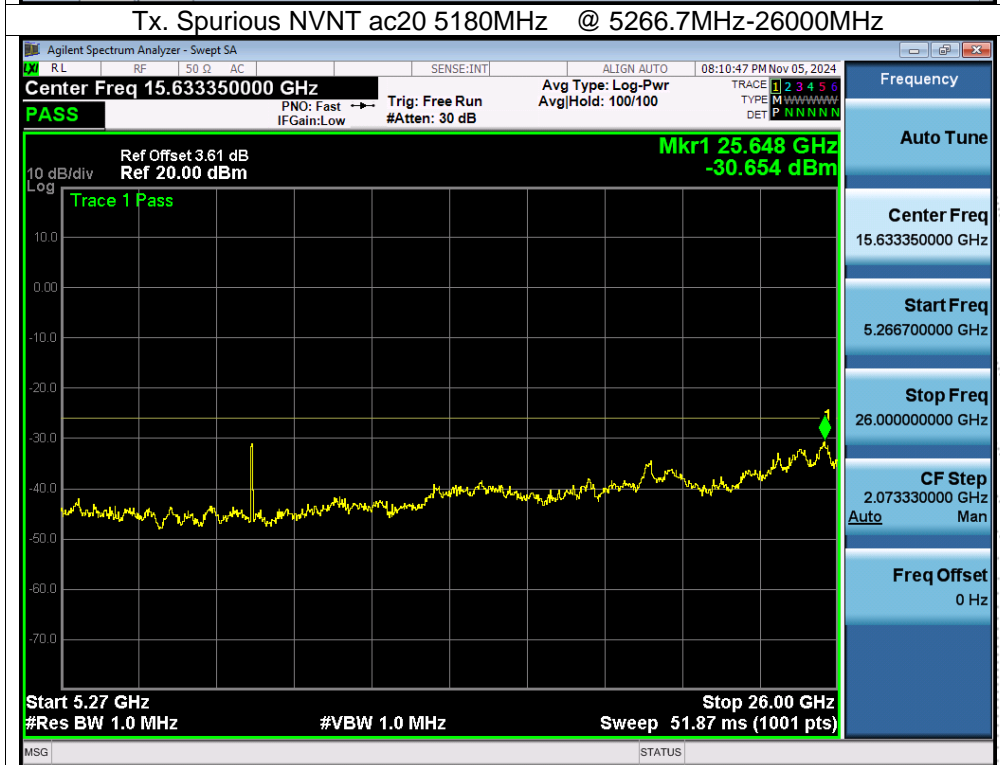
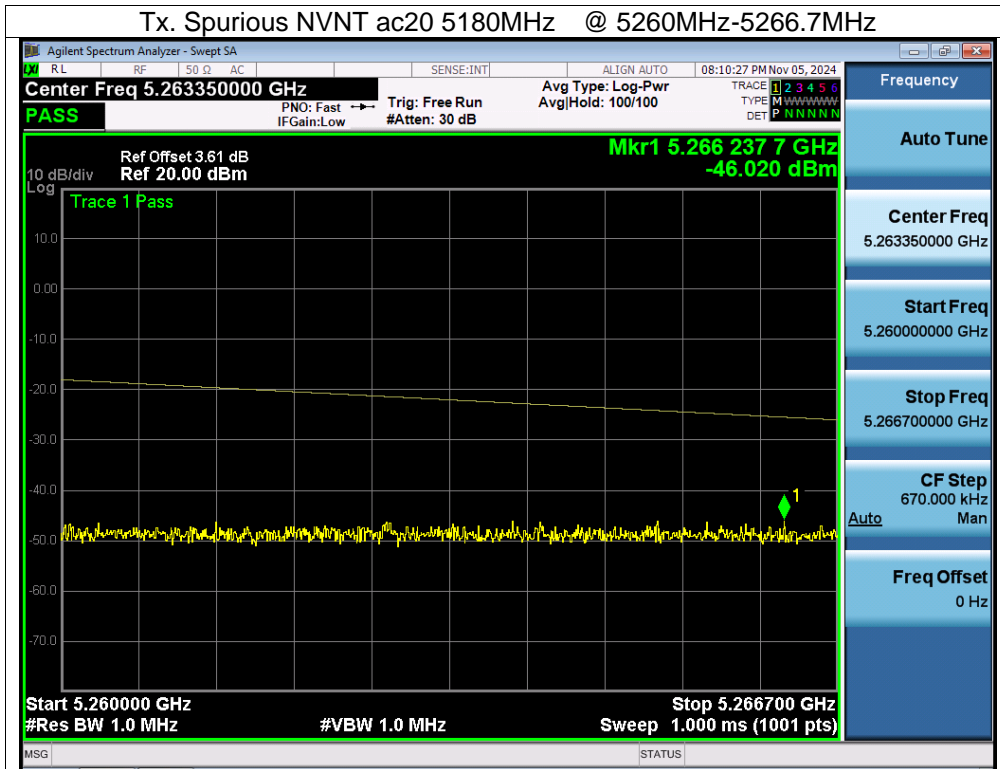
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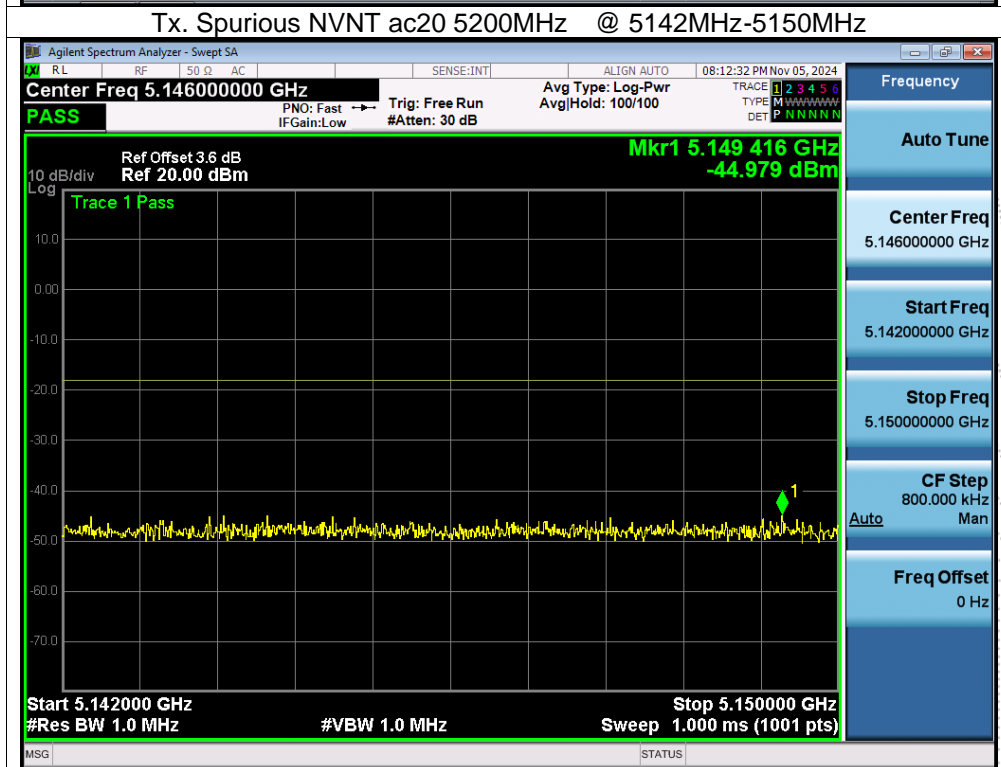
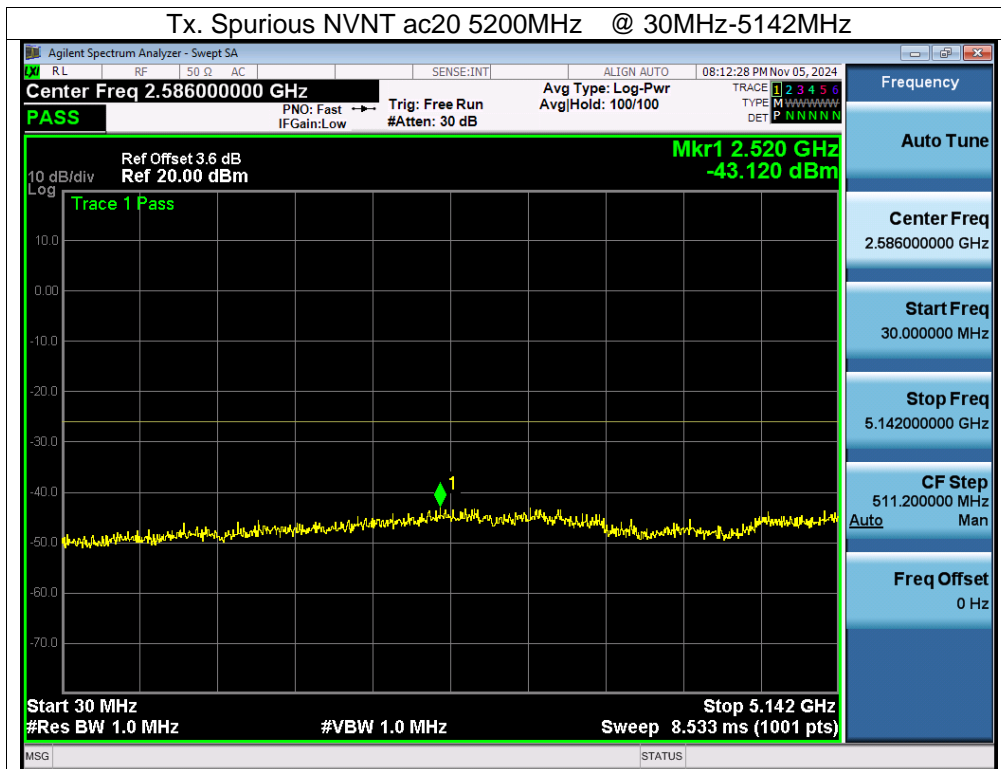


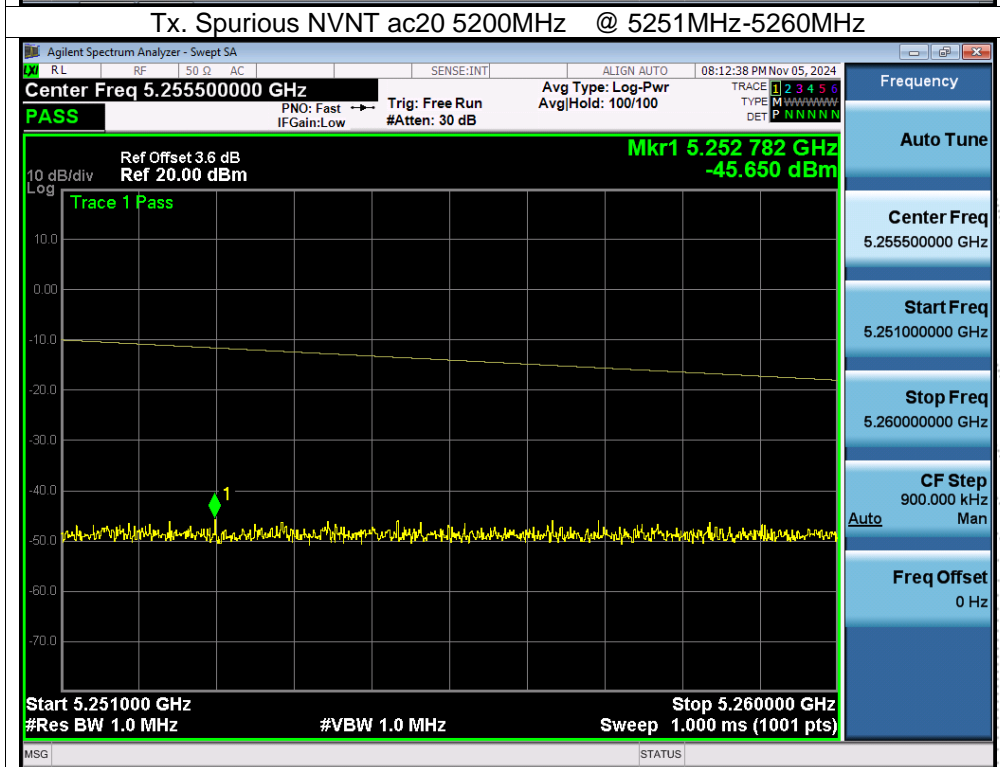
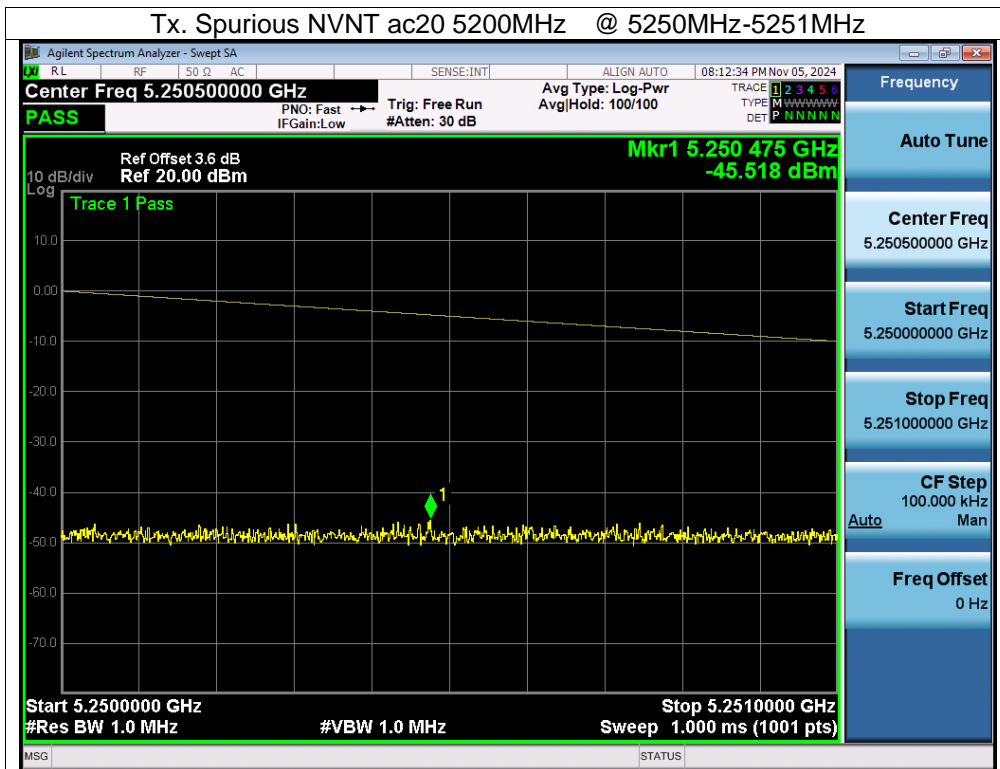
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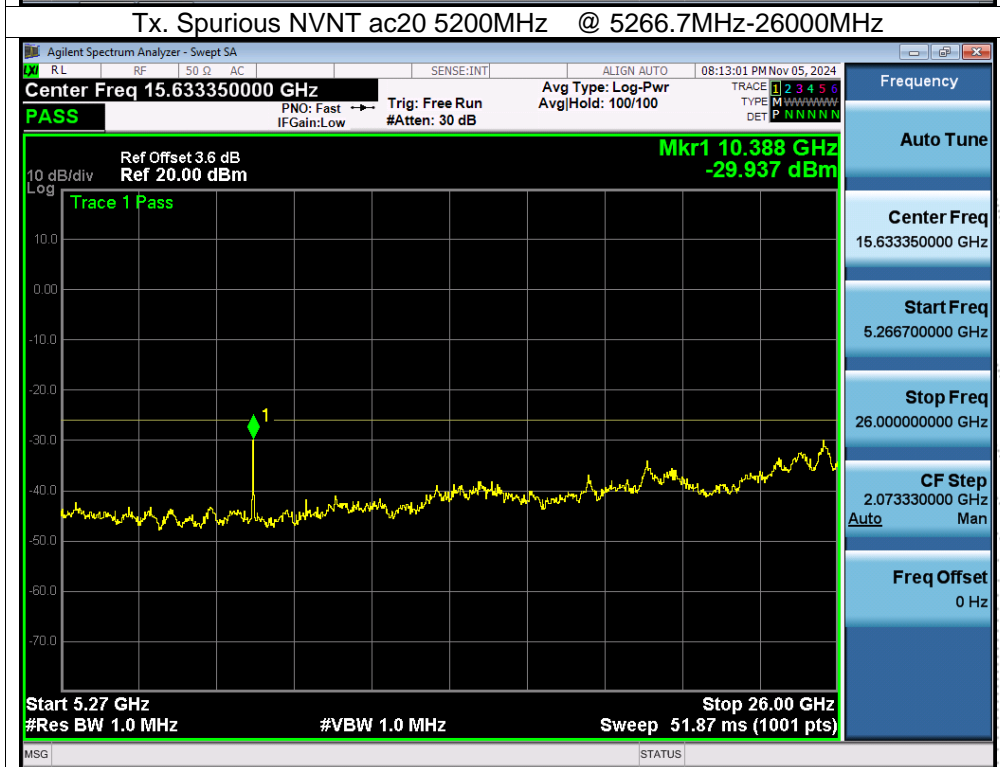
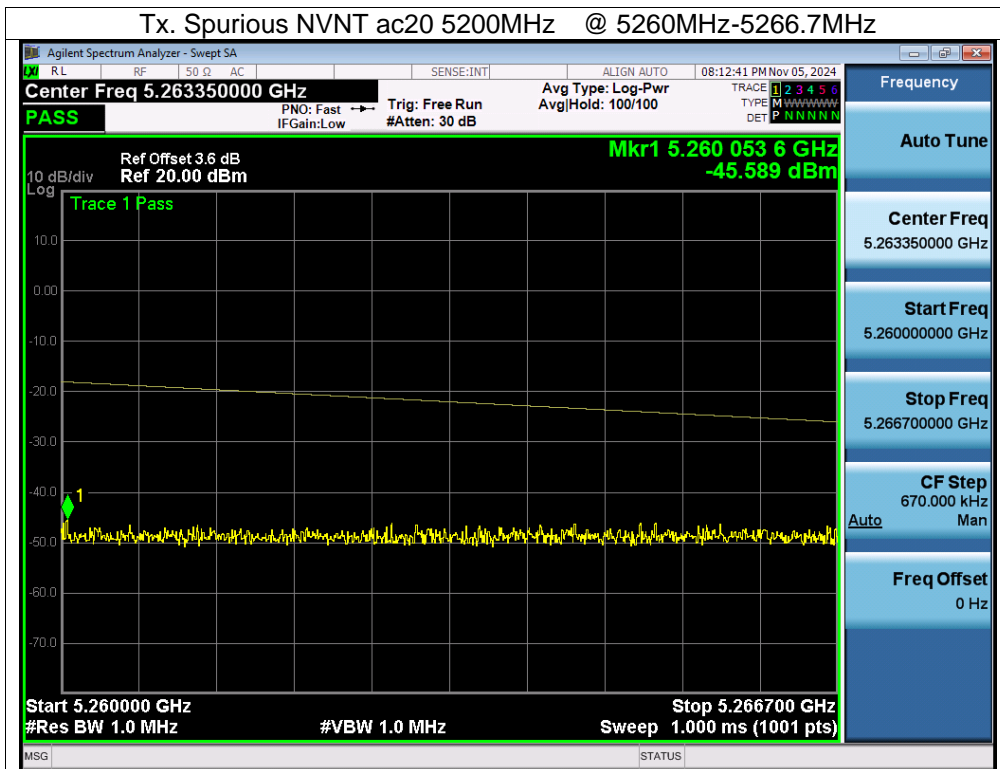




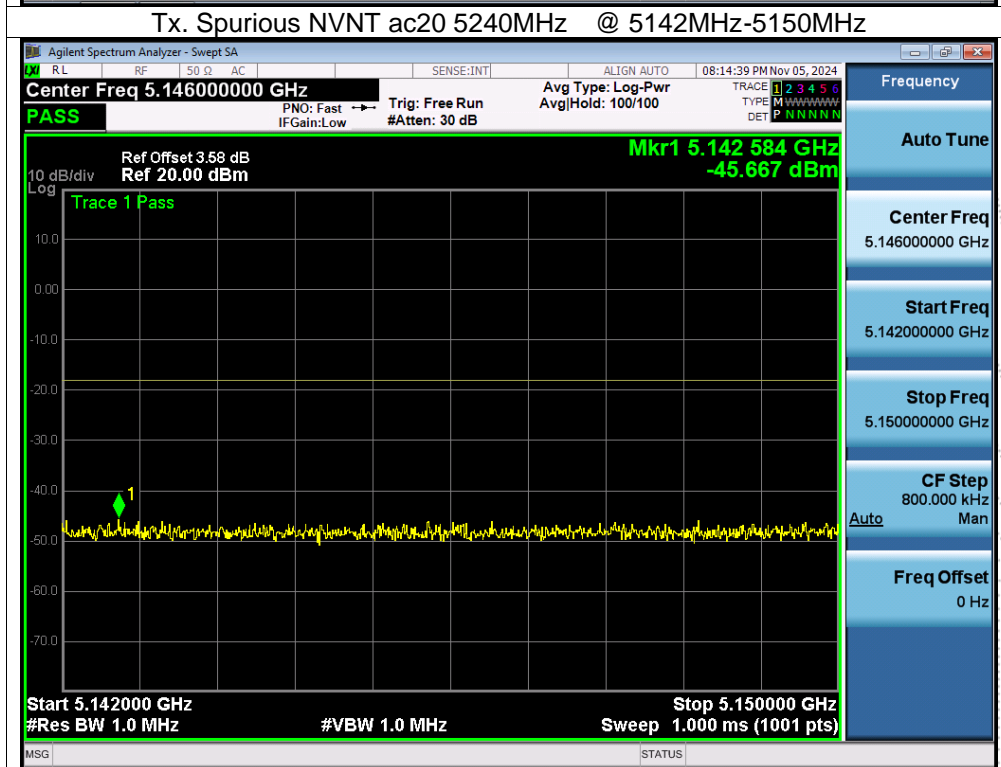
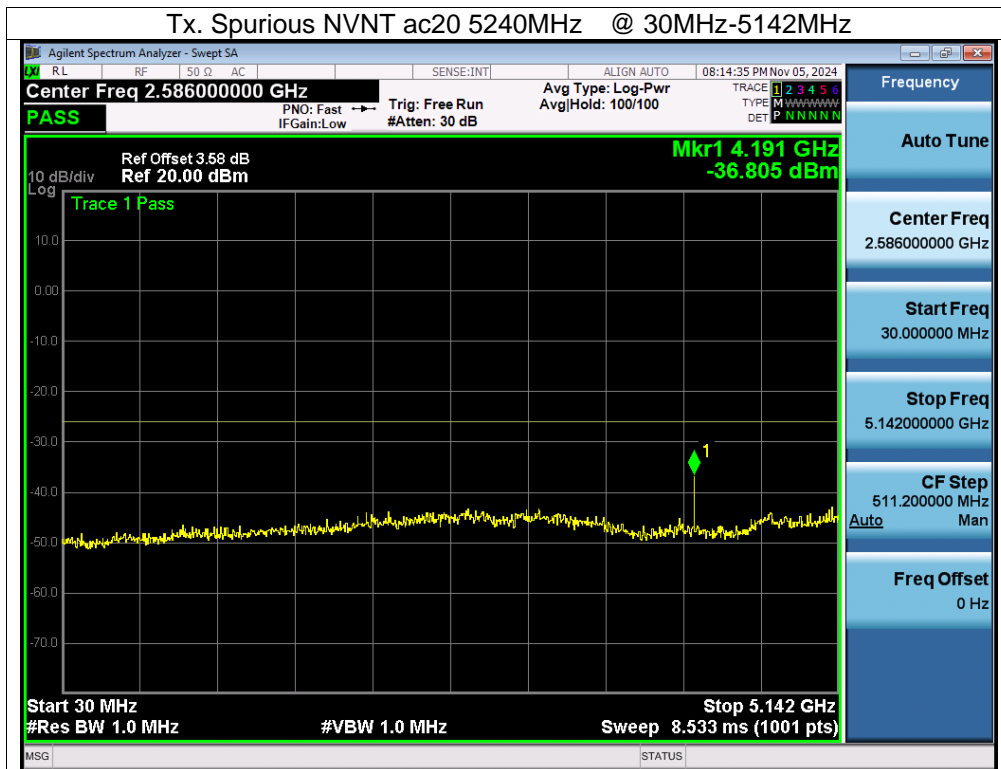


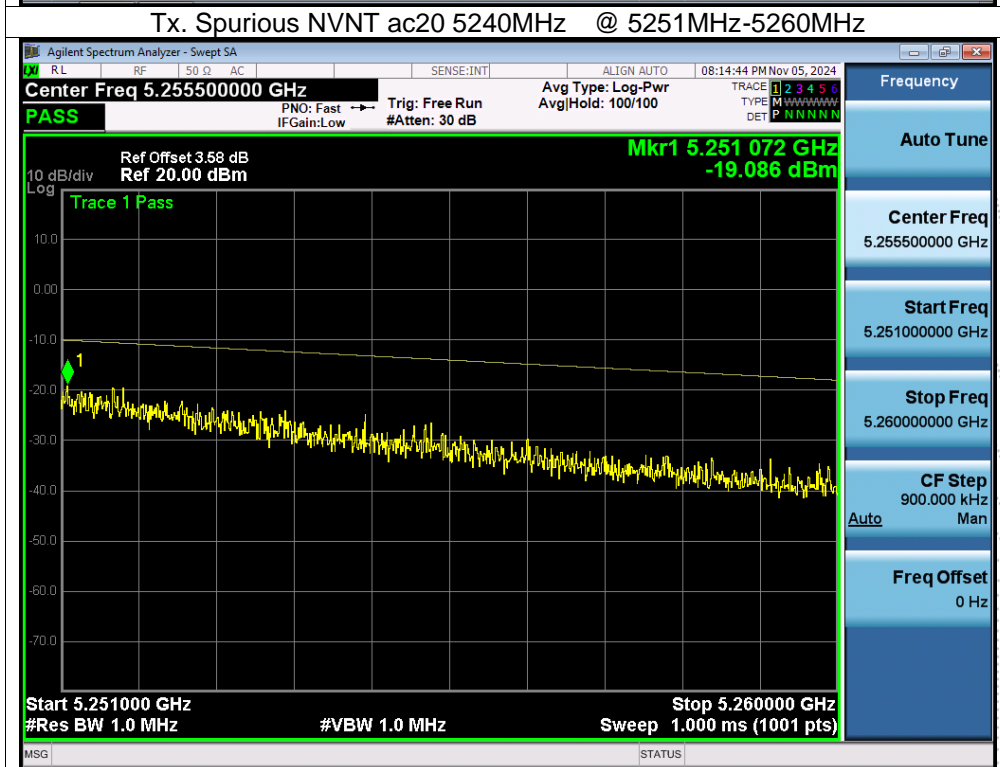
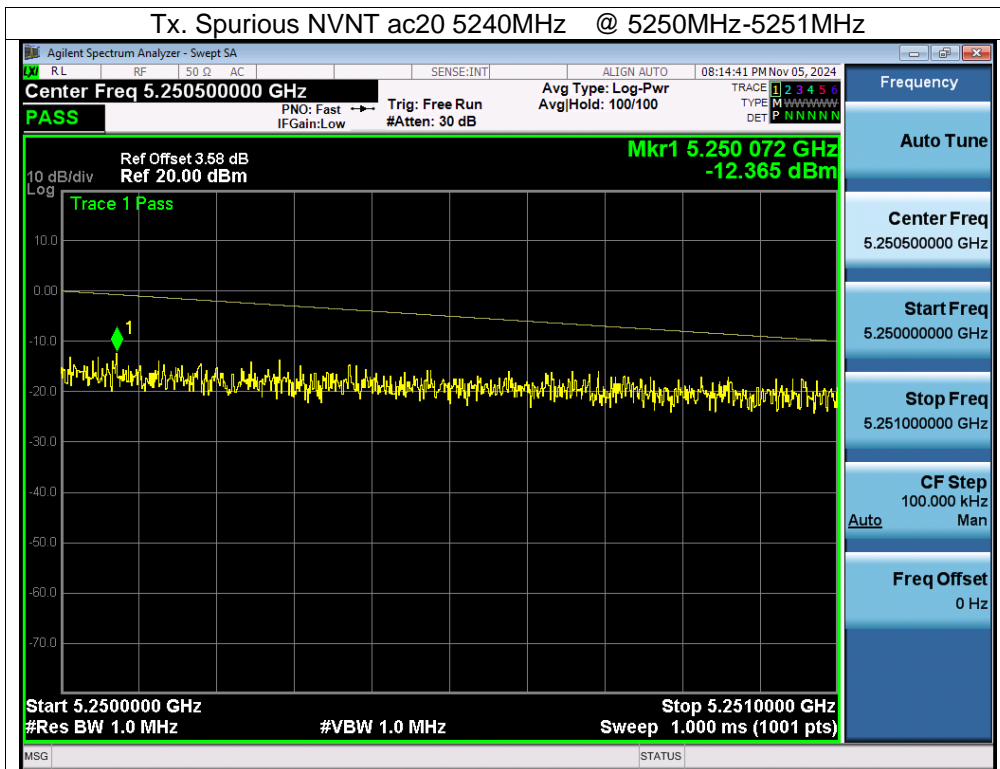


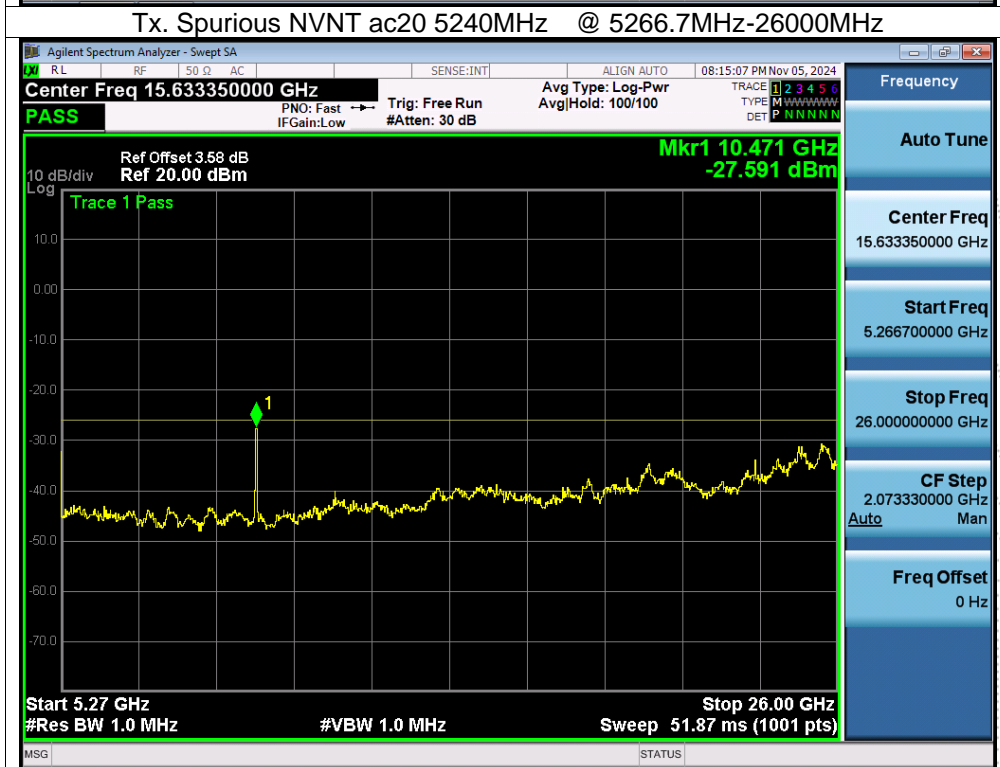
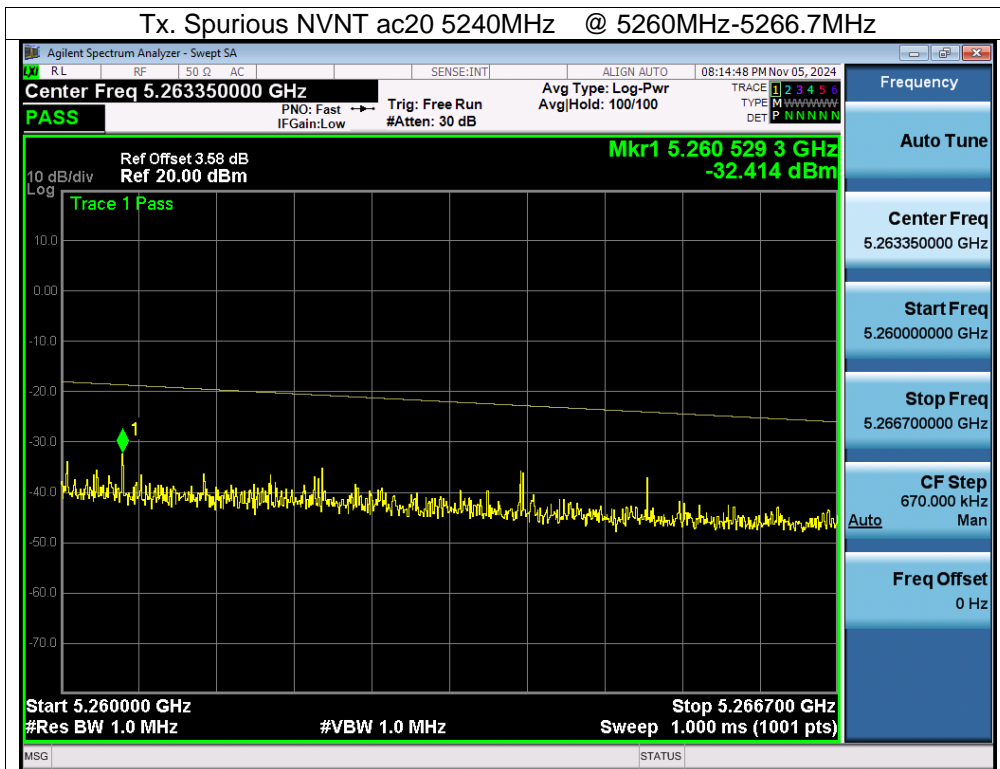
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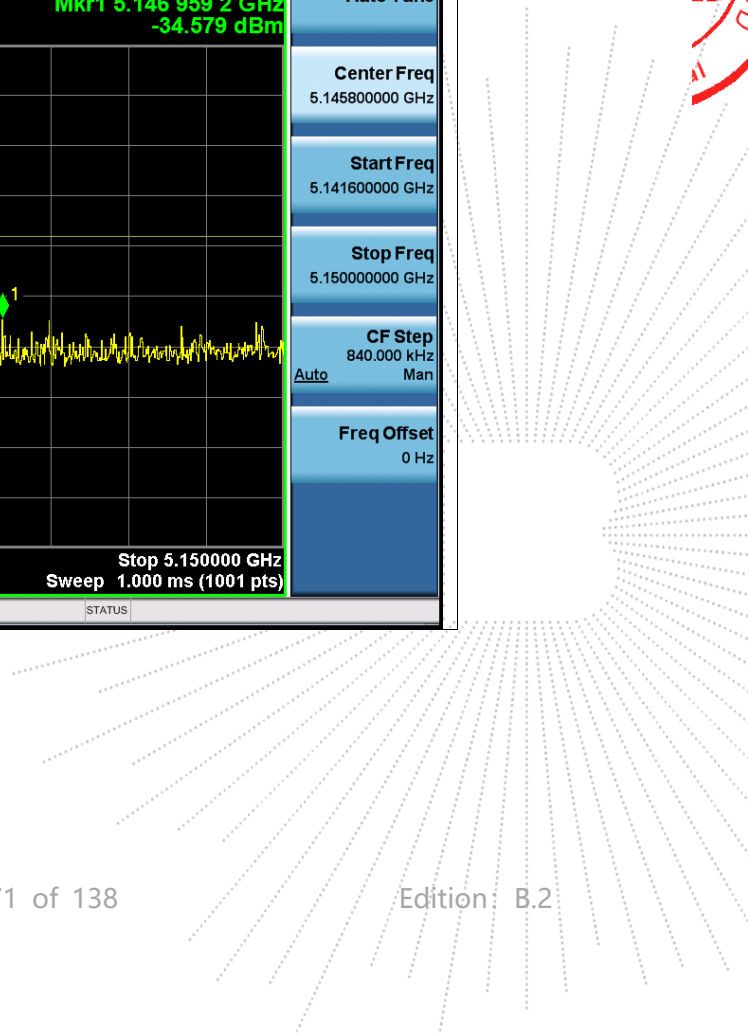
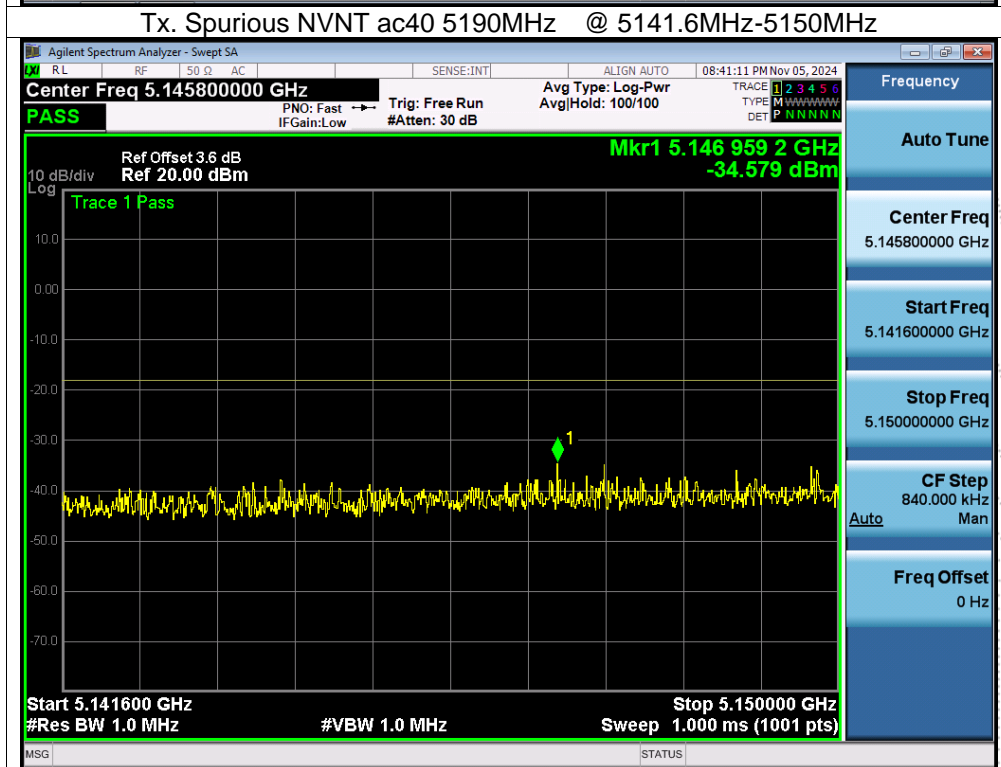
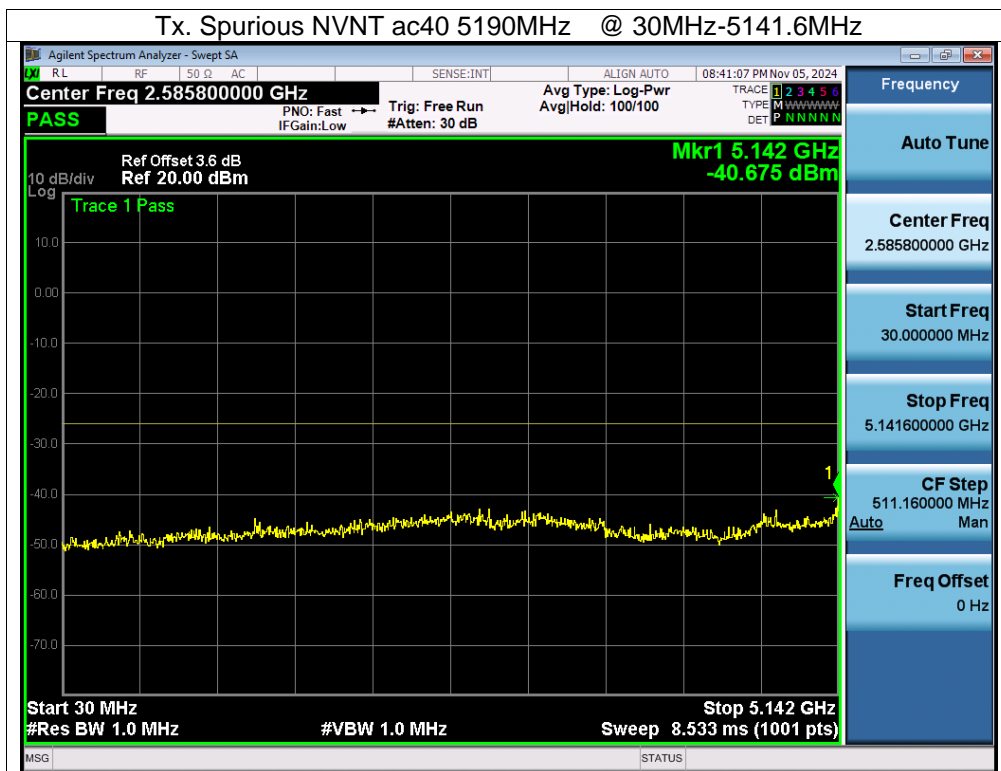


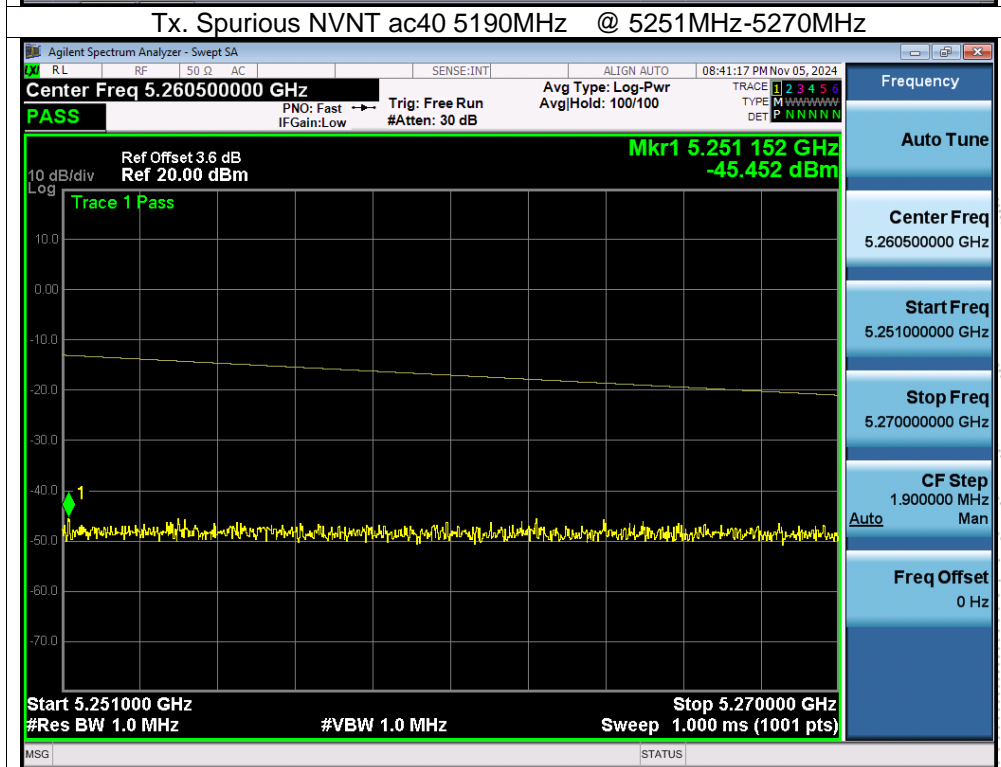
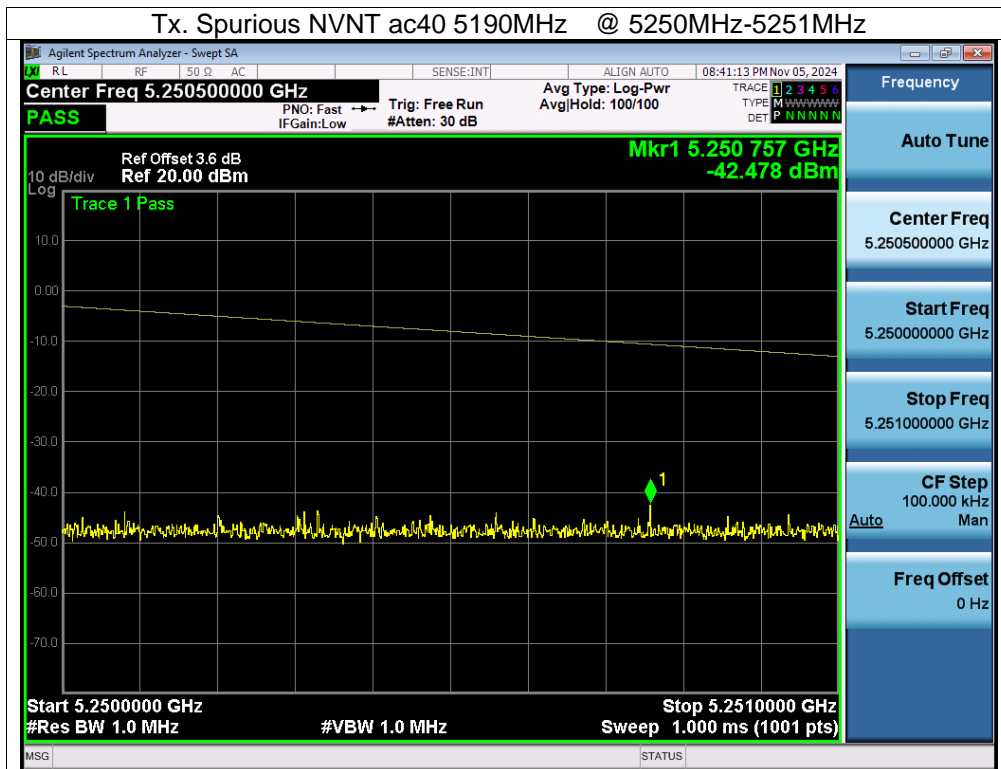
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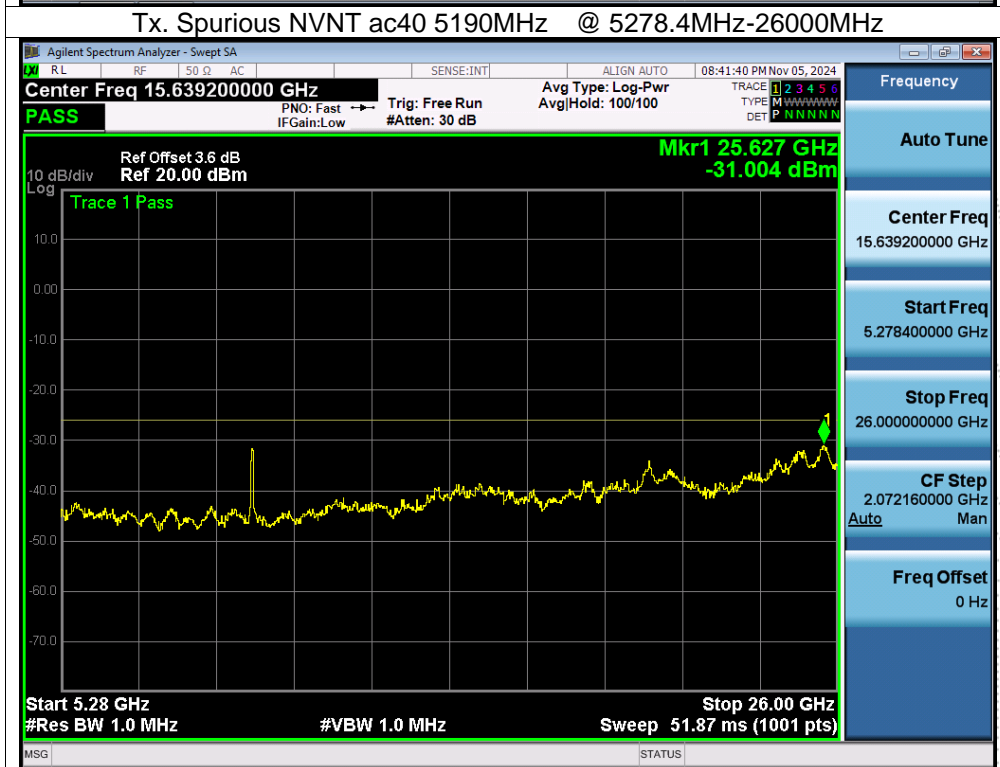
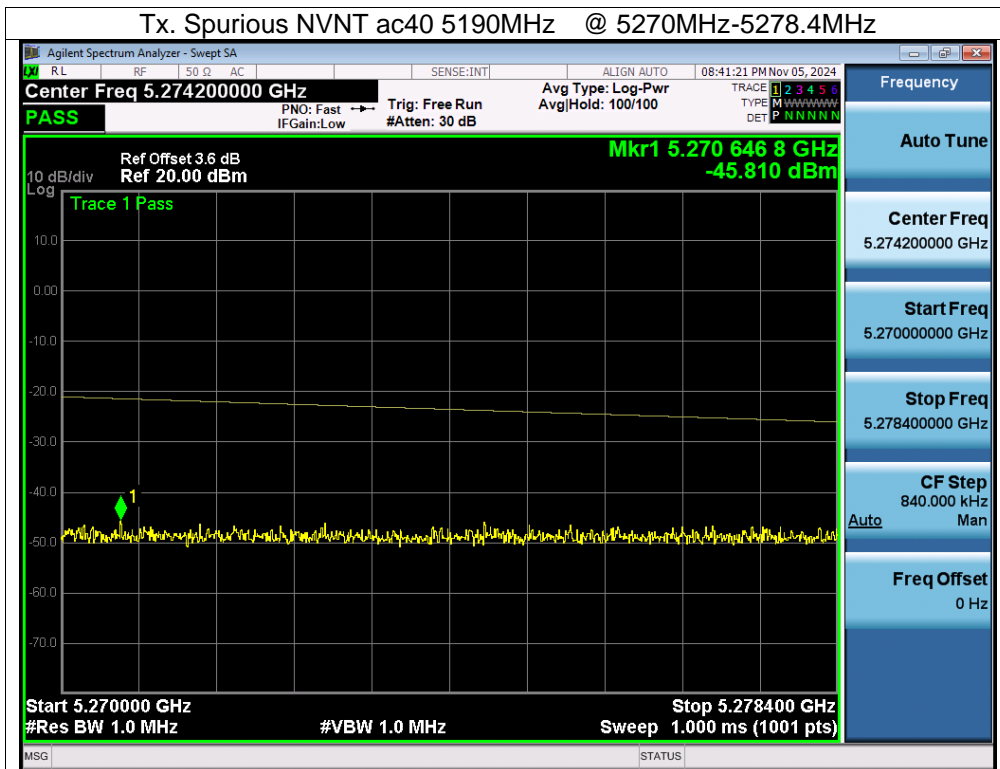




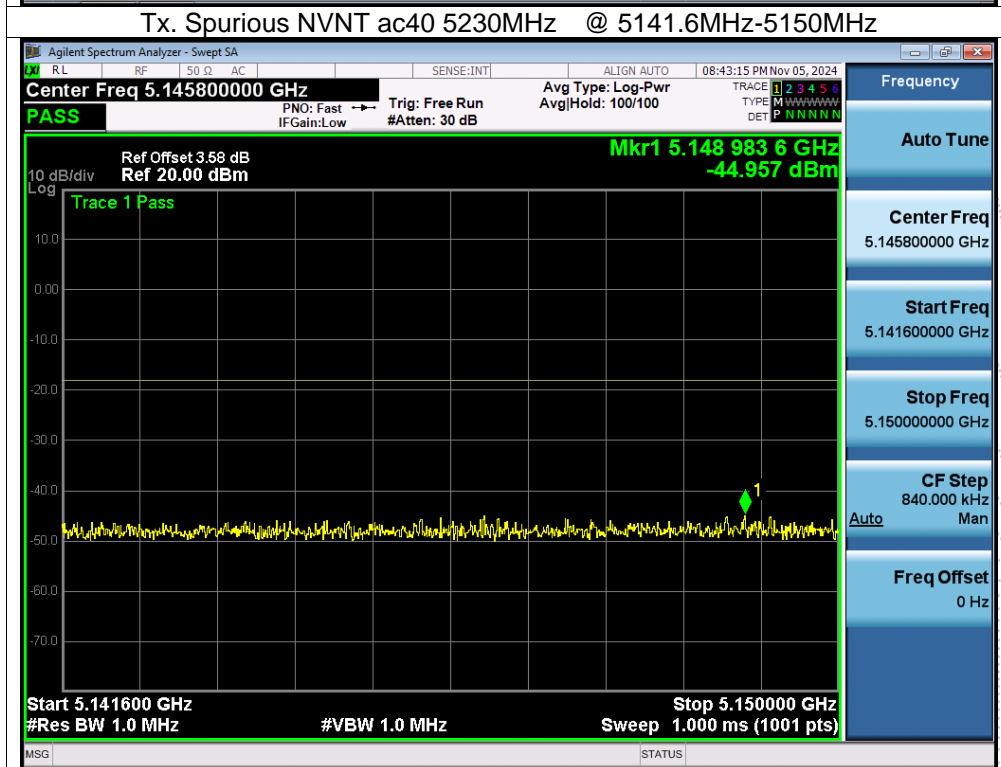
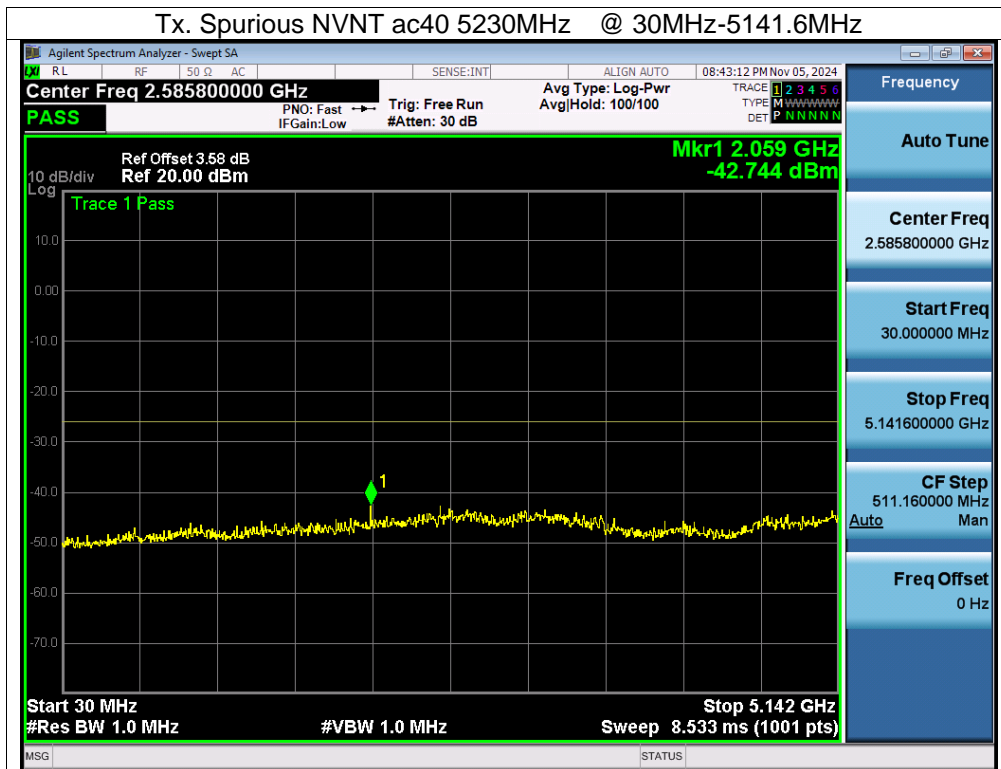


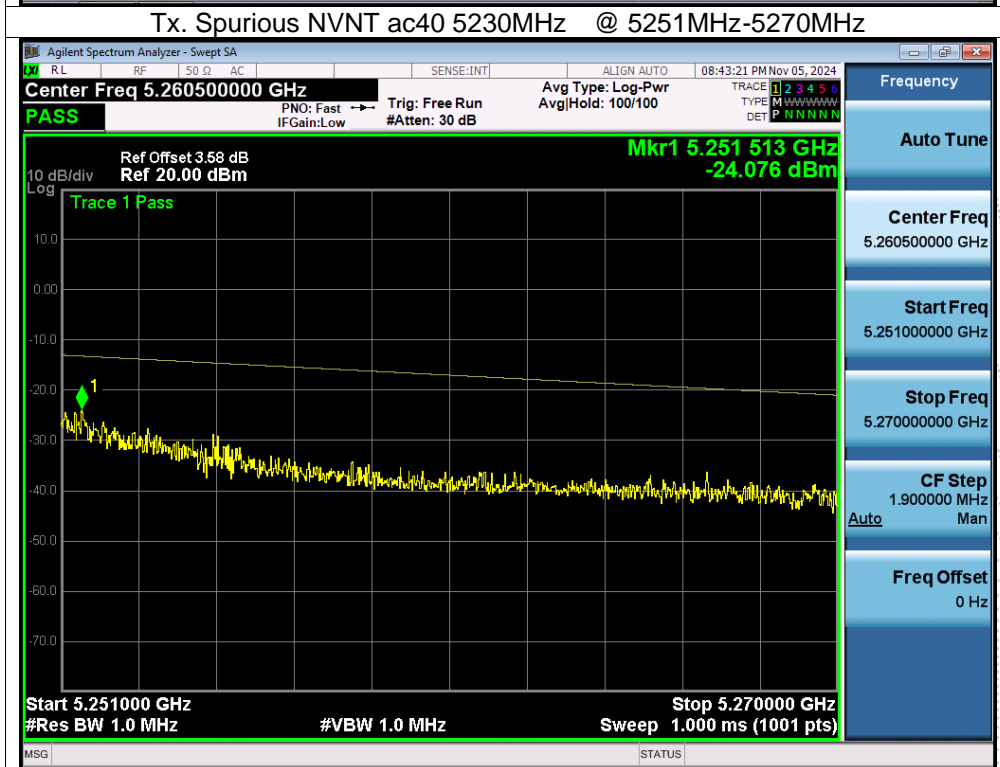
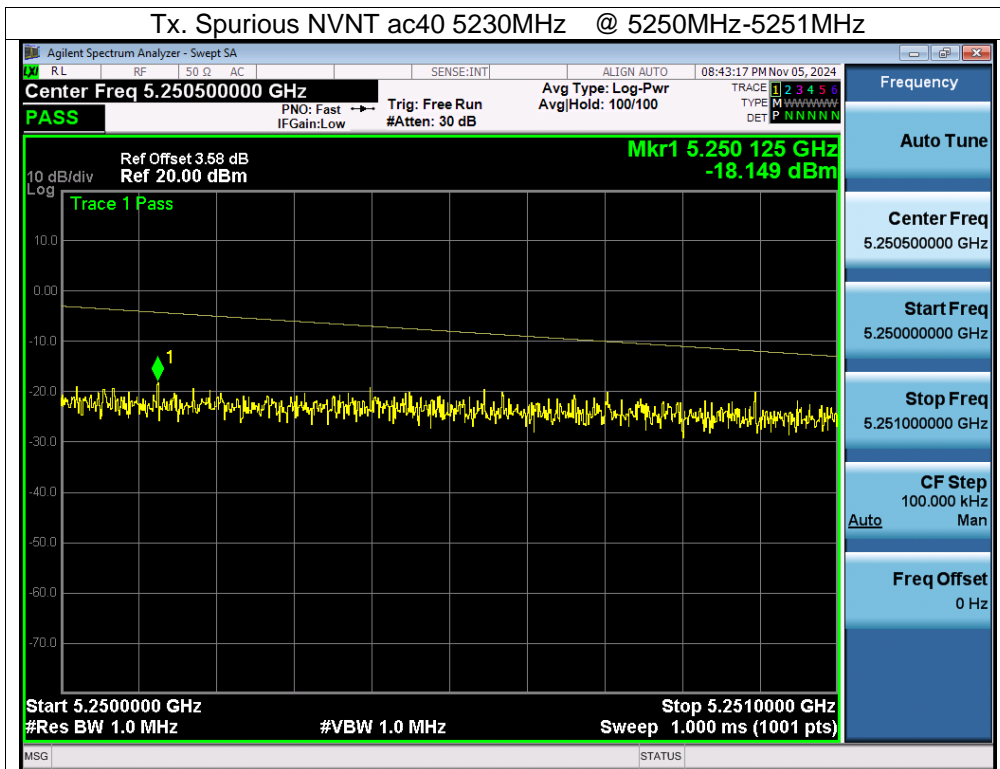


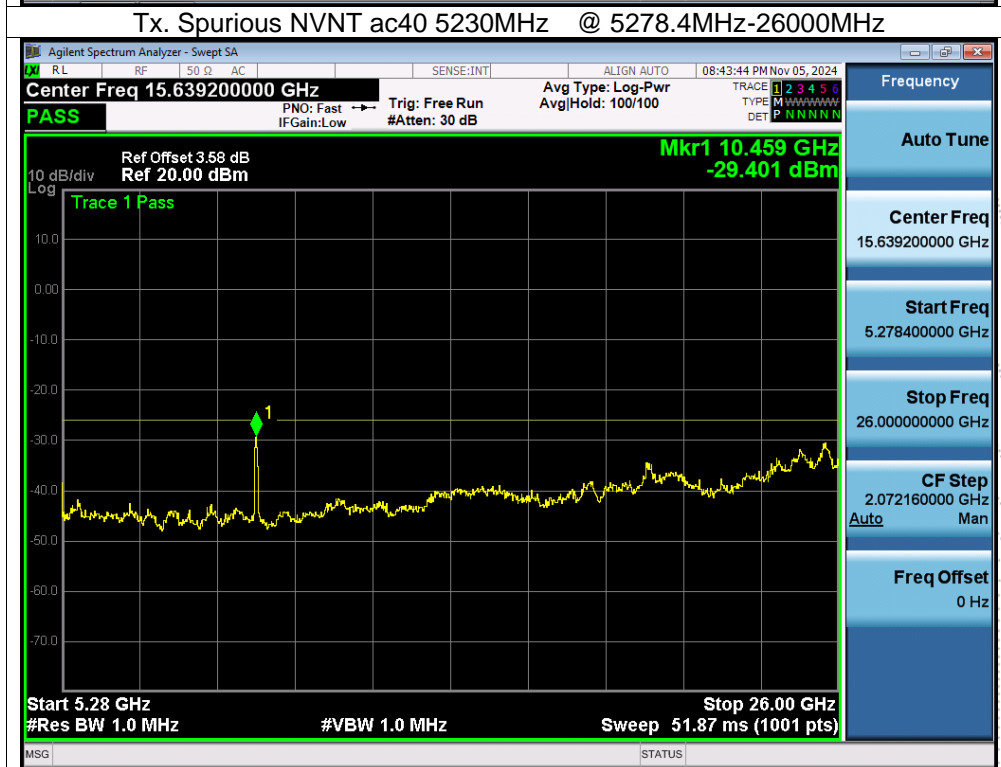
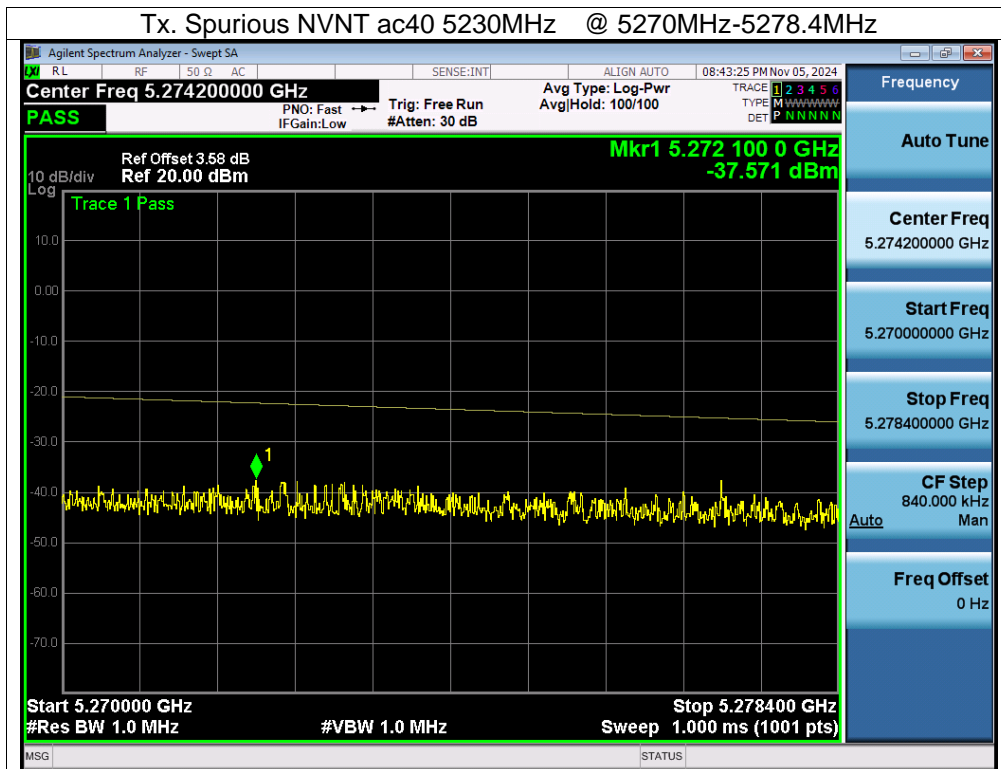
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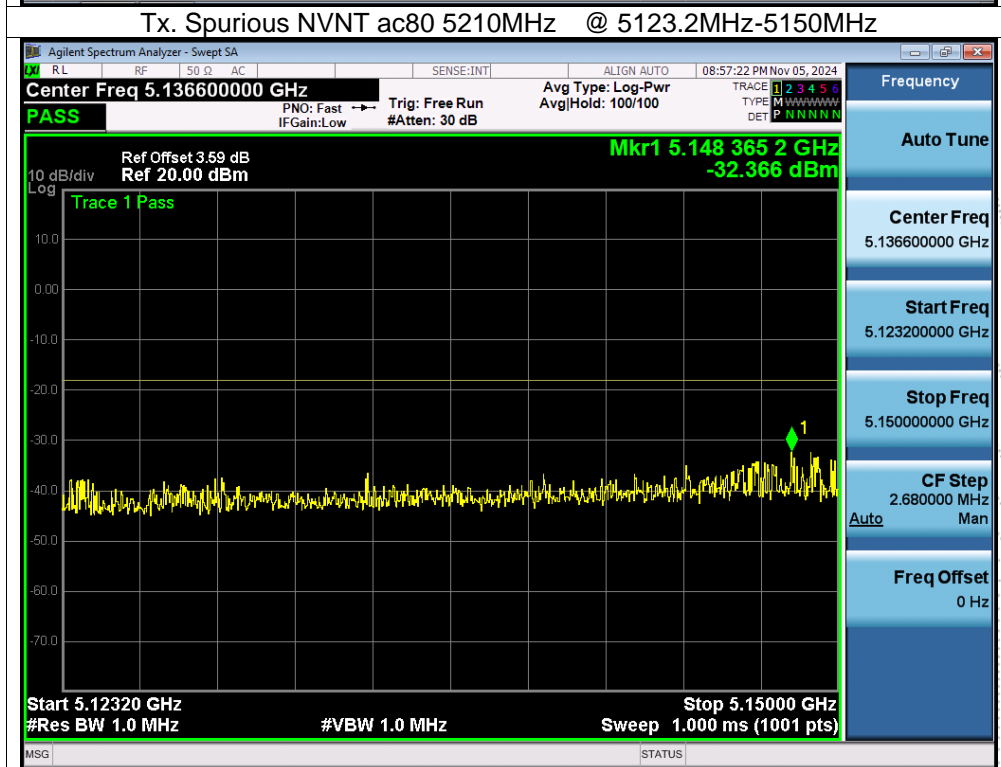
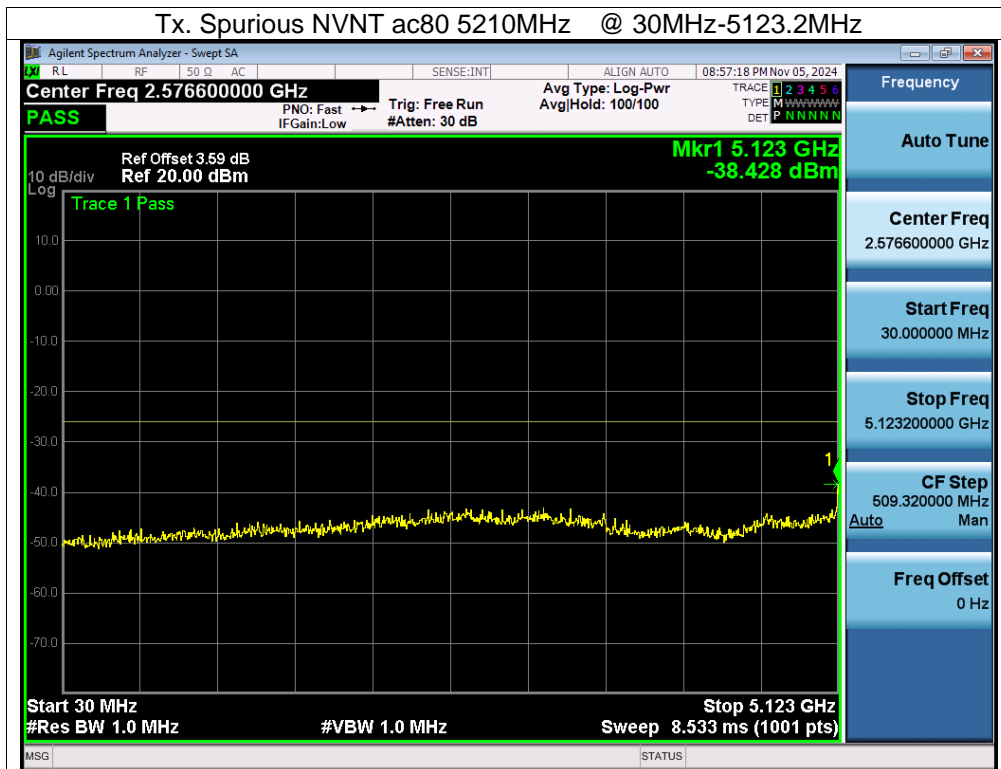


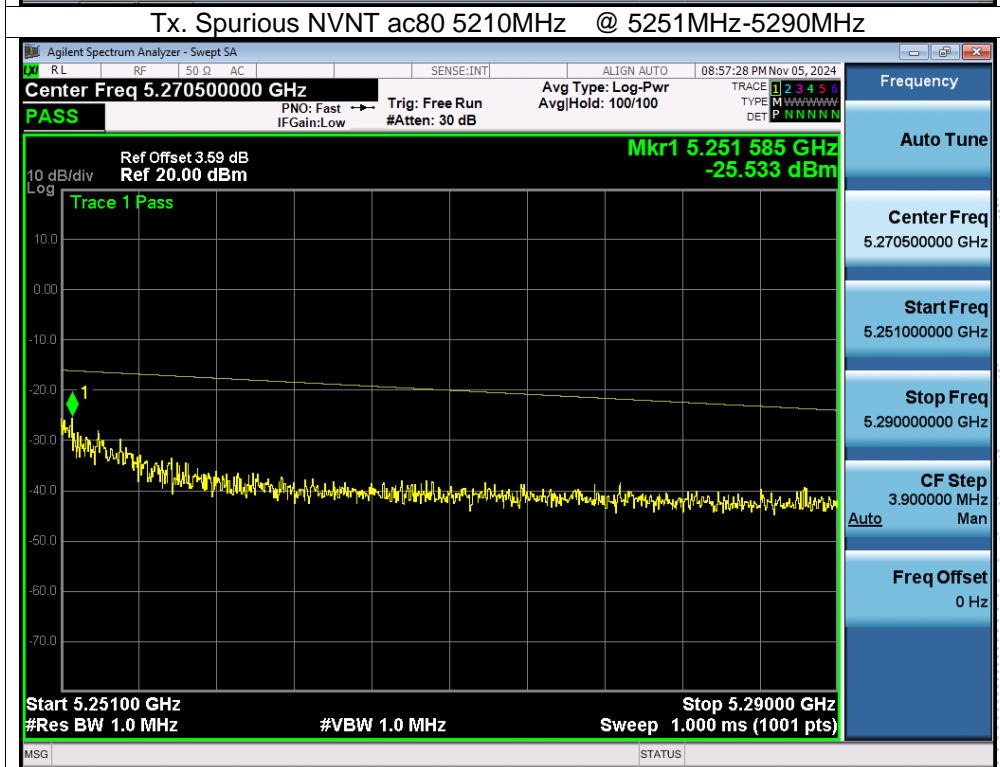
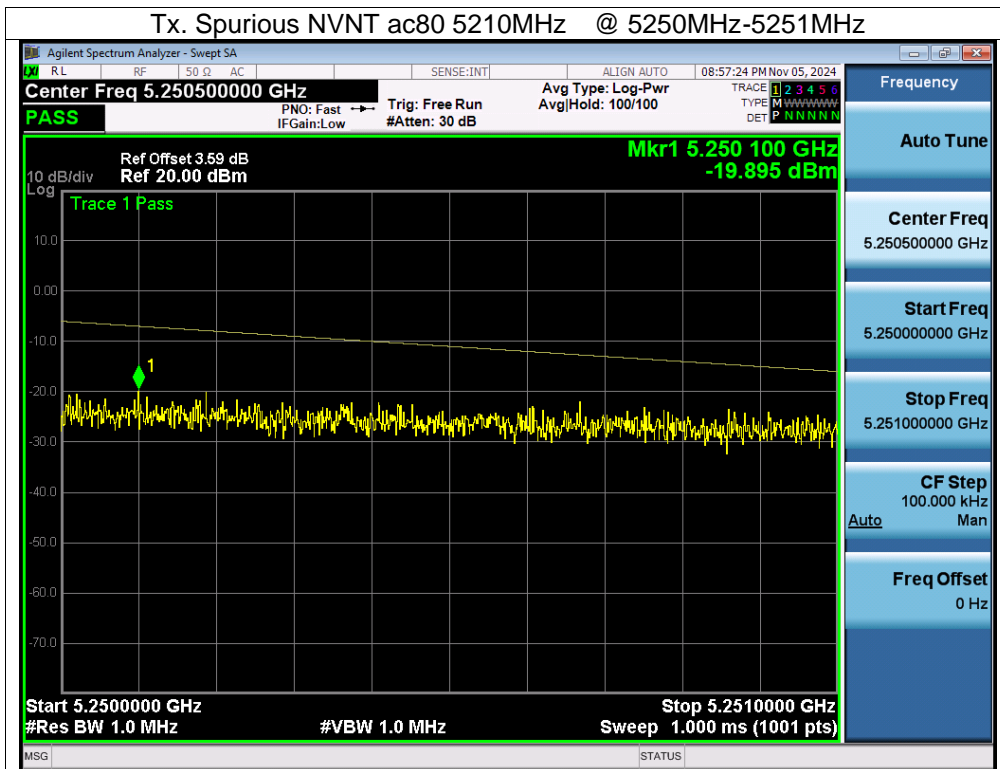
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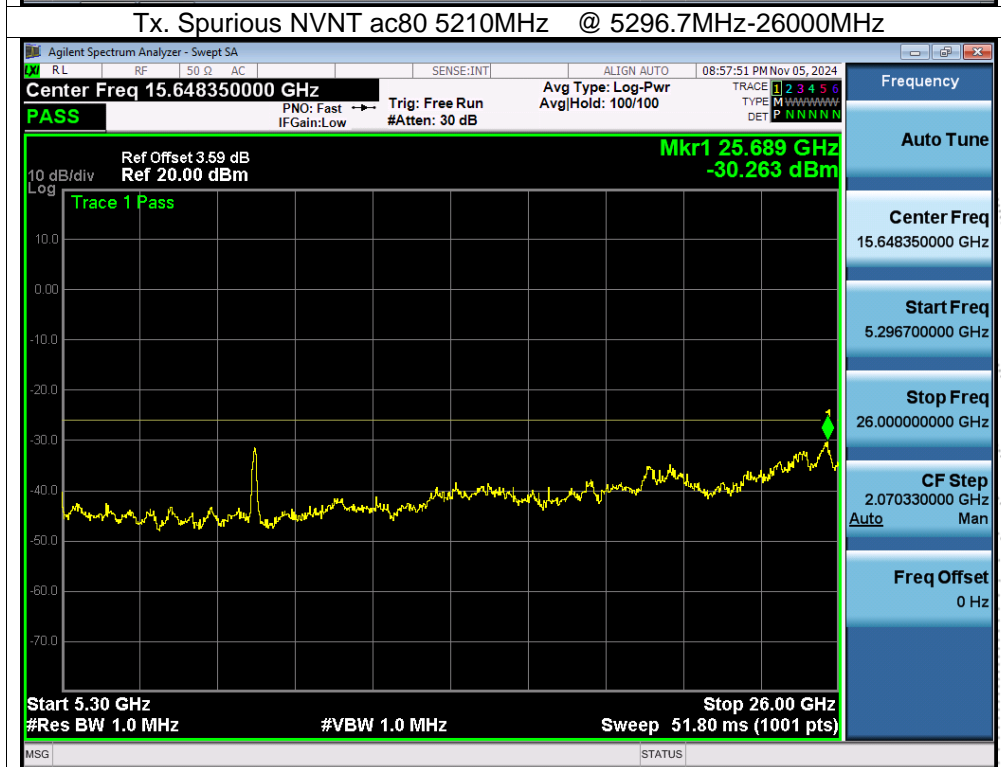
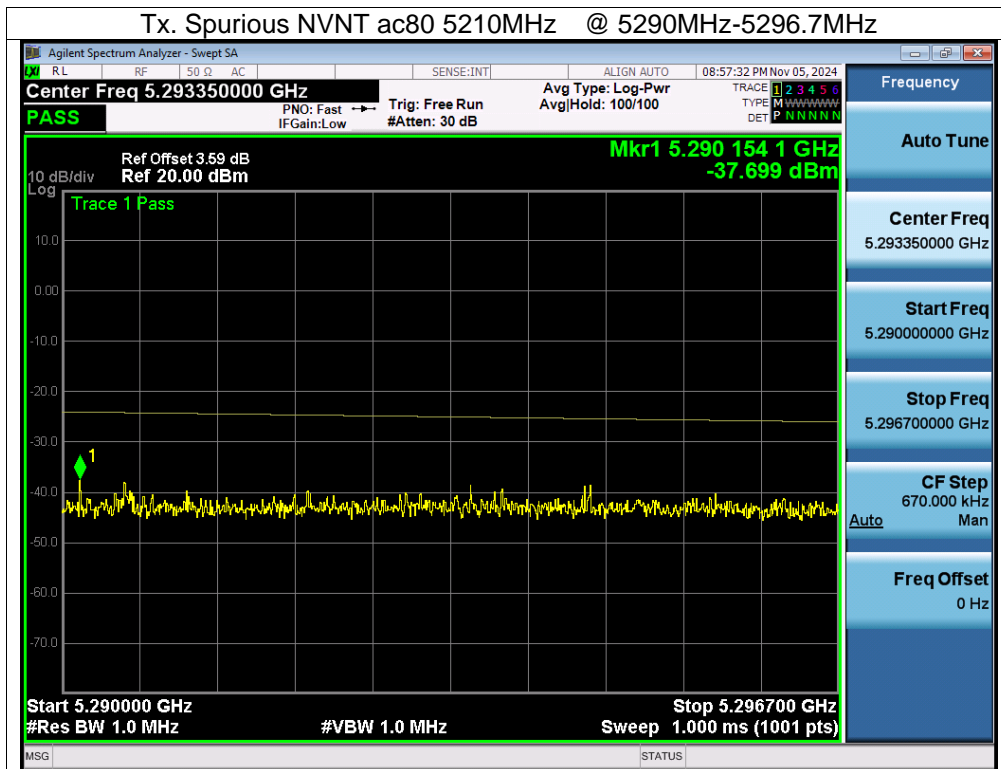




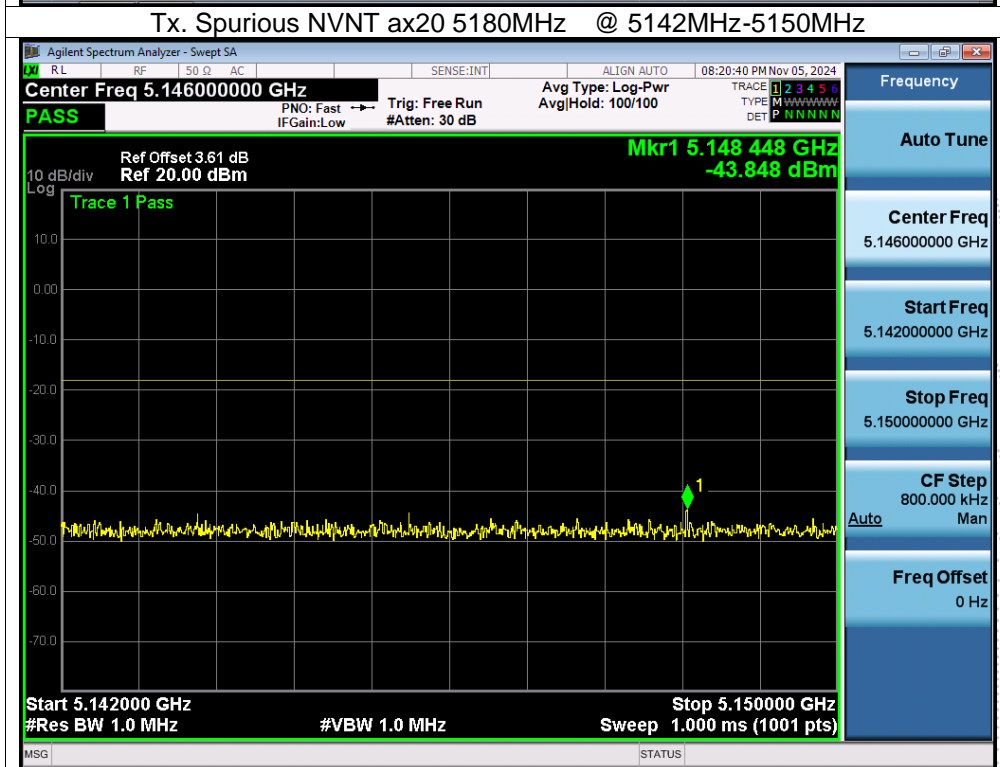
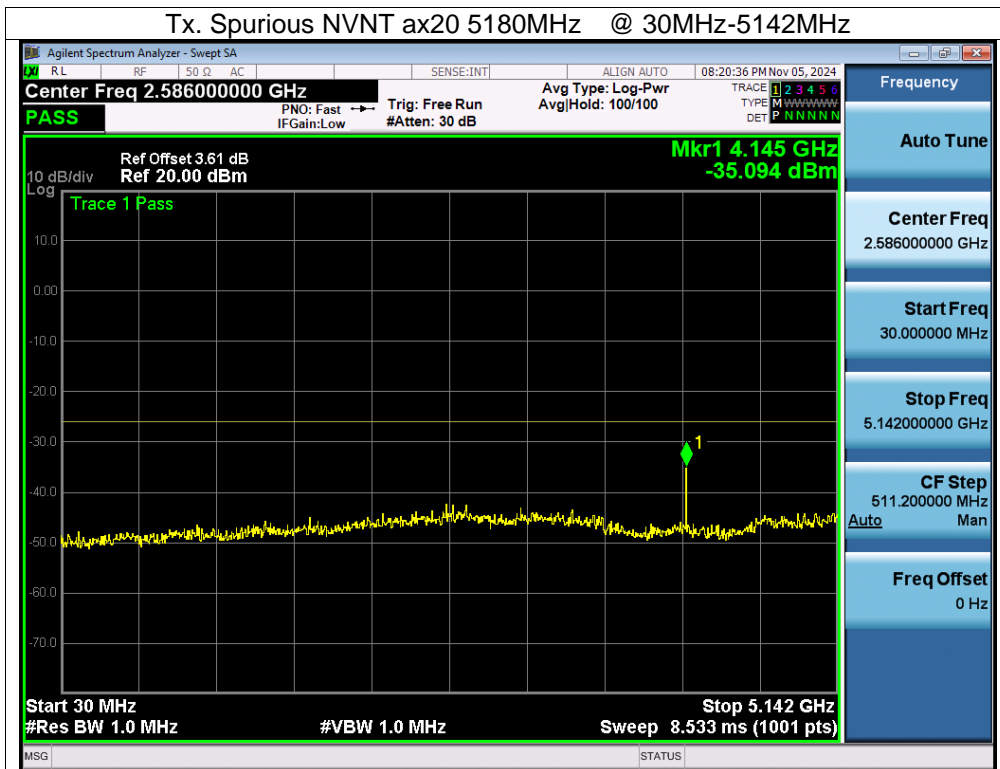


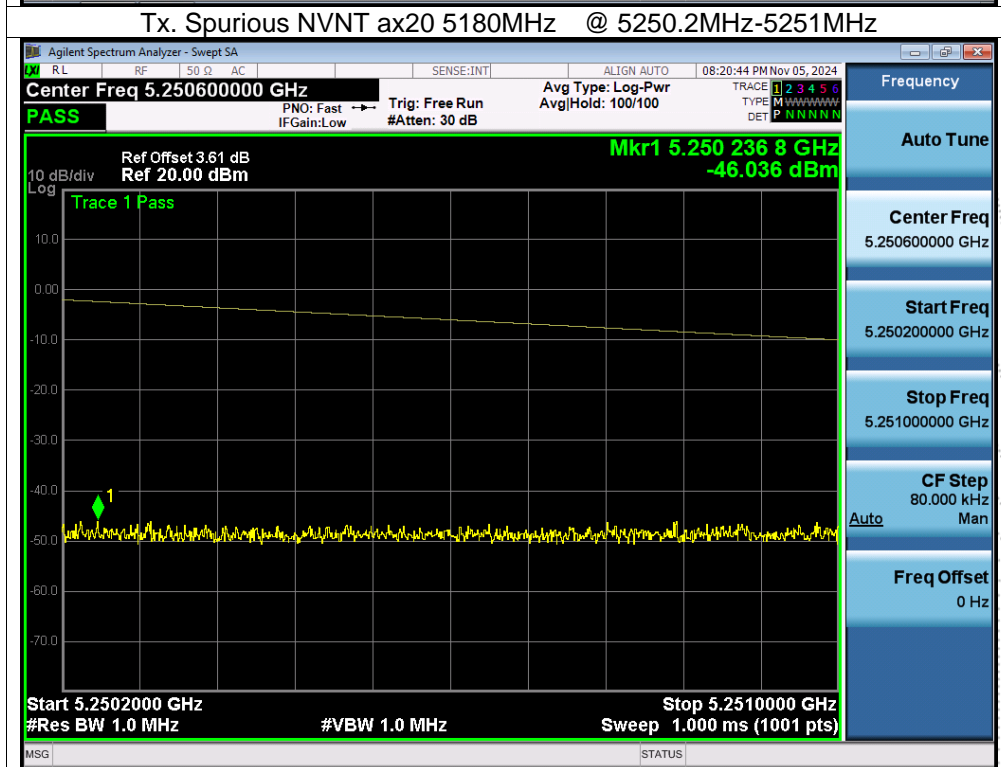
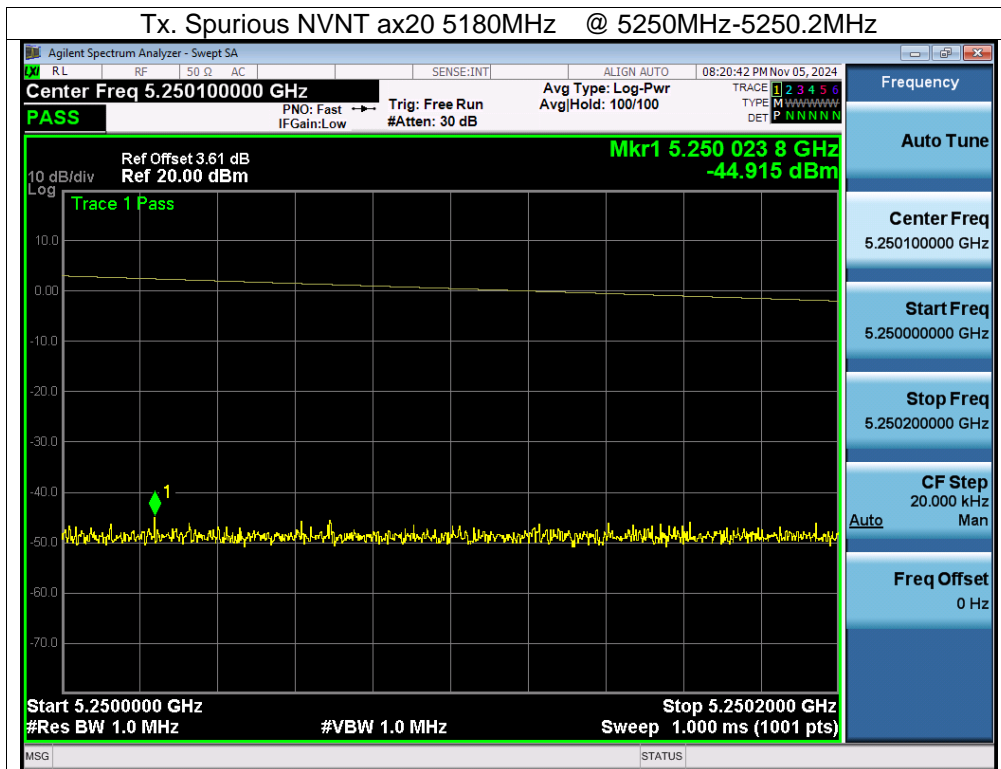


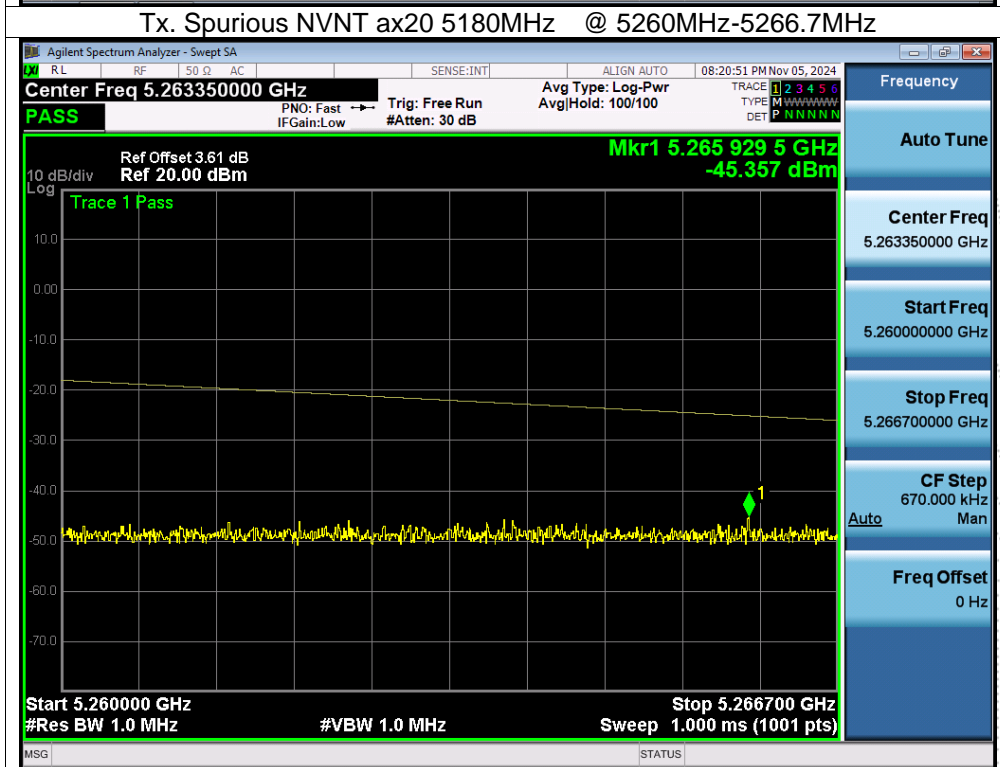
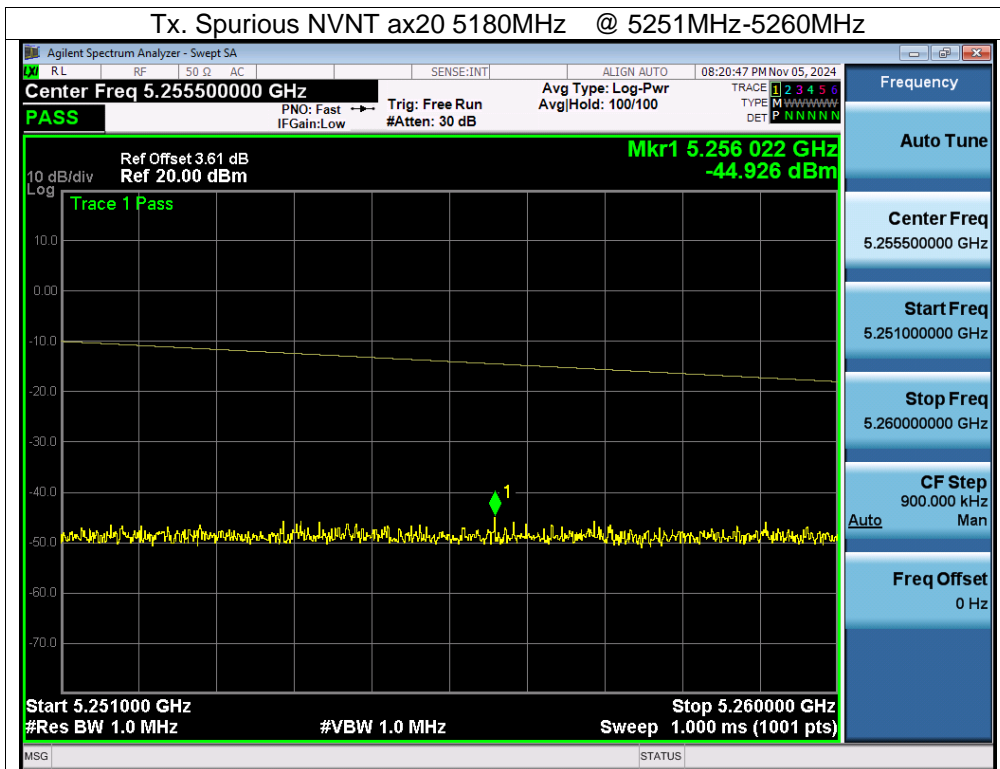


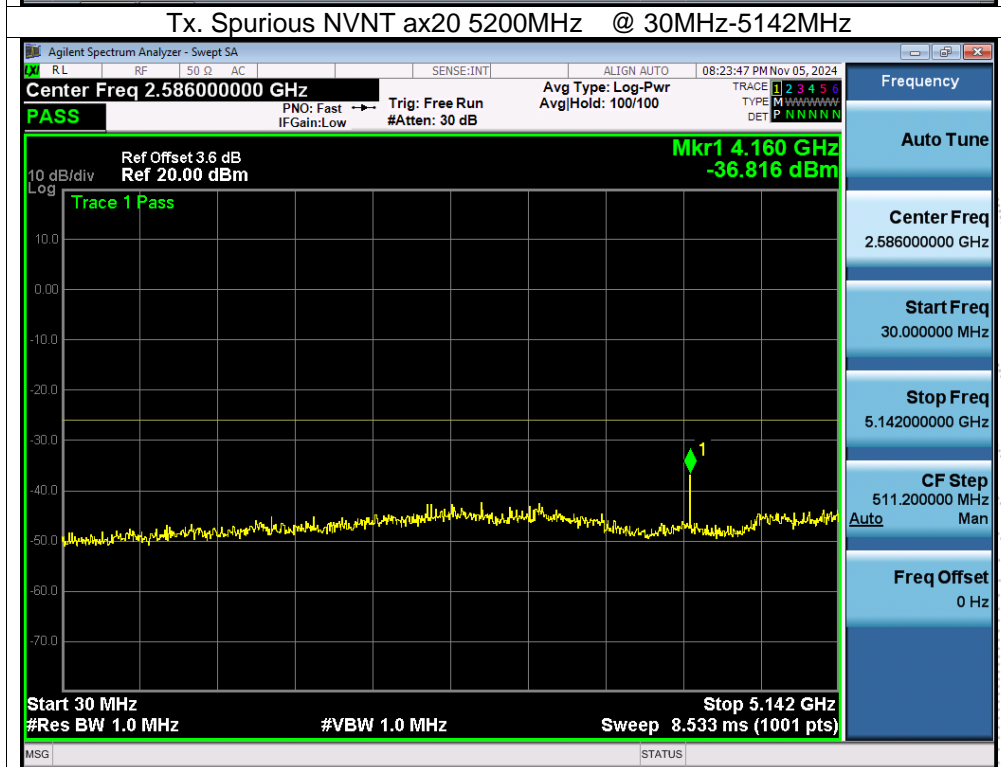
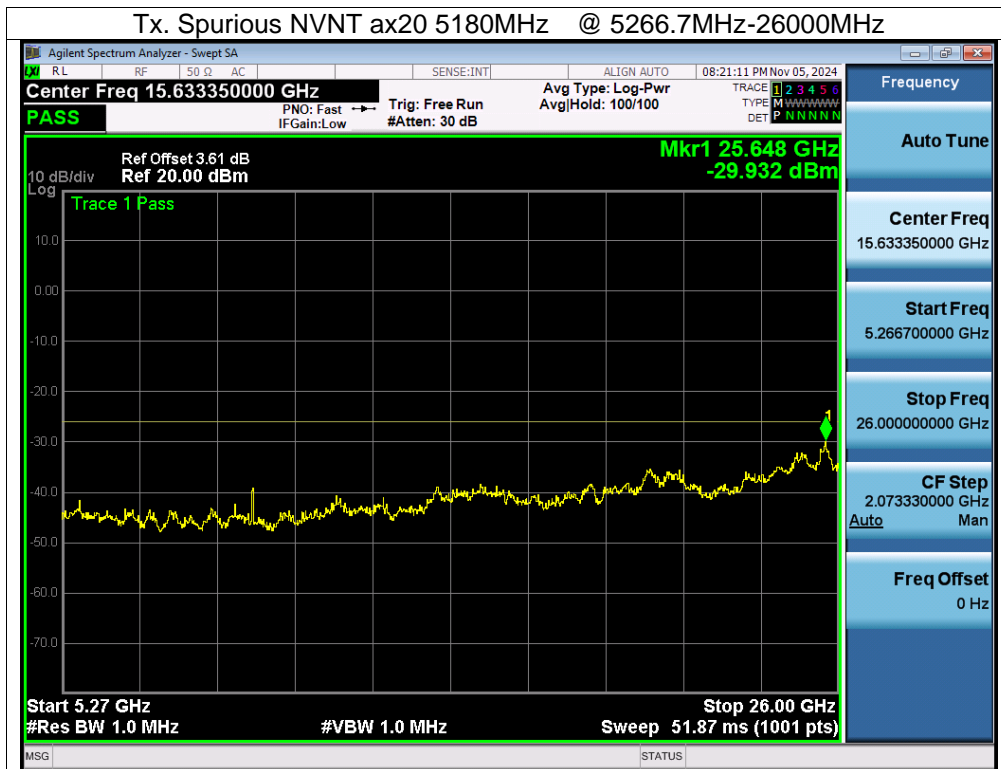


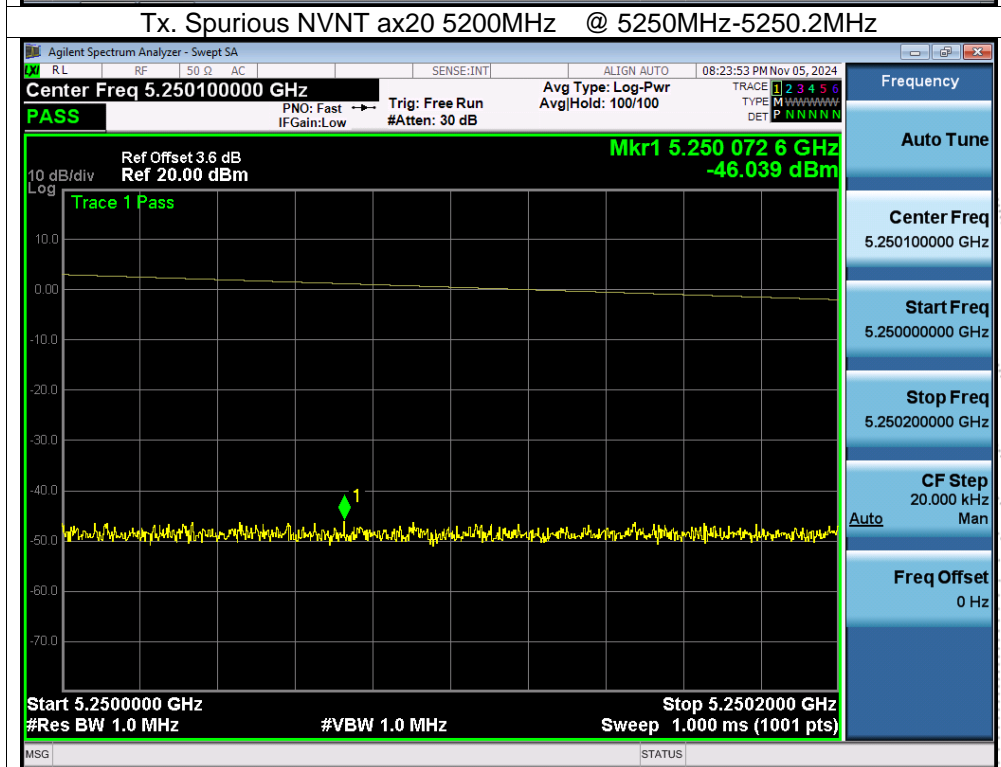
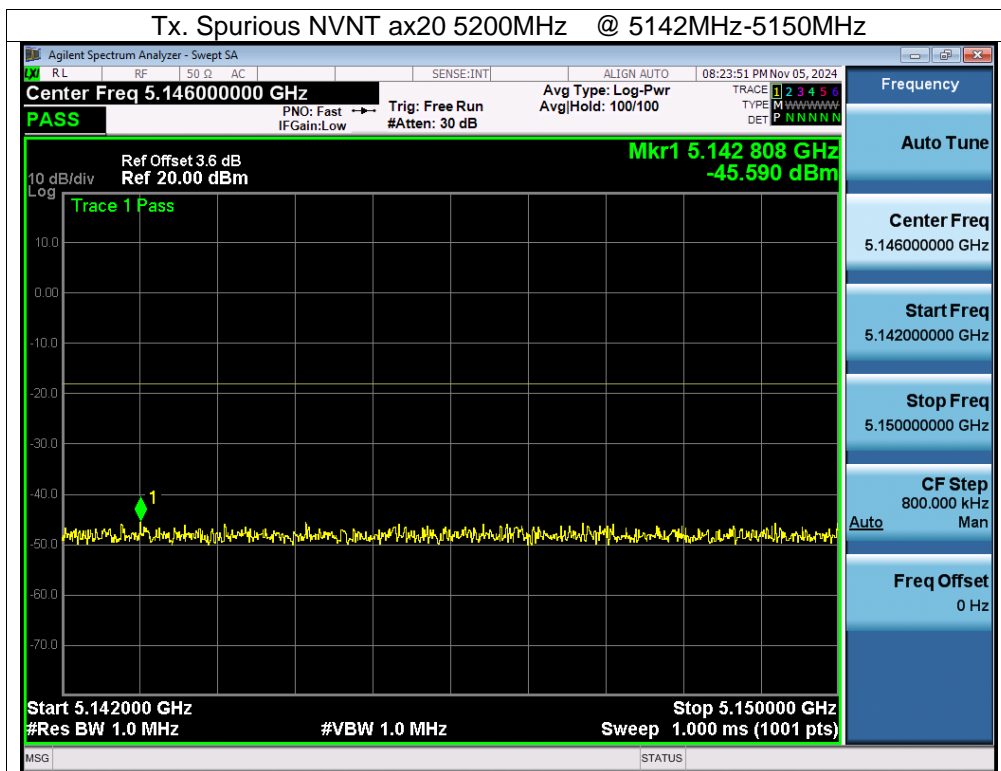
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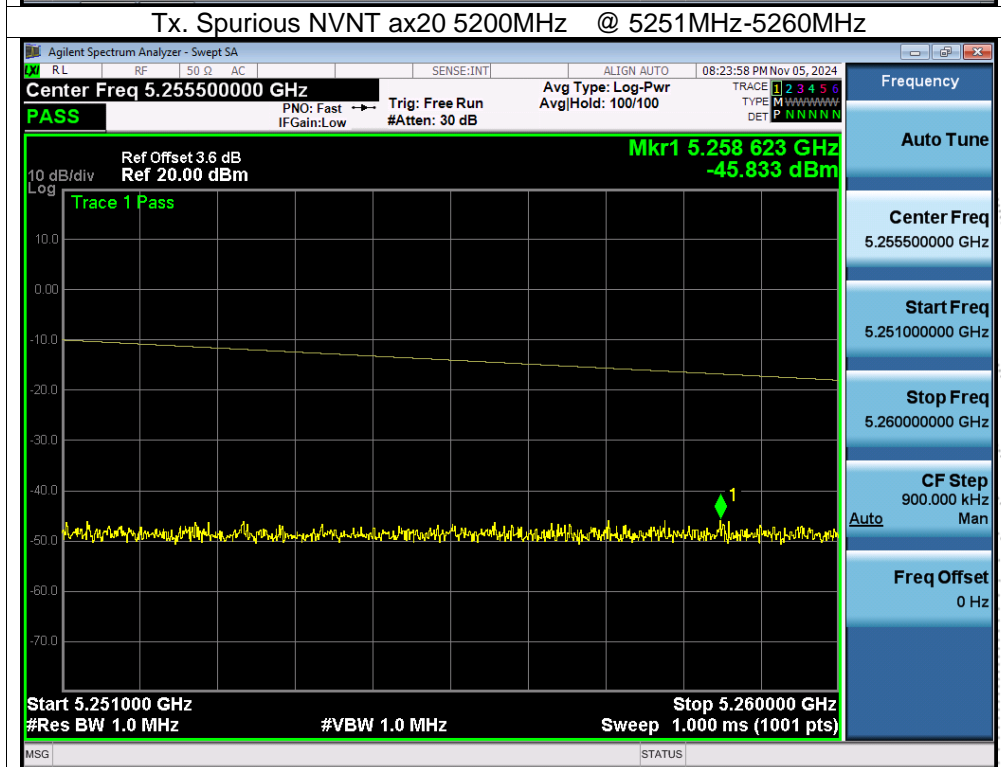
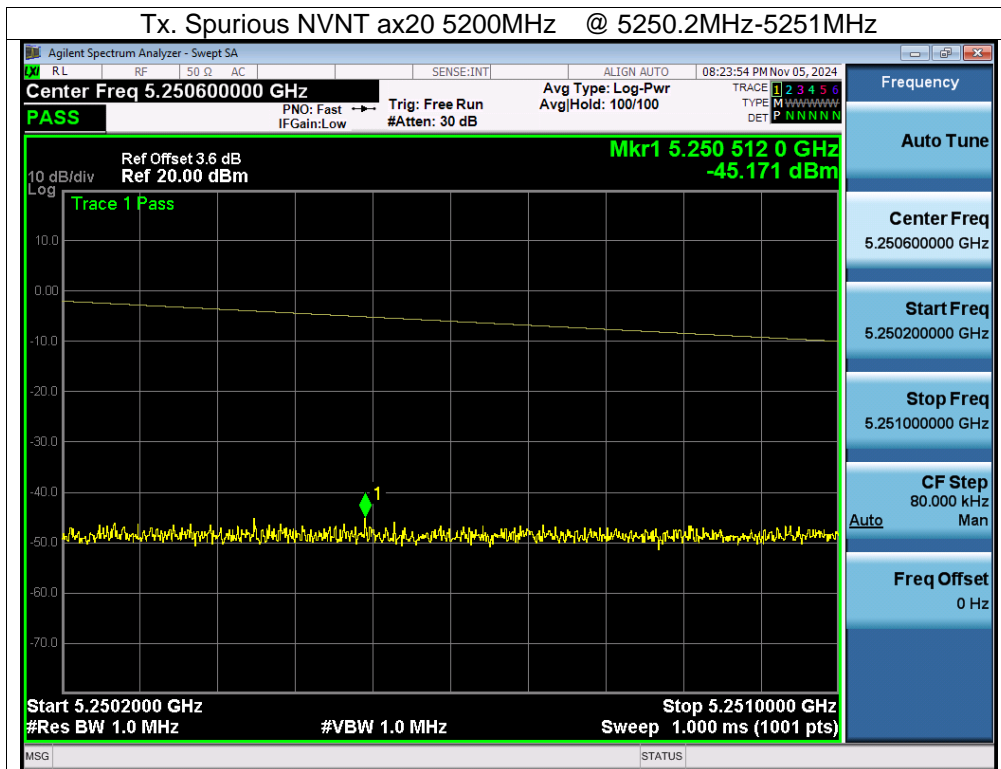




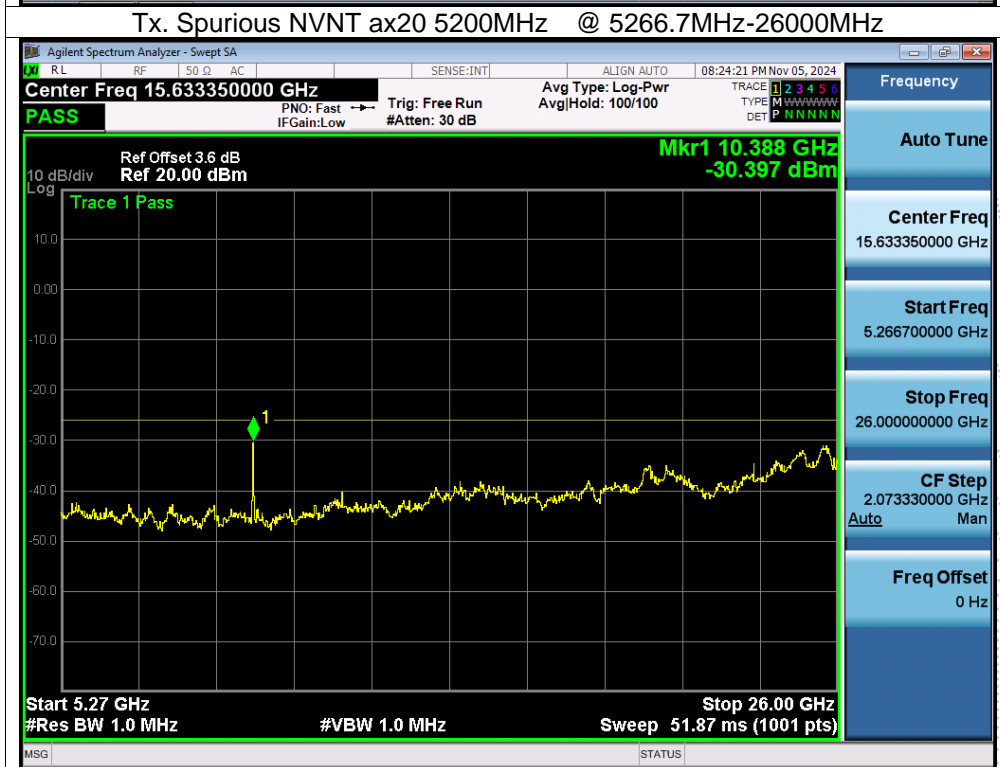
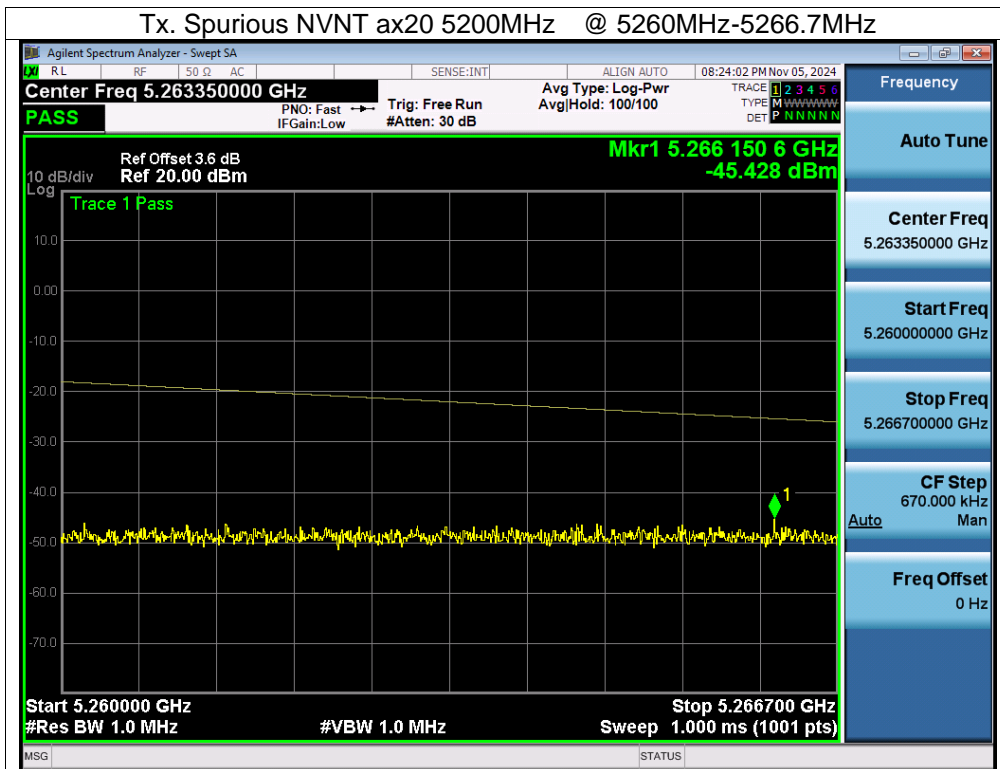


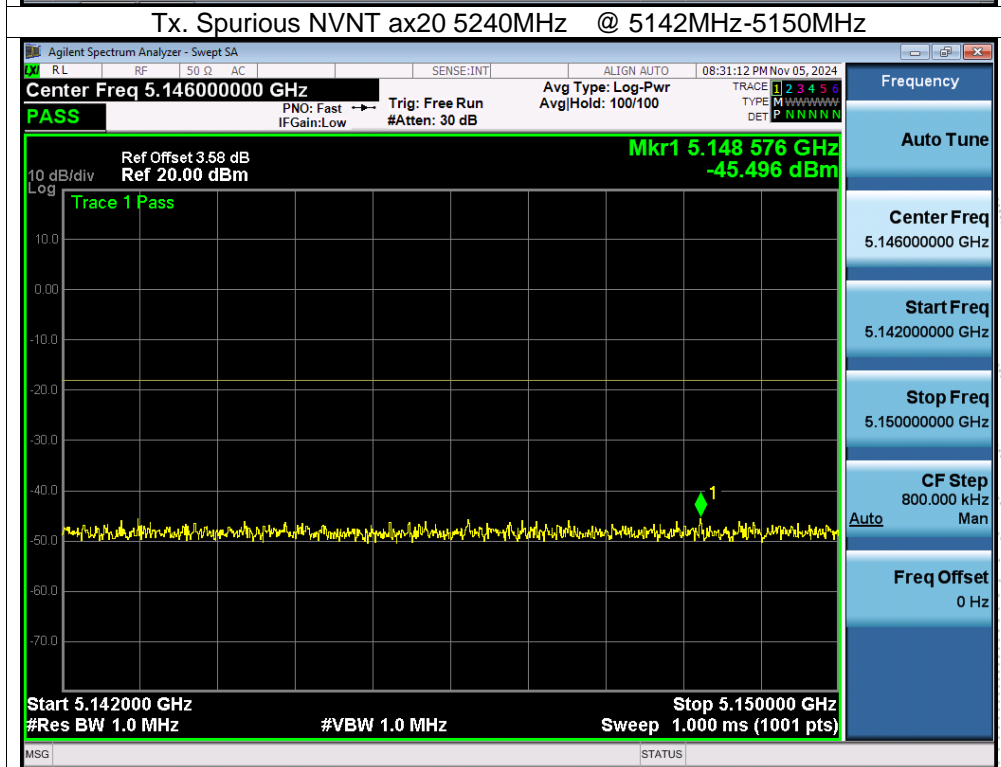
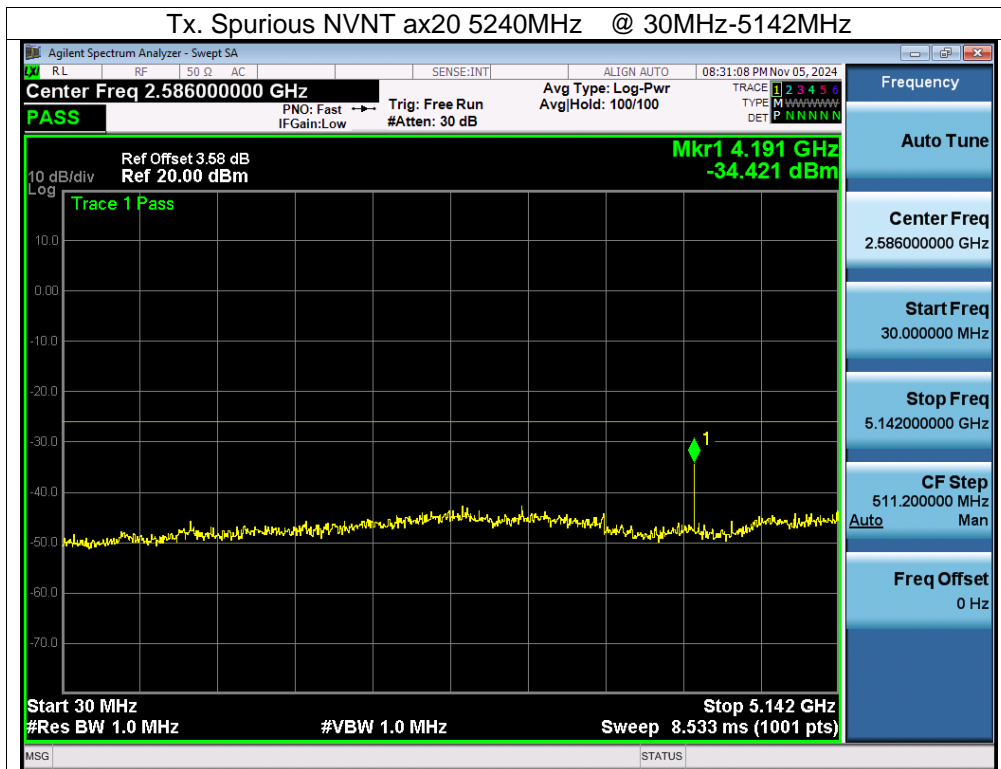


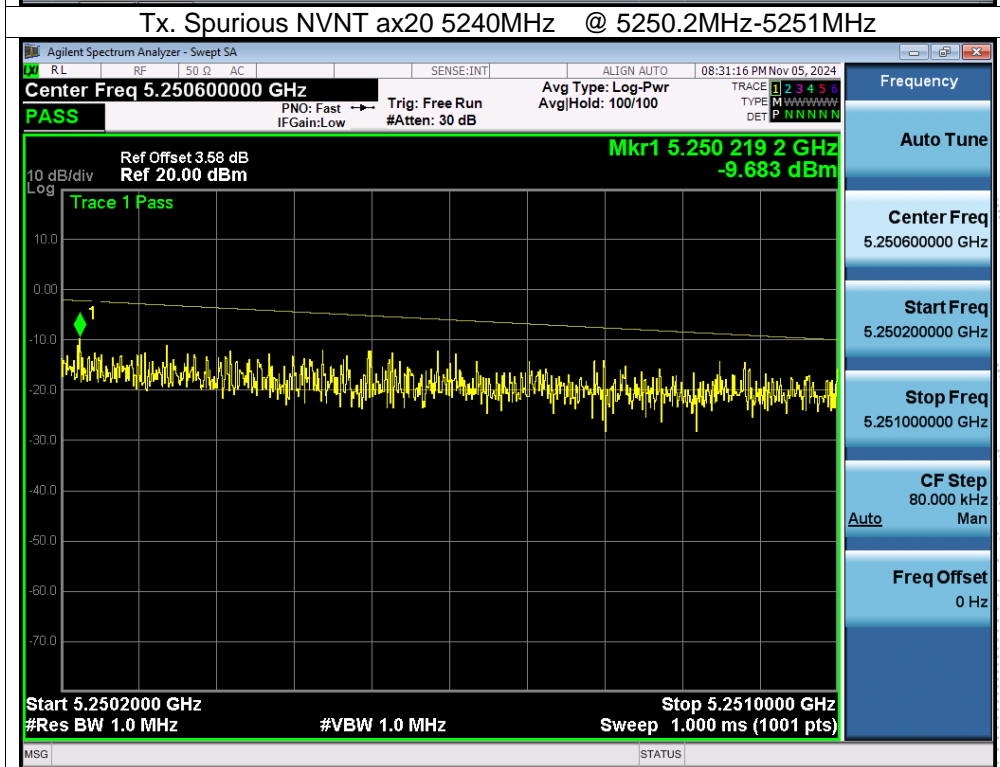
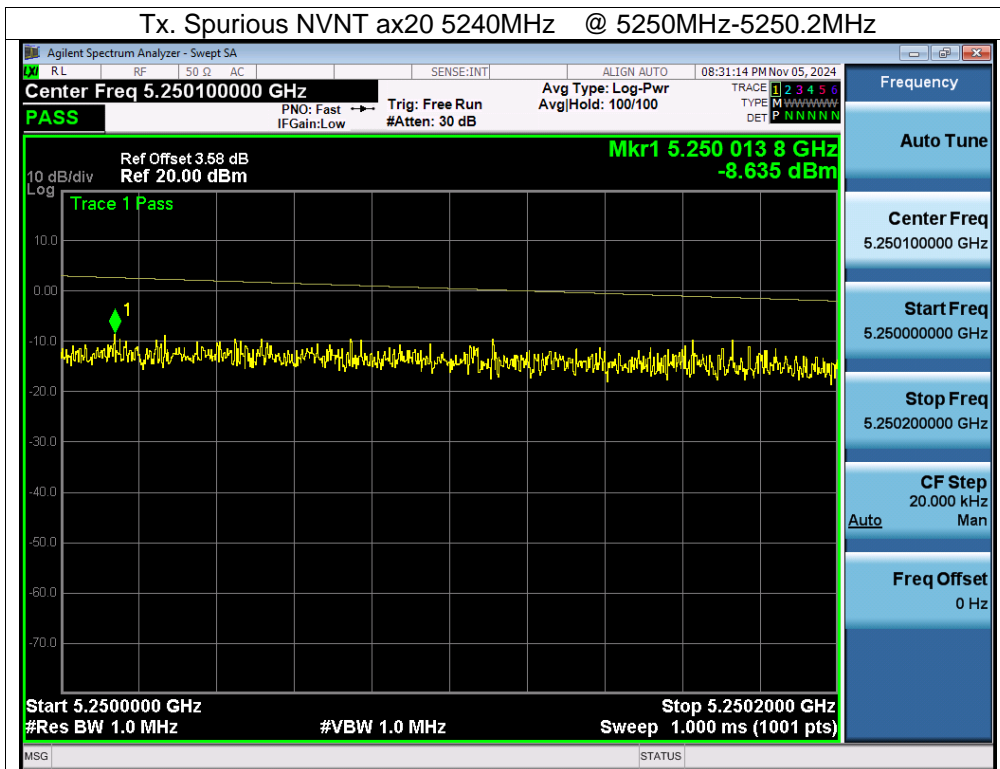
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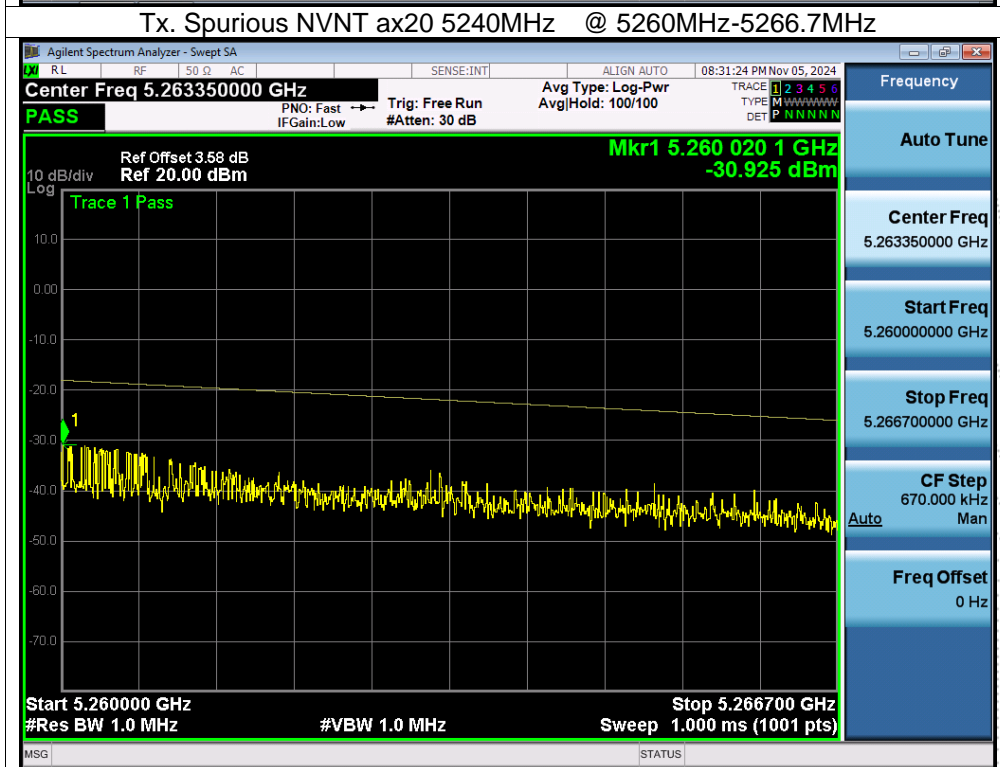
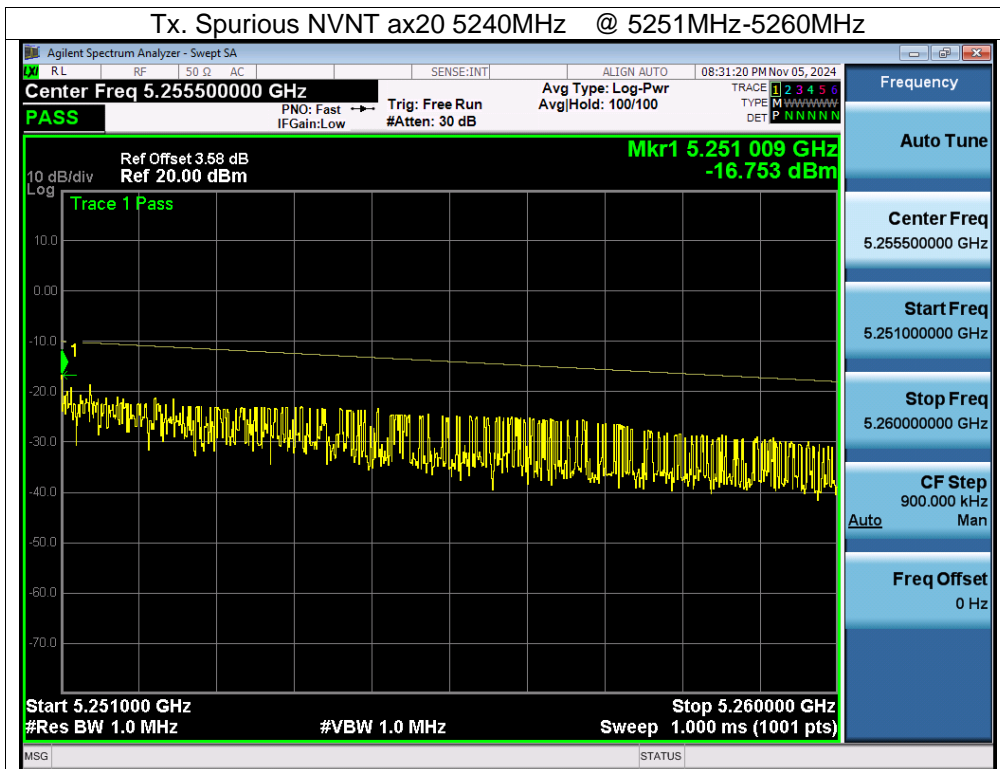


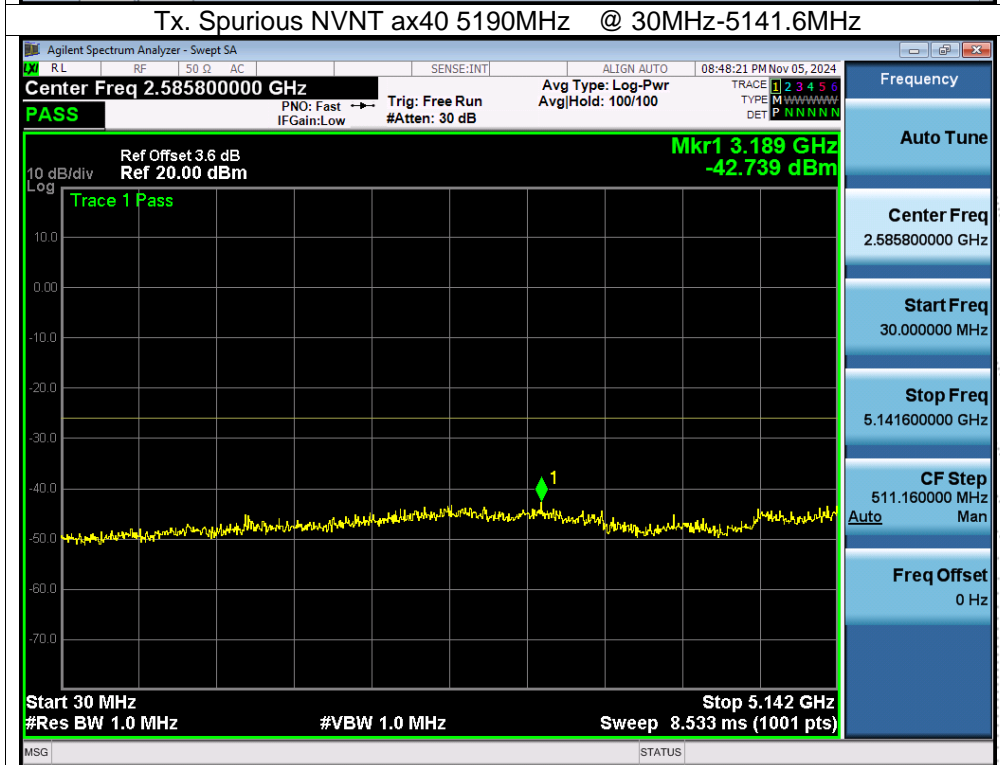
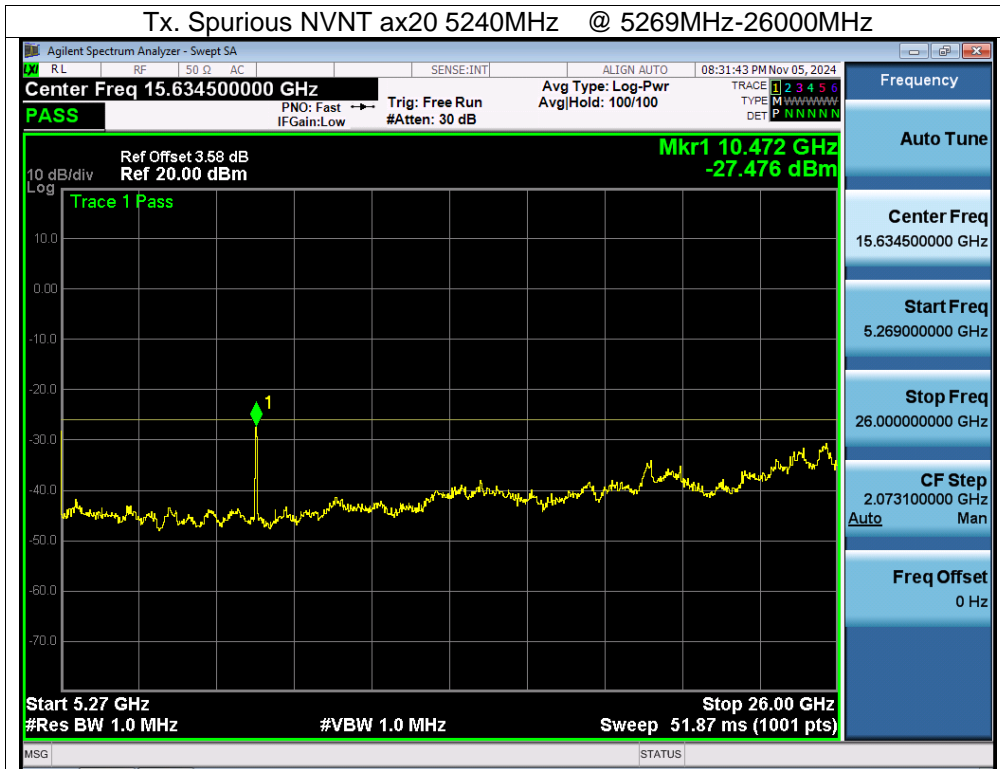
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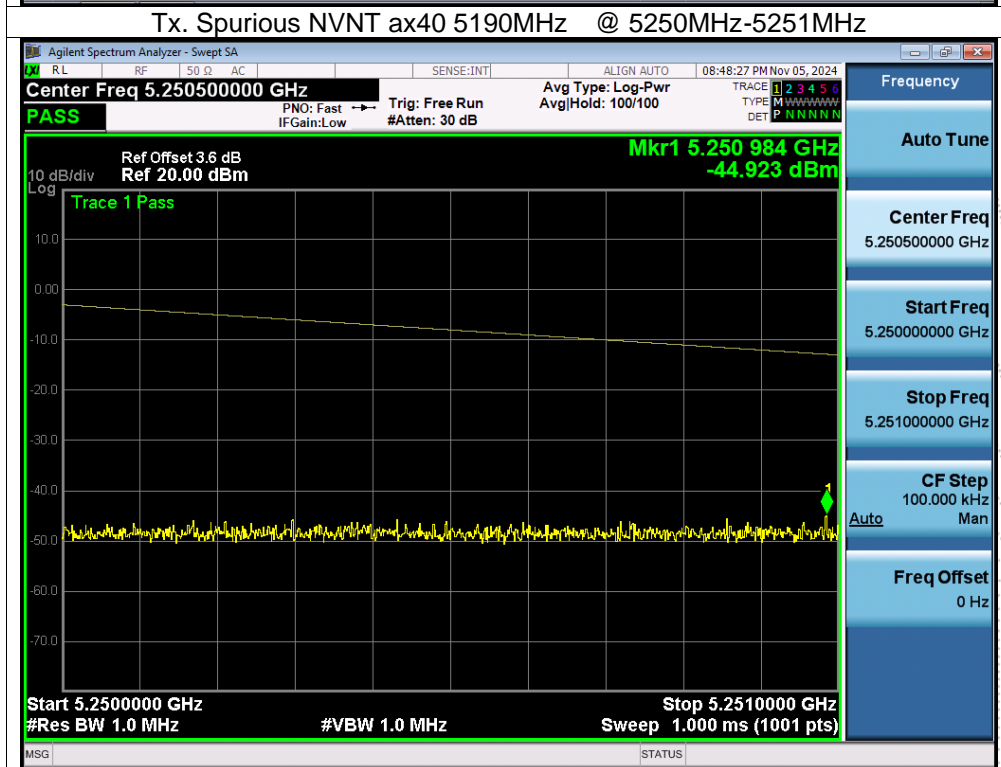
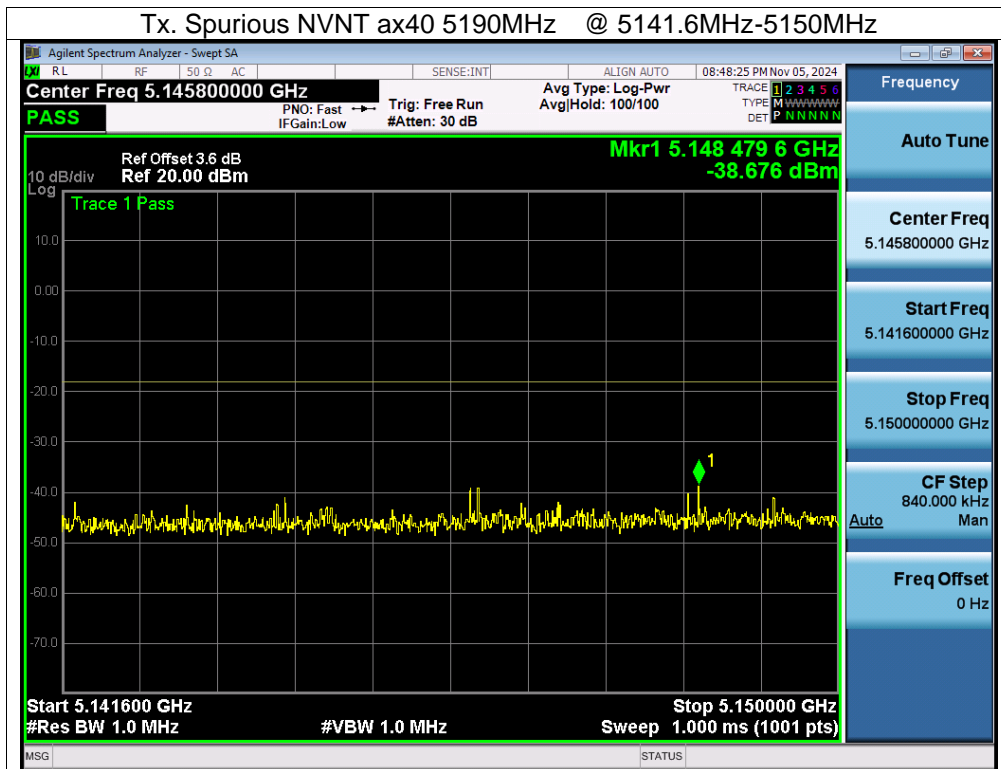




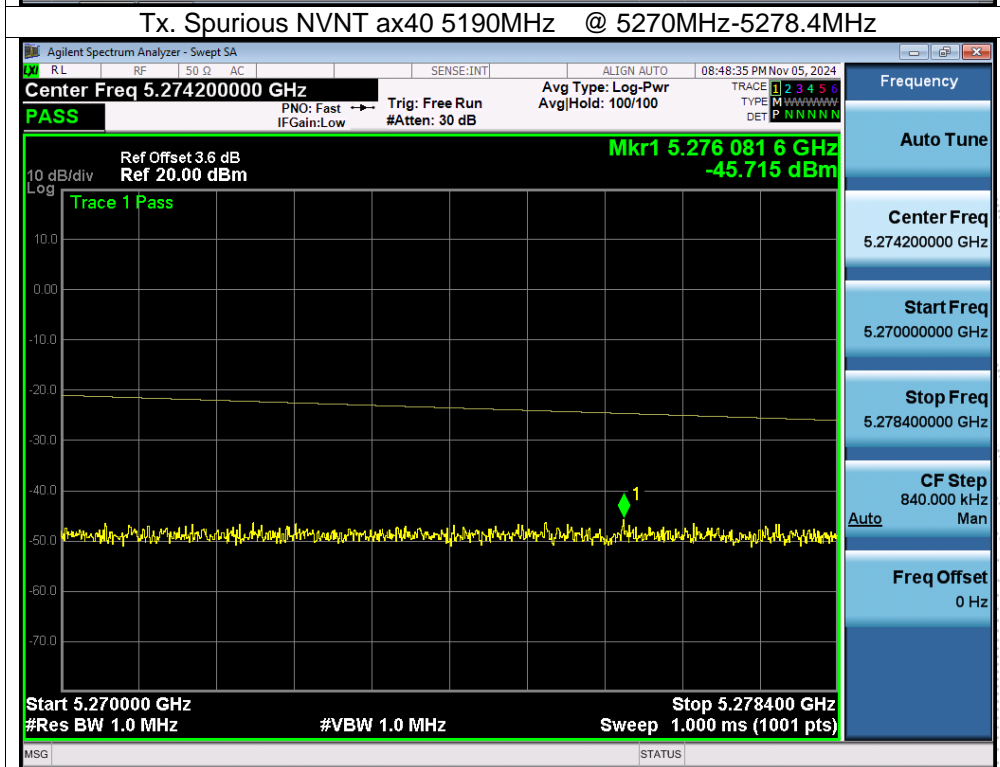
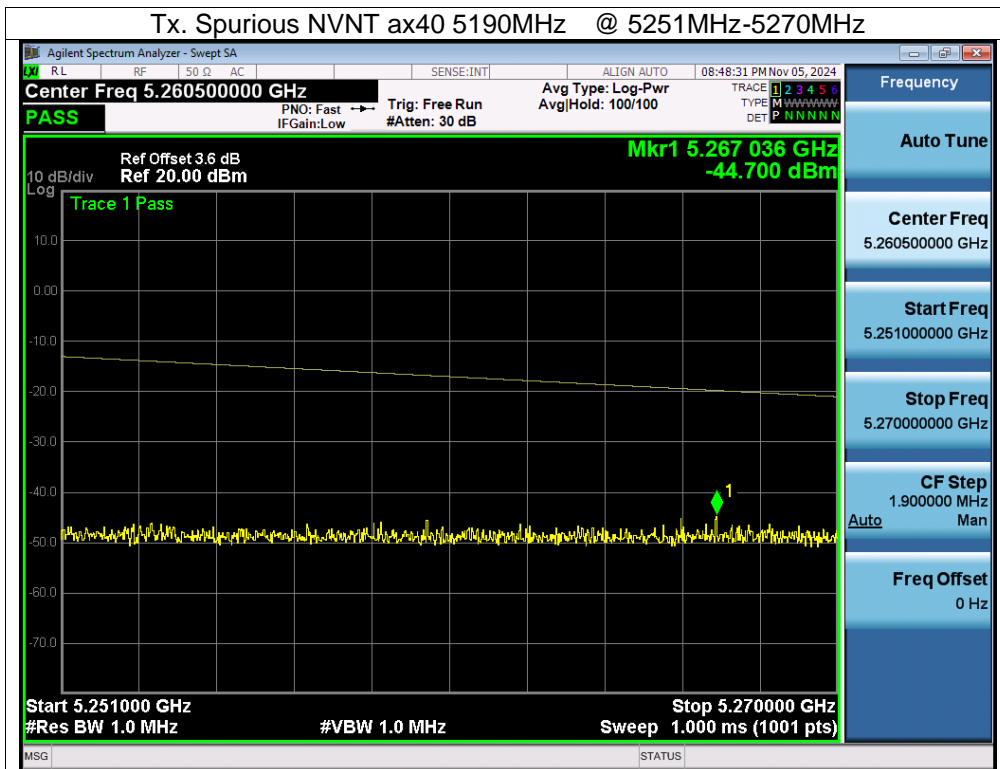


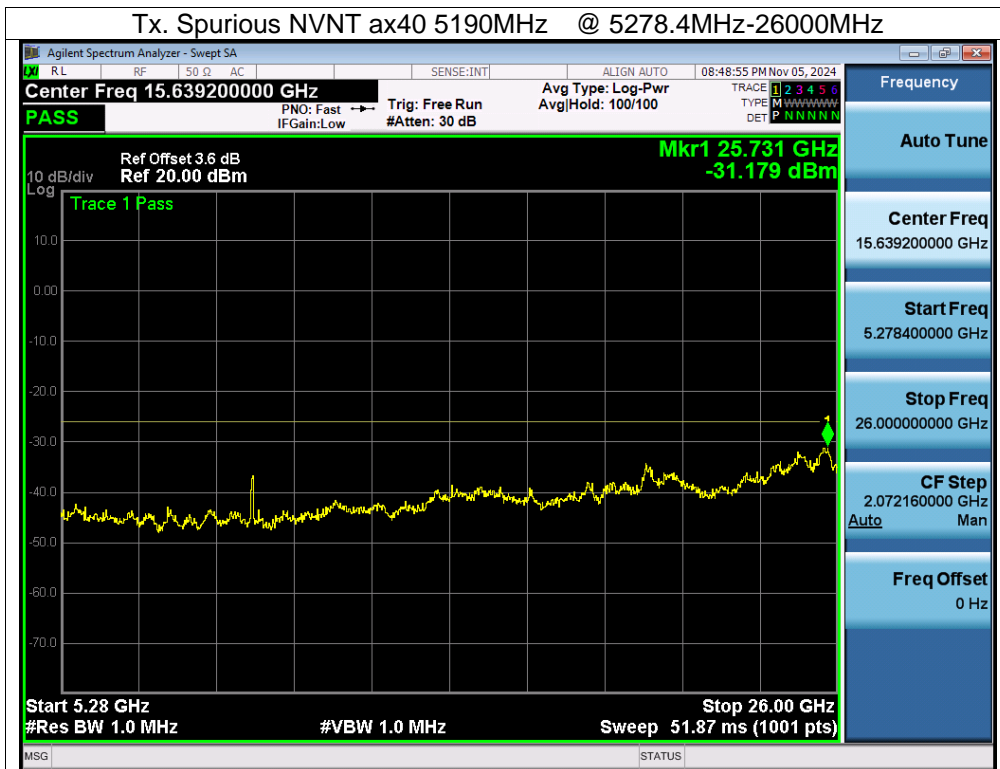


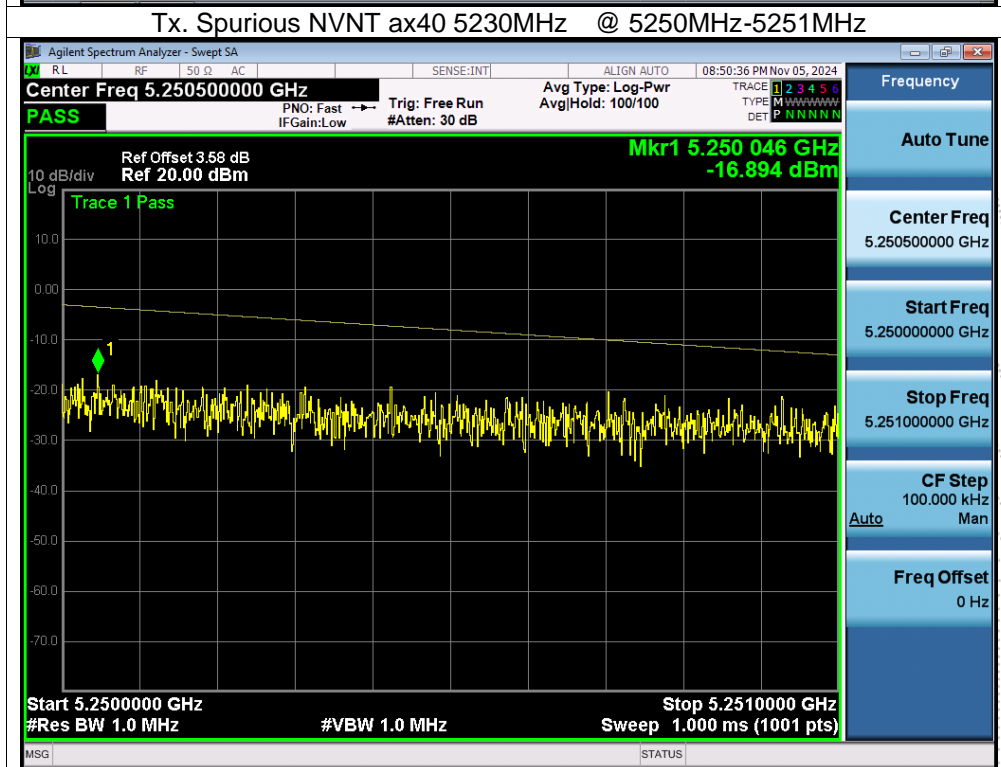
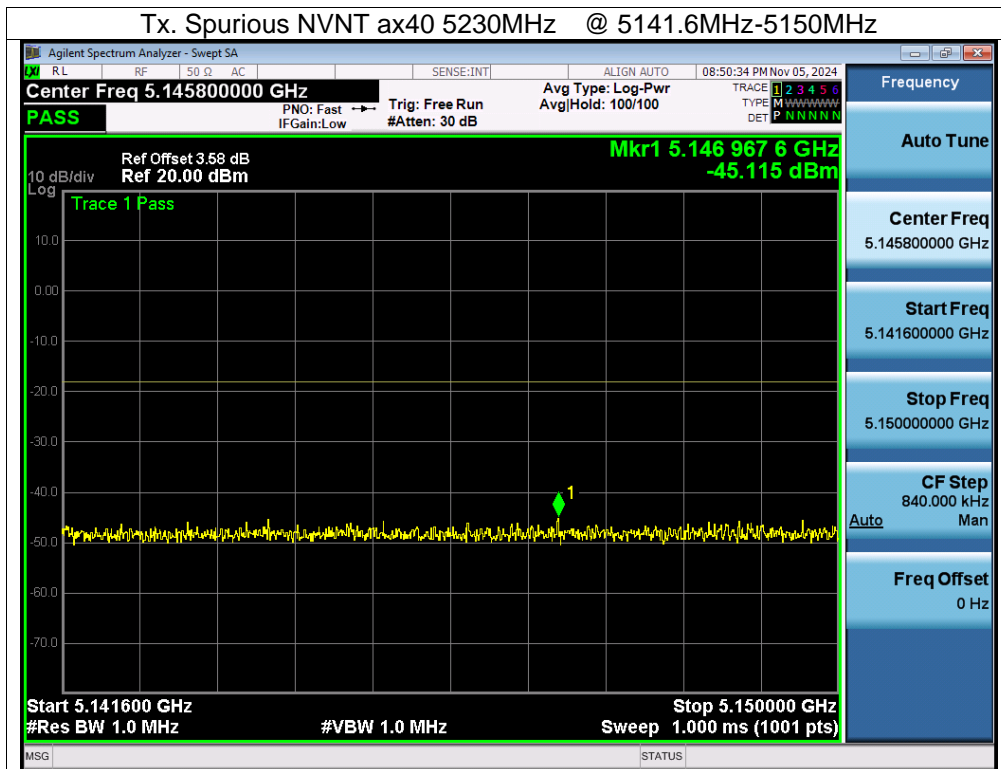
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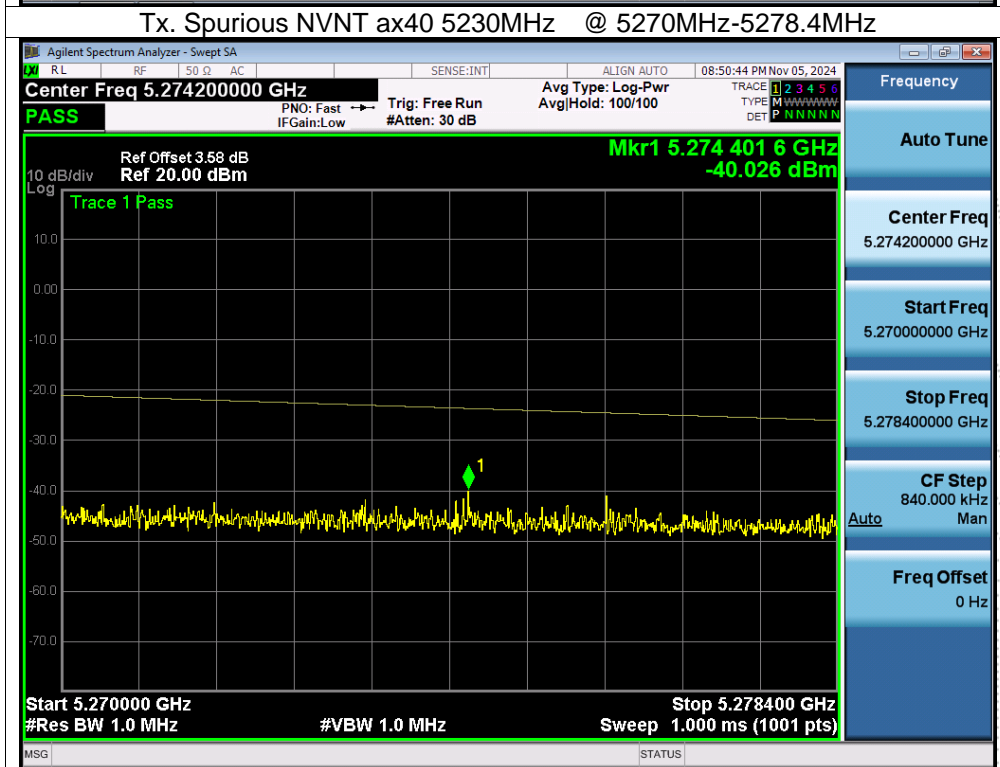
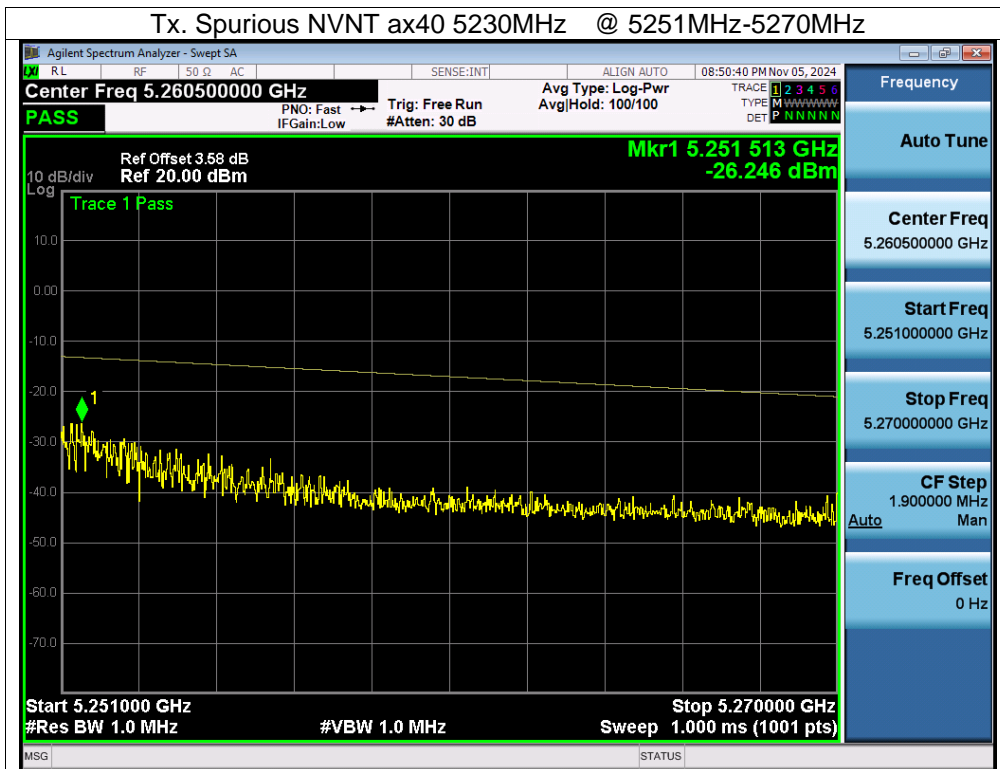


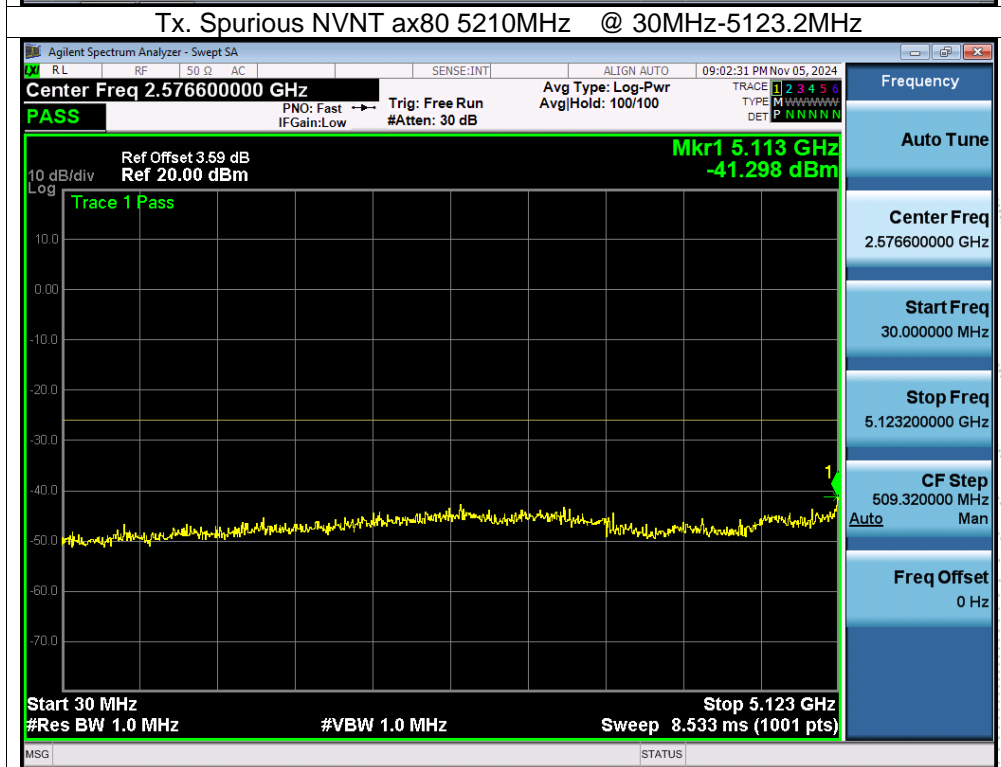
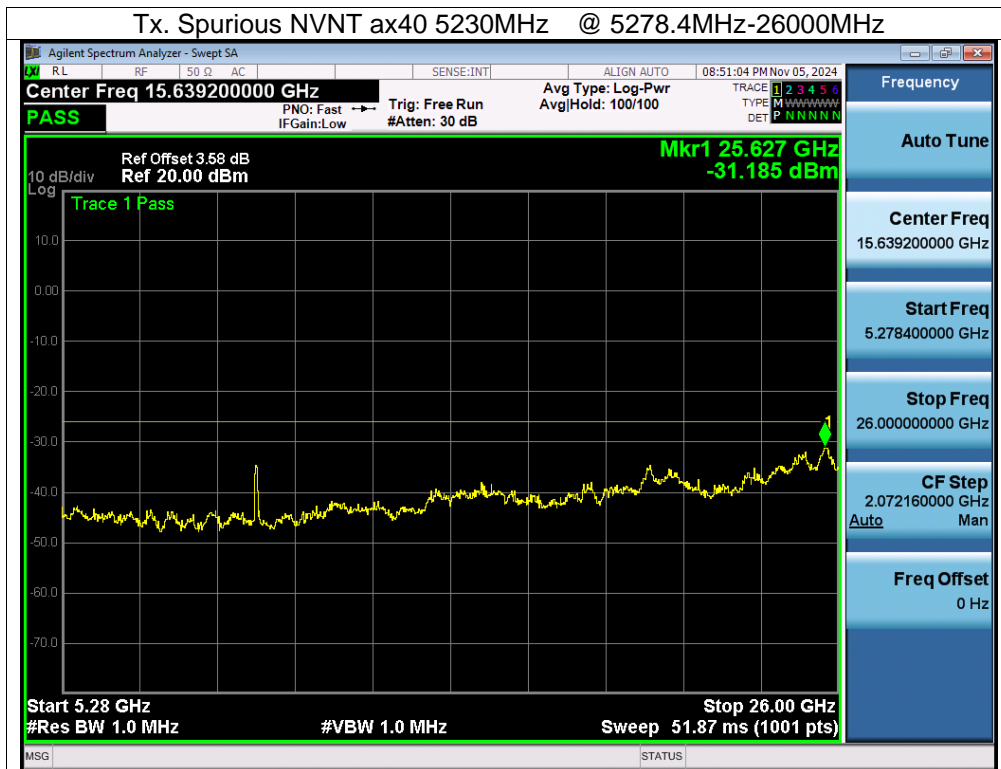
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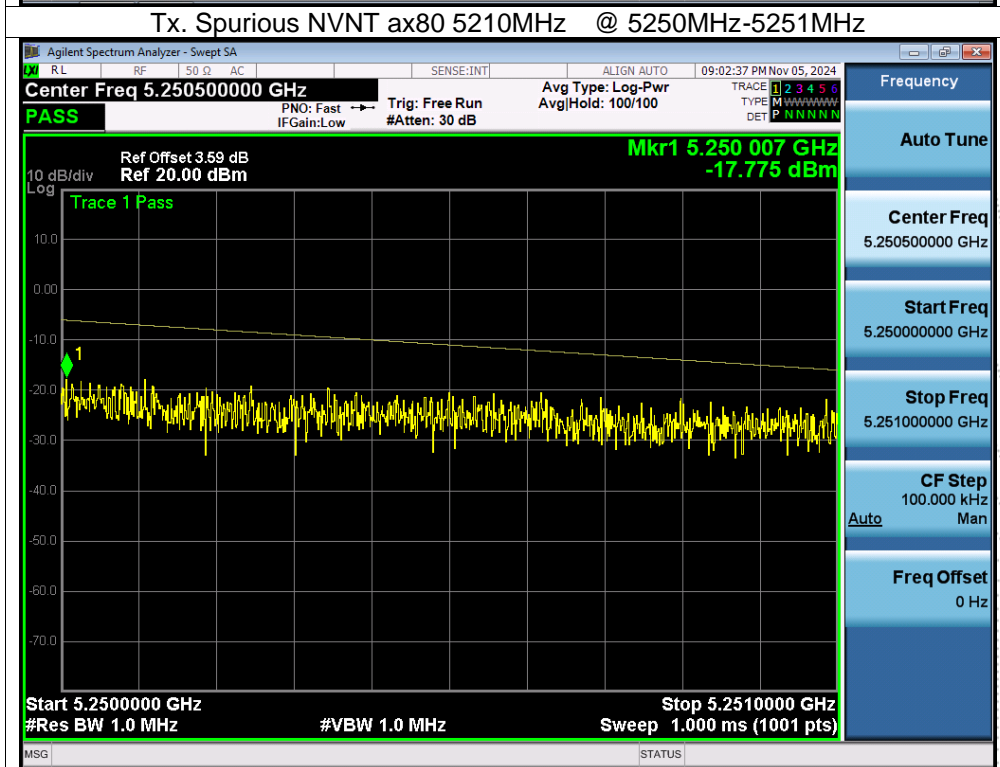
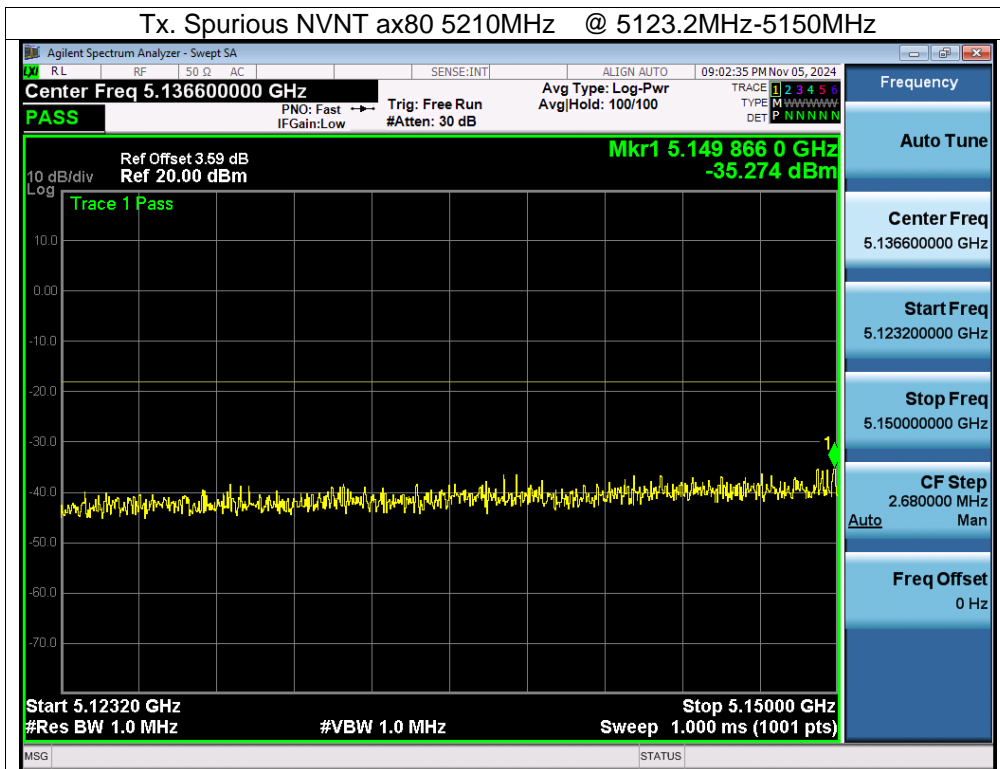




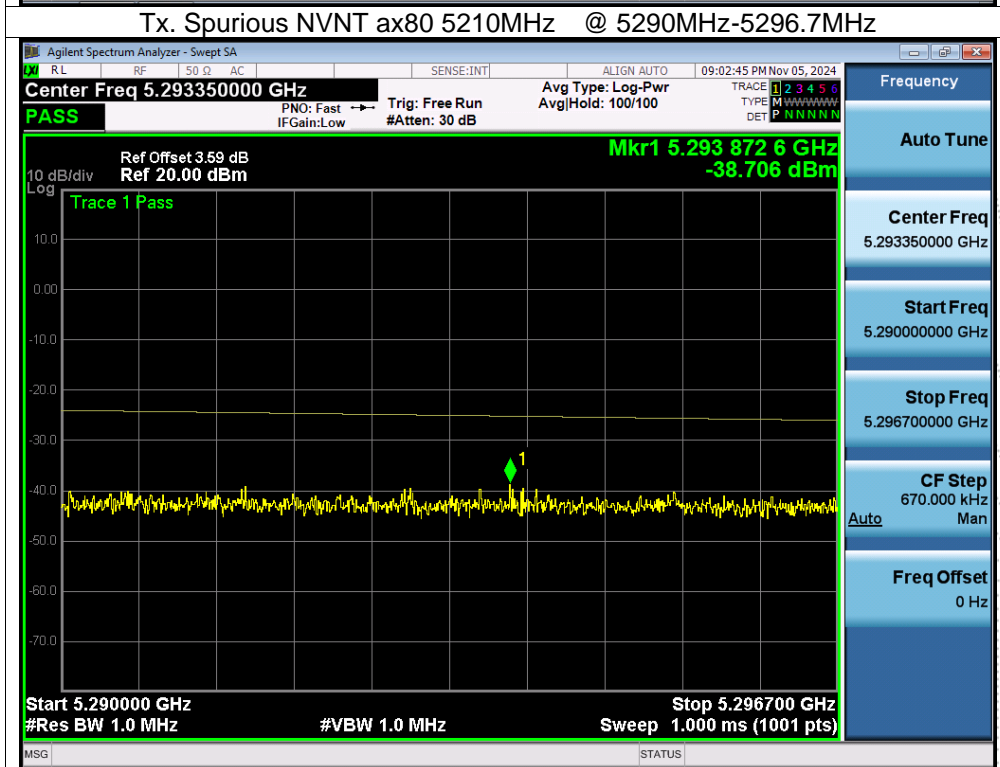
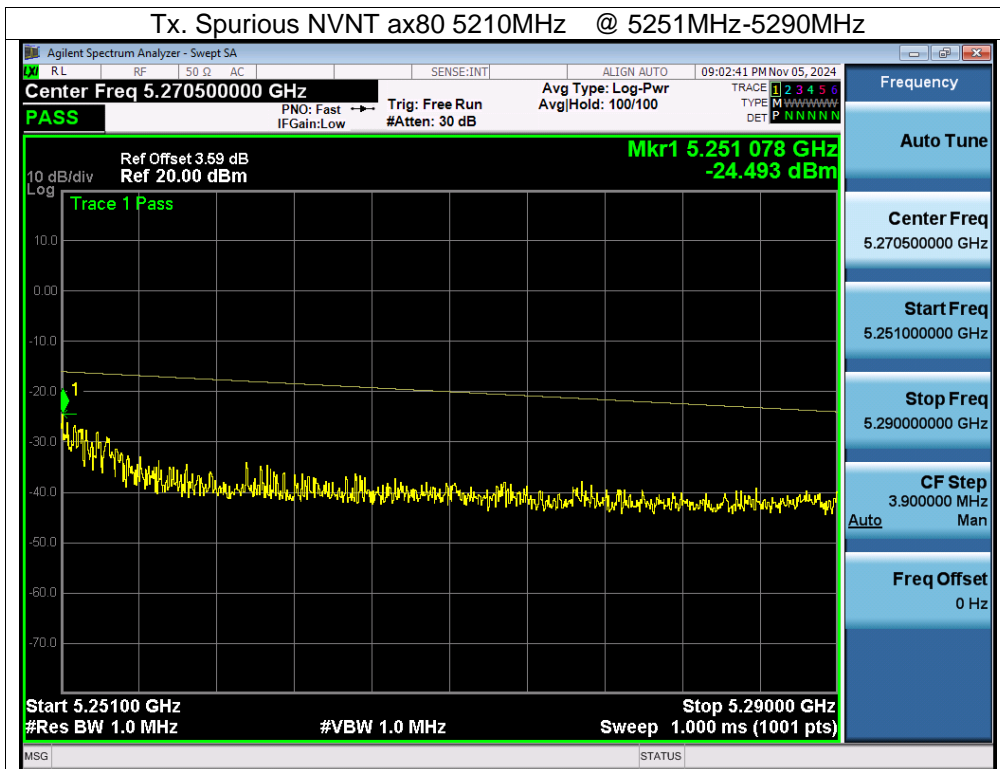




CO. LTD



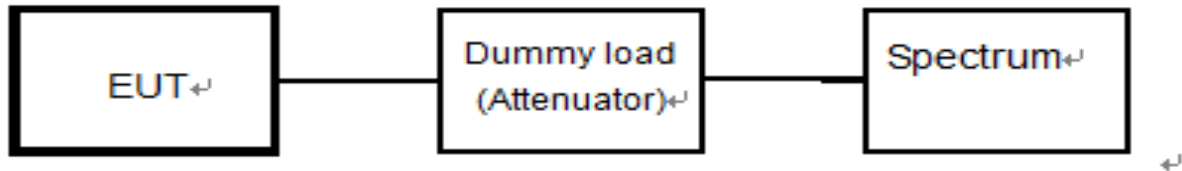
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11. Secondary Radiated Emissions Measurement

11.1 Block Diagram Of Test Setup



11.2 Limit

Item	Limits
RX Spurious Emission:	$\leq 4\text{nW}$ (-54dBm) ($f < 1\text{GHz}$)
	$\leq 20\text{nW}$ (-47dBm) ($1\text{GHz} \leq f$)

11.3 Measuring Instruments And Setting

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
VB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

11.4 Test Procedure

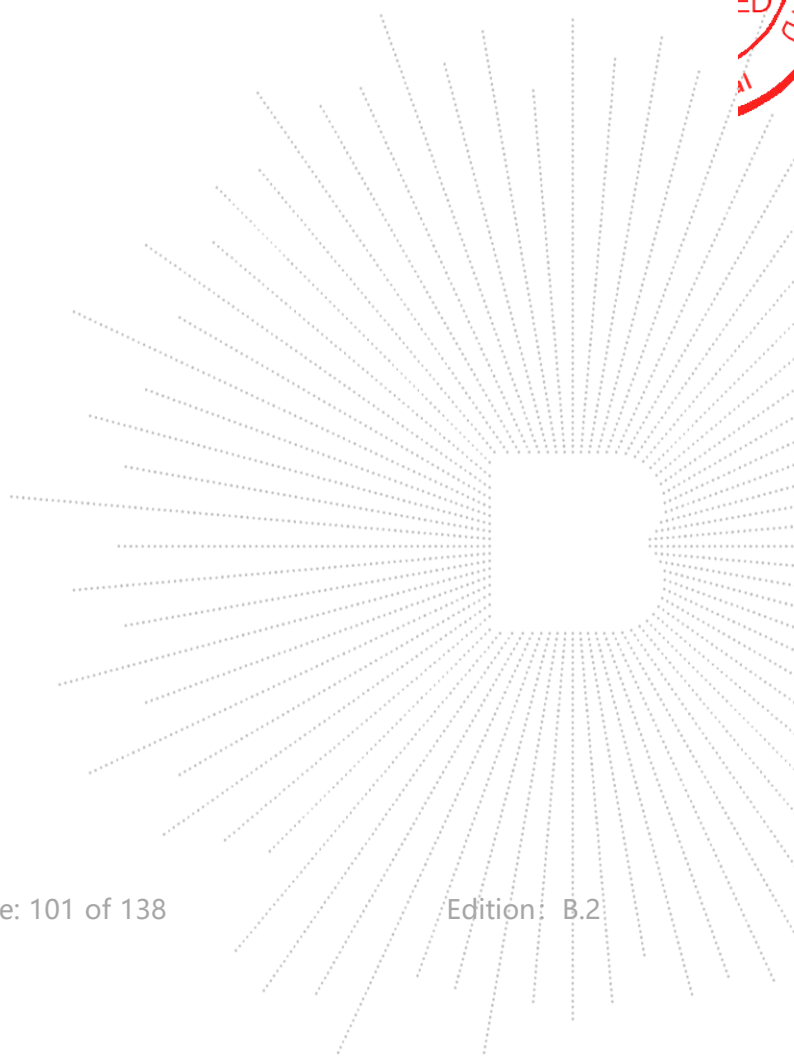
- EUT have the continuous reception mode and fixed only one channelize.
- Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) / AT: 6dB / Ref: -20dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- SA set RB: 100kHz and VB: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW
- SA set RB: 1MHz and VB: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12500MHz. Search to mark peak reading value + cable loss shall be less than 20nW
- If power level of lower emissions are more than 1/10 of limit (.4nW for $f < 1\text{GHz}$, 2nW for $f \geq 1\text{GHz}$), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

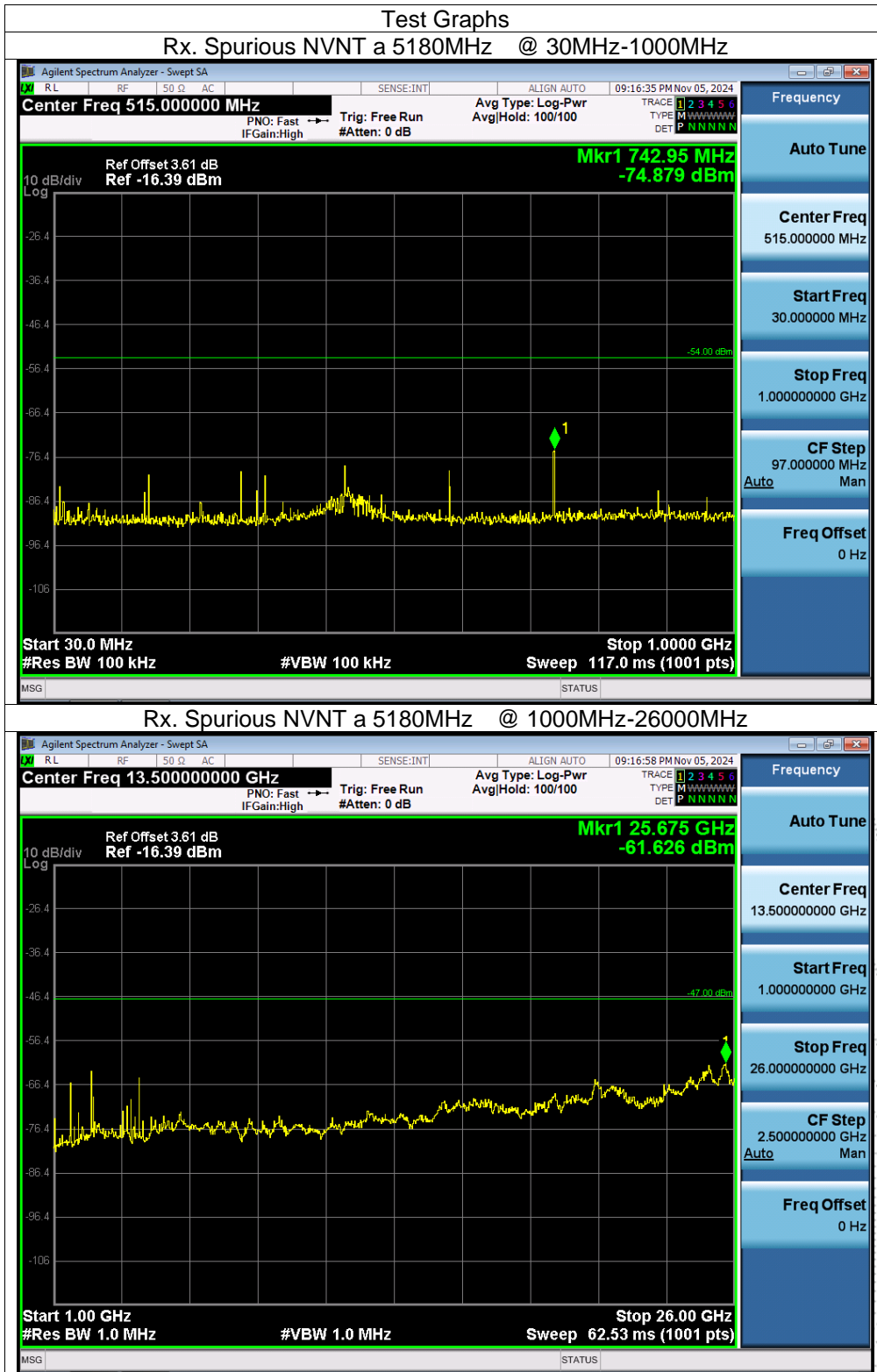
11.5 Test Result

Temperature:	25°C		
Humidity:	55 % RH	Test Voltage	DC 5V

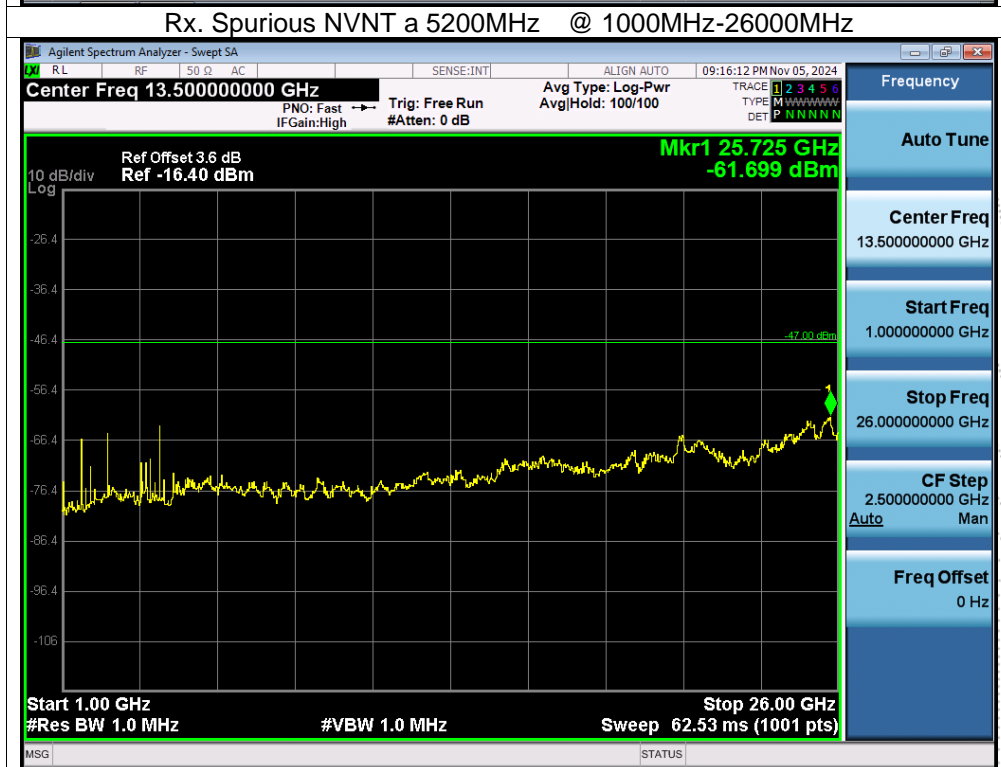
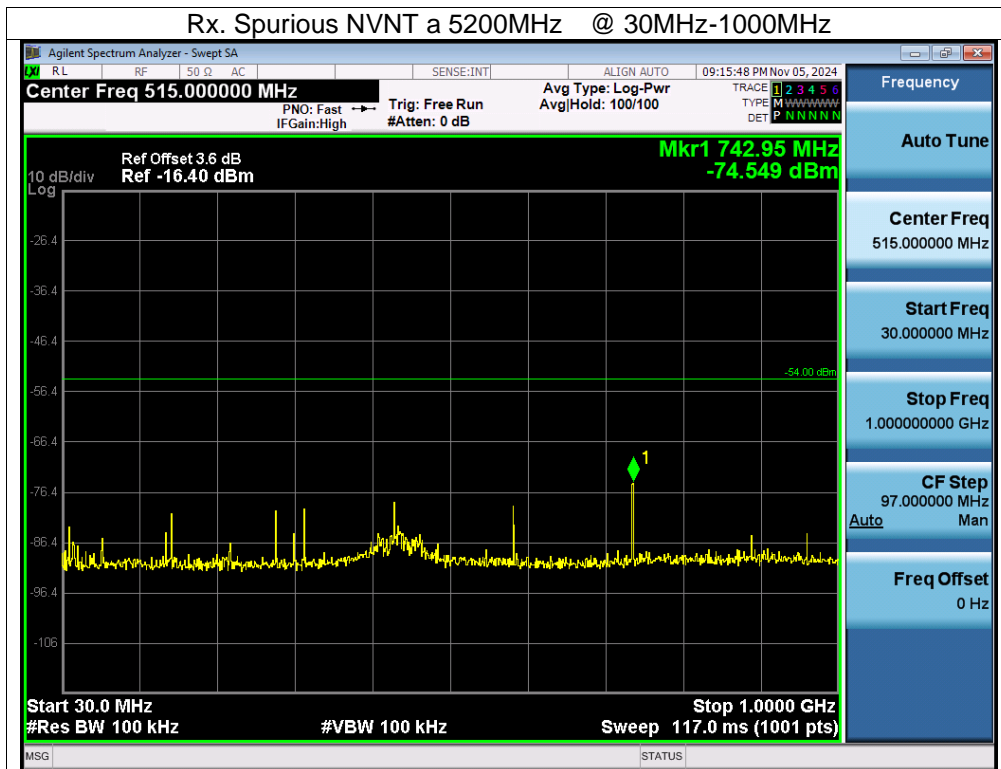
Condition	Mode	Frequency (MHz)	Range (MHz)	Emission Frequency (MHz)	Max Value (dBm)	Limit (dBm)	Verdict
NVNT	n20	5180	30-1000	742.95	-74.88	-54	Pass
NVNT	n20	5180	1000-26000	25675	-61.63	-47	Pass
NVNT	n20	5200	30-1000	742.95	-74.55	-54	Pass
NVNT	n20	5200	1000-26000	25725	-61.7	-47	Pass
NVNT	n20	5240	30-1000	742.95	-74.89	-54	Pass
NVNT	n20	5240	1000-26000	2425	-53.41	-47	Pass
NVNT	n40	5190	30-1000	742.95	-74.54	-54	Pass
NVNT	n40	5190	1000-26000	25600	-59.81	-47	Pass
NVNT	n40	5230	30-1000	742.95	-74.68	-54	Pass
NVNT	n40	5230	1000-26000	25650	-61.73	-47	Pass
NVNT	ac80	5210	30-1000	742.95	-74.84	-54	Pass
NVNT	ac80	5210	1000-26000	25625	-60.54	-47	Pass

All the modes were tested and only recorded the worst mode in the report.

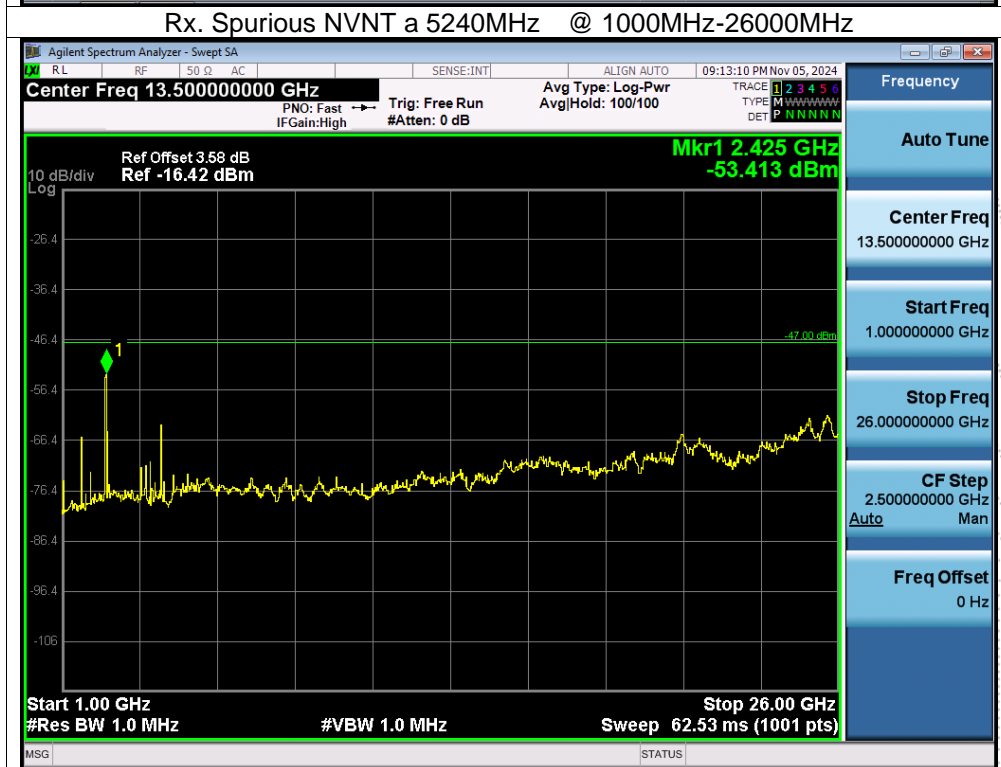
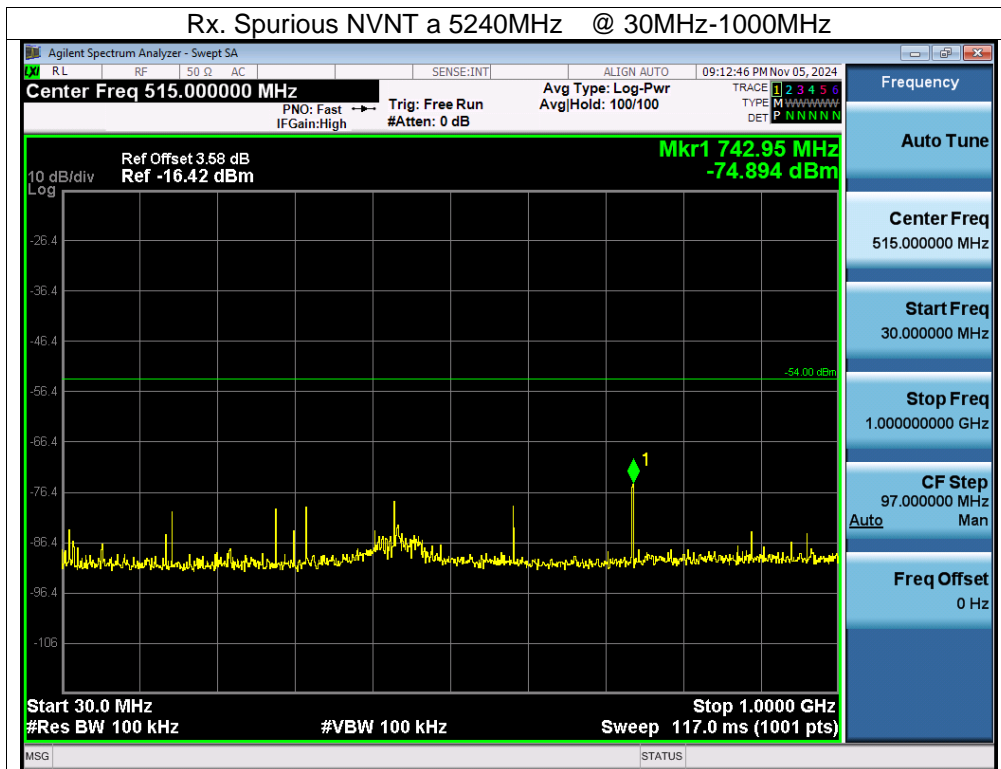


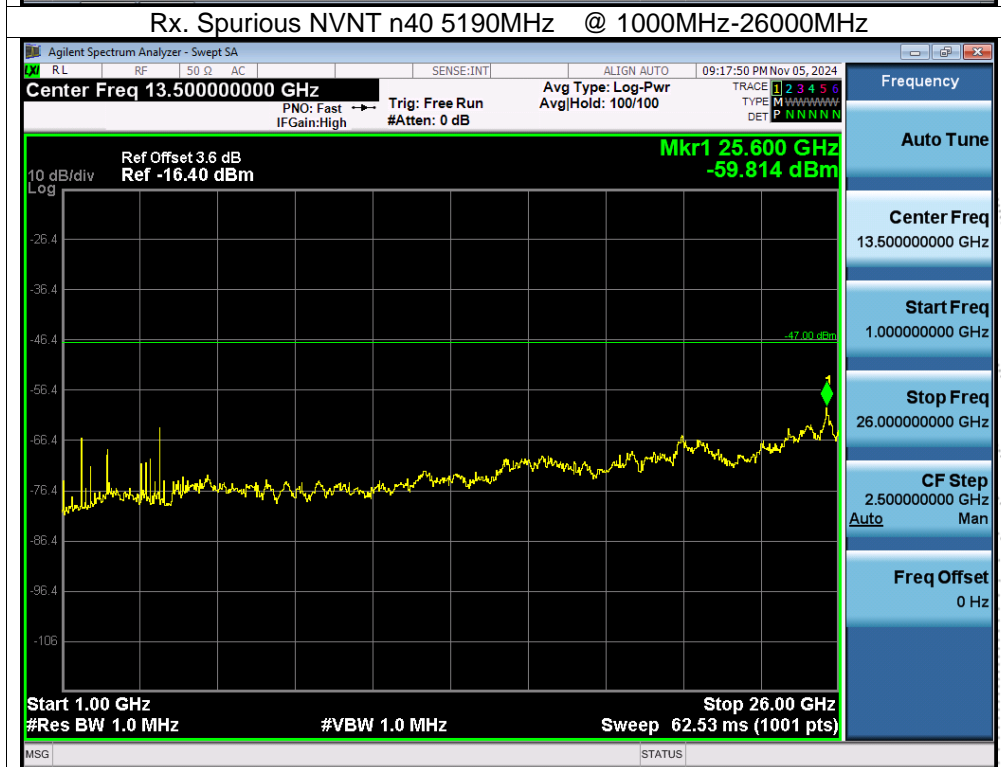
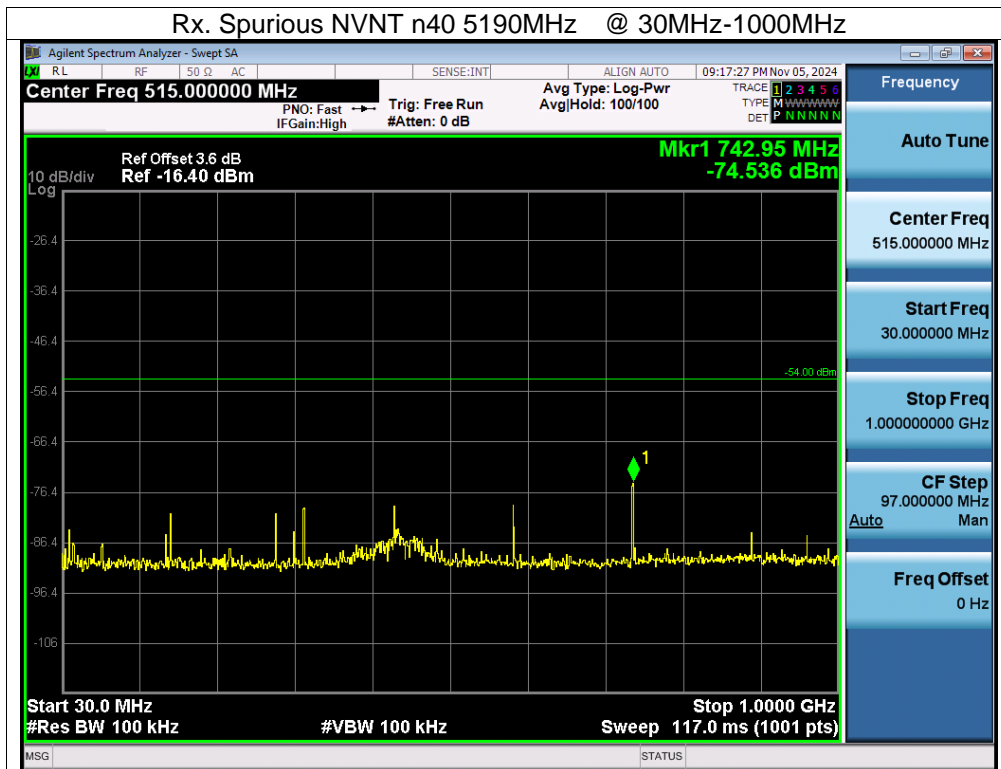


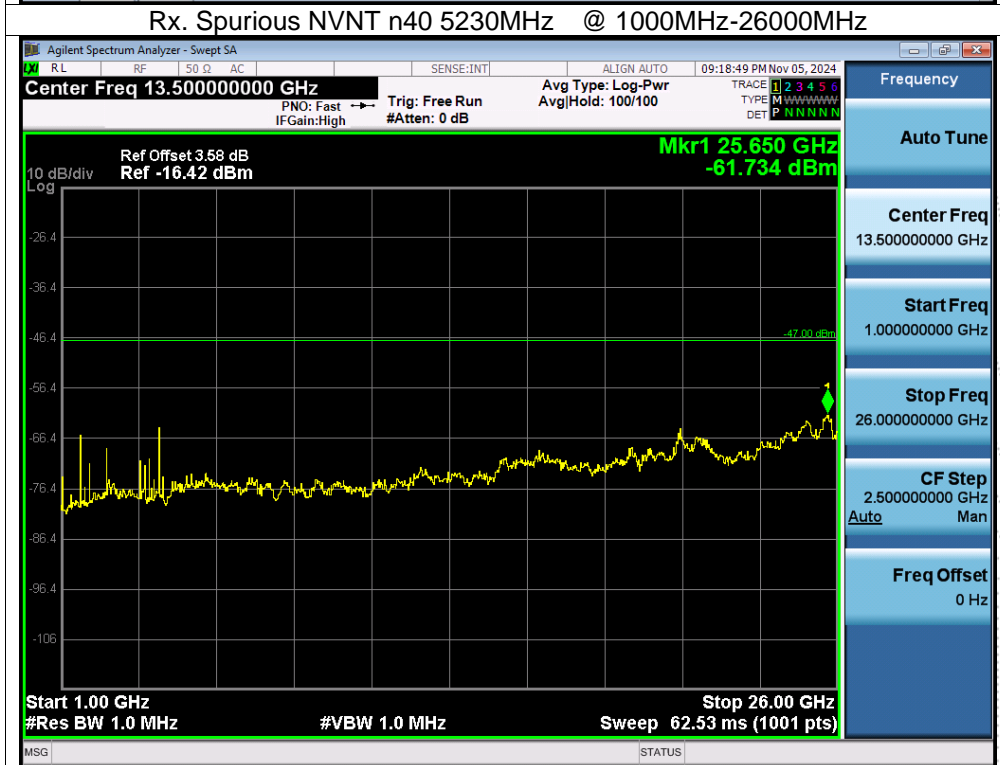
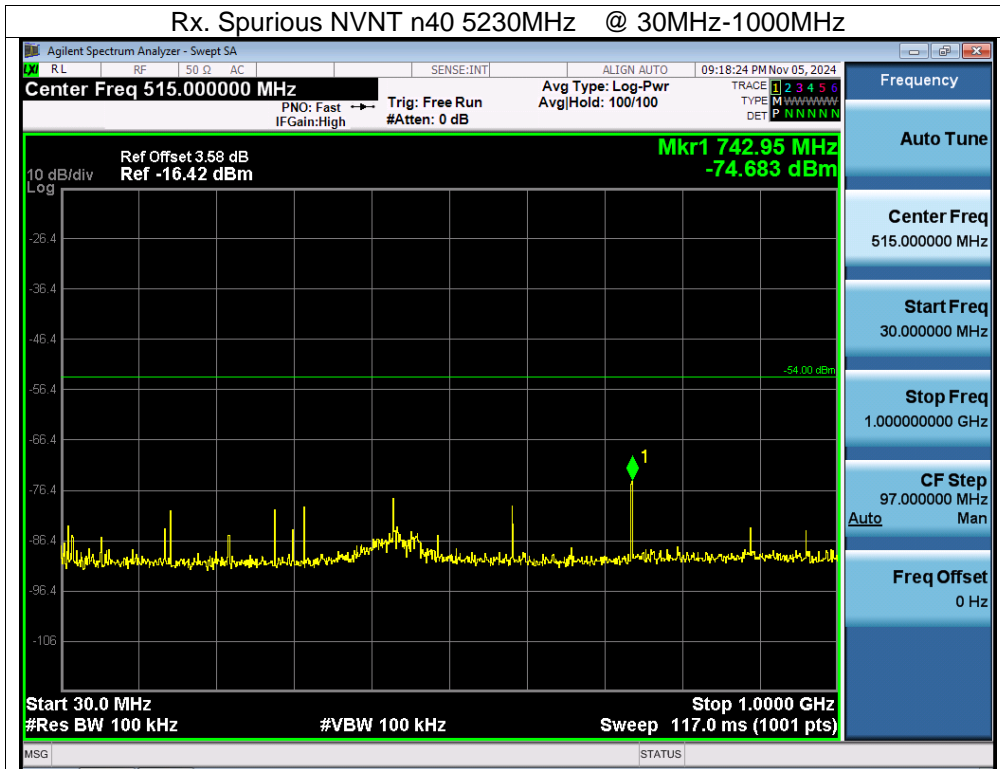
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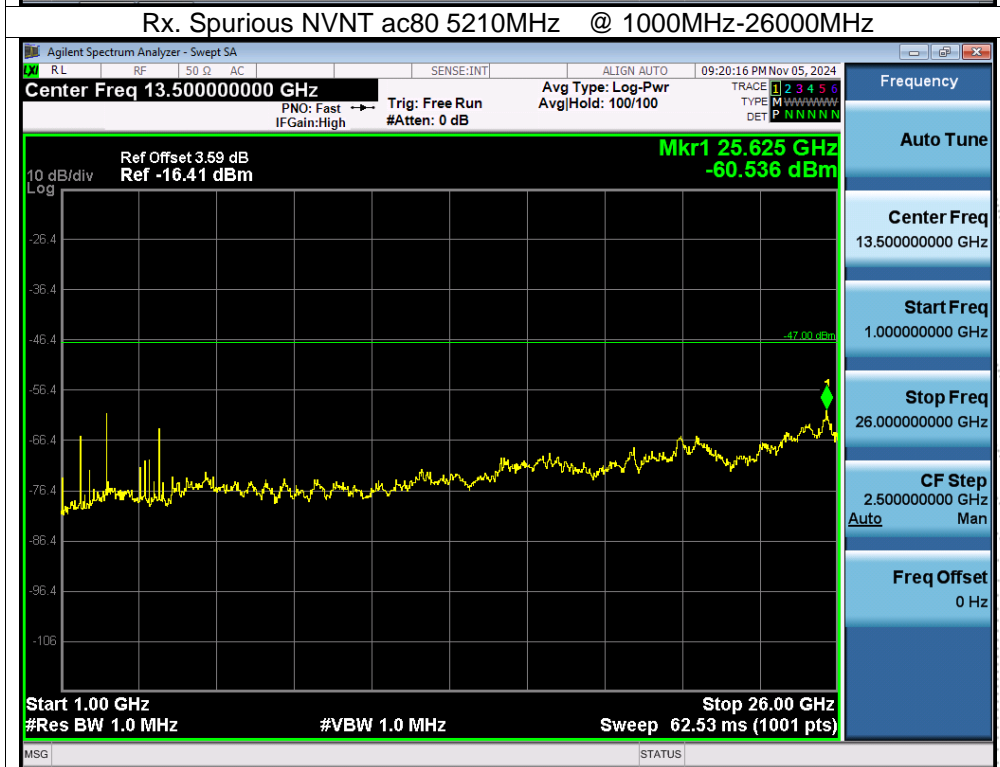
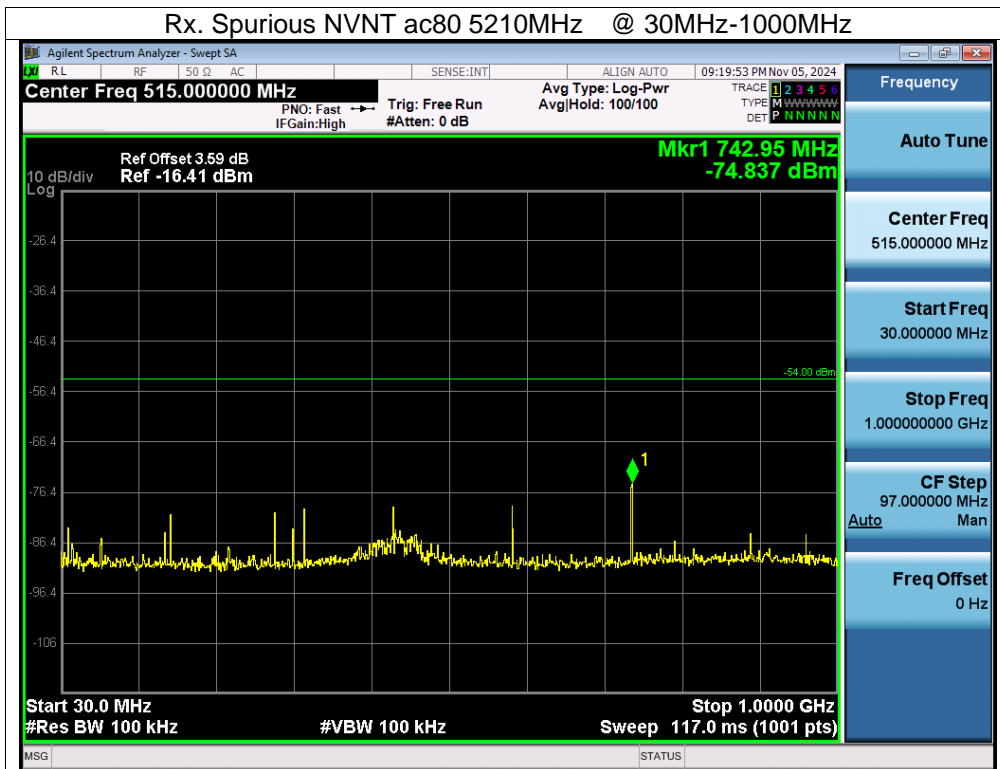


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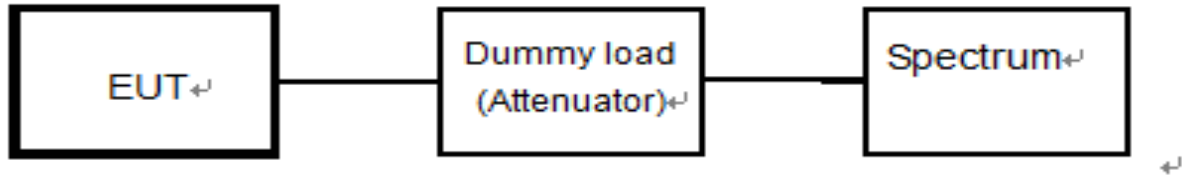






12. Transmitter Burst Length Measurement

12.1 Block Diagram Of Test Setup



12.2 Limit

Item	Limits
Transmitter Burst Length	≤8msecond

12.3 Measuring Instruments And Setting

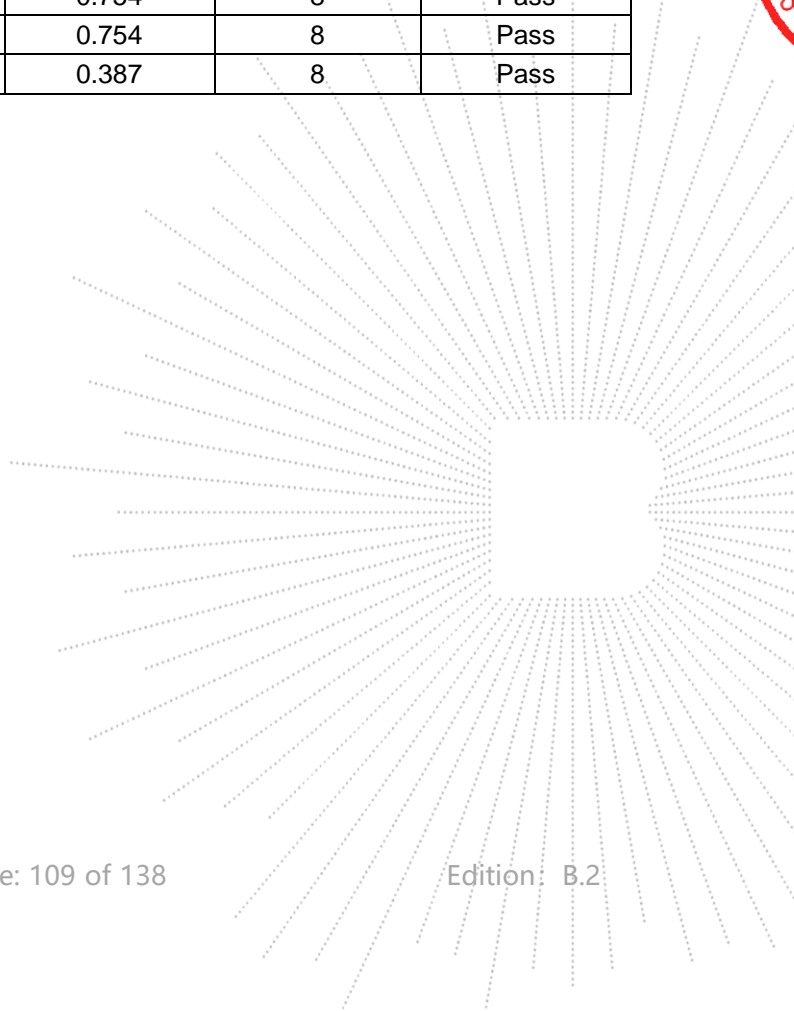
Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

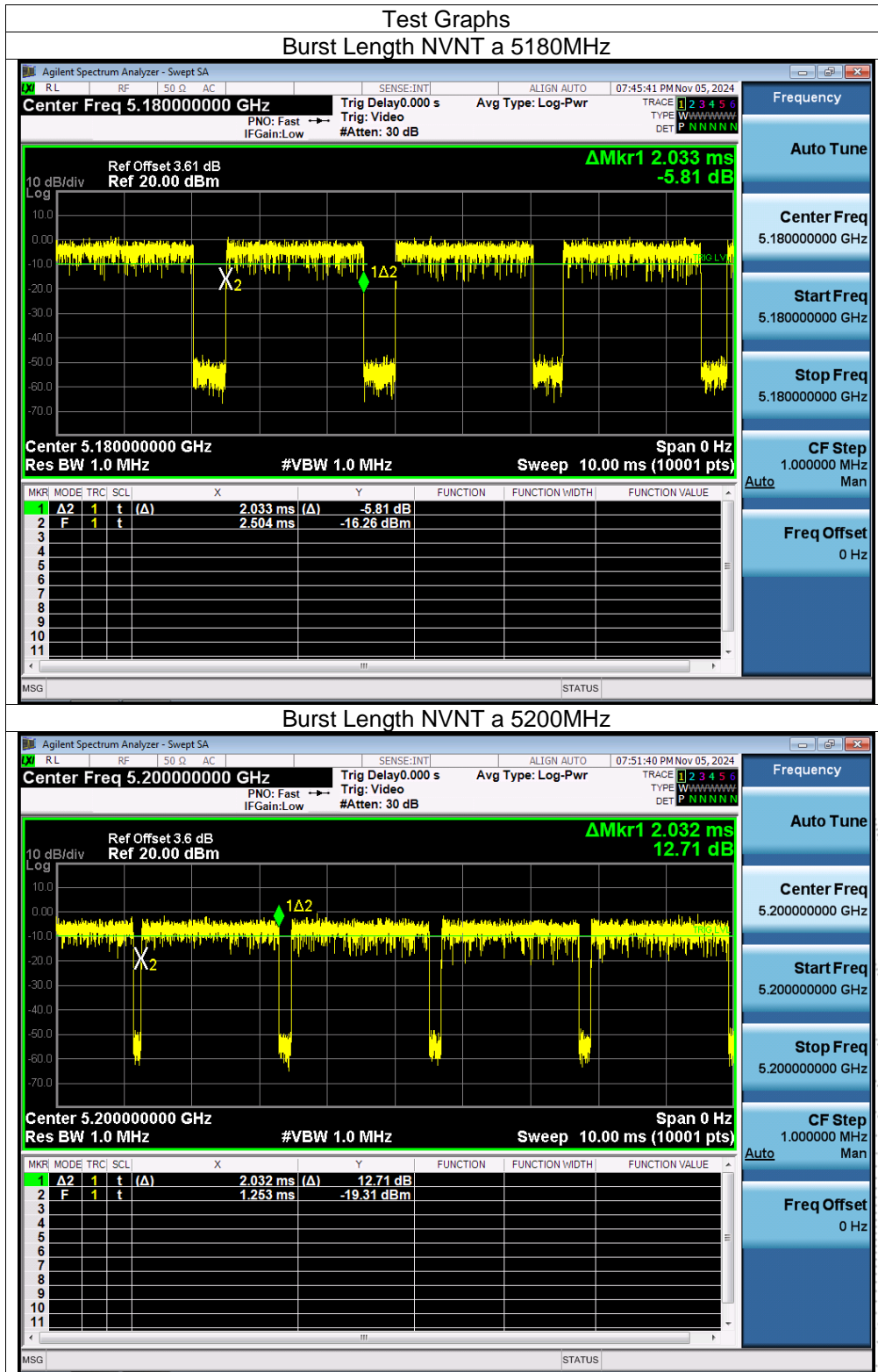
Spectrum Parameter	Setting
Center frequency	Test frequency
Sweep bandwidth	0Hz
Resoluble bandwidth	1MHz
Video bandwidth	equivalent to resoluble bandwidth
Sweep Time	Minimum time to assure measuring accuracy
Y-axis scale	10dB/Div.
Detection mode	Positive peak
Trigger condition	Rising up of level

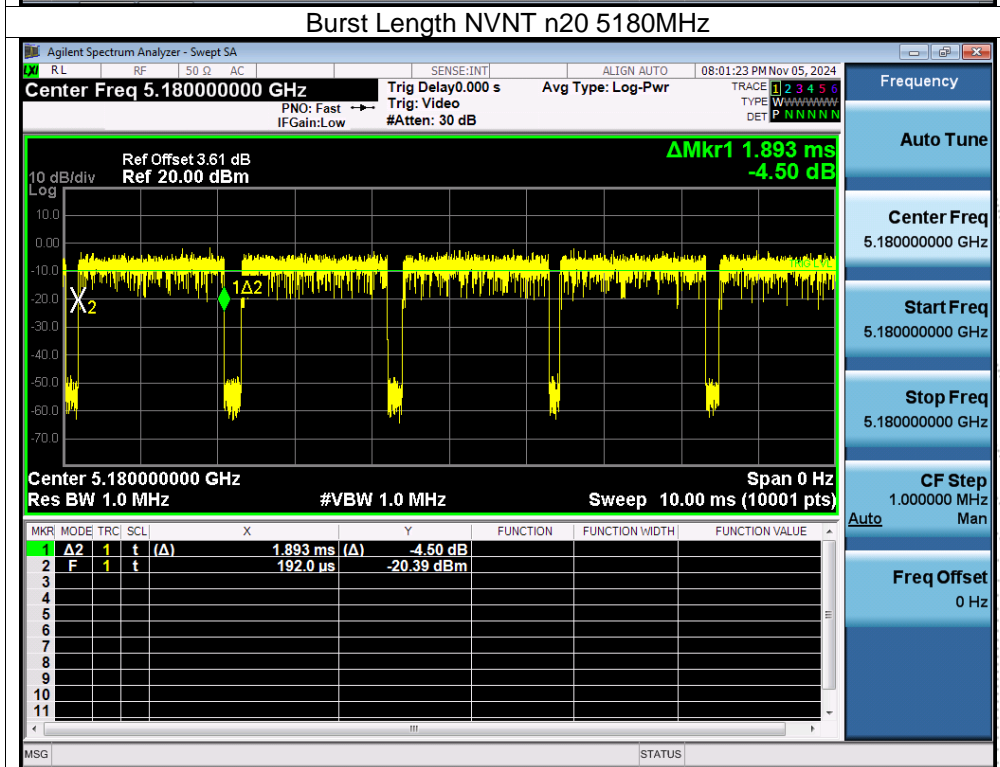
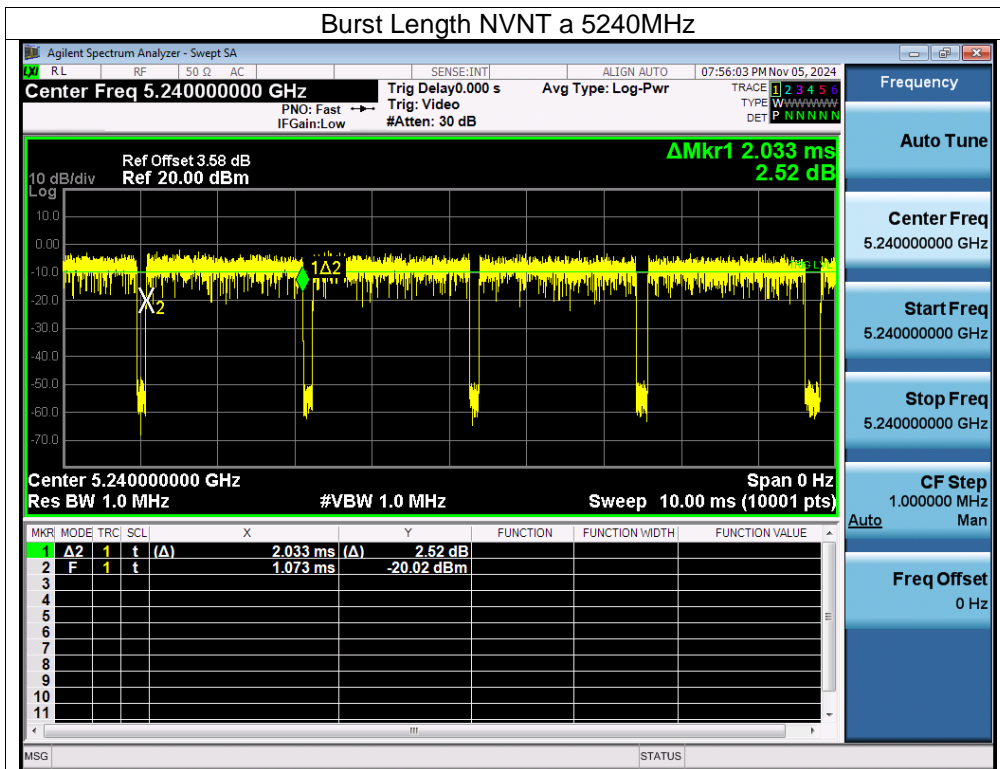
12.4 Test Result

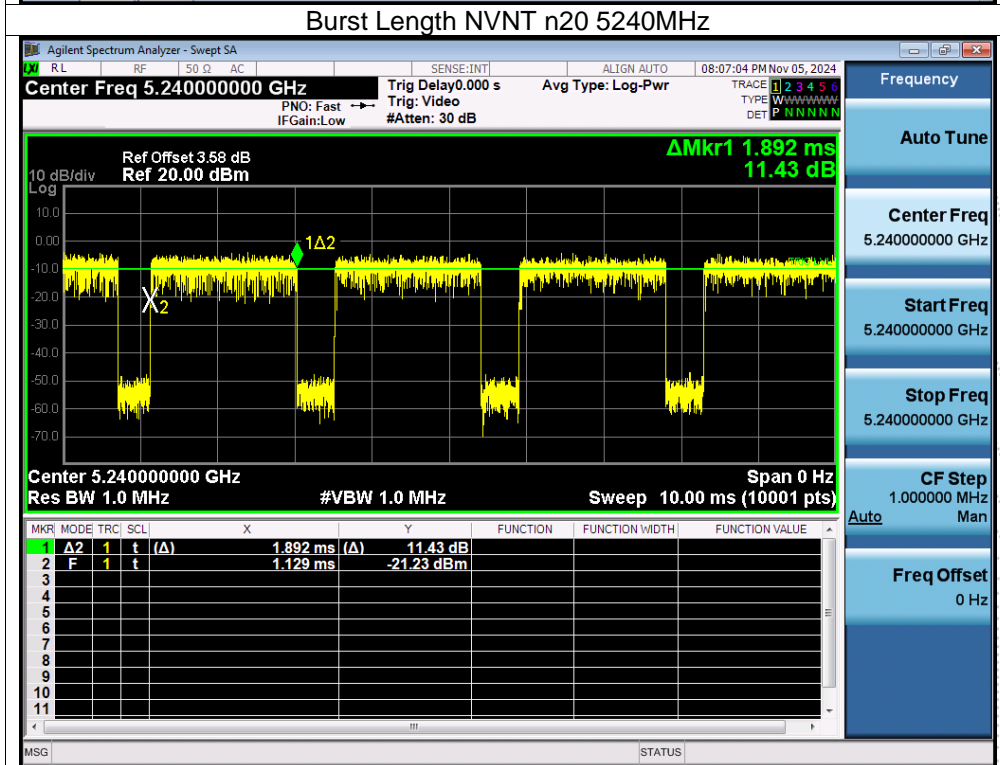
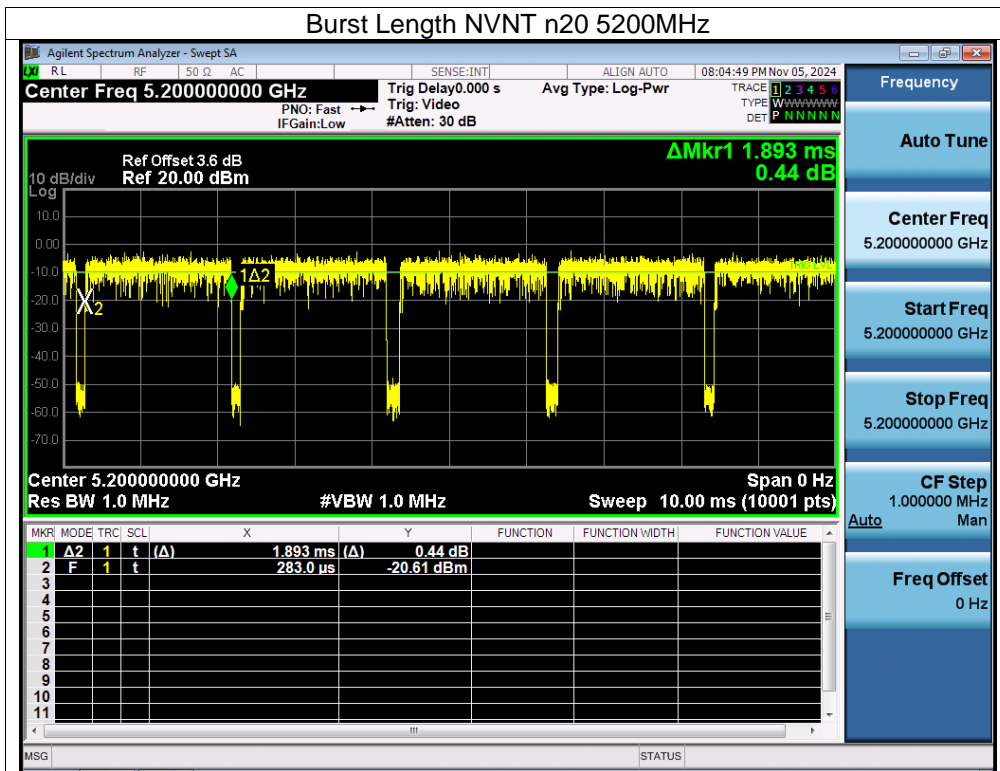
Temperature:	25°C		
Humidity:	55 % RH	Test Voltage	DC 5V

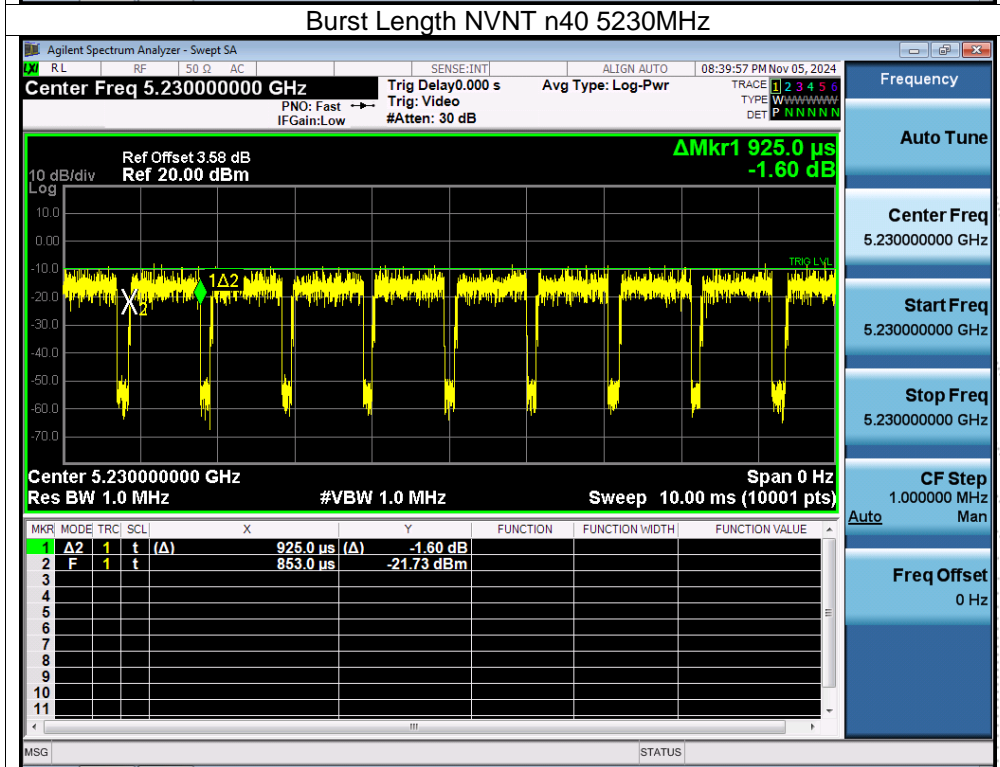
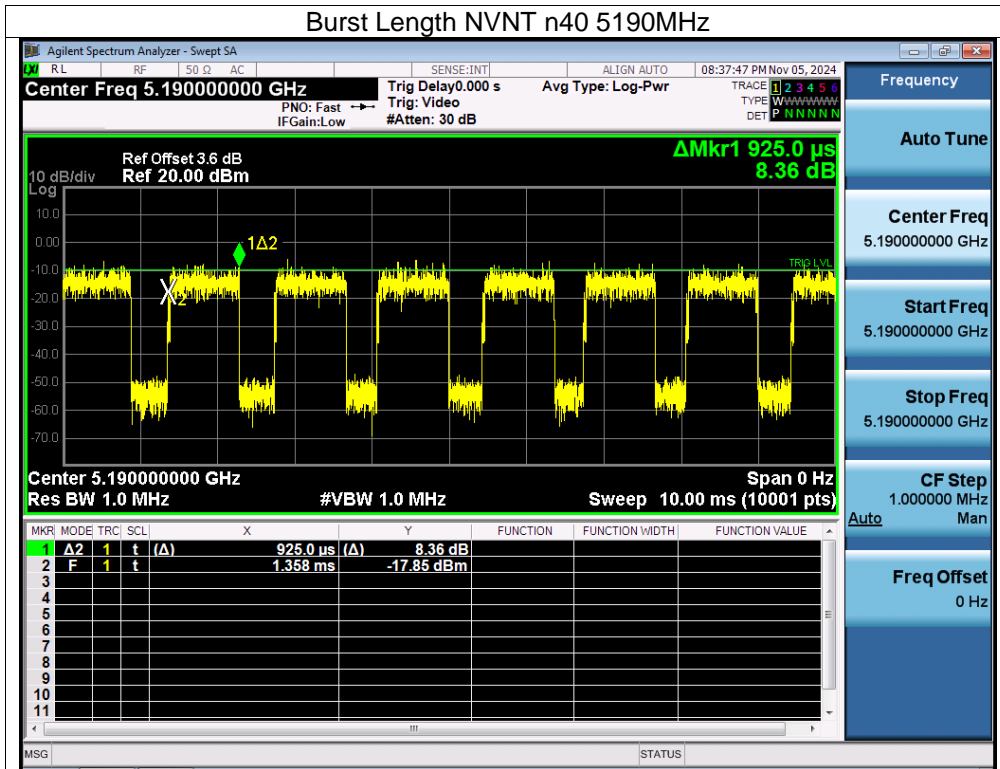
Condition	Mode	Antenna	Burst Length (ms)	Limit (ms)	Verdict
NVNT	a	5180	2.033	8	Pass
NVNT	a	5200	2.032	8	Pass
NVNT	a	5240	2.033	8	Pass
NVNT	n20	5180	1.893	8	Pass
NVNT	n20	5200	1.893	8	Pass
NVNT	n20	5240	1.892	8	Pass
NVNT	n40	5190	0.925	8	Pass
NVNT	n40	5230	0.925	8	Pass
NVNT	ac20	5180	1.9	8	Pass
NVNT	ac20	5200	1.901	8	Pass
NVNT	ac20	5240	1.9	8	Pass
NVNT	ac40	5190	0.929	8	Pass
NVNT	ac40	5230	0.905	8	Pass
NVNT	ac80	5210	0.447	8	Pass
NVNT	ax20	5180	1.462	8	Pass
NVNT	ax20	5200	0.143	8	Pass
NVNT	ax20	5240	0.143	8	Pass
NVNT	ax40	5190	0.754	8	Pass
NVNT	ax40	5230	0.754	8	Pass
NVNT	ax80	5210	0.387	8	Pass

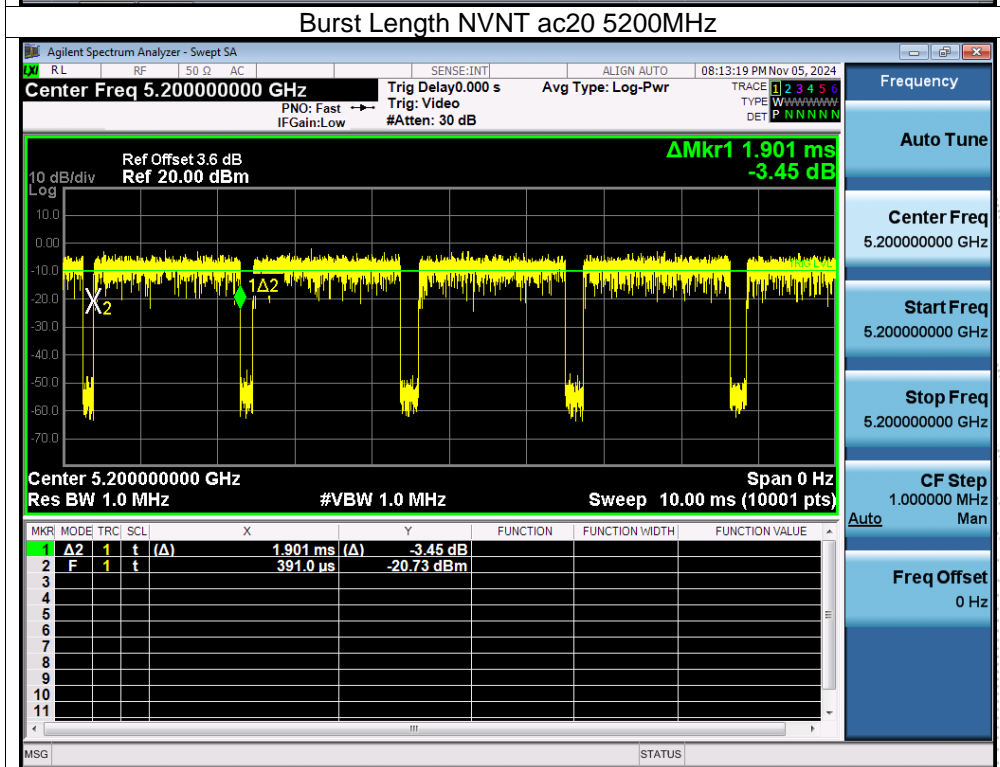
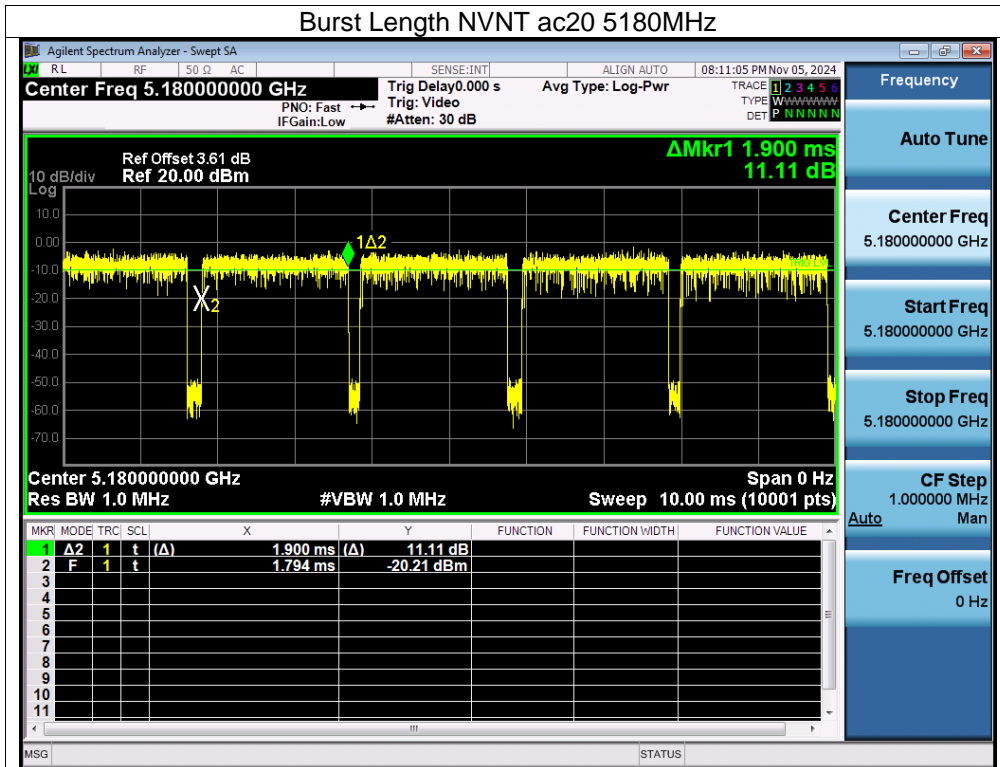





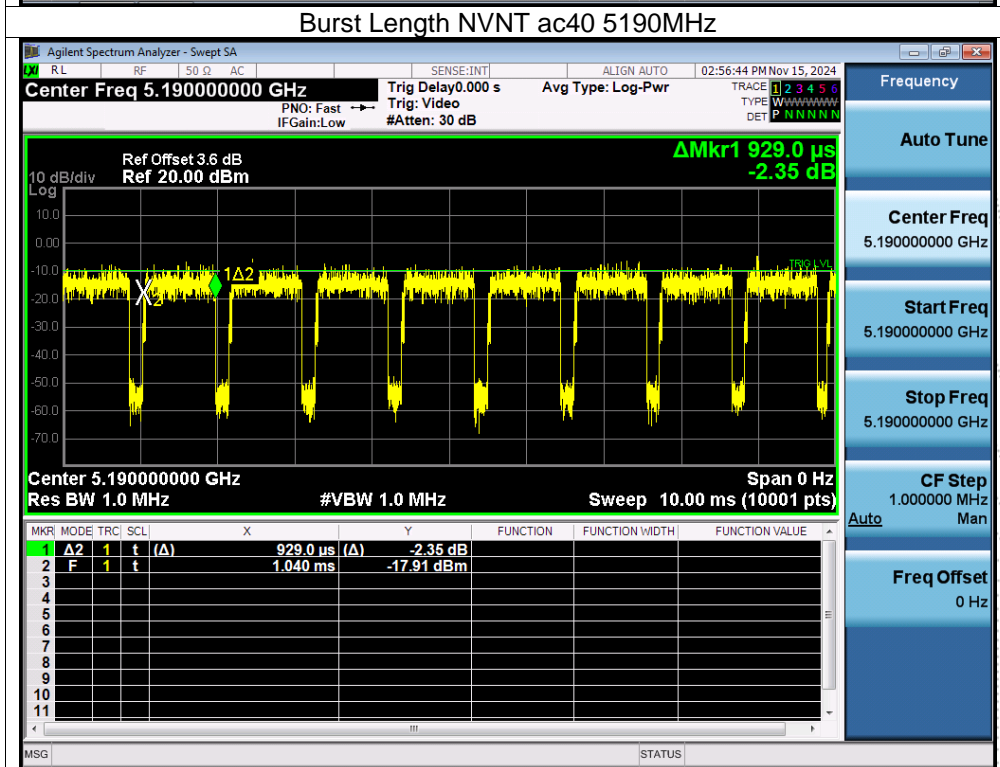
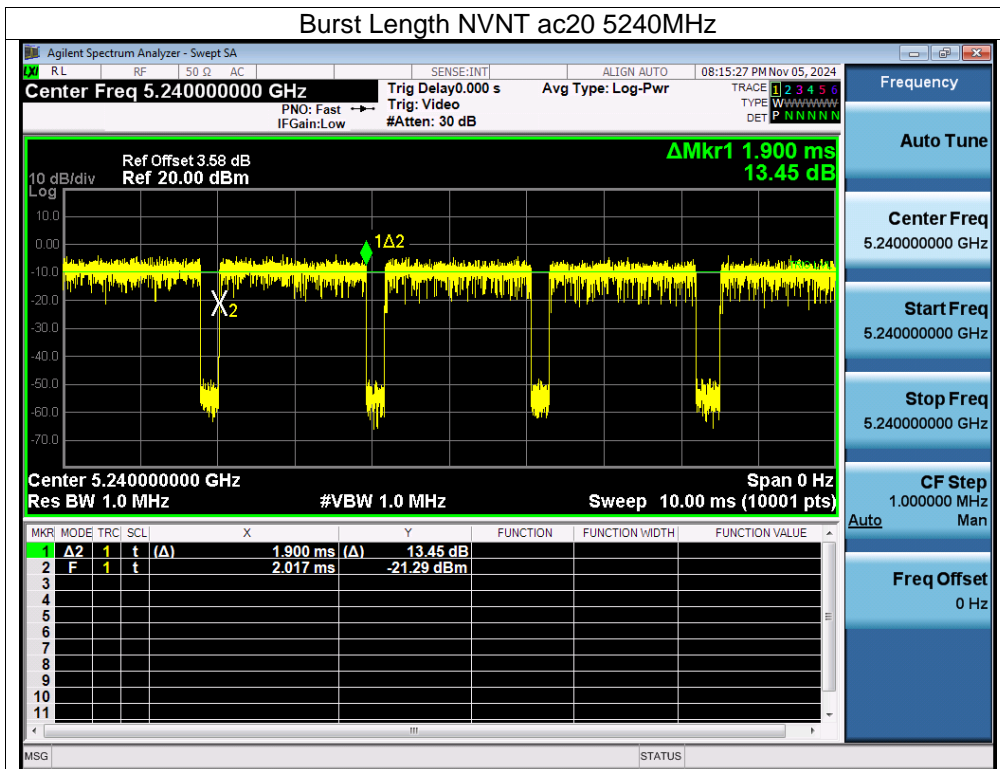




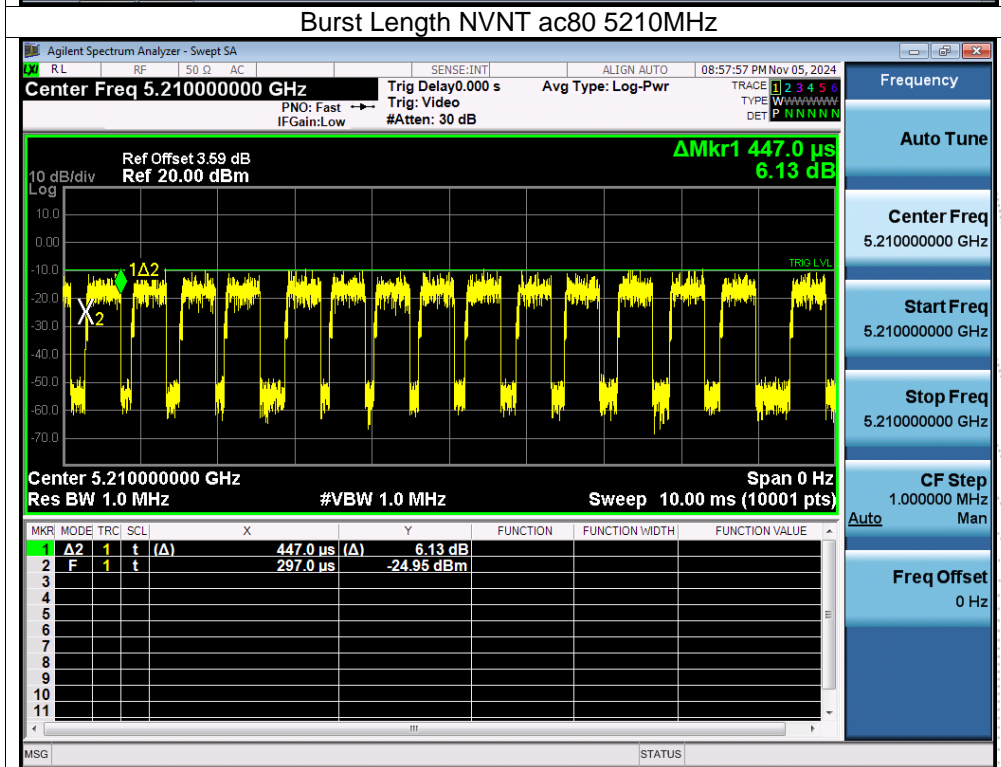
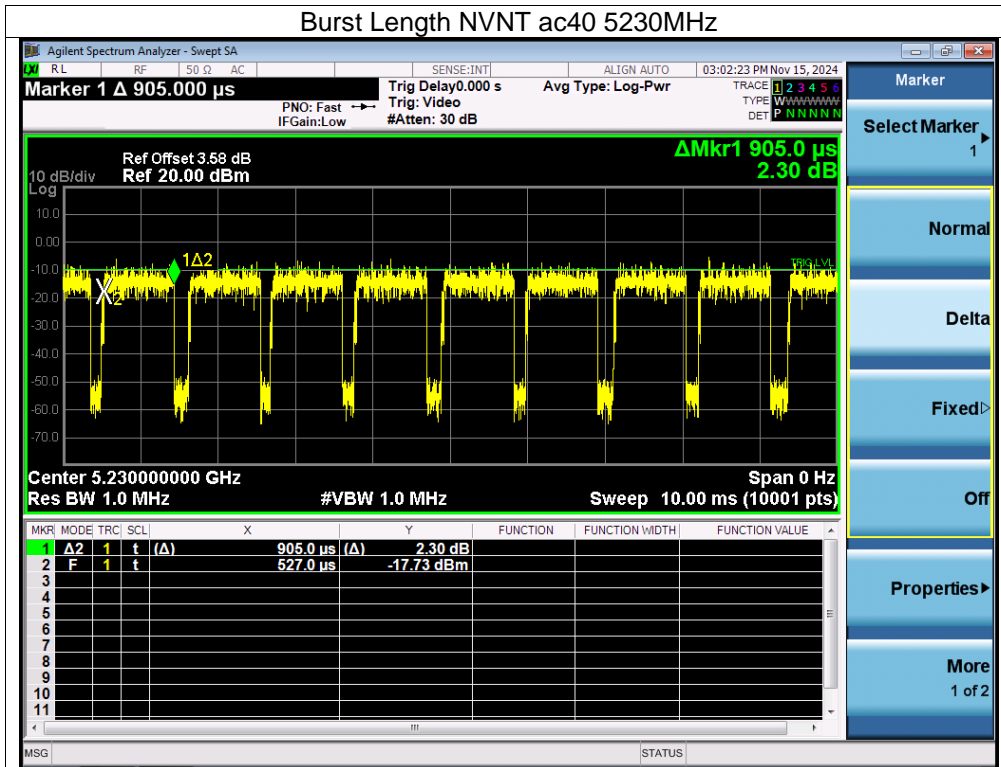


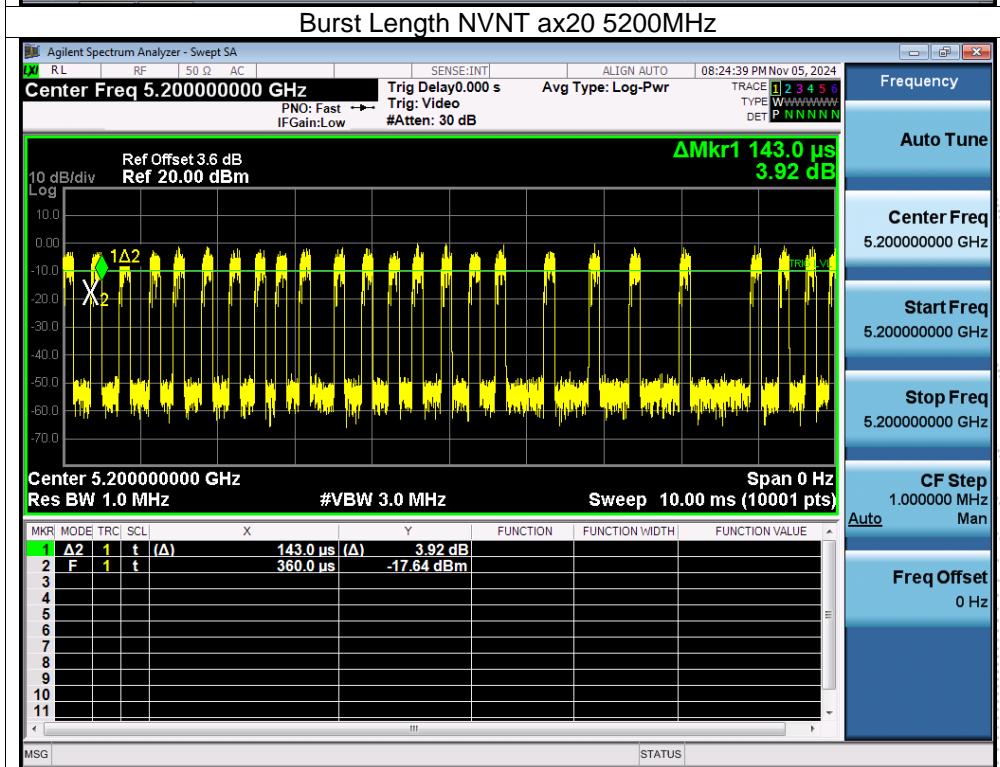
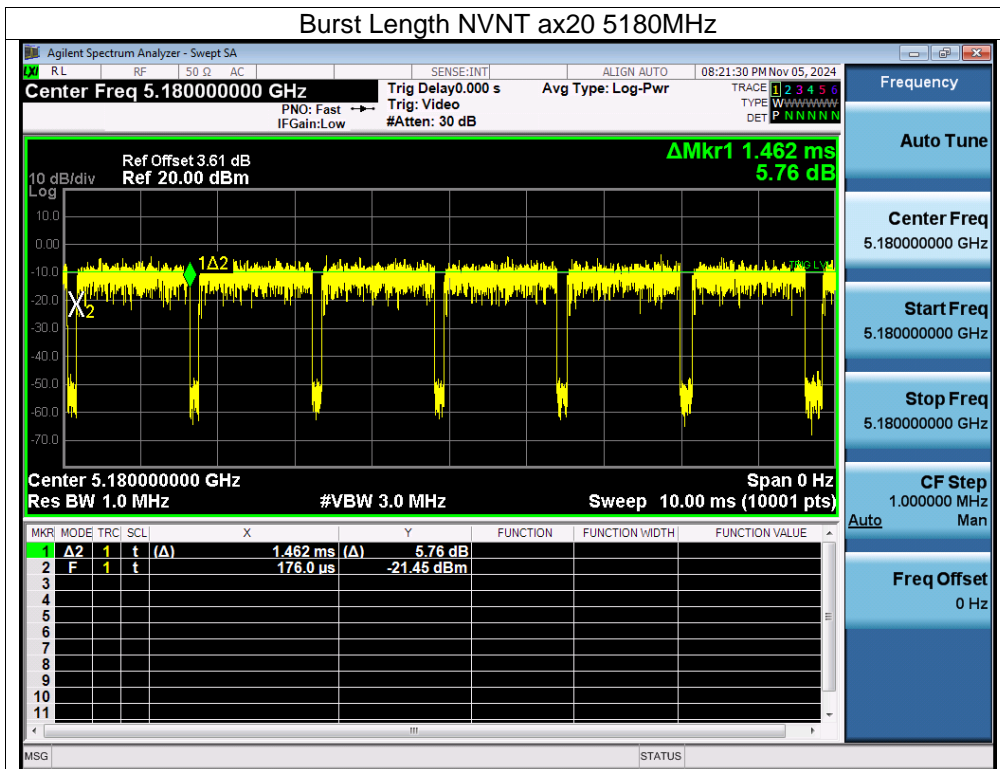


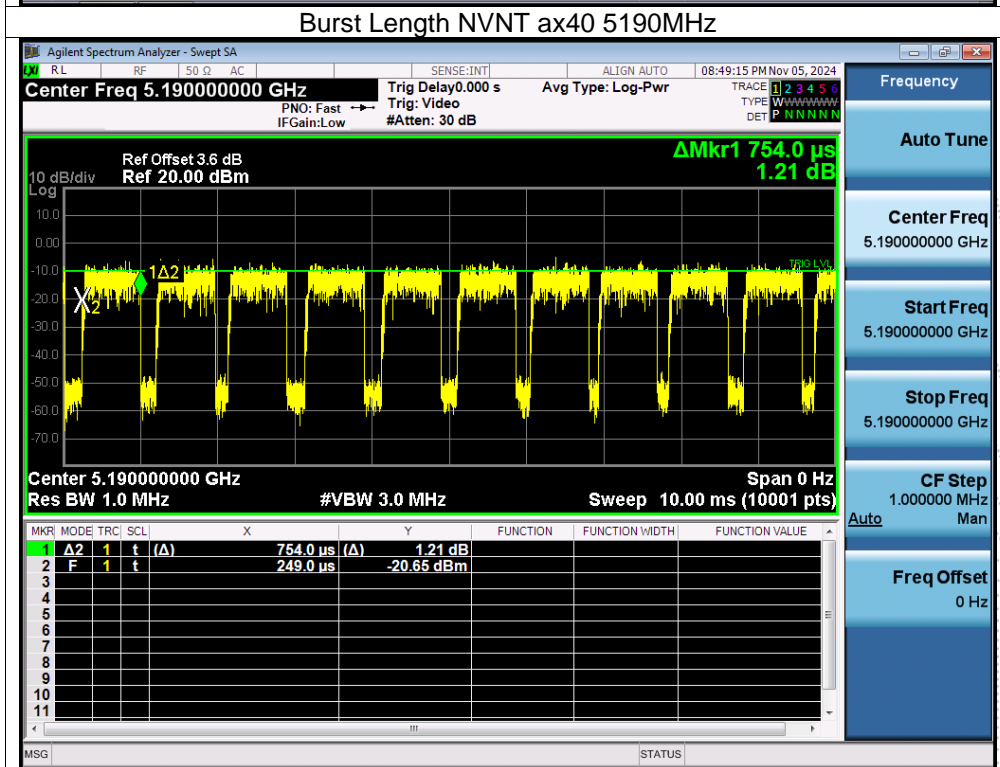
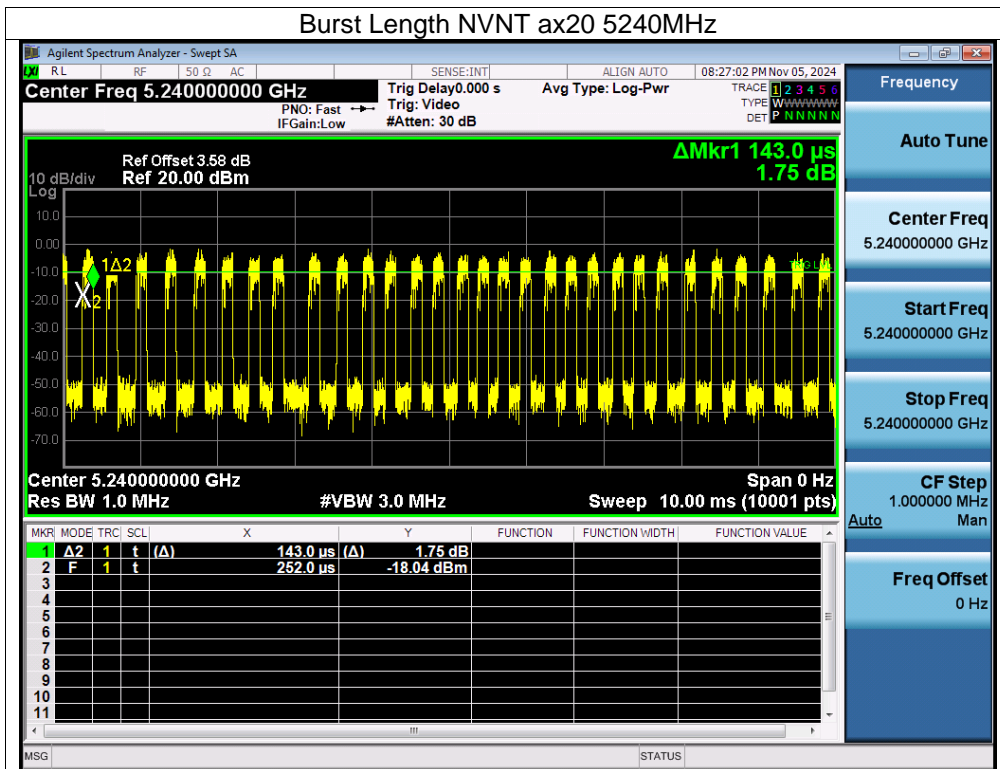
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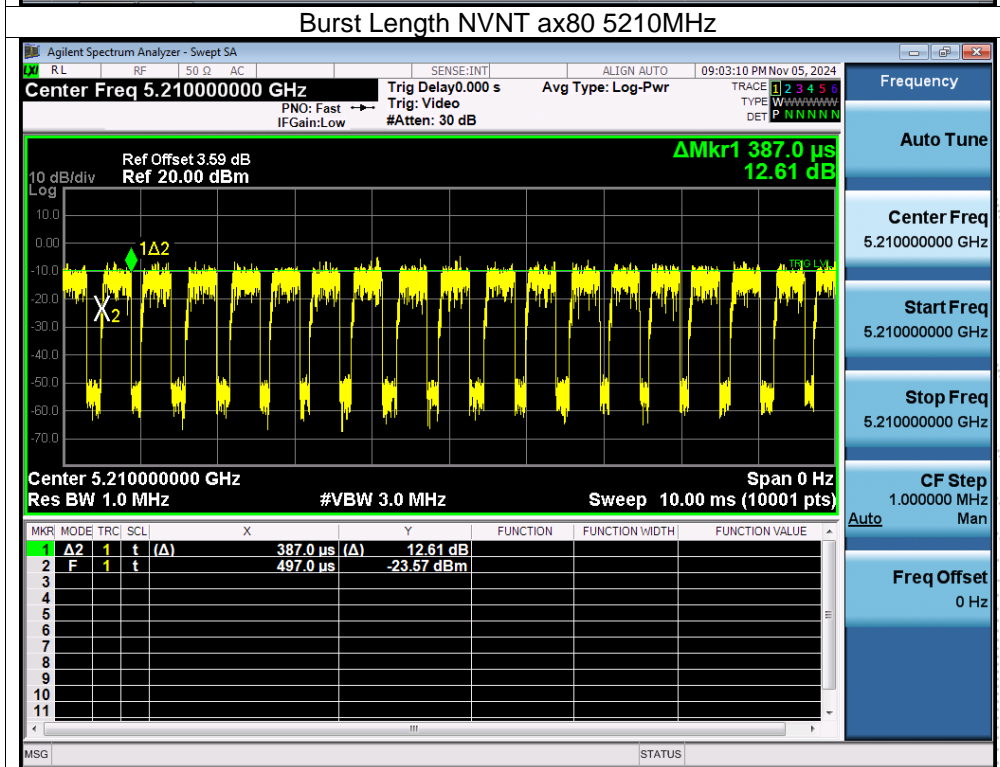
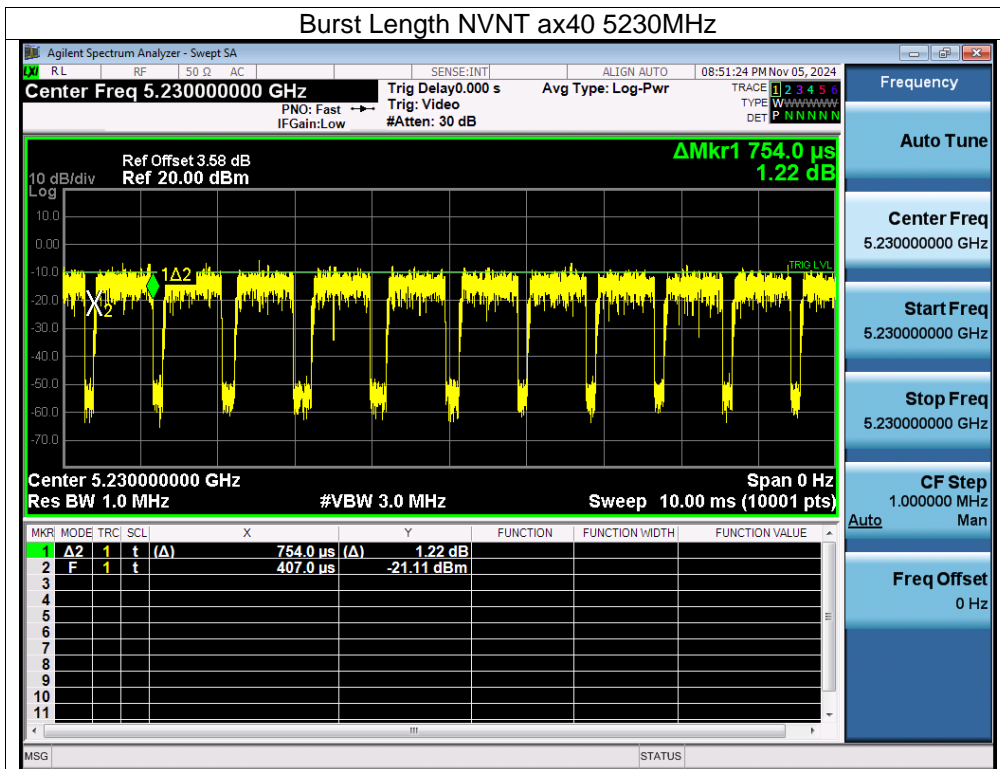


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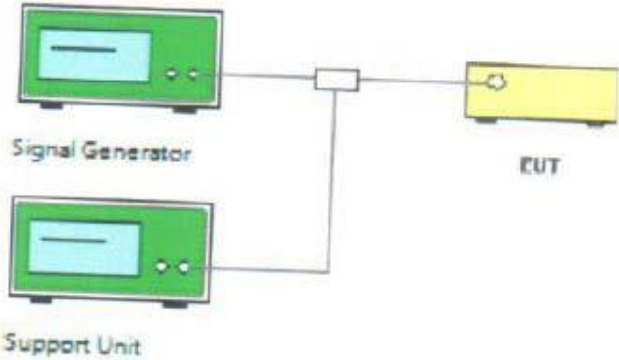








13. Interference Prevention Function Measurement

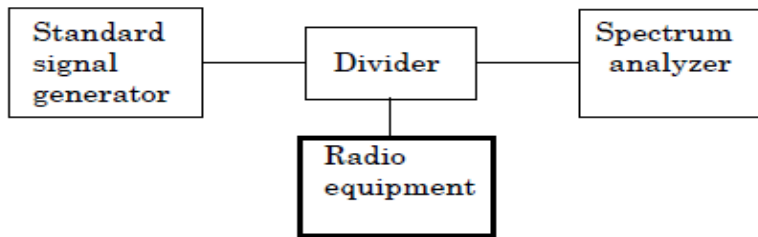
Test condition:	Test diffusion code and modulate with standard coding test signal
Test setup:	 <p>The diagram illustrates the test setup. A green 'Signal Generator' is connected to a yellow 'EUT' (Equipment Under Test) via a cable. A green 'Support Unit' is also connected to the same cable between the Signal Generator and the EUT.</p>
Test Procedures:	<ol style="list-style-type: none"> 1. The EUT continuous connected with support unit. 2. Signal generator transmitted interference signal to the EUT. 3. Check the EUT must be automatic cessation of transmitting
Test Instruments:	Refer to section 5.2 for details
Test results:	Pass Transmitter: The transmitting mode (the identification code is more than 48 bits) of EUT is on normal operating, the interference prevention function is good. Receiver: The transmitting mode of EUT is on normal operating, the interference prevention function is good.
Mac address:	4c:5d:33:06:8f:02

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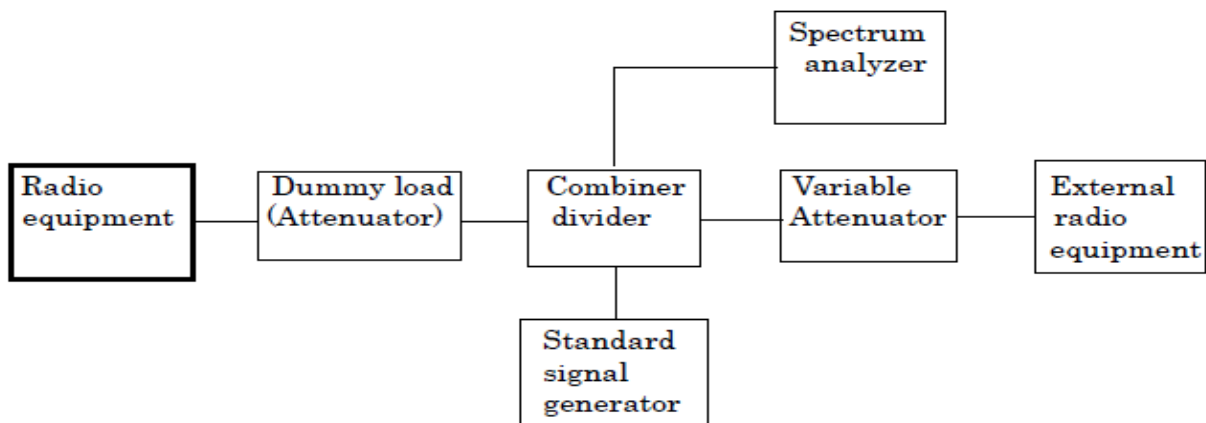
14. Carrier Sense Capability Measurement

14.1 Block Diagram Of Test Setup

(1) Test performed with the radio equipment to be tested only



(2) Test performed using the external radio equipment



14.2 Limit

EUT stop RF transmission signal after carrier inject to EUT.

14.3 Test Procedure

(1) Test performed with the radio equipment to be tested only

- A. Set the standard signal generator in non-transmission condition and the radio equipment to be tested in transmission condition, and confirm transmission of radiowave by means of the spectrum analyzer.
- B. Set the radio equipment to be tested in receiving condition.
- C. Set the standard signal generator in transmission condition and the radio equipment to be tested in transmission condition, and confirm non-transmission of radiowave by means of the spectrum analyzer.

(2) Test performed using the external radio equipment

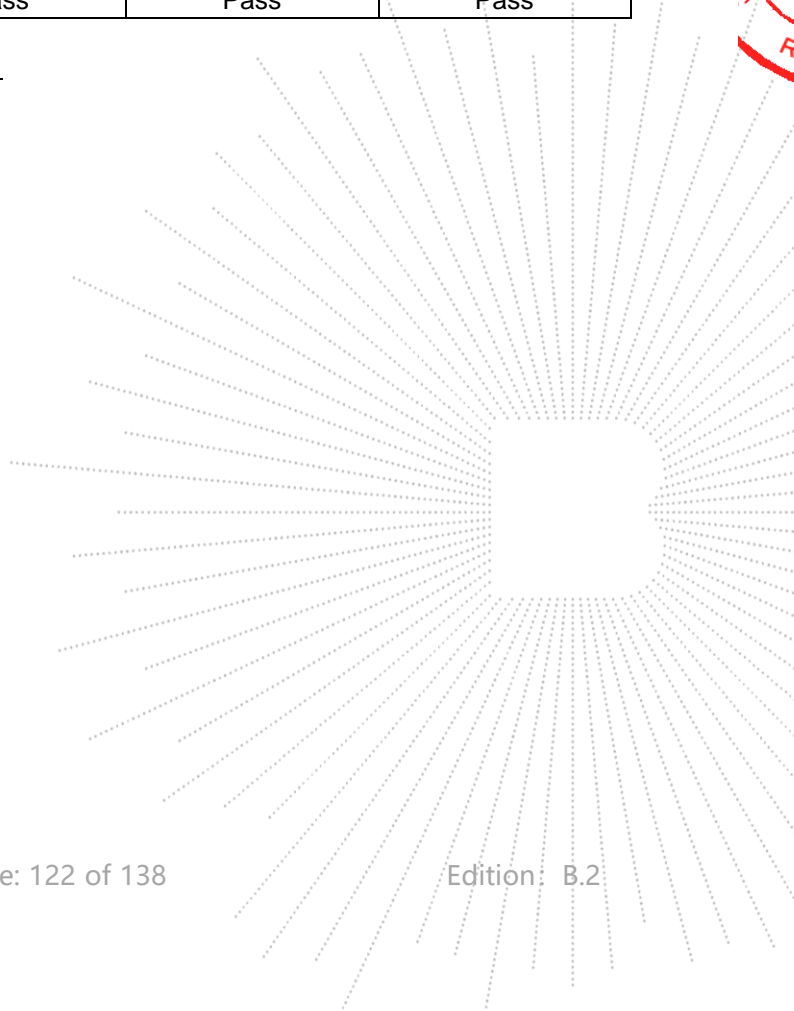
- A. Set the standard signal generator in non-transmission condition.
 - B. Connect the radio equipment to be tested with the external equipment by means of the line and confirm transmission of radiowave of test frequency by means of the spectrum analyzer.
 - C. Set the radio equipment to be tested in receiving condition.
 - D. Set the standard signal generator in transmission condition and the radio equipment to be tested in transmission condition, and confirm non-transmission of radiowave by means of the spectrum analyzer.
- Note: SG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SG and power level is $(on\ 22.79+G-20*\log(f)dBm)$ (G is the antenna gain, f is the test frequency).

14.5 Test Result

(1) RESULT

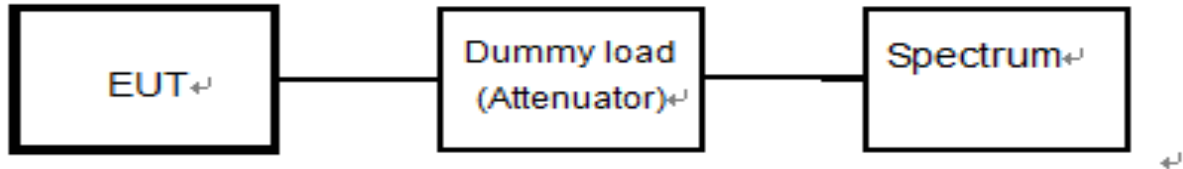
Mode	Channel	Result		
		Normal Voltage	High Voltage	Low Voltage
802.11a	CH36	Pass	Pass	Pass
	CH40	Pass	Pass	Pass
	CH48	Pass	Pass	Pass
802.11n20	CH36	Pass	Pass	Pass
	CH40	Pass	Pass	Pass
	CH48	Pass	Pass	Pass
802.11n40	CH38	Pass	Pass	Pass
	CH46	Pass	Pass	Pass
802.11ac20	CH36	Pass	Pass	Pass
	CH40	Pass	Pass	Pass
	CH48	Pass	Pass	Pass
802.11ac40	CH38	Pass	Pass	Pass
	CH46	Pass	Pass	Pass
802.11ac80	CH42	Pass	Pass	Pass
802.11ax20	CH36	Pass	Pass	Pass
	CH40	Pass	Pass	Pass
	CH48	Pass	Pass	Pass
802.11ax40	CH38	Pass	Pass	Pass
	CH46	Pass	Pass	Pass
802.11ax80	CH42	Pass	Pass	Pass

Result: Pass



15. Adjacent Channel Emitted Power Measurement

15.1 Block Diagram Of Test Setup



15.2 Limit

802.11a	802.11n20/ac20/ax20
Fc ± 20MHz ±10MHz BW: -25dBc Fc ± 40MHz ±10MHz BW: -40dBc	Fc ± 20MHz ±10MHz BW: -25dBc Fc ± 40MHz ±10MHz BW: -40dBc
802.11n40/ac40/ax40	802.11ac80/ax80
Fc ± 40MHz ±20MHz BW: -25dBc Fc ± 80MHz ±20MHz BW: -40dBc	Fc ± 80MHz ±40MHz BW : -20dBc

15.3 Measuring Instruments And Setting

Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Center frequency	Frequency indicated in the test procedure
Sweep frequency width	120MHz (20MHz system); 240MHz (40MHz system); 480MHz (80MHz system);
Resoluble bandwidth	300kHz
Video bandwidth	300kHz
Y-axis scale	10dB/Div.
Input level	Value to be maximum dynamic range
Data points	More than 400 points
Sweep mode	Continuous sweep
Detection mode	Sample (Positive peak in case of burst wave)

15.4 Test Result

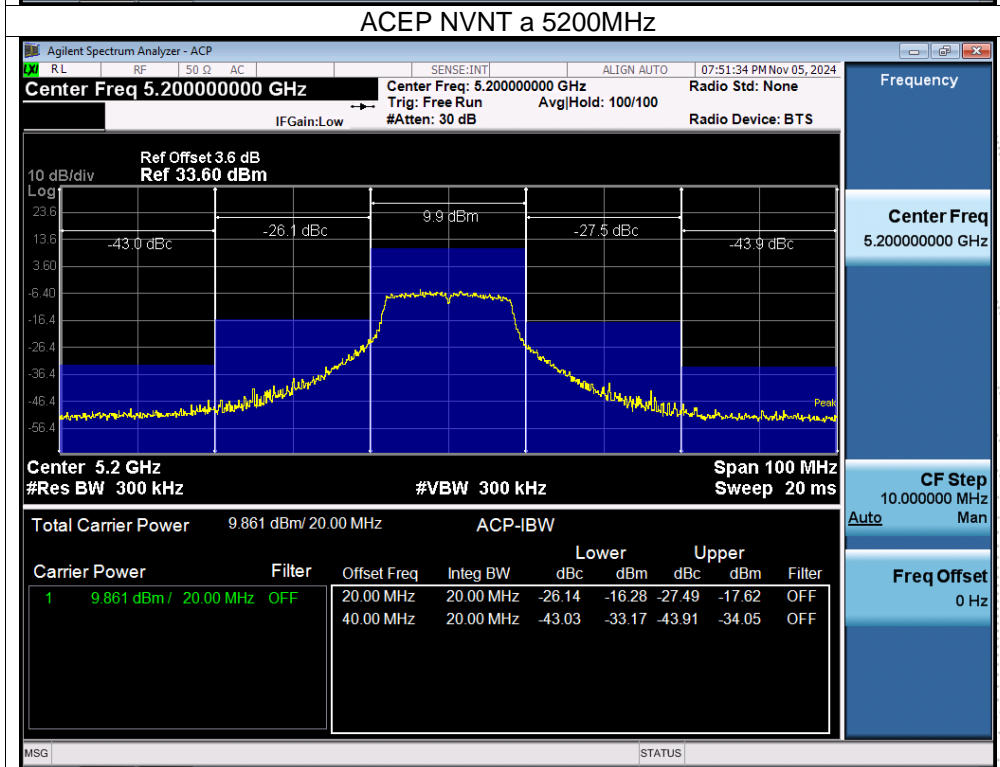
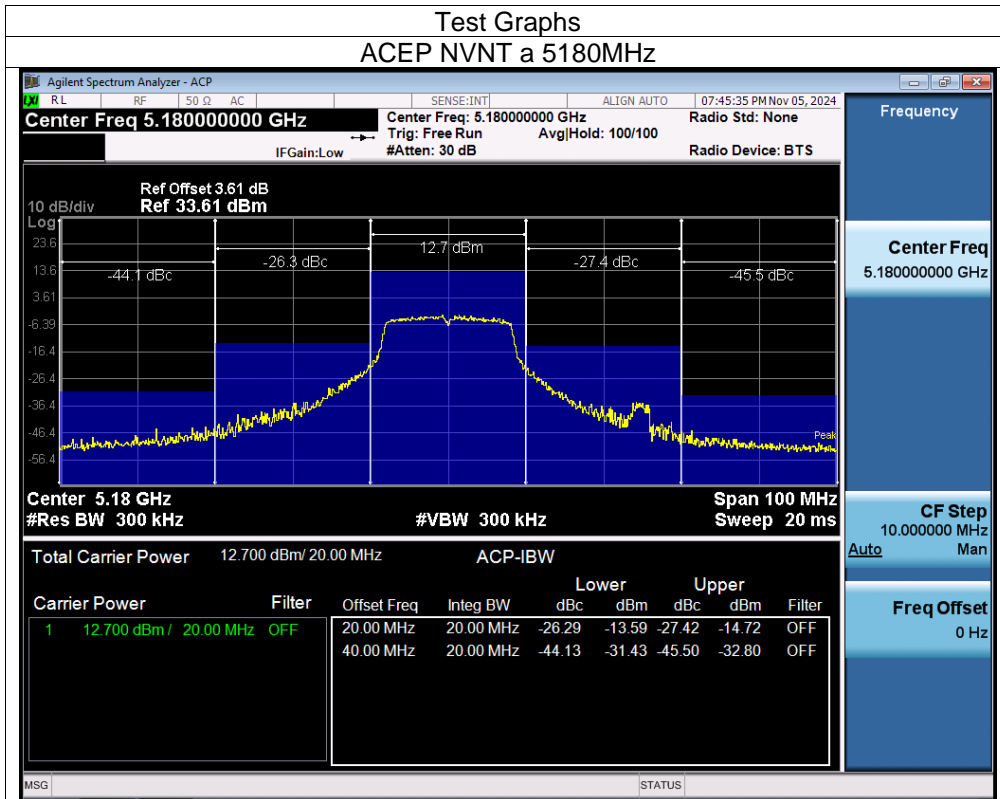
Temperature:	25°C		
Humidity:	55 % RH	Test Voltage	DC 5V

Condition	Mode	Frequency (MHz)	Offset (MHz)	Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5180	-20	-26.29	-25	Pass
NVNT	a	5180	-40	-44.13	-40	Pass
NVNT	a	5180	20	-27.42	-25	Pass
NVNT	a	5180	40	-45.5	-40	Pass
NVNT	a	5200	-20	-26.14	-25	Pass
NVNT	a	5200	-40	-43.03	-40	Pass
NVNT	a	5200	20	-27.49	-25	Pass
NVNT	a	5200	40	-43.91	-40	Pass
NVNT	a	5240	-20	-26.04	-25	Pass
NVNT	a	5240	-40	-40.21	-40	Pass
NVNT	a	5240	20	-26.92	-25	Pass
NVNT	a	5240	40	-42.57	-40	Pass
NVNT	n20	5180	-20	-25.29	-25	Pass
NVNT	n20	5180	-40	-42.98	-40	Pass
NVNT	n20	5180	20	-26.36	-25	Pass
NVNT	n20	5180	40	-43.53	-40	Pass
NVNT	n20	5200	-20	-25.38	-25	Pass
NVNT	n20	5200	-40	-42.56	-40	Pass
NVNT	n20	5200	20	-26.59	-25	Pass
NVNT	n20	5200	40	-43.2	-40	Pass
NVNT	n20	5240	-20	-25.23	-25	Pass
NVNT	n20	5240	-40	-40.64	-40	Pass
NVNT	n20	5240	20	-25.67	-25	Pass
NVNT	n20	5240	40	-41.64	-40	Pass
NVNT	n40	5190	-40	-28.99	-25	Pass
NVNT	n40	5190	-80	-41.04	-40	Pass
NVNT	n40	5190	40	-30.9	-25	Pass
NVNT	n40	5190	80	-41.68	-40	Pass
NVNT	n40	5230	-40	-28.27	-25	Pass
NVNT	n40	5230	-80	-40.86	-40	Pass
NVNT	n40	5230	40	-30.03	-25	Pass
NVNT	n40	5230	80	-42.01	-40	Pass
NVNT	ac20	5180	-20	-25.9	-25	Pass
NVNT	ac20	5180	-40	-43.18	-40	Pass
NVNT	ac20	5180	20	-26.49	-25	Pass
NVNT	ac20	5180	40	-43.61	-40	Pass
NVNT	ac20	5200	-20	-25.36	-25	Pass
NVNT	ac20	5200	-40	-42.38	-40	Pass
NVNT	ac20	5200	20	-26.45	-25	Pass

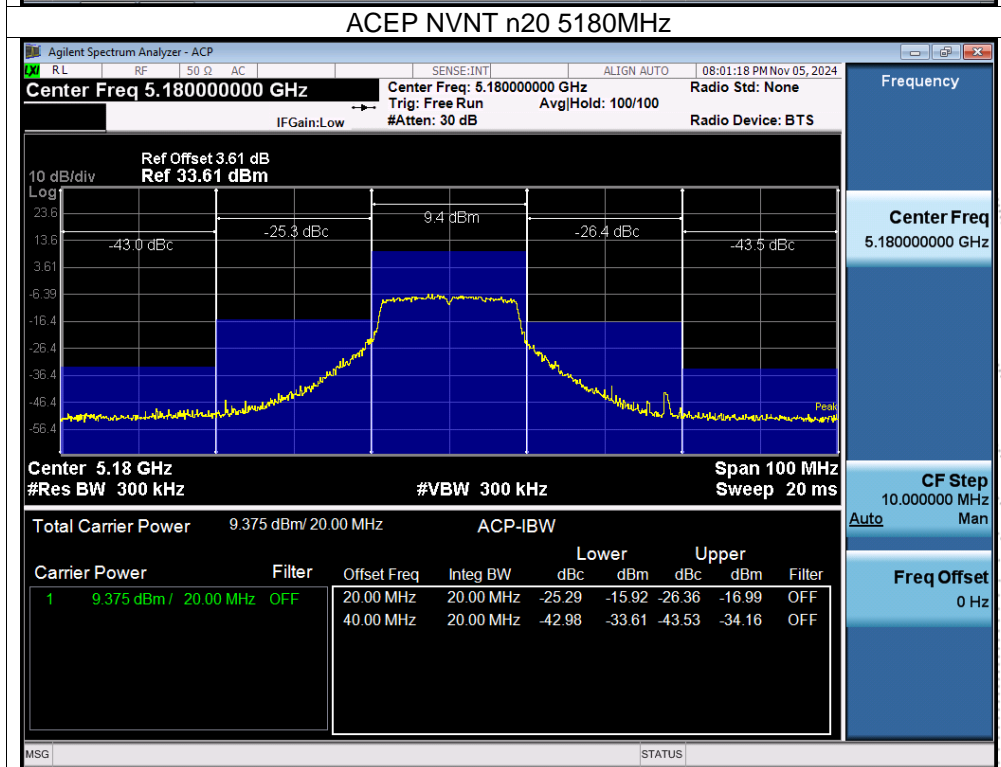
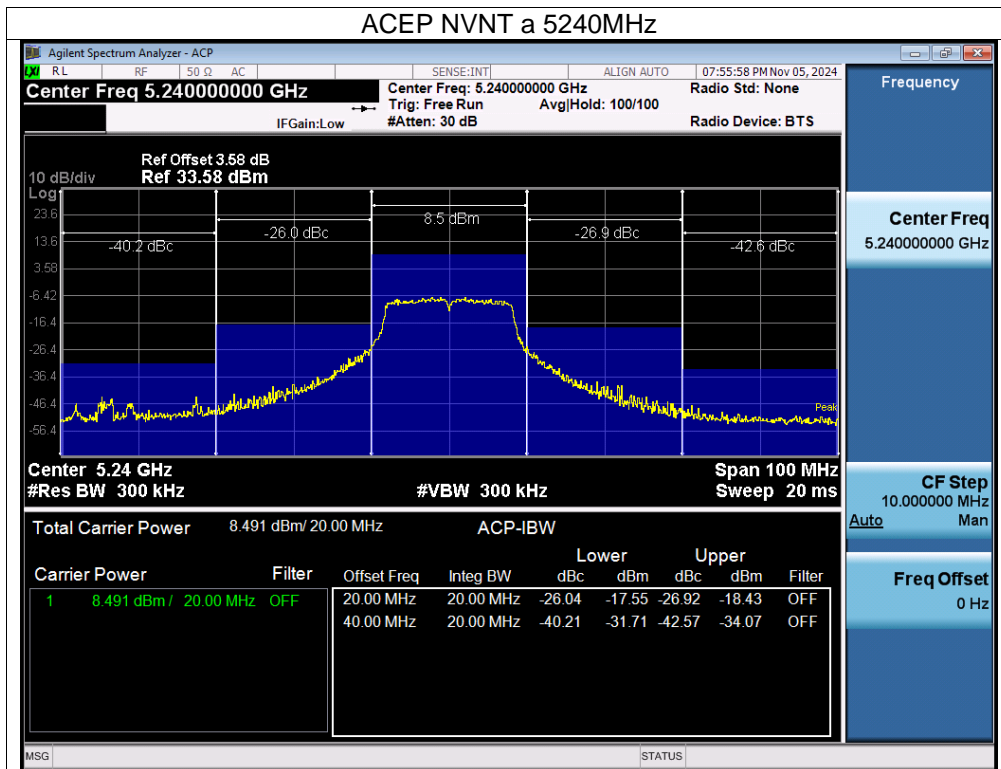
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NVNT	ac20	5200	40	-43.17	-40	Pass
NVNT	ac20	5240	-20	-25.46	-25	Pass
NVNT	ac20	5240	-40	-40.66	-40	Pass
NVNT	ac20	5240	20	-25.37	-25	Pass
NVNT	ac20	5240	40	-41.78	-40	Pass
NVNT	ac40	5190	-40	-29.37	-25	Pass
NVNT	ac40	5190	-80	-41.45	-40	Pass
NVNT	ac40	5190	40	-30.6	-25	Pass
NVNT	ac40	5190	80	-41.87	-40	Pass
NVNT	ac40	5230	-40	-28.9	-25	Pass
NVNT	ac40	5230	-80	-41.37	-40	Pass
NVNT	ac40	5230	40	-29.5	-25	Pass
NVNT	ac40	5230	80	-43.08	-40	Pass
NVNT	ac80	5210	-80	-29.98	-25	Pass
NVNT	ac80	5210	-160	-40.16	-40	Pass
NVNT	ac80	5210	80	-31.62	-25	Pass
NVNT	ac80	5210	160	-40.54	-40	Pass
NVNT	ax20	5180	-20	-26.26	-25	Pass
NVNT	ax20	5180	-40	-41.09	-40	Pass
NVNT	ax20	5180	20	-25.63	-25	Pass
NVNT	ax20	5180	40	-41.24	-40	Pass
NVNT	ax20	5200	-20	-26.3	-25	Pass
NVNT	ax20	5200	-40	-44.06	-40	Pass
NVNT	ax20	5200	20	-25.88	-25	Pass
NVNT	ax20	5200	40	-44.52	-40	Pass
NVNT	ax20	5240	-20	-26.24	-25	Pass
NVNT	ax20	5240	-40	-42.18	-40	Pass
NVNT	ax20	5240	20	-25.63	-25	Pass
NVNT	ax20	5240	40	-43.28	-40	Pass
NVNT	ax40	5190	-40	-30.24	-25	Pass
NVNT	ax40	5190	-80	-40.37	-40	Pass
NVNT	ax40	5190	40	-31.2	-25	Pass
NVNT	ax40	5190	80	-40.72	-40	Pass
NVNT	ax40	5230	-40	-29.25	-25	Pass
NVNT	ax40	5230	-80	-40.81	-40	Pass
NVNT	ax40	5230	40	-30.46	-25	Pass
NVNT	ax40	5230	80	-41.77	-40	Pass
NVNT	ax80	5210	-80	-30.33	-25	Pass
NVNT	ax80	5210	-160	-41.2	-40	Pass
NVNT	ax80	5210	80	-32.64	-25	Pass
NVNT	ax80	5210	160	-41.48	-40	Pass

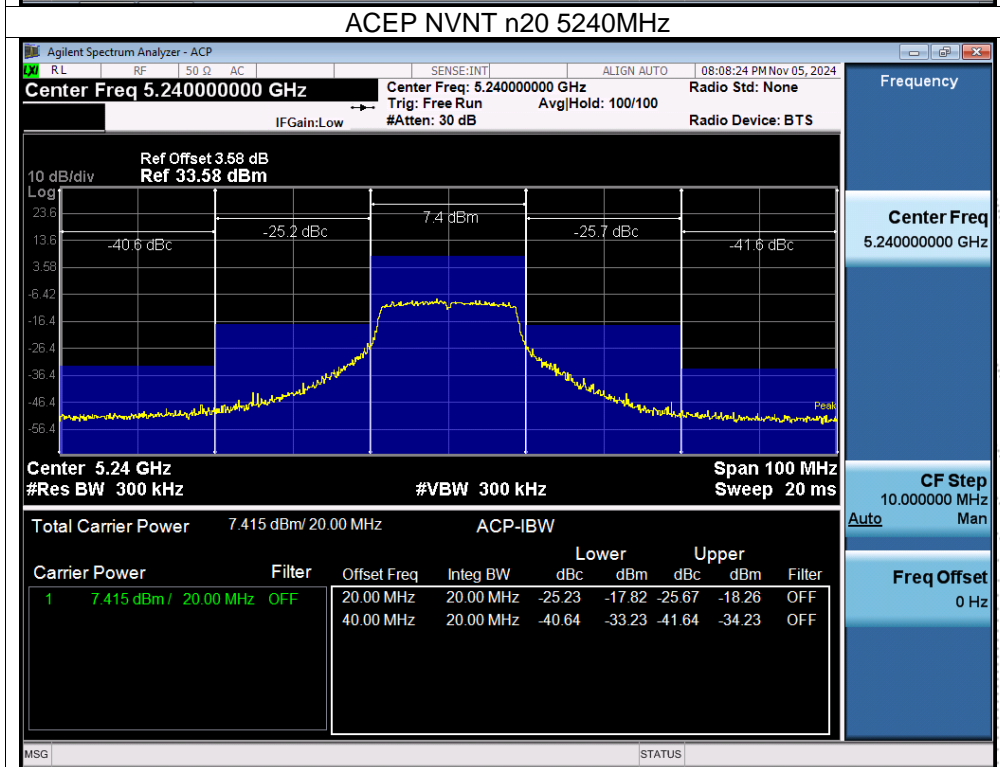
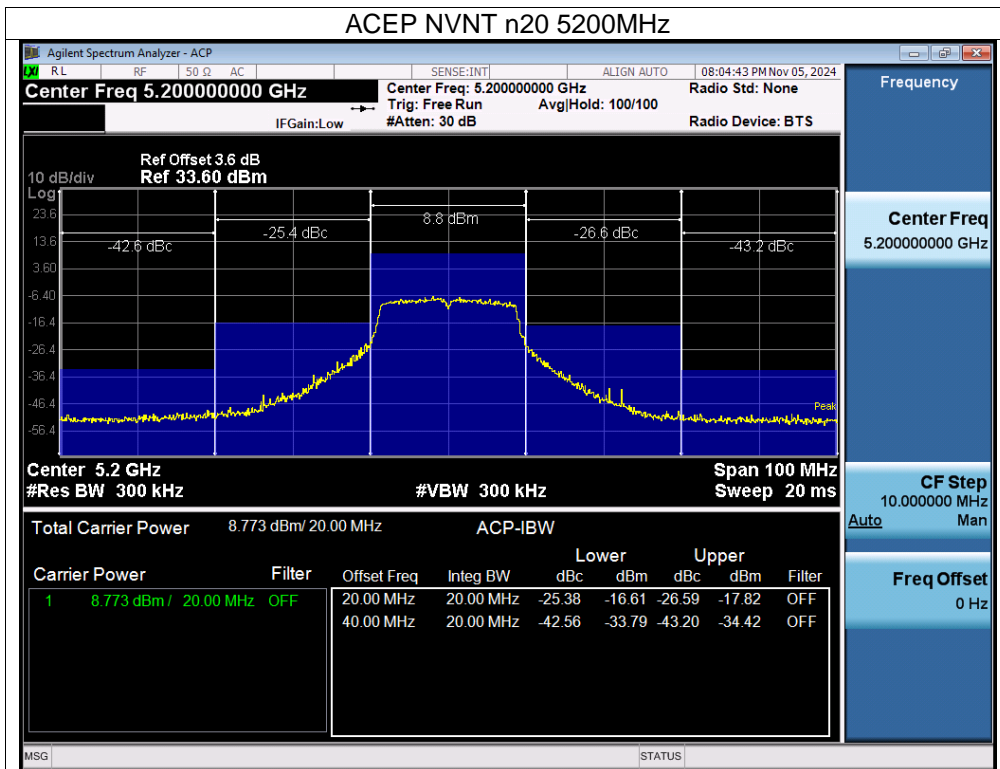


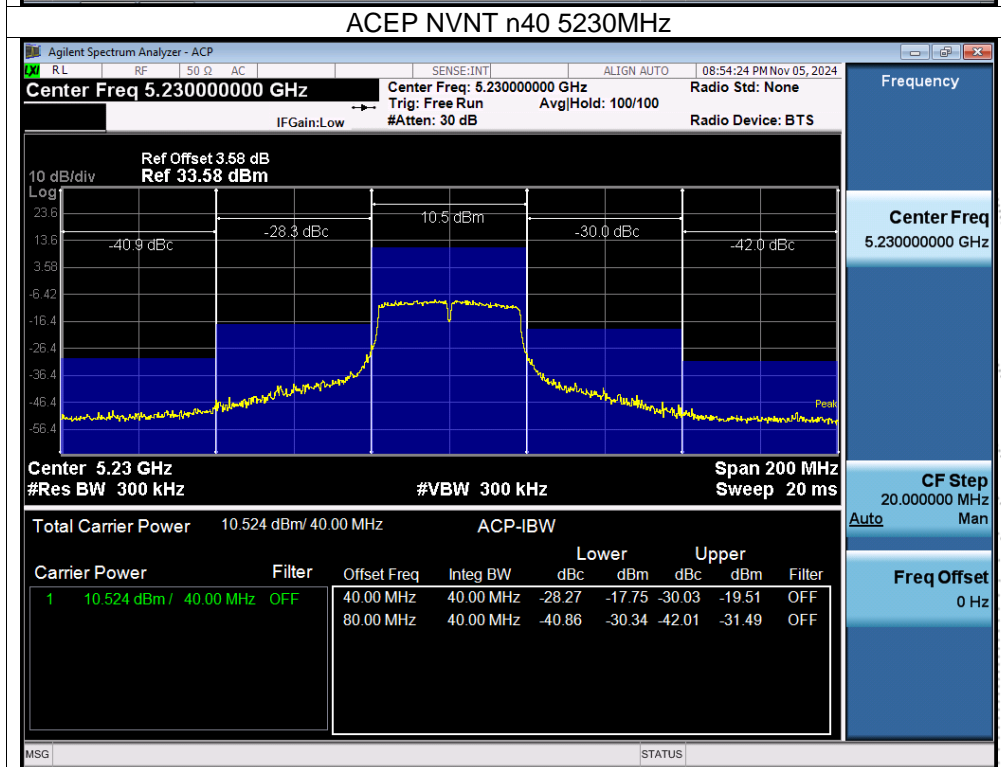
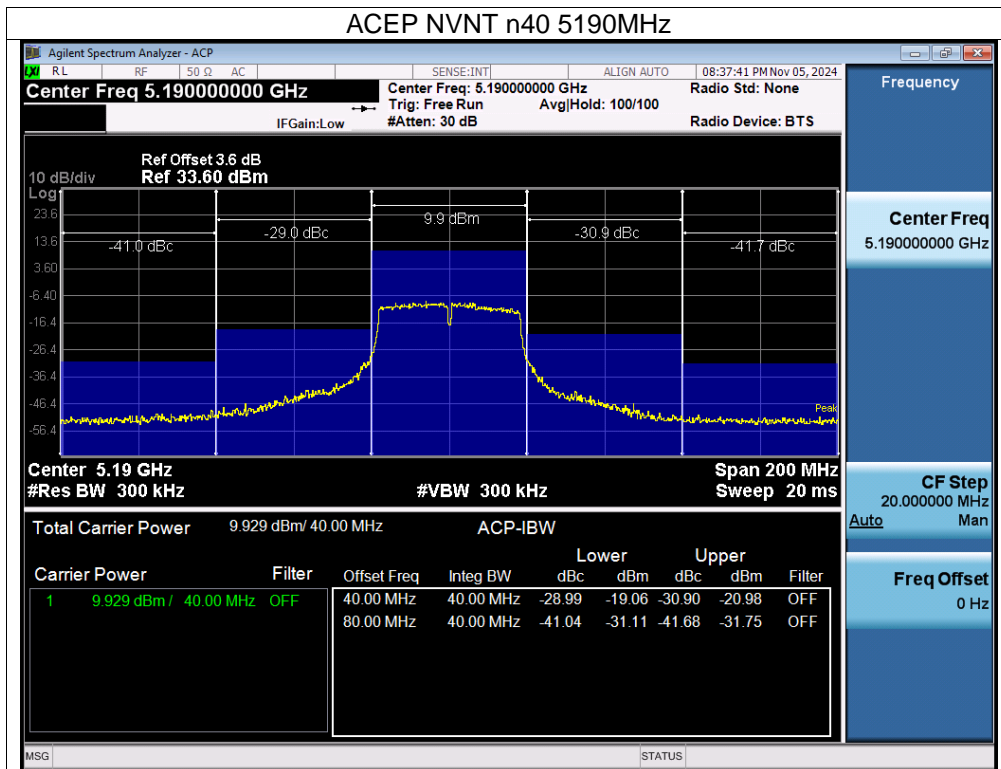


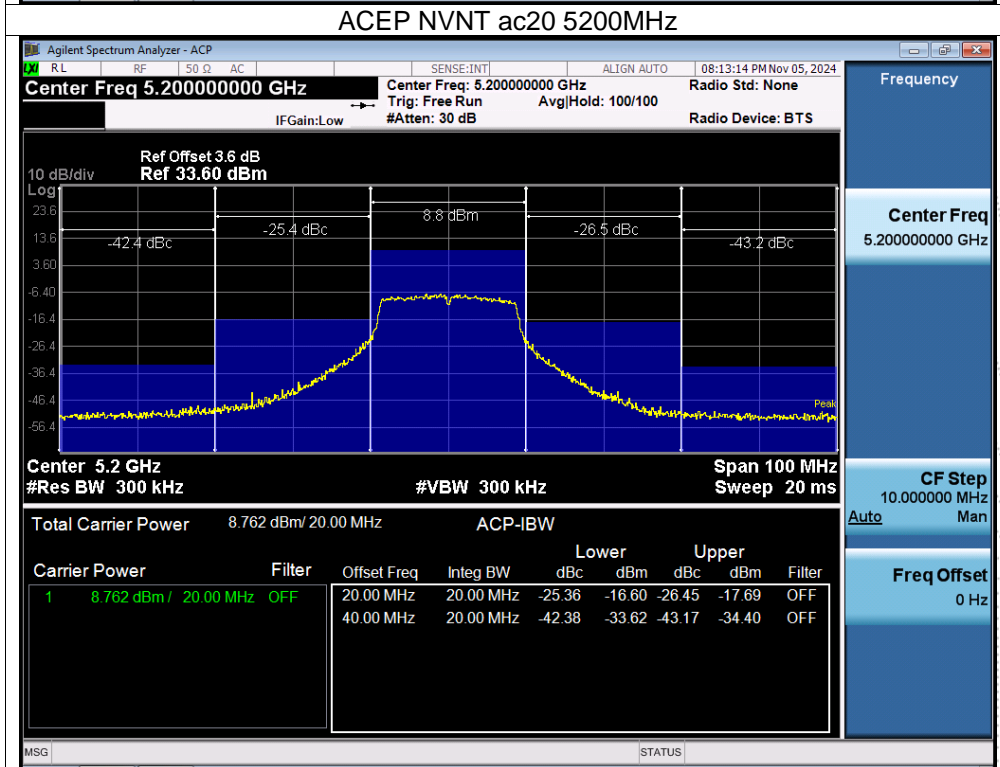
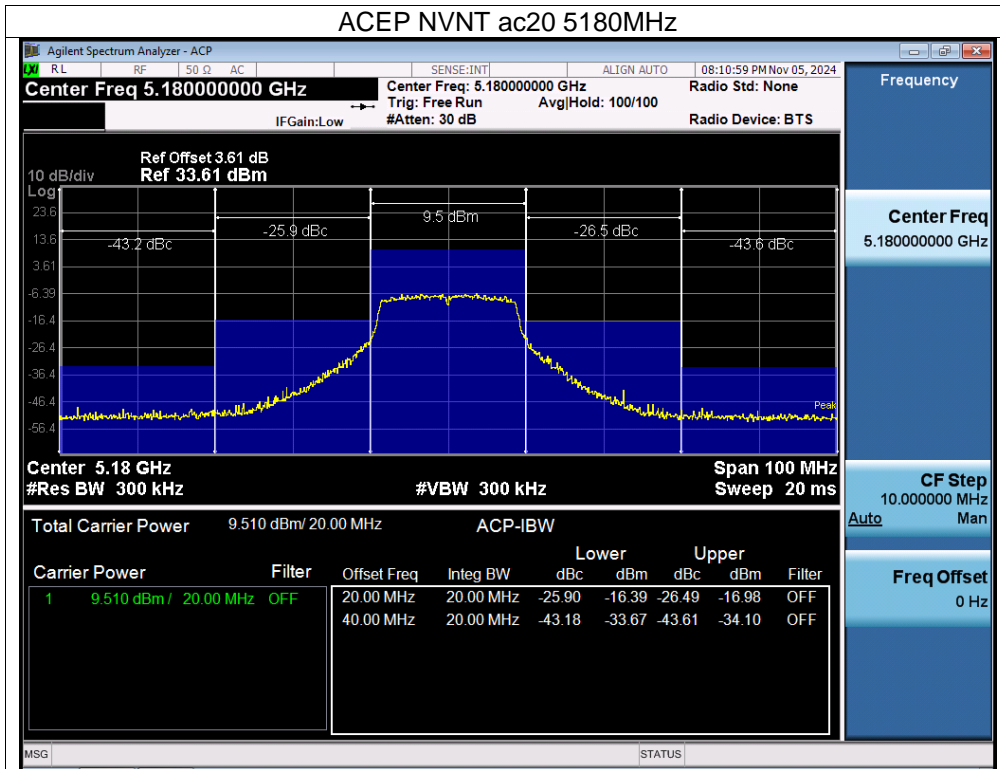
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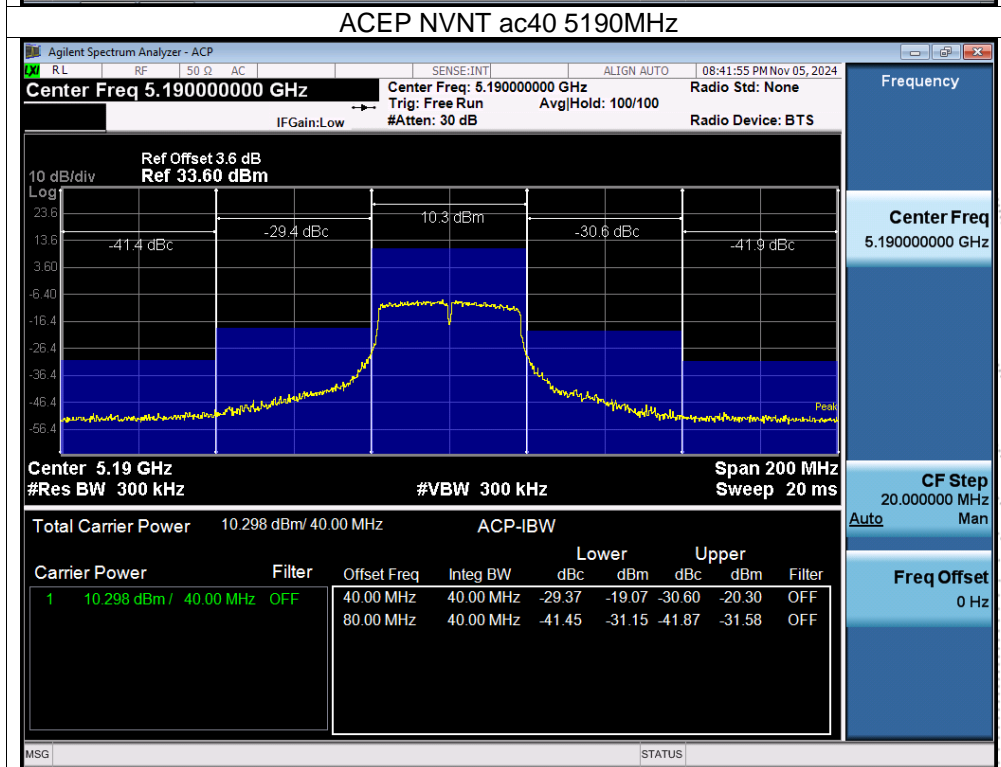
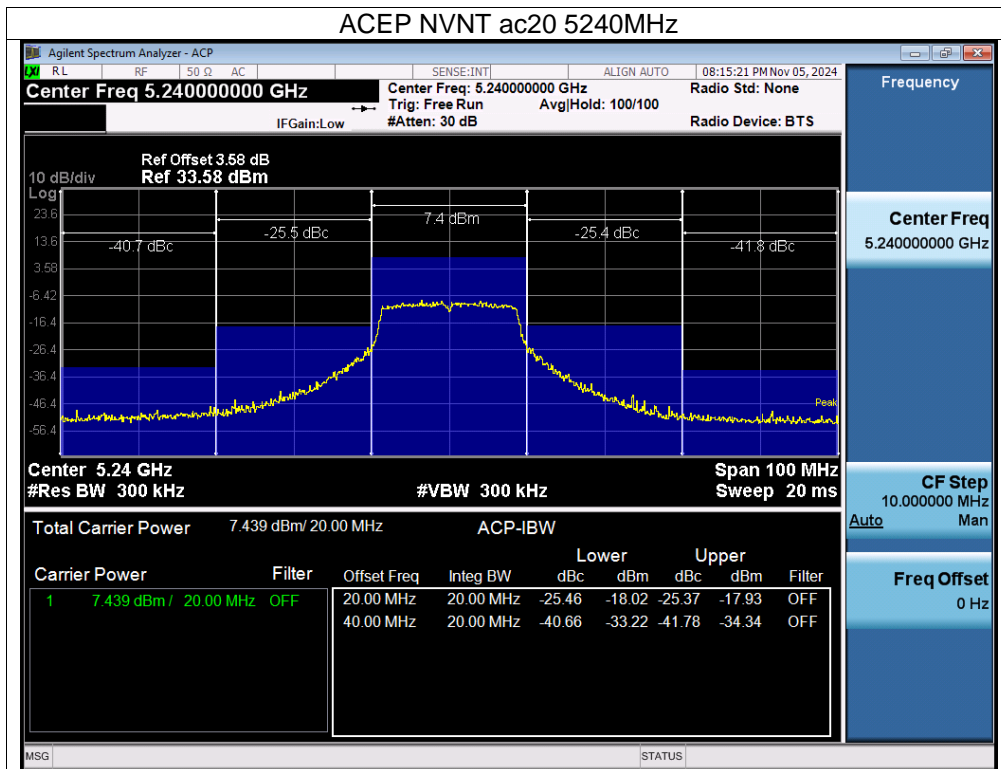


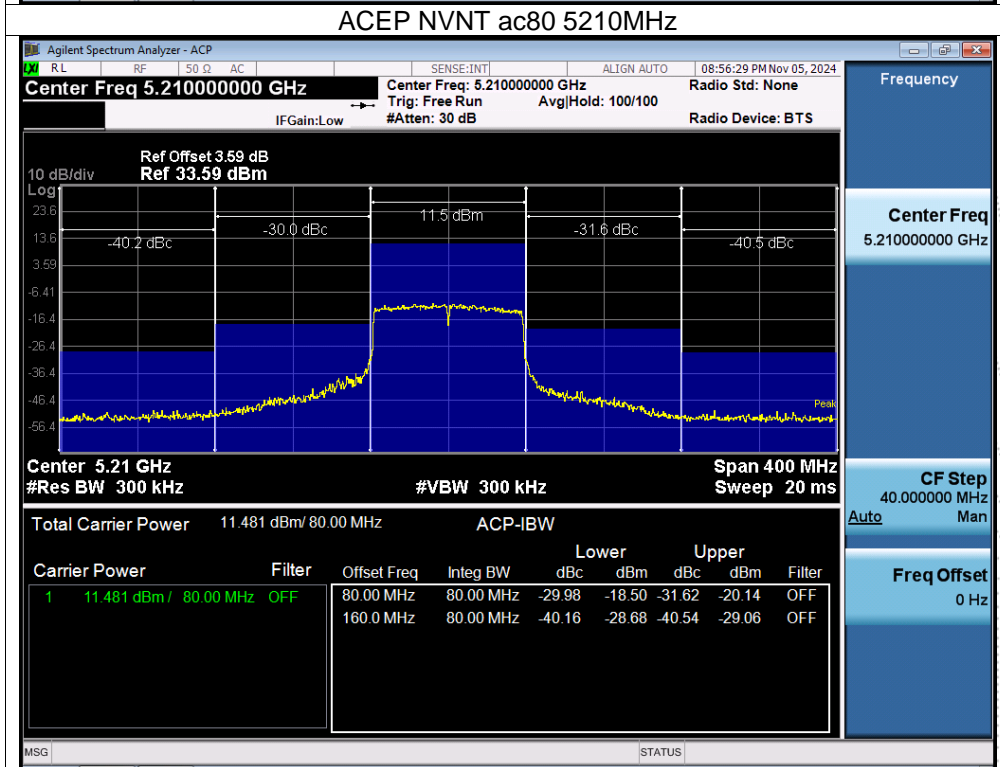
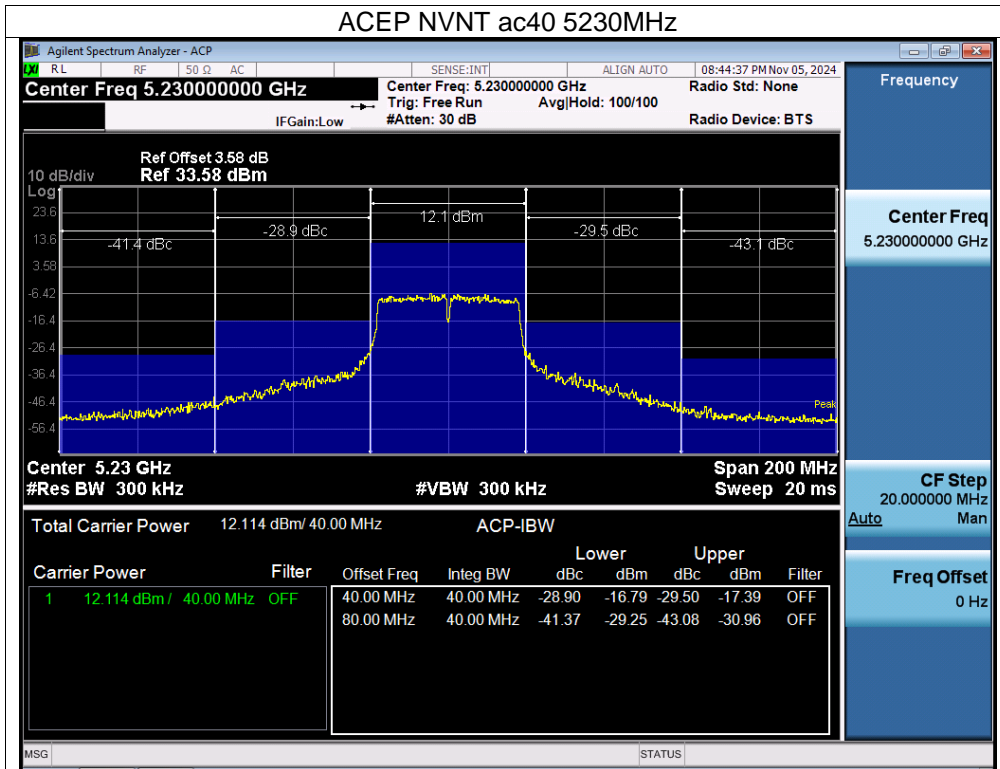
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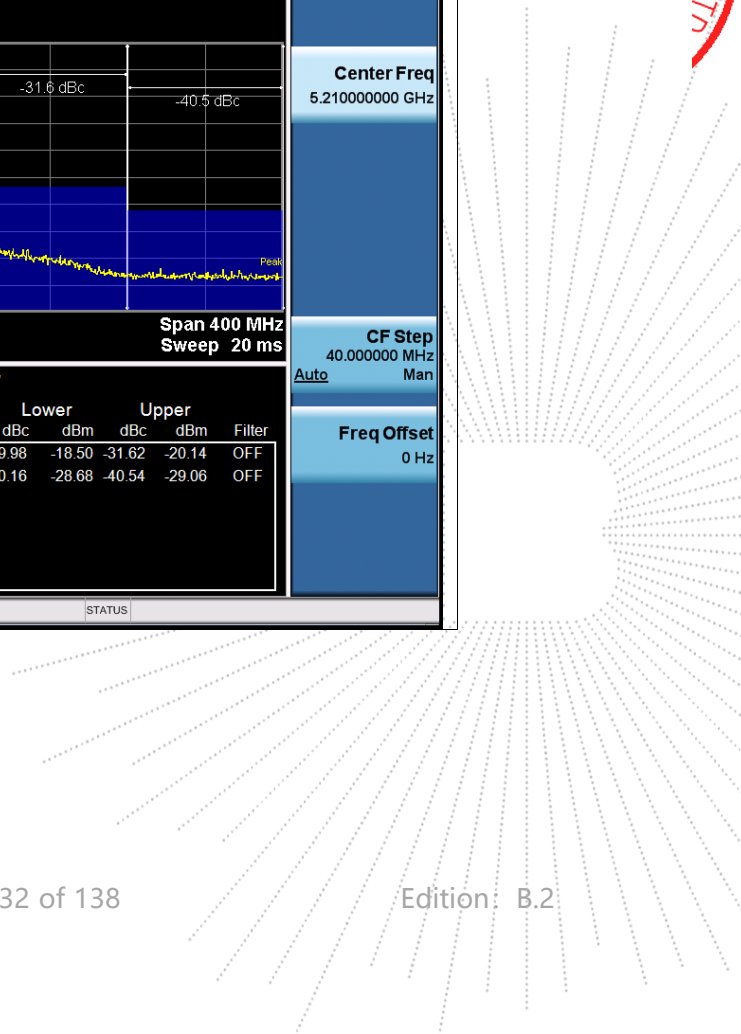


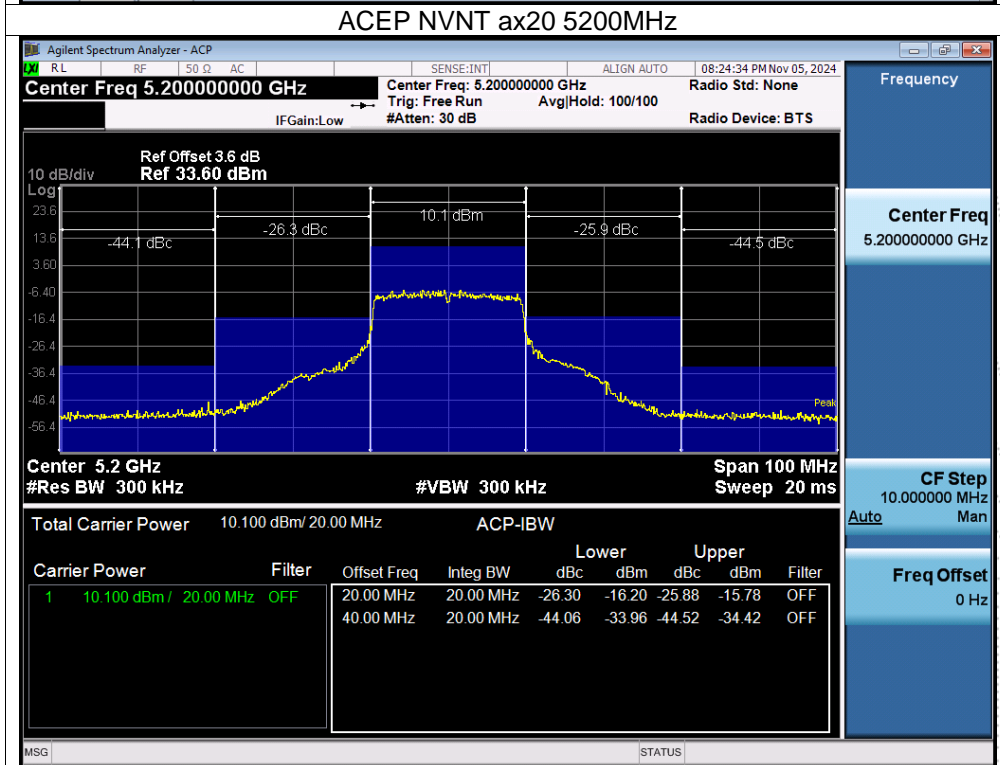
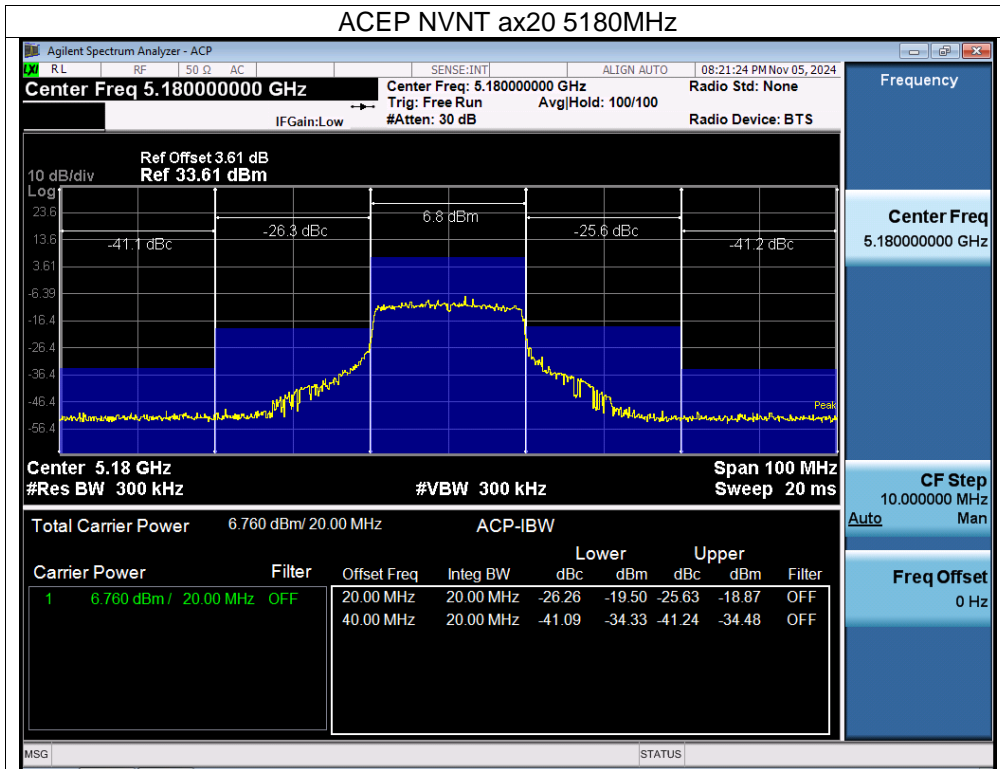




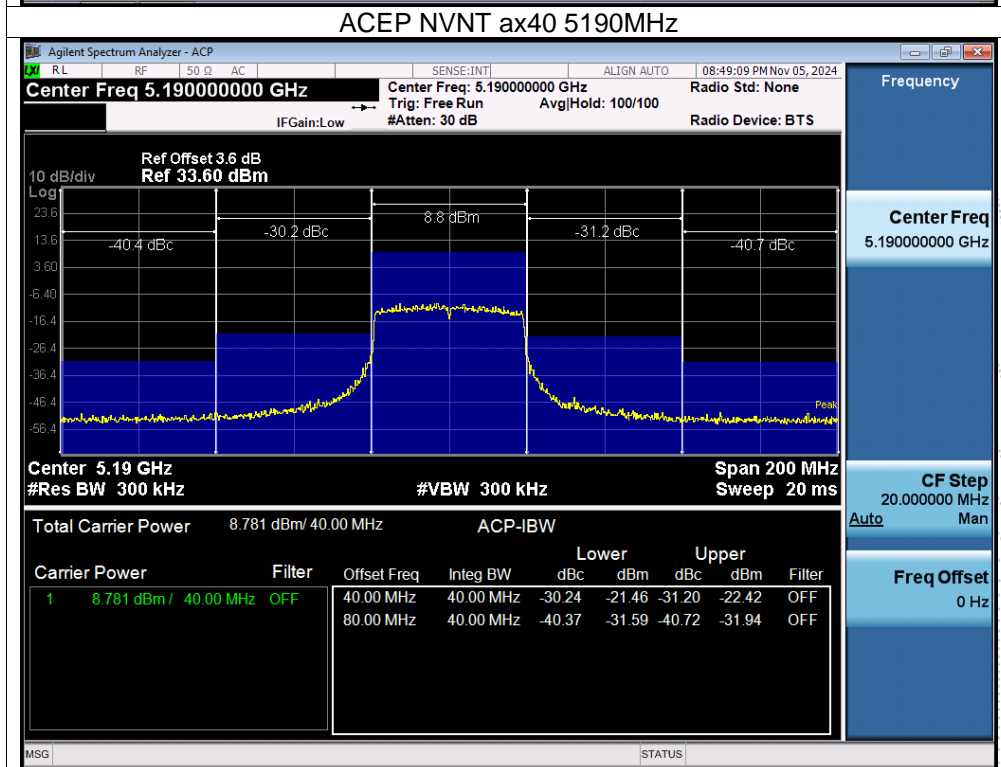
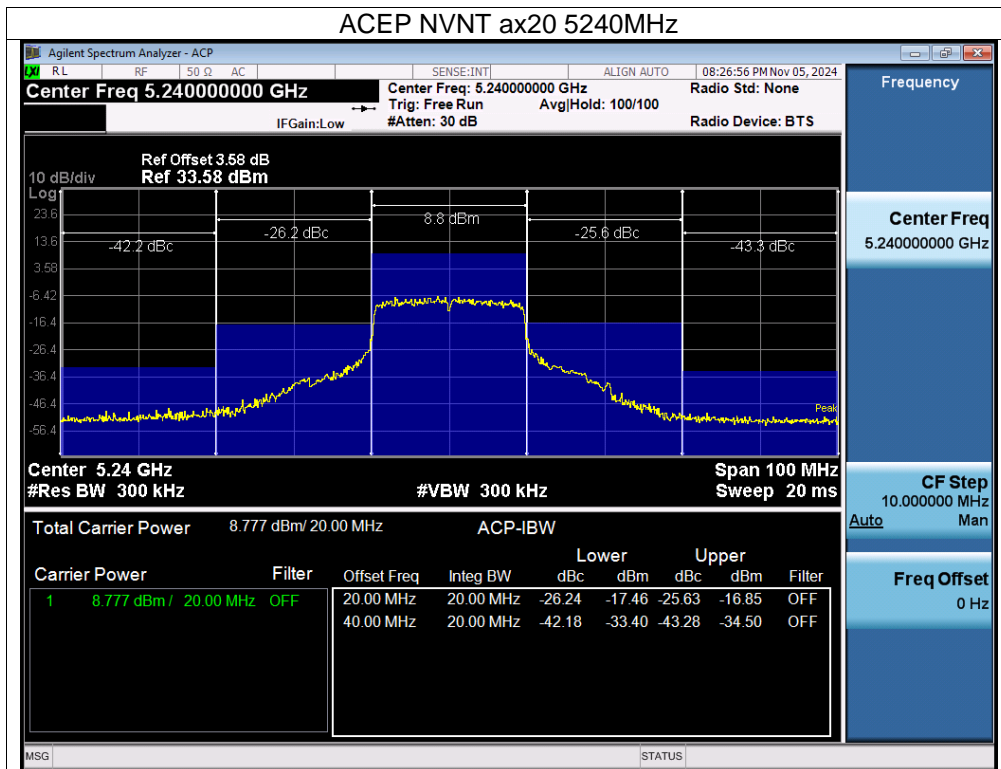


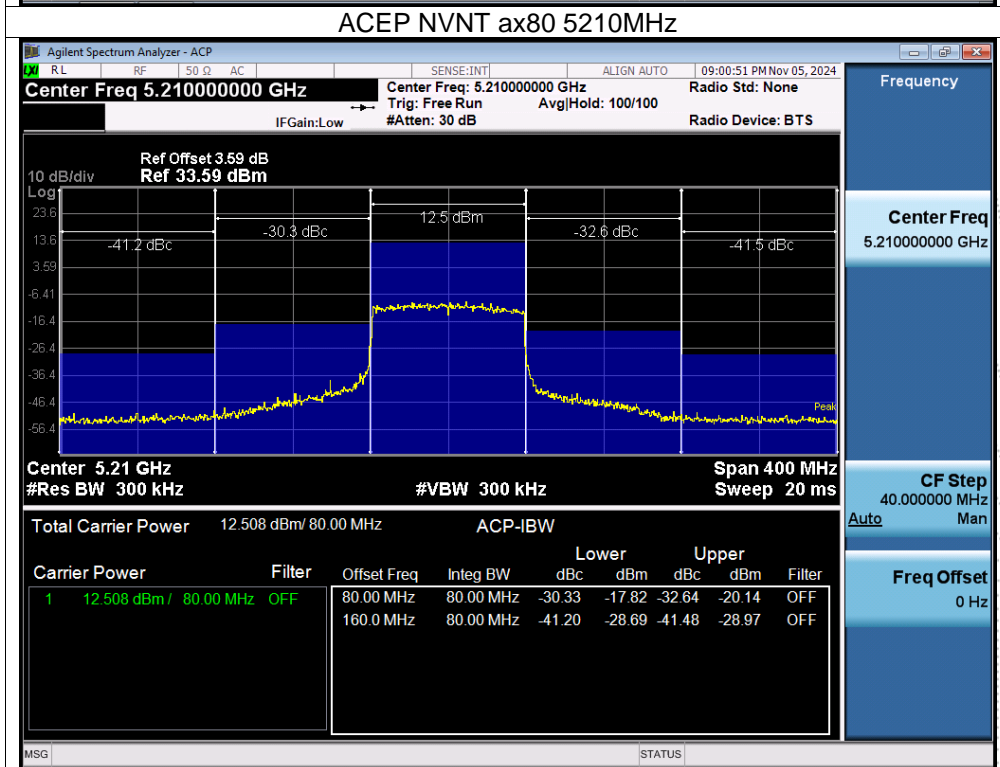
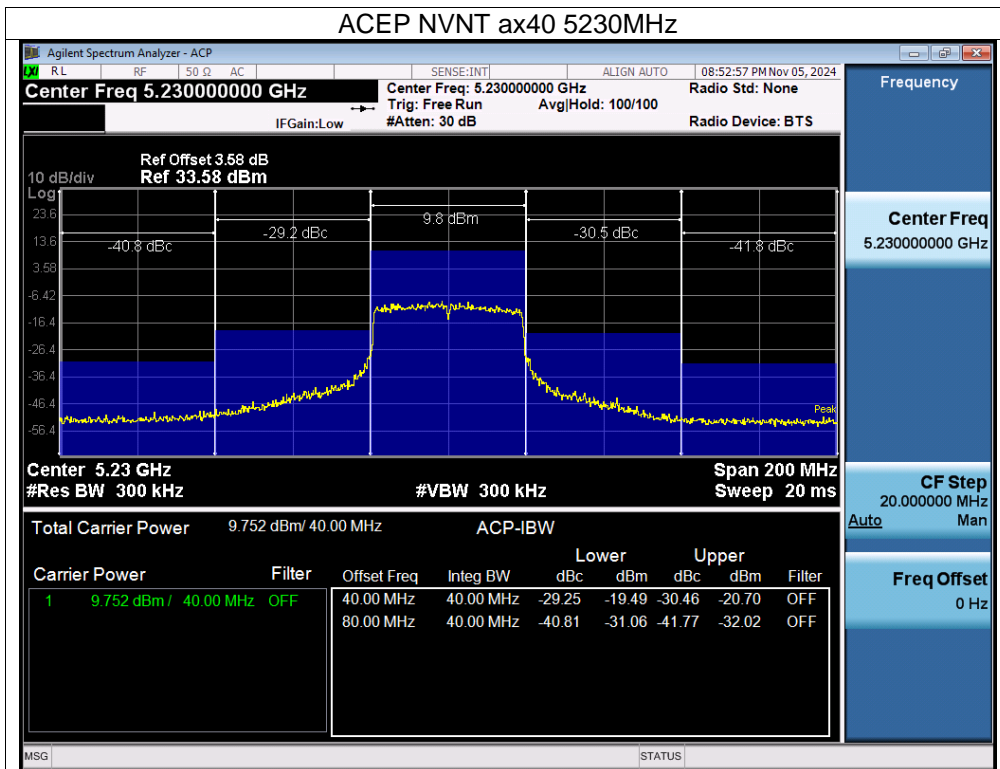
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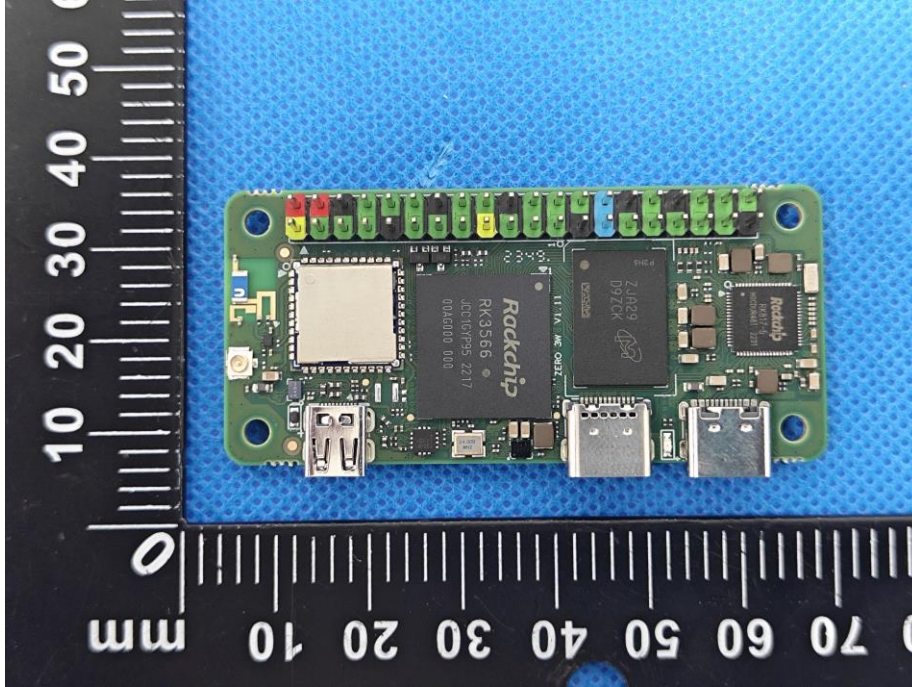
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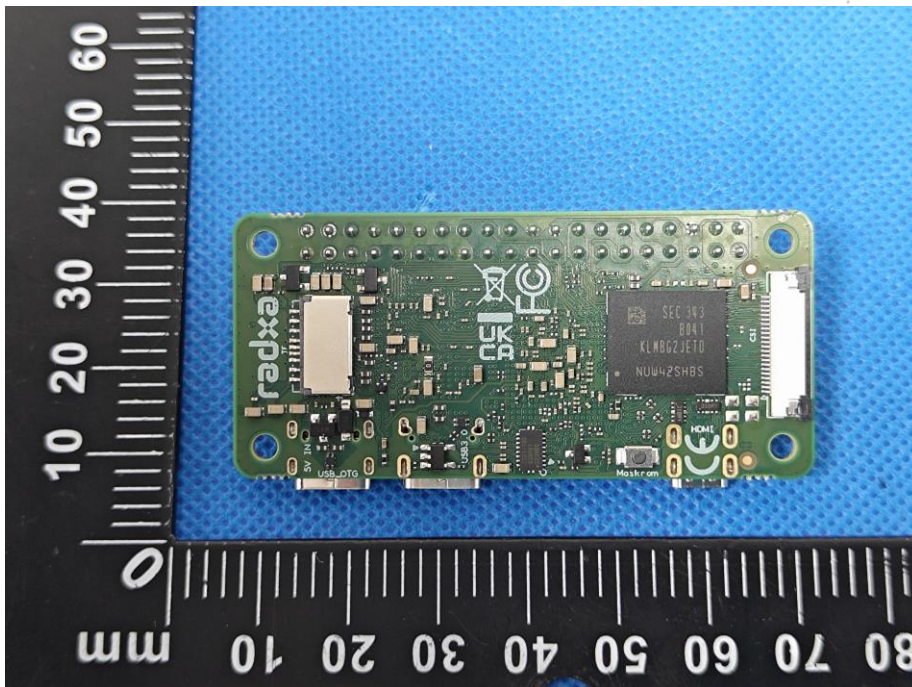


16. EUT Photographs

EUT Photo 1

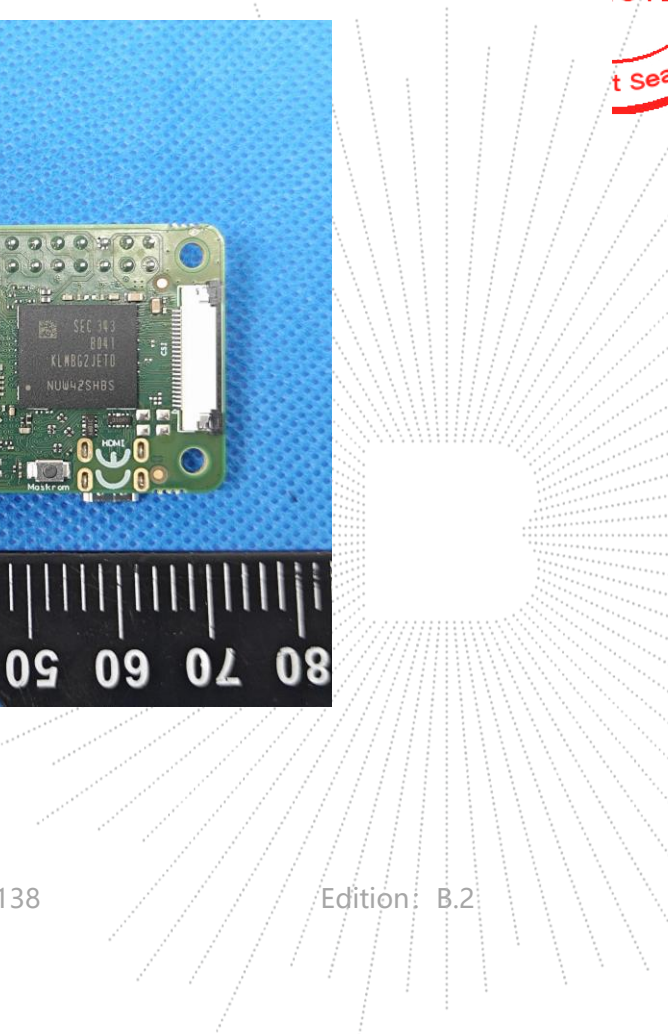


EUT Photo 2



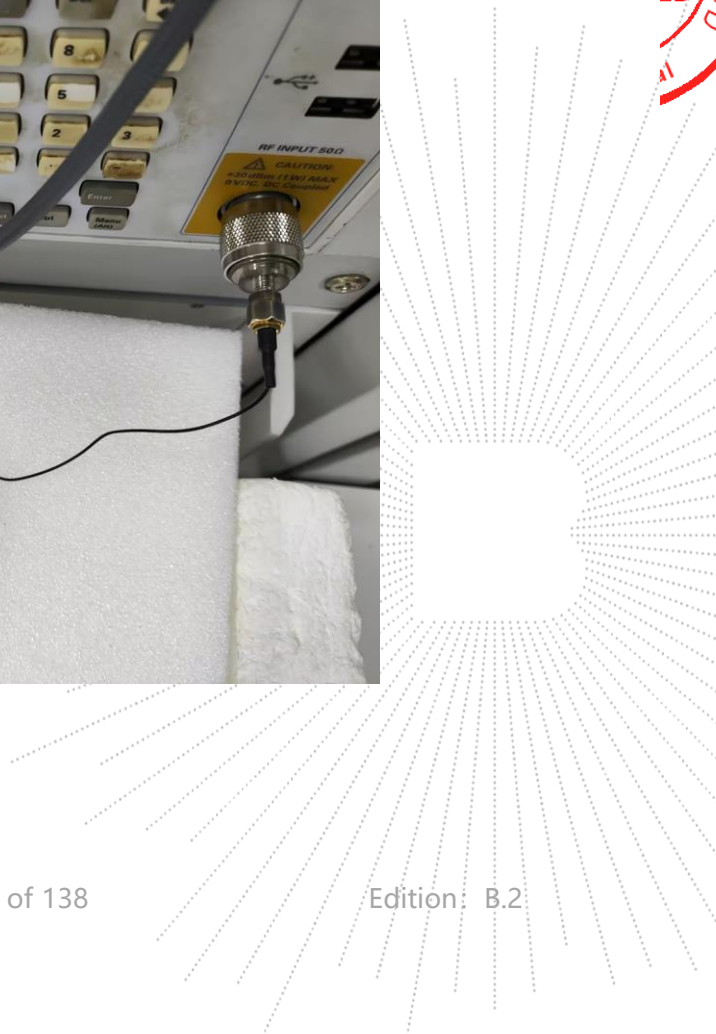
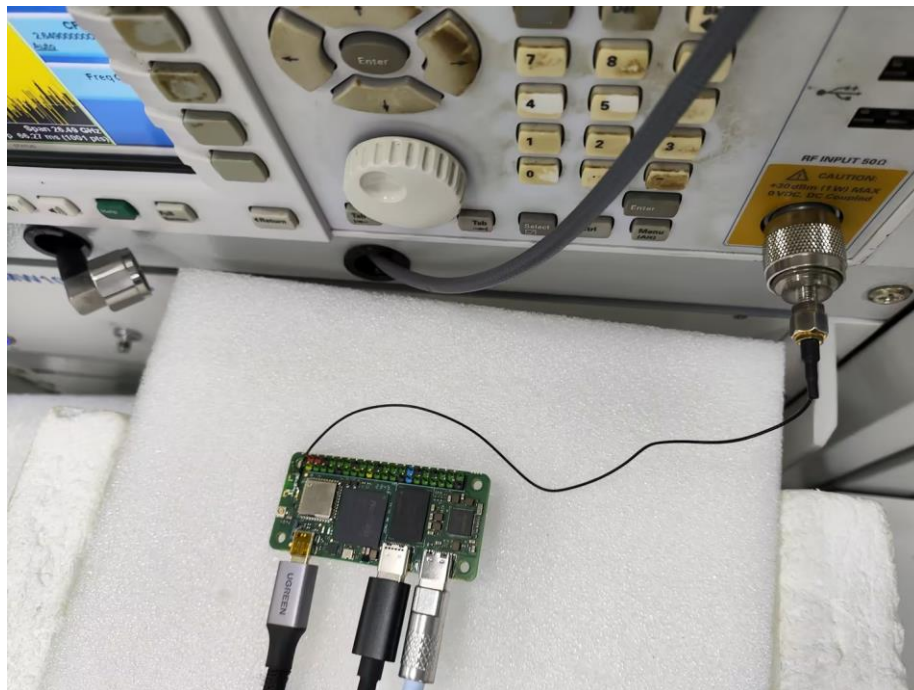
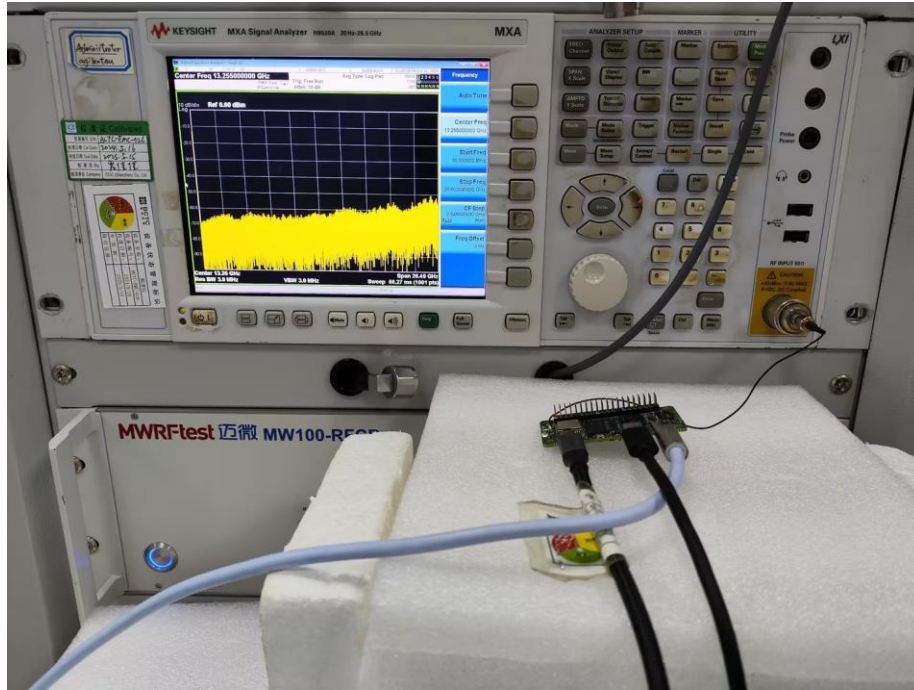
NOTE: Appendix-Photographs Of EUT Constructional Details.

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17. EUT Test Setup Photographs

Measurement Photos



STATEMENT

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The quality system of our laboratory is in accordance with ISO/IEC17025.
8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: <http://www.chnbctc.com>

Consultation E-mail: bctc@bctc-lab.com.cn

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