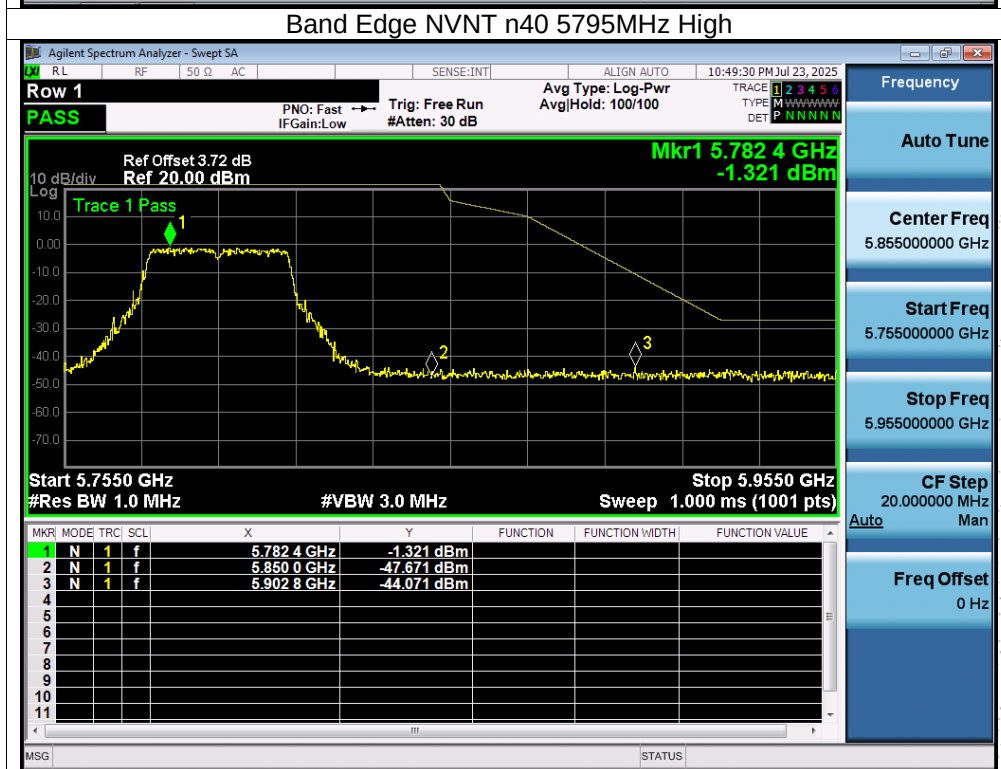
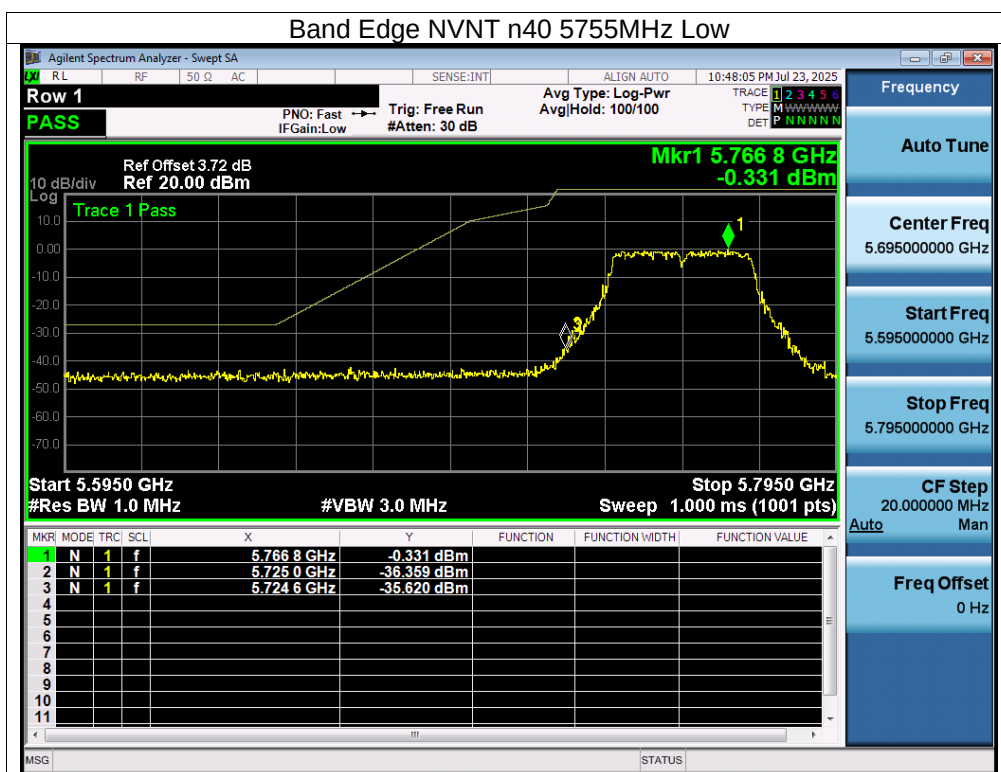
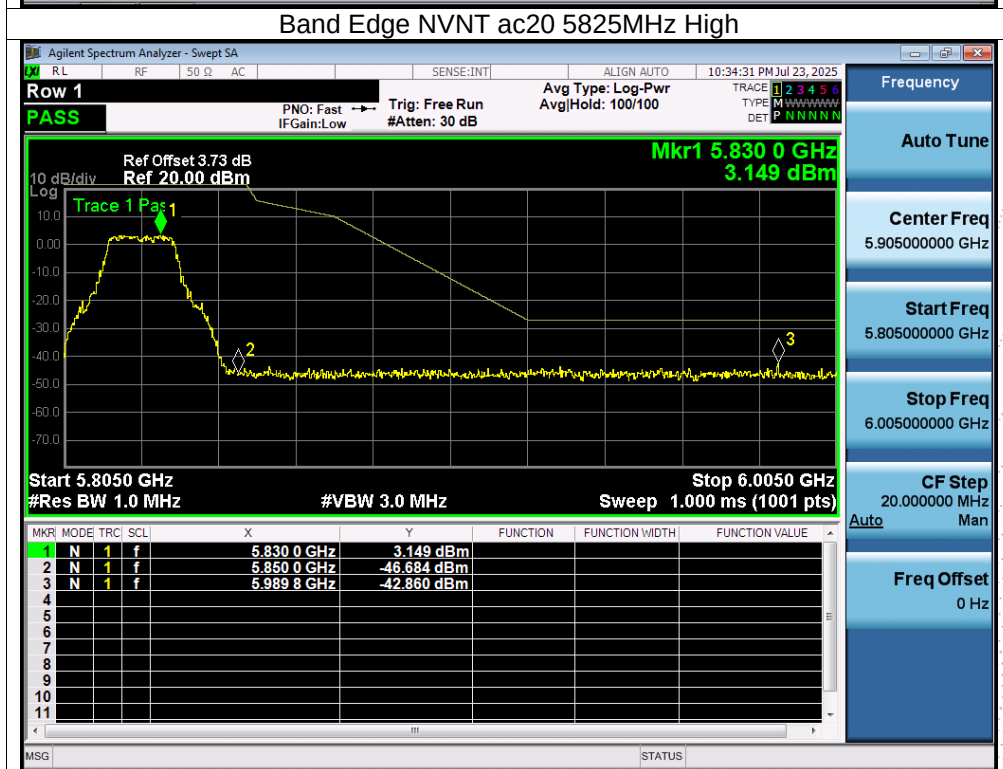
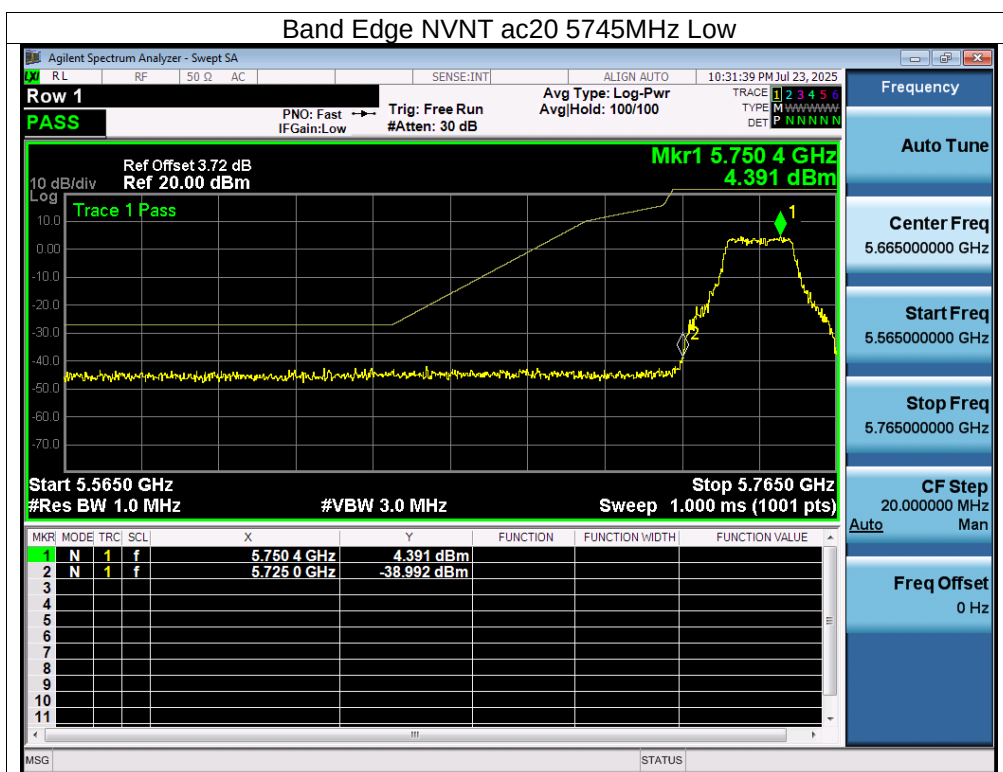
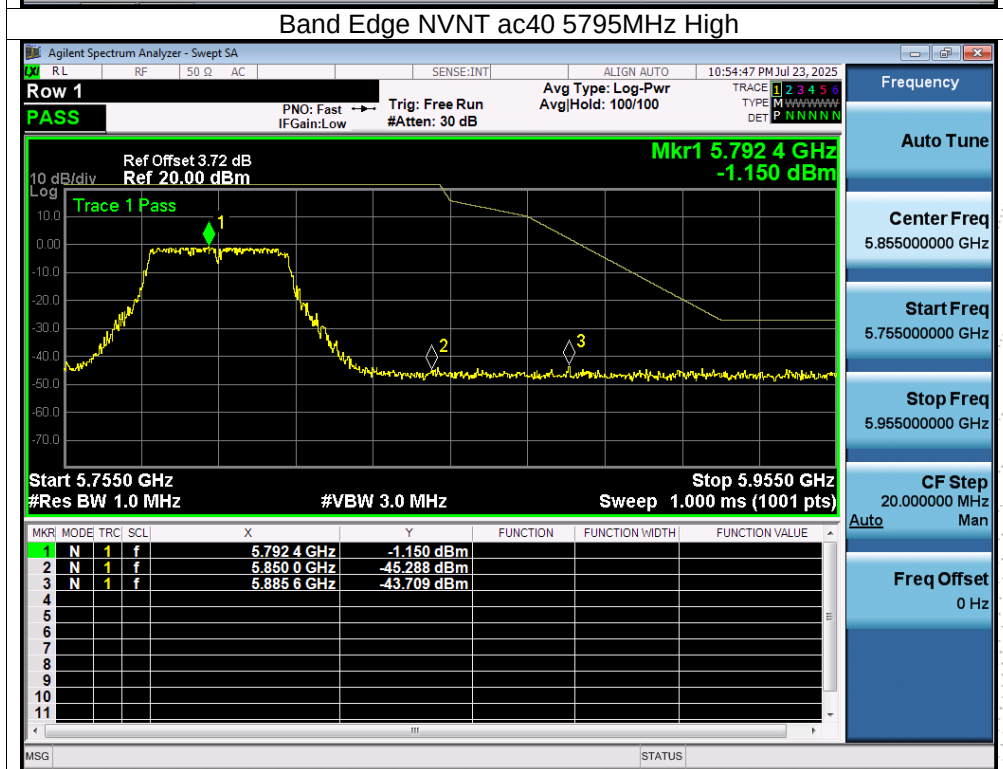
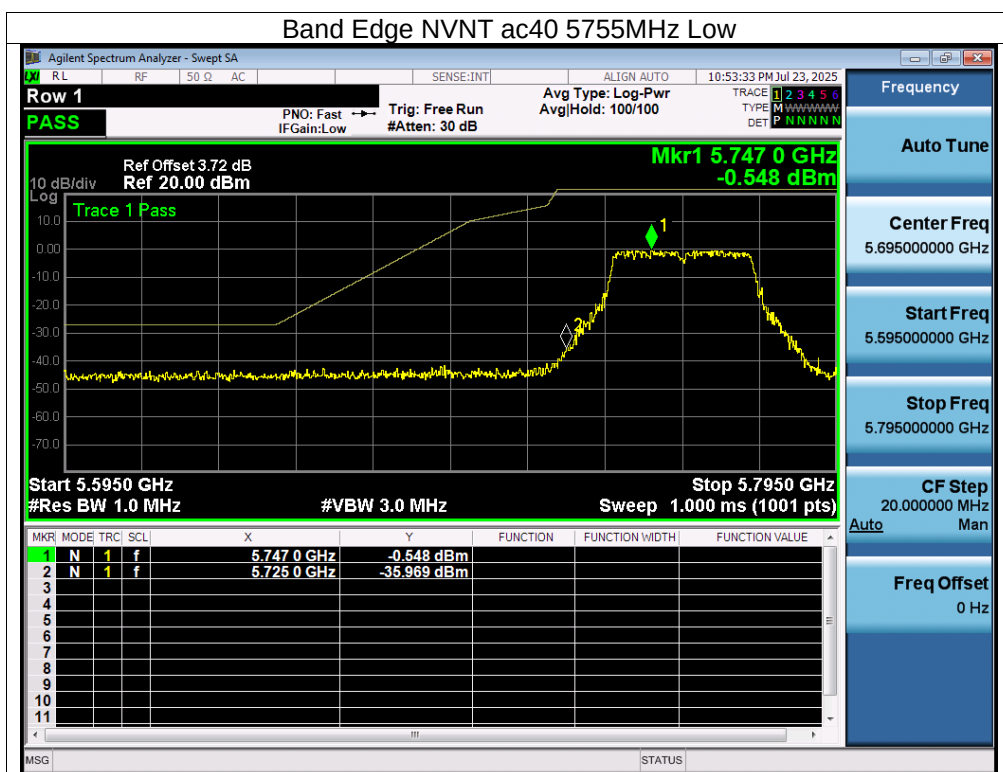
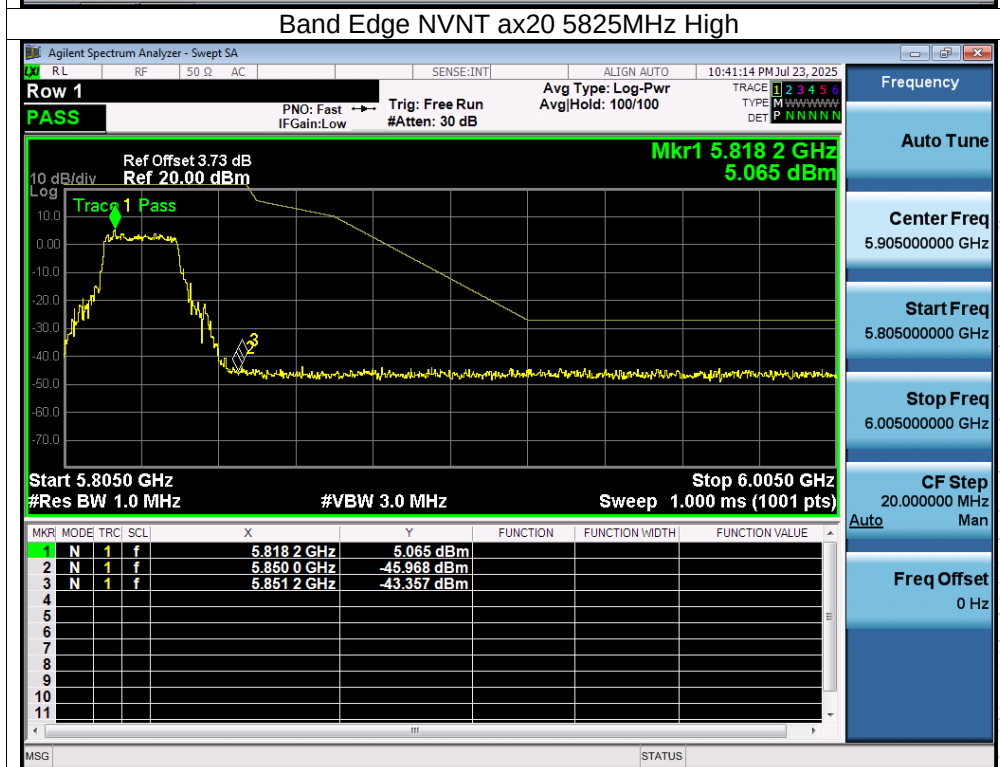
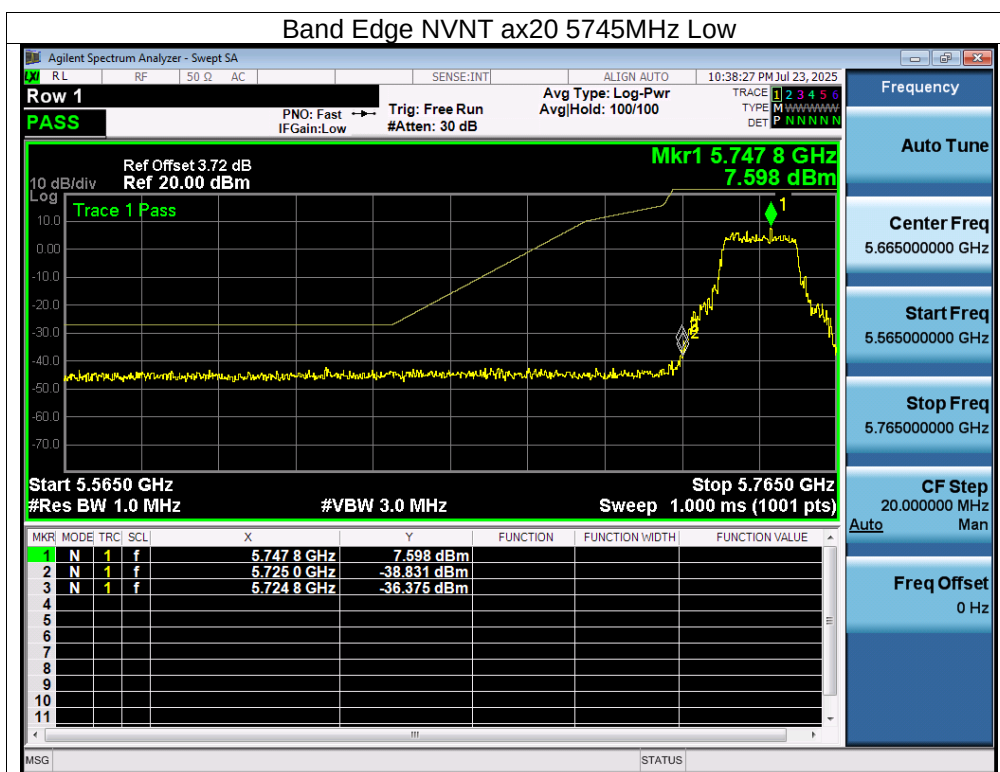


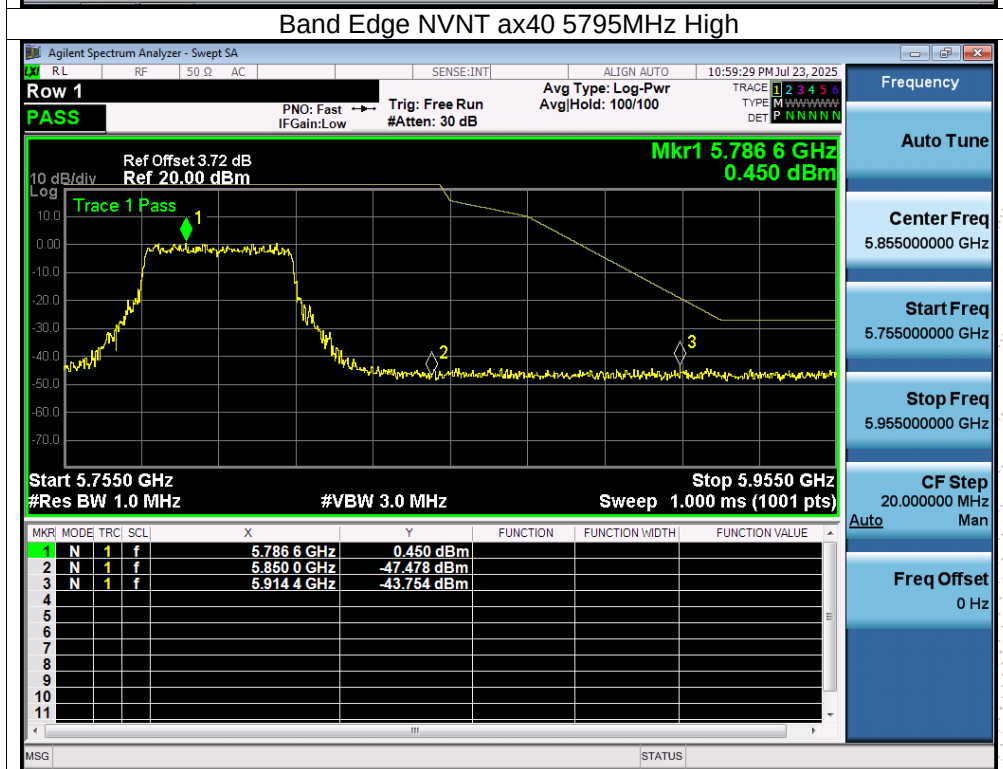
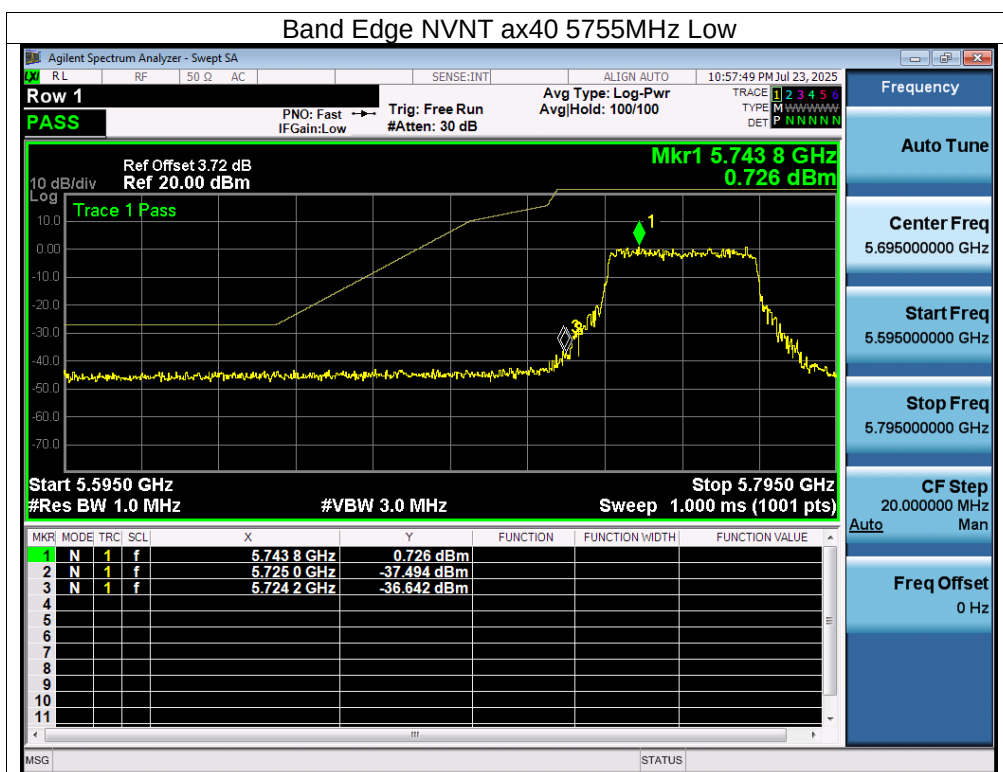


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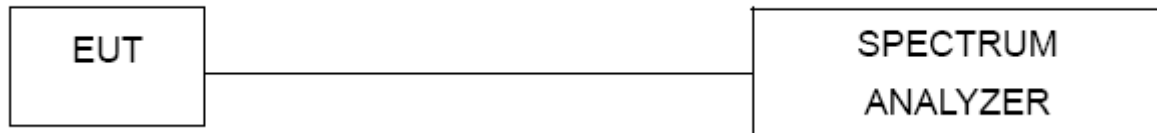






12. Spurious RF Conducted Emissions

12.1 Block Diagram Of Test Setup



12.2 Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

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

(2) For transmitters operating in the 5.725-5.85 GHz band(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

12.3 Test procedure

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

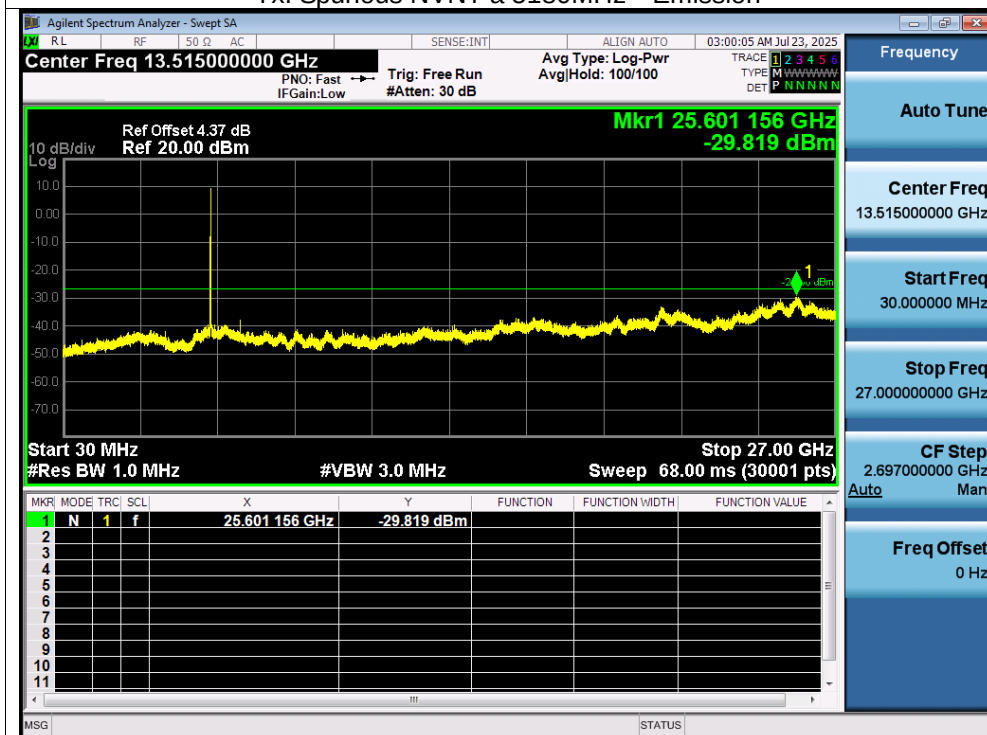
12.4 Test Result

Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandedge measurement data.

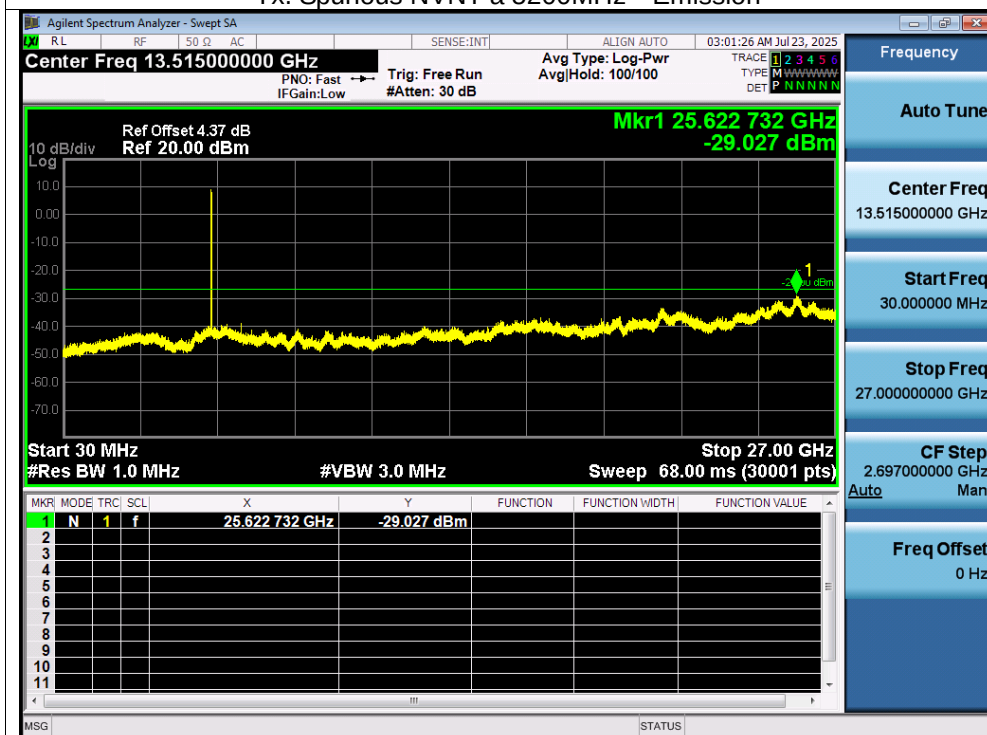
About: 26.5GHz-40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Test Graphs

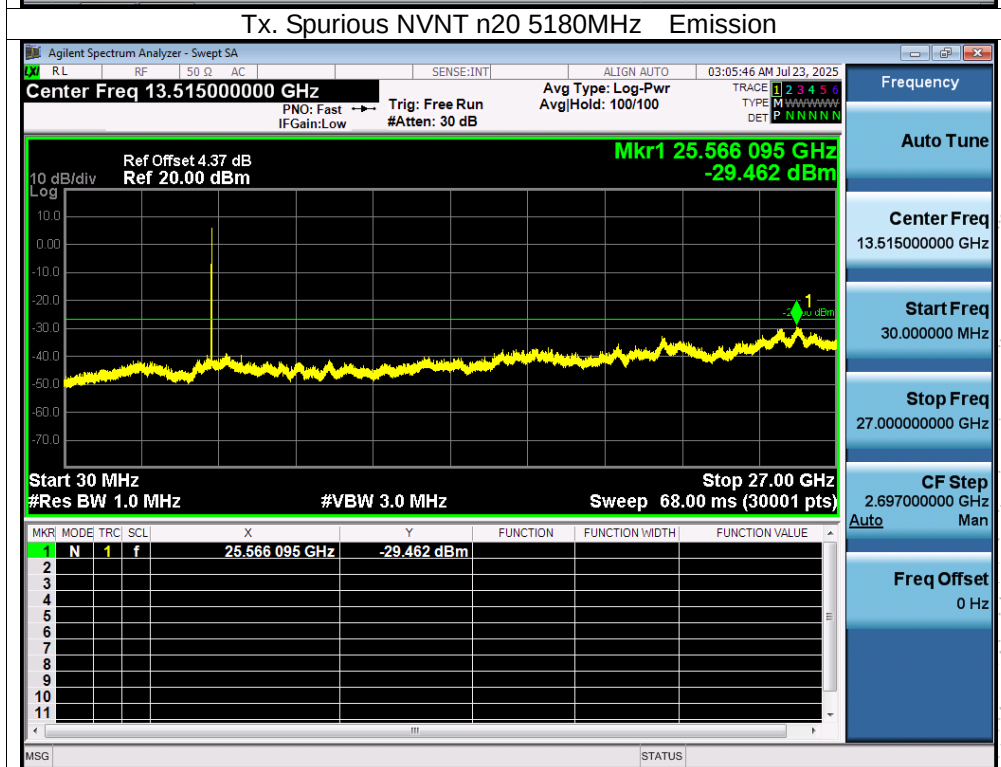
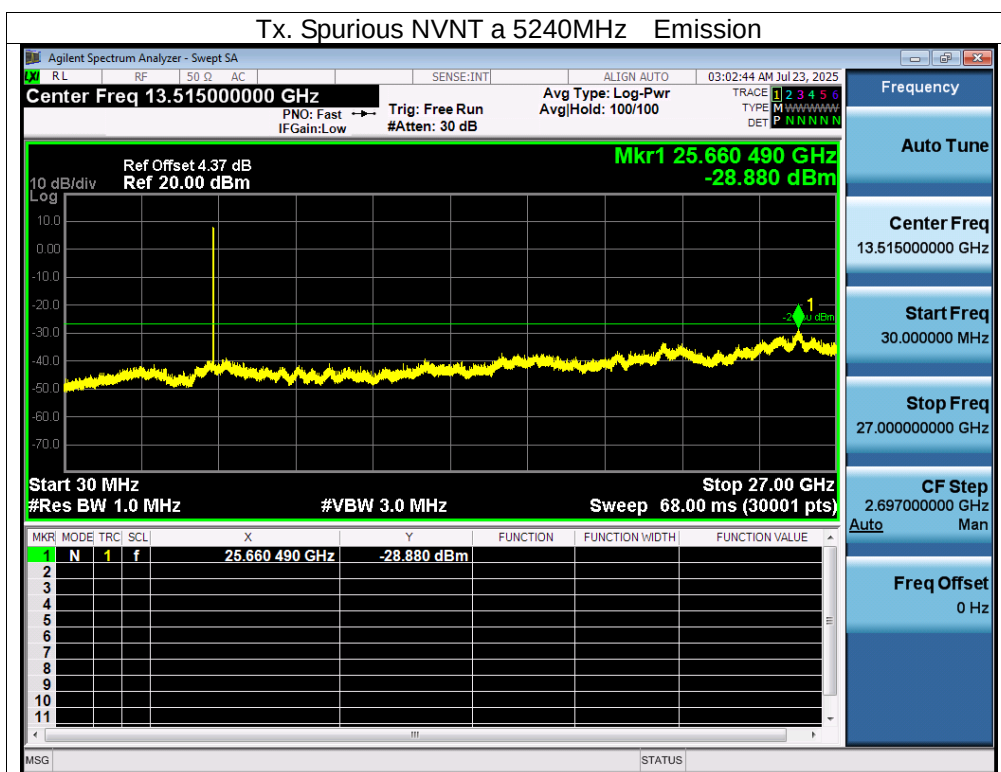
Tx. Spurious NVNT a 5180MHz Emission

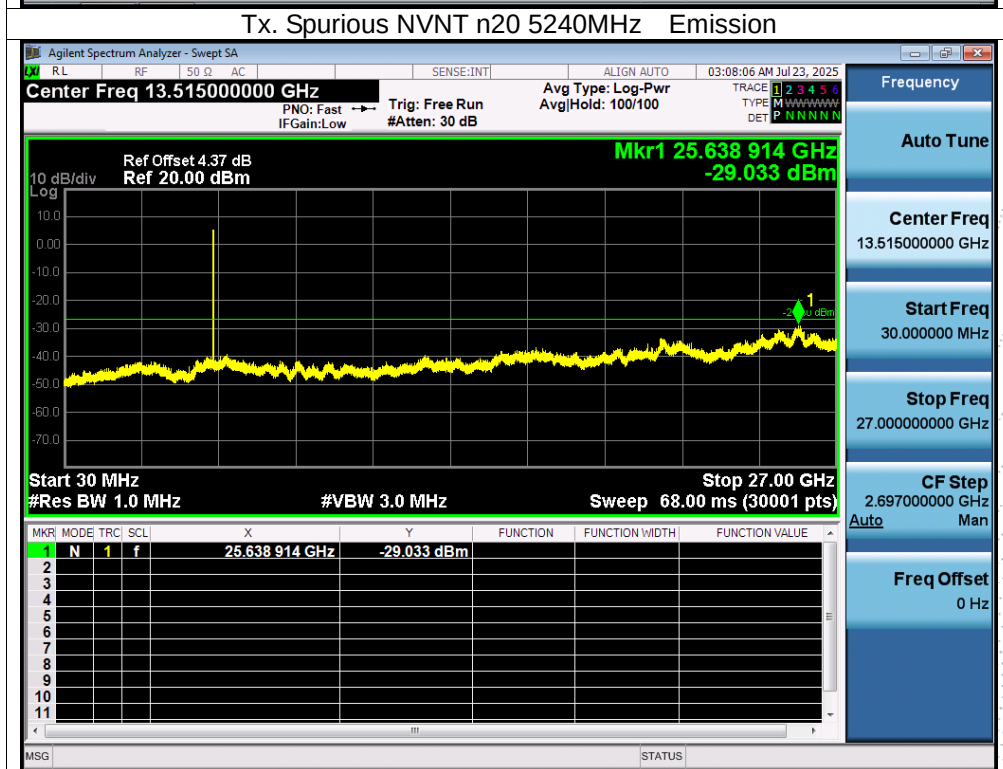
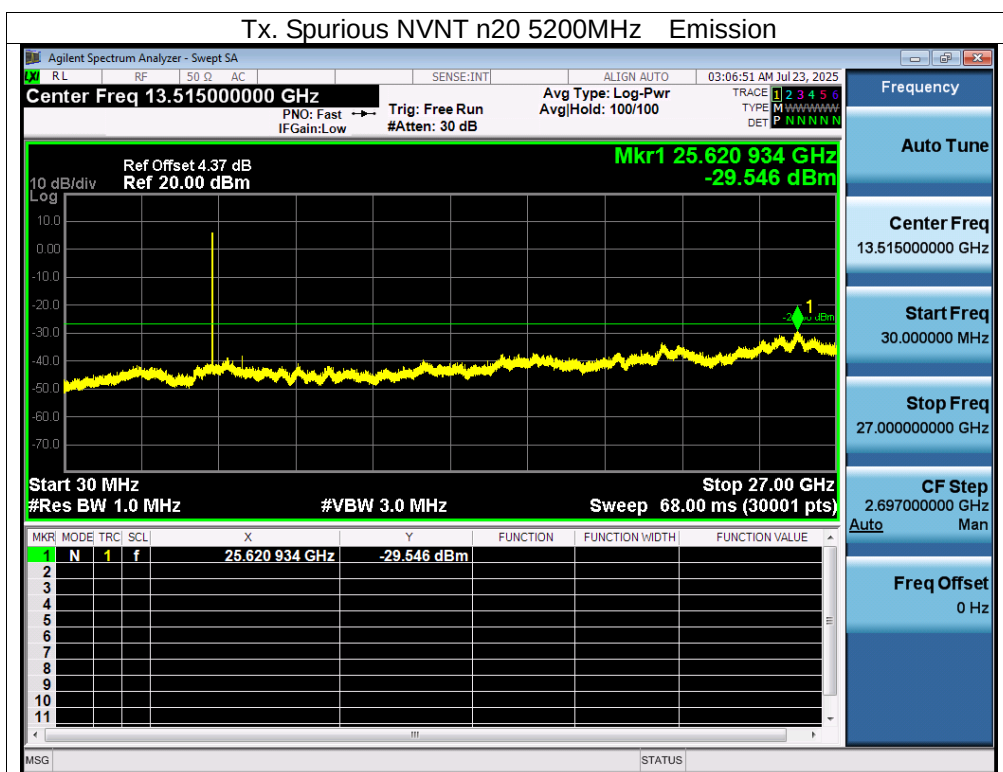


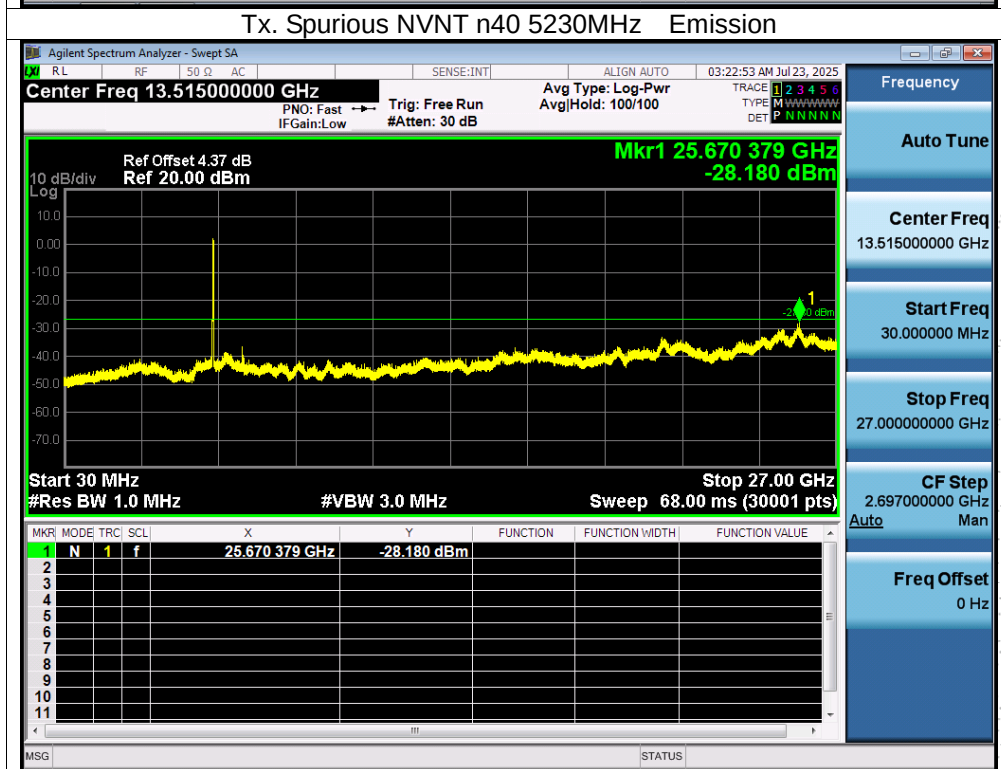
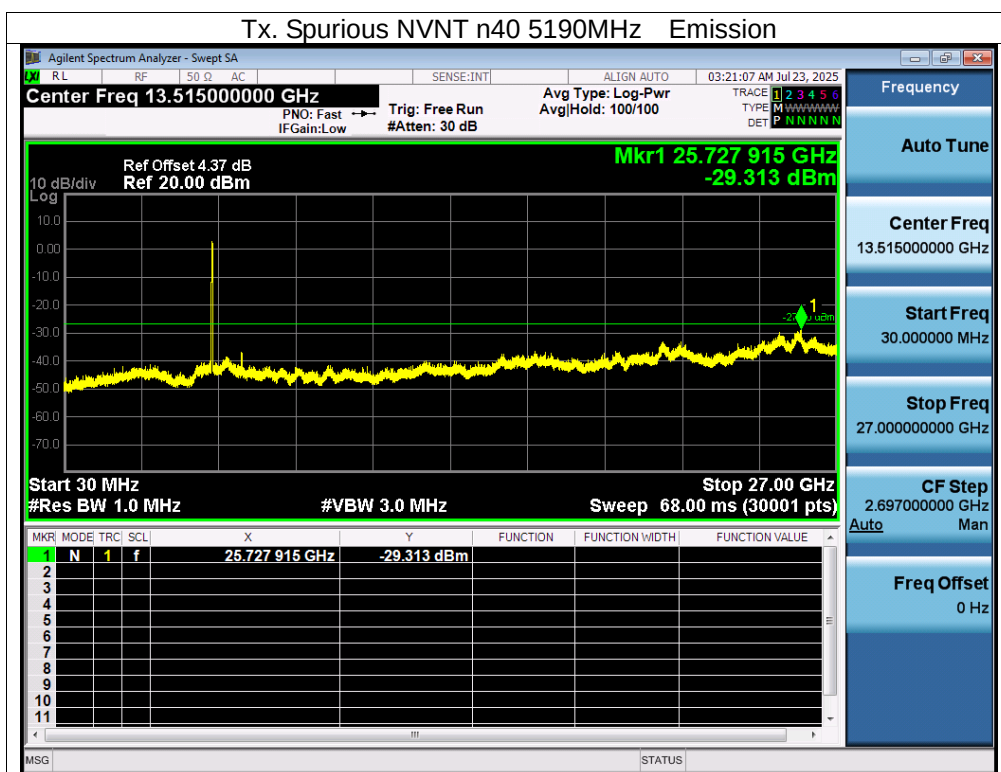
Tx. Spurious NVNT a 5200MHz Emission

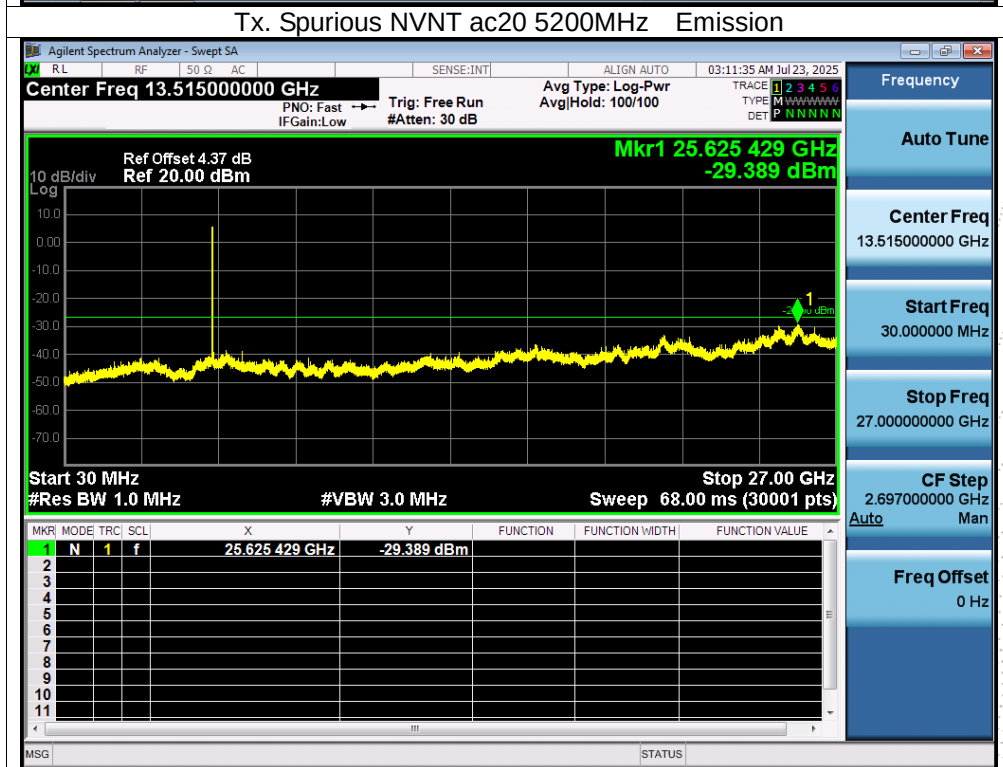
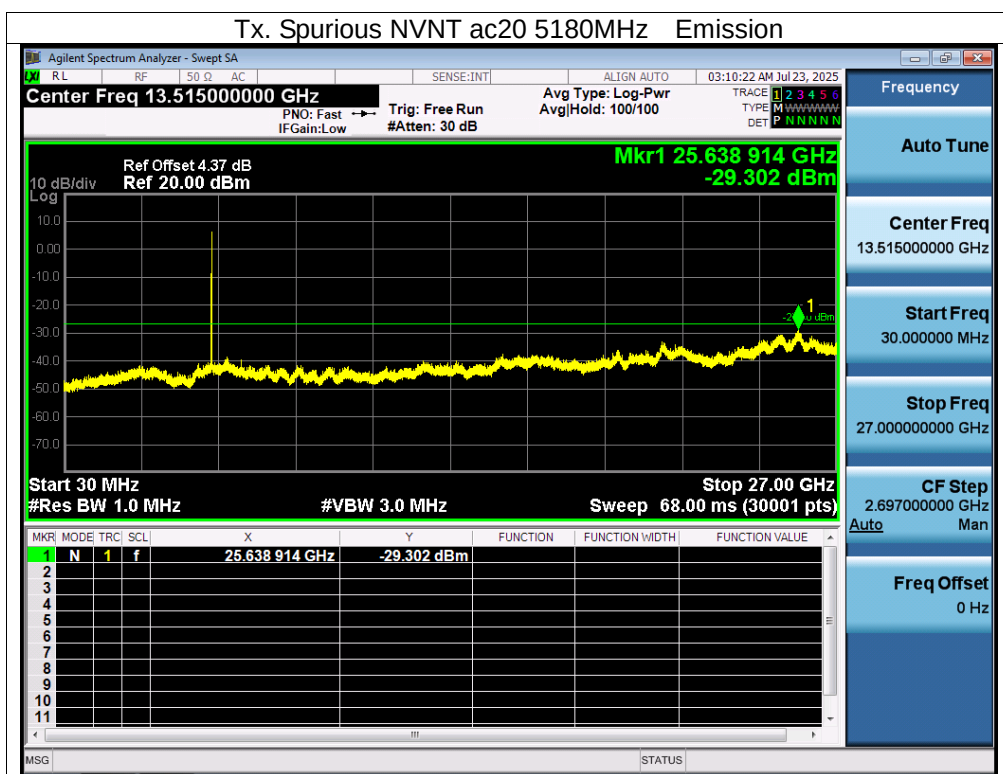


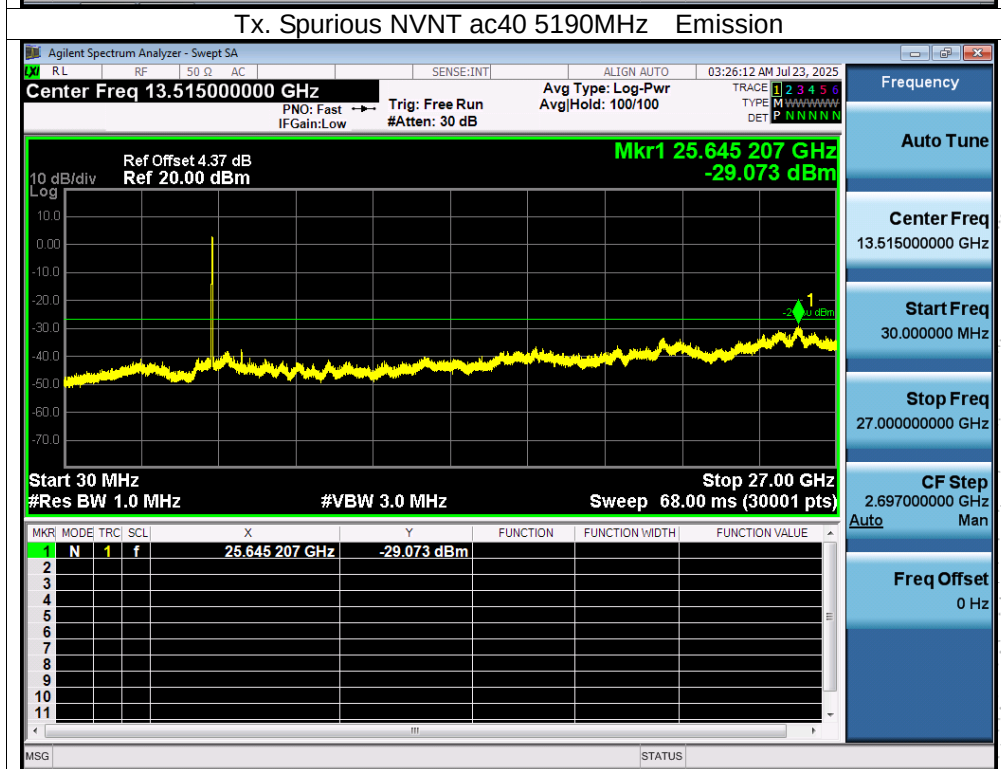
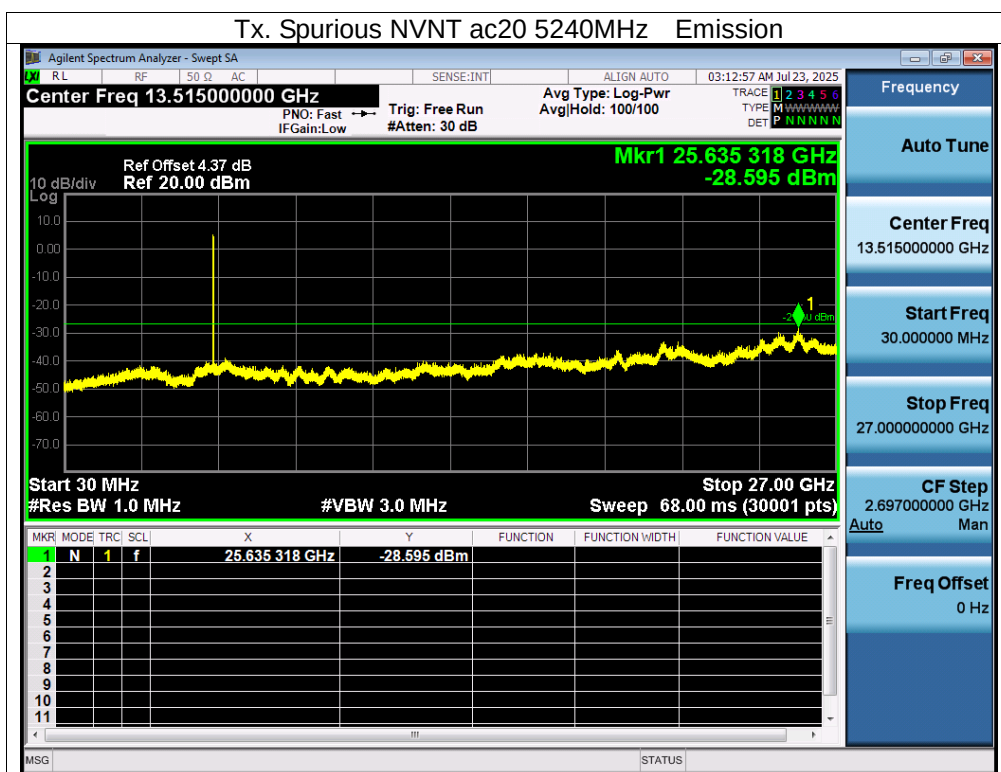
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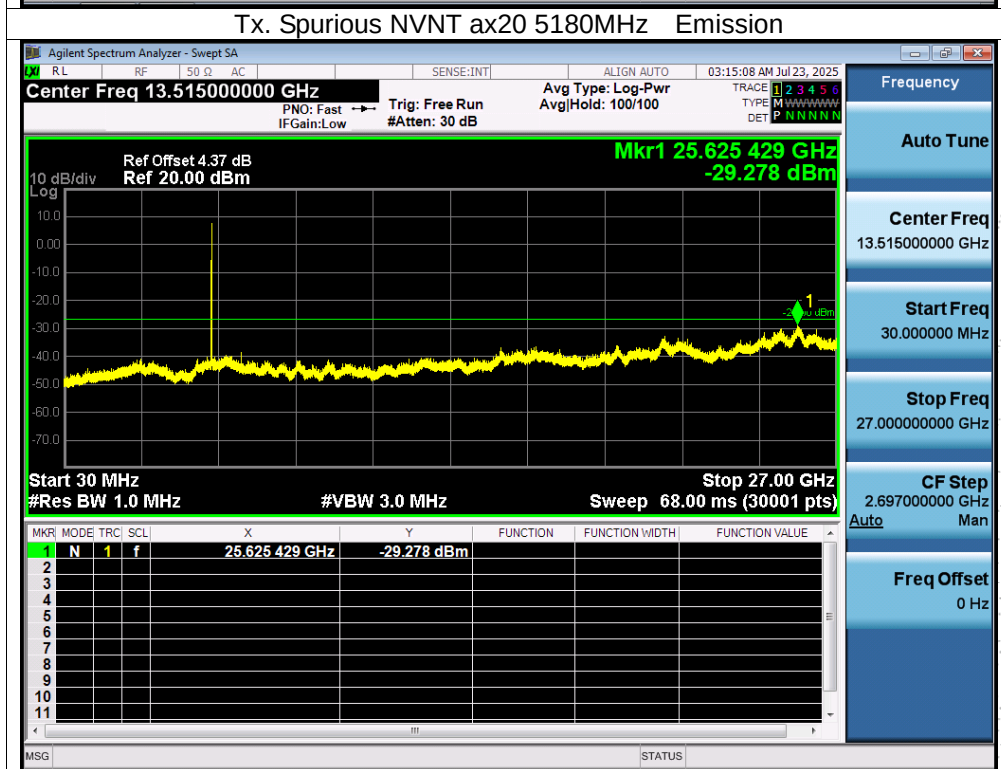
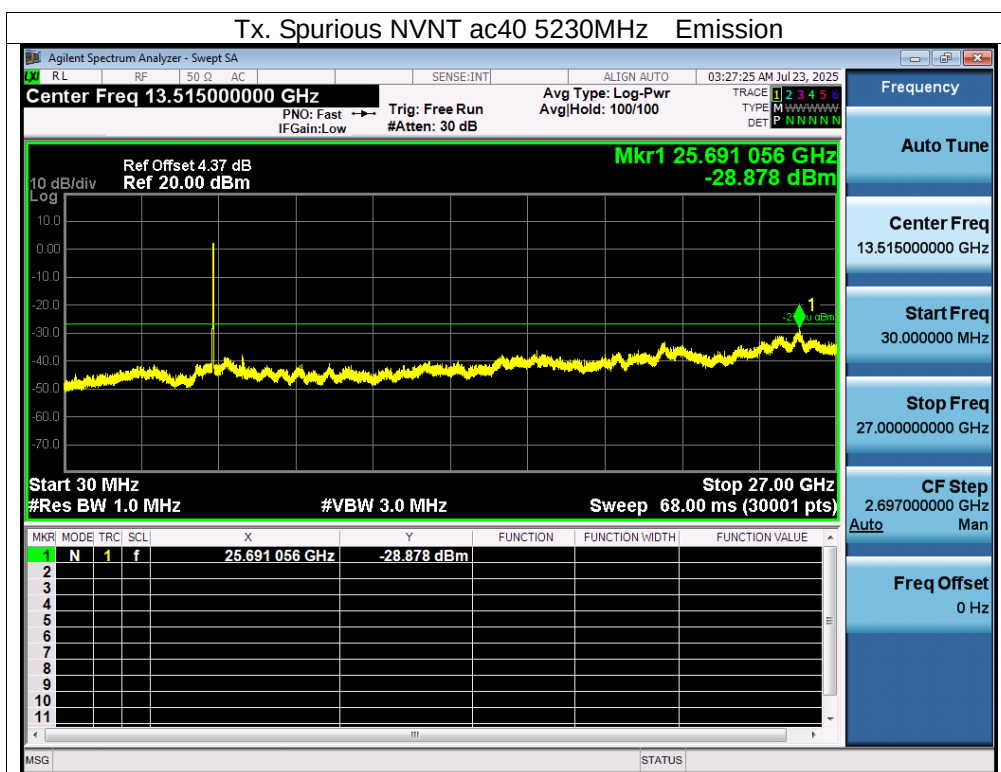




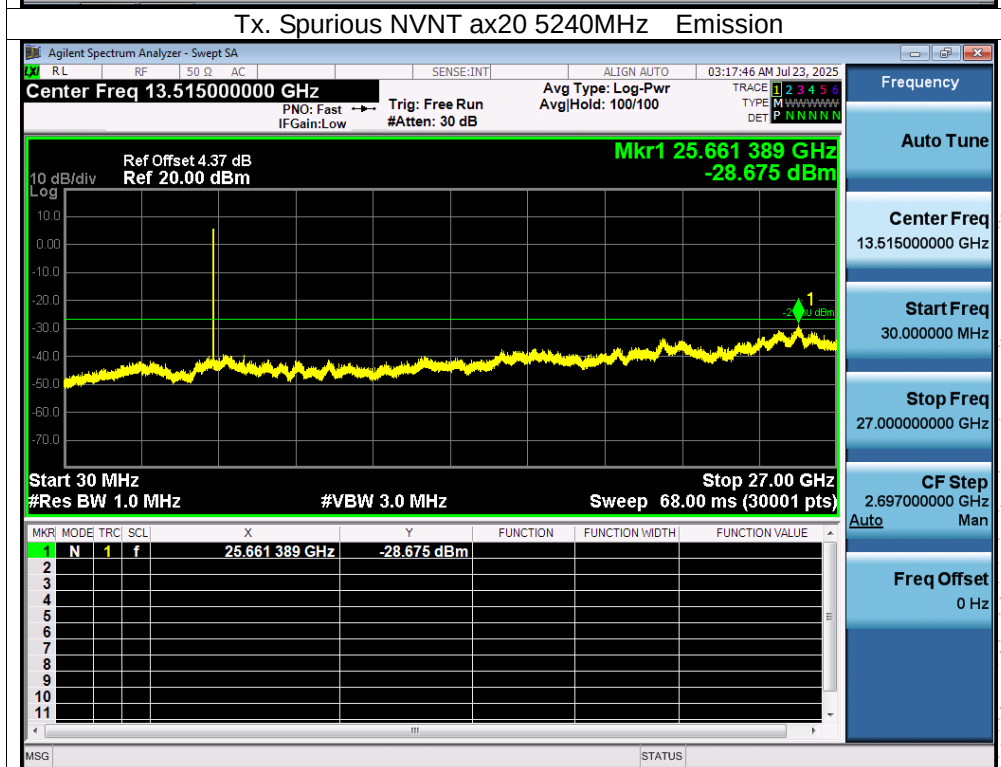
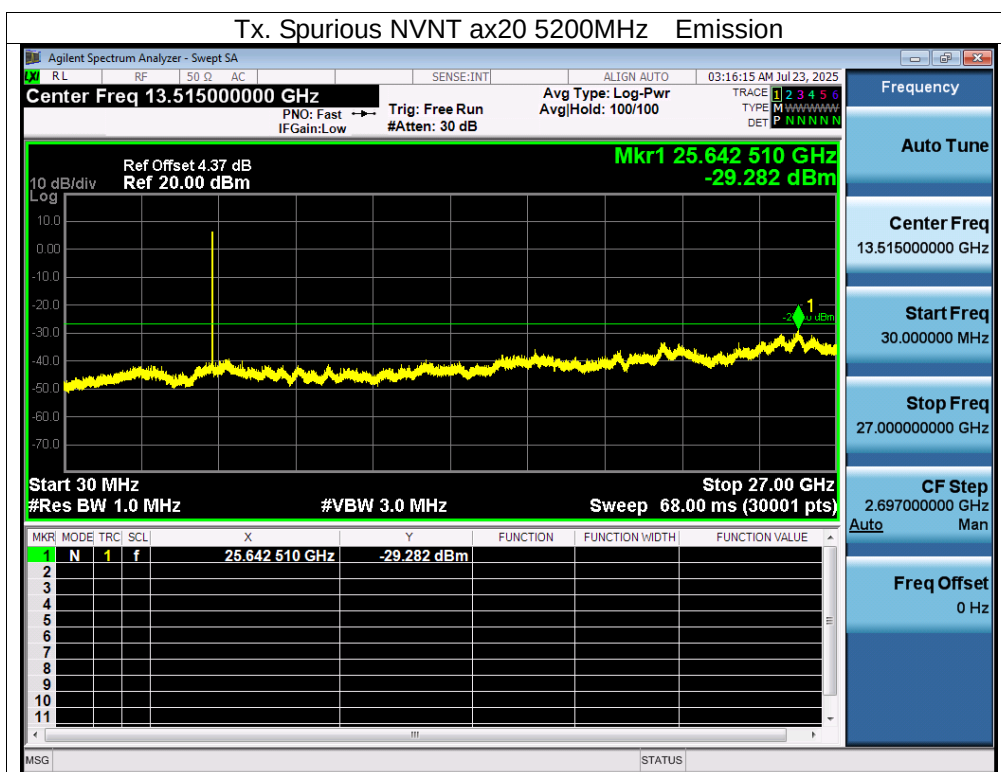


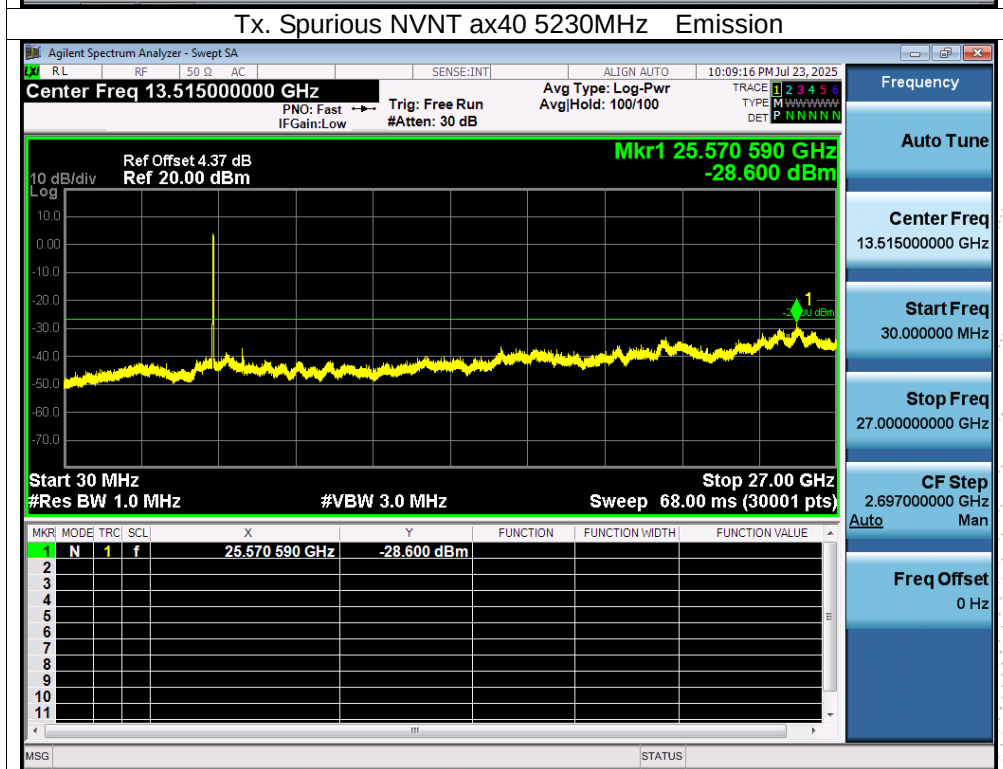
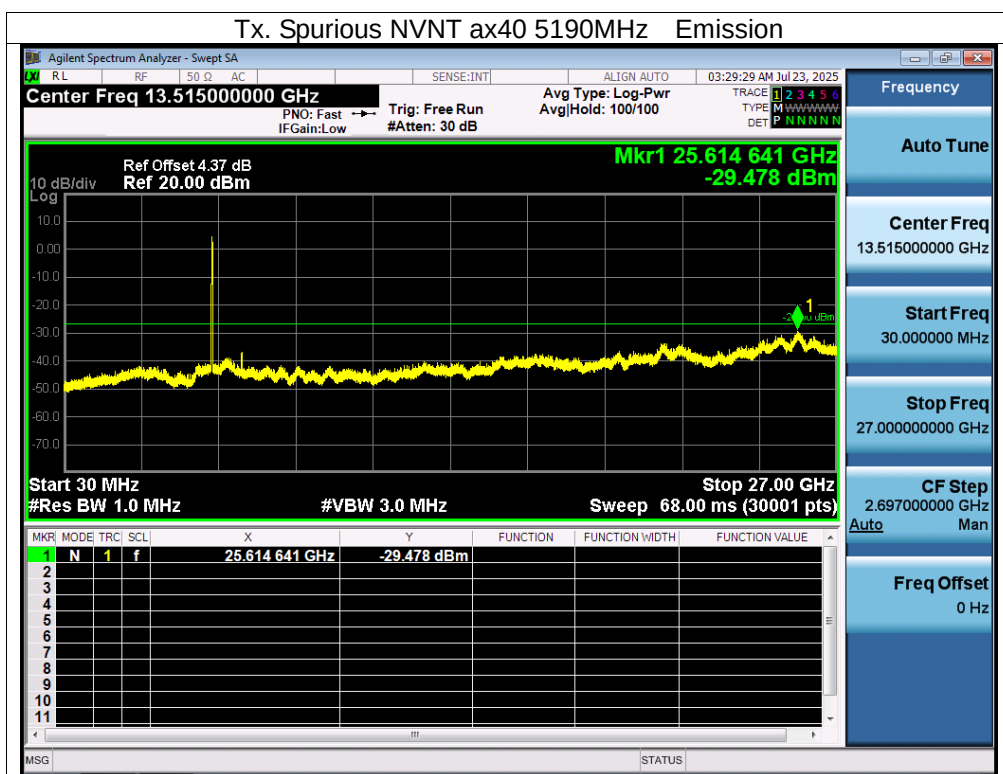


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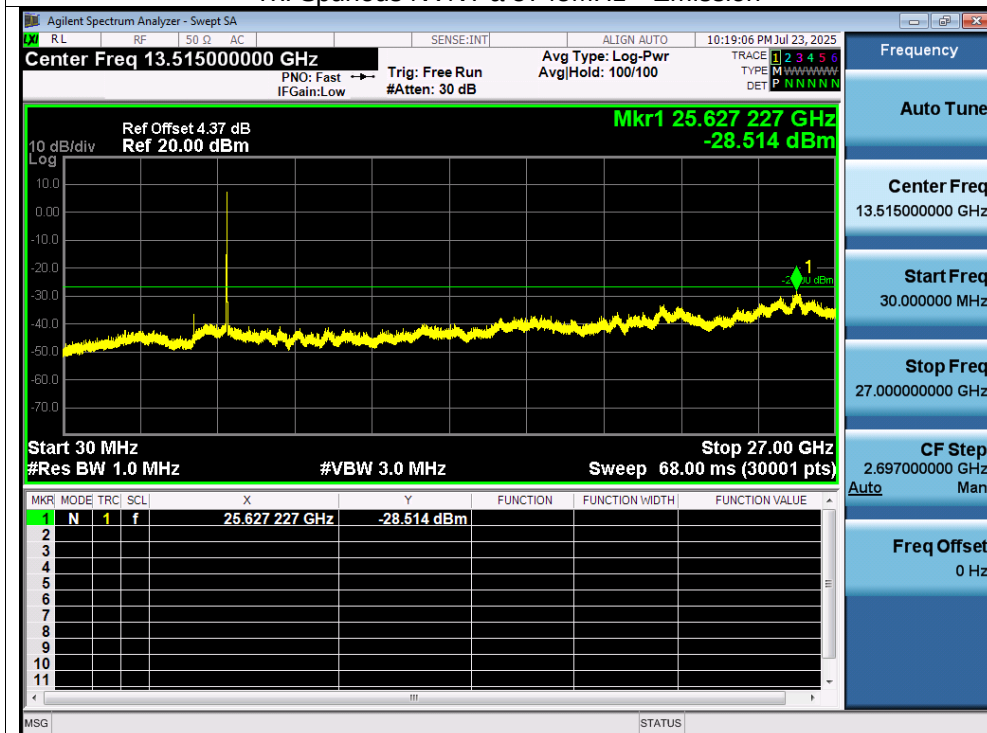
SHENZHEN



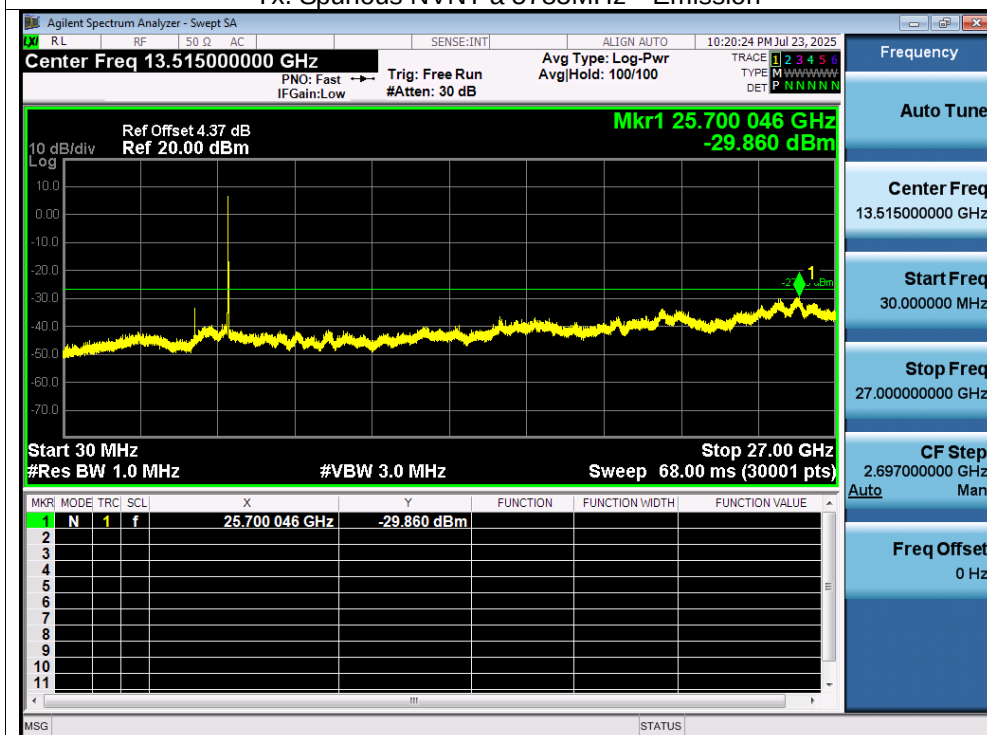


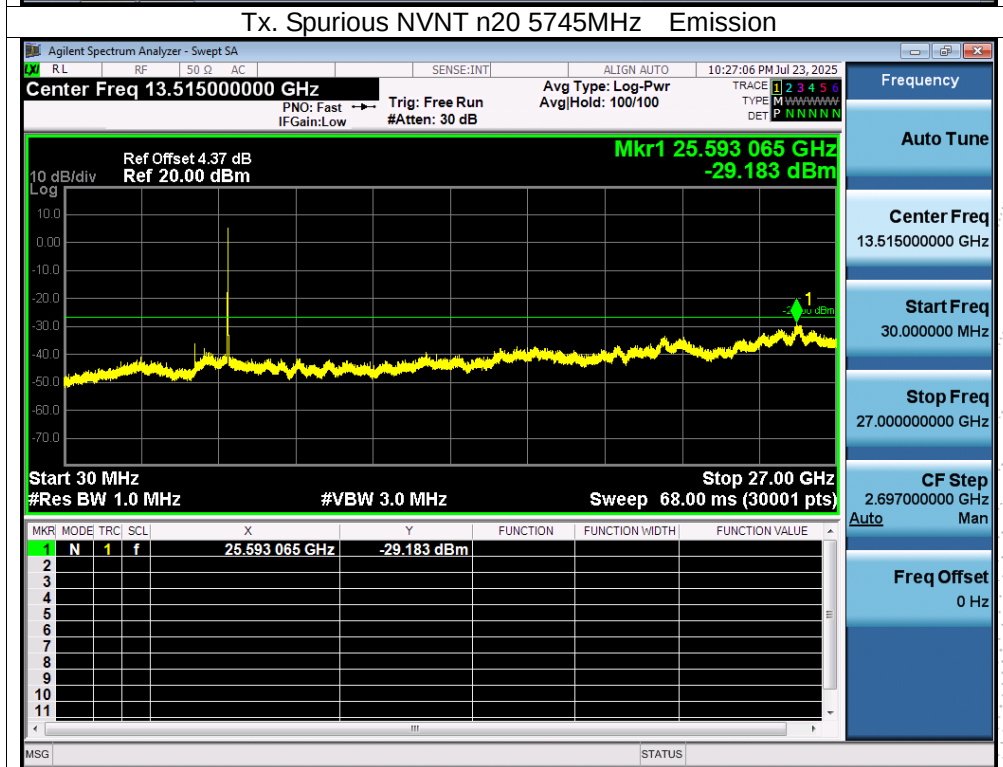
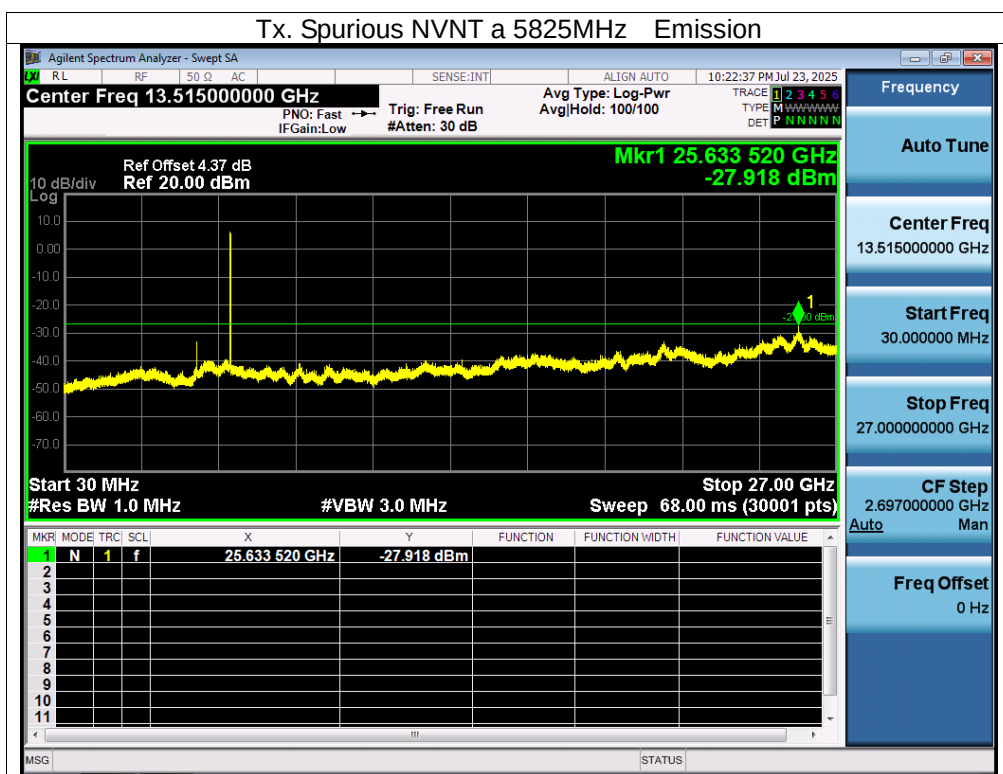
Test Graphs

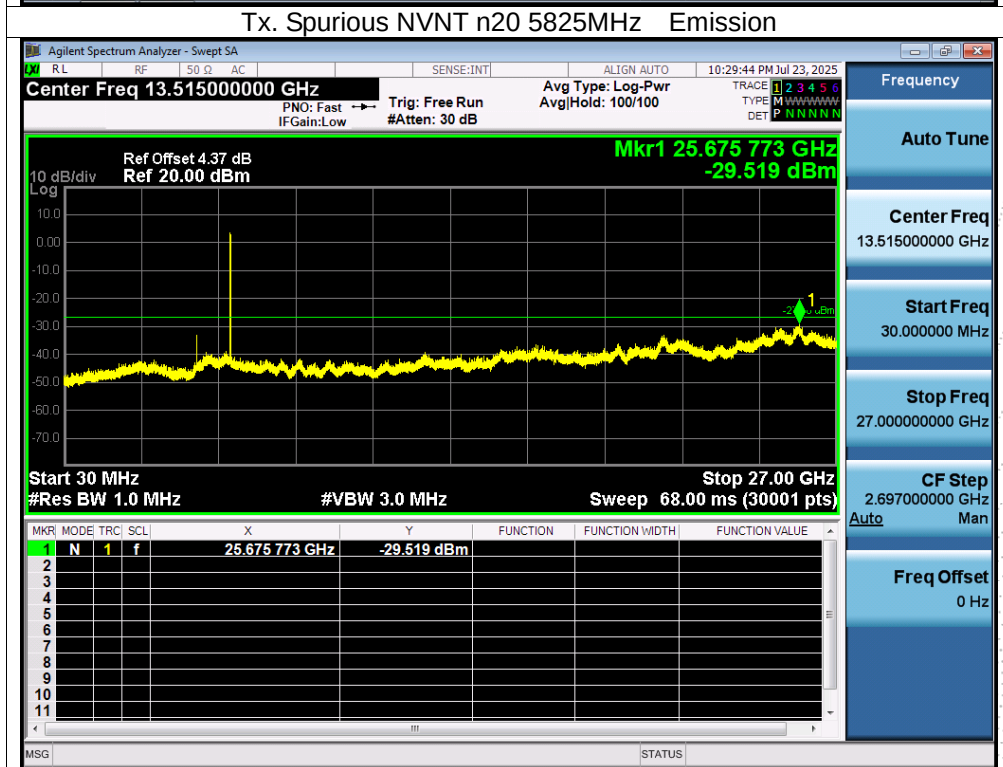
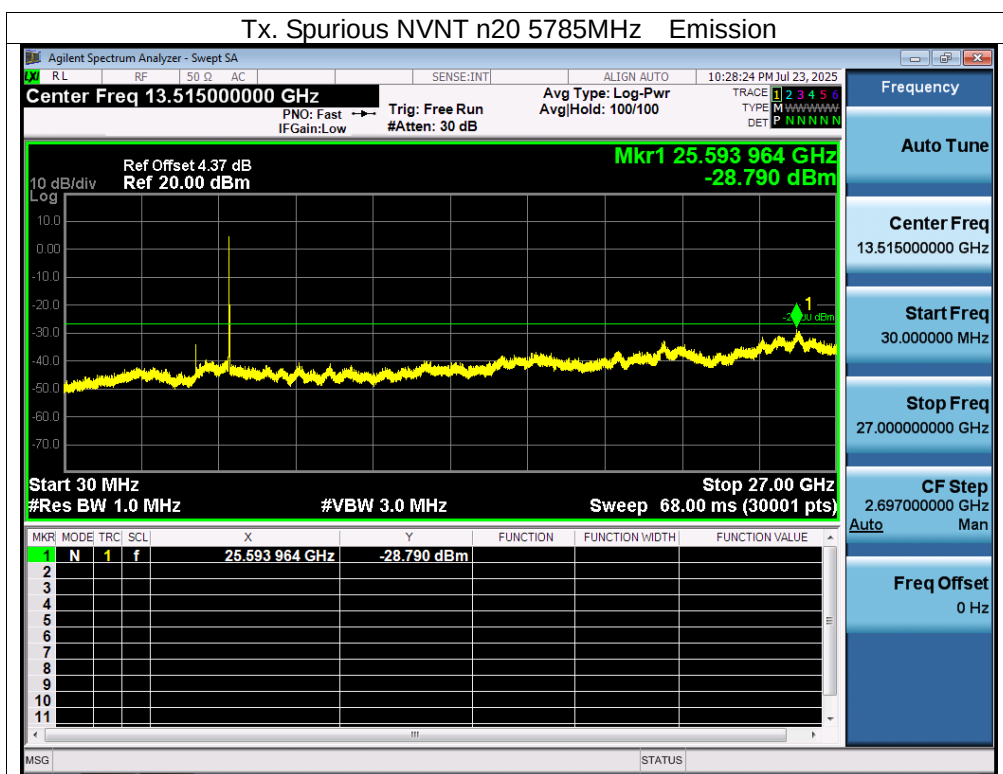
Tx. Spurious NVNT a 5745MHz Emission



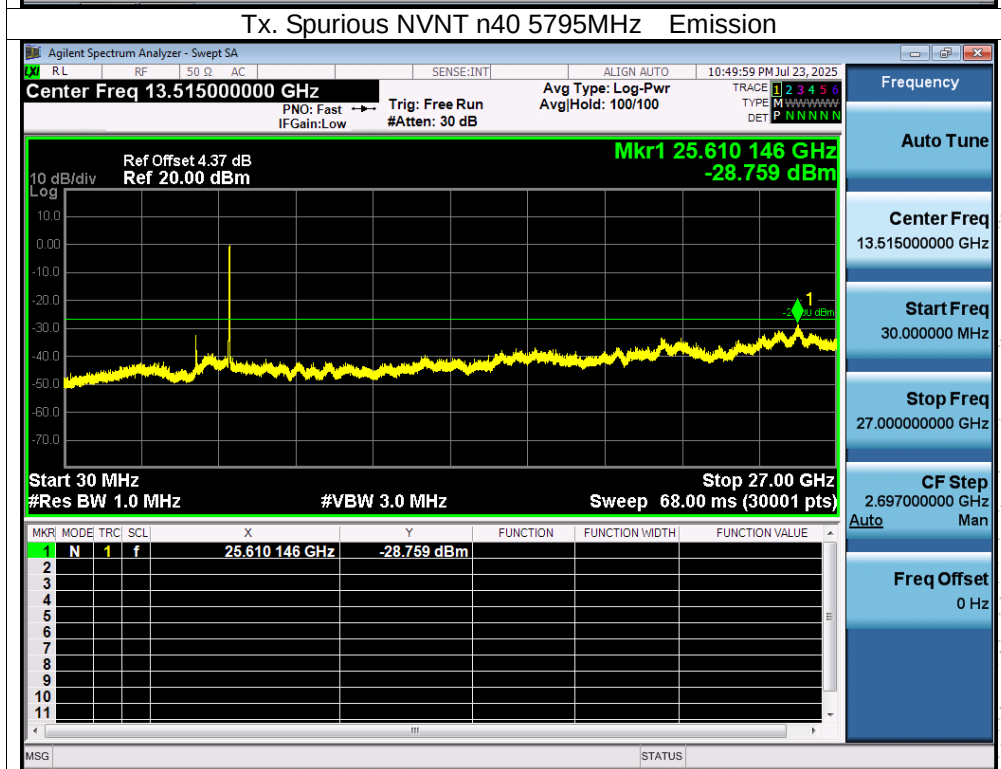
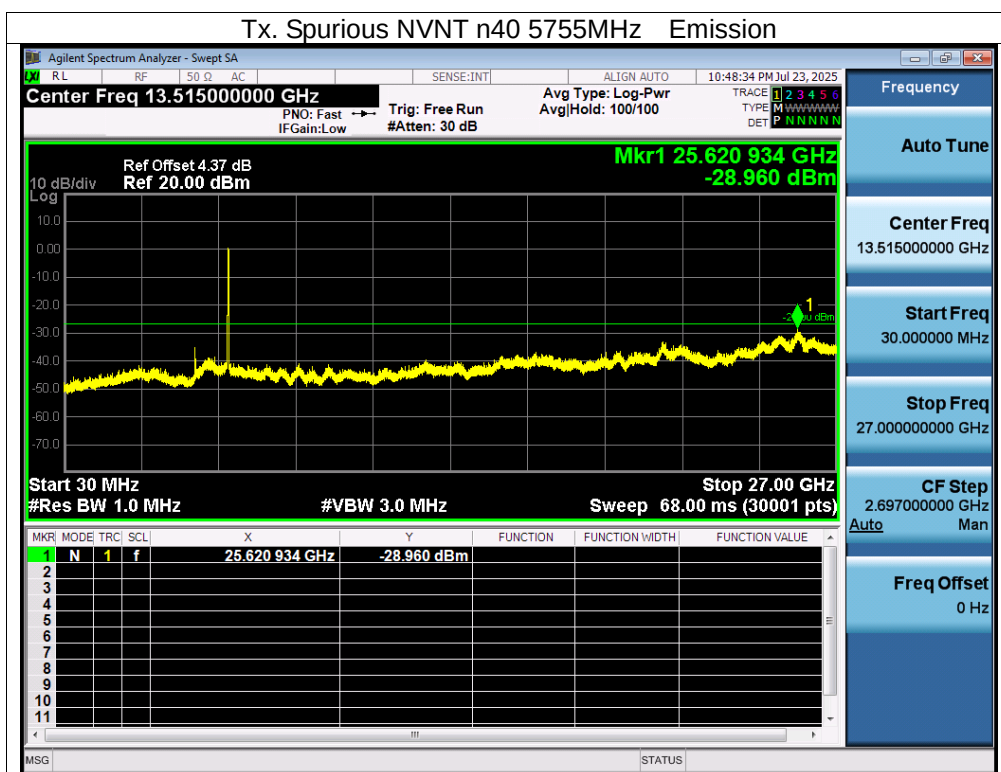
Tx. Spurious NVNT a 5785MHz Emission

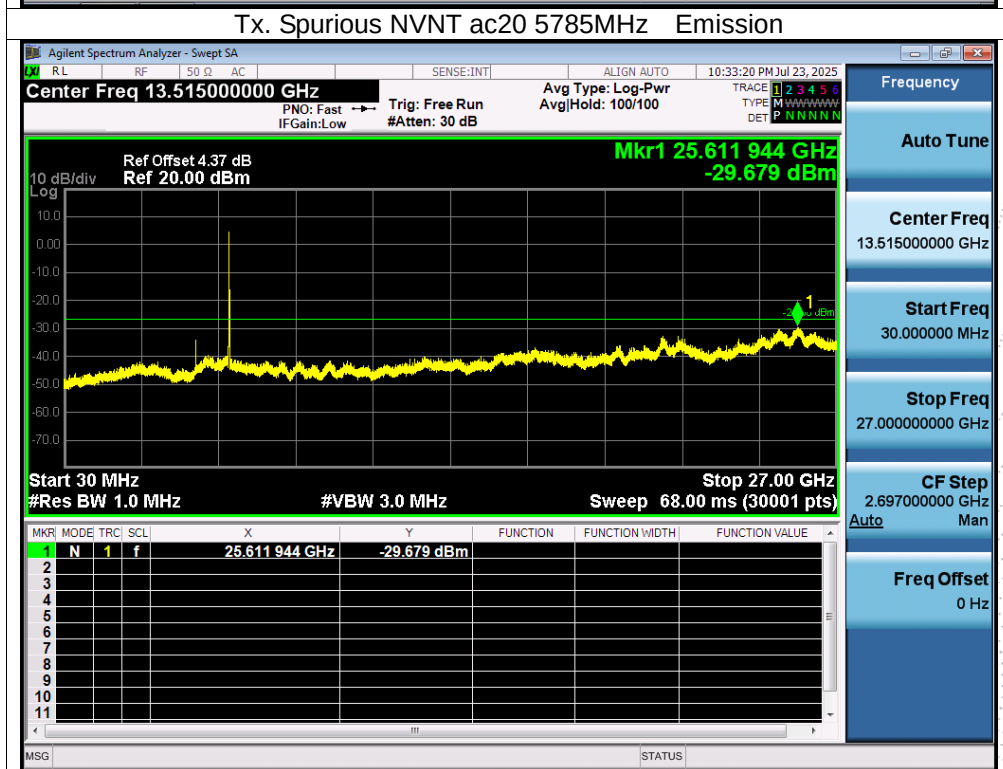
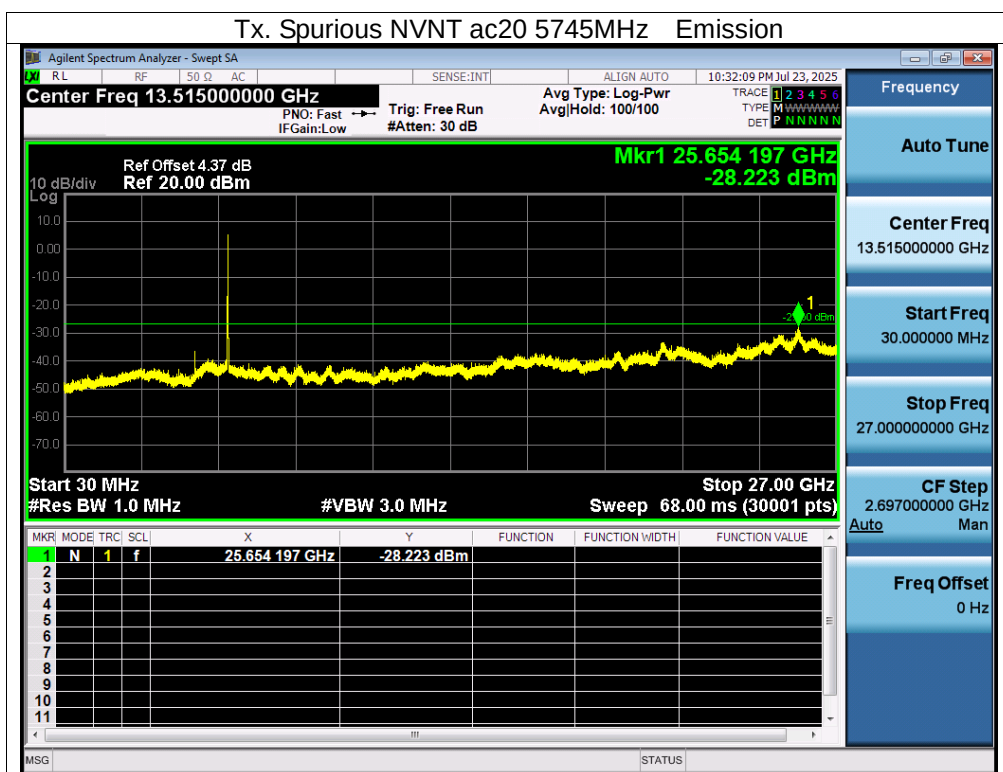


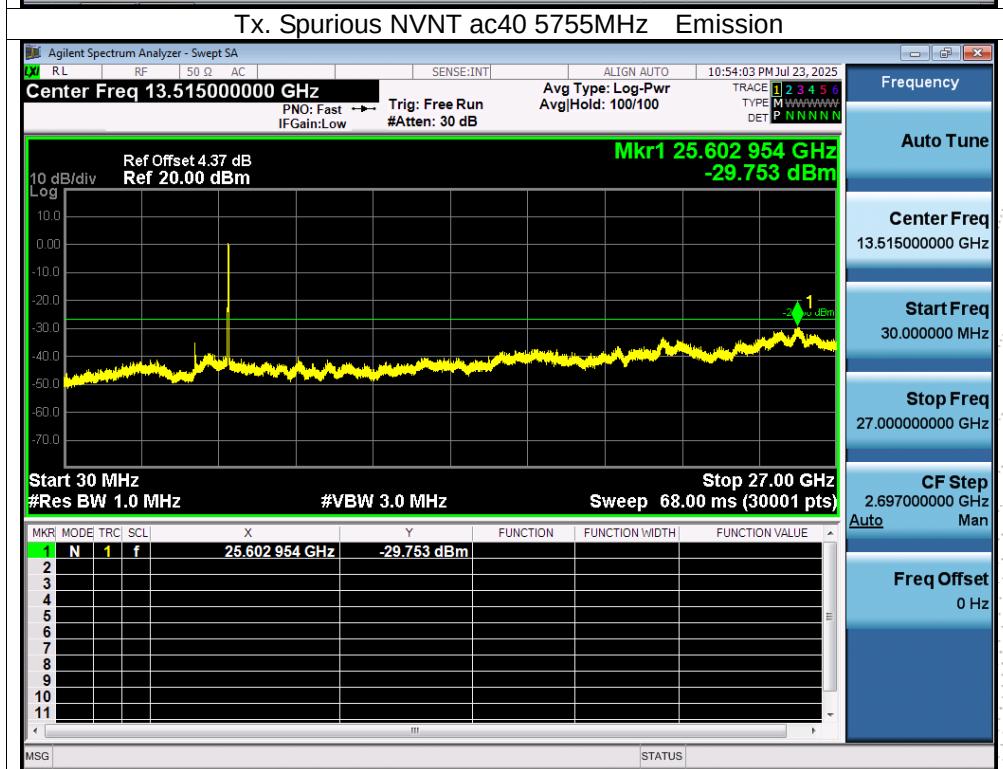
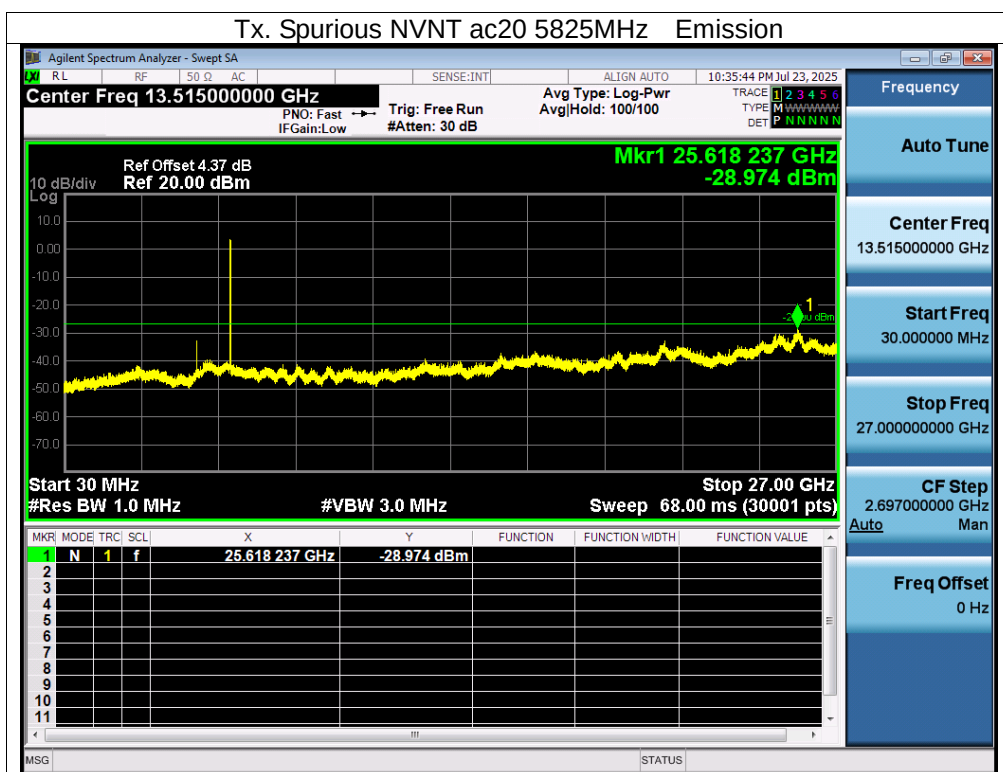


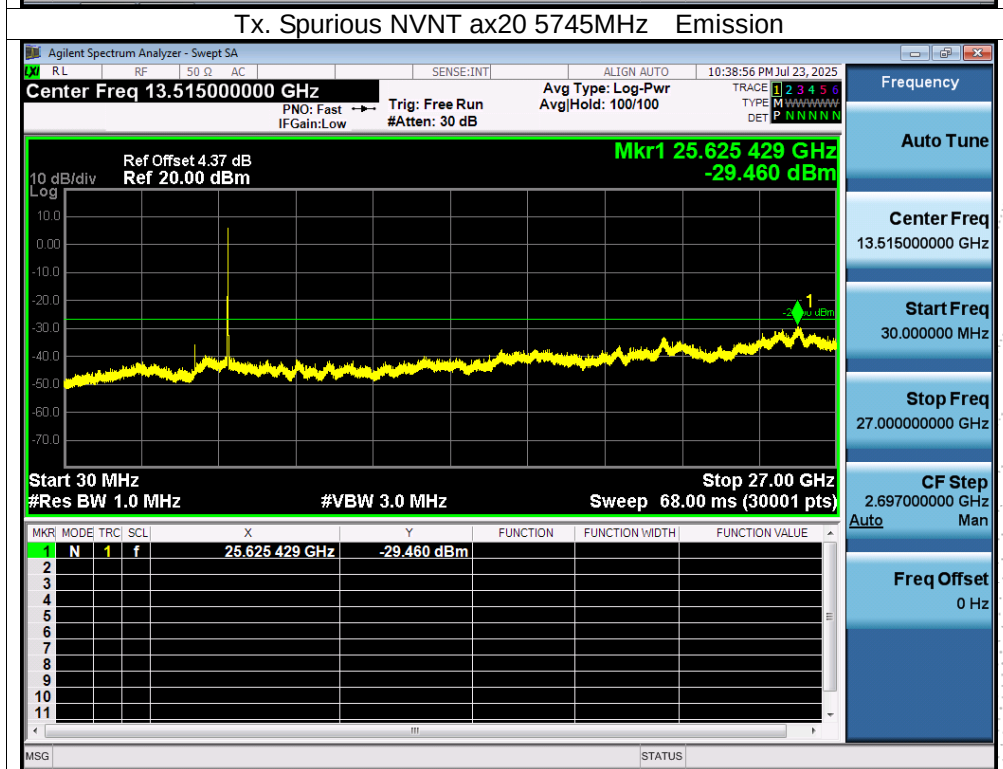
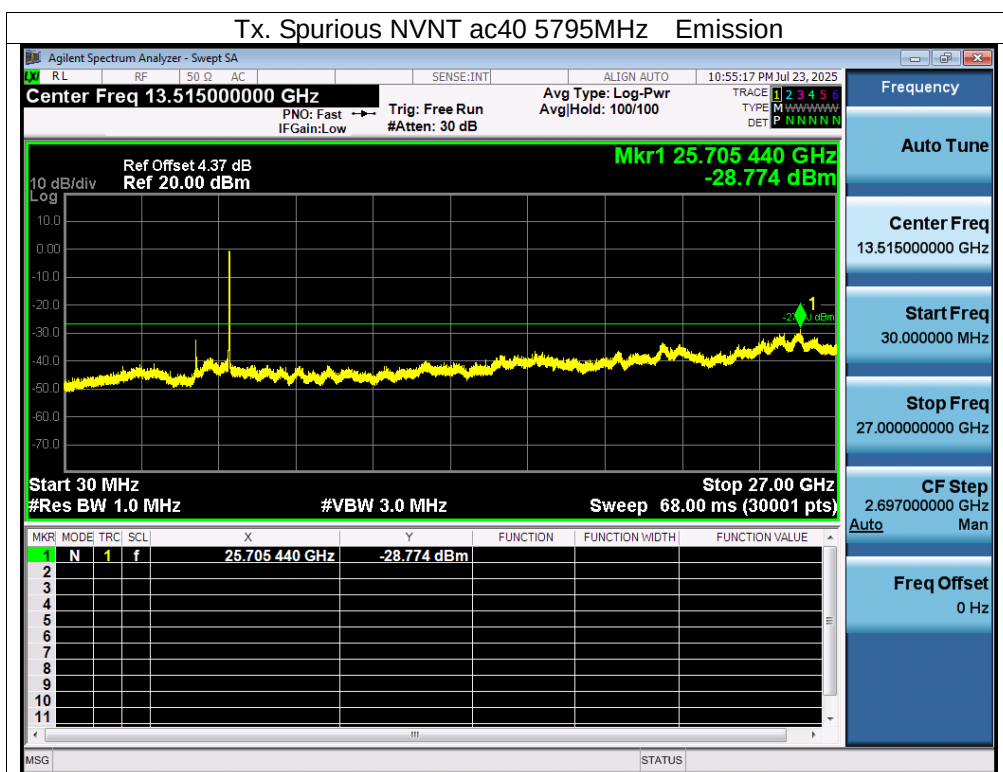


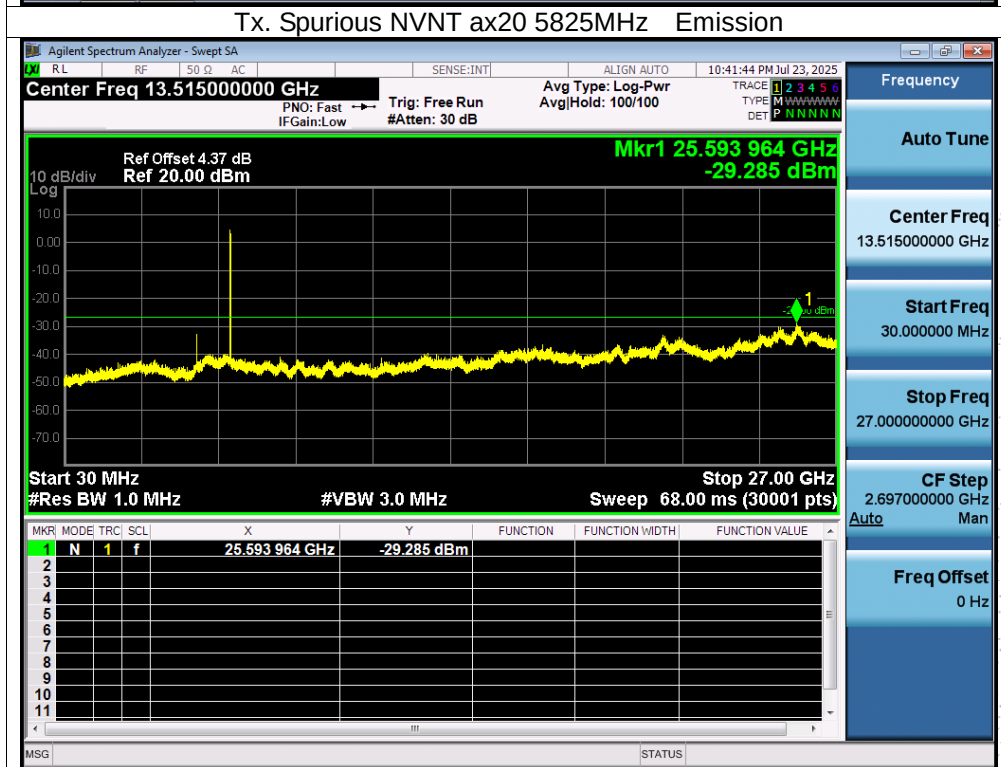
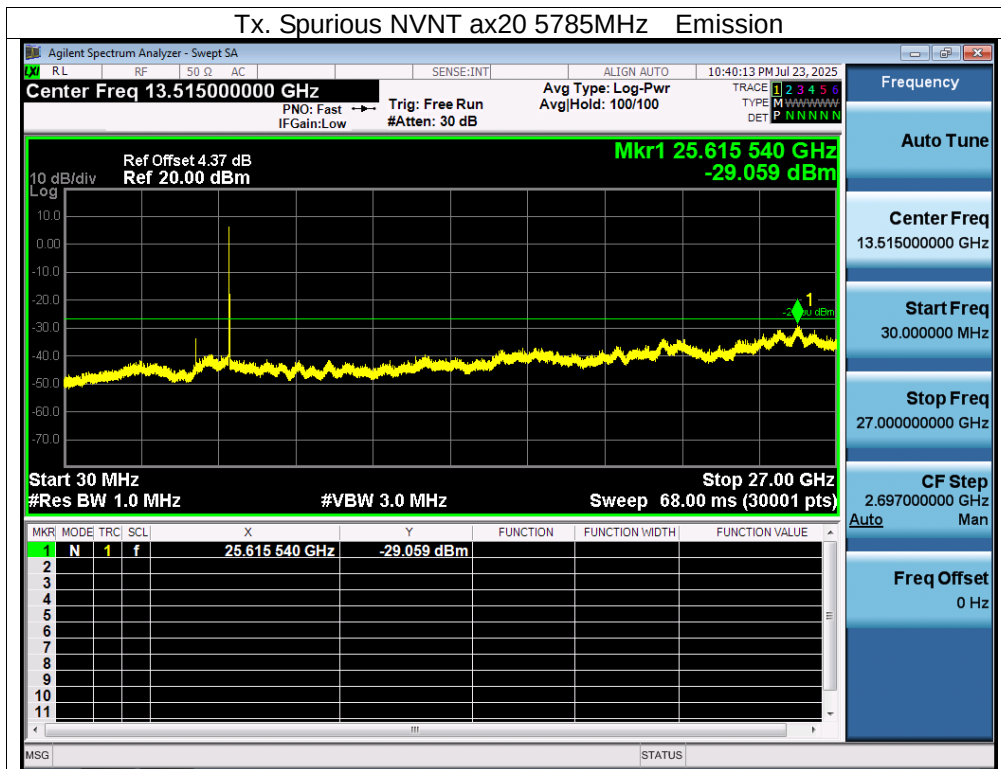
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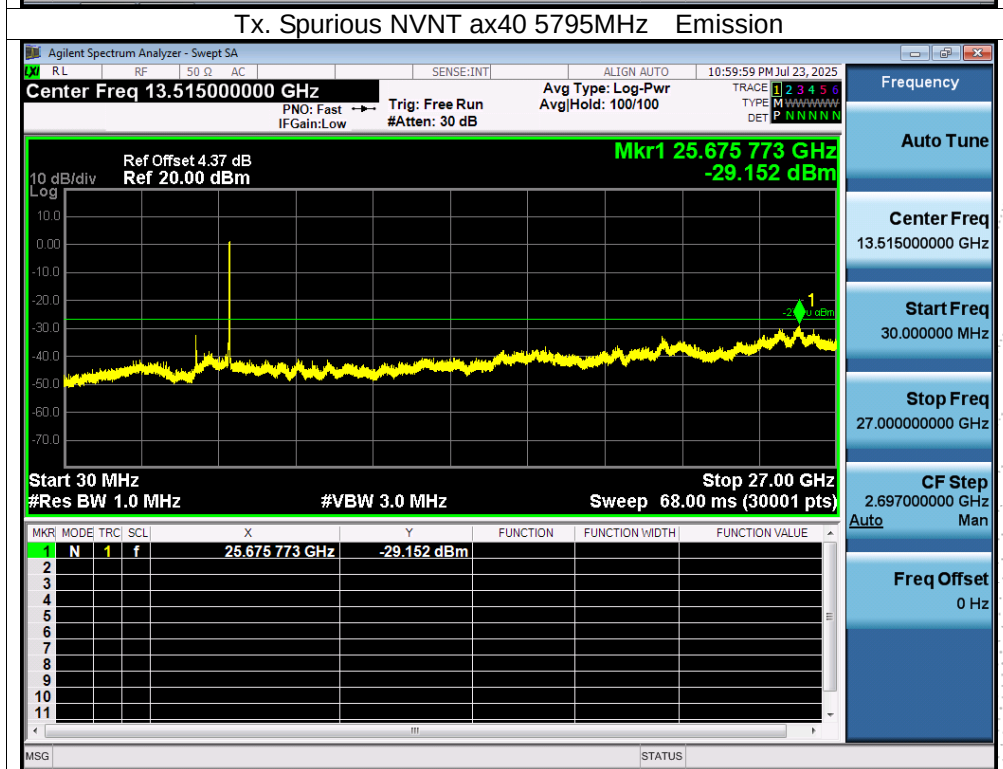
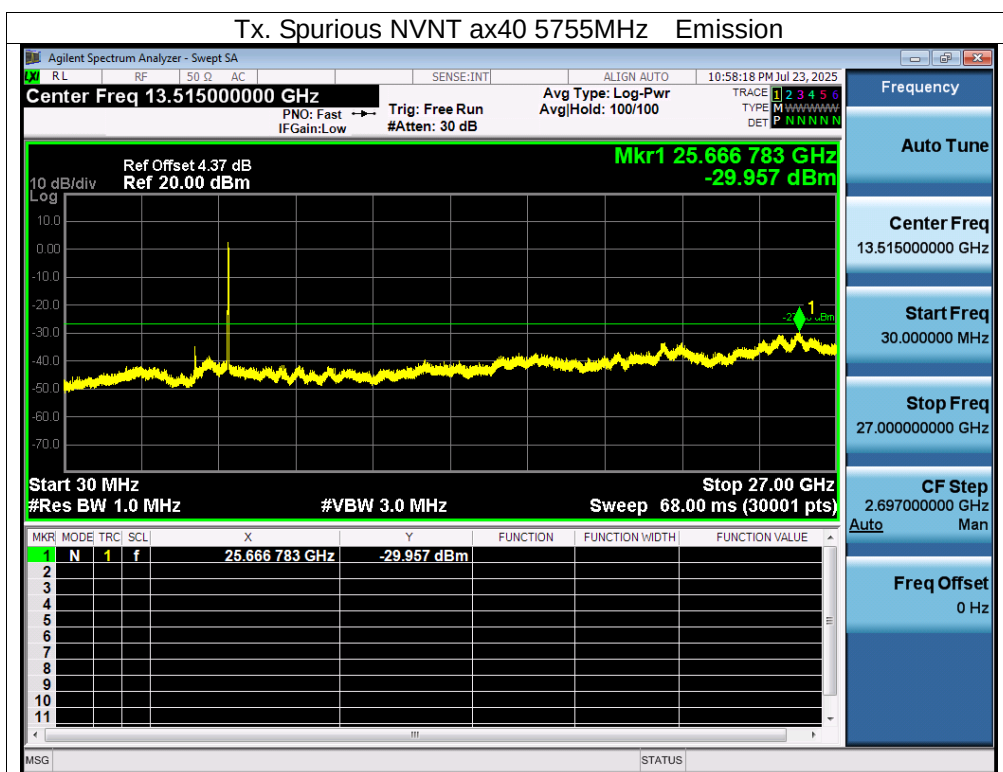








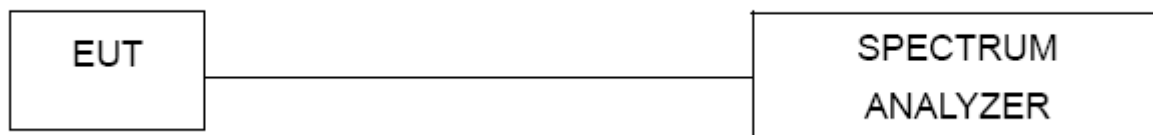




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13. Frequency Stability Measurement

13.1 Block Diagram Of Test Setup



13.2 Limit

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

13.3 Test procedure

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. f_c is declaring of channel frequency. Then the frequency error formula is $(f_c - f)/f_c \times 10^6$ ppm and he limit is less than ± 20 ppm (IEEE 802.11n specification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$.

13.4 Test Result

Temperature:	26 °C	Relative Humidity:	54%RH
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	TX (5.1G) Mode Frequency U-NII-1 (5180-5240MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5180.0132	5180	0.0132	2.5483
		V max (V)	138.00	5180.0053	5180	0.0053	1.0232
		V min (V)	102.00	5180.0006	5180	0.0006	0.1158
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5180.0036	5180	0.0036	0.6950
		T (°C)	-10	5180.0099	5180	0.0099	1.9112
		T (°C)	0	5180.0087	5180	0.0087	1.6795
		T (°C)	10	5180.0125	5180	0.0125	2.4131
		T (°C)	20	5180.0111	5180	0.0111	2.1429
		T (°C)	30	5180.0076	5180	0.0076	1.4672
		T (°C)	40	5180.0052	5180	0.0052	1.0039
		T (°C)	50	5180.0020	5180	0.0020	0.3861
		T (°C)	60	5180.0094	5180	0.0094	1.8147
		T (°C)	70	5180.0007	5180	0.0007	0.1351
Limits				5150-5250 MHz			
Result				Complies			

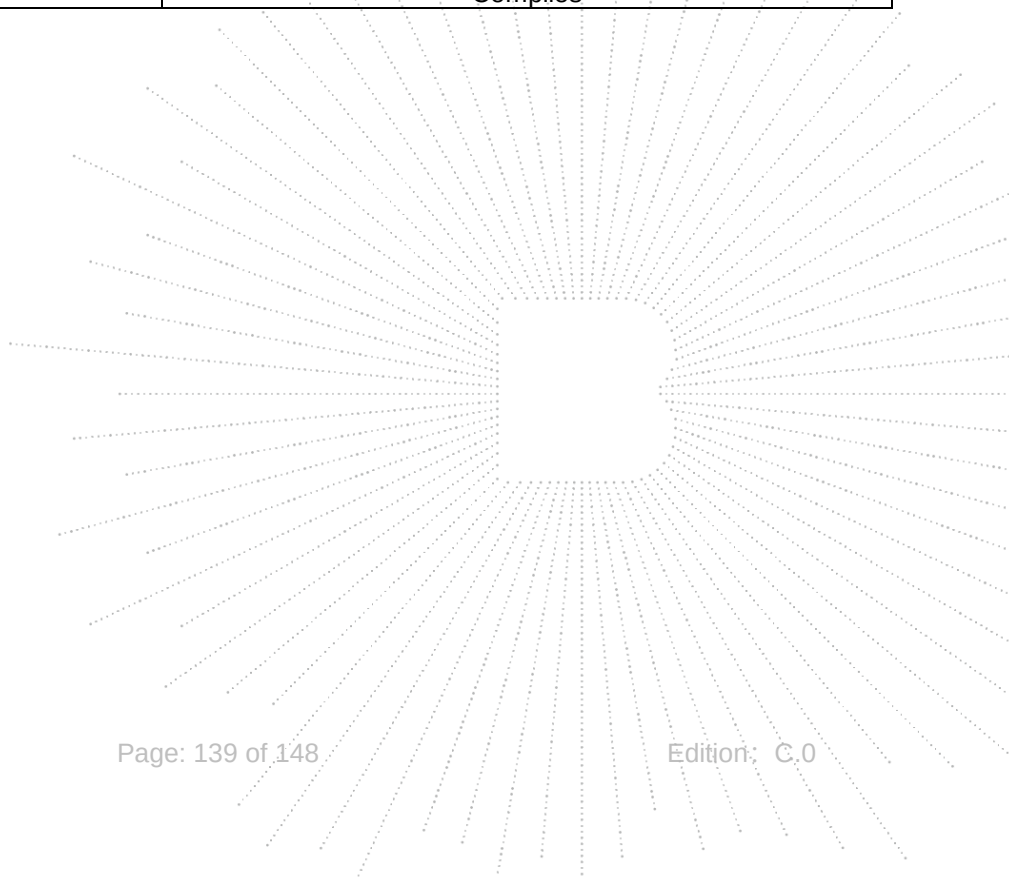
Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5200.0062	5200	0.0062	1.1923
		V max (V)	138.00	5200.0050	5200	0.0050	0.9615
		V min (V)	102.00	5200.0131	5200	0.0131	2.5192
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5200.0079	5200	0.0079	1.5192
		T (°C)	-10	5200.0115	5200	0.0115	2.2115
		T (°C)	0	5200.0019	5200	0.0019	0.3654
		T (°C)	10	5200.0120	5200	0.0120	2.3077
		T (°C)	20	5200.0058	5200	0.0058	1.1154
		T (°C)	30	5200.0072	5200	0.0072	1.3846
		T (°C)	40	5200.0053	5200	0.0053	1.0192
		T (°C)	50	5200.0133	5200	0.0133	2.5577
		T (°C)	60	5200.0088	5200	0.0088	1.6923
		T (°C)	70	5200.0088	5200	0.0088	1.6923
Limits				5150-5250 MHz			
Result				Complies			

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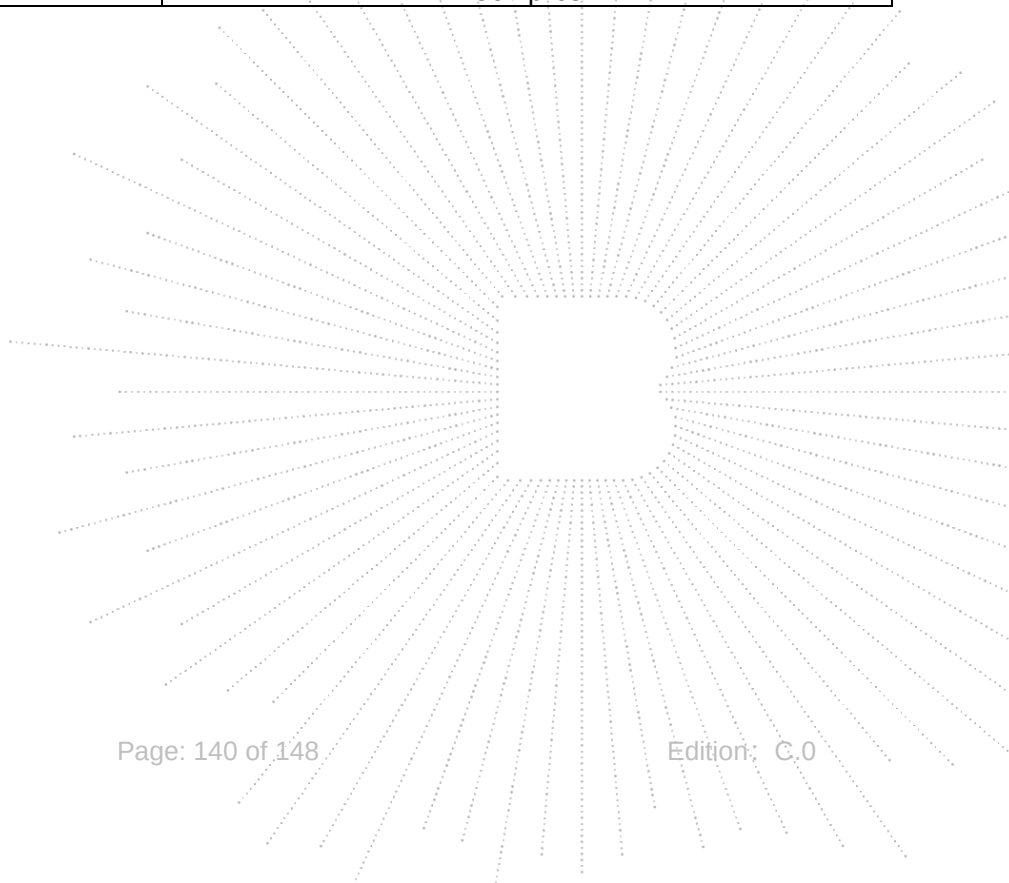
Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5240.0008	5240	0.0008	0.1527
		V max (V)	138.00	5240.0052	5240	0.0052	0.9924
		V min (V)	102.00	5240.0121	5240	0.0121	2.3092
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5240.0028	5240	0.0028	0.5344
		T (°C)	-10	5240.0010	5240	0.0010	0.1908
		T (°C)	0	5240.0026	5240	0.0026	0.4962
		T (°C)	10	5240.0129	5240	0.0129	2.4618
		T (°C)	20	5240.0116	5240	0.0116	2.2137
		T (°C)	30	5240.0028	5240	0.0028	0.5344
		T (°C)	40	5240.0054	5240	0.0054	1.0305
		T (°C)	50	5240.0062	5240	0.0062	1.1832
		T (°C)	60	5240.0046	5240	0.0046	0.8779
		T (°C)	70	5240.0104	5240	0.0104	1.9847
Limits				5150-5250 MHz			
Result				Complies			

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Temperature:	26 °C	Relative Humidity:	54%RH
Pressure:	101KPa	Test Voltage:	AC120V/60Hz
Test Mode:	TX (5.8G) Mode Frequency U-NII-3 (5745-5825MHz)		

Voltage vs. Frequency Stabilit

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5745.0123	5745	0.0123	2.1410
		V max (V)	138.00	5745.0063	5745	0.0063	1.0966
		V min (V)	102.00	5745.0074	5745	0.0074	1.2881
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5745.0062	5745	0.0062	1.0792
		T (°C)	-10	5745.0053	5745	0.0053	0.9225
		T (°C)	0	5745.0001	5745	0.0001	0.0174
		T (°C)	10	5745.0081	5745	0.0081	1.4099
		T (°C)	20	5745.0100	5745	0.0100	1.7406
		T (°C)	30	5745.0108	5745	0.0108	1.8799
		T (°C)	40	5745.0107	5745	0.0107	1.8625
		T (°C)	50	5745.0029	5745	0.0029	0.5048
		T (°C)	60	5745.0087	5745	0.0087	1.5144
		T (°C)	70	5745.0094	5745	0.0094	1.6362
Limits				5725-5850 MHz			
Result				Complies			

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Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5785.0096	5785	0.0096	1.6595
		V max (V)	138.00	5785.0096	5785	0.0096	1.6595
		V min (V)	102.00	5785.0085	5785	0.0085	1.4693
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5785.0057	5785	0.0057	0.9853
		T (°C)	-10	5785.0033	5785	0.0033	0.5704
		T (°C)	0	5785.0031	5785	0.0031	0.5359
		T (°C)	10	5785.0056	5785	0.0056	0.9680
		T (°C)	20	5785.0095	5785	0.0095	1.6422
		T (°C)	30	5785.0104	5785	0.0104	1.7978
		T (°C)	40	5785.0009	5785	0.0009	0.1556
		T (°C)	50	5785.0007	5785	0.0007	0.1210
		T (°C)	60	5785.0032	5785	0.0032	0.5532
		T (°C)	70	5785.0044	5785	0.0044	0.7606
Limits				5725-5850 MHz			
Result				Complies			

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Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	120.00	5825.0070	5825	0.0070	1.2017
		V max (V)	138.00	5825.0047	5825	0.0047	0.8069
		V min (V)	102.00	5825.0034	5825	0.0034	0.5837
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	120	T (°C)	-20	5825.0053	5825	0.0053	0.9099
		T (°C)	-10	5825.0030	5825	0.0030	0.5150
		T (°C)	0	5825.0003	5825	0.0003	0.0515
		T (°C)	10	5825.0006	5825	0.0006	0.1030
		T (°C)	20	5825.0068	5825	0.0068	1.1674
		T (°C)	30	5825.0103	5825	0.0103	1.7682
		T (°C)	40	5825.0086	5825	0.0086	1.4764
		T (°C)	50	5825.0097	5825	0.0097	1.6652
		T (°C)	60	5825.0070	5825	0.0070	1.2017
		T (°C)	70	5825.0020	5825	0.0020	0.3433
Limits				5725-5850 MHz			
Result				Complies			

SHENZHEN

14. Antenna Requirement

14.1 Limit

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

14.2 Test Antenna

The EUT antenna is External antenna, antenna connector type is RP-SMA, and it is inside the EUT, fulfill the requirement of this section.



15. EUT Photographs

EUT Photo

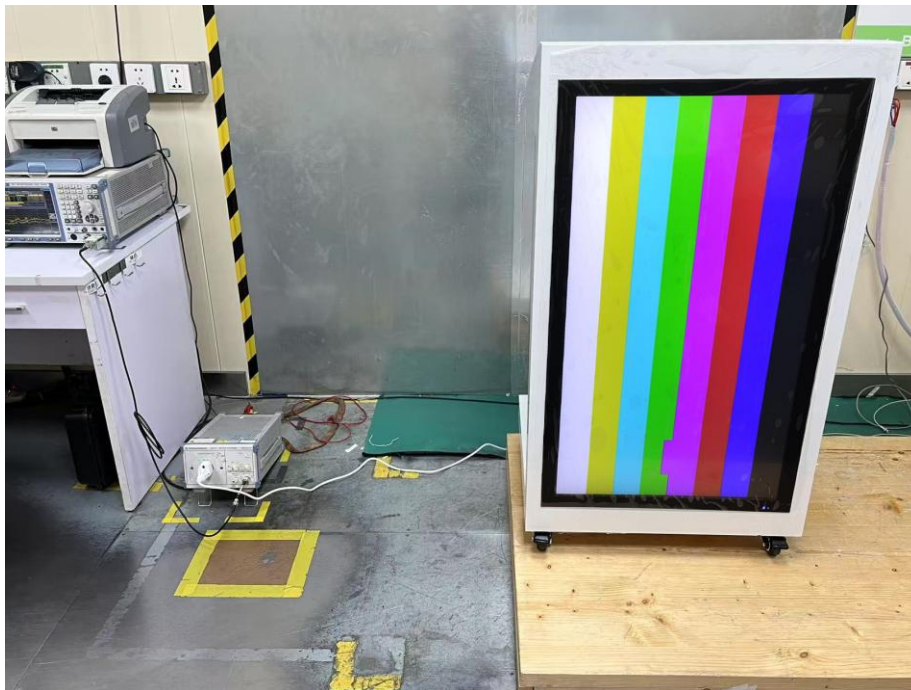


NOTE: Appendix-Photographs Of EUT Constructional Details
(DE043NLW_External & Internal Photos)

BCTC
3C
PPR
Report

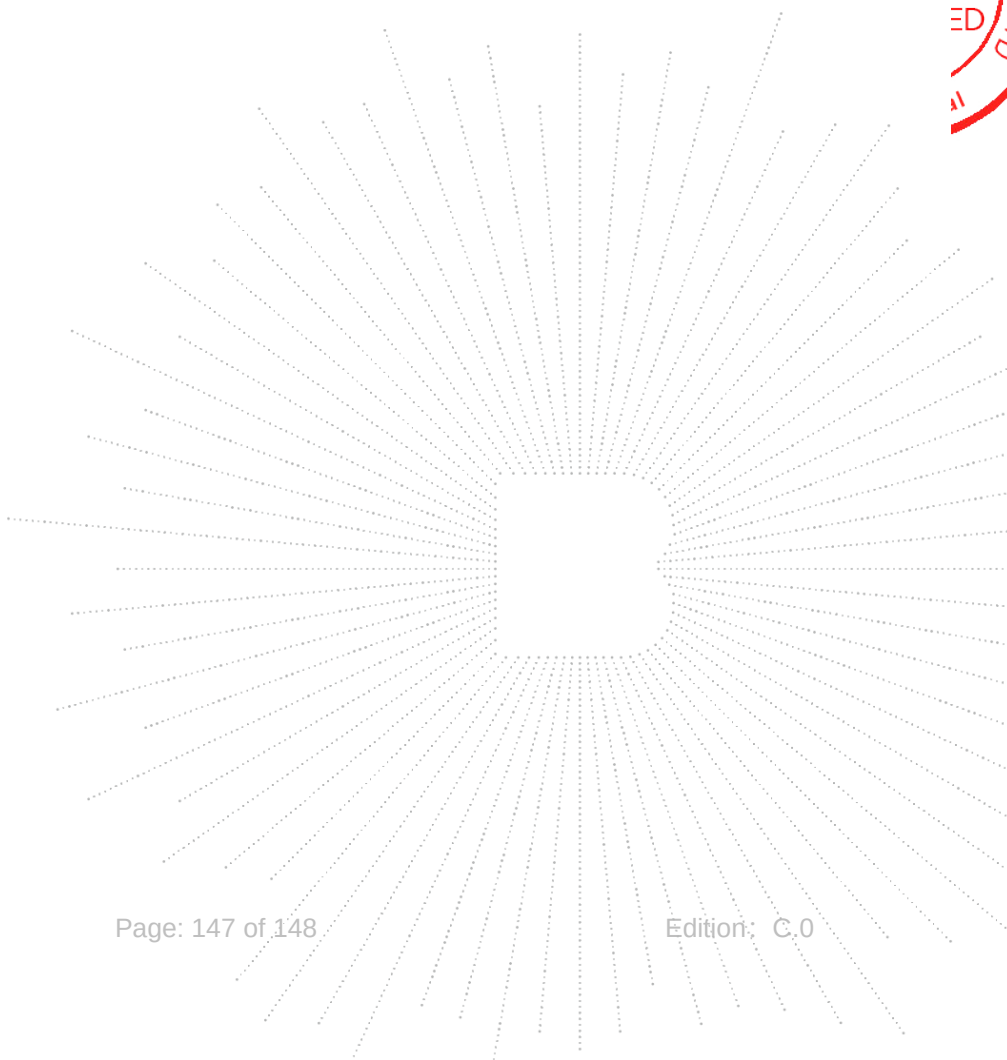
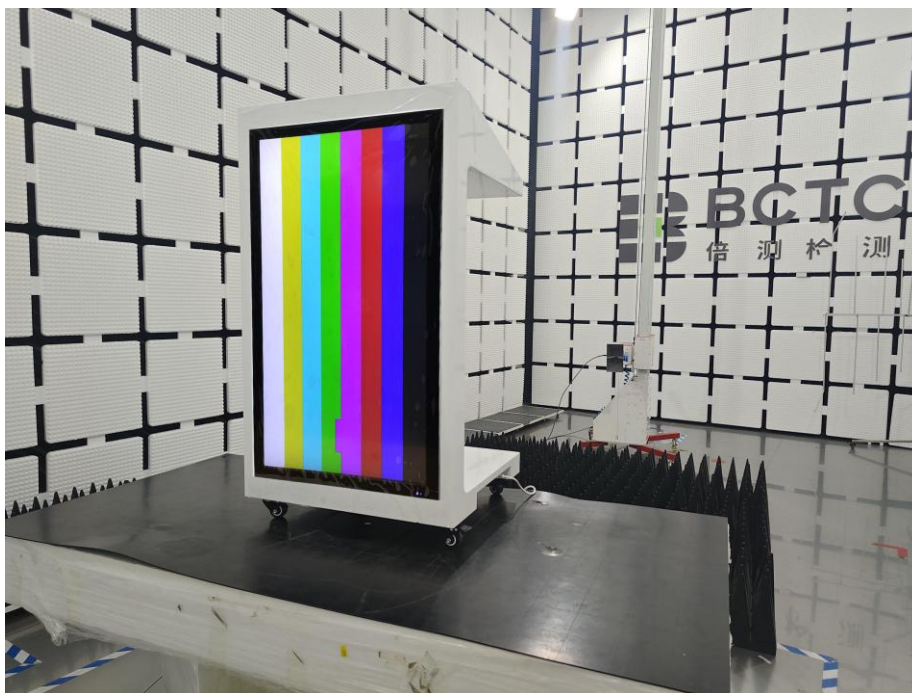
16. EUT Test Setup Photographs

Conducted emissions



Radiated 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

Complaint/Advice E-mail: advice@bctc-lab.com.cn

***** END *****