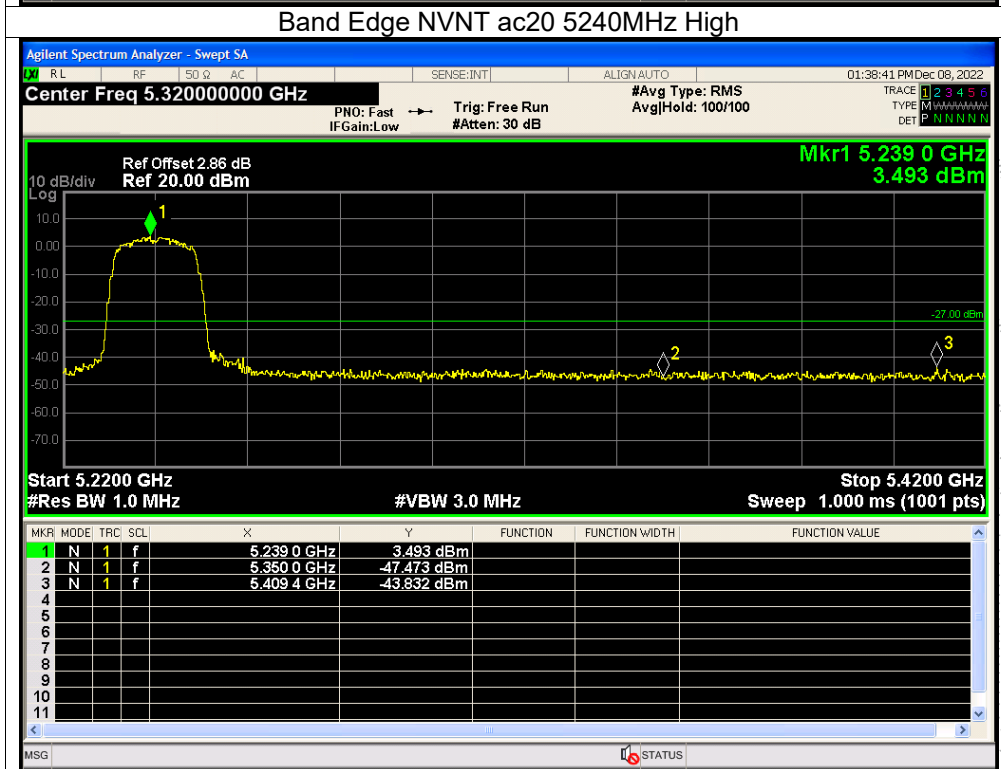
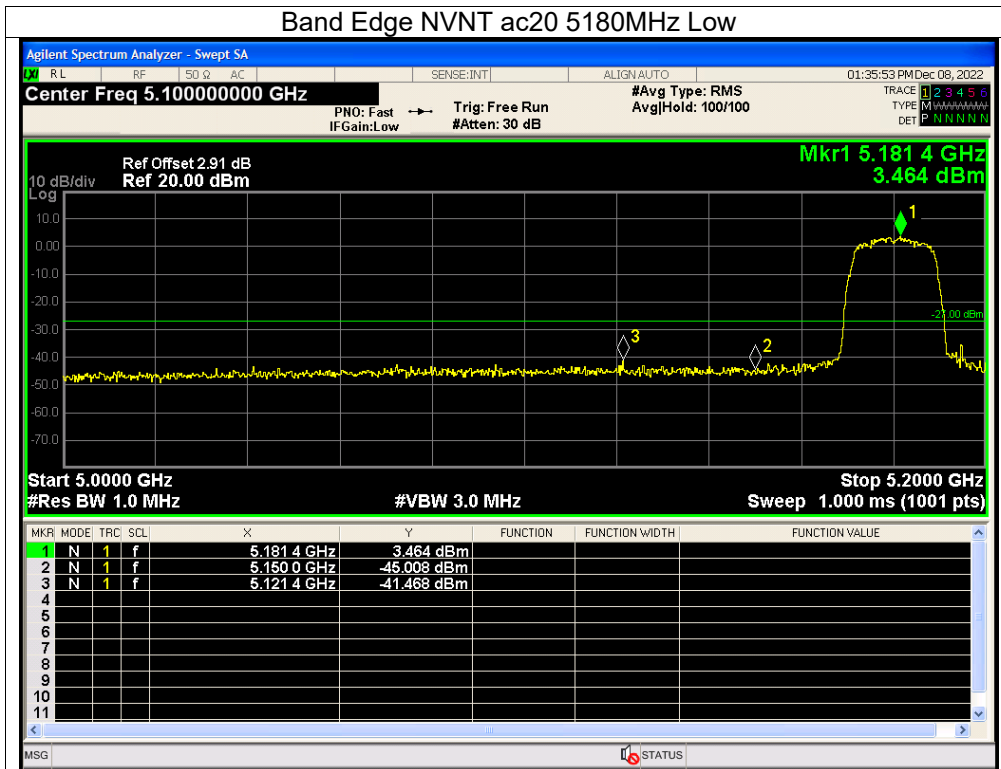
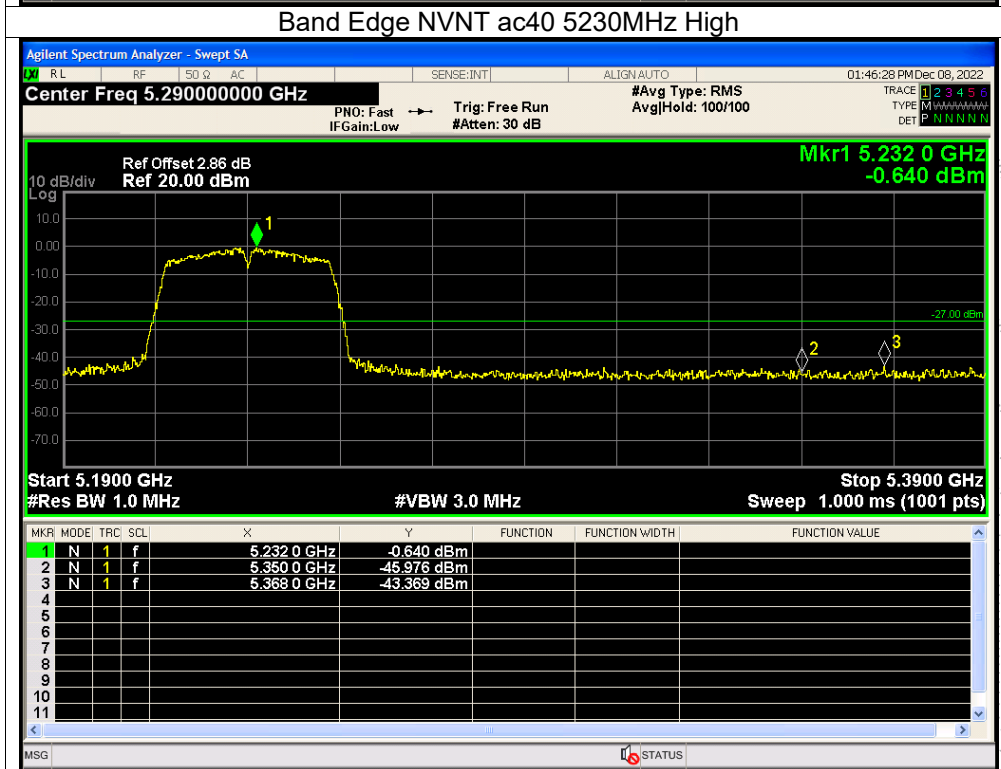
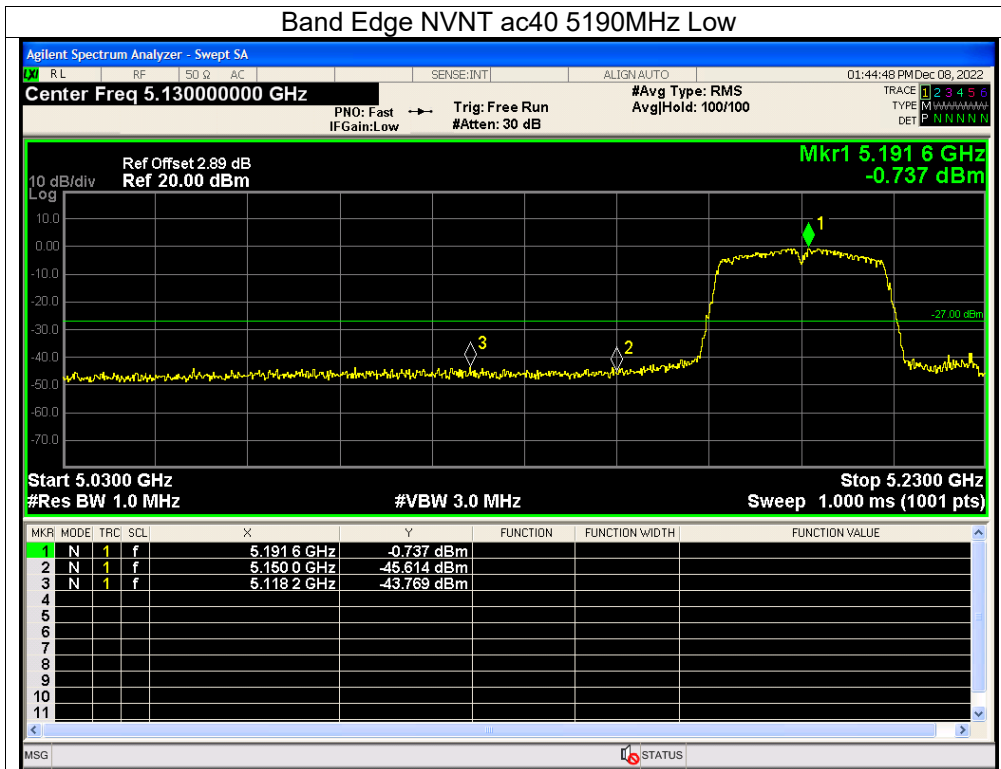
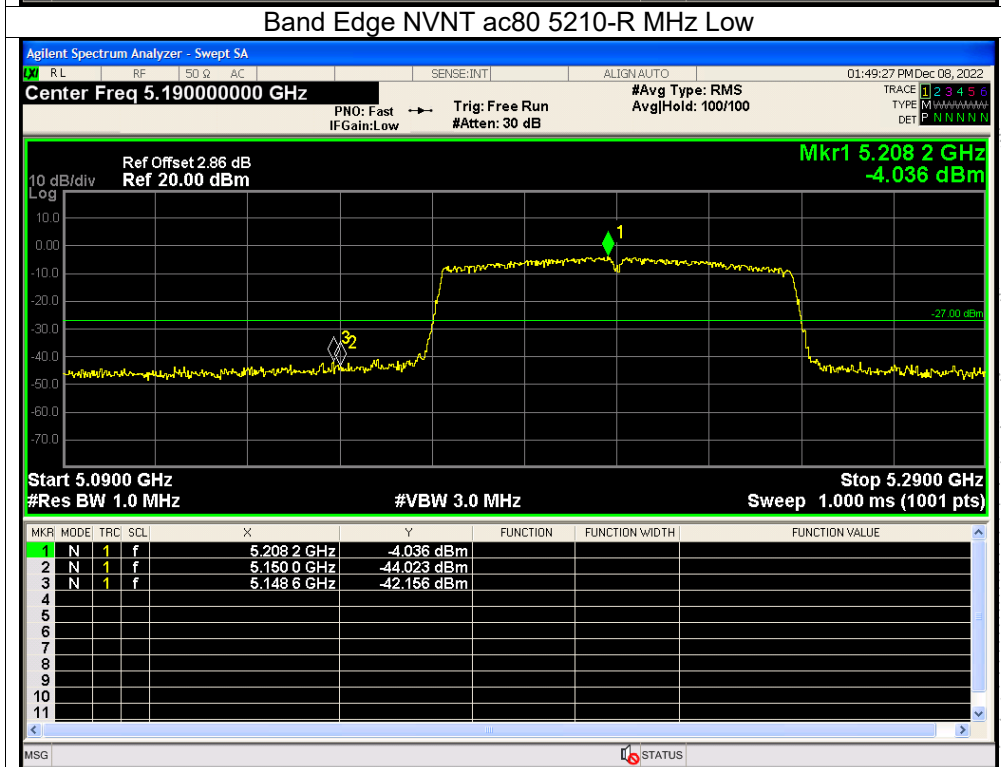
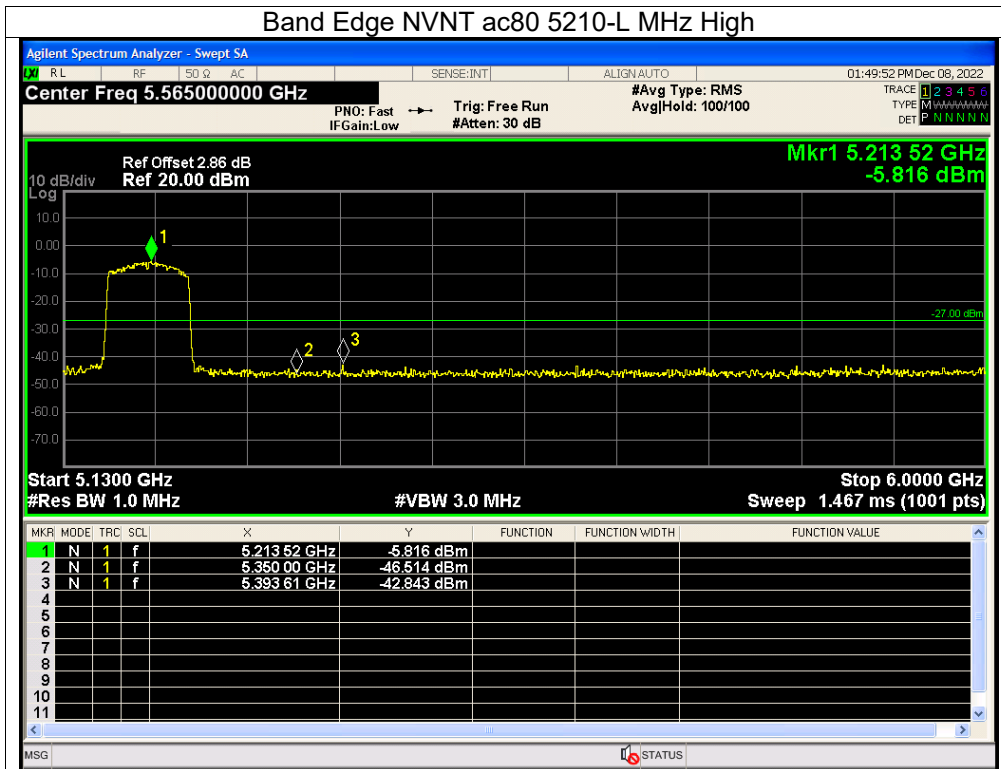


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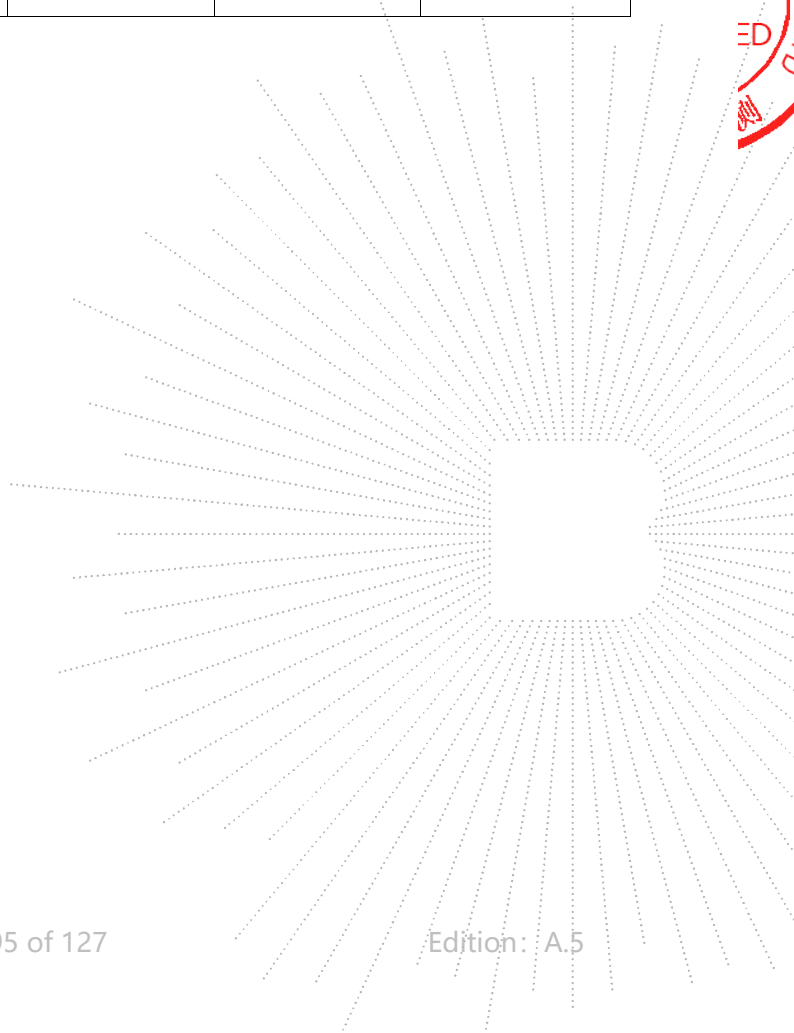
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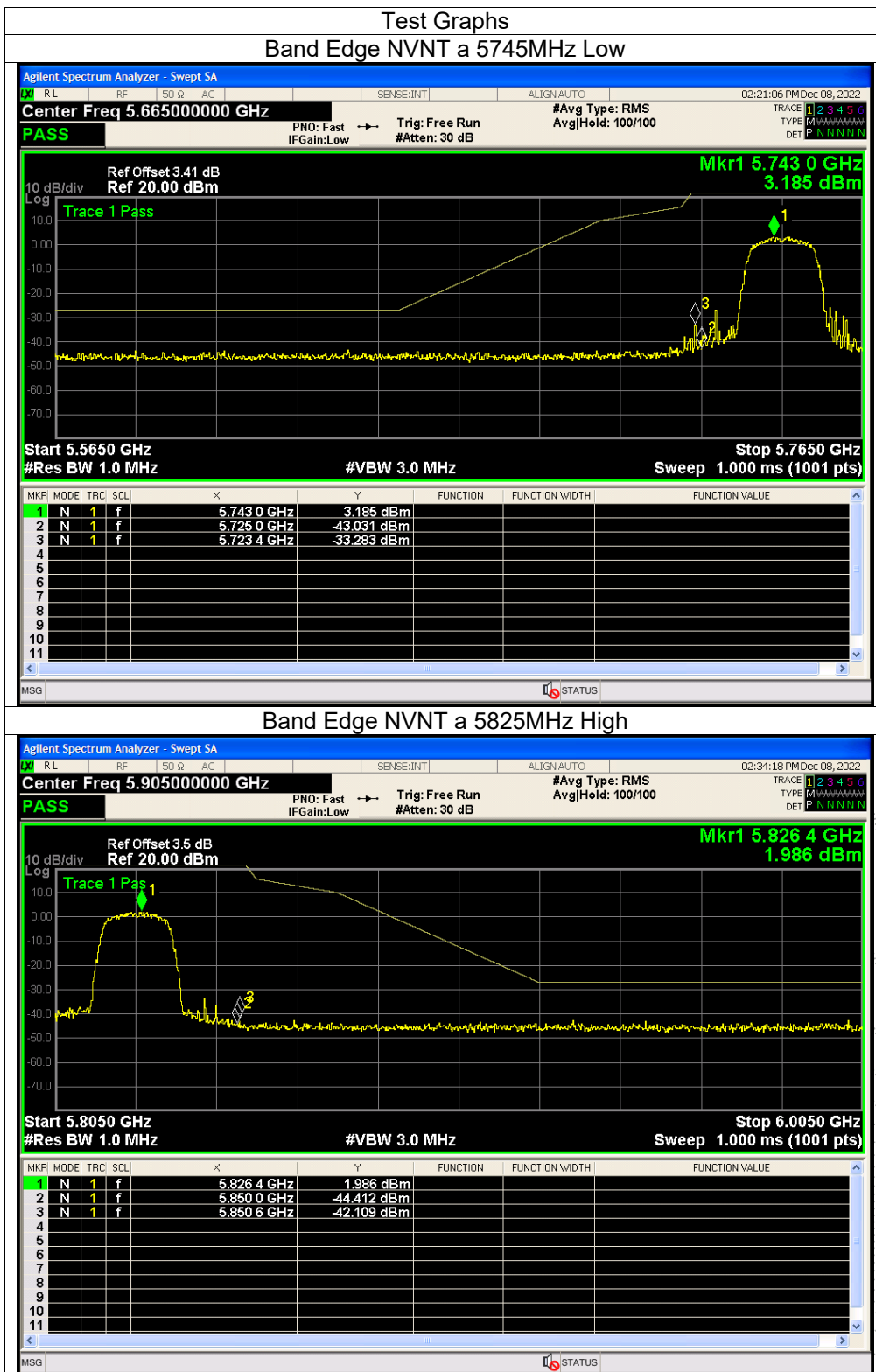


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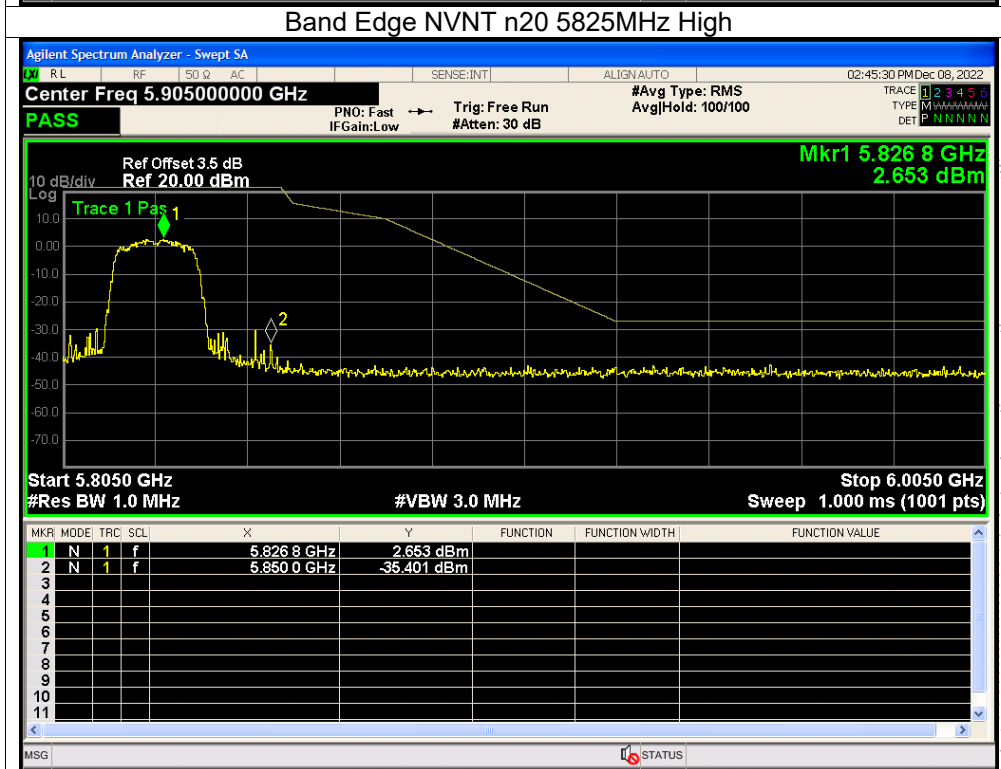
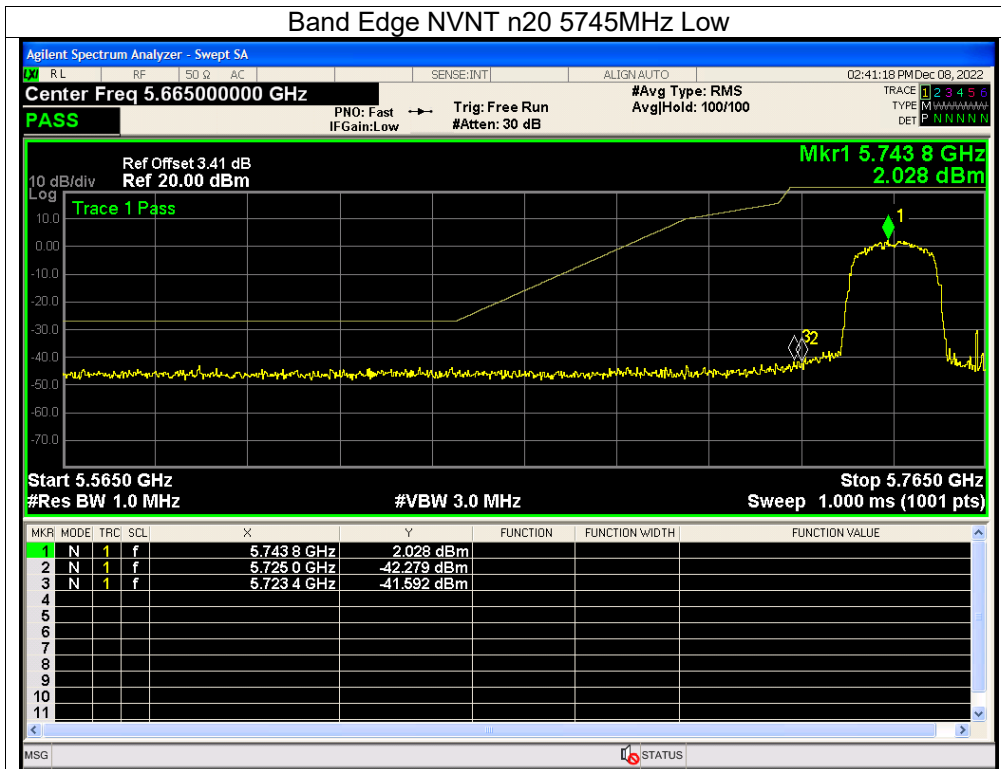
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.8V
Test Mode :	TX (5.8G) Mode Frequency U-NII-3 (5745-5825MHz)		

Condition	Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	a	5745	-33.28	-27	Pass
NVNT	a	5825	-42.1	-27	Pass
NVNT	n20	5745	-41.59	-27	Pass
NVNT	n20	5825	-35.4	-27	Pass
NVNT	n40	5755	-36.97	-27	Pass
NVNT	n40	5795	-38.36	-27	Pass
NVNT	ac20	5745	-41.9	-27	Pass
NVNT	ac20	5825	-37.25	-27	Pass
NVNT	ac40	5755	-41.64	-27	Pass
NVNT	ac40	5795	-32.3	-27	Pass
NVNT	ac80	5775	-33.28	-27	Pass
NVNT	ac80	5775	-42.1	-27	Pass

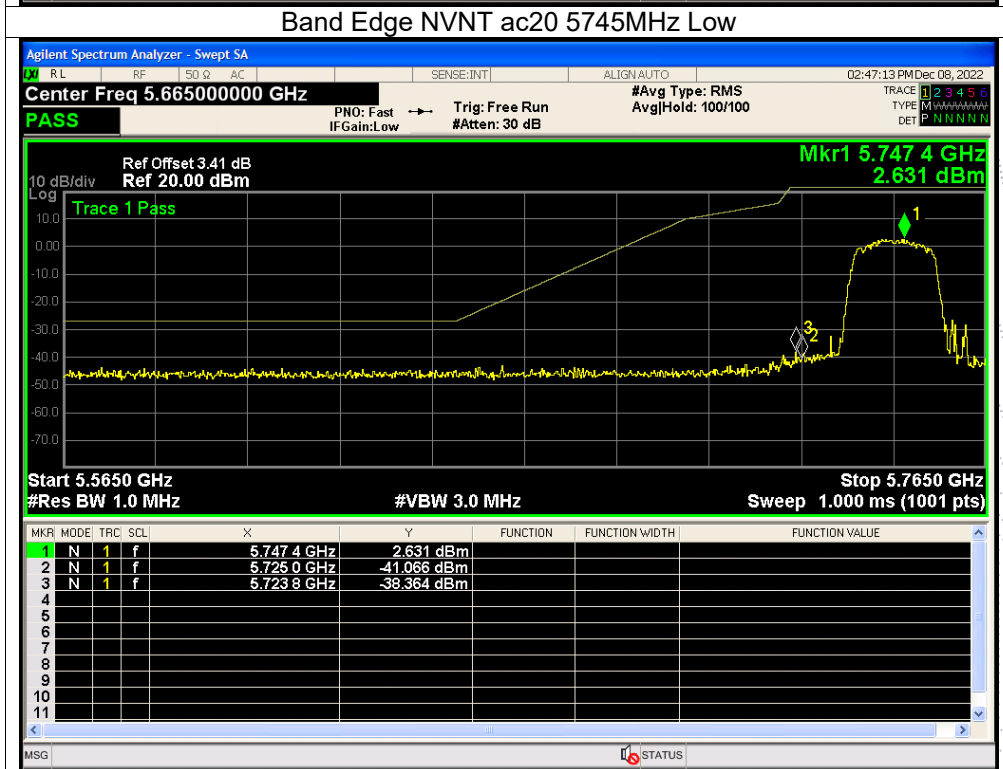
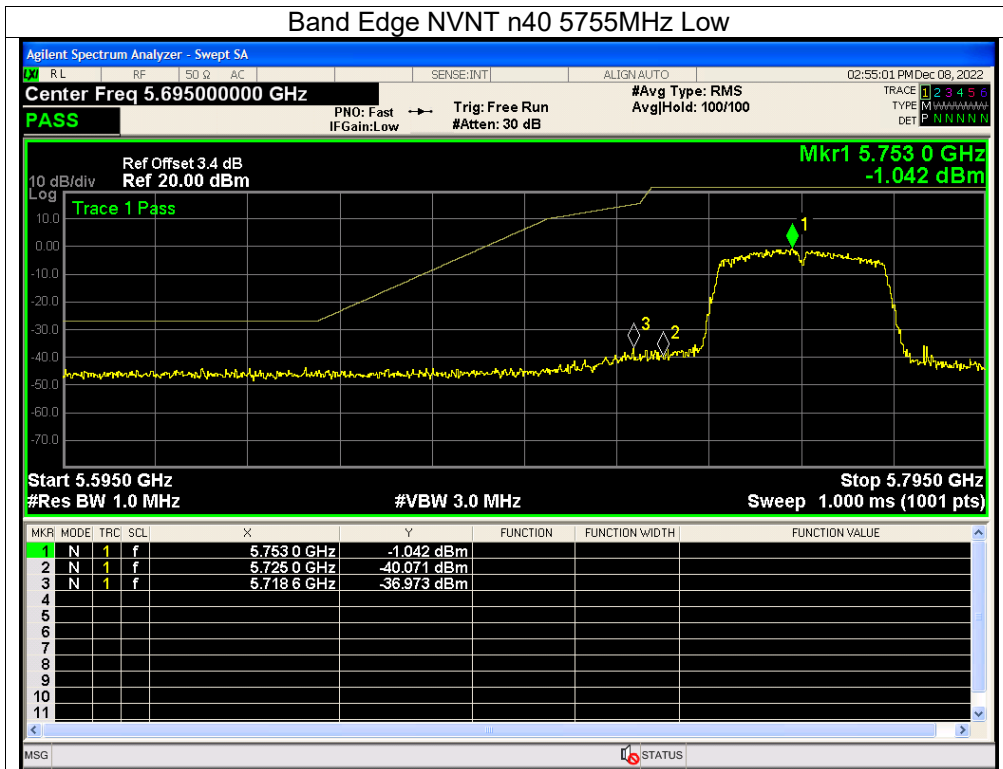


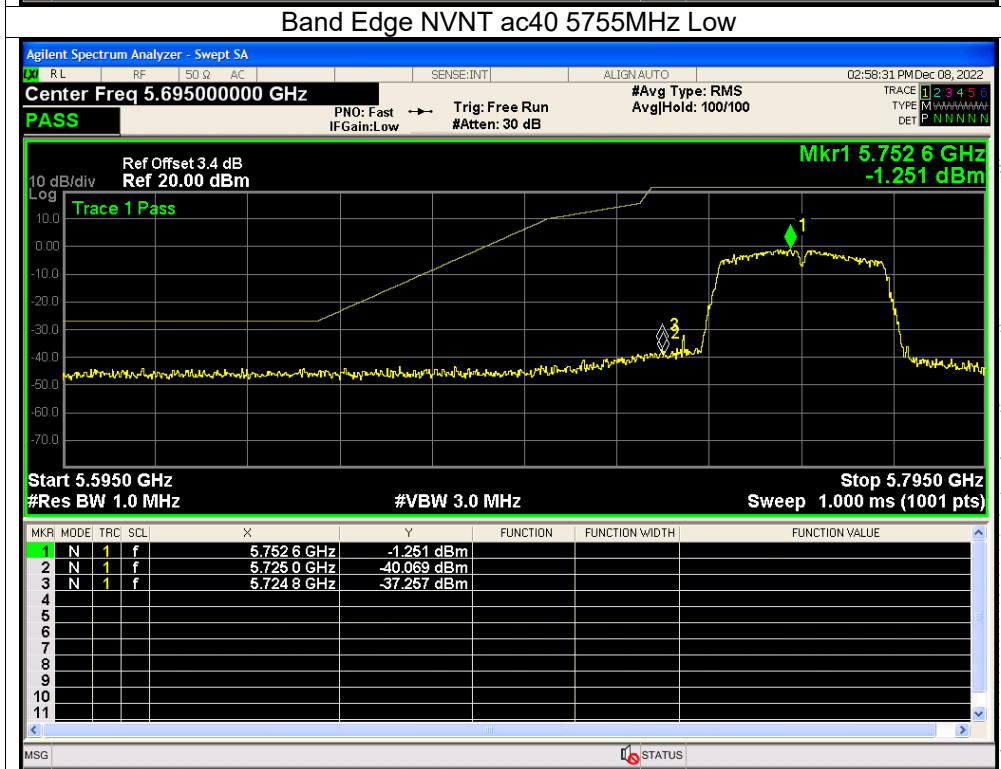
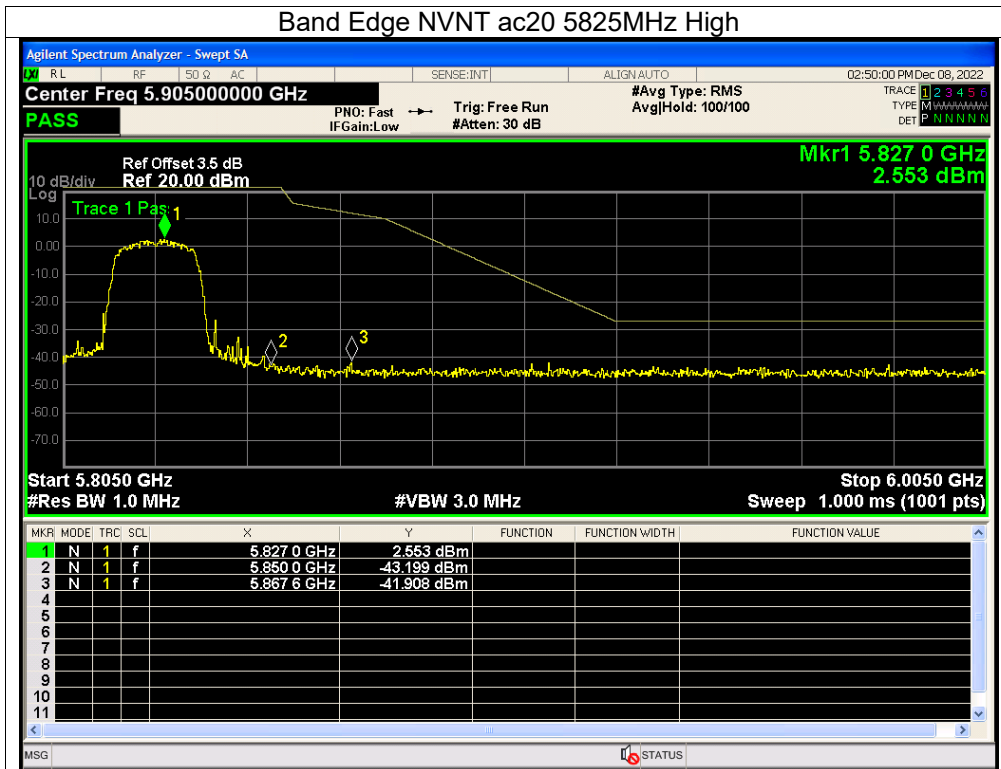


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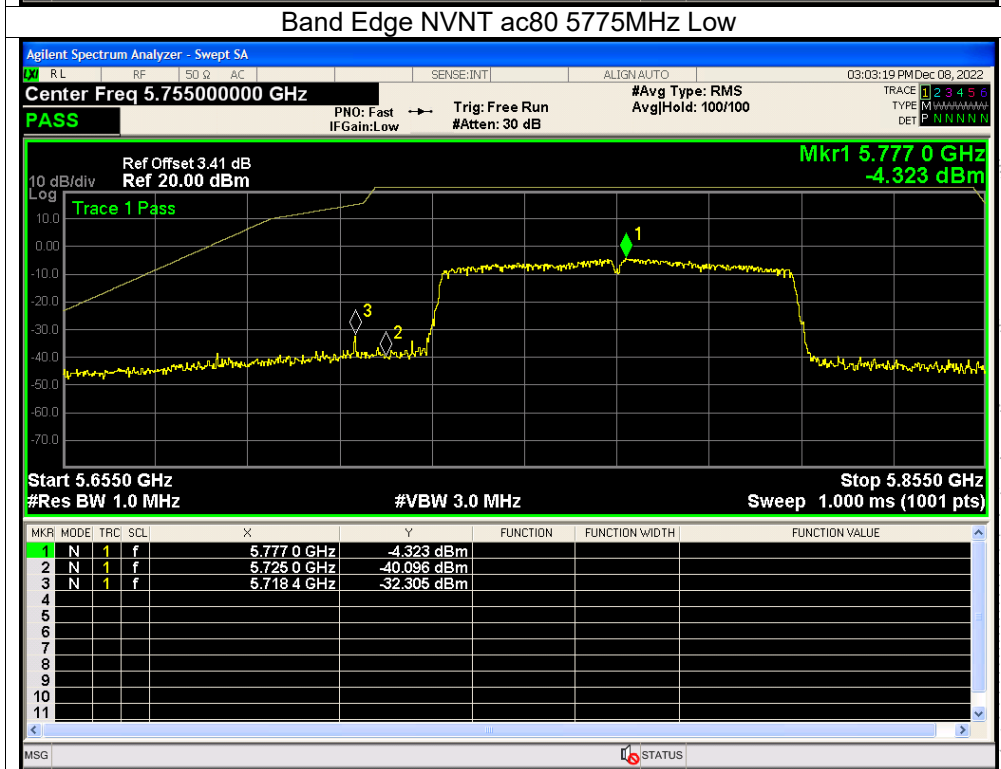
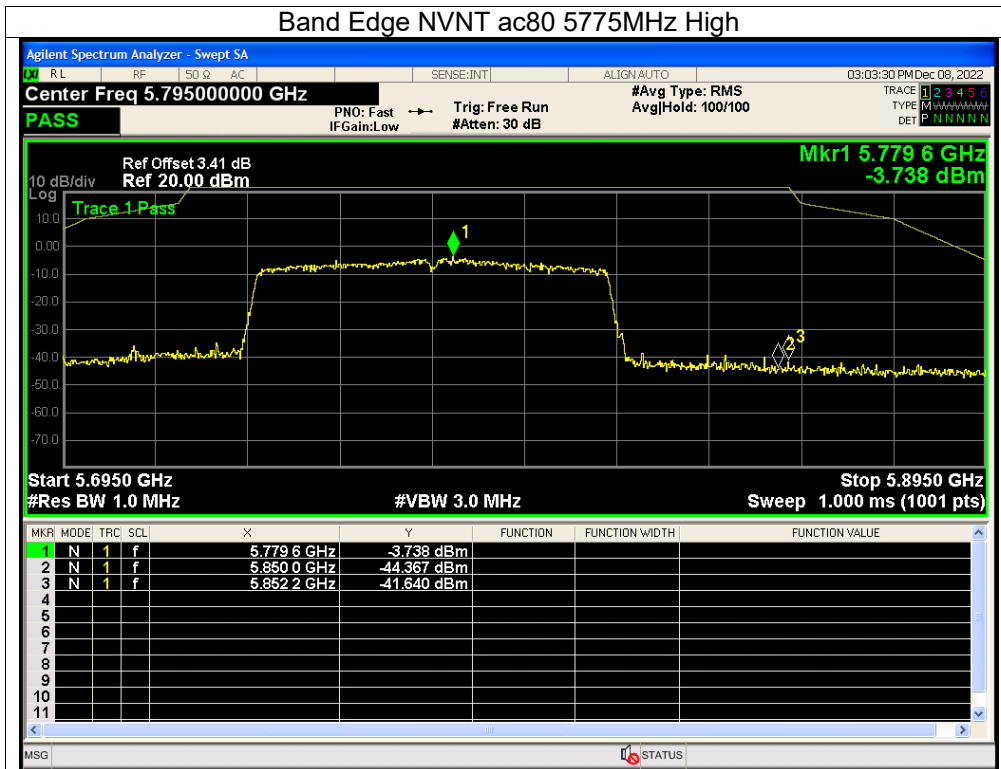


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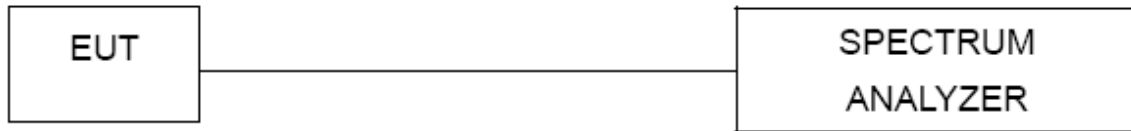
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12. Spurious RF Conducted Emissions

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..

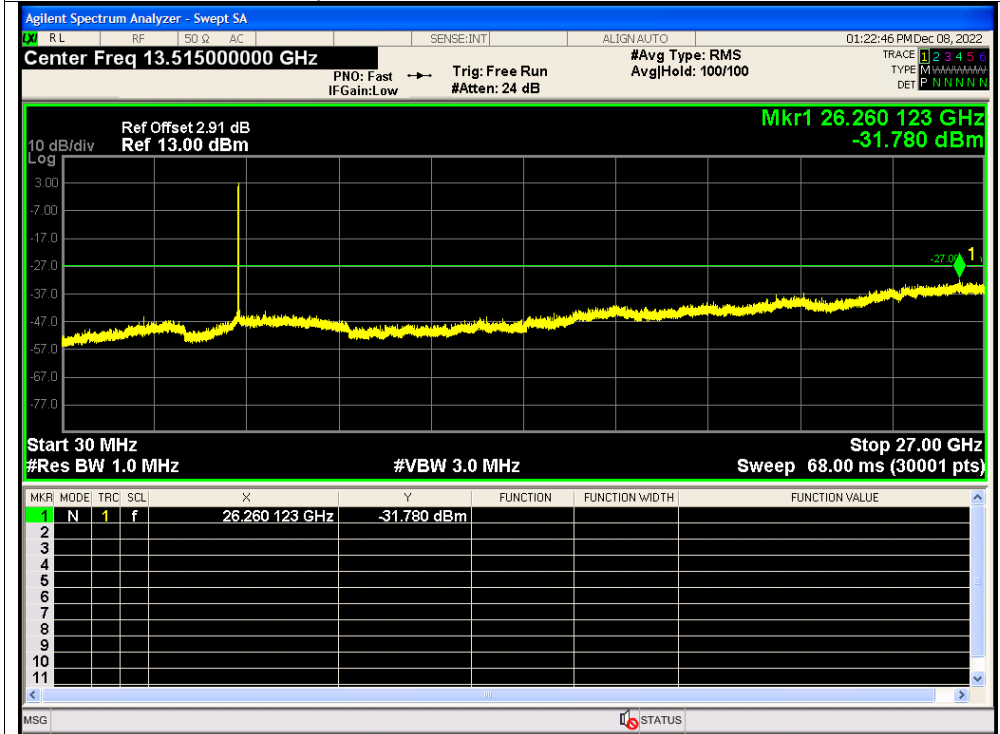
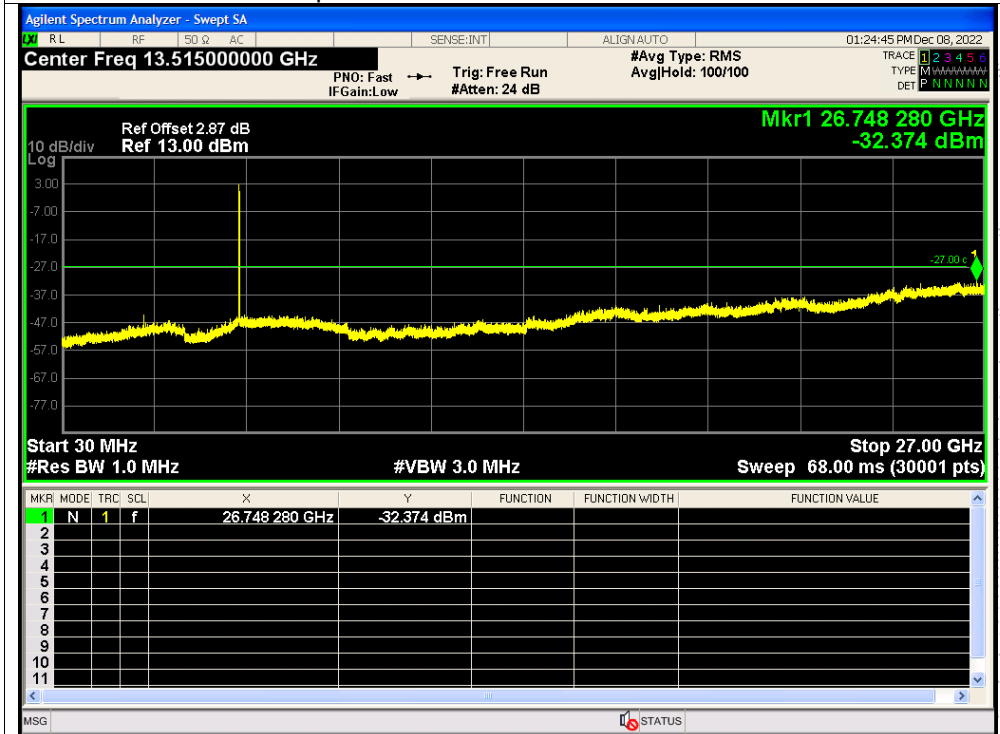
12.3 Test Procedure

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.

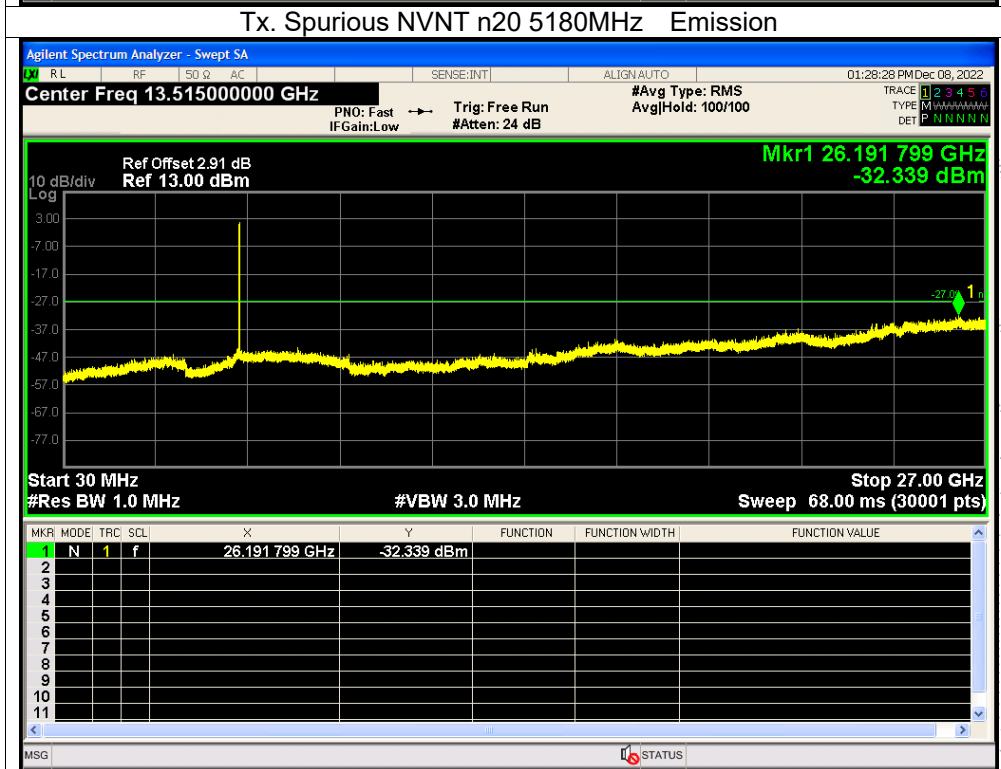
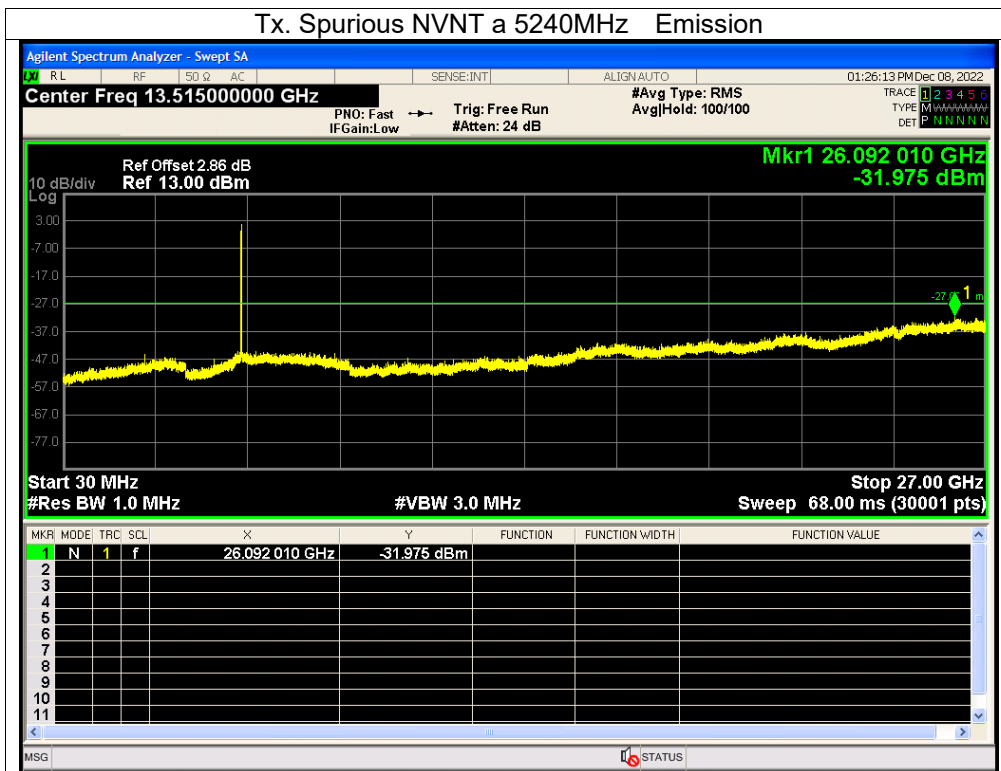
12.4 Test Result

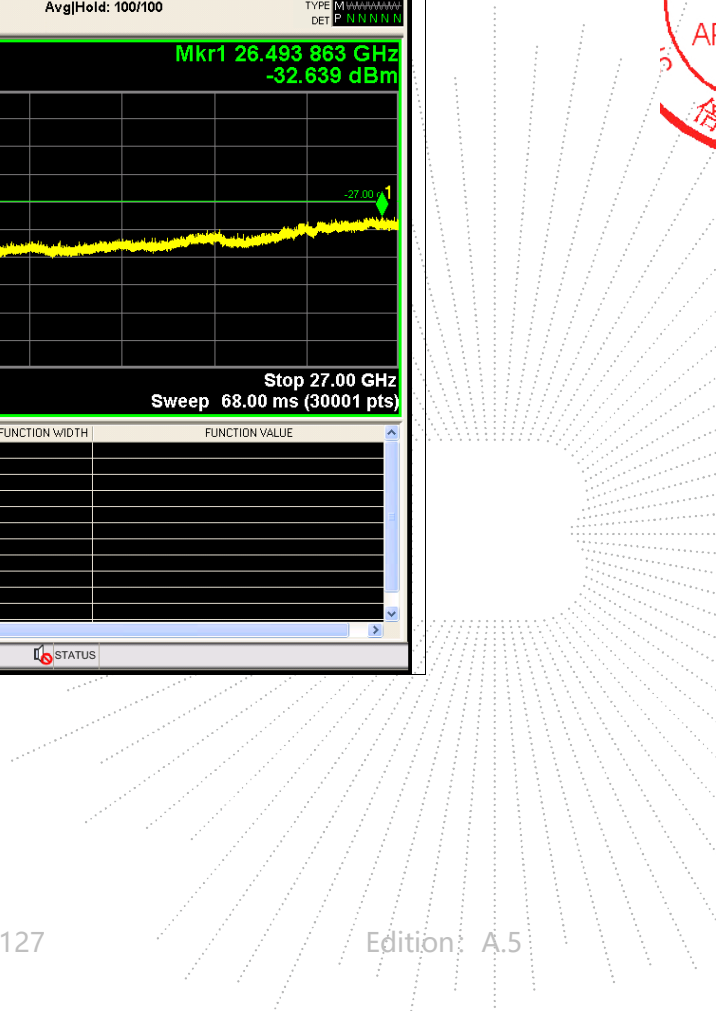
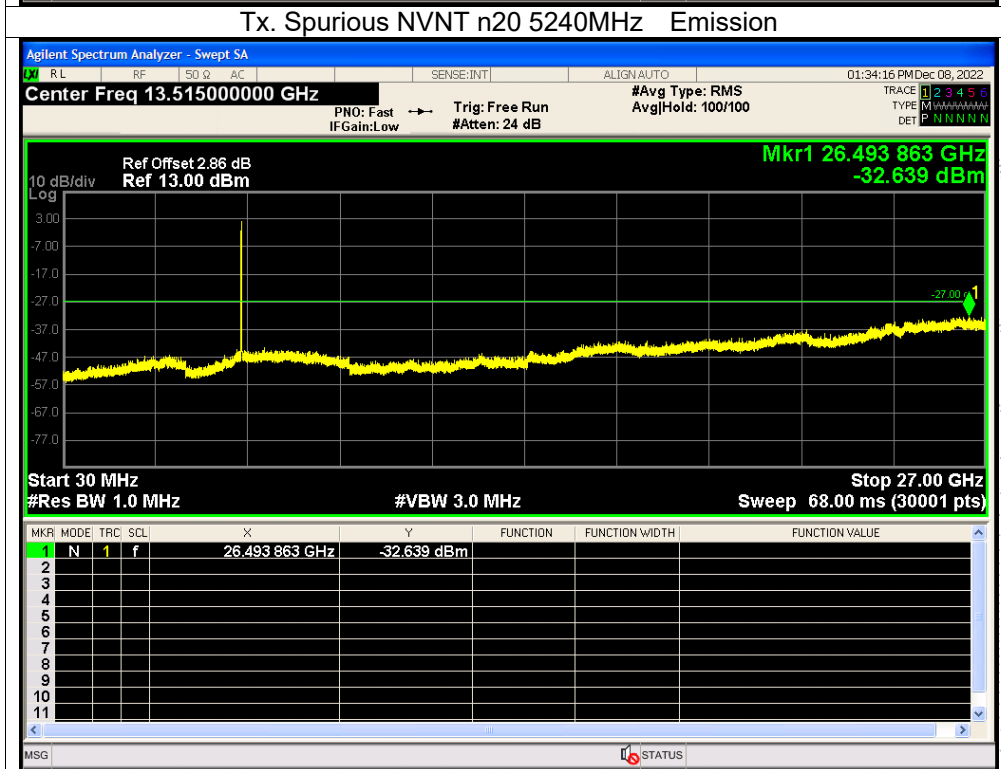
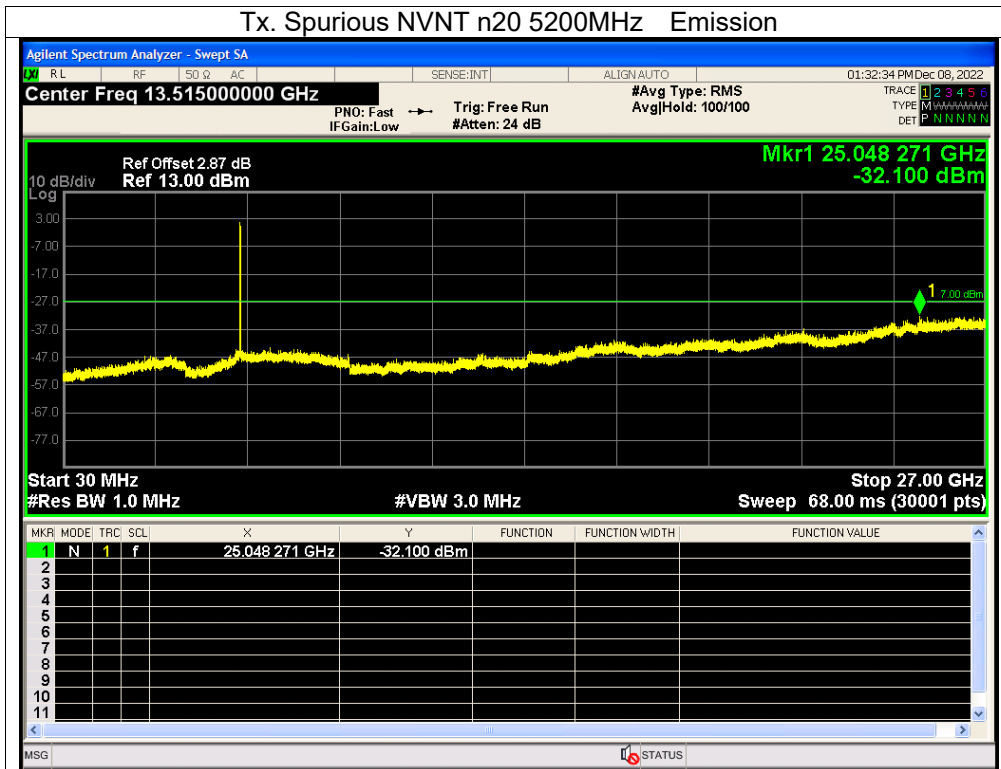
Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and band edge measurement data.

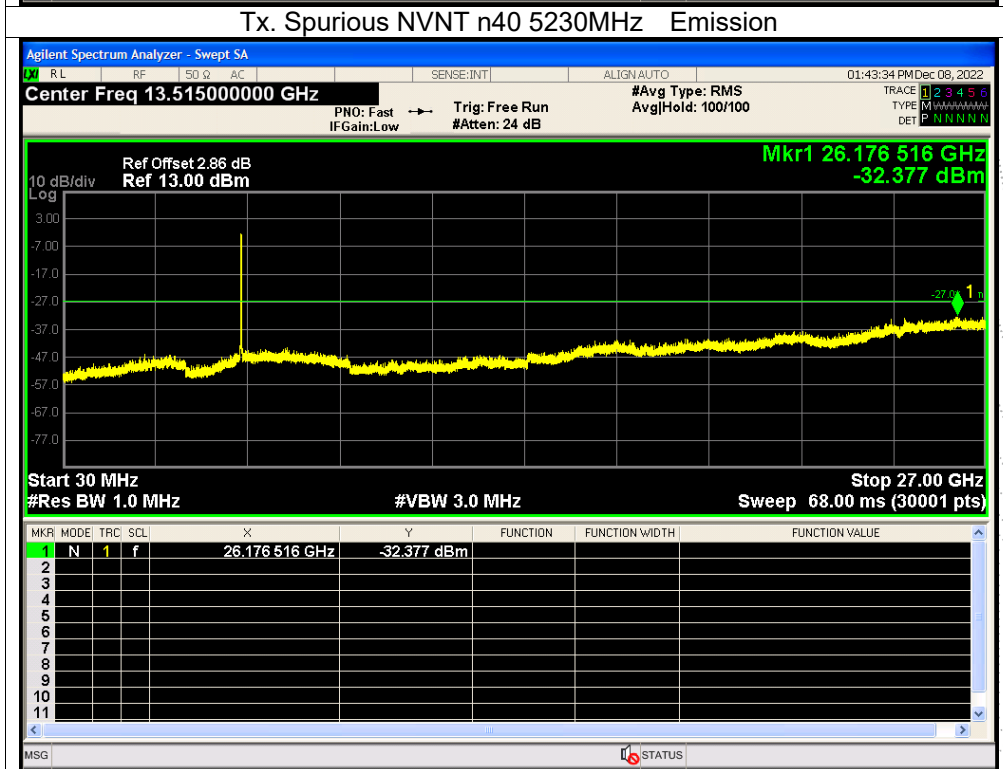
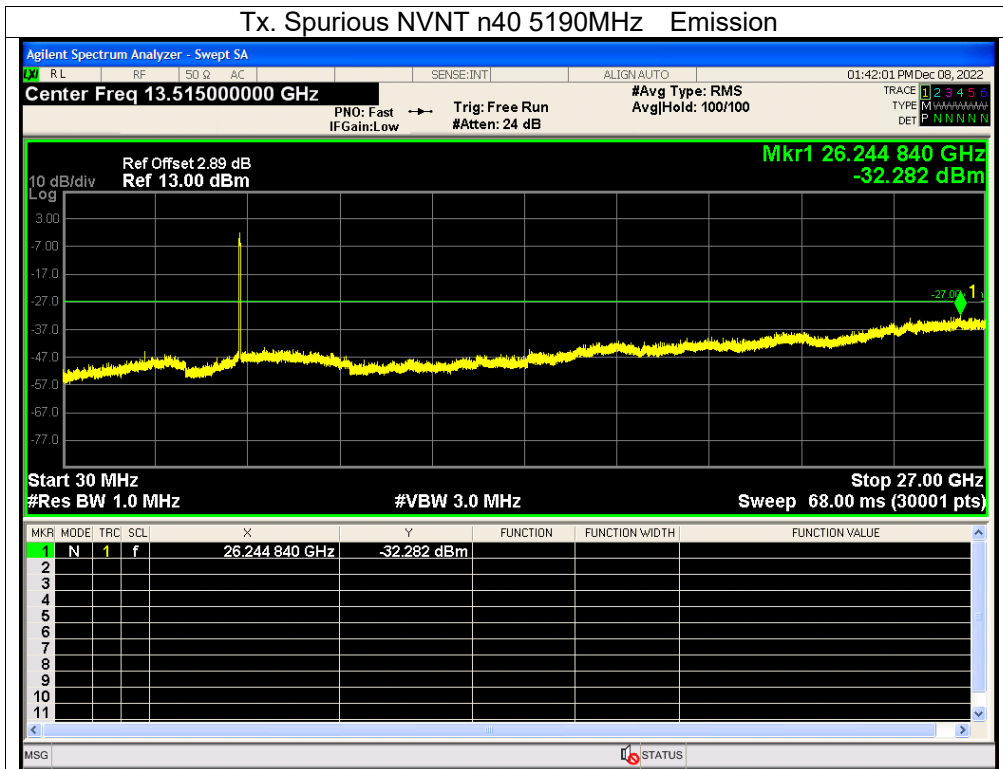
About: 26.5GHz-40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

5.1G
Test Graphs
Tx. Spurious NVNT a 5180MHz Emission

Tx. Spurious NVNT a 5200MHz Emission


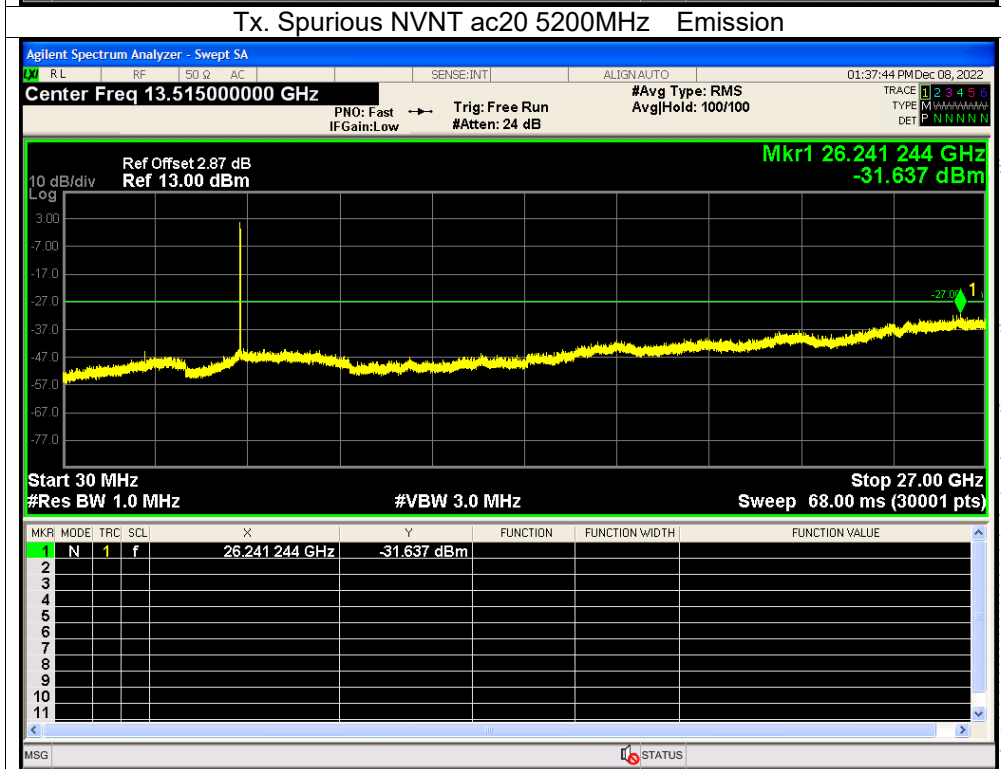
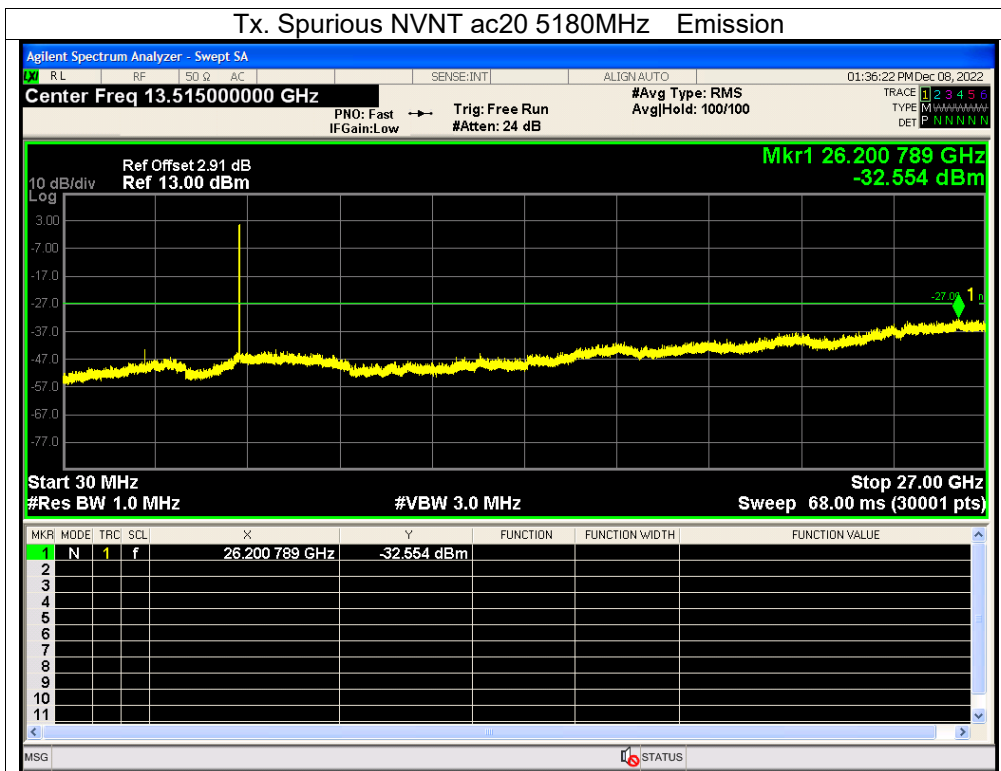
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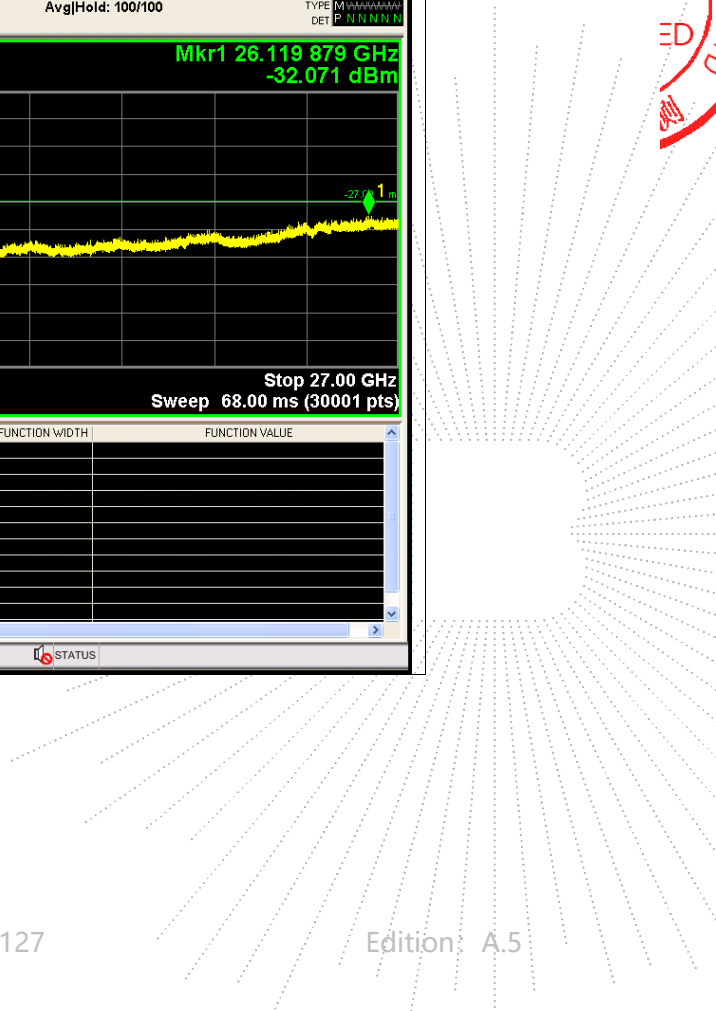
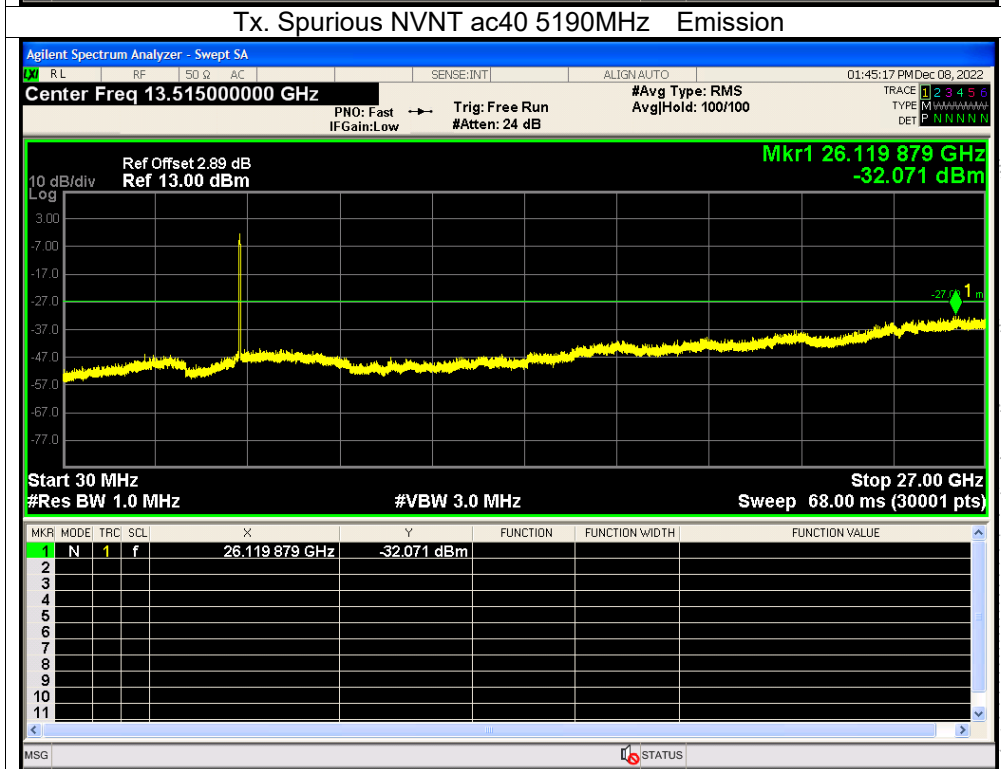
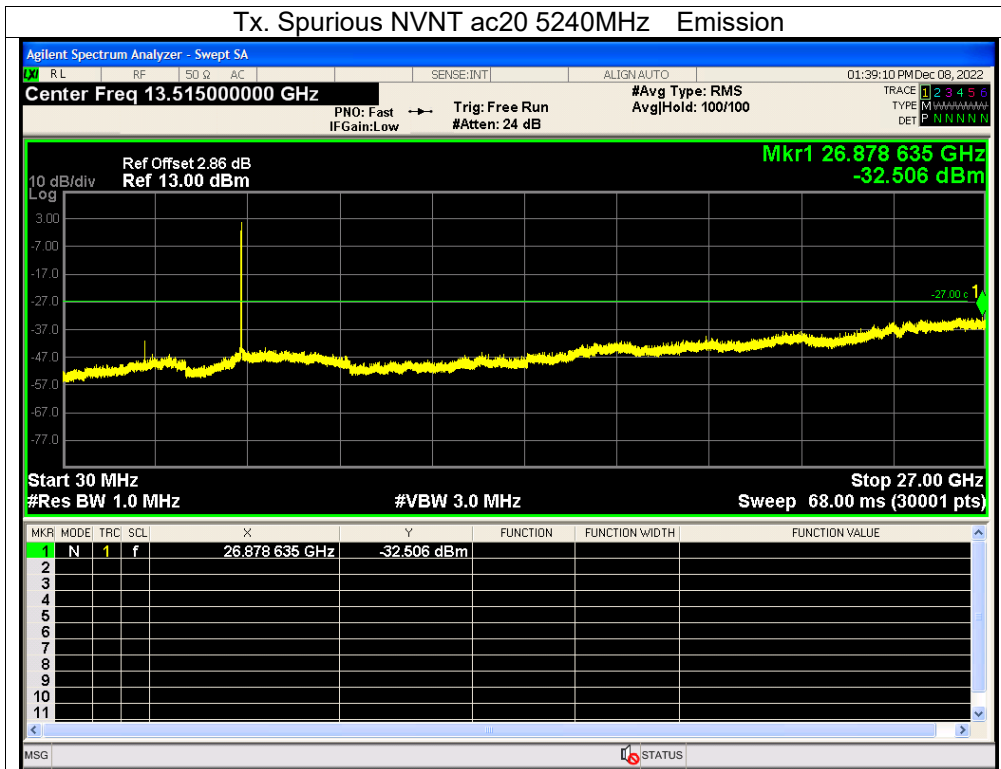



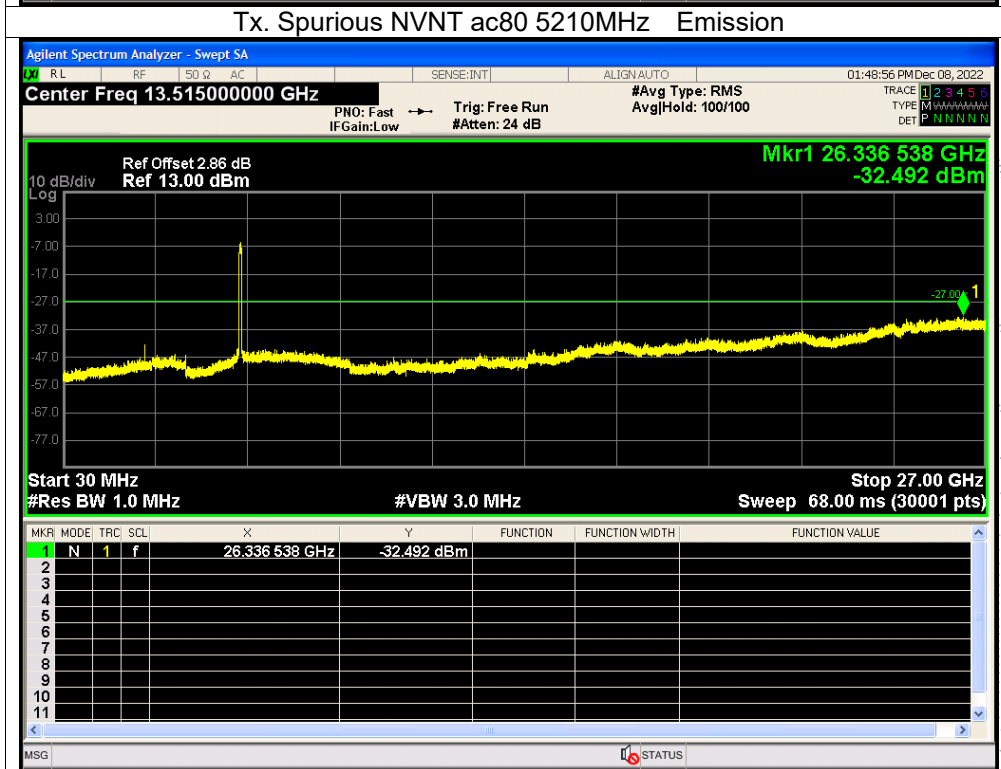
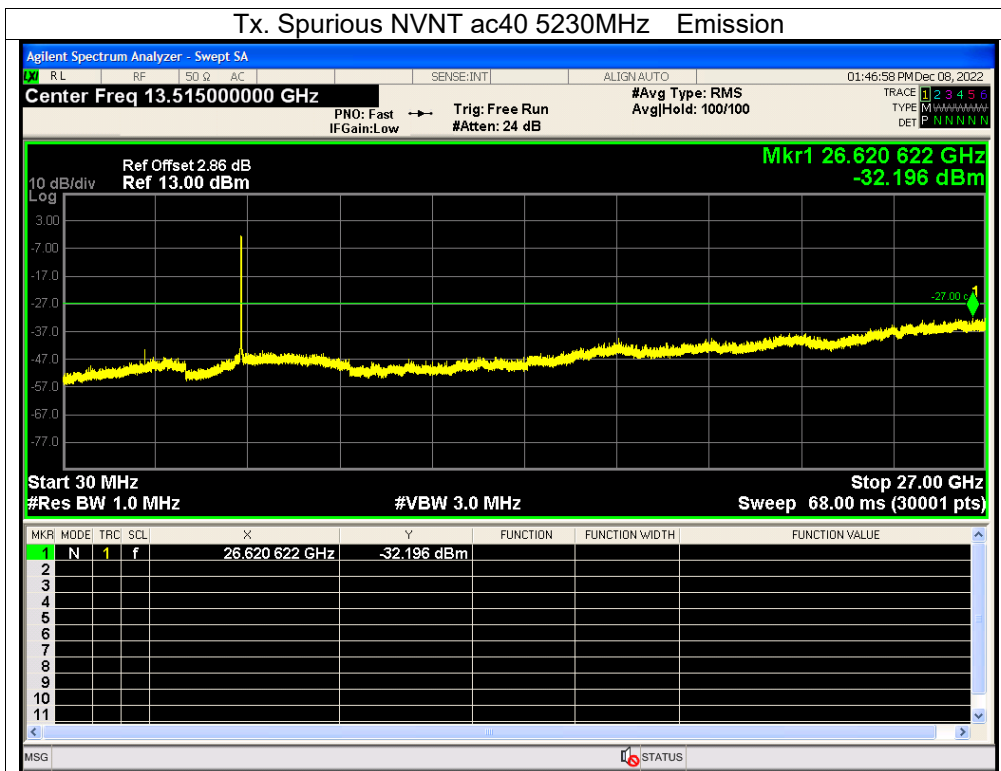


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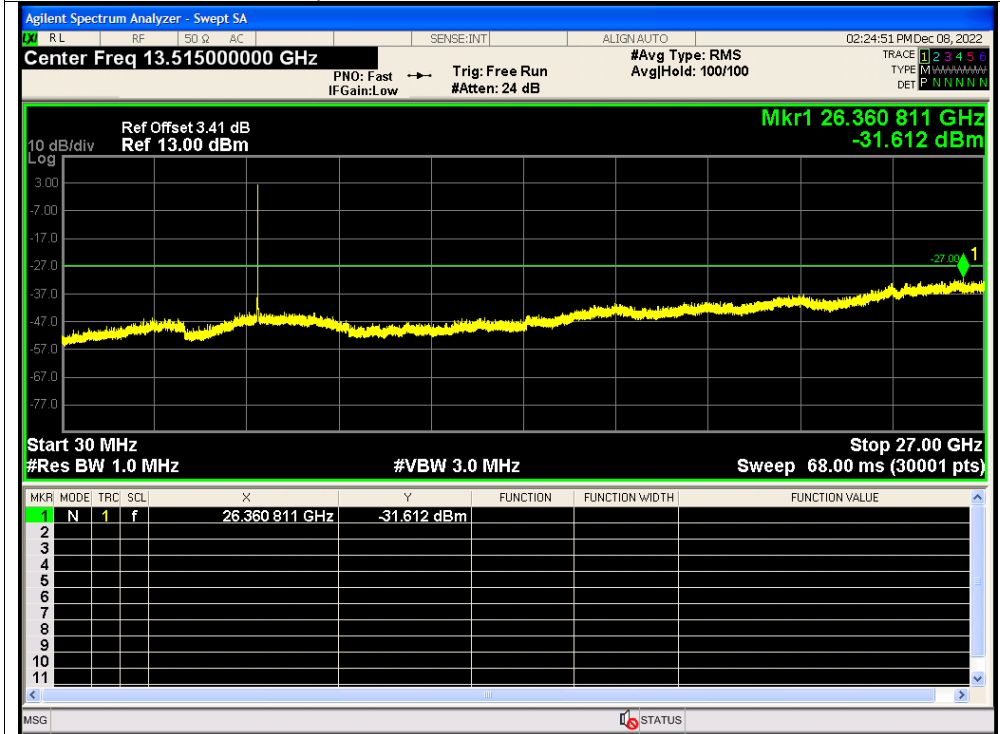
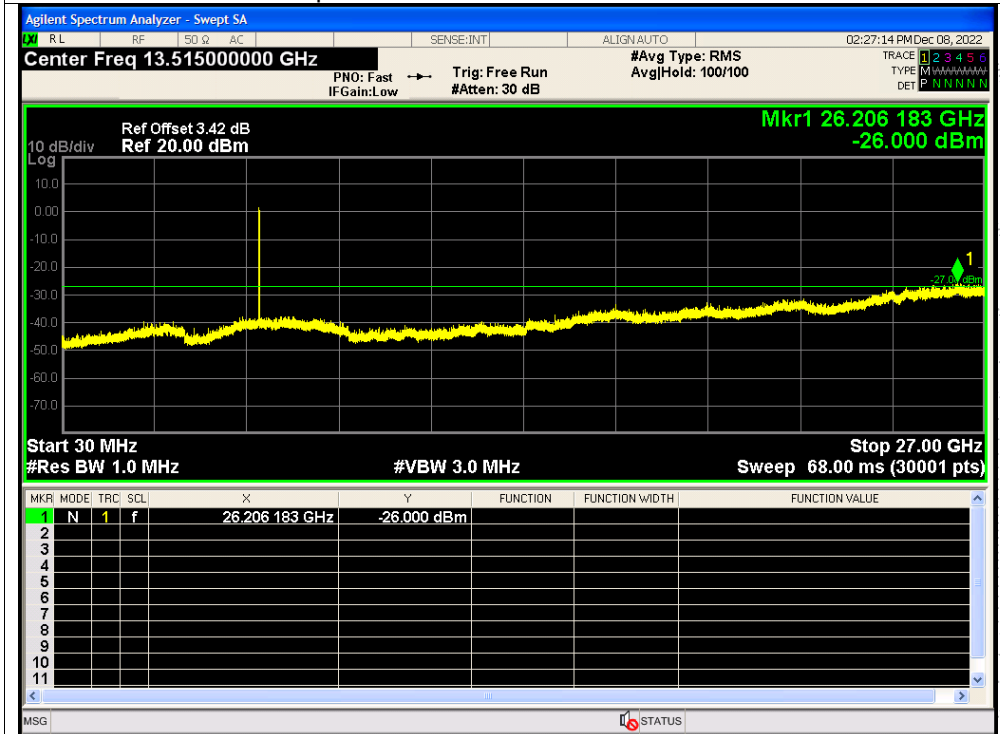


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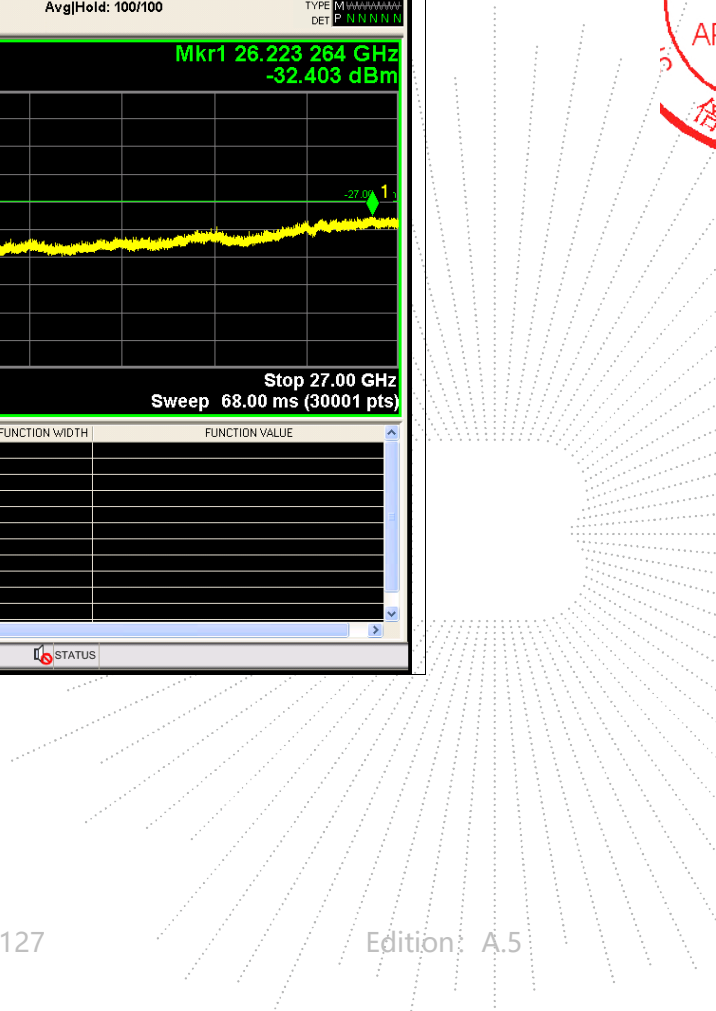
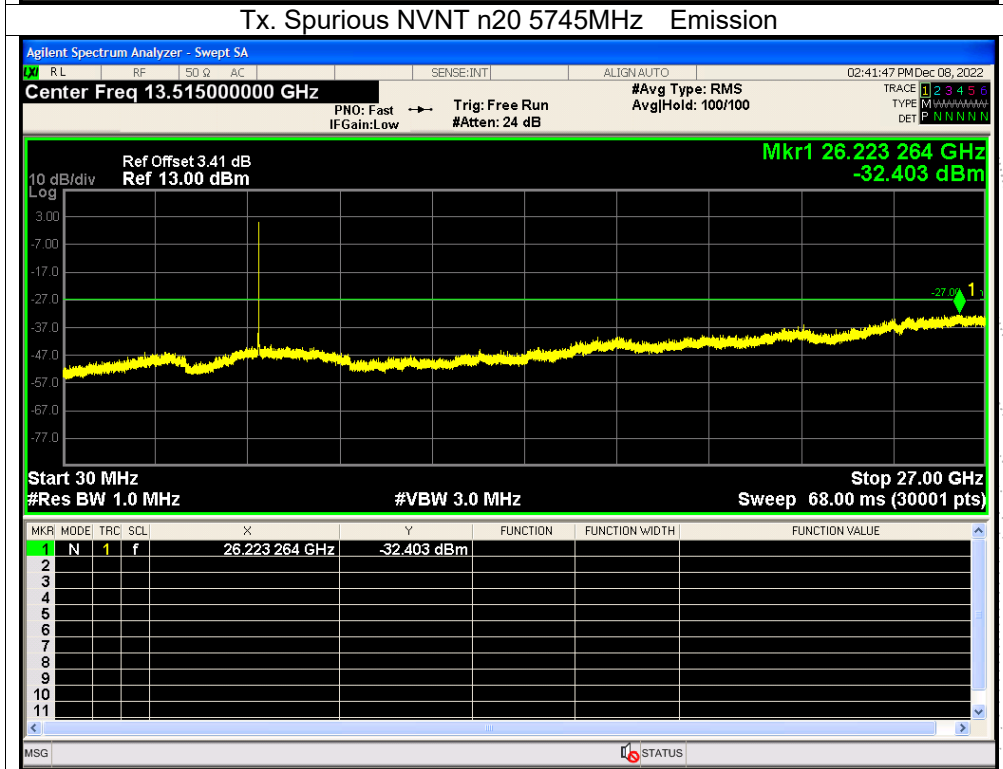
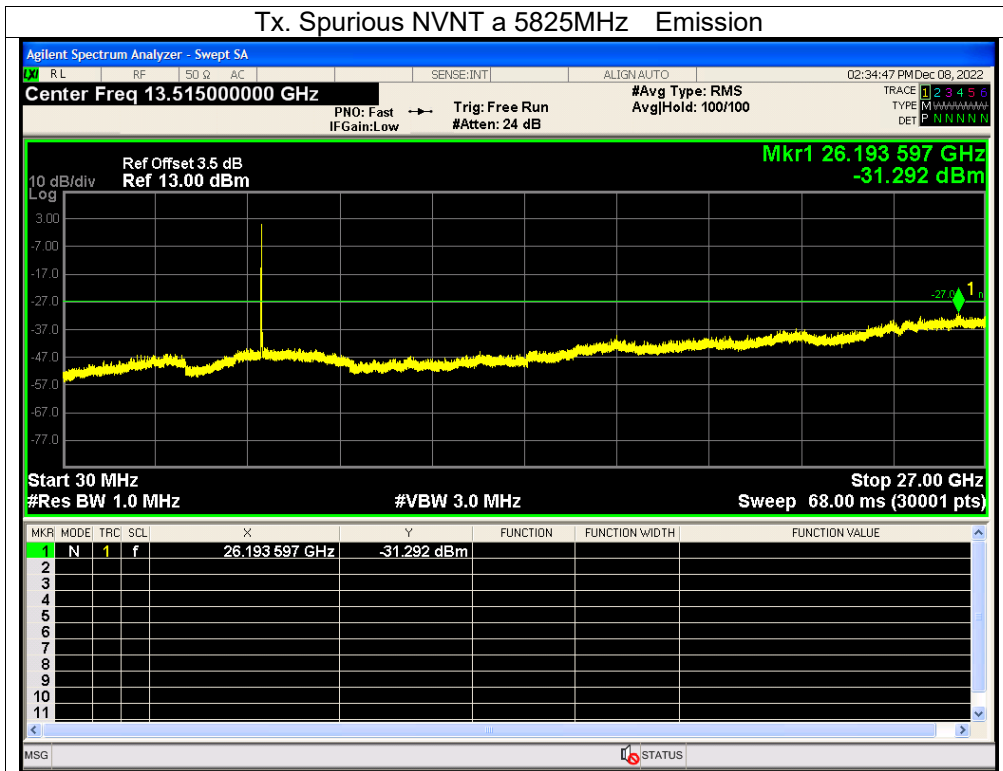


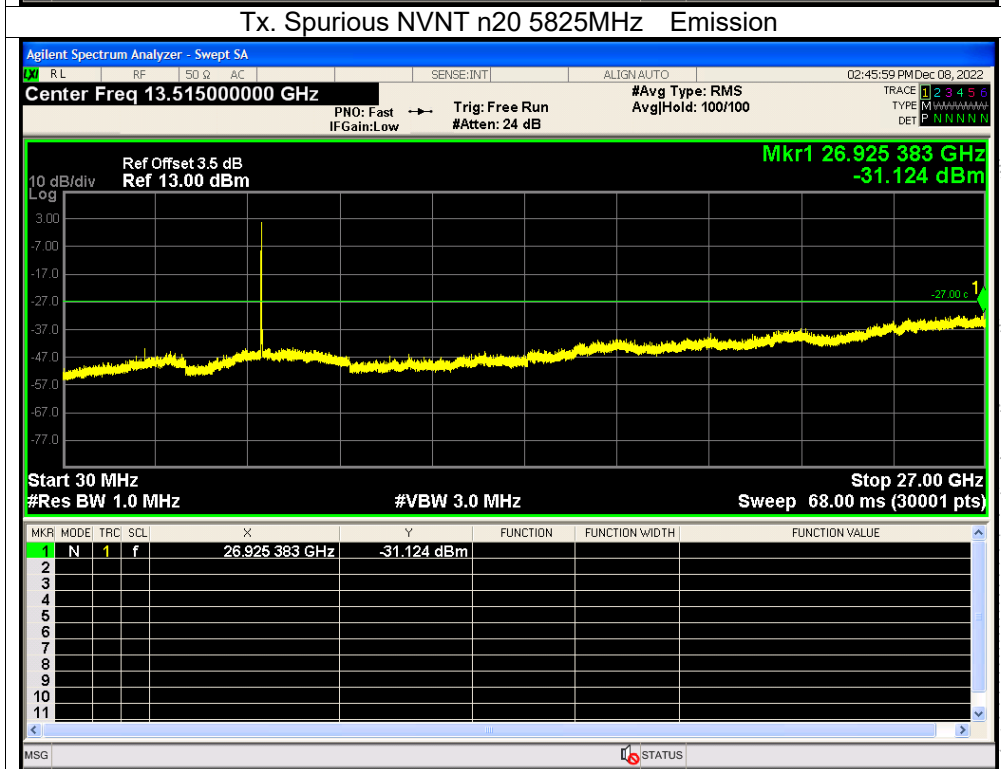
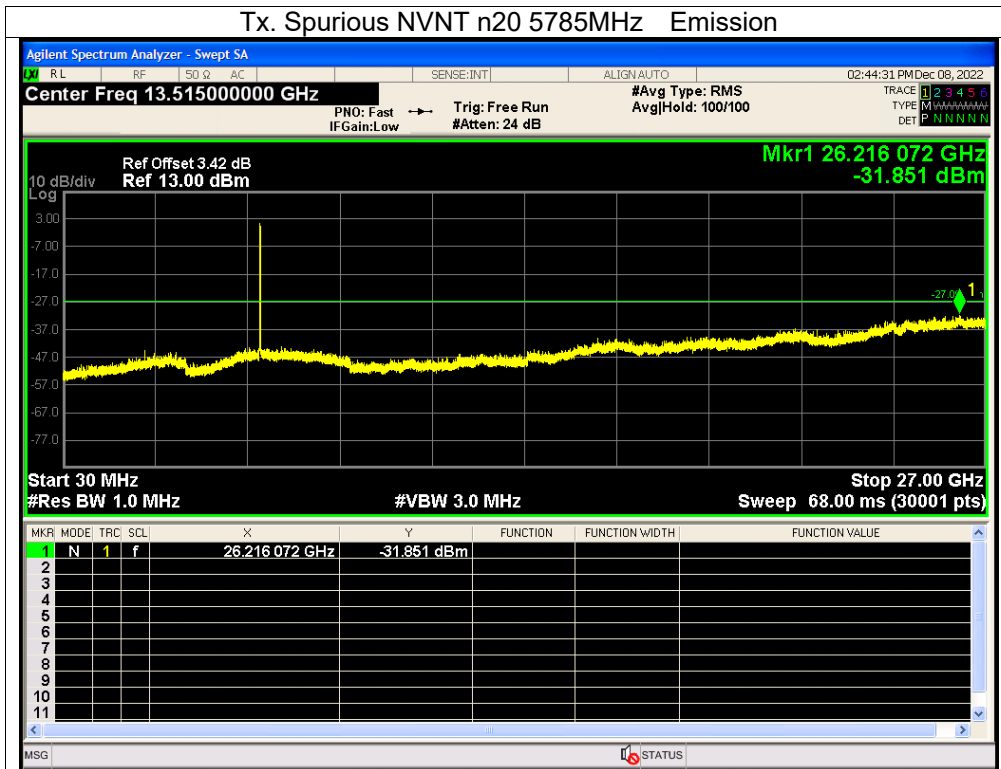


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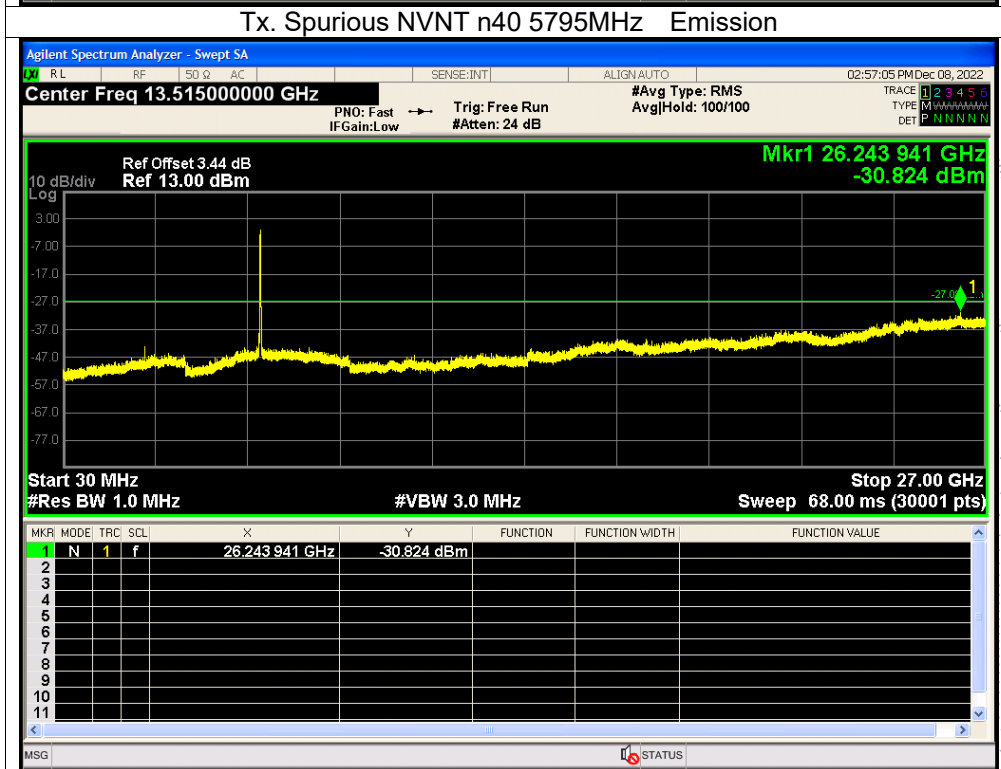
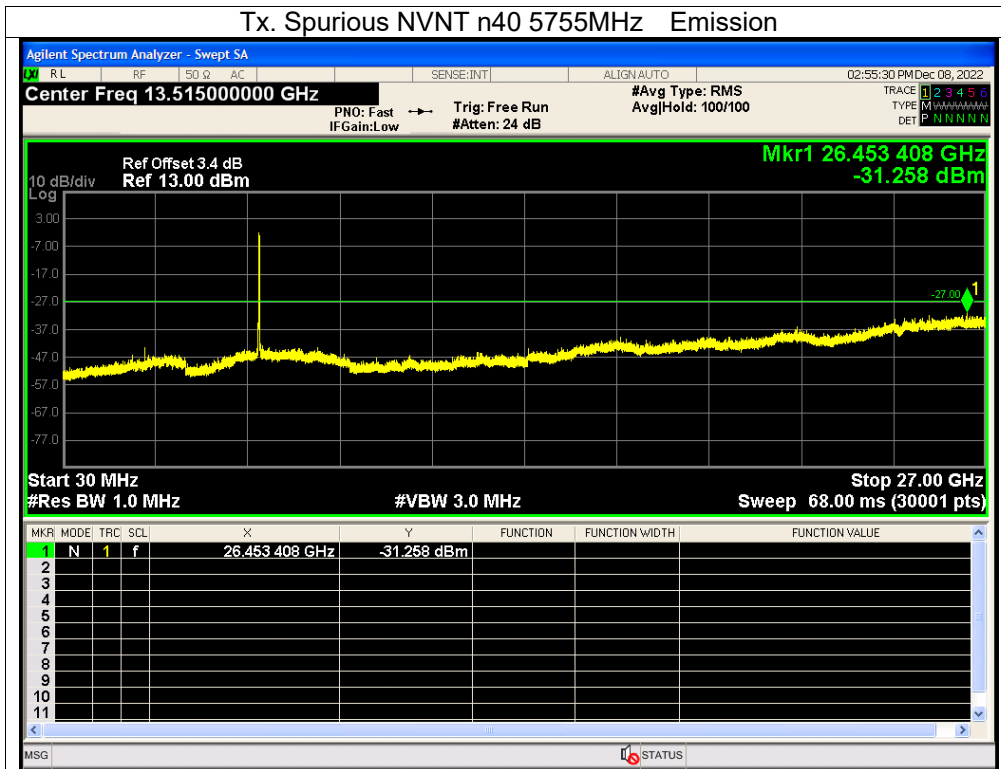
5.8G
Test Graphs
Tx. Spurious NVNT a 5745MHz Emission

Tx. Spurious NVNT a 5785MHz Emission


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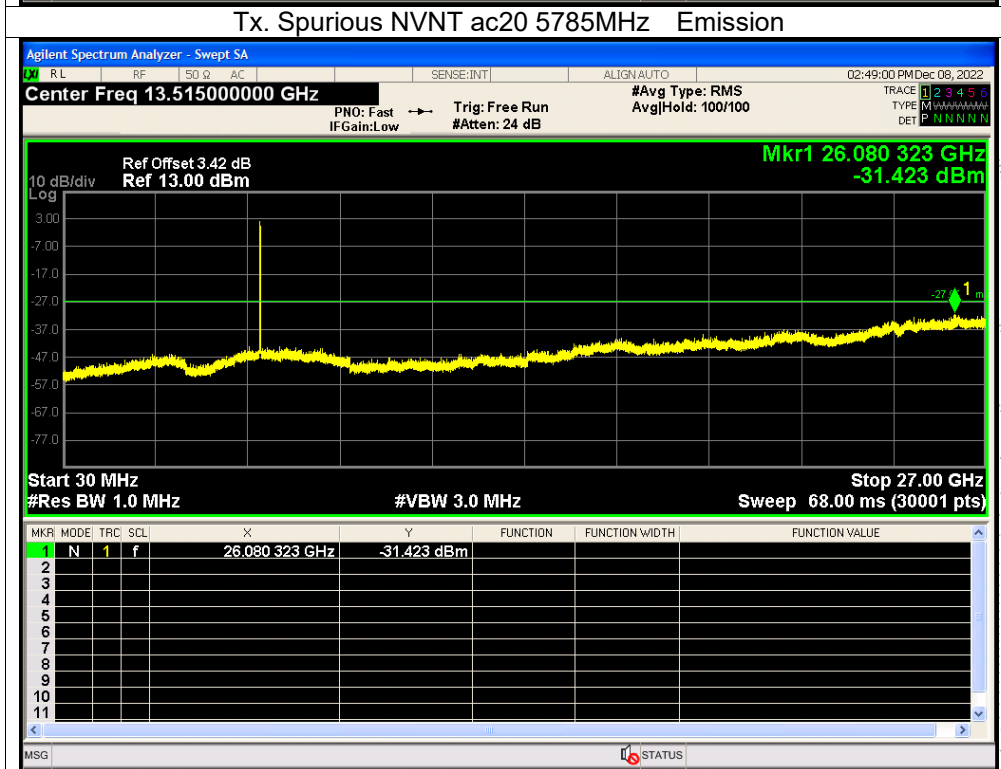
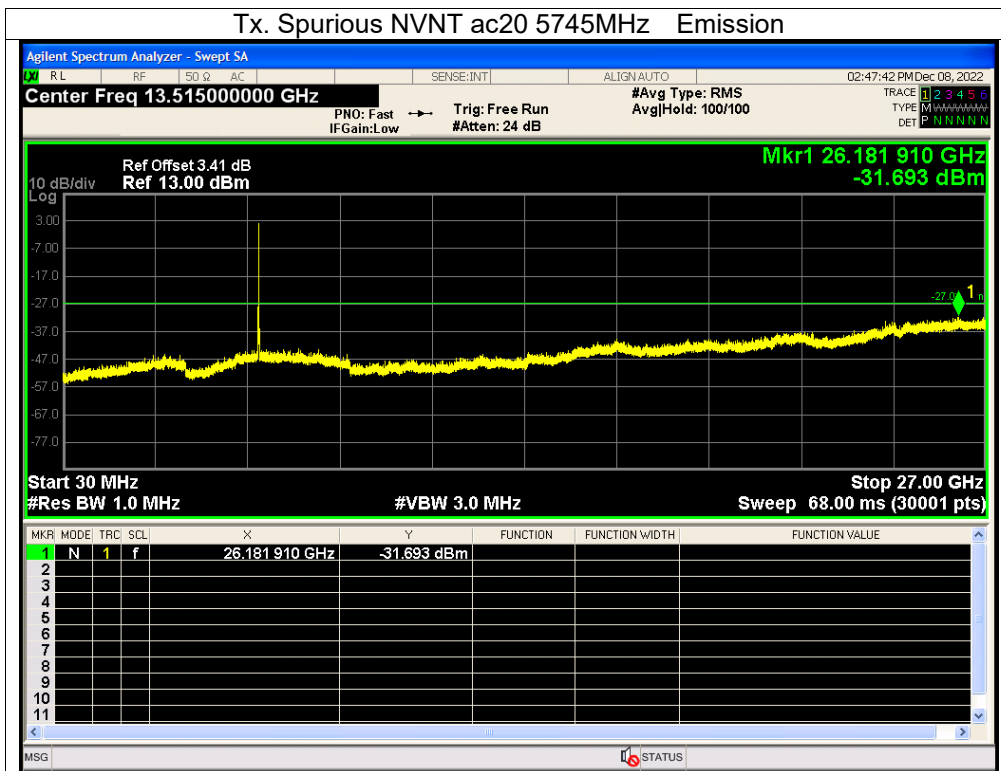


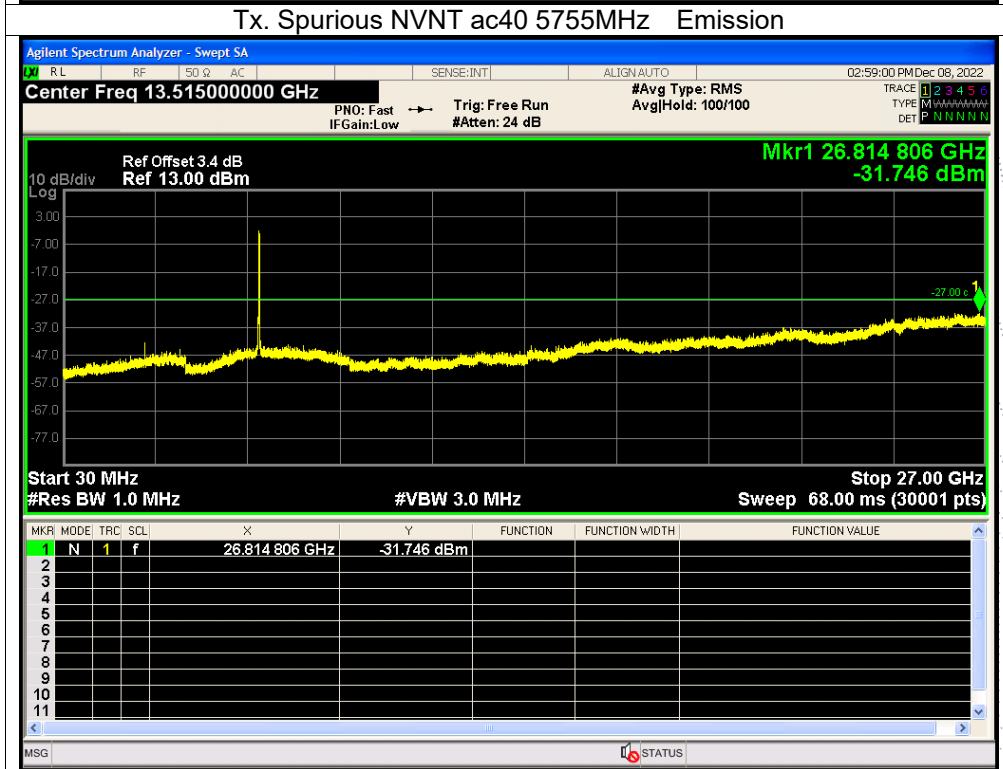
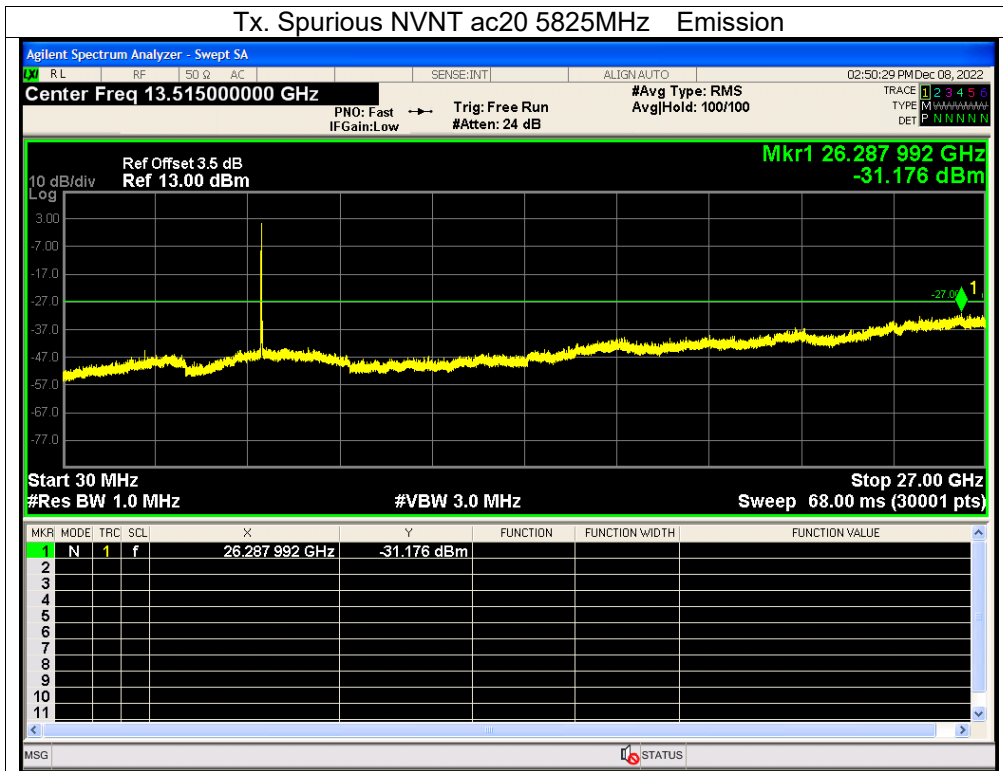


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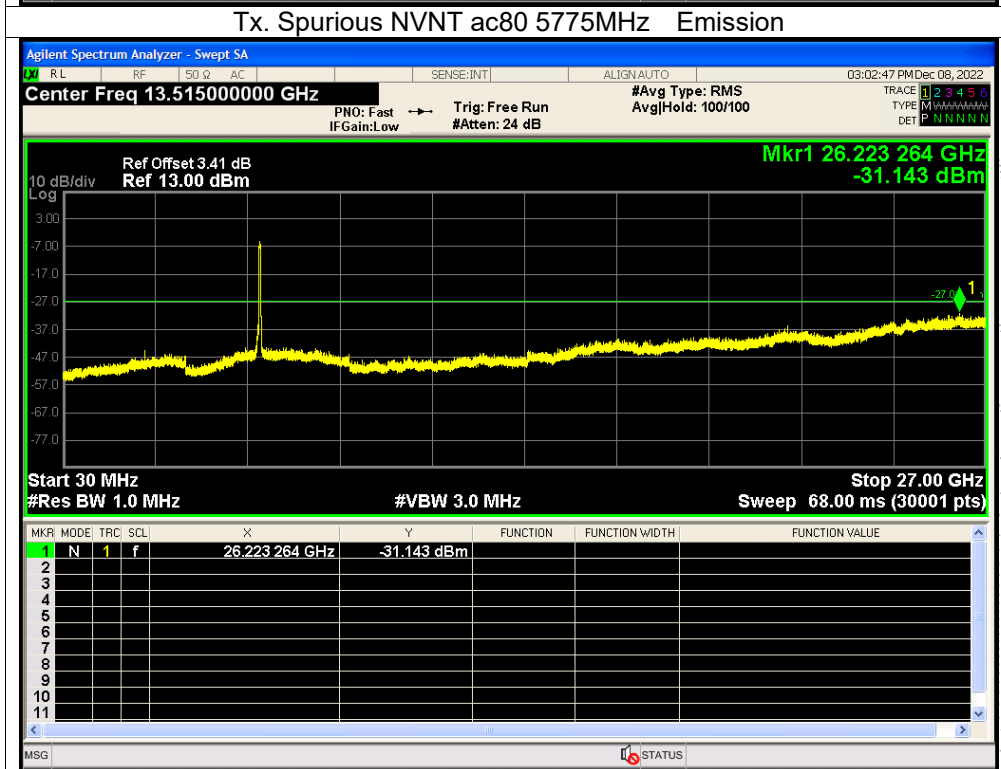
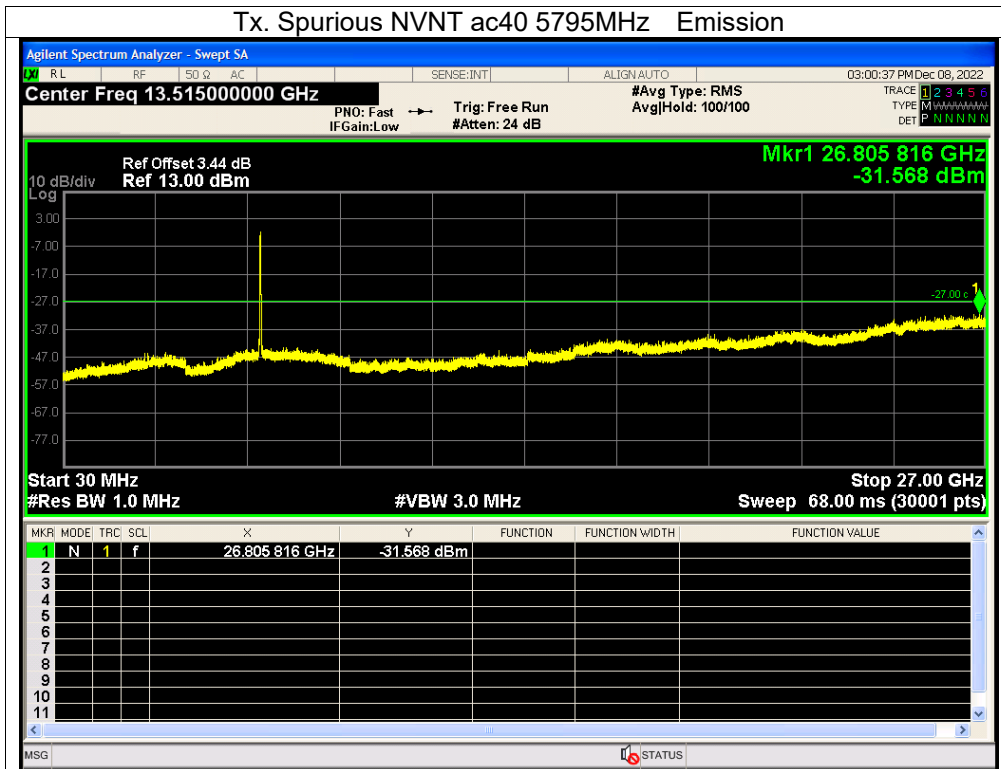


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13. Frequency Stability Measurement

13.1 Block Diagram Of Test Setup



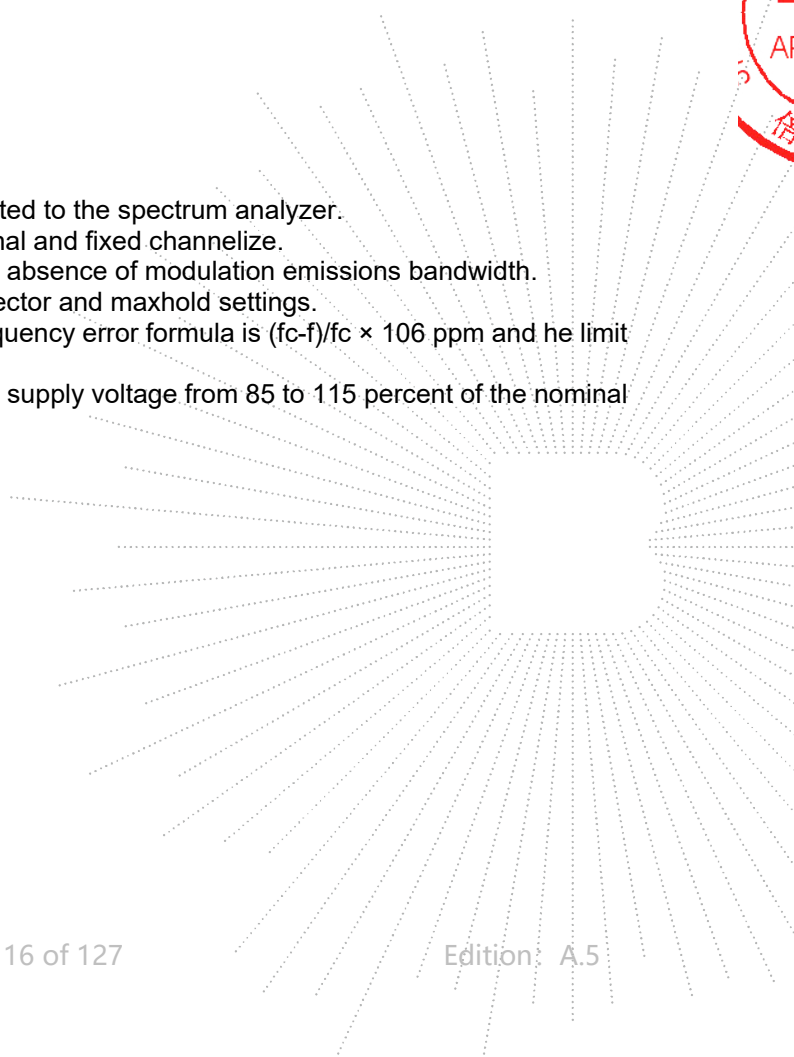
13.2 Limit

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 802.11nspecification).
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%
Pressure :	101kPa	Test Voltage :	DC 3.8V
Test Mode :	TX 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)	3.80	5180.0139	5180	0.0139	2.6843
		V max (V)	4.37	5180.0166	5180	0.0166	3.1974
		V min (V)	3.23	5180.0088	5180	0.0088	1.6898
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)	DC 3.8V	T (°C)	-20	5180.0067	5180	0.0067	1.2984
		T (°C)	-10	5180.0071	5180	0.0071	1.3714
		T (°C)	0	5180.0117	5180	0.0117	2.2520
		T (°C)	10	5180.0121	5180	0.0121	2.3417
		T (°C)	20	5180.0107	5180	0.0107	2.0711
		T (°C)	30	5180.0032	5180	0.0032	0.6218
		T (°C)	40	5180.0063	5180	0.0063	1.2246
		T (°C)	50	5180.0027	5180	0.0027	0.5192
		T (°C)	60	5180.0070	5180	0.0070	1.3594
T (°C)	70	5180.0011	5180	0.0011	0.2108		
Limits				5150-5250 MHz			
Result				Complies			

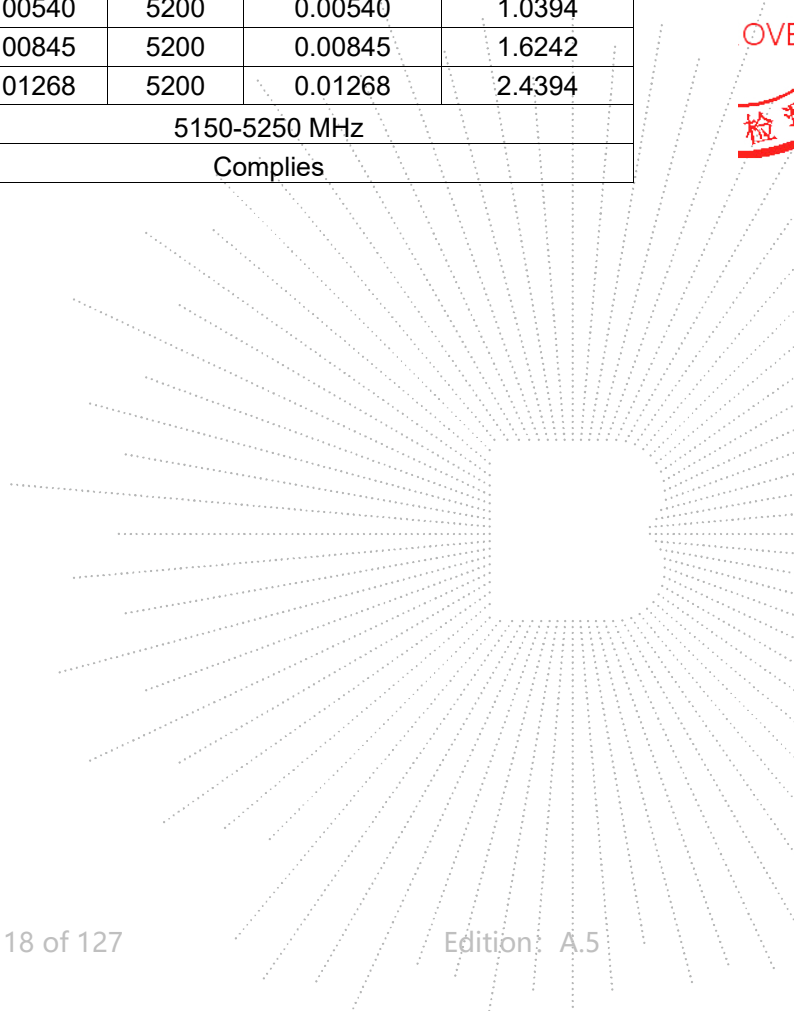
Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.80	5200.0016	5200	0.0016	0.2986
		V max (V)	4.37	5200.0128	5200	0.0128	2.4564
		V min (V)	3.23	5200.0111	5200	0.0111	2.1343
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	DC 3.8V	T (°C)	-20	5200.00233	5200	0.00233	0.4481
		T (°C)	-10	5200.00514	5200	0.00514	0.9891
		T (°C)	0	5200.01154	5200	0.01154	2.2192
		T (°C)	10	5200.00088	5200	0.00088	0.1695
		T (°C)	20	5200.00520	5200	0.00520	0.9998
		T (°C)	30	5200.01214	5200	0.01214	2.3354
		T (°C)	40	5200.00185	5200	0.00185	0.3549
		T (°C)	50	5200.00540	5200	0.00540	1.0394
		T (°C)	60	5200.00845	5200	0.00845	1.6242
		T (°C)	70	5200.01268	5200	0.01268	2.4394
Limits				5150-5250 MHz			
Result				Complies			

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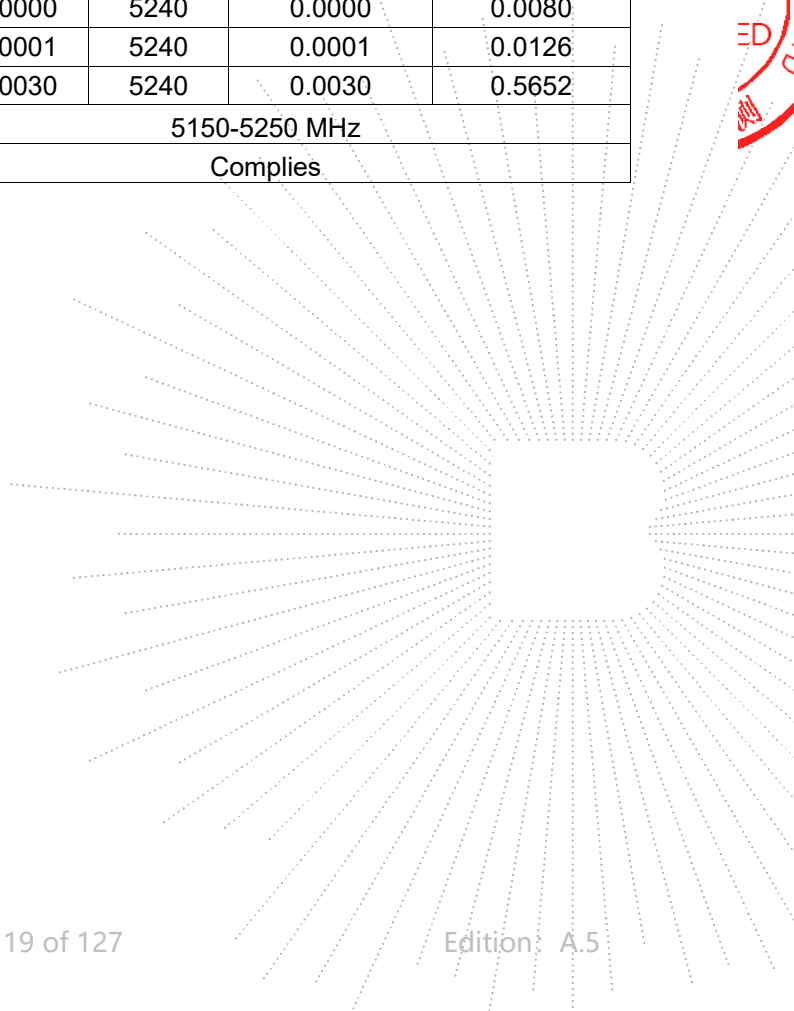


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.80	5240.0003	5240	0.0003	0.0595
		V max (V)	4.37	5240.0053	5240	0.0053	1.0071
		V min (V)	3.23	5240.0129	5240	0.0129	2.4673
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)	DC 5V	T (°C)	-20	5240.0077	5240	0.0077	1.4645
		T (°C)	-10	5240.0045	5240	0.0045	0.8542
		T (°C)	0	5240.0081	5240	0.0081	1.5521
		T (°C)	10	5240.0070	5240	0.0070	1.3380
		T (°C)	20	5240.0039	5240	0.0039	0.7496
		T (°C)	30	5240.0014	5240	0.0014	0.2759
		T (°C)	40	5240.0029	5240	0.0029	0.5628
		T (°C)	50	5240.0000	5240	0.0000	0.0080
		T (°C)	60	5240.0001	5240	0.0001	0.0126
		T (°C)	70	5240.0030	5240	0.0030	0.5652
Limits				5150-5250 MHz			
Result				Complies			



Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.8V
Hrst Mode :	TX Frequency(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)	3.80	5745.00902	5745	0.00902	1.5704
		V max (V)	4.37	5745.01036	5745	0.01036	1.8028
		V min (V)	3.23	5745.01045	5745	0.01045	1.8191
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)	DC 5V	T (°C)	-20	5745.00978	5745	0.00978	1.7015
		T (°C)	-10	5745.00936	5745	0.00936	1.6301
		T (°C)	0	5745.00888	5745	0.00888	1.5457
		T (°C)	10	5745.01022	5745	0.01022	1.7795
		T (°C)	20	5745.00377	5745	0.00377	0.6556
		T (°C)	30	5745.00862	5745	0.00862	1.5012
		T (°C)	40	5745.00170	5745	0.00170	0.2958
		T (°C)	50	5745.00840	5745	0.00840	1.4625
		T (°C)	60	5745.01349	5745	0.01349	2.3479
		T (°C)	70	5745.00994	5745	0.00994	1.7294
Limits				5725-5850 MHz			
Result				Complies			

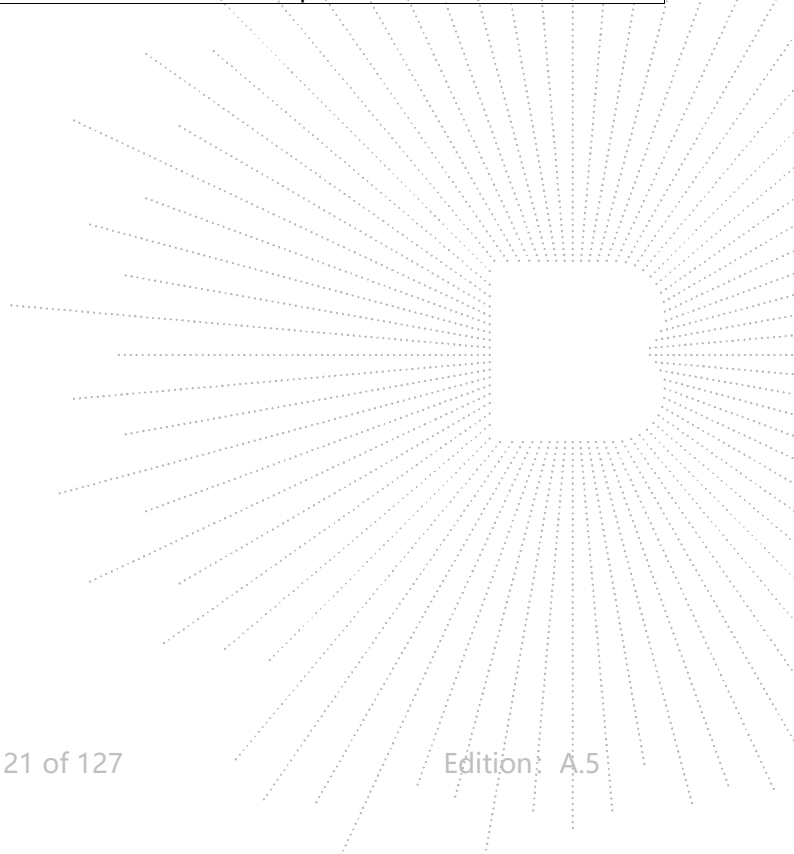
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Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.80	5785.00885	5785	0.00885	1.5304
		V max (V)	4.37	5785.00827	5785	0.00827	1.4299
		V min (V)	3.23	5785.01132	5785	0.01132	1.9568
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)	DC 3.8V	T (°C)	-20	5785.01050	5785	0.01050	1.8148
		T (°C)	-10	5785.00873	5785	0.00873	1.5096
		T (°C)	0	5785.00020	5785	0.00020	0.0338
		T (°C)	10	5785.00611	5785	0.00611	1.0568
		T (°C)	20	5785.00346	5785	0.00346	0.5975
		T (°C)	30	5785.00538	5785	0.00538	0.9302
		T (°C)	40	5785.00731	5785	0.00731	1.2639
		T (°C)	50	5785.00361	5785	0.00361	0.6238
		T (°C)	60	5785.00591	5785	0.00591	1.0219
		T (°C)	70	5785.01296	5785	0.01296	2.2399
Limits				5725-5850 MHz			
Result				Complies			

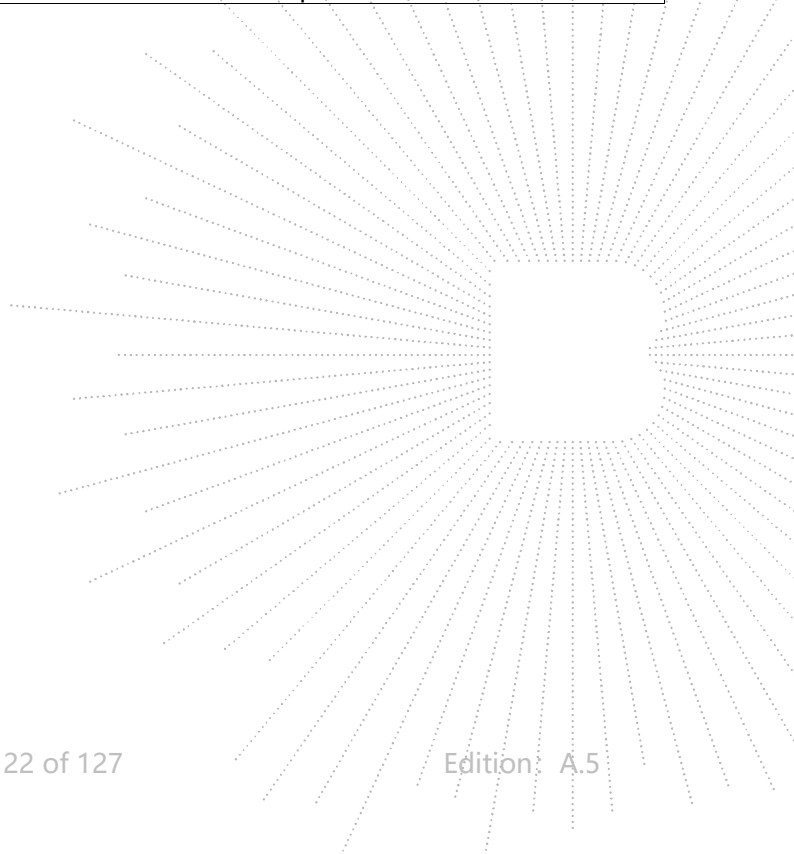


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.80	5825.00226	5825	0.00226	0.3874
		V max (V)	4.37	5825.00674	5825	0.00674	1.1563
		V min (V)	3.23	5825.00671	5825	0.00671	1.1512
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)	DC 3.8V	T (°C)	-20	5825.00823	5825	0.00823	1.4132
		T (°C)	-10	5825.00871	5825	0.00871	1.4961
		T (°C)	0	5825.01093	5825	0.01093	1.8757
		T (°C)	10	5825.00705	5825	0.00705	1.2097
		T (°C)	20	5825.00671	5825	0.00671	1.1517
		T (°C)	30	5825.01032	5825	0.01032	1.7718
		T (°C)	40	5825.00293	5825	0.00293	0.5038
		T (°C)	50	5825.00961	5825	0.00961	1.6495
		T (°C)	60	5825.00873	5825	0.00873	1.4986
		T (°C)	70	5825.01160	5825	0.01160	1.9918
Limits				5725-5850 MHz			
Result				Complies			



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 Result

The EUT antenna is FPCB, The antenna gain is (5150-5250 MHz:0.72 dBi, 5750-5850 MHz:0.56 dBi). It comply with the standard requirement.

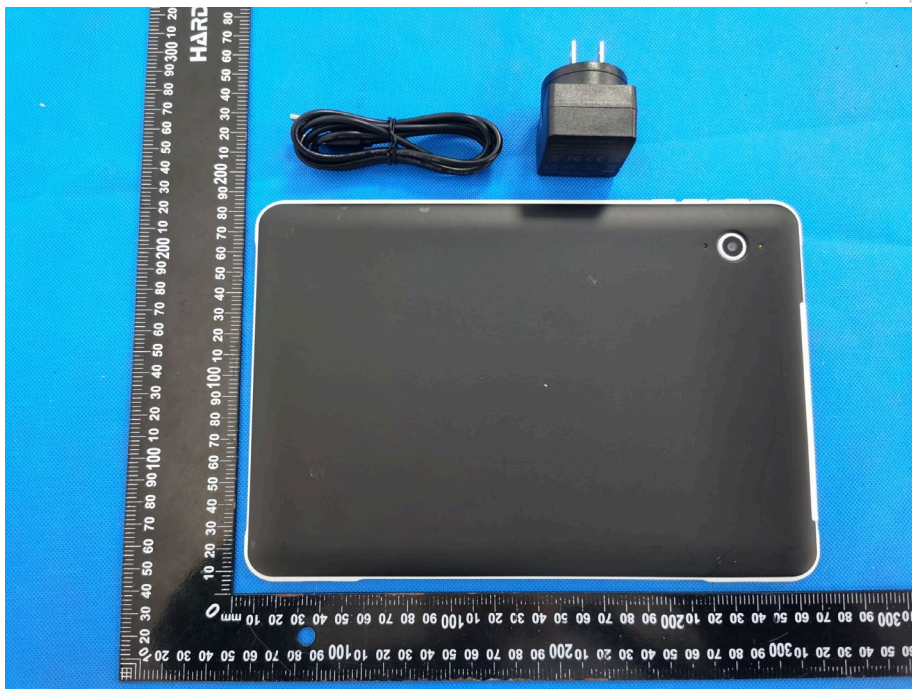


15. EUT Photographs

EUT Photo 1



EUT Photo 2



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