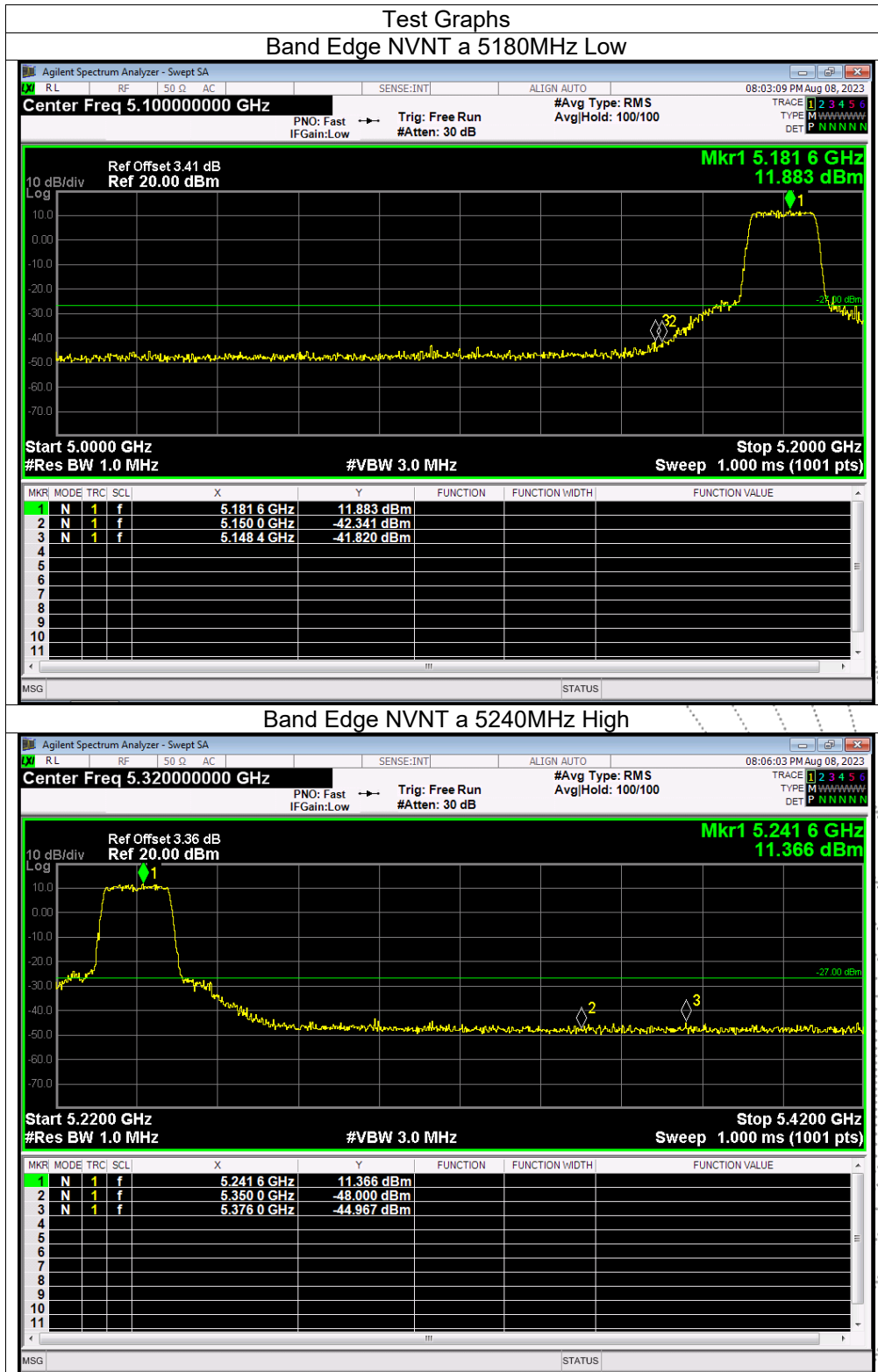
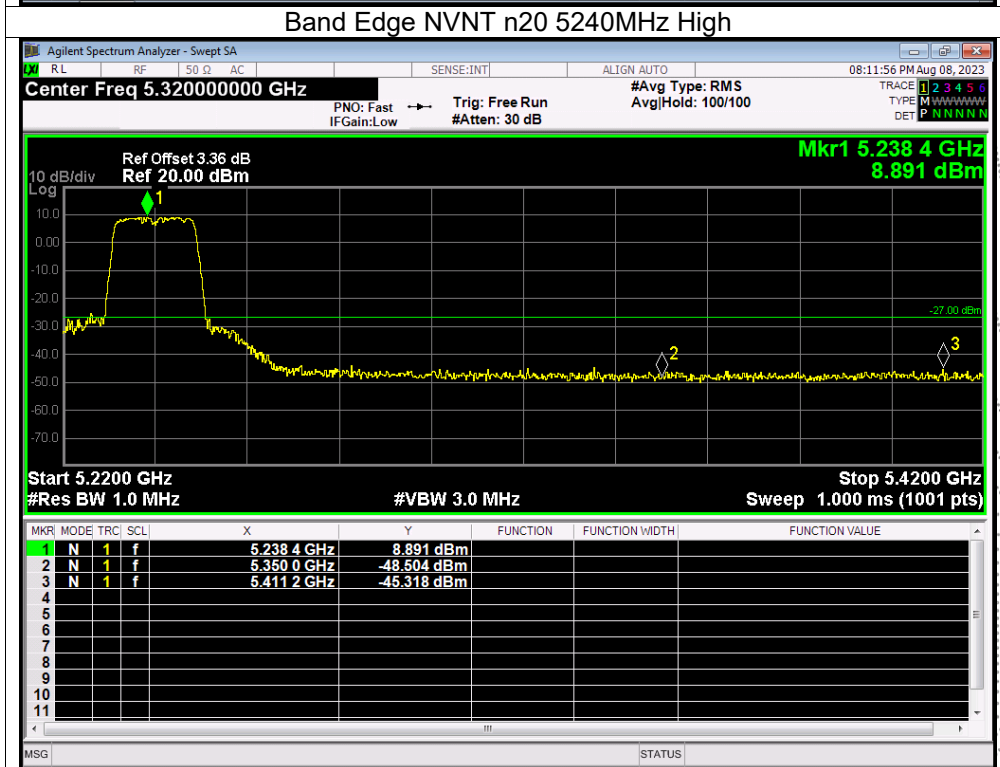
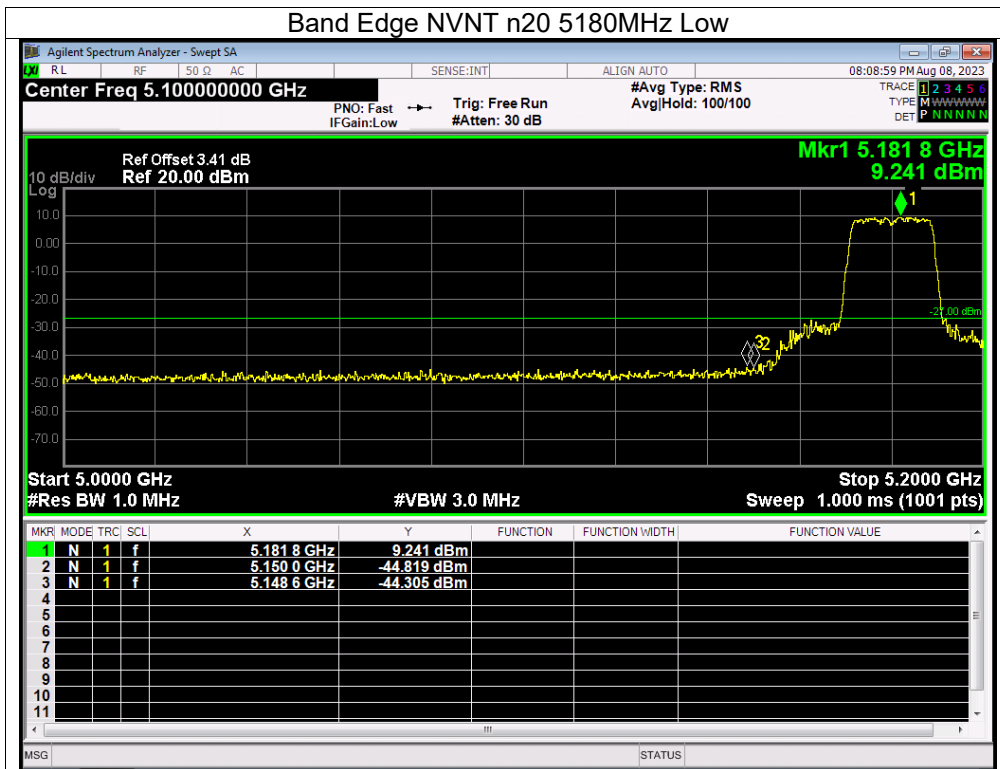
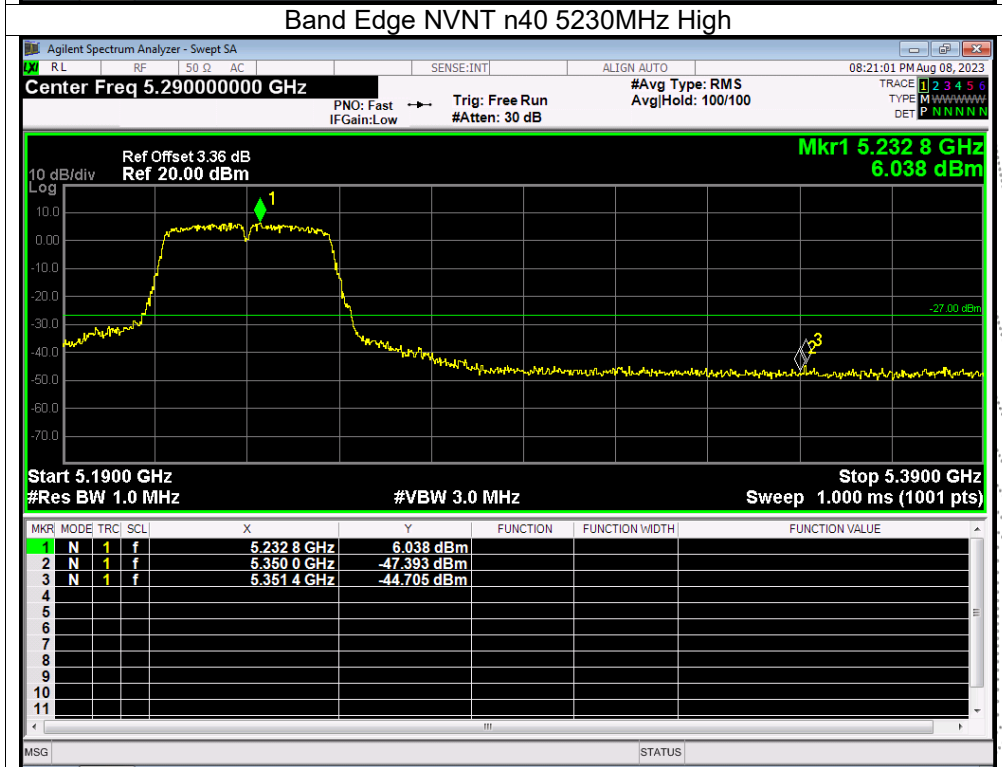
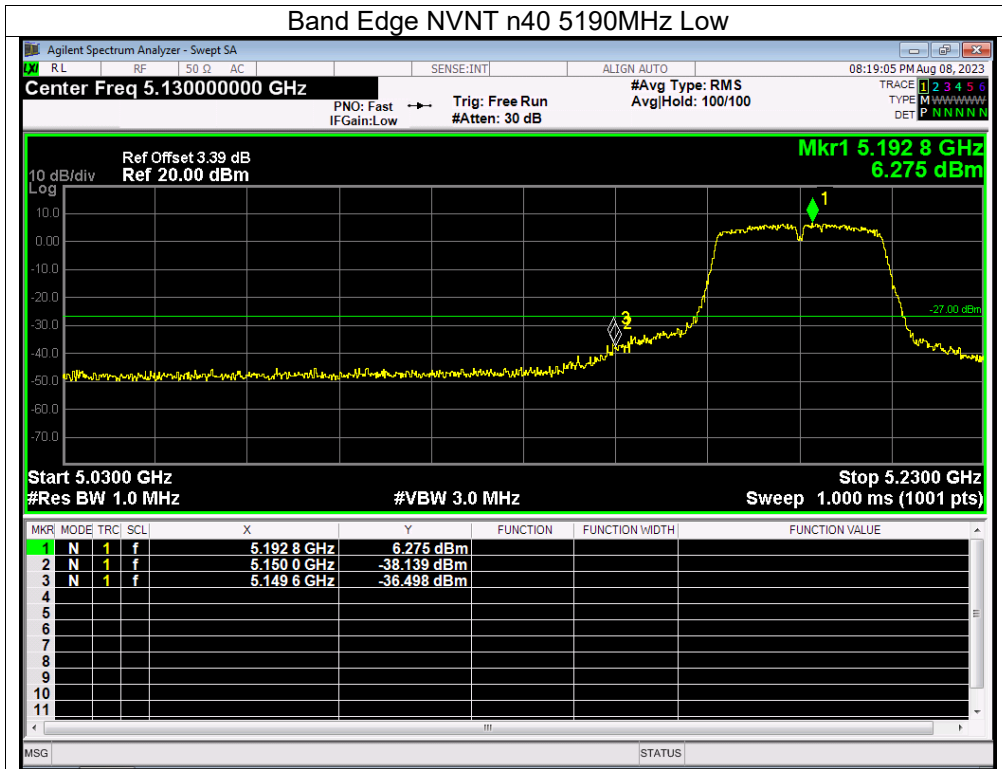


### 11.5 Test Result

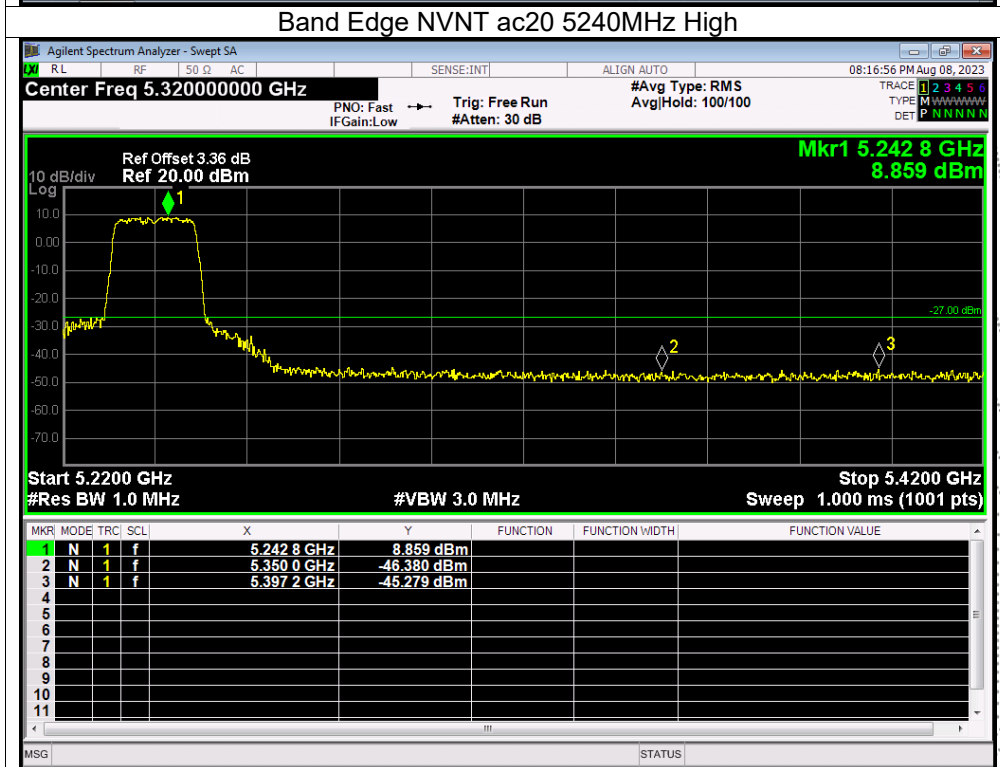
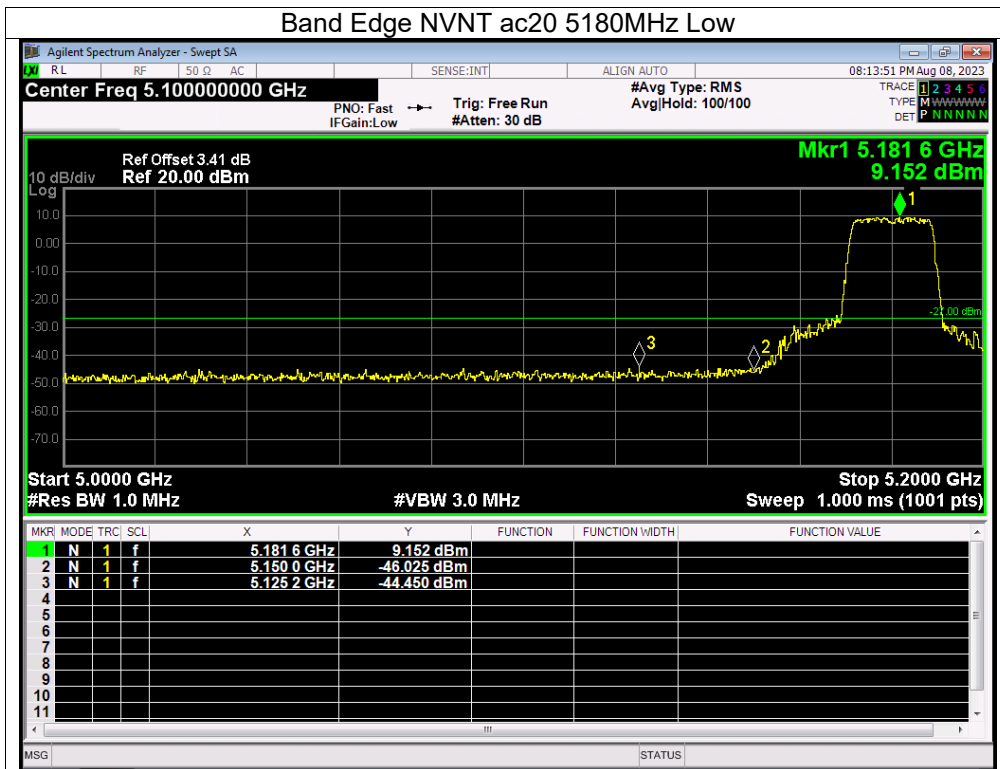
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A .  
 Plot. Antenna B: 5180-5240MHz



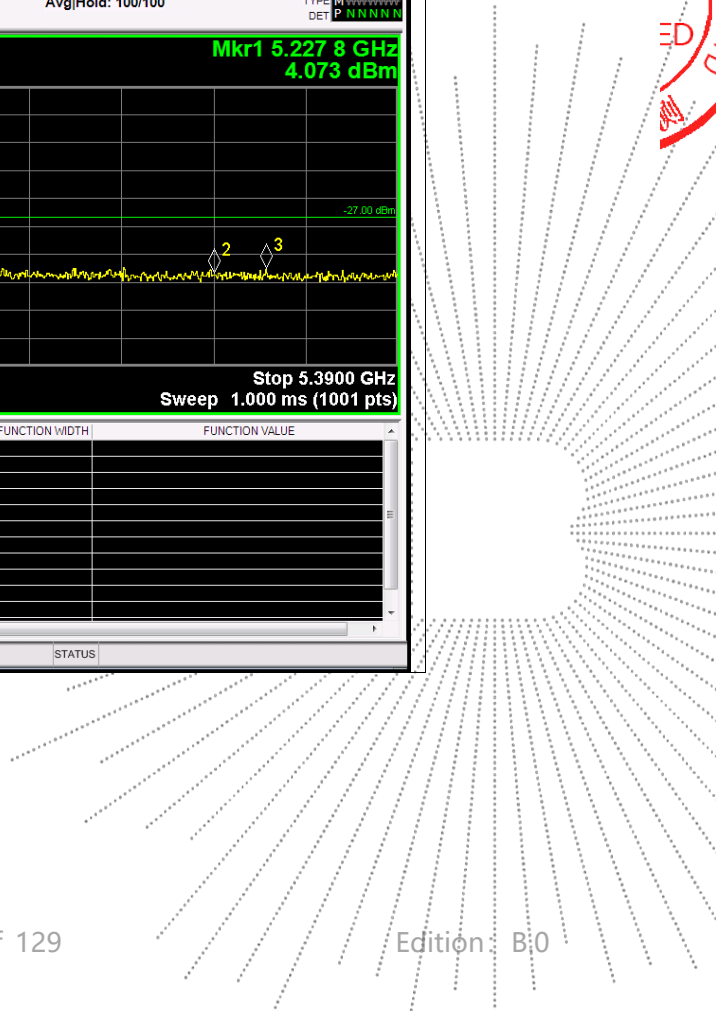
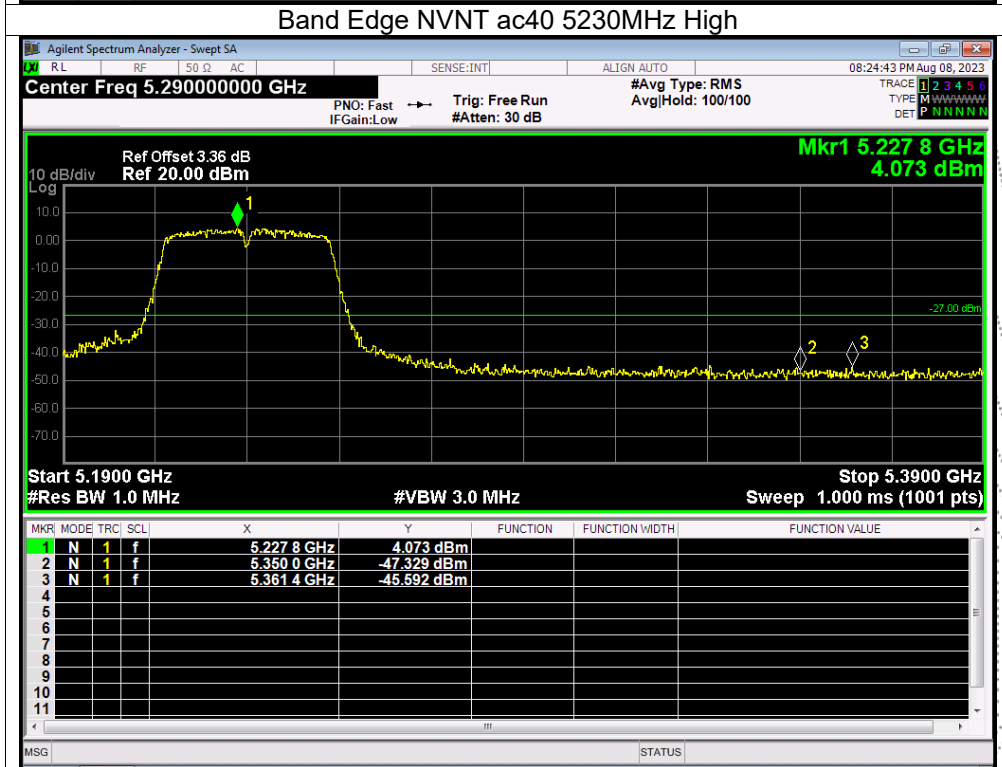
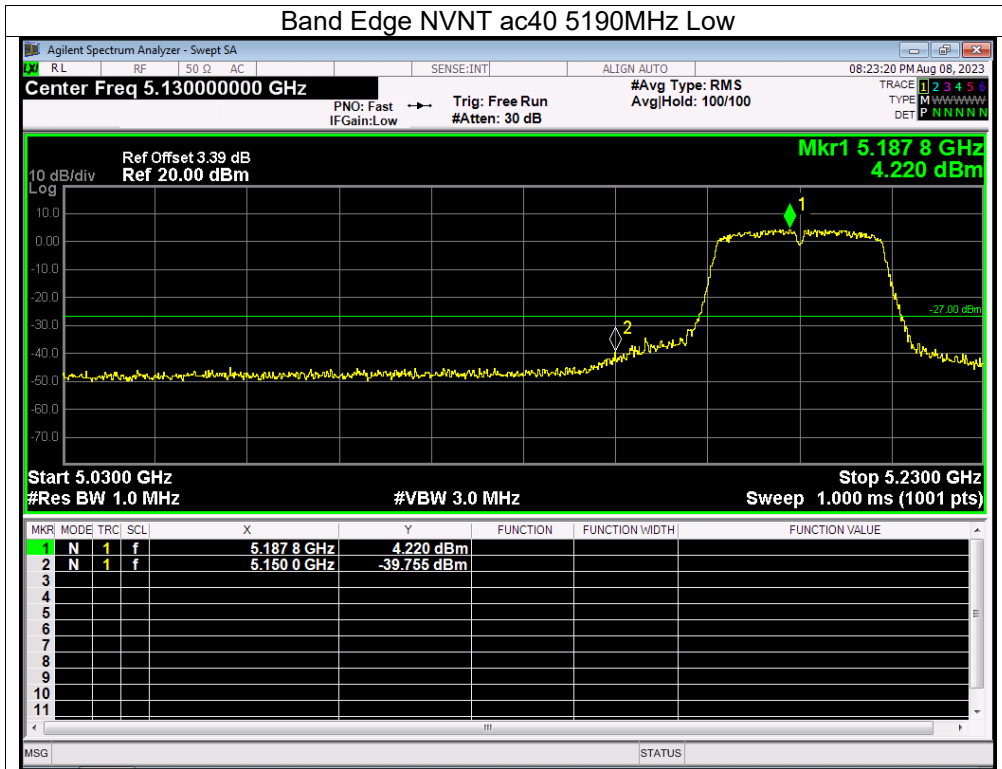


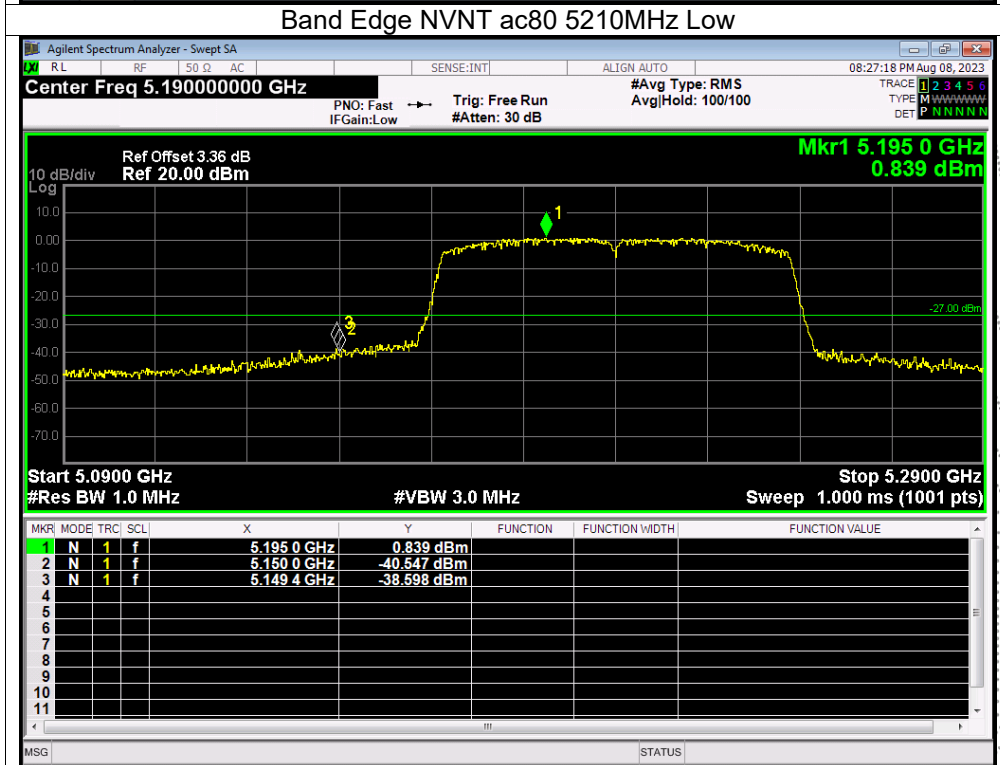
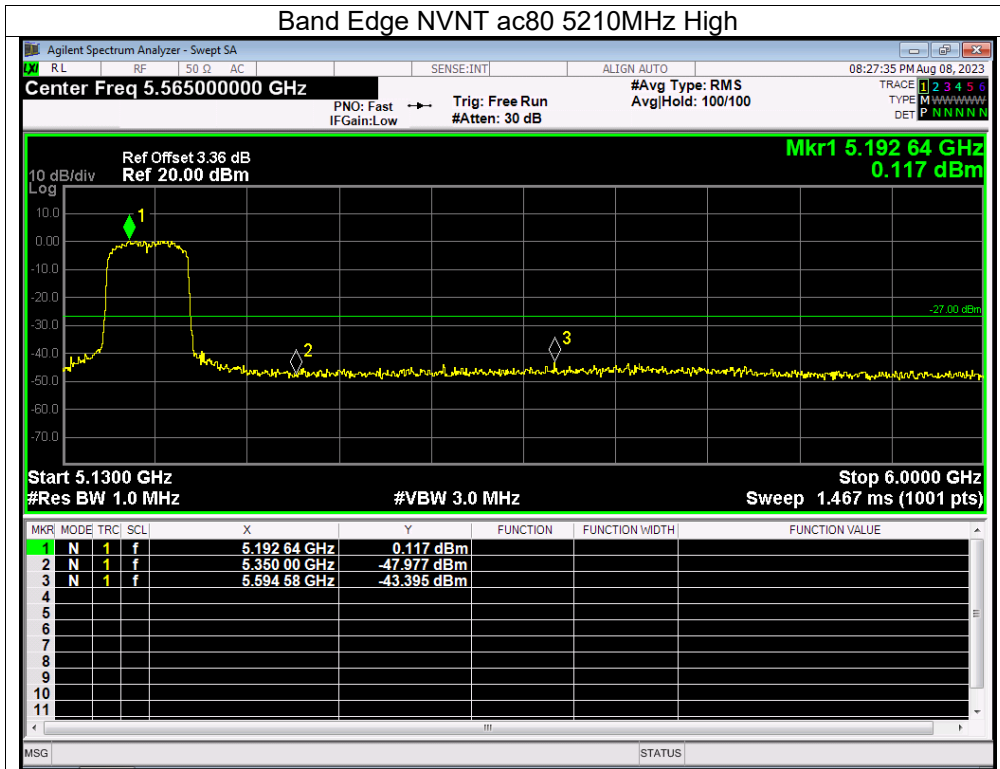


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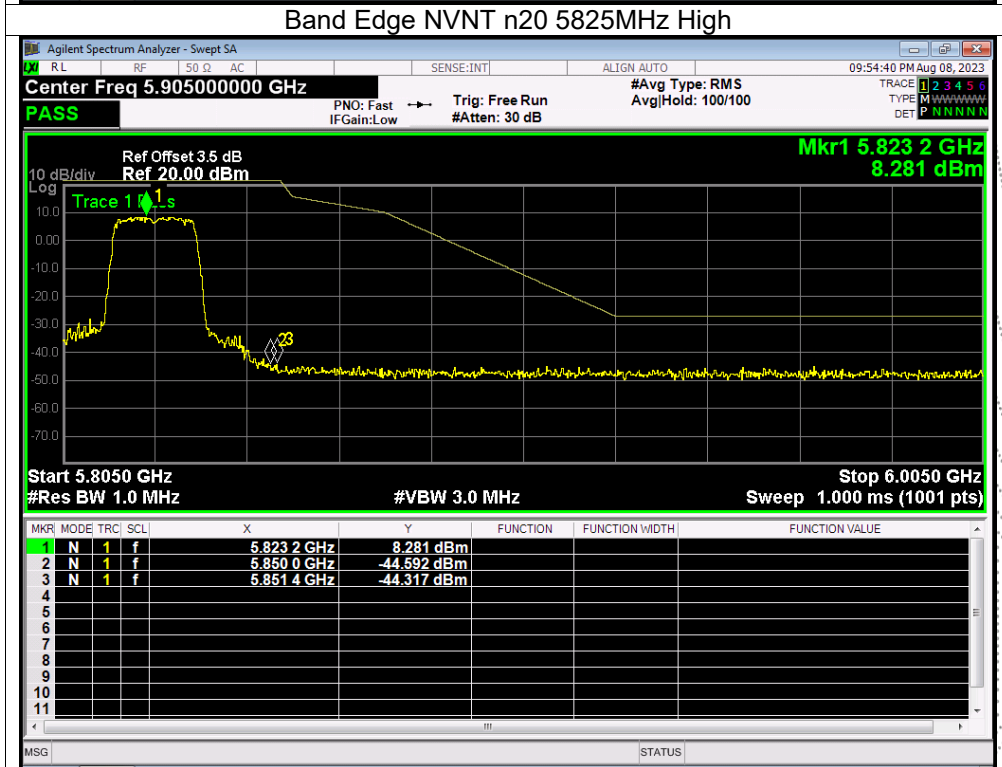
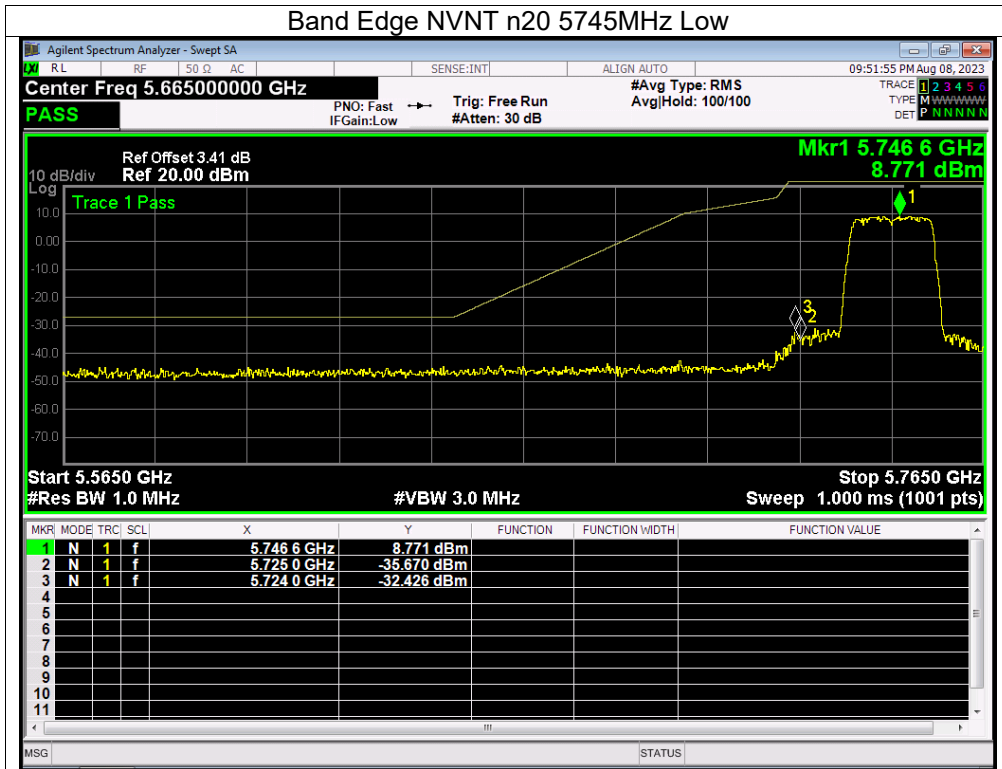


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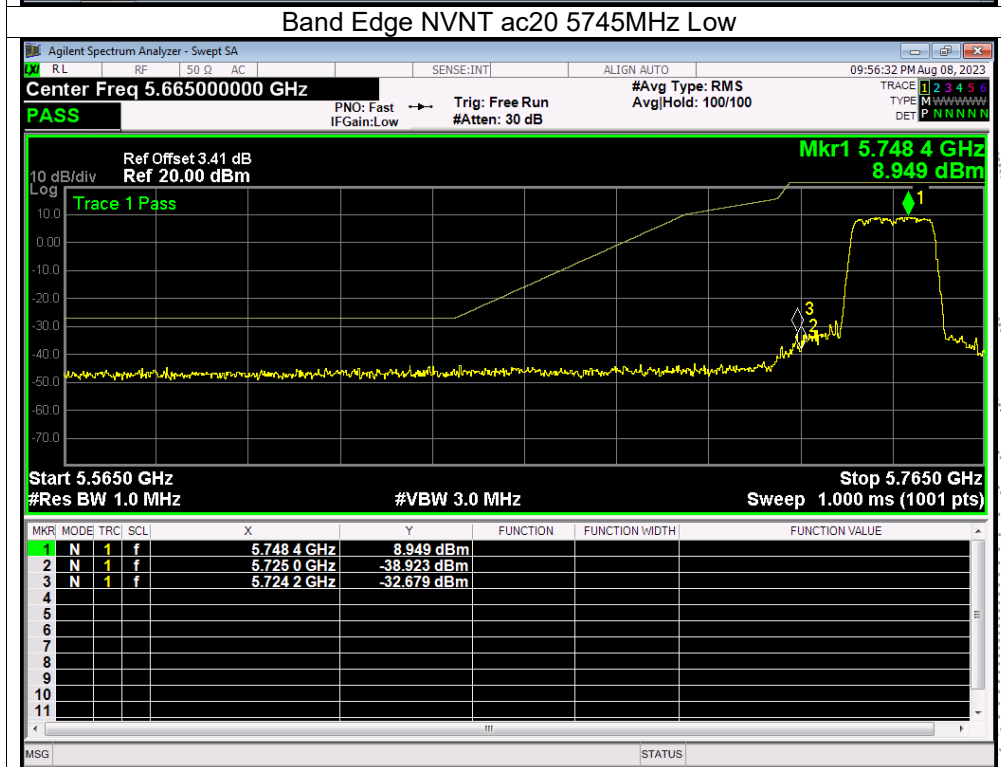
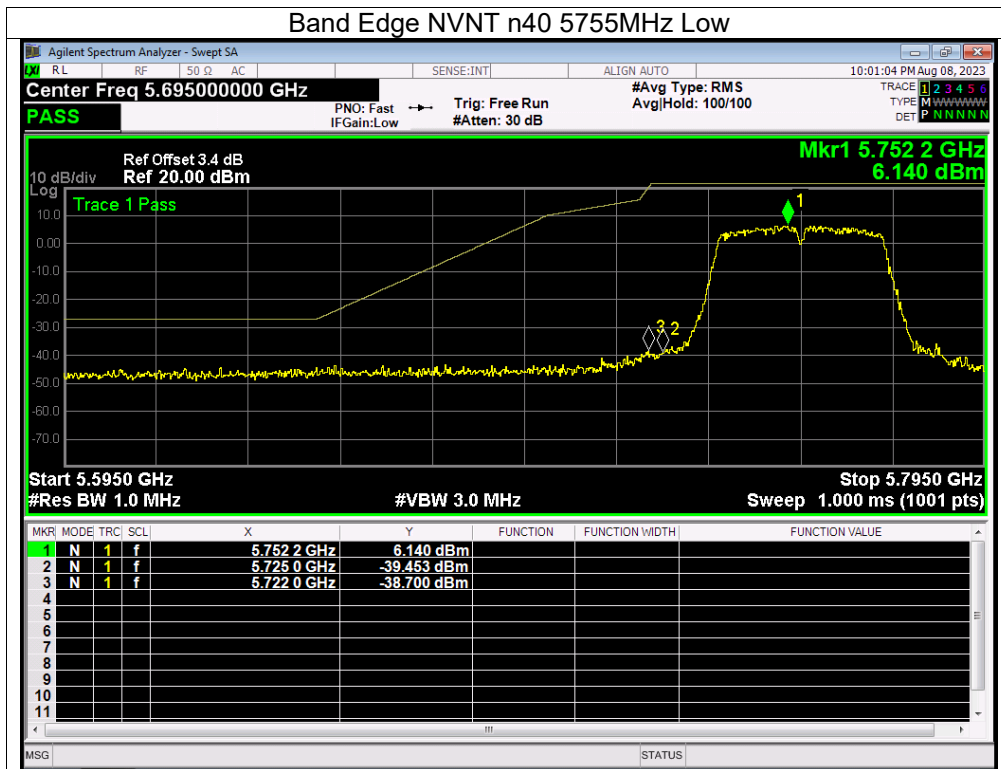
Note: A(B) Represent the value of antenna A and B. The worst data is Antenna A, only shown Antenna A.  
 Antenna B: 5745-58250MHz



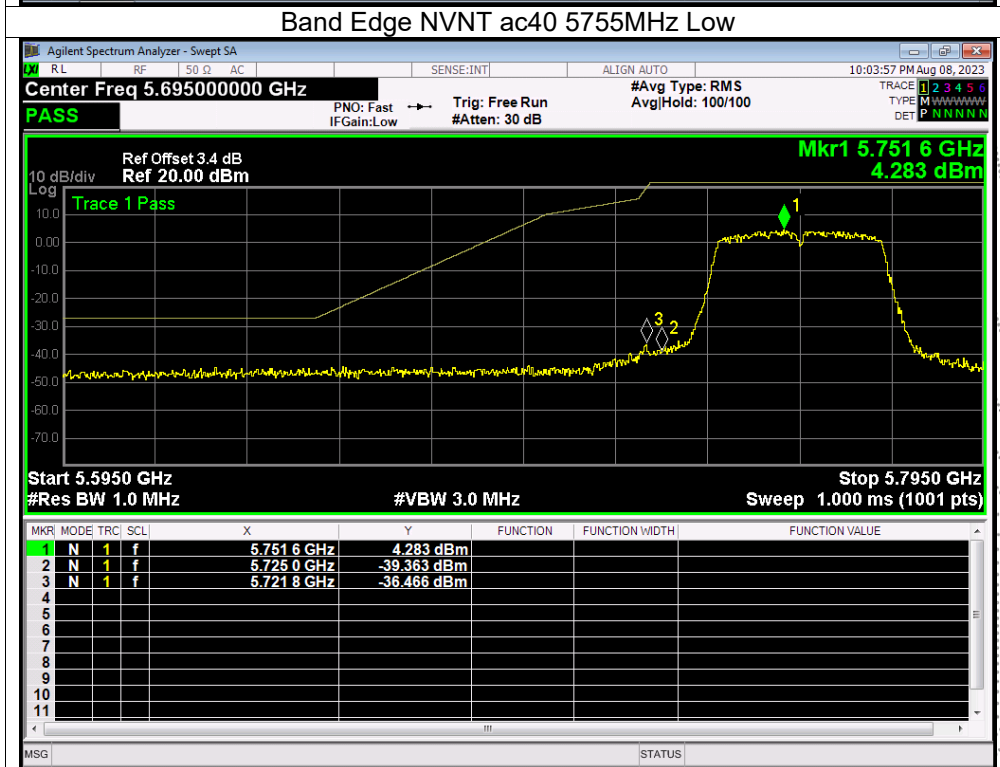
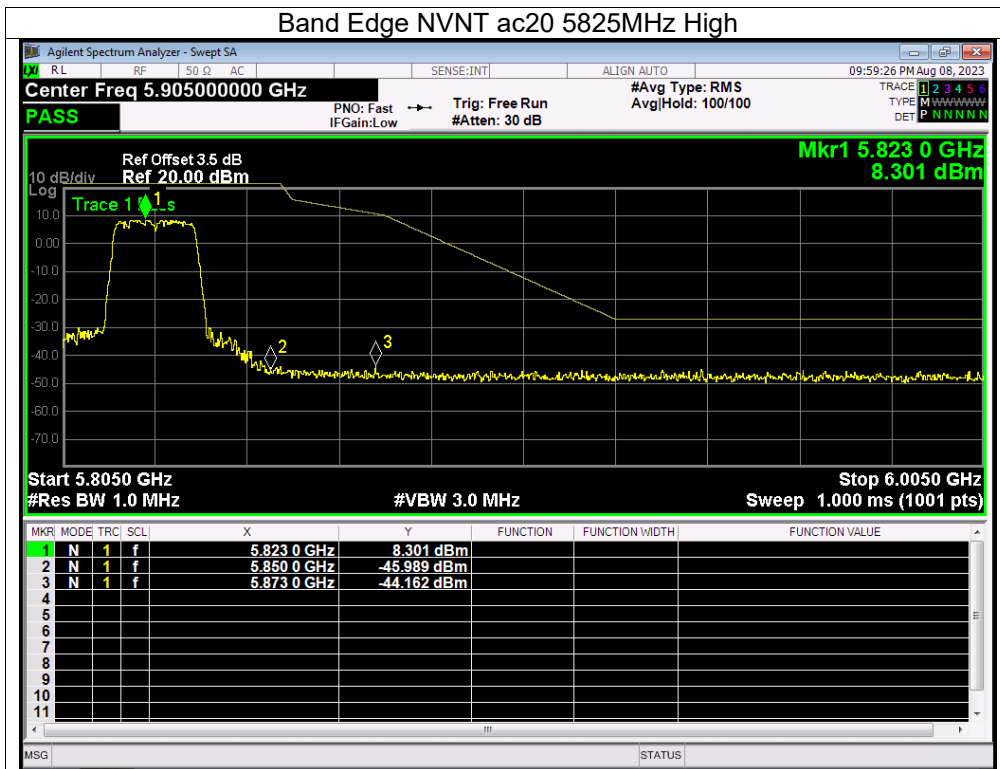
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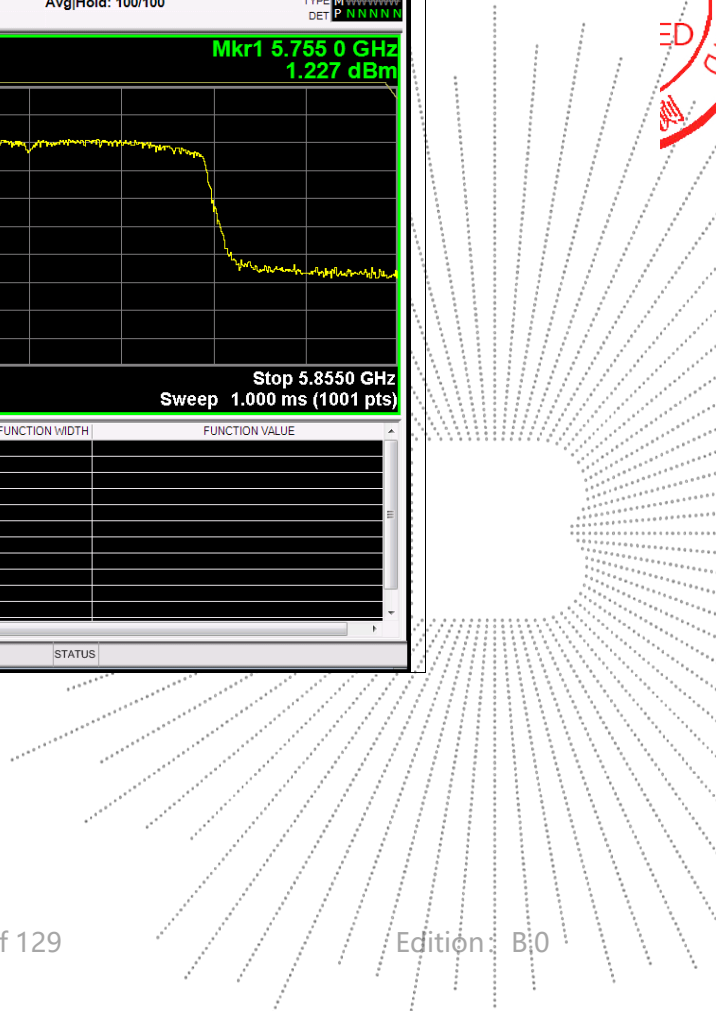
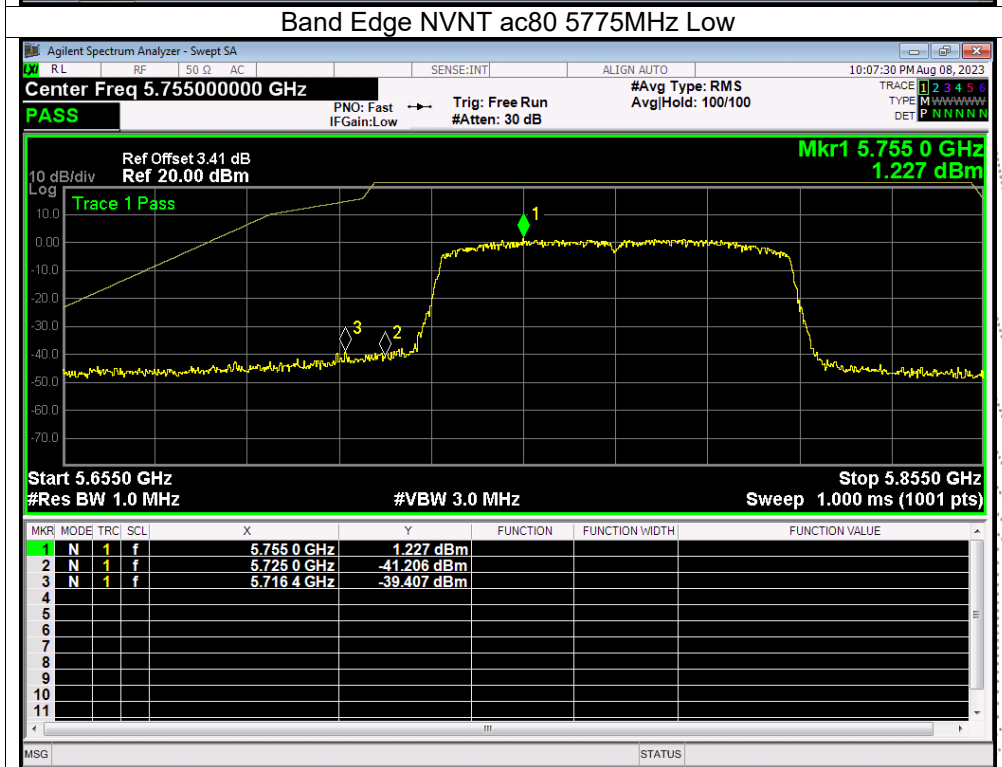
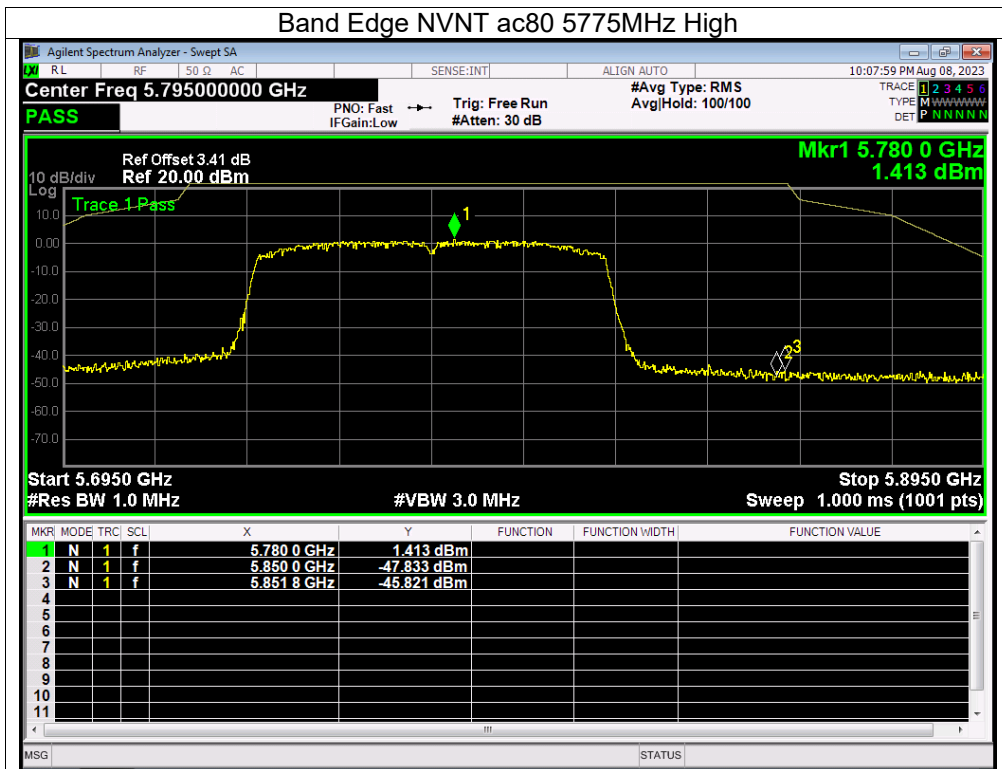






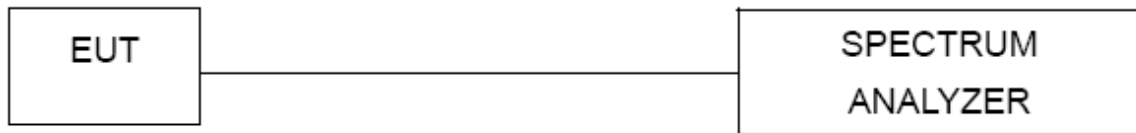
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## 12. Spurious RF Conducted Emissions

### 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

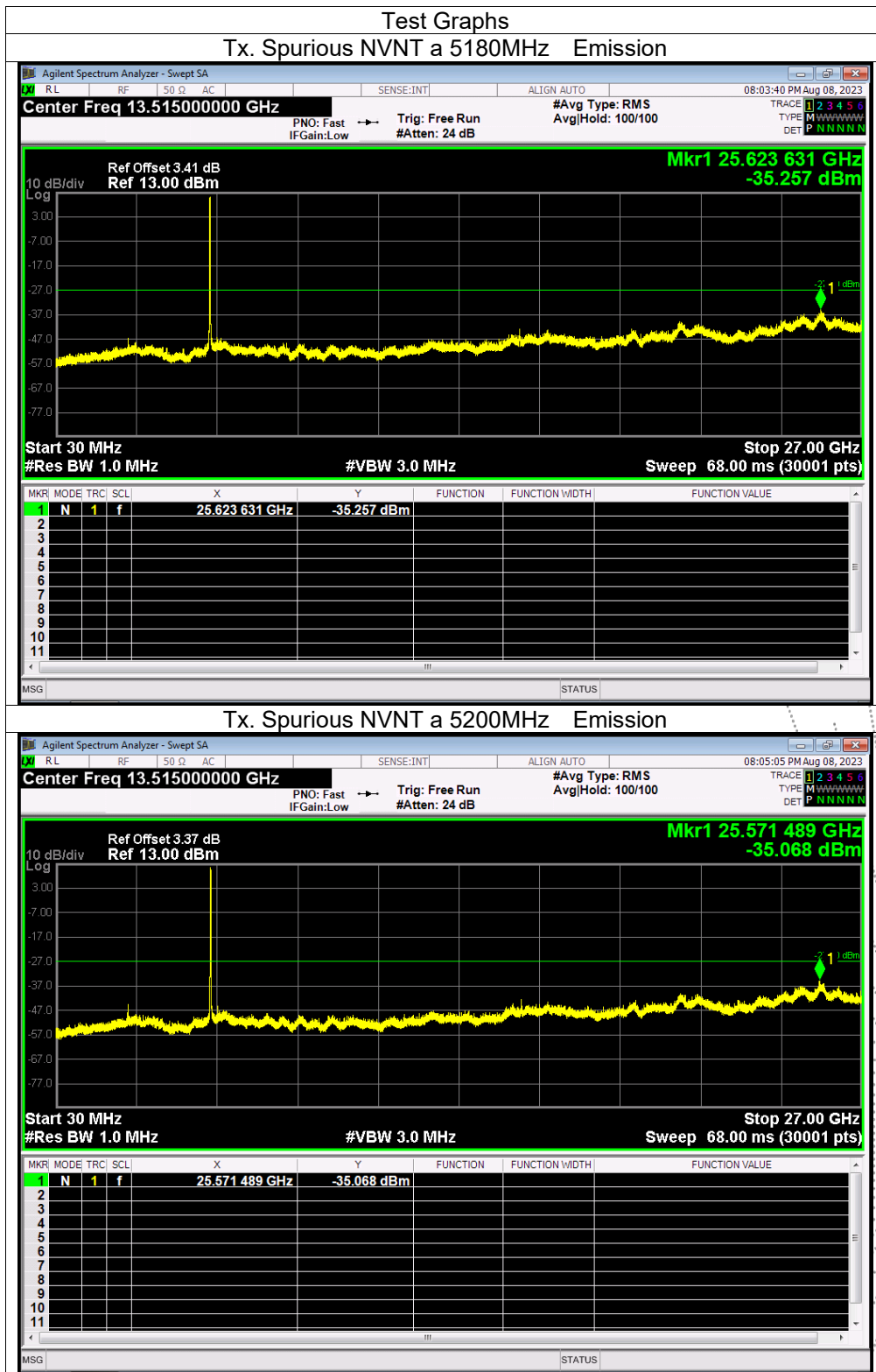
1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then 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

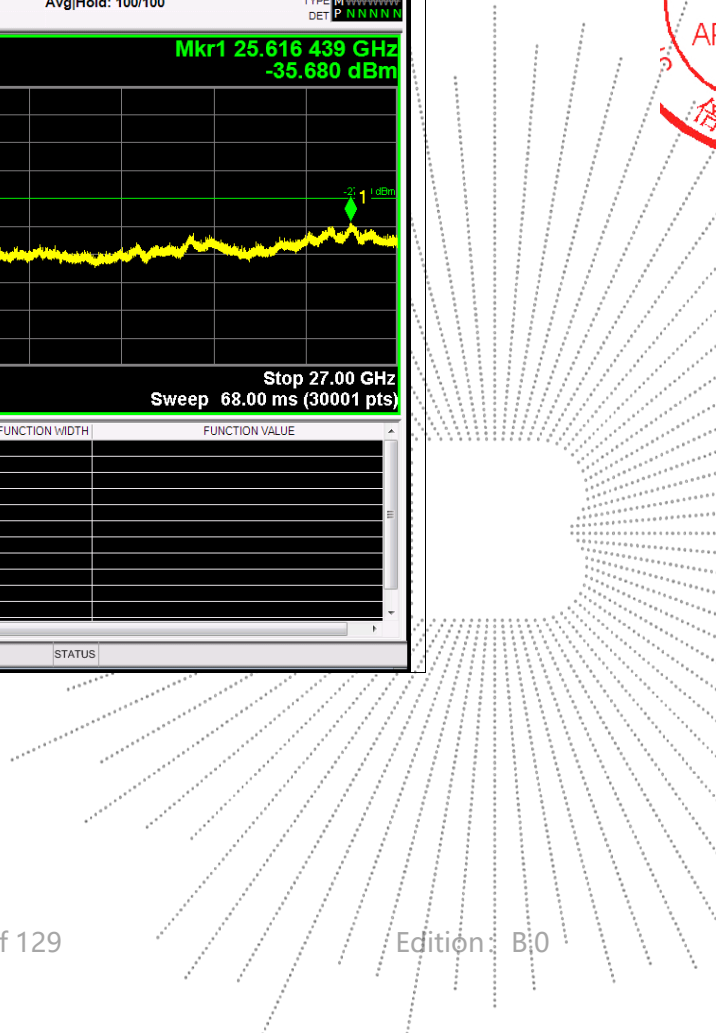
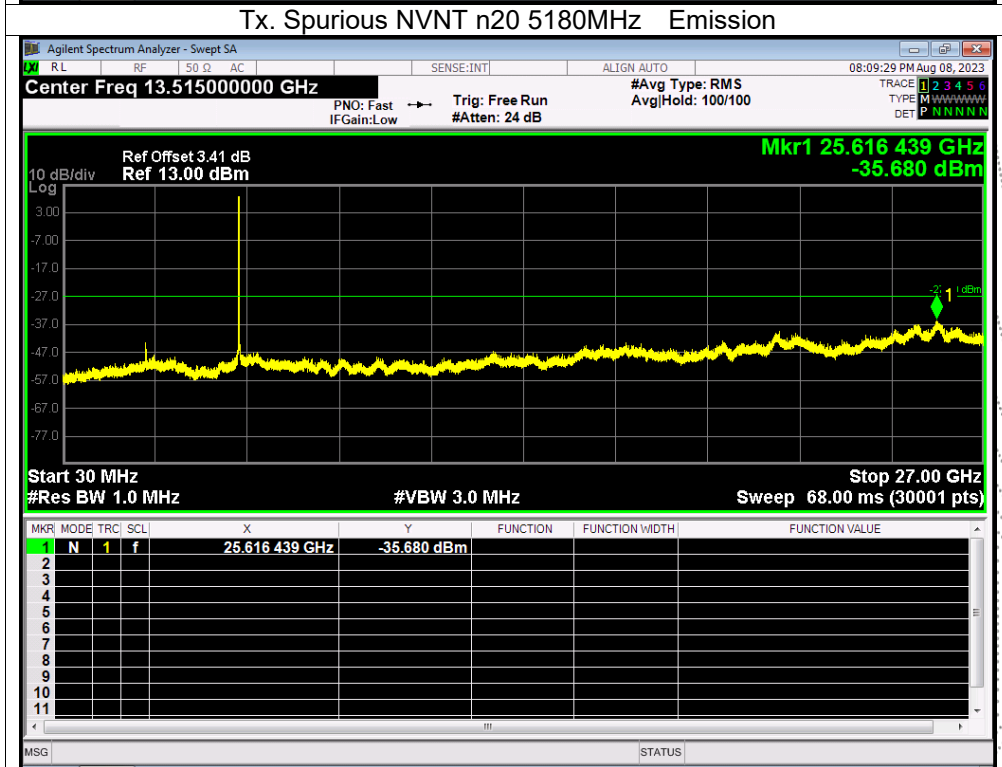
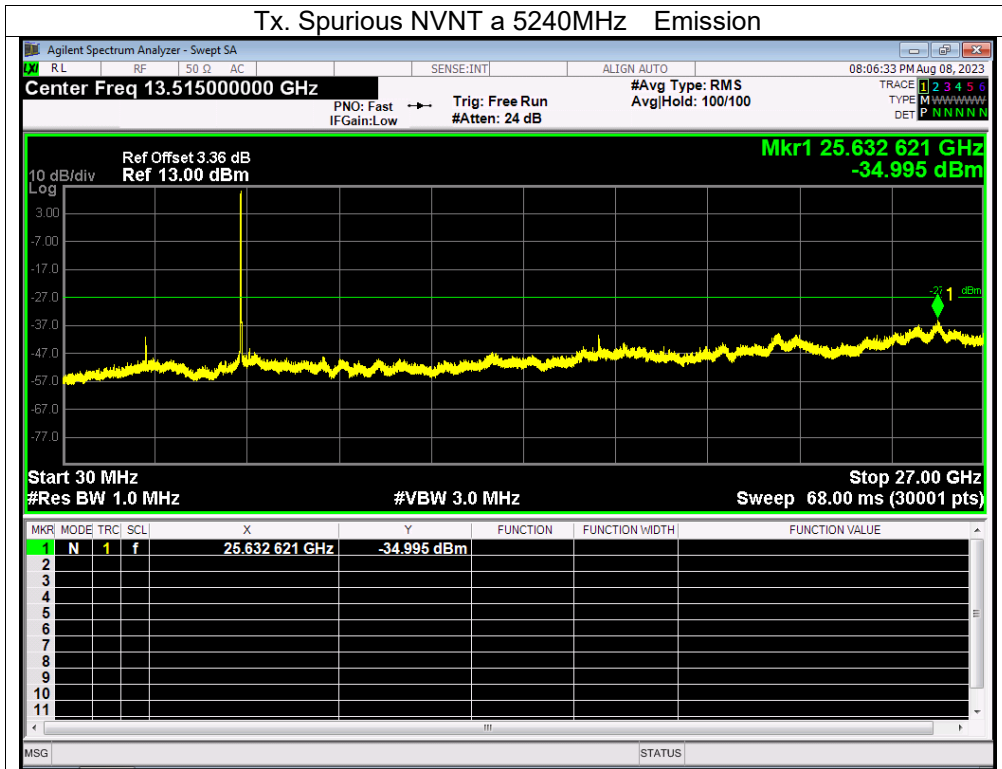
Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and band edge measurement data.

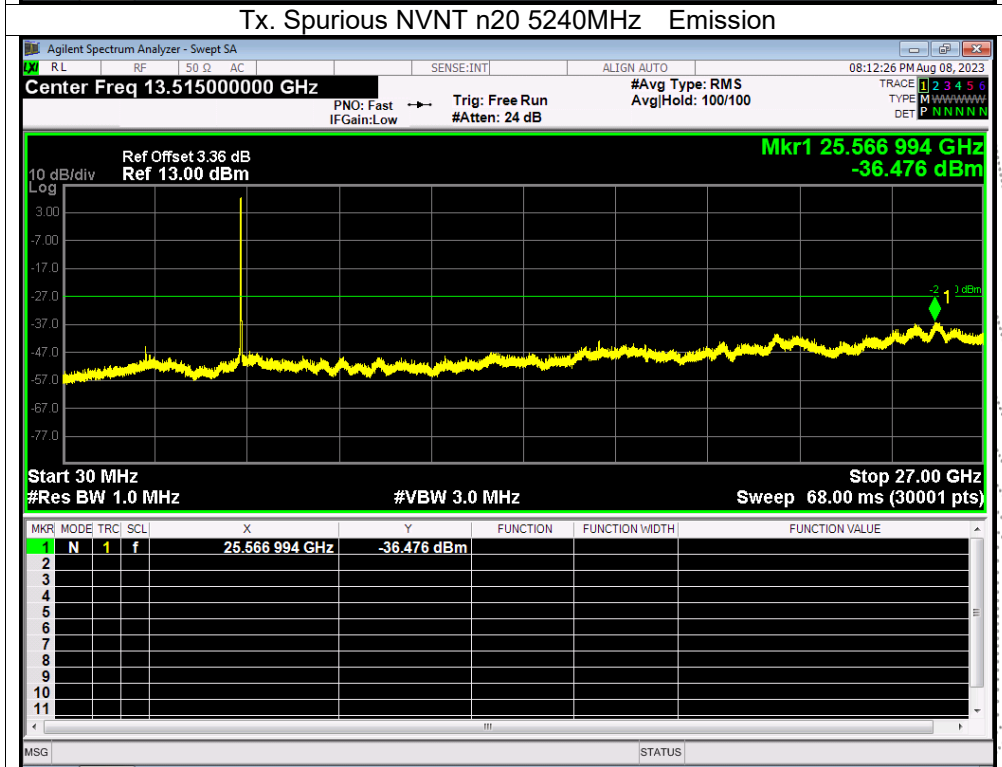
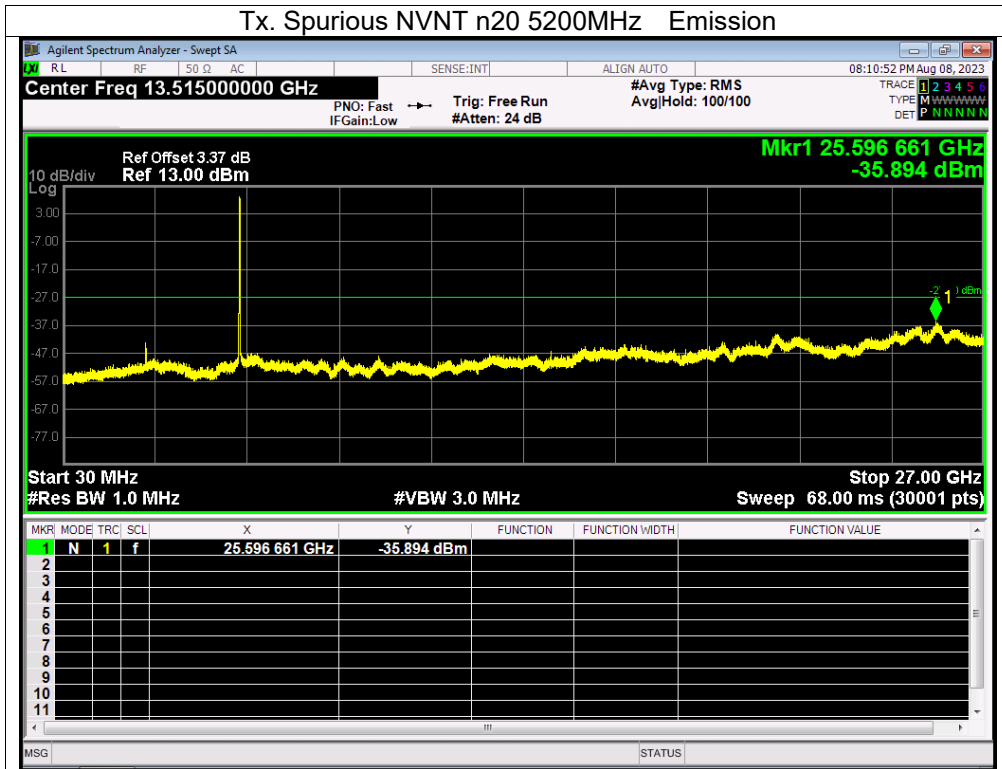
About: 26.5GHz-40GHz, The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A.  
 Plot. Antenna B: 5180-5240MHz

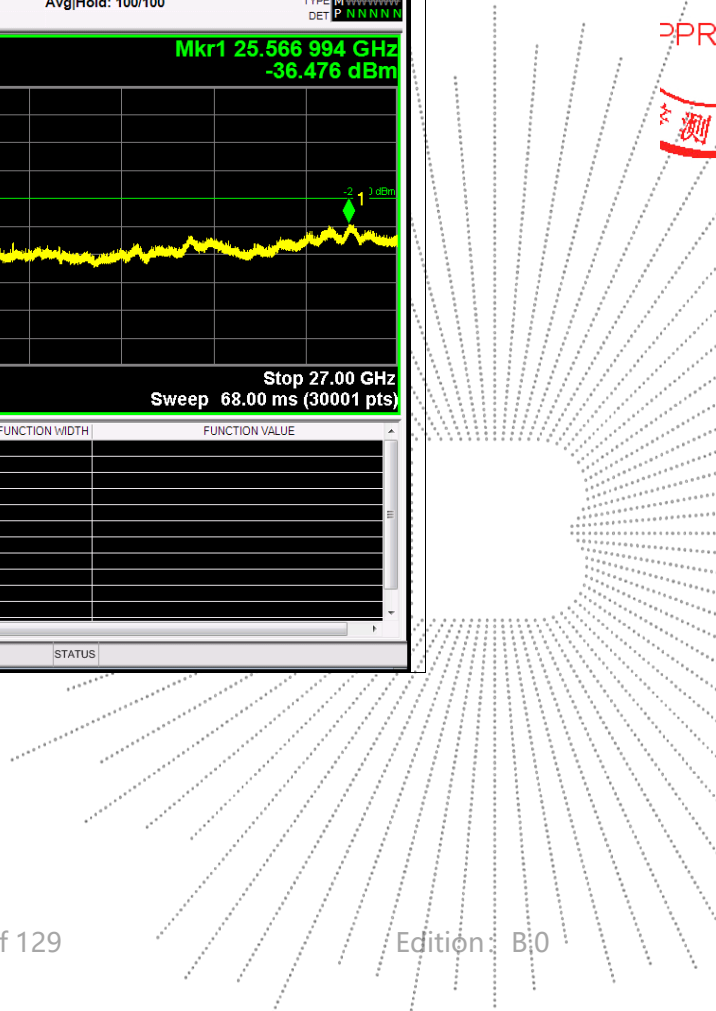


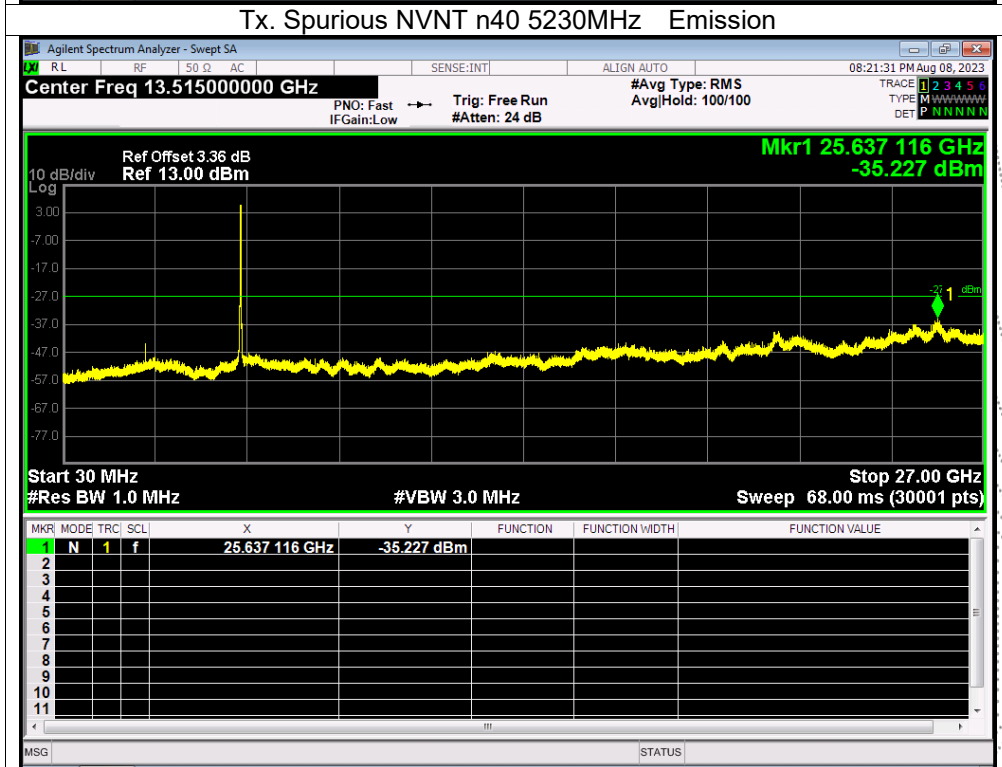
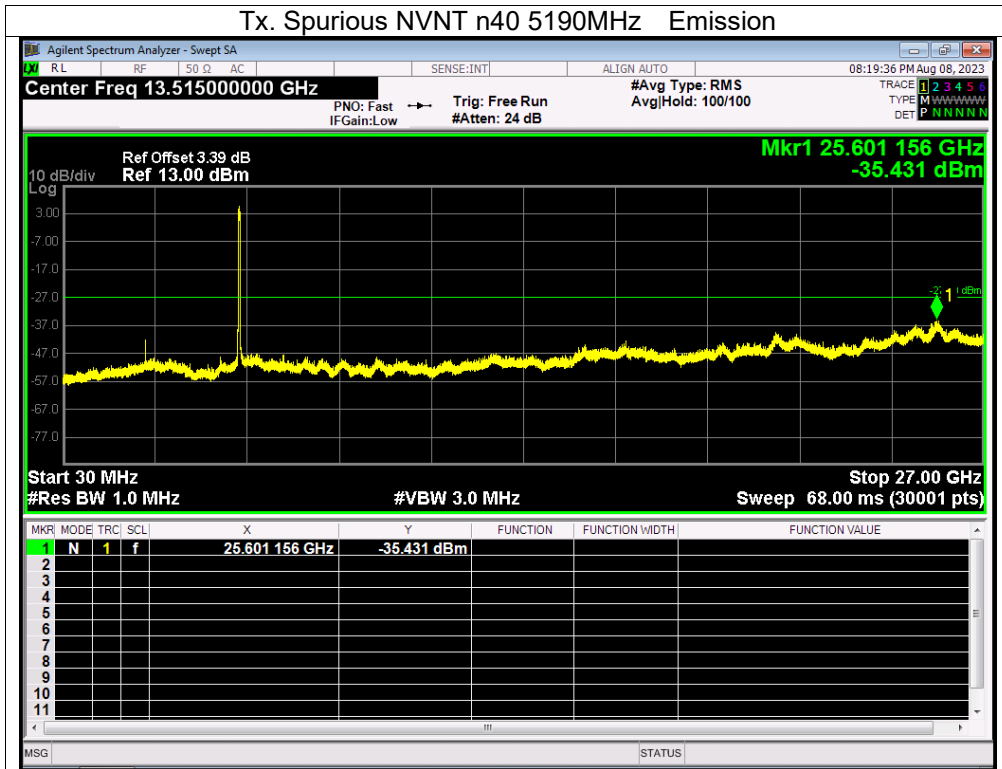
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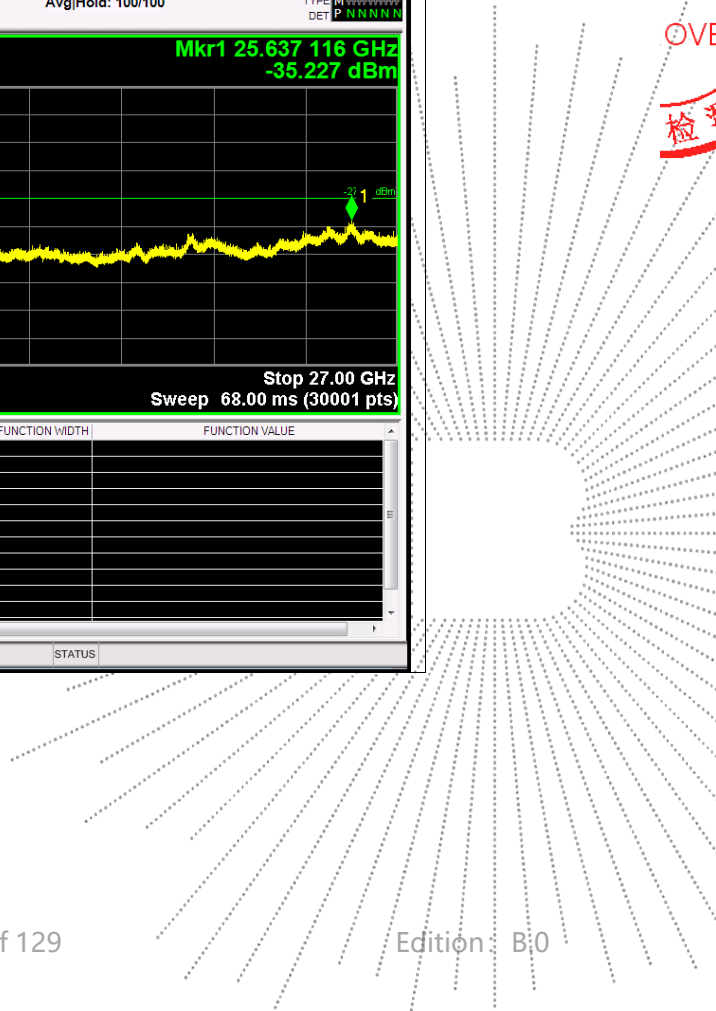


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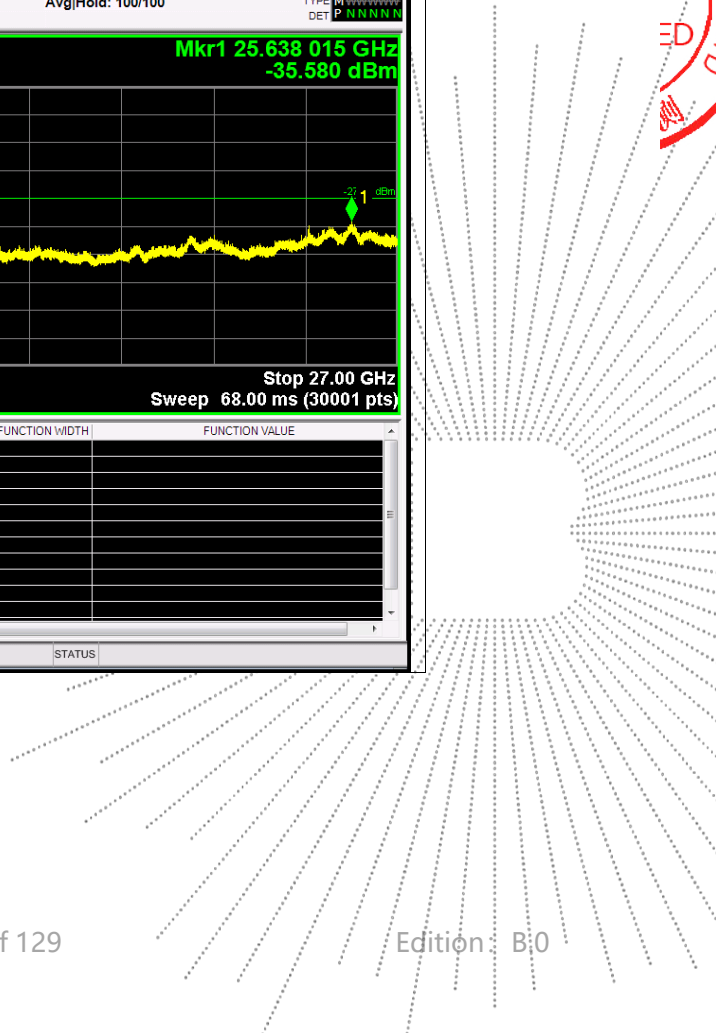
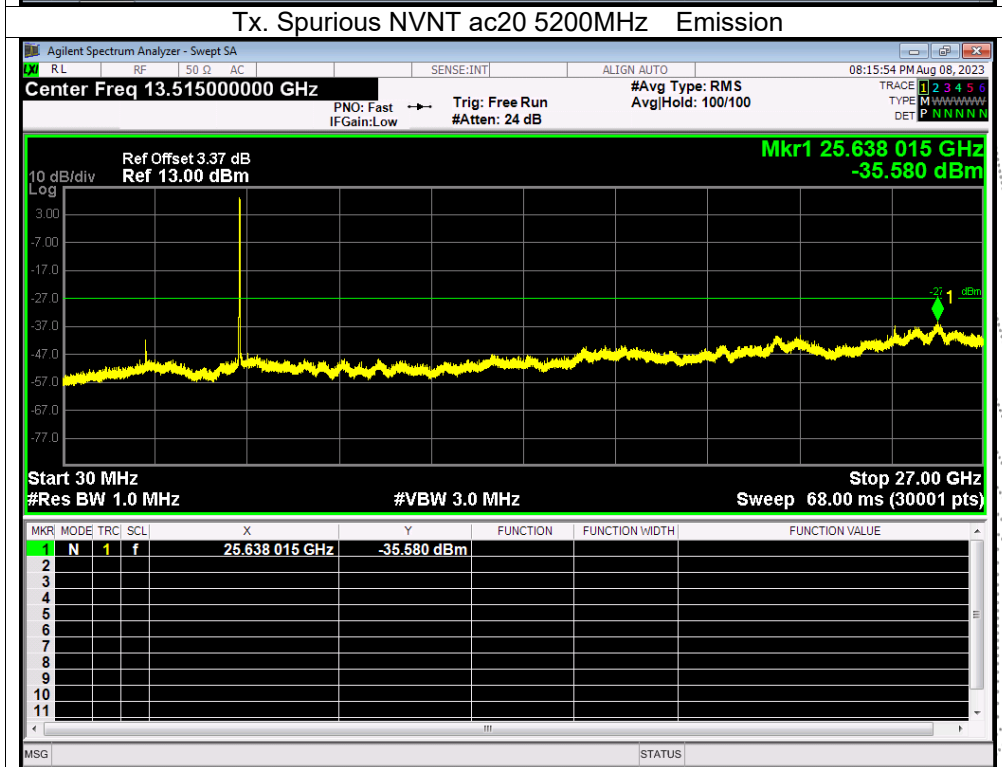
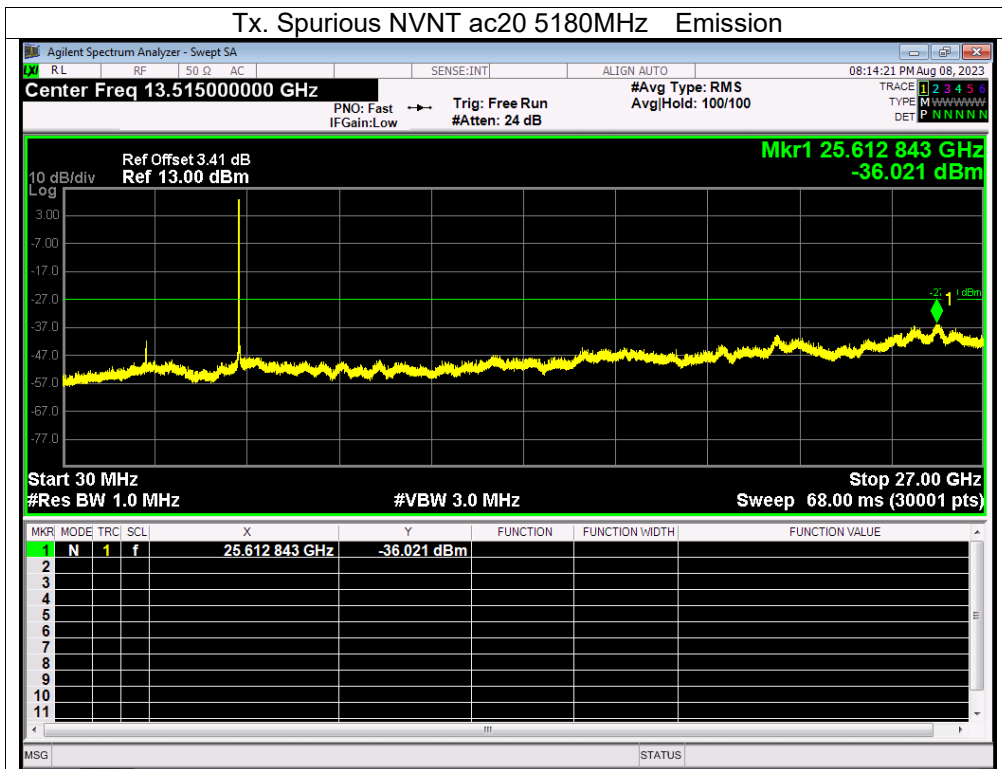


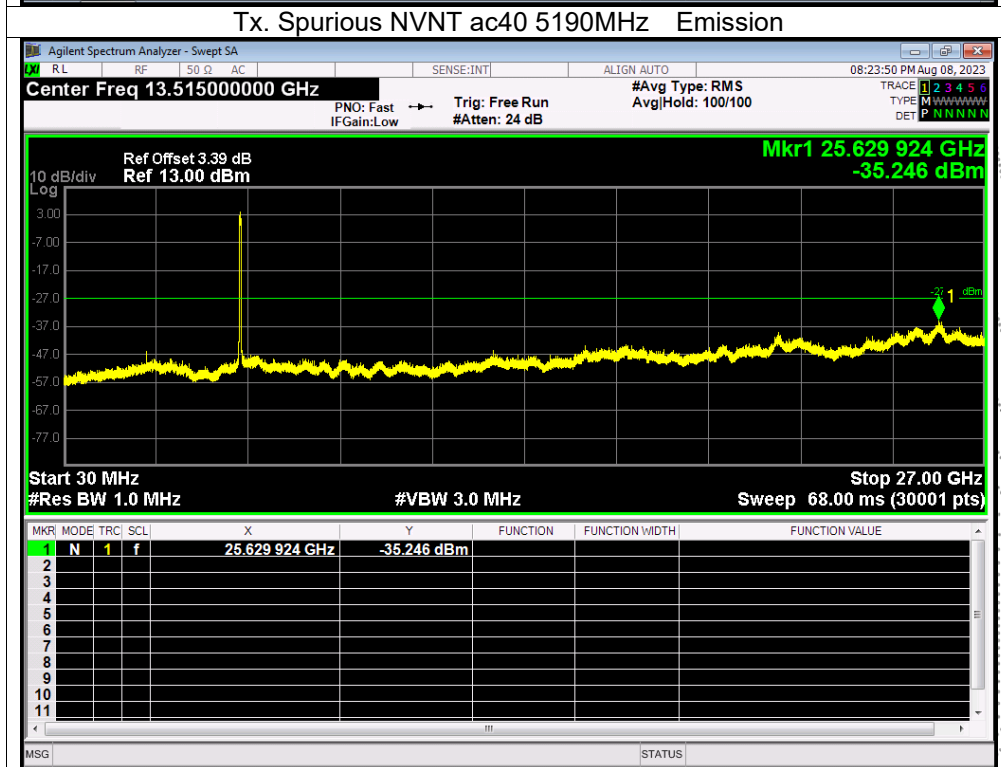
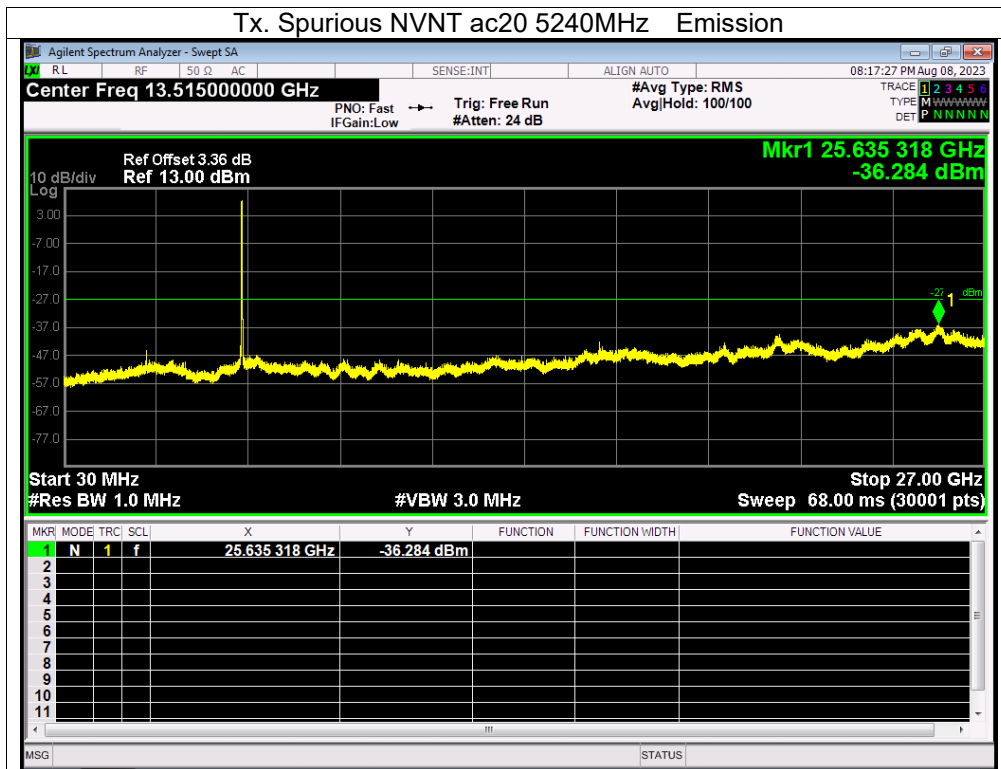


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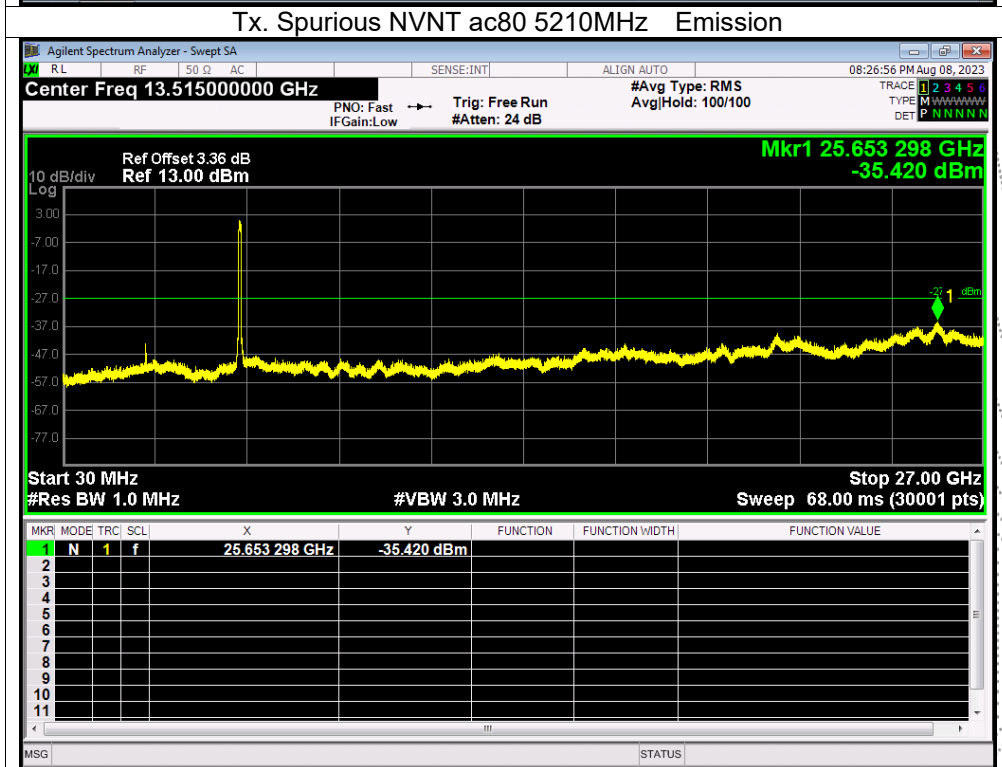
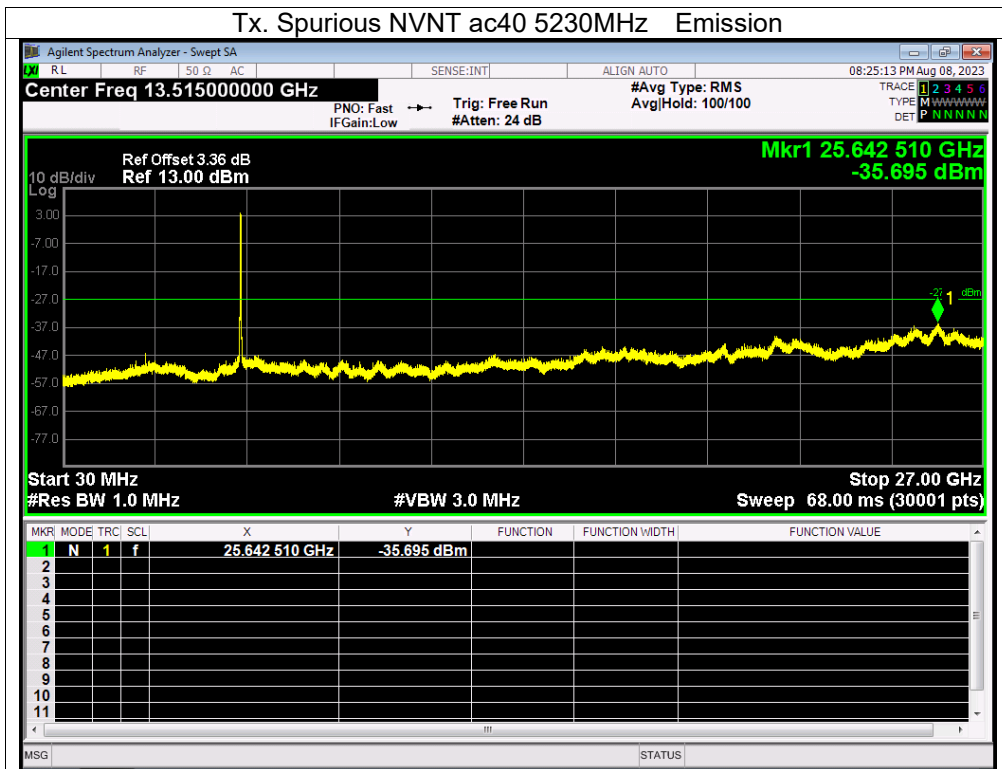






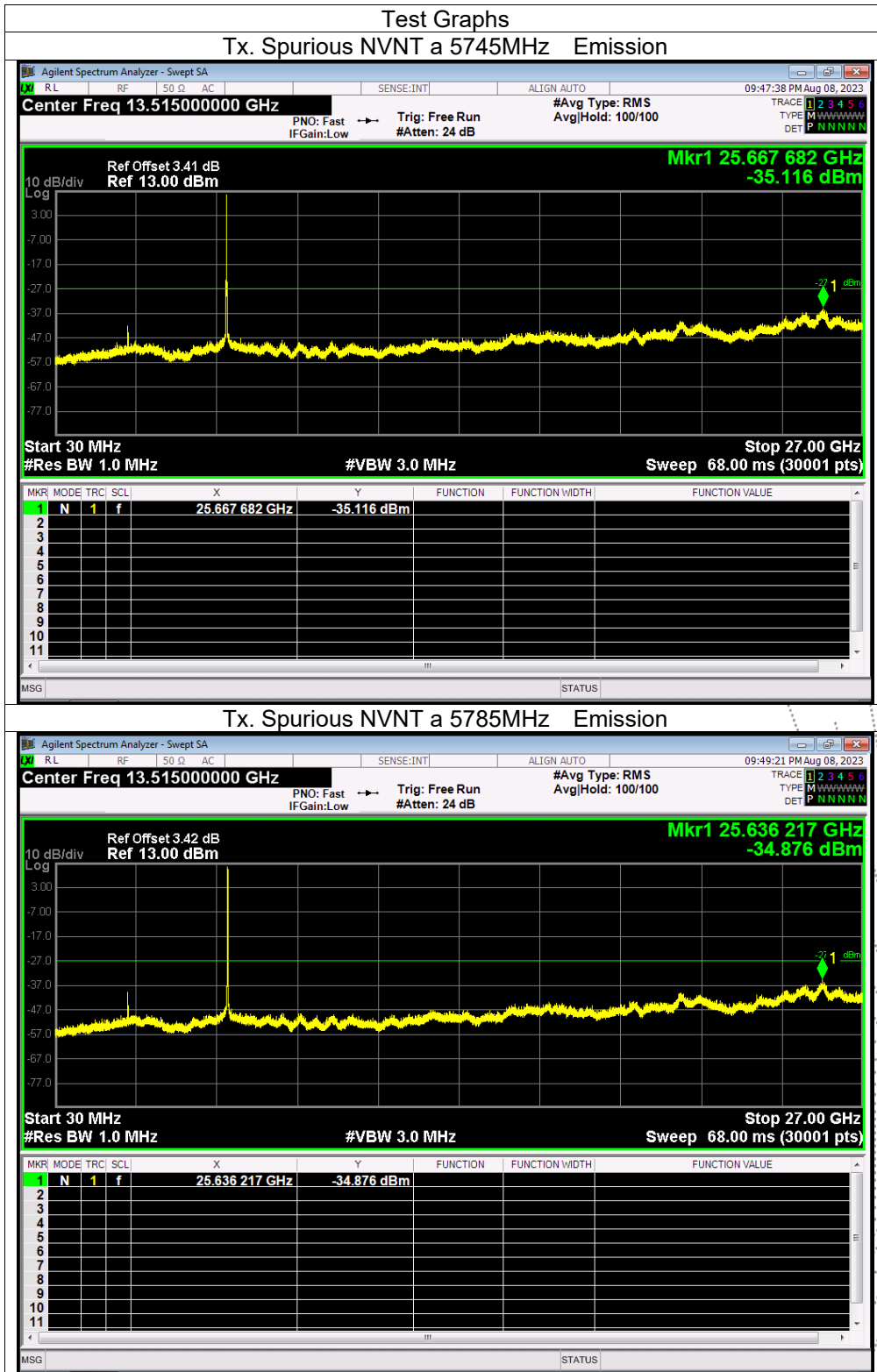


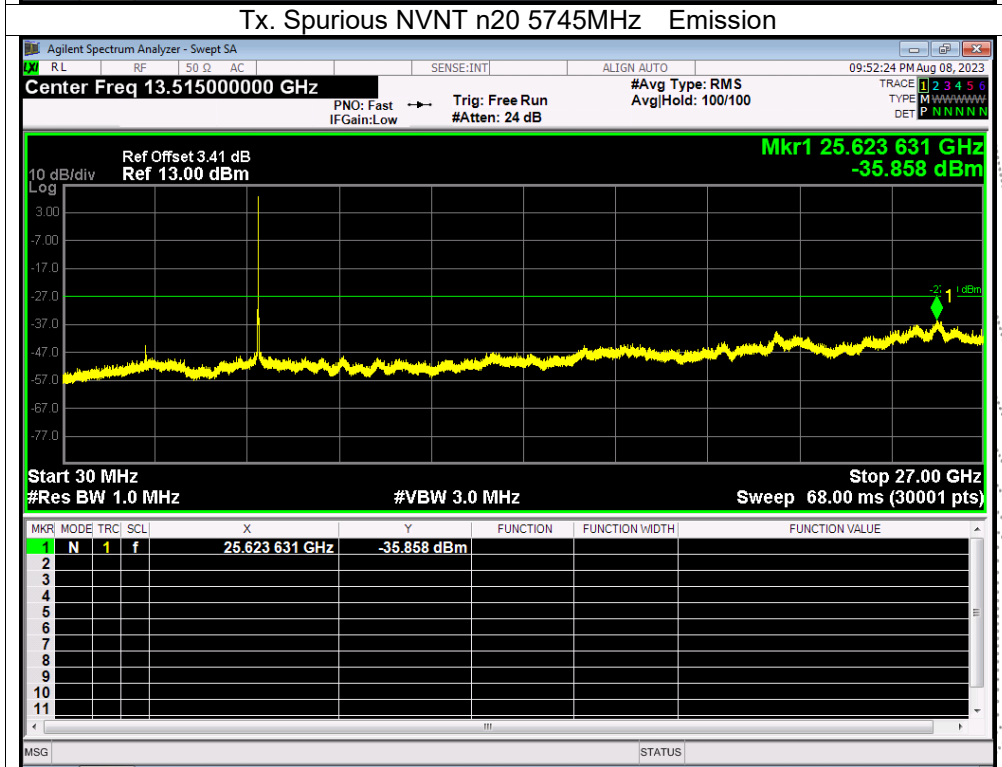
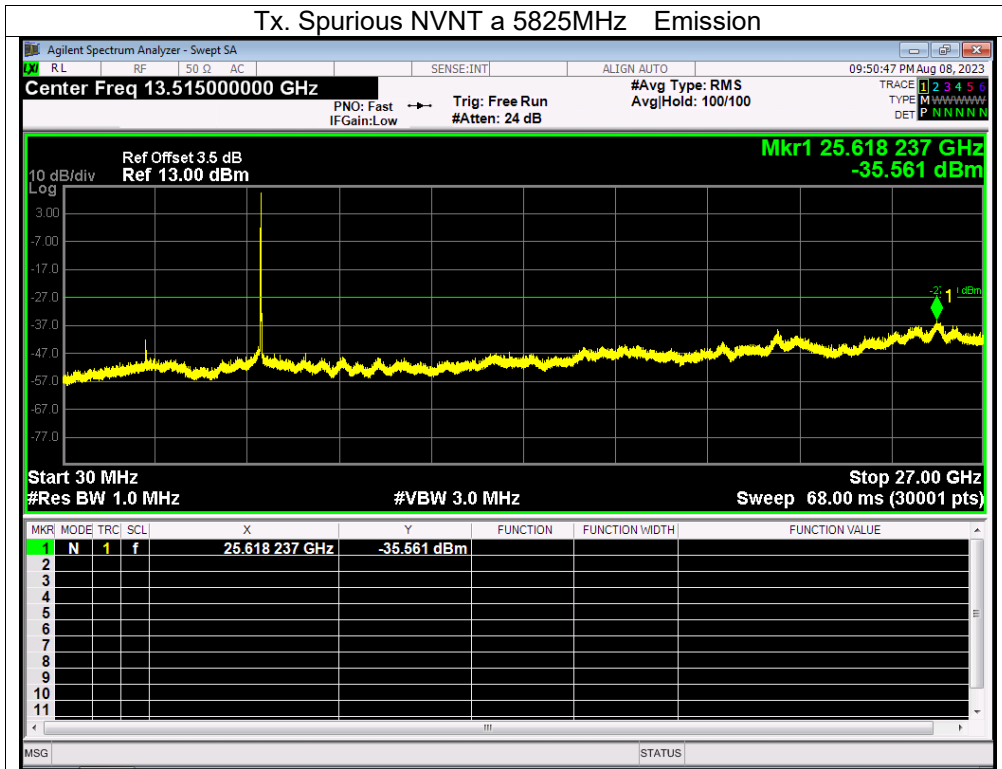
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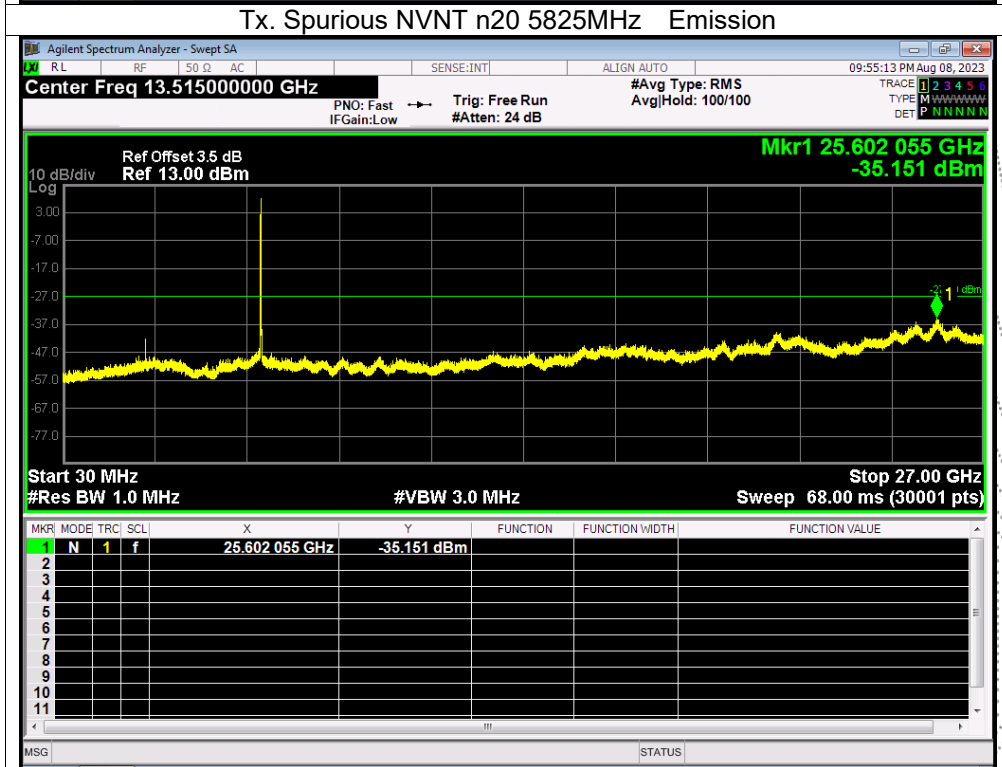
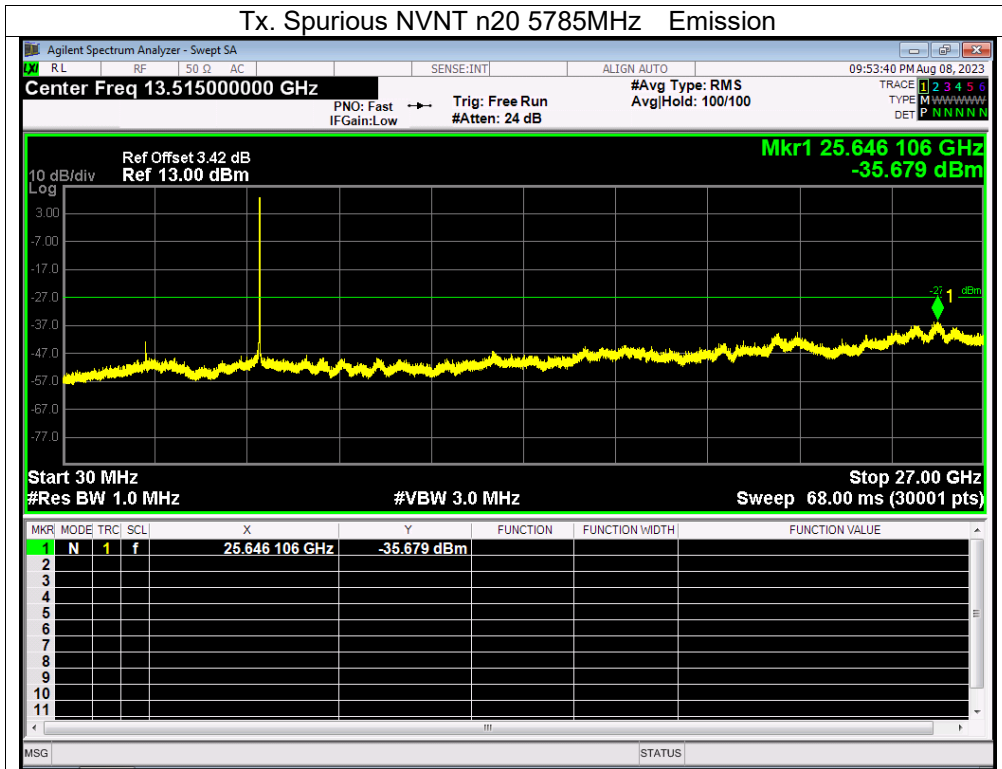
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Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A, only shown Antenna A.  
 Antenna B: 5745-58250MHz

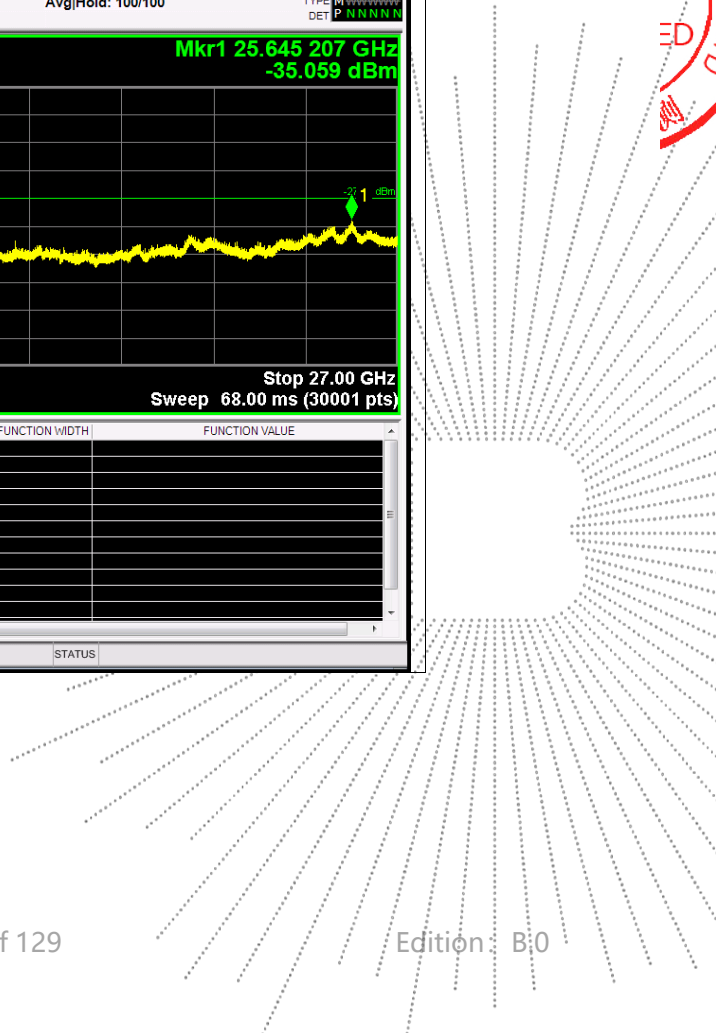
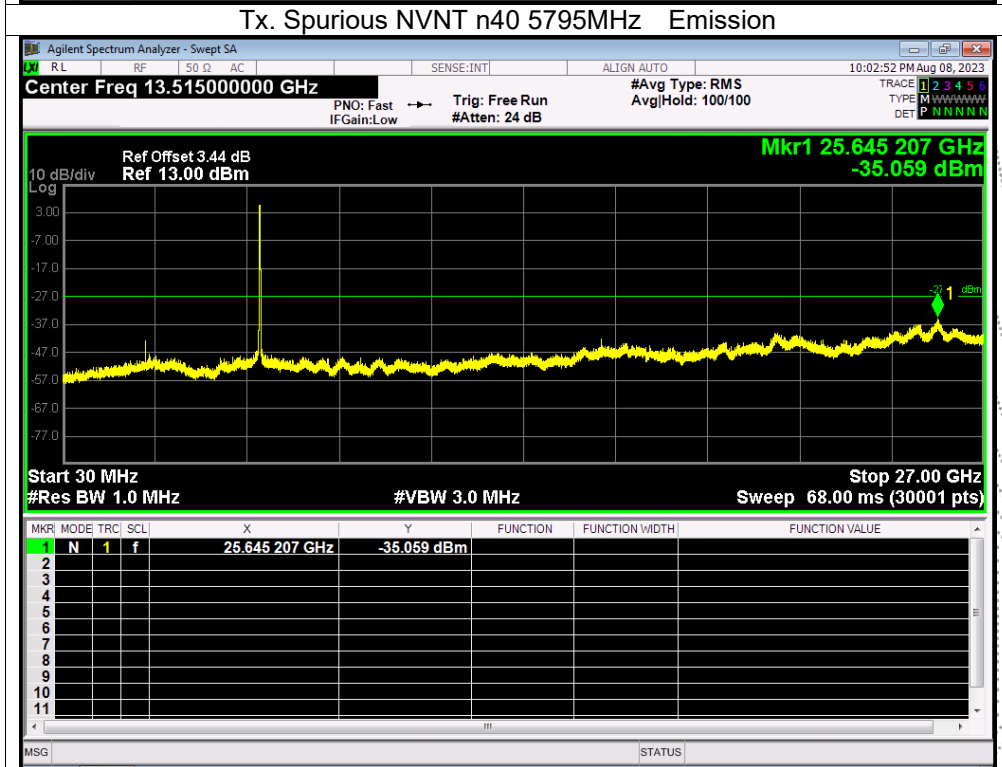
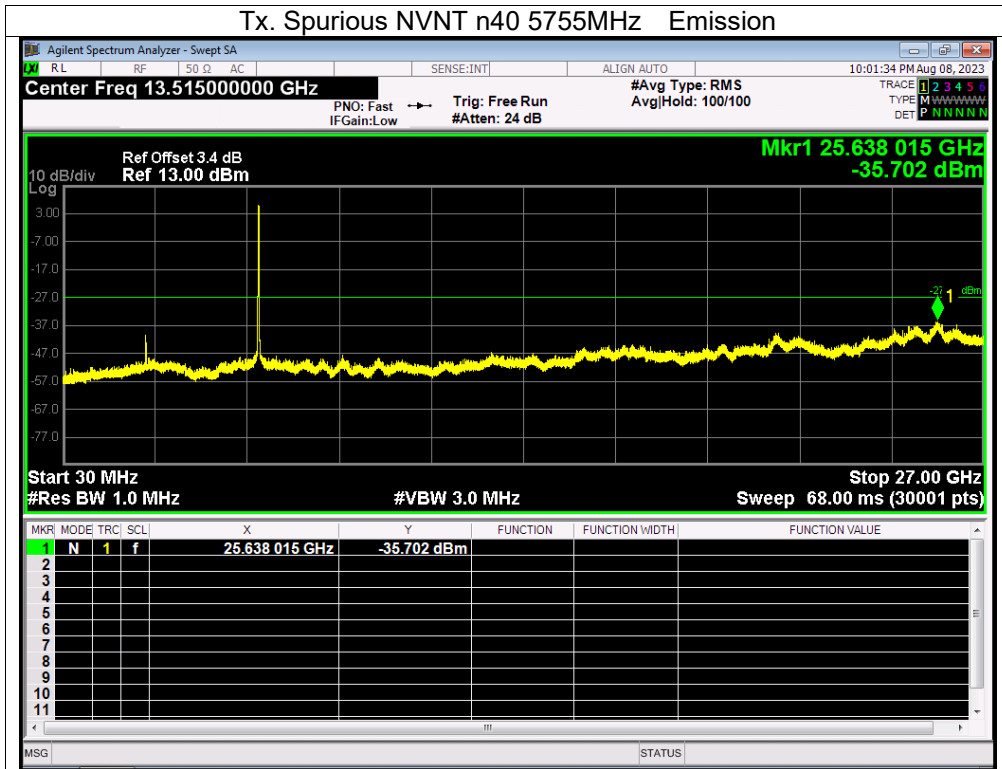


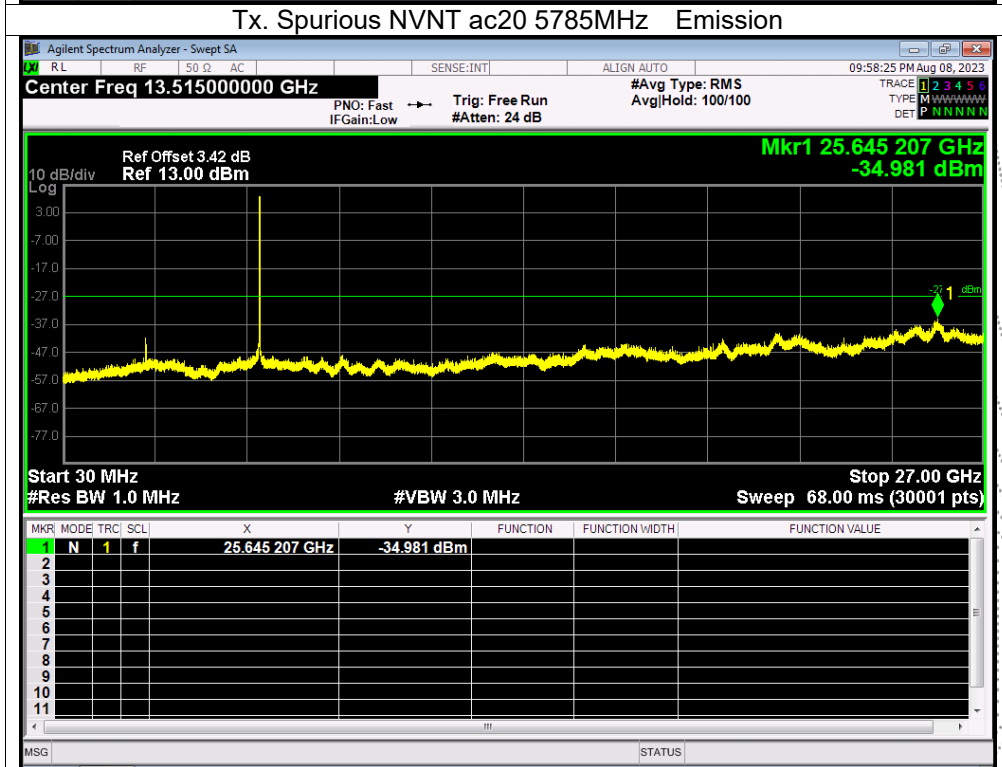
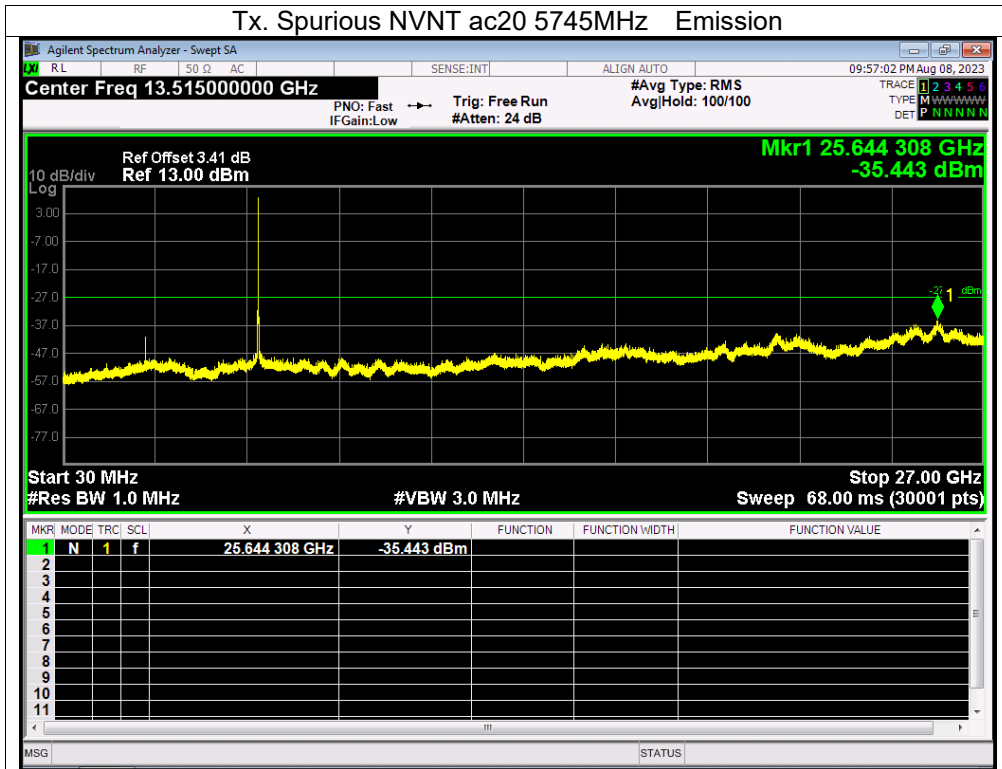


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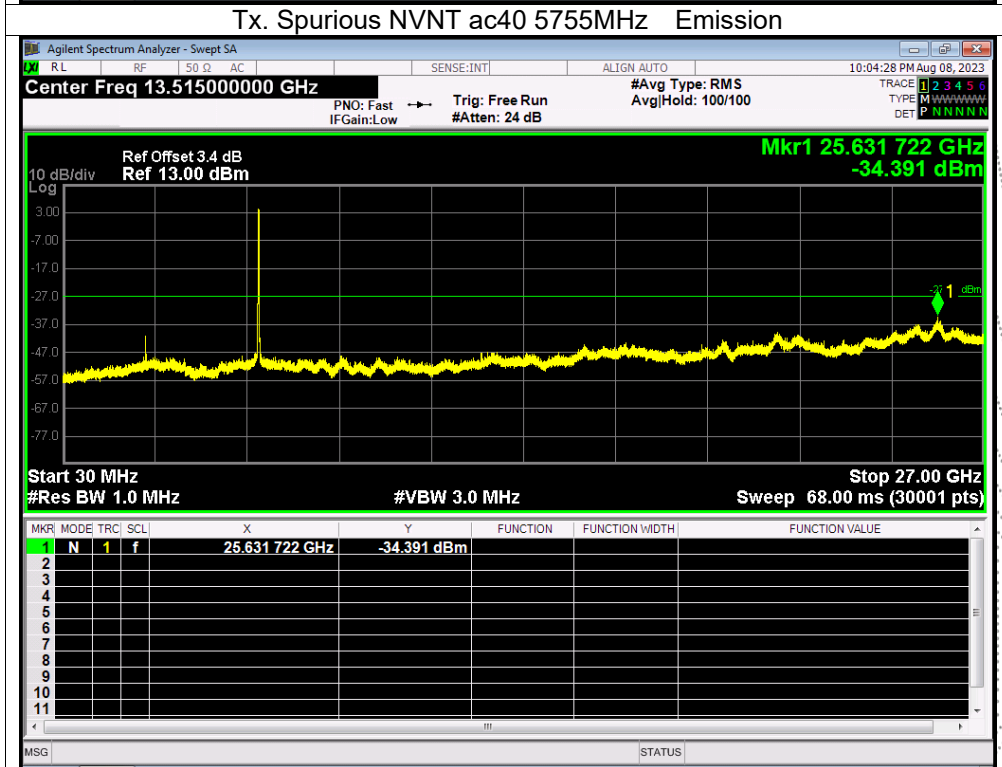
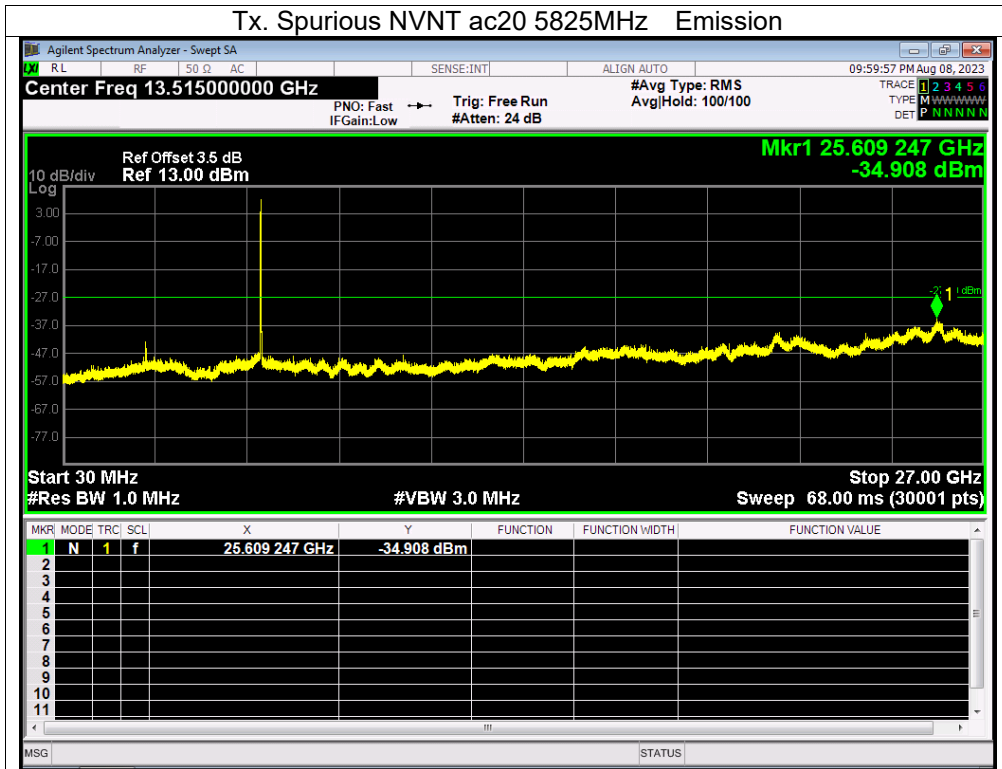
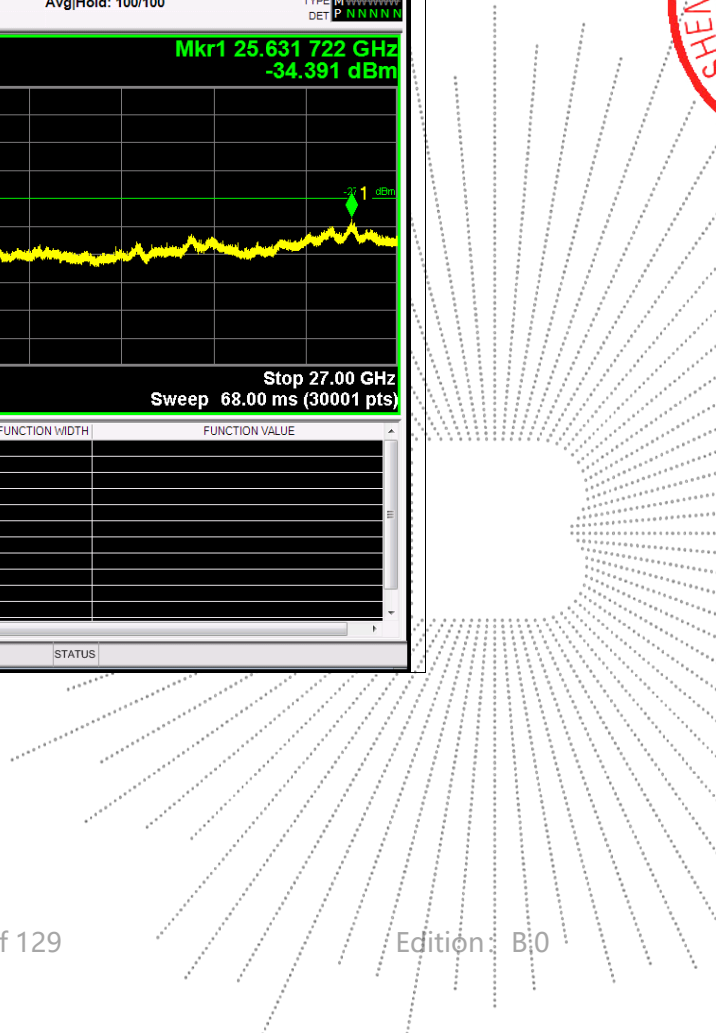
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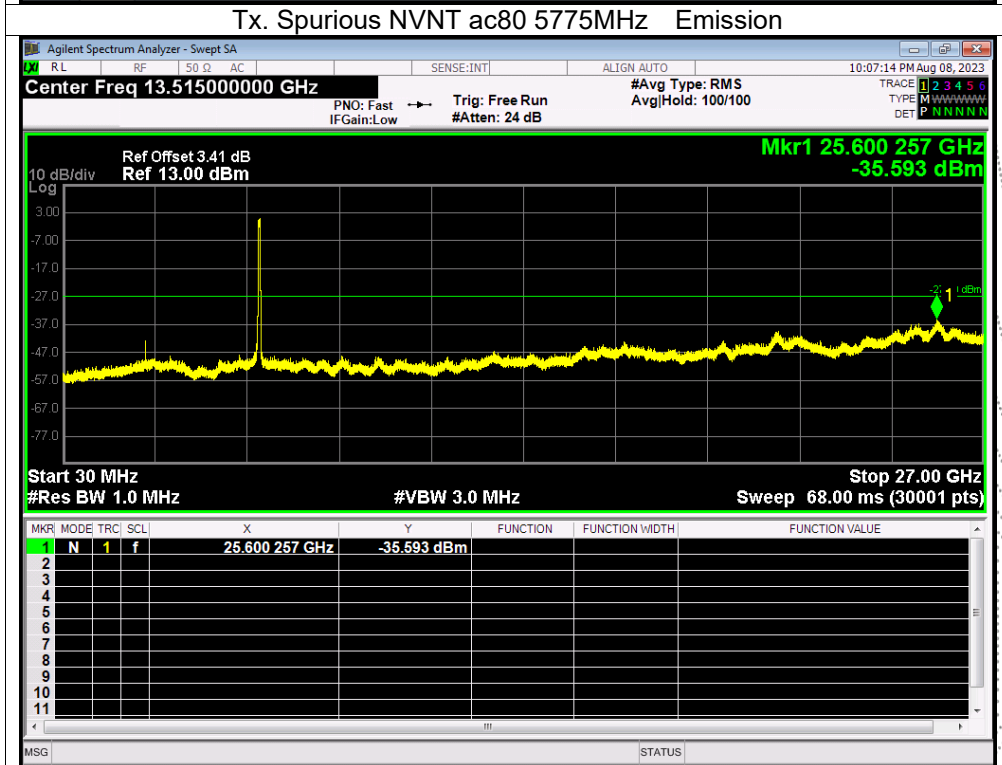
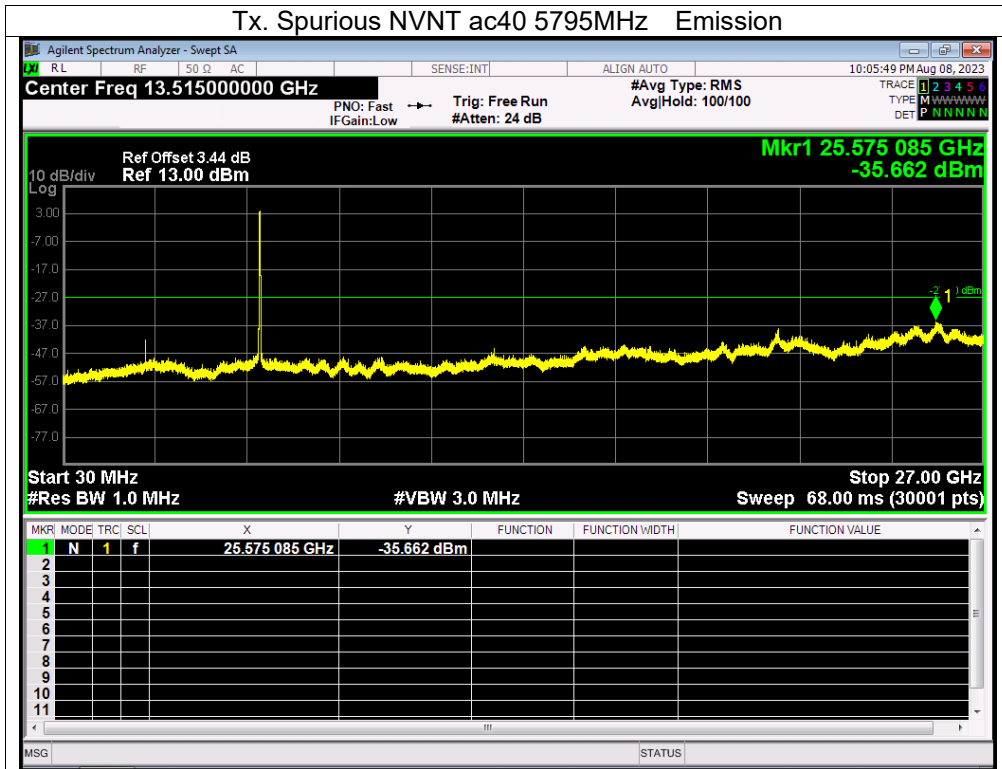




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## 13. Frequency Stability Measurement

### 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  $\pm 20$  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  $\pm 20$  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%
Pressure :	101kPa	Test Voltage :	DC 3.3V
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)	3.30	5180.0196	5180	0.0196	3.7870
		V max (V)	3.80	5180.0152	5180	0.0152	2.9344
		V min (V)	2.81	5180.0071	5180	0.0071	1.3756
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)	3.3	T (°C)	-20	5180.0017	5180	0.0017	0.3343
		T (°C)	-10	5180.0088	5180	0.0088	1.6983
		T (°C)	0	5180.0127	5180	0.0127	2.4598
		T (°C)	10	5180.0092	5180	0.0092	1.7834
		T (°C)	20	5180.0047	5180	0.0047	0.9060
		T (°C)	30	5180.0053	5180	0.0053	1.0242
		T (°C)	40	5180.0004	5180	0.0004	0.0719
		T (°C)	50	5180.0079	5180	0.0079	1.5295
		T (°C)	60	5180.0129	5180	0.0129	2.4891
T (°C)	70	5180.0004	5180	0.0004	0.0813		
Limits				5150-5250 MHz			
Result				Complies			

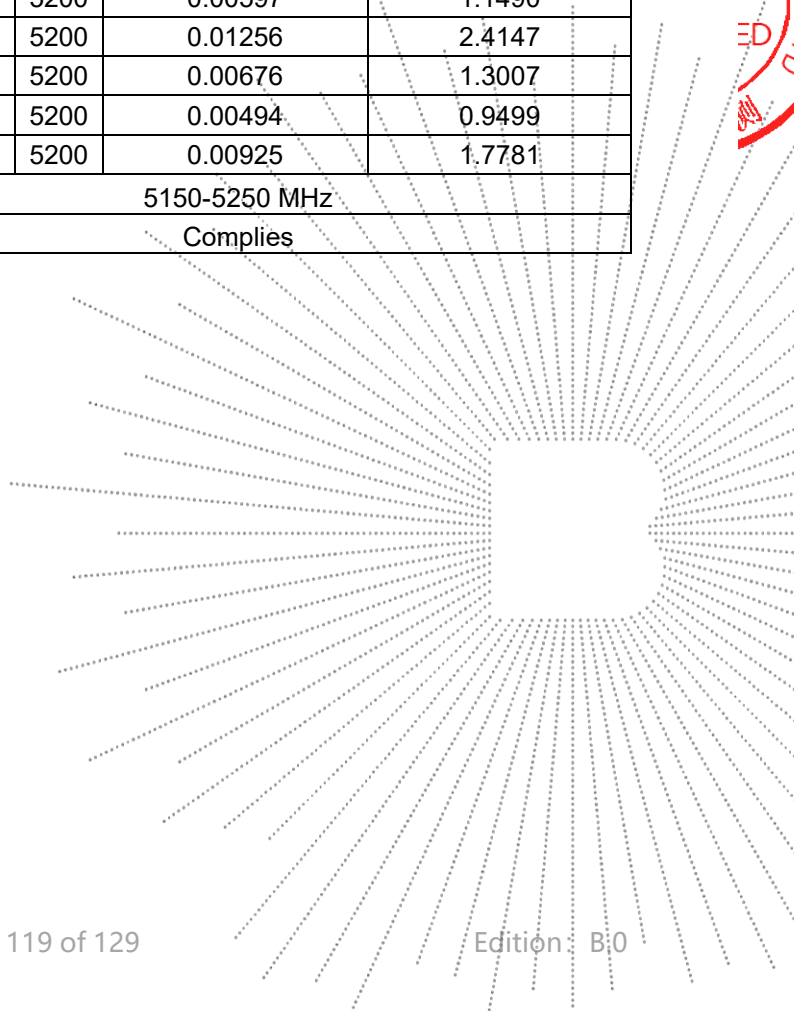
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## Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5200.0035	5200	0.0035	0.6740
		V max (V)	3.80	5200.0005	5200	0.0005	0.1007
		V min (V)	2.81	5200.0006	5200	0.0006	0.1124
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)	3.3	T (°C)	-20	5200.00639	5200	0.00639	1.2283
		T (°C)	-10	5200.00113	5200	0.00113	0.2168
		T (°C)	0	5200.00053	5200	0.00053	0.1026
		T (°C)	10	5200.00686	5200	0.00686	1.3184
		T (°C)	20	5200.00509	5200	0.00509	0.9791
		T (°C)	30	5200.00597	5200	0.00597	1.1490
		T (°C)	40	5200.01256	5200	0.01256	2.4147
		T (°C)	50	5200.00676	5200	0.00676	1.3007
		T (°C)	60	5200.00494	5200	0.00494	0.9499
		T (°C)	70	5200.00925	5200	0.00925	1.7781
Limits				5150-5250 MHz			
Result				Complies			

## Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5240.0022	5240	0.0022	0.4207
		V max (V)	3.80	5240.0013	5240	0.0013	0.2495
		V min (V)	2.81	5240.0040	5240	0.0040	0.7632
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)	3.3	T (°C)	-20	5240.0102	5240	0.0102	1.9483
		T (°C)	-10	5240.0117	5240	0.0117	2.2266
		T (°C)	0	5240.0043	5240	0.0043	0.8209
		T (°C)	10	5240.0113	5240	0.0113	2.1493
		T (°C)	20	5240.0072	5240	0.0072	1.3809
		T (°C)	30	5240.0036	5240	0.0036	0.6813
		T (°C)	40	5240.0025	5240	0.0025	0.4803
		T (°C)	50	5240.0026	5240	0.0026	0.5008
		T (°C)	60	5240.0106	5240	0.0106	2.0222
		T (°C)	70	5240.0059	5240	0.0059	1.1170
Limits				5150-5250 MHz			
Result				Complies			

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Temperature :	26 °C	Relative Humidity :	54%
Pressure :	101kPa	Test Voltage :	DC 3.3V
Test Mode :	TX Frequency(5745-5825MHz)		

## Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5745.01110	5745	0.01110	1.9317
		V max (V)	3.80	5745.00222	5745	0.00222	0.3863
		V min (V)	2.81	5745.01101	5745	0.01101	1.9161
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)	3.3	T (°C)	-20	5745.01249	5745	0.01249	2.1732
		T (°C)	-10	5745.00942	5745	0.00942	1.6390
		T (°C)	0	5745.00885	5745	0.00885	1.5410
		T (°C)	10	5745.01274	5745	0.01274	2.2168
		T (°C)	20	5745.00118	5745	0.00118	0.2057
		T (°C)	30	5745.00863	5745	0.00863	1.5030
		T (°C)	40	5745.00246	5745	0.00246	0.4284
		T (°C)	50	5745.01274	5745	0.01274	2.2172
		T (°C)	60	5745.00567	5745	0.00567	0.9877
		T (°C)	70	5745.01024	5745	0.01024	1.7829
Limits				5725-5850 MHz			
Result				Complies			

## Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5785.00070	5785	0.00070	0.1218
		V max (V)	3.80	5785.00007	5785	0.00007	0.0125
		V min (V)	2.81	5785.01331	5785	0.01331	2.3013
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)	3.3	T (°C)	-20	5785.00340	5785	0.00340	0.5883
		T (°C)	-10	5785.01333	5785	0.01333	2.3038
		T (°C)	0	5785.00496	5785	0.00496	0.8567
		T (°C)	10	5785.00959	5785	0.00959	1.6579
		T (°C)	20	5785.00118	5785	0.00118	0.2037
		T (°C)	30	5785.00969	5785	0.00969	1.6751
		T (°C)	40	5785.00393	5785	0.00393	0.6793
		T (°C)	50	5785.01225	5785	0.01225	2.1174
		T (°C)	60	5785.01190	5785	0.01190	2.0564
		T (°C)	70	5785.00706	5785	0.00706	1.2197
Limits				5725-5850 MHz			
Result				Complies			

SHENZHEN

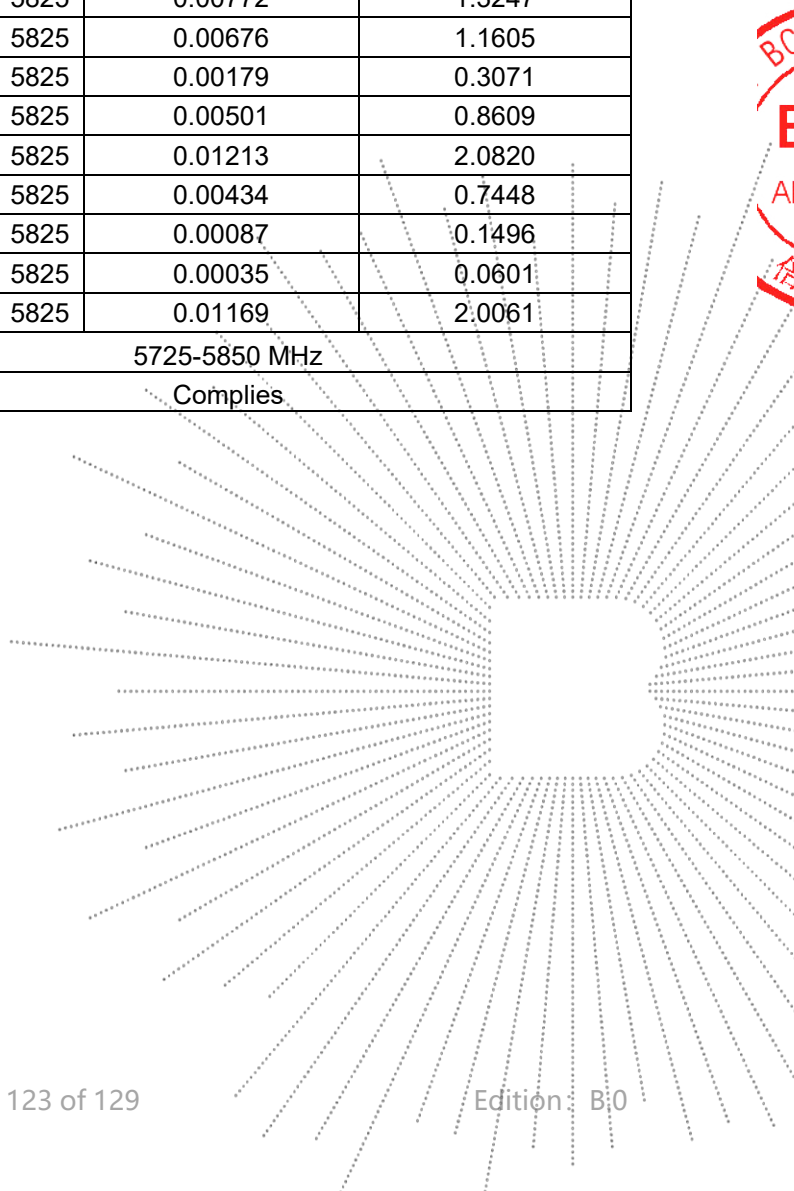


## Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5825.00652	5825	0.00652	1.1187
		V max (V)	3.80	5825.00219	5825	0.00219	0.3760
		V min (V)	2.81	5825.00520	5825	0.00520	0.8927
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)	3.3	T (°C)	-20	5825.01226	5825	0.01226	2.1053
		T (°C)	-10	5825.00772	5825	0.00772	1.3247
		T (°C)	0	5825.00676	5825	0.00676	1.1605
		T (°C)	10	5825.00179	5825	0.00179	0.3071
		T (°C)	20	5825.00501	5825	0.00501	0.8609
		T (°C)	30	5825.01213	5825	0.01213	2.0820
		T (°C)	40	5825.00434	5825	0.00434	0.7448
		T (°C)	50	5825.00087	5825	0.00087	0.1496
		T (°C)	60	5825.00035	5825	0.00035	0.0601
		T (°C)	70	5825.01169	5825	0.01169	2.0061
Limits				5725-5850 MHz			
Result				Complies			



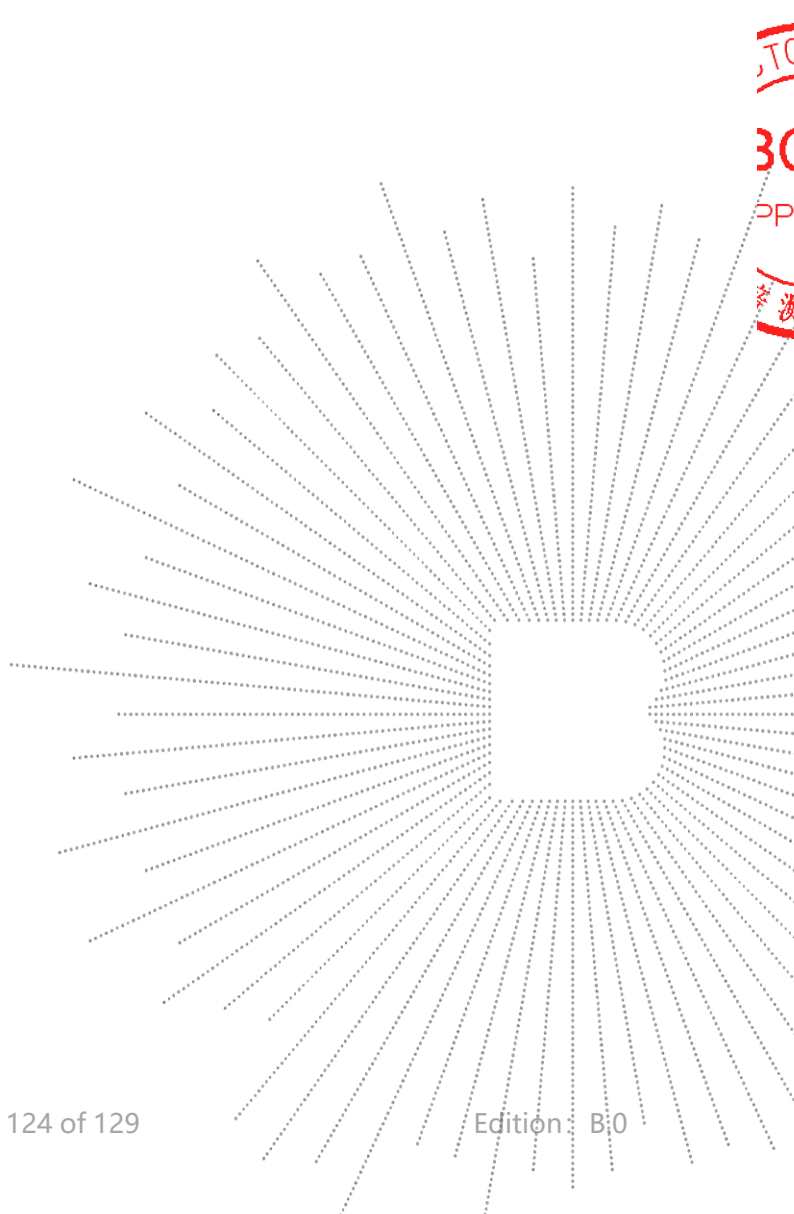
## 14. Antenna Requirement

### 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.

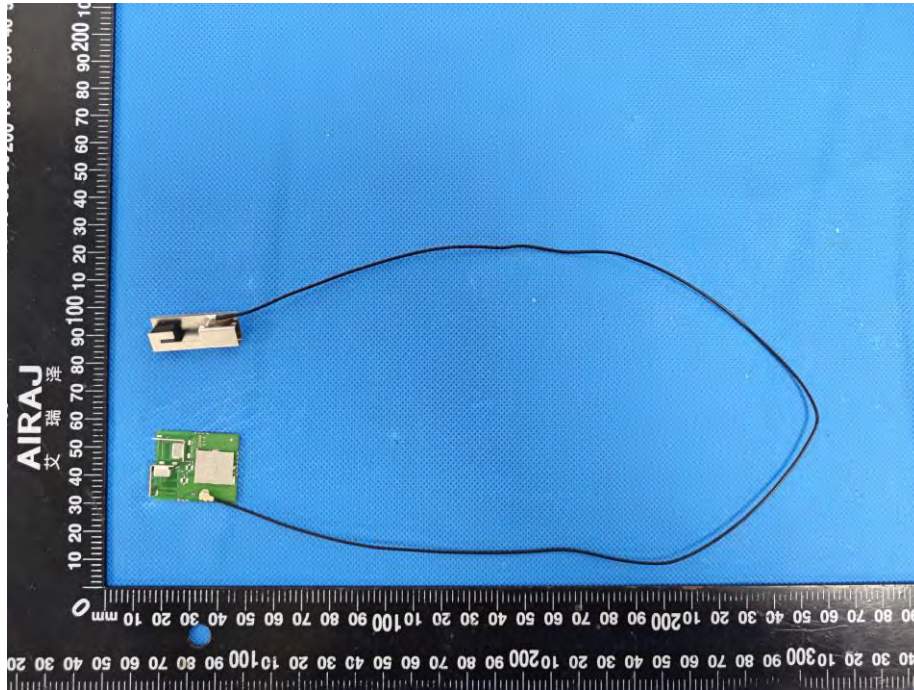
### 14.2 Test Result

The EUT antenna is Shrapnel antenna. It comply with the standard requirement.

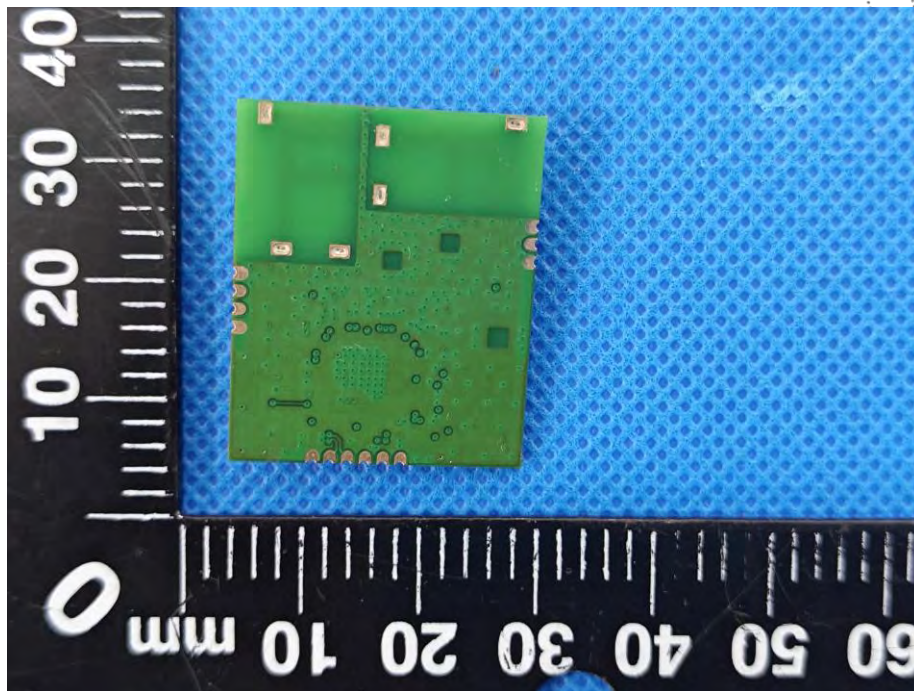


### 15. EUT Photographs

EUT Photo 1



EUT Photo 2



NOTE: Appendix-Photographs Of EUT Constructional Details

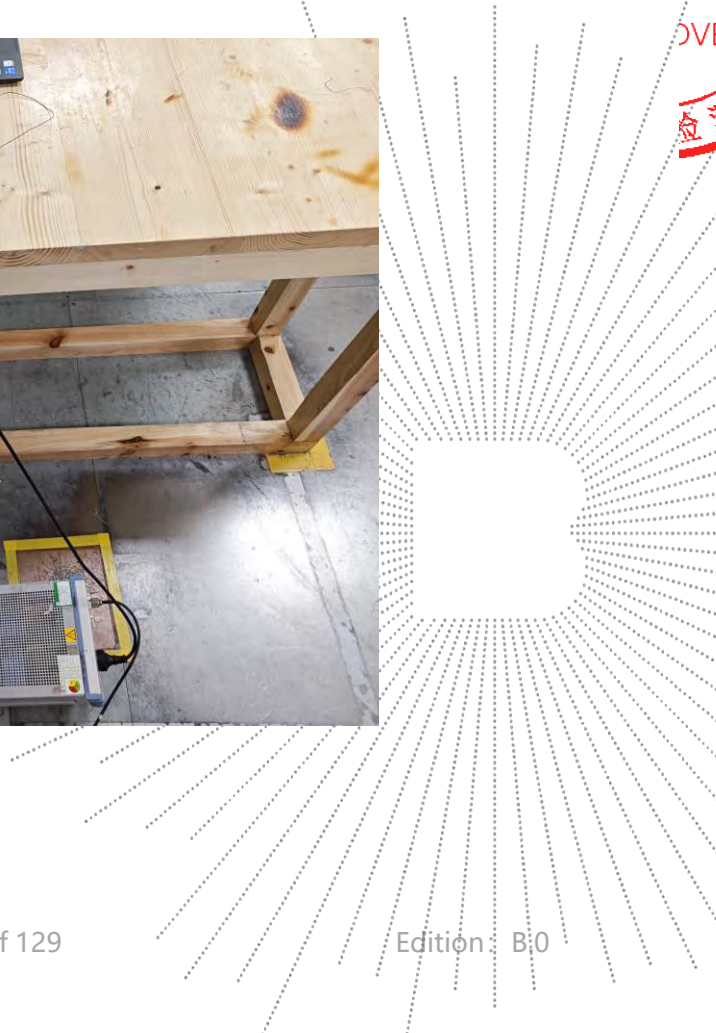
RC  
列

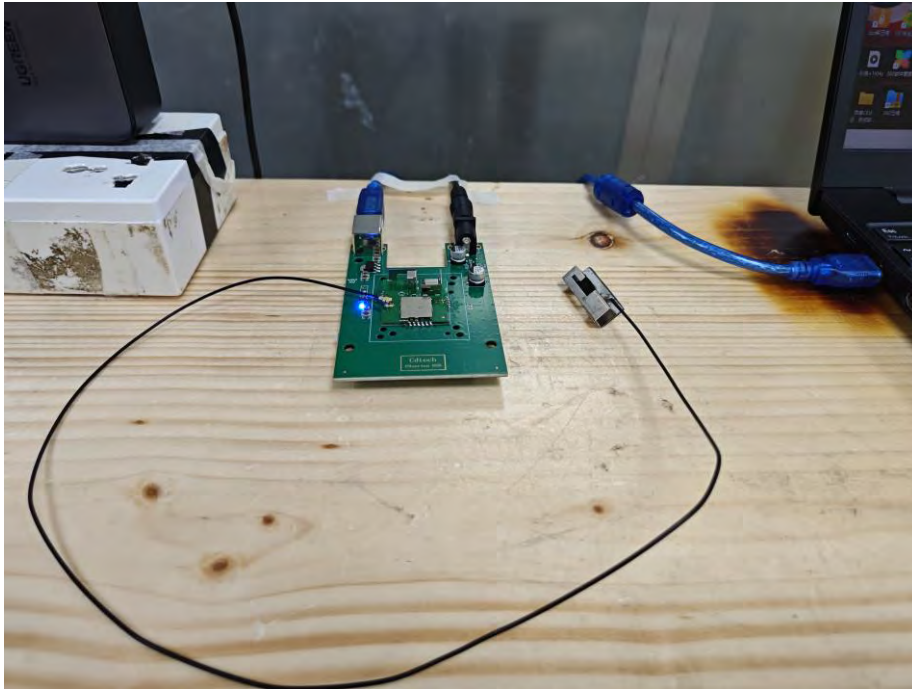
### 16. EUT Test Setup Photographs

#### Conducted Measurement Photo

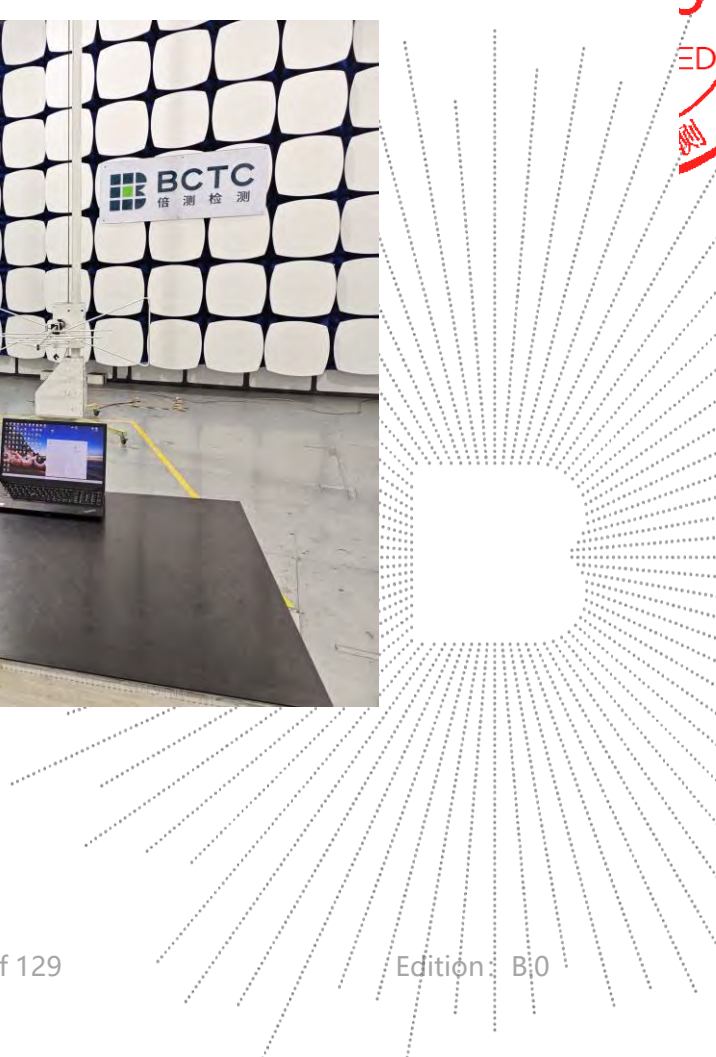


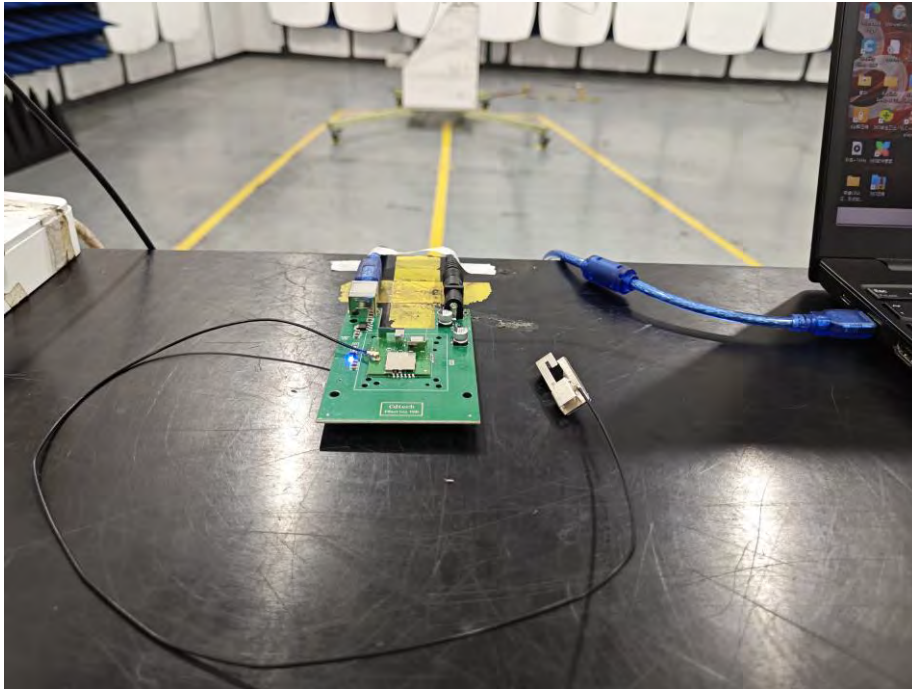
TEC  
FC  
DVI  
1/2





**Radiated Measurement Photos**





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**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>

E-Mail: [bctc@bctc-lab.com.cn](mailto:bctc@bctc-lab.com.cn)

\*\*\*\*\* END \*\*\*\*\*