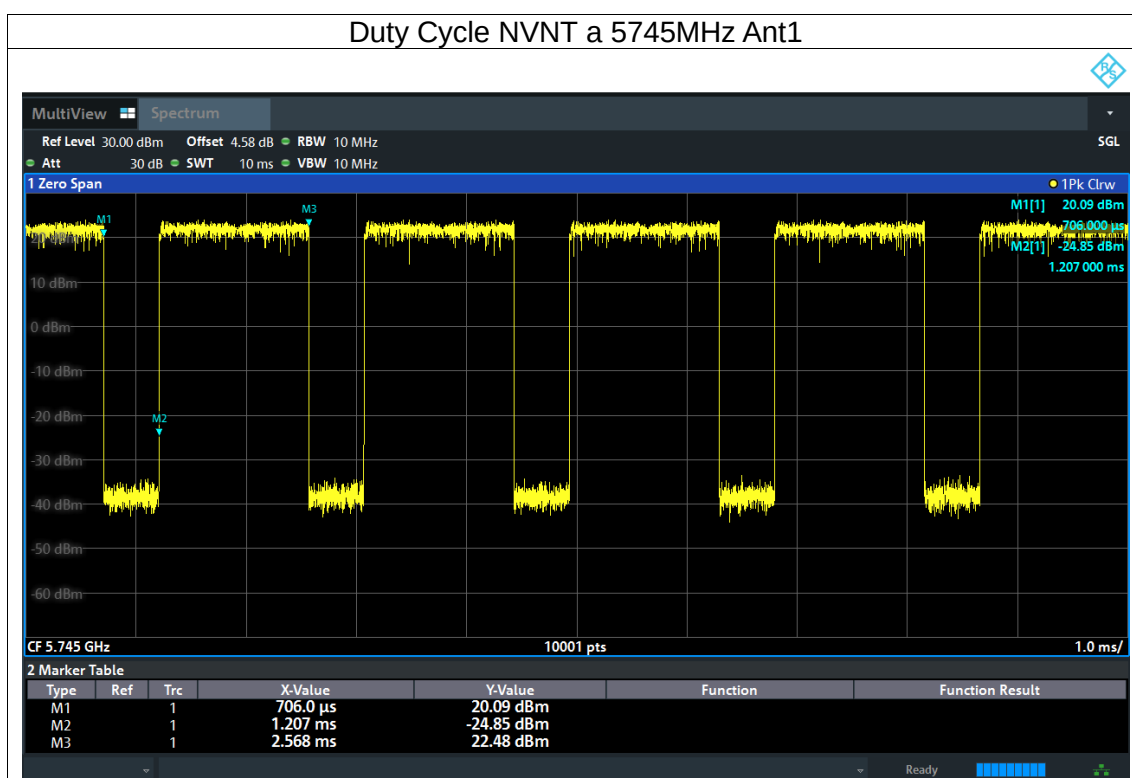
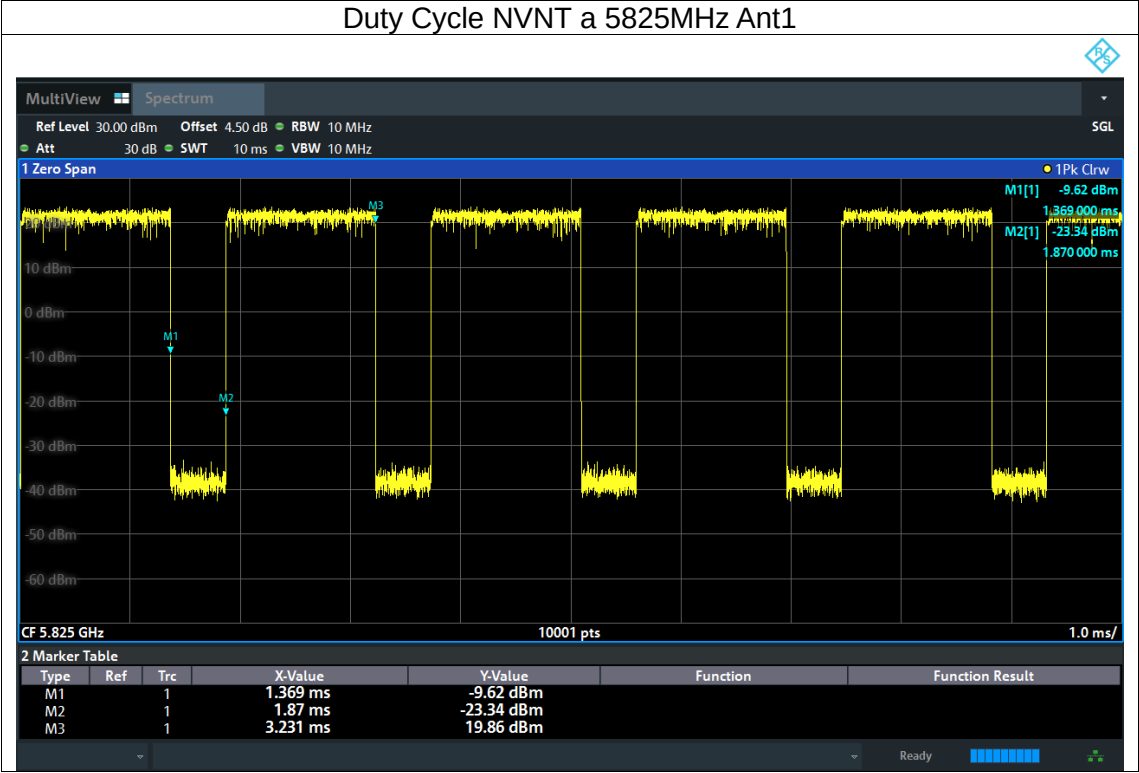
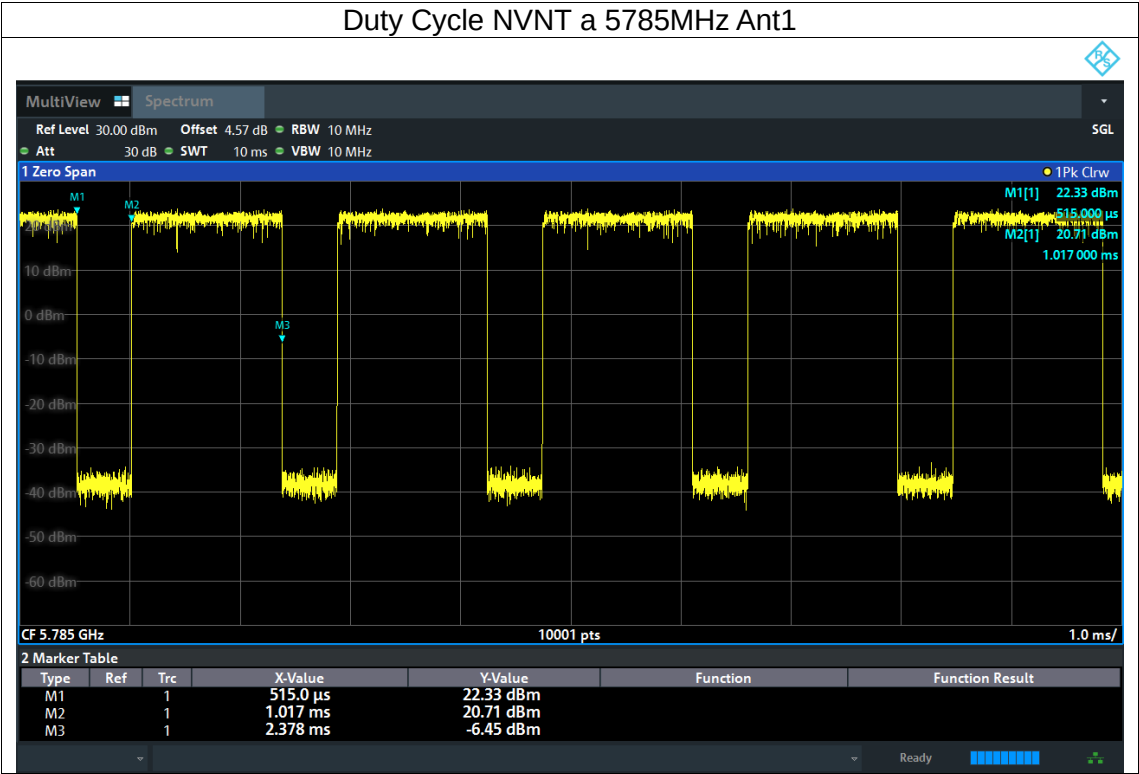
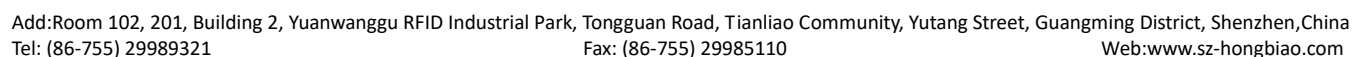
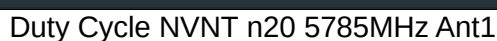


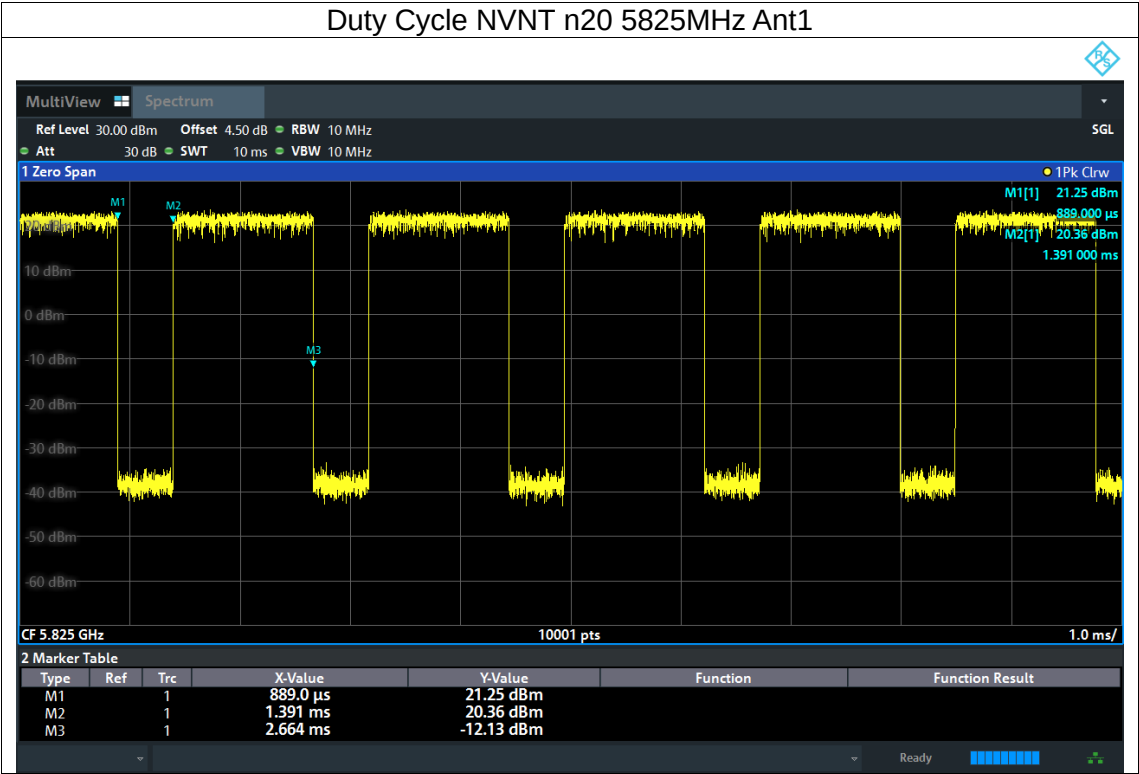
For U-NII-3:

Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5745	Ant1	73.09	1.36	0.73
a	5785	Ant1	73.05	1.36	0.73
a	5825	Ant1	73.09	1.36	0.73
n20	5745	Ant1	71.76	1.44	0.79
n20	5785	Ant1	71.7	1.44	0.79
n20	5825	Ant1	71.72	1.44	0.79









5.9 Out Of Band Emission

5.9.1 Limit

According to FCC §15.407(b).

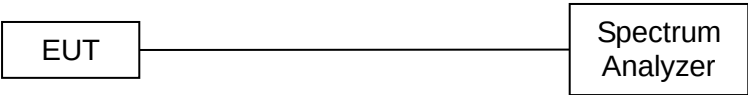
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (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 5.25–5.35 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.
- (3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (4) For transmitters operating solely in the 5.725–5.850 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.

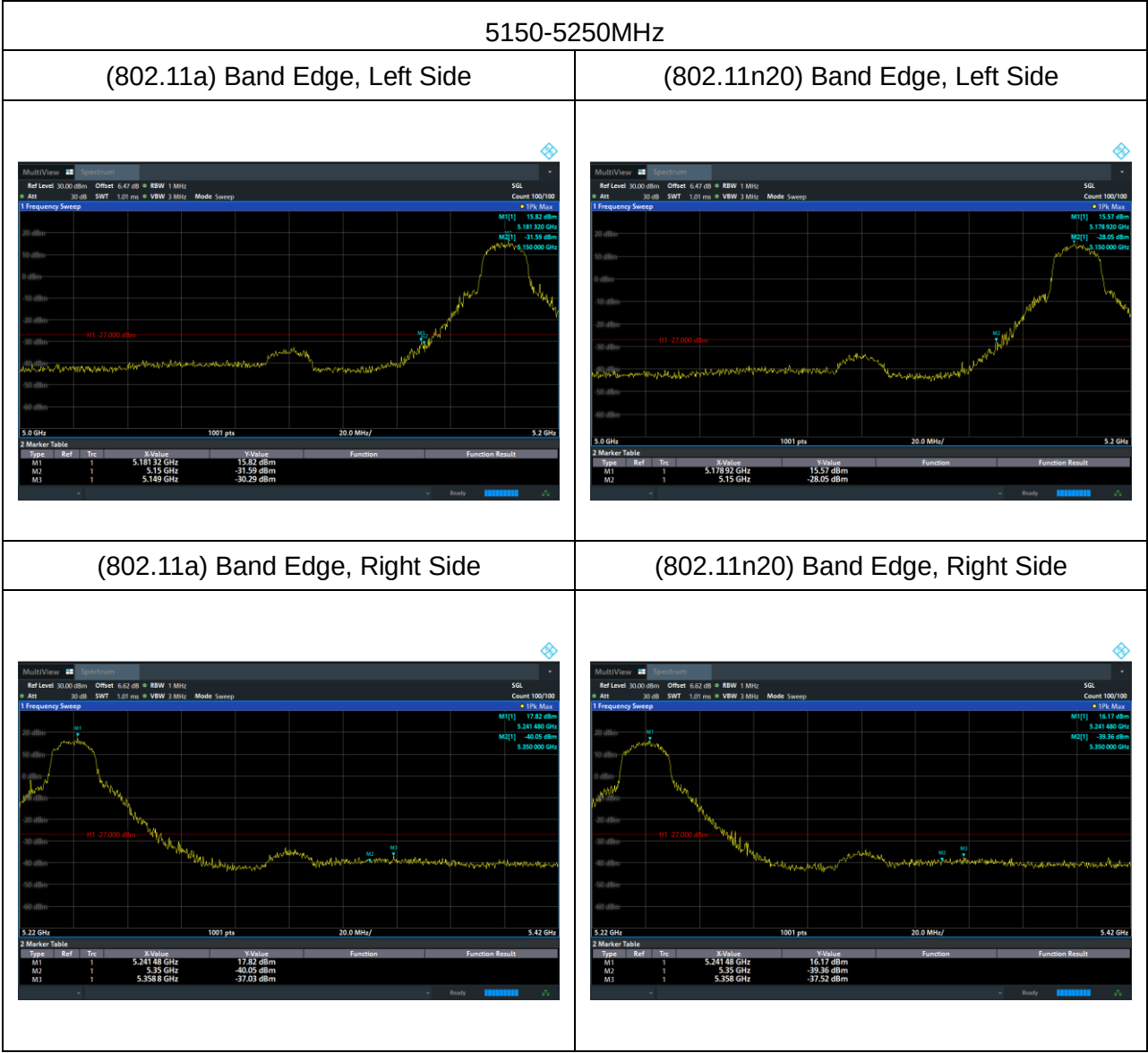
5.9.2 Test Procedure

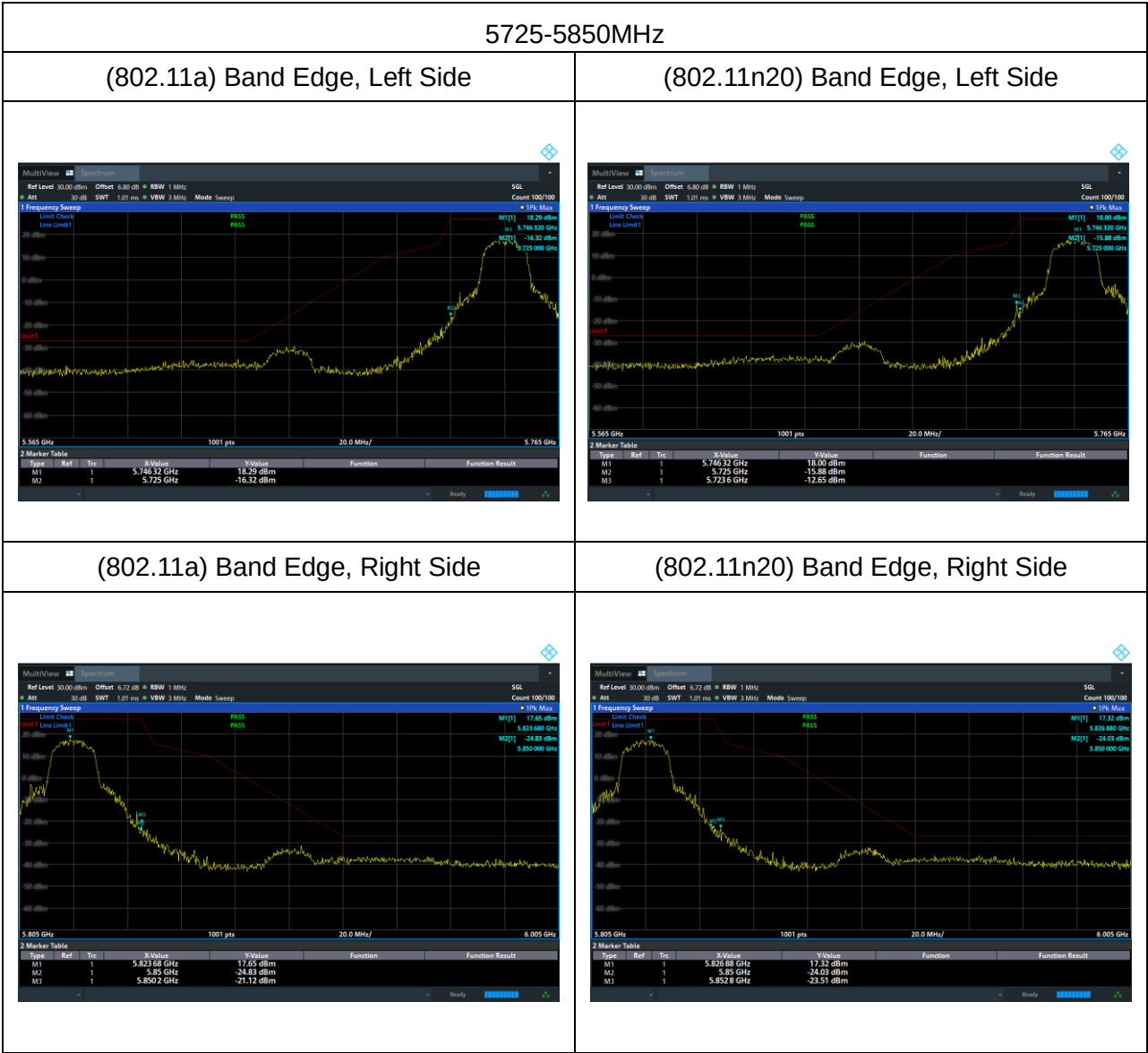
- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- c. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
- d. 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.
- e. Repeat above procedures until all measured frequencies were complete.

5.9.3 Test Setup



5.9.4 Test Results





5.10 Spurious RF Conducted Emissions

5.10.1 Limit

According to FCC §15.407(b).

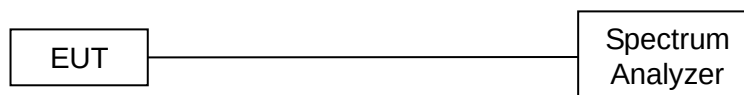
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (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 5.25–5.35 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.
- (3) For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of –27 dBm/MHz.
- (4) For transmitters operating solely in the 5.725–5.850 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.

5.10.2 Test Procedure

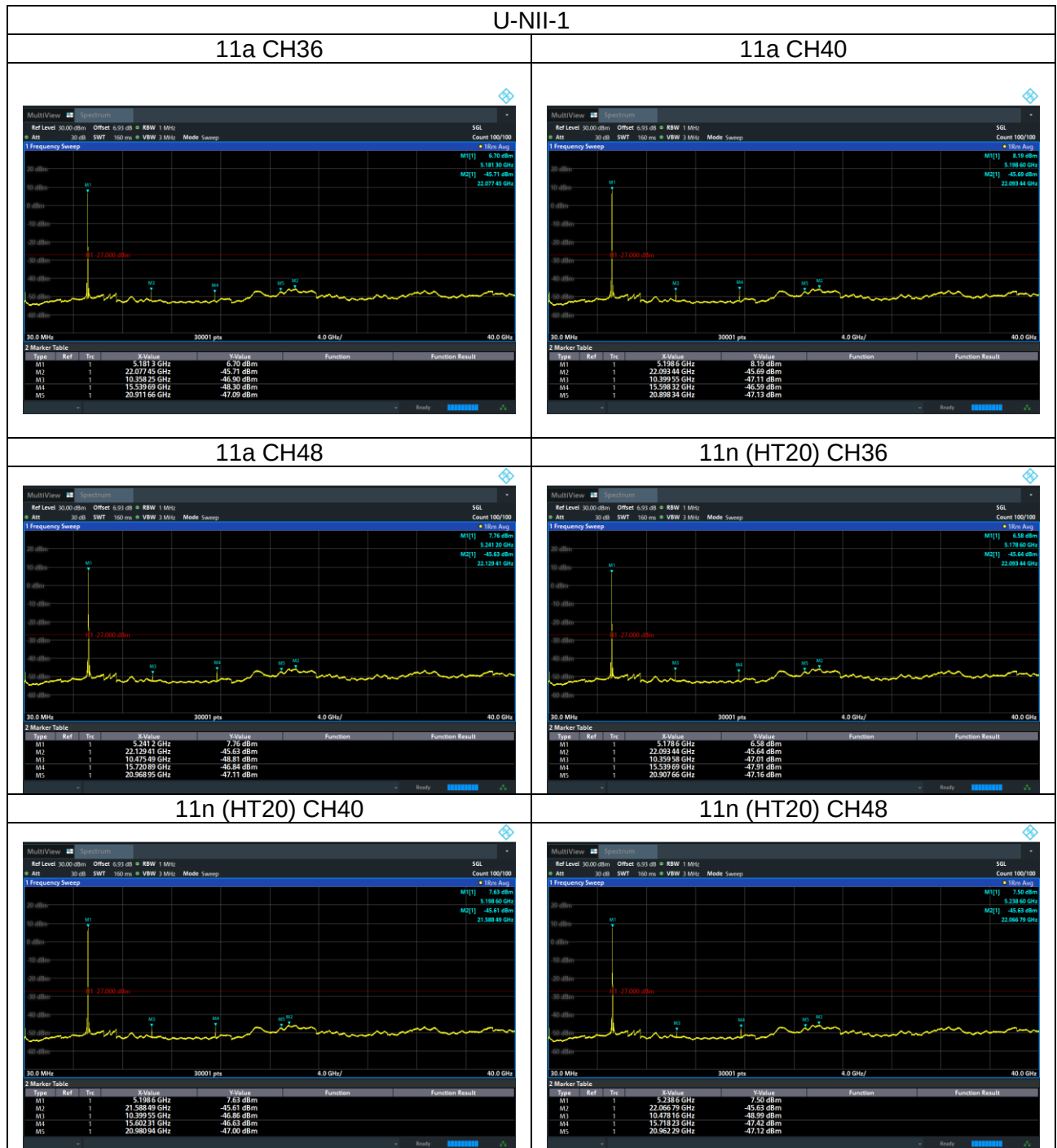
The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW= 300kHz to measure the avg field strength, and measure frequency range from 9kHz to 26.5GHz.

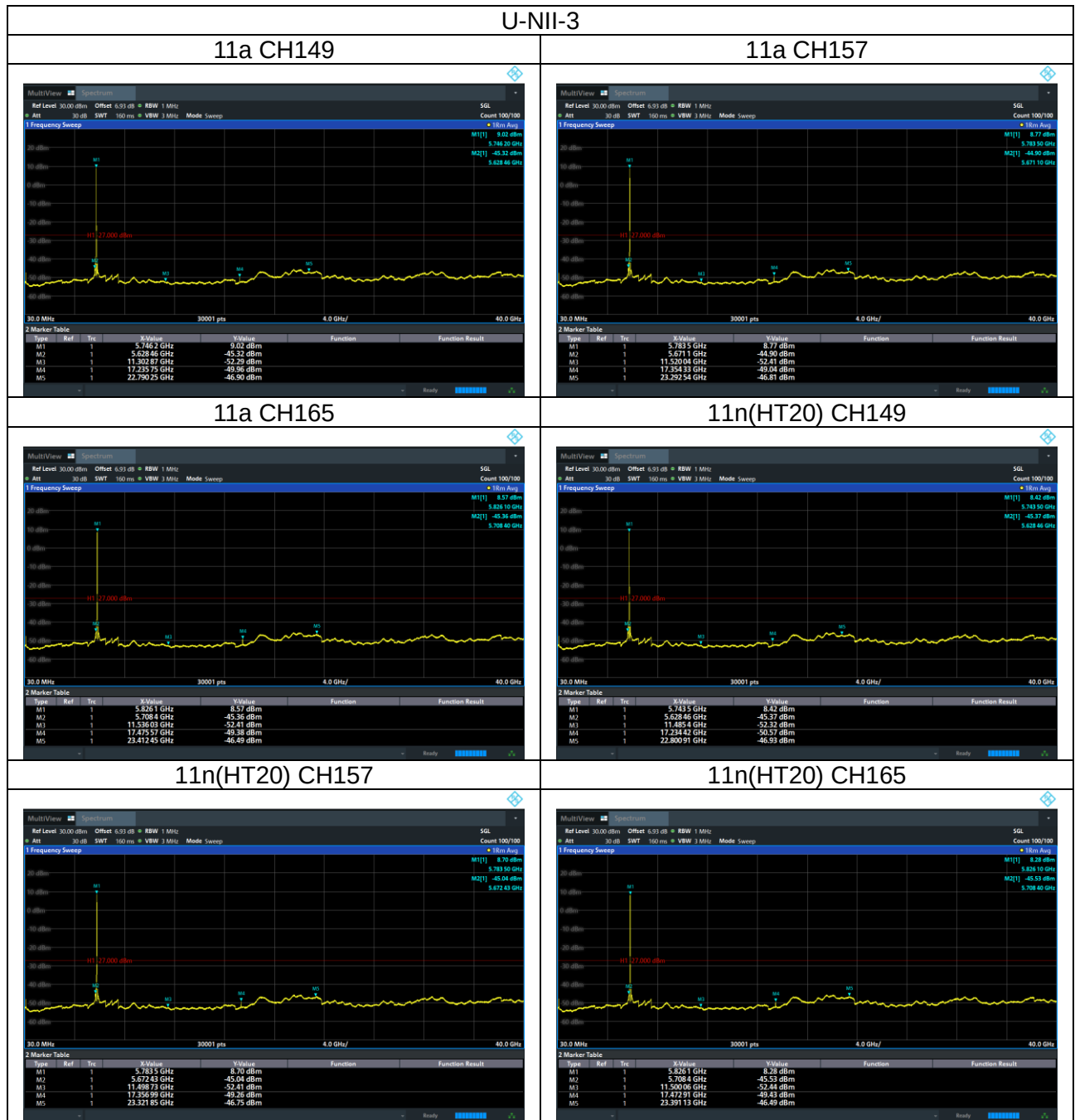
5.10.3 Test Setup



5.10.4 Test Results

Note: 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.





5.11 Frequency Stability

5.11.1 Limit

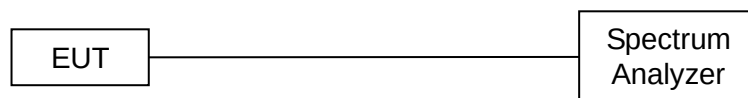
Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

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

5.11.2 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 the 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 $-20^\circ\text{C} \sim 70^\circ\text{C}$.

5.11.3 Test Setup



5.11.4 Test Results

EUT:	Full HD Mini Display Adapter	Model Name:	WD1901A
Test Mode:	TX	Test Voltage:	DC 5V from adapter AC 120V/60Hz

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5180.038	5180	0.038	7.33
		V max (V)	5.5	5180.001	5180	0.001	0.16
		V min (V)	4.5	5180.014	5180	0.014	2.65
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5180.035	5180	0.035	6.83
		T (°C)	-10	5180.001	5180	0.001	0.18
		T (°C)	0	5180.023	5180	0.023	4.38
		T (°C)	10	5180.039	5180	0.039	7.43
		T (°C)	20	5180.003	5180	0.003	0.57
		T (°C)	30	5180.038	5180	0.038	7.40
		T (°C)	40	5180.035	5180	0.035	6.70
		T (°C)	50	5180.050	5180	0.050	9.61
		T (°C)	60	5180.006	5180	0.006	1.18
		T (°C)	70	5180.015	5180	0.015	2.95
Limits				± 20 ppm			
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)	5	5200.020	5200	0.020	3.88
		V max (V)	5.5	5200.025	5200	0.025	4.82
		V min (V)	4.5	5200.035	5200	0.035	6.75
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5200.048	5200	0.048	9.21
		T (°C)	-10	5200.021	5200	0.021	4.05
		T (°C)	0	5200.022	5200	0.022	4.30
		T (°C)	10	5200.028	5200	0.028	5.32
		T (°C)	20	5200.045	5200	0.045	8.61
		T (°C)	30	5200.040	5200	0.040	7.63
		T (°C)	40	5200.022	5200	0.022	4.19
		T (°C)	50	5200.022	5200	0.022	4.17
		T (°C)	60	5200.008	5200	0.008	1.51
		T (°C)	70	5200.035	5200	0.035	6.74
Limits				± 20 ppm			
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)	5	5240.012	5240	0.012	2.38
		V max (V)	5.5	5240.032	5240	0.032	6.14
		V min (V)	4.5	5240.046	5240	0.046	8.87
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5240.045	5240	0.045	8.51
		T (°C)	-10	5240.029	5240	0.029	5.48
		T (°C)	0	5240.013	5240	0.013	2.40
		T (°C)	10	5240.024	5240	0.024	4.55
		T (°C)	20	5240.015	5240	0.015	2.94
		T (°C)	30	5240.034	5240	0.034	6.47
		T (°C)	40	5240.028	5240	0.028	5.27
		T (°C)	50	5240.045	5240	0.045	8.58
		T (°C)	60	5240.032	5240	0.032	6.13
		T (°C)	70	5240.012	5240	0.012	2.38
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5745.036	5745	0.036	6.27
		V max (V)	5.5	5745.003	5745	0.003	0.47
		V min (V)	4.5	5745.023	5745	0.023	4.08
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5745.028	5745	0.028	4.85
		T (°C)	-10	5745.004	5745	0.004	0.69
		T (°C)	0	5745.031	5745	0.031	5.44
		T (°C)	10	5745.004	5745	0.004	0.64
		T (°C)	20	5745.016	5745	0.016	2.74
		T (°C)	30	5745.022	5745	0.022	3.78
		T (°C)	40	5745.020	5745	0.020	3.43
		T (°C)	50	5745.031	5745	0.031	5.44
		T (°C)	60	5745.040	5745	0.040	6.96
		T (°C)	70	5745.018	5745	0.018	3.05
Limits				± 20 ppm			
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)	5	5785.032	5785	0.032	5.45
		V max (V)	5.5	5785.014	5785	0.014	2.43
		V min (V)	4.5	5785.035	5785	0.035	5.99
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5785.018	5785	0.018	3.03
		T (°C)	-10	5785.028	5785	0.028	4.89
		T (°C)	0	5785.002	5785	0.002	0.33
		T (°C)	10	5785.000	5785	0.000	0.00
		T (°C)	20	5785.017	5785	0.017	2.91
		T (°C)	30	5785.039	5785	0.039	6.72
		T (°C)	40	5785.027	5785	0.027	4.75
		T (°C)	50	5785.014	5785	0.014	2.49
		T (°C)	60	5785.023	5785	0.023	3.96
		T (°C)	70	5785.018	5785	0.018	3.19
Limits				± 20 ppm			
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)	5	5825.034	5825	0.034	5.81
		V max (V)	5.5	5825.021	5825	0.021	3.60
		V min (V)	4.5	5825.007	5825	0.007	1.15
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5825.028	5825	0.028	4.86
		T (°C)	-10	5825.021	5825	0.021	3.57
		T (°C)	0	5825.023	5825	0.023	3.87
		T (°C)	10	5825.027	5825	0.027	4.67
		T (°C)	20	5825.015	5825	0.015	2.51
		T (°C)	30	5825.038	5825	0.038	6.57
		T (°C)	40	5825.018	5825	0.018	3.16
		T (°C)	50	5825.030	5825	0.030	5.11
		T (°C)	60	5825.031	5825	0.031	5.26
		T (°C)	70	5825.046	5825	0.046	7.89
Limits				± 20 ppm			
Result				Complies			

6 Photographs of the Test Setup

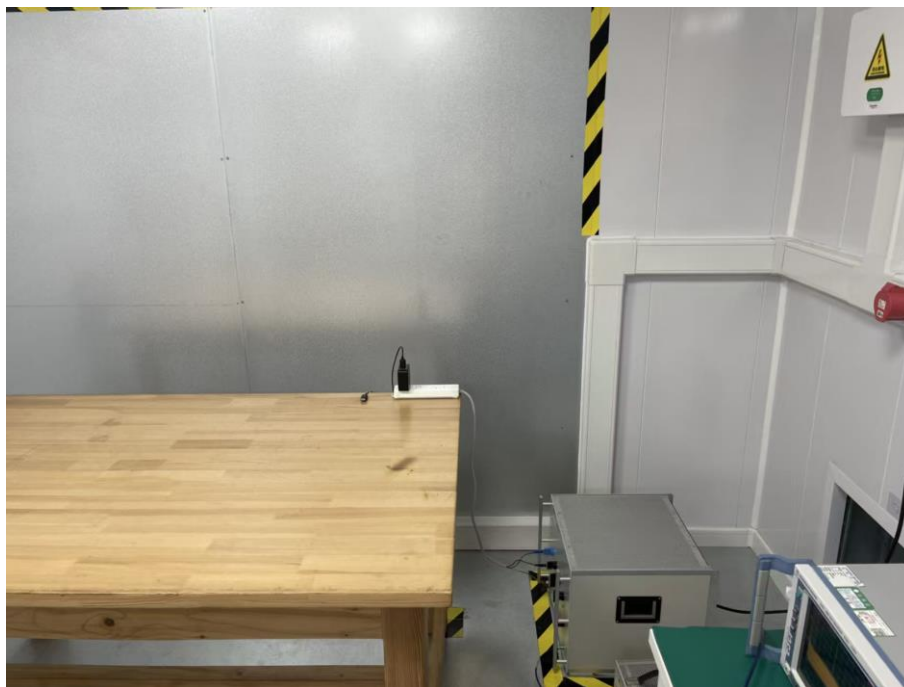
Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



Conducted emission



7 Photographs of the EUT

Please refer to report HB20260728009E-01 for product photos.

******* END OF REPORT *******