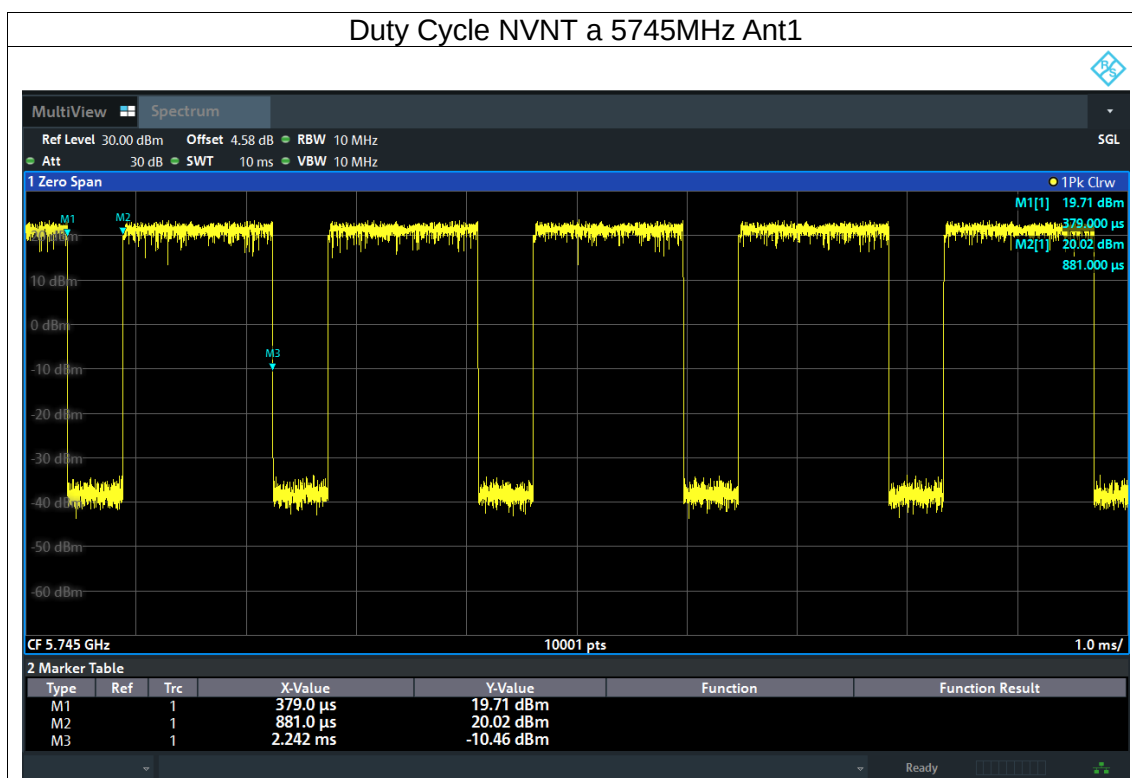
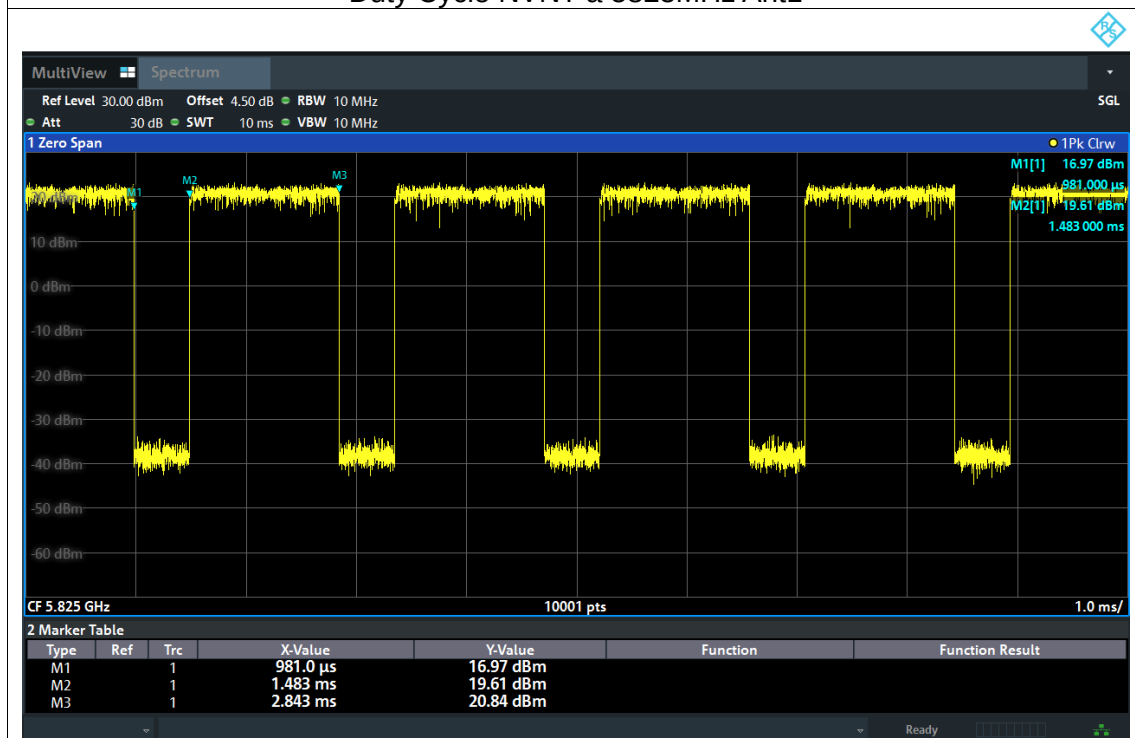
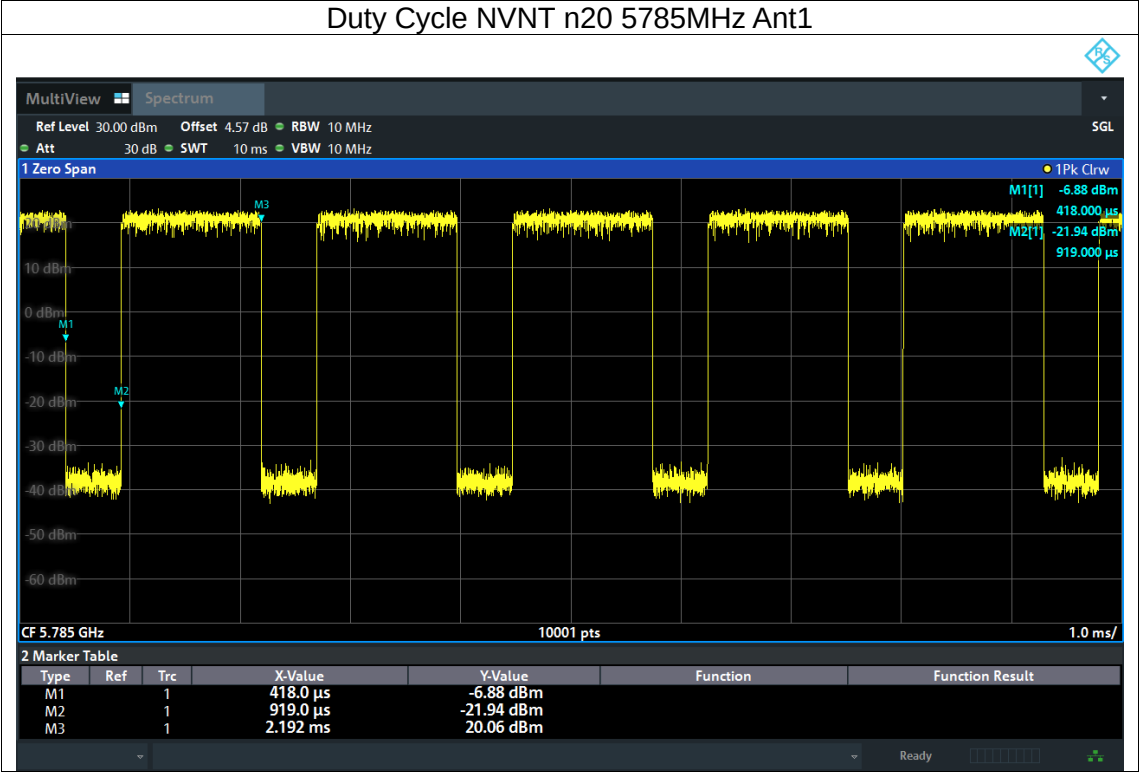
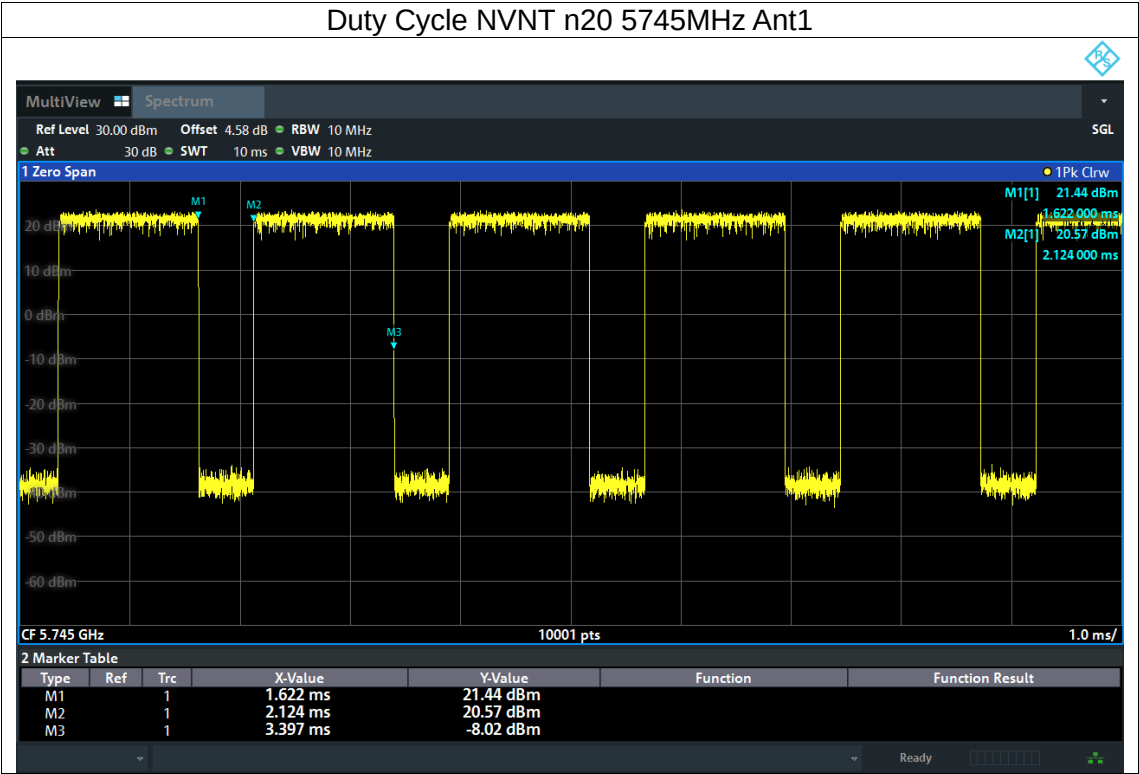


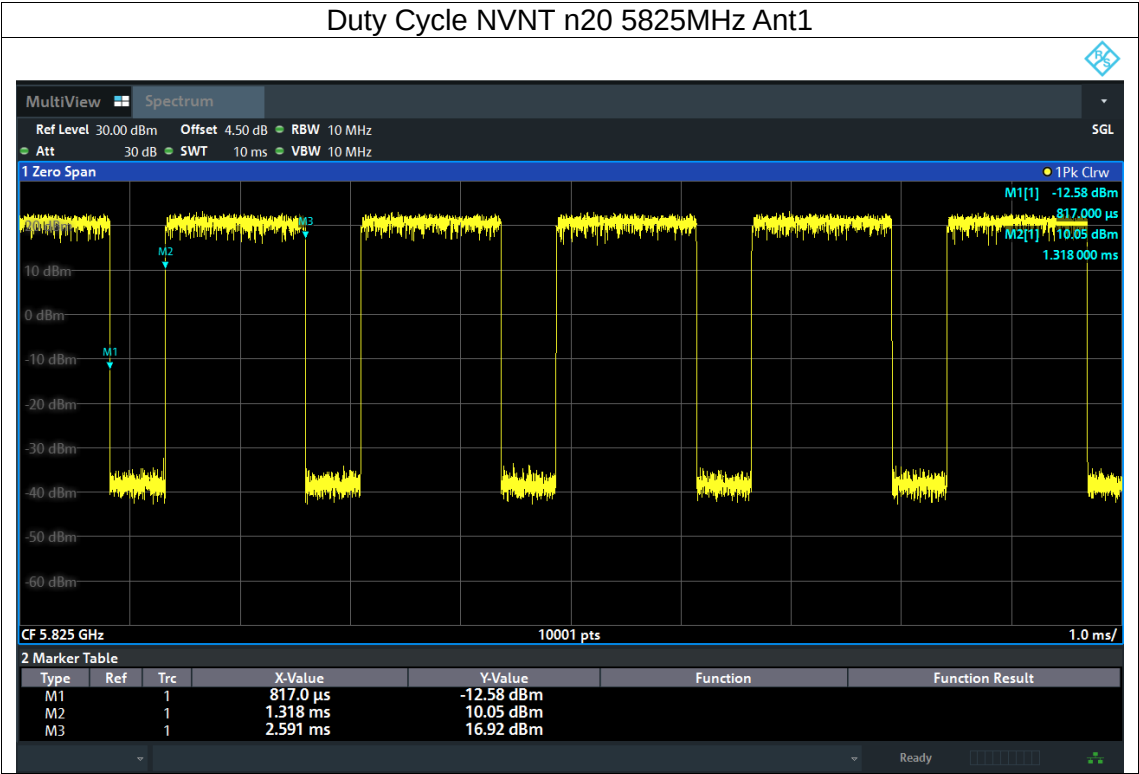
For U-NII-3:

Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
a	5745	Ant1	73.05	1.36	0.73
a	5785	Ant1	73.05	1.36	0.73
a	5825	Ant1	73.04	1.36	0.74
n20	5745	Ant1	71.72	1.44	0.79
n20	5785	Ant1	71.76	1.44	0.79
n20	5825	Ant1	71.76	1.44	0.79









5.9 Out Of Band Emission

5.9.1 Limit

According to FCC §15.407(b).

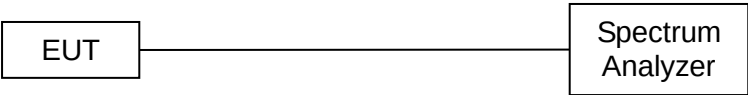
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (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.

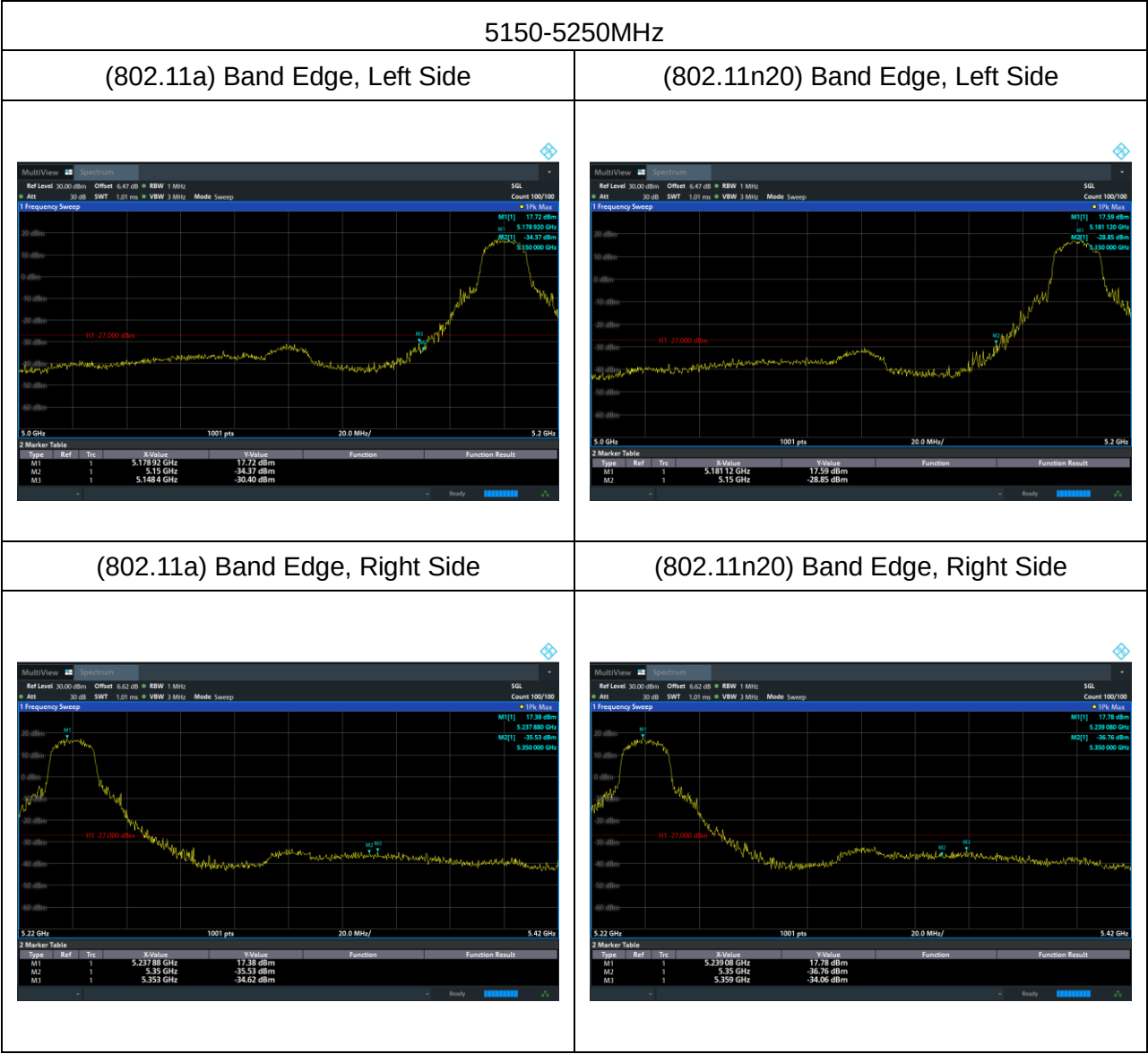
5.9.2 Test Procedure

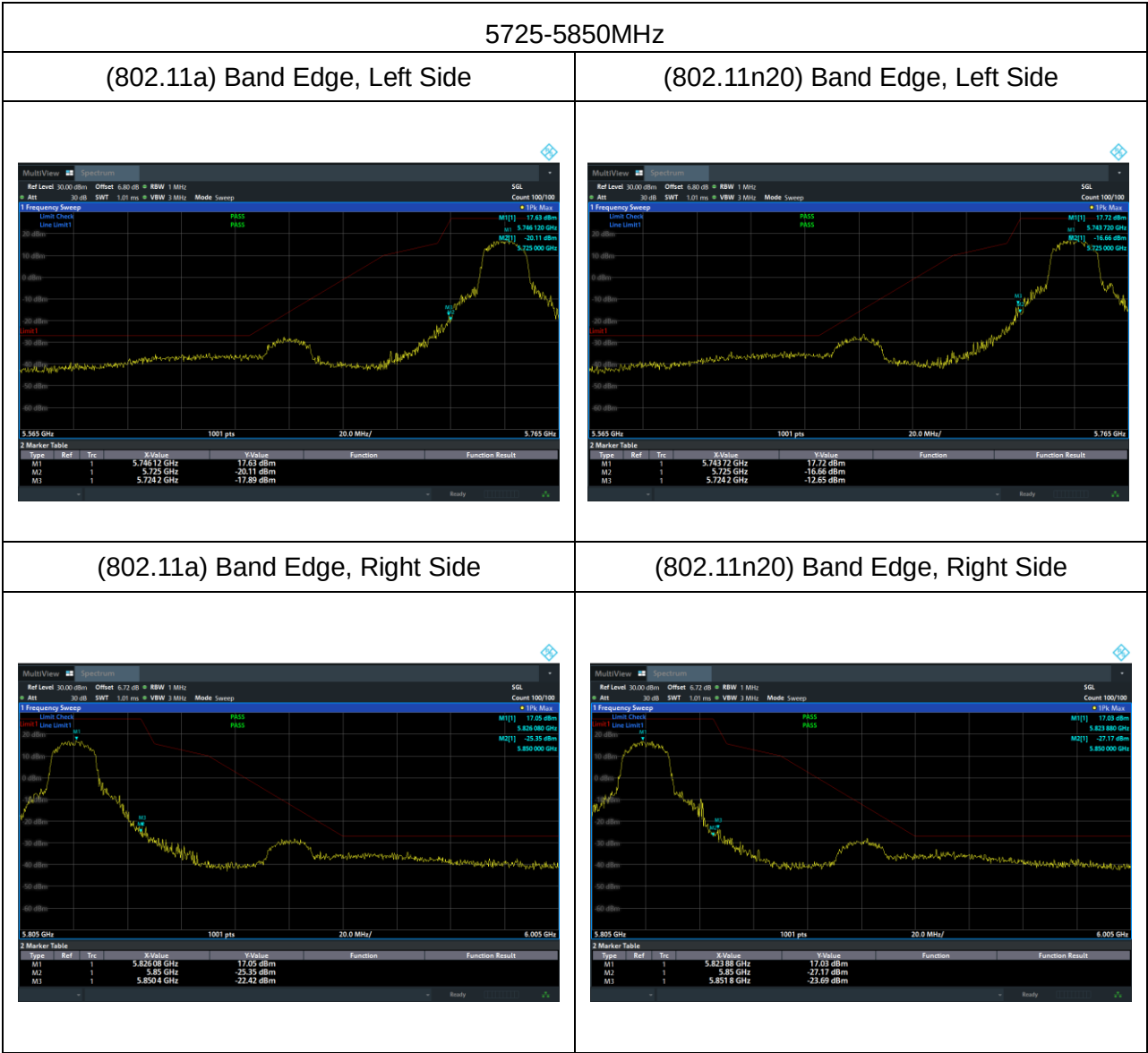
- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable.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

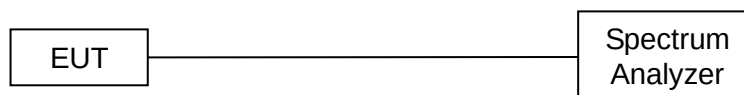
Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (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

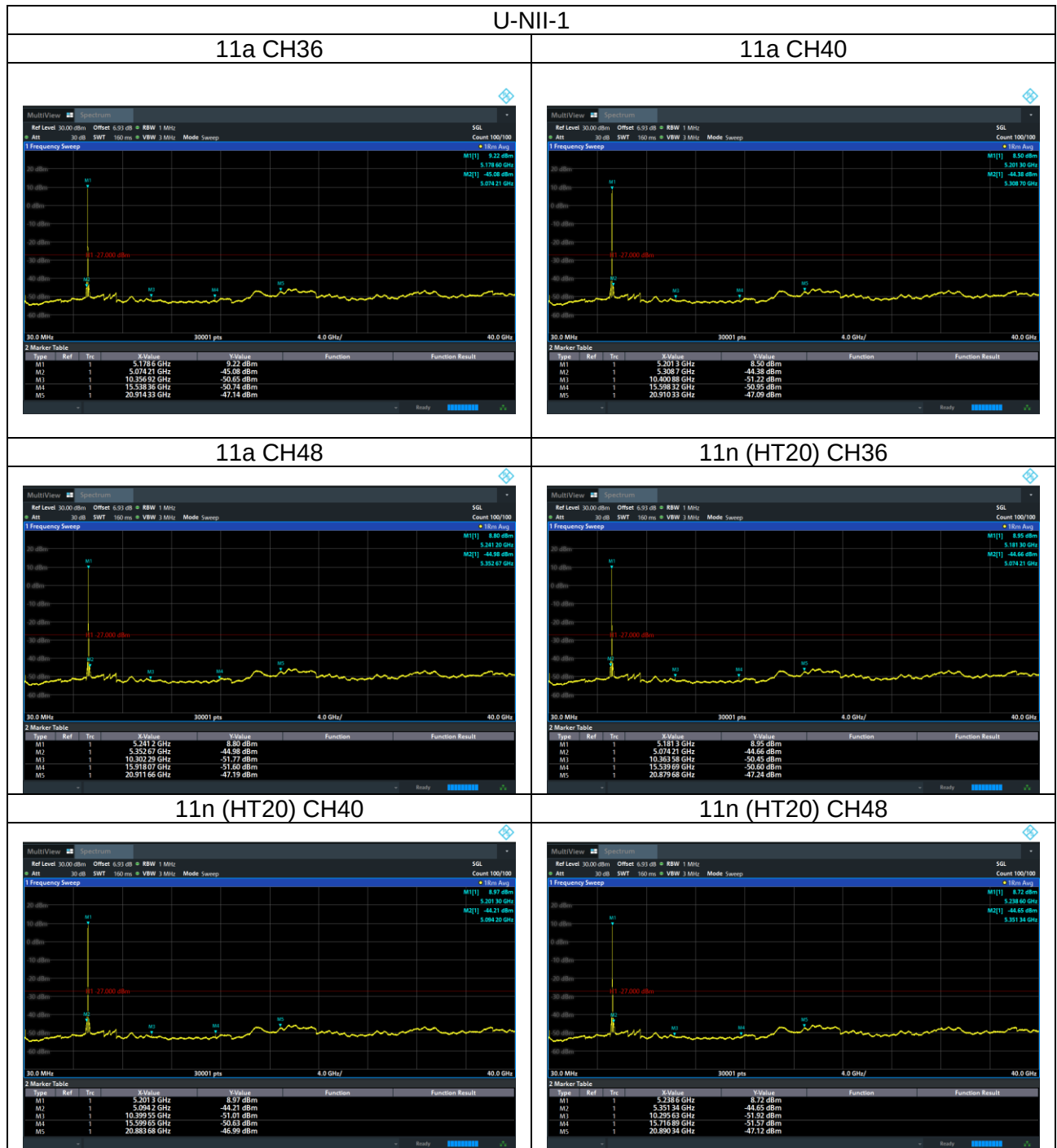
The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2020 + Cor. 1-2023 + C63.10a-2024 + Errata to C63.10a-2024 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in 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.

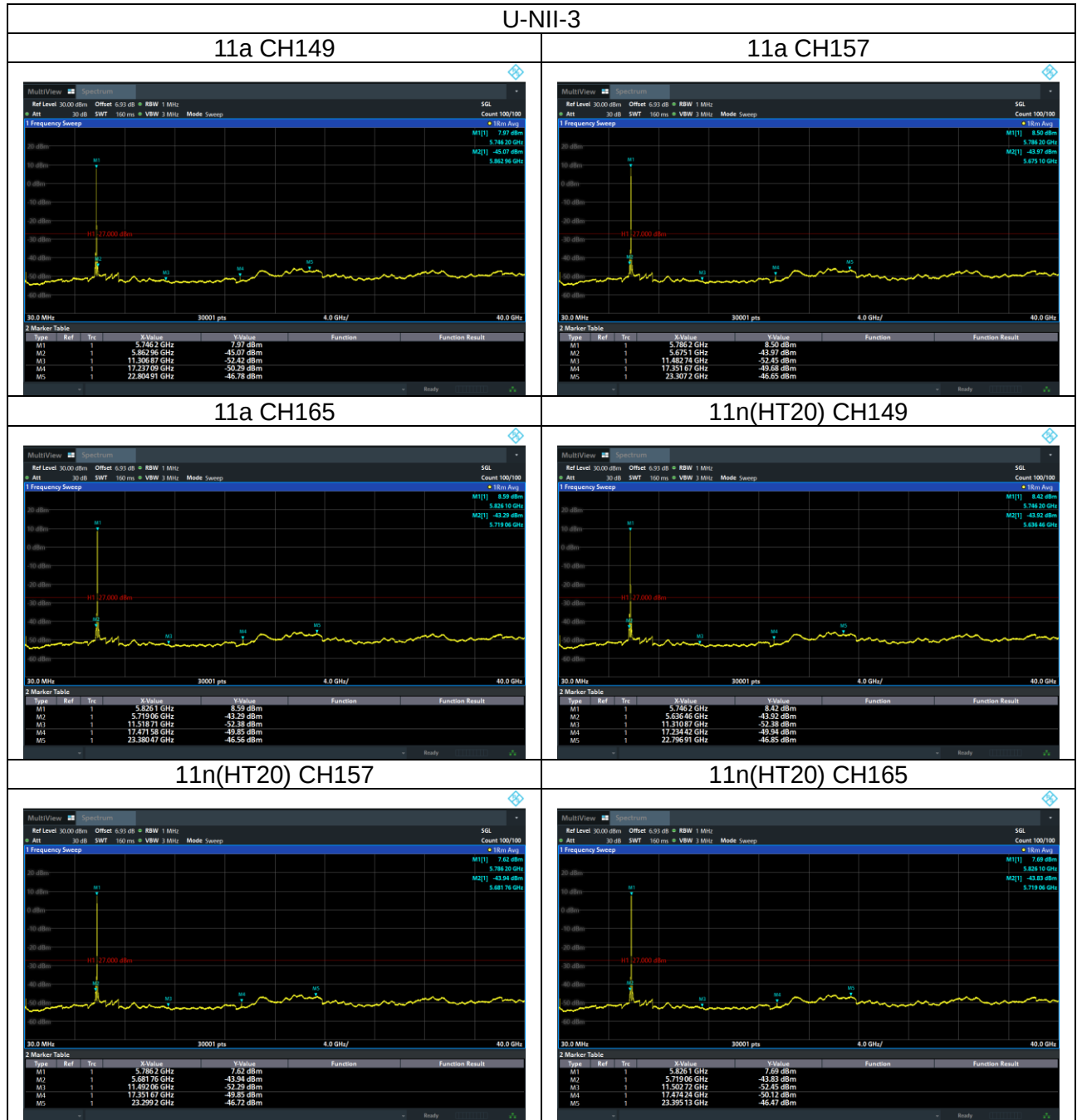
5.10.3 Test Setup



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

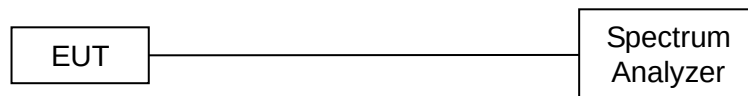
Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

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	5180.042	5180	0.042	8.07
		V max (V)	5.5	5180.025	5180	0.025	4.90
		V min (V)	4.5	5180.015	5180	0.015	2.94
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	5180.027	5180	0.027	5.14
		T (°C)	-10	5180.012	5180	0.012	2.23
		T (°C)	0	5180.049	5180	0.049	9.54
		T (°C)	10	5180.029	5180	0.029	5.58
		T (°C)	20	5180.005	5180	0.005	1.01
		T (°C)	30	5180.033	5180	0.033	6.34
		T (°C)	40	5180.028	5180	0.028	5.34
		T (°C)	50	5180.004	5180	0.004	0.77
		T (°C)	60	5180.031	5180	0.031	6.01
		T (°C)	70	5180.029	5180	0.029	5.58
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	5200.046	5200	0.046	8.91
		V max (V)	5.5	5200.020	5200	0.020	3.86
		V min (V)	4.5	5200.025	5200	0.025	4.90
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	5200.014	5200	0.014	2.72
		T (°C)	-10	5200.028	5200	0.028	5.44
		T (°C)	0	5200.044	5200	0.044	8.53
		T (°C)	10	5200.040	5200	0.040	7.72
		T (°C)	20	5200.044	5200	0.044	8.38
		T (°C)	30	5200.037	5200	0.037	7.08
		T (°C)	40	5200.012	5200	0.012	2.26
		T (°C)	50	5200.049	5200	0.049	9.43
		T (°C)	60	5200.037	5200	0.037	7.03
		T (°C)	70	5200.041	5200	0.041	7.94
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	5240.004	5240	0.004	0.70
		V max (V)	5.5	5240.026	5240	0.026	4.92
		V min (V)	4.5	5240.024	5240	0.024	4.63
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	5240.043	5240	0.043	8.15
		T (°C)	-10	5240.021	5240	0.021	3.95
		T (°C)	0	5240.018	5240	0.018	3.36
		T (°C)	10	5240.018	5240	0.018	3.48
		T (°C)	20	5240.042	5240	0.042	7.95
		T (°C)	30	5240.021	5240	0.021	3.99
		T (°C)	40	5240.040	5240	0.040	7.72
		T (°C)	50	5240.041	5240	0.041	7.92
		T (°C)	60	5240.028	5240	0.028	5.43
		T (°C)	70	5240.009	5240	0.009	1.79
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	5745.032	5745	0.032	5.52
		V max (V)	5.5	5745.035	5745	0.035	6.02
		V min (V)	4.5	5745.040	5745	0.040	6.88
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	5745.004	5745	0.004	0.78
		T (°C)	-10	5745.014	5745	0.014	2.46
		T (°C)	0	5745.021	5745	0.021	3.65
		T (°C)	10	5745.015	5745	0.015	2.54
		T (°C)	20	5745.016	5745	0.016	2.76
		T (°C)	30	5745.036	5745	0.036	6.33
		T (°C)	40	5745.041	5745	0.041	7.18
		T (°C)	50	5745.042	5745	0.042	7.39
		T (°C)	60	5745.047	5745	0.047	8.20
		T (°C)	70	5745.050	5745	0.050	8.65
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	5785.014	5785	0.014	2.47
		V max (V)	5.5	5785.005	5785	0.005	0.95
		V min (V)	4.5	5785.021	5785	0.021	3.60
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	5785.004	5785	0.004	0.75
		T (°C)	-10	5785.013	5785	0.013	2.19
		T (°C)	0	5785.009	5785	0.009	1.56
		T (°C)	10	5785.039	5785	0.039	6.71
		T (°C)	20	5785.047	5785	0.047	8.05
		T (°C)	30	5785.026	5785	0.026	4.56
		T (°C)	40	5785.040	5785	0.040	6.85
		T (°C)	50	5785.046	5785	0.046	7.97
		T (°C)	60	5785.011	5785	0.011	1.96
		T (°C)	70	5785.029	5785	0.029	5.08
Limits				± 20 ppm			
Result				Complies			

Voltage vs. Frequency Stability

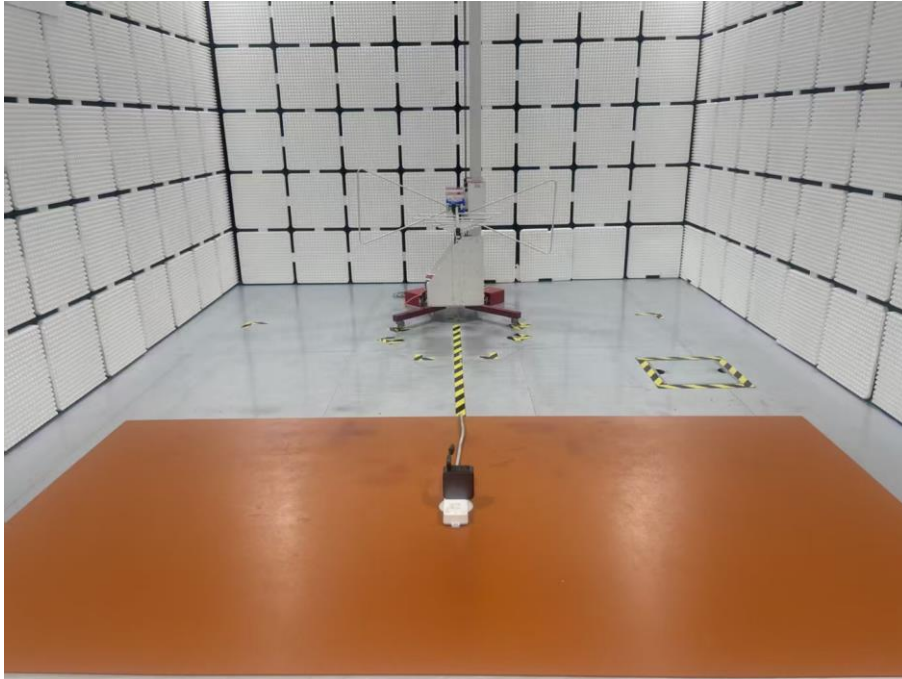
TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5	5825.040	5825	0.040	6.80
		V max (V)	5.5	5825.014	5825	0.014	2.46
		V min (V)	4.5	5825.005	5825	0.005	0.94
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5825.014	5825	0.014	2.40
		T (°C)	-10	5825.040	5825	0.040	6.89
		T (°C)	0	5825.003	5825	0.003	0.48
		T (°C)	10	5825.018	5825	0.018	3.11
		T (°C)	20	5825.016	5825	0.016	2.70
		T (°C)	30	5825.041	5825	0.041	7.03
		T (°C)	40	5825.049	5825	0.049	8.45
		T (°C)	50	5825.046	5825	0.046	7.98
		T (°C)	60	5825.016	5825	0.016	2.72
		T (°C)	70	5825.035	5825	0.035	6.03
Limits				± 20 ppm			
Result				Complies			

6 Photographs of the Test Setup

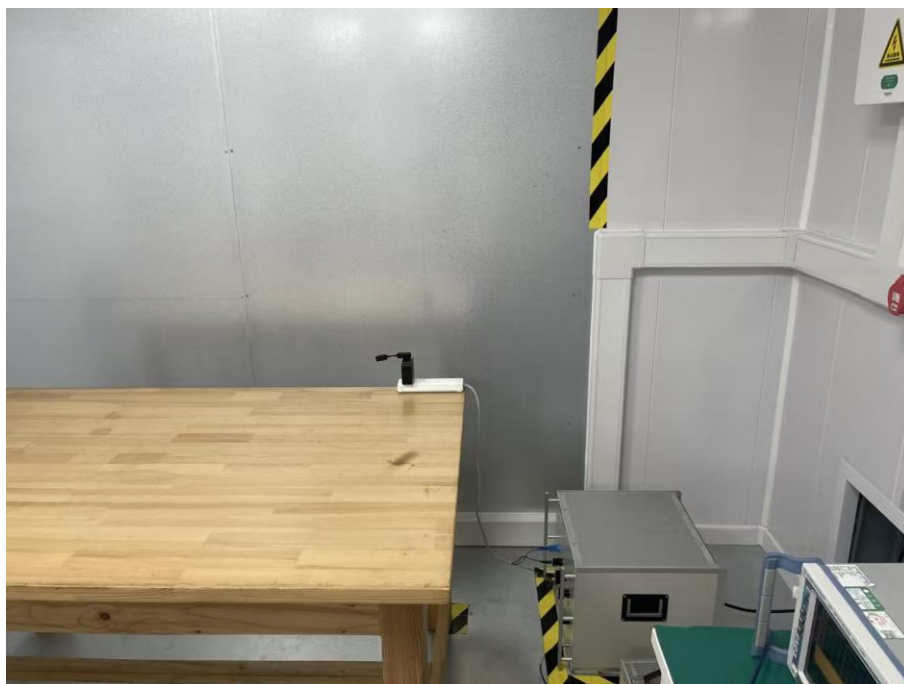
Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



Conducted emission



7 Photographs of the EUT

Please refer to report HB20260728008E-01 for product photos.

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