

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%
Pressure:	101KPa	Test Voltage:	DC 3.3V
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)	3.30	5180.0126	5180	0.0126	2.4324
		V max (V)	3.80	5180.0116	5180	0.0116	2.2394
		V min (V)	2.81	5180.0106	5180	0.0106	2.0463
Limits				5150-5250 MHz			
Result				Complies			

Temperature vs. Frequency Stability

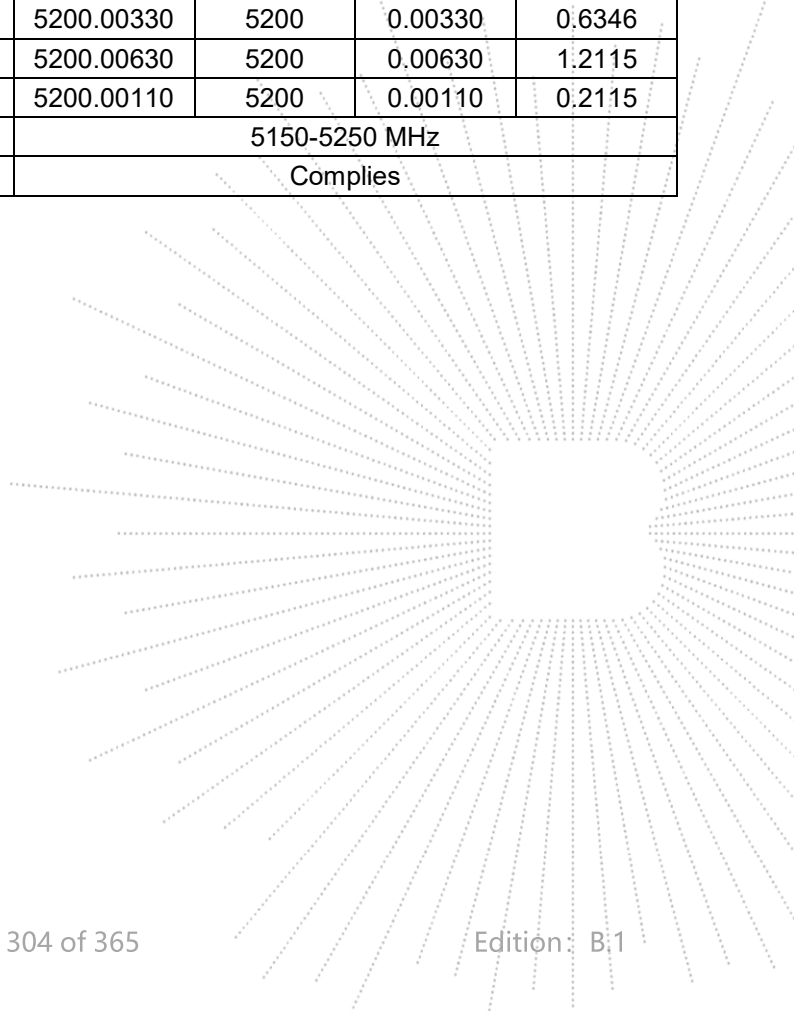
TEST CONDITIONS				Reference Frequency: 5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5180.0043	5180	0.0043	0.8301
		T (°C)	-10	5180.0129	5180	0.0129	2.4903
		T (°C)	0	5180.0079	5180	0.0079	1.5251
		T (°C)	10	5180.0134	5180	0.0134	2.5869
		T (°C)	20	5180.0088	5180	0.0088	1.6988
		T (°C)	30	5180.0008	5180	0.0008	0.1544
		T (°C)	40	5180.0039	5180	0.0039	0.7529
		T (°C)	50	5180.0073	5180	0.0073	1.4093
		T (°C)	60	5180.0084	5180	0.0084	1.6216
		T (°C)	70	5180.0091	5180	0.0091	1.7568
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)	3.30	5200.0081	5200	0.0081	1.5577
		V max (V)	3.80	5200.0079	5200	0.0079	1.5192
		V min (V)	2.81	5200.0065	5200	0.0065	1.2500
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	5200.01110	5200	0.01110	2.1346
		T (°C)	-10	5200.00280	5200	0.00280	0.5385
		T (°C)	0	5200.01340	5200	0.01340	2.5769
		T (°C)	10	5200.00510	5200	0.00510	0.9808
		T (°C)	20	5200.01300	5200	0.01300	2.5000
		T (°C)	30	5200.00170	5200	0.00170	0.3269
		T (°C)	40	5200.00690	5200	0.00690	1.3269
		T (°C)	50	5200.00330	5200	0.00330	0.6346
		T (°C)	60	5200.00630	5200	0.00630	1.2115
		T (°C)	70	5200.00110	5200	0.00110	0.2115
Limits				5150-5250 MHz			
Result				Complies			

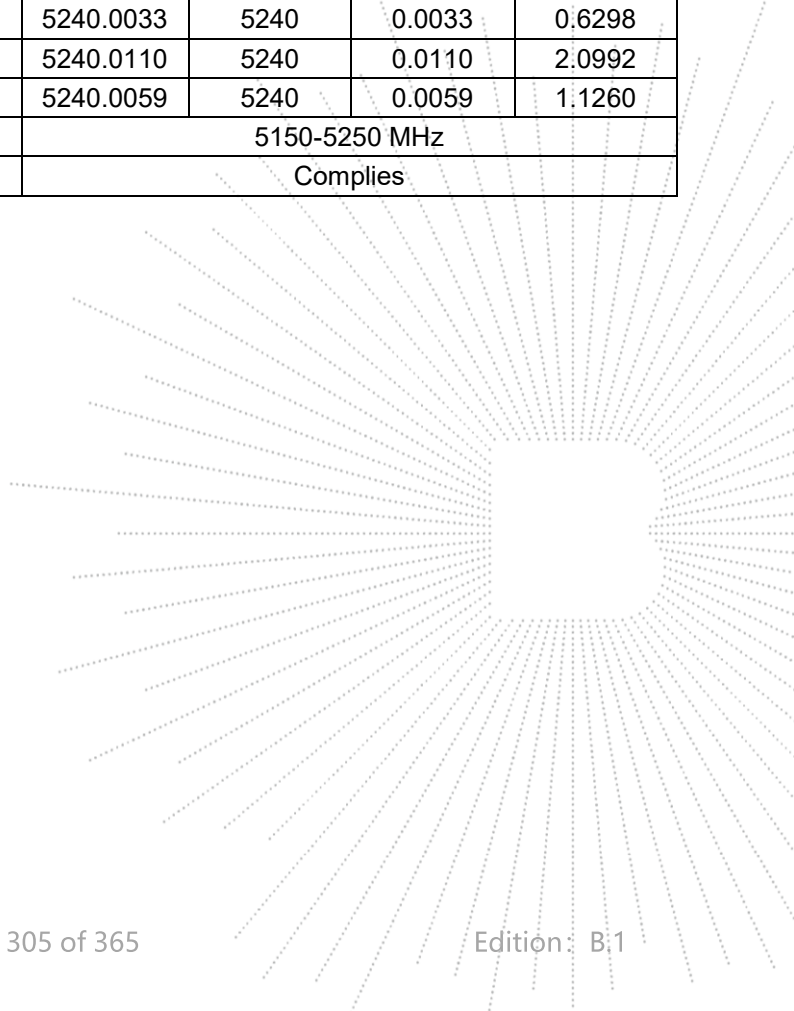


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5240.0006	5240	0.0006	0.1145
		V max (V)	3.80	5240.0019	5240	0.0019	0.3626
		V min (V)	2.81	5240.0052	5240	0.0052	0.9924
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	5240.0114	5240	0.0114	2.1756
		T (°C)	-10	5240.0001	5240	0.0001	0.0191
		T (°C)	0	5240.0028	5240	0.0028	0.5344
		T (°C)	10	5240.0107	5240	0.0107	2.0420
		T (°C)	20	5240.0093	5240	0.0093	1.7748
		T (°C)	30	5240.0017	5240	0.0017	0.3244
		T (°C)	40	5240.0077	5240	0.0077	1.4695
		T (°C)	50	5240.0033	5240	0.0033	0.6298
		T (°C)	60	5240.0110	5240	0.0110	2.0992
		T (°C)	70	5240.0059	5240	0.0059	1.1260
Limits				5150-5250 MHz			
Result				Complies			



Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.3G) Mode Frequency U-NII-2A (5260-5320MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5260.0030	5260	0.0030	0.5703
		V max (V)	3.80	5260.0014	5260	0.0014	0.2662
		V min (V)	2.81	5260.0103	5260	0.0103	1.9582
Limits				5260-5320 MHz			
Result				Complies			

Temperature vs. Frequency Stability

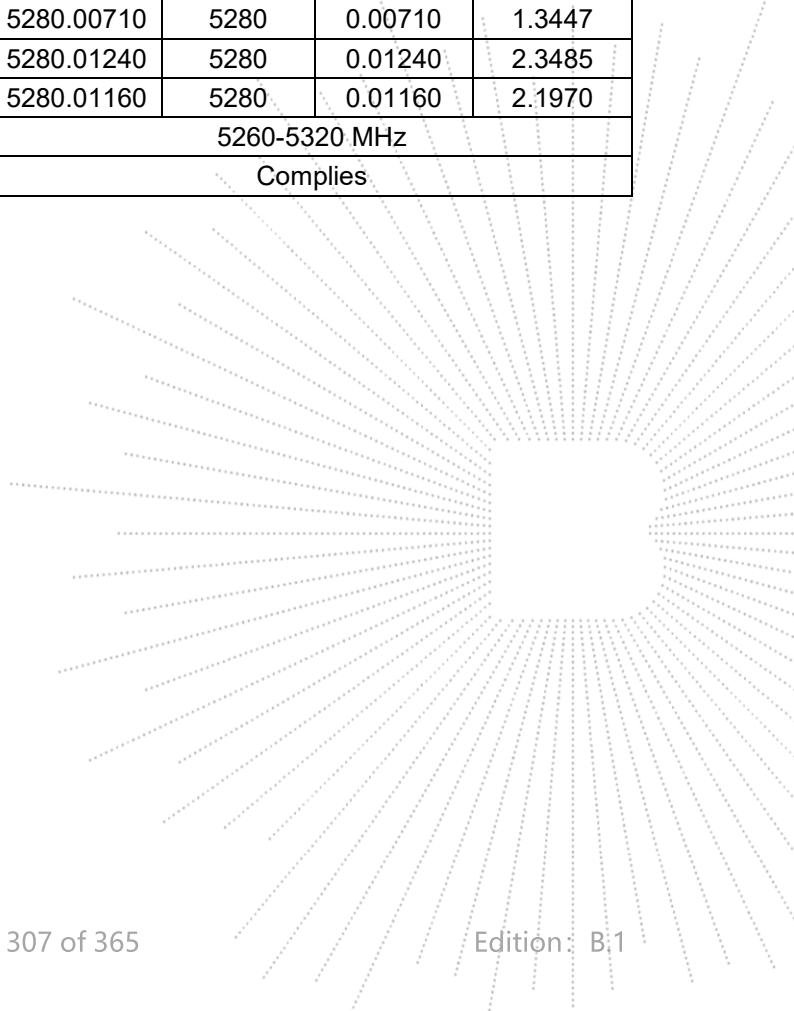
TEST CONDITIONS				Reference Frequency: 5260MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5260.0100	5260	0.0100	1.9011
		T (°C)	-10	5260.0105	5260	0.0105	1.9962
		T (°C)	0	5260.0128	5260	0.0128	2.4335
		T (°C)	10	5260.0039	5260	0.0039	0.7414
		T (°C)	20	5260.0057	5260	0.0057	1.0837
		T (°C)	30	5260.0026	5260	0.0026	0.4943
		T (°C)	40	5260.0049	5260	0.0049	0.9316
		T (°C)	50	5260.0047	5260	0.0047	0.8935
		T (°C)	60	5260.0121	5260	0.0121	2.3004
		T (°C)	70	5260.0117	5260	0.0117	2.2243
Limits				5260-5320 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5280.0029	5280	0.0029	0.5492
		V max (V)	3.80	5280.0052	5280	0.0052	0.9848
		V min (V)	2.81	5280.0049	5280	0.0049	0.9280
Limits				5260-5320 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5280MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5280.00180	5280	0.00180	0.3409
		T (°C)	-10	5280.01290	5280	0.01290	2.4432
		T (°C)	0	5280.00380	5280	0.00380	0.7197
		T (°C)	10	5280.00880	5280	0.00880	1.6667
		T (°C)	20	5280.00700	5280	0.00700	1.3258
		T (°C)	30	5280.01340	5280	0.01340	2.5379
		T (°C)	40	5280.01090	5280	0.01090	2.0644
		T (°C)	50	5280.00710	5280	0.00710	1.3447
		T (°C)	60	5280.01240	5280	0.01240	2.3485
		T (°C)	70	5280.01160	5280	0.01160	2.1970
Limits				5260-5320 MHz			
Result				Complies			

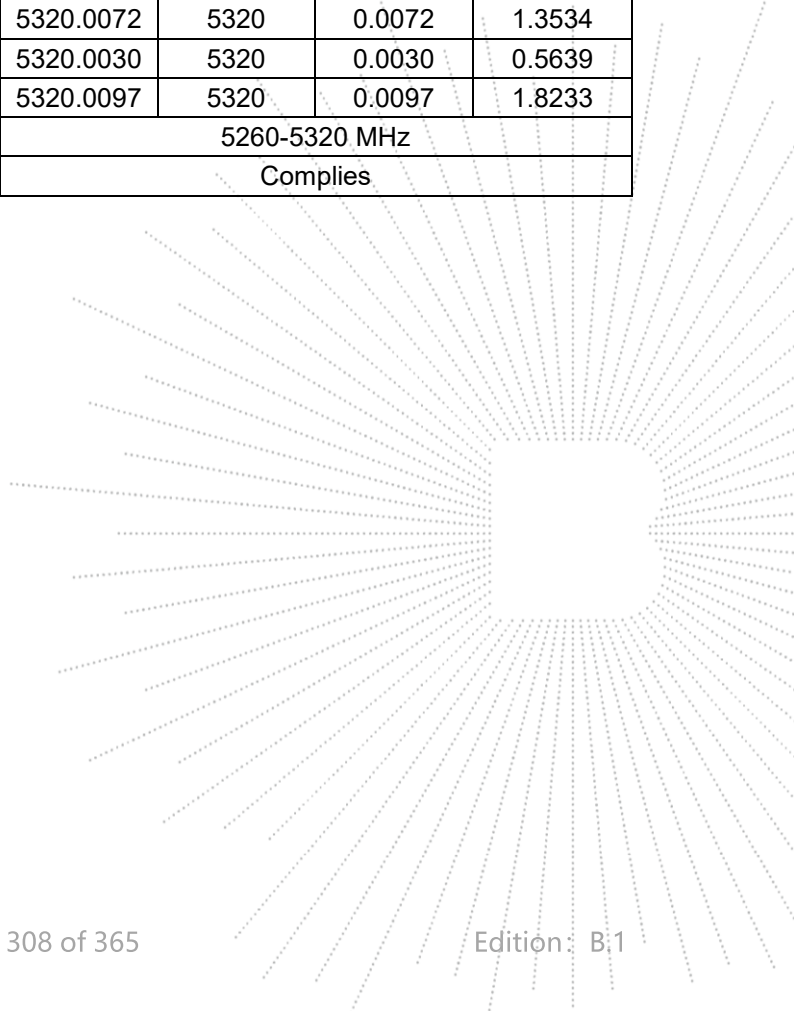


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5320.0062	5320	0.0062	1.1654
		V max (V)	3.80	5320.0070	5320	0.0070	1.3158
		V min (V)	2.81	5320.0115	5320	0.0115	2.1617
Limits				5260-5320 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5320MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5320.0116	5320	0.0116	2.1805
		T (°C)	-10	5320.0016	5320	0.0016	0.3008
		T (°C)	0	5320.0057	5320	0.0057	1.0714
		T (°C)	10	5320.0037	5320	0.0037	0.6955
		T (°C)	20	5320.0032	5320	0.0032	0.6015
		T (°C)	30	5320.0077	5320	0.0077	1.4474
		T (°C)	40	5320.0064	5320	0.0064	1.2030
		T (°C)	50	5320.0072	5320	0.0072	1.3534
		T (°C)	60	5320.0030	5320	0.0030	0.5639
		T (°C)	70	5320.0097	5320	0.0097	1.8233
Limits				5260-5320 MHz			
Result				Complies			



Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.6G) Mode Frequency U-NII-2C (5500-5700MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5500.0058	5500	0.0058	1.0545
		V max (V)	3.80	5500.0108	5500	0.0108	1.9636
		V min (V)	2.81	5500.0127	5500	0.0127	2.3091
Limits				5500-5700 MHz			
Result				Complies			

Temperature vs. Frequency Stability

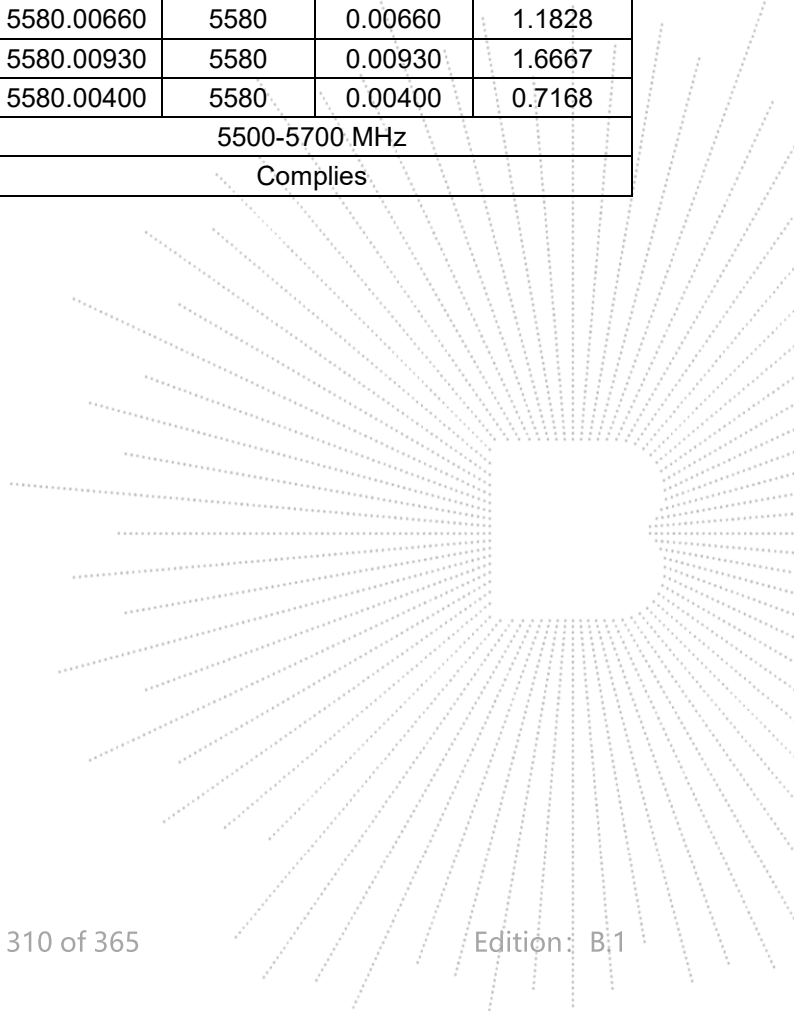
TEST CONDITIONS				Reference Frequency: 5500MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5500.0130	5500	0.0130	2.3636
		T (°C)	-10	5500.0006	5500	0.0006	0.1091
		T (°C)	0	5500.0050	5500	0.0050	0.9091
		T (°C)	10	5500.0042	5500	0.0042	0.7636
		T (°C)	20	5500.0061	5500	0.0061	1.1091
		T (°C)	30	5500.0105	5500	0.0105	1.9091
		T (°C)	40	5500.0121	5500	0.0121	2.2000
		T (°C)	50	5500.0038	5500	0.0038	0.6909
		T (°C)	60	5500.0065	5500	0.0065	1.1818
		T (°C)	70	5500.0027	5500	0.0027	0.4909
Limits				5500-5700 MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5580.0106	5580	0.0106	1.8996
		V max (V)	3.80	5580.0053	5580	0.0053	0.9498
		V min (V)	2.81	5580.0082	5580	0.0082	1.4695
Limits				5500-5700 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5580MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5580.00960	5580	0.00960	1.7204
		T (°C)	-10	5580.00600	5580	0.00600	1.0753
		T (°C)	0	5580.00850	5580	0.00850	1.5233
		T (°C)	10	5580.01140	5580	0.01140	2.0430
		T (°C)	20	5580.00670	5580	0.00670	1.2007
		T (°C)	30	5580.01130	5580	0.01130	2.0251
		T (°C)	40	5580.00740	5580	0.00740	1.3262
		T (°C)	50	5580.00660	5580	0.00660	1.1828
		T (°C)	60	5580.00930	5580	0.00930	1.6667
		T (°C)	70	5580.00400	5580	0.00400	0.7168
Limits				5500-5700 MHz			
Result				Complies			

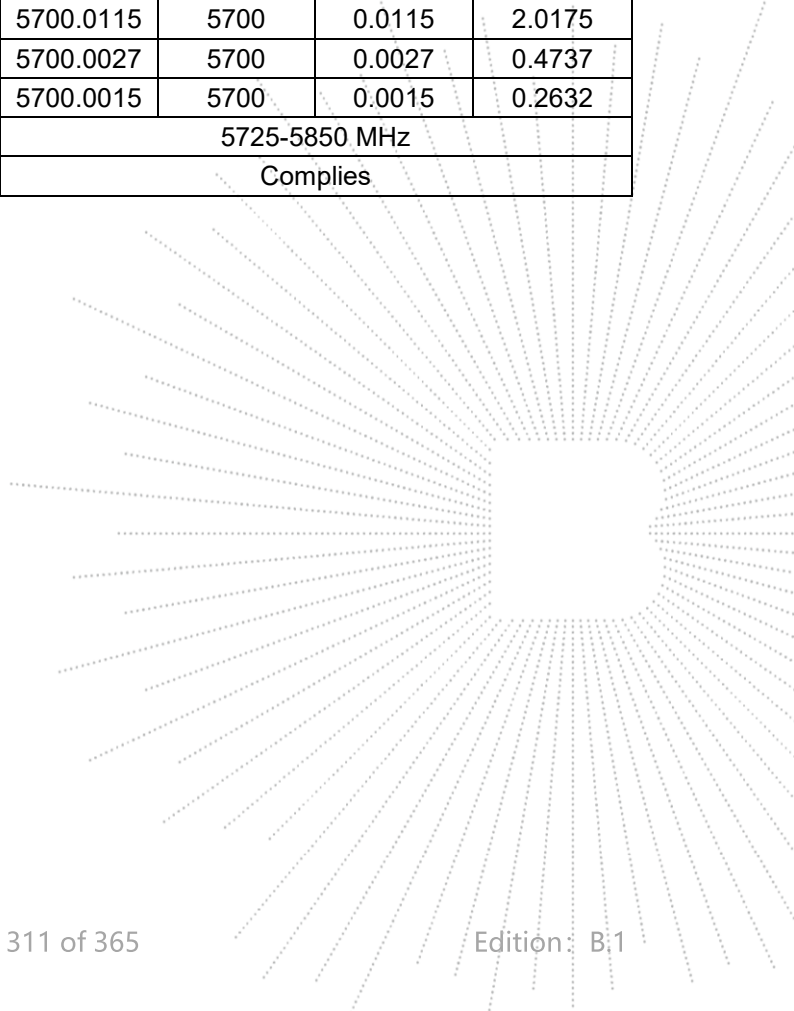


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5700.0108	5700	0.0108	1.8947
		V max (V)	3.80	5700.0044	5700	0.0044	0.7719
		V min (V)	2.81	5700.0087	5700	0.0087	1.5263
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5700MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5700.0011	5700	0.0011	0.1930
		T (°C)	-10	5700.0107	5700	0.0107	1.8772
		T (°C)	0	5700.0075	5700	0.0075	1.3158
		T (°C)	10	5700.0073	5700	0.0073	1.2807
		T (°C)	20	5700.0033	5700	0.0033	0.5789
		T (°C)	30	5700.0013	5700	0.0013	0.2281
		T (°C)	40	5700.0059	5700	0.0059	1.0351
		T (°C)	50	5700.0115	5700	0.0115	2.0175
		T (°C)	60	5700.0027	5700	0.0027	0.4737
		T (°C)	70	5700.0015	5700	0.0015	0.2632
Limits				5725-5850 MHz			
Result				Complies			



Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 3.3V
Test Mode:	TX (5.8G) Mode Frequency U-NII-3 (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	5745.00360	5745	0.00360	0.6266
		V max (V)	3.80	5745.01180	5745	0.01180	2.0540
		V min (V)	2.81	5745.01310	5745	0.01310	2.2802
Limits				5725-5850 MHz			
Result				Complies			

Temperature vs. Frequency Stability

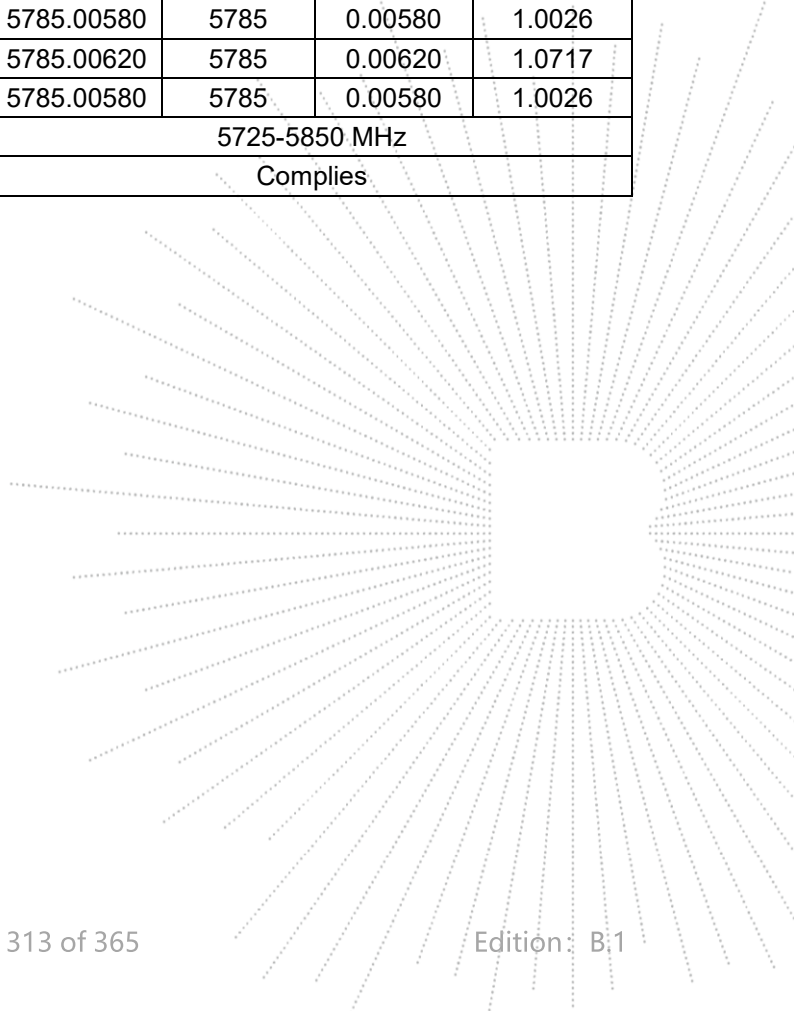
TEST CONDITIONS				Reference Frequency: 5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	3.3	T (°C)	-20	5745.00700	5745	0.00700	1.2185
		T (°C)	-10	5745.00630	5745	0.00630	1.0966
		T (°C)	0	5745.00920	5745	0.00920	1.6014
		T (°C)	10	5745.01270	5745	0.01270	2.2106
		T (°C)	20	5745.00700	5745	0.00700	1.2185
		T (°C)	30	5745.00240	5745	0.00240	0.4178
		T (°C)	40	5745.00540	5745	0.00540	0.9399
		T (°C)	50	5745.00020	5745	0.00020	0.0348
		T (°C)	60	5745.00780	5745	0.00780	1.3577
		T (°C)	70	5745.01170	5745	0.01170	2.0366
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	5785.00200	5785	0.00200	0.3457
		V max (V)	3.80	5785.01260	5785	0.01260	2.1780
		V min (V)	2.81	5785.01220	5785	0.01220	2.1089
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	5785.00520	5785	0.00520	0.8989
		T (°C)	-10	5785.01300	5785	0.01300	2.2472
		T (°C)	0	5785.00570	5785	0.00570	0.9853
		T (°C)	10	5785.00580	5785	0.00580	1.0026
		T (°C)	20	5785.00870	5785	0.00870	1.5039
		T (°C)	30	5785.00950	5785	0.00950	1.6422
		T (°C)	40	5785.00690	5785	0.00690	1.1927
		T (°C)	50	5785.00580	5785	0.00580	1.0026
		T (°C)	60	5785.00620	5785	0.00620	1.0717
		T (°C)	70	5785.00580	5785	0.00580	1.0026
Limits				5725-5850 MHz			
Result				Complies			

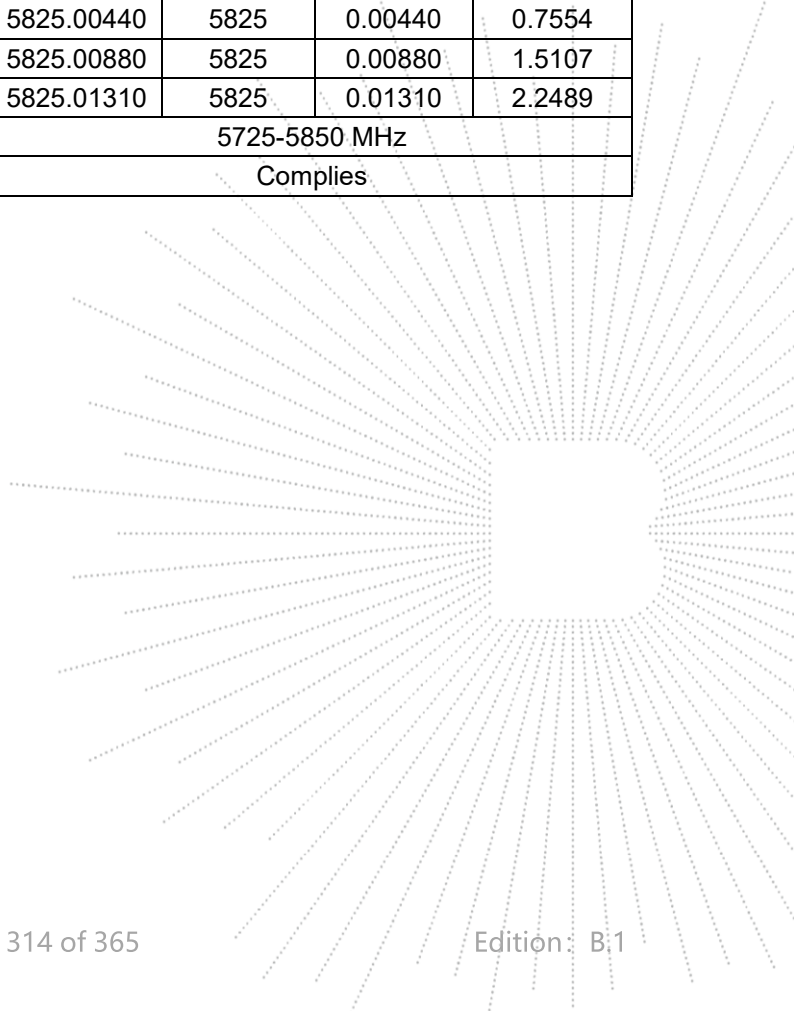


Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency: 5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	3.30	5825.00080	5825	0.00080	0.1373
		V max (V)	3.80	5825.00540	5825	0.00540	0.9270
		V min (V)	2.81	5825.00550	5825	0.00550	0.9442
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	5825.00720	5825	0.00720	1.2361
		T (°C)	-10	5825.01160	5825	0.01160	1.9914
		T (°C)	0	5825.00420	5825	0.00420	0.7210
		T (°C)	10	5825.01140	5825	0.01140	1.9571
		T (°C)	20	5825.00200	5825	0.00200	0.3433
		T (°C)	30	5825.00860	5825	0.00860	1.4764
		T (°C)	40	5825.01120	5825	0.01120	1.9227
		T (°C)	50	5825.00440	5825	0.00440	0.7554
		T (°C)	60	5825.00880	5825	0.00880	1.5107
		T (°C)	70	5825.01310	5825	0.01310	2.2489
Limits				5725-5850 MHz			
Result				Complies			



14. Duty Cycle Of Test Signal

14.1 Standard Requirement

Pre-analysis Check: While conducting average power measurement, duty cycle of each mode shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage.

14.2 Formula

Duty Cycle = $T_{on} / (T_{on} + T_{off})$

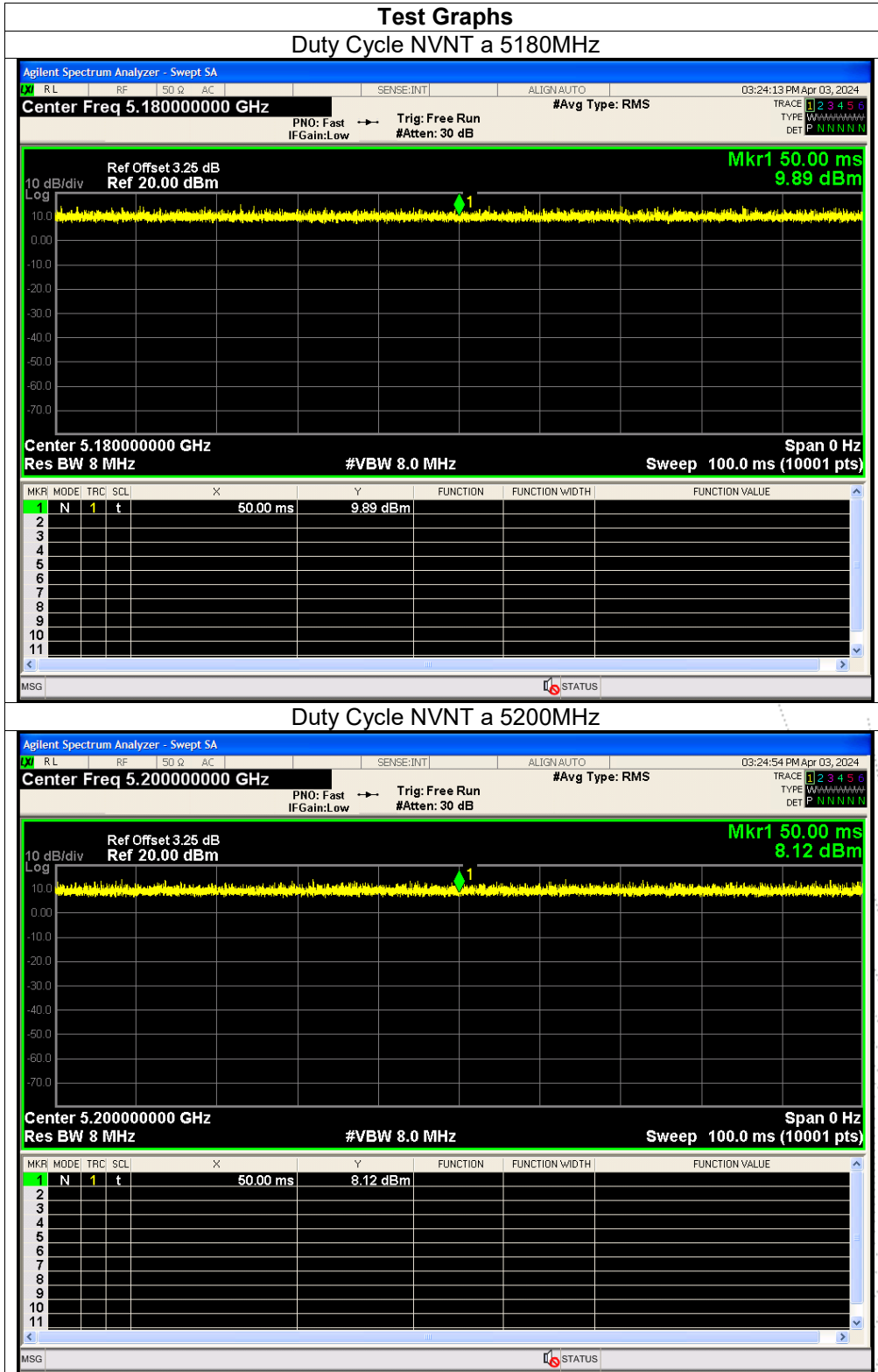
14.3 Test Procedure

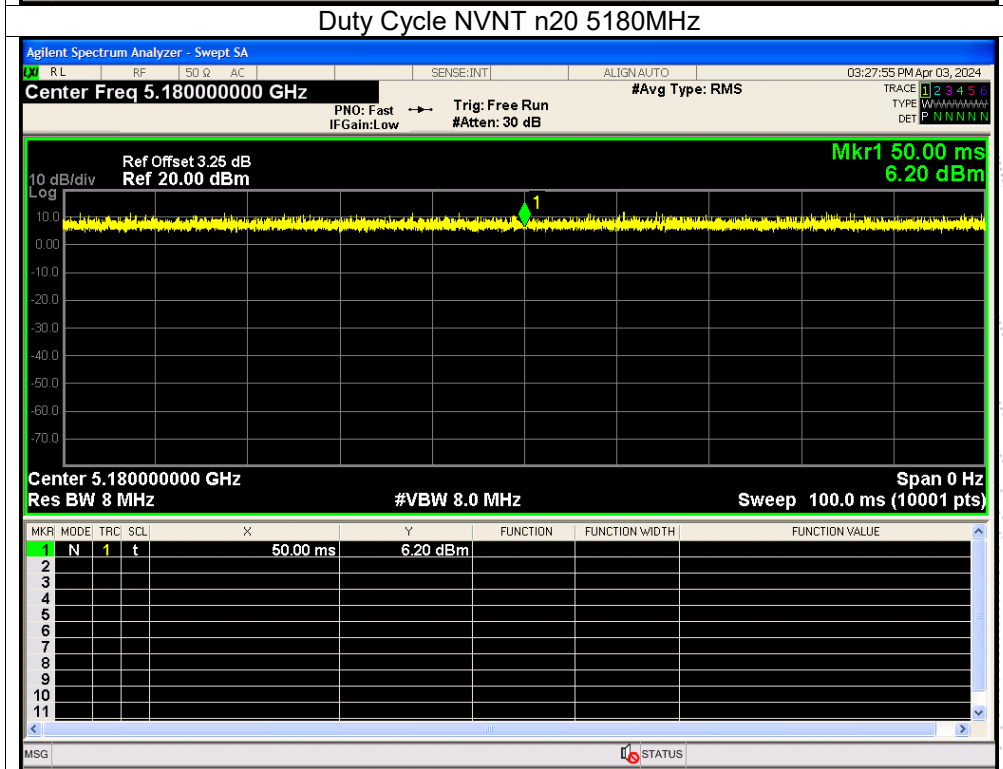
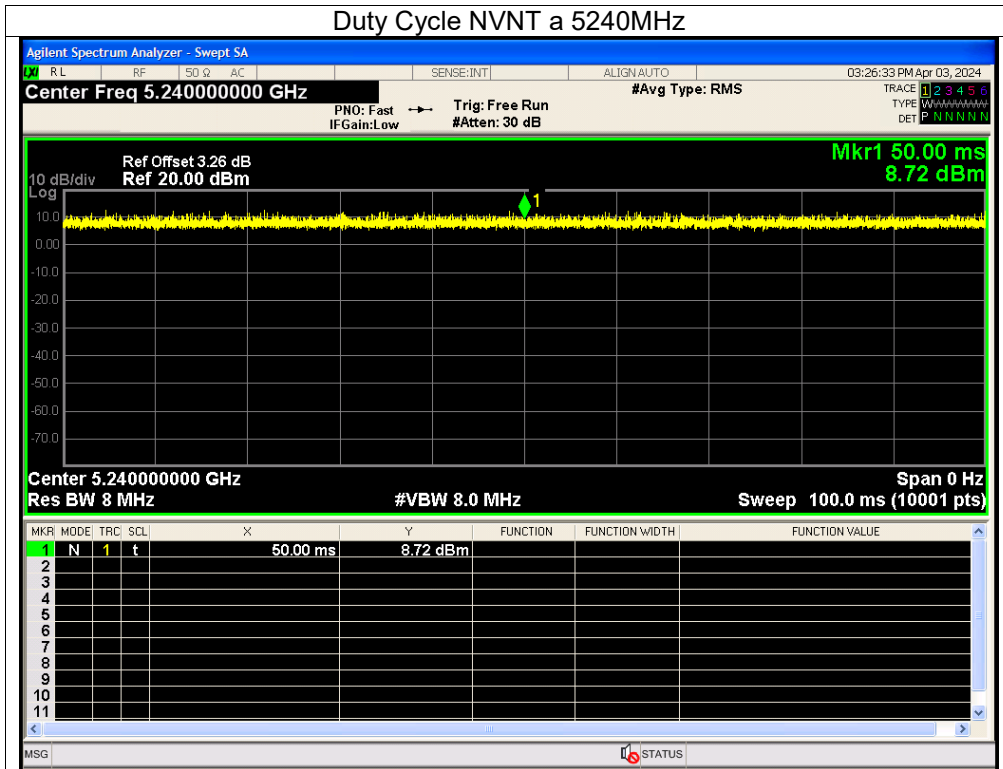
1. Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

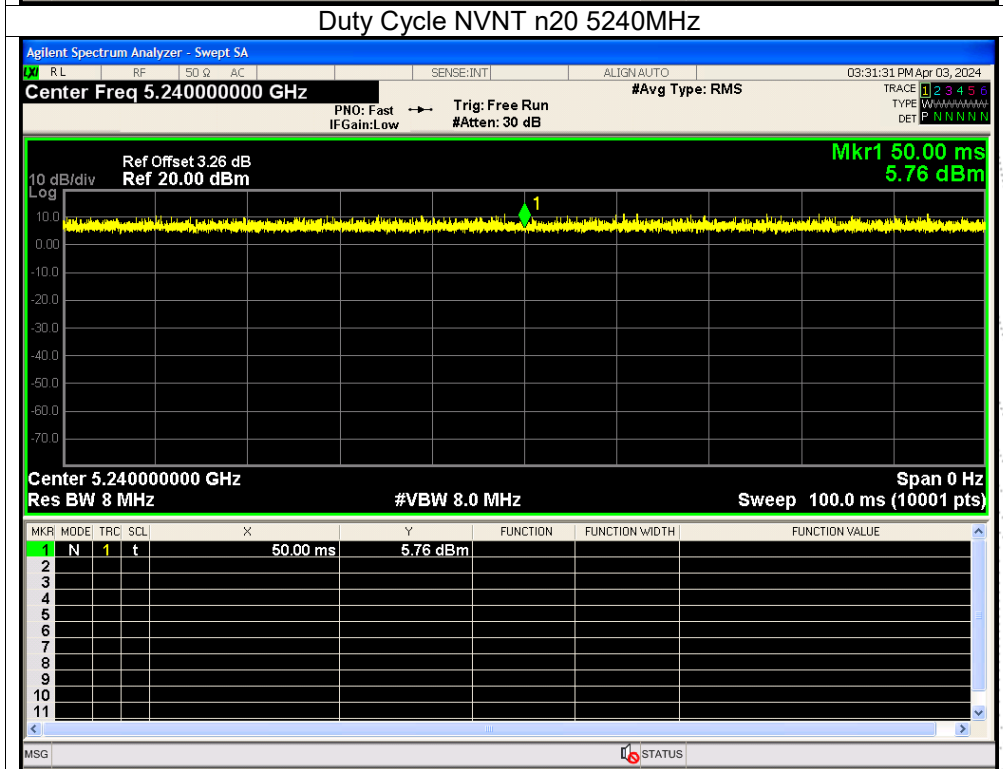
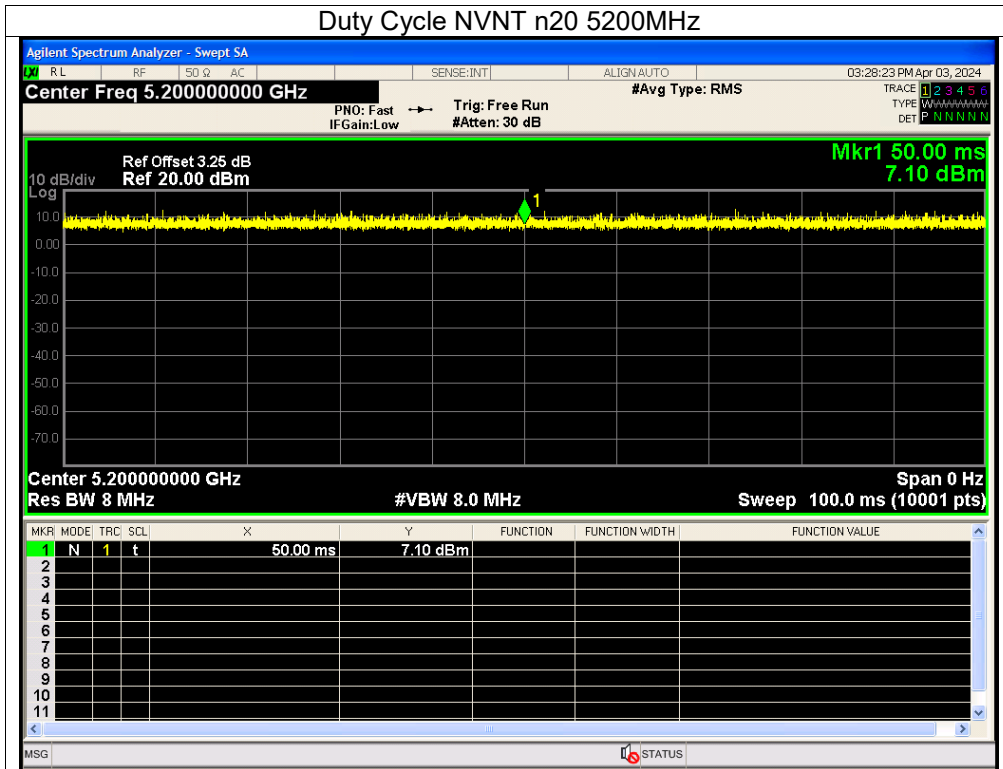
14.4 Test Result

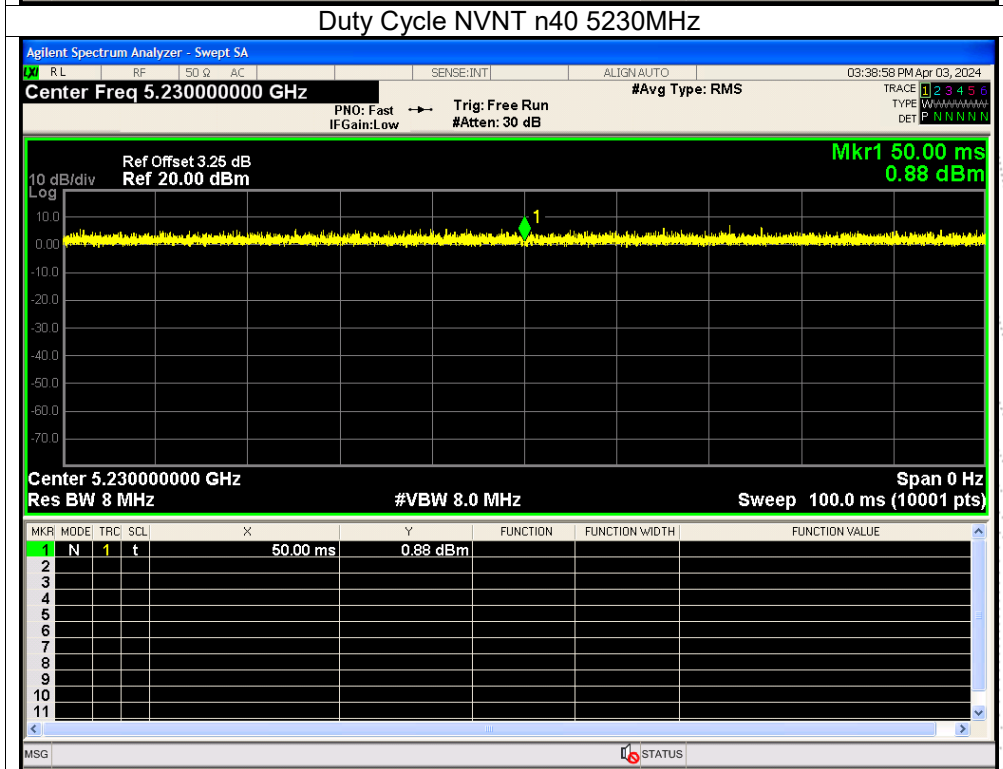
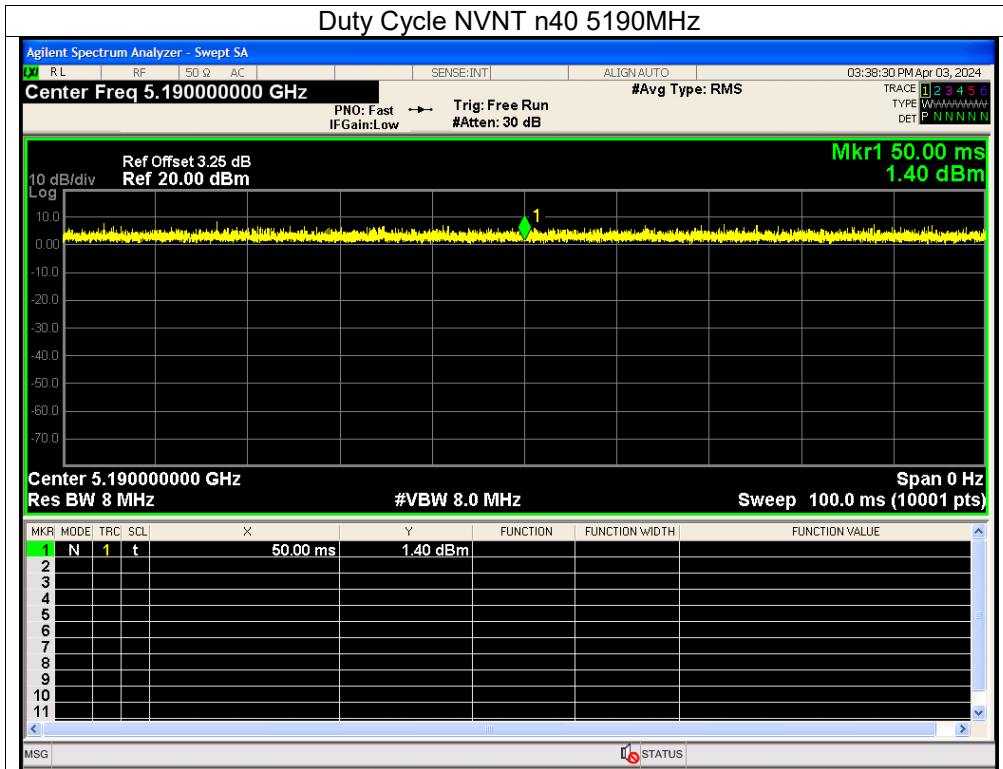
Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	100	0	0
NVNT	a	5200	100	0	0
NVNT	a	5240	100	0	0
NVNT	n20	5180	100	0	0
NVNT	n20	5200	100	0	0
NVNT	n20	5240	100	0	0
NVNT	n40	5190	100	0	0
NVNT	n40	5230	100	0	0
NVNT	ac20	5180	100	0	0
NVNT	ac20	5200	100	0	0
NVNT	ac20	5240	100	0	0
NVNT	ac40	5190	100	0	0
NVNT	ac40	5230	100	0	0
NVNT	ac80	5210	100	0	0
NVNT	ax20	5180	100	0	0
NVNT	ax20	5200	100	0	0
NVNT	ax20	5240	100	0	0
NVNT	ax40	5190	100	0	0
NVNT	ax40	5230	100	0	0
NVNT	ax80	5210	100	0	0

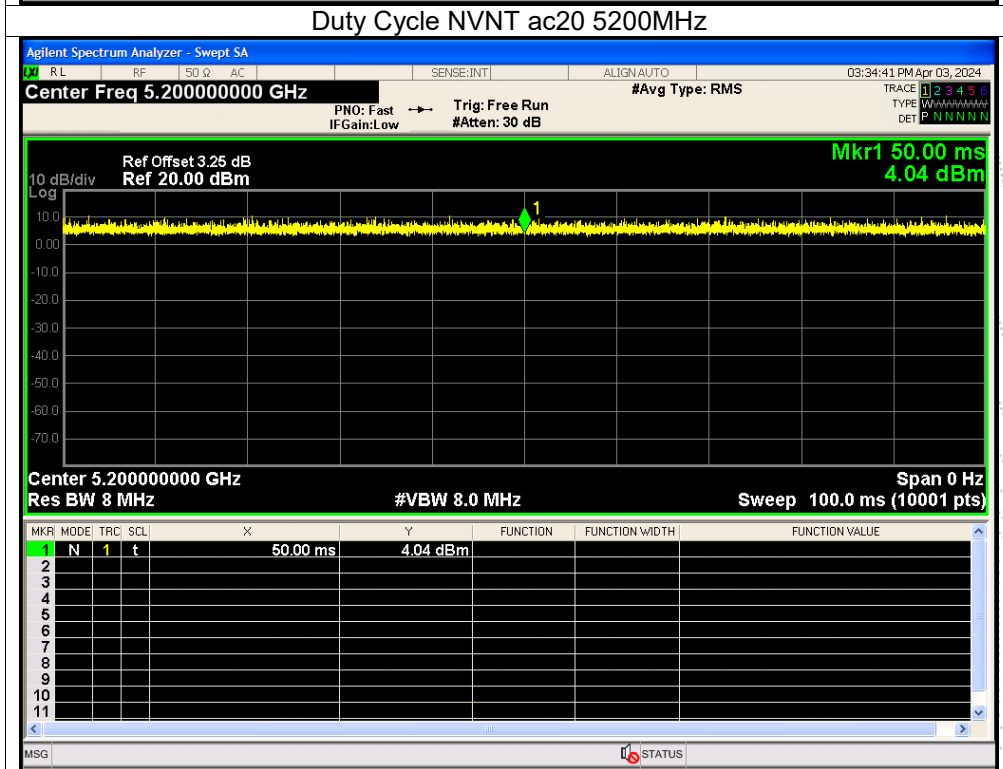
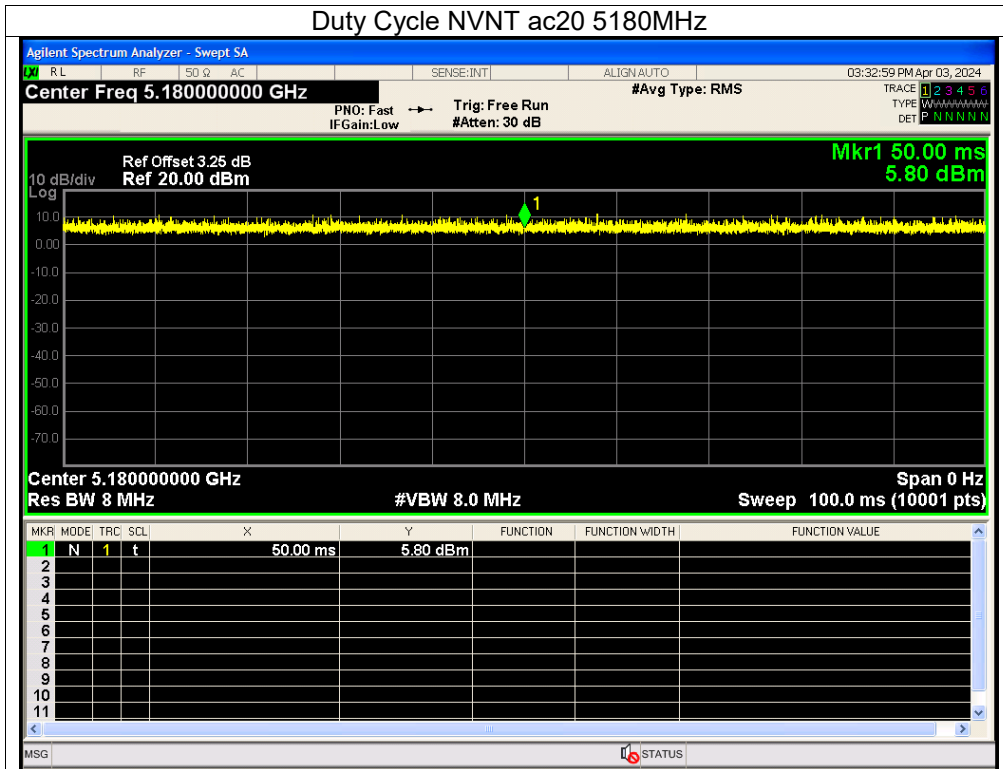
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A ,only shown Antenna A .
 Plot. Antenna A: 5180-5240MHz

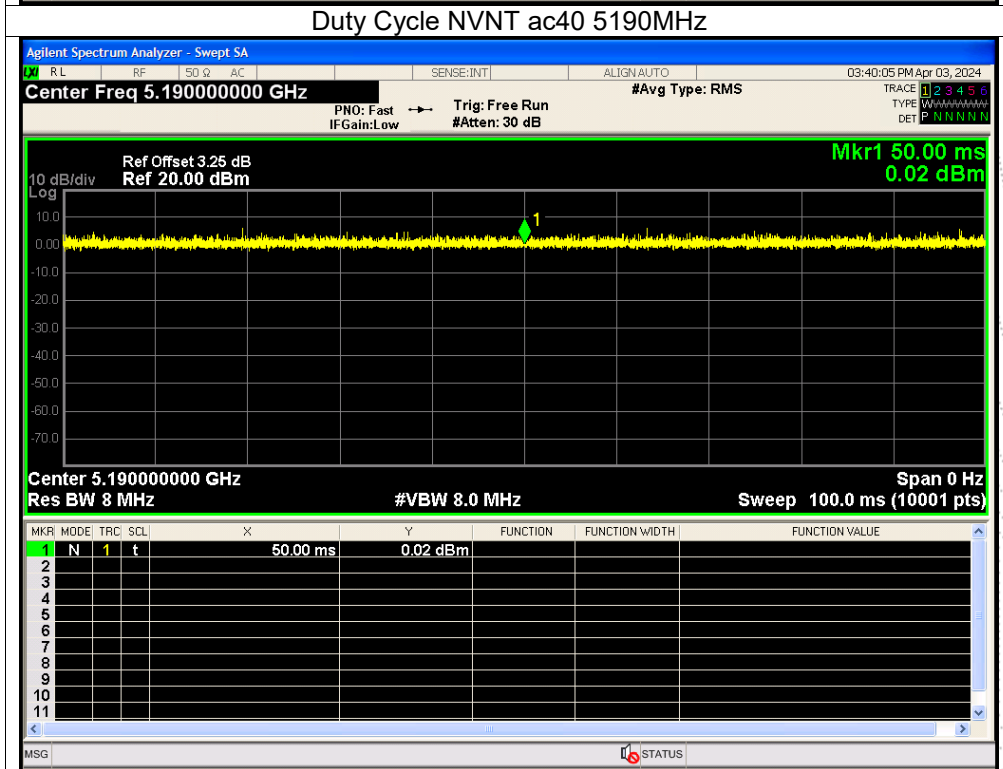
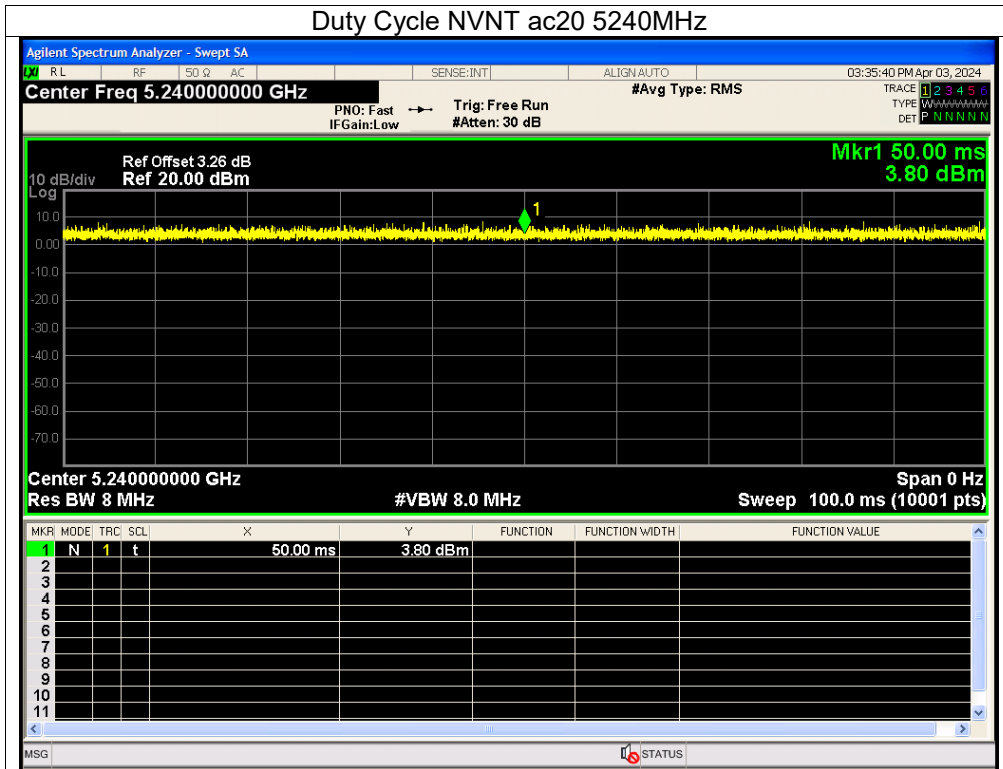


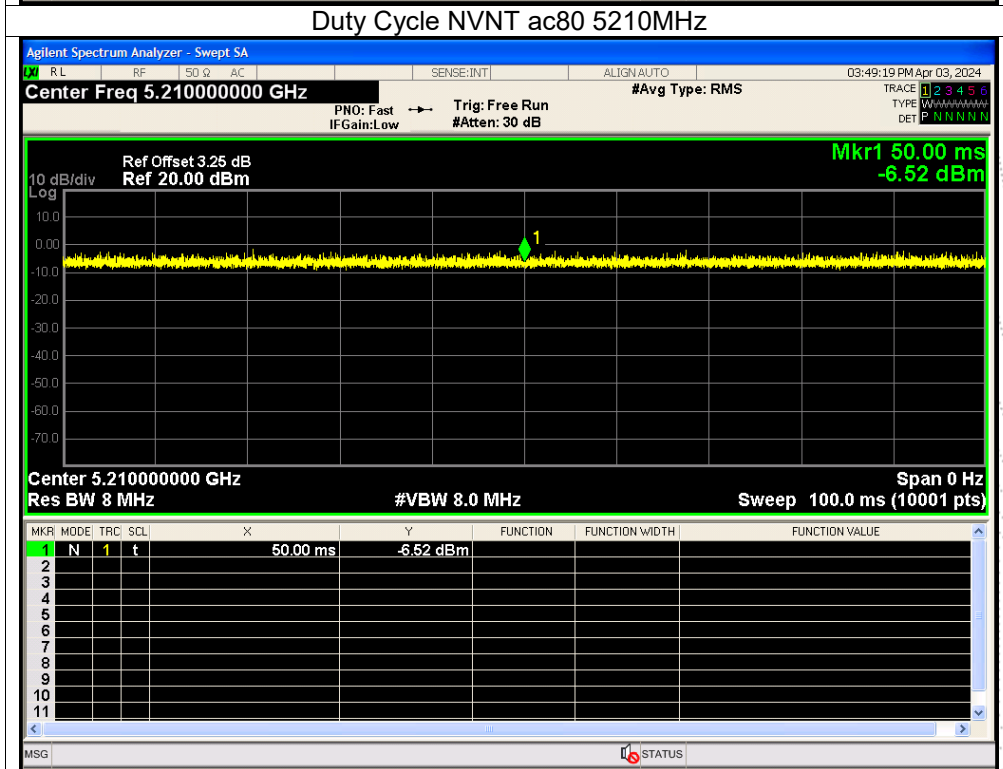
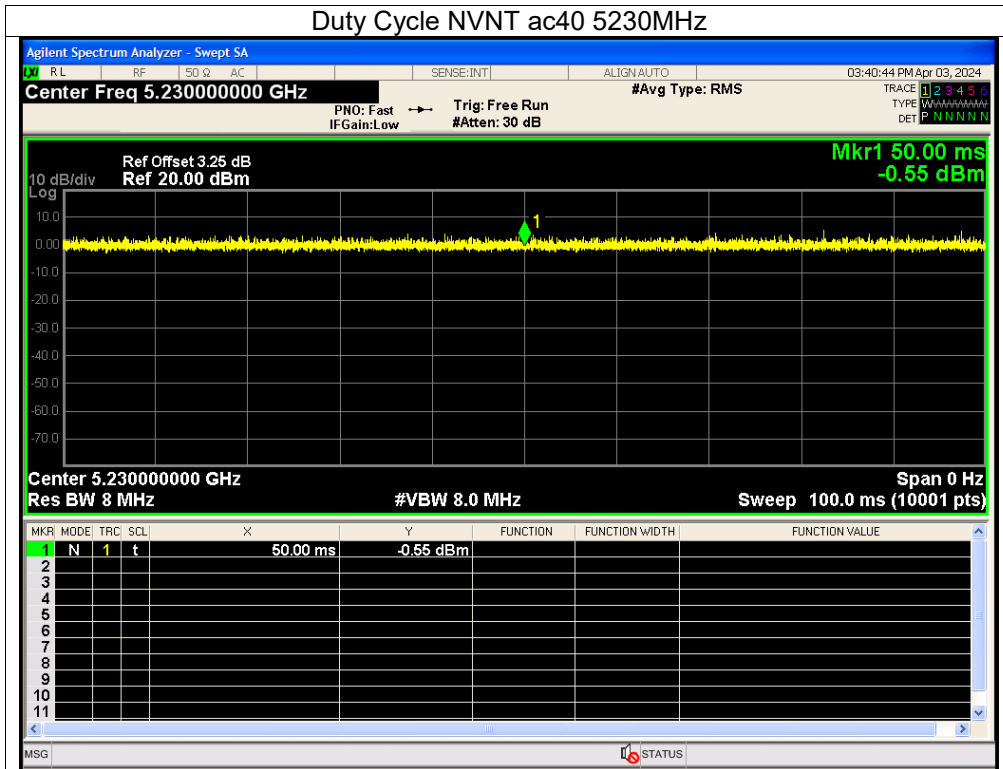


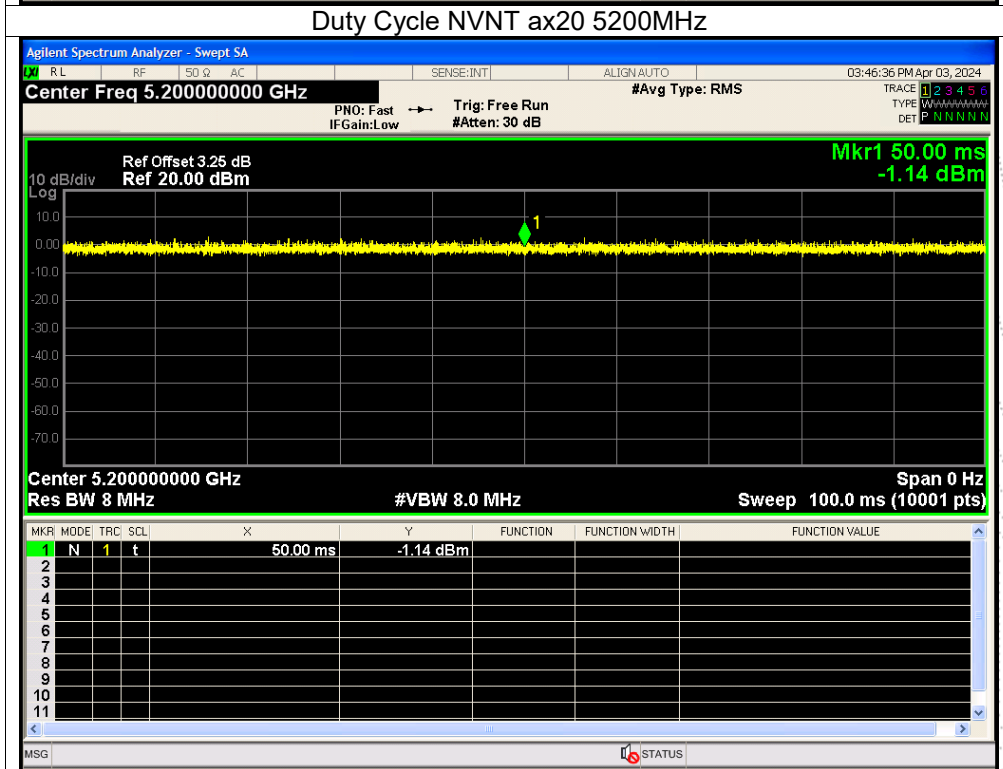
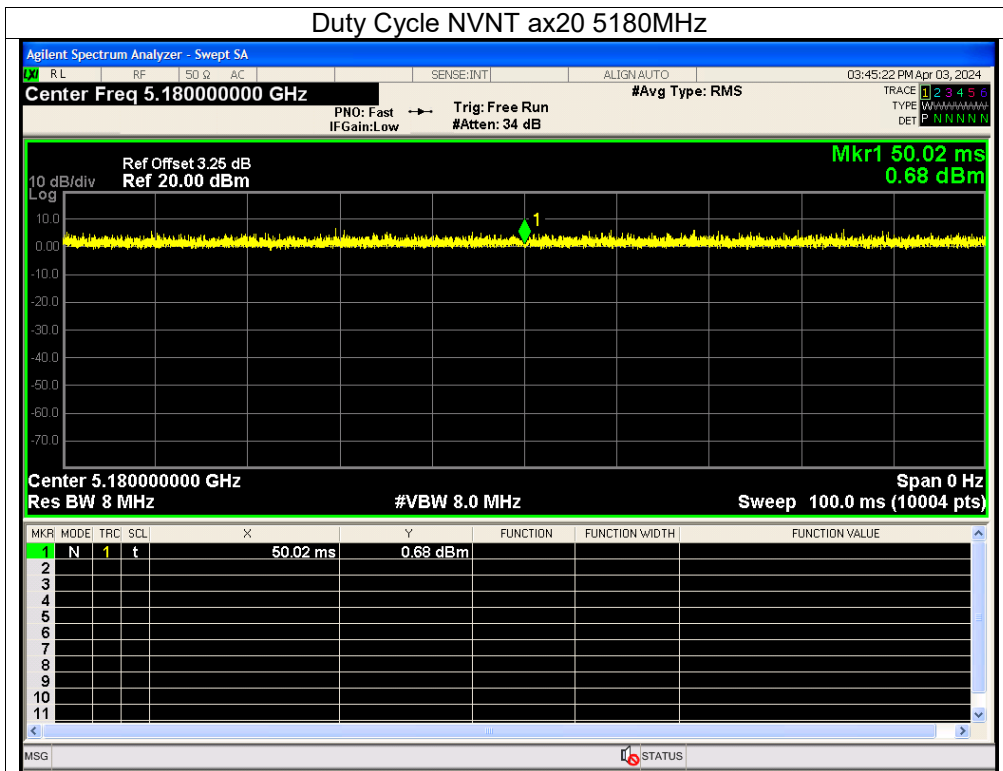


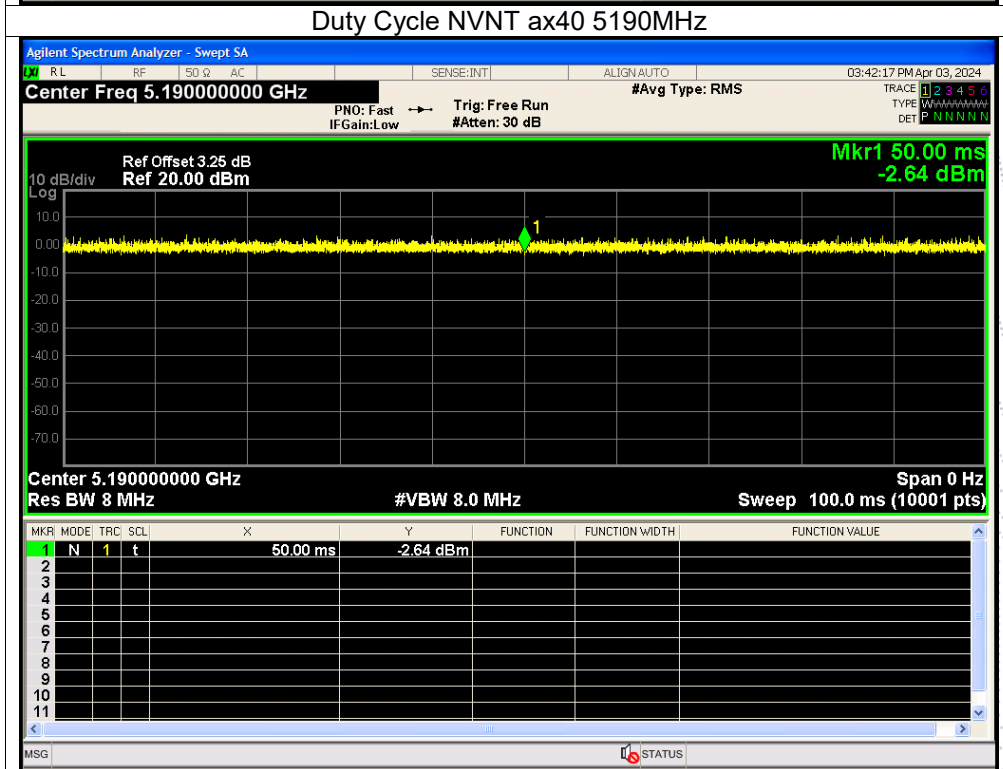
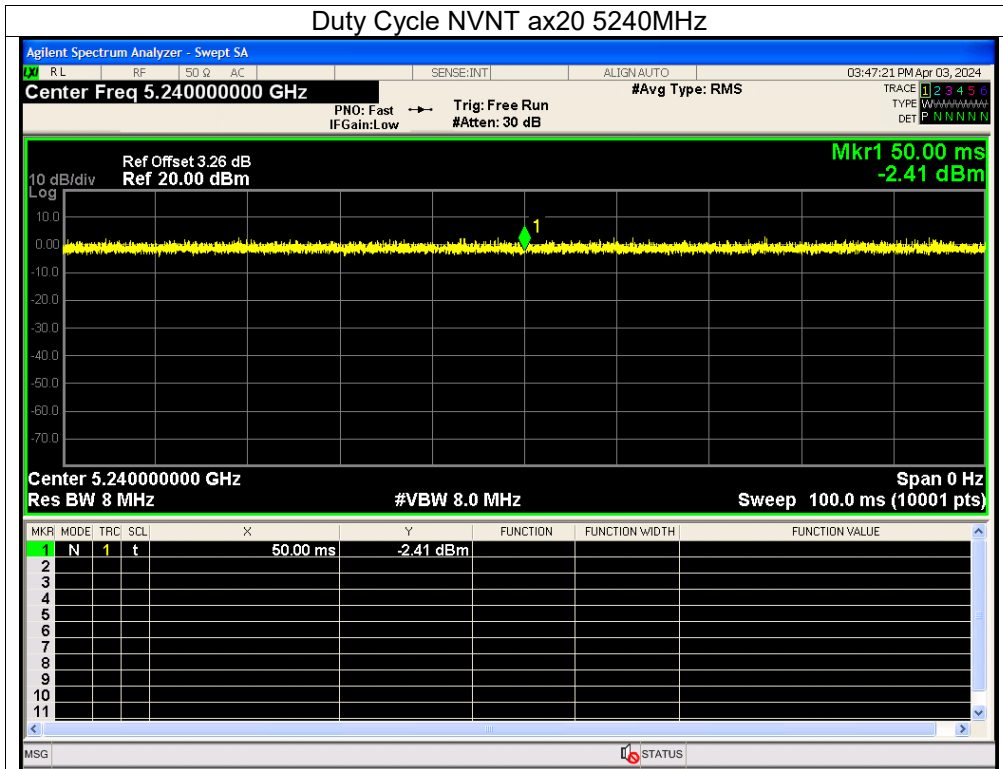


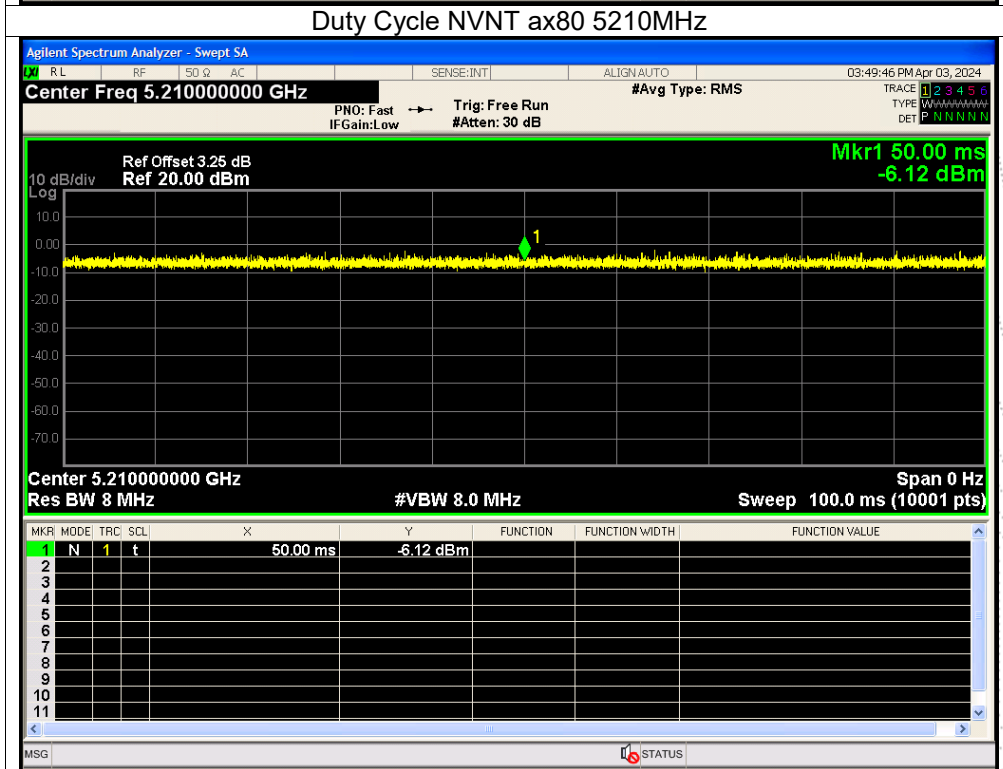
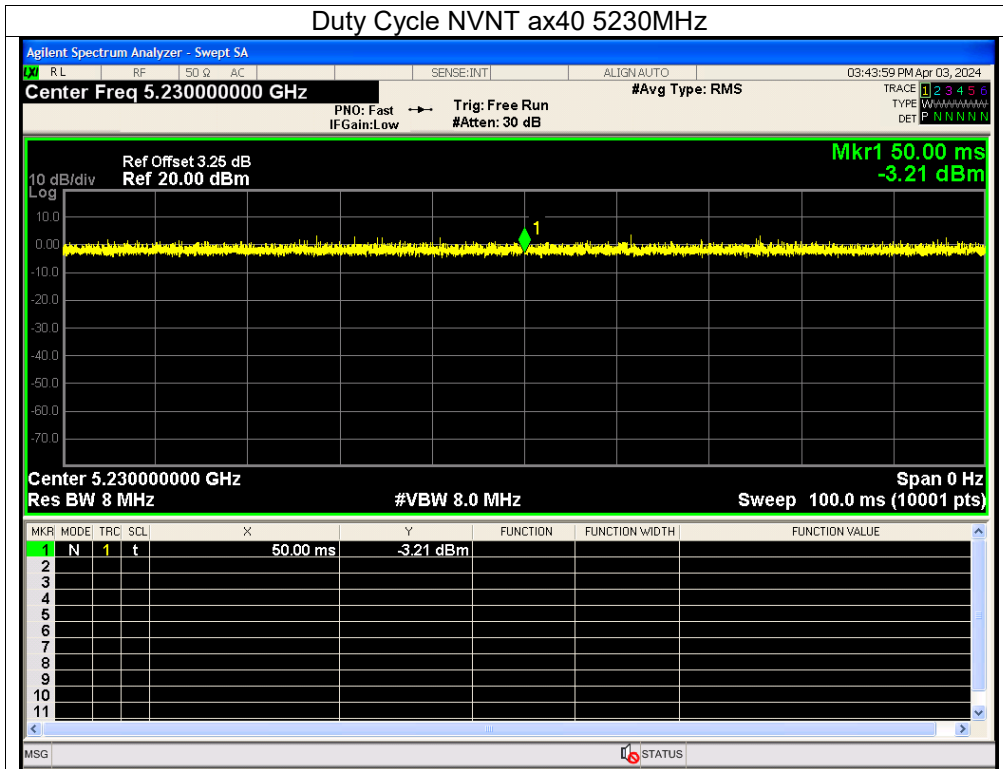




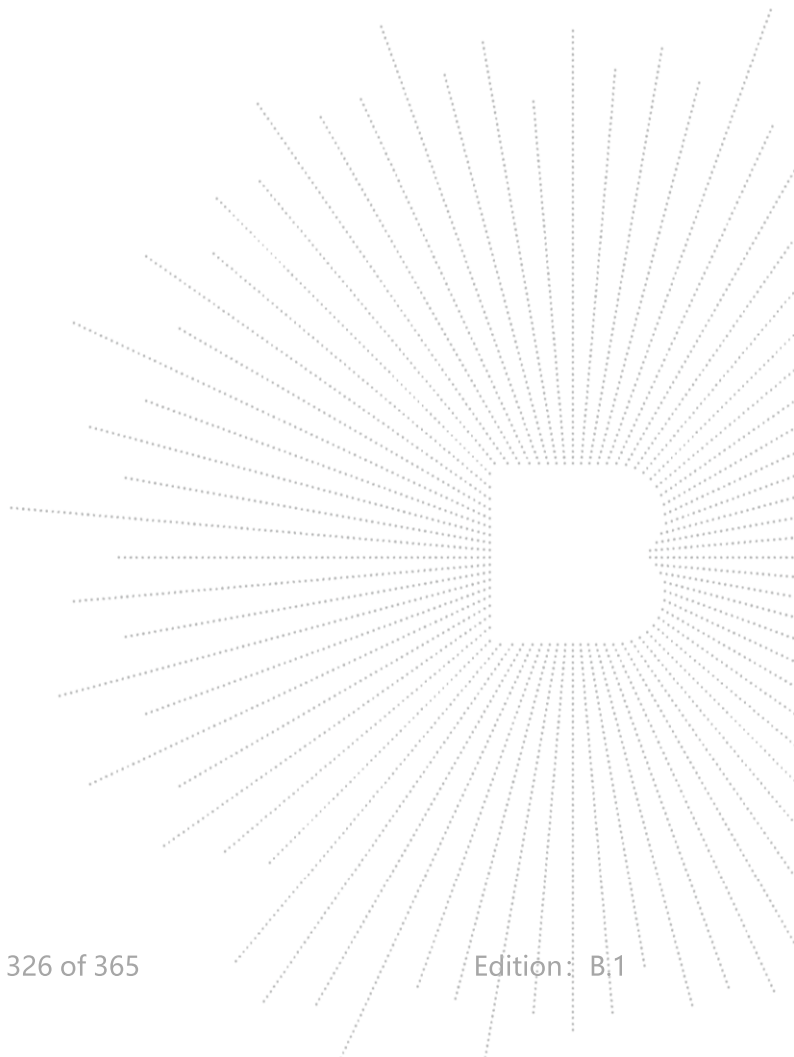




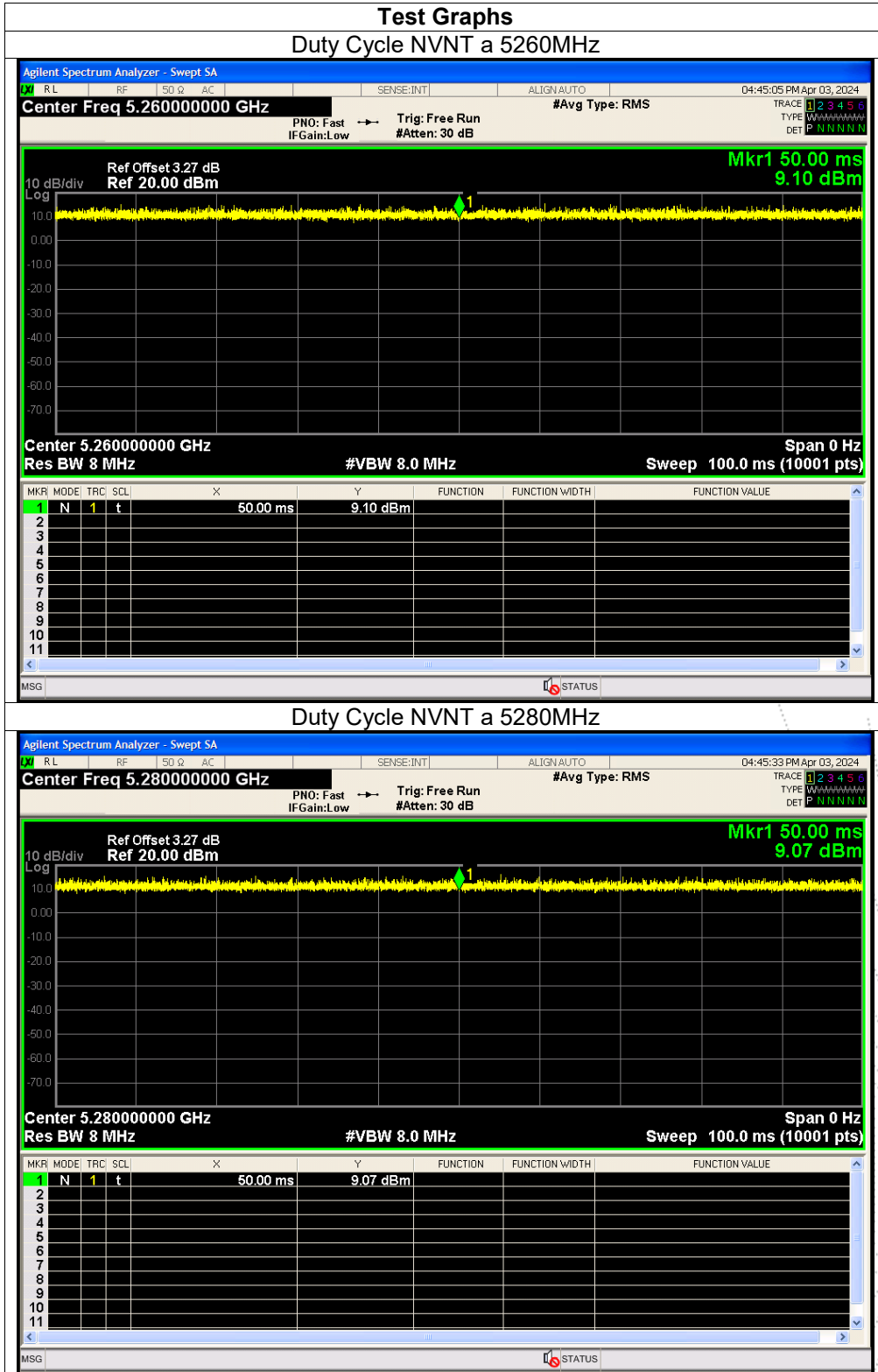


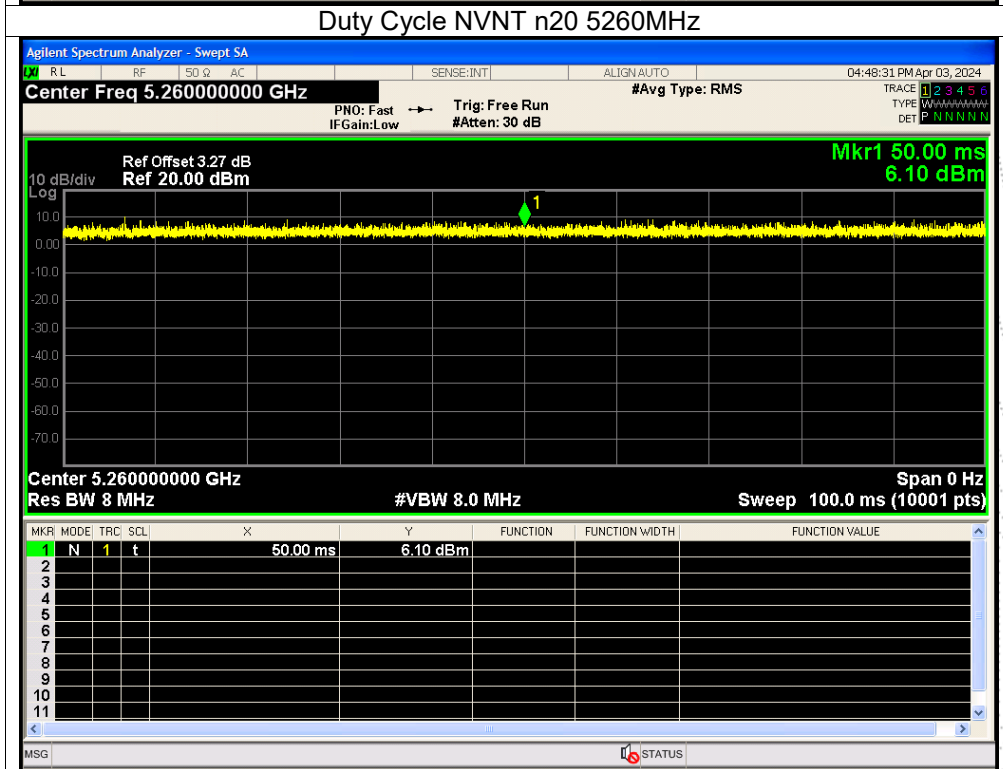
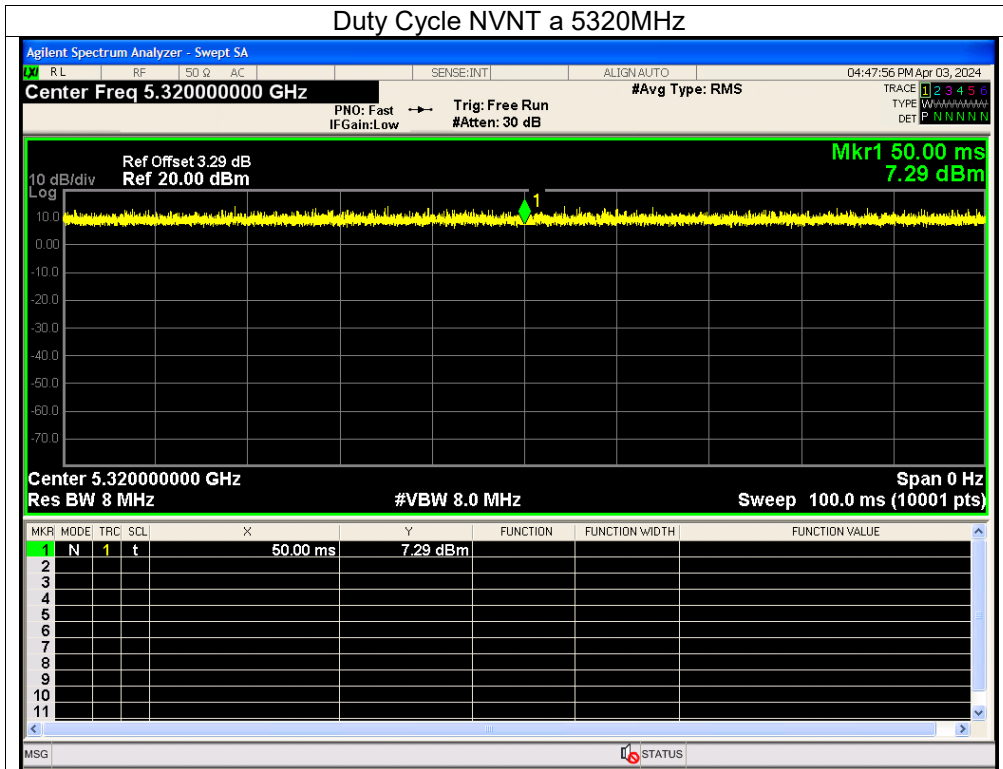


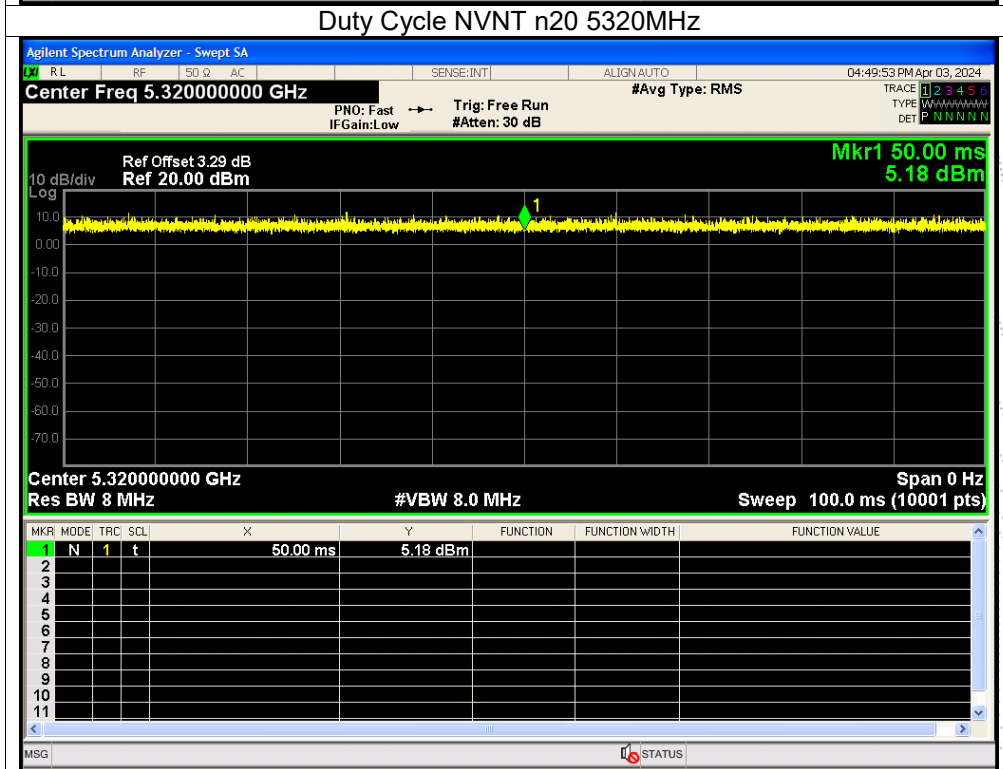
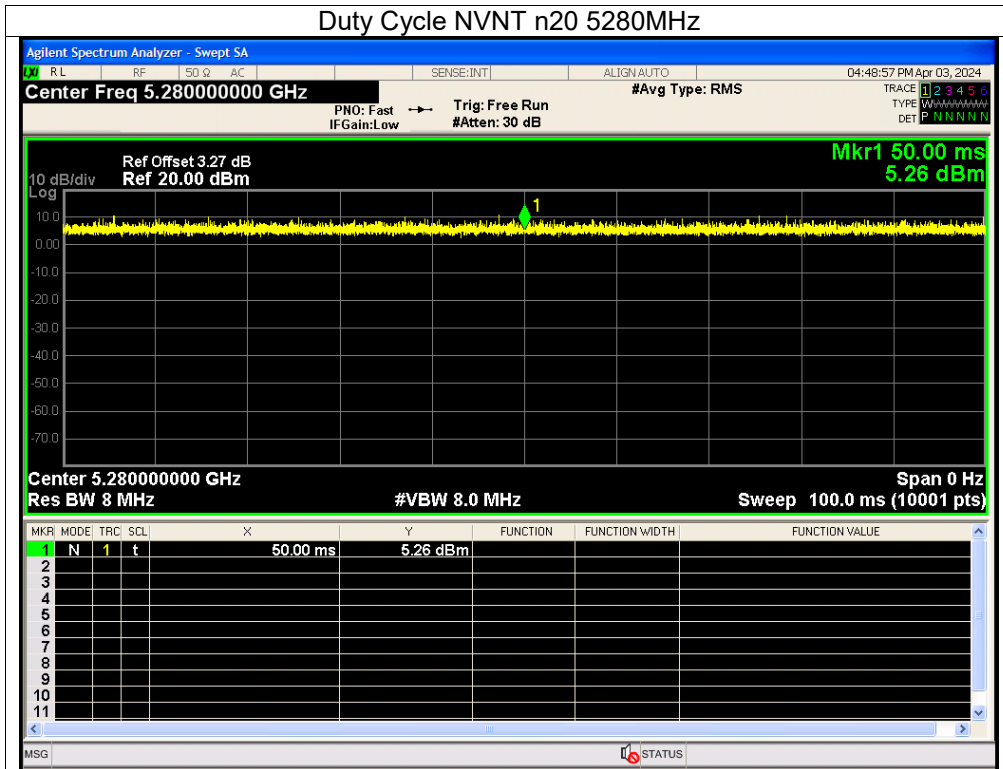
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5260	AntB	100	0	0
NVNT	a	5280	AntB	100	0	0
NVNT	a	5320	AntB	100	0	0
NVNT	n20	5260	AntB	100	0	0
NVNT	n20	5280	AntB	100	0	0
NVNT	n20	5320	AntB	100	0	0
NVNT	n40	5270	AntB	100	0	0
NVNT	n40	5310	AntB	100	0	0
NVNT	ac20	5260	AntB	100	0	0
NVNT	ac20	5280	AntB	100	0	0
NVNT	ac20	5320	AntB	100	0	0
NVNT	ac40	5270	AntB	100	0	0
NVNT	ac40	5310	AntB	100	0	0
NVNT	ac80	5290	AntB	100	0	0
NVNT	ax20	5260	AntB	100	0	0
NVNT	ax20	5280	AntB	100	0	0
NVNT	ax20	5320	AntB	100	0	0
NVNT	ax40	5270	AntB	100	0	0
NVNT	ax40	5310	AntB	100	0	0
NVNT	ax80	5290	AntB	100	0	0

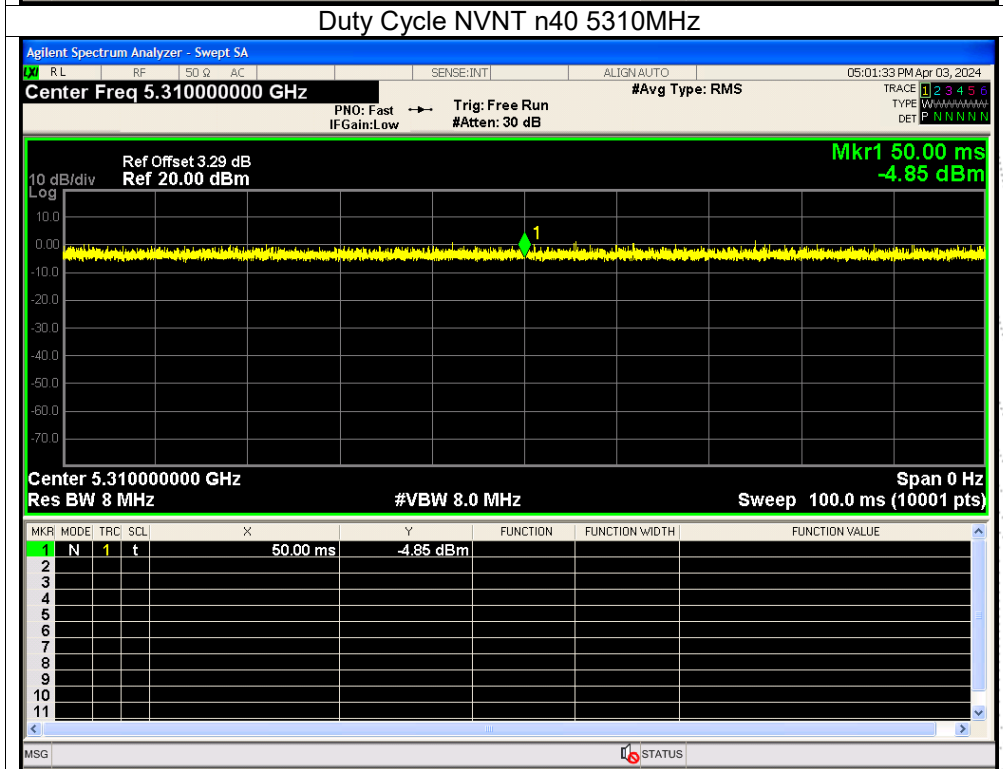
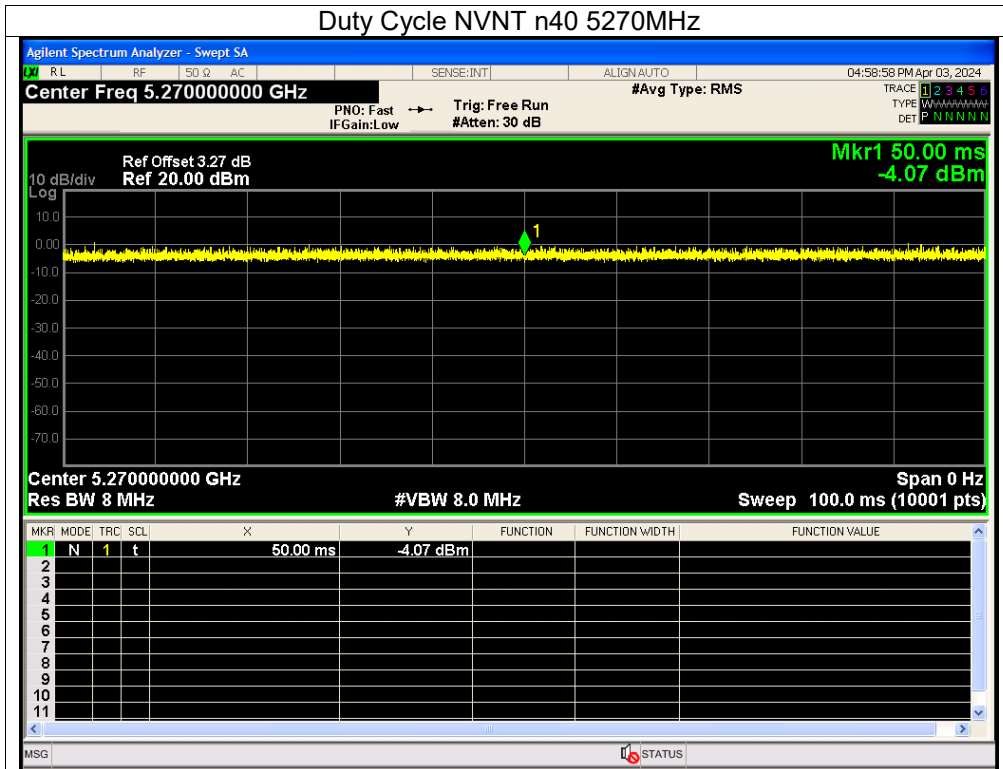


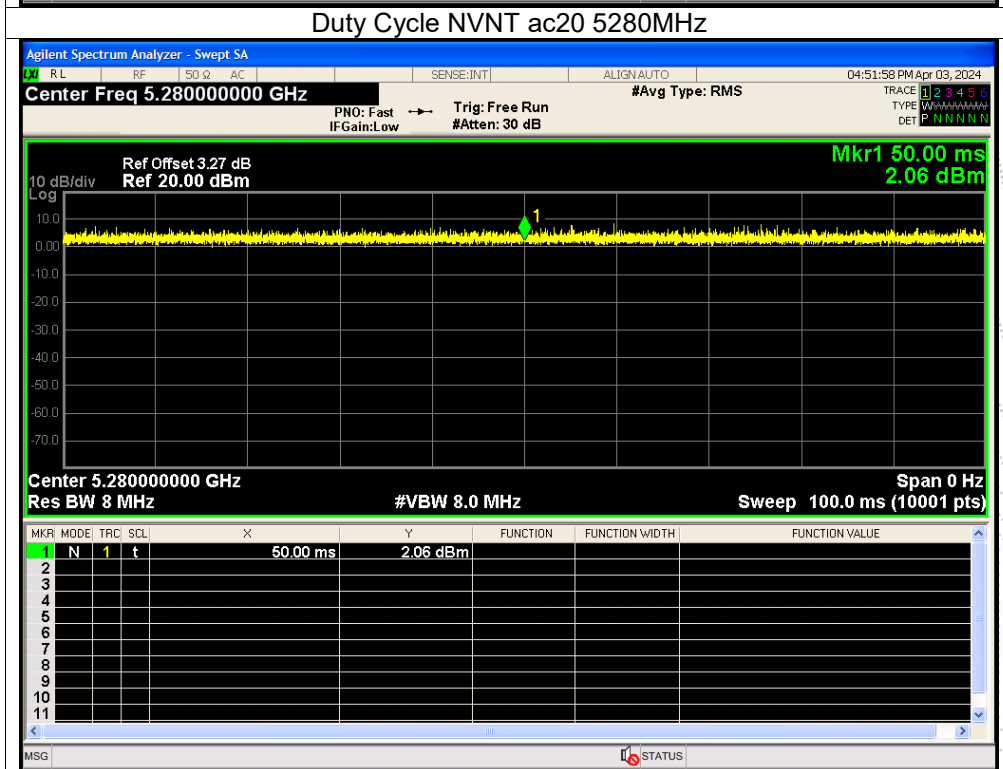
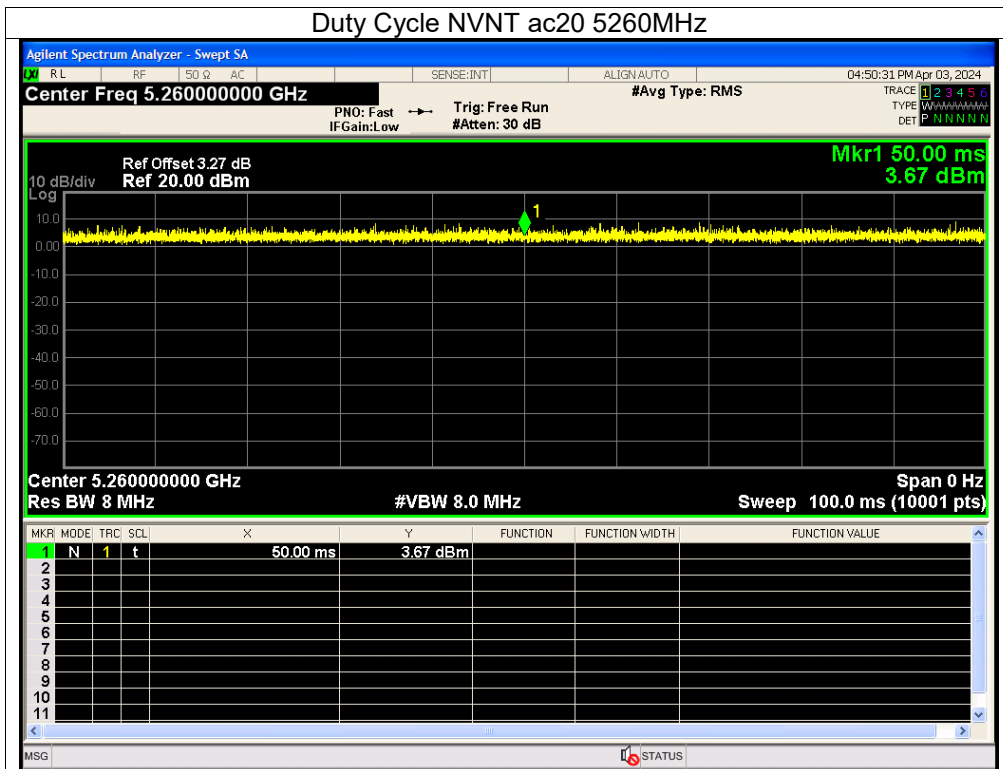
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B ,only shown Antenna B .
 Plot. Antenna B: 5260-5320MHz

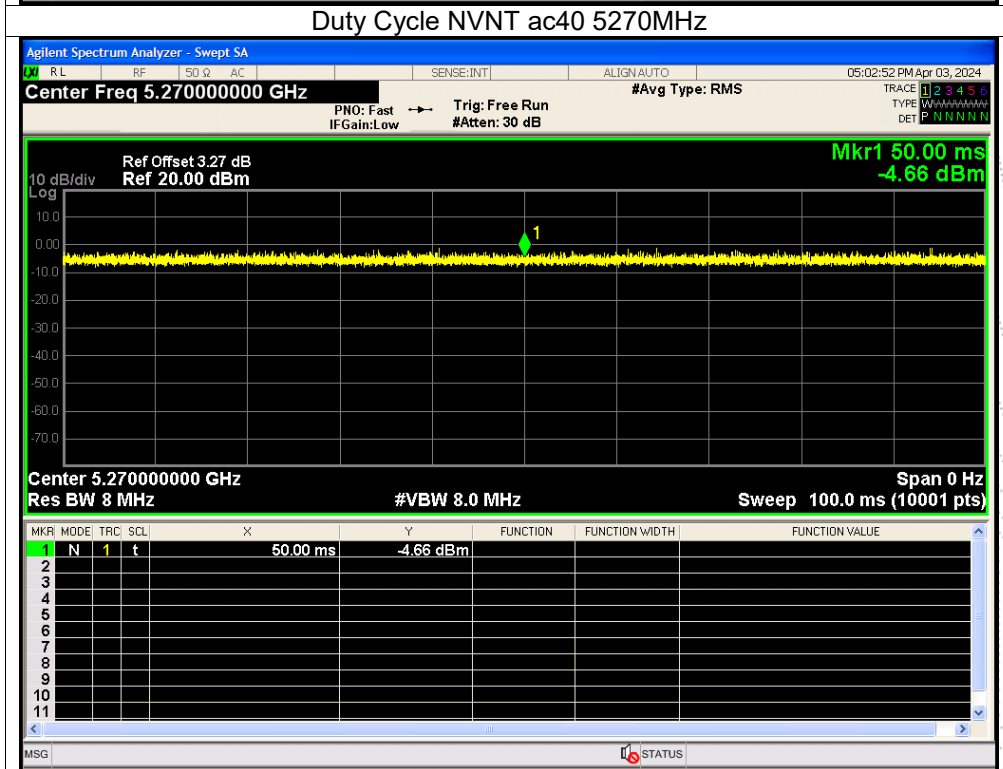
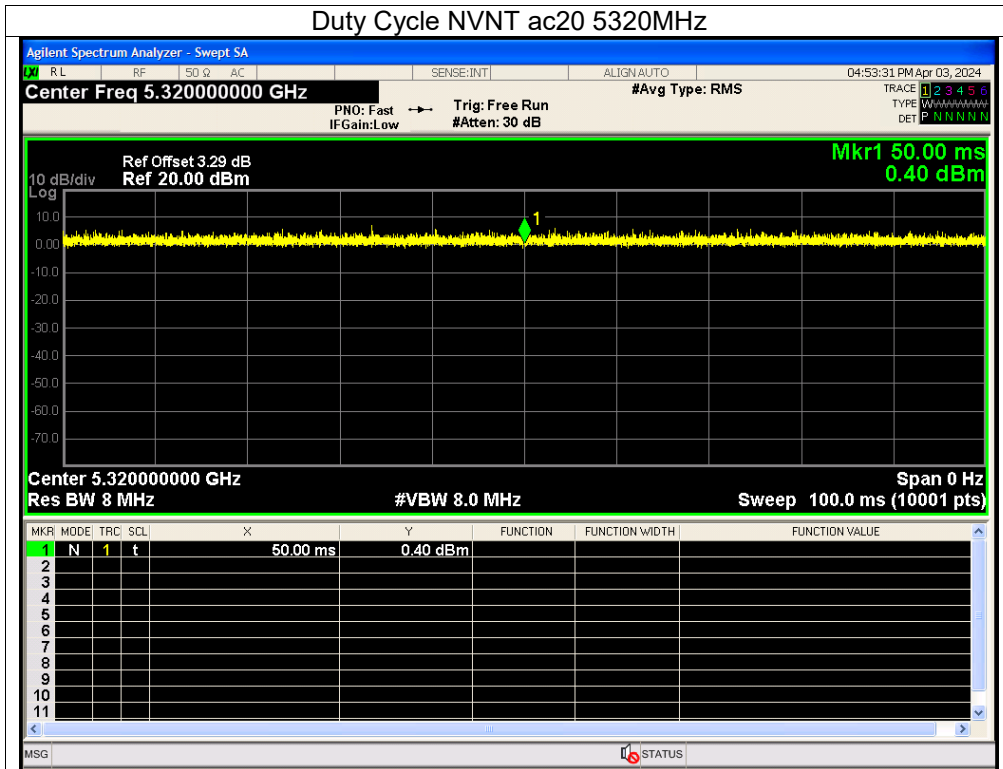


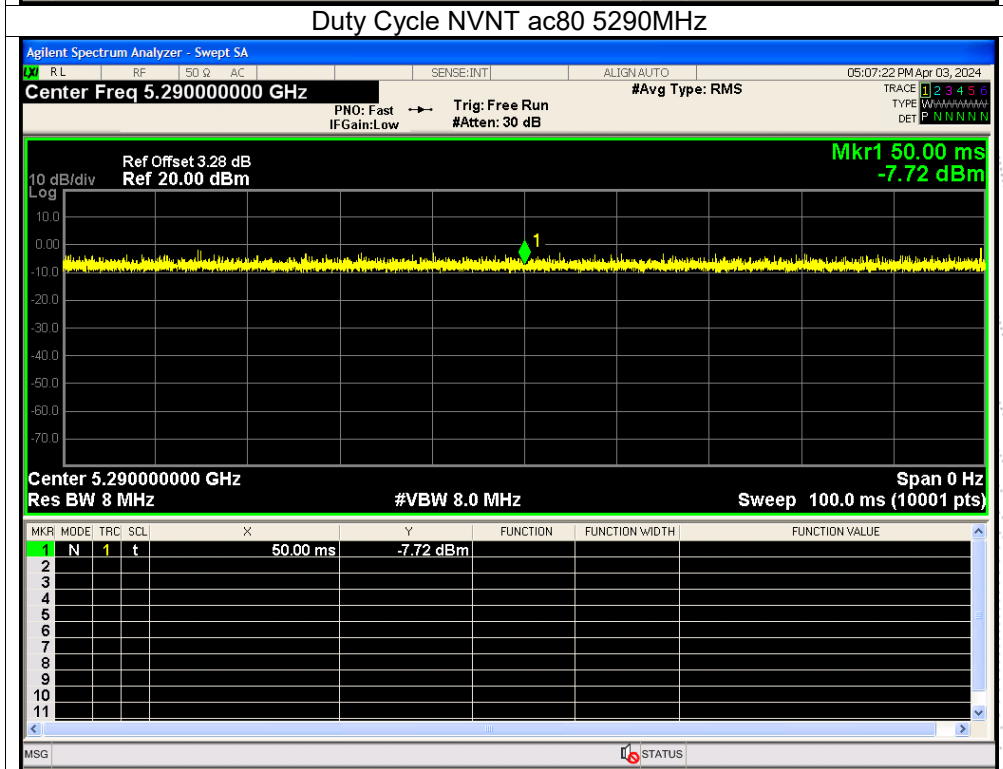
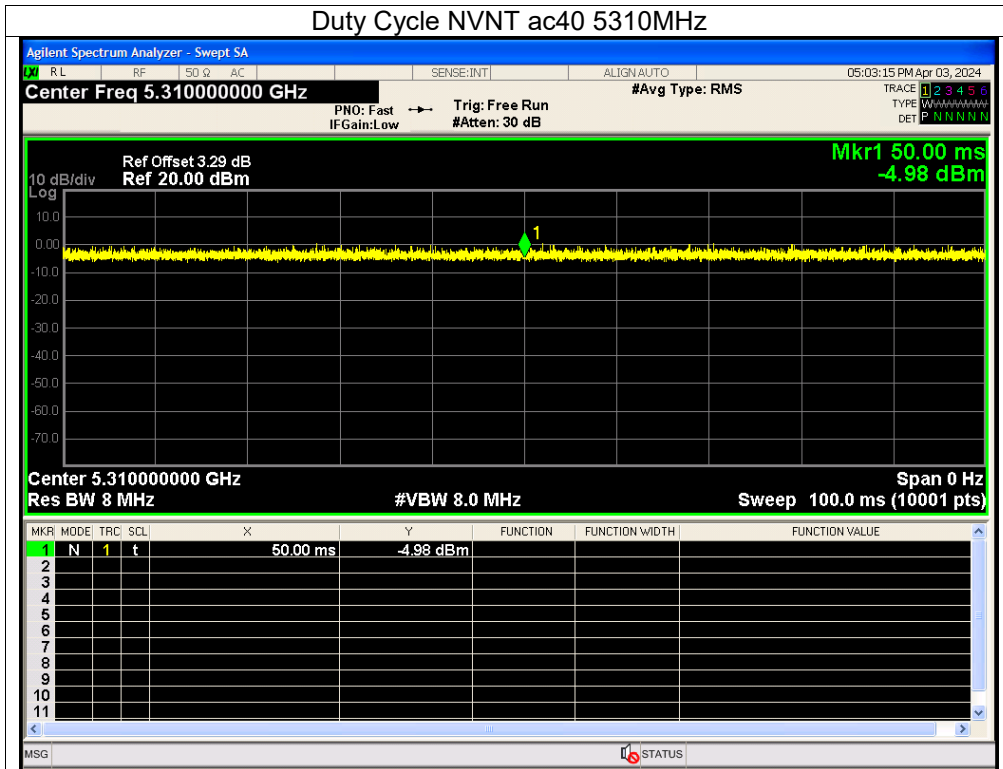


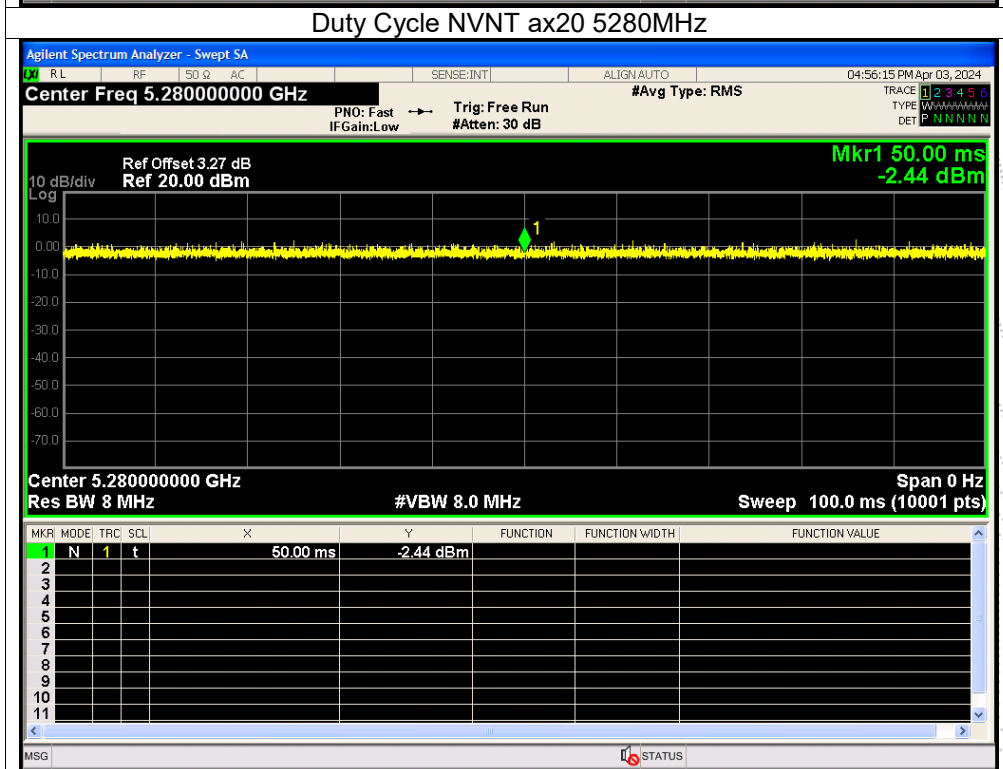
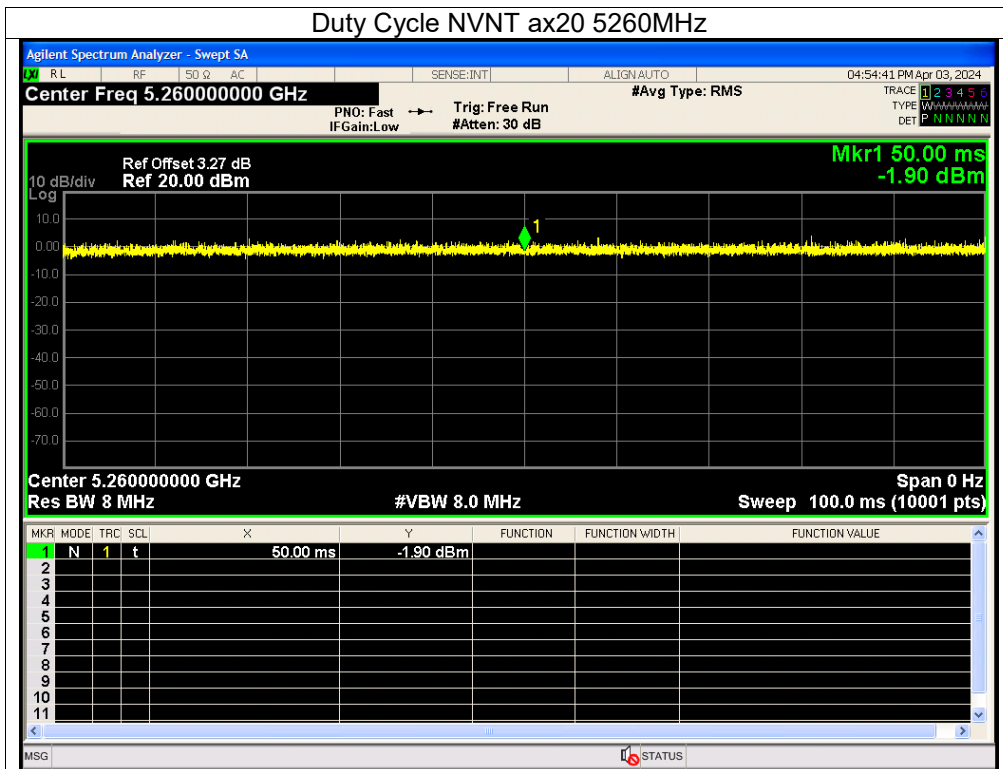


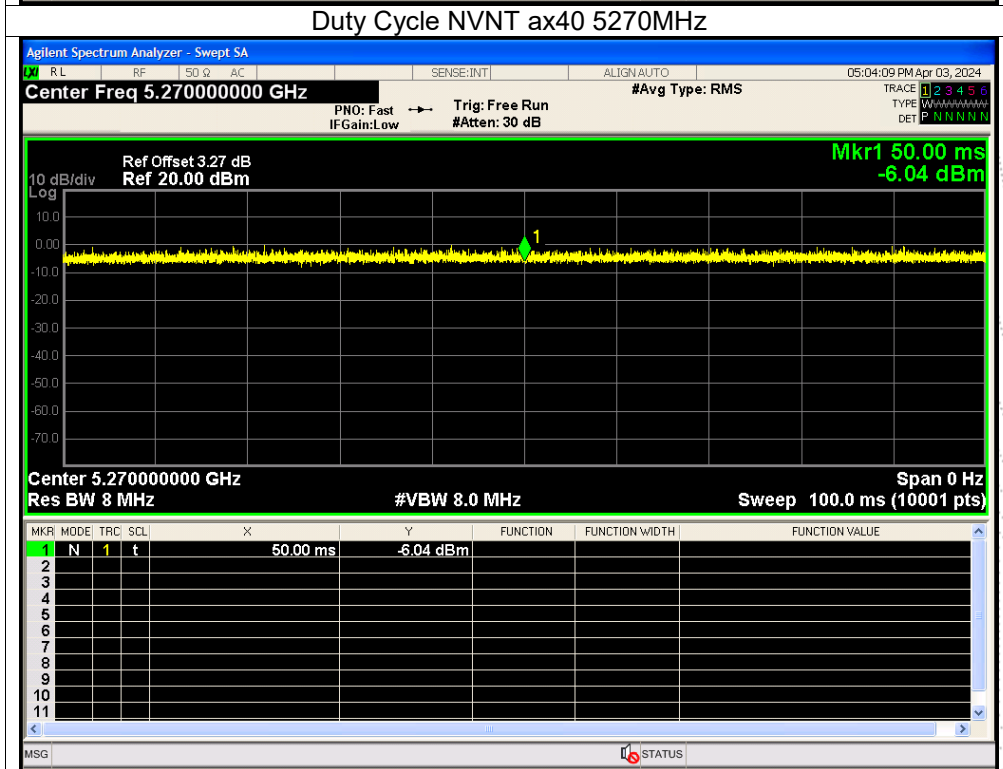
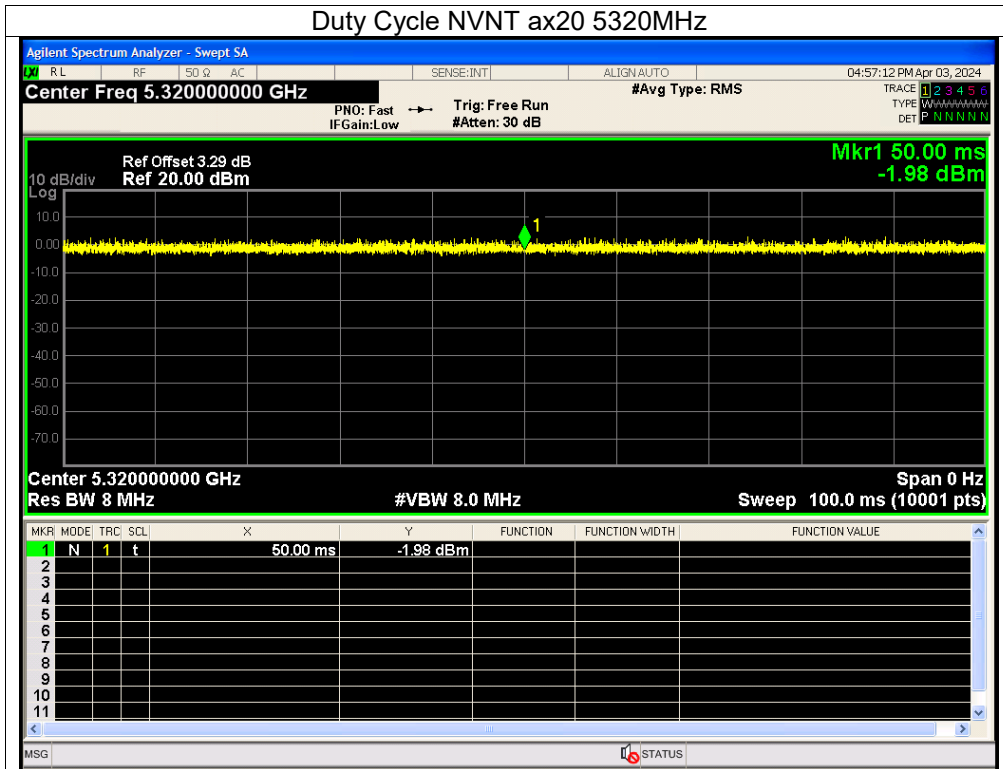


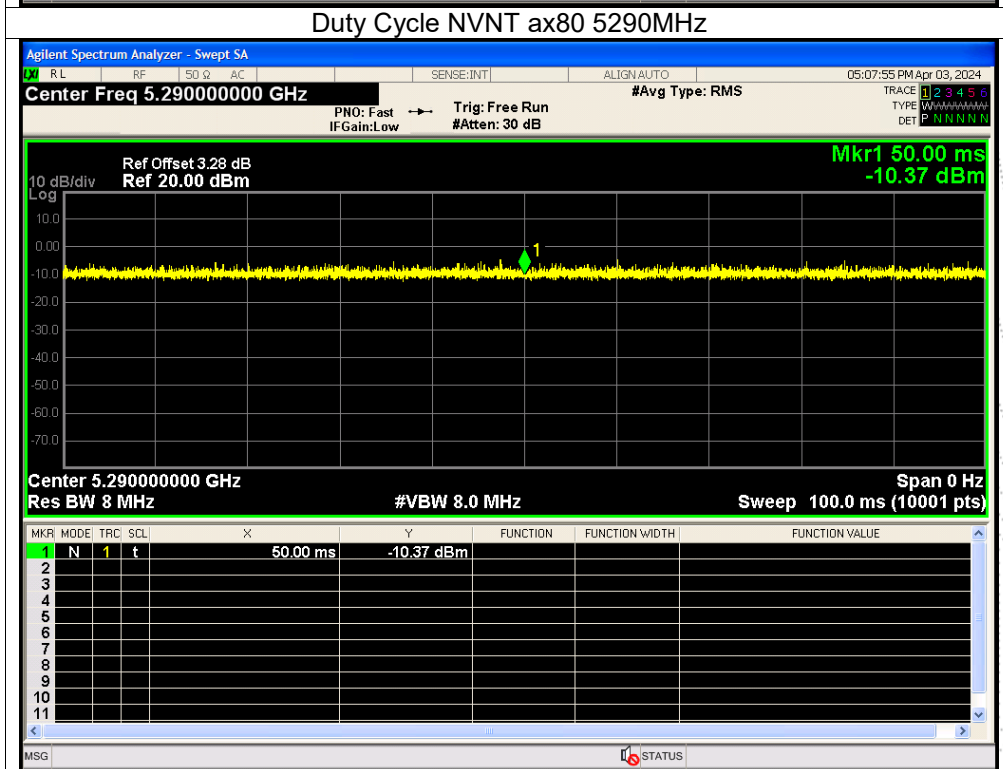
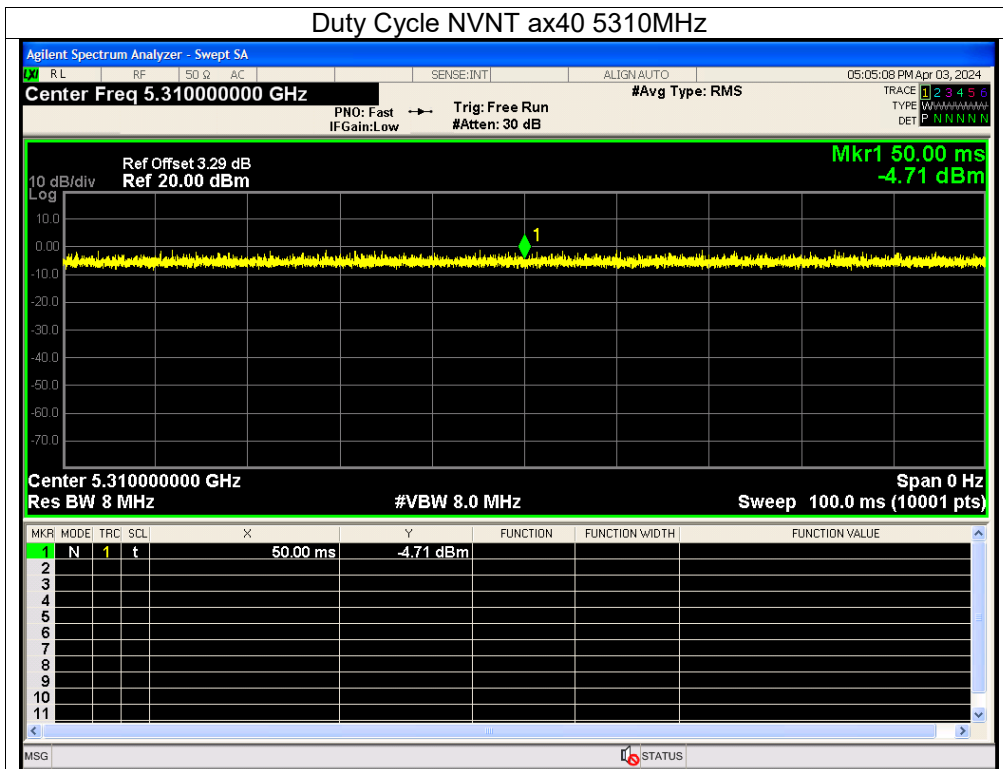




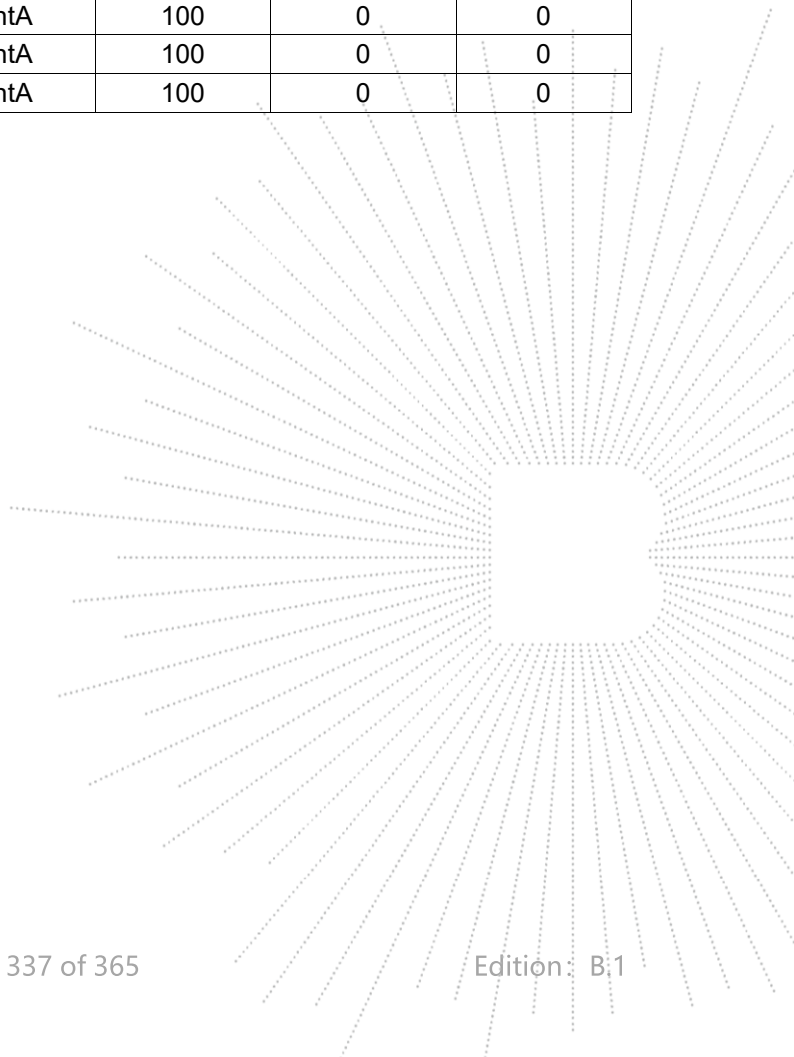




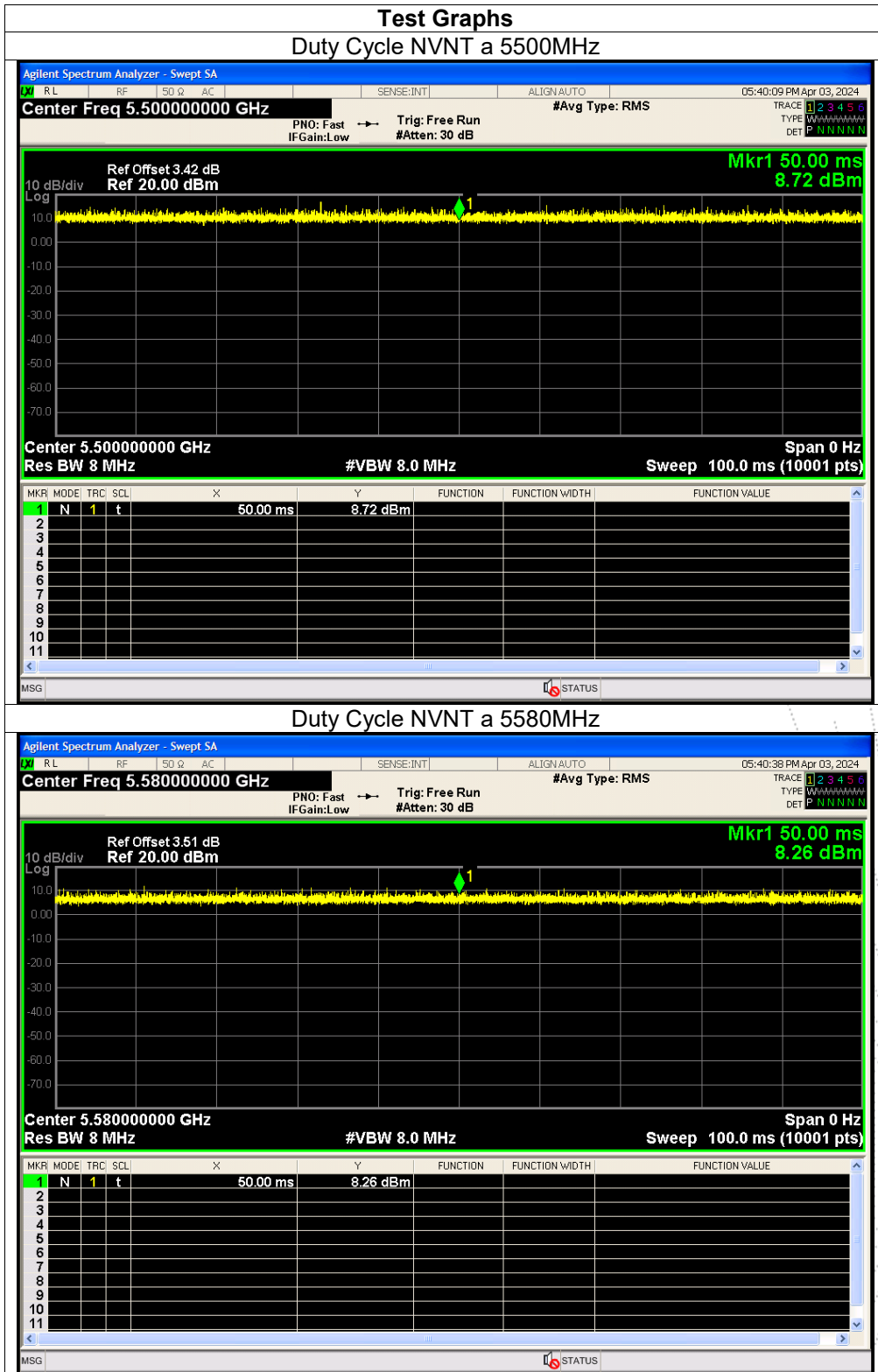


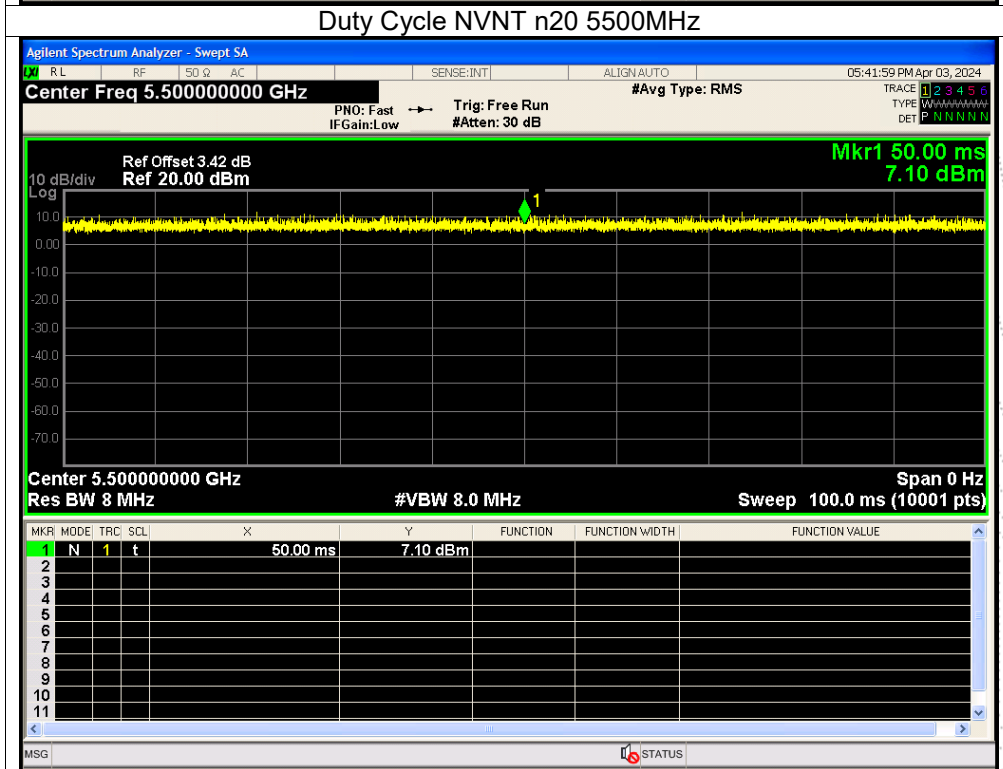
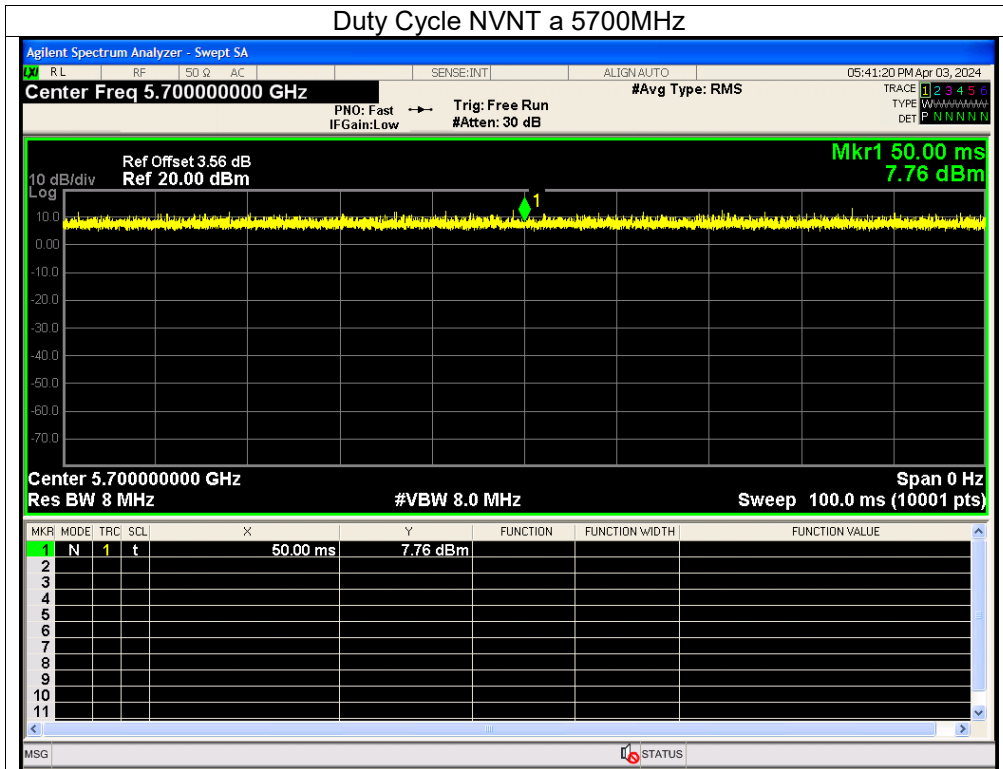


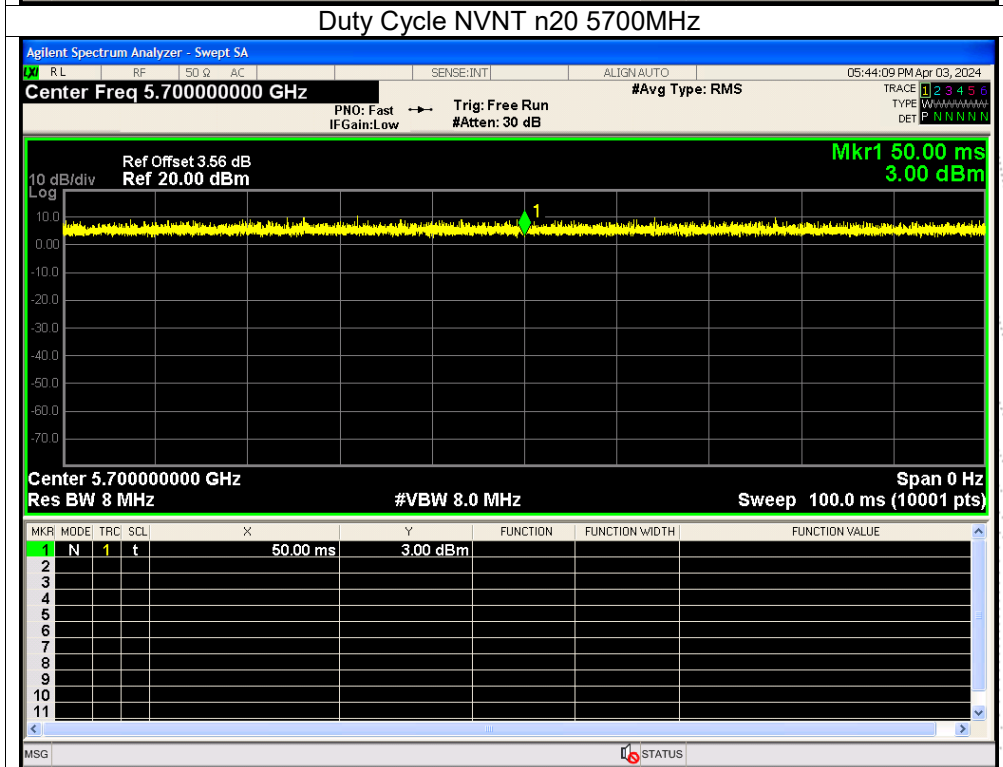
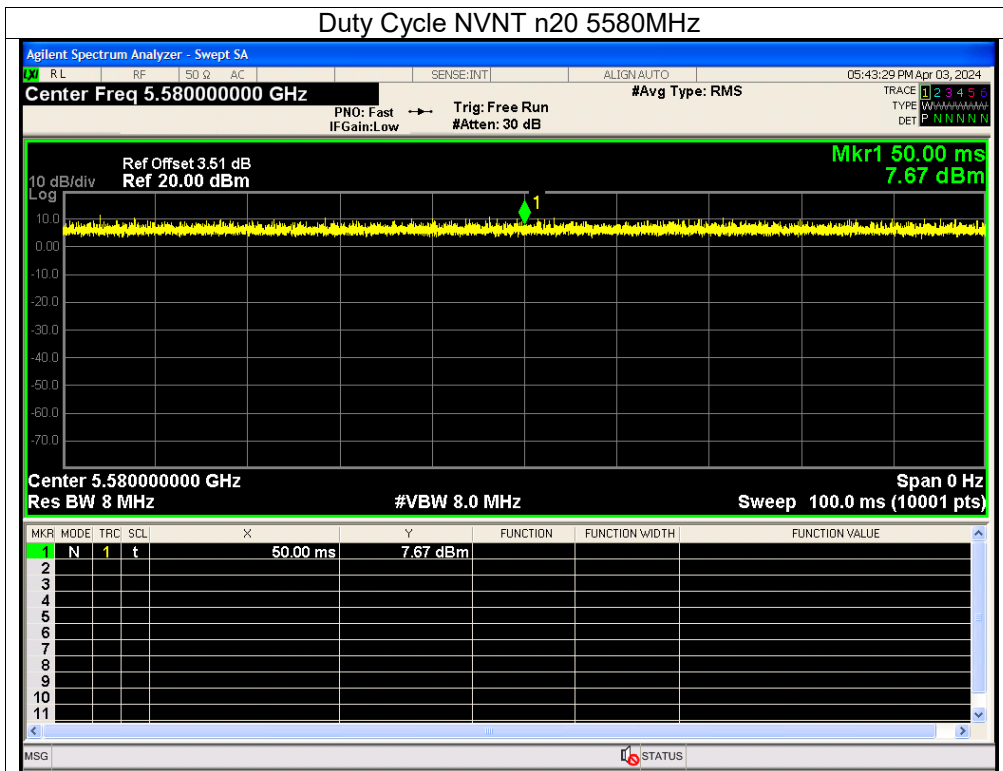
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5500	AntA	100	0	0
NVNT	a	5580	AntA	100	0	0
NVNT	a	5700	AntA	100	0	0
NVNT	n20	5500	AntA	100	0	0
NVNT	n20	5580	AntA	100	0	0
NVNT	n20	5700	AntA	100	0	0
NVNT	n40	5510	AntA	100	0	0
NVNT	n40	5550	AntA	100	0	0
NVNT	n40	5670	AntA	100	0	0
NVNT	ac20	5500	AntA	100	0	0
NVNT	ac20	5580	AntA	100	0	0
NVNT	ac20	5700	AntA	100	0	0
NVNT	ac40	5510	AntA	100	0	0
NVNT	ac40	5550	AntA	100	0	0
NVNT	ac40	5670	AntA	100	0	0
NVNT	ac80	5530	AntA	100	0	0
NVNT	ax20	5500	AntA	100	0	0
NVNT	ax20	5580	AntA	100	0	0
NVNT	ax20	5700	AntA	100	0	0
NVNT	ax40	5510	AntA	100	0	0
NVNT	ax40	5550	AntA	100	0	0
NVNT	ax40	5670	AntA	100	0	0
NVNT	ax80	5530	AntA	100	0	0

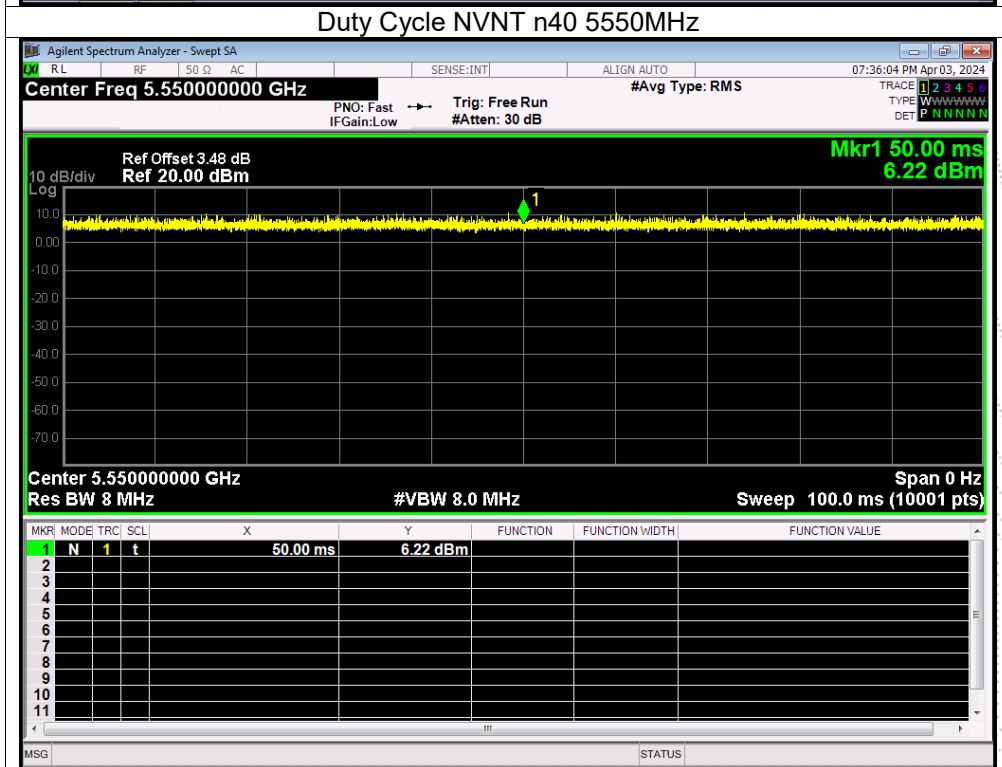
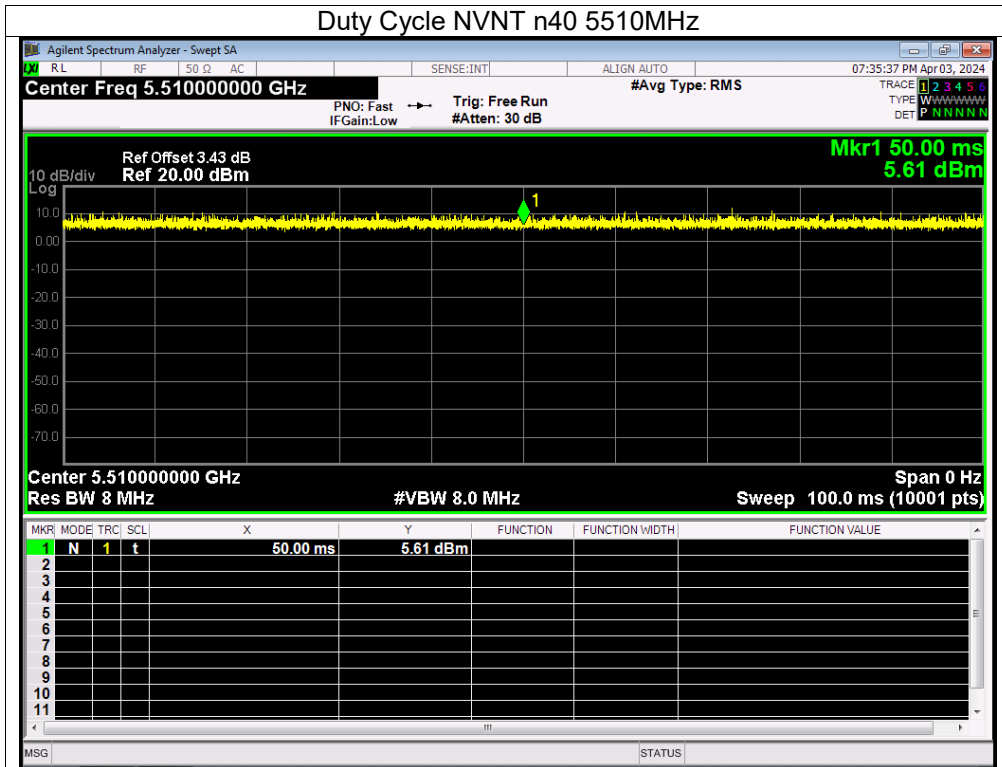


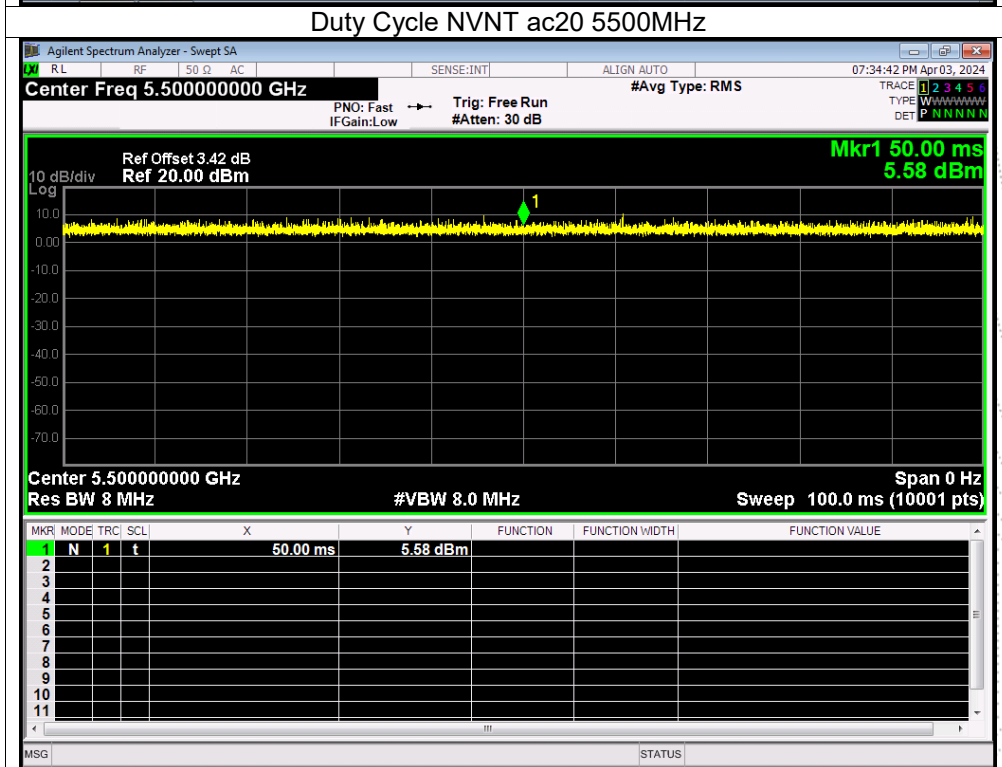
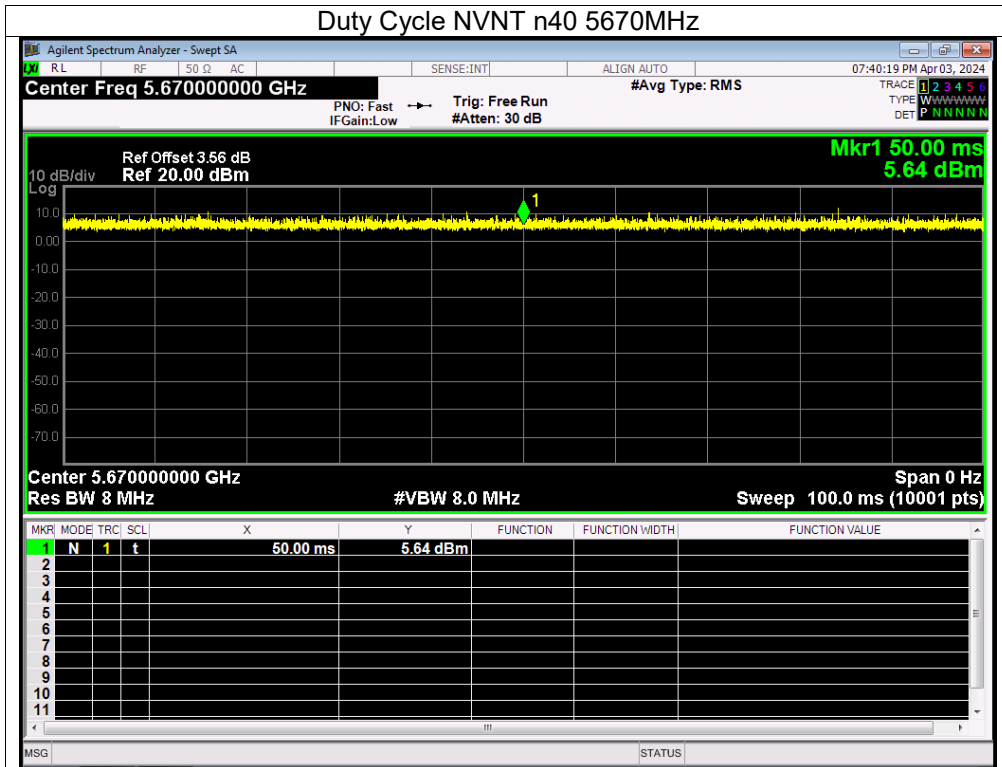
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A ,only shown Antenna A .
 Plot. Antenna A: 5500-5700MHz

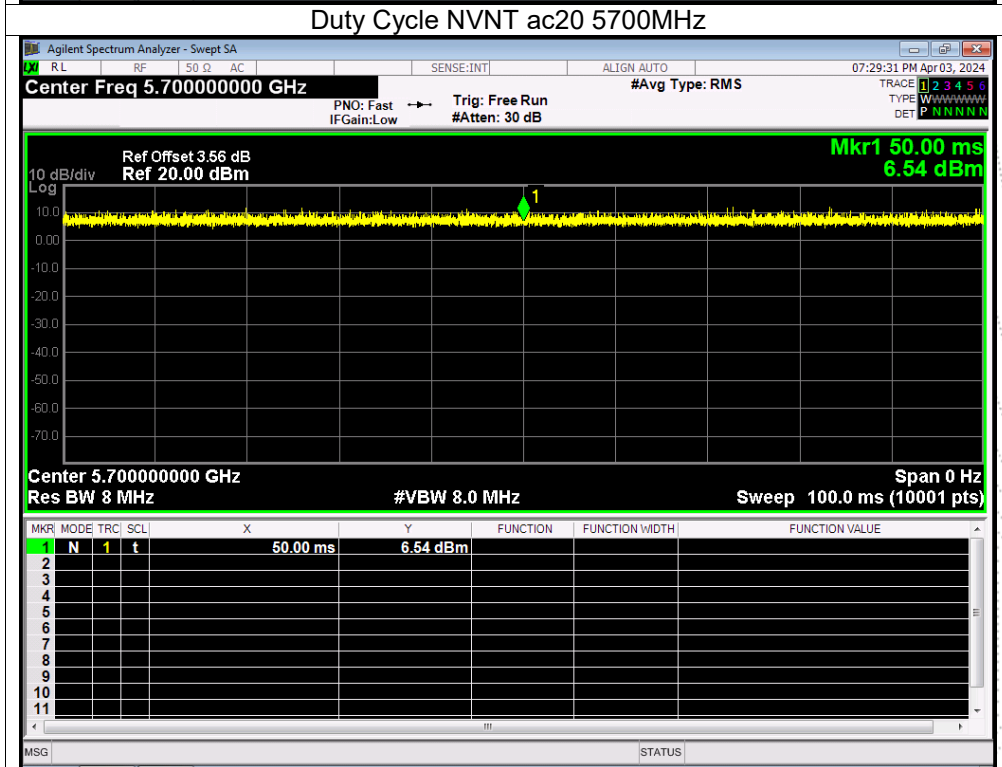
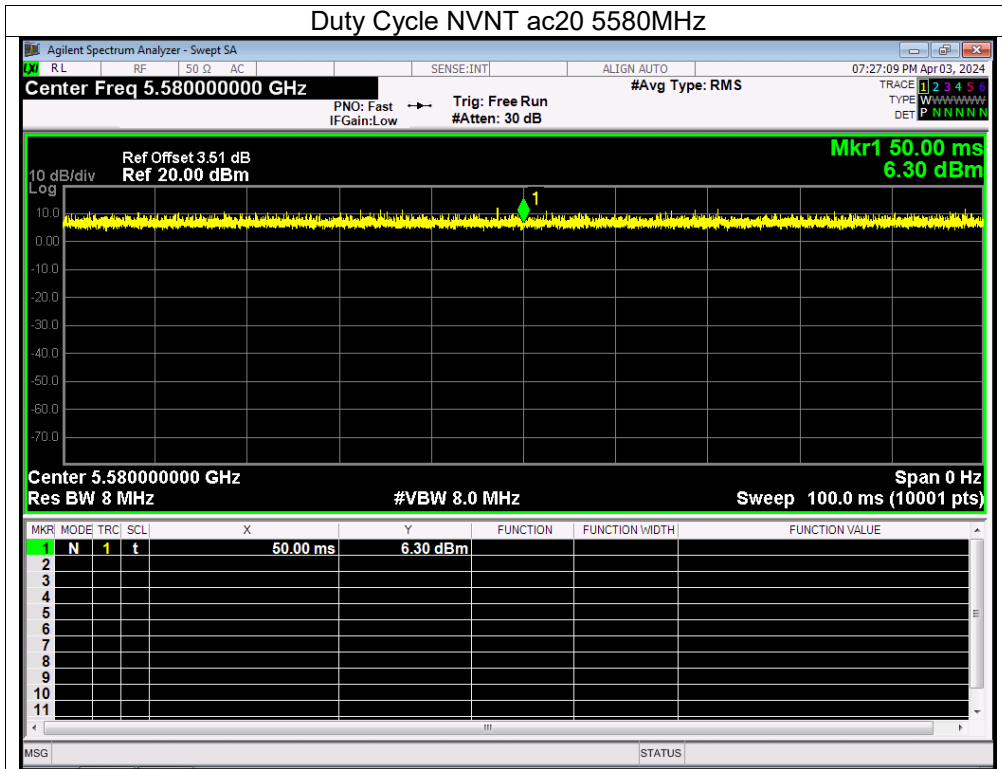


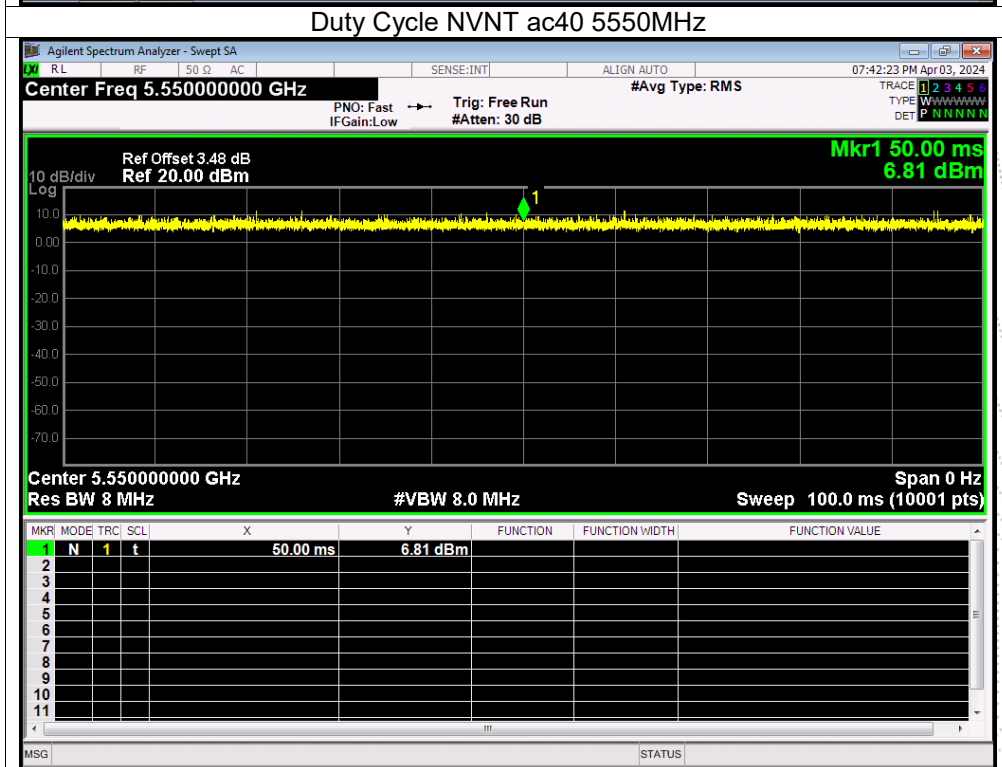
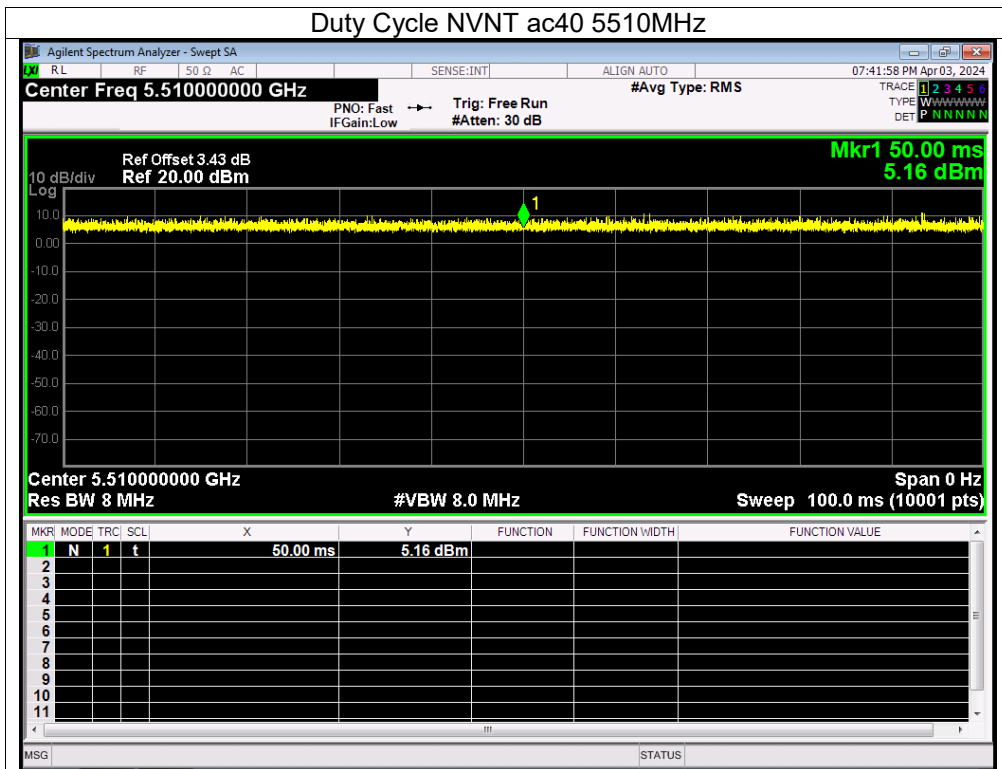


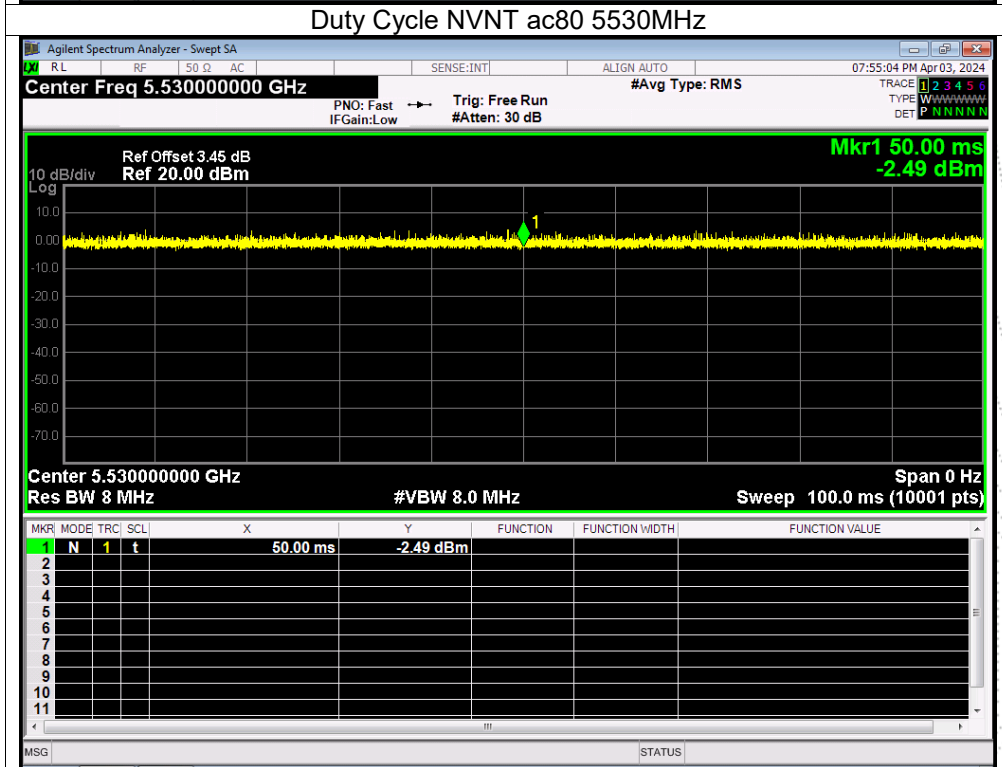
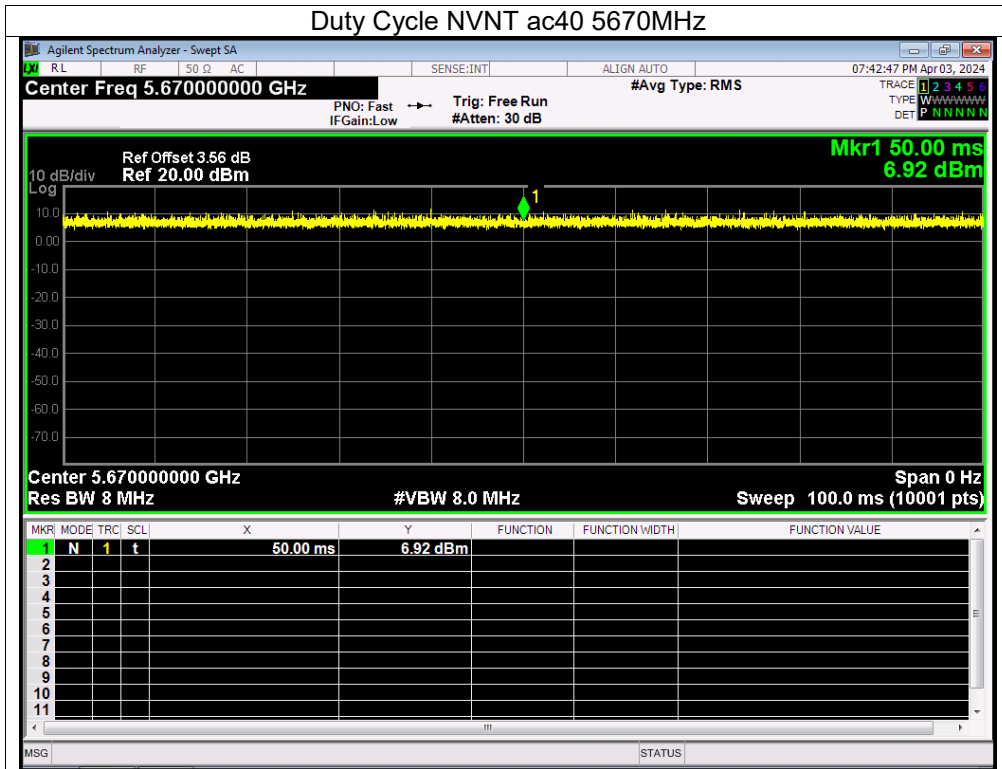


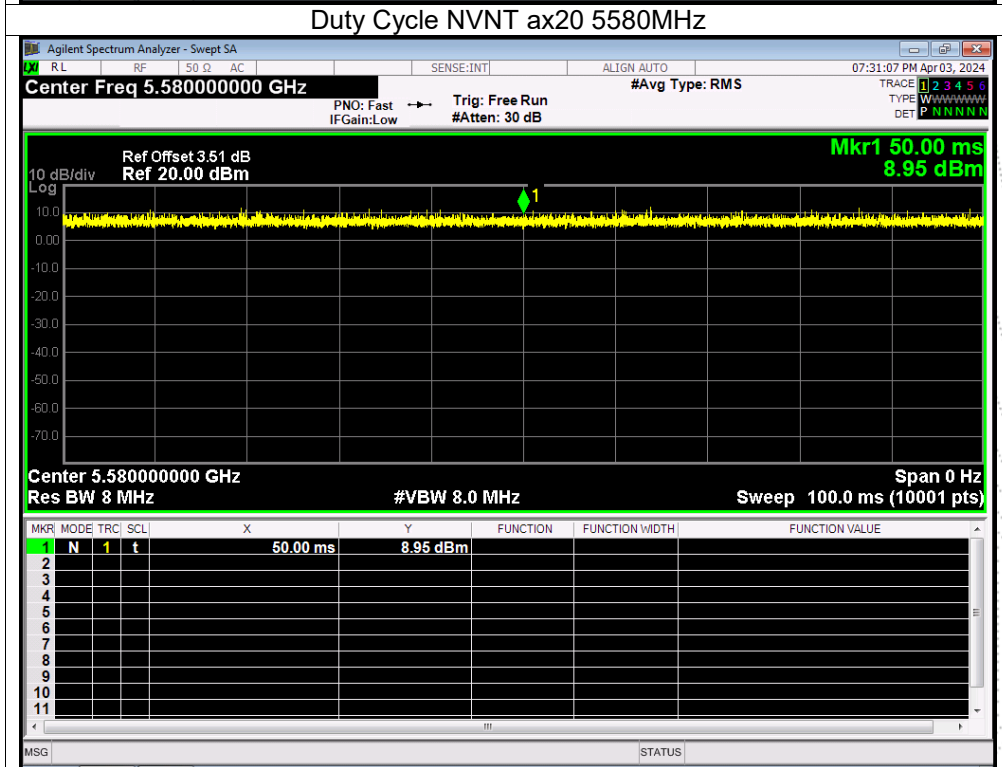
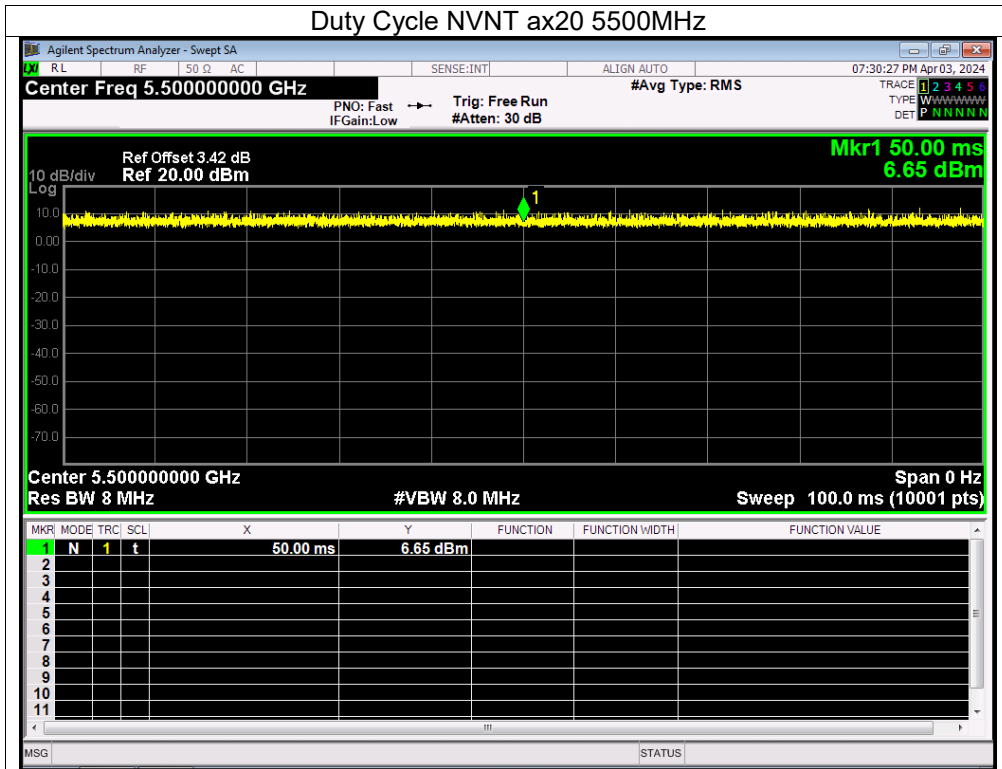


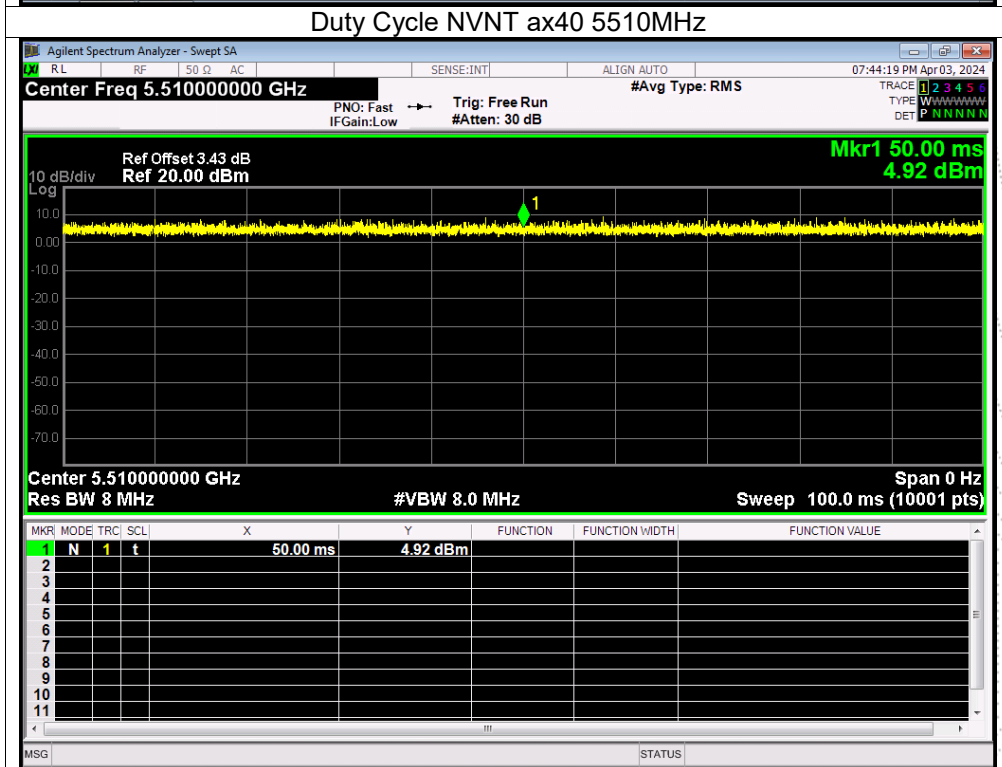
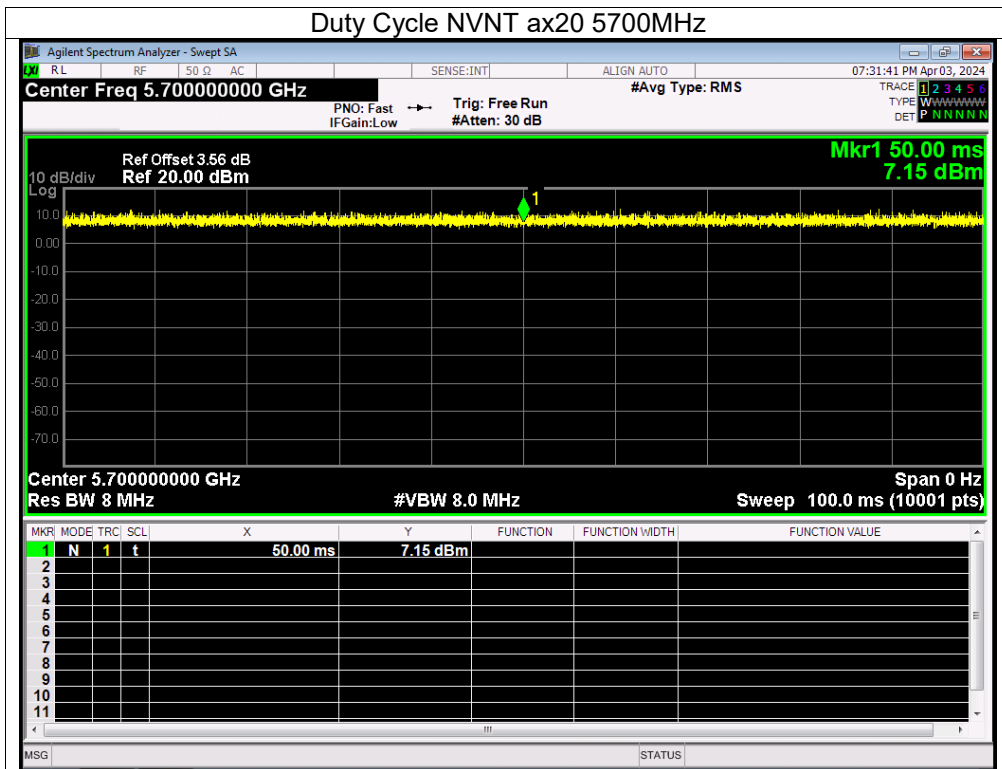


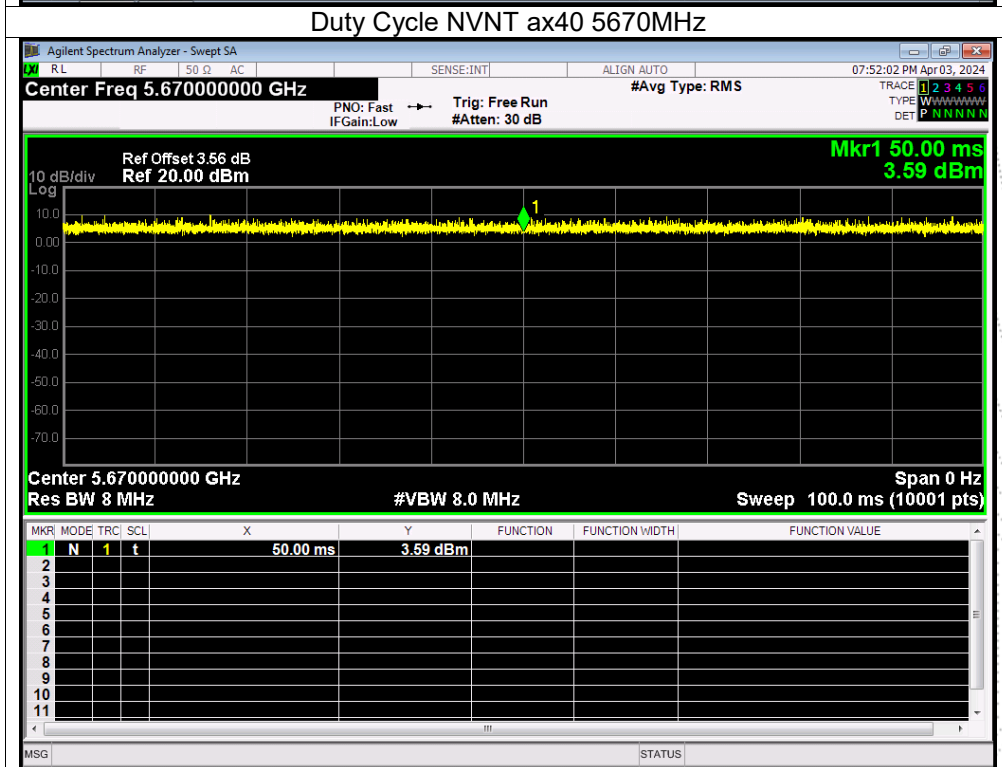
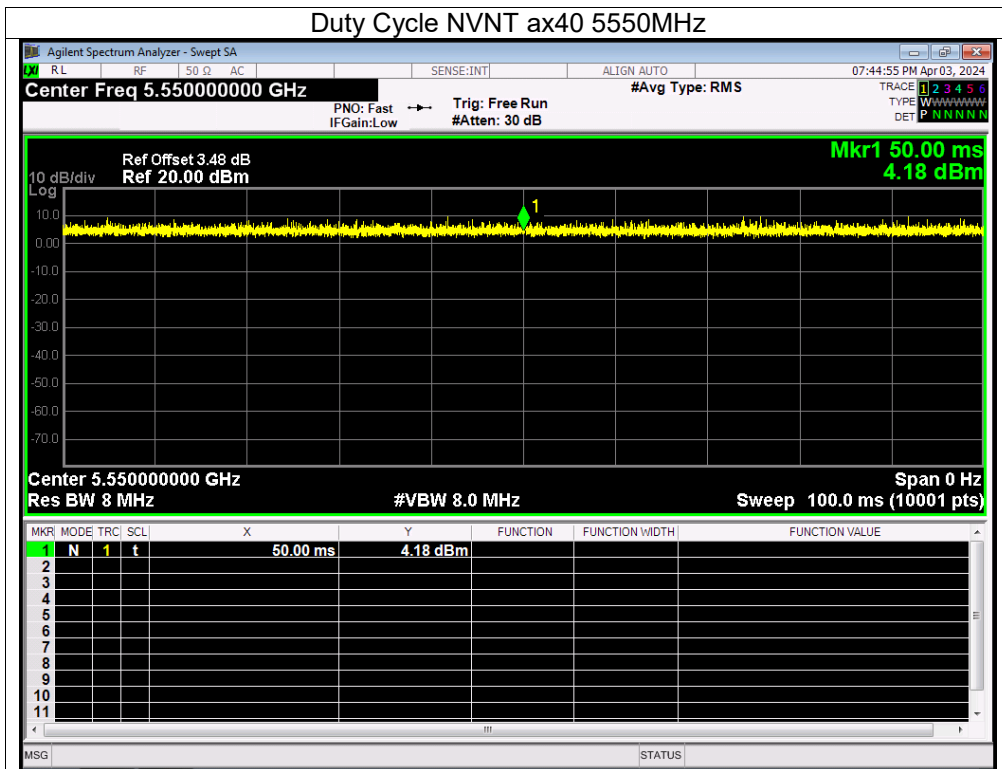


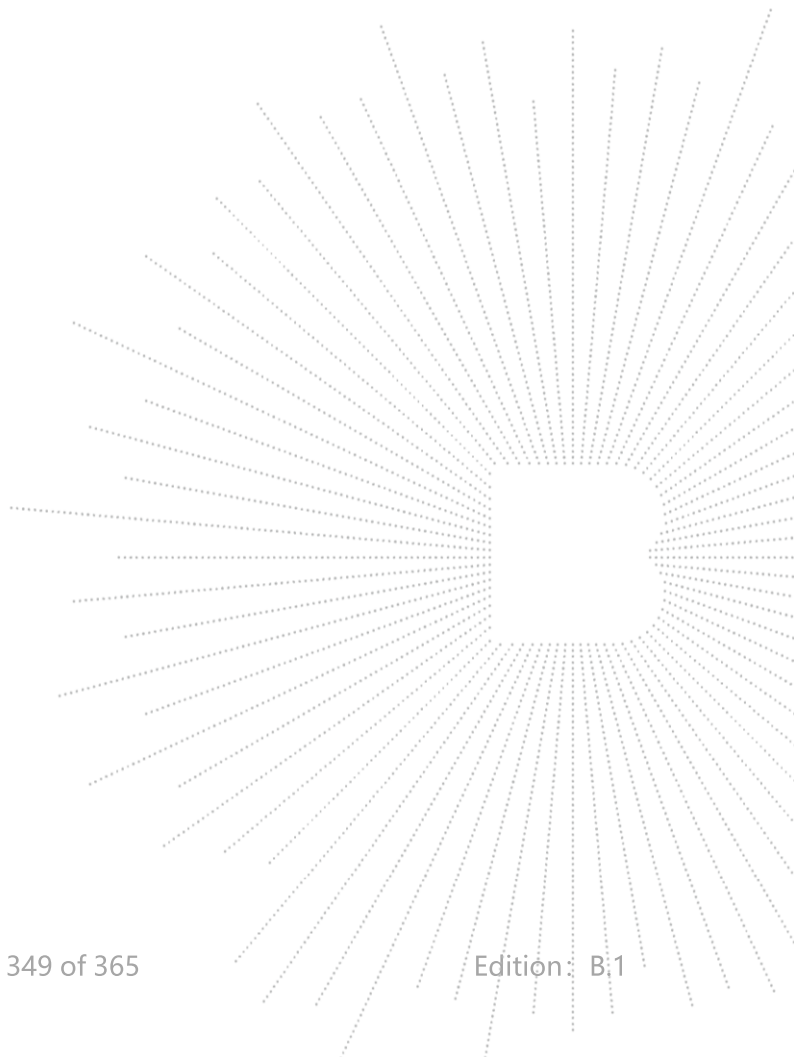
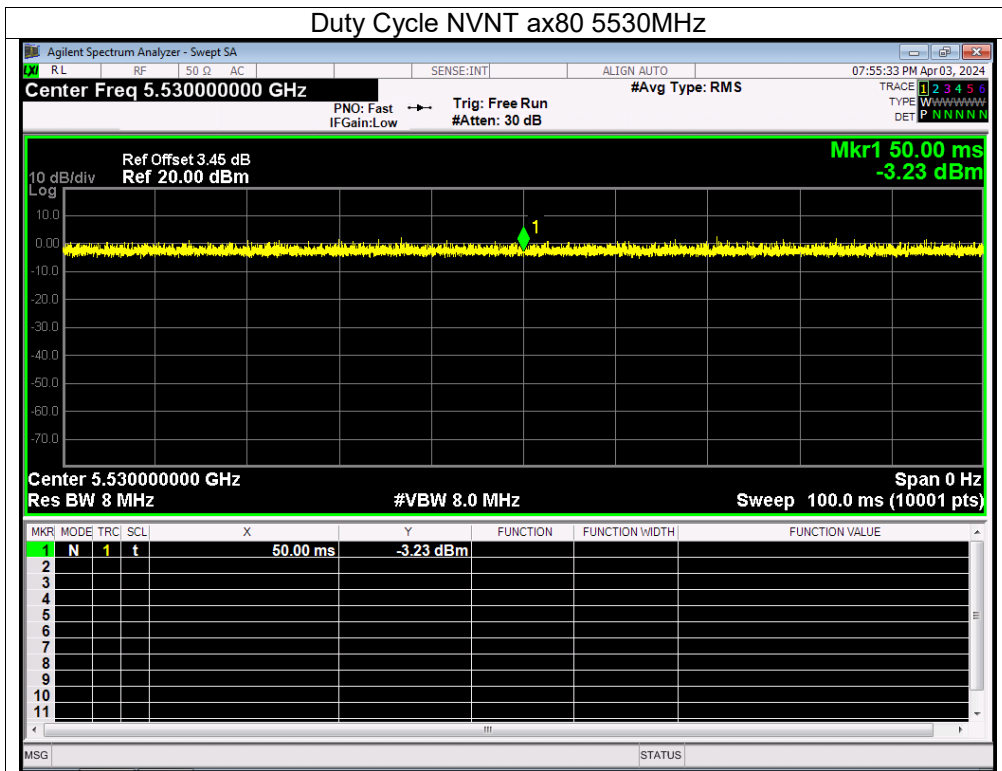




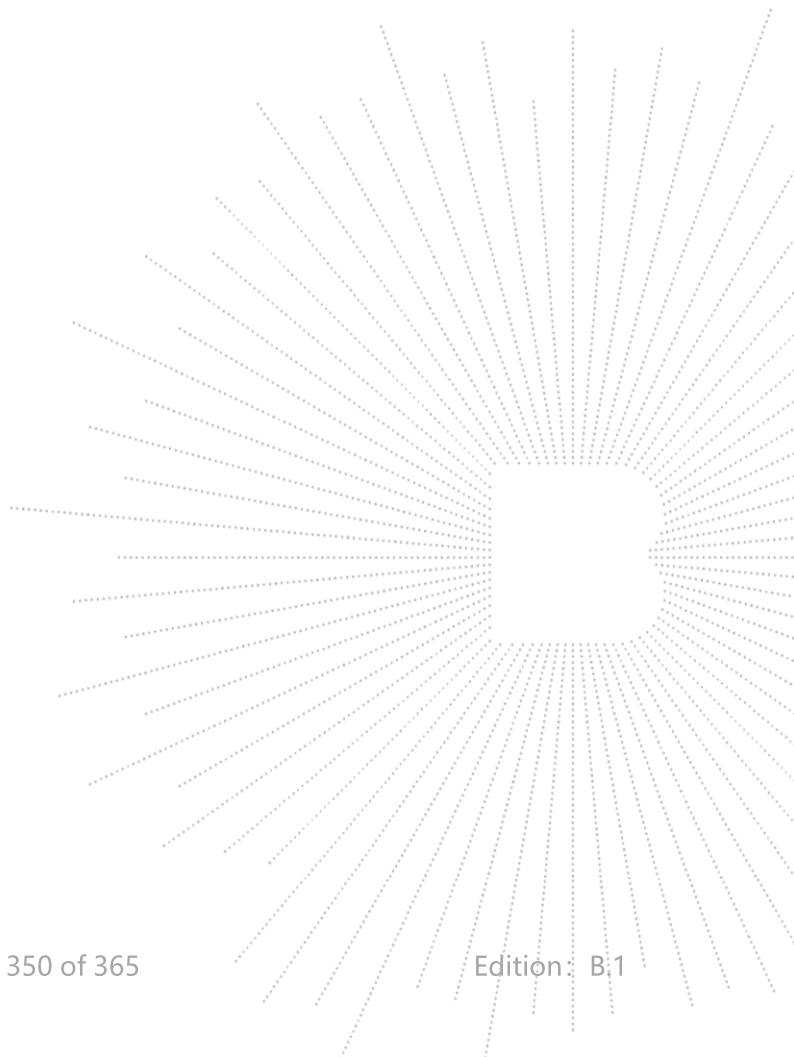




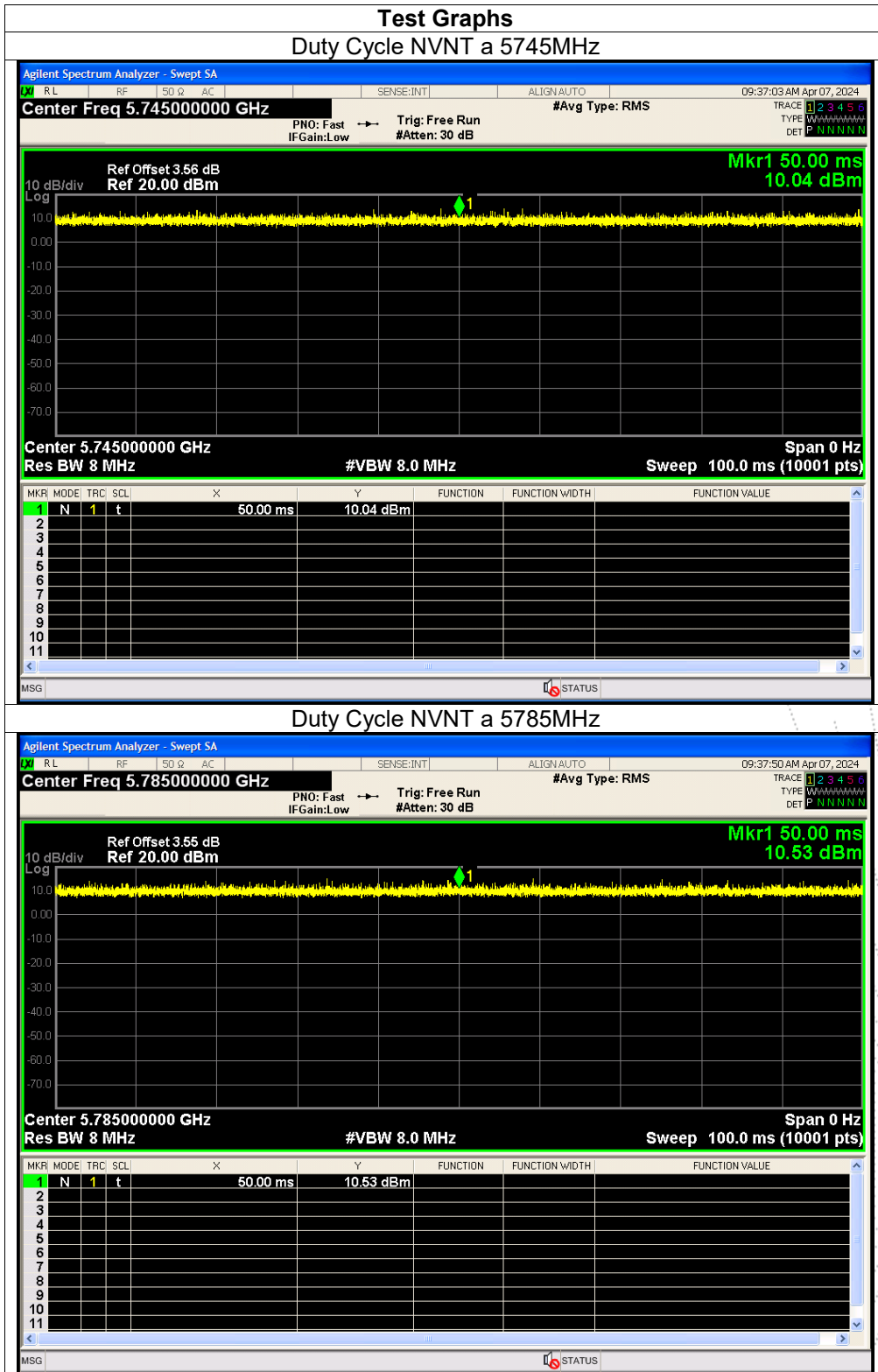


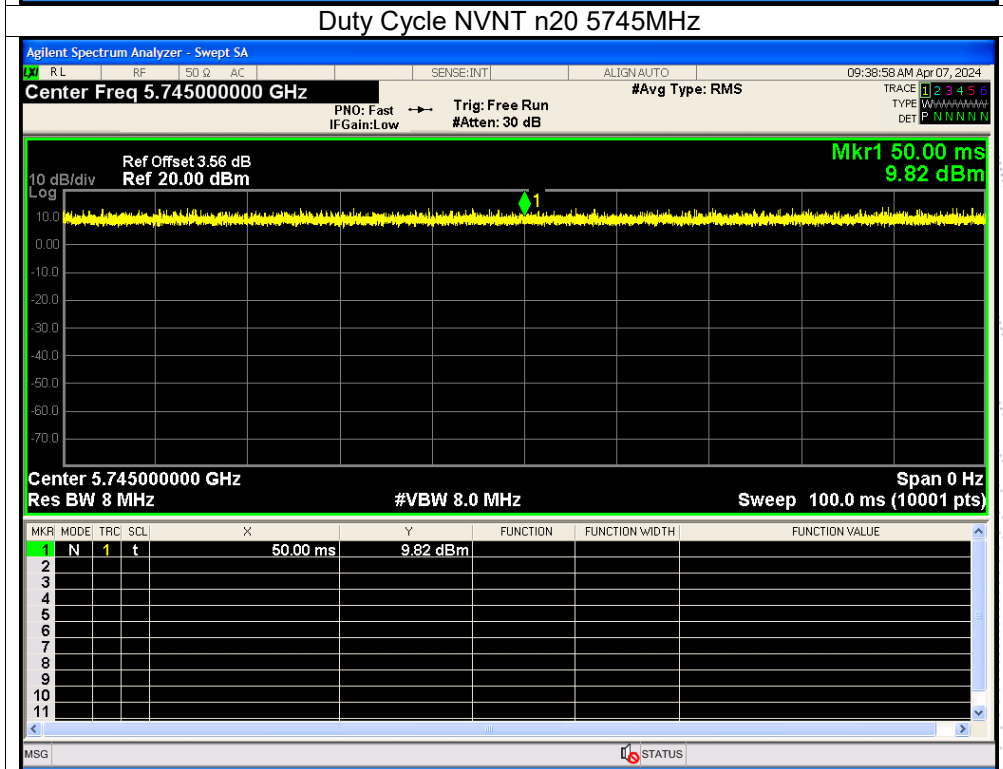
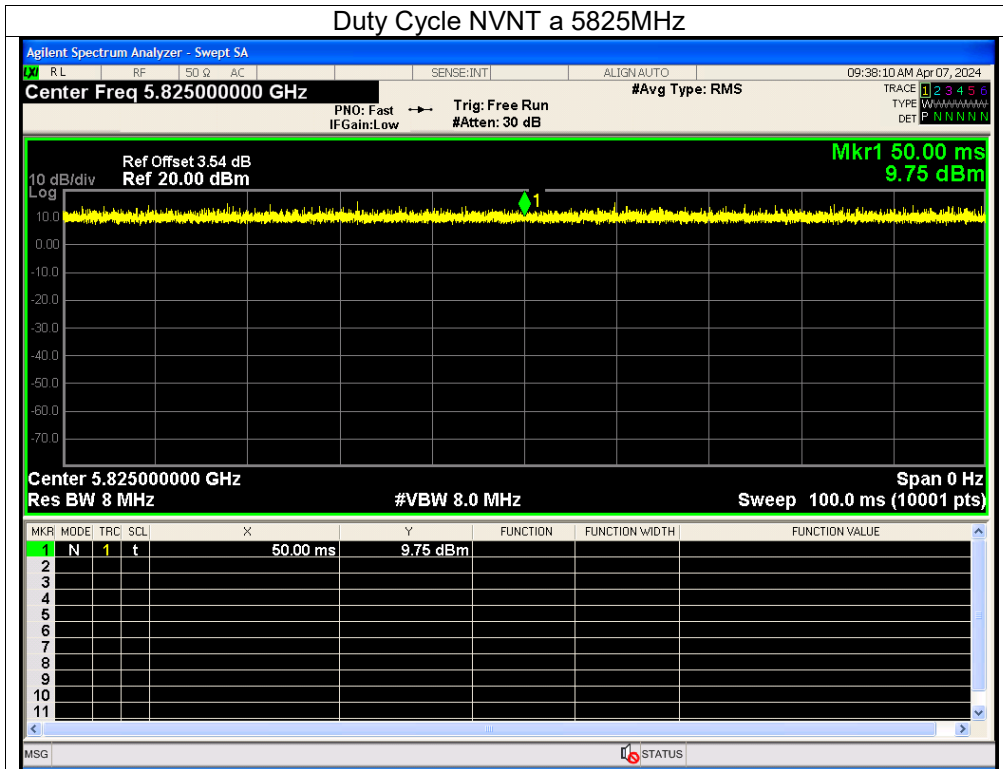


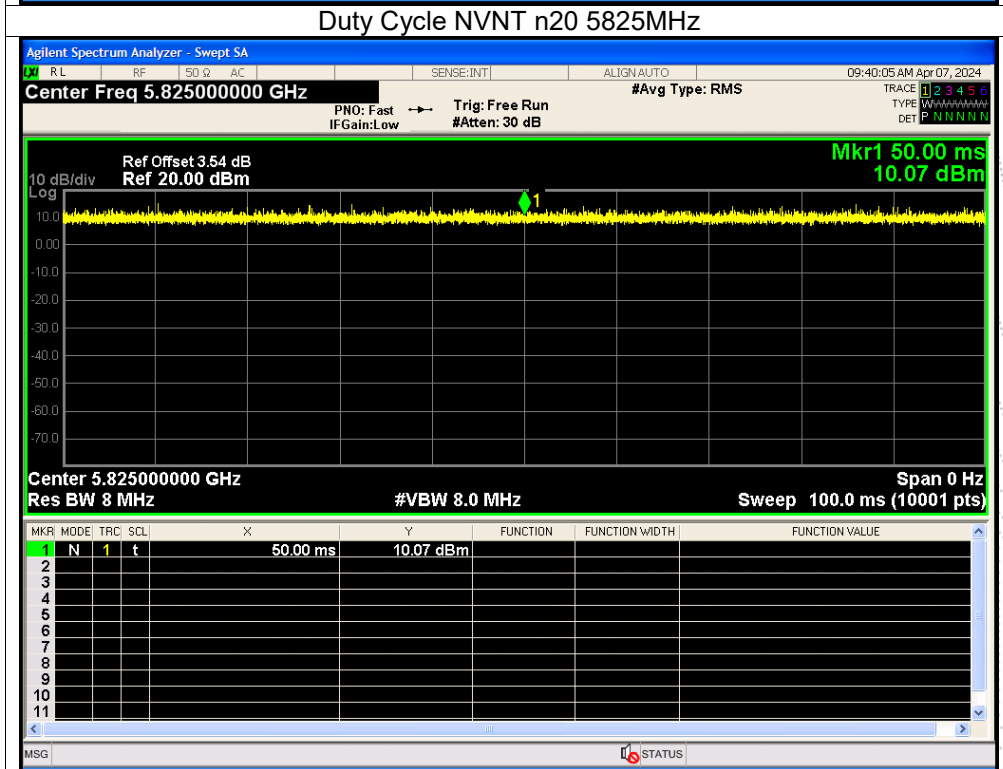
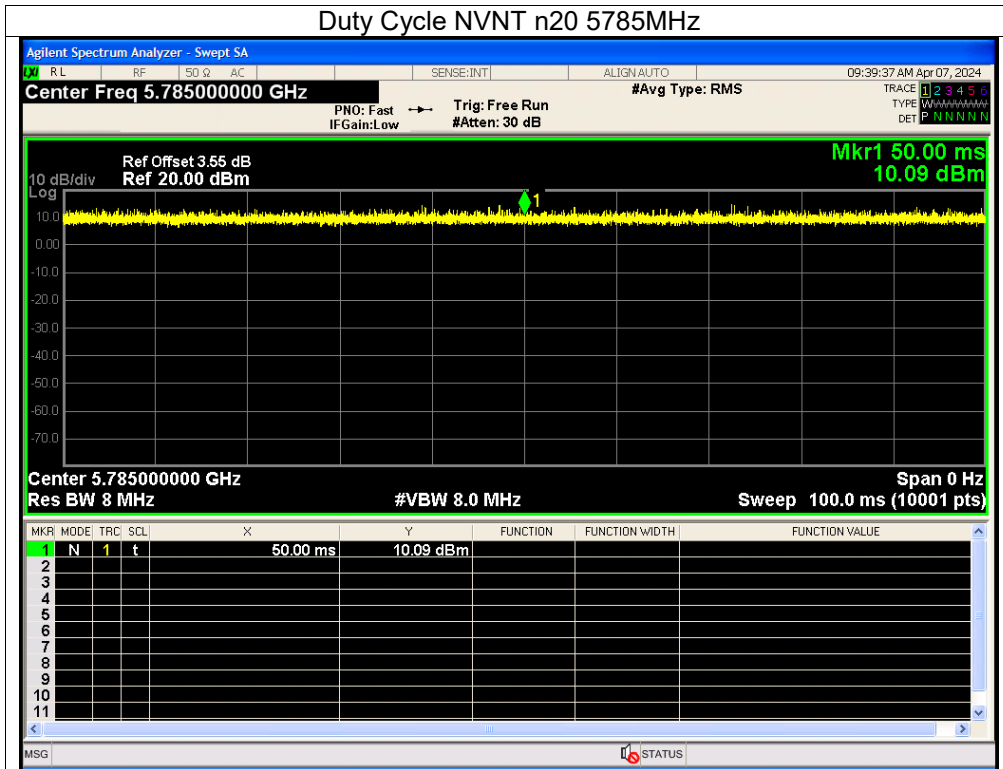
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	AntA	100	0	0
NVNT	a	5785	AntA	100	0	0
NVNT	a	5825	AntA	100	0	0
NVNT	n20	5745	AntA	100	0	0
NVNT	n20	5785	AntA	100	0	0
NVNT	n20	5825	AntA	100	0	0
NVNT	n40	5755	AntA	100	0	0
NVNT	n40	5795	AntA	100	0	0
NVNT	ac20	5745	AntA	100	0	0
NVNT	ac20	5785	AntA	100	0	0
NVNT	ac20	5825	AntA	100	0	0
NVNT	ac40	5755	AntA	100	0	0
NVNT	ac40	5795	AntA	100	0	0
NVNT	ac80	5775	AntA	100	0	0
NVNT	ax20	5745	AntA	100	0	0
NVNT	ax20	5785	AntA	100	0	0
NVNT	ax20	5825	AntA	100	0	0
NVNT	ax40	5755	AntA	100	0	0
NVNT	ax40	5795	AntA	100	0	0
NVNT	ax80	5775	AntA	100	0	0

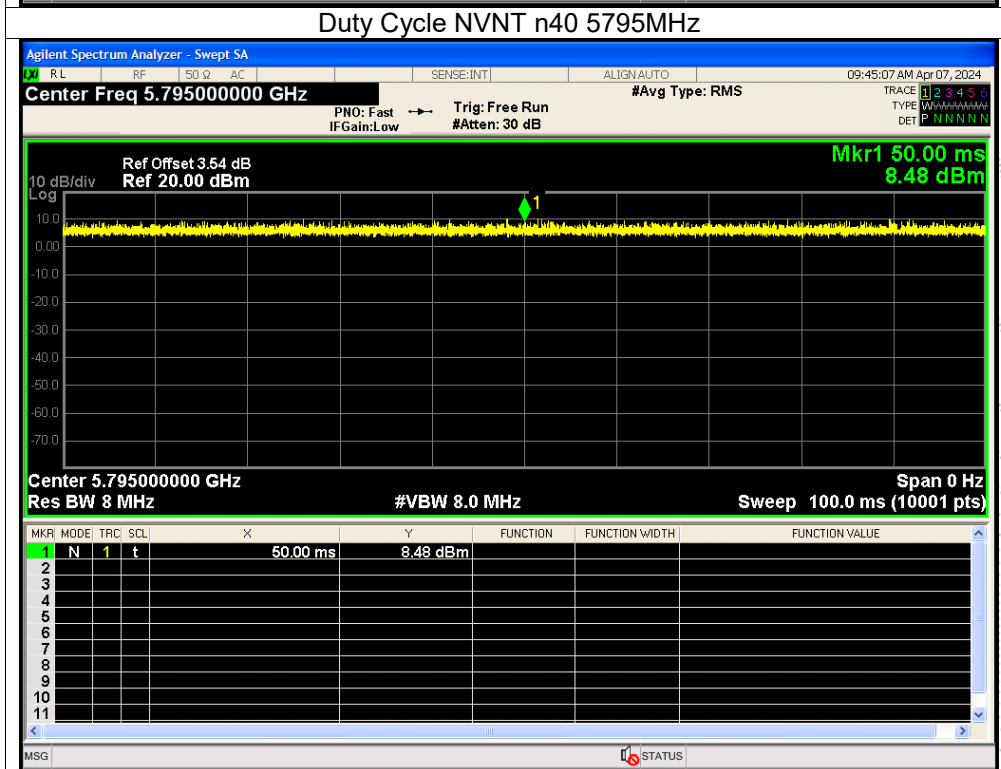
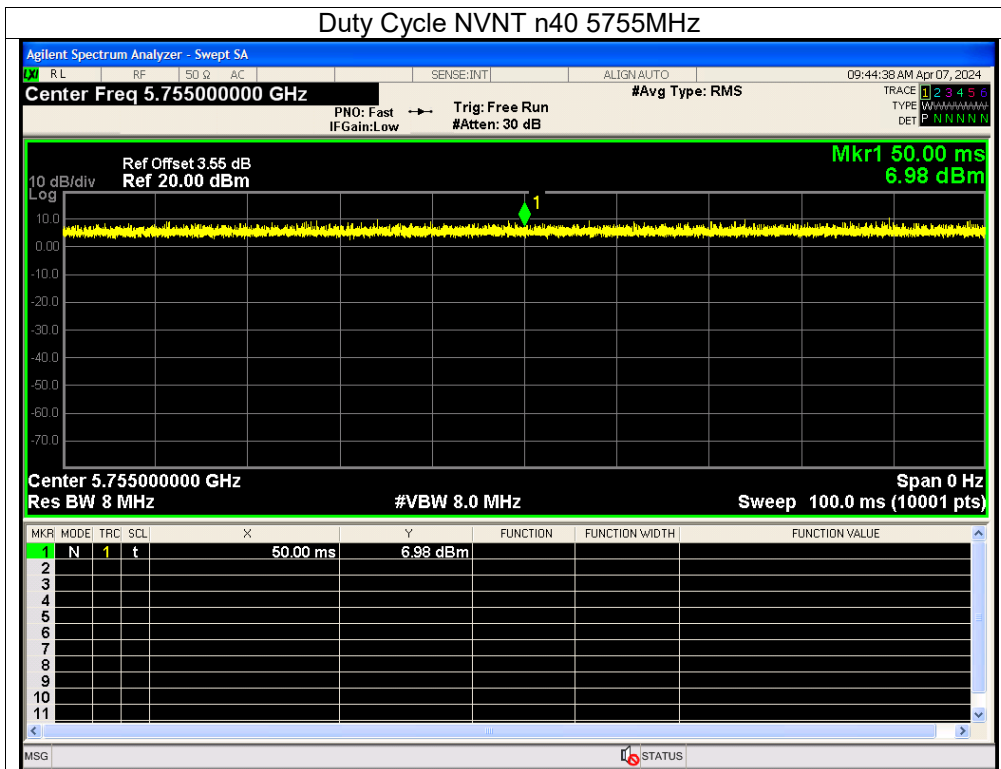


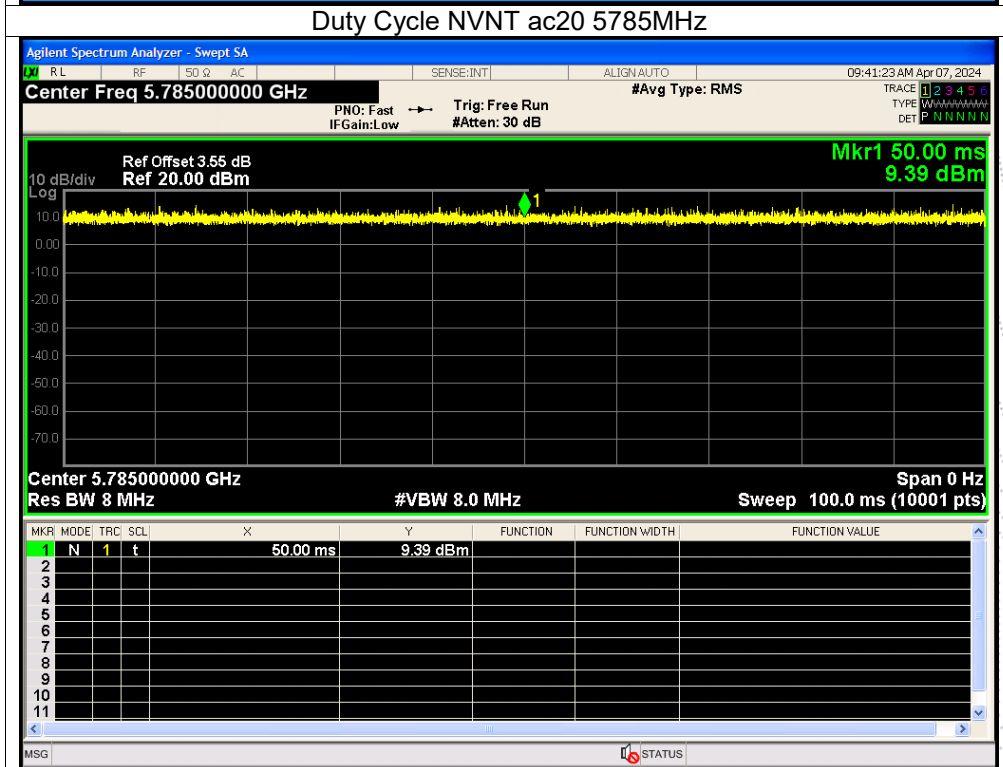
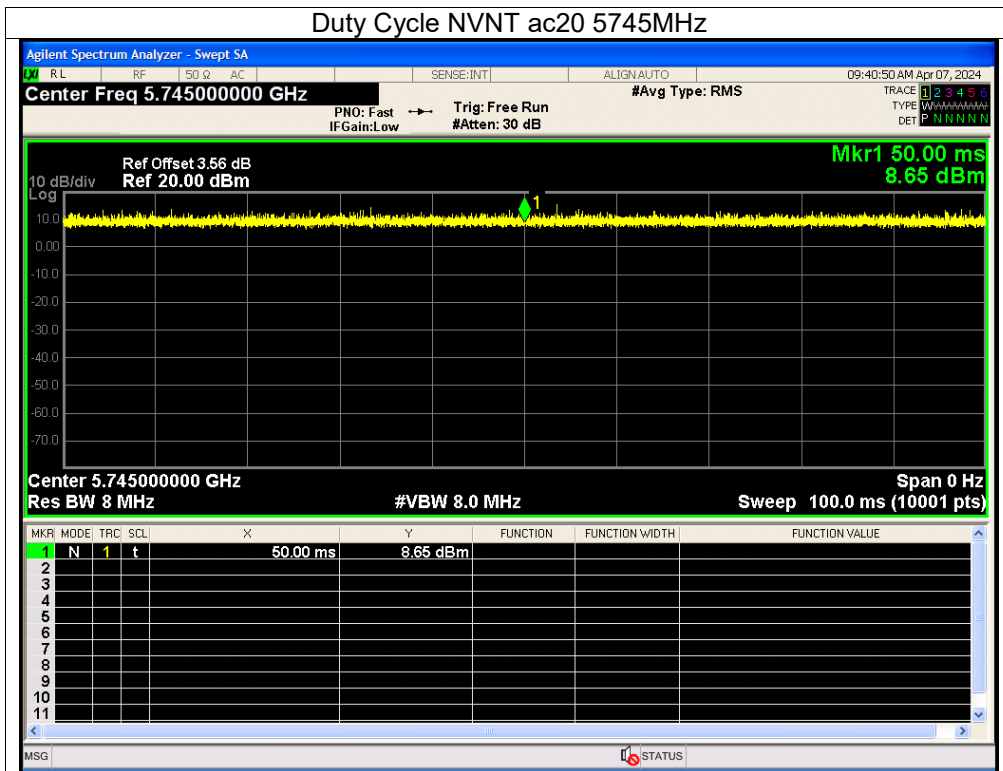
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A ,only shown Antenna A .
 Plot. Antenna A: 5745-5825MHz

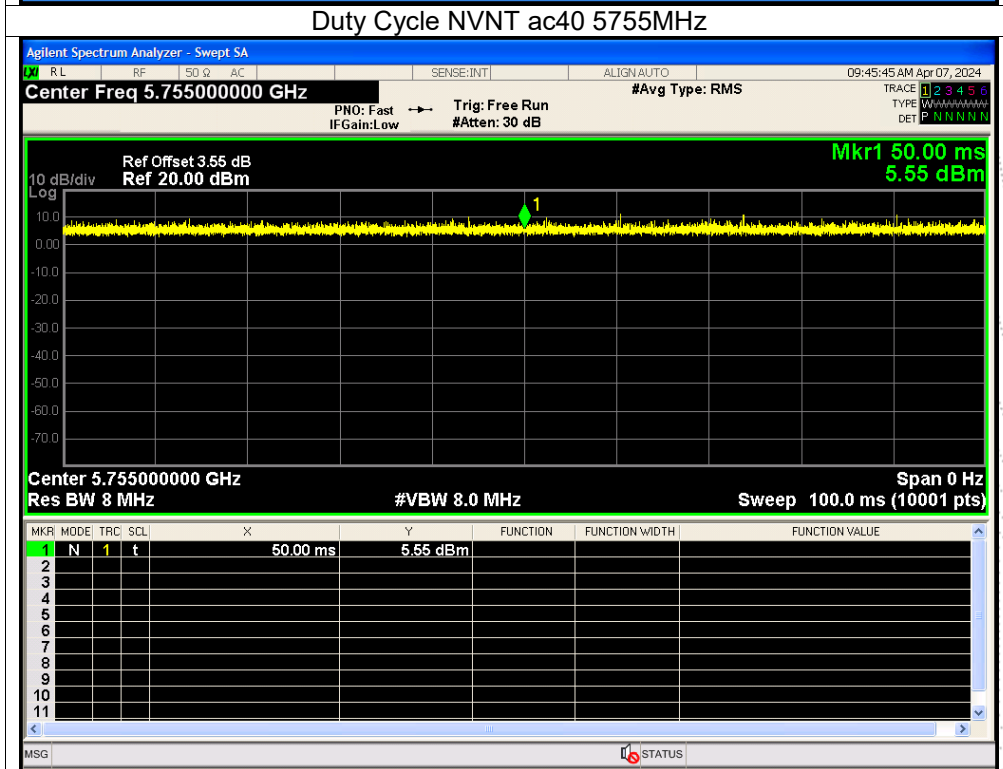
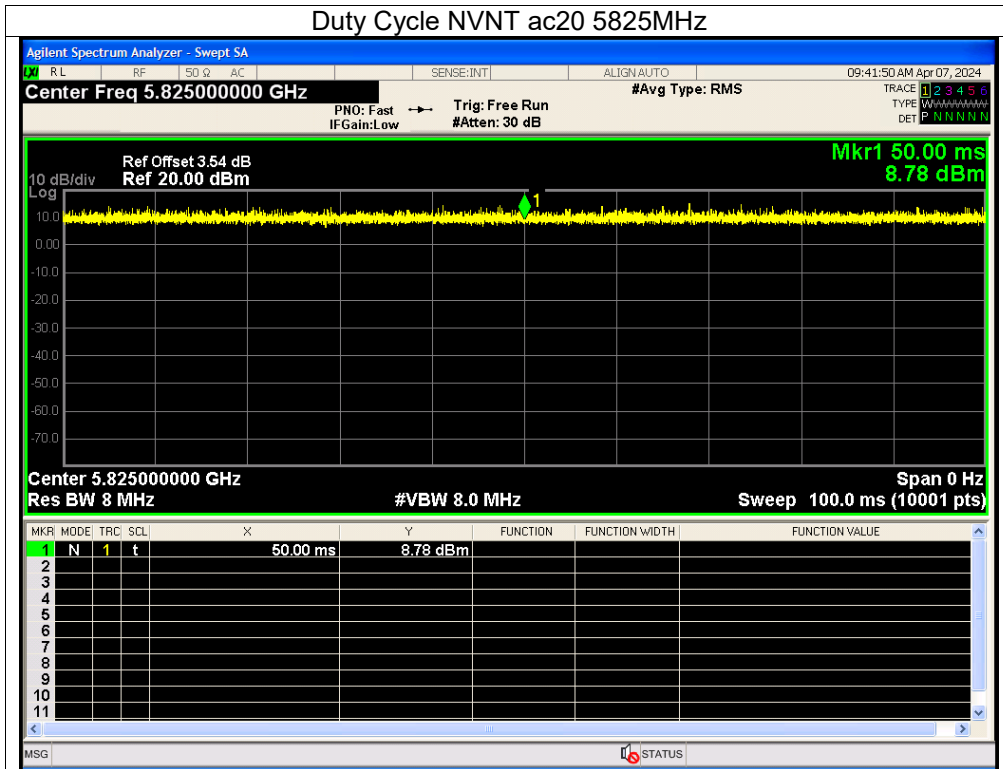


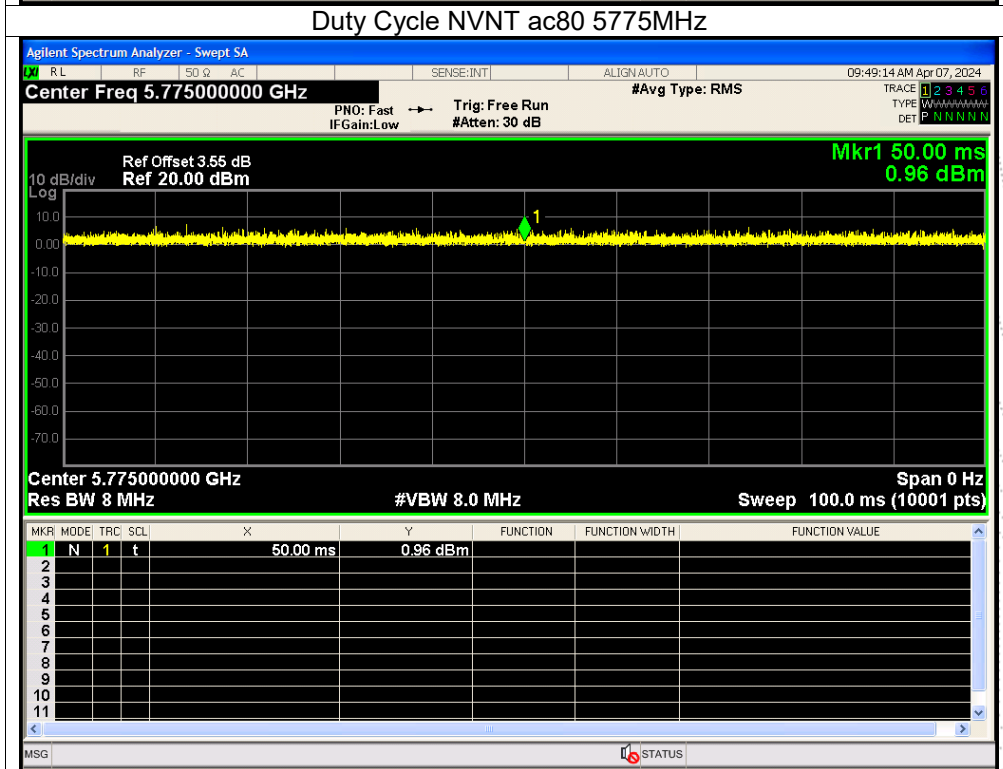
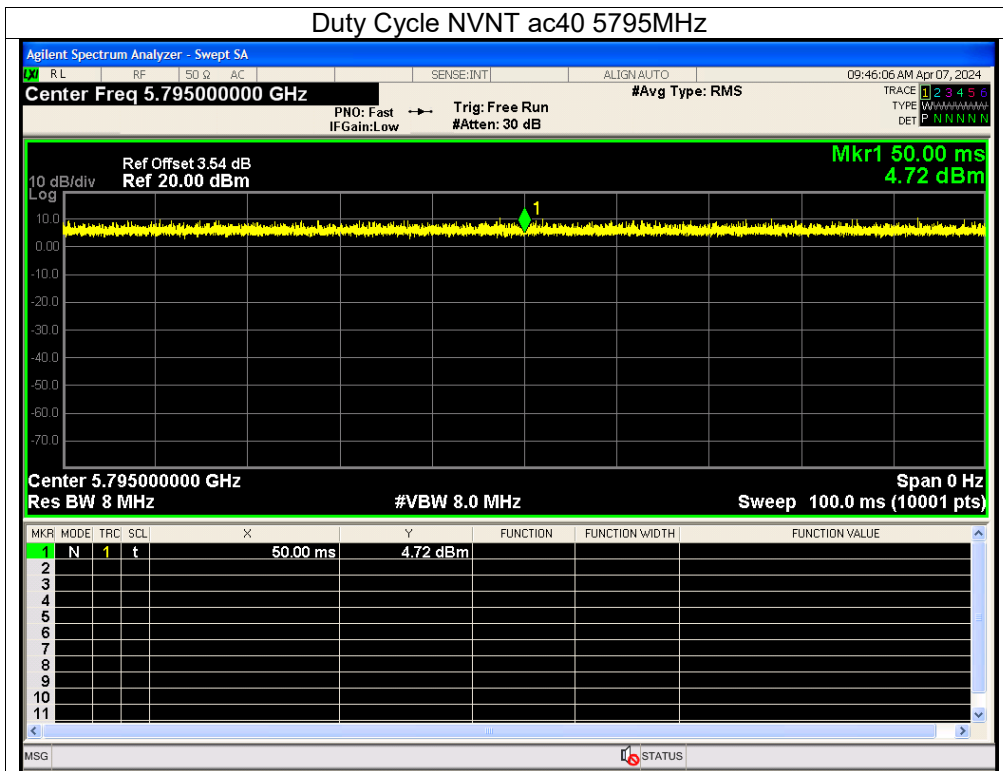


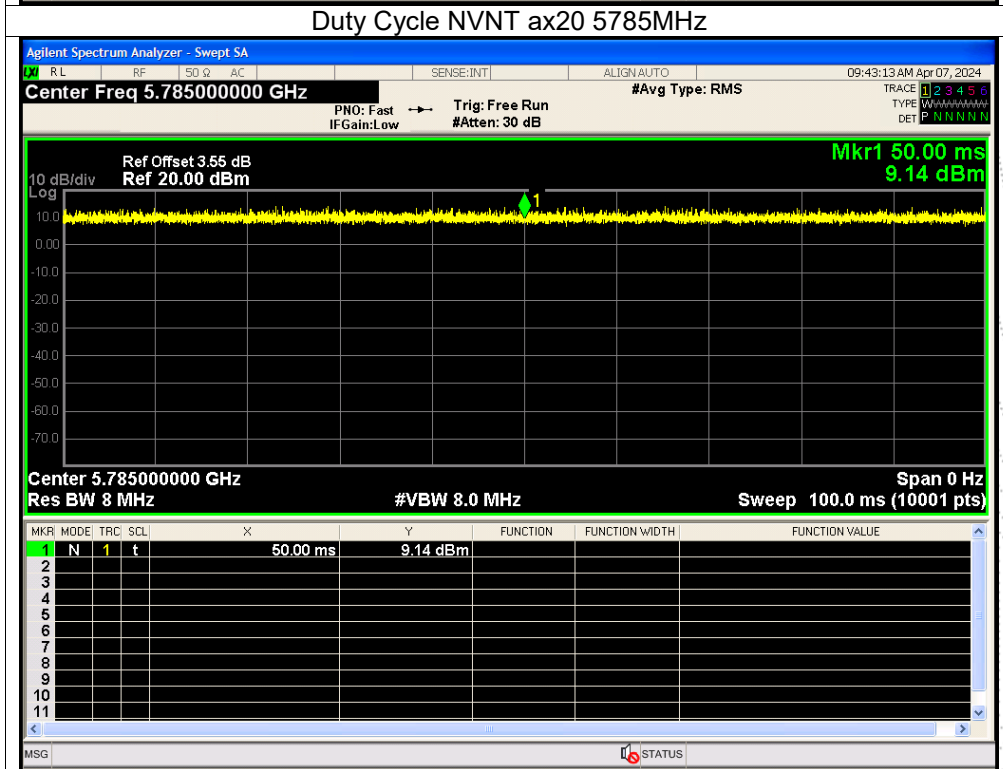
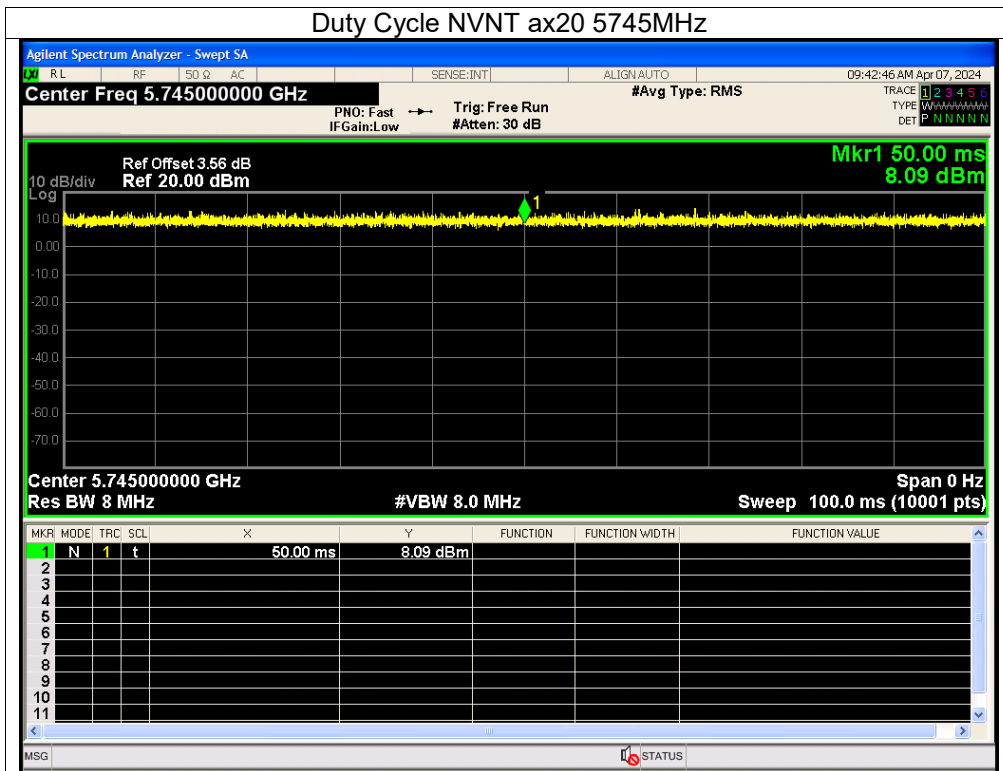


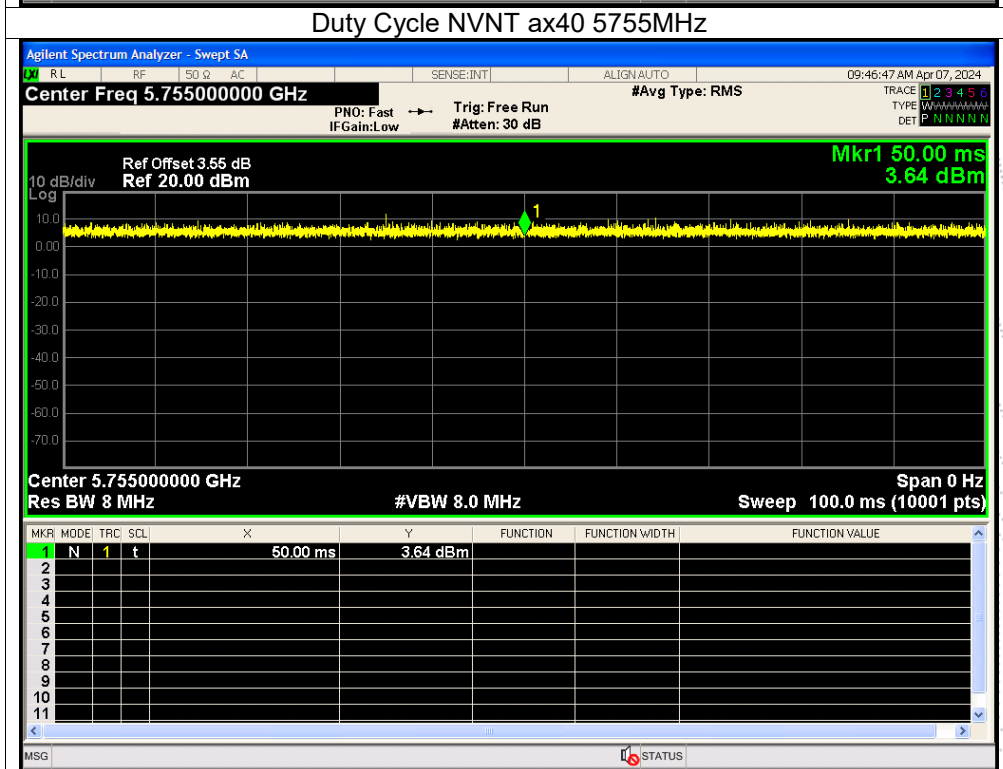
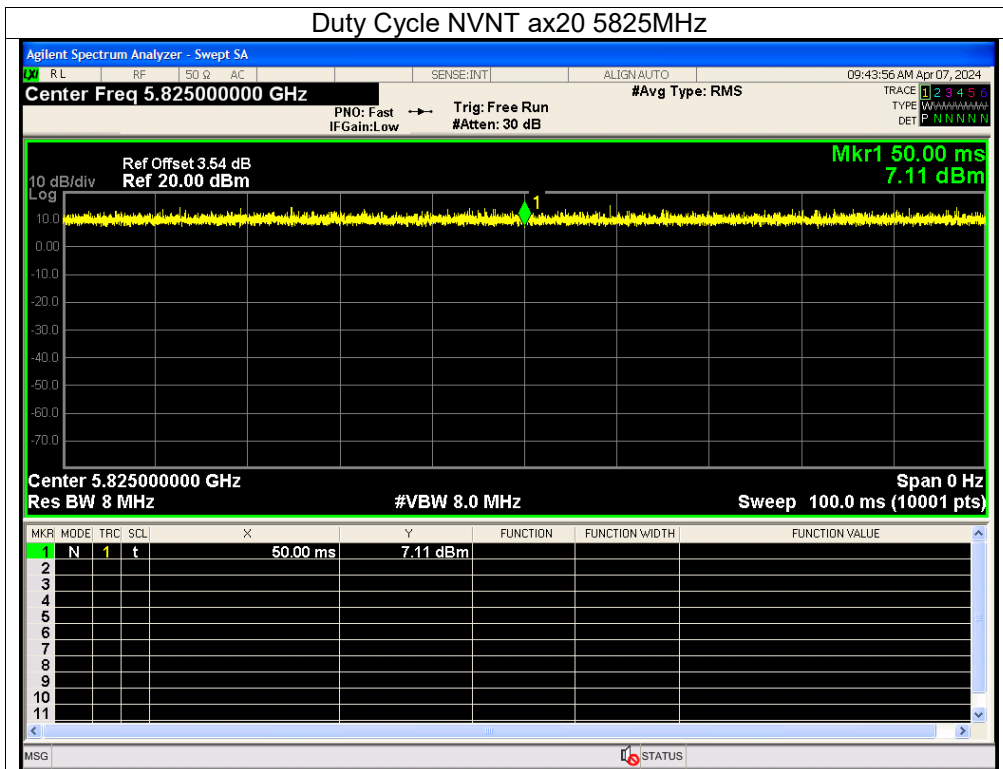


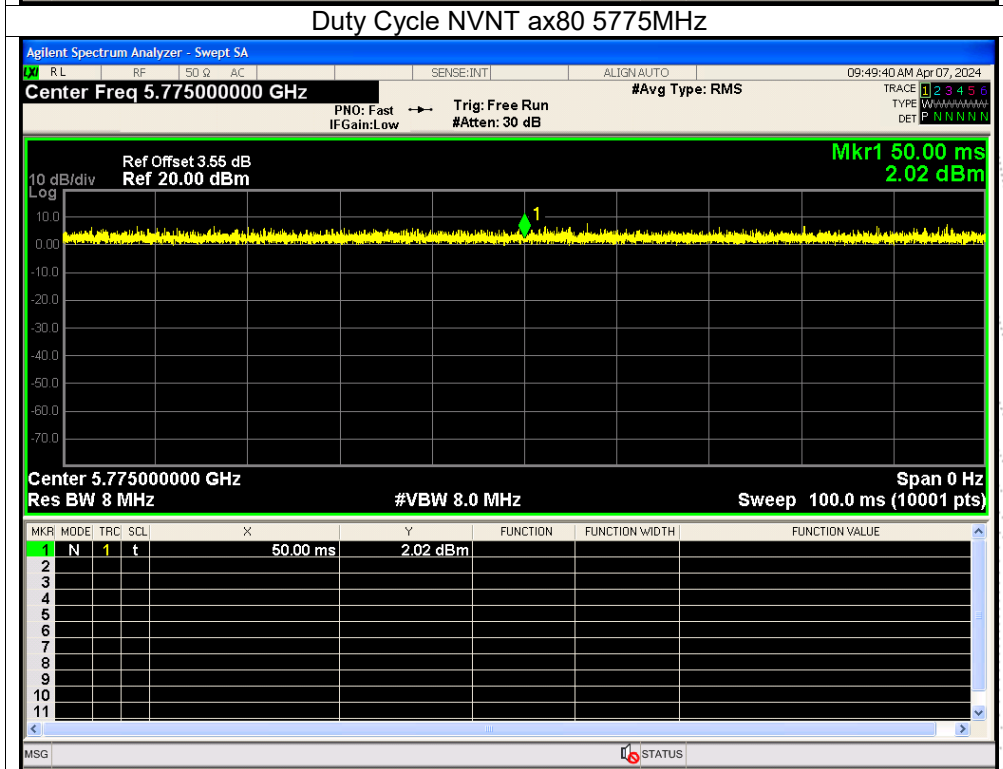
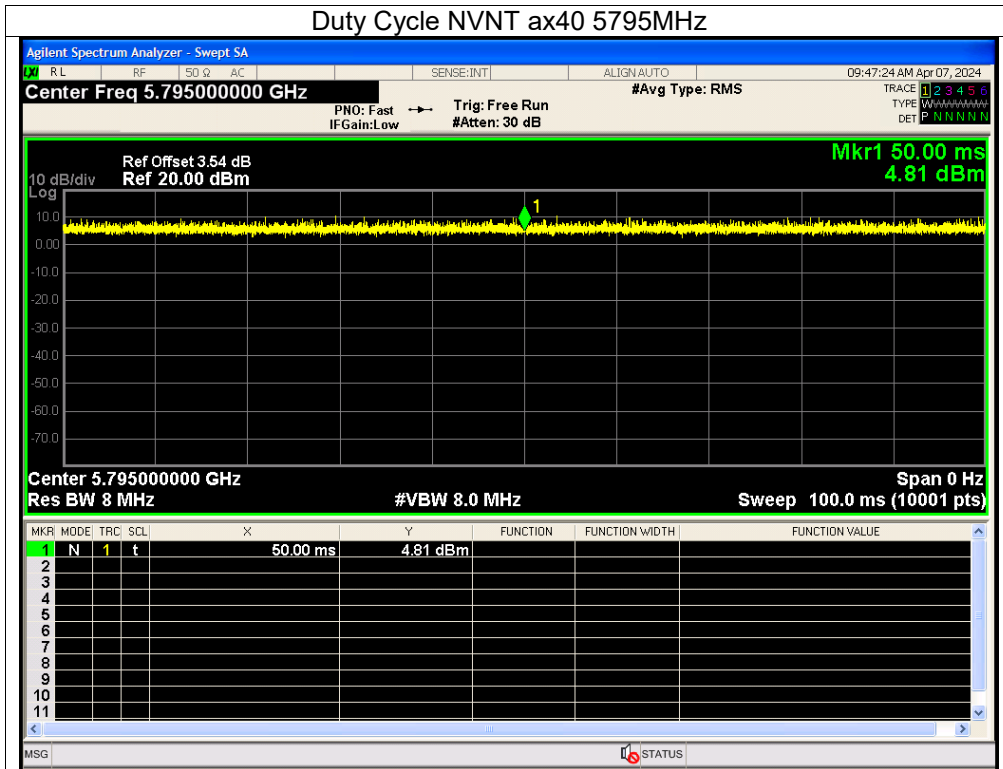












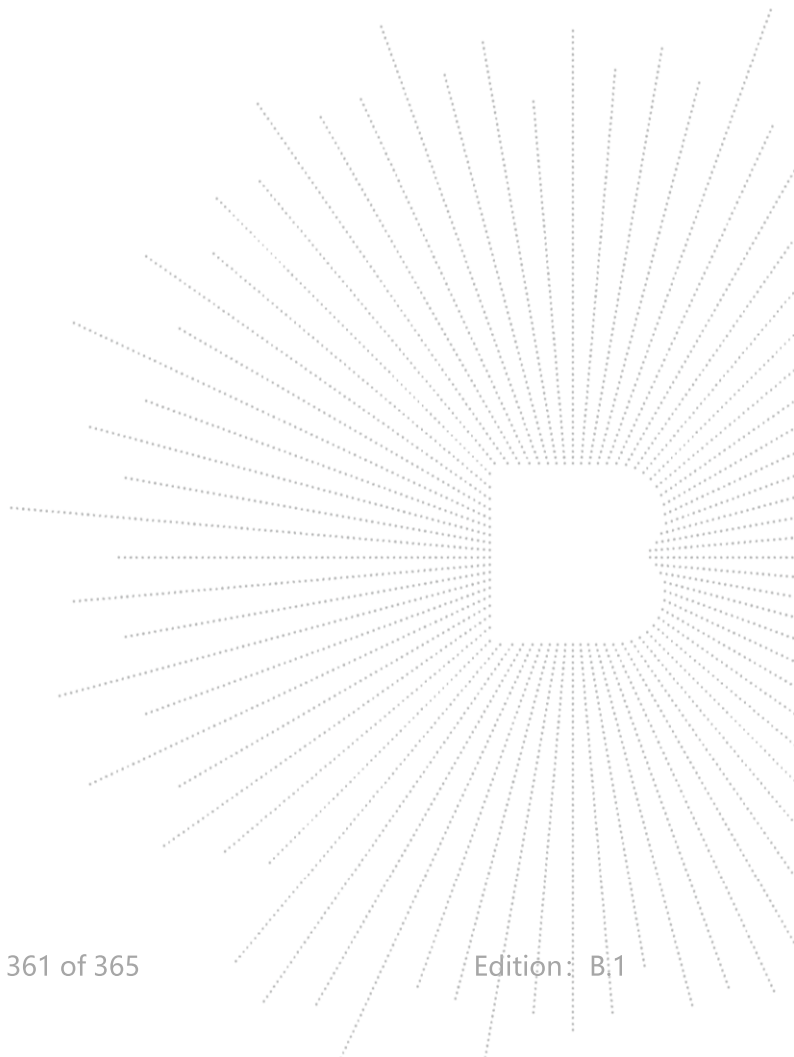
15. Antenna Requirement

15.1 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.

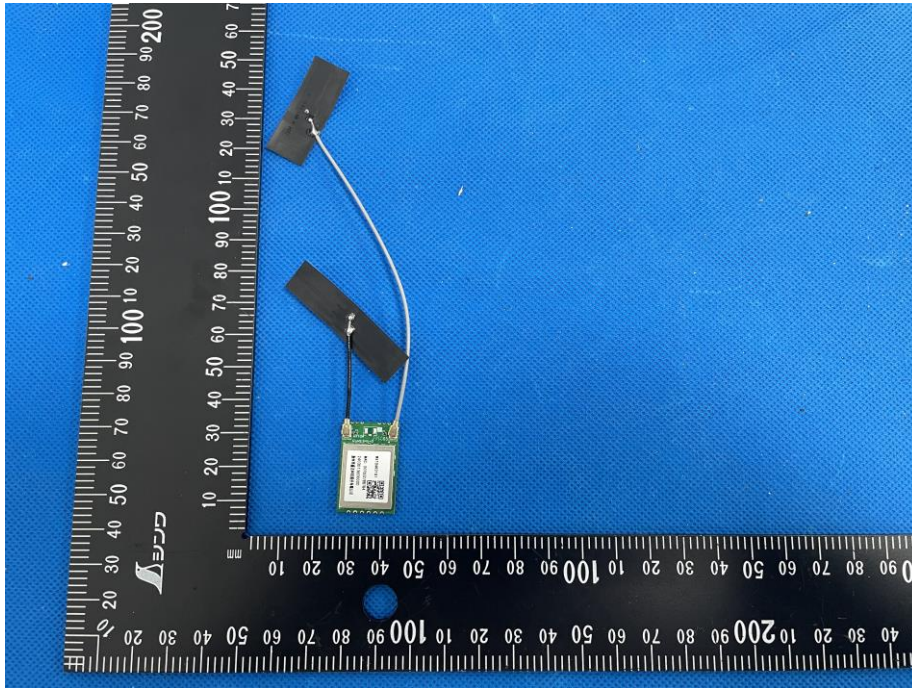
15.2 Test Result

The EUT antenna is FPC antenna (antenna gain (A): 5dBi; antenna gain (B) : 3.9 dBi). It comply with the standard requirement.

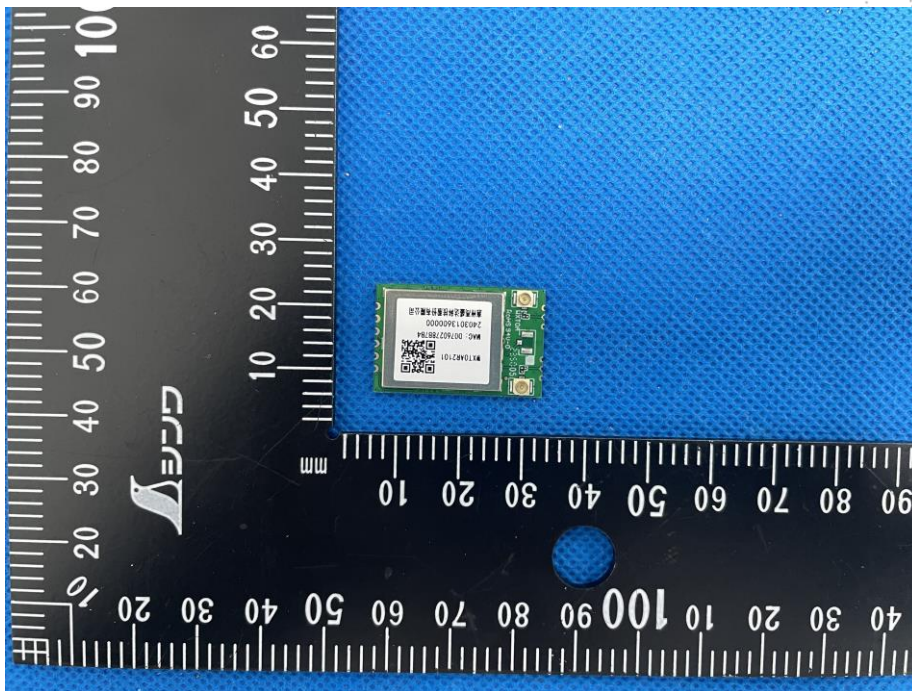


16. EUT Photographs

EUT Photo 1



EUT Photo 2



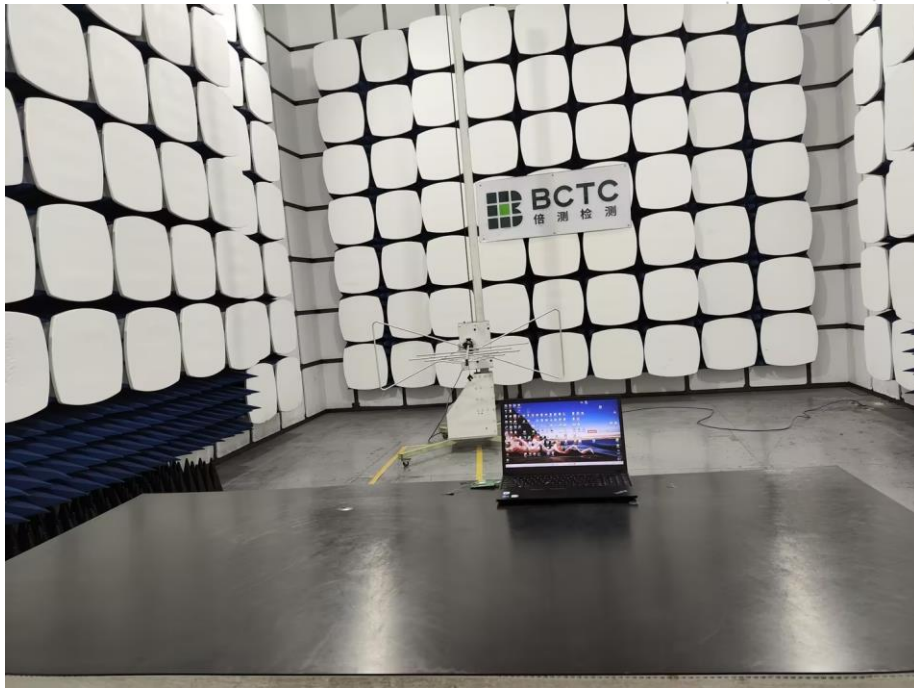
NOTE: Appendix-Photographs Of EUT Constructional Details

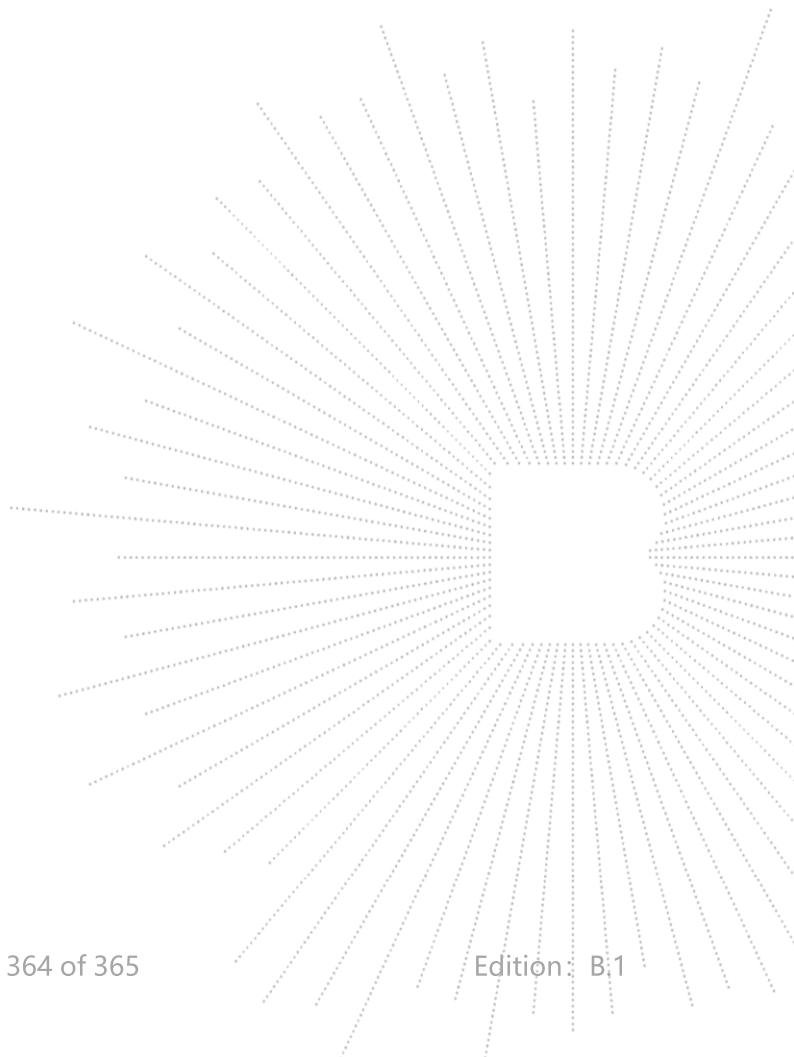
17. EUT Test Setup Photographs

Conducted Emissions Photo



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.

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