

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 12V
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)	12.00	5180.0073	5180	0.0073	1.4093
		V max (V)	13.80	5180.0003	5180	0.0003	0.0579
		V min (V)	10.20	5180.0006	5180	0.0006	0.1158
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)	12	T (°C)	-20	5180.0098	5180	0.0098	1.8919
		T (°C)	-10	5180.0118	5180	0.0118	2.2780
		T (°C)	0	5180.0031	5180	0.0031	0.5985
		T (°C)	10	5180.0045	5180	0.0045	0.8687
		T (°C)	20	5180.0047	5180	0.0047	0.9073
		T (°C)	30	5180.0047	5180	0.0047	0.9073
		T (°C)	40	5180.0080	5180	0.0080	1.5444
		T (°C)	50	5180.0103	5180	0.0103	1.9884
		T (°C)	60	5180.0116	5180	0.0116	2.2394
		T (°C)	70	5180.0074	5180	0.0074	1.4286
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)	12.00	5200.0013	5200	0.0013	0.2500
		V max (V)	13.80	5200.0049	5200	0.0049	0.9423
		V min (V)	10.20	5200.0015	5200	0.0015	0.2885
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)	12	T (°C)	-20	5200.00710	5200	0.00710	1.3654
		T (°C)	-10	5200.00120	5200	0.00120	0.2308
		T (°C)	0	5200.01030	5200	0.01030	1.9808
		T (°C)	10	5200.00700	5200	0.00700	1.3462
		T (°C)	20	5200.00230	5200	0.00230	0.4423
		T (°C)	30	5200.00760	5200	0.00760	1.4615
		T (°C)	40	5200.00300	5200	0.00300	0.5769
		T (°C)	50	5200.00150	5200	0.00150	0.2885
		T (°C)	60	5200.01100	5200	0.01100	2.1154
		T (°C)	70	5200.00970	5200	0.00970	1.8654
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)	12.00	5240.0065	5240	0.0065	1.2405
		V max (V)	13.80	5240.0020	5240	0.0020	0.3817
		V min (V)	10.20	5240.0050	5240	0.0050	0.9542
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)	12	T (°C)	-20	5240.0112	5240	0.0112	2.1374
		T (°C)	-10	5240.0090	5240	0.0090	1.7176
		T (°C)	0	5240.0012	5240	0.0012	0.2290
		T (°C)	10	5240.0020	5240	0.0020	0.3817
		T (°C)	20	5240.0096	5240	0.0096	1.8321
		T (°C)	30	5240.0108	5240	0.0108	2.0611
		T (°C)	40	5240.0009	5240	0.0009	0.1718
		T (°C)	50	5240.0080	5240	0.0080	1.5267
		T (°C)	60	5240.0122	5240	0.0122	2.3282
		T (°C)	70	5240.0012	5240	0.0012	0.2290
Limits				5150-5250 MHz			
Result				Complies			

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
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)	12.00	5260.0132	5260	0.0132	2.5095
		V max (V)	13.80	5260.0133	5260	0.0133	2.5285
		V min (V)	10.20	5260.0013	5260	0.0013	0.2471
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)	12	T (°C)	-20	5260.0070	5260	0.0070	1.3308
		T (°C)	-10	5260.0037	5260	0.0037	0.7034
		T (°C)	0	5260.0075	5260	0.0075	1.4259
		T (°C)	10	5260.0014	5260	0.0014	0.2662
		T (°C)	20	5260.0033	5260	0.0033	0.6274
		T (°C)	30	5260.0107	5260	0.0107	2.0342
		T (°C)	40	5260.0128	5260	0.0128	2.4335
		T (°C)	50	5260.0085	5260	0.0085	1.6160
		T (°C)	60	5260.0083	5260	0.0083	1.5779
		T (°C)	70	5260.0042	5260	0.0042	0.7985
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)	12.00	5280.0019	5280	0.0019	0.3598
		V max (V)	13.80	5280.0135	5280	0.0135	2.5568
		V min (V)	10.20	5280.0055	5280	0.0055	1.0417
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)	12	T (°C)	-20	5280.00510	5280	0.00510	0.9659
		T (°C)	-10	5280.00350	5280	0.00350	0.6629
		T (°C)	0	5280.00380	5280	0.00380	0.7197
		T (°C)	10	5280.00470	5280	0.00470	0.8902
		T (°C)	20	5280.00470	5280	0.00470	0.8902
		T (°C)	30	5280.00300	5280	0.00300	0.5682
		T (°C)	40	5280.01030	5280	0.01030	1.9508
		T (°C)	50	5280.00770	5280	0.00770	1.4583
		T (°C)	60	5280.00300	5280	0.00300	0.5682
		T (°C)	70	5280.01270	5280	0.01270	2.4053
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)	12.00	5320.0082	5320	0.0082	1.5414
		V max (V)	13.80	5320.0103	5320	0.0103	1.9361
		V min (V)	10.20	5320.0053	5320	0.0053	0.9962
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)	12	T (°C)	-20	5320.0086	5320	0.0086	1.6165
		T (°C)	-10	5320.0096	5320	0.0096	1.8045
		T (°C)	0	5320.0013	5320	0.0013	0.2444
		T (°C)	10	5320.0063	5320	0.0063	1.1842
		T (°C)	20	5320.0130	5320	0.0130	2.4436
		T (°C)	30	5320.0007	5320	0.0007	0.1316
		T (°C)	40	5320.0082	5320	0.0082	1.5414
		T (°C)	50	5320.0121	5320	0.0121	2.2744
		T (°C)	60	5320.0088	5320	0.0088	1.6541
		T (°C)	70	5320.0089	5320	0.0089	1.6729
Limits				5260-5320 MHz			
Result				Complies			

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
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)	12.00	5500.0001	5500	0.0001	0.0182
		V max (V)	13.80	5500.0105	5500	0.0105	1.9091
		V min (V)	10.20	5500.0011	5500	0.0011	0.2000
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)	12	T (°C)	-20	5500.0058	5500	0.0058	1.0545
		T (°C)	-10	5500.0019	5500	0.0019	0.3455
		T (°C)	0	5500.0048	5500	0.0048	0.8727
		T (°C)	10	5500.0080	5500	0.0080	1.4545
		T (°C)	20	5500.0112	5500	0.0112	2.0364
		T (°C)	30	5500.0015	5500	0.0015	0.2727
		T (°C)	40	5500.0124	5500	0.0124	2.2545
		T (°C)	50	5500.0087	5500	0.0087	1.5818
		T (°C)	60	5500.0062	5500	0.0062	1.1273
		T (°C)	70	5500.0078	5500	0.0078	1.4182
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)	12.00	5580.0032	5580	0.0032	0.5735
		V max (V)	13.80	5580.0039	5580	0.0039	0.6989
		V min (V)	10.20	5580.0055	5580	0.0055	0.9857
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)	12	T (°C)	-20	5580.00430	5580	0.00430	0.7706
		T (°C)	-10	5580.00910	5580	0.00910	1.6308
		T (°C)	0	5580.00760	5580	0.00760	1.3620
		T (°C)	10	5580.00820	5580	0.00820	1.4695
		T (°C)	20	5580.00540	5580	0.00540	0.9677
		T (°C)	30	5580.01150	5580	0.01150	2.0609
		T (°C)	40	5580.00610	5580	0.00610	1.0932
		T (°C)	50	5580.00630	5580	0.00630	1.1290
		T (°C)	60	5580.01030	5580	0.01030	1.8459
		T (°C)	70	5580.00770	5580	0.00770	1.3799
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)	12.00	5700.0046	5700	0.0046	0.8070
		V max (V)	13.80	5700.0024	5700	0.0024	0.4211
		V min (V)	10.20	5700.0097	5700	0.0097	1.7018
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)	12	T (°C)	-20	5700.0040	5700	0.0040	0.7018
		T (°C)	-10	5700.0089	5700	0.0089	1.5614
		T (°C)	0	5700.0086	5700	0.0086	1.5088
		T (°C)	10	5700.0057	5700	0.0057	1.0000
		T (°C)	20	5700.0004	5700	0.0004	0.0702
		T (°C)	30	5700.0030	5700	0.0030	0.5263
		T (°C)	40	5700.0012	5700	0.0012	0.2105
		T (°C)	50	5700.0135	5700	0.0135	2.3684
		T (°C)	60	5700.0103	5700	0.0103	1.8070
		T (°C)	70	5700.0077	5700	0.0077	1.3509
Limits				5725-5850 MHz			
Result				Complies			

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage:	DC 12V
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)	12.00	5745.00630	5745	0.00630	1.0966
		V max (V)	13.80	5745.00900	5745	0.00900	1.5666
		V min (V)	10.20	5745.00480	5745	0.00480	0.8355
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)	12	T (°C)	-20	5745.00780	5745	0.00780	1.3577
		T (°C)	-10	5745.00840	5745	0.00840	1.4621
		T (°C)	0	5745.00060	5745	0.00060	0.1044
		T (°C)	10	5745.00690	5745	0.00690	1.2010
		T (°C)	20	5745.01340	5745	0.01340	2.3325
		T (°C)	30	5745.01200	5745	0.01200	2.0888
		T (°C)	40	5745.00450	5745	0.00450	0.7833
		T (°C)	50	5745.00780	5745	0.00780	1.3577
		T (°C)	60	5745.00590	5745	0.00590	1.0270
		T (°C)	70	5745.00830	5745	0.00830	1.4447
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)	12.00	5785.00170	5785	0.00170	0.2939
		V max (V)	13.80	5785.01000	5785	0.01000	1.7286
		V min (V)	10.20	5785.00720	5785	0.00720	1.2446
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)	12	T (°C)	-20	5785.00610	5785	0.00610	1.0545
		T (°C)	-10	5785.00170	5785	0.00170	0.2939
		T (°C)	0	5785.01280	5785	0.01280	2.2126
		T (°C)	10	5785.01090	5785	0.01090	1.8842
		T (°C)	20	5785.01330	5785	0.01330	2.2990
		T (°C)	30	5785.00110	5785	0.00110	0.1901
		T (°C)	40	5785.01160	5785	0.01160	2.0052
		T (°C)	50	5785.00640	5785	0.00640	1.1063
		T (°C)	60	5785.01330	5785	0.01330	2.2990
		T (°C)	70	5785.01140	5785	0.01140	1.9706
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)	12.00	5825.00580	5825	0.00580	0.9957
		V max (V)	13.80	5825.01330	5825	0.01330	2.2833
		V min (V)	10.20	5825.01210	5825	0.01210	2.0773
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)	12	T (°C)	-20	5825.00280	5825	0.00280	0.4807
		T (°C)	-10	5825.00720	5825	0.00720	1.2361
		T (°C)	0	5825.00300	5825	0.00300	0.5150
		T (°C)	10	5825.01100	5825	0.01100	1.8884
		T (°C)	20	5825.00480	5825	0.00480	0.8240
		T (°C)	30	5825.01270	5825	0.01270	2.1803
		T (°C)	40	5825.00250	5825	0.00250	0.4292
		T (°C)	50	5825.01180	5825	0.01180	2.0258
		T (°C)	60	5825.00030	5825	0.00030	0.0515
		T (°C)	70	5825.00590	5825	0.00590	1.0129
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 = $T_{on} / (T_{on} + T_{off})$

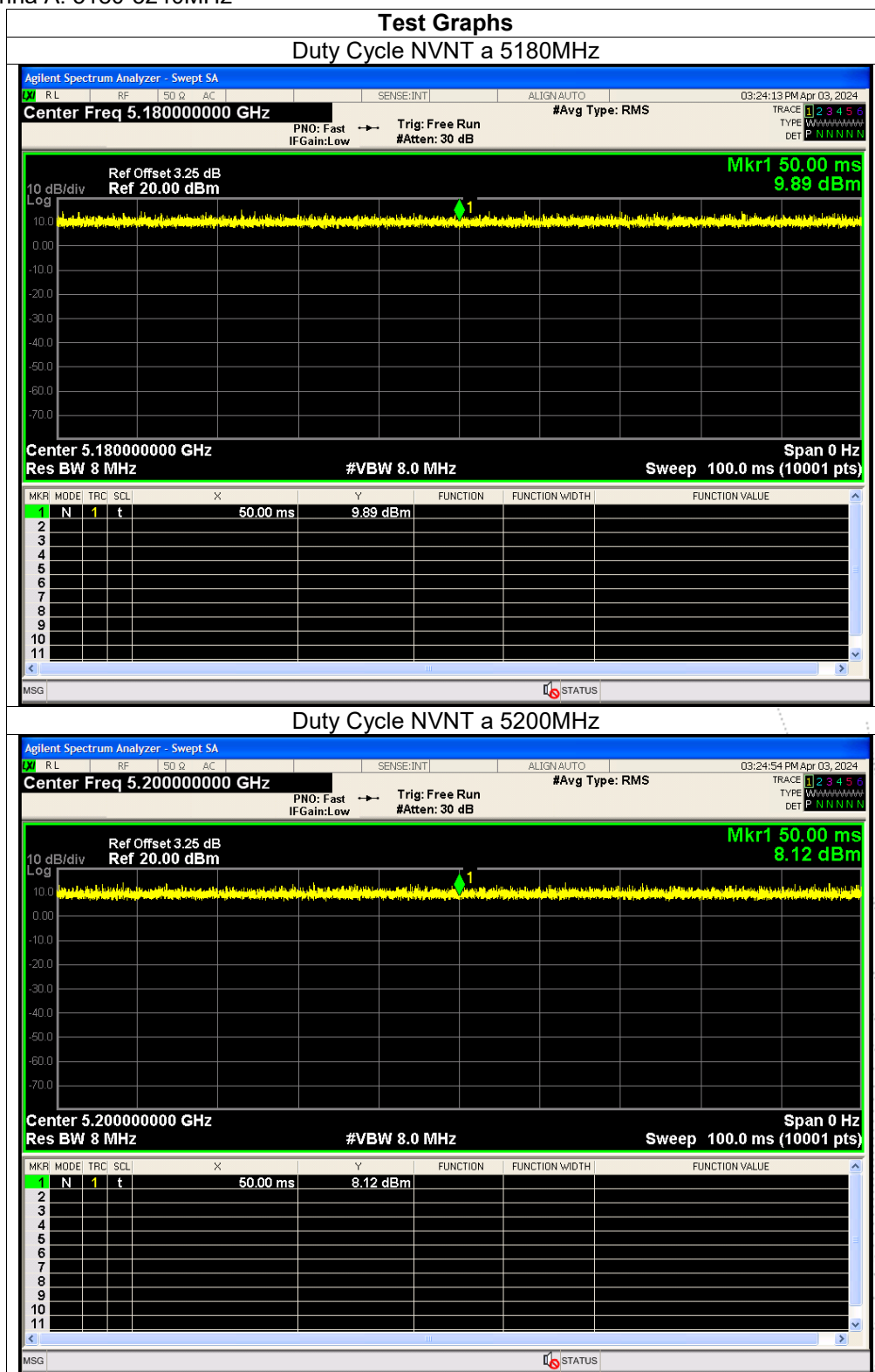
14.3 Test Procedure

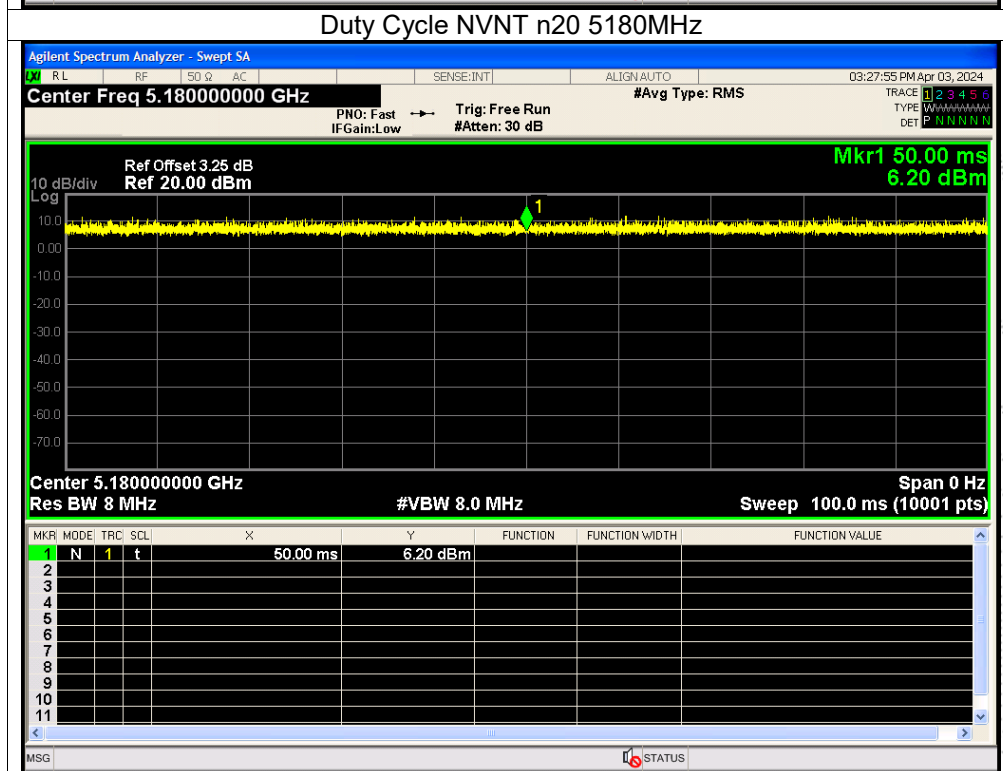
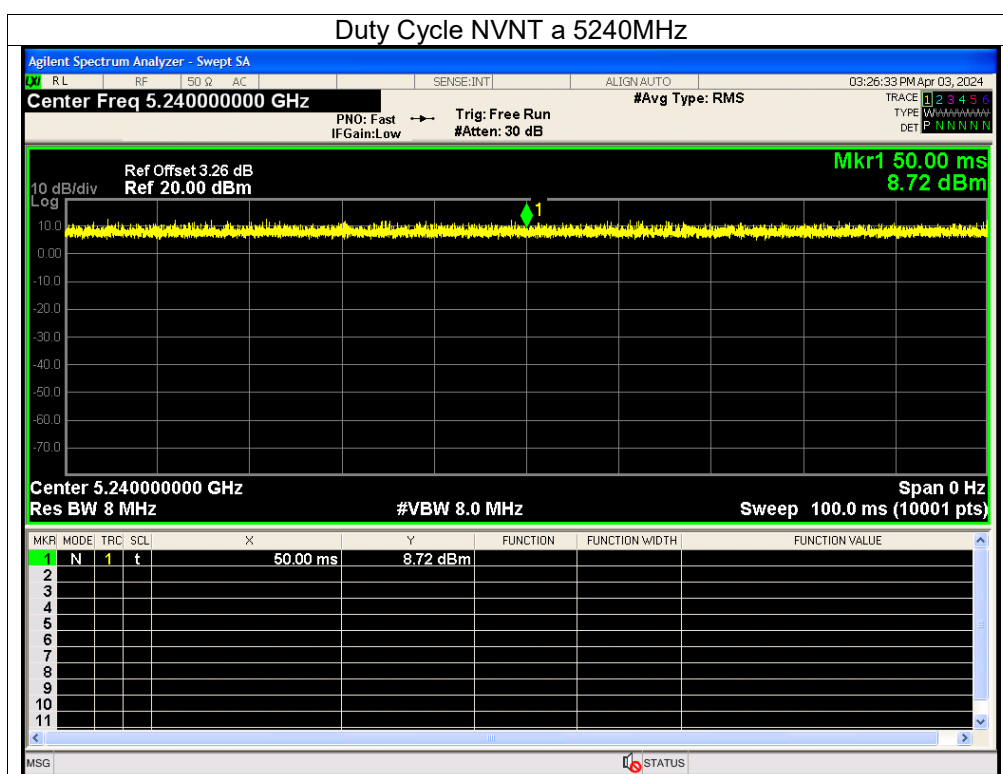
1. Set span = Zero
2. RBW = 8MHz
3. VBW = 8MHz,
4. Detector = Peak

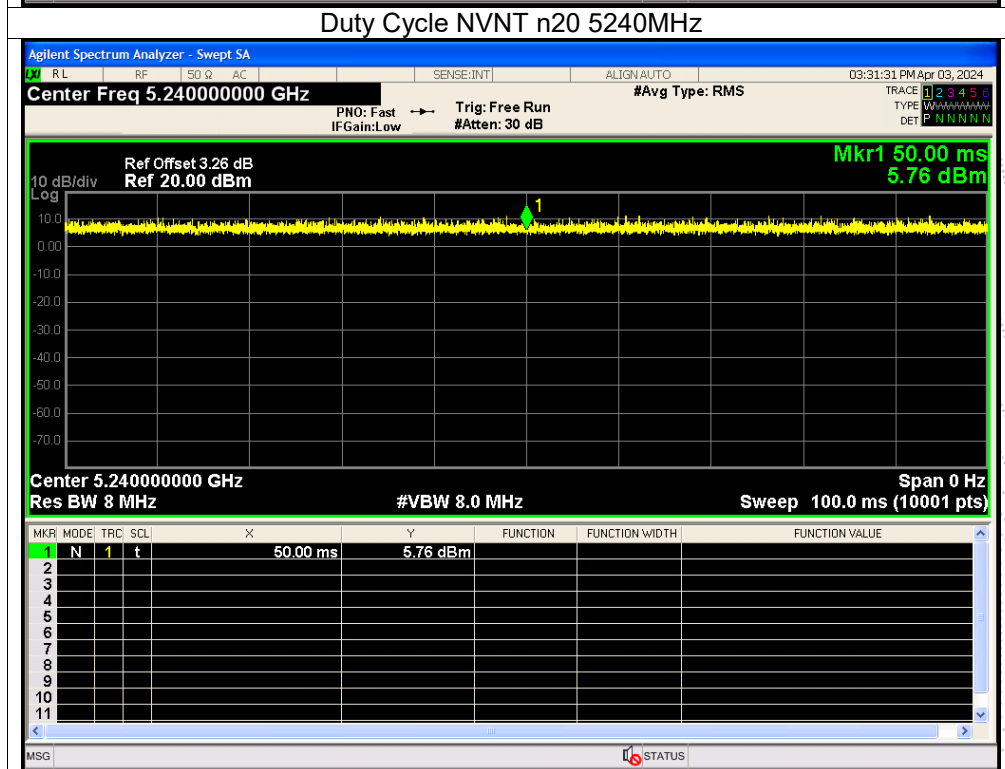
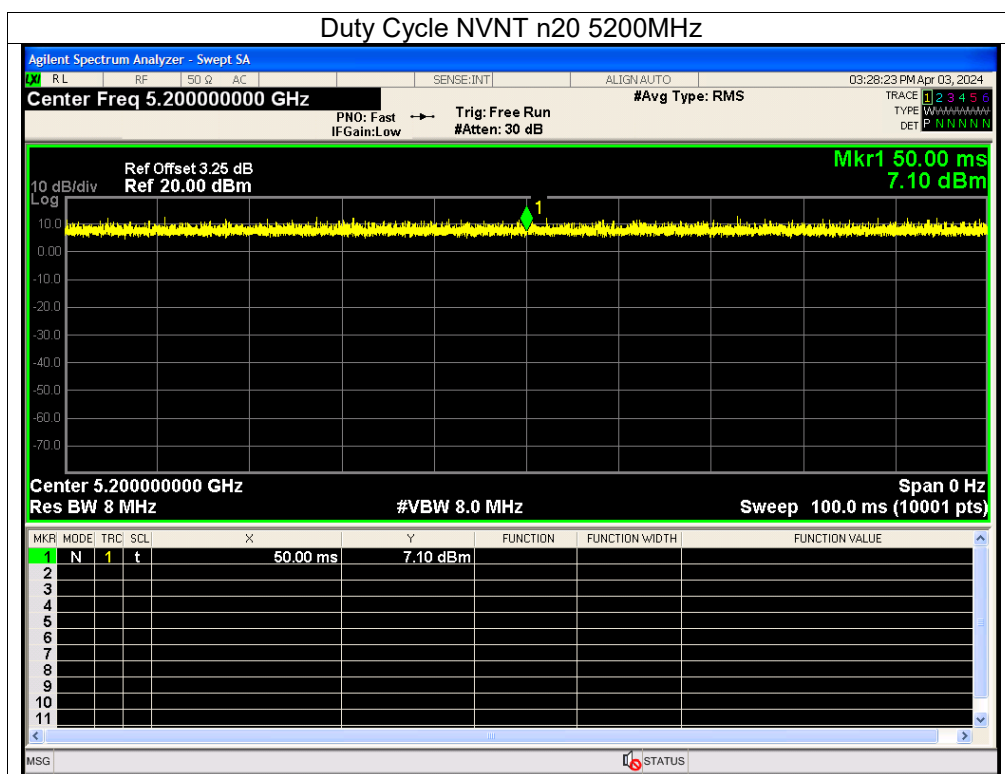
14.4 Test Result

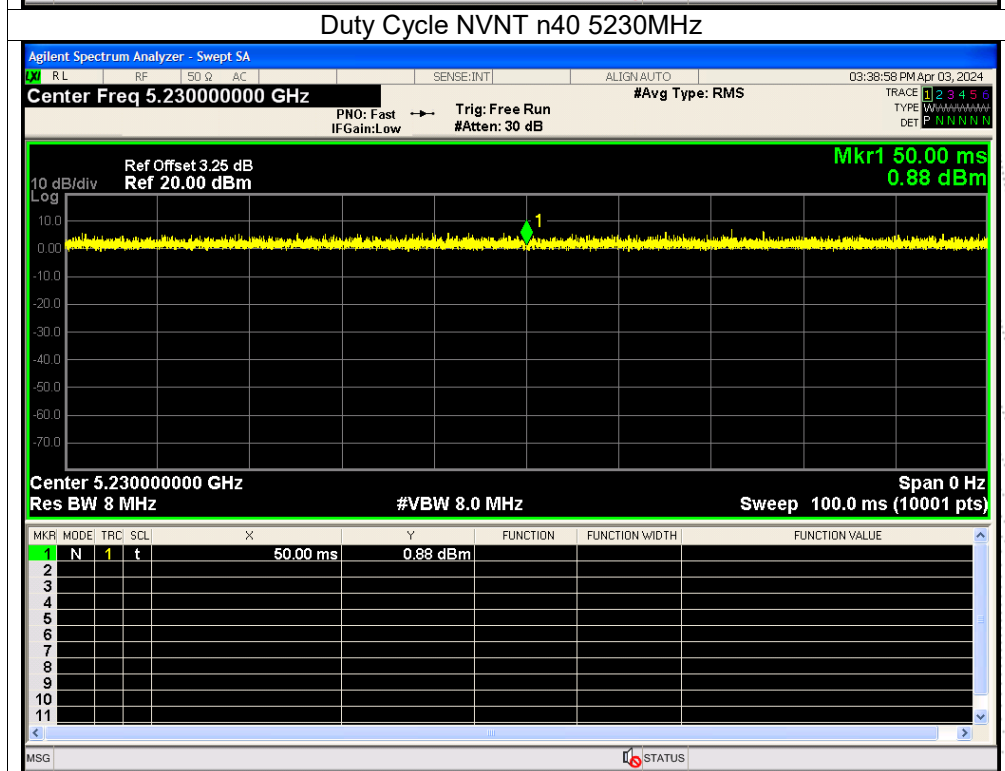
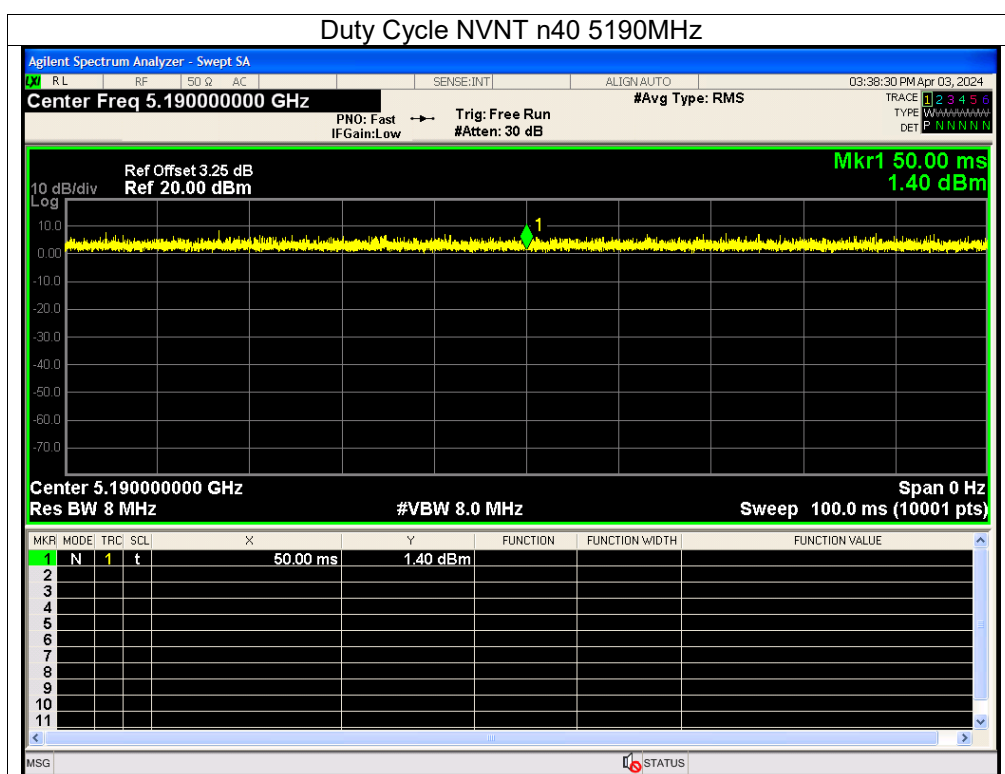
Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5180	100	0	0
NVNT	a	5200	100	0	0
NVNT	a	5240	100	0	0
NVNT	n20	5180	100	0	0
NVNT	n20	5200	100	0	0
NVNT	n20	5240	100	0	0
NVNT	n40	5190	100	0	0
NVNT	n40	5230	100	0	0
NVNT	ac20	5180	100	0	0
NVNT	ac20	5200	100	0	0
NVNT	ac20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

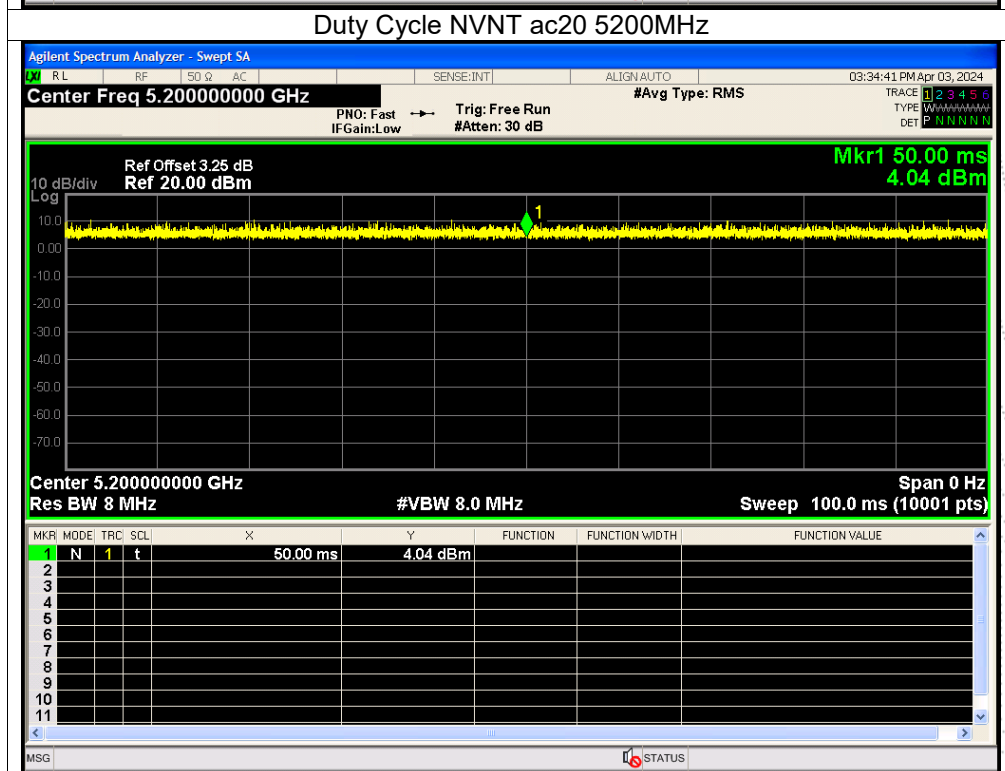
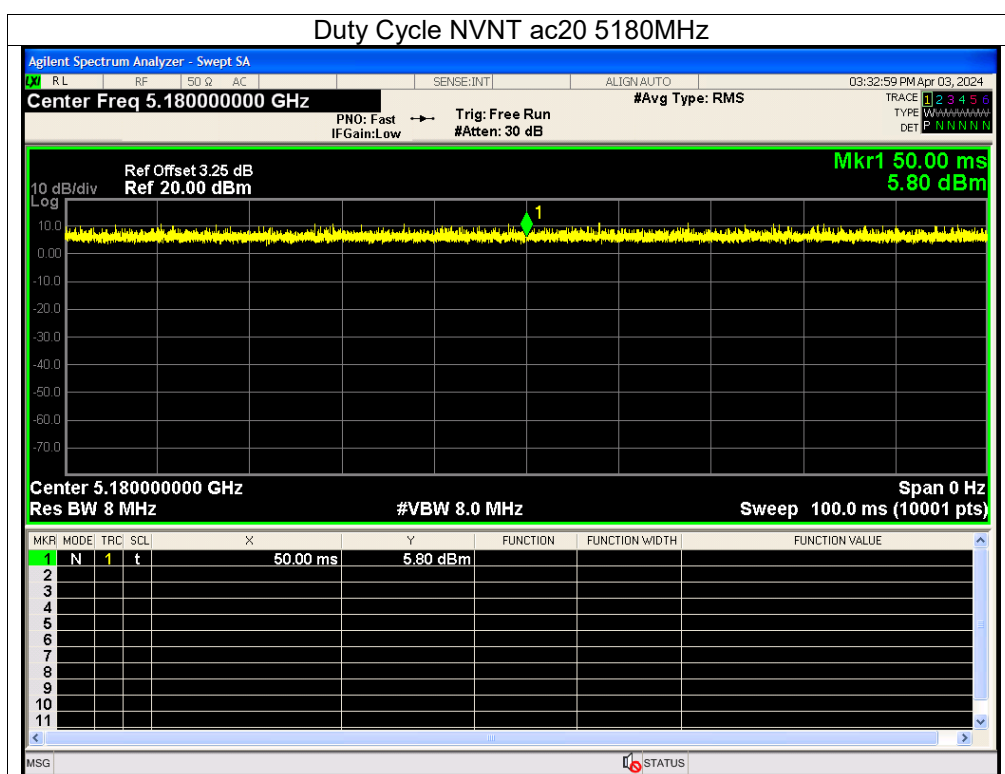
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A ,only shown Antenna A .
Plot. Antenna A: 5180-5240MHz

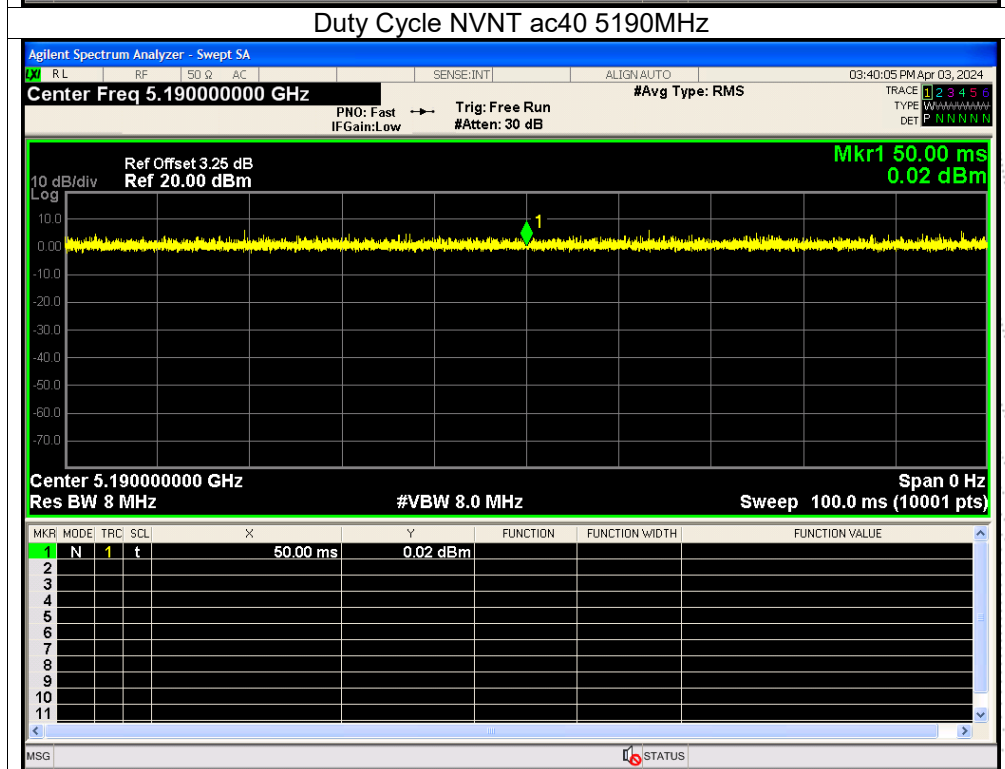
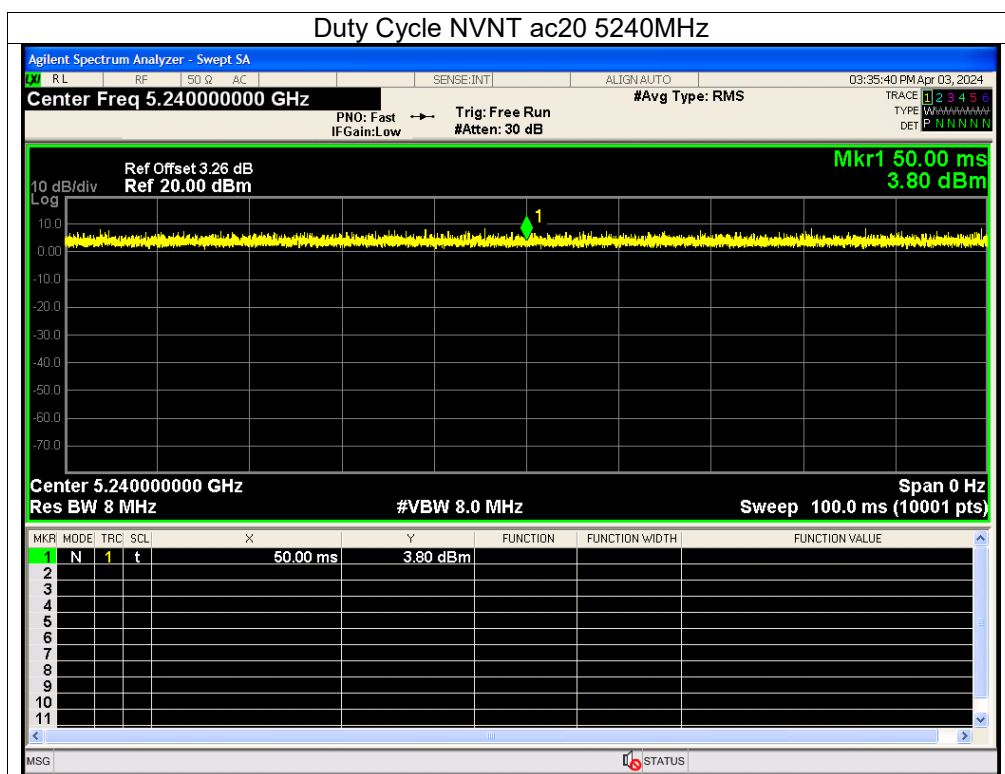


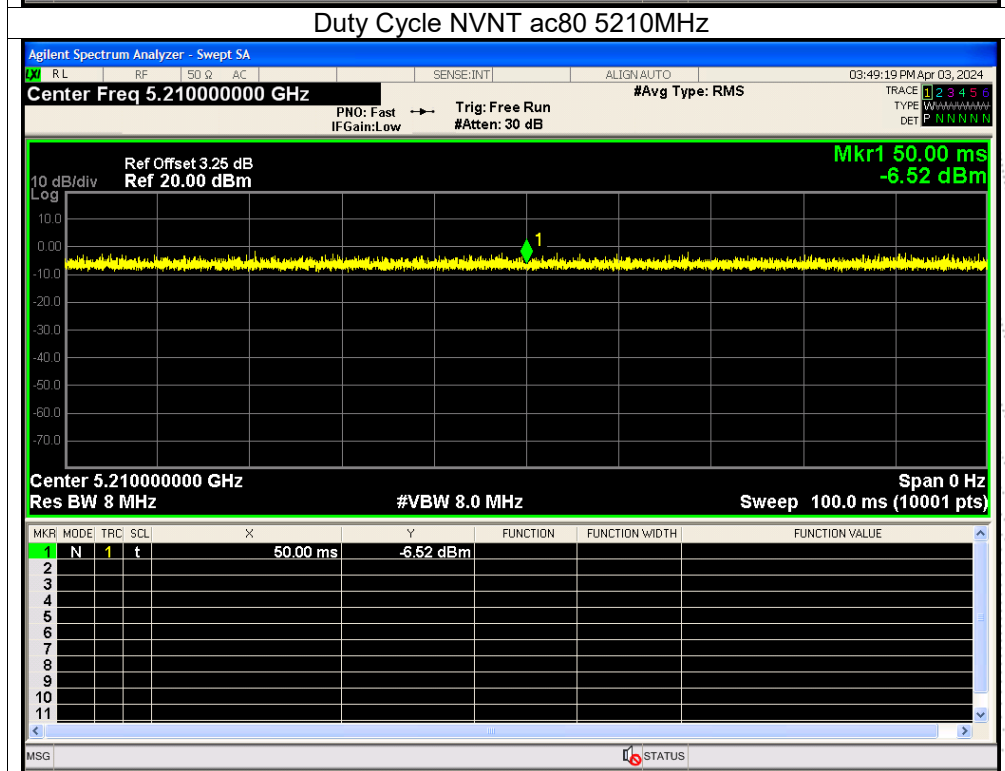
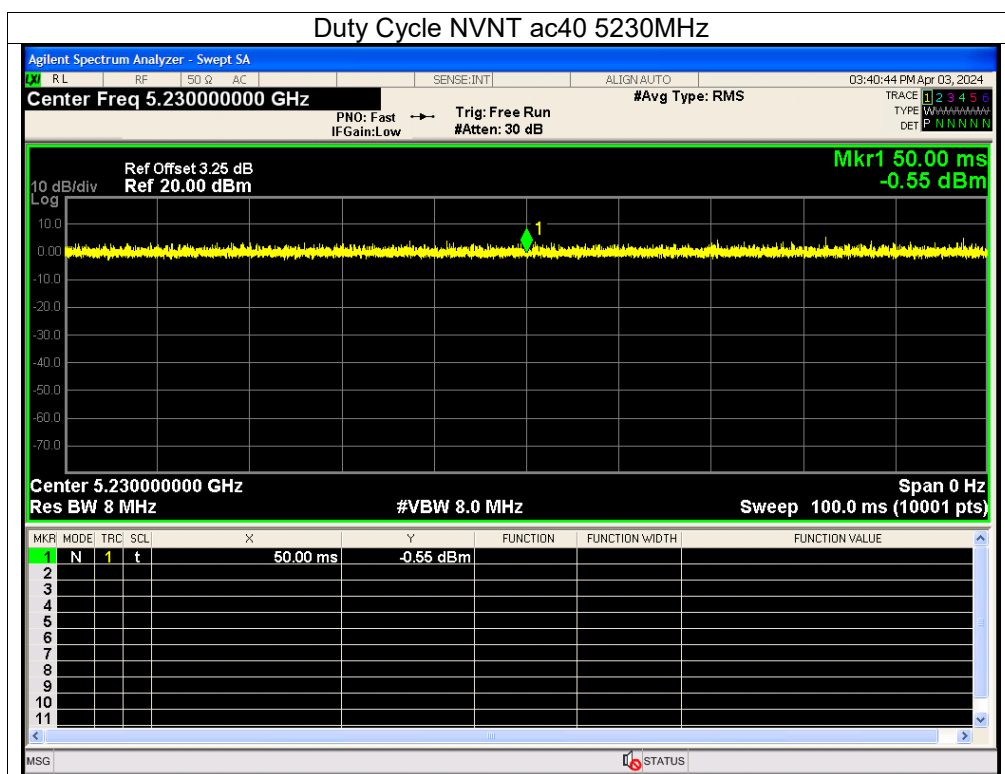


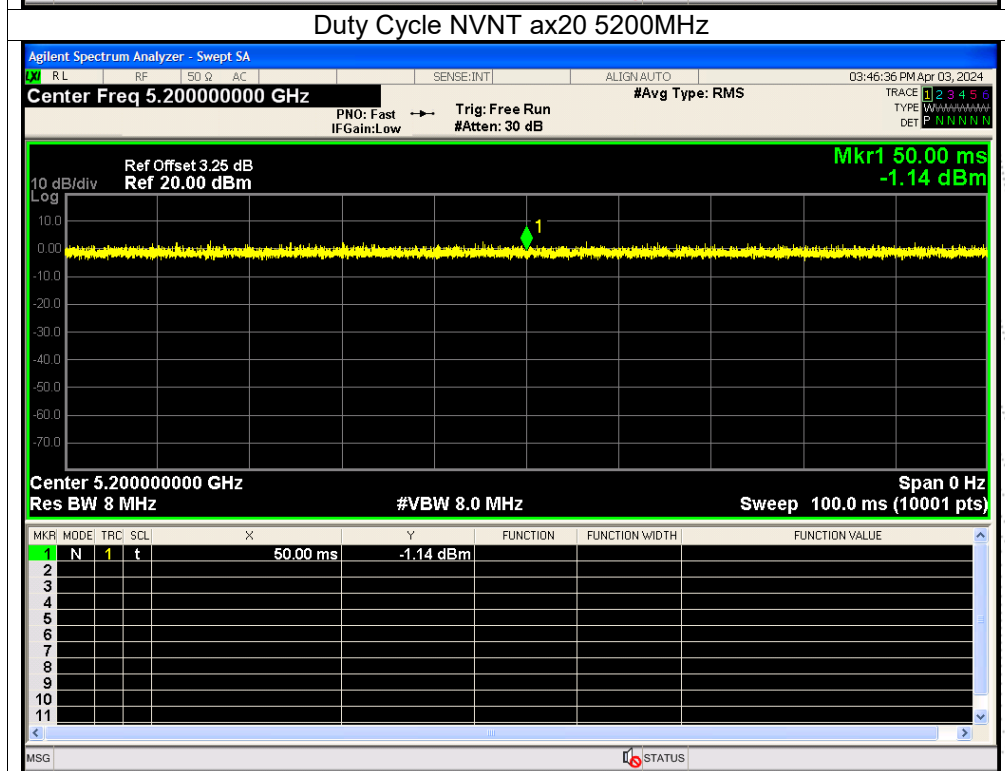
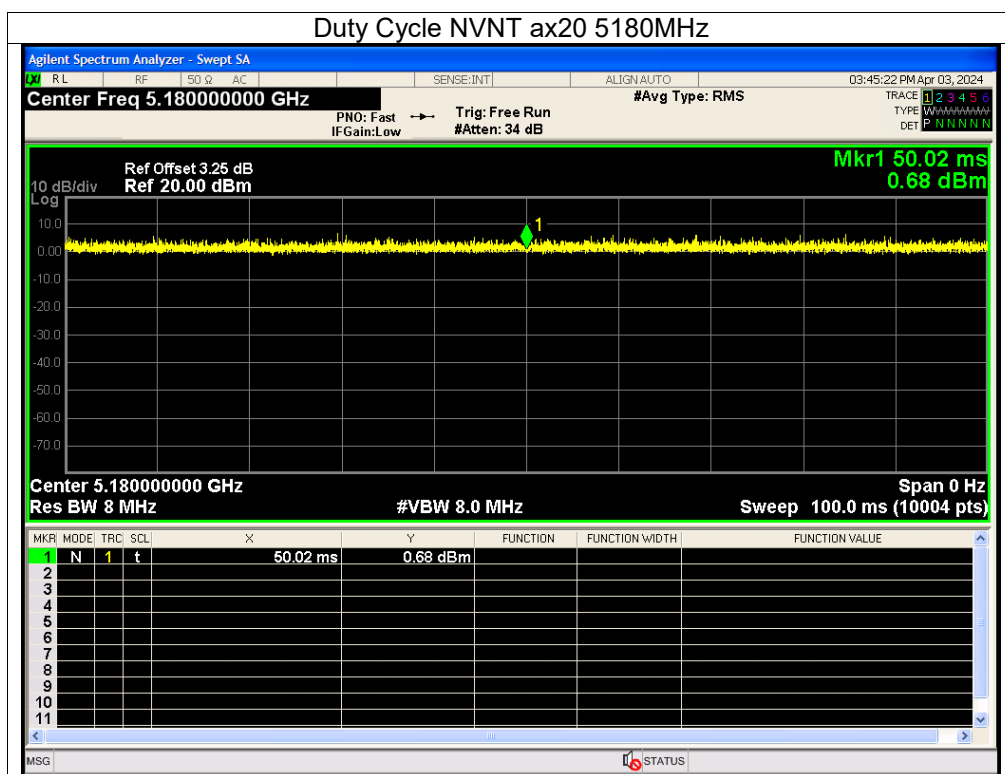


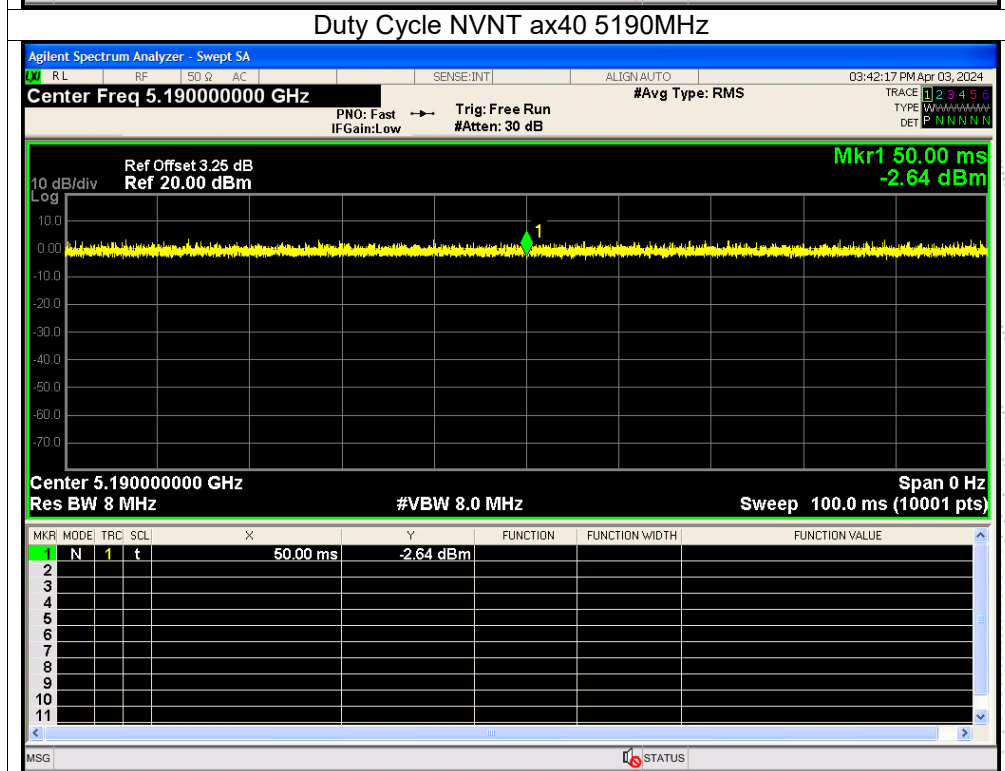
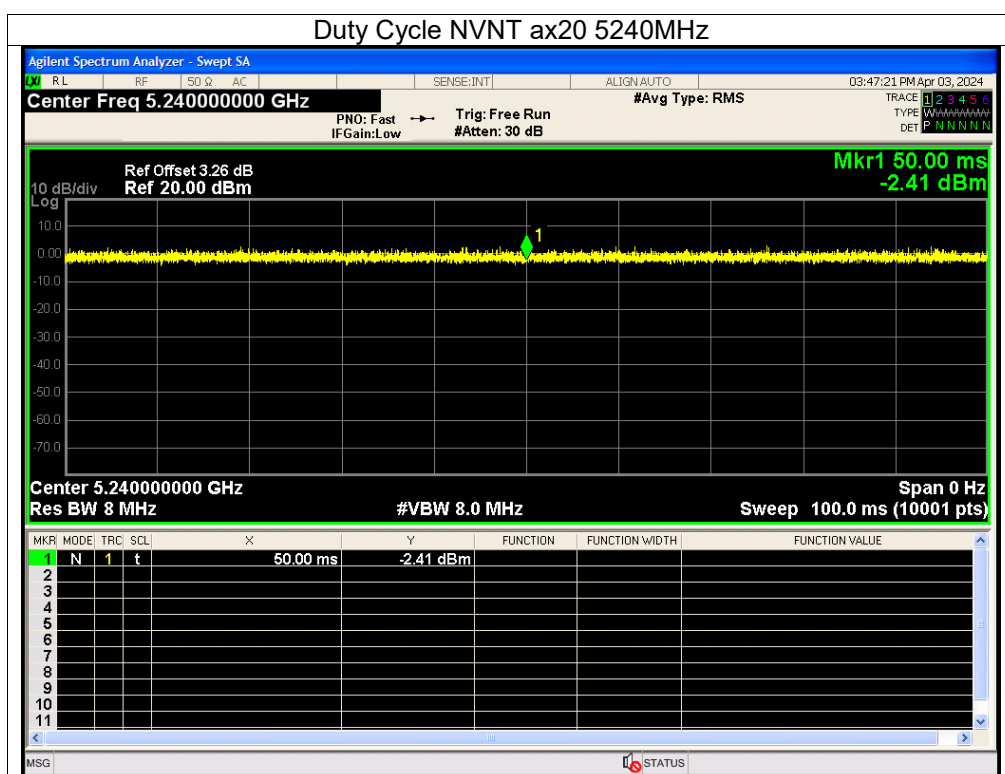


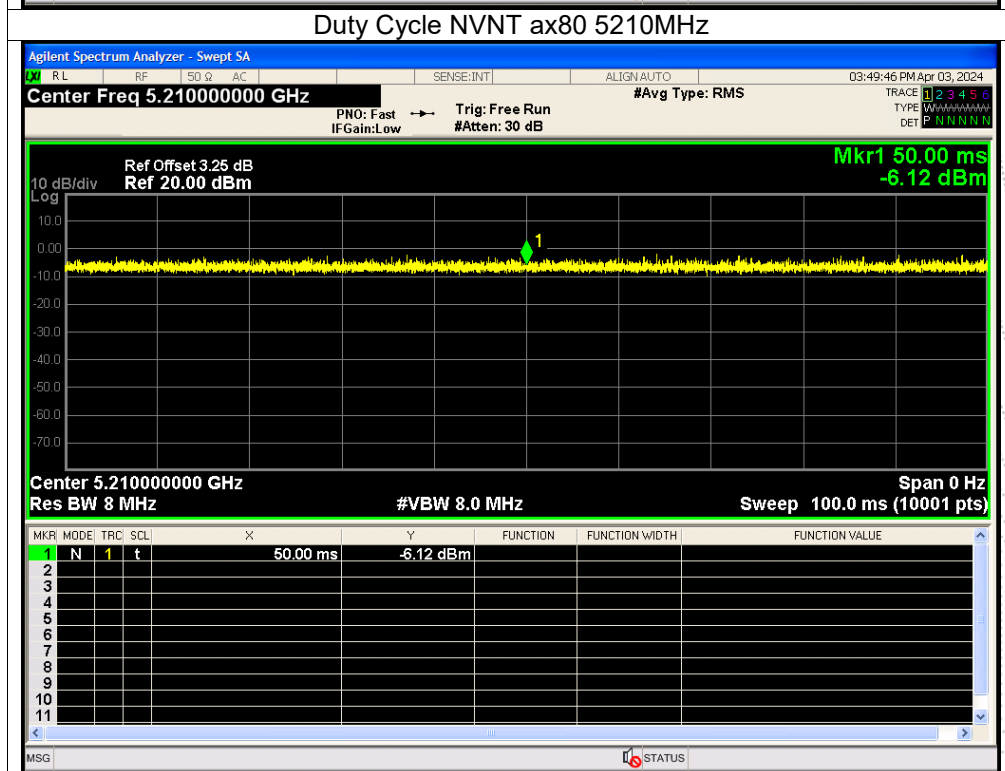
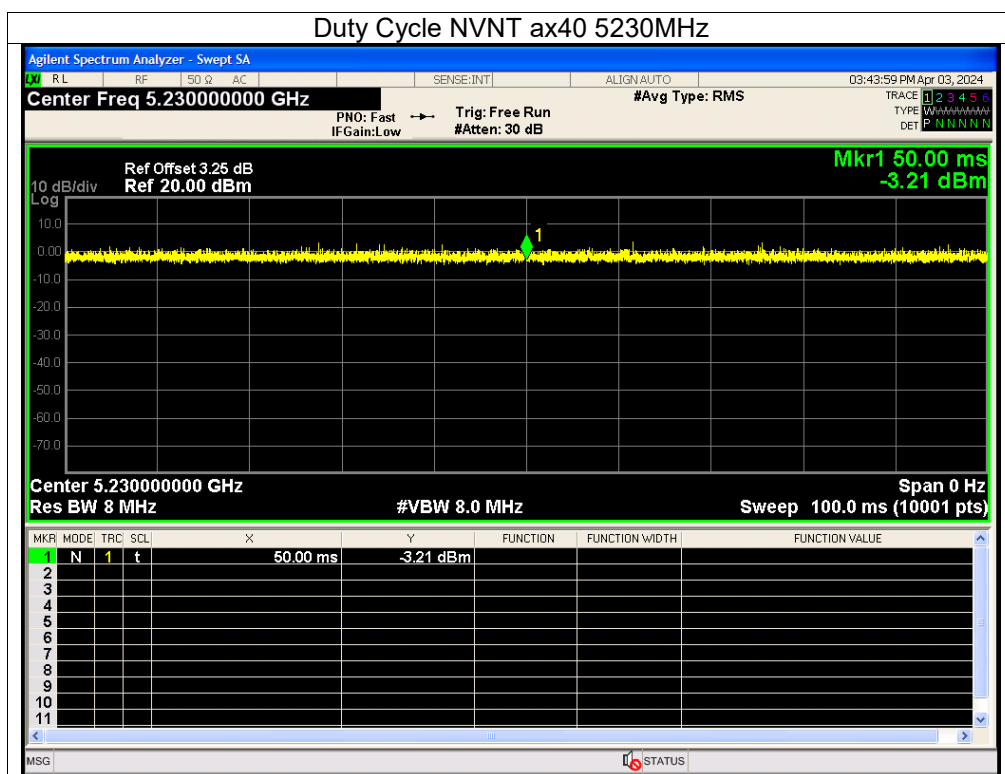




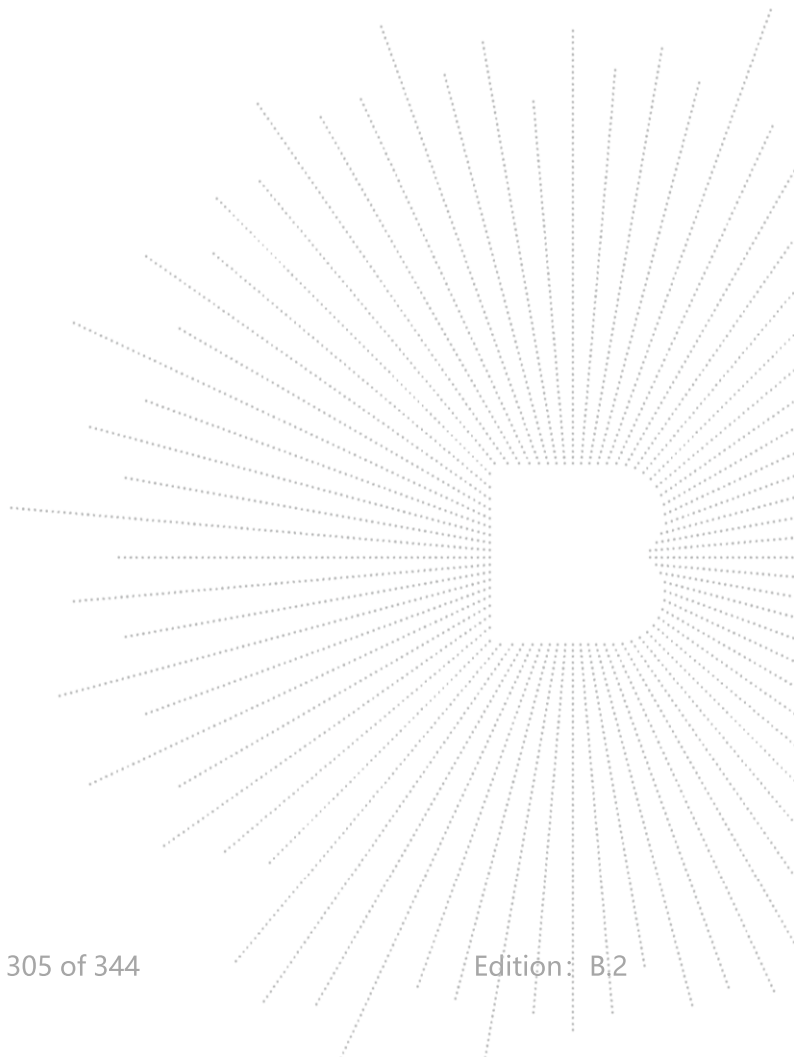




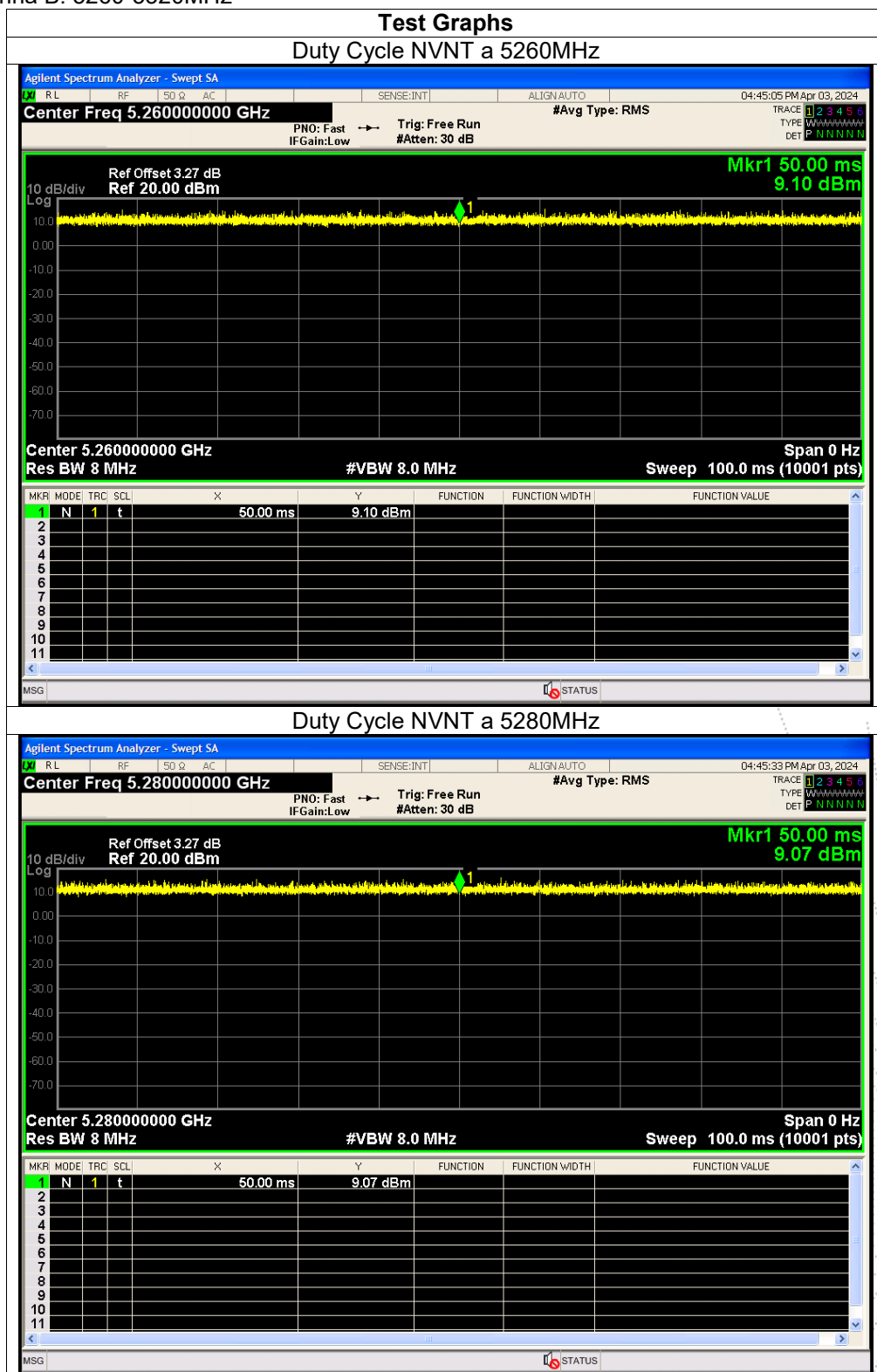


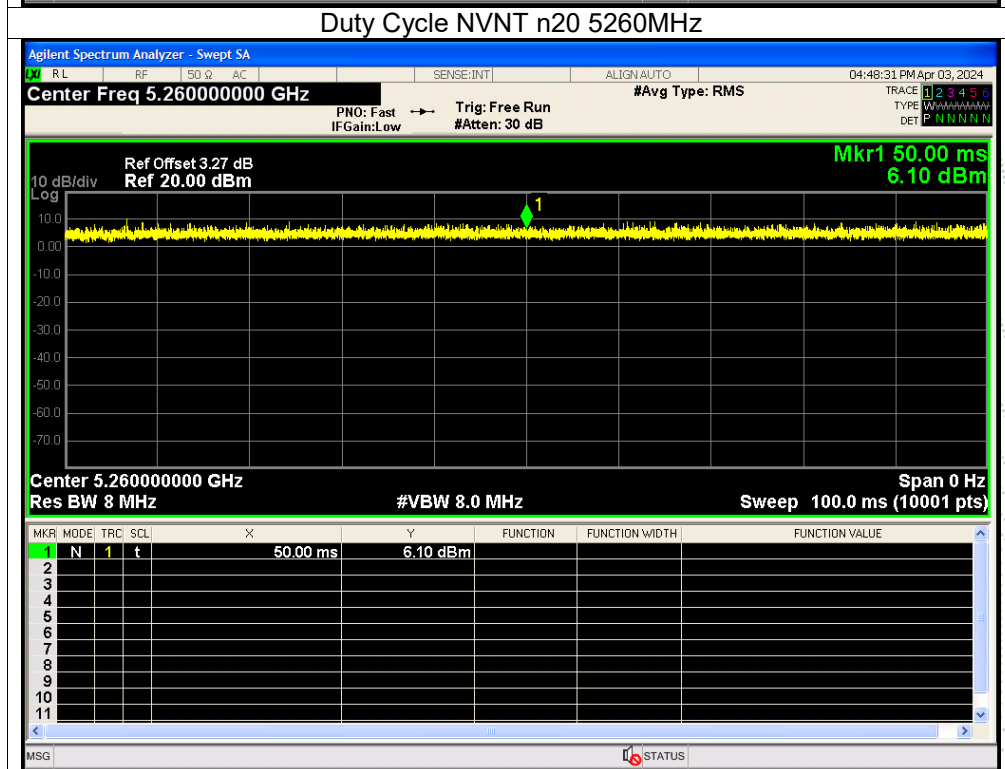
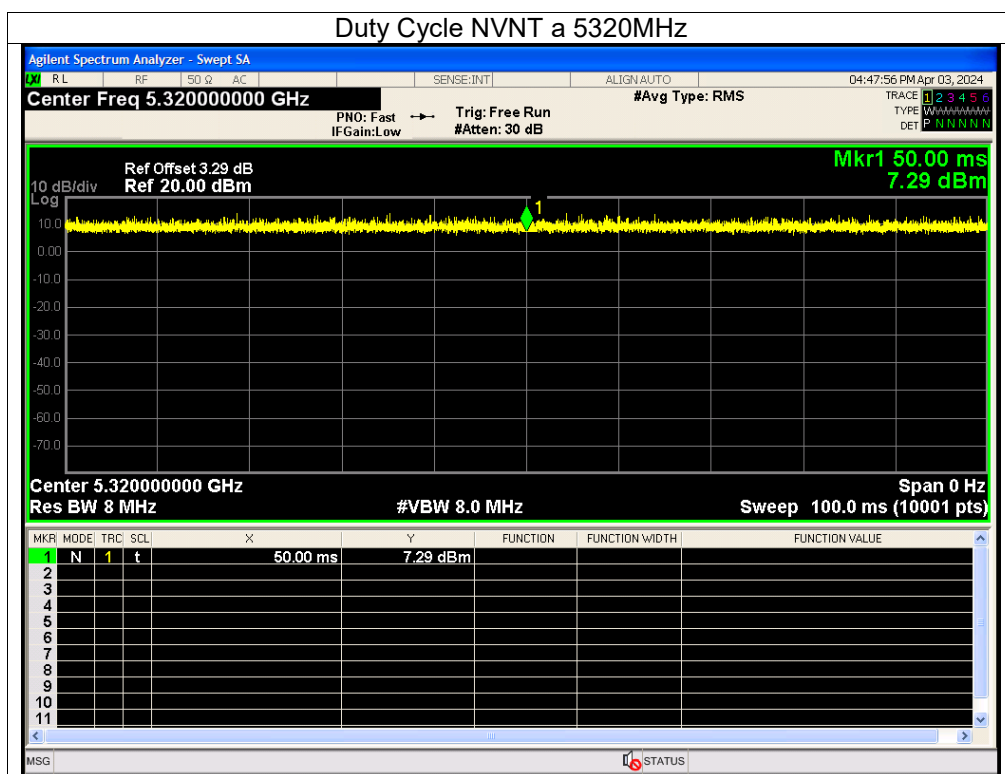


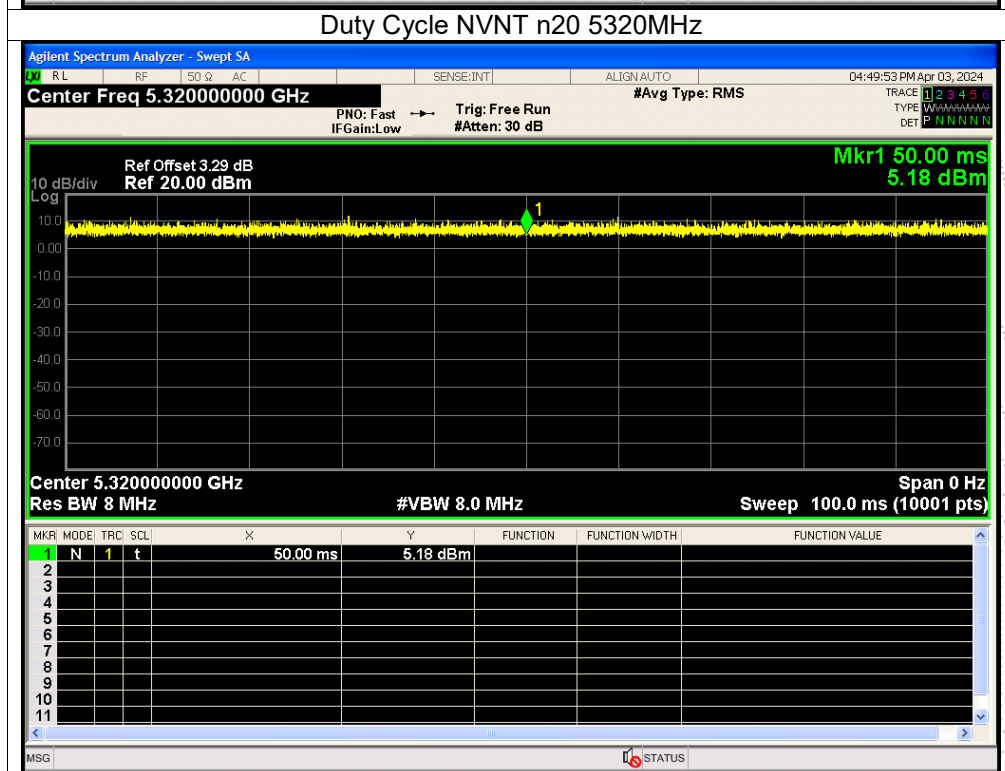
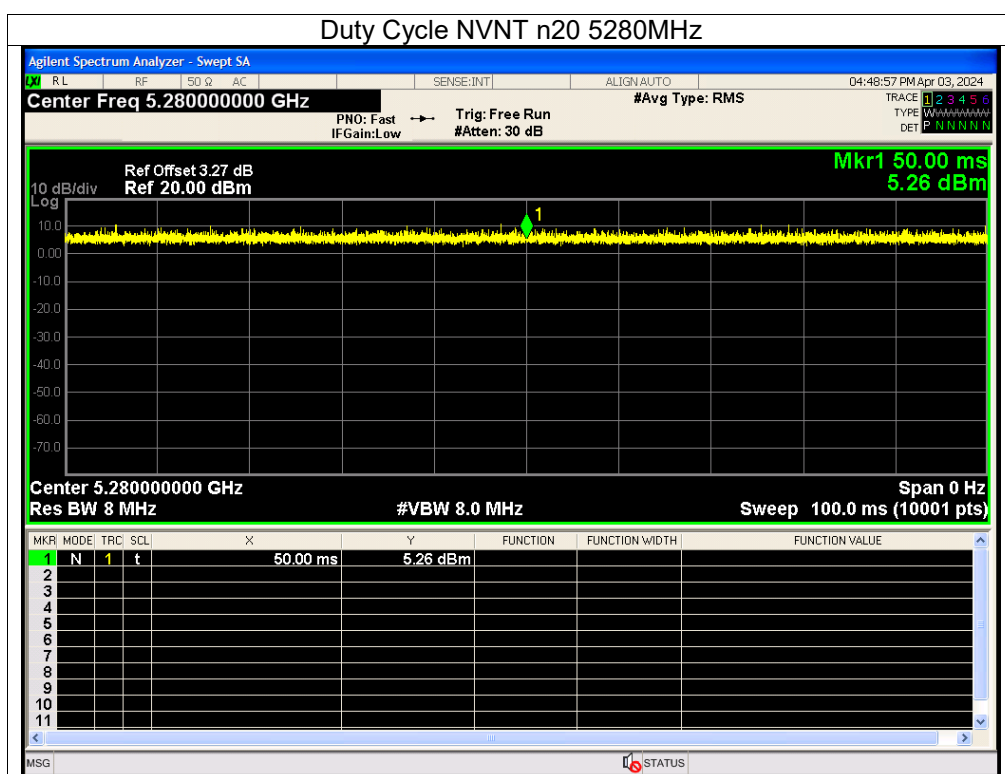
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5260	AntB	100	0	0
NVNT	a	5280	AntB	100	0	0
NVNT	a	5320	AntB	100	0	0
NVNT	n20	5260	AntB	100	0	0
NVNT	n20	5280	AntB	100	0	0
NVNT	n20	5320	AntB	100	0	0
NVNT	n40	5270	AntB	100	0	0
NVNT	n40	5310	AntB	100	0	0
NVNT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

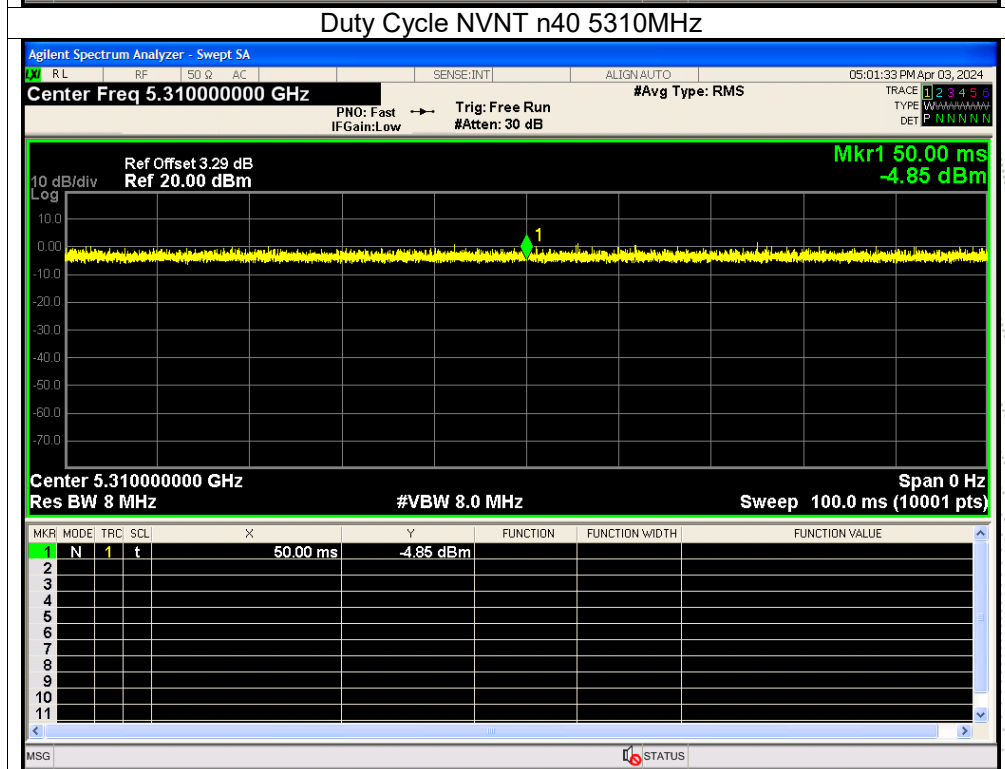
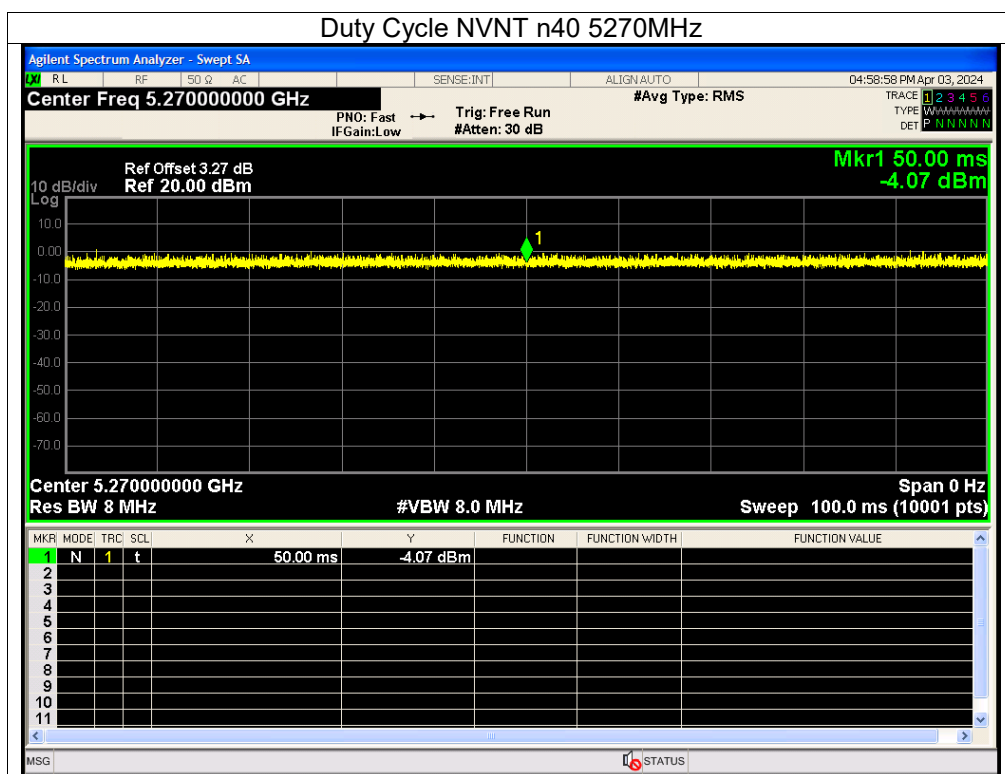


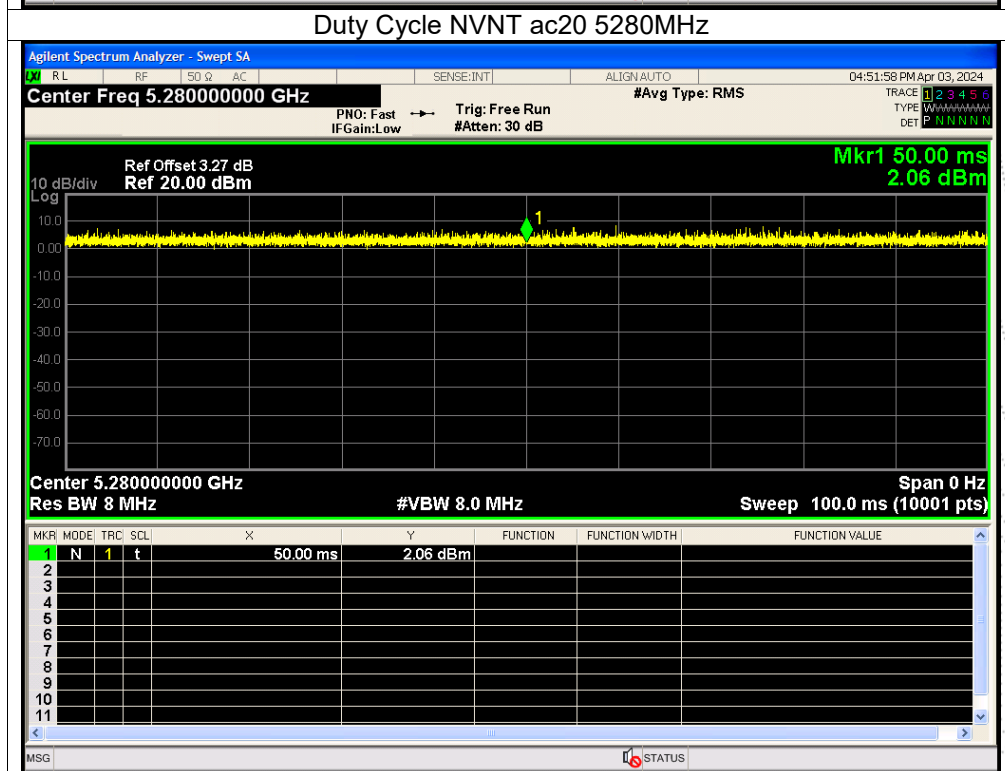
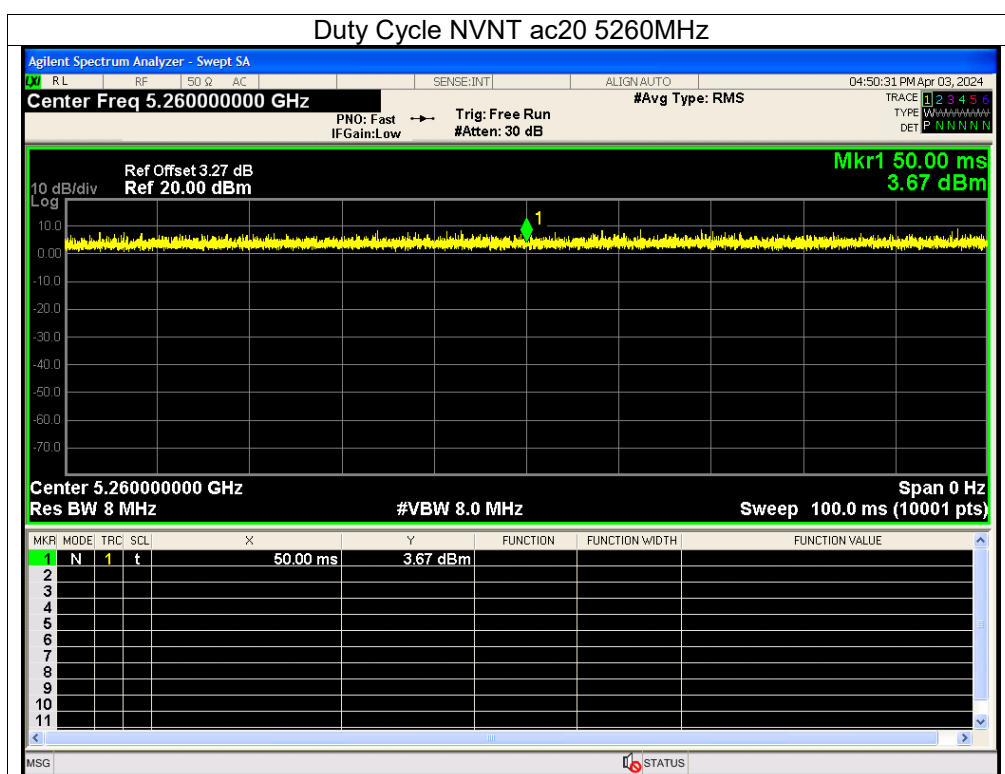
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna B ,only shown Antenna B .
Plot. Antenna B: 5260-5320MHz

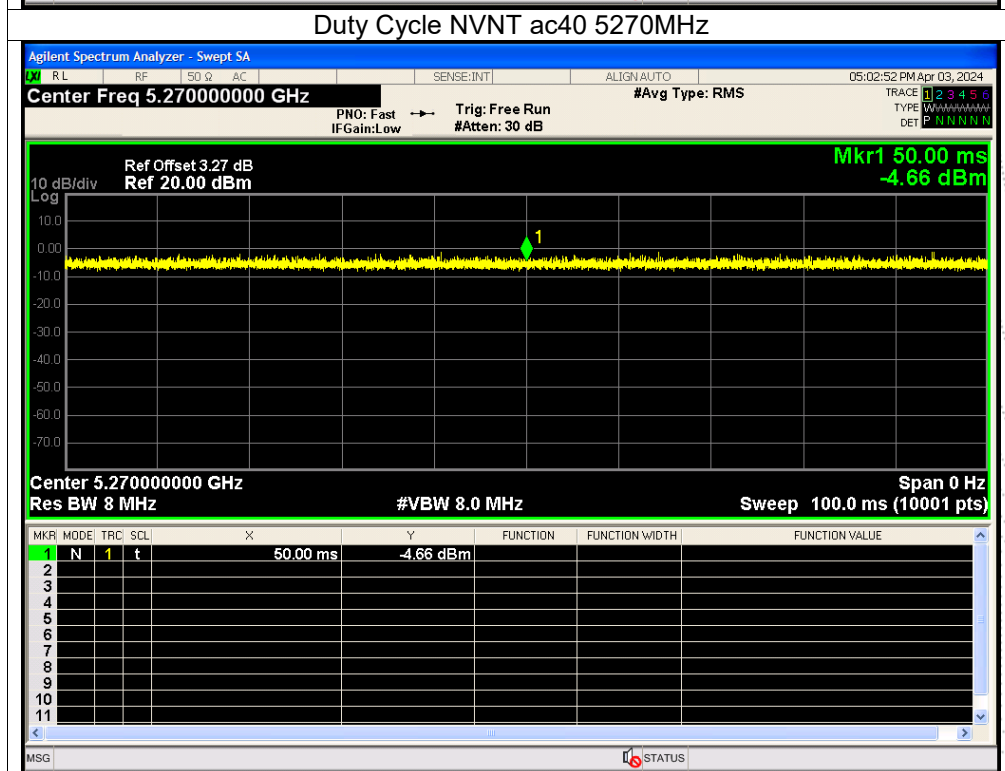
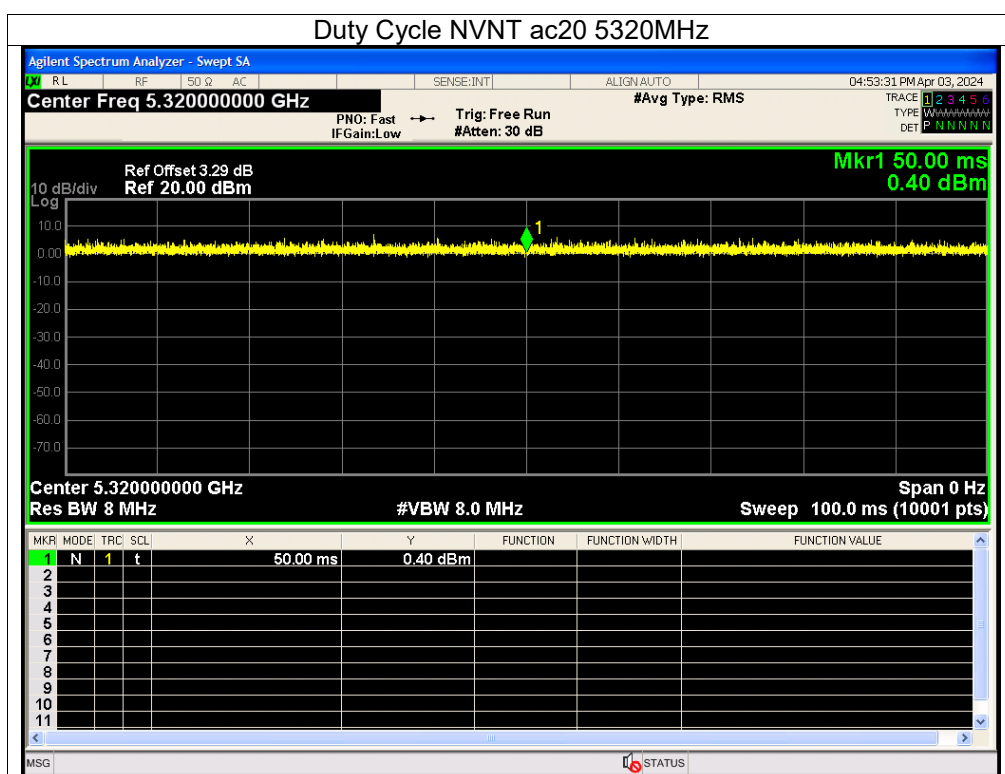


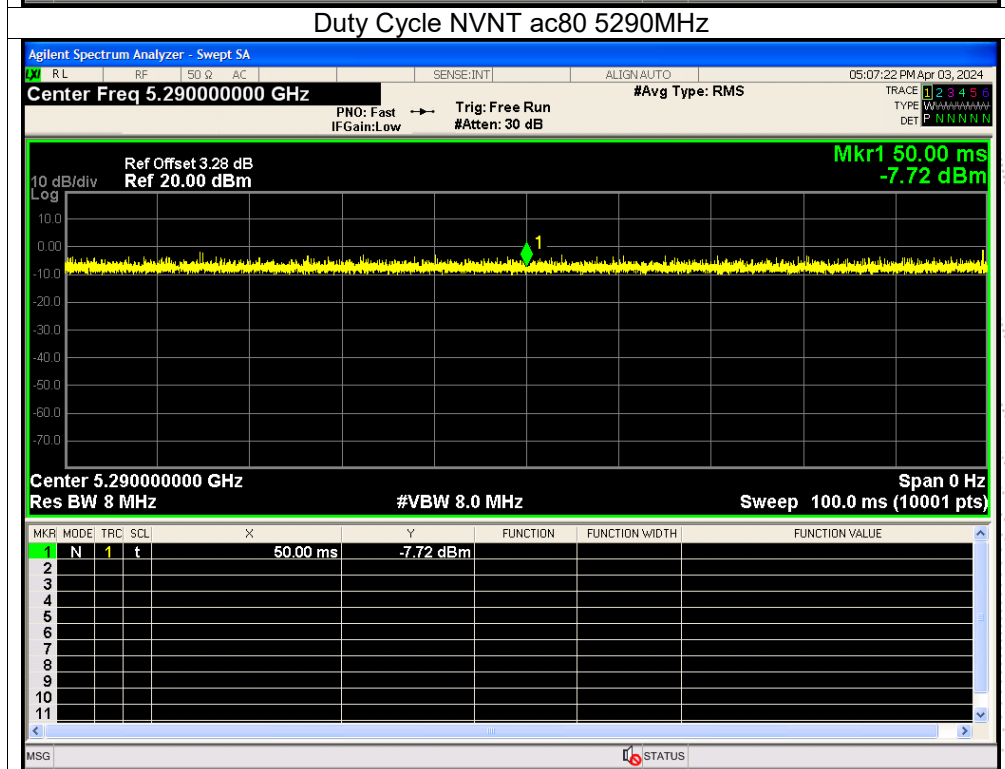
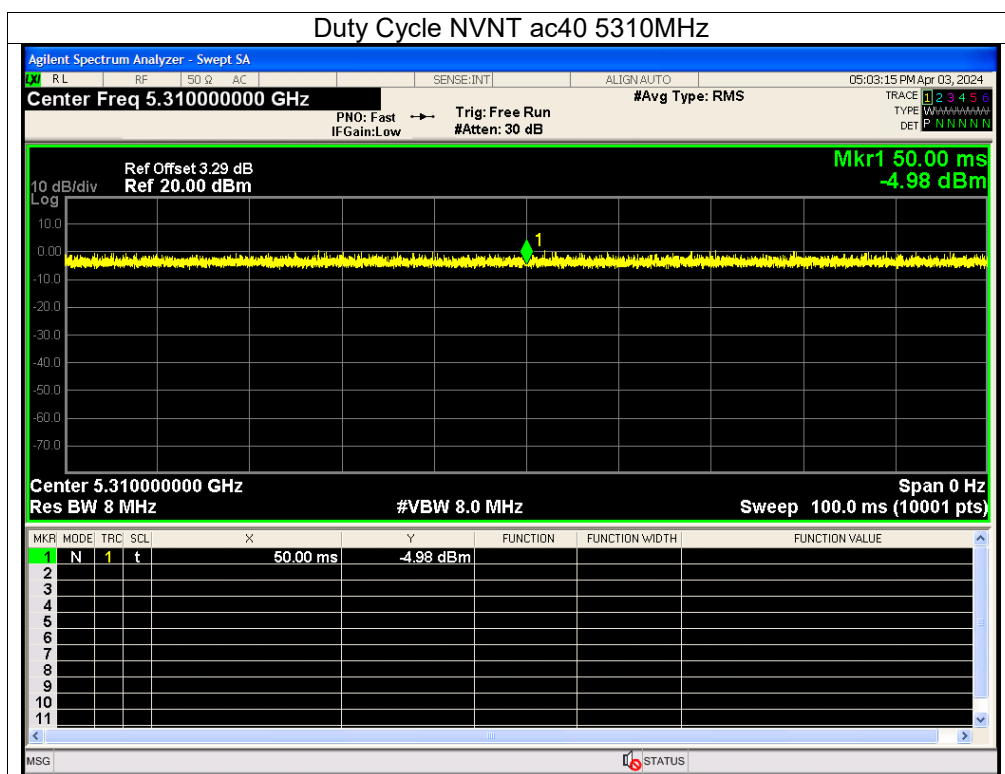


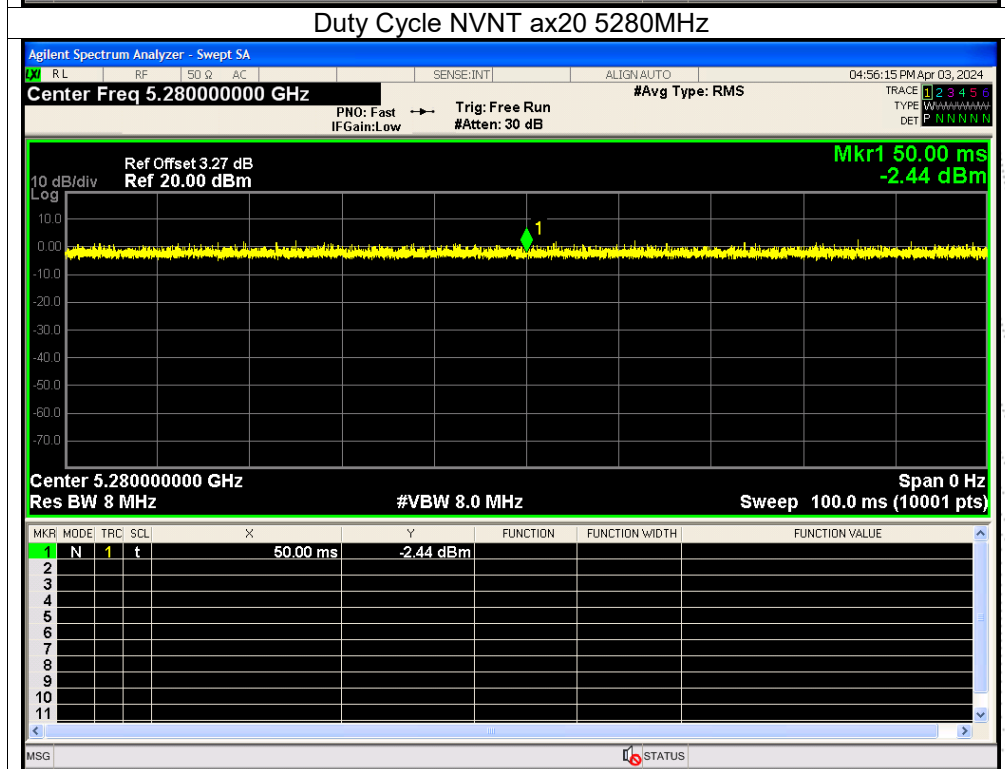
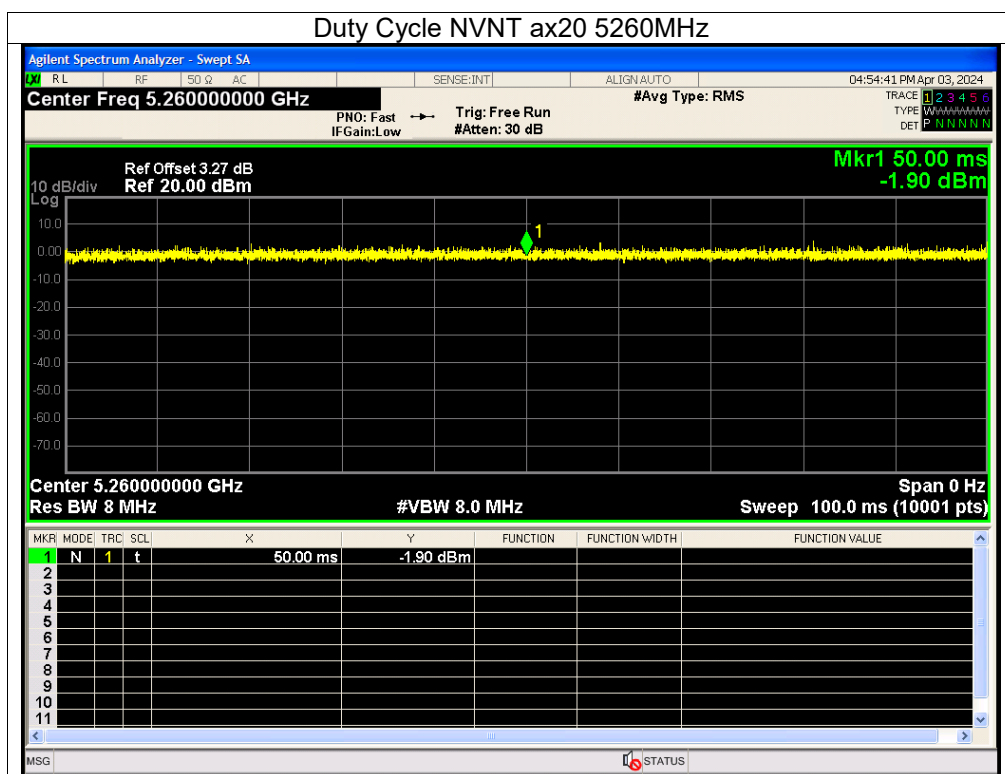


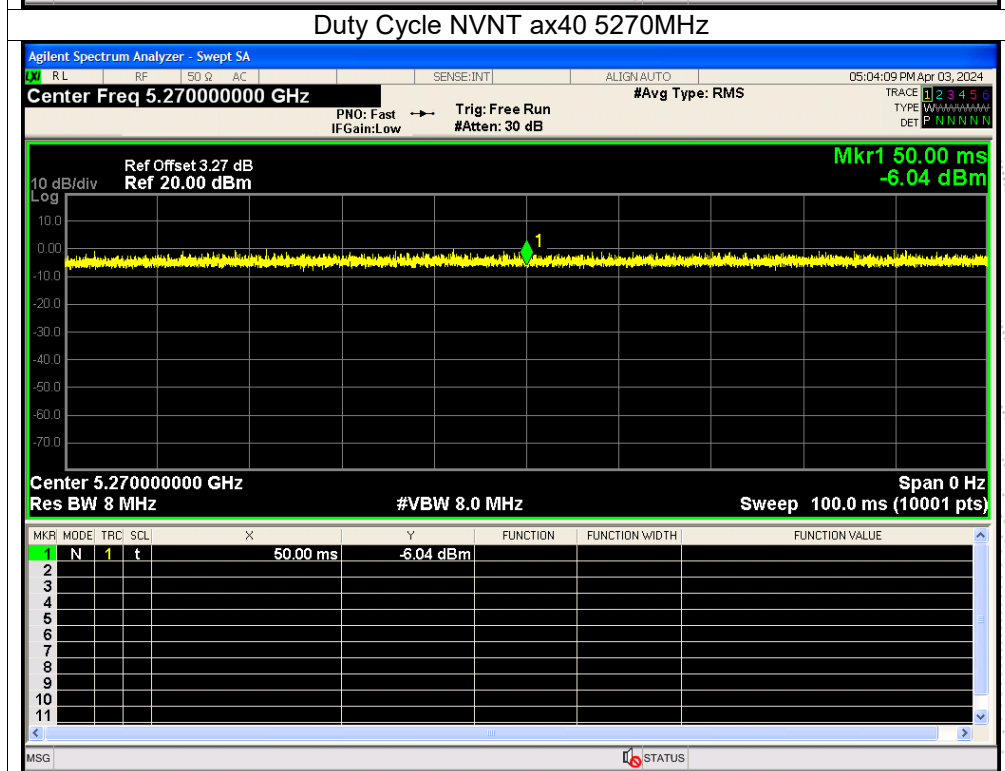
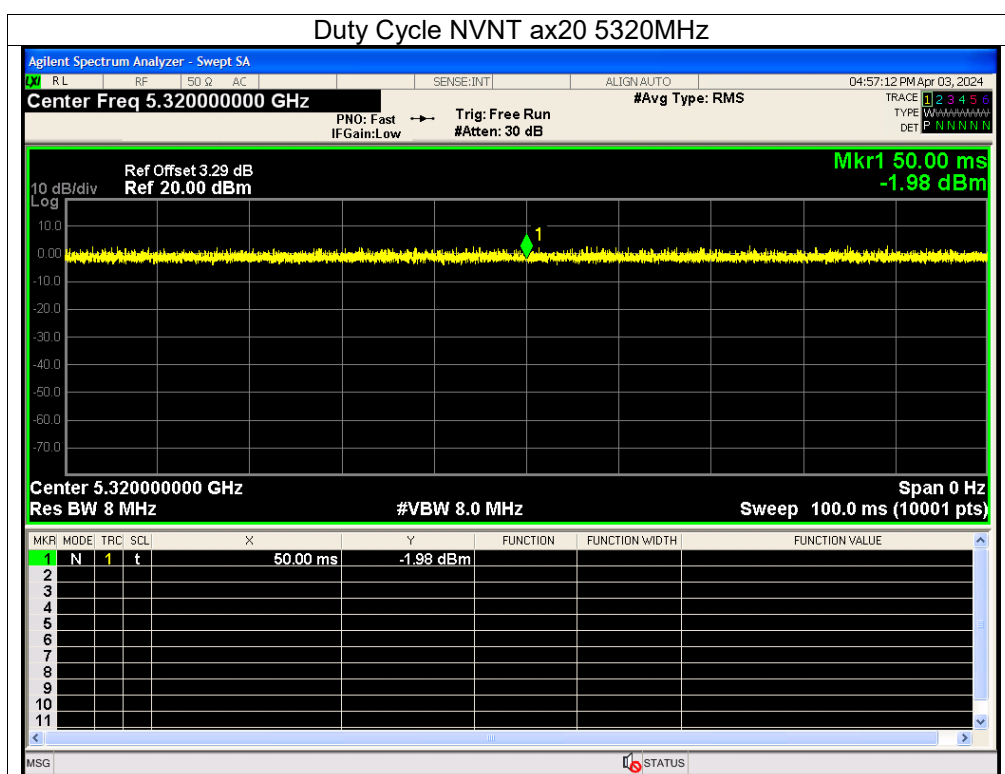


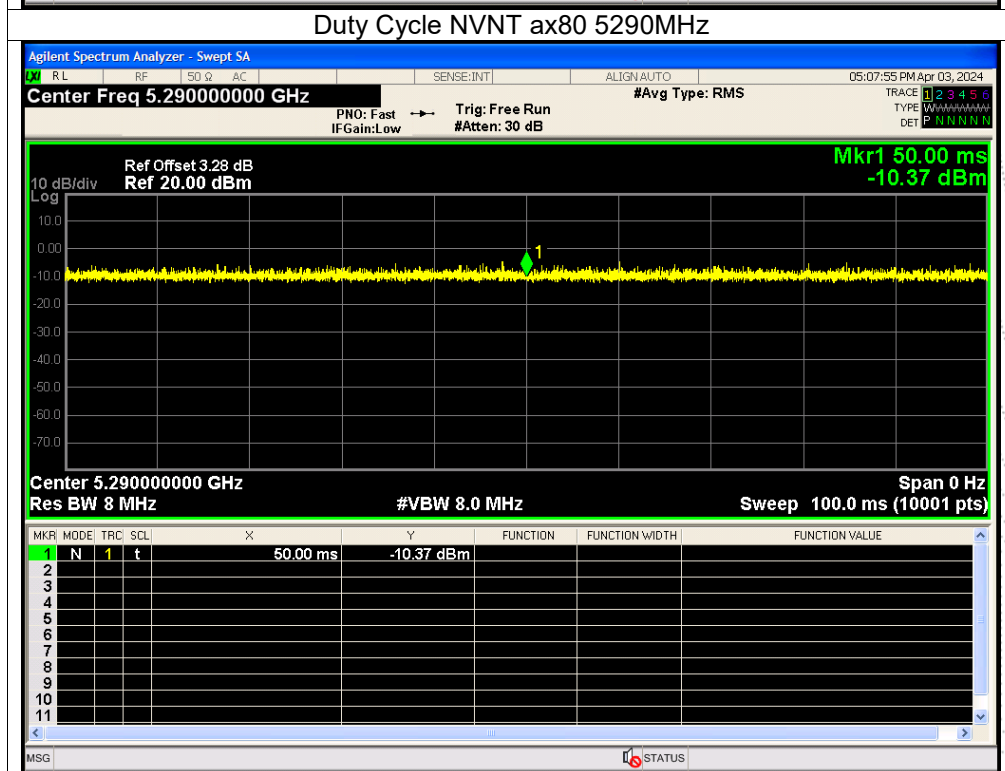
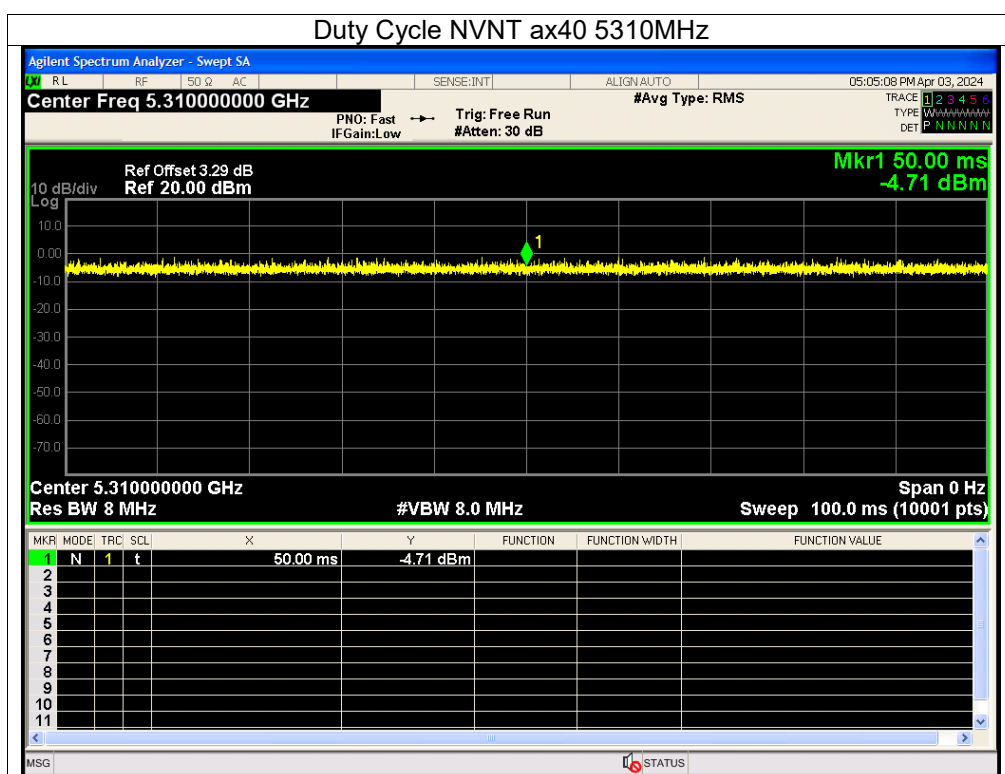






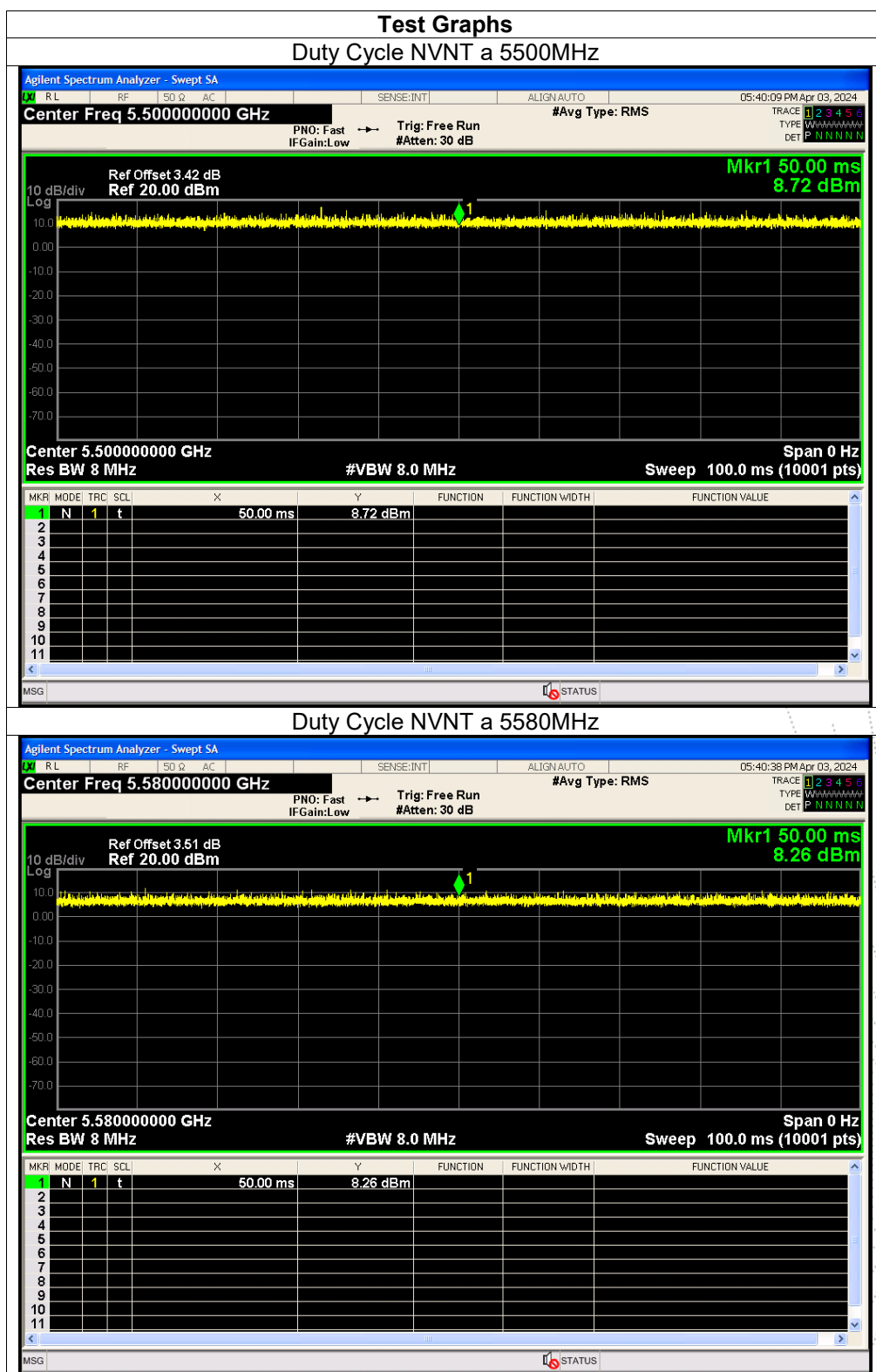


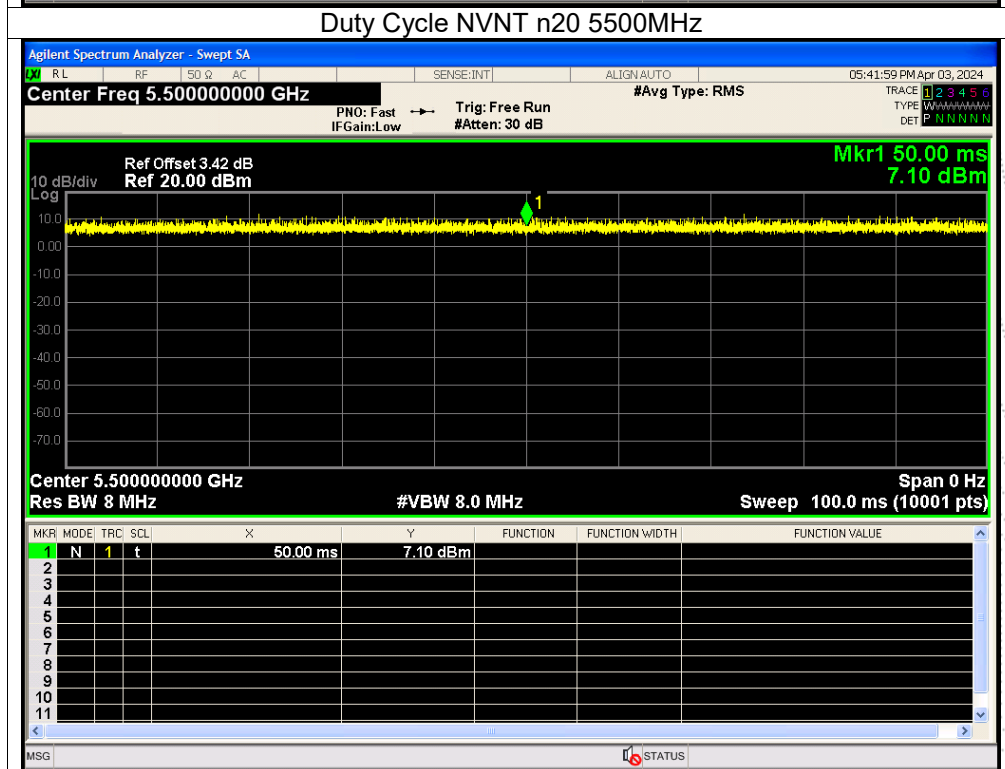
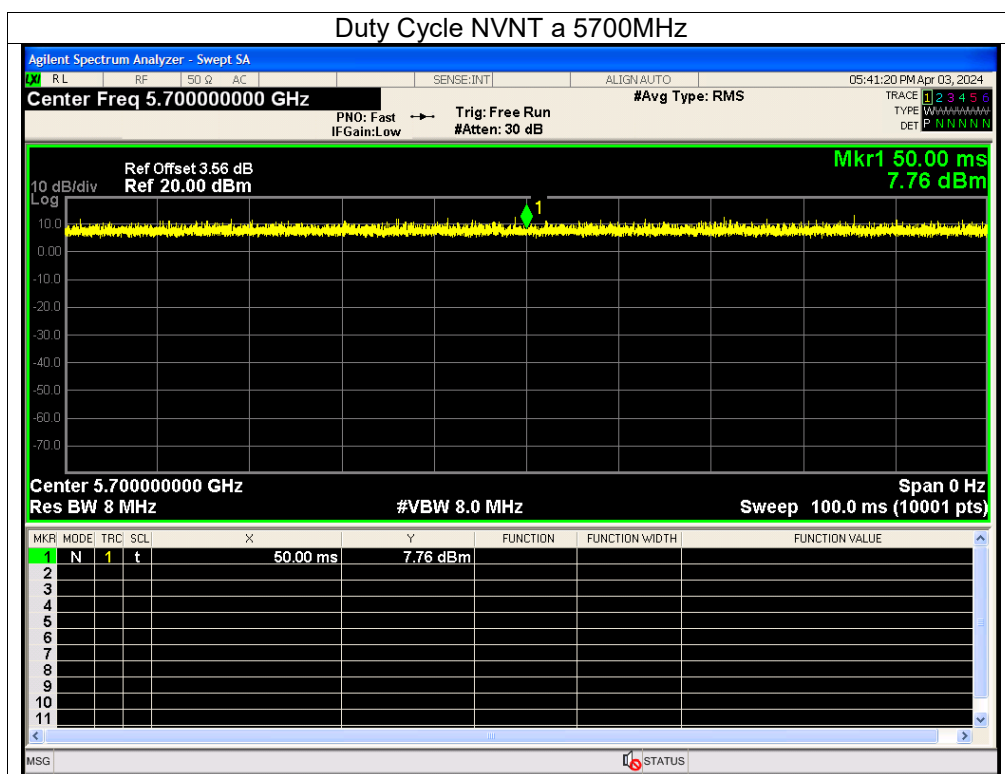


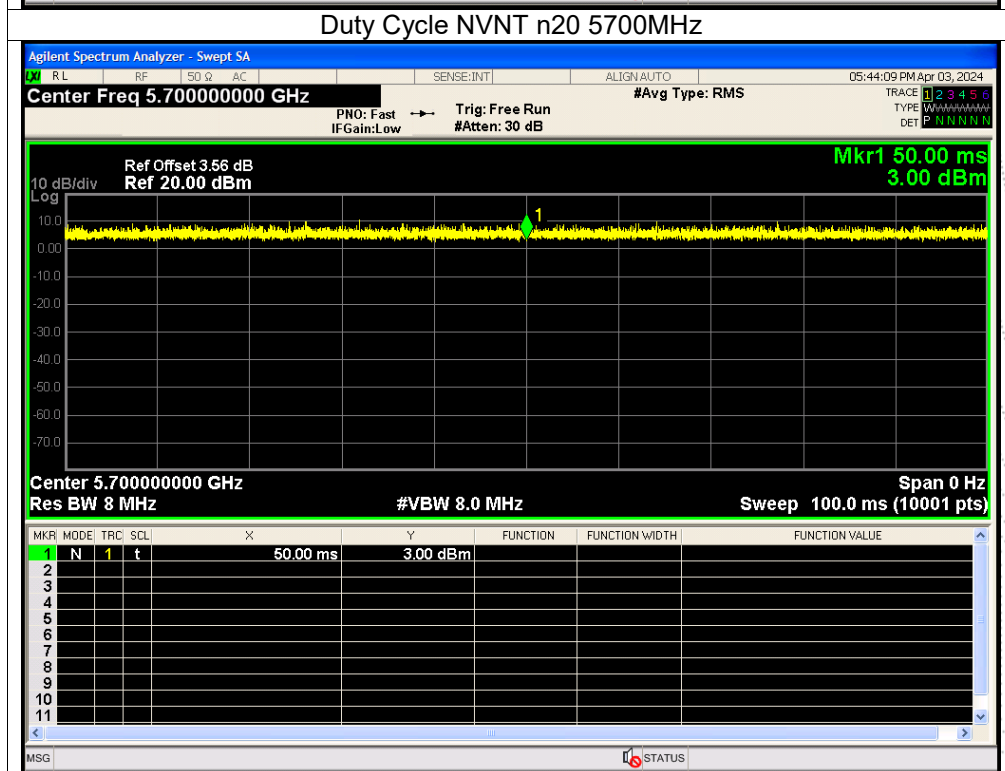
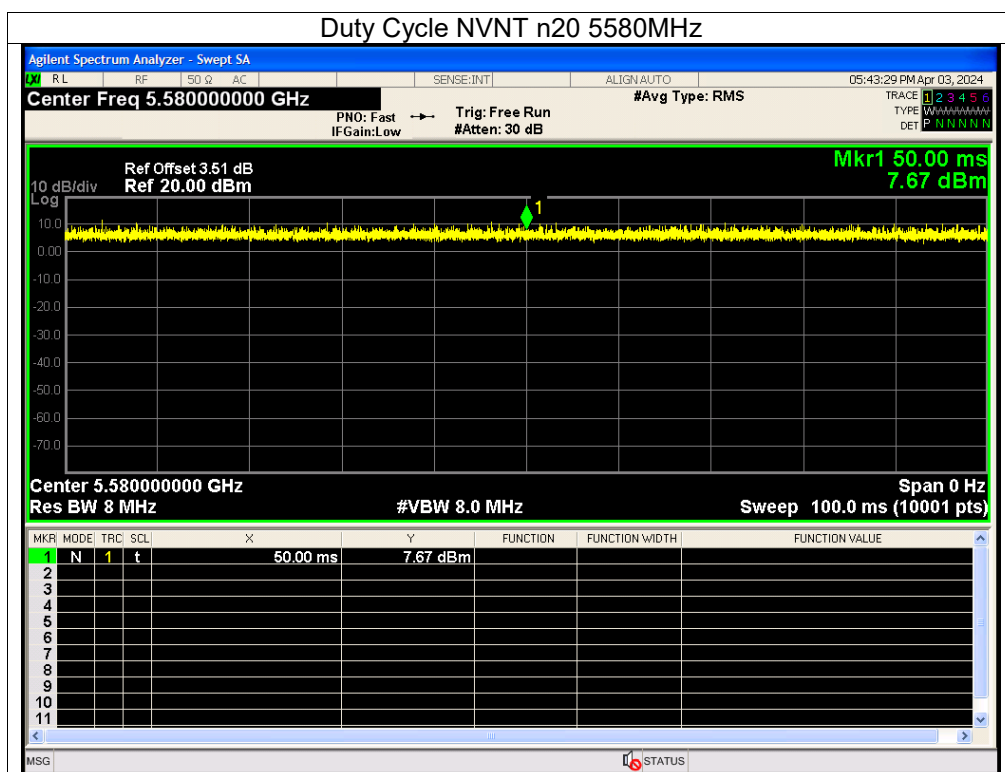


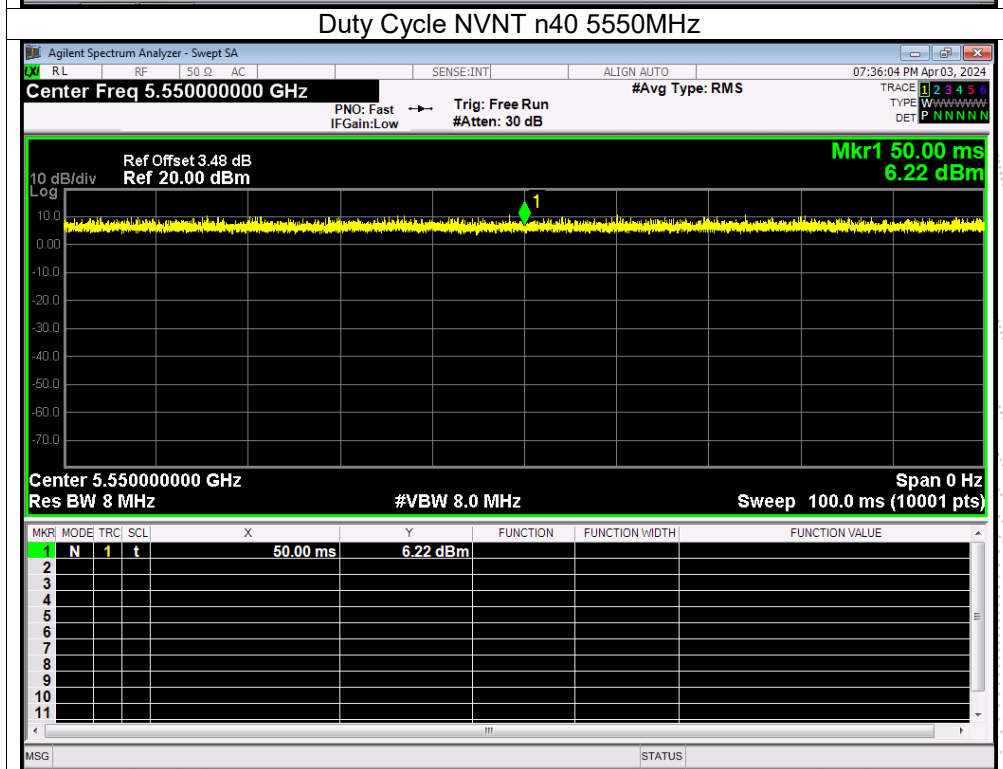
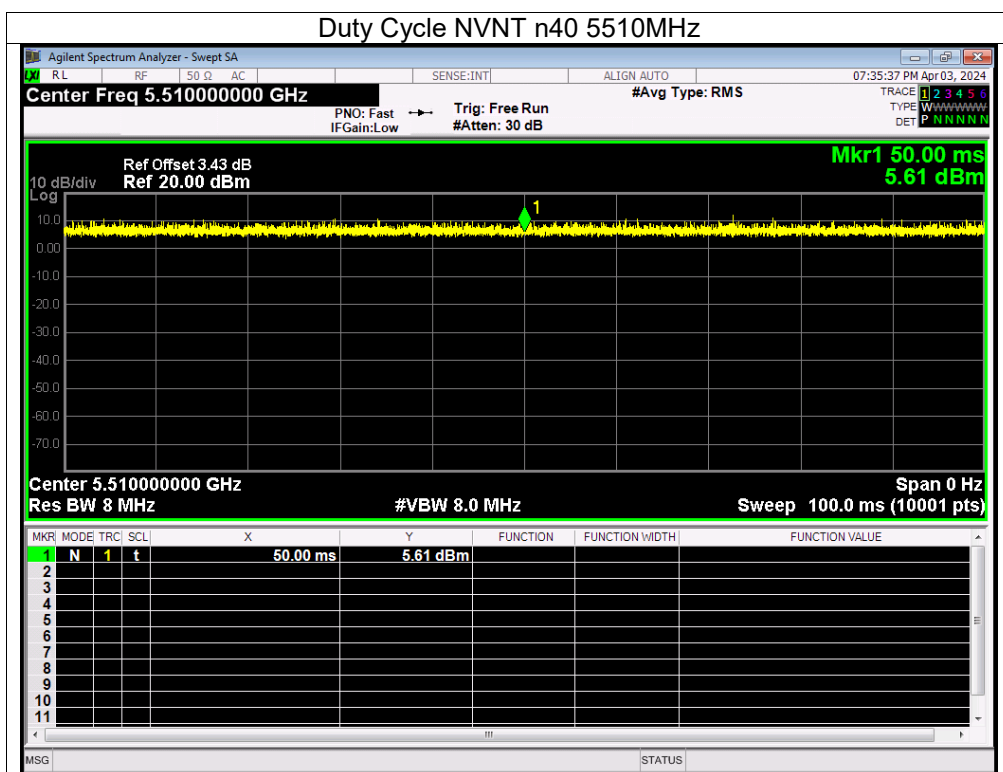
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5500	AntA	100	0	0
NVNT	a	5580	AntA	100	0	0
NVNT	a	5700	AntA	100	0	0
NVNT	n20	5500	AntA	100	0	0
NVNT	n20	5580	AntA	100	0	0
NVNT	n20	5700	AntA	100	0	0
NVNT	n40	5510	AntA	100	0	0
NVNT	n40	5550	AntA	100	0	0
NVNT	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

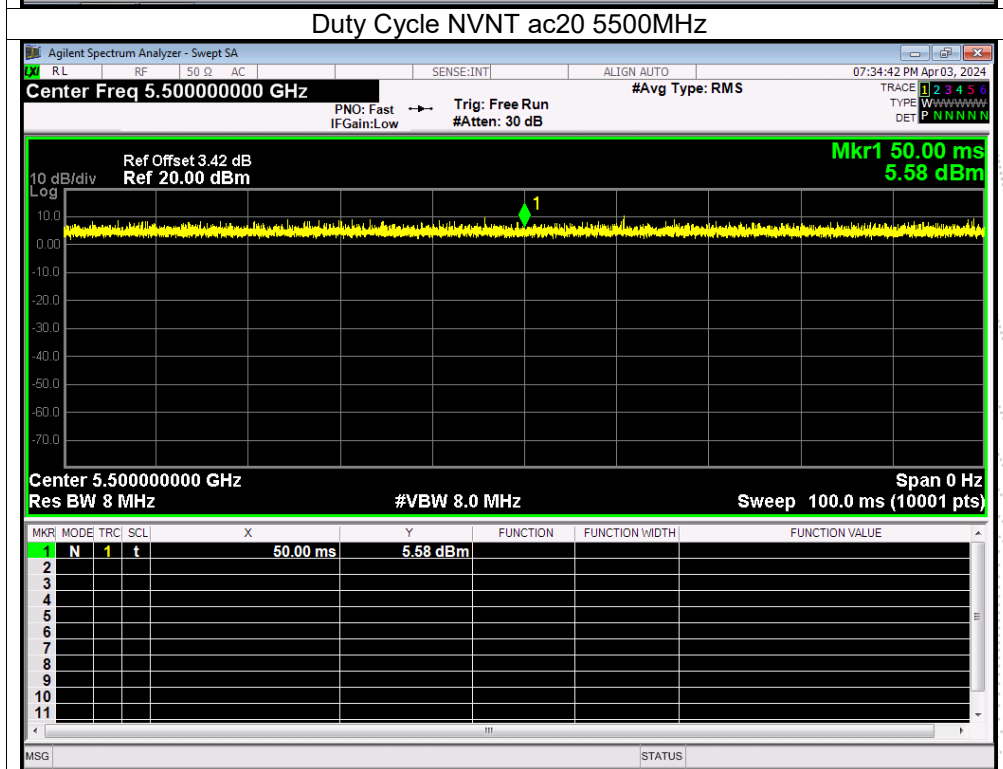
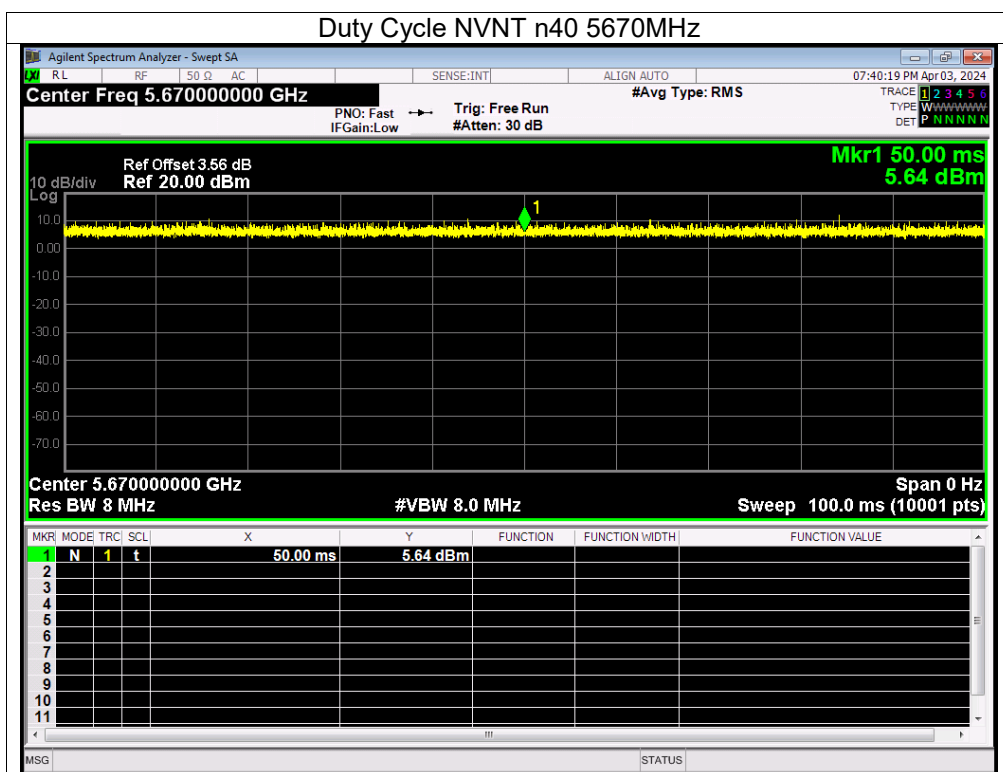
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A ,only shown Antenna A .
Plot. Antenna A: 5500-5700MHz

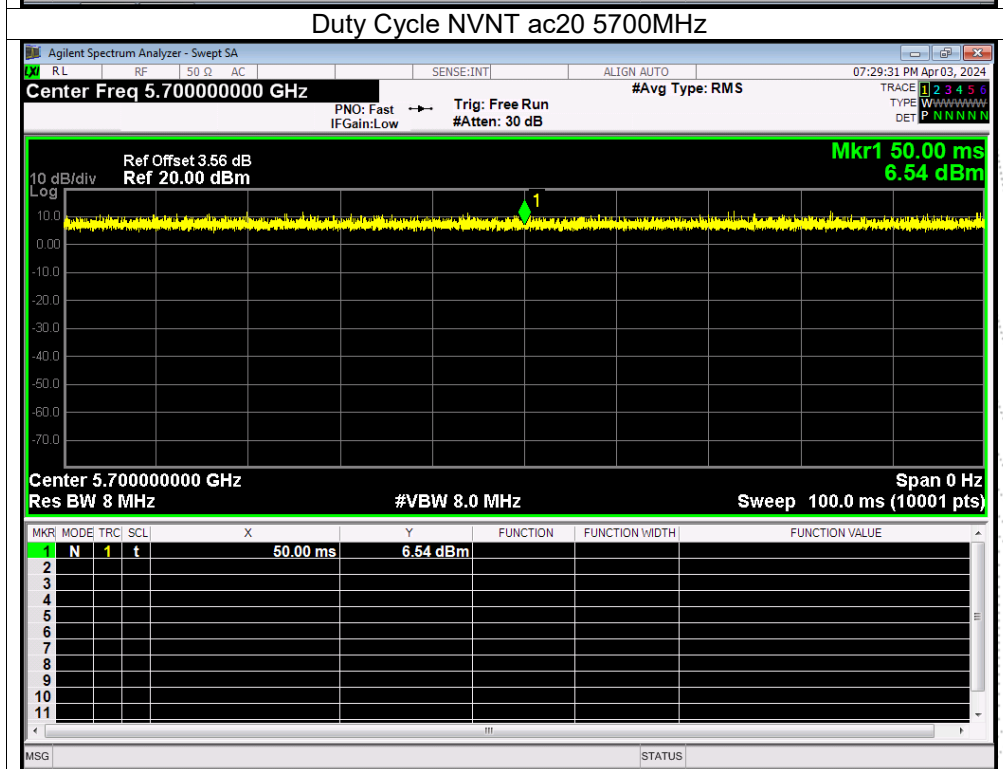
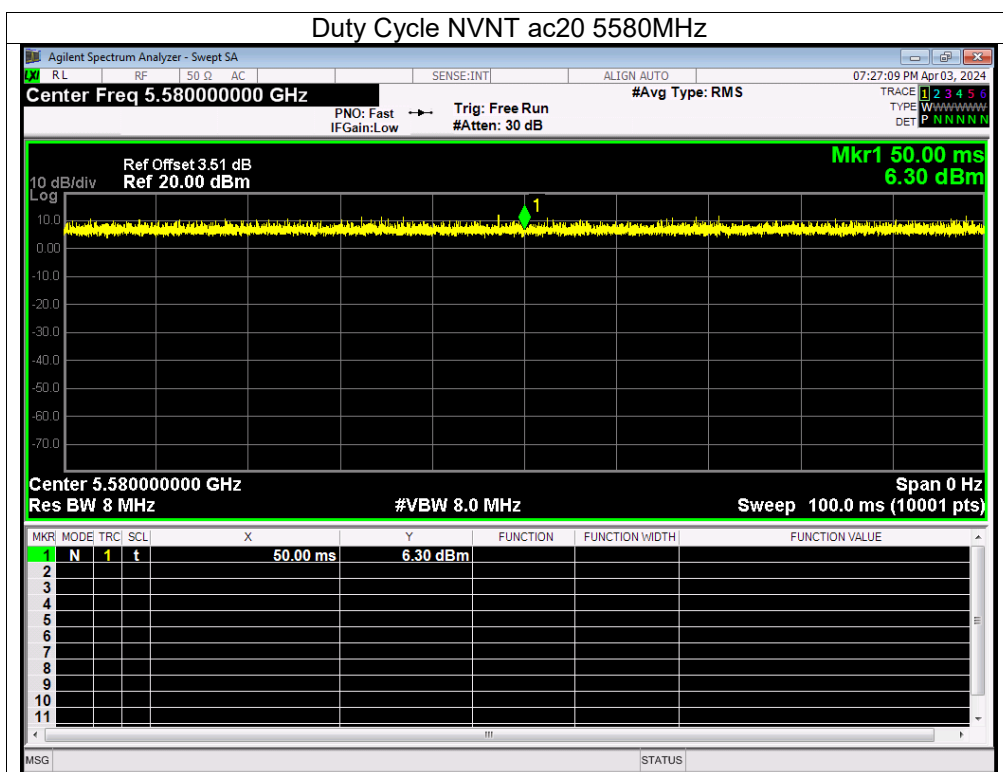


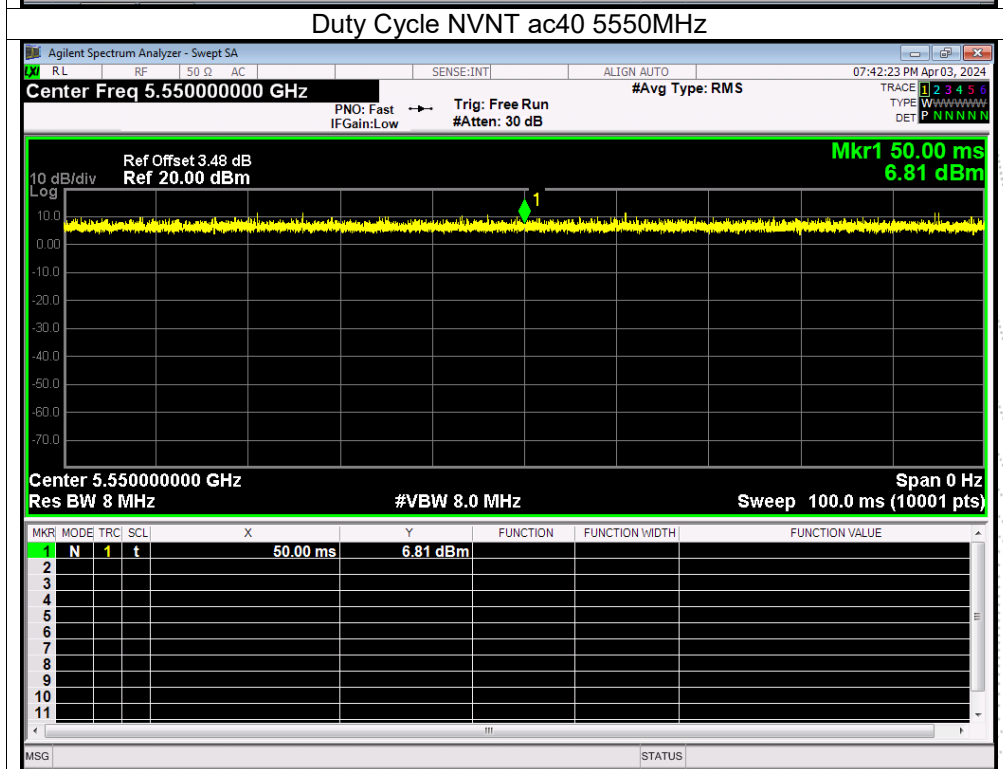
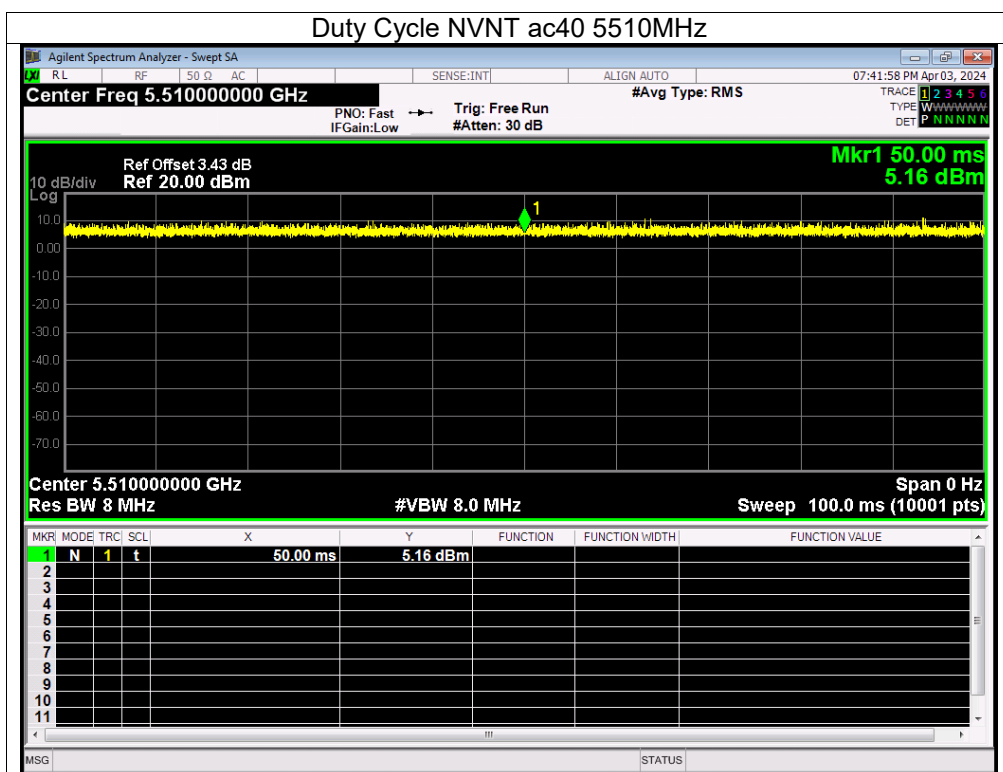


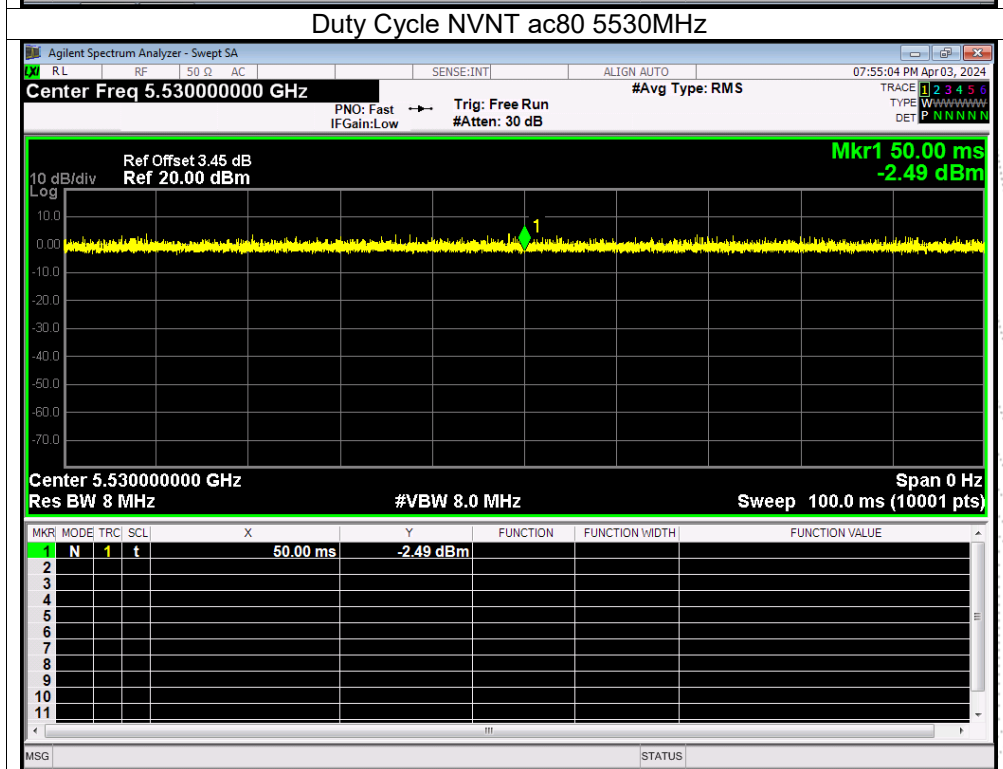
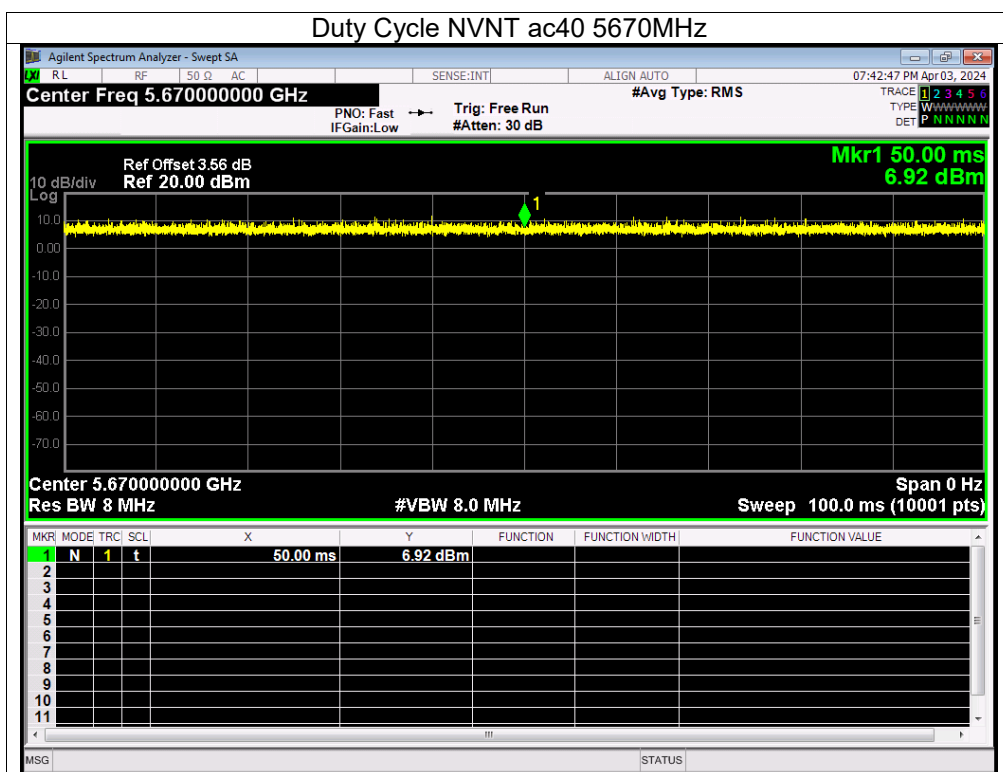


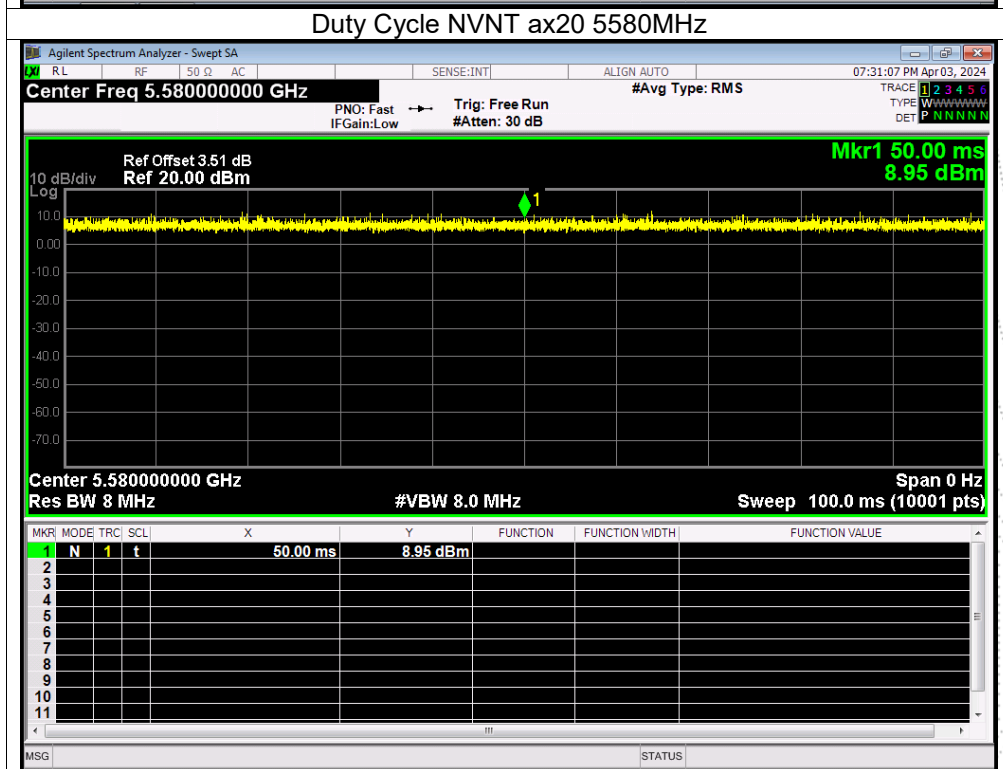
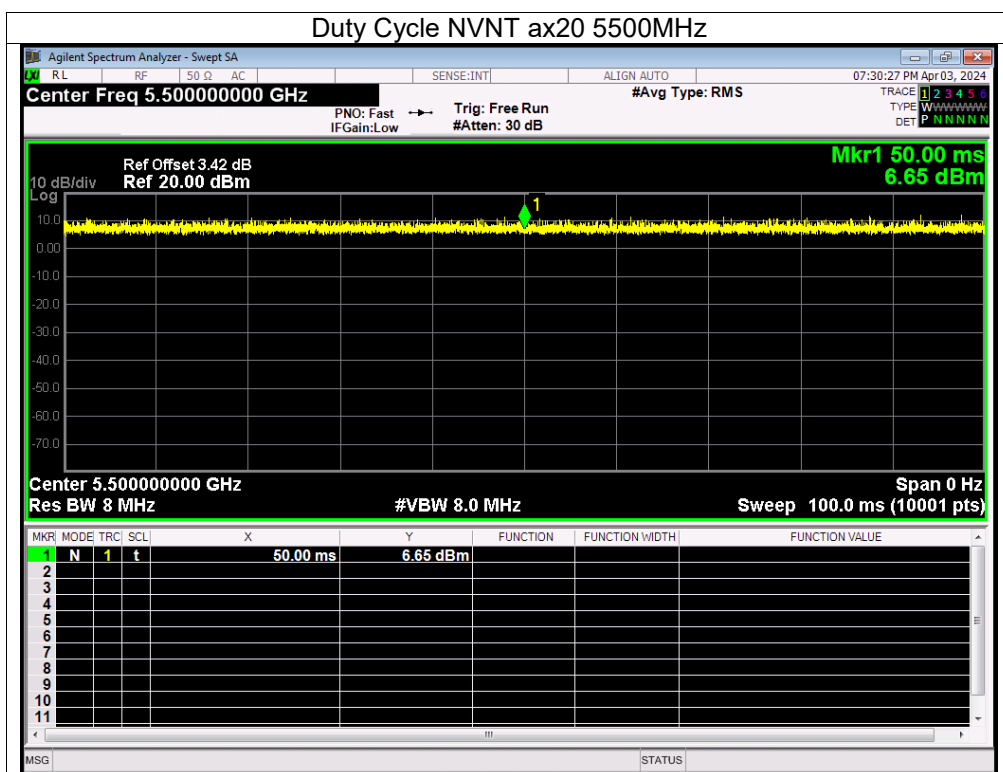


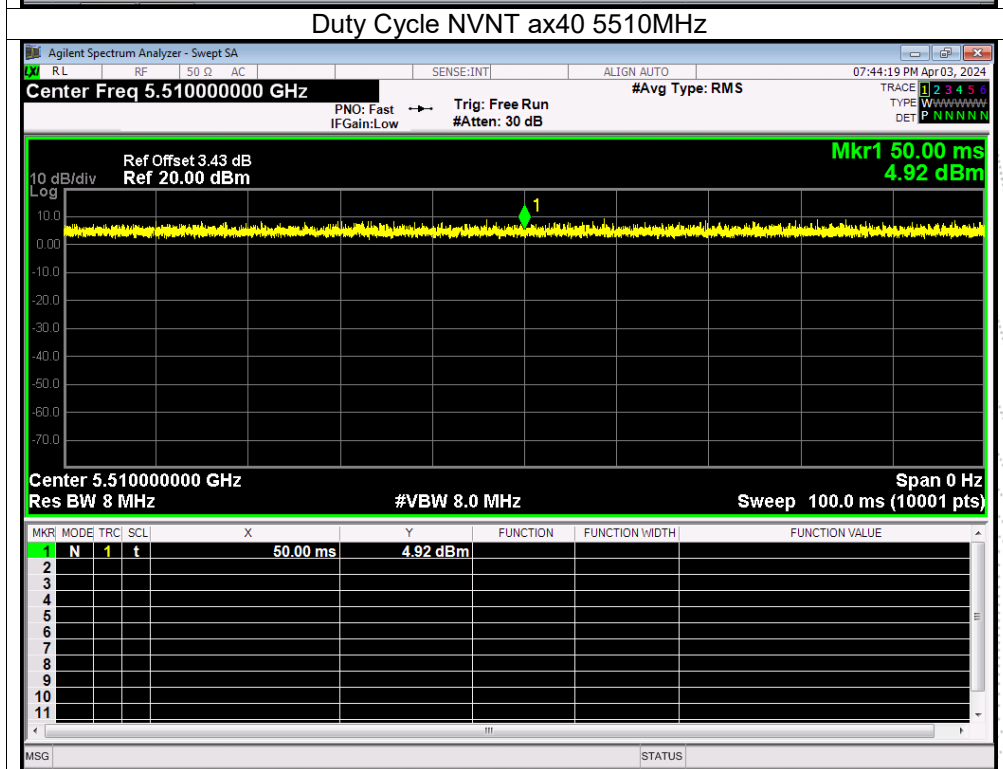
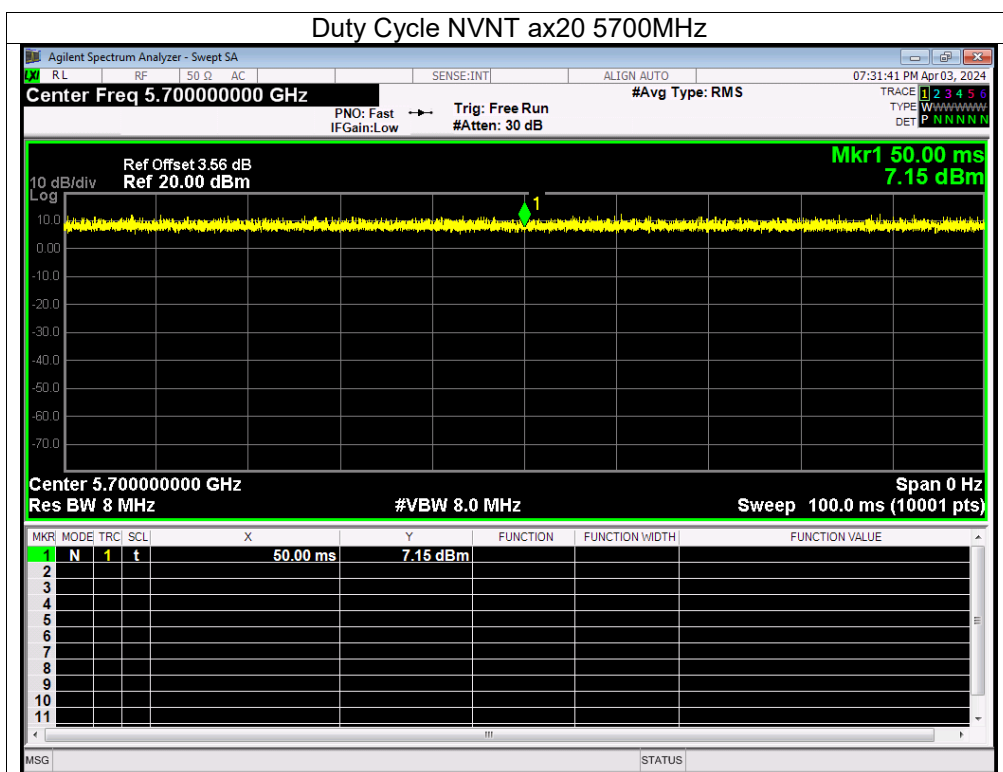


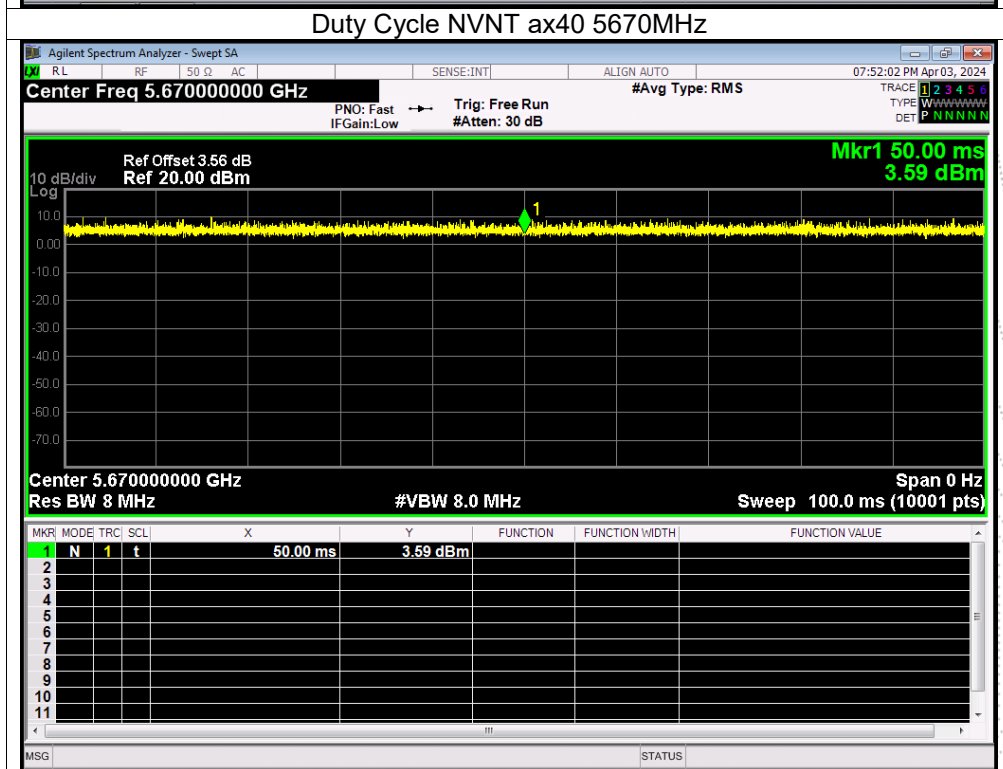
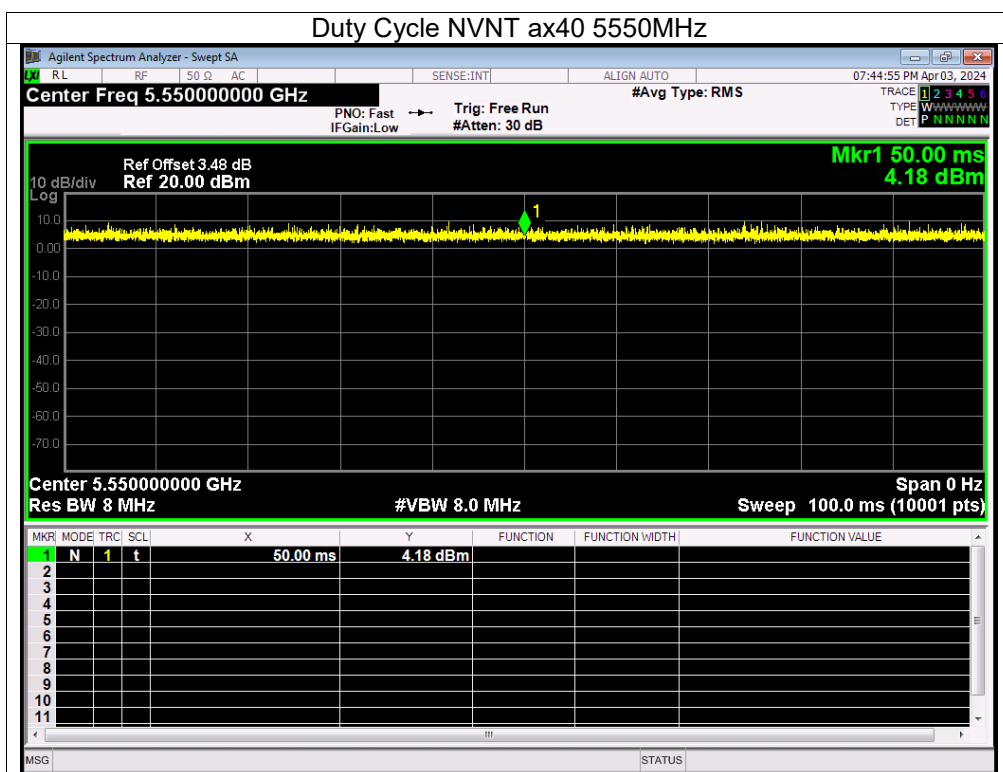


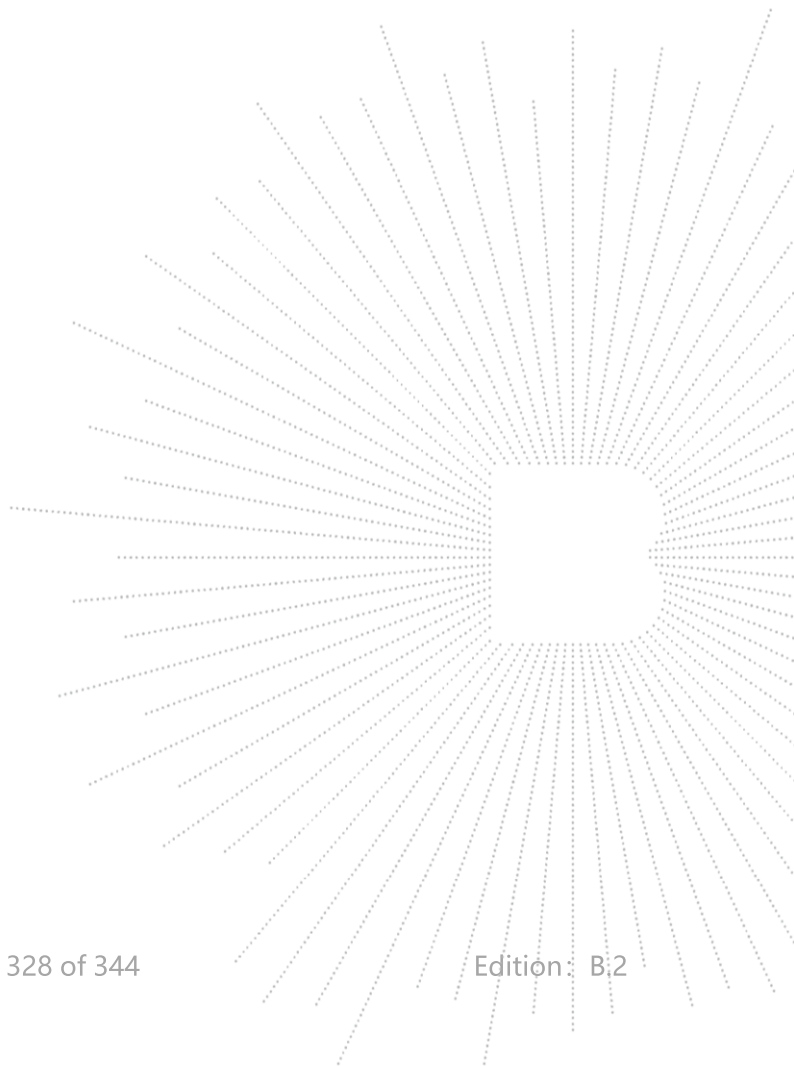
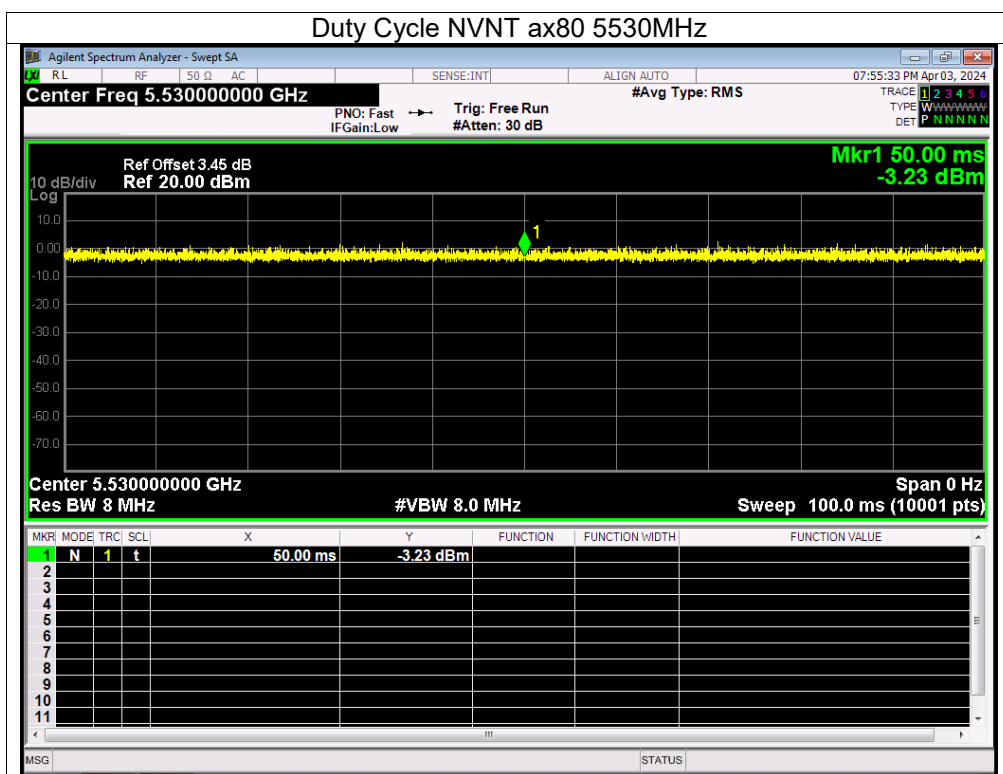




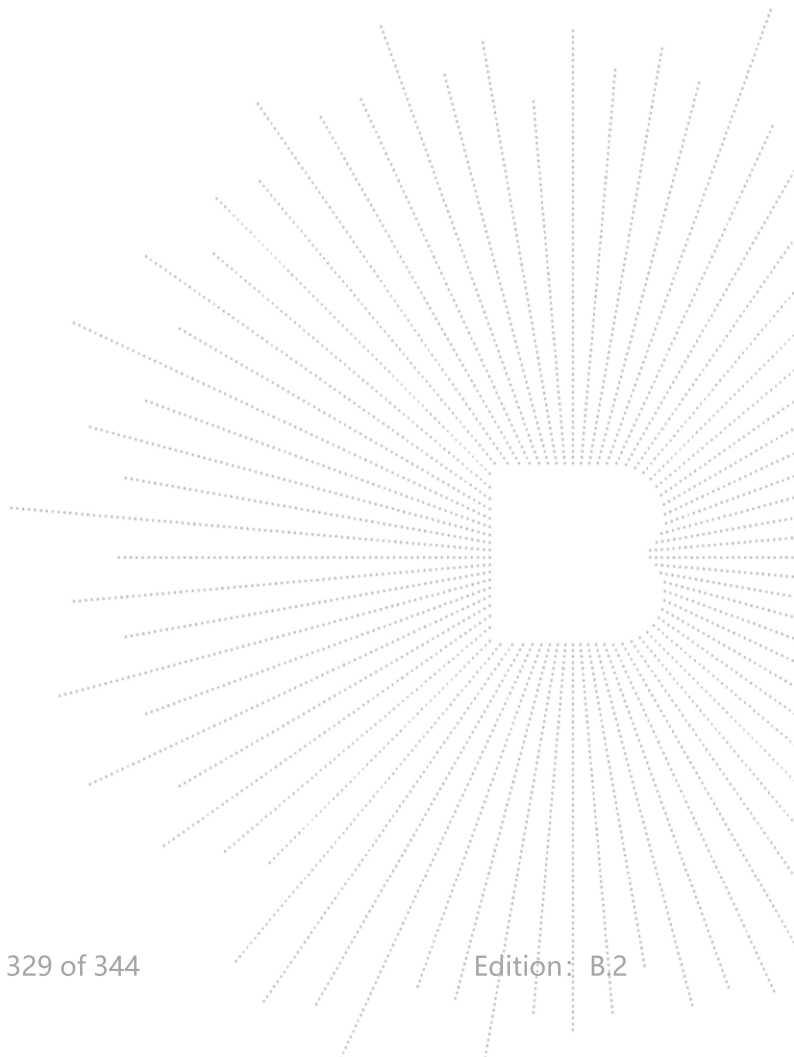




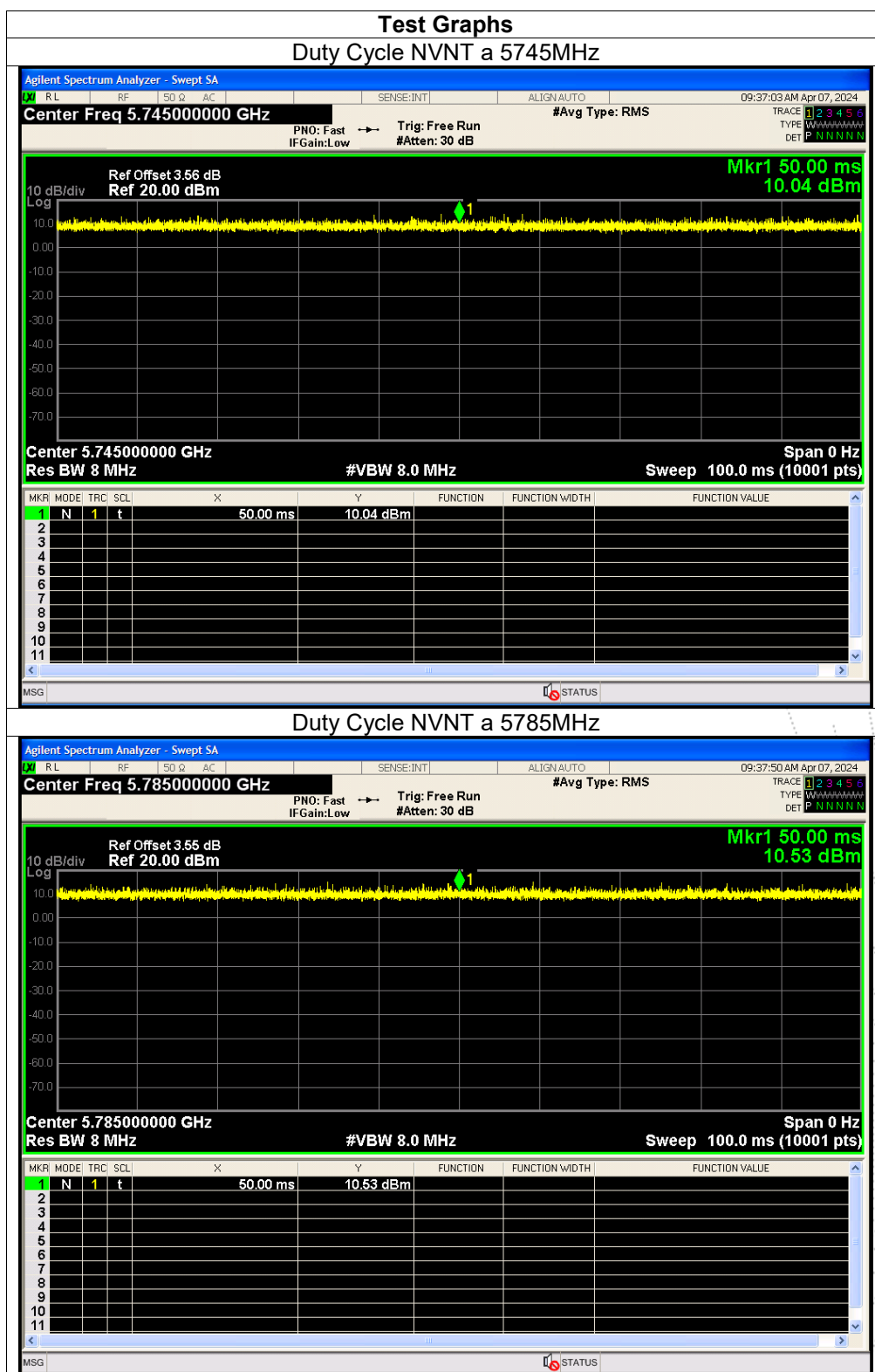


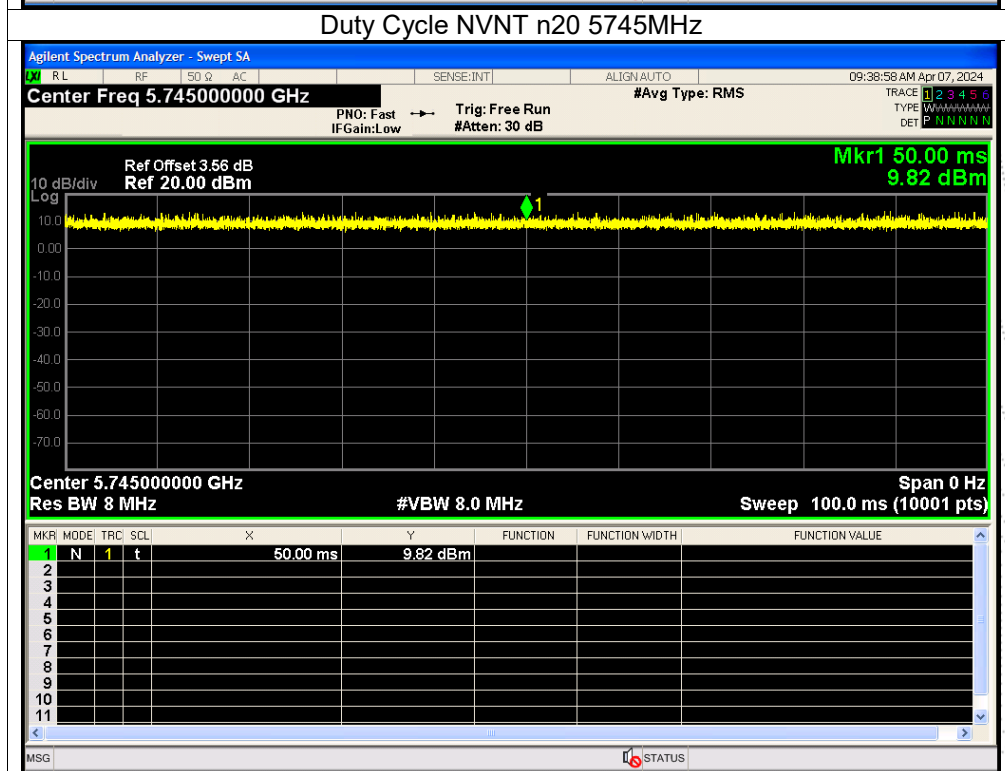
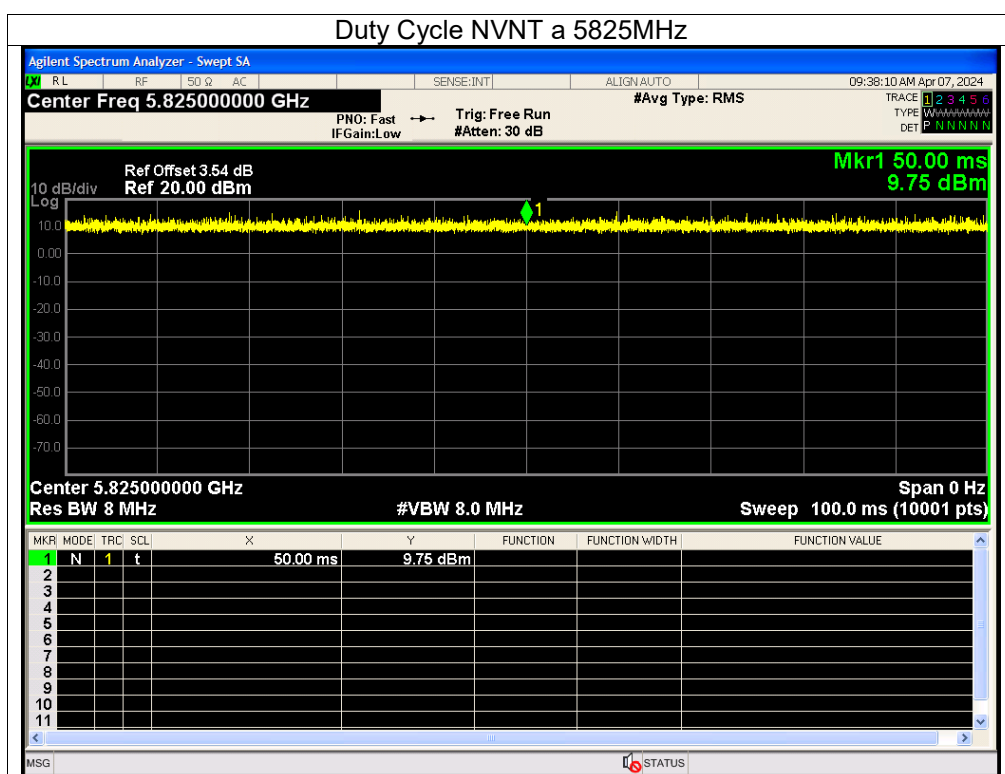


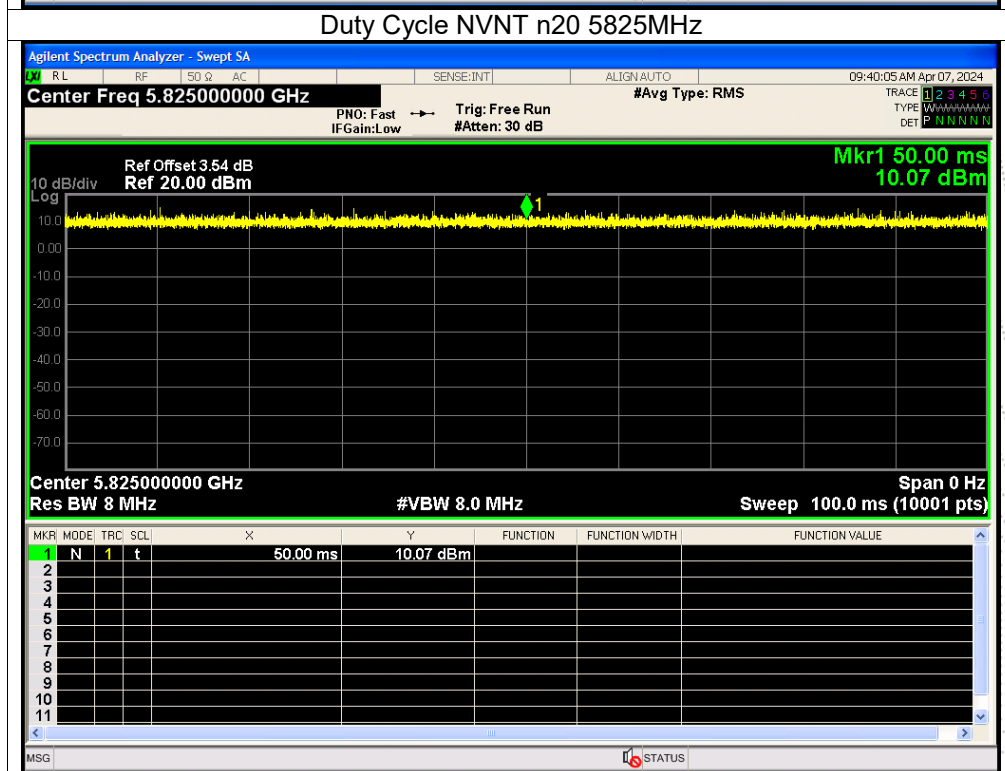
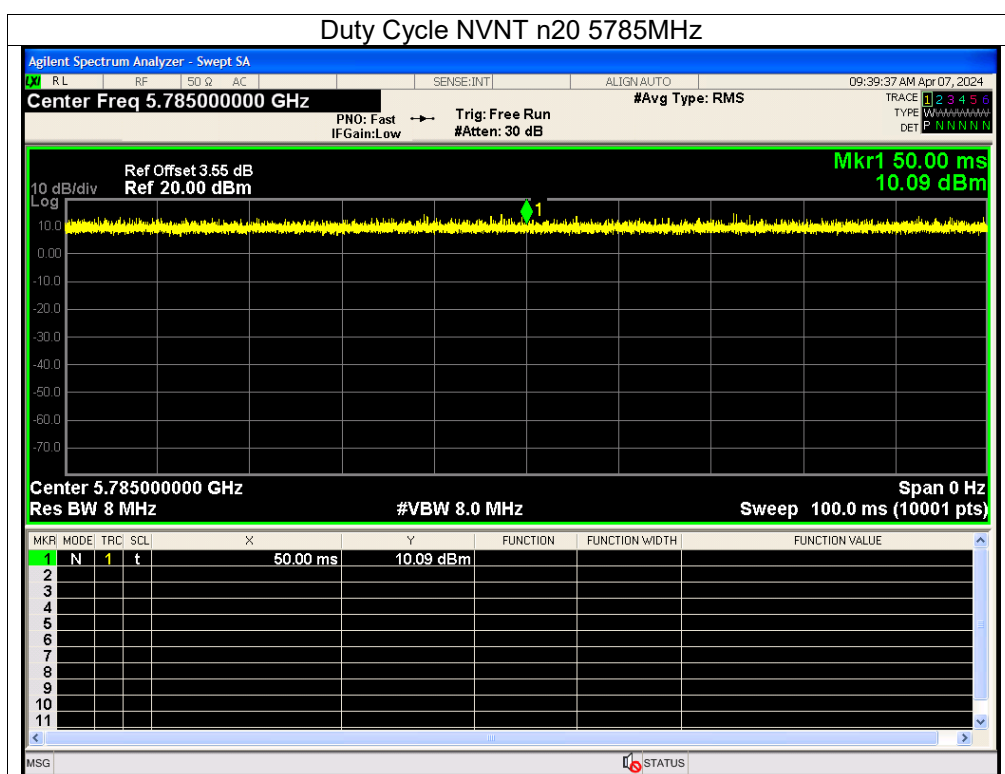
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	a	5745	AntA	100	0	0
NVNT	a	5785	AntA	100	0	0
NVNT	a	5825	AntA	100	0	0
NVNT	n20	5745	AntA	100	0	0
NVNT	n20	5785	AntA	100	0	0
NVNT	n20	5825	AntA	100	0	0
NVNT	n40	5755	AntA	100	0	0
NVNT	n40	5795	AntA	100	0	0
NVNT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

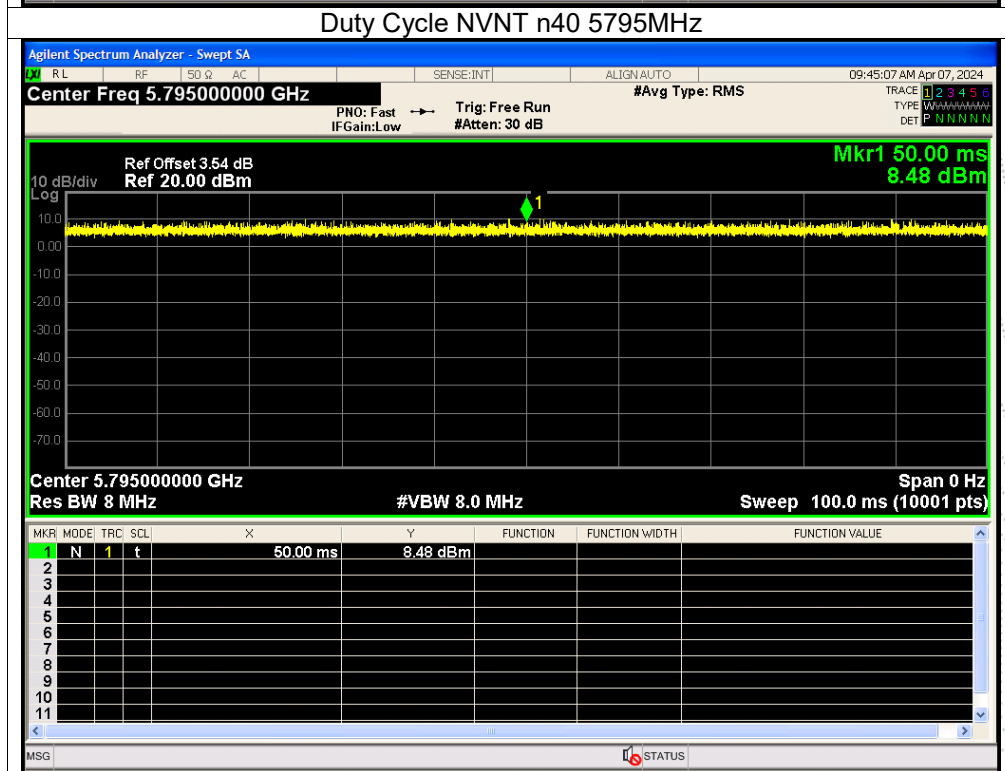
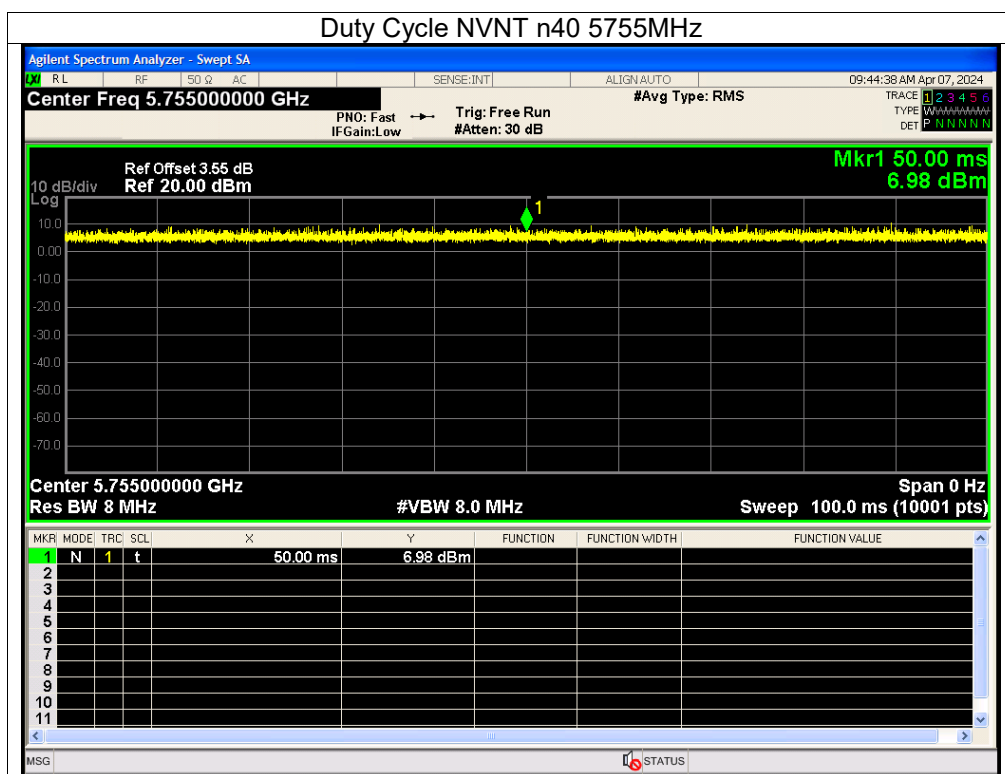


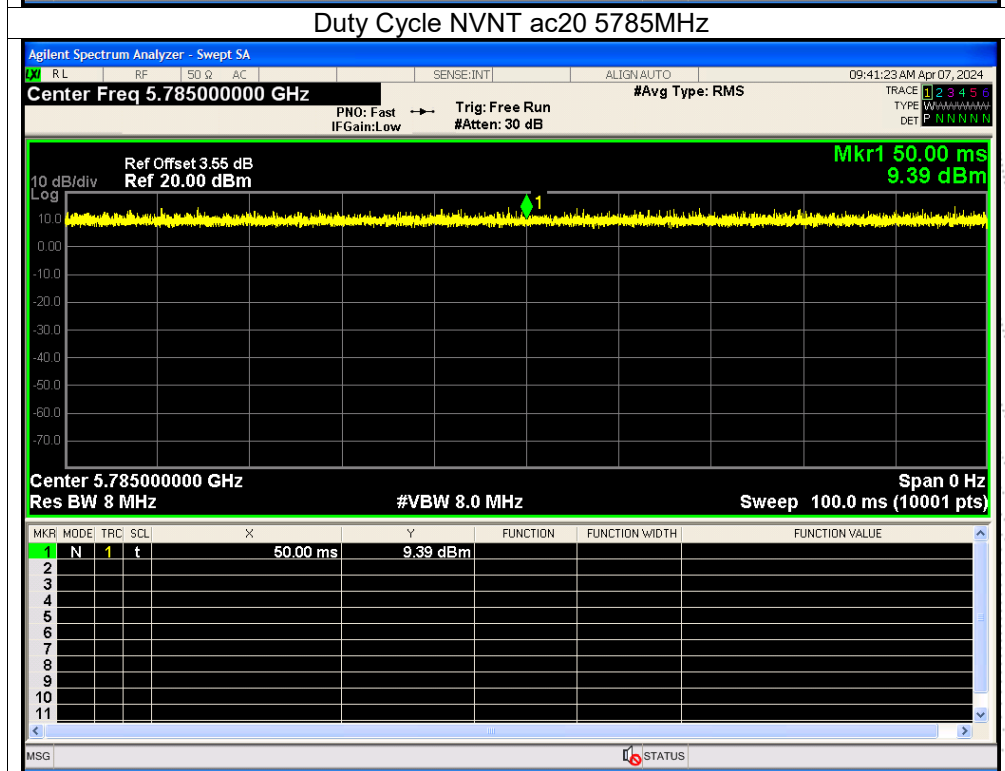
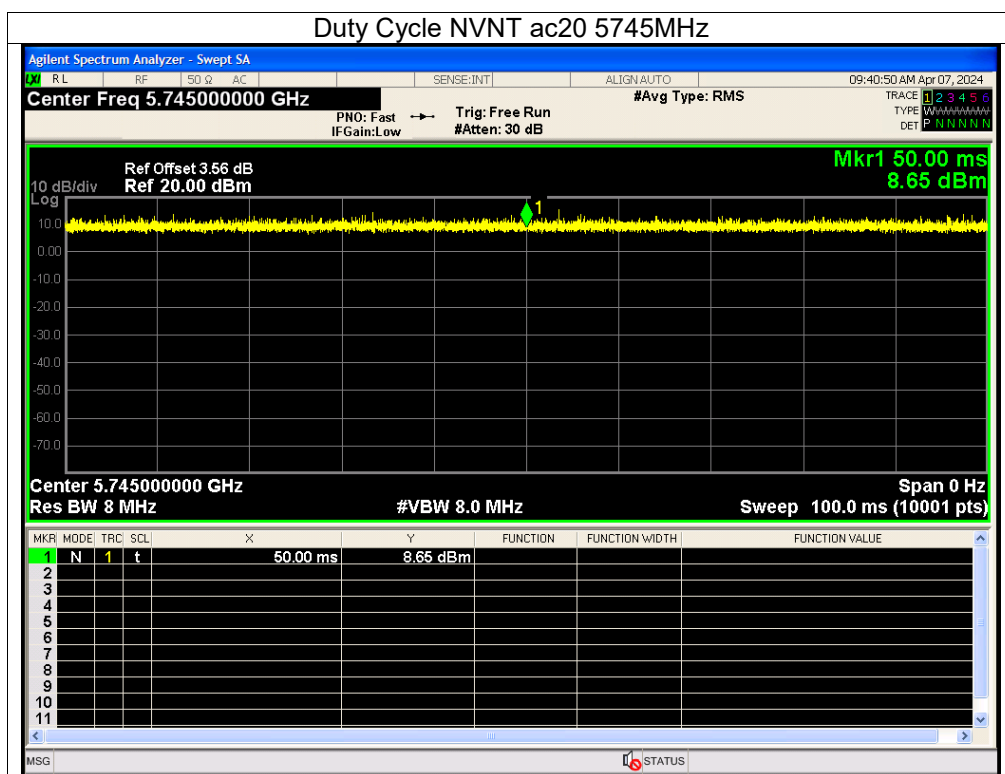
Note: A(B) Represent the value of antenna A and B, The worst data is Antenna A ,only shown Antenna A .
Plot. Antenna A: 5745-5825MHz

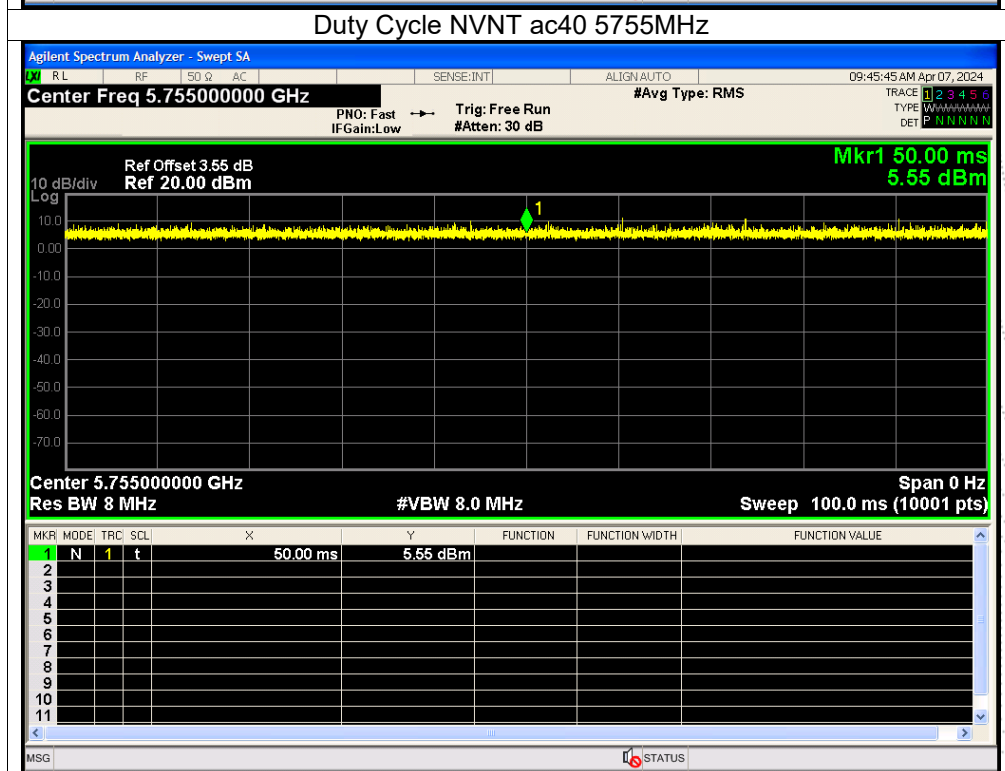
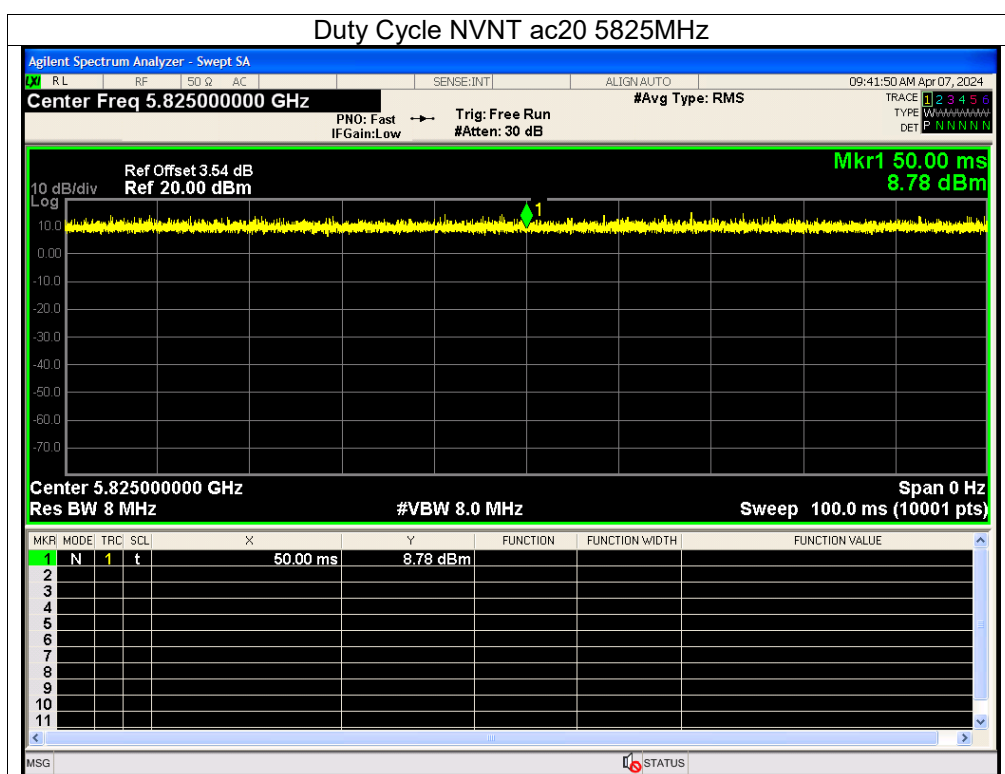


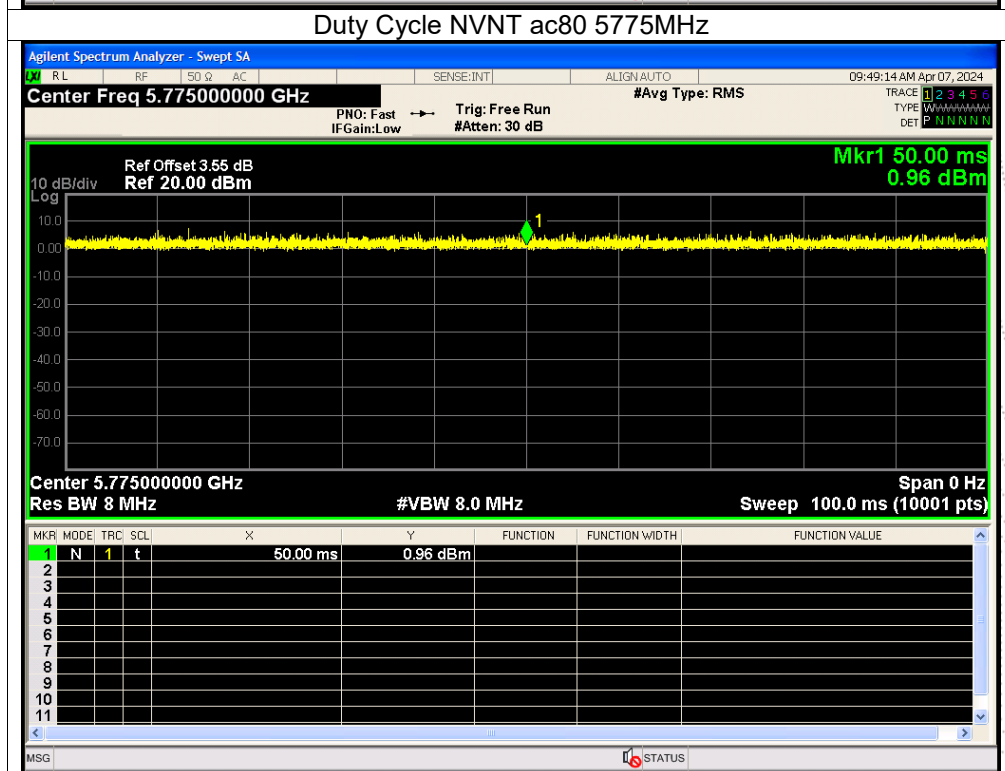
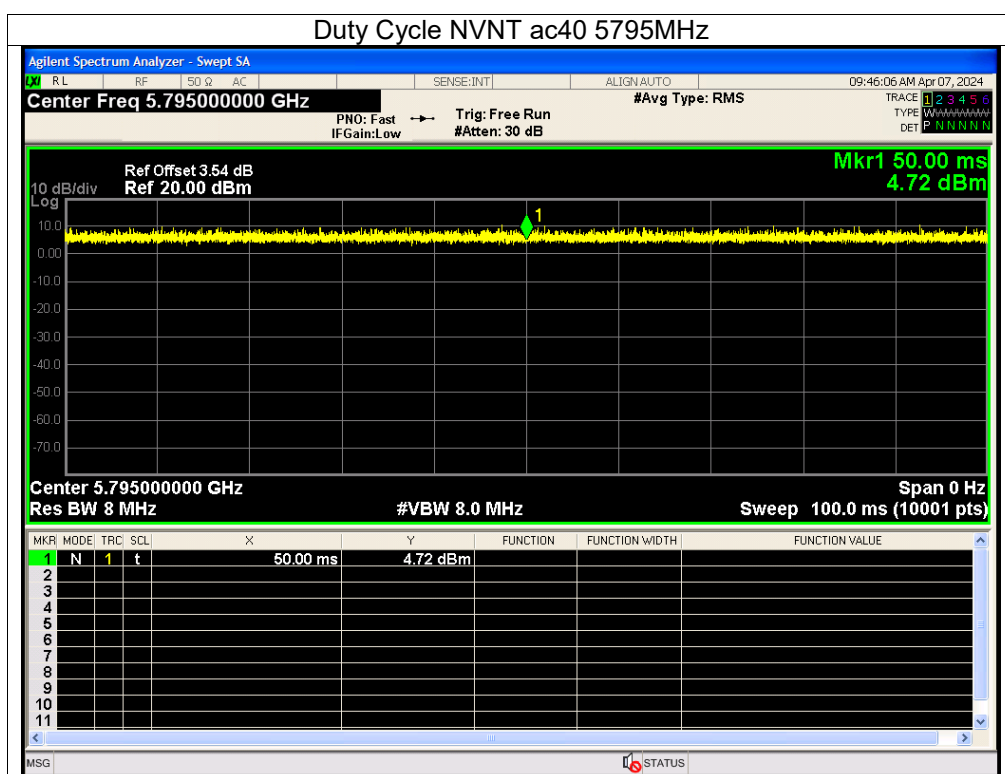


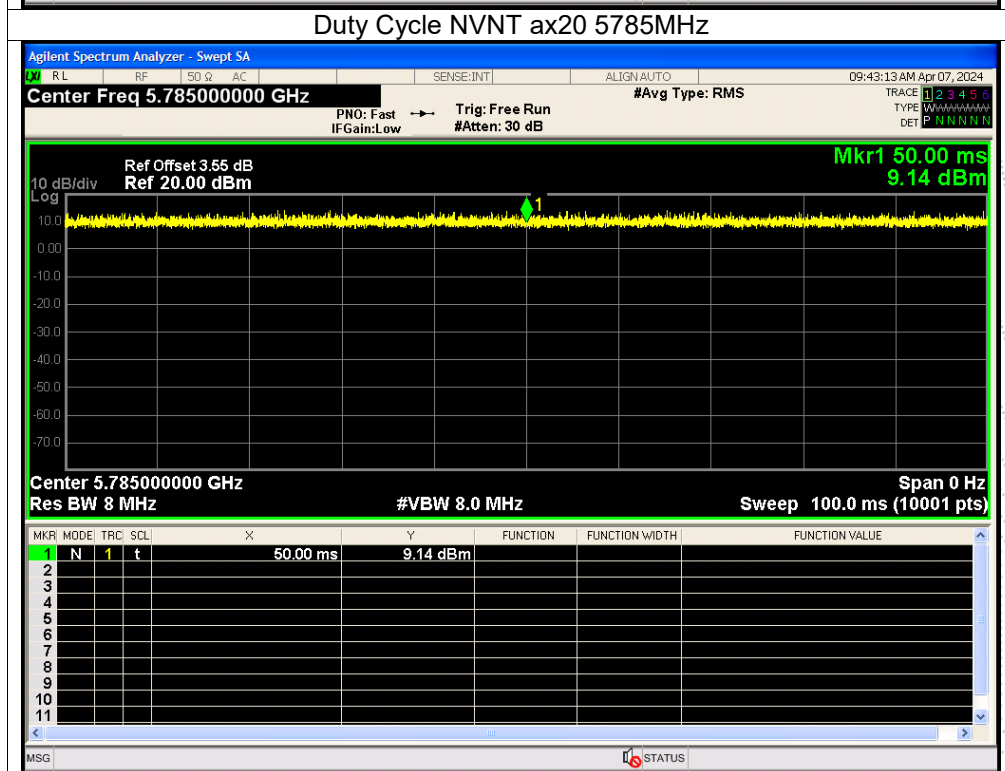
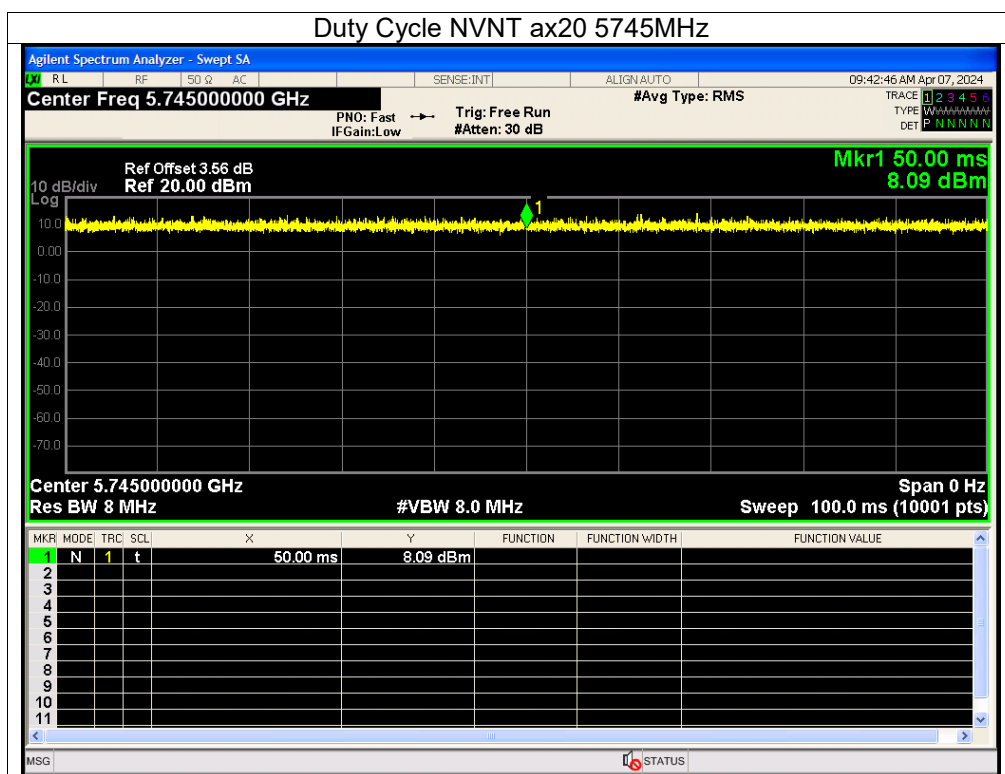


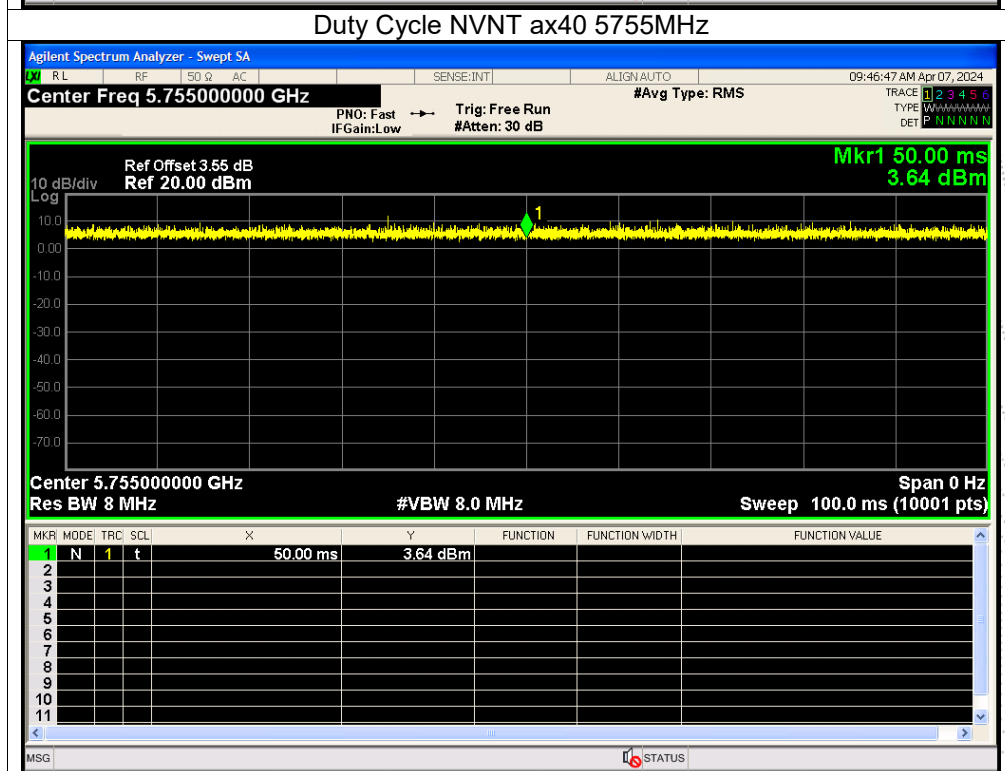
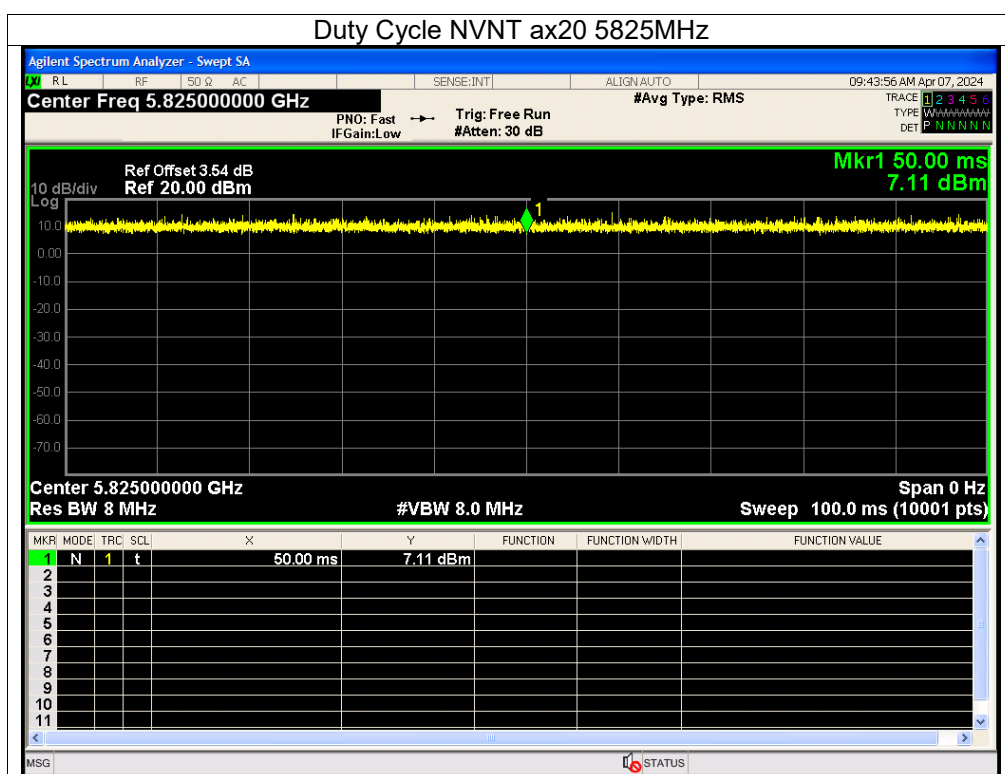


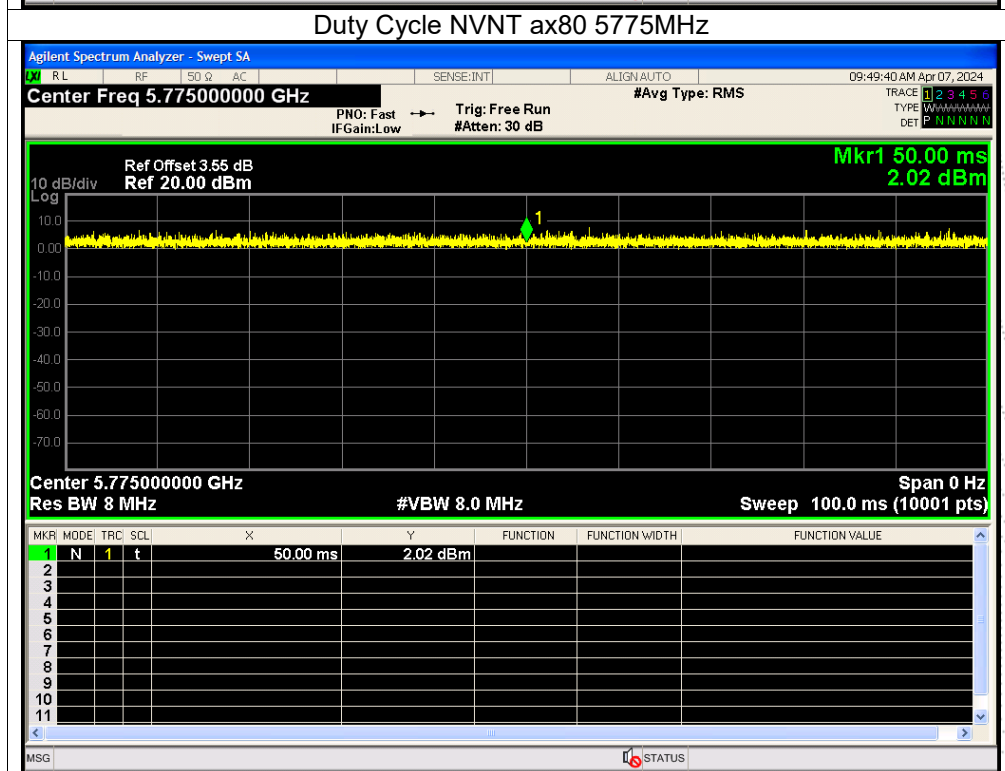
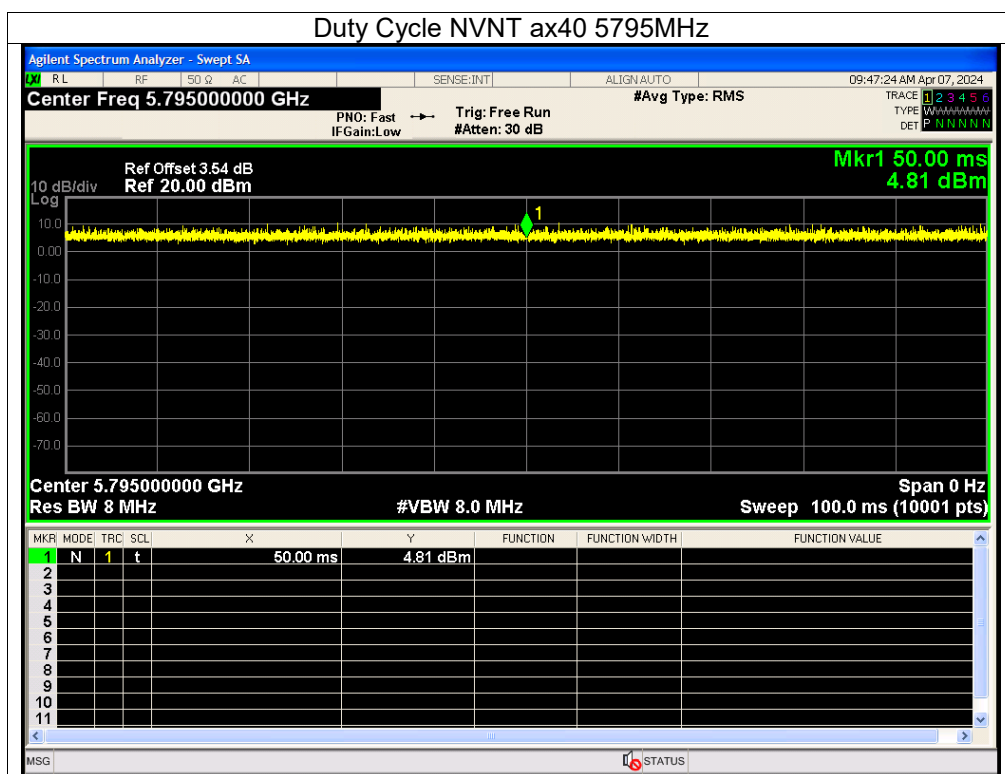












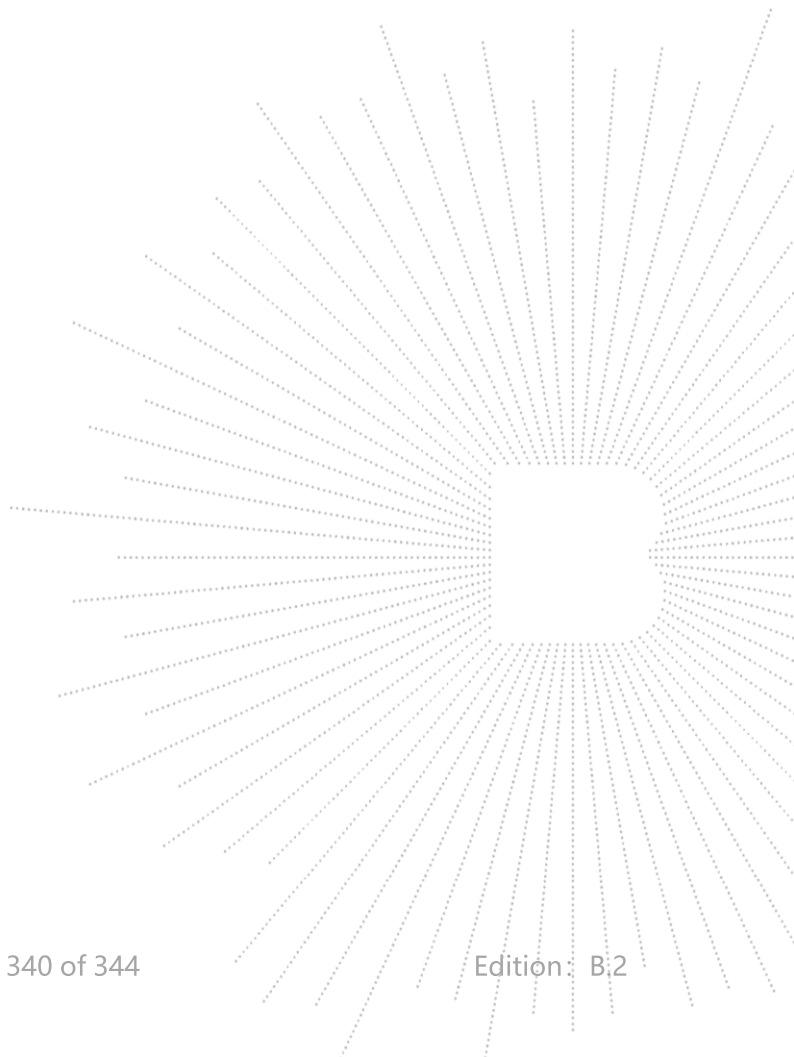
15. Antenna Requirement

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 External antenna and 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



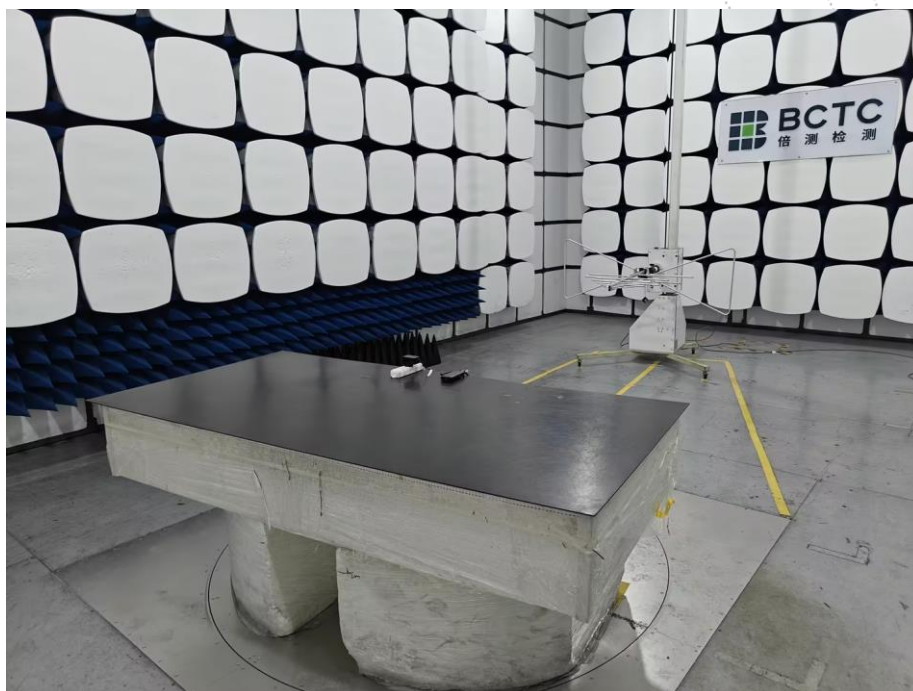
NOTE: Appendix-Photographs Of EUT Constructional Details

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.

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>

Consultation E-mail: bctc@bctc-lab.com.cn

Complaint/Advice E-mail: advice@bctc-lab.com.cn

***** END *****