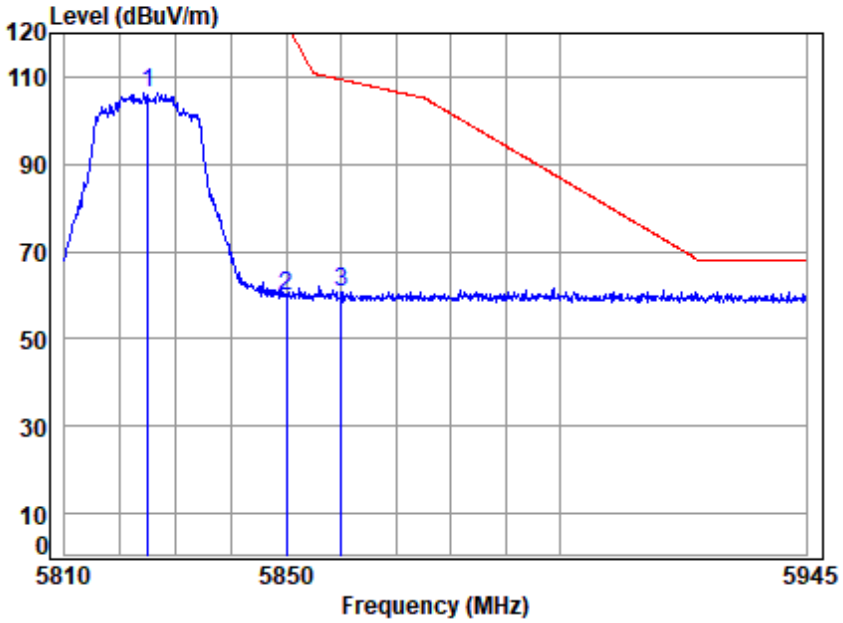
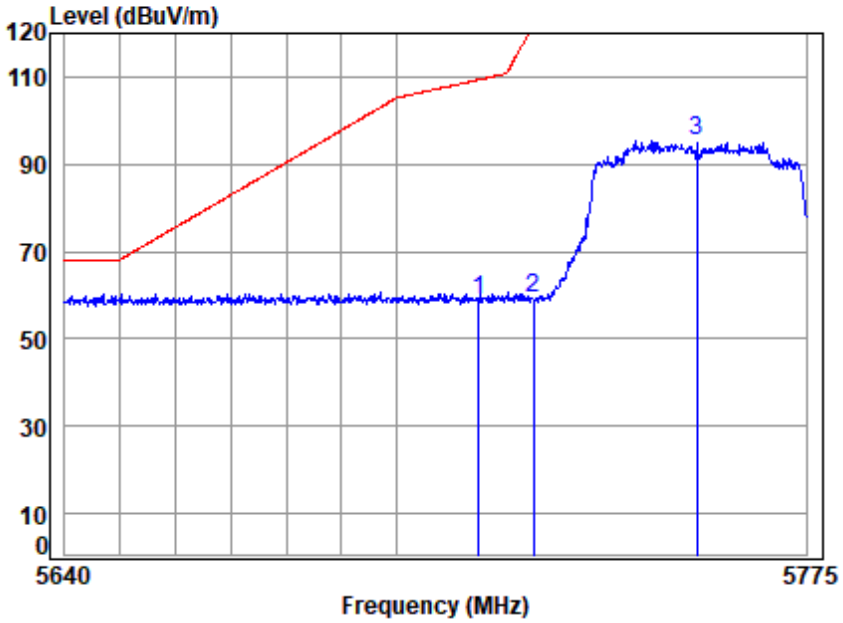
Test Mode: 08; Polarity: Vertical; Bandwidth:20MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 20343AT
Mode : 5825 Band edge
: 5G WIFI 11AX20

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	42.38	105.48	106.26	125.20	-18.94	peak
2	5850.000	8.24	34.95	42.39	58.92	59.72	122.20	-62.48	peak
3	5860.000	8.24	34.96	42.39	60.04	60.85	109.40	-48.55	peak

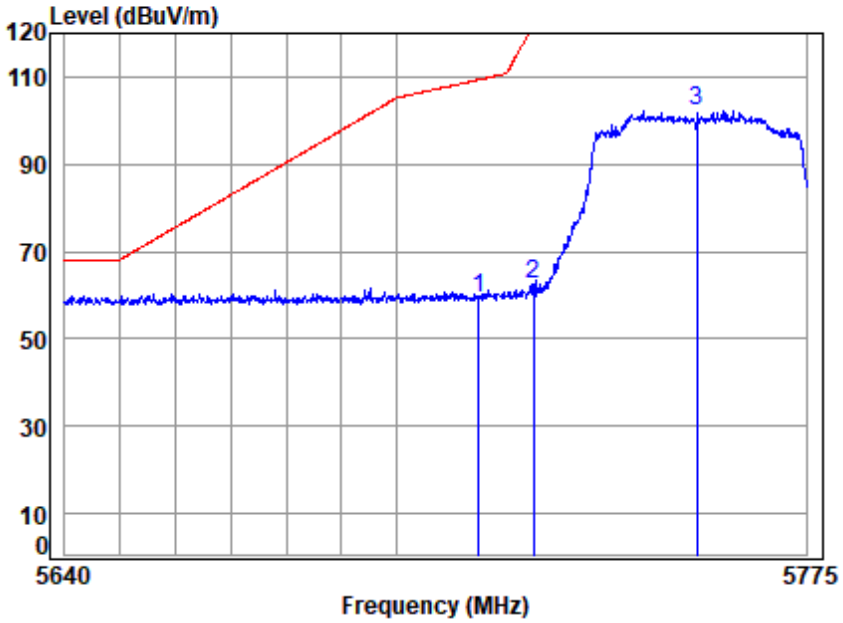
Test Mode: 08; Polarity: Horizontal; Bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m HORIZONTAL
Job No : 20343AT
Mode : 5755 Band edge
: 5G WIFI 11AX40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.37	58.31	58.98	109.40	-50.42	peak
2	5725.000	8.22	34.83	42.37	58.63	59.31	122.20	-62.89	peak
3	5755.000	8.22	34.86	42.38	94.78	95.48	125.20	-29.72	peak

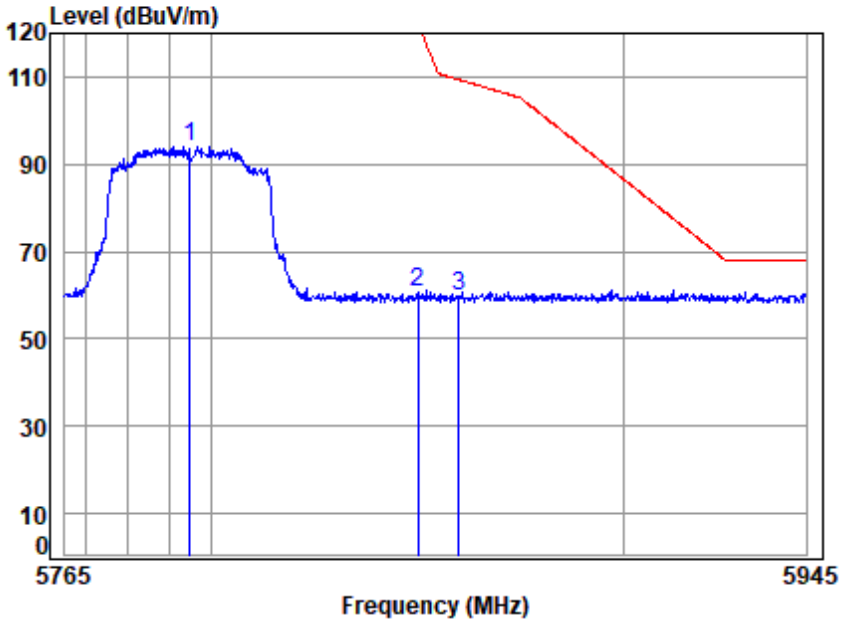
Test Mode: 08; Polarity: Vertical; Bandwidth:40MHz; Channel:Low



Site : chamber
Condition: 3m VERTICAL
Job No : 20343AT
Mode : 5755 Band edge
: 5G WIFI 11AX40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	42.37	58.54	59.21	109.40	-50.19	peak
2	5725.000	8.22	34.83	42.37	61.77	62.45	122.20	-59.75	peak
3	5755.000	8.22	34.86	42.38	101.51	102.21	125.20	-22.99	peak

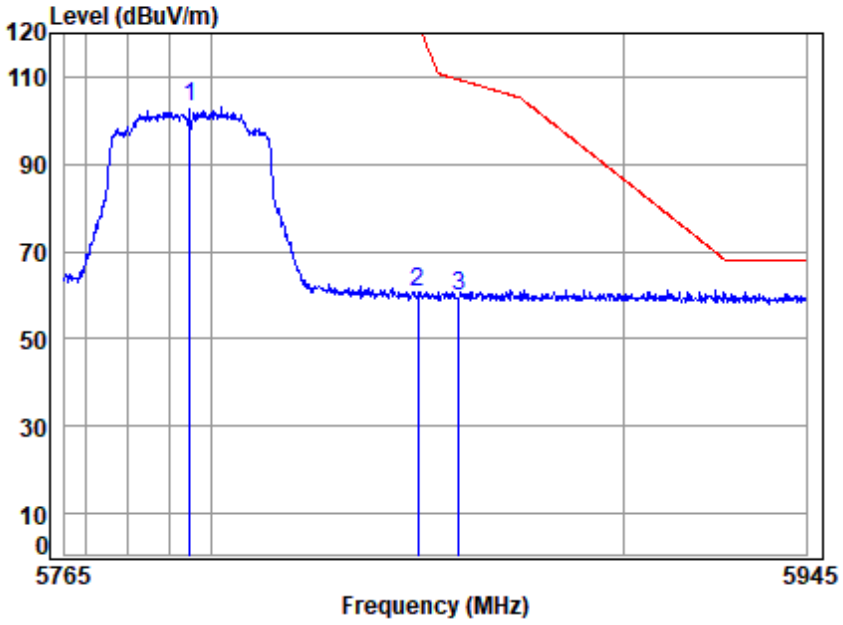
Test Mode: 08; Polarity: Horizontal; Bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m HORIZONTAL
Job No : 20343AT
Mode : 5795 Band edge
: 5G WIFI 11AX40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	8.23	34.90	42.38	93.42	94.17	125.20	-31.03	peak
2	5850.000	8.24	34.95	42.39	59.91	60.71	122.20	-61.49	peak
3	5860.000	8.24	34.96	42.39	59.05	59.86	109.40	-49.54	peak

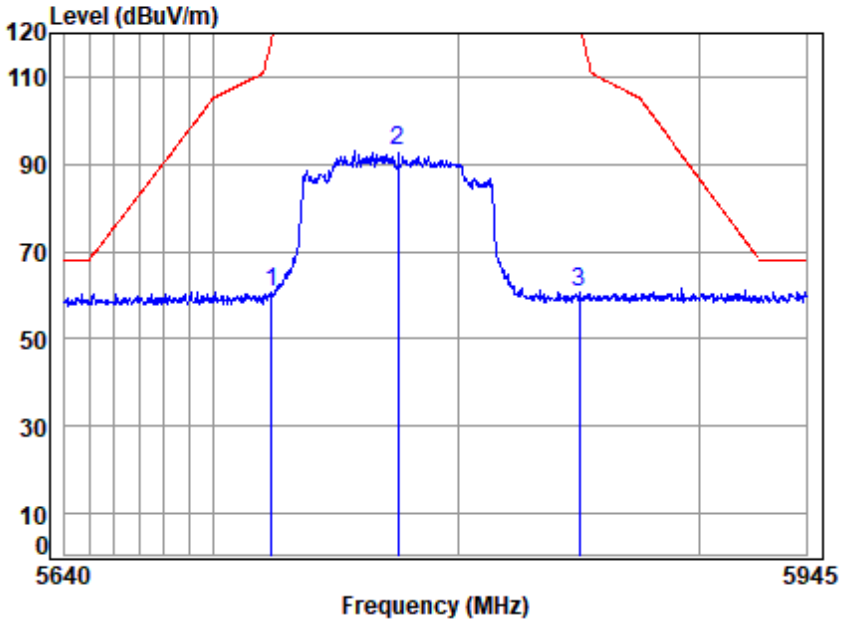
Test Mode: 08; Polarity: Vertical; Bandwidth:40MHz; Channel:High



Site : chamber
Condition: 3m VERTICAL
Job No : 20343AT
Mode : 5795 Band edge
: 5G WIFI 11AX40

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5795.000	8.23	34.90	42.38	102.25	103.00	125.20	-22.20	peak
2	5850.000	8.24	34.95	42.39	59.70	60.50	122.20	-61.70	peak
3	5860.000	8.24	34.96	42.39	58.80	59.61	109.40	-49.79	peak

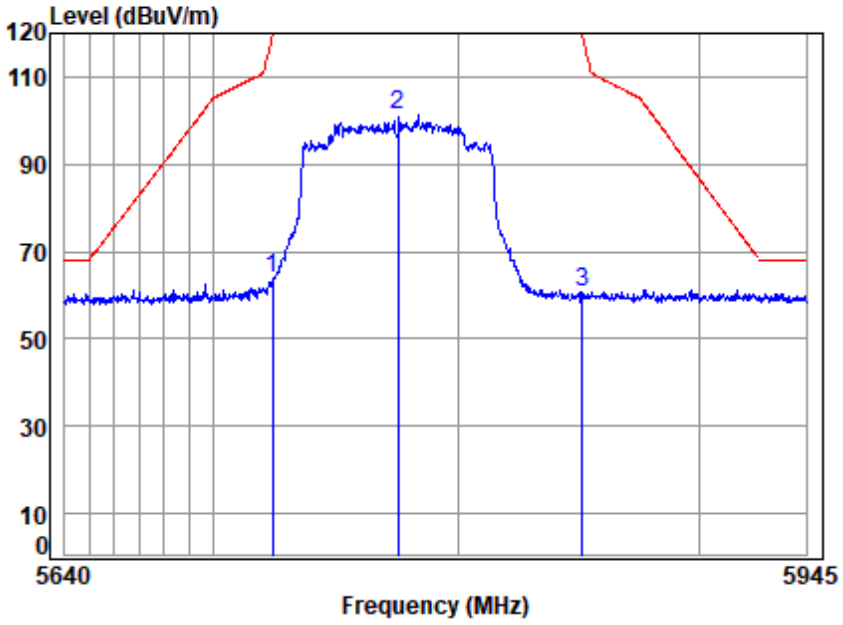
Test Mode: 08; Polarity: Horizontal; Bandwidth:80MHz; Channel:middle



Site : chamber
Condition: 3m HORIZONTAL
Job No : 20343AT
Mode : 5775 Band edge
: 5G WIFI 11AX80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5723.486	8.22	34.83	42.37	60.07	60.75	118.75	-58.00	peak
2	5775.000	8.22	34.88	42.38	92.34	93.06	125.20	-32.14	peak
3	5849.958	8.24	34.95	42.39	59.80	60.60	125.20	-64.60	peak

Test Mode: 08; Polarity: Vertical; Bandwidth:80MHz; Channel:middle



Site : chamber
Condition: 3m VERTICAL
Job No : 20343AT
Mode : 5775 Band edge
: 5G WIFI 11AX80

	Freq	Cable Loss	Ant Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5723.787	8.22	34.83	42.37	63.41	64.09	119.43	-55.34	peak
2	5775.000	8.22	34.88	42.38	100.40	101.12	125.20	-24.08	peak
3	5851.191	8.24	34.96	42.39	60.06	60.87	119.48	-58.61	peak

7.10 Frequency Stability

Test Requirement 47 CFR Part 15, Subpart C 15.407 (g)

Test Method: ANSI C63.10 (2013) Section 6.8

7.10.1 E.U.T. Operation

Operating Environment:

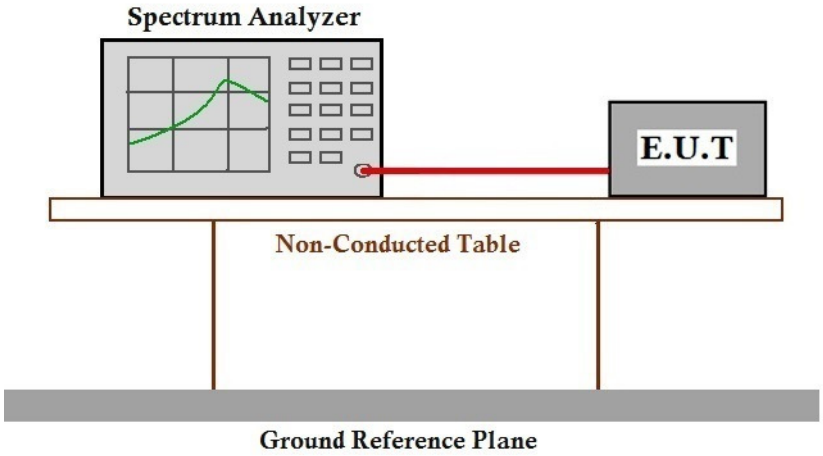
Temperature: 24.5 °C Humidity: 44.1 % RH Atmospheric Pressure: 1010 mbar

7.10.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80);data rate @ MCS0 is the worst case of IEEE 802.11ax(HE160). Only the data of worst case is recorded in the report.
Final test	06	TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80);data rate @ MCS0 is the worst case of IEEE 802.11ax(HE160). Only the data of worst case is recorded in the report.
Final test	07	TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80);data rate @ MCS0 is the worst case of IEEE 802.11ax(HE160). Only the data of worst case is recorded in the report.
Final test	08	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data

		rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80);data rate @ MCS0 is the worst case of IEEE 802.11ax(HE160). Only the data of worst case is recorded in the report.

7.10.3 Test Setup Diagram



7.10.4 Measurement Procedure and Data

Please Refer To Appendix For Details.

7.11 Channel Move Time

Test Requirement KDB 905462 D02 Section 5.1

Test Method: KDB 905462 D02 Section 7.8.3

Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

7.11.1 E.U.T. Operation

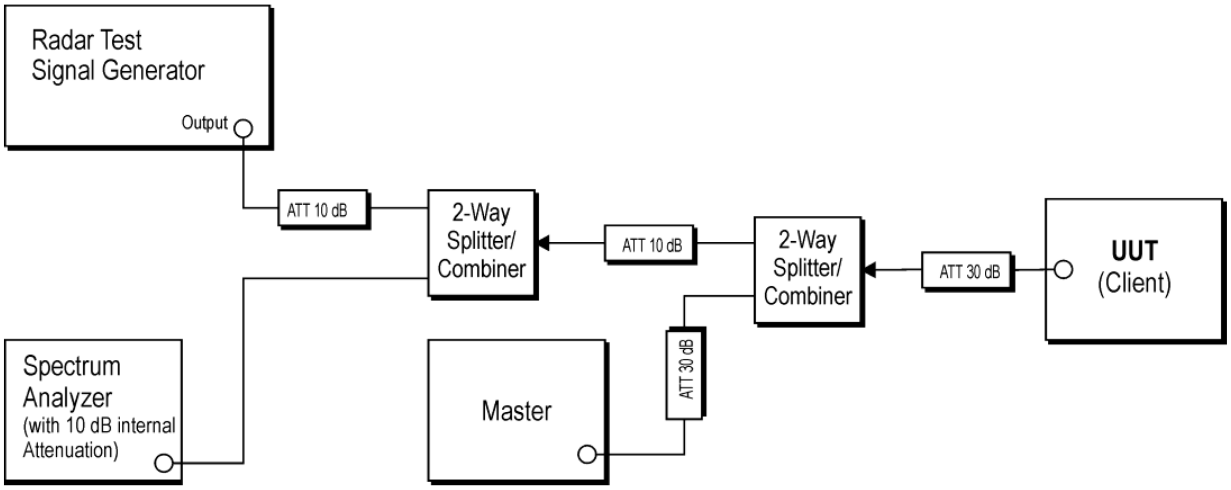
Operating Environment:

Temperature: 23.2 °C Humidity: 43.8 % RH Atmospheric Pressure: 1010 mbar

7.11.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	17	Noraml operating_Keep the EUT communication with the companion device.

7.11.3 Test Setup Diagram



7.11.4 Measurement Procedure and Data

1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.

2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.

3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.

4) EUT will associate with the master at channel. The file “iperf.exe” specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.

5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.

6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.

7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) =S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms)= N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.

8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details

7.12 Channel Closing Transmission Time

Test Requirement KDB 905462 D02 Section 5.1

Test Method: KDB 905462 D02 Section 7.8.3

Limit:

Test item	Limit	Applicability	
		Master Device or client with Radar Detection	Client without Radar Detection
Non-occupancy period	Minimum 30 minutes	Yes	Not required
Channel Availability Check Time	60 seconds	Yes	Not required
Channel Move Time	10 seconds See Note 1.	Yes	Yes
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.	Yes	Yes
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.	Yes	Not required

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.

Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

7.12.1 E.U.T. Operation

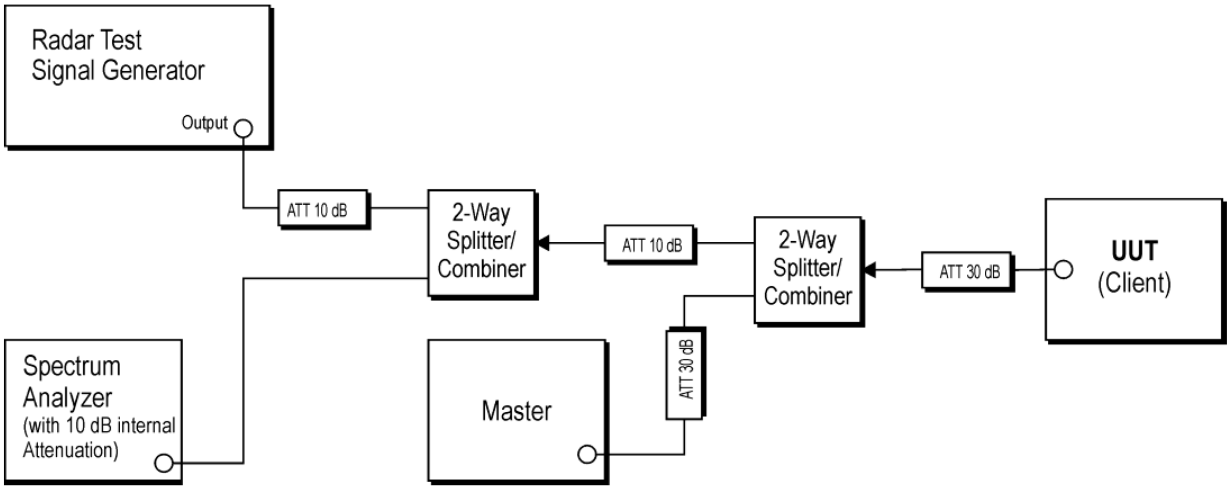
Operating Environment:

Temperature: 23.2 °C Humidity: 43.8 % RH Atmospheric Pressure: 1010 mbar

7.12.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	17	Noraml operating_Keep the EUT communication with the companion device.

7.12.3 Test Setup Diagram



7.12.4 Measurement Procedure and Data

1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.

2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.

3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.

4) EUT will associate with the master at channel. The file “iperf.exe” specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.

5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.

6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.

7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) =S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms)= N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.

8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Please Refer to Appendix for Details

7.13 Radiated Emissions (Below 1GHz)

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)

Test Method: KDB 789033 D02 II G

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
960-1000	500	3

7.13.1 E.U.T. Operation

Operating Environment:

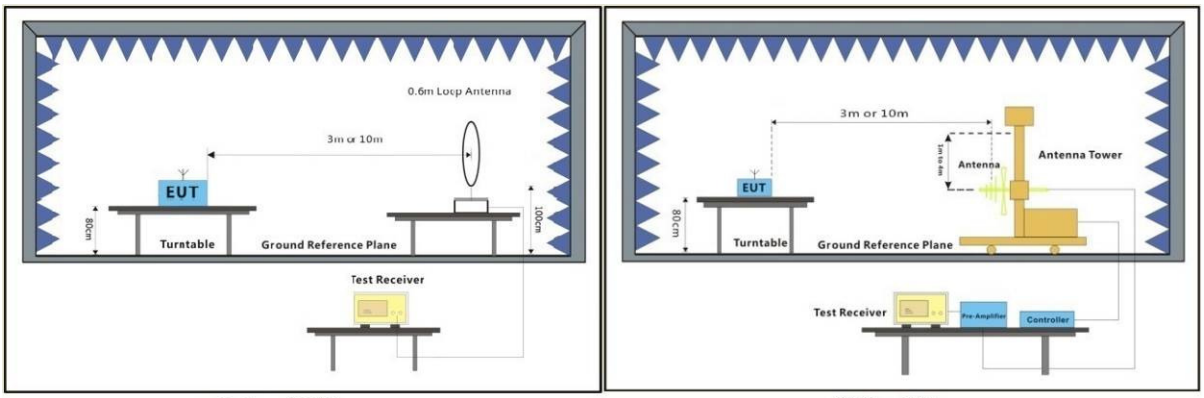
Temperature: 25.6 °C Humidity: 54.3 % RH Atmospheric Pressure: 1010 mbar

7.13.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	05	TX mode (U-NII-1)_Keep the EUT in continuously transmitting mode with all modulation types. All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80);data rate @ MCS0 is the worst case of IEEE 802.11ax(HE160). Only the data of worst case is recorded in the report.
Pre-scan	06	TX mode (U-NII-2A)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80);data rate @ MCS0 is the worst case of IEEE 802.11ax(HE160). Only the data of worst case is recorded in the report.

Pre-scan	07	TX mode (U-NII-2C)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80);data rate @ MCS0 is the worst case of IEEE 802.11ax(HE160). Only the data of worst case is recorded in the report.
Pre-scan	08	TX mode (U-NII-3)_Keep the EUT in continuously transmitting mode with all modulation types.All data rates for each modulation type have been tested and found the data rate @ 6Mbps is the worst case of IEEE 802.11a; data rate @ MCS0 is the worst case of IEEE 802.11n(HT20); data rate @ MCS0 is the worst case of IEEE 802.11n(HT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT20); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT40); data rate @ MCS0 is the worst case of IEEE 802.11ac(VHT80); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE20); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE40); data rate @ MCS0 is the worst case of IEEE 802.11ax(HE80);data rate @ MCS0 is the worst case of IEEE 802.11ax(HE160). Only the data of worst case is recorded in the report.

7.13.3 Test Setup Diagram



Below 30MHz　　30MHz-1GHz

7.13.4 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.

g. Test the EUT in the lowest channel, the middle channel, the Highest channel.

h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

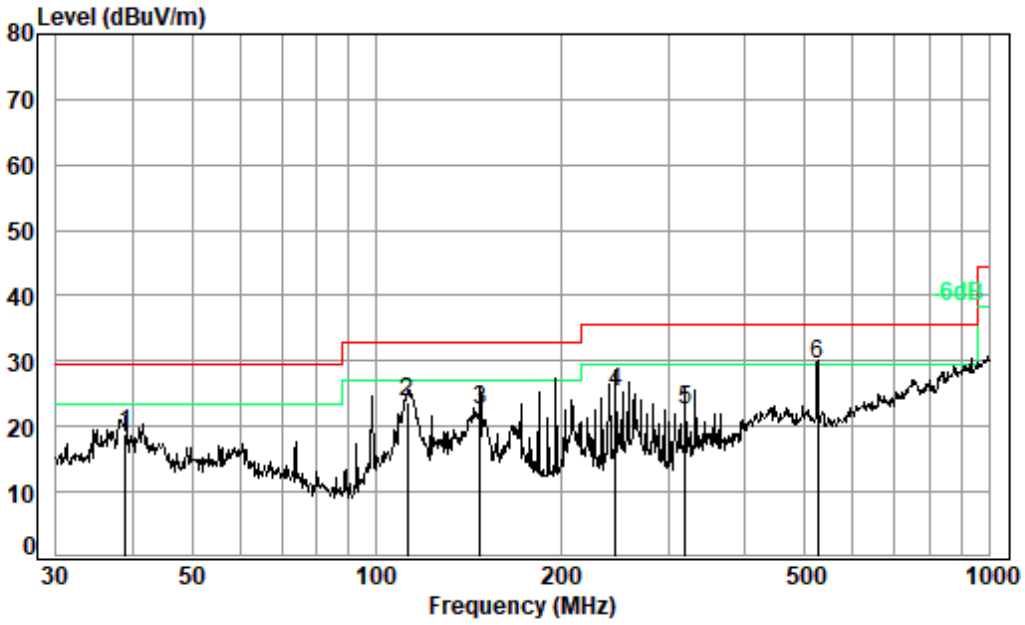
2. For emission below 1GHz, through the pre-scan found the worst case is the lowest channel of 802.11a. Only the worst case is recorded in the report.

3. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

4. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

Antenna 1 & 2 were tested for Modulation: 802.11a. Only the worst case(Antenna 1) was recorded in the report.
Antenna 1, 2 & 1+2, were tested for Modulation: 802.11n(HT20),n(HT40),ac(HT20), ac(HT40), ac(HT80), ac(HT160), ax(HE20), ax(HE40), ax(HE80), ax(HE160). Only the worst case(Antenna 1+2) was recorded in the report.
Below 1GHz(Worst Case):

Test Mode: 05; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 10m HORIZONTAL
Job No. : 20343AT
Test Mode: 05

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	38.888	30.45	20.00	0.92	32.50	18.87	29.50	-10.63	QP
2	112.524	38.36	16.51	1.30	32.44	23.73	33.00	-9.27	QP
3	147.921	33.45	20.10	1.48	32.42	22.61	33.00	-10.39	QP
4	245.951	37.64	17.98	1.94	32.40	25.16	35.60	-10.44	QP
5	319.937	32.45	20.30	2.19	32.38	22.56	35.60	-13.04	QP
6 pp	526.397	34.66	24.36	2.93	32.30	29.65	35.60	-5.95	QP

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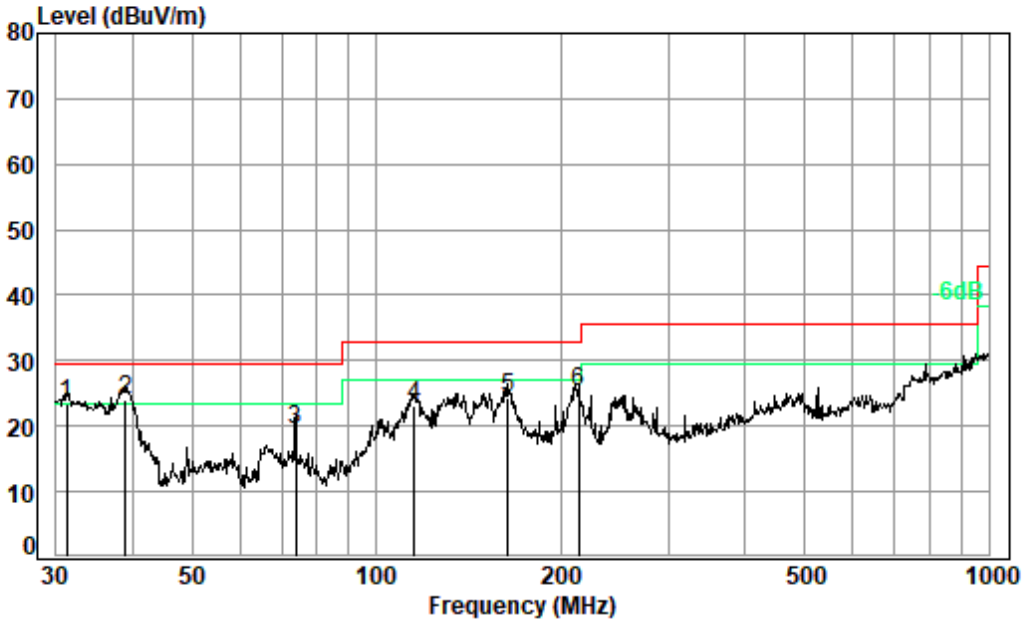
Test Mode: 05; Polarity: Horizontal; Modulation:802.11a; Bandwidth:20MHz; Channel:Low



Condition: 10m VERTICAL
Job No. : 20343AT
Test Mode: 05

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	31.180	36.46	18.66	0.88	32.50	23.50	29.50	-6.00	QP
2 pp	39.024	35.68	20.00	0.92	32.50	24.10	29.50	-5.40	QP
3	73.876	34.36	16.43	1.12	32.47	19.44	29.50	-10.06	QP
4	115.321	37.63	16.73	1.31	32.44	23.23	33.00	-9.77	QP
5	164.330	35.75	19.58	1.52	32.41	24.44	33.00	-8.56	QP
6	213.763	39.78	16.00	1.73	32.40	25.11	33.00	-7.89	QP

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The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

$L_3 / L_{10} = D_{10} / D_3$

Note:

L_3: Level @ 3m distance. Unit: uV/m;

L_{10}: Level @ 10m distance. Unit: uV/m;

D_3: 3m distance. Unit: m

D_{10}: 10m distance. Unit: m

The level at 3m test distance is below:

Frequency (MHz)	Level @ 10m (dBuV/m)	Level @ 10m (uV/m)	Level @ 3m (uV/m)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
31.18	23.50	14.96	49.87	33.96	40.00	-6.04	V
39.02	24.10	16.03	53.44	34.56	40.00	-5.44	V
73.88	19.44	9.38	31.25	29.90	40.00	-10.10	V
115.32	23.23	14.50	48.35	33.69	43.50	-9.81	V
164.33	24.44	16.67	55.57	34.90	43.50	-8.60	V
213.76	25.11	18.01	60.03	35.57	43.50	-7.93	V
38.89	18.87	8.78	29.27	29.33	40.00	-10.67	H
112.52	23.73	15.36	51.21	34.19	43.50	-9.31	H
147.92	22.61	13.51	45.02	33.07	43.50	-10.43	H
245.95	25.16	18.11	60.38	35.62	46.00	-10.38	H
319.94	22.56	13.43	44.76	33.02	46.00	-12.98	H
526.40	29.65	30.37	101.25	40.11	46.00	-5.89	H

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8 Test Setup Photo

Refer to Setup Photos

9 EUT Constructional Details (EUT Photos)

Refer to EUT external and internal photos

10 Appendix

1. Duty Cycle

1.1 Test Result

Test Mode	Channel Frequency (MHz)	TX Type	ANT No.	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
802.11a	5180	SISO	1	0.148	0.195	75.90	1.20
	5200	SISO	1	0.148	0.195	75.90	1.20
	5240	SISO	1	0.148	0.195	75.90	1.20
	5260	SISO	1	0.148	0.196	75.51	1.22
	5300	SISO	1	0.148	0.195	75.90	1.20
	5320	SISO	1	0.149	0.196	76.02	1.19
	5500	SISO	1	0.149	0.195	76.41	1.17
	5580	SISO	1	0.148	0.195	75.90	1.20
	5600	SISO	1	0.148	0.196	75.51	1.22
	5700	SISO	1	0.148	0.195	75.90	1.20
	5745	SISO	1	0.149	0.195	76.41	1.17
	5785	SISO	1	0.148	0.196	75.51	1.22
	5825	SISO	1	0.148	0.196	75.51	1.22
802.11n(HT20)	5180	MIMO	1	0.312	0.362	86.19	0.65
	5200	MIMO	1	0.312	0.362	86.19	0.65
	5240	MIMO	1	0.312	0.362	86.19	0.65
	5260	MIMO	1	0.312	0.362	86.19	0.65
	5300	MIMO	1	0.312	0.363	85.95	0.66
	5320	MIMO	1	0.312	0.363	85.95	0.66
	5500	MIMO	1	0.312	0.363	85.95	0.66
	5580	MIMO	1	0.312	0.362	86.19	0.65
	5600	MIMO	1	0.312	0.362	86.19	0.65
	5700	MIMO	1	0.312	0.363	85.95	0.66
	5745	MIMO	1	0.312	0.363	85.95	0.66
	5785	MIMO	1	0.312	0.363	85.95	0.66
	5825	MIMO	1	0.312	0.364	85.71	0.67
802.11n(HT40)	5190	MIMO	1	0.320	0.370	86.49	0.63
	5230	MIMO	1	0.320	0.370	86.49	0.63
	5270	MIMO	1	0.320	0.370	86.49	0.63
	5310	MIMO	1	0.320	0.370	86.49	0.63
	5510	MIMO	1	0.320	0.370	86.49	0.63
	5550	MIMO	1	0.320	0.370	86.49	0.63

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	5590	MIMO	1	0.320	0.370	86.49	0.63
	5670	MIMO	1	0.320	0.371	86.25	0.64
	5755	MIMO	1	0.320	0.370	86.49	0.63
	5795	MIMO	1	0.320	0.371	86.25	0.64
802.11ac(VHT20)	5180	MIMO	1	0.164	0.214	76.64	1.16
	5200	MIMO	1	0.164	0.215	76.28	1.18
	5240	MIMO	1	0.164	0.214	76.64	1.16
	5260	MIMO	1	0.165	0.214	77.10	1.13
	5300	MIMO	1	0.164	0.214	76.64	1.16
	5320	MIMO	1	0.164	0.215	76.28	1.18
	5500	MIMO	1	0.164	0.215	76.28	1.18
	5580	MIMO	1	0.165	0.215	76.74	1.15
	5600	MIMO	1	0.164	0.214	76.64	1.16
	5700	MIMO	1	0.164	0.215	76.28	1.18
	5745	MIMO	1	0.164	0.215	76.28	1.18
	5785	MIMO	1	0.164	0.215	76.28	1.18
	5825	MIMO	1	0.164	0.214	76.64	1.16
802.11ac(VHT40)	5190	MIMO	1	0.164	0.215	76.28	1.18
	5230	MIMO	1	0.164	0.214	76.64	1.16
	5270	MIMO	1	0.164	0.214	76.64	1.16
	5310	MIMO	1	0.164	0.214	76.64	1.16
	5510	MIMO	1	0.164	0.214	76.64	1.16
	5550	MIMO	1	0.165	0.215	76.74	1.15
	5590	MIMO	1	0.164	0.214	76.64	1.16
	5670	MIMO	1	0.165	0.214	77.10	1.13
	5755	MIMO	1	0.165	0.215	76.74	1.15
	5795	MIMO	1	0.165	0.215	76.74	1.15
802.11ac(VHT80)	5210	MIMO	1	0.164	0.214	76.64	1.16
	5290	MIMO	1	0.164	0.214	76.64	1.16
	5530	MIMO	1	0.164	0.214	76.64	1.16
	5610	MIMO	1	0.164	0.214	76.64	1.16
	5775	MIMO	1	0.164	0.214	76.64	1.16
802.11ax(HEV160)	5250	MIMO	1	0.167	0.217	76.96	1.14
	5570	MIMO	1	0.167	0.217	76.96	1.14
802.11ax(HEV20)	5180	MIMO	1	0.475	0.526	90.30	0.44
	5200	MIMO	1	0.476	0.526	90.49	0.43
	5240	MIMO	1	0.261	0.312	83.65	0.78
	5260	MIMO	1	0.261	0.312	83.65	0.78
	5300	MIMO	1	0.262	0.313	83.71	0.77
	5320	MIMO	1	0.262	0.314	83.44	0.79
	5500	MIMO	1	0.261	0.312	83.65	0.78

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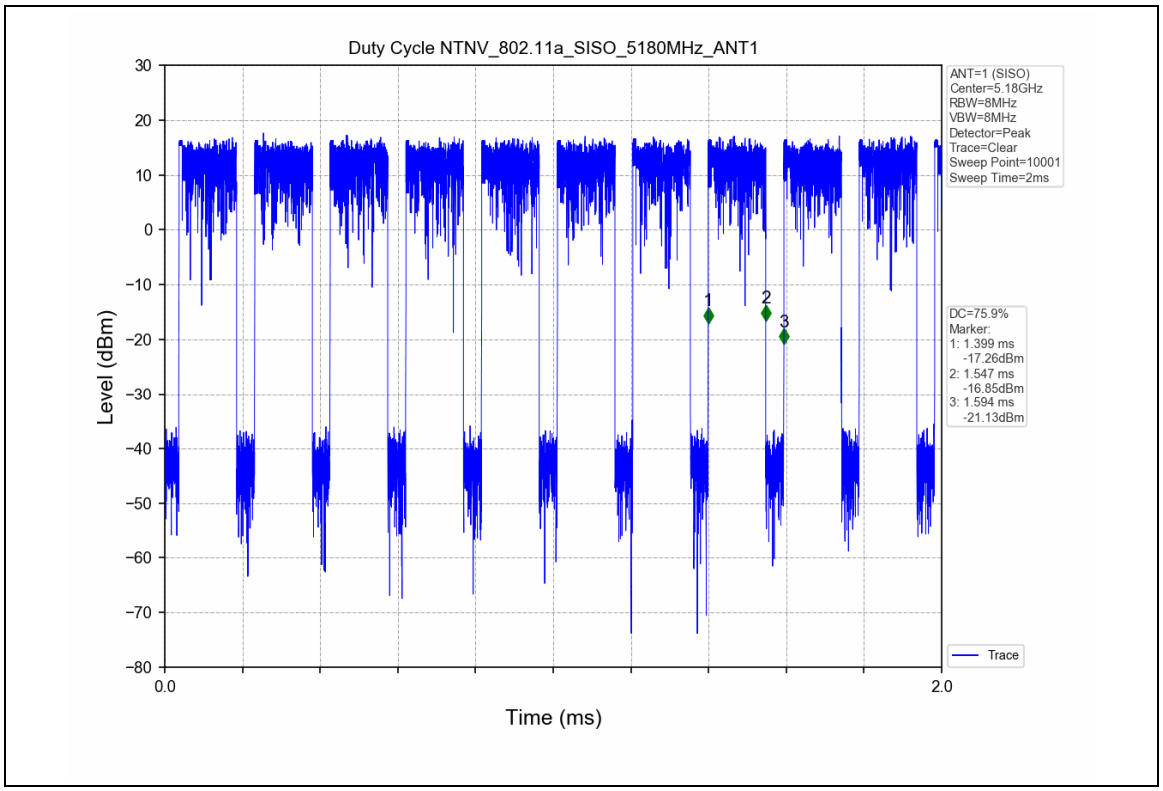
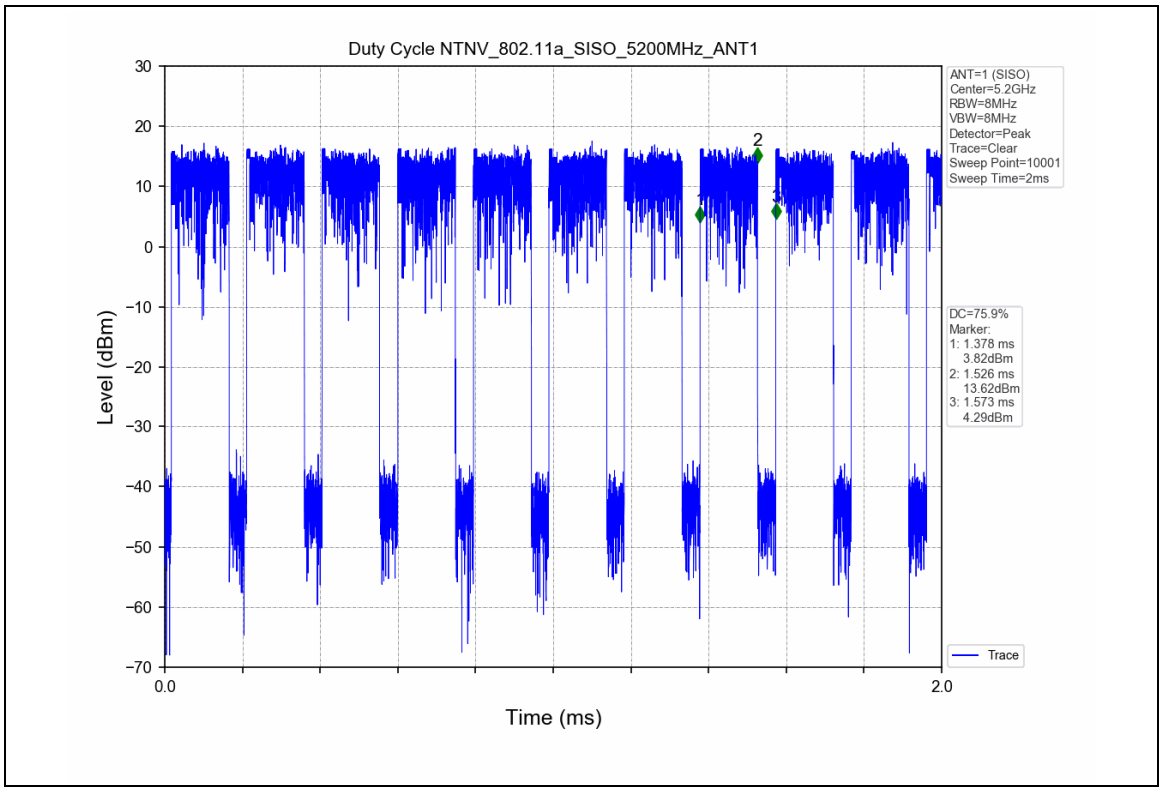
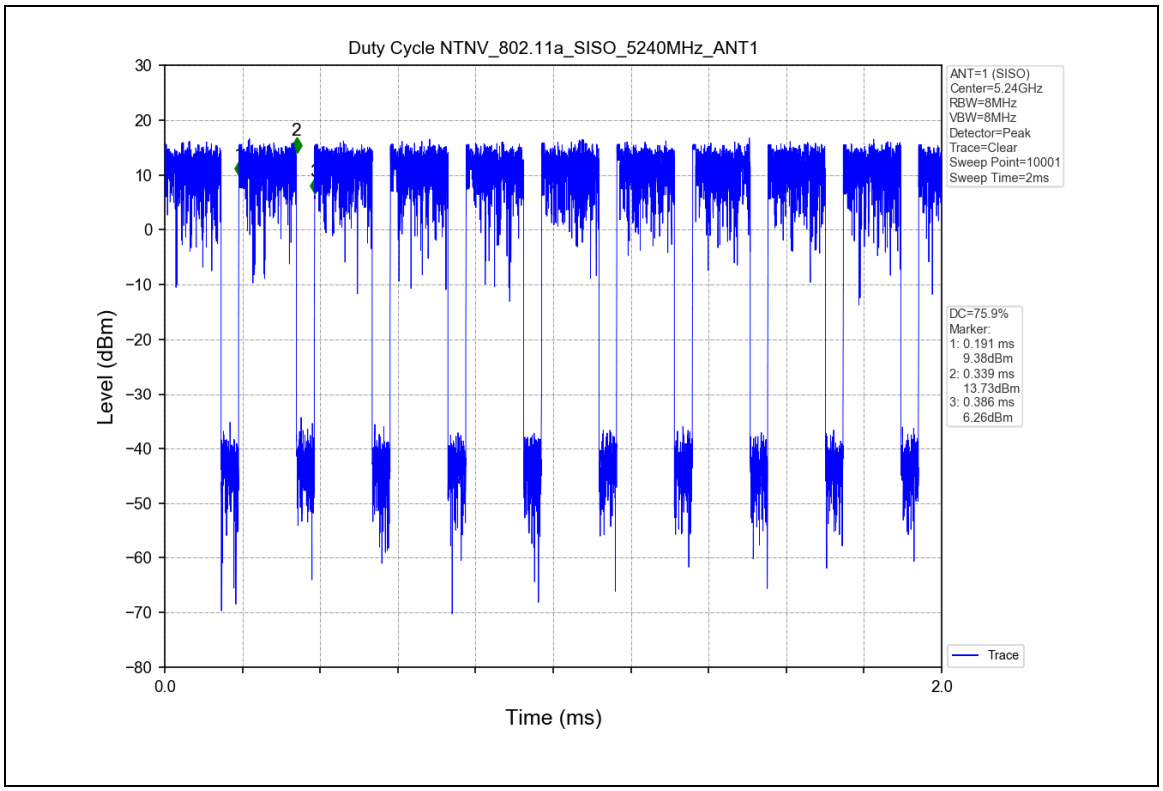
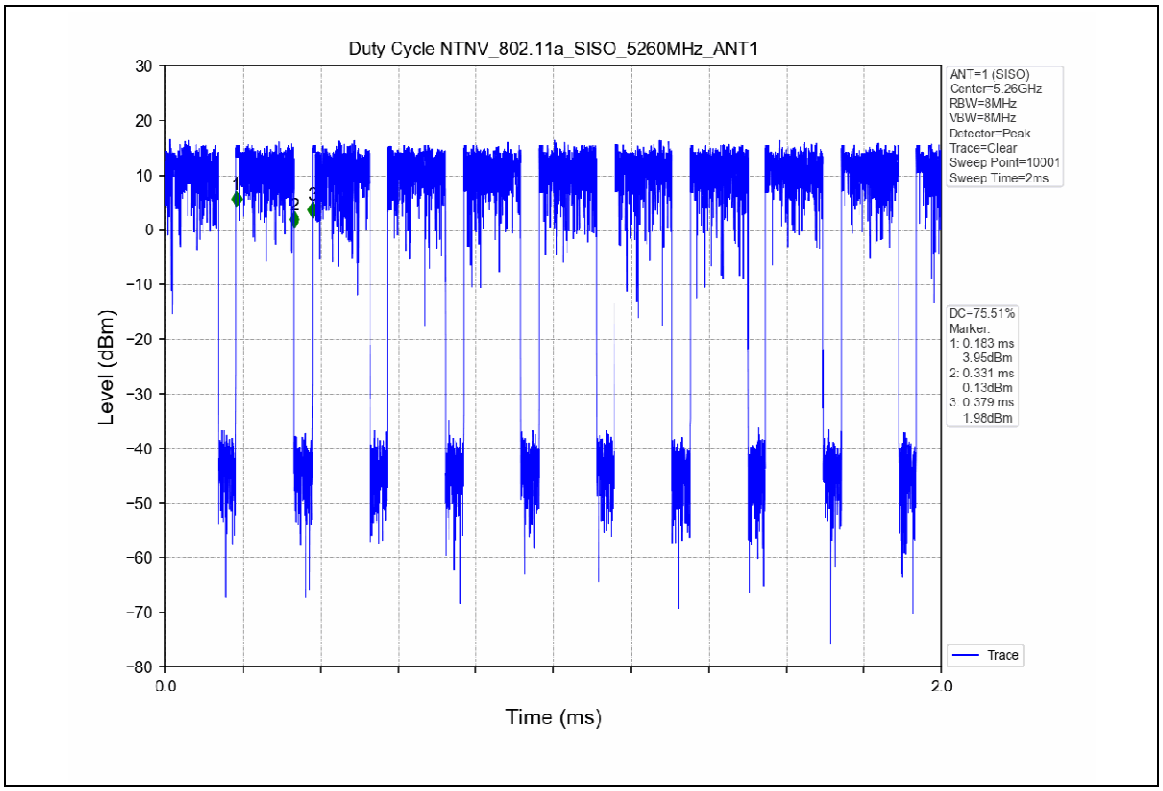
	5580	MIMO	1	0.262	0.313	83.71	0.77
	5600	MIMO	1	0.261	0.312	83.65	0.78
	5700	MIMO	1	0.262	0.313	83.71	0.77
	5745	MIMO	1	0.262	0.314	83.44	0.79
	5785	MIMO	1	0.261	0.313	83.39	0.79
	5825	MIMO	1	0.261	0.313	83.39	0.79
802.11ax(HEV40)	5190	MIMO	1	0.180	0.231	77.92	1.08
	5230	MIMO	1	0.181	0.231	78.35	1.06
	5270	MIMO	1	0.181	0.231	78.35	1.06
	5310	MIMO	1	0.180	0.231	77.92	1.08
	5510	MIMO	1	0.181	0.231	78.35	1.06
	5550	MIMO	1	0.180	0.230	78.26	1.06
	5590	MIMO	1	0.181	0.230	78.70	1.04
	5670	MIMO	1	0.180	0.231	77.92	1.08
	5755	MIMO	1	0.180	0.231	77.92	1.08
	5795	MIMO	1	0.180	0.230	78.26	1.06
802.11ax(HEV80)	5210	MIMO	1	0.167	0.217	76.96	1.14
	5290	MIMO	1	0.167	0.217	76.96	1.14
	5530	MIMO	1	0.167	0.217	76.96	1.14
	5610	MIMO	1	0.167	0.217	76.96	1.14
	5775	MIMO	1	0.167	0.217	76.96	1.14

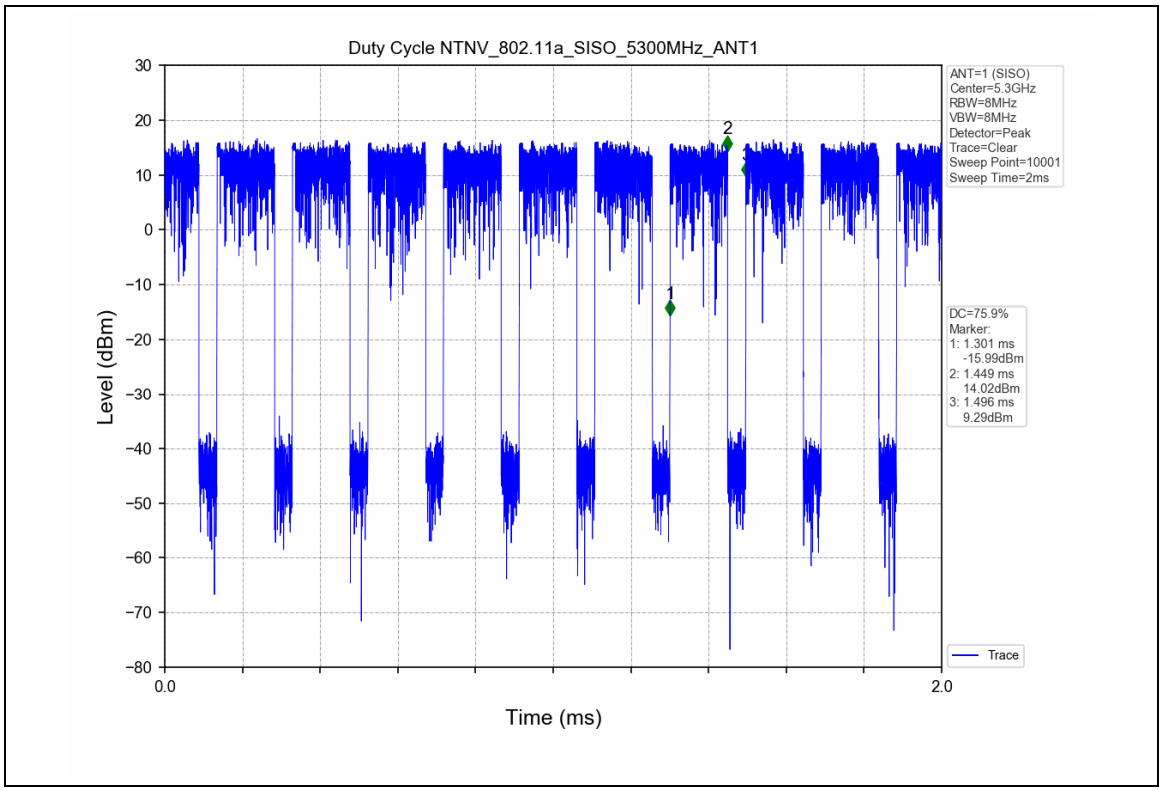
1.2 Test Graph

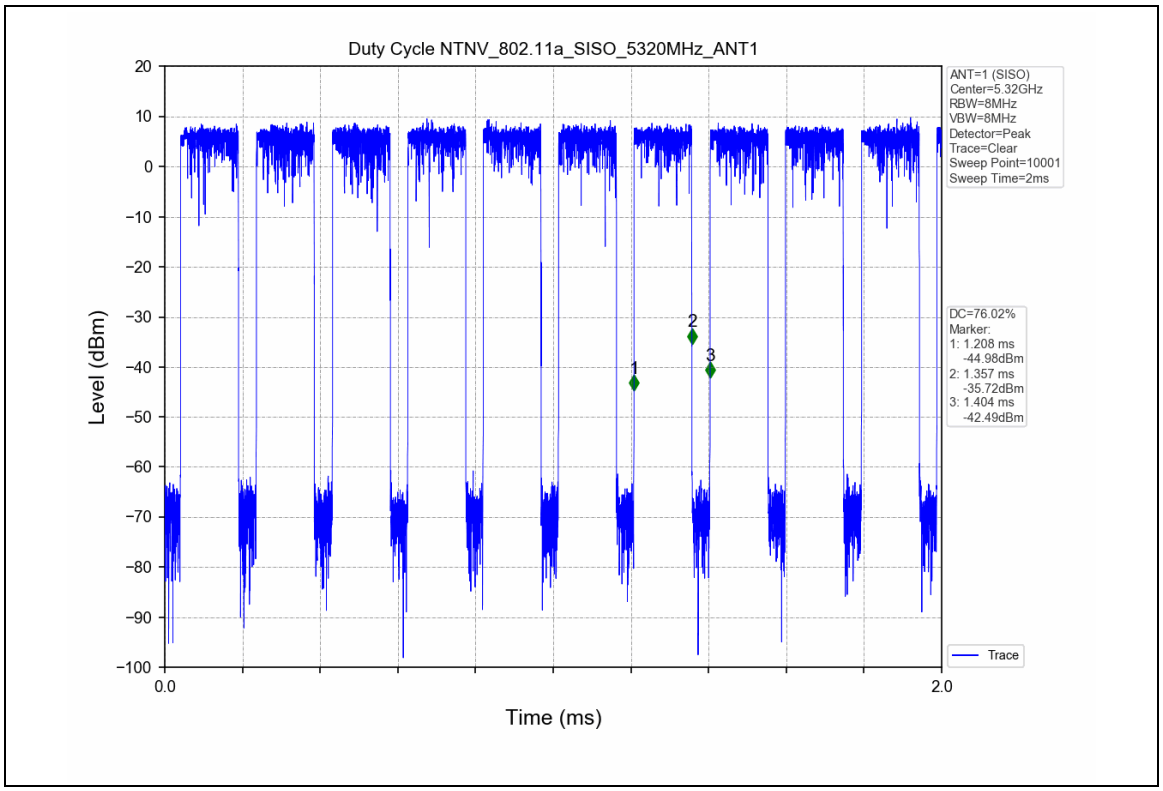


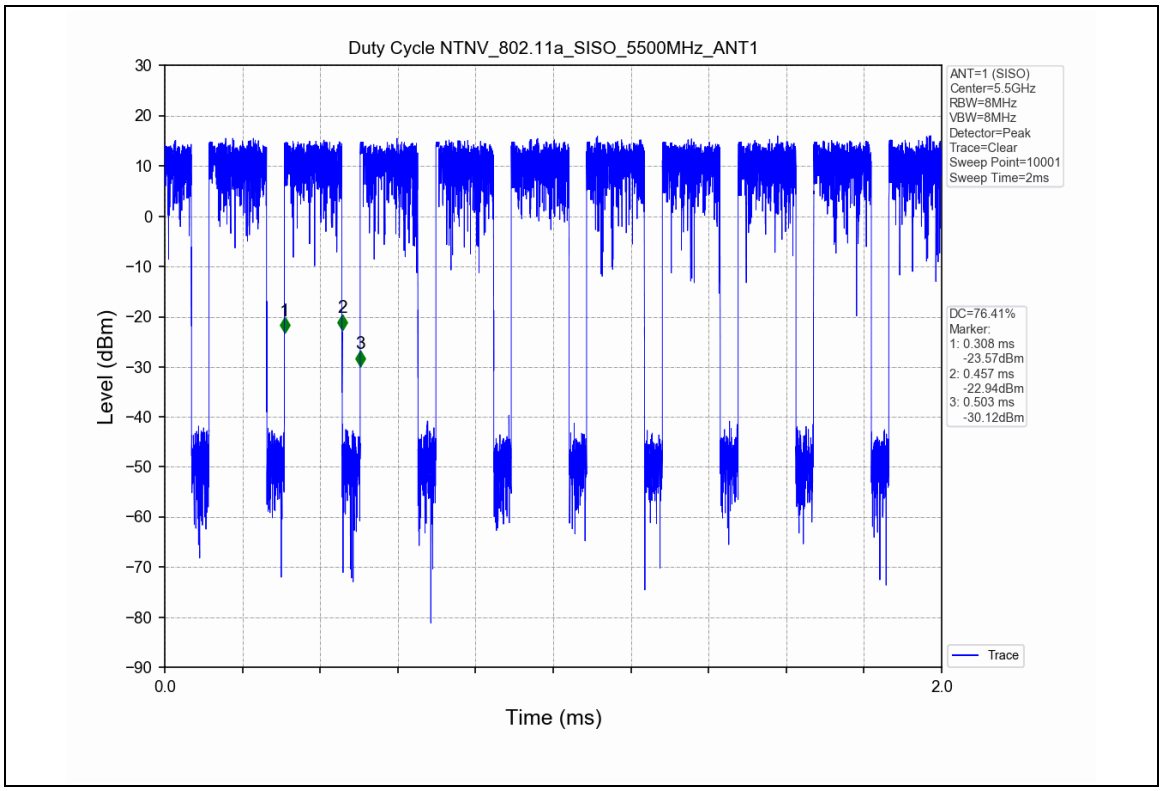


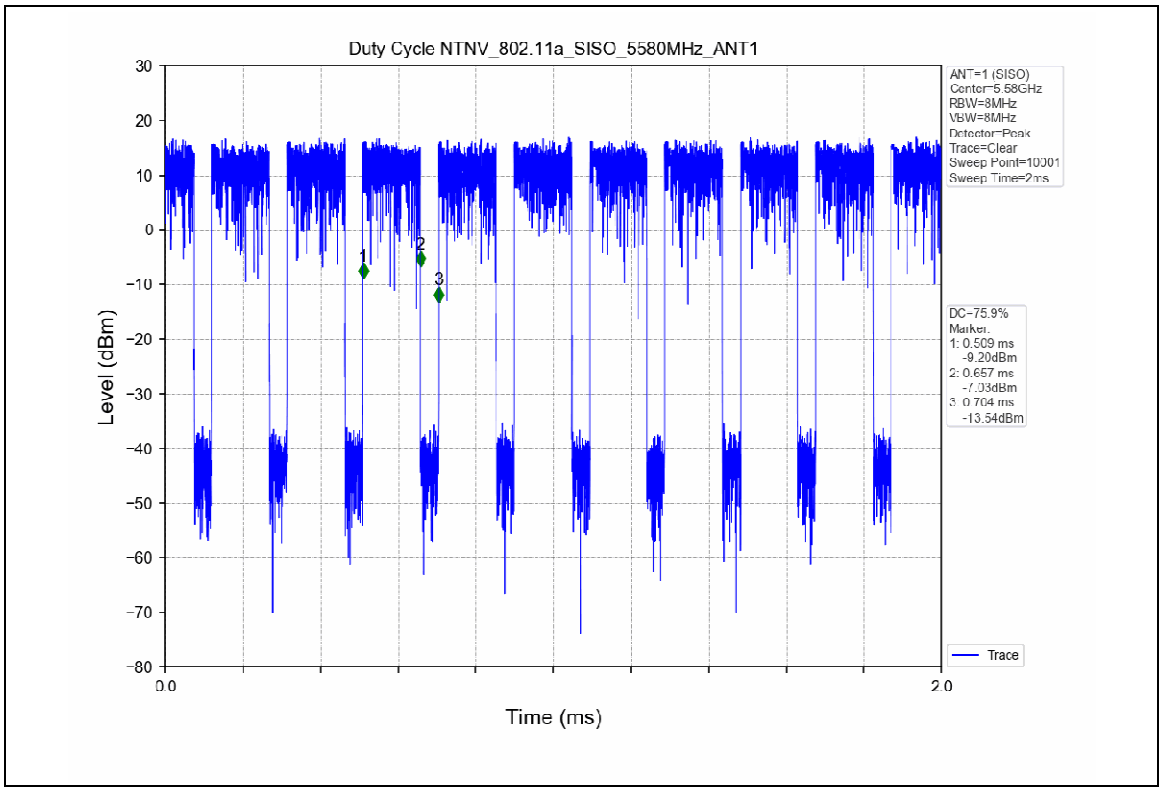


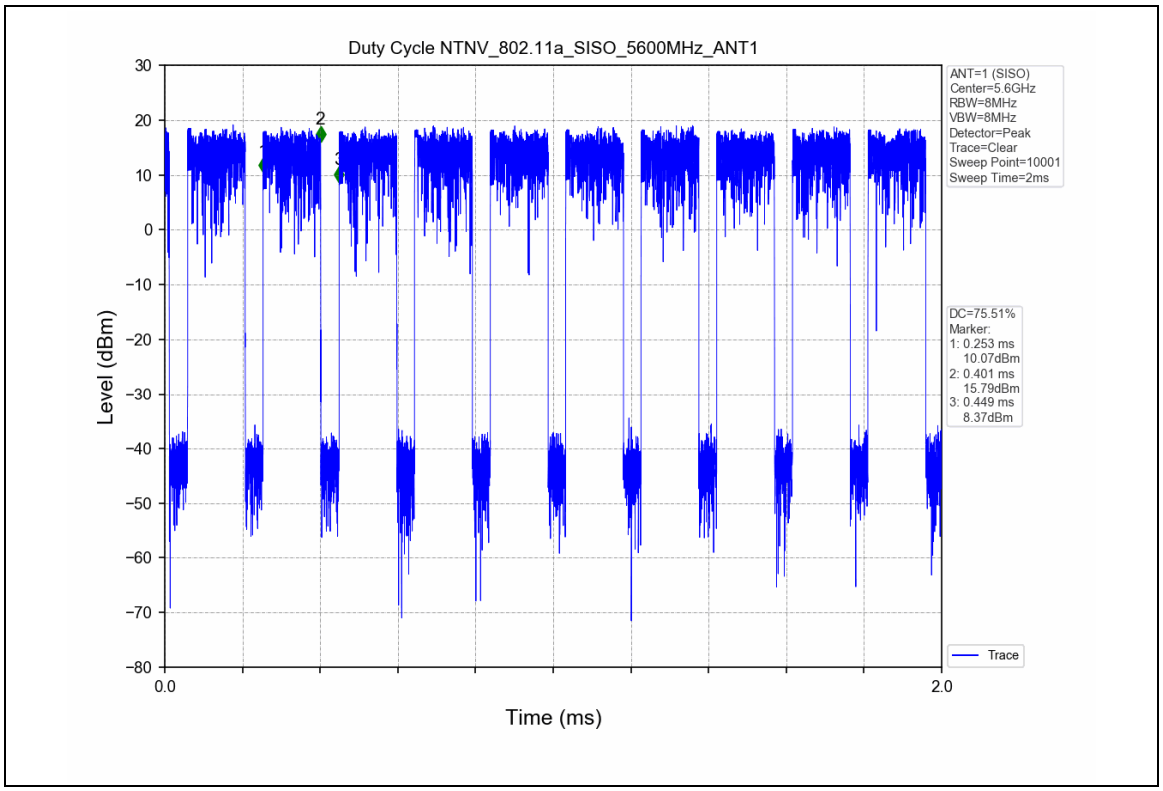


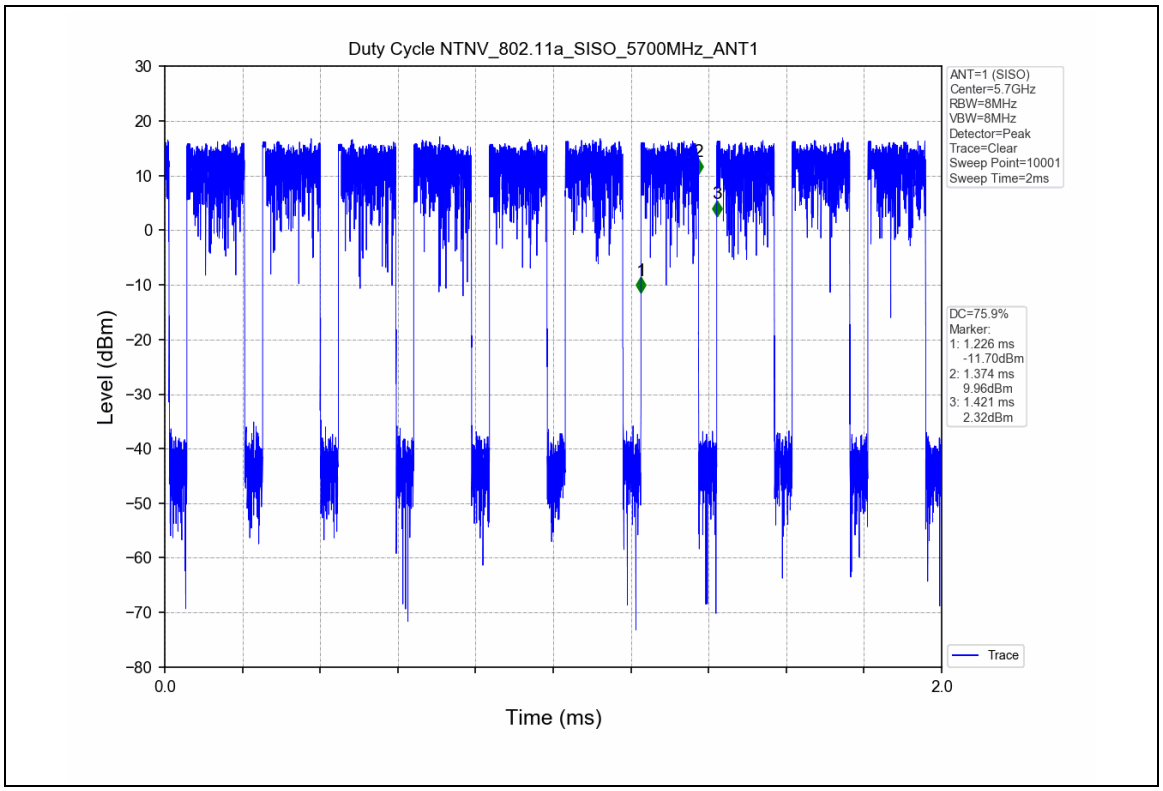


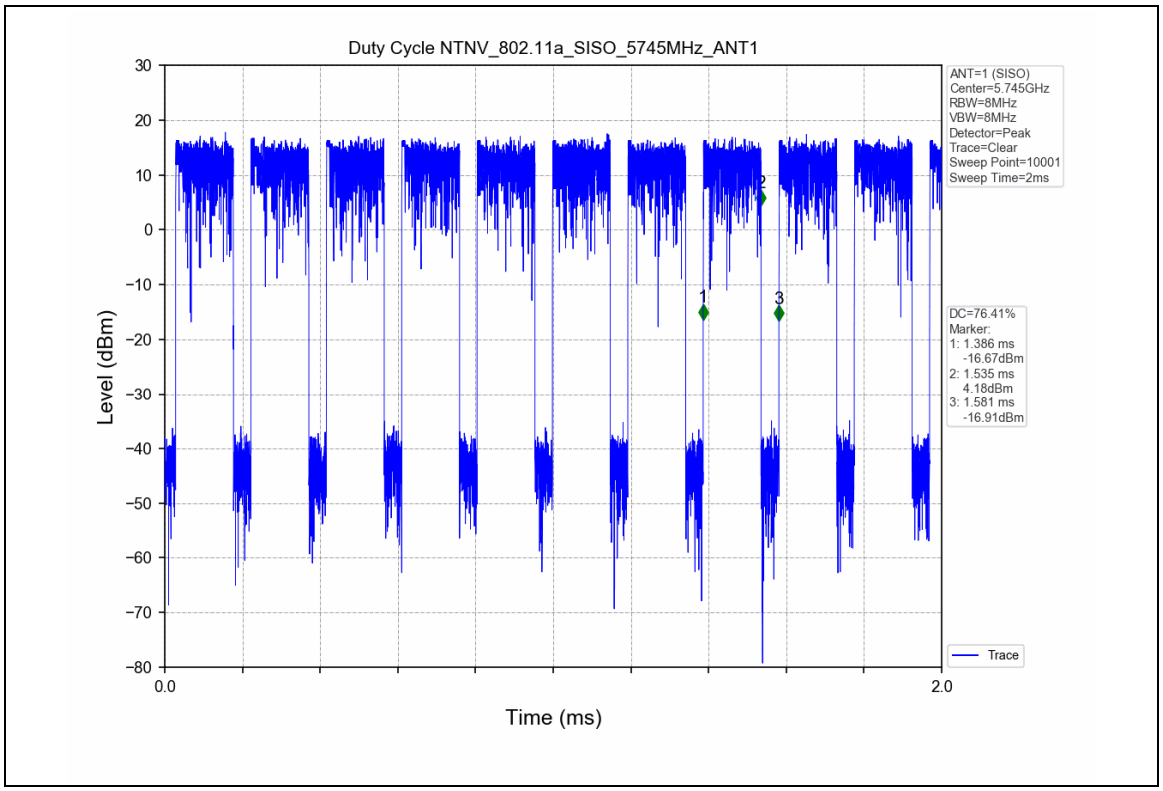


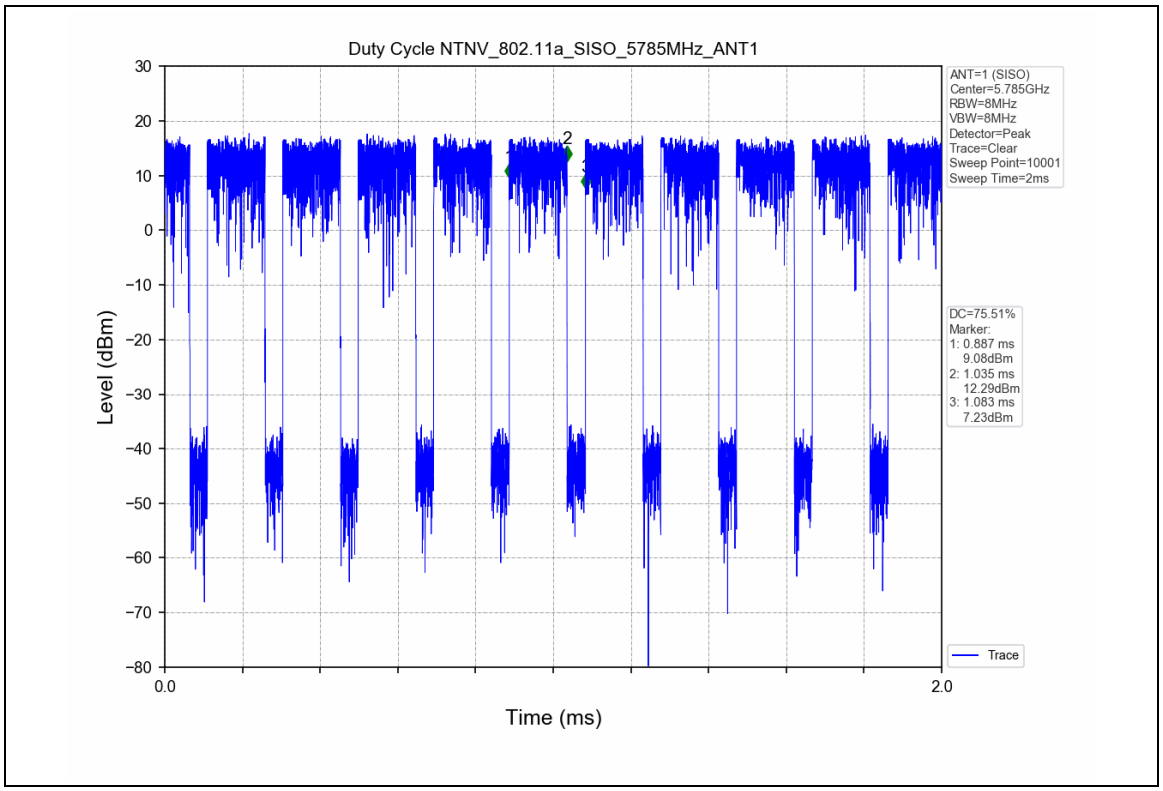


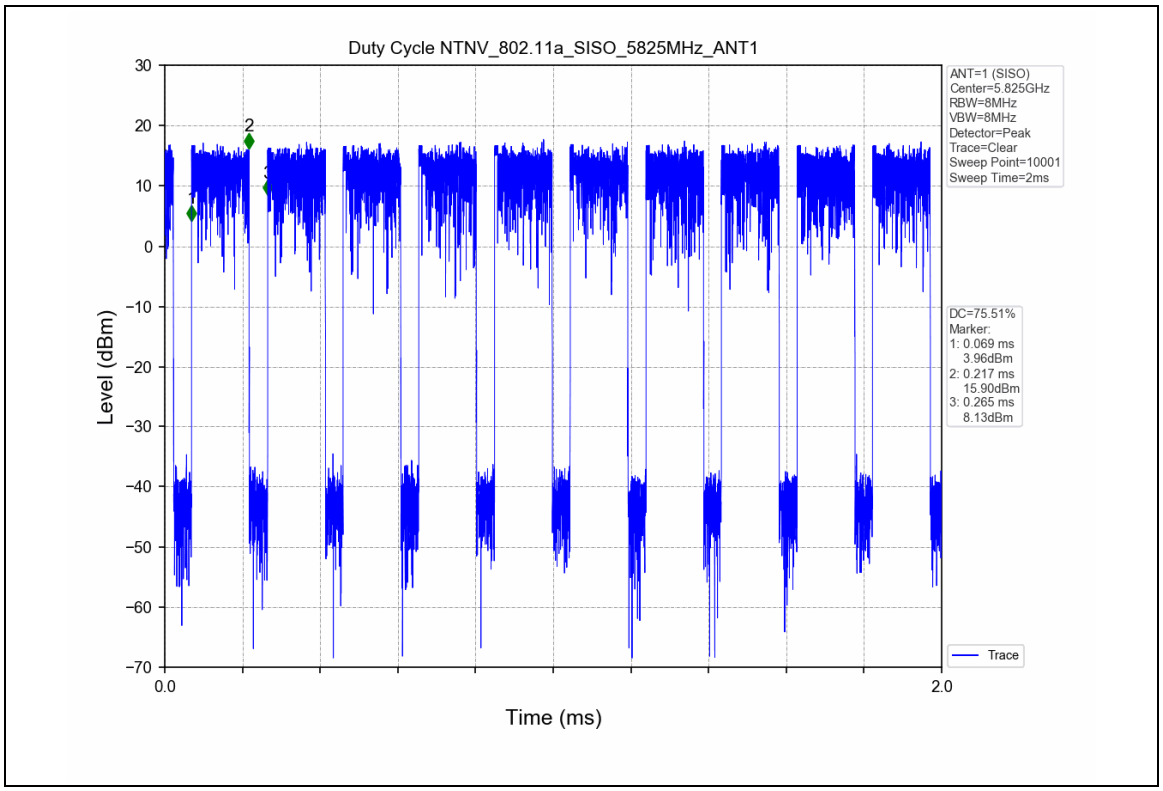


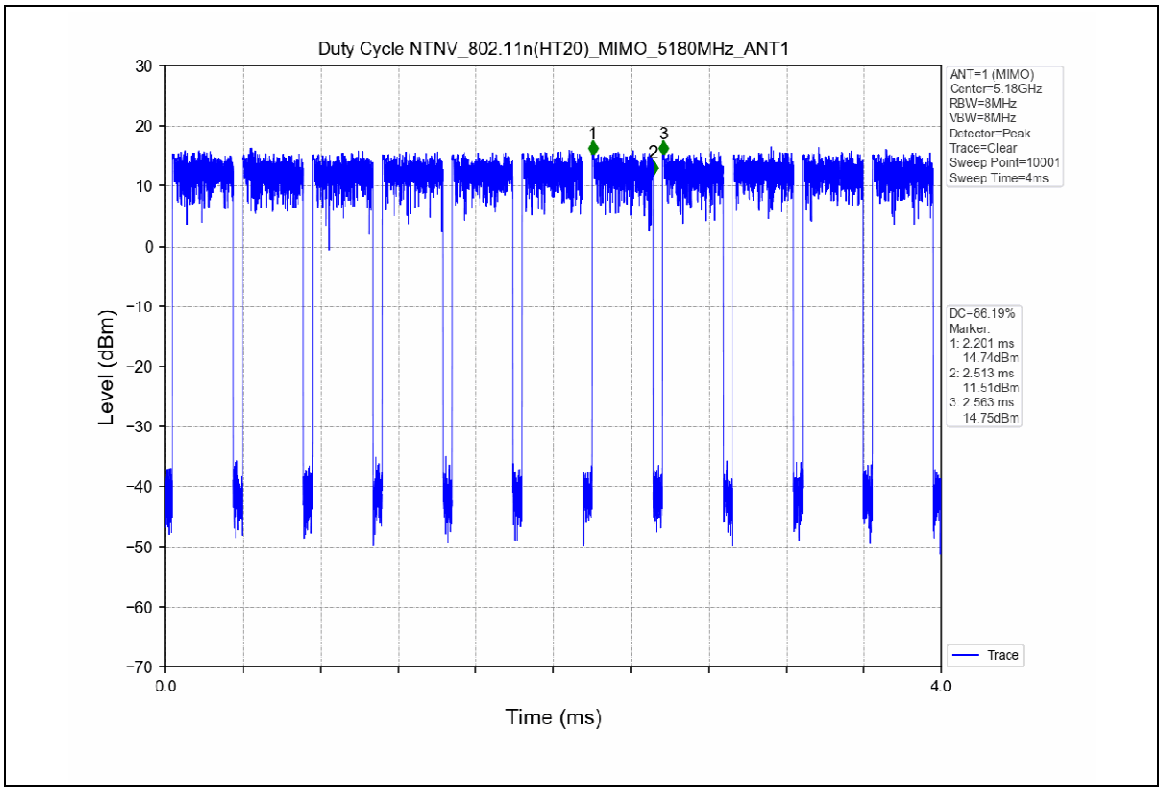


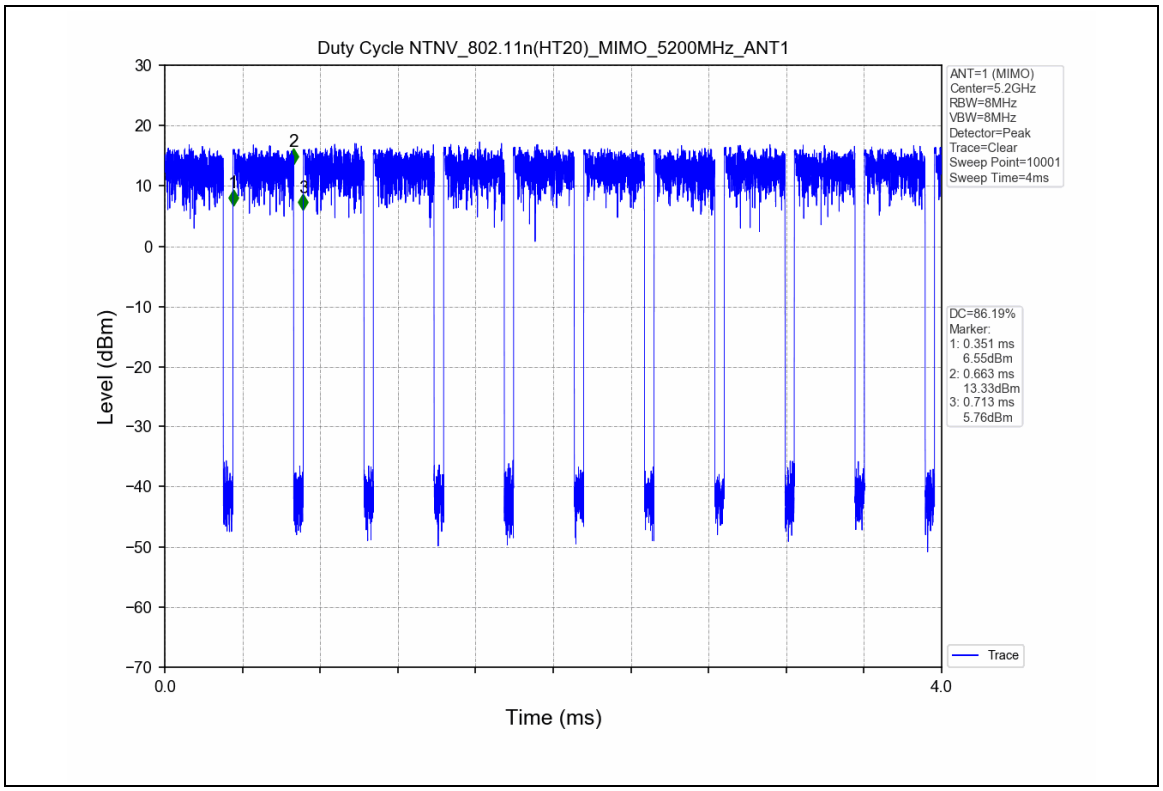


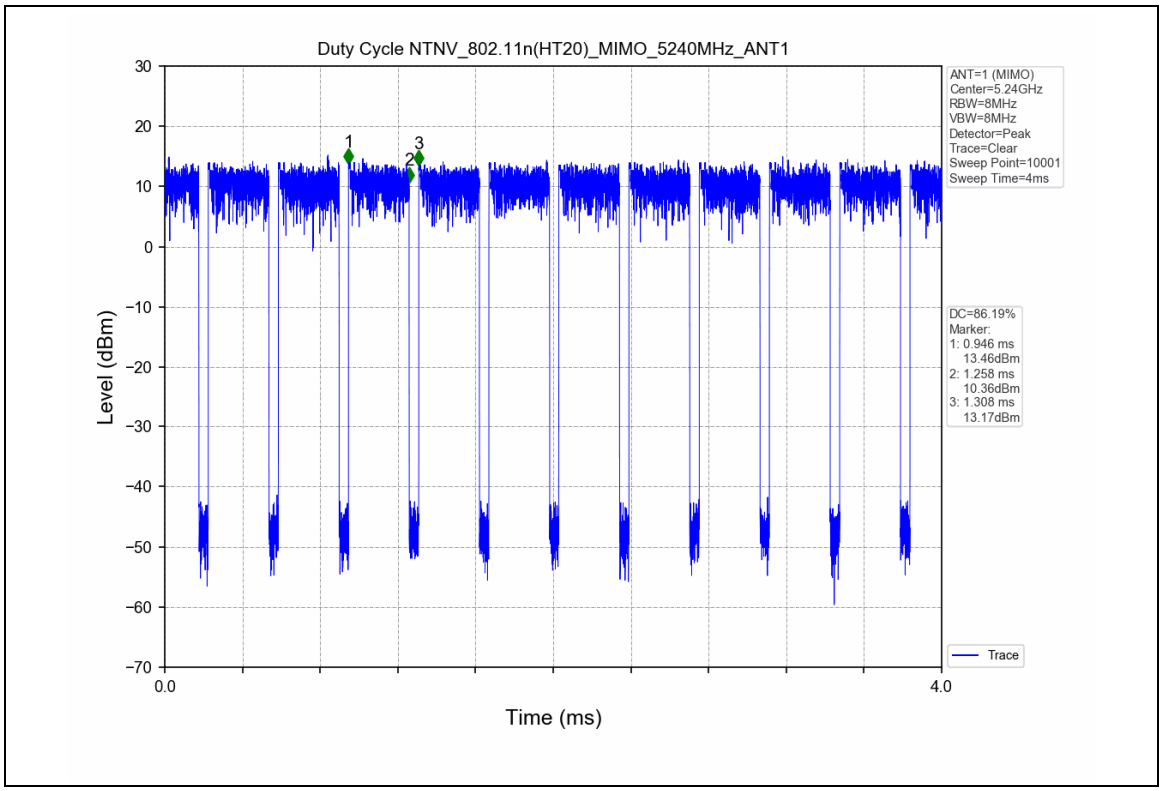


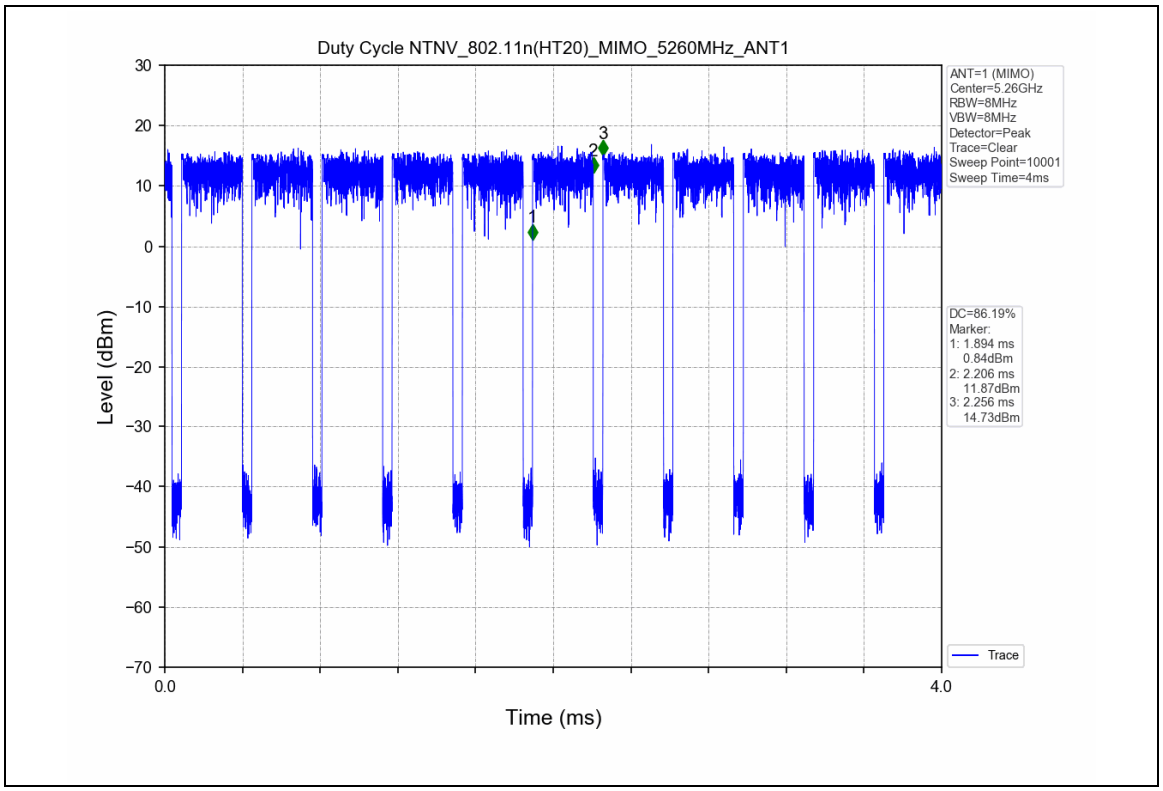


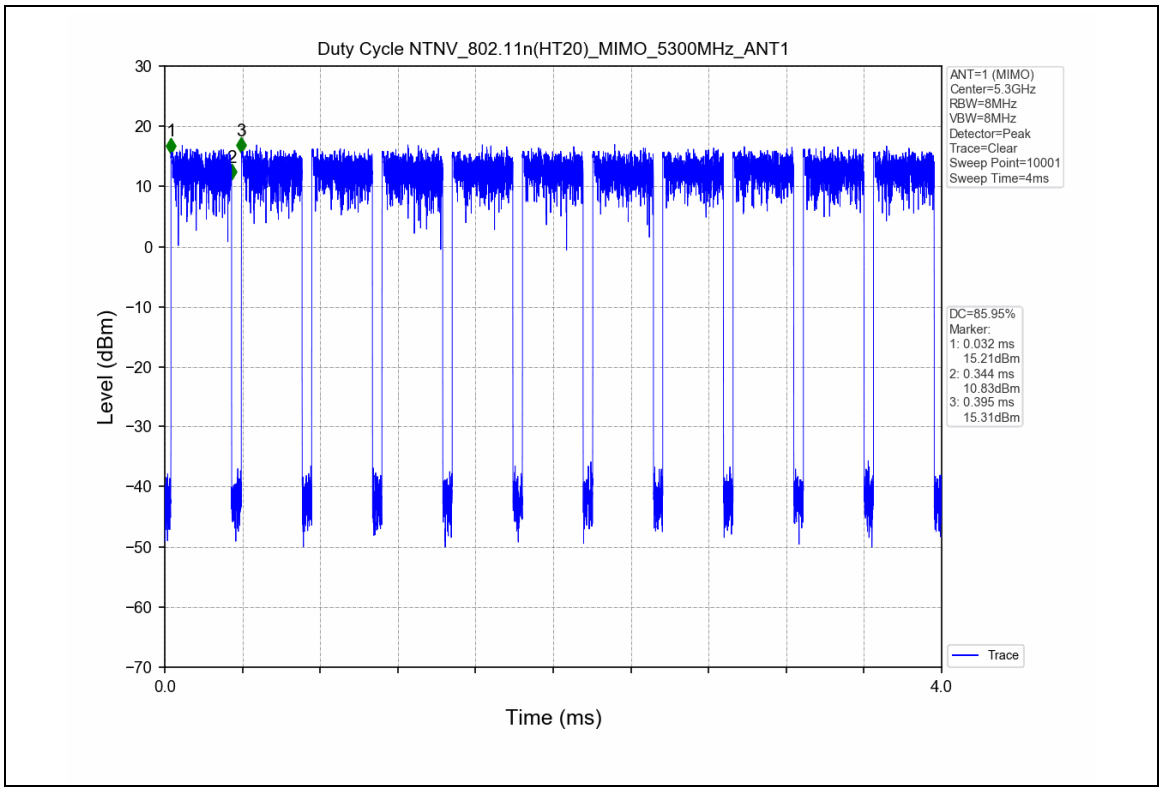


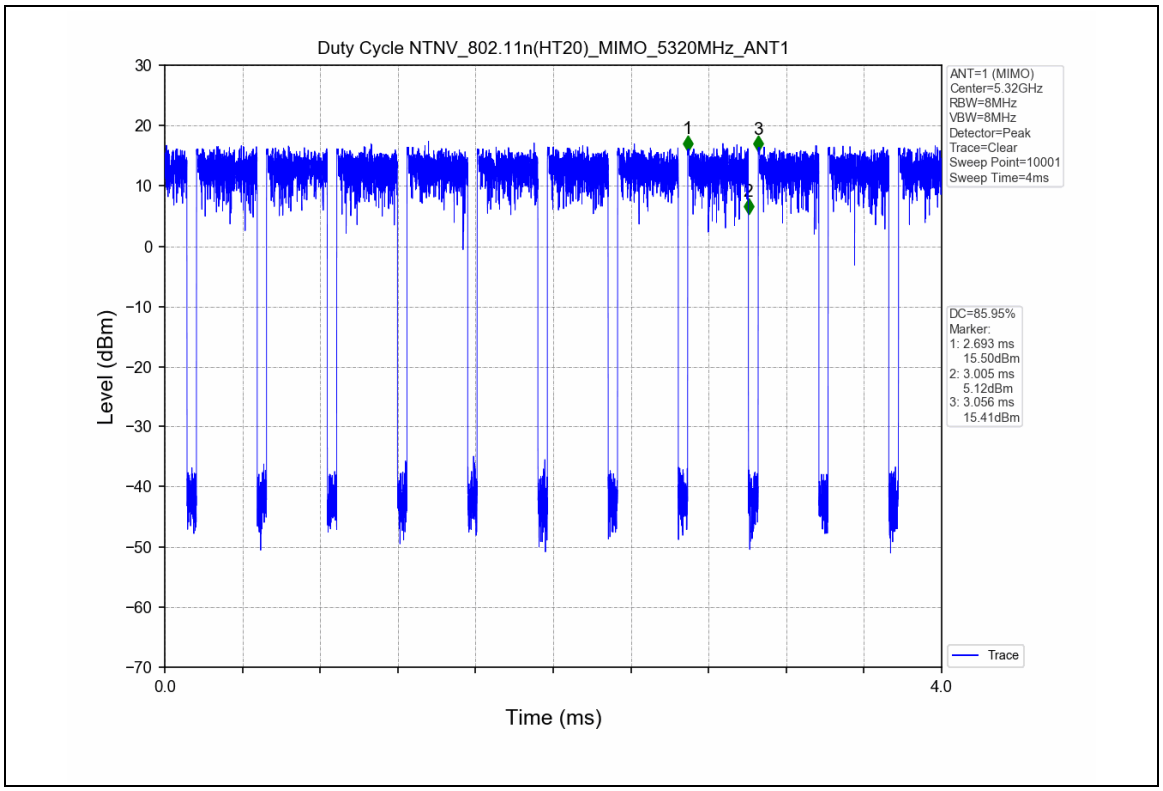


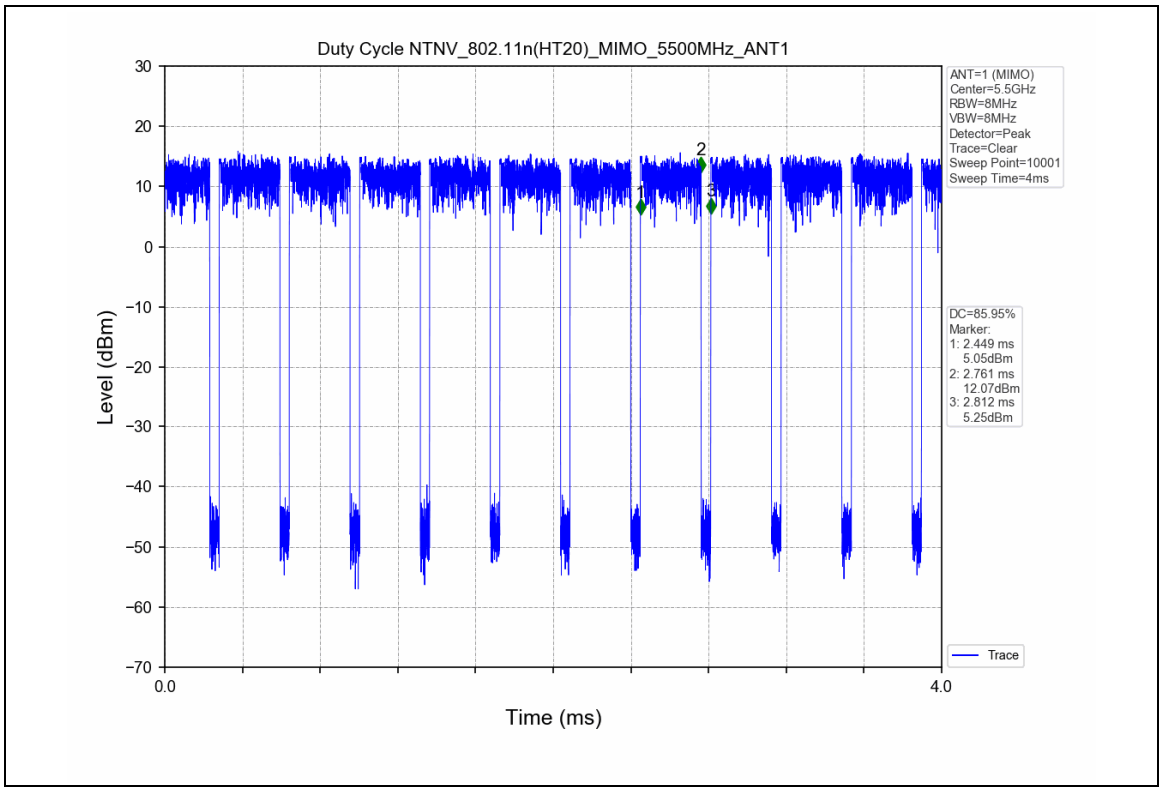


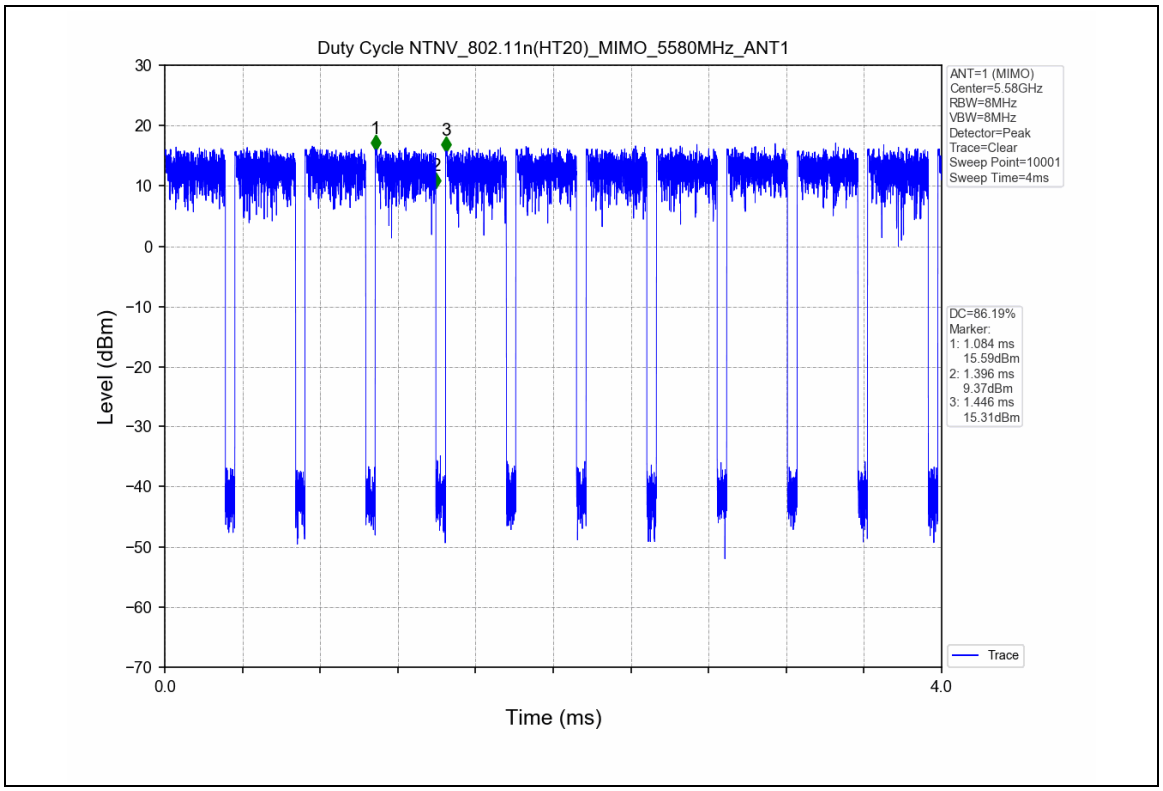


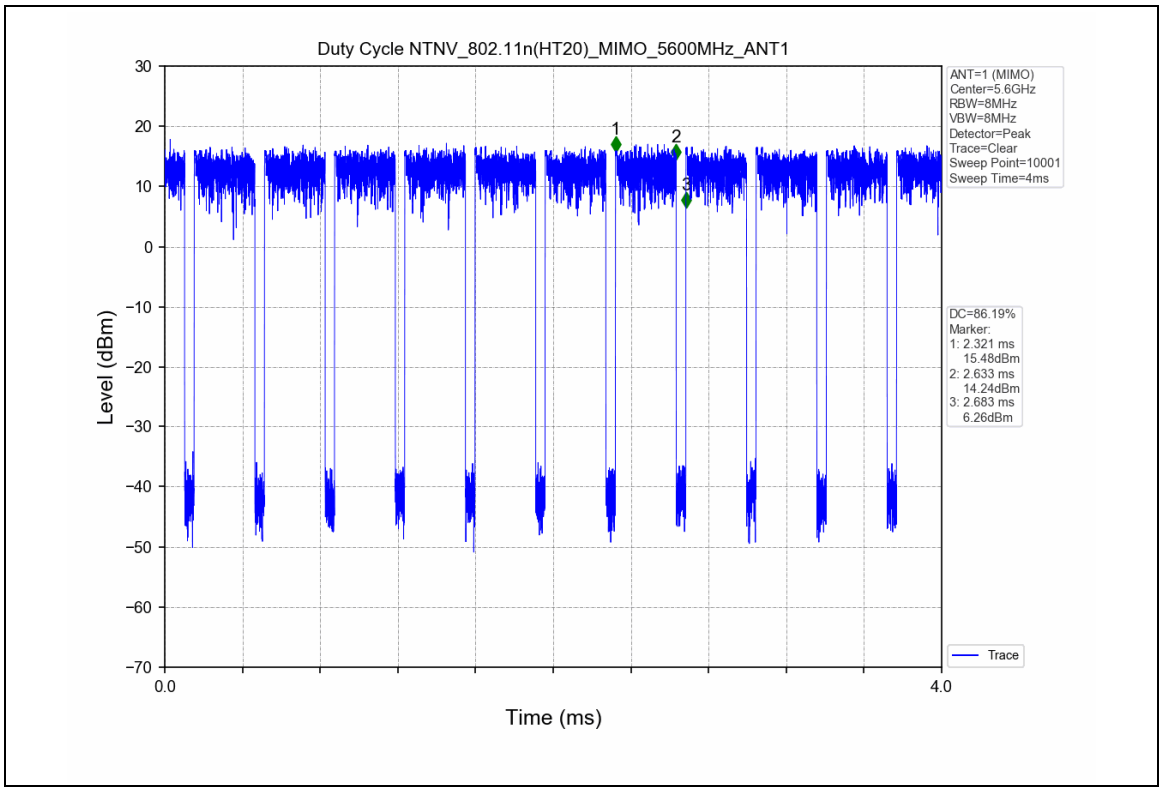


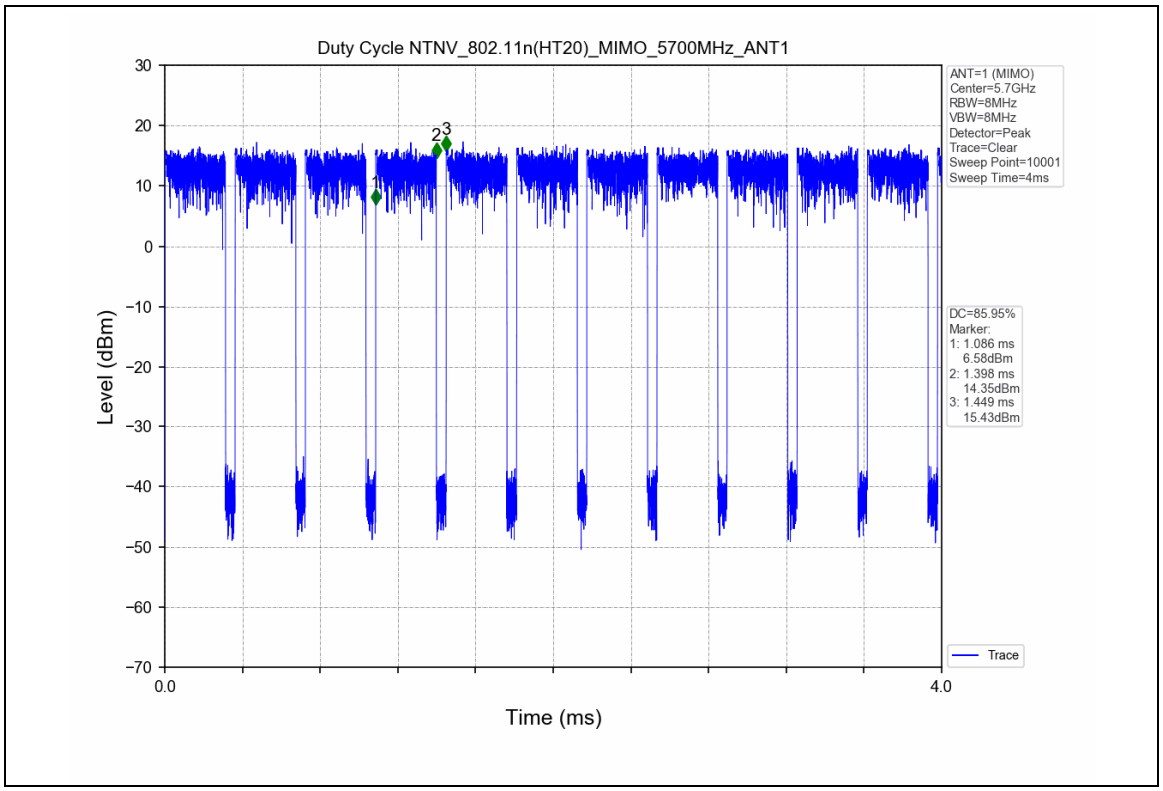


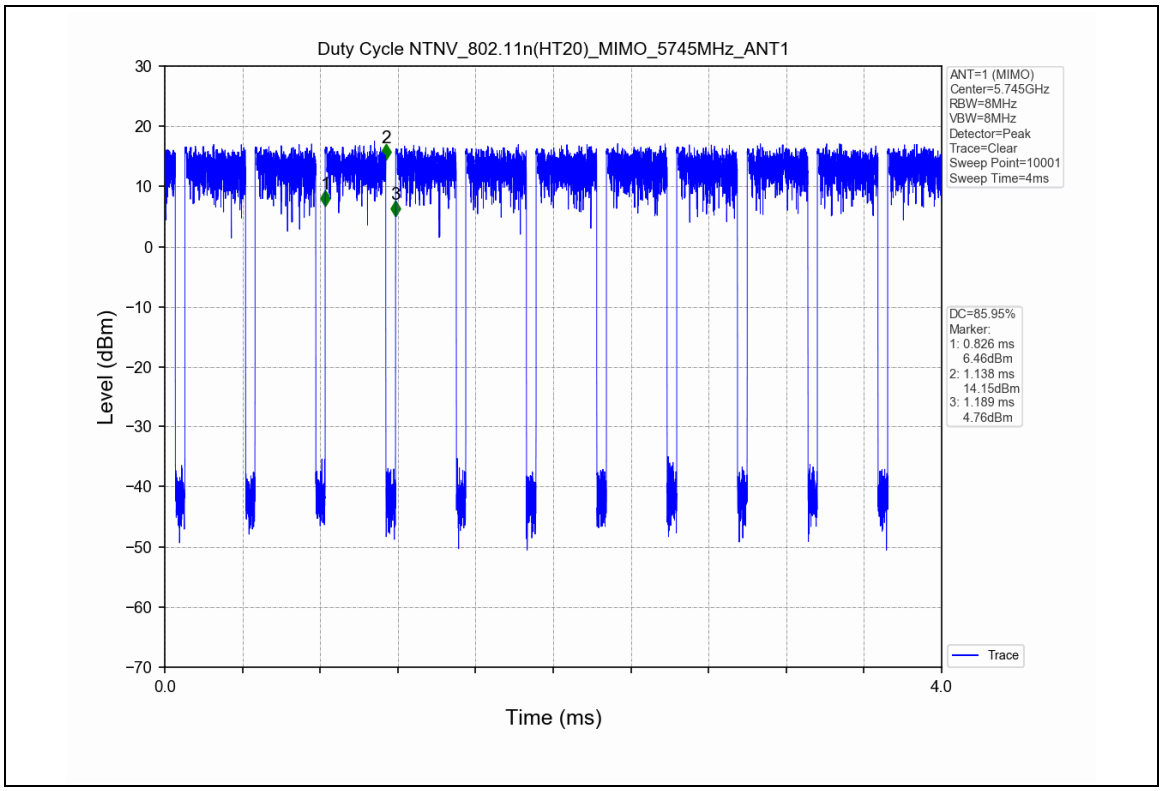


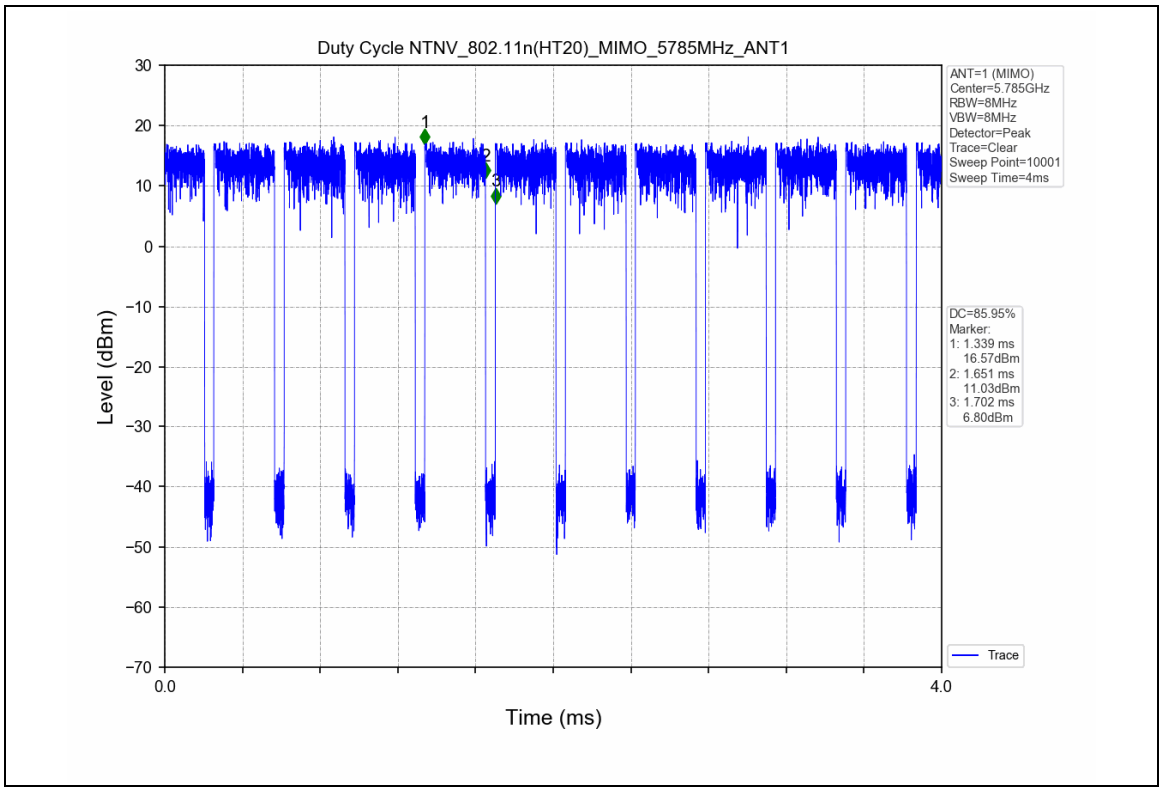


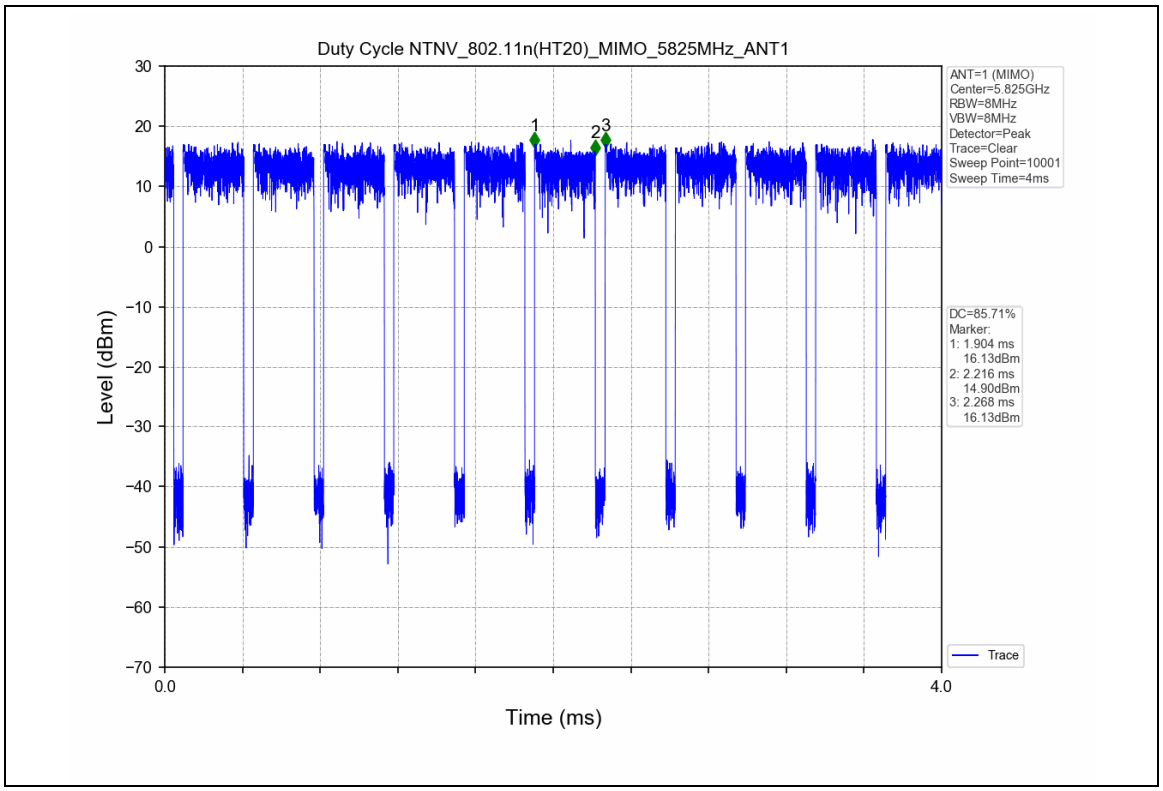


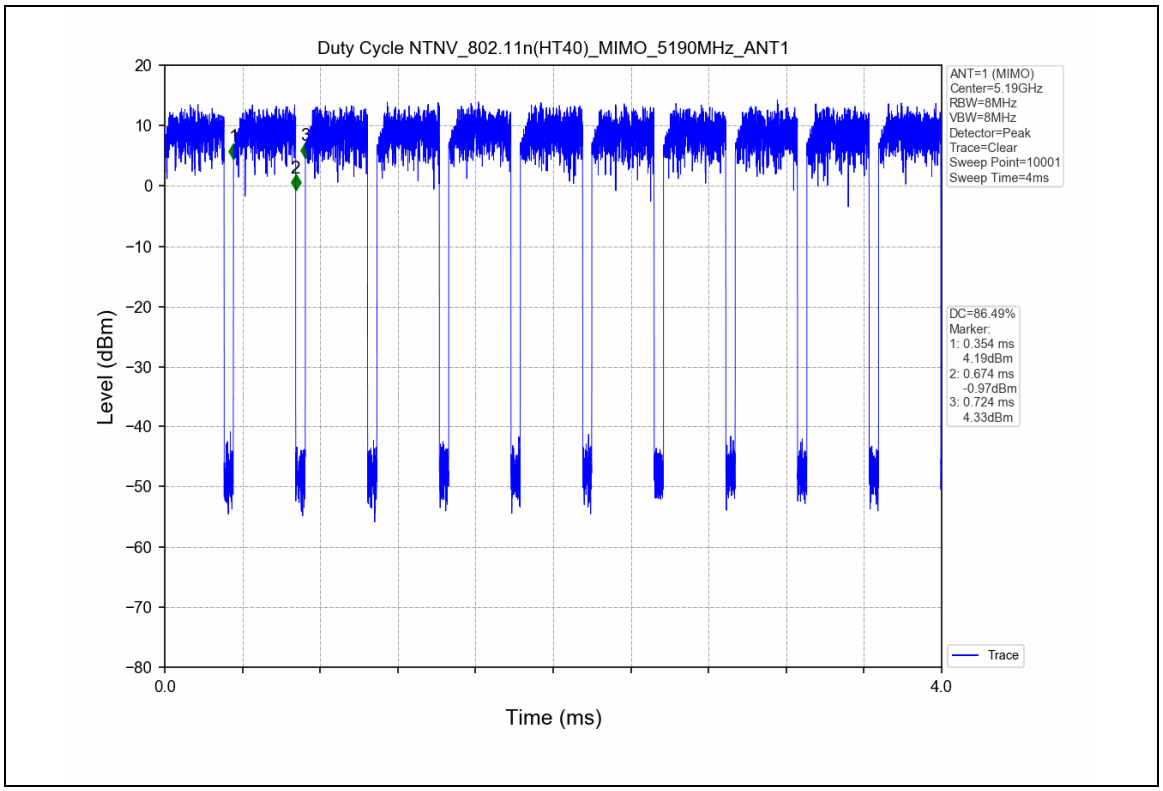


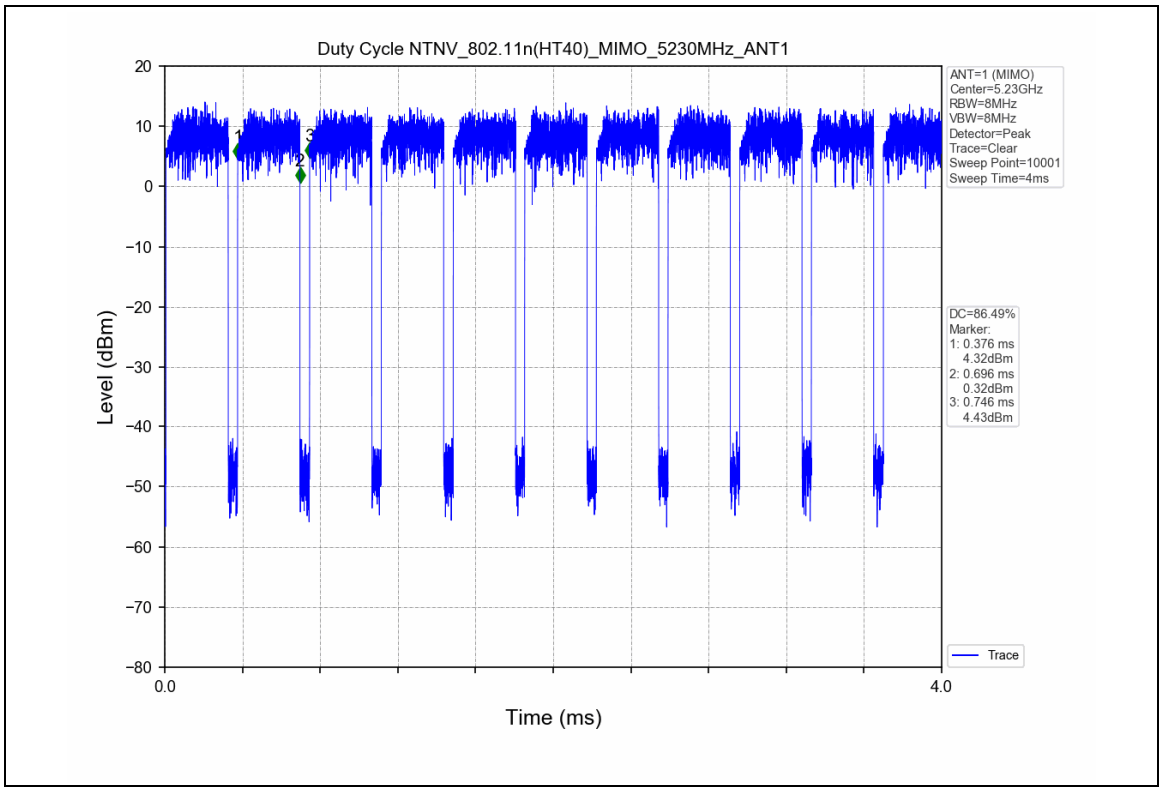


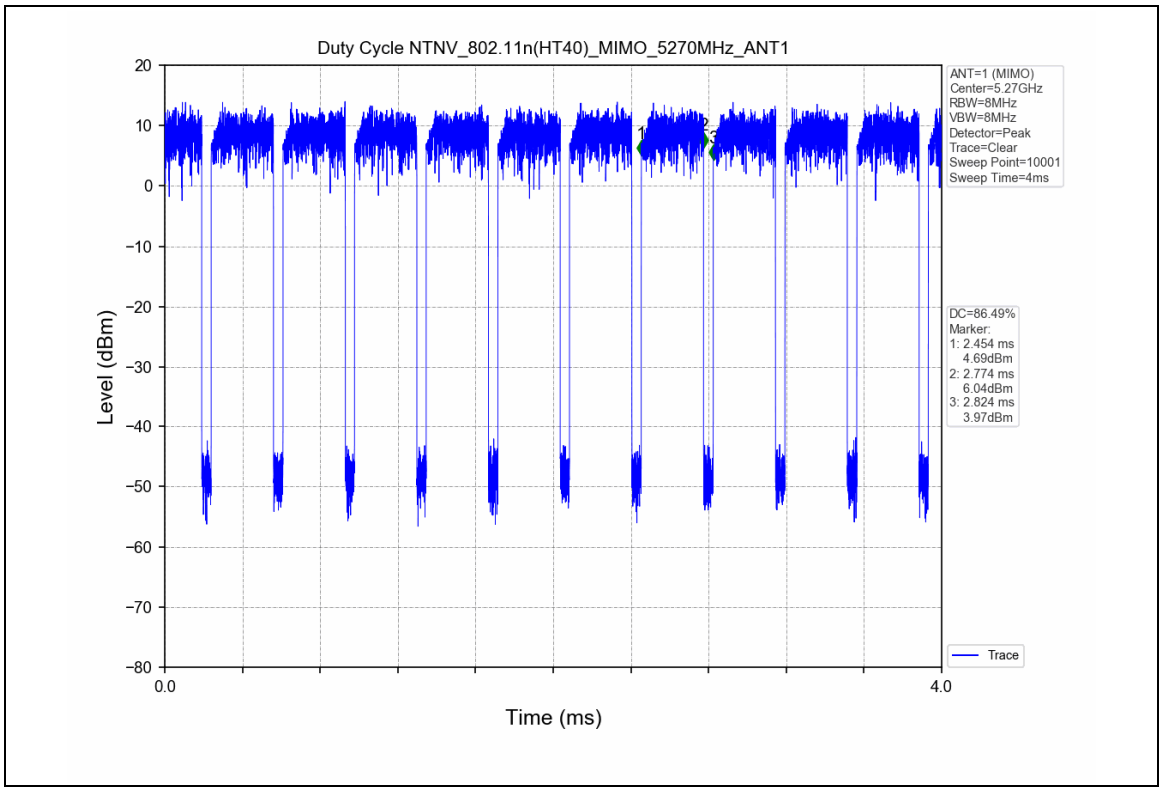


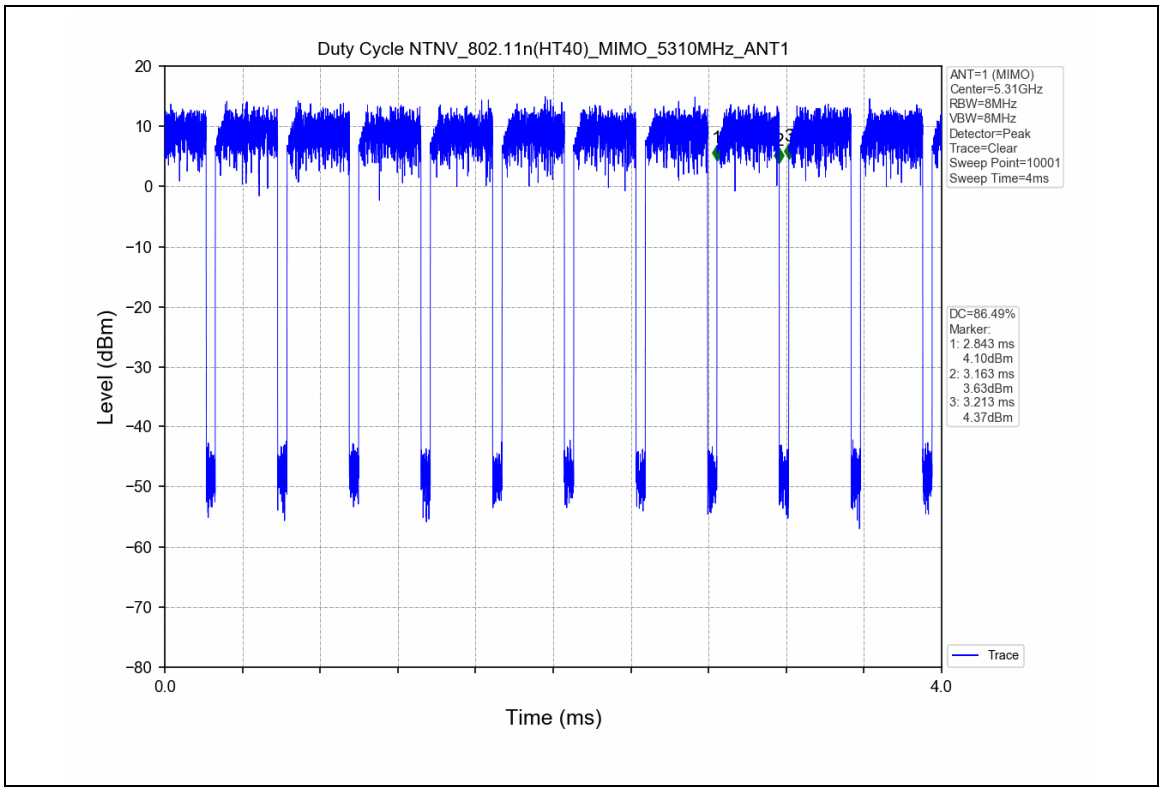


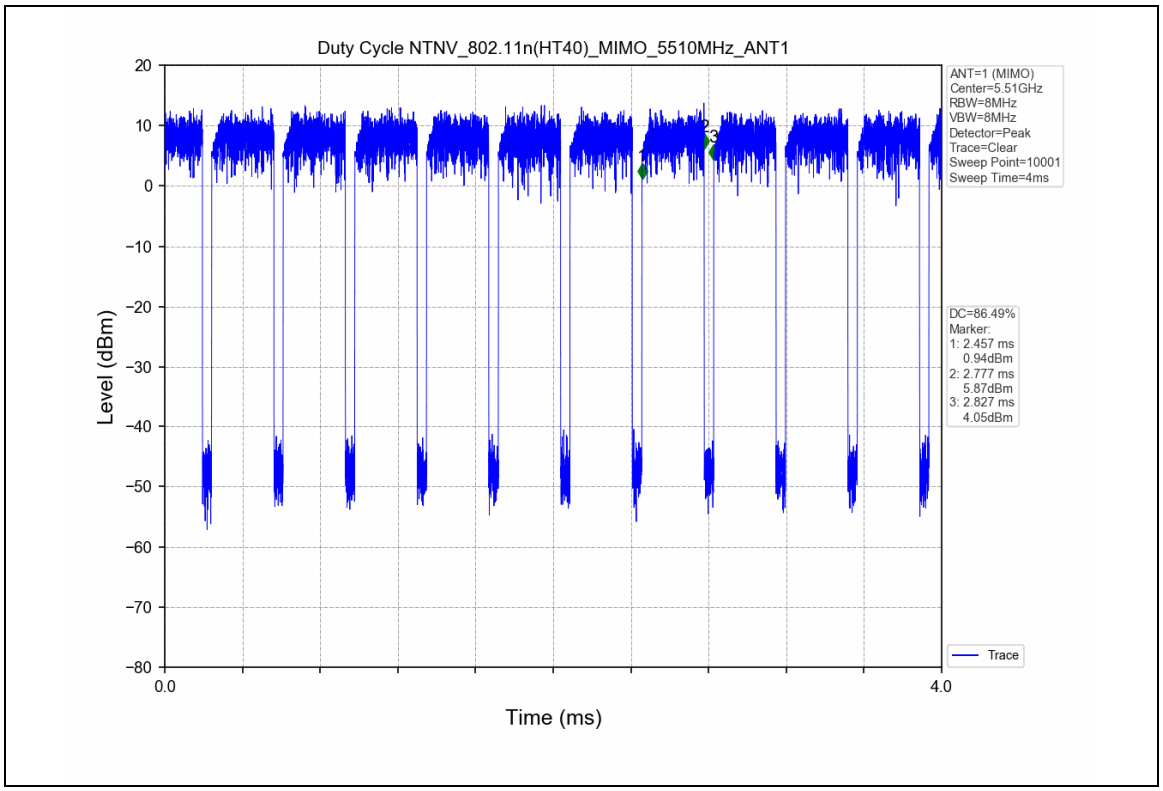


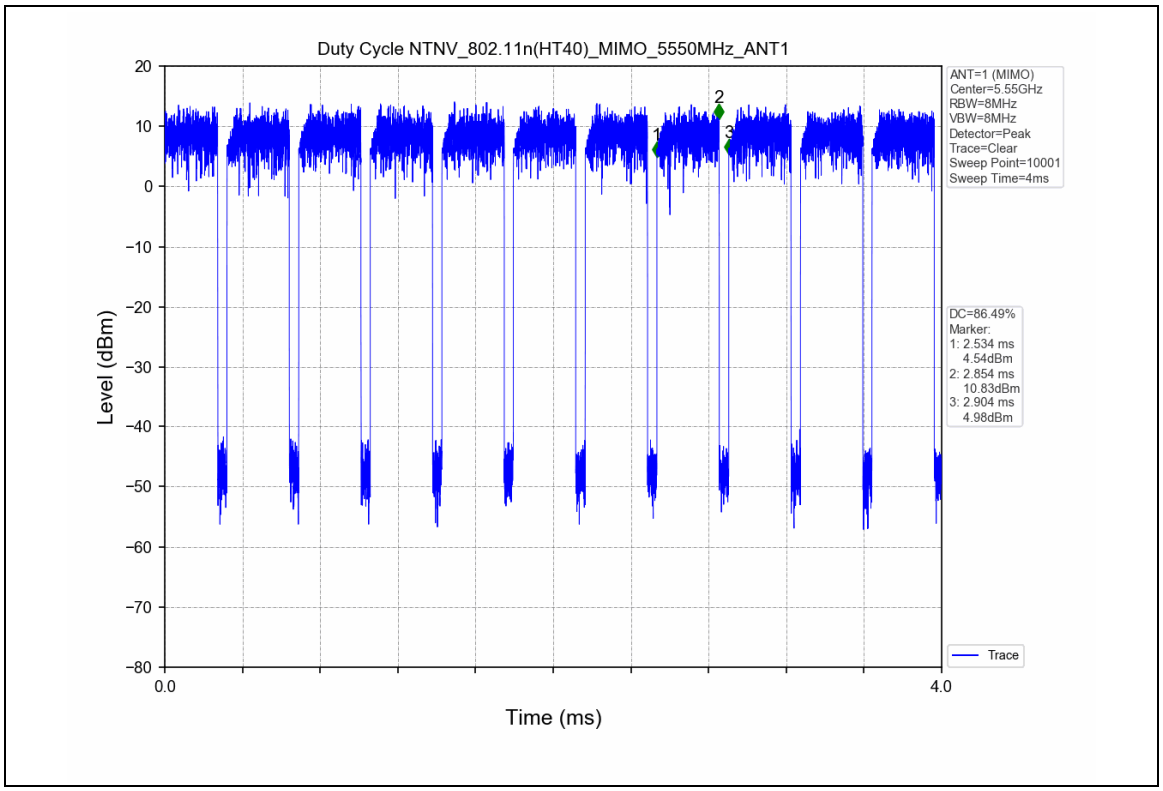


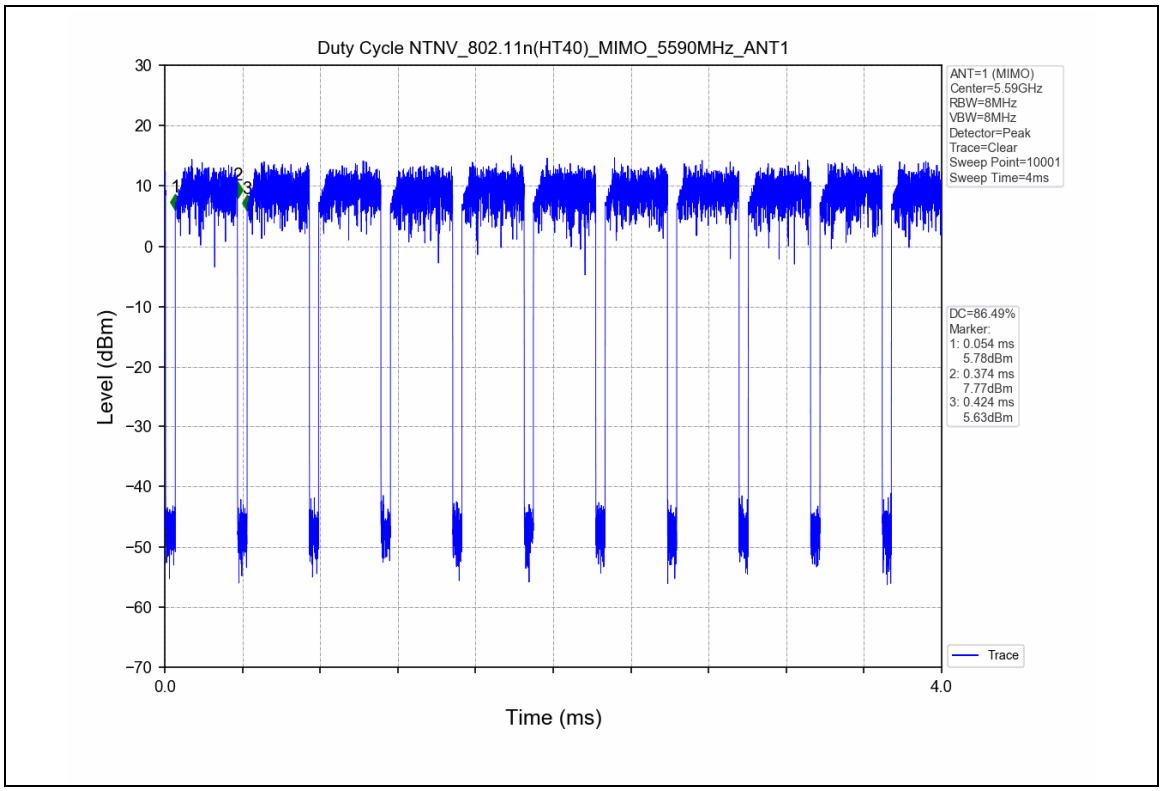


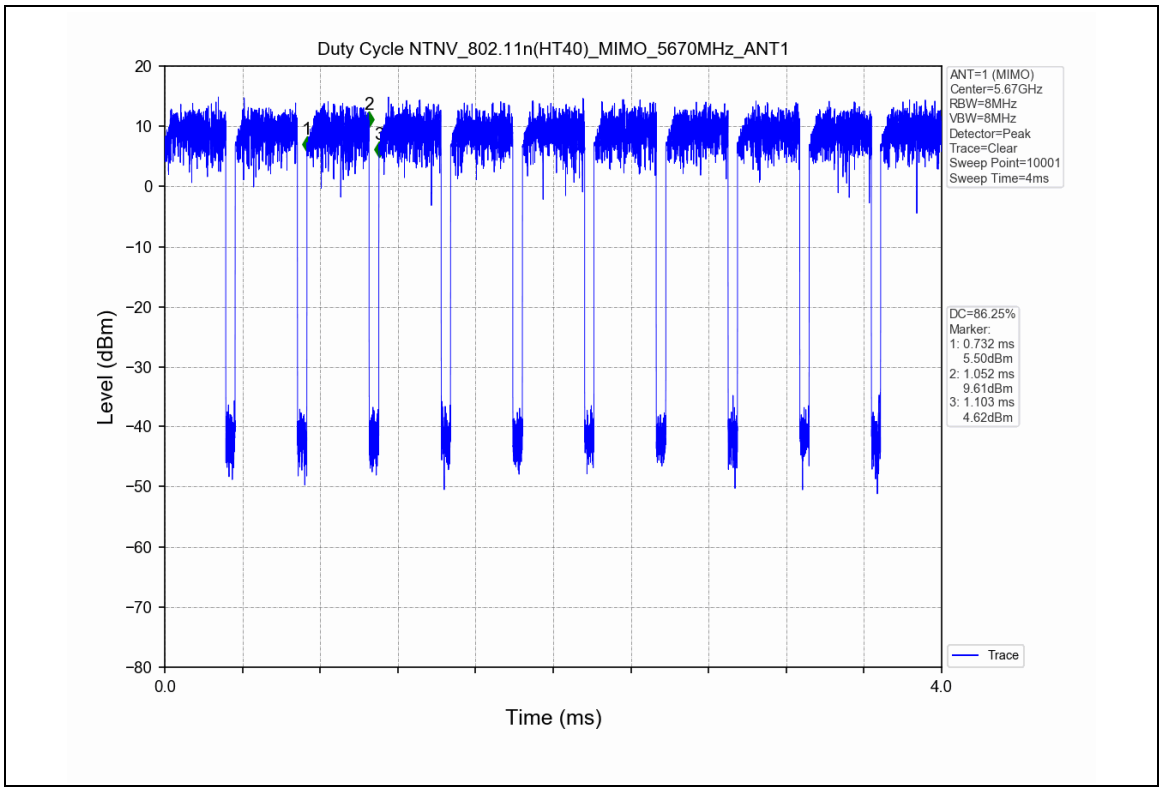


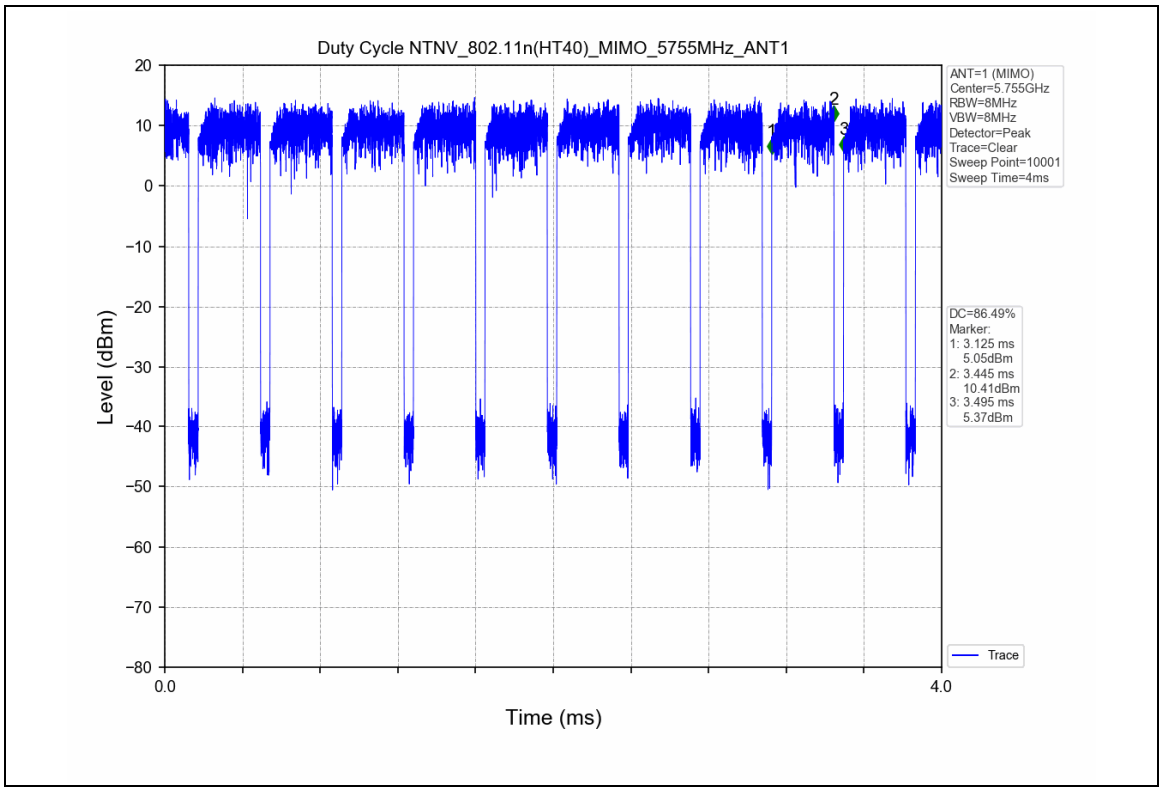


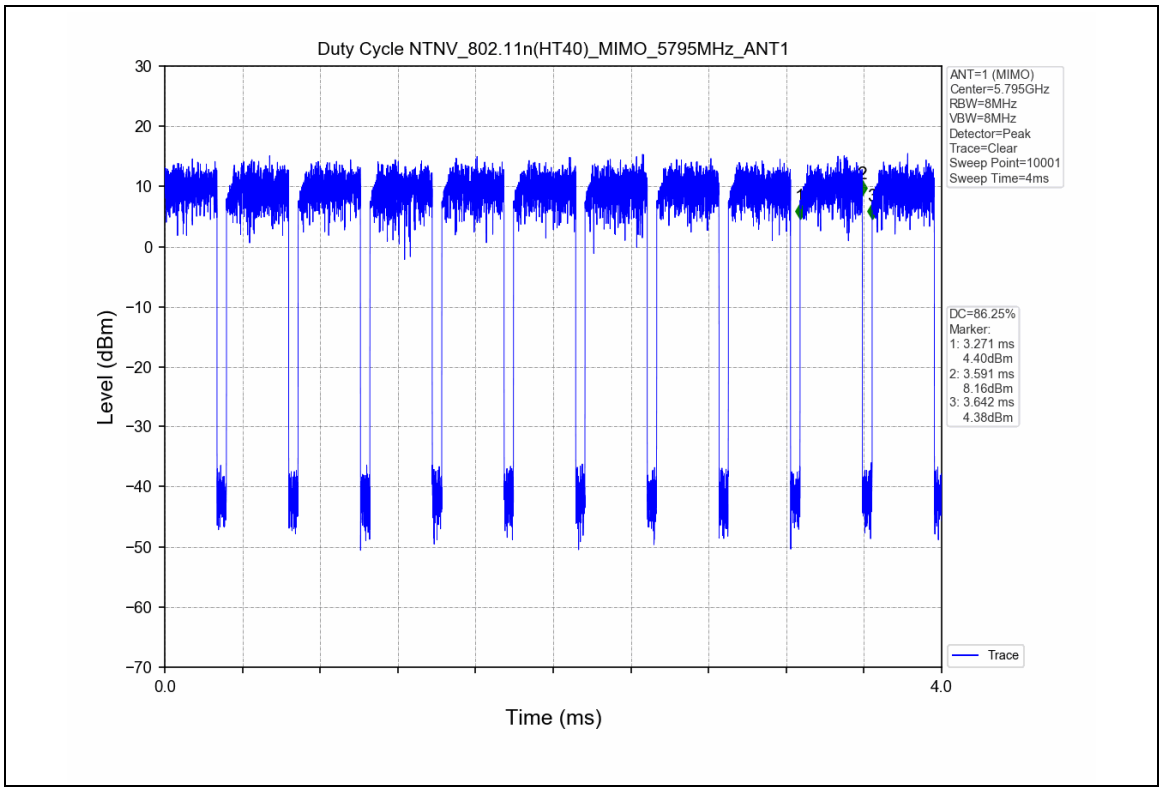


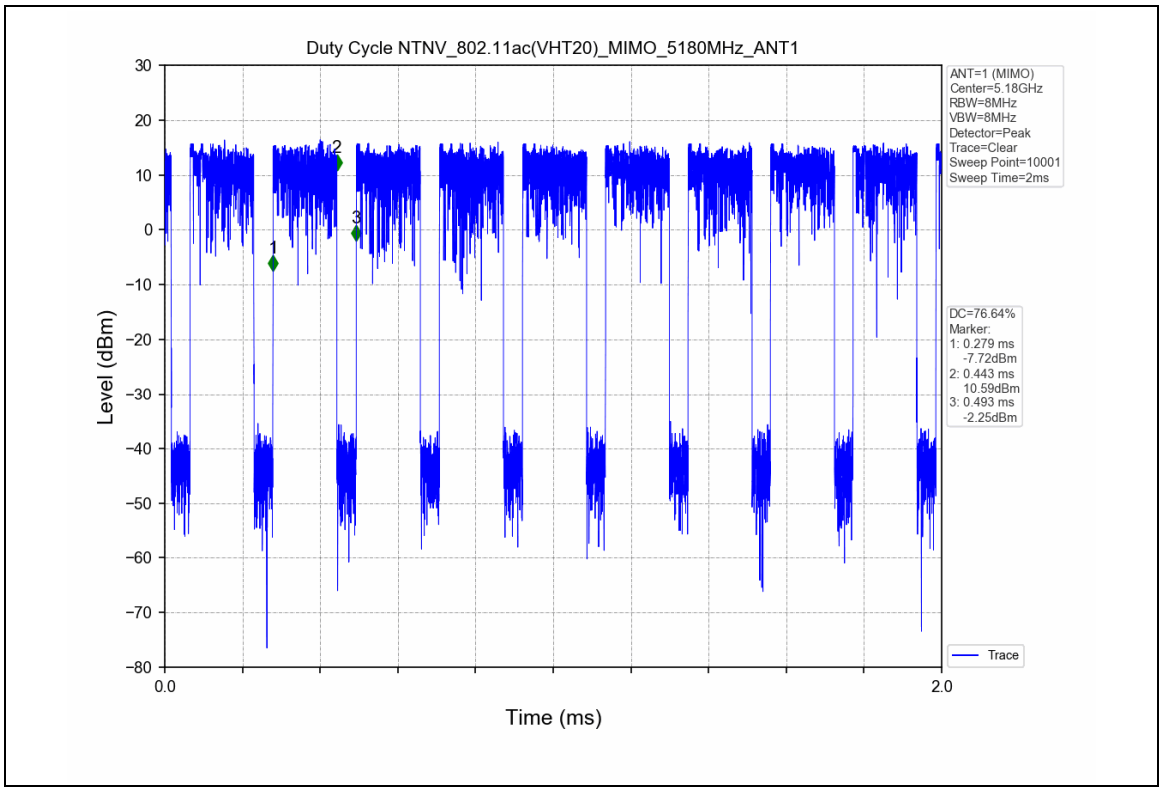


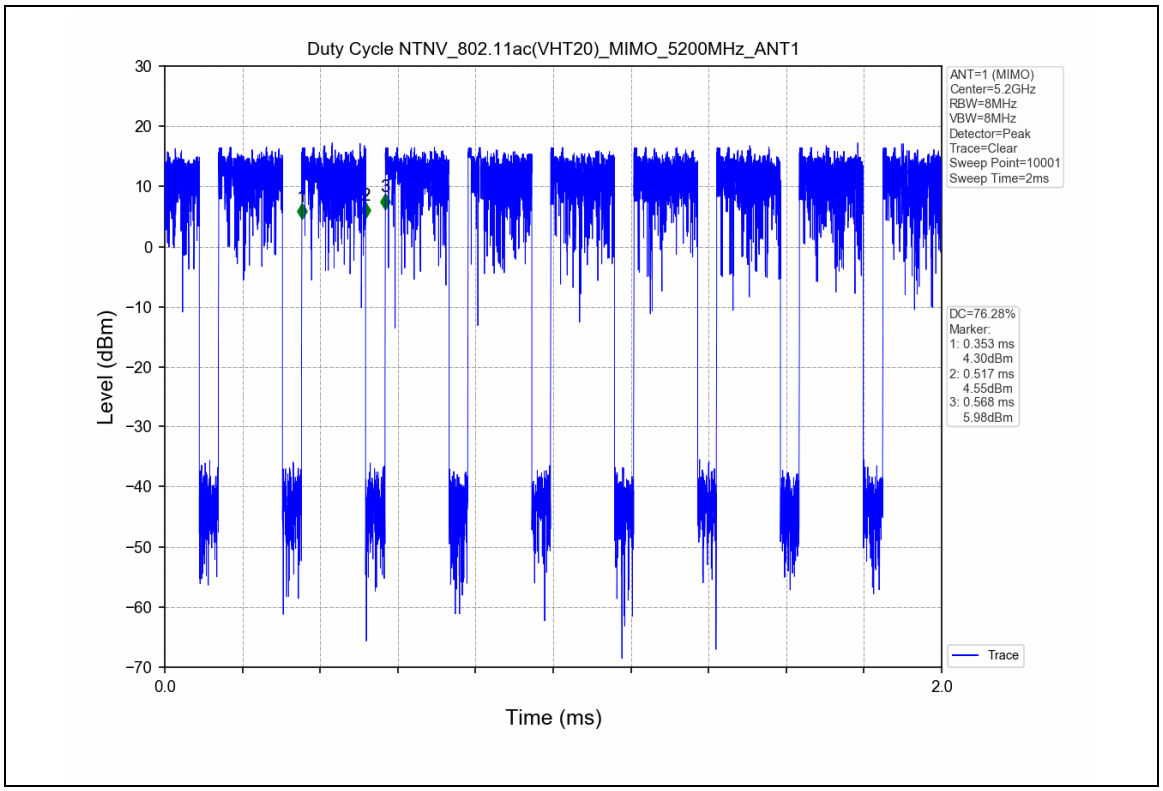


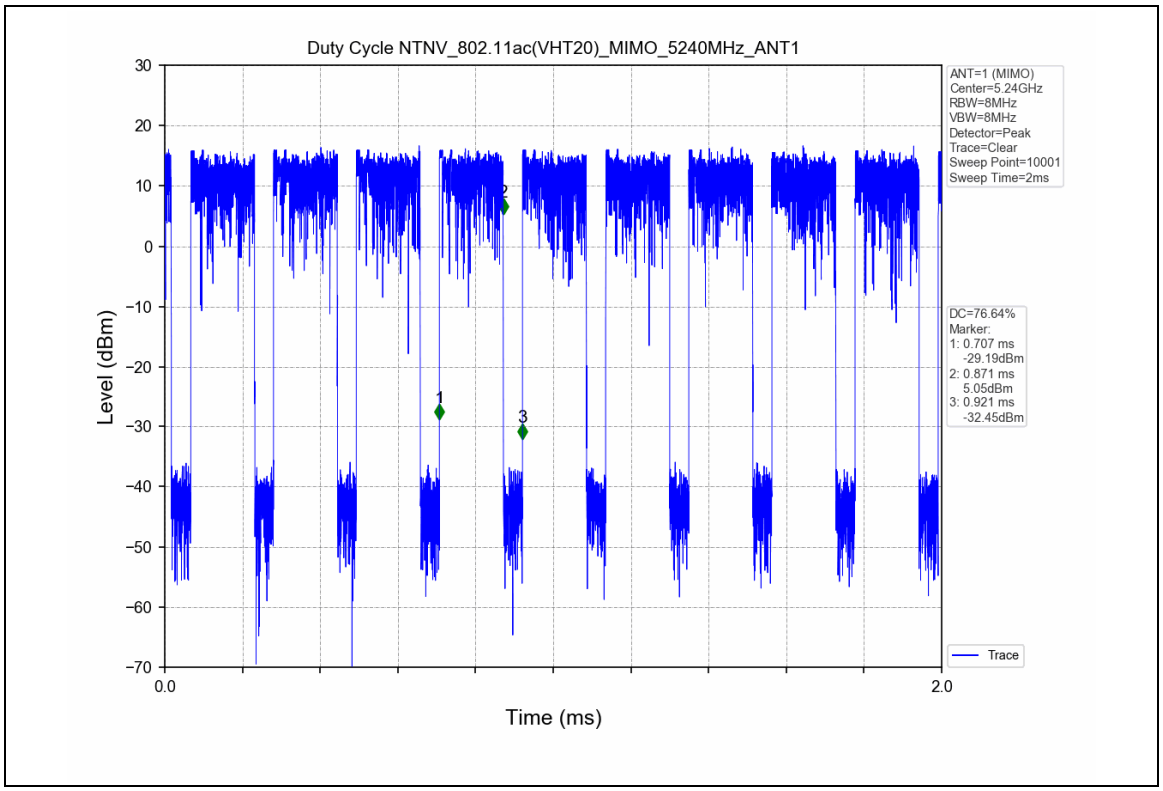


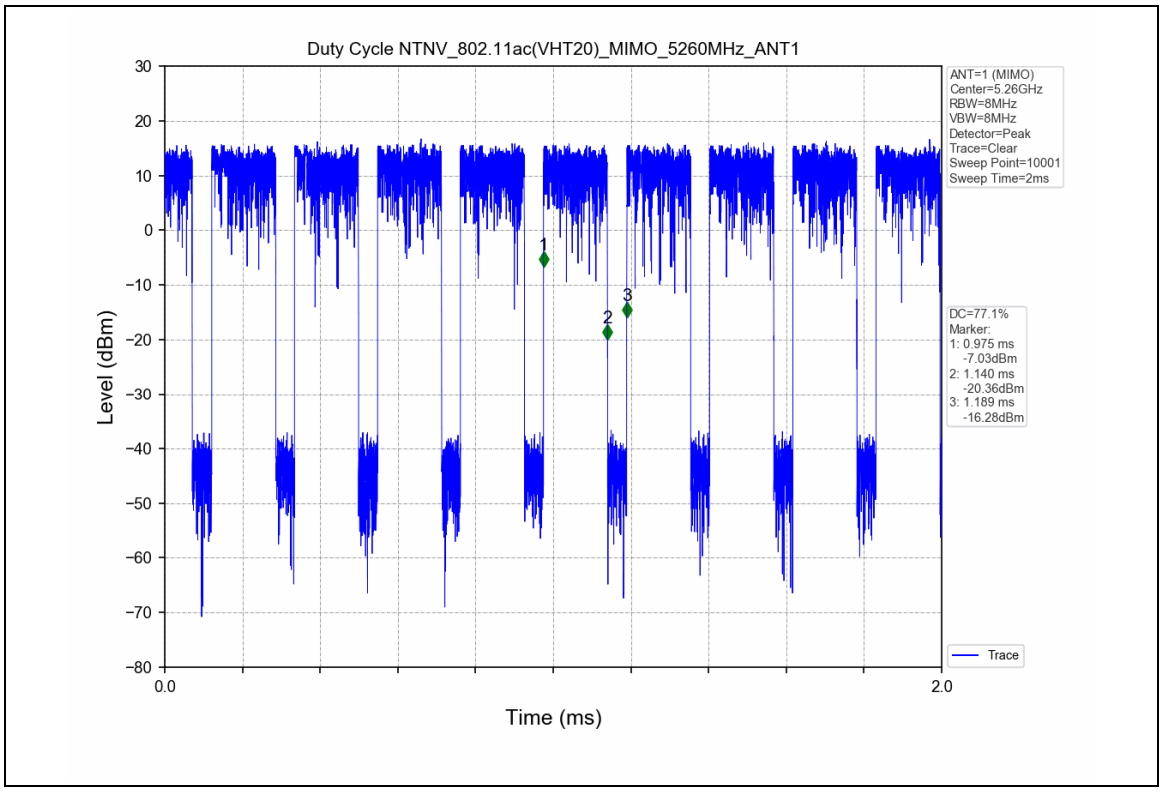












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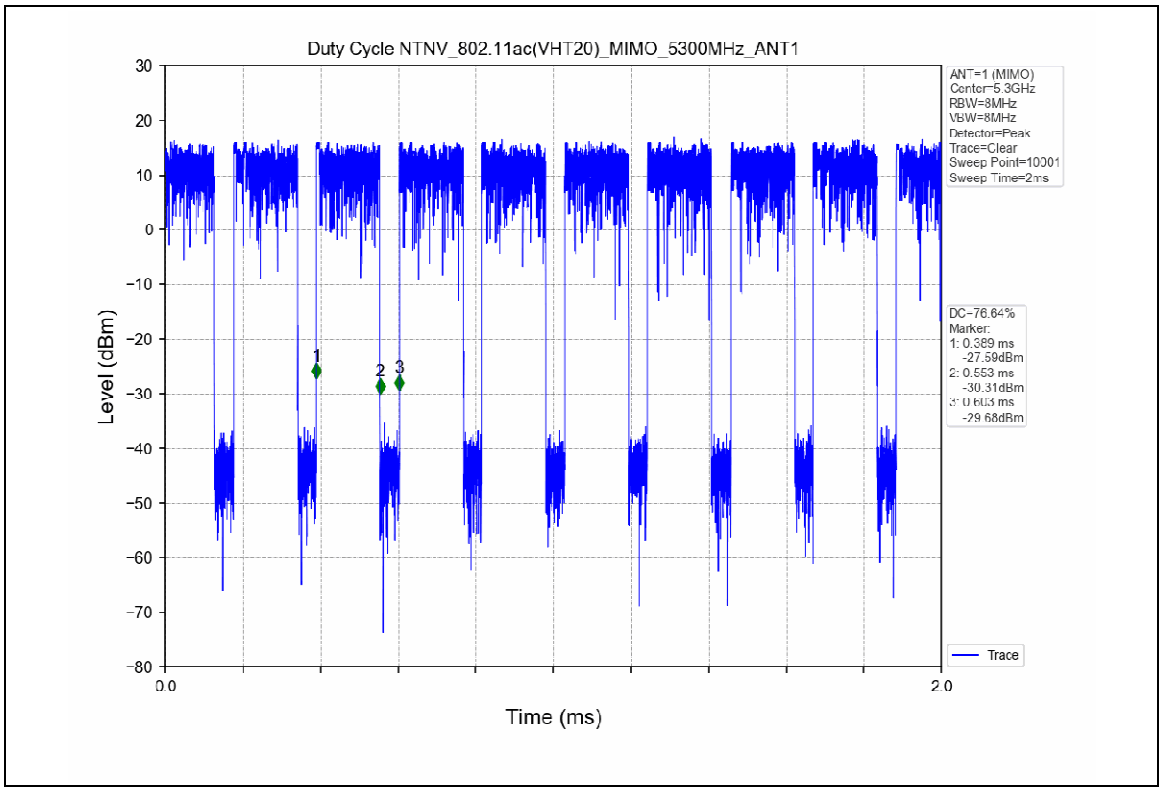

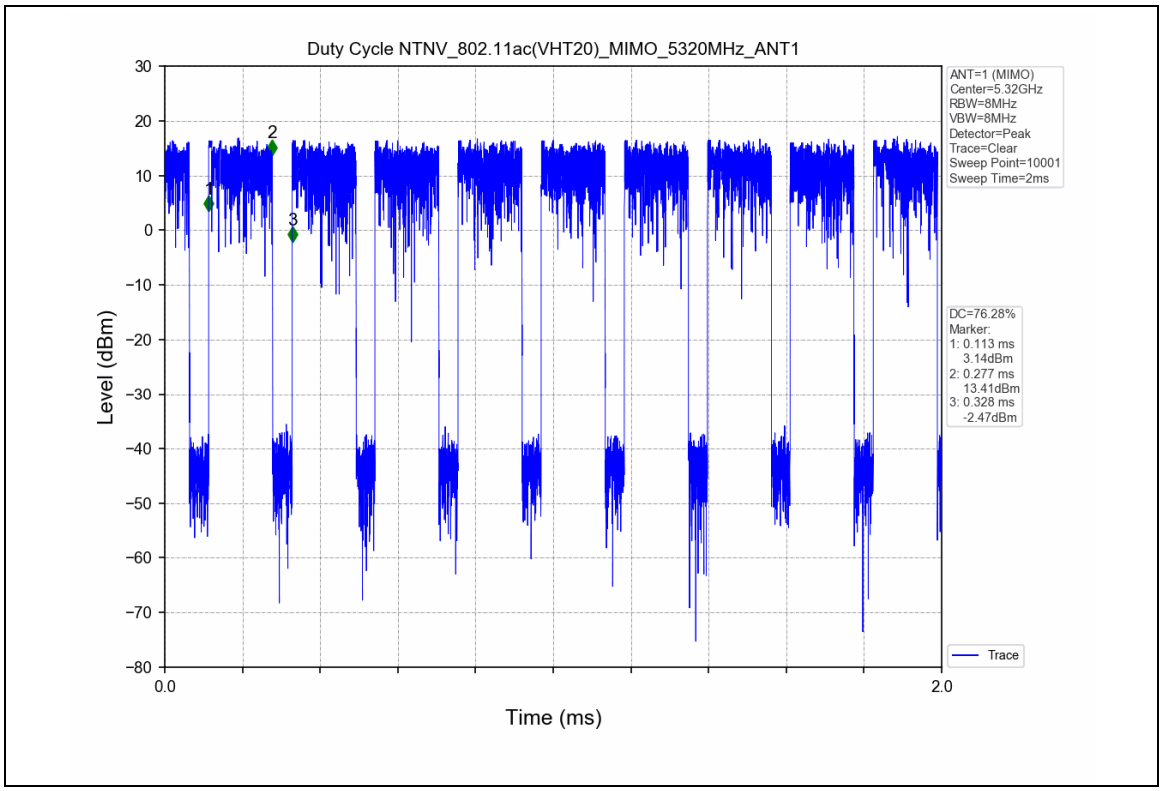

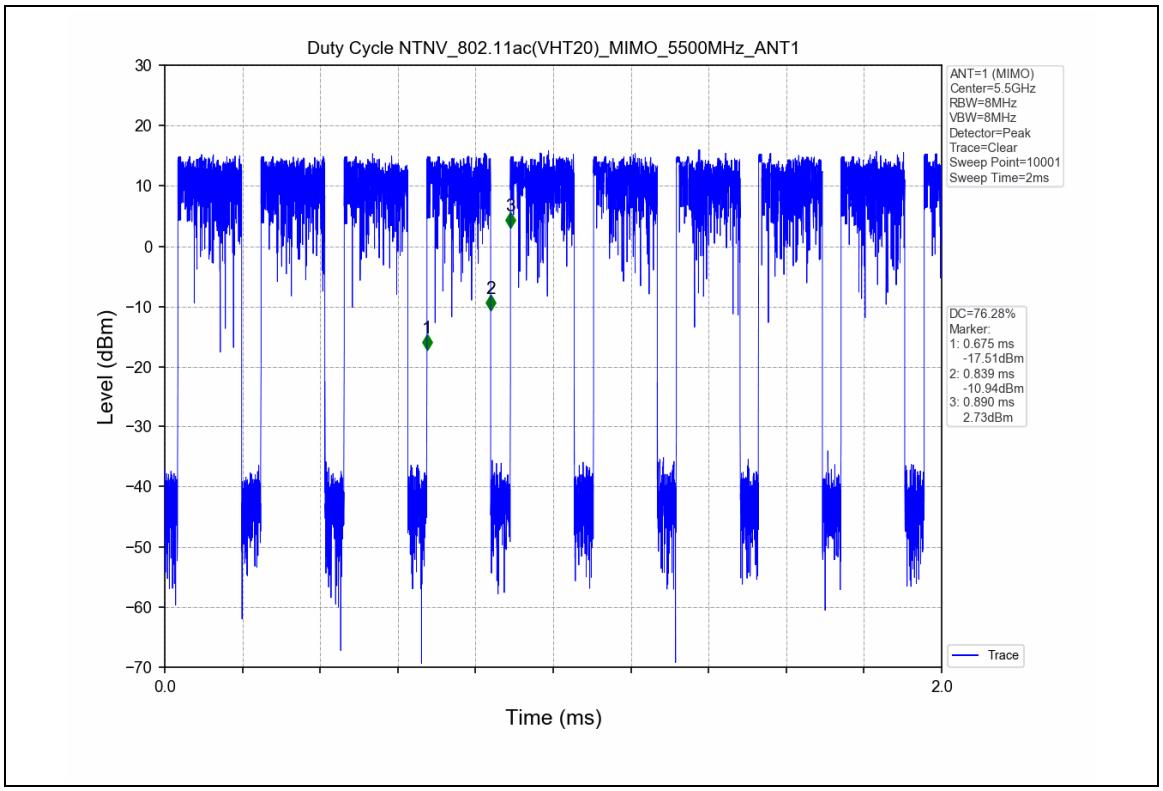

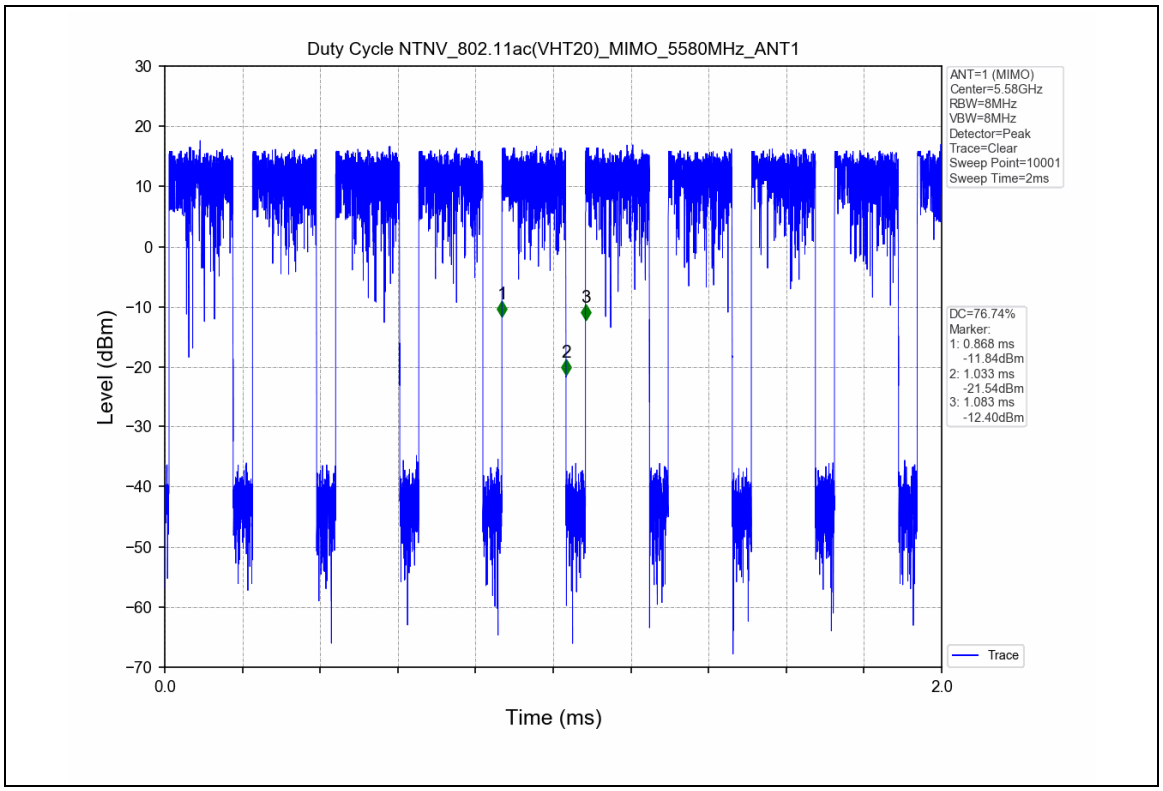

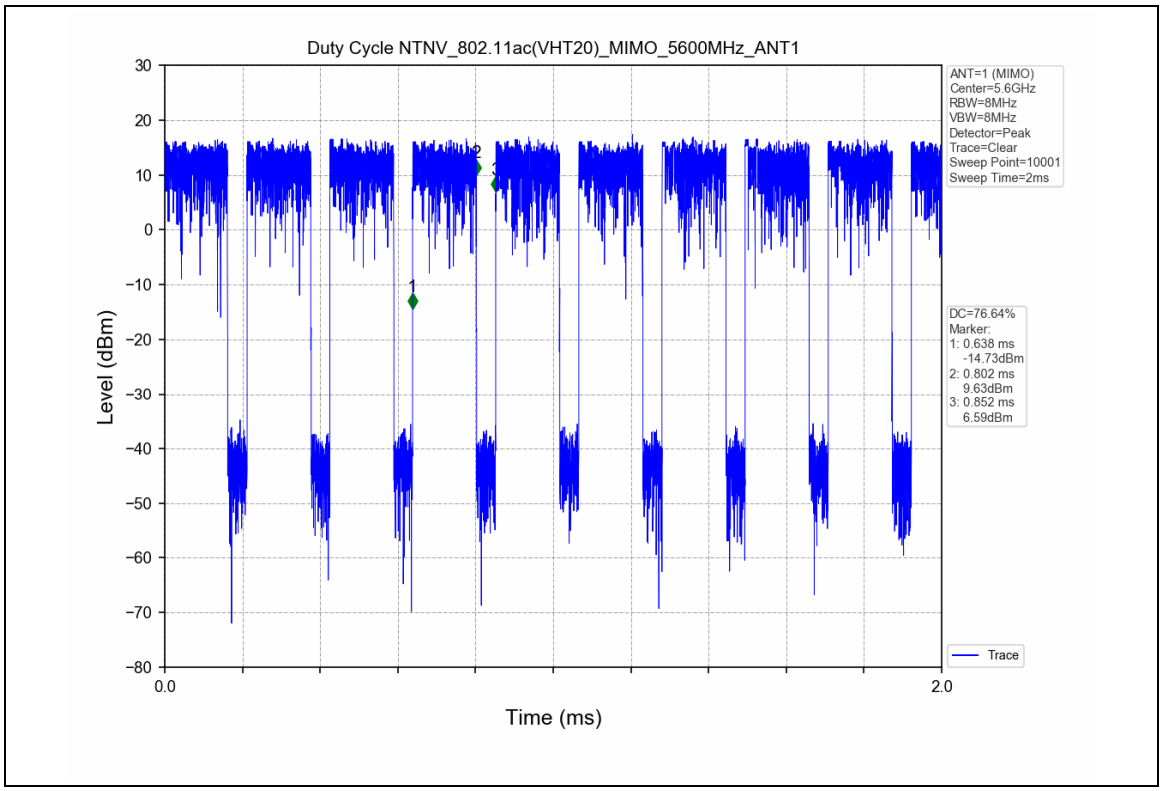

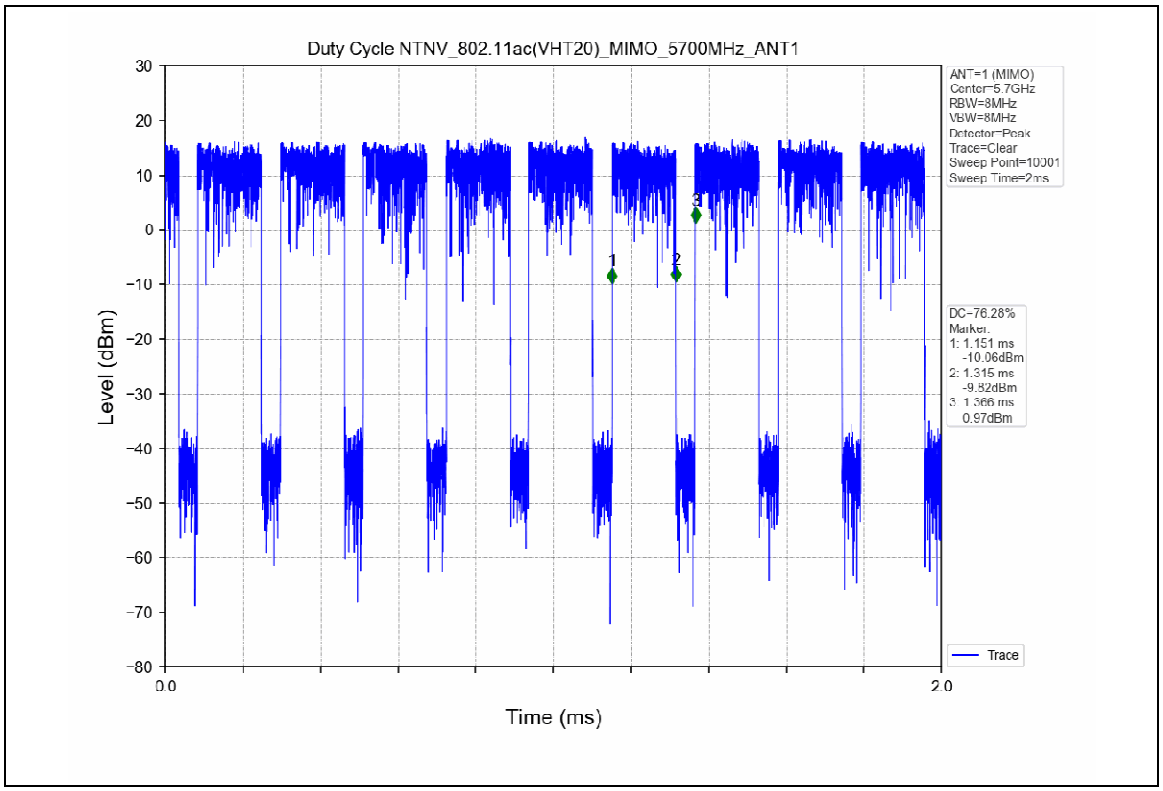

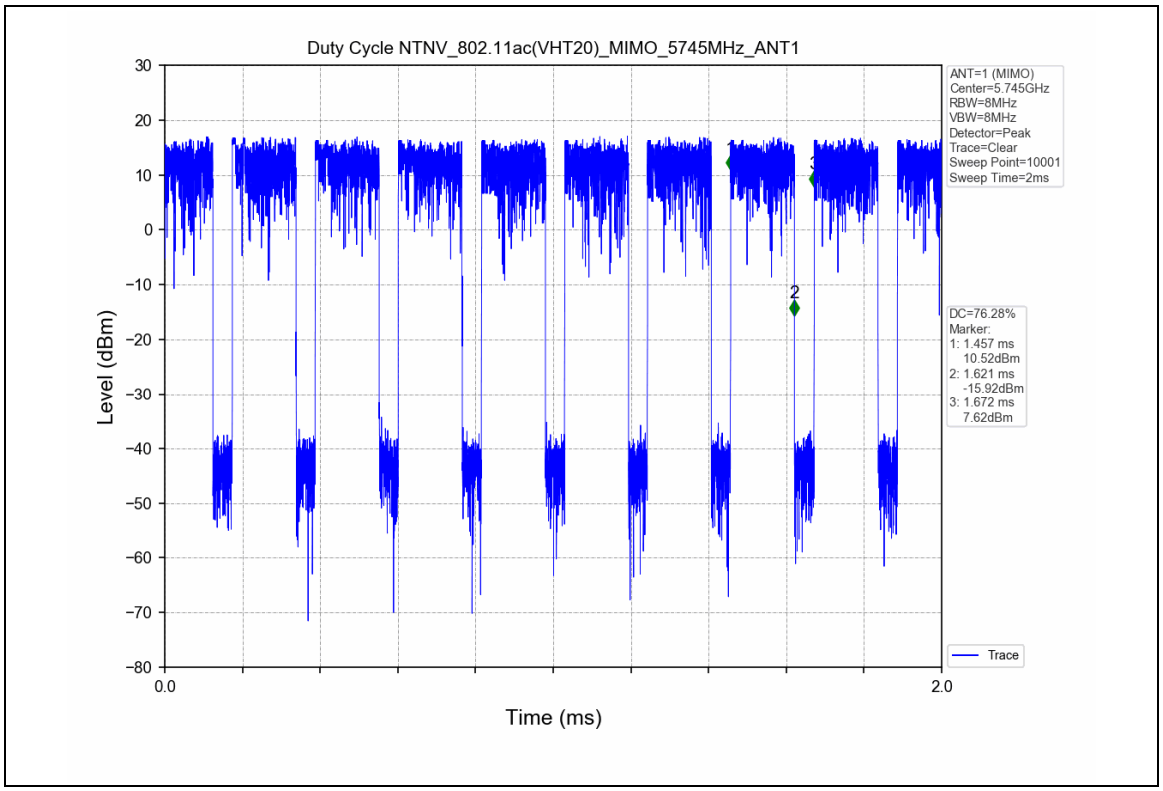

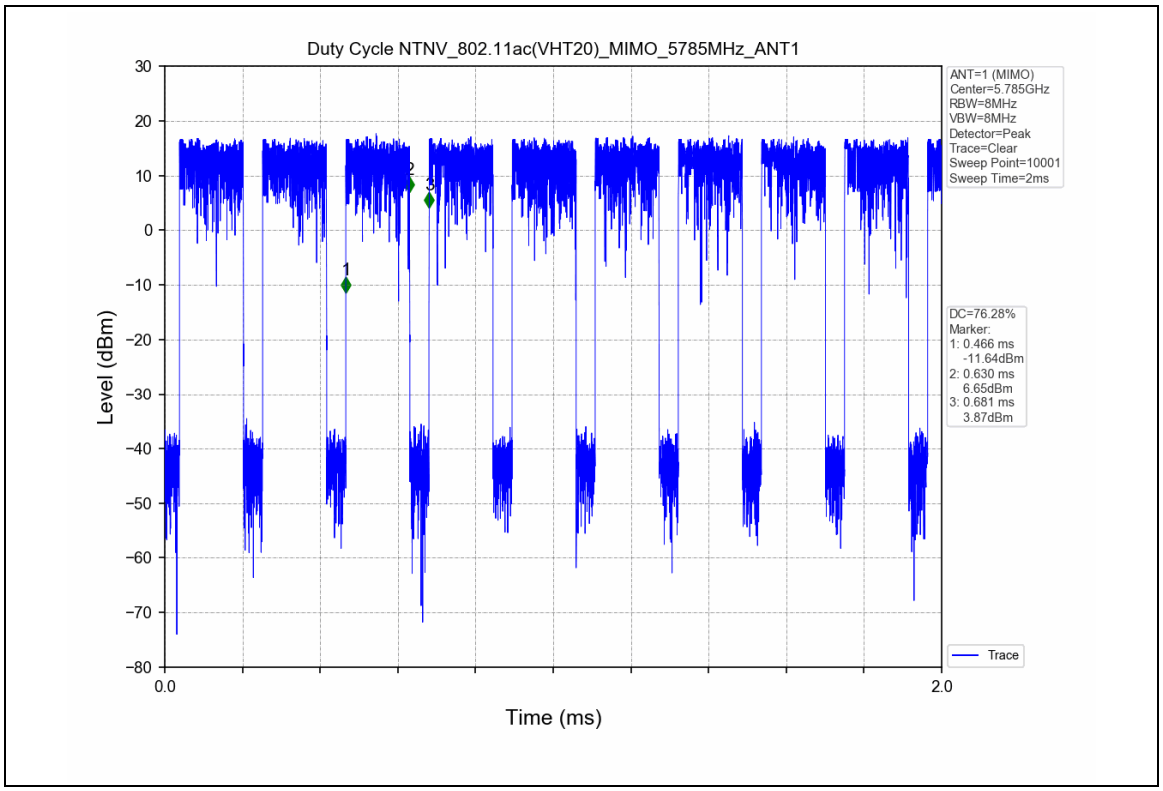

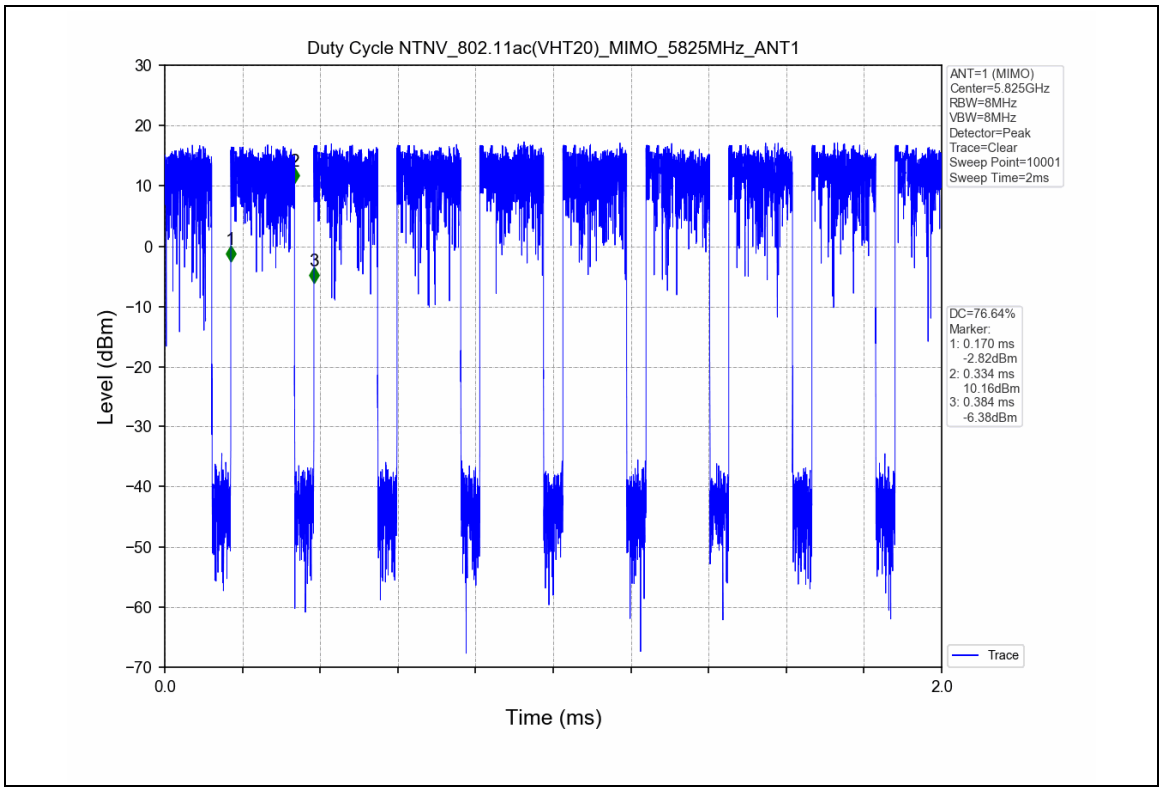

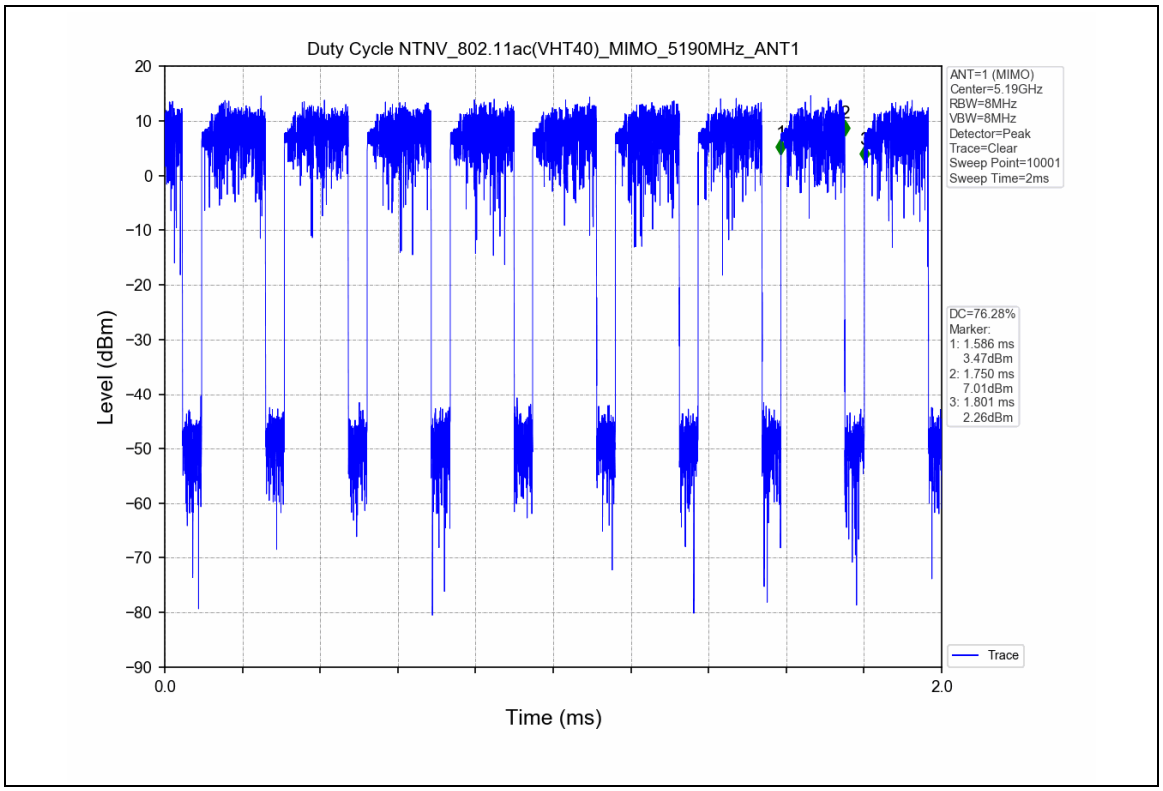

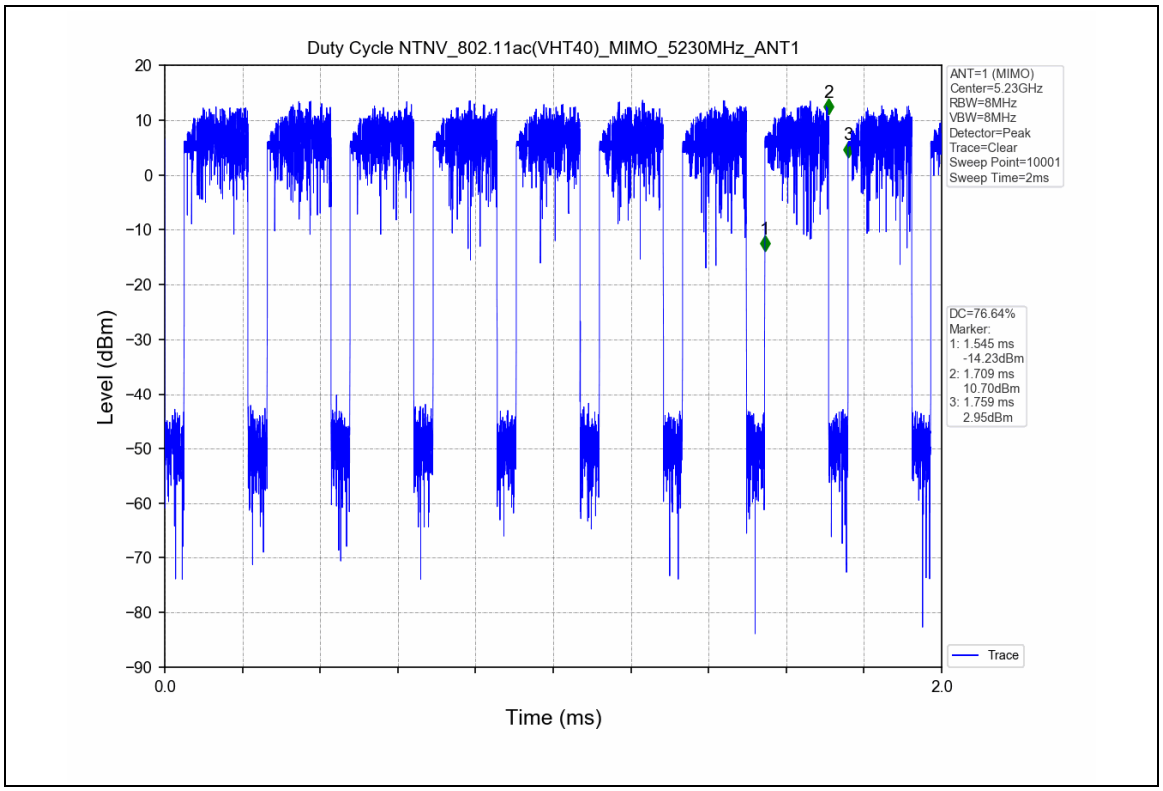

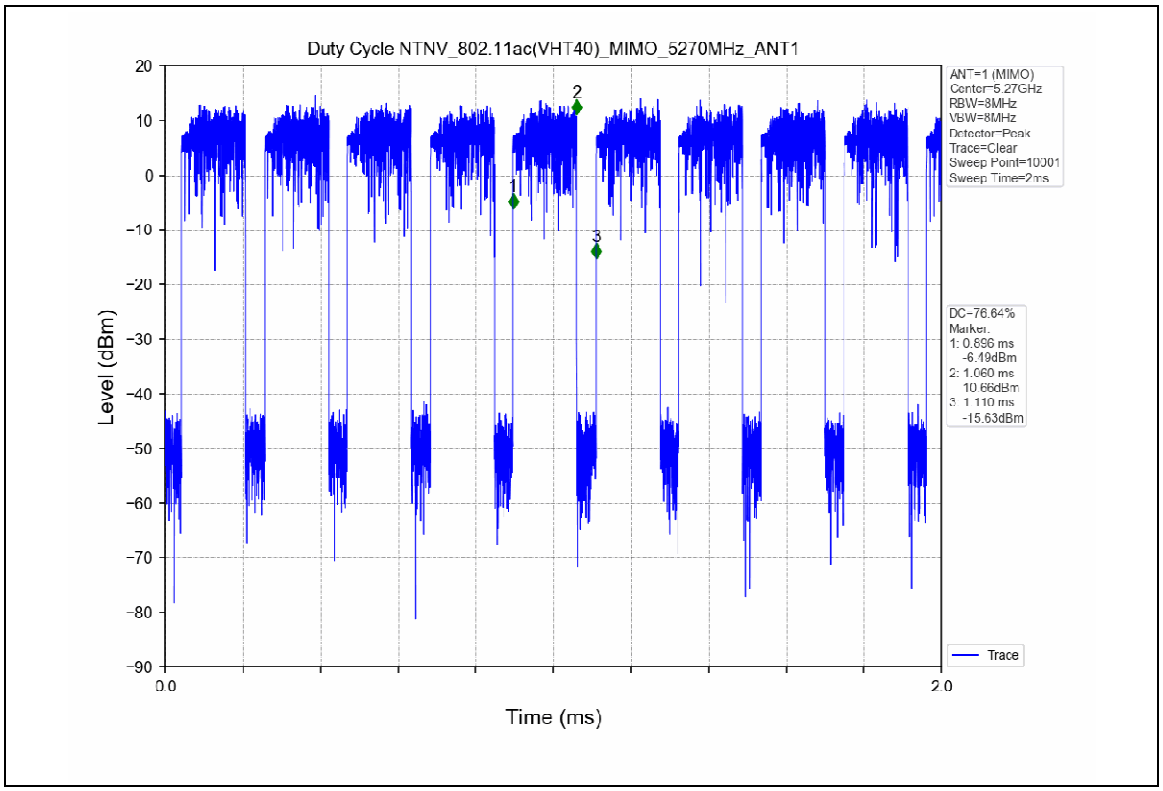

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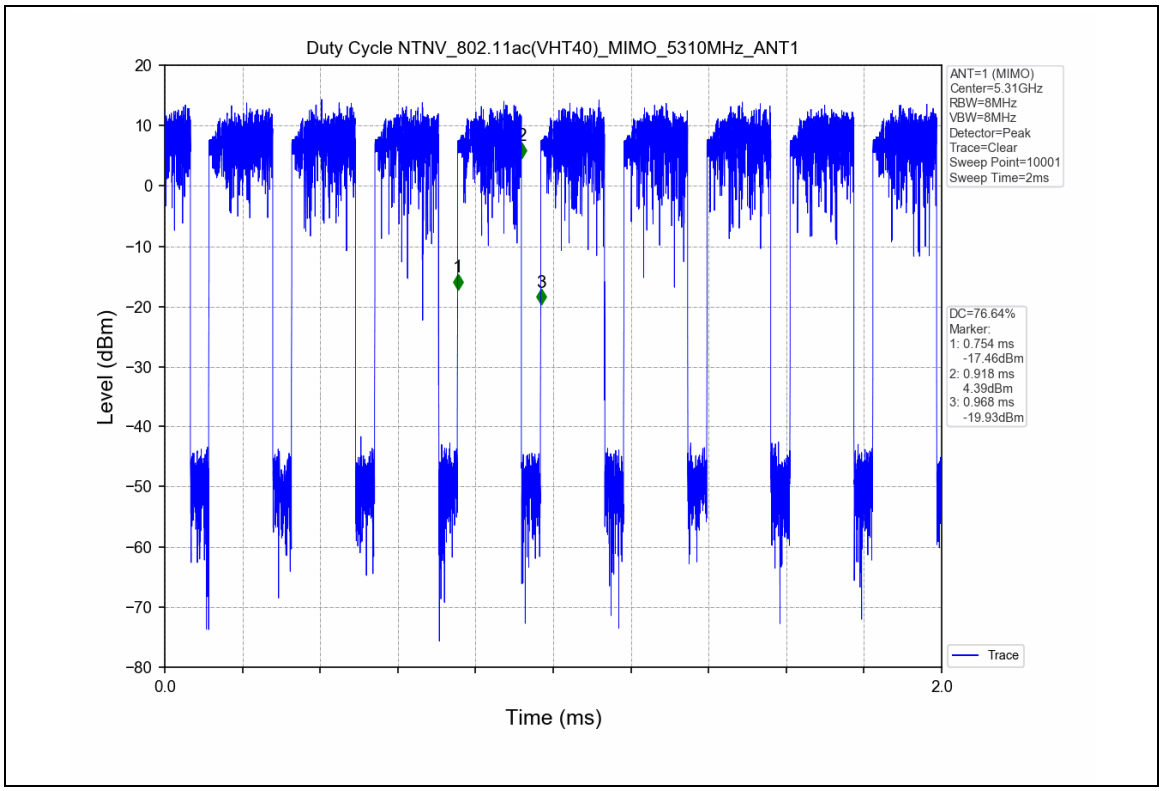

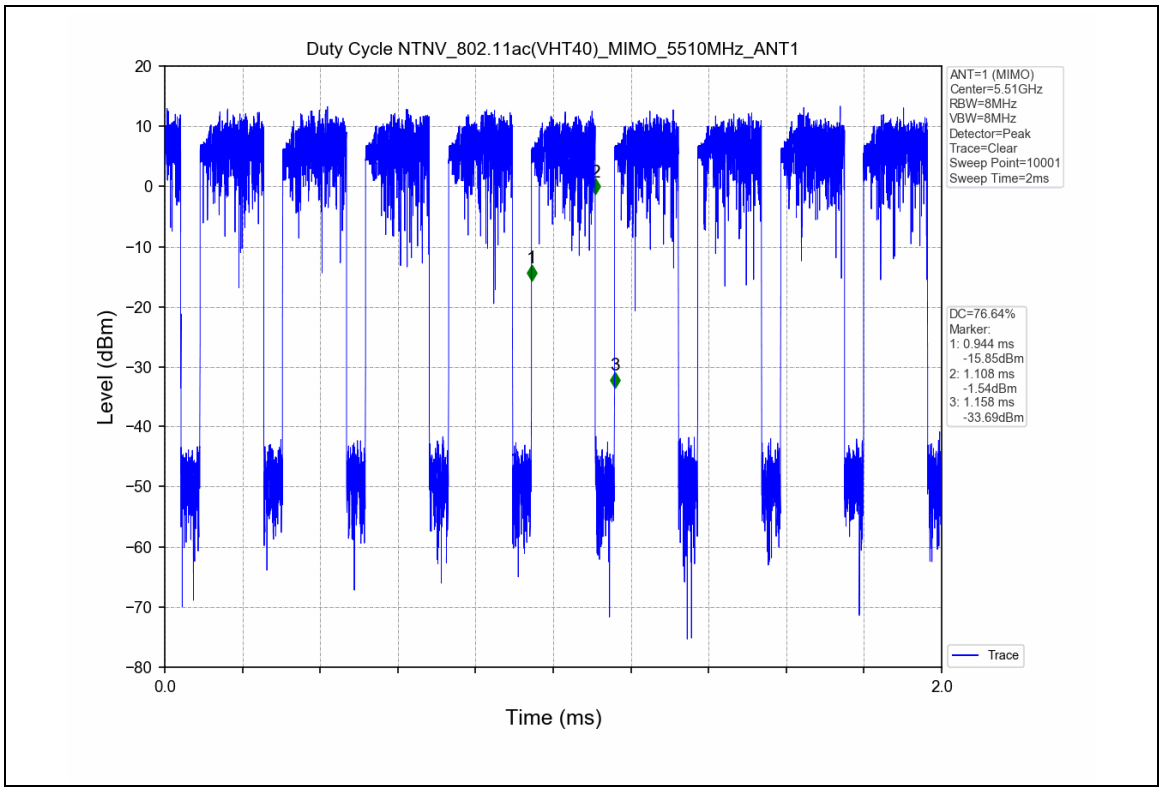

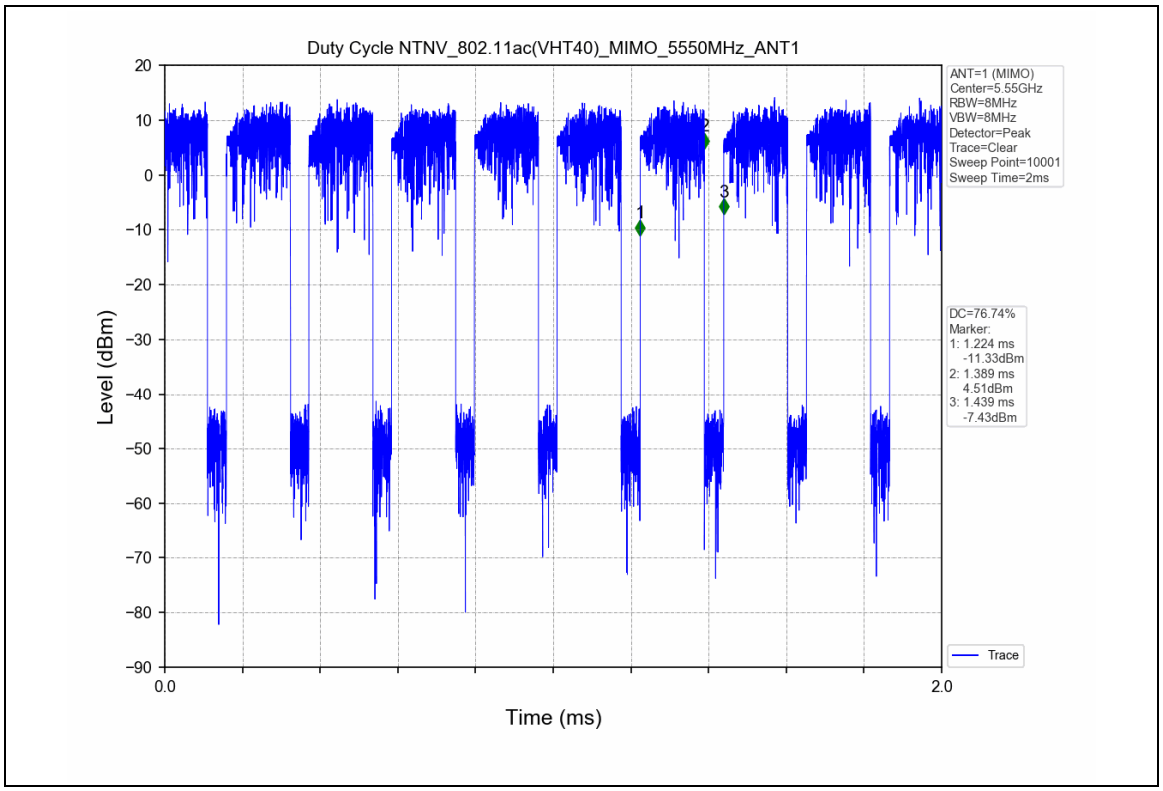

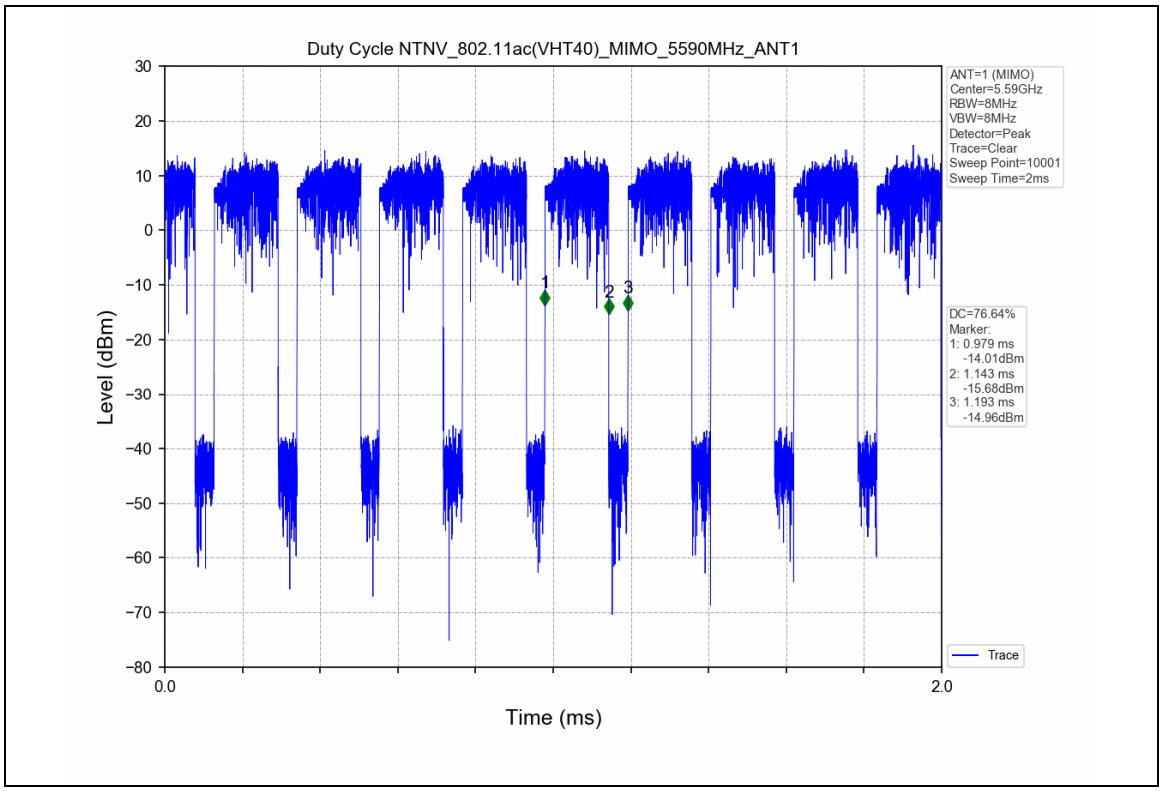

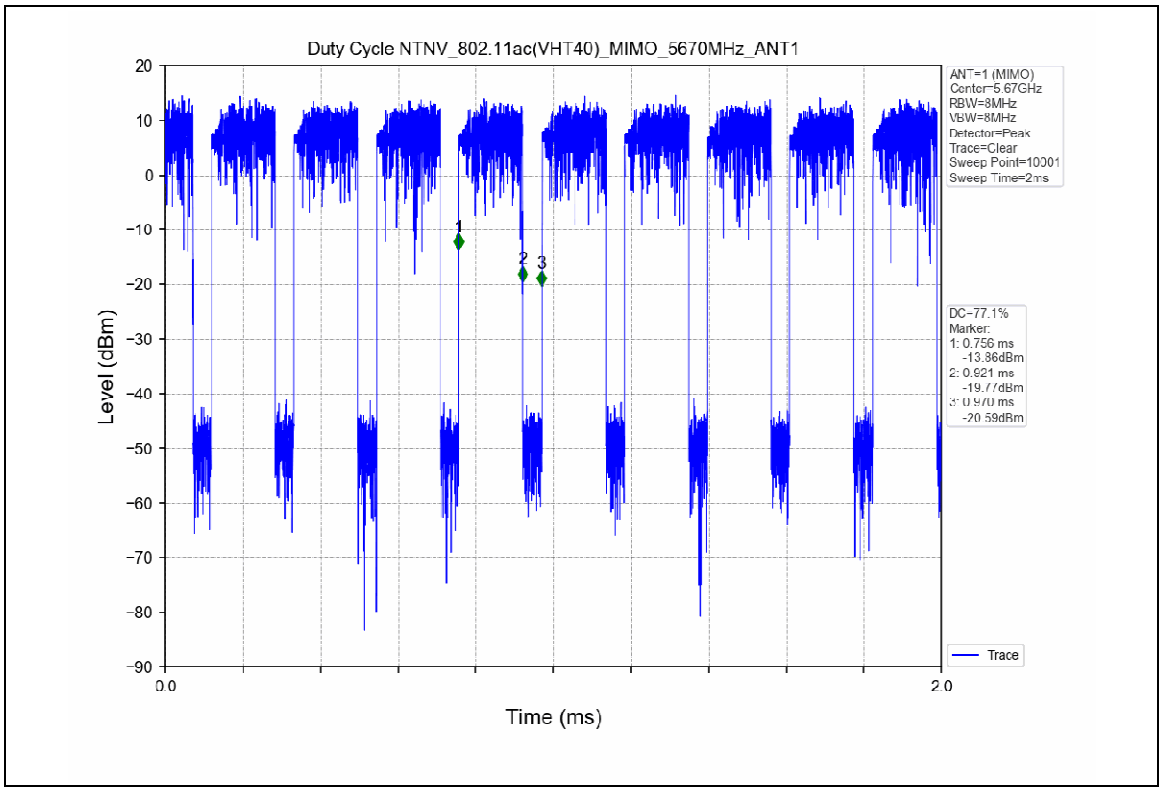

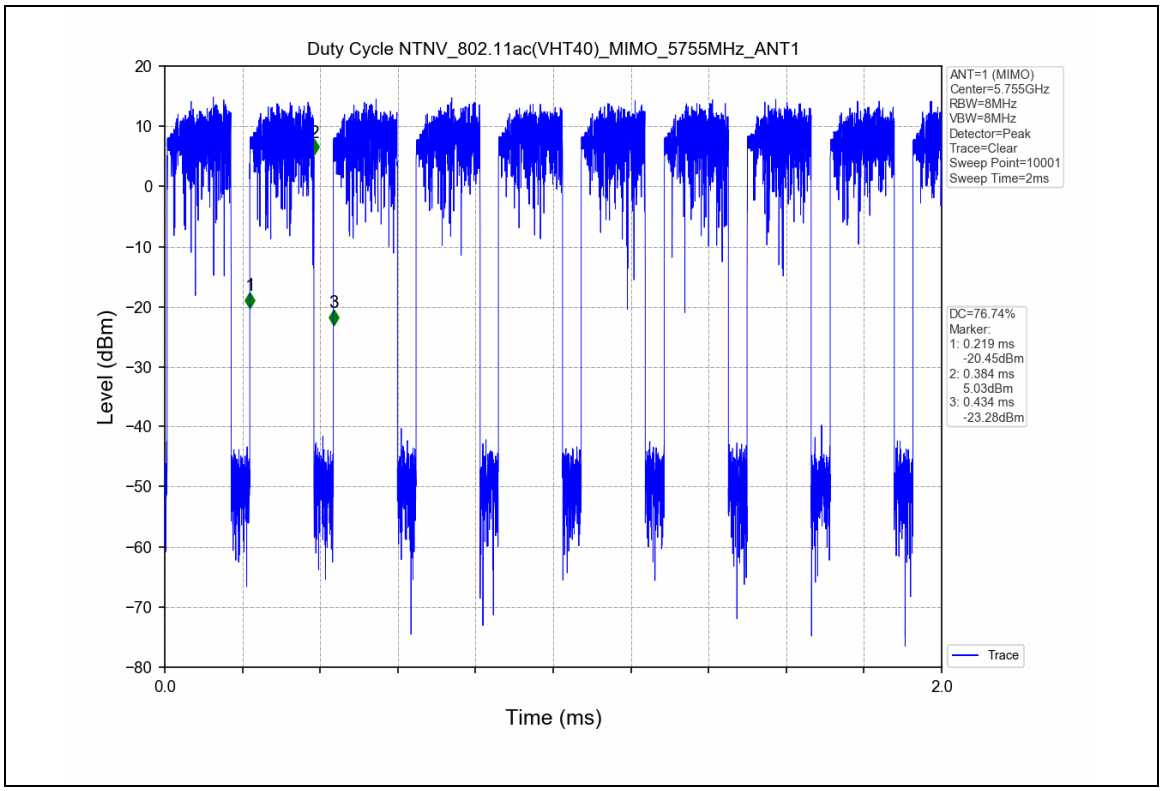

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