
	Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.
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DESCRIPTION

Pass

10. AC POWER LINE CONDUCTED EMISSION

LIMITS

Please refer to CFR 47 FCC §15.207 (a) and ISED RSS-Gen Clause 8.8

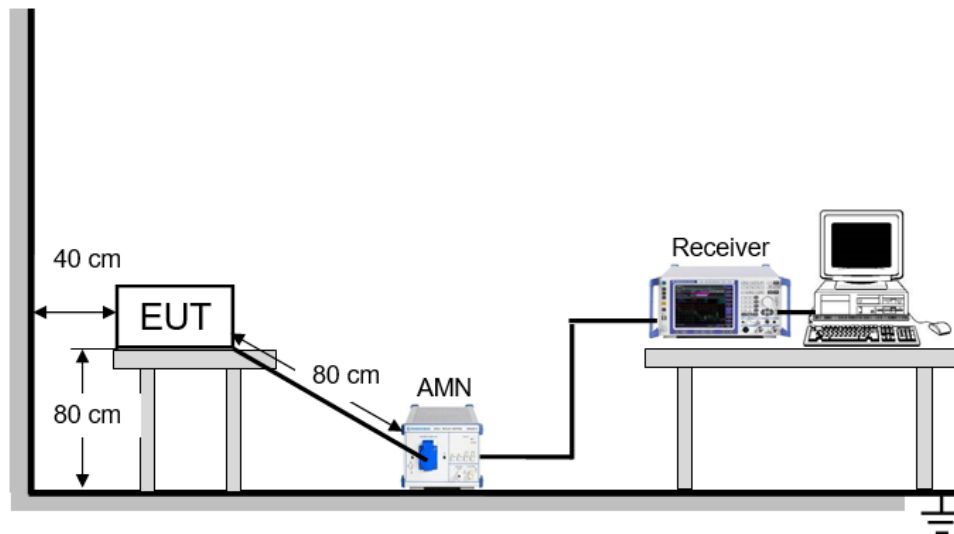
FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

TEST PROCEDURE

The EUT is put on a table of non-conducting material that is 80 cm high. The vertical conducting wall of shielding is located 40 cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013. Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9 kHz.

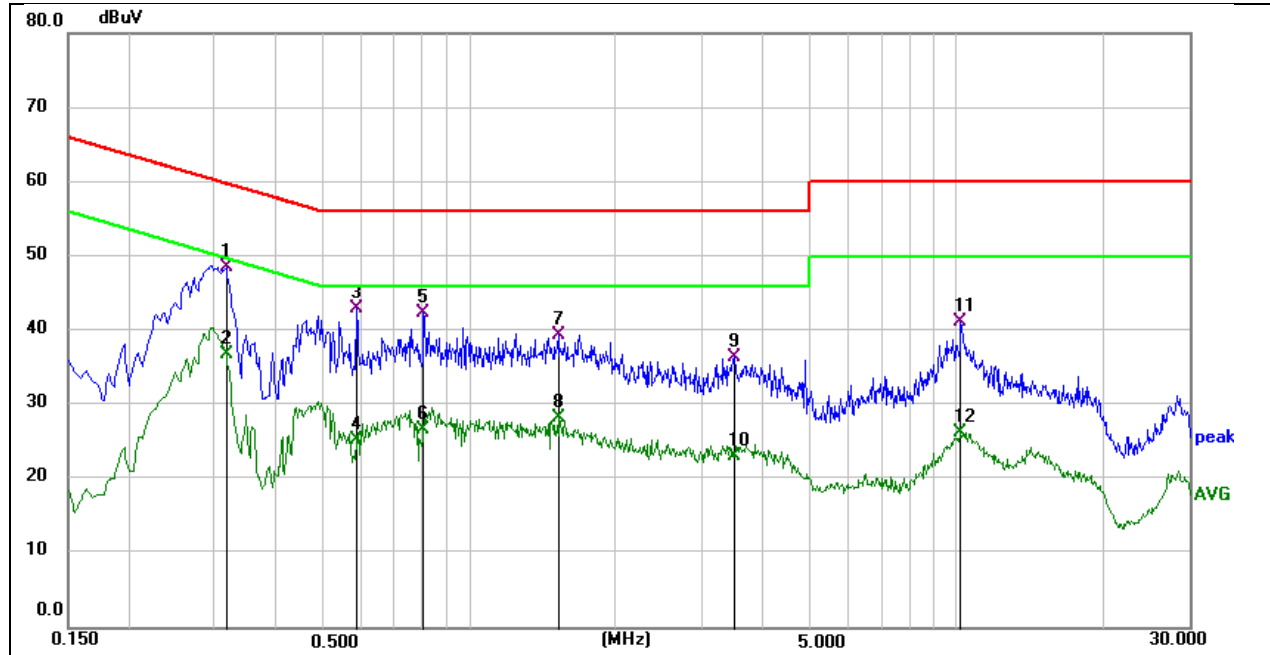
The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.

TEST SETUP



TEST ENVIRONMENT

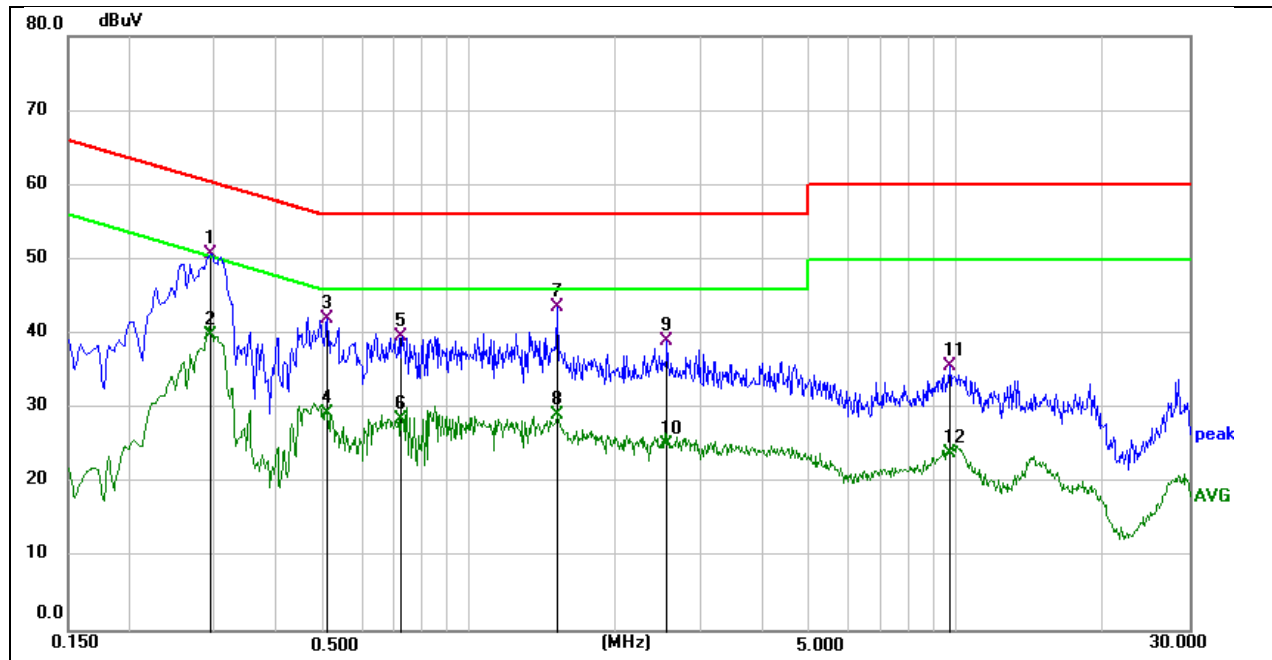
Temperature	26°C	Relative Humidity	54%
Atmosphere Pressure	101kPa		

TEST RESULTS

Phase: L1

Mode: 802.11b 2412MHz

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.3166	38.56	9.90	48.46	59.80	-11.34	QP
2	0.3166	27.01	9.90	36.91	49.80	-12.89	AVG
3	0.5854	33.23	9.77	43.00	56.00	-13.00	QP
4	0.5854	15.52	9.77	25.29	46.00	-20.71	AVG
5	0.8045	32.41	9.91	42.32	56.00	-13.68	QP
6	0.8045	16.70	9.91	26.61	46.00	-19.39	AVG
7	1.5193	29.57	9.83	39.40	56.00	-16.60	QP
8	1.5193	18.43	9.83	28.26	46.00	-17.74	AVG
9	3.4906	26.37	9.97	36.34	56.00	-19.66	QP
10	3.4906	13.07	9.97	23.04	46.00	-22.96	AVG
11	10.1791	31.25	10.03	41.28	60.00	-18.72	QP
12	10.1791	16.31	10.03	26.34	50.00	-23.66	AVG



Phase: N

Mode: 802.11b 2412MHz

No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.2819	45.49	10.88	56.37	60.76	-4.39	QP
2	0.2819	35.11	10.88	45.99	50.76	-4.77	AVG
3	0.8660	37.17	10.35	47.52	56.00	-8.48	QP
4	0.8660	22.03	10.35	32.38	46.00	-13.62	AVG
5	1.5580	37.85	10.36	48.21	56.00	-7.79	QP
6	1.5580	20.74	10.36	31.10	46.00	-14.90	AVG
7 *	2.5540	41.43	10.37	51.80	56.00	-4.20	QP
8	2.5540	20.77	10.37	31.14	46.00	-14.86	AVG
9	12.5180	36.58	10.71	47.29	60.00	-12.71	QP
10	12.5180	29.27	10.71	39.98	50.00	-10.02	AVG
11	23.6780	34.40	11.10	45.50	60.00	-14.50	QP
12	23.6780	15.84	11.10	26.94	50.00	-23.06	AVG

Note: 1. Result = Reading + Correct Factor.

2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 200 Hz (9 kHz ~ 150 kHz), 9 kHz (150 kHz ~ 30 MHz).

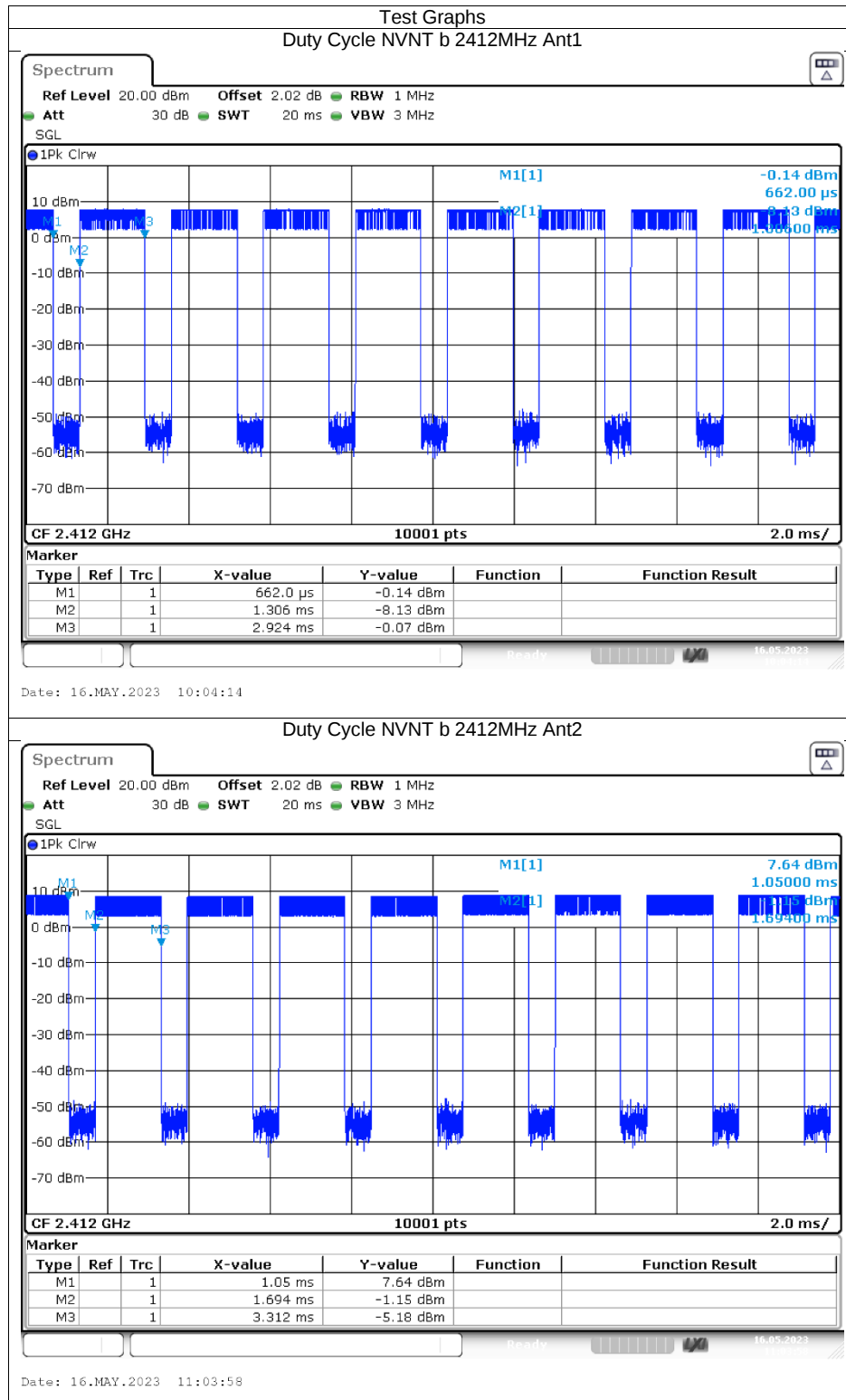
4. Step size: 80 Hz (0.009 MHz ~ 0.15 MHz), 4 kHz (0.15 MHz ~ 30 MHz), Scan time: auto.

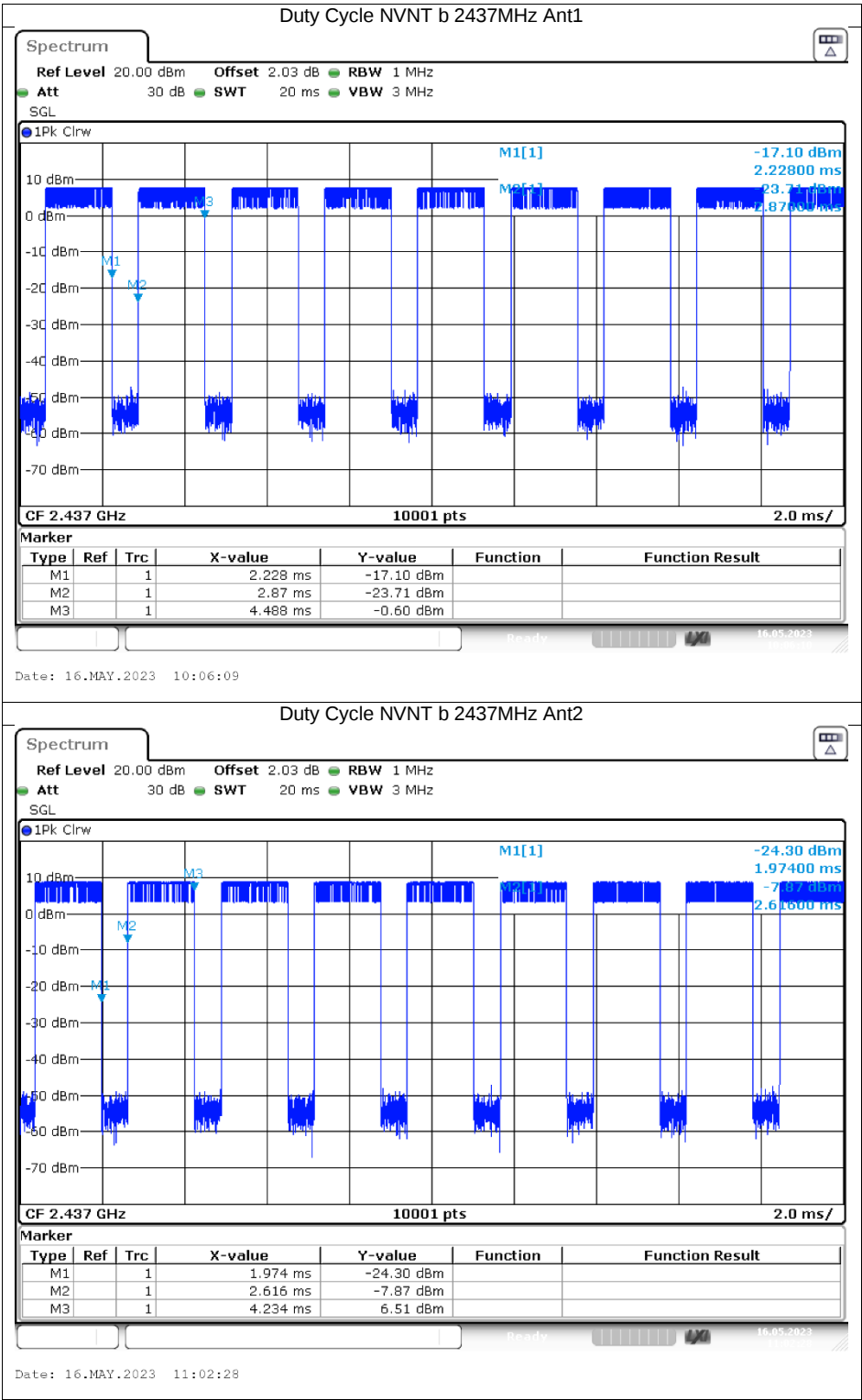
Note: All the modes have been tested, only the worst data was recorded in the report.

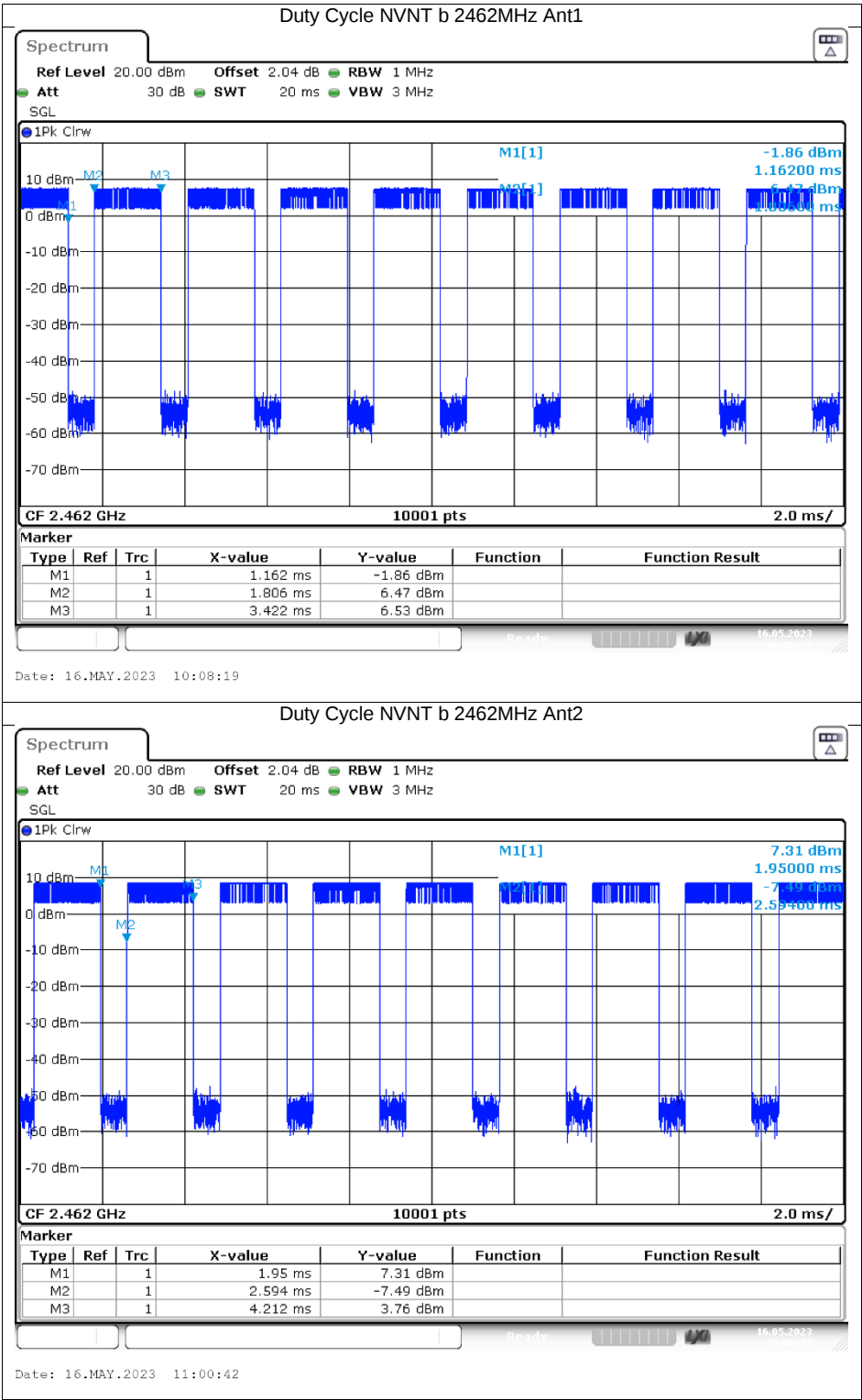
11. TEST DATA - Appendix A

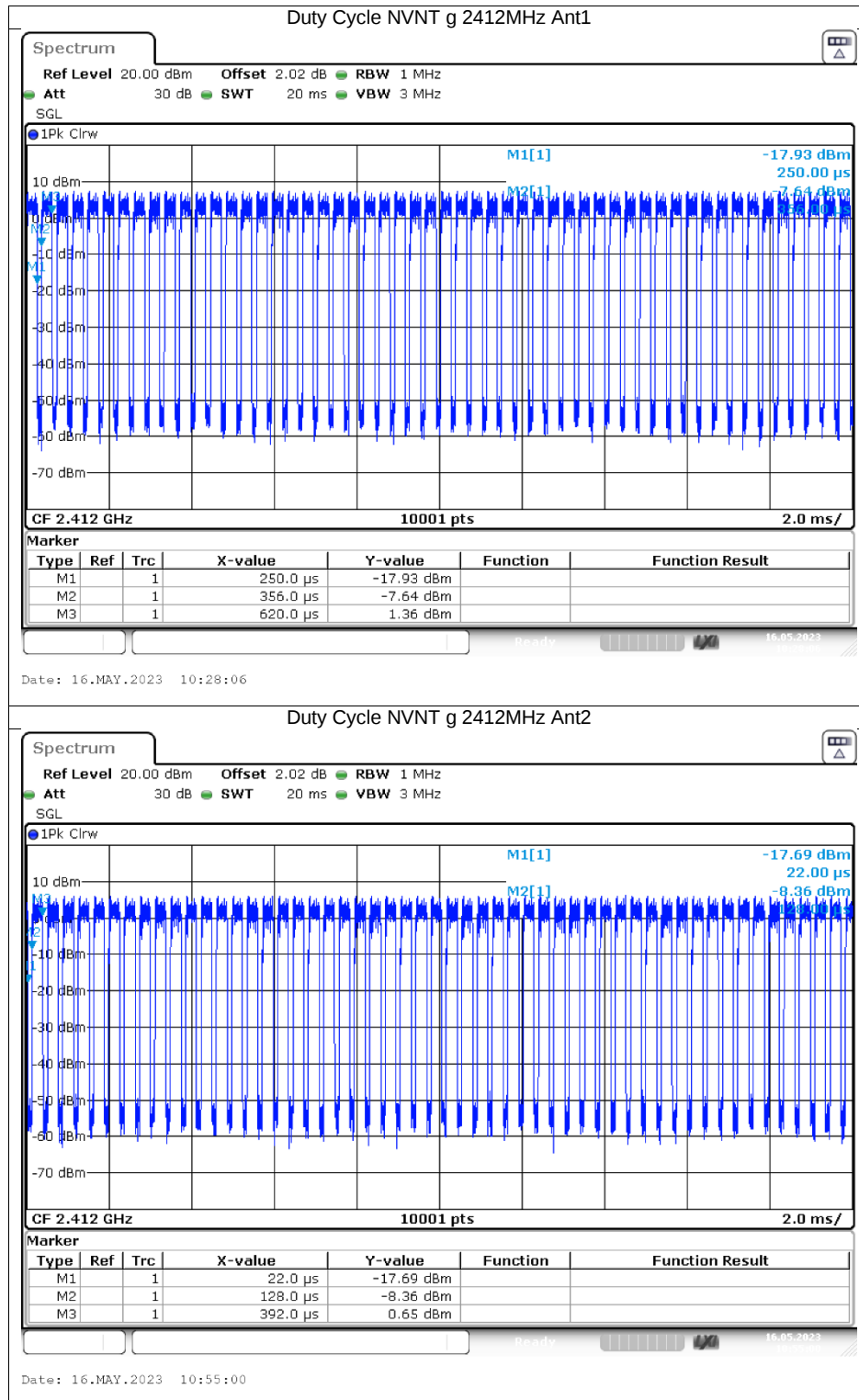
Duty Cycle

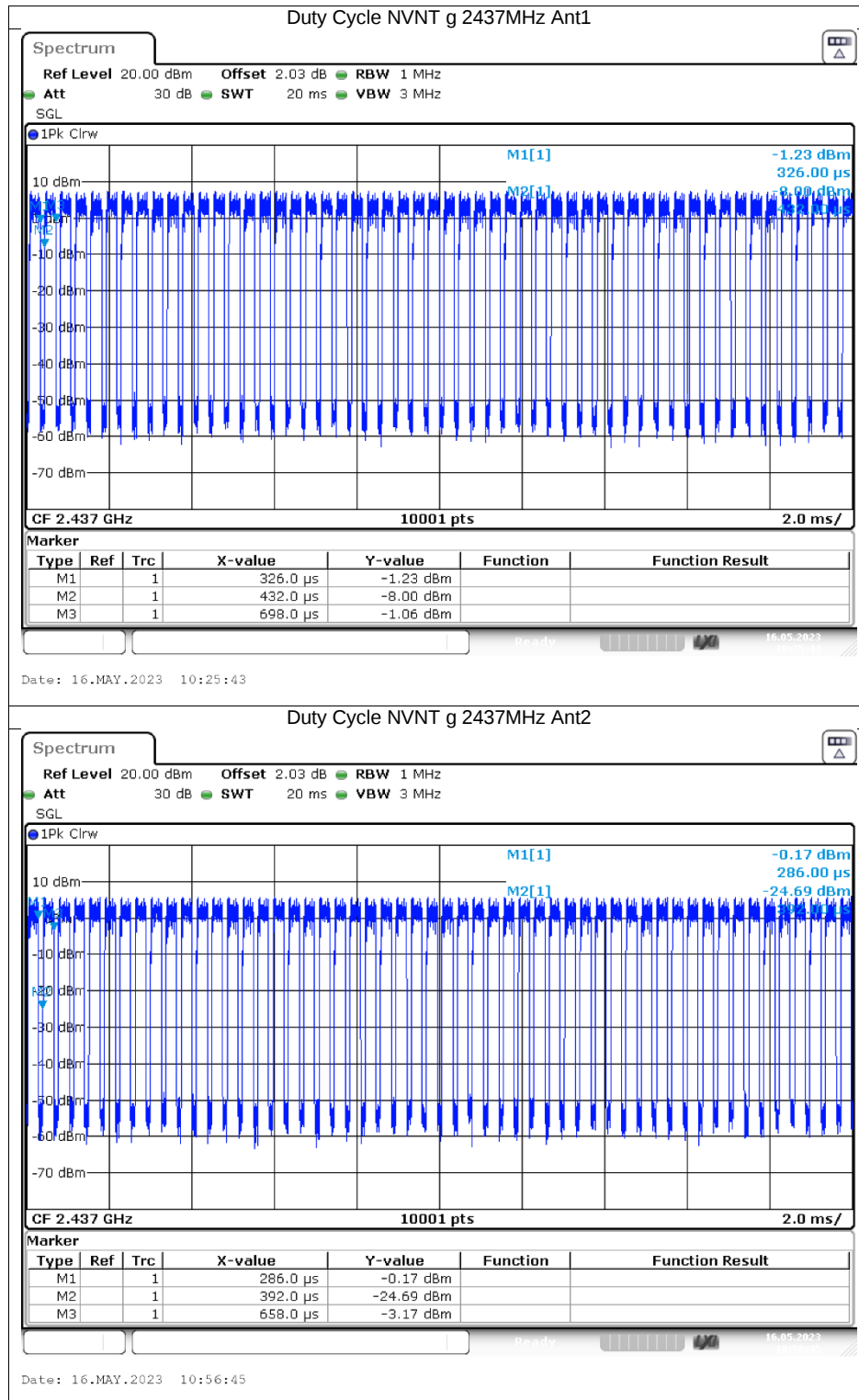
Condition	Mode	Frequency (MHz)	Antenna	Duty Cycle (%)	Correction Factor (dB)	1/T (kHz)
NVNT	b	2412	Ant1	71.53	1.46	0.62
NVNT	b	2412	Ant2	71.53	1.46	0.62
NVNT	b	2437	Ant1	71.59	1.45	0.62
NVNT	b	2437	Ant2	71.59	1.45	0.62
NVNT	b	2462	Ant1	71.5	1.46	0.62
NVNT	b	2462	Ant2	71.53	1.46	0.62
NVNT	g	2412	Ant1	71.35	1.47	3.79
NVNT	g	2412	Ant2	71.35	1.47	3.79
NVNT	g	2437	Ant1	71.51	1.46	3.76
NVNT	g	2437	Ant2	71.51	1.46	3.76
NVNT	g	2462	Ant1	70.97	1.49	3.79
NVNT	g	2462	Ant2	71.51	1.46	3.76
NVNT	n20	2412	Ant1	72.83	1.38	3.73
NVNT	n20	2412	Ant2	72.83	1.38	3.73
NVNT	n20	2437	Ant1	72.83	1.38	3.73
NVNT	n20	2437	Ant2	73.37	1.34	3.7
NVNT	n20	2462	Ant1	73.37	1.34	3.7
NVNT	n20	2462	Ant2	73.37	1.34	3.7
NVNT	n40	2422	Ant1	90.65	0.43	1.05
NVNT	n40	2422	Ant2	90.65	0.43	1.05
NVNT	n40	2437	Ant1	90.46	0.44	1.05
NVNT	n40	2437	Ant2	90.65	0.43	1.05
NVNT	n40	2452	Ant1	90.46	0.44	1.05
NVNT	n40	2452	Ant2	90.65	0.43	1.05
NVNT	ax20	2412	Ant1	88.72	0.52	4.24
NVNT	ax20	2412	Ant2	88.06	0.55	4.24
NVNT	ax20	2437	Ant1	88.81	0.52	4.2
NVNT	ax20	2437	Ant2	88.72	0.52	4.24
NVNT	ax20	2462	Ant1	88.72	0.52	4.24
NVNT	ax20	2462	Ant2	88.81	0.52	4.2
NVNT	ax40	2422	Ant1	96.31	0.16	1.28
NVNT	ax40	2422	Ant2	96.31	0.16	1.28
NVNT	ax40	2437	Ant1	96.3	0.16	1.28
NVNT	ax40	2437	Ant2	96.06	0.17	1.28
NVNT	ax40	2452	Ant1	96.3	0.16	1.28
NVNT	ax40	2452	Ant2	96.3	0.16	1.28

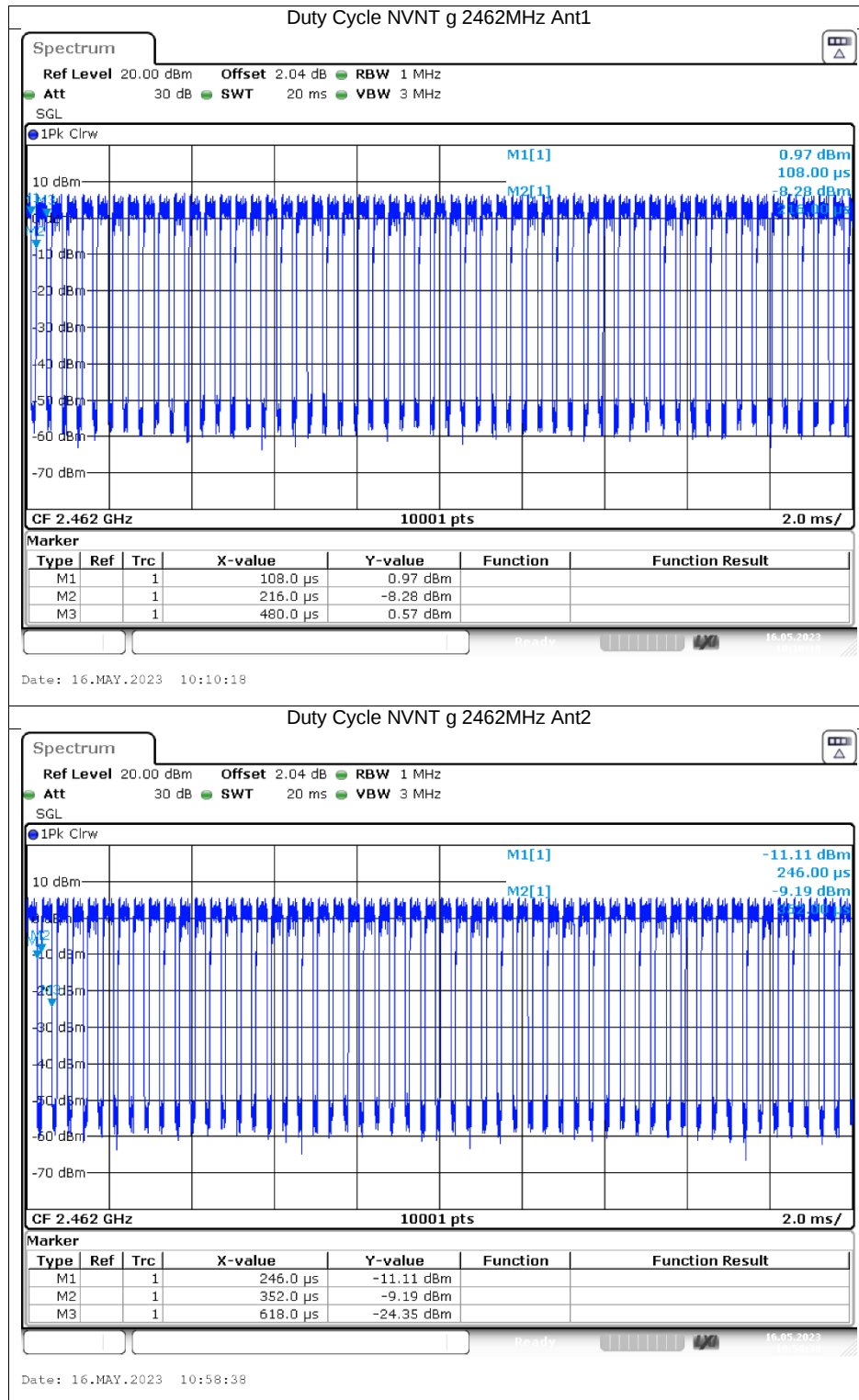


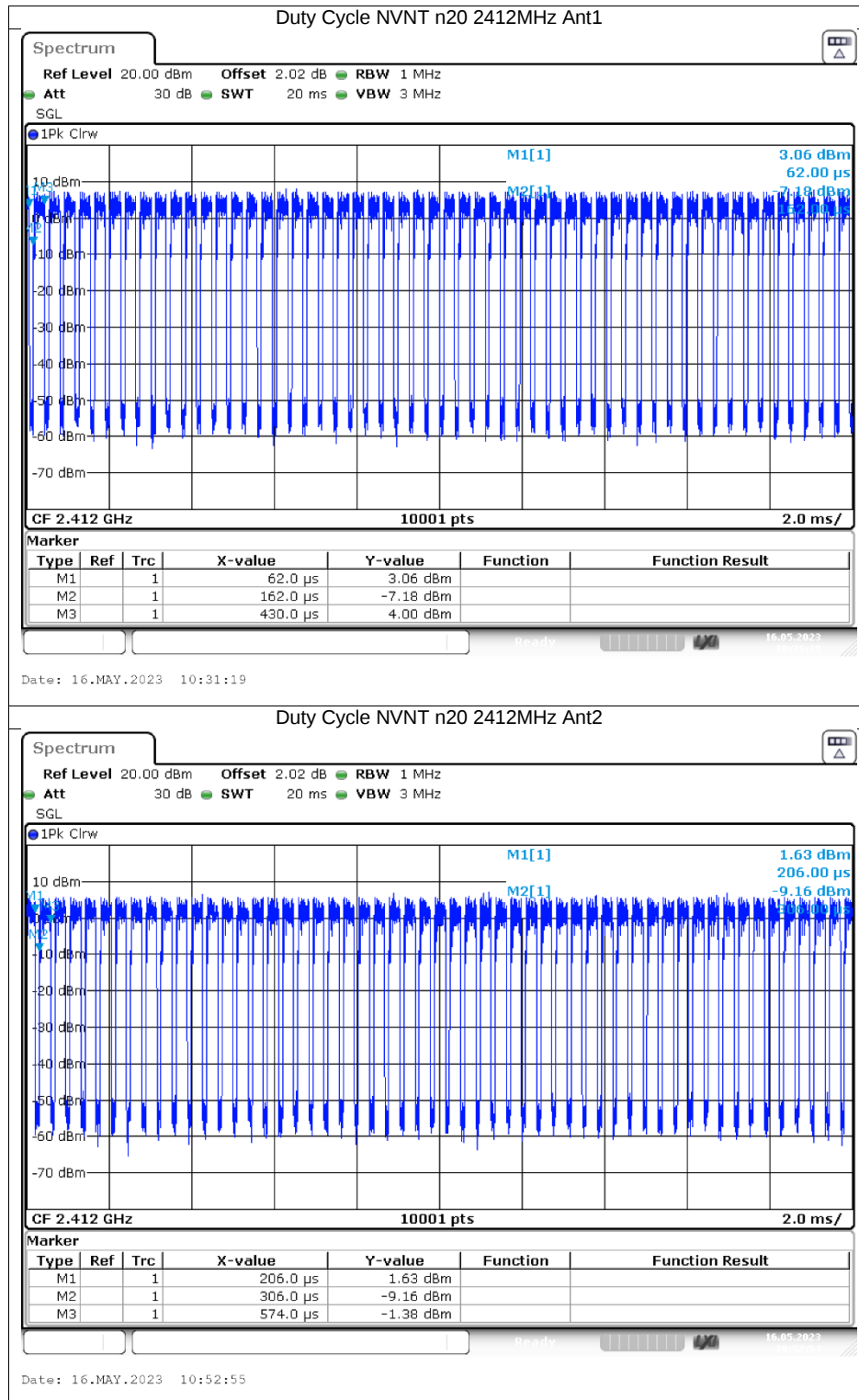


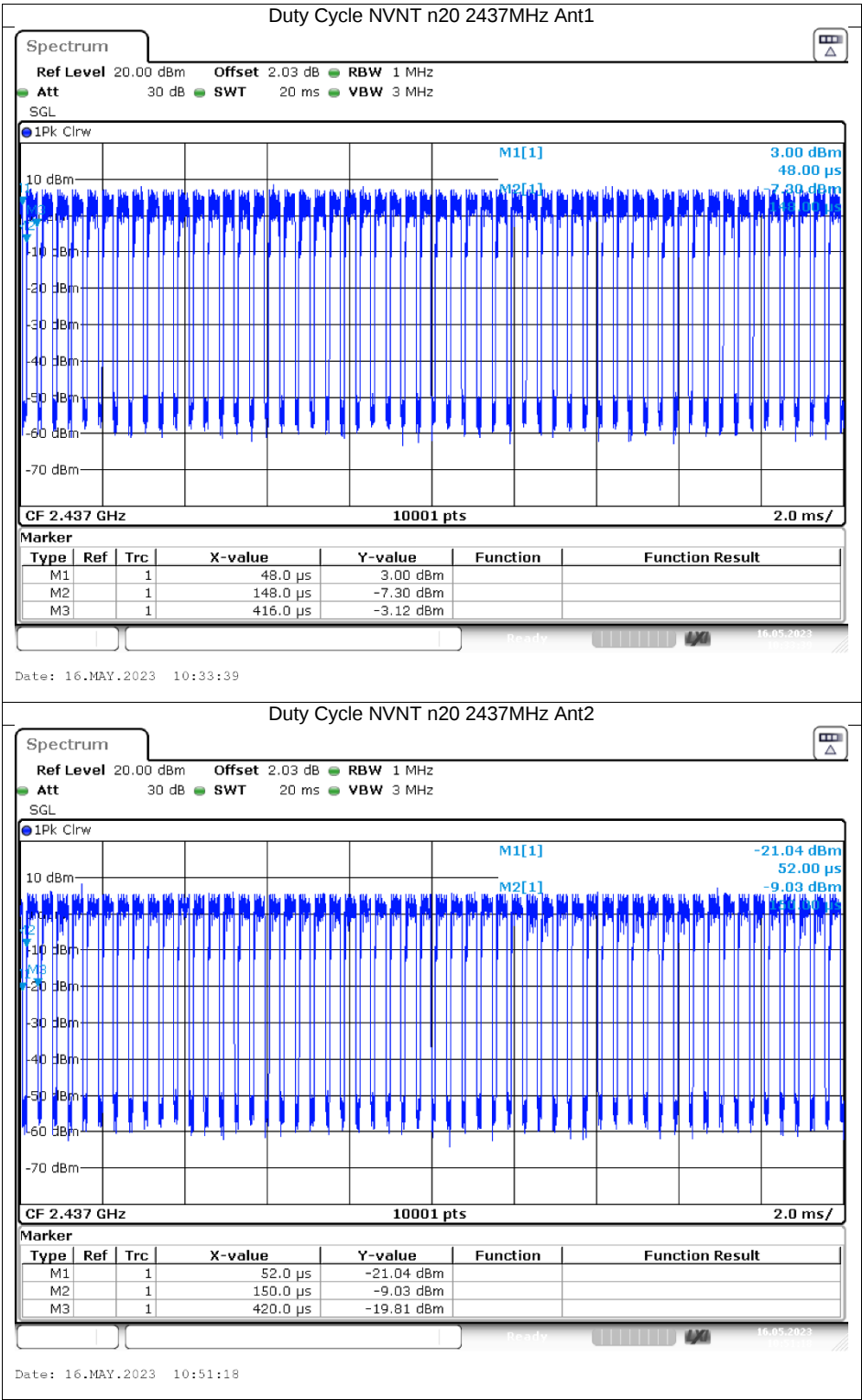












Duty Cycle NVNT n20 2437MHz Ant2

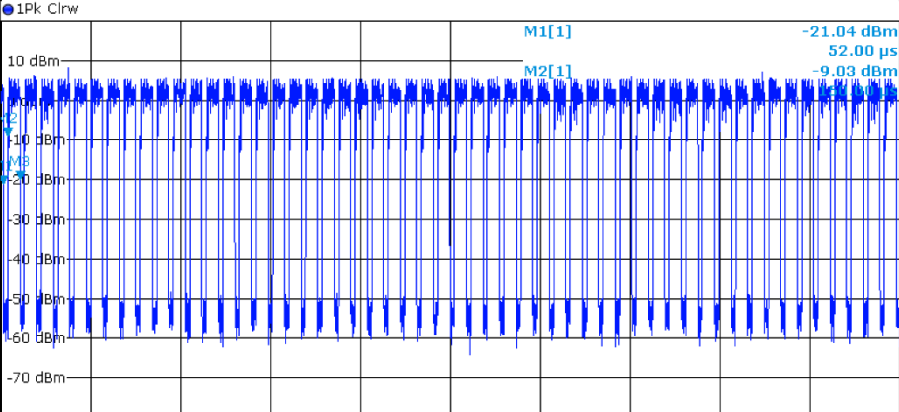
Spectrum

Ref Level 20.00 dBm Offset 2.03 dB RBW 1 MHz
Att 30 dB SWT 20 ms VBW 3 MHz
SGL

1Pk Clrw

M1[1] -21.04 dBm
52.00 μ s

M2[1] -9.03 dBm

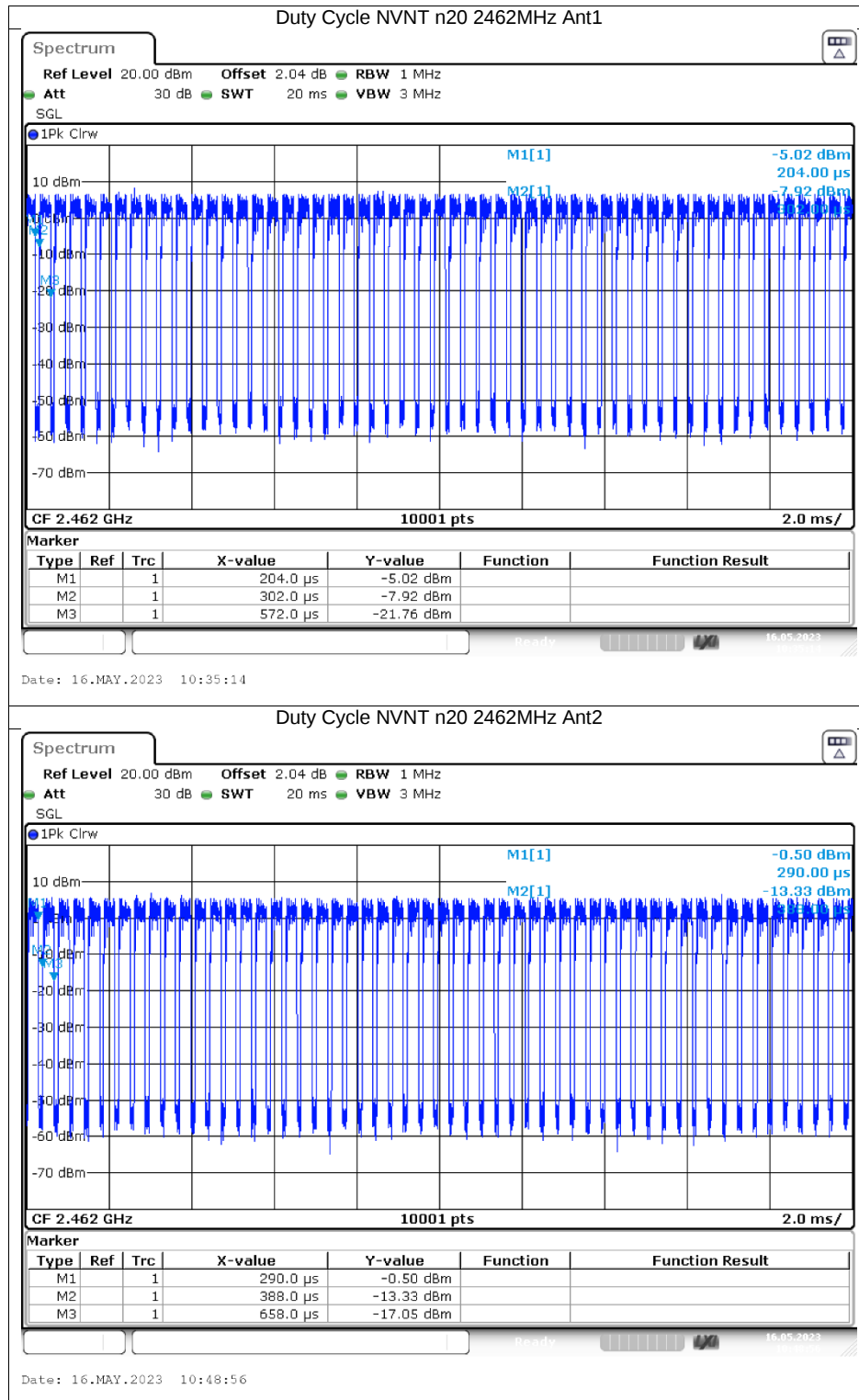


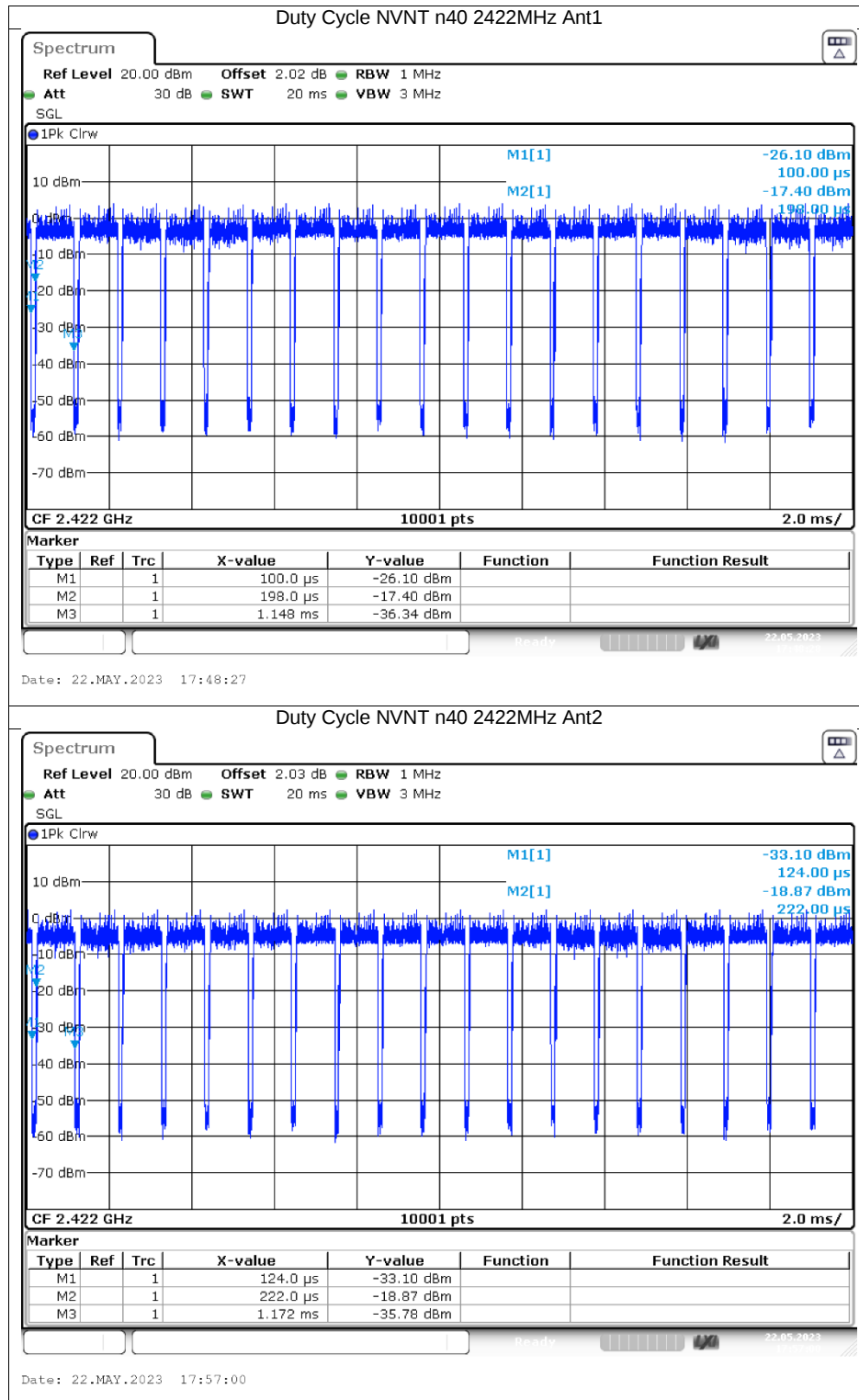
CF 2.437 GHz 10001 pts 2.0 ms/

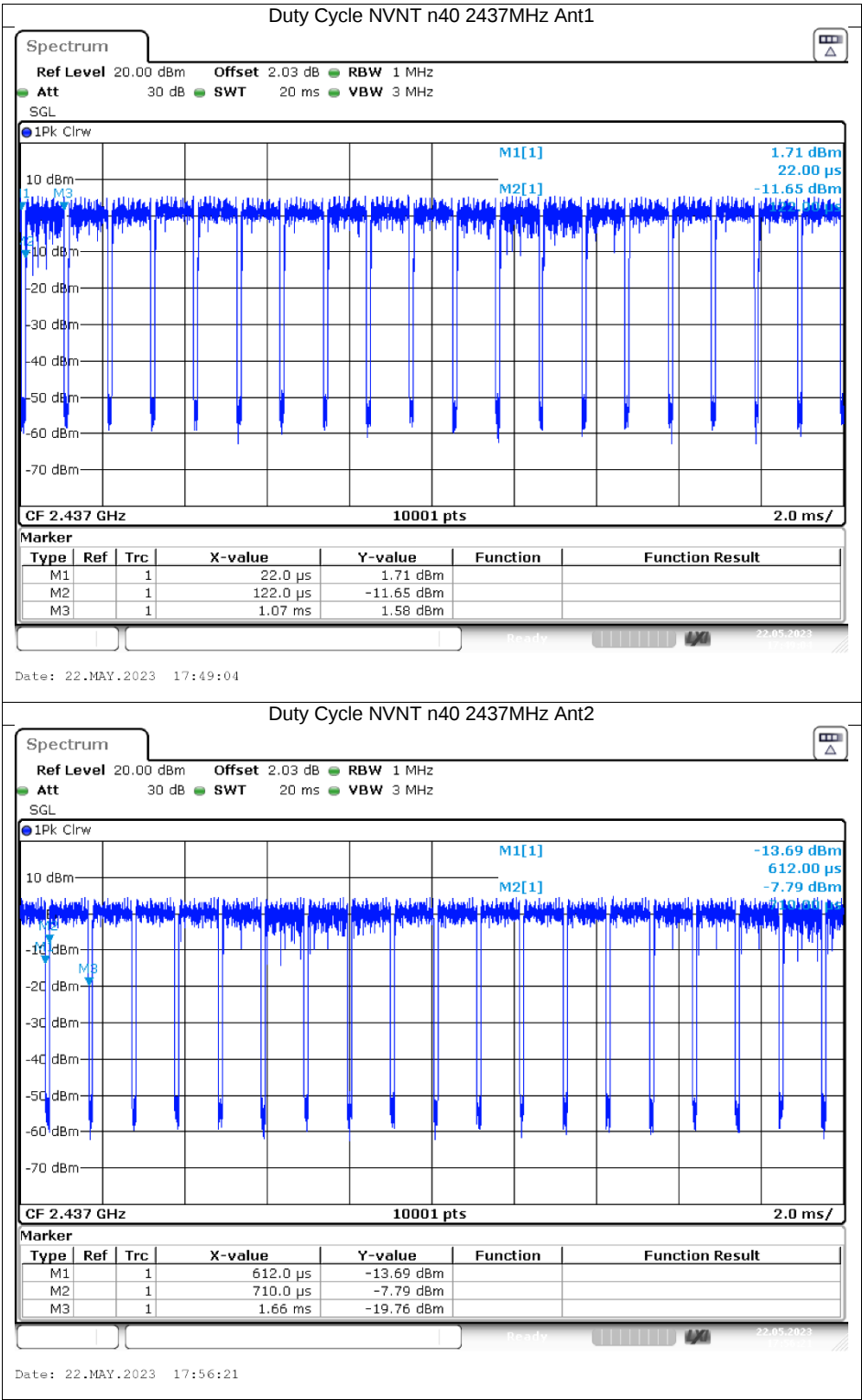
Marker

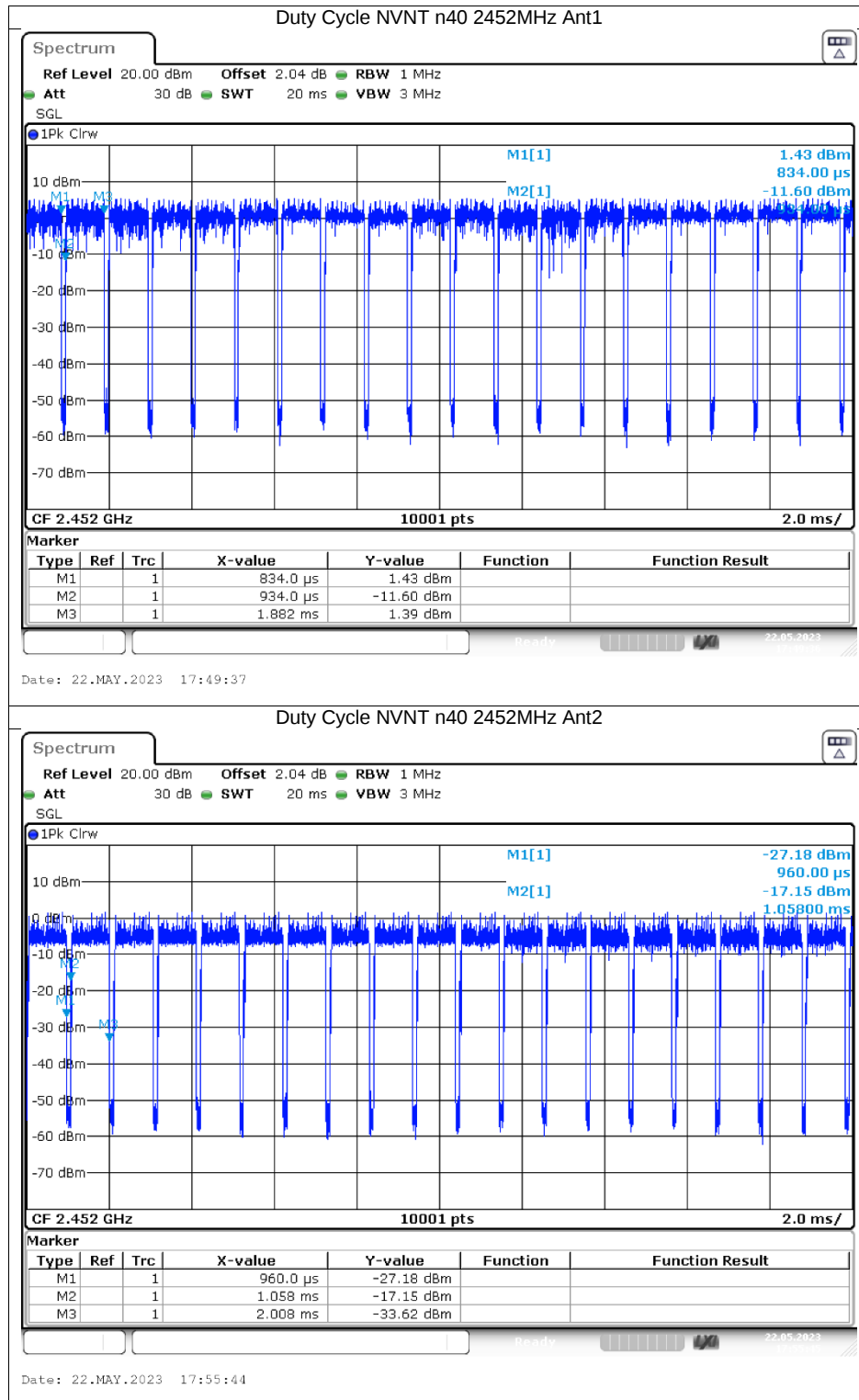
Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	52.0 μ s	-21.04 dBm		
M2		1	150.0 μ s	-9.03 dBm		
M3		1	420.0 μ s	-19.81 dBm		

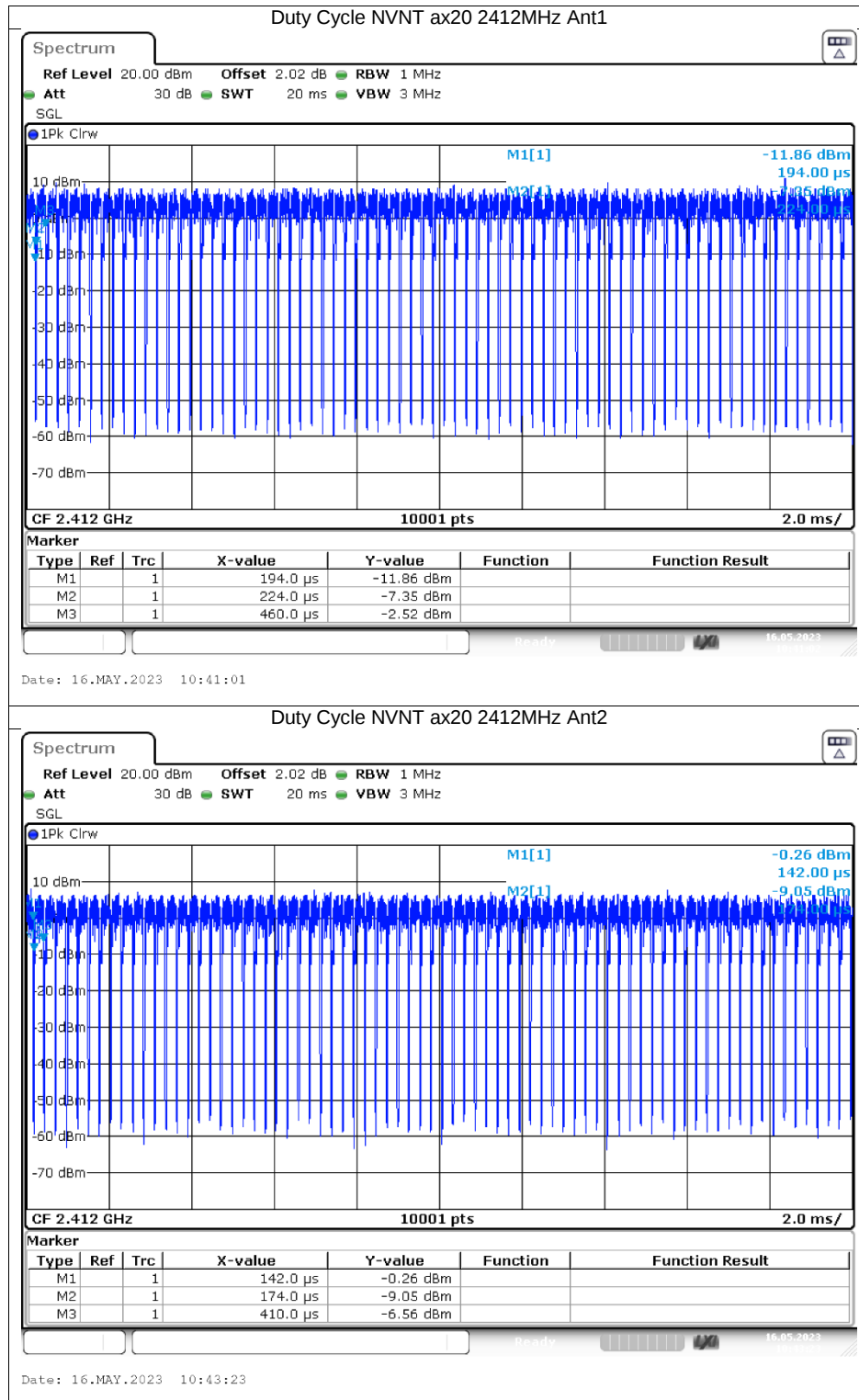
Date: 16.MAY.2023 10:51:18

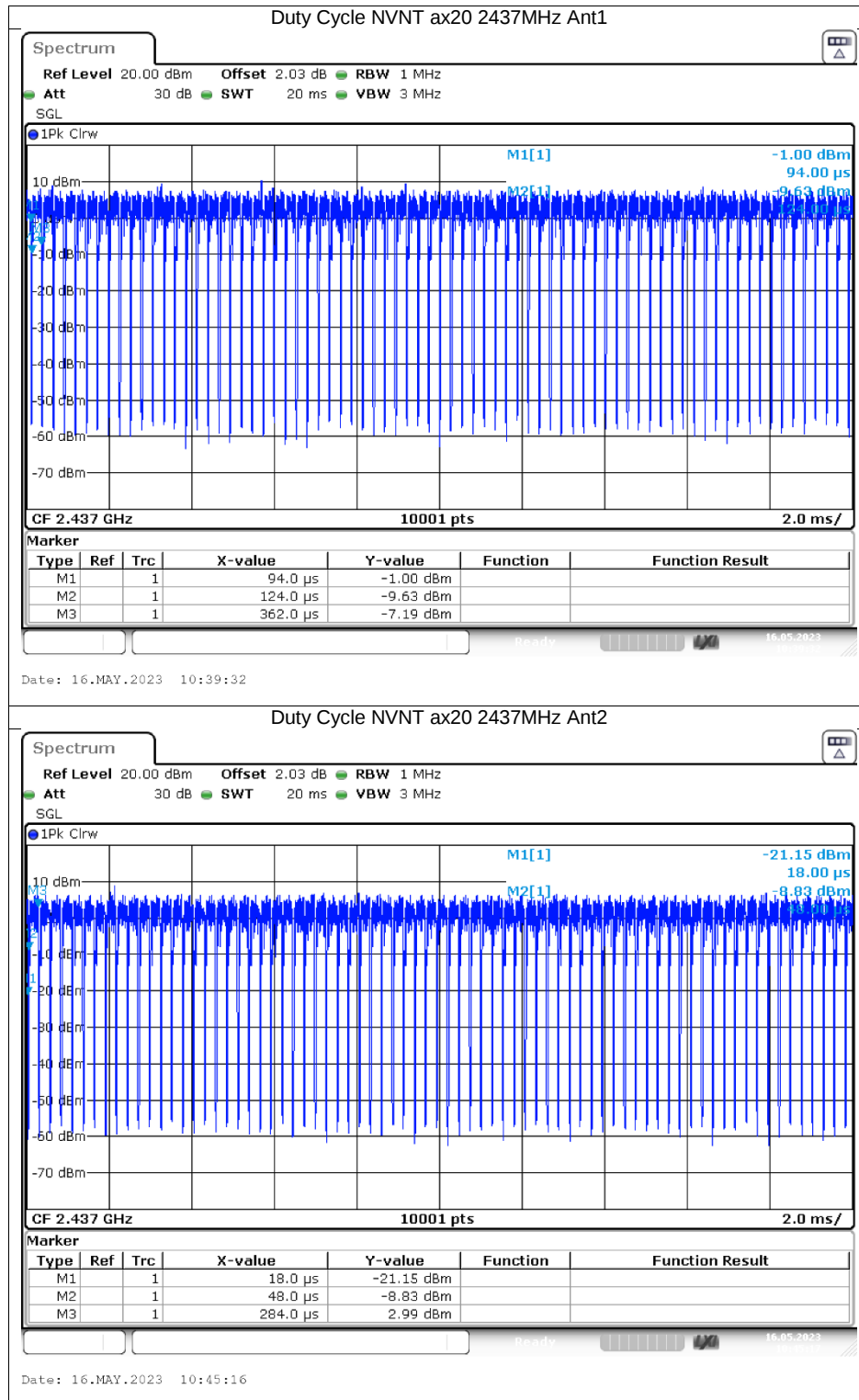


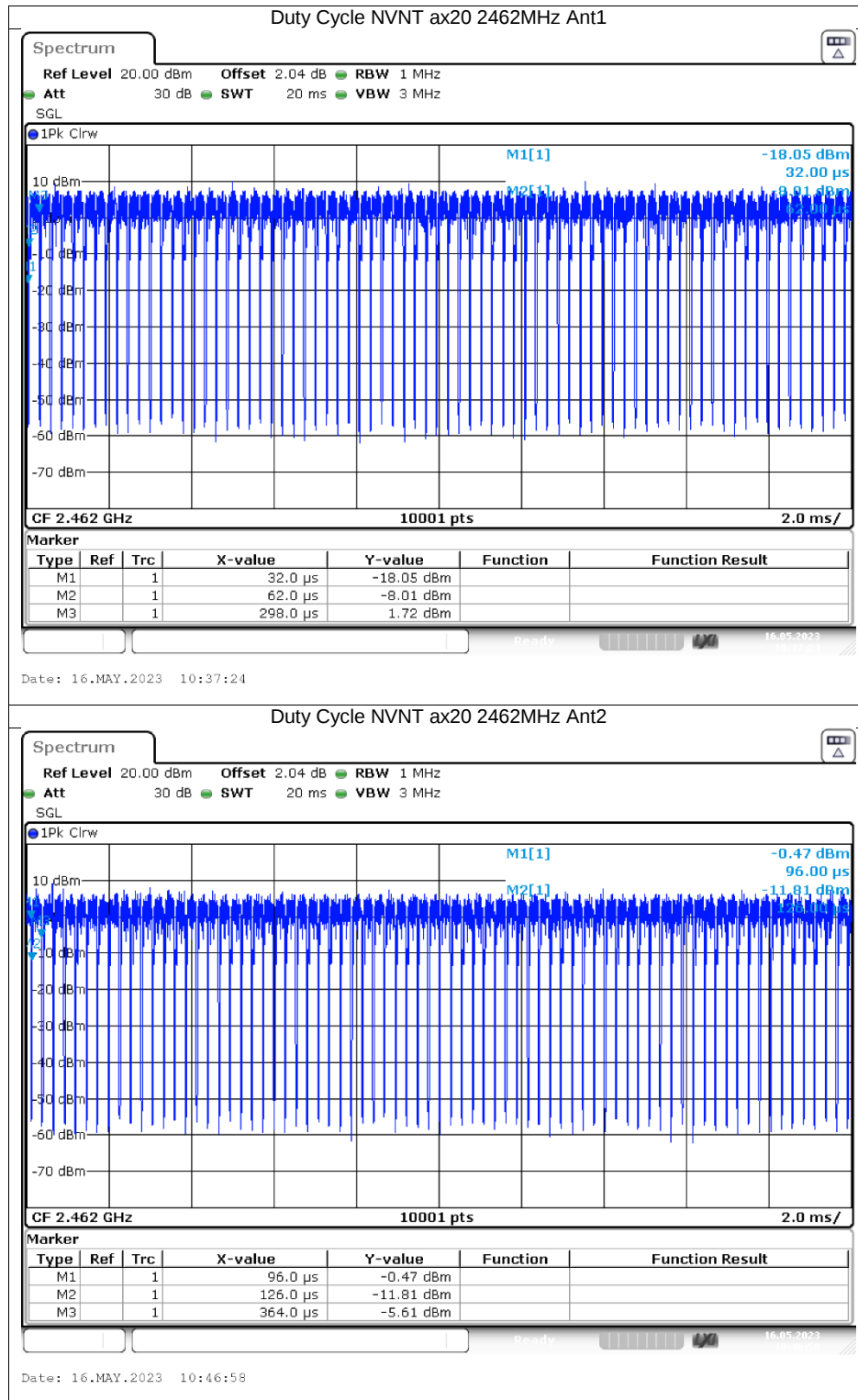


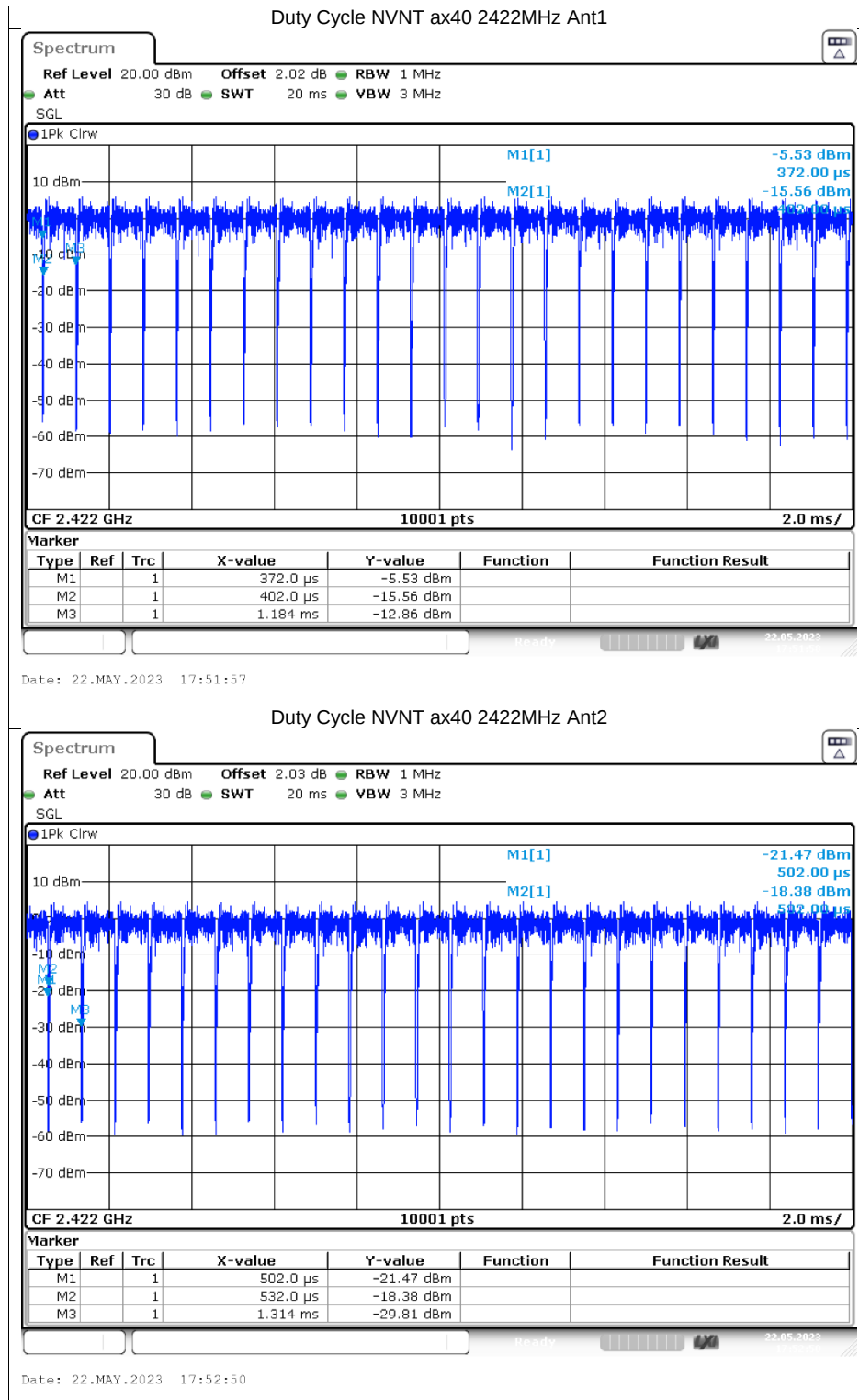


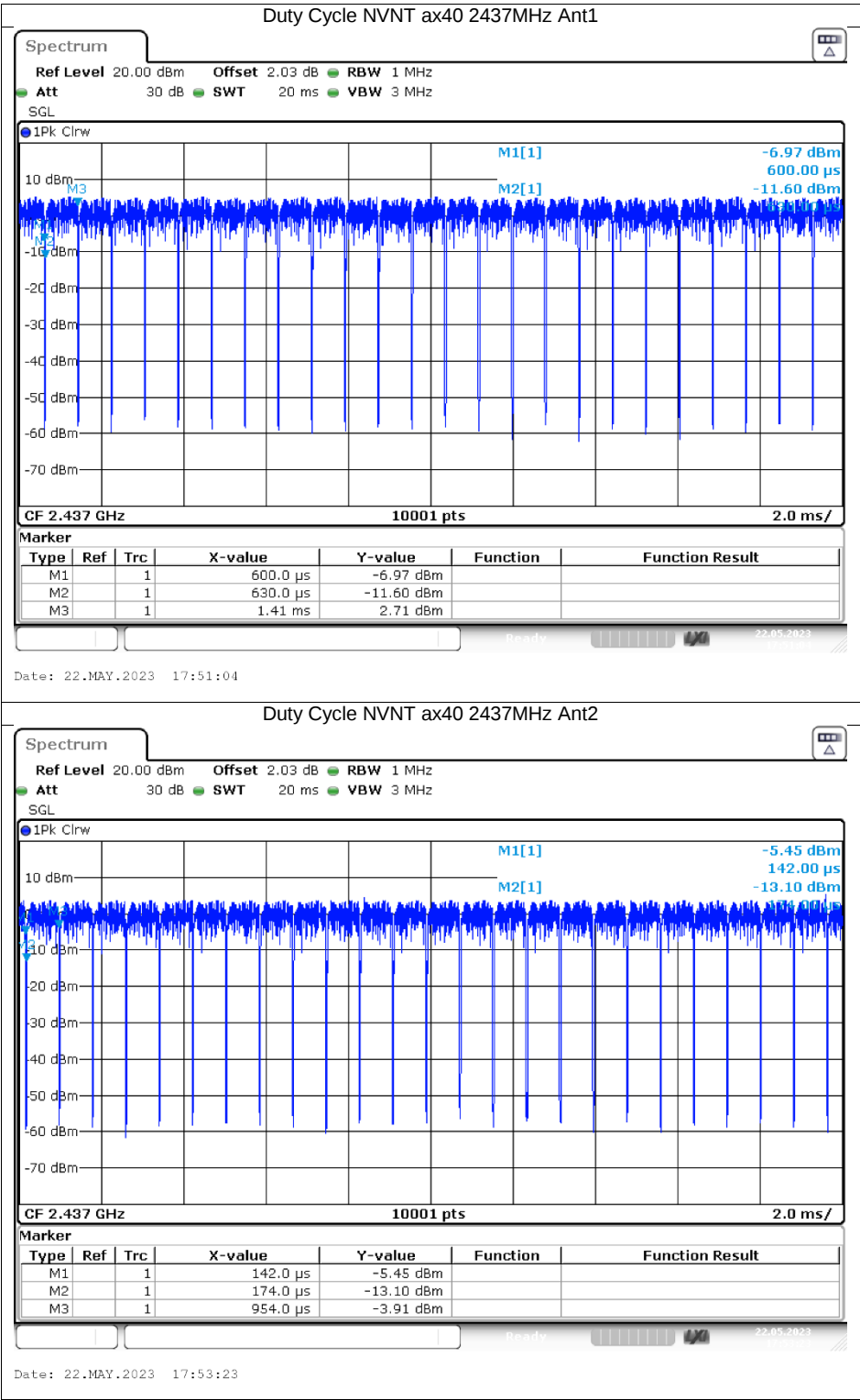


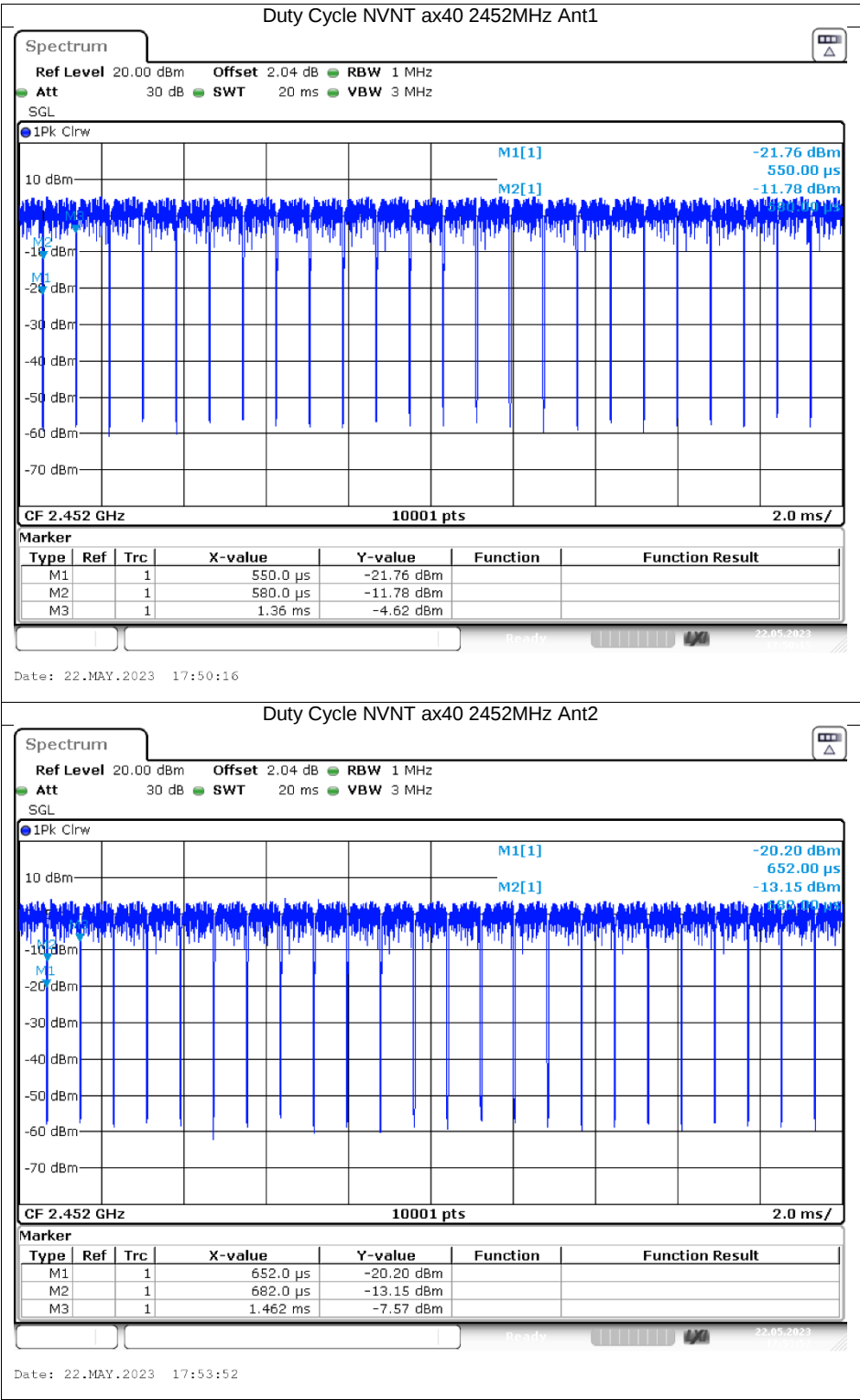












Maximum Conducted Output Power

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	16.13	30	Pass
NVNT	b	2412	Ant2	16.99	30	Pass
NVNT	b	2437	Ant1	16.02	30	Pass
NVNT	b	2437	Ant2	16.91	30	Pass
NVNT	b	2462	Ant1	15.85	30	Pass
NVNT	b	2462	Ant2	16.96	30	Pass
NVNT	g	2412	Ant1	15.83	30	Pass
NVNT	g	2412	Ant2	16.29	30	Pass
NVNT	g	2437	Ant1	15.77	30	Pass
NVNT	g	2437	Ant2	16.18	30	Pass
NVNT	g	2462	Ant1	15.51	30	Pass
NVNT	g	2462	Ant2	15.98	30	Pass
NVNT	n20	2412	Ant1	11.08	30	Pass
NVNT	n20	2412	Ant2	11.05	30	Pass
NVNT	n20	2412	Sum	14.08	30	Pass
NVNT	n20	2437	Ant1	10.67	30	Pass
NVNT	n20	2437	Ant2	11.2	30	Pass
NVNT	n20	2437	Sum	13.95	30	Pass
NVNT	n20	2462	Ant1	10.83	30	Pass
NVNT	n20	2462	Ant2	11.77	30	Pass
NVNT	n20	2462	Sum	14.34	30	Pass
NVNT	n40	2422	Ant1	11.15	30	Pass
NVNT	n40	2422	Ant2	11.18	30	Pass
NVNT	n40	2422	Sum	14.18	30	Pass
NVNT	n40	2437	Ant1	10.74	30	Pass
NVNT	n40	2437	Ant2	11.01	30	Pass
NVNT	n40	2437	Sum	13.89	30	Pass
NVNT	n40	2452	Ant1	10.95	30	Pass
NVNT	n40	2452	Ant2	11.33	30	Pass
NVNT	n40	2452	Sum	14.15	30	Pass
NVNT	ax20	2412	Ant1	12.01	30	Pass
NVNT	ax20	2412	Ant2	11.73	30	Pass
NVNT	ax20	2412	Sum	14.88	30	Pass
NVNT	ax20	2437	Ant1	11.69	30	Pass
NVNT	ax20	2437	Ant2	11.96	30	Pass
NVNT	ax20	2437	Sum	14.84	30	Pass
NVNT	ax20	2462	Ant1	12	30	Pass
NVNT	ax20	2462	Ant2	12.37	30	Pass
NVNT	ax20	2462	Sum	15.2	30	Pass
NVNT	ax40	2422	Ant1	11.86	30	Pass
NVNT	ax40	2422	Ant2	12.01	30	Pass
NVNT	ax40	2422	Sum	14.95	30	Pass
NVNT	ax40	2437	Ant1	11.56	30	Pass
NVNT	ax40	2437	Ant2	11.48	30	Pass
NVNT	ax40	2437	Sum	14.53	30	Pass
NVNT	ax40	2452	Ant1	11.71	30	Pass
NVNT	ax40	2452	Ant2	12.03	30	Pass
NVNT	ax40	2452	Sum	14.88	30	Pass

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Antenna Gain (dBi)	E.i.r.p. (dBm)	Limit (dBm)	Verdict
NVNT	b	2412	Ant1	16.13	3	19.13	36.02	Pass
NVNT	b	2412	Ant2	16.99	3	19.99	36.02	Pass
NVNT	b	2437	Ant1	16.02	3	19.02	36.02	Pass
NVNT	b	2437	Ant2	16.91	3	19.91	36.02	Pass
NVNT	b	2462	Ant1	15.85	3	18.85	36.02	Pass
NVNT	b	2462	Ant2	16.96	3	19.96	36.02	Pass
NVNT	g	2412	Ant1	15.83	3	18.83	36.02	Pass
NVNT	g	2412	Ant2	16.29	3	19.29	36.02	Pass
NVNT	g	2437	Ant1	15.77	3	18.77	36.02	Pass
NVNT	g	2437	Ant2	16.18	3	19.18	36.02	Pass
NVNT	g	2462	Ant1	15.51	3	18.51	36.02	Pass
NVNT	g	2462	Ant2	15.98	3	18.98	36.02	Pass
NVNT	n20	2412	Ant1	11.08	3	14.08	36.02	Pass
NVNT	n20	2412	Ant2	11.05	3	14.05	36.02	Pass
NVNT	n20	2412	Sum	14.08	-	17.08	36.02	Pass
NVNT	n20	2437	Ant1	10.67	3	13.67	36.02	Pass
NVNT	n20	2437	Ant2	11.2	3	14.2	36.02	Pass
NVNT	n20	2437	Sum	13.95	-	16.95	36.02	Pass

NVNT	n20	2462	Ant1	10.83	3	13.83	36.02	Pass
NVNT	n20	2462	Ant2	11.77	3	14.77	36.02	Pass
NVNT	n20	2462	Sum	14.34	-	17.34	36.02	Pass
NVNT	n40	2422	Ant1	11.15	3	14.15	36.02	Pass
NVNT	n40	2422	Ant2	11.18	3	14.18	36.02	Pass
NVNT	n40	2422	Sum	14.18	-	17.18	36.02	Pass
NVNT	n40	2437	Ant1	10.74	3	13.74	36.02	Pass
NVNT	n40	2437	Ant2	11.01	3	14.01	36.02	Pass
NVNT	n40	2437	Sum	13.89	-	16.89	36.02	Pass
NVNT	n40	2452	Ant1	10.95	3	13.95	36.02	Pass
NVNT	n40	2452	Ant2	11.33	3	14.33	36.02	Pass
NVNT	n40	2452	Sum	14.15	-	17.15	36.02	Pass
NVNT	ax20	2412	Ant1	12.01	3	15.01	36.02	Pass
NVNT	ax20	2412	Ant2	11.73	3	14.73	36.02	Pass
NVNT	ax20	2412	Sum	14.88	-	17.88	36.02	Pass
NVNT	ax20	2437	Ant1	11.69	3	14.69	36.02	Pass
NVNT	ax20	2437	Ant2	11.96	3	14.96	36.02	Pass
NVNT	ax20	2437	Sum	14.84	-	17.84	36.02	Pass
NVNT	ax20	2462	Ant1	12	3	15	36.02	Pass
NVNT	ax20	2462	Ant2	12.37	3	15.37	36.02	Pass
NVNT	ax20	2462	Sum	15.2	-	18.20	36.02	Pass
NVNT	ax40	2422	Ant1	11.86	3	14.86	36.02	Pass
NVNT	ax40	2422	Ant2	12.01	3	15.01	36.02	Pass
NVNT	ax40	2422	Sum	14.95	-	17.95	36.02	Pass
NVNT	ax40	2437	Ant1	11.56	3	14.56	36.02	Pass
NVNT	ax40	2437	Ant2	11.48	3	14.48	36.02	Pass
NVNT	ax40	2437	Sum	14.53	-	17.53	36.02	Pass
NVNT	ax40	2452	Ant1	11.71	3	14.71	36.02	Pass
NVNT	ax40	2452	Ant2	12.03	3	15.03	36.02	Pass
NVNT	ax40	2452	Sum	14.88	-	17.88	36.02	Pass

-6dB Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	b	2412	Ant1	7.053	0.5	Pass
NVNT	b	2412	Ant2	7.029	0.5	Pass
NVNT	b	2437	Ant1	7.53	0.5	Pass
NVNT	b	2437	Ant2	7.047	0.5	Pass
NVNT	b	2462	Ant1	7.062	0.5	Pass
NVNT	b	2462	Ant2	7.041	0.5	Pass
NVNT	g	2412	Ant1	16.335	0.5	Pass
NVNT	g	2412	Ant2	16.332	0.5	Pass
NVNT	g	2437	Ant1	16.326	0.5	Pass
NVNT	g	2437	Ant2	16.335	0.5	Pass
NVNT	g	2462	Ant1	16.32	0.5	Pass
NVNT	g	2462	Ant2	16.329	0.5	Pass
NVNT	n20	2412	Ant1	17.58	0.5	Pass
NVNT	n20	2412	Ant2	17.577	0.5	Pass
NVNT	n20	2437	Ant1	17.574	0.5	Pass
NVNT	n20	2437	Ant2	17.574	0.5	Pass
NVNT	n20	2462	Ant1	17.577	0.5	Pass
NVNT	n20	2462	Ant2	17.577	0.5	Pass
NVNT	n40	2422	Ant1	36.294	0.5	Pass
NVNT	n40	2422	Ant2	36.3	0.5	Pass
NVNT	n40	2437	Ant1	36.294	0.5	Pass
NVNT	n40	2437	Ant2	36.258	0.5	Pass
NVNT	n40	2452	Ant1	36.288	0.5	Pass
NVNT	n40	2452	Ant2	36.282	0.5	Pass
NVNT	ax20	2412	Ant1	18.954	0.5	Pass
NVNT	ax20	2412	Ant2	18.894	0.5	Pass
NVNT	ax20	2437	Ant1	18.852	0.5	Pass
NVNT	ax20	2437	Ant2	18.963	0.5	Pass
NVNT	ax20	2462	Ant1	18.885	0.5	Pass
NVNT	ax20	2462	Ant2	18.849	0.5	Pass
NVNT	ax40	2422	Ant1	37.59	0.5	Pass
NVNT	ax40	2422	Ant2	37.602	0.5	Pass
NVNT	ax40	2437	Ant1	37.602	0.5	Pass
NVNT	ax40	2437	Ant2	37.596	0.5	Pass
NVNT	ax40	2452	Ant1	37.614	0.5	Pass
NVNT	ax40	2452	Ant2	37.62	0.5	Pass

