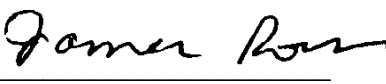
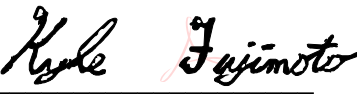


**FCC PART 15 SUBPART B and C
TEST REPORT***for***FULL SIZE HANDHELD TRANSMITTER****Model: CMD-HHTX-xxx****Versions: 315 MHz, 418 MHz and 433.92 MHz**

Prepared for

LINX TECHNOLOGIES
159 ORT LANE
MERLIN, OREGON 97532Prepared by: 

JAMES ROSS

Approved by: 

KYLE FUJIMOTO

COMPATIBLE ELECTRONICS INC.
114 OLINDA DRIVE
BREA, CALIFORNIA 92823
(714) 579-0500

DATE: JULY 20, 2010

	REPORT BODY	APPENDICES					TOTAL
		<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>	<i>E</i>	
PAGES	15	2	2	2	11	52	84

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LIST OF APPENDICES

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A	Laboratory Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagram, Charts, and Photos • Test Setup Diagram • Antenna and Amplifier Factors • Radiated Emissions Photos
E	Data Sheets • 315 MHz Version Data Sheets • 418 MHz Version Data Sheets • 433.92 MHz Version Data Sheets

LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Plot Map And Layout of Test Site – 3 Meters

GENERAL REPORT SUMMARY

Compatible Electronics Inc. generates this electromagnetic emission test report, which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested: Full Size Handheld Transmitter
Model: CMD-HHTX-xxx
Versions: 315 MHz, 418 MHz and 433.92 MHz
S/N: N/A

Product Description: See Expository Statement

Modifications: The EUT was not modified in order to meet the specifications.

Customer: Linx Technologies
159 Ort Lane
Merlin, Oregon 97532

Test Date(s): June 29 and 30, and July 1 and 2, 2010

Test Specifications: EMI requirements
CFR Title 47, Part 15, Subpart B

Test Procedure: ANSI C63.4

Test Deviations: The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz – 30 MHz	This test was not required since the EUT is a battery-powered device
2	Radiated RF Emissions 10 kHz – 4180 MHz (Transmitter and Digital Portion)	Complies with the Class B limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231 315 MHz Version: Highest reading in relation to spec limit: 73.57 (Avg) dBuV @ 315 MHz (*U = 3.59 dB) 418 MHz Version: Highest reading in relation to spec limit: 80.18 (Avg) dBuV @ 418 MHz (*U = 3.59 dB) 433.92 MHz Version: Highest reading in relation to spec limit: 80.51 (Avg) dBuV @ 433.92 MHz (*U = 3.59 dB)

*U = Expanded Uncertainty with a coverage factor of k=2

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Full Size Handheld Transmitter, Model: CMD-HHTX-xxx, Versions: 315 MHz, 418 MHz and 433.92 MHz. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.231 for the transmitter portion.



2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Linx Technologies

Justin Hopper Engineering Manager

Compatible Electronics Inc.

James Ross Test Engineer
Kyle Fujimoto Test Engineer
Michael Christensen Lab Manager, Brea Division

2.4 Date Test Sample was Received

The test sample was received prior to the initial date of testing.

2.5 Disposition of the Test Sample

The test sample has not yet been returned as of the date of this report.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

FCC	Federal Communications Commission
RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
N/A	Not Applicable
Inc.	Incorporated
PCB	Printed Circuit Board
AC	Alternating Current
Tx	Transmitter

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2003	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration – EMI

The Full Size Handheld Transmitter, Model: CMD-HHTX-xxx, Versions: 315 MHz, 418 MHz and 433.92 MHz (EUT) was tested as a stand-alone device. During the tests, the EUT was continuously transmitting.

The EUT utilizes a Splatch antenna that is surface mounted to the PCB. The EUT stops transmitting immediately after the button is released.

It was determined that the emissions were at their highest level when the EUT was operating in the above configuration. The final emissions data was taken in this mode of operation and any cables were maximized. All initial investigations were performed with the measurement receiver in manual mode scanning the frequency range continuously. Photographs of the test setup are in Appendix D of this report.

4.1.1 Cable Construction and Termination

The EUT contained no externally attached cables.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	VERSION	SERIAL NUMBER	FCC ID
FULL SIZE HANDHELD TRANSMITTER (EUT)	LINX TECHNOLOGIES	CMD-HHTX-xxx	315 MHz	N/A	OJM-CMD-HHTX-XXXXA
FULL SIZE HANDHELD TRANSMITTER (EUT)	LINX TECHNOLOGIES	CMD-HHTX-xxx	418 MHz	N/A	OJM-CMD-HHTX-XXXXA
FULL SIZE HANDHELD TRANSMITTER (EUT)	LINX TECHNOLOGIES	CMD-HHTX-xxx	433.92 MHz	N/A	OJM-CMD-HHTX-XXXXA

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CAL. CYCLE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	June 10, 2010	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A14530	June 10, 2010	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	June 10, 2010	1 Year
EMI Receiver	Rohde & Schwarz	ESIB40	100194	September 17, 2008	2 Year
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Biconical Antenna	Com Power	AB-900	15250	February 16, 2010	1 Year
Log Periodic Antenna	Com Power	AL-100	16060	June 9, 2010	1 Year
Preamplifier	Com-Power	PA-102	1017	January 6, 2010	1 Year
Loop Antenna	Com-Power	AL-130	17089	September 29, 2008	2 Year
Horn Antenna	Com-Power	AH-118	071175	March 18, 2010	1 Year
Microwave Preamplifier	Com Power	PA-122	181921	March 10, 2010	1 Year
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature, and barometric pressure.

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 RF Emissions

7.1.1 Conducted Emissions Test

The measurement receiver was used as a measuring meter. The data was collected with the measurement receiver in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the measurement receiver's input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the measurement receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

This test was not required since the EUT is a battery-powered device.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The measurement receiver and spectrum analyzer were used as measuring meters. A preamplifier was used to increase the sensitivity of the instrument. The measurement receiver was used in the peak detect mode with the “Max Hold” feature activated. In this mode, the measurement receiver records the highest measured reading over all the sweeps.

The readings were averaged by a “duty cycle correction factor,” derived from 20 log (dwell time / one pulse train with blanking interval). The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	TRANSDUCER	EFFECTIVE MEASUREMENT BANDWIDTH
9 kHz to 150 kHz	Active Loop Antenna	200 Hz
150 kHz to 30 MHz	Active Loop Antenna	9 kHz
30 MHz to 300 MHz	Biconical Antenna	120 kHz
300 MHz to 1000 MHz	Log Periodic Antenna	120 kHz
1000 MHz to 4339.2 MHz	Horn Antenna	1 MHz

The final data was taken with a frequency span of 1 MHz for frequencies below 1000 MHz. For frequencies above 1000 MHz, the final data was taken with a frequency span of 10 MHz. The frequency span was reduced during the preliminary investigations as deemed necessary to distinguish between emissions from the EUT and any ambient signals.

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4. Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3-meter distance to obtain final test data. The final qualification data is located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 15, Subpart C, sections 15.205, 15.209, and 15.231.

7.2 Bandwidth of the Fundamental

The -20 dB bandwidth was checked to see that it was within 0.25% of the fundamental frequency for the EUT. Plots of the -20 dB bandwidth are located in Appendix E.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.231(c).



8. CONCLUSIONS

The Full Size Handheld Transmitter, Model: CMD-HHTX-xxx, Versions: 315 MHz, 418 MHz and 433.92 MHz (EUT), as tested, meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.231 for the transmitter portion.



APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada



APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.231 and/or FCC **Class B** specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.



APPENDIX C

***ADDITIONAL MODELS COVERED
UNDER THIS REPORT***

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Full Size Handheld Transmitter

Model: CMD-HHTX-xxx

Versions: 315 MHz, 418 MHz and 433.92 MHz

S/N: N/A

No additional models were covered under this report.



APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

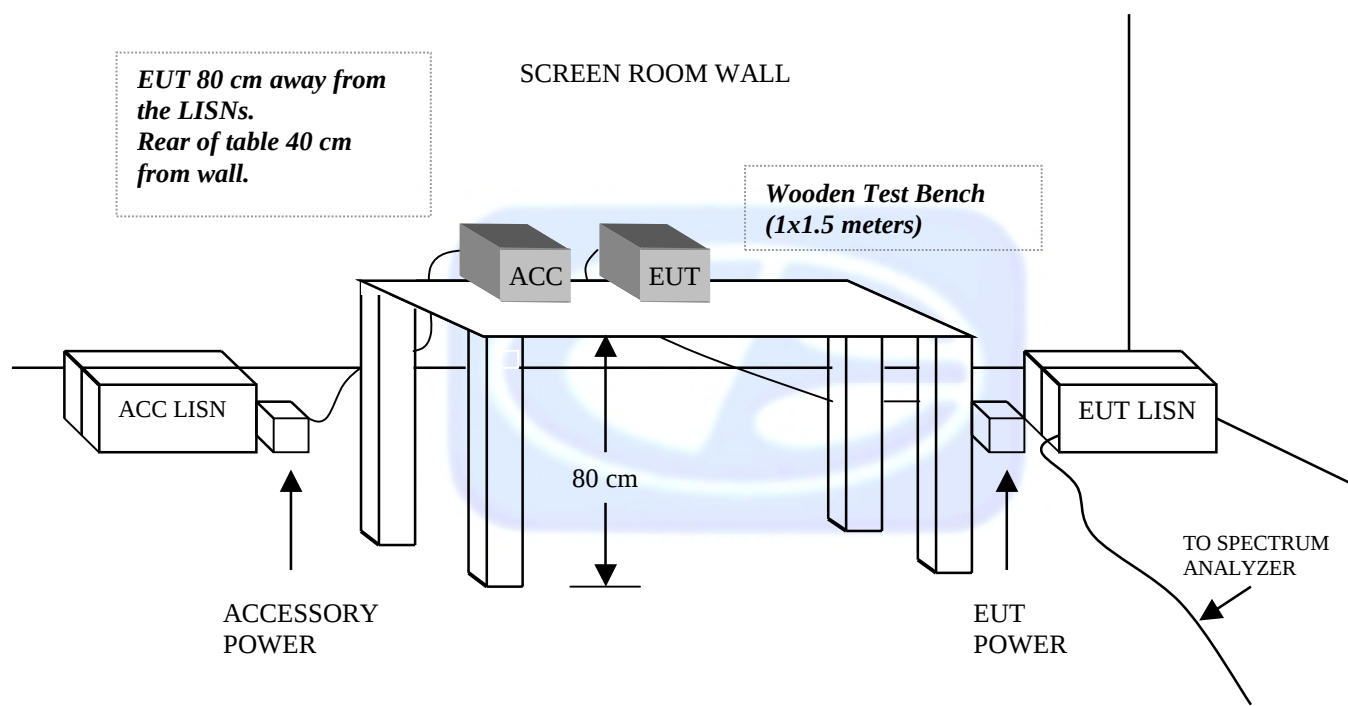
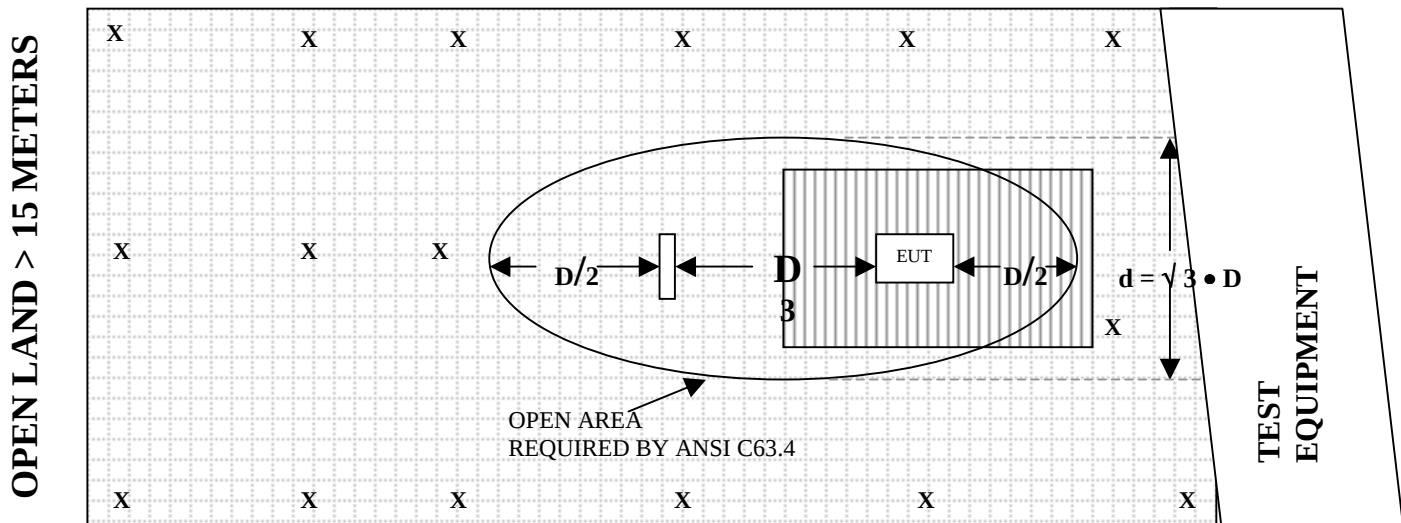
FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE – 3 METERS

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X	= GROUND RODS		= GROUND SCREEN
D	= TEST DISTANCE (meters)		= WOOD COVER

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15250

CALIBRATION DATE: FEBRUARY 16, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	13.5	100	11.1
35	10.4	120	13.1
40	10.3	140	12.2
45	9.8	160	13.6
50	10.6	180	15.9
60	9.5	200	16.4
70	8.4	250	15.1
80	5.5	275	17.7
90	7.3	300	19.5

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16060

CALIBRATION DATE: JUNE 9, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	15.5	700	20.4
400	17.9	800	21.5
500	18.5	900	21.7
600	20.3	1000	23.0

COM POWER AH-118**HORN ANTENNA**

S/N: 071175

CALIBRATION DATE: MARCH 18, 2010

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	22.2	10.0	39.8
1.5	24.2	10.5	40.2
2.0	27.2	11.0	39.7
2.5	27.8	11.5	39.9
3.0	30.5	12.0	41.7
3.5	30.9	12.5	42.7
4.0	31.9	13.0	42.3
4.5	33.2	13.5	40.3
5.0	33.6	14.0	42.6
5.5	36.2	14.5	43.4
6.0	35.8	15.0	41.9
6.5	36.1	15.5	40.8
7.0	37.9	16.0	41.0
7.5	37.4	16.5	41.5
8.0	38.0	17.0	44.5
8.5	38.8	17.5	47.6
9.0	38.0	18.0	50.8
9.5	39.2		

COM-POWER PA-102**PREAMPLIFIER**

S/N: 1017

CALIBRATION DATE: JANUARY 6, 2010

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
20	38.0	300	38.2
30	38.3	350	38.1
40	38.4	400	38.5
50	38.2	450	38.0
60	38.2	500	37.9
70	38.3	550	38.2
80	38.1	600	38.2
90	38.2	650	37.7
100	38.3	700	38.3
125	38.2	750	38.3
150	38.3	800	37.4
175	38.3	850	37.5
200	38.1	900	37.6
225	38.2	950	37.4
250	38.3	1000	37.3
275	38.2		

COM-POWER PA-122**PREAMPLIFIER****S/N: 181921****CALIBRATION DATE: MARCH 10, 2010**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	35.53	10.0	34.78
1.5	34.92	10.5	34.36
2.0	34.63	11.0	33.14
2.5	34.42	11.5	34.42
3.0	34.40	12.0	34.24
3.5	34.36	12.5	34.95
4.0	34.11	13.0	34.62
4.5	33.61	13.5	35.24
5.0	33.83	14.0	35.40
5.5	34.53	14.5	36.66
6.0	35.09	15.0	35.98
6.5	35.58	15.5	35.94
7.0	36.50	16.0	35.80
7.5	34.83	16.5	34.98
8.0	34.08	17.0	35.00
8.5	33.57	17.5	34.25
9.0	34.68	18.0	33.51
9.5	35.84	18.5	32.88

COM-POWER AL-130**LOOP ANTENNA****S/N: 17089****CALIBRATION DATE: SEPTEMBER 29, 2008**

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-41.57	9.93
0.01	-42.06	9.44
0.02	-42.43	9.07
0.05	-42.50	9.00
0.07	-42.10	9.40
0.1	-42.03	9.47
0.2	-44.50	7.00
0.3	-41.93	9.57
0.5	-41.90	9.60
0.7	-41.73	9.77
1	-41.23	10.27
2	-40.90	10.60
3	-41.20	10.30
4	-41.30	10.20
5	-40.70	10.80
10	-41.10	10.40
15	-42.17	9.33
20	-42.00	9.50
25	-42.20	9.30
30	-43.10	8.40



FRONT VIEW

LINX TECHNOLOGIES
FULL SIZE HANDHELD TRANSMITTER
MODEL: CMD-HHTX-xxx
FCC SUBPART B AND C – RADIATED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

Brea Division
114 Olinda Drive
Brea, CA 92823
(714) 579-0500

Agoura Division
2337 Troutdale Drive
Agoura, CA 91301
(818) 597-0600

Silverado Division
19121 El Toro Road
Silverado, CA 92676
(949) 589-0700

Lake Forest Division
20621 Pascal Way
Lake Forest, CA 92630
(949) 587-0400



REAR VIEW

LINX TECHNOLOGIES
FULL SIZE HANDHELD TRANSMITTER
MODEL: CMD-HHTX-xxx
FCC SUBPART B AND C – RADIATED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION
FOR MAXIMUM EMISSIONS**

APPENDIX E

DATA SHEETS

315 MHz VERSION

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Dates: 07/01/2010 and 07/02/2010
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - Fundamental and Harmonics
Duty Cycle = 44.14%, R3 = 0 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
315	64.67	V	95.62	-30.95	Peak	2	135	
315	57.57	V	75.62	-18.05	Avg	2	135	
630	47.44	V	75.62	-28.18	Peak	1	180	
630	40.34	V	55.62	-15.28	Avg	1	180	
945	40.29	V	75.62	-35.33	Peak	1	0	
945	33.19	V	55.62	-22.43	Avg	1	0	
1260	39.97	V	74	-34.03	Peak	1.25	135	
1260	32.87	V	54	-21.13	Avg	1.25	135	
1575	49.48	V	74	-24.52	Peak	1.35	175	
1575	42.38	V	54	-11.62	Avg	1.35	175	
1890	42.22	V	75.62	-33.4	Peak	1.45	185	
1890	35.12	V	55.62	-20.5	Avg	1.45	185	
2205	36.91	V	74	-37.09	Peak	1.35	155	
2205	29.81	V	54	-24.19	Avg	1.35	155	
2520	46.38	V	75.62	-29.24	Peak	1.25	155	
2520	39.28	V	55.62	-16.34	Avg	1.25	155	
2835	44.01	V	74	-29.99	Peak	1.25	165	
2835	36.91	V	54	-17.09	Avg	1.25	165	
3150	40.13	V	75.62	-35.49	Peak	1.35	175	
3150	33.03	V	55.62	-22.59	Avg	1.35	175	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Dates: 07/01/2010 and 07/02/2010
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - Fundamental and Harmonics
Duty Cycle = 44.14%, R3 = 0 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
315	80.67	H	95.62	-14.95	Peak	1.25	225	
315	73.57	H	75.62	-2.05	Avg	1.25	225	
630	48.64	H	75.62	-26.98	Peak	1	90	
630	41.54	H	55.62	-14.08	Avg	1	90	
945	44.39	H	75.62	-31.23	Peak	1.25	270	
945	37.29	H	55.62	-18.33	Avg	1.25	270	
1260	32.25	H	74	-41.75	Peak	1.35	275	
1260	25.15	H	54	-28.85	Avg	1.35	275	
1575	49.72	H	74	-24.28	Peak	1.25	135	
1575	42.62	H	54	-11.38	Avg	1.25	135	
1890	41.05	H	75.62	-34.57	Peak	1.35	165	
1890	33.95	H	55.62	-21.67	Avg	1.35	165	
2205	35.13	H	74	-38.87	Peak	1.25	175	
2205	28.03	H	54	-25.97	Avg	1.25	175	
2520	45.21	H	75.62	-30.41	Peak	1.35	185	
2520	38.11	H	55.62	-17.51	Avg	1.35	185	
2835	42.68	H	74	-31.32	Peak	1.25	175	
2835	35.58	H	54	-18.42	Avg	1.25	175	
3150	40.03	H	75.62	-35.59	Peak	1.25	135	
3150	32.93	H	55.62	-22.69	Avg	1.25	135	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Dates: 07/01/2010 and 07/02/2010
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - Fundamental and Harmonics
Duty Cycle = 44.14%, R3 = 0 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
315	76.07	V	95.62	-19.55	Peak	3.5	90	
315	68.97	V	75.62	-6.65	Avg	3.5	90	
630	49.34	V	75.62	-26.28	Peak	1.5	270	
630	42.24	V	55.62	-13.38	Avg	1.5	270	
945	45.59	V	75.62	-30.03	Peak	1.5	90	
945	38.49	V	55.62	-17.13	Avg	1.5	90	
1260	34.03	V	74	-39.97	Peak	1.25	165	
1260	26.93	V	54	-27.07	Avg	1.25	165	
1575	53.13	V	74	-20.87	Peak	2.25	180	
1575	46.03	V	54	-7.97	Avg	2.25	180	
1890	45.44	V	75.62	-30.18	Peak	1.25	135	
1890	38.34	V	55.62	-17.28	Avg	1.25	135	
2205	36.14	V	74	-37.86	Peak	1.35	155	
2205	29.04	V	54	-24.96	Avg	1.35	155	
2520	49.97	V	75.62	-25.65	Peak	1.25	165	
2520	42.87	V	55.62	-12.75	Avg	1.25	165	
2835	47.29	V	74	-26.71	Peak	1.25	155	
2835	40.19	V	54	-13.81	Avg	1.25	155	
3150	40.81	V	75.62	-34.81	Peak	1.25	165	
3150	33.71	V	55.62	-21.91	Avg	1.25	165	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Dates: 07/01/2010 and 07/02/2010
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - Fundamental and Harmonics
Duty Cycle = 44.14%, R3 = 0 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
315	63.97	H	95.62	-31.65	Peak	1	270	
315	56.87	H	75.62	-18.75	Avg	1	270	
630	37.9	H	75.62	-37.72	Peak	1	180	
630	30.8	H	55.62	-24.82	Avg	1	180	
945	34.79	H	75.62	-40.83	Peak	1	90	
945	27.69	H	55.62	-27.93	Avg	1	90	
1260	31.97	H	74	-42.03	Peak	1.25	135	
1260	24.87	H	54	-29.13	Avg	1.25	135	
1575	42.68	H	74	-31.32	Peak	1.25	135	
1575	35.58	H	54	-18.42	Avg	1.25	135	
1890	40.64	H	75.62	-34.98	Peak	1.35	155	
1890	33.54	H	55.62	-22.08	Avg	1.35	155	
2205	36.63	H	74	-37.37	Peak	1.25	175	
2205	29.53	H	54	-24.47	Avg	1.25	175	
2520	48.16	H	75.62	-27.46	Peak	1.25	135	
2520	41.06	H	55.62	-14.56	Avg	1.25	135	
2835	48.47	H	74	-25.53	Peak	1.35	165	
2835	41.37	H	54	-12.63	Avg	1.35	165	
3150	41.34	H	75.62	-34.28	Peak	1.25	175	
3150	34.24	H	55.62	-21.38	Avg	1.25	175	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Dates: 07/01/2010 and 07/02/2010

Labs: B and D

Tested By: Kyle Fujimoto

Z-Axis - Fundamental and Harmonics

Duty Cycle = 44.14%, R3 = 0 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
315	73.57	V	95.62	-22.05	Peak	1.5	45	
315	66.47	V	75.62	-9.15	Avg	1.5	45	
630	43.24	V	75.62	-32.38	Peak	2	90	
630	36.14	V	55.62	-19.48	Avg	2	90	
945	38.39	V	75.62	-37.23	Peak	2	270	
945	31.29	V	55.62	-24.33	Avg	2	270	
1260	35.54	V	74	-38.46	Peak	1.25	135	
1260	28.44	V	54	-25.56	Avg	1.25	135	
1575	47.02	V	74	-26.98	Peak	1.25	155	
1575	39.92	V	54	-14.08	Avg	1.25	155	
1890	43.24	V	75.62	-32.38	Peak	1.25	175	
1890	36.14	V	55.62	-19.48	Avg	1.25	175	
2205	36.67	V	74	-37.33	Peak	1.25	135	
2205	29.57	V	54	-24.43	Avg	1.25	135	
2520	48.95	V	75.62	-26.67	Peak	1.25	155	
2520	41.85	V	55.62	-13.77	Avg	1.25	155	
2835	45.56	V	74	-28.44	Peak	1.35	175	
2835	38.46	V	54	-15.54	Avg	1.35	175	
3150	41.46	V	75.62	-34.16	Peak	1.25	135	
3150	34.36	V	55.62	-21.26	Avg	1.25	135	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Dates: 07/01/2010 and 07/02/2010
Labs: B and D
Tested By: Kyle Fujimoto

Z-Axis - Fundamental and Harmonics
Duty Cycle = 44.14%, R3 = 0 Ohms

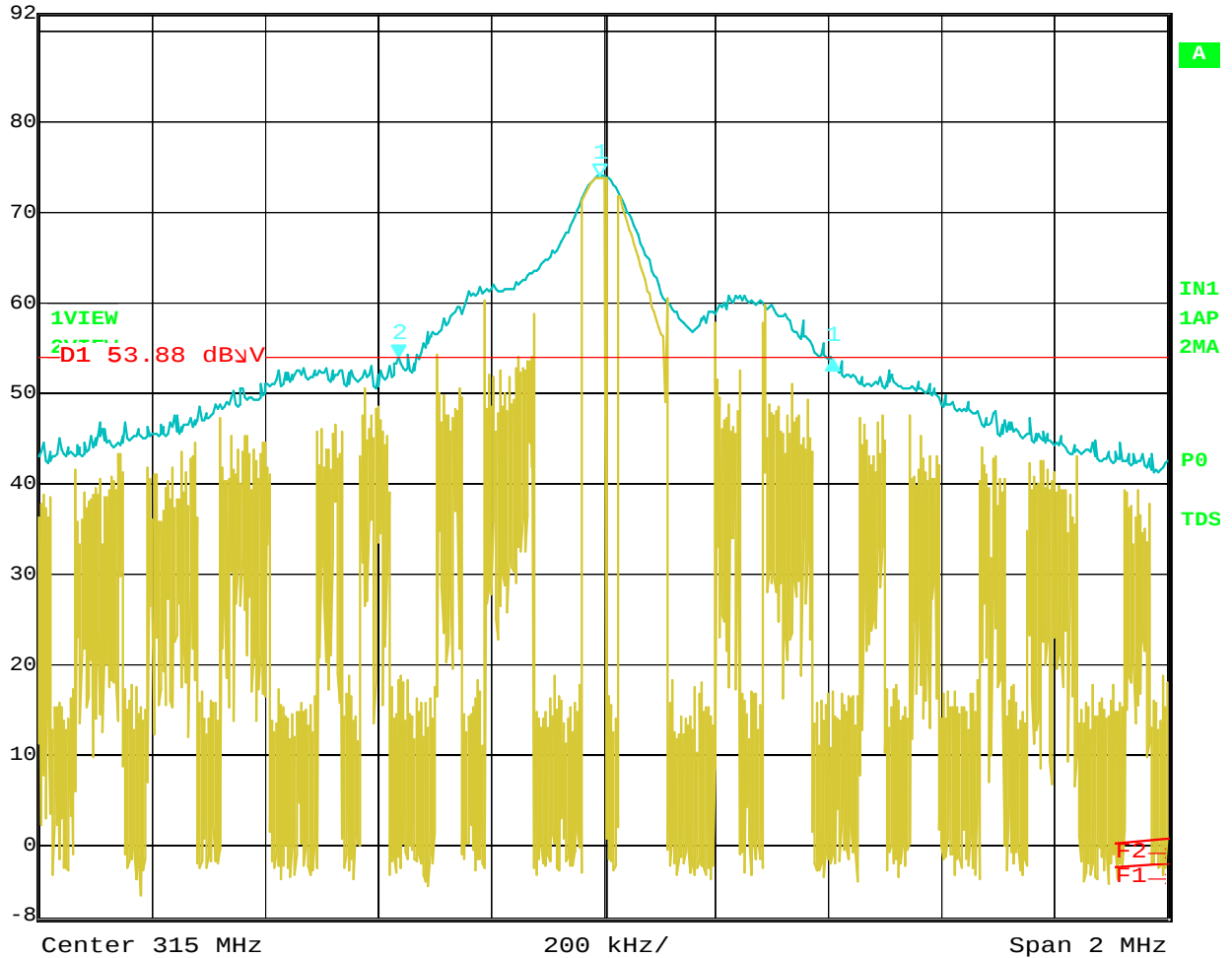
Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
315	77.67	H	95.62	-17.95	Peak	1	315	
315	70.57	H	75.62	-5.05	Avg	1	315	
630	51.04	H	75.62	-24.58	Peak	1	90	
630	43.94	H	55.62	-11.68	Avg	1	90	
945	45.19	H	75.62	-30.43	Peak	1	270	
945	38.09	H	55.62	-17.53	Avg	1	270	
1260	31.12	H	74	-42.88	Peak	1.25	135	
1260	24.02	H	54	-29.98	Avg	1.25	135	
1575	52.35	H	74	-21.65	Peak	1.25	165	
1575	45.25	H	54	-8.75	Avg	1.25	165	
1890	43.38	H	75.62	-32.24	Peak	1.35	175	
1890	36.28	H	55.62	-19.34	Avg	1.35	175	
2205	36.72	H	74	-37.28	Peak	1.25	185	
2205	29.62	H	54	-24.38	Avg	1.25	185	
2520	48.81	H	75.62	-26.81	Peak	1.35	195	
2520	41.71	H	55.62	-13.91	Avg	1.35	195	
2835	43.76	H	74	-30.24	Peak	1.25	175	
2835	36.66	H	54	-17.34	Avg	1.25	175	
3150	39.88	H	75.62	-35.74	Peak	1.25	185	
3150	32.78	H	55.62	-22.84	Avg	1.25	185	

-20 dB BANDWIDTH

DATA SHEETS

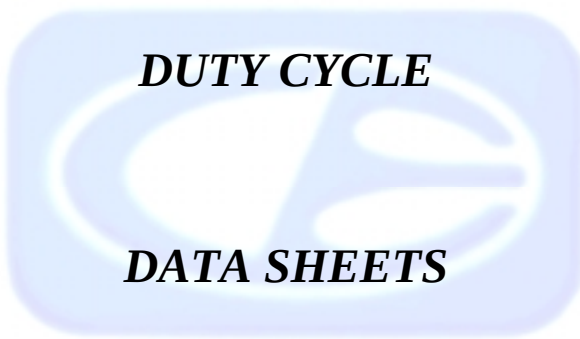


Delta 1 [T2] RBW 100 kHz RF Att 10 dB
Ref Lvl -0.20 dB VBW 300 kHz
92 dBμV 769.53907816 kHz SWT 5.5 ms Unit dBμV



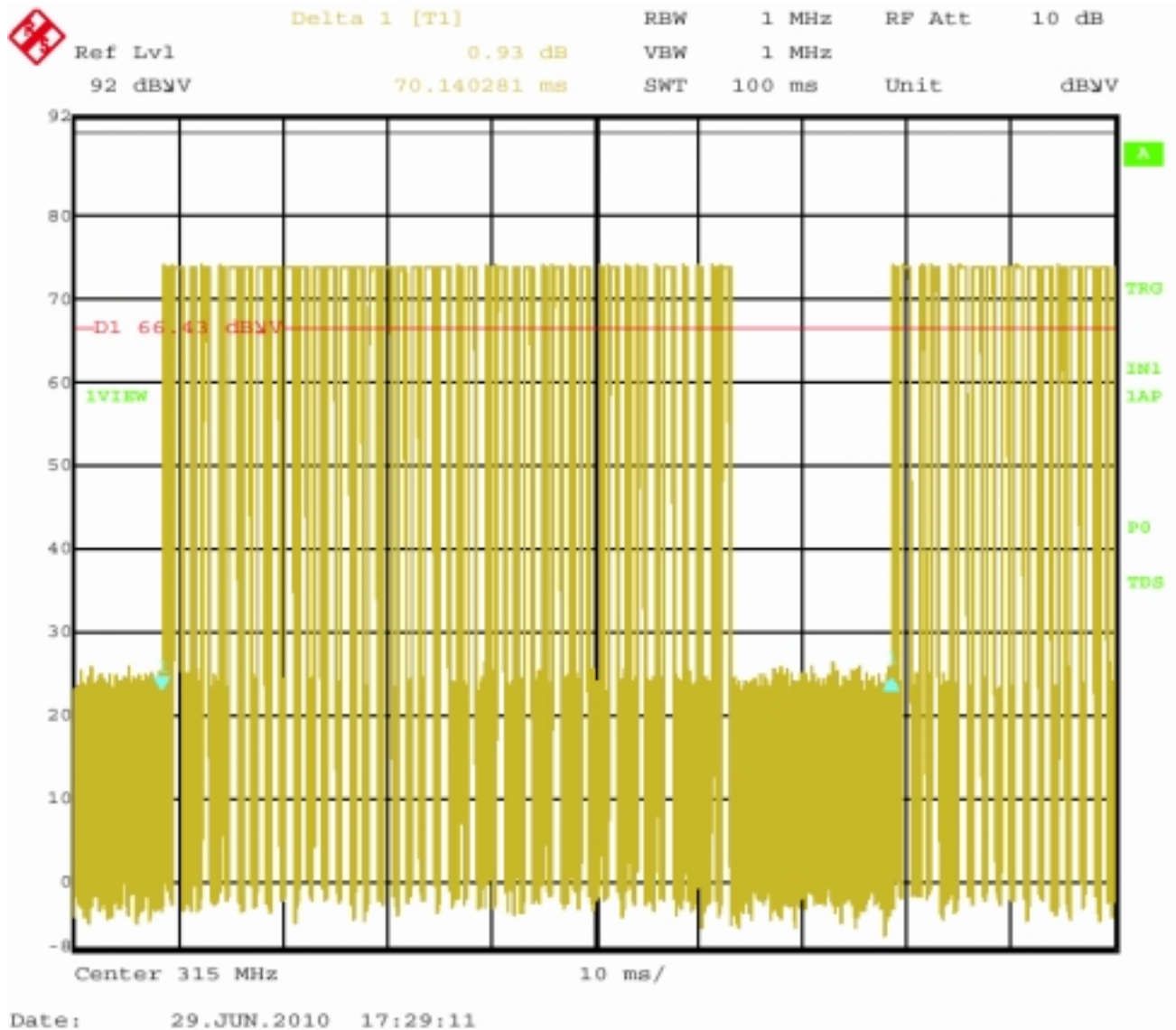
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-20 dB Bandwidth – 315 MHz Version

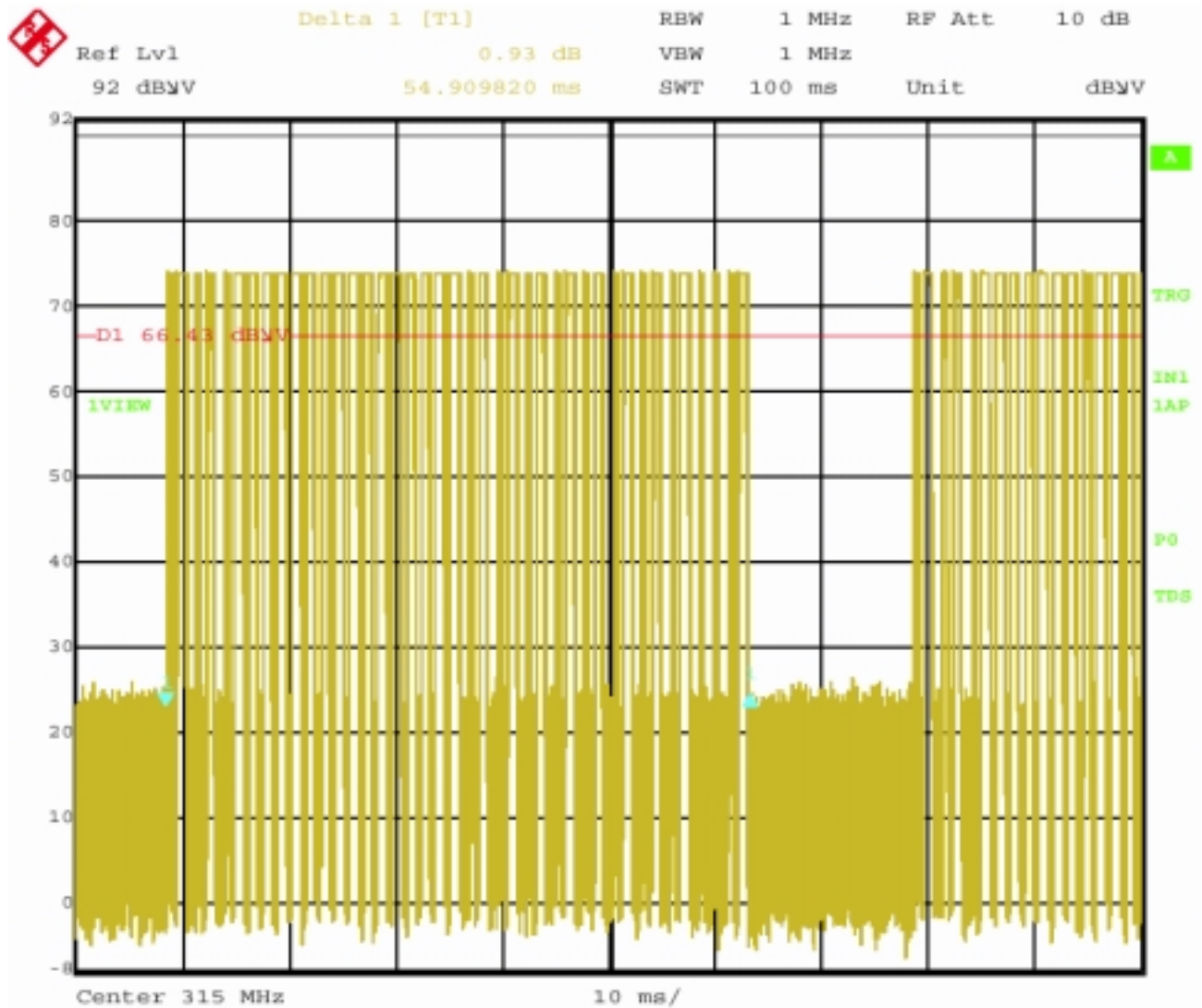


DUTY CYCLE

DATA SHEETS

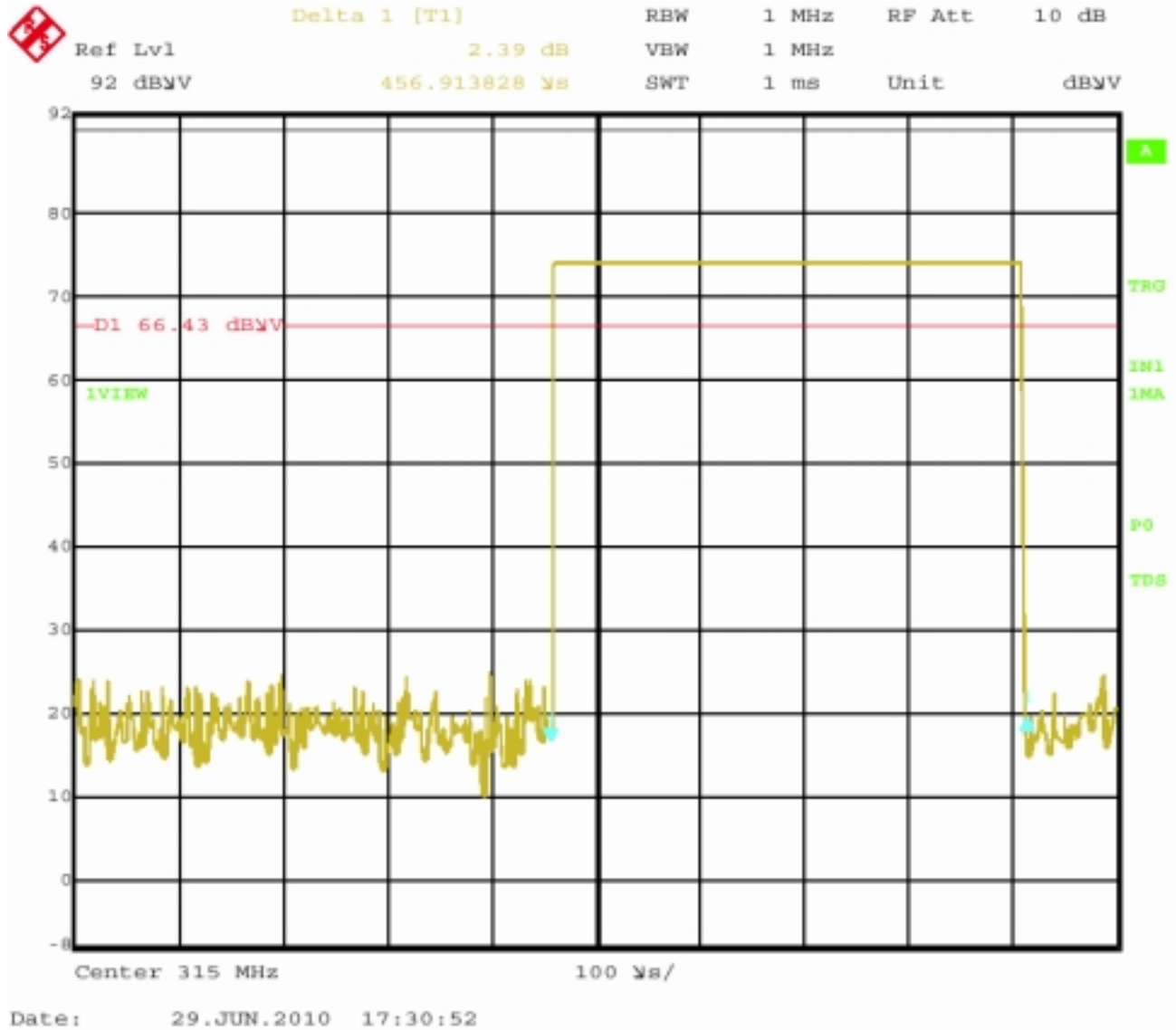


Time of Pulse Train with Blanking Interval = 70.140281 mS

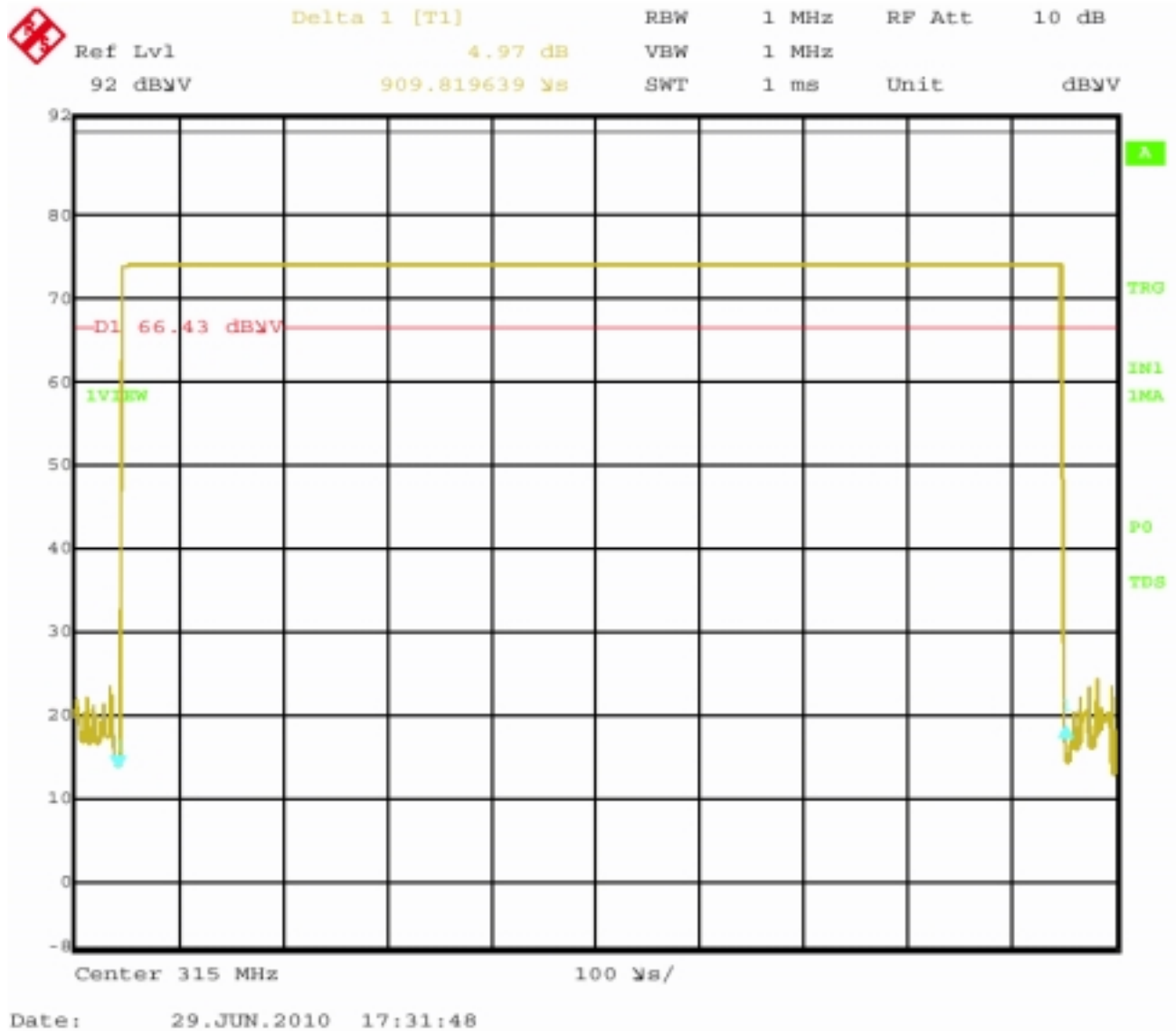


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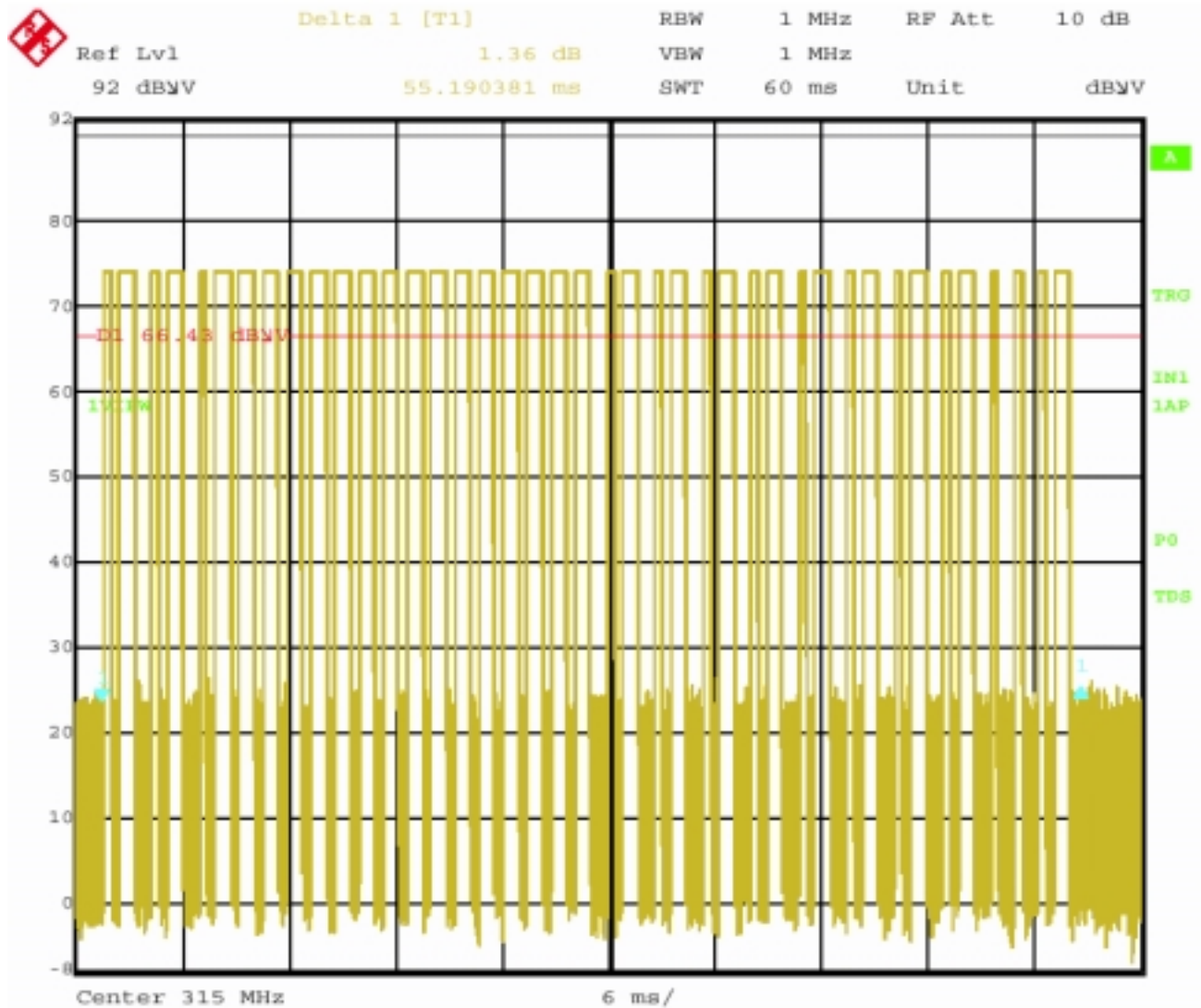
Time of One Pulse Train



Time of Small Pulse = 456.913828 μ s



Time of Large Pulse = 909.819639 uS



Date: 29.JUN.2010 17:30:04

Number of Large Pulses = 14 * 456.913828 uS = 6.396793592 mS
Number of Small Pulses = 27 * 909.819639 uS = 24.565130253 mS
Total One Time = 30.961923845 mS
Total Duty Cycle = 30.961923845 mS / 70.140281 mS = 44.14% Duty Cycle

418 MHz VERSION

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/30/2010
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - Fundamental and Harmonics
Duty Cycle = 44.26%, R3 = 330 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	74.42	V	100.28	-25.86	Peak	1	180	
418	67.35	V	80.28	-12.93	Avg	1	180	
836	42.59	V	80.28	-37.69	Peak	1.25	135	
836	35.52	V	60.28	-24.76	Avg	1.25	135	
1254	41.51	V	74	-32.49	Peak	1.25	155	
1254	34.44	V	54	-19.56	Avg	1.25	155	
1672	44.16	V	74	-29.84	Peak	1.25	135	
1672	37.09	V	54	-16.91	Avg	1.25	135	
2090	41.57	V	80.28	-38.71	Peak	1.35	165	
2090	34.5	V	60.28	-25.78	Avg	1.35	165	
2508	46.66	V	80.28	-33.62	Peak	1.25	135	
2508	39.59	V	60.28	-20.69	Avg	1.25	135	
2926	45.52	V	80.28	-34.76	Peak	1.25	180	
2926	38.45	V	60.28	-21.83	Avg	1.25	180	
3344	49.05	V	80.28	-31.23	Peak	1.35	175	
3344	41.98	V	60.28	-18.3	Avg	1.35	175	
3762	47.36	V	74	-26.64	Peak	1.25	185	
3762	40.29	V	54	-13.71	Avg	1.25	185	
4180	42.99	V	74	-31.01	Peak	1.35	205	
4180	35.92	V	54	-18.08	Avg	1.35	205	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/30/2010
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - Fundamental and Harmonics
Duty Cycle = 44.26%, R3 = 330 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	87.25	H	100.28	-13.03	Peak	2.05	270	
418	80.18	H	80.28	-0.1	Avg	2.05	270	
836	48.59	H	80.28	-31.69	Peak	1	135	
836	41.52	H	60.28	-18.76	Avg	1	135	
1254	41.61	H	74	-32.39	Peak	1.25	135	
1254	34.54	H	54	-19.46	Avg	1.25	135	
1672	49.74	H	74	-24.26	Peak	1.35	155	
1672	42.67	H	54	-11.33	Avg	1.35	155	
2090	40.41	H	80.28	-39.87	Peak	1.25	165	
2090	33.34	H	60.28	-26.94	Avg	1.25	165	
2508	45.32	H	80.28	-34.96	Peak	1.25	175	
2508	38.25	H	60.28	-22.03	Avg	1.25	175	
2926	43.16	H	80.28	-37.12	Peak	1.35	185	
2926	36.09	H	60.28	-24.19	Avg	1.35	185	
3344	47.88	H	80.28	-32.4	Peak	1.25	175	
3344	40.81	H	60.28	-19.47	Avg	1.25	175	
3762	45.49	H	74	-28.51	Peak	1.35	185	
3762	38.42	H	54	-15.58	Avg	1.35	185	
4180	43.35	H	74	-30.65	Peak	1.75	195	
4180	36.28	H	54	-17.72	Avg	1.75	195	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/30/2010
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - Fundamental and Harmonics
Duty Cycle = 44.26%, R3 = 330 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	84.32	V	100.28	-15.96	Peak	2.25	180	
418	77.25	V	80.28	-3.03	Avg	2.25	180	
836	42.29	V	80.28	-37.99	Peak	1.25	315	
836	35.22	V	60.28	-25.06	Avg	1.25	315	
1254	45.12	V	74	-28.88	Peak	1.35	155	
1254	38.05	V	54	-15.95	Avg	1.35	155	
1672	48.68	V	74	-25.32	Peak	1.25	175	
1672	41.61	V	54	-12.39	Avg	1.25	175	
2090	44.15	V	80.28	-36.13	Peak	1.35	185	
2090	37.08	V	60.28	-23.2	Avg	1.35	185	
2508	48.89	V	80.28	-31.39	Peak	1.25	165	
2508	41.82	V	60.28	-18.46	Avg	1.25	165	
2926	48.33	V	80.28	-31.95	Peak	1.25	155	
2926	41.26	V	60.28	-19.02	Avg	1.25	155	
3344	49.18	V	80.28	-31.1	Peak	1.25	165	
3344	42.11	V	60.28	-18.17	Avg	1.25	165	
3762	47.45	V	74	-26.55	Peak	1.75	125	
3762	40.38	V	54	-13.62	Avg	1.75	125	
4180	43.81	V	74	-30.19	Peak	1.85	175	
4180	36.74	V	54	-17.26	Avg	1.85	175	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/30/2010
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - Fundamental and Harmonics

Duty Cycle = 44.26%, R3 = 330 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	72.82	H	100.28	-27.46	Peak	1	270	
418	65.75	H	80.28	-14.53	Avg	1	270	
836	42.29	H	80.28	-37.99	Peak	1	45	
836	35.22	H	60.28	-25.06	Avg	1	45	
1254	36.56	H	74	-37.44	Peak	1.25	155	
1254	29.49	H	54	-24.51	Avg	1.25	155	
1672	40.91	H	74	-33.09	Peak	1.35	175	
1672	33.84	H	54	-20.16	Avg	1.35	175	
2090	41.28	H	80.28	-39	Peak	1.25	175	
2090	34.21	H	60.28	-26.07	Avg	1.25	175	
2508	48.96	H	80.28	-31.32	Peak	1.25	155	
2508	41.89	H	60.28	-18.39	Avg	1.25	155	
2926	43.02	H	80.28	-37.26	Peak	1.25	165	
2926	35.95	H	60.28	-24.33	Avg	1.25	165	
3344	52.87	H	80.28	-27.41	Peak	1.25	180	
3344	45.8	H	60.28	-14.48	Avg	1.25	180	
3762	47.76	H	74	-26.24	Peak	1.35	175	
3762	40.69	H	54	-13.31	Avg	1.35	175	
4180	47.95	H	74	-26.05	Peak	2.25	135	
4180	40.88	H	54	-13.12	Avg	2.25	135	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/30/2010
Labs: B and D
Tested By: Kyle Fujimoto

Z-Axis - Fundamental and Harmonics
Duty Cycle = 44.26%, R3 = 330 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	76.62	V	100.28	-23.66	Peak	2	225	
418	69.55	V	80.28	-10.73	Avg	2	225	
836	37.89	V	80.28	-42.39	Peak	1	315	
836	30.82	V	60.28	-29.46	Avg	1	315	
1254	41.55	V	74	-32.45	Peak	1.25	155	
1254	34.48	V	54	-19.52	Avg	1.25	155	
1672	46.84	V	74	-27.16	Peak	1.35	175	
1672	39.77	V	54	-14.23	Avg	1.35	175	
2090	41.27	V	80.28	-39.01	Peak	1.25	185	
2090	34.2	V	60.28	-26.08	Avg	1.25	185	
2508	46.82	V	80.28	-33.46	Peak	1.35	215	
2508	39.75	V	60.28	-20.53	Avg	1.35	215	
2926	46.89	V	80.28	-33.39	Peak	1.55	180	
2926	39.82	V	60.28	-20.46	Avg	1.55	180	
3344	51.47	V	80.28	-28.81	Peak	1.25	175	
3344	44.4	V	60.28	-15.88	Avg	1.25	175	
3762	47.53	V	74	-26.47	Peak	1.35	180	
3762	40.46	V	54	-13.54	Avg	1.35	180	
4180	44.95	V	74	-29.05	Peak	1.25	135	
4180	37.88	V	54	-16.12	Avg	1.25	135	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

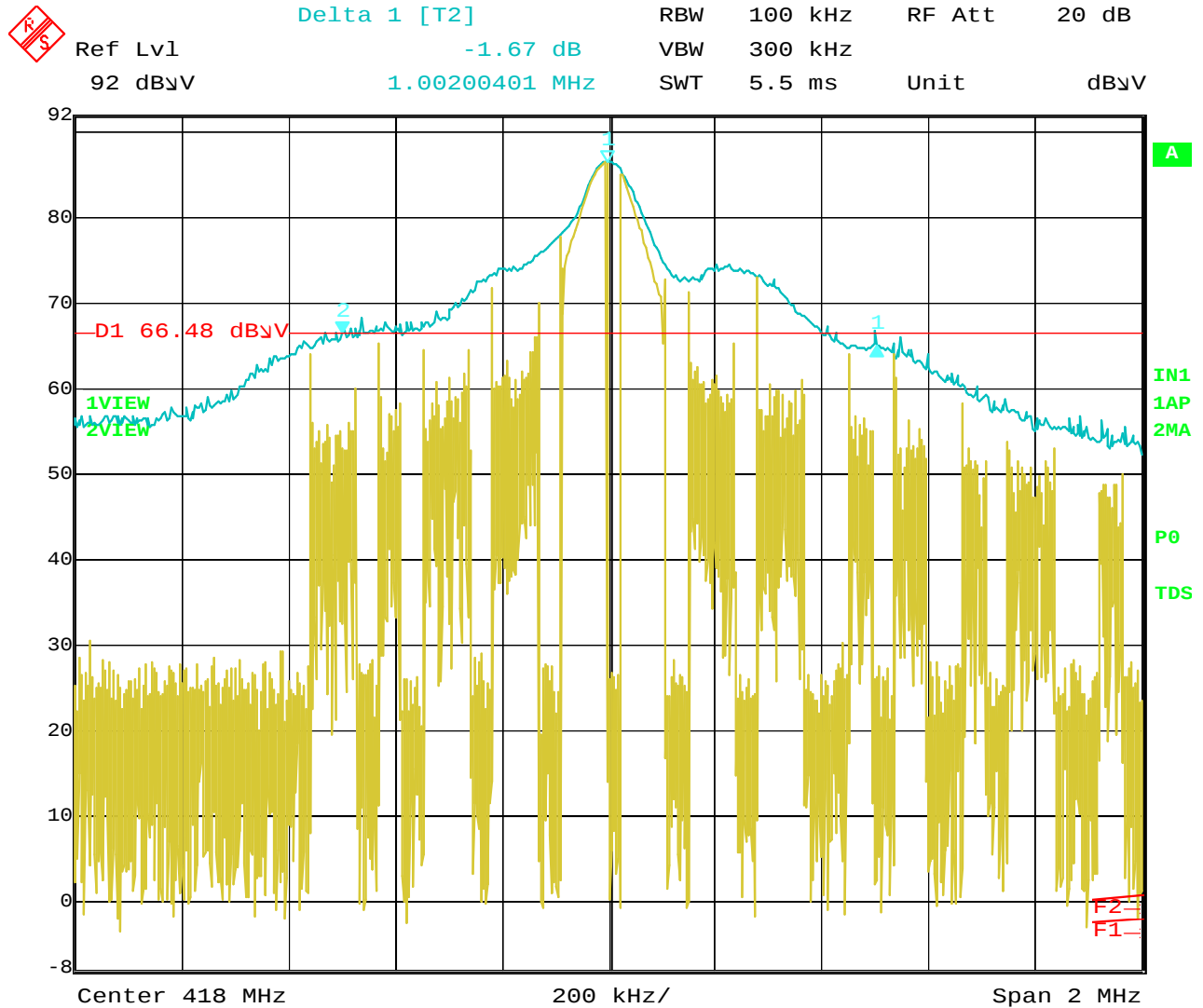
Date: 06/30/2010
Labs: B and D
Tested By: Kyle Fujimoto

Z-Axis - Fundamental and Harmonics
Duty Cycle = 44.26%, R3 = 330 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
418	86.73	H	100.28	-13.55	Peak	1	270	
418	79.66	H	80.28	-0.62	Avg	1	270	
836	48.29	H	80.28	-31.99	Peak	1	315	
836	41.22	H	60.28	-19.06	Avg	1	315	
1254	41.11	H	74	-32.89	Peak	1.58	125	
1254	34.04	H	54	-19.96	Avg	1.58	125	
1672	50.22	H	74	-23.78	Peak	1.25	165	
1672	43.15	H	54	-10.85	Avg	1.25	165	
2090	38.93	H	80.28	-41.35	Peak	1.55	175	
2090	31.86	H	60.28	-28.42	Avg	1.55	175	
2508	41.47	H	80.28	-38.81	Peak	1.25	185	
2508	34.4	H	60.28	-25.88	Avg	1.25	185	
2926	42.06	H	80.28	-38.22	Peak	1.35	195	
2926	34.99	H	60.28	-25.29	Avg	1.35	195	
3344	53.23	H	80.28	-27.05	Peak	1.58	155	
3344	46.16	H	60.28	-14.12	Avg	1.58	155	
3762	44.82	H	74	-29.18	Peak	1.25	175	
3762	37.75	H	54	-16.25	Avg	1.25	175	
4180	45.36	H	74	-28.64	Peak	1.25	155	
4180	38.29	H	54	-15.71	Avg	1.25	155	

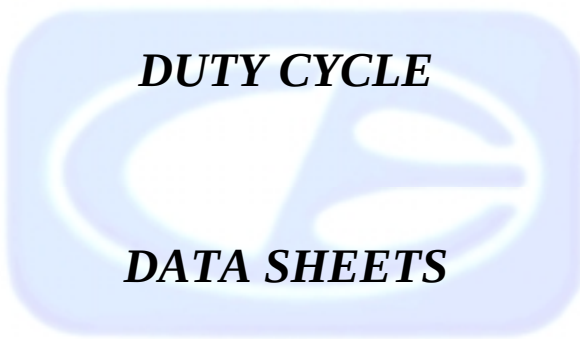
-20 dB BANDWIDTH

DATA SHEETS



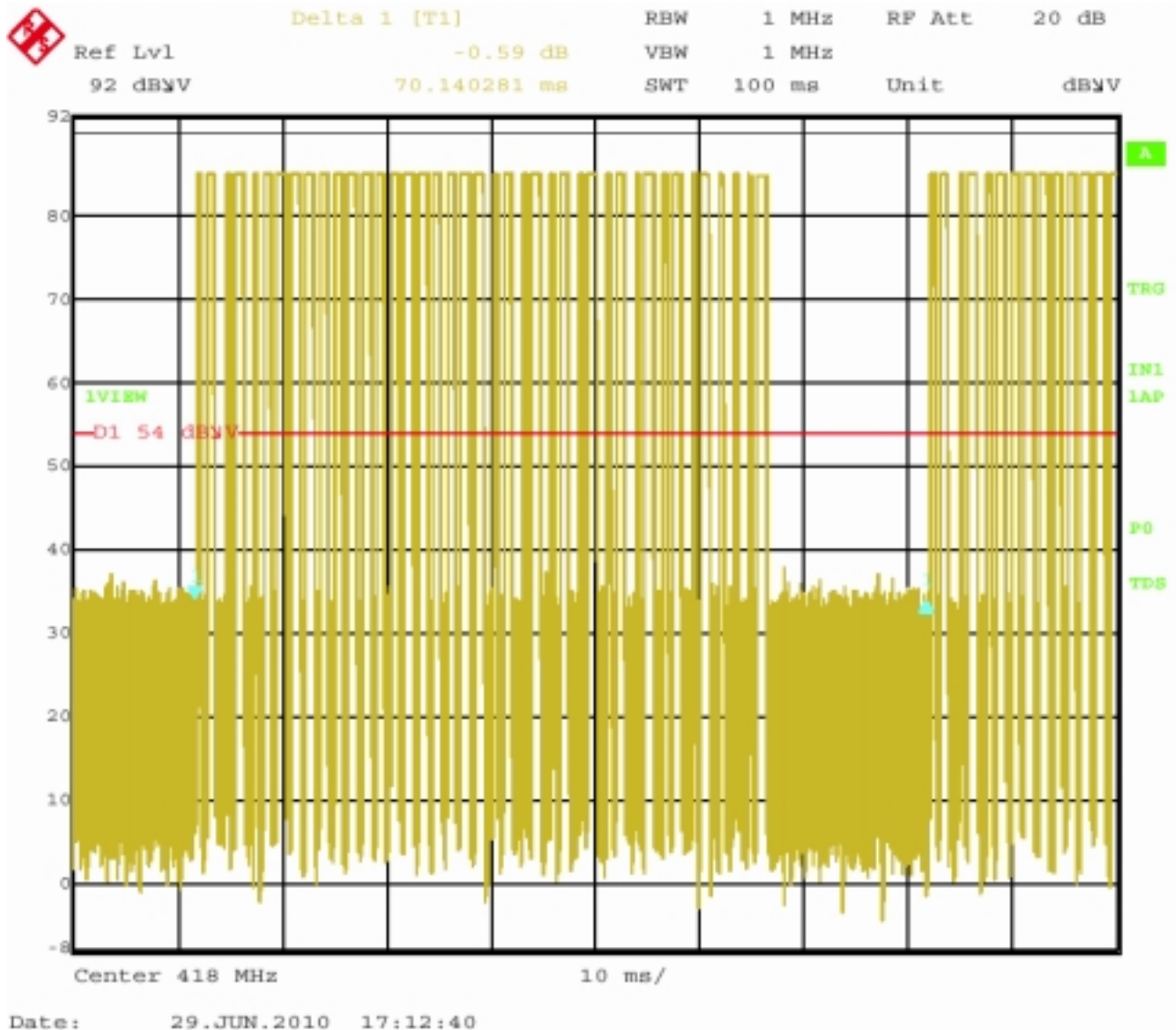
Date: 29.JUN.2010 17:21:04

-20 dB Bandwidth – 418 MHz Version

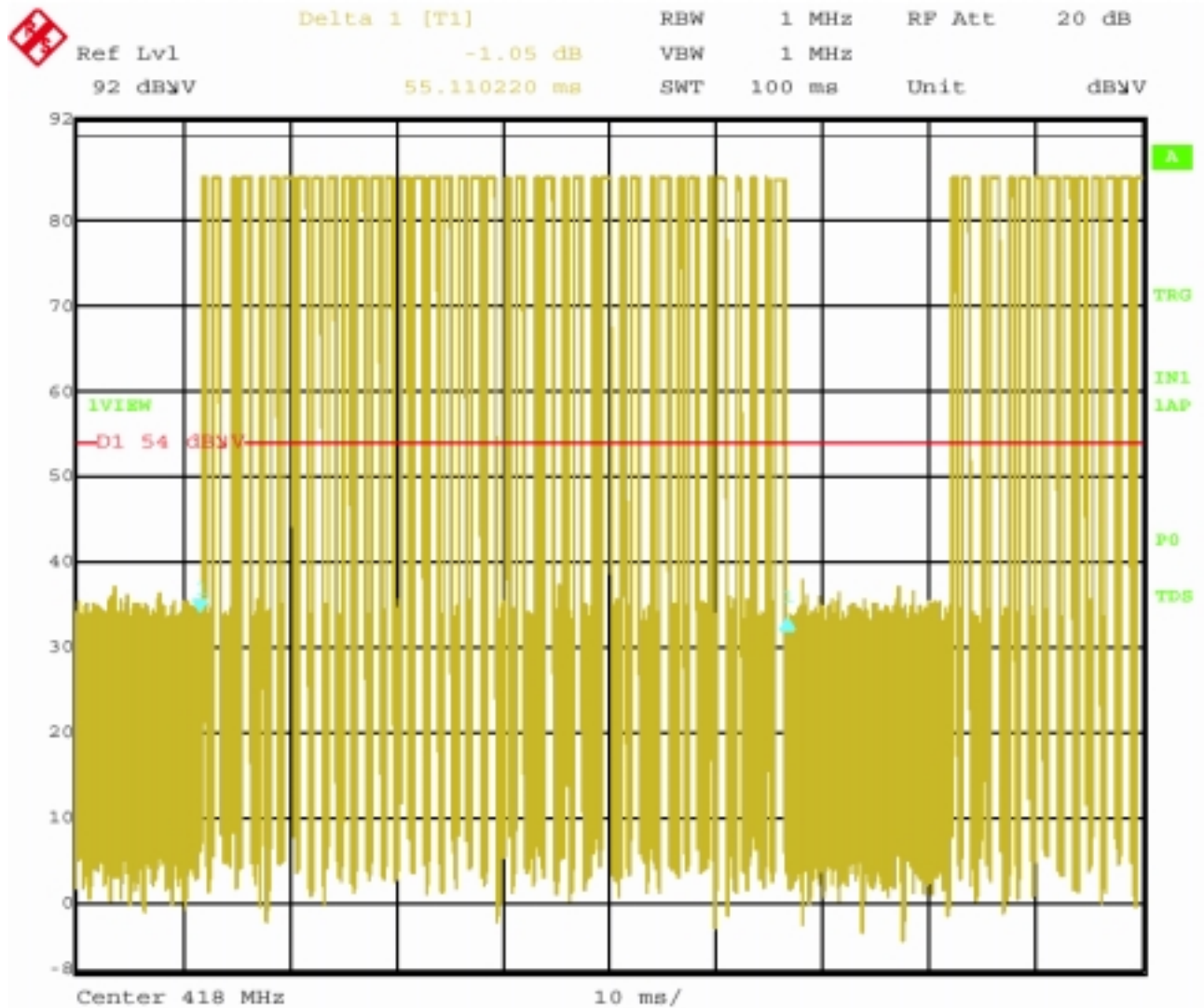


DUTY CYCLE

DATA SHEETS

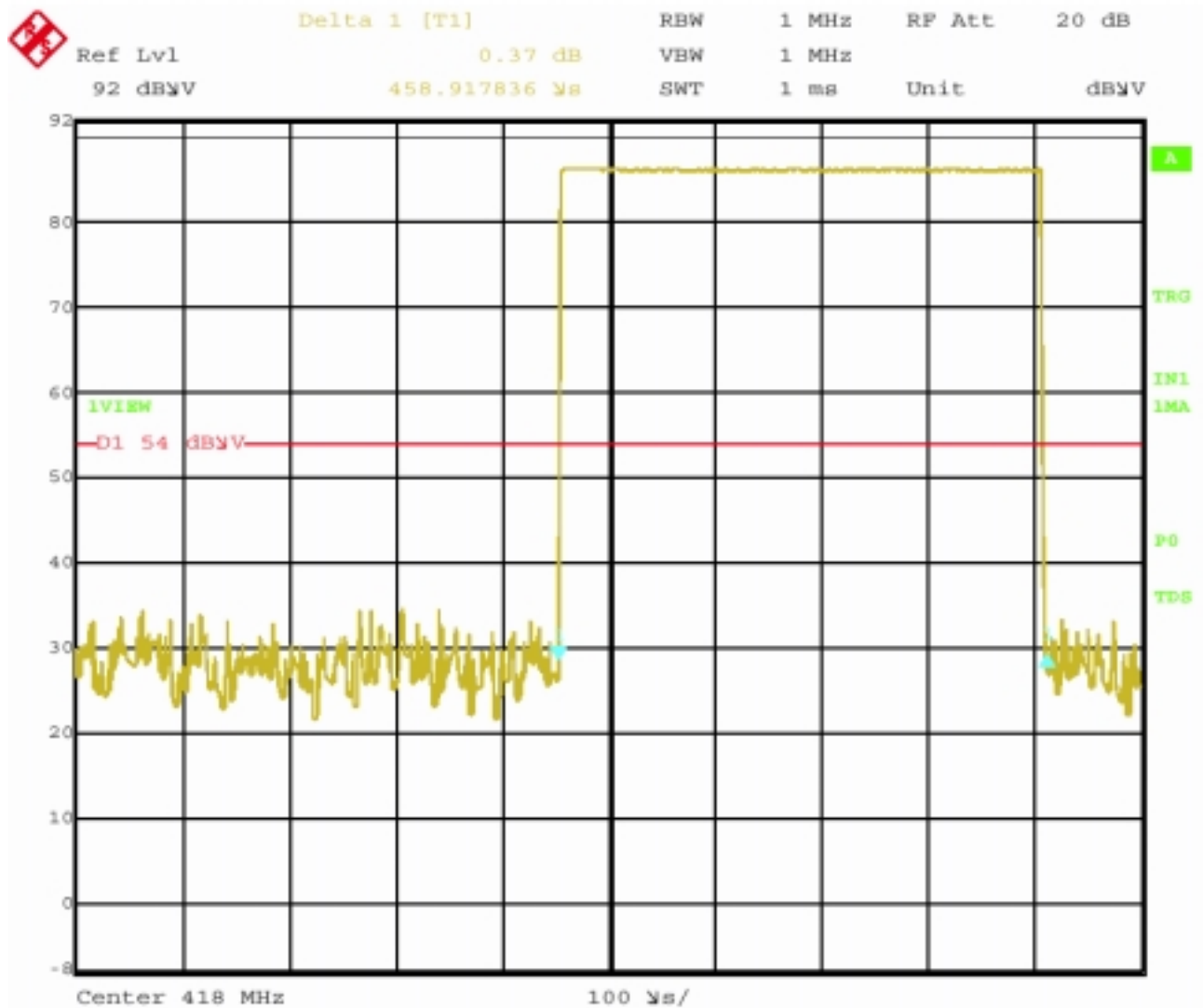


Time of Pulse Train with Blanking Interval = 70.140281 ms



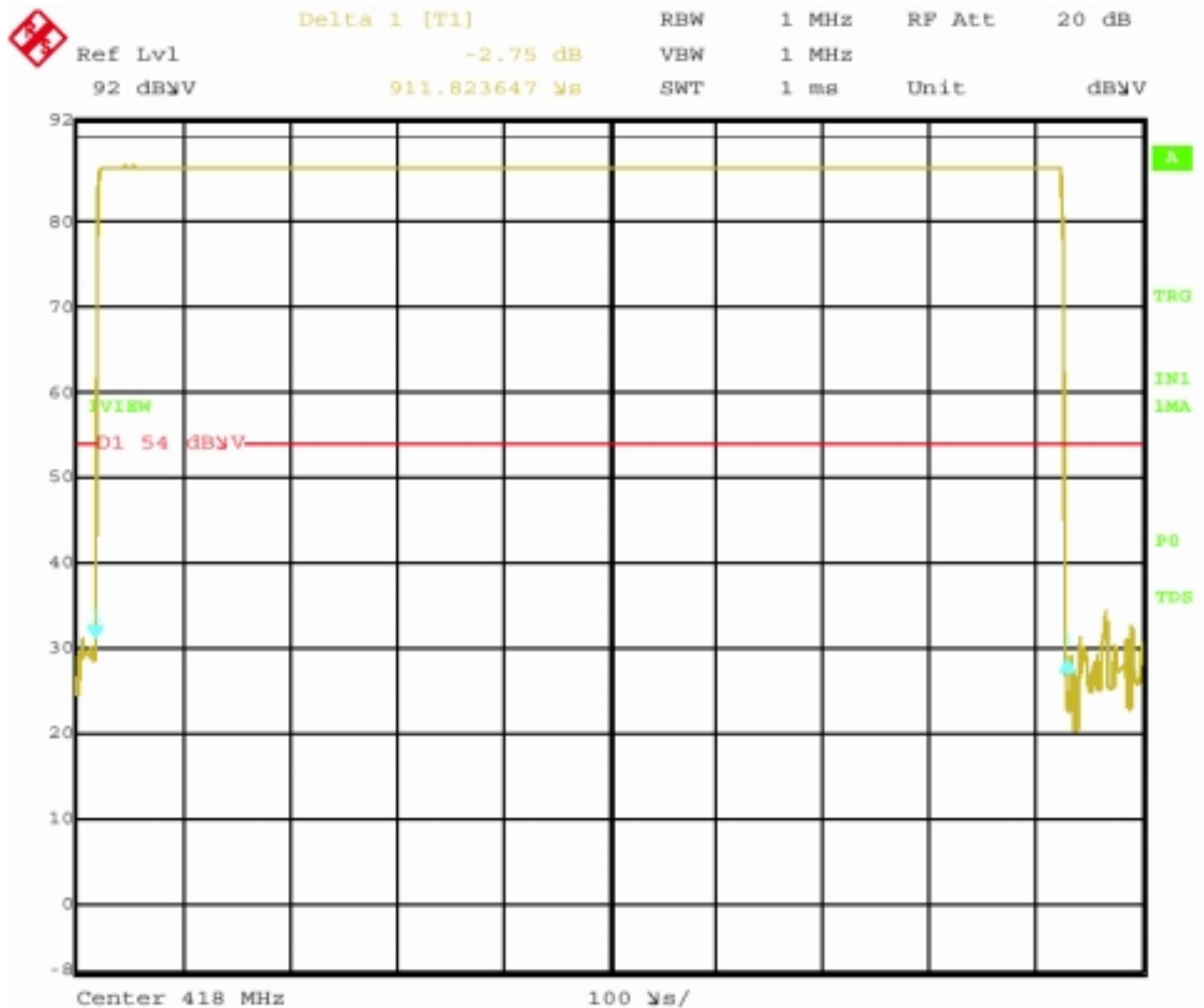
Date: 29.JUN.2010 17:13:01

Time of One Pulse Train



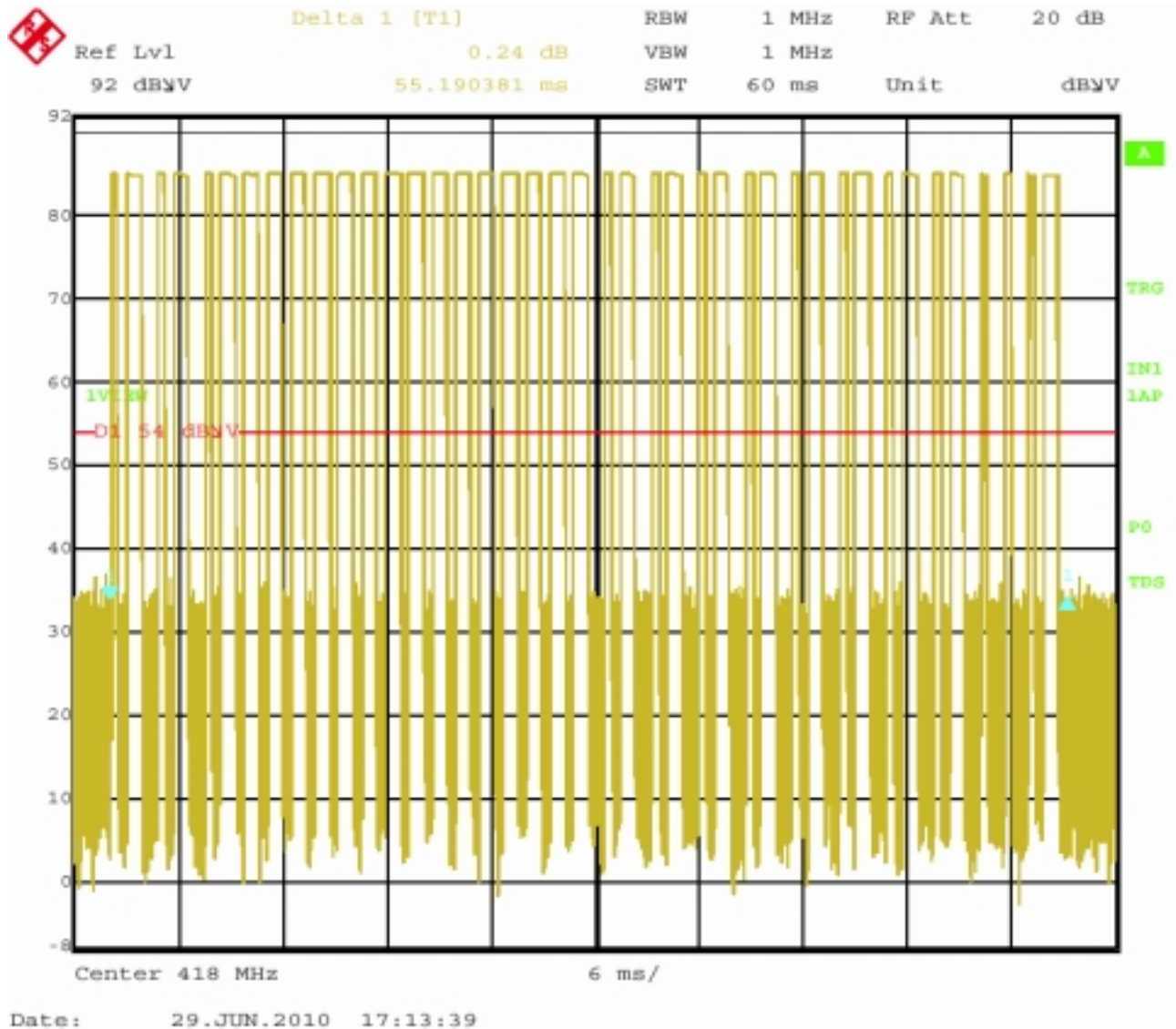
Date: 29.JUN.2010 17:16:32

Time of Small Pulse = 458.917836 uS



Date: 29.JUN.2010 17:15:52

Time of Large Pulse = 911.823647 μ s



Number of Large Pulses = 14 * 458.917836 uS = 6.4248497 mS
Number of Small Pulses = 27 * 911.823647 uS = 24.6192385 mS
Total One Time = 31.0440882 mS
Total Duty Cycle = 31.0440882 mS / 70.140281 mS = 44.26% Duty Cycle

433.92 MHz VERSION

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/29/2010
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - Fundamental and Harmonics
Duty Cycle = 44.78%, R3 = 100 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	75.68	V	100.82	-25.14	Peak	1	225	
433.92	68.71	V	80.82	-12.11	Avg	1	225	
867.84	39.37	V	80.82	-41.45	Peak	1.25	225	
867.84	32.4	V	60.82	-28.42	Avg	1.25	225	
1301.76	41.09	V	74	-32.91	Peak	1.25	155	
1301.76	34.12	V	54	-19.88	Avg	1.25	155	
1735.68	42.43	V	80.82	-38.39	Peak	1.35	165	
1735.68	35.46	V	60.82	-25.36	Avg	1.35	165	
2169.6	40.92	V	80.82	-39.9	Peak	1.55	175	
2169.6	33.95	V	60.82	-26.87	Avg	1.55	175	
2603.52	35.09	V	80.82	-45.73	Peak	1.25	135	
2603.52	28.12	V	60.82	-32.7	Avg	1.25	135	
3037.44	48.01	V	80.82	-32.81	Peak	1.35	165	
3037.44	41.04	V	60.82	-19.78	Avg	1.35	165	
3471.36	44.11	V	80.82	-36.71	Peak	1.25	135	
3471.36	37.14	V	60.82	-23.68	Avg	1.25	135	
3905.28	46.07	V	74	-27.93	Peak	1.25	155	
3905.28	39.1	V	54	-14.9	Avg	1.25	155	
4339.2	46.73	V	74	-27.27	Peak	1.35	165	
4339.2	39.76	V	54	-14.24	Avg	1.35	165	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/29/2010
Labs: B and D
Tested By: Kyle Fujimoto

X-Axis - Fundamental and Harmonics
Duty Cycle = 44.78%, R3 = 100 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	87.48	H	100.82	-13.34	Peak	1	315	
433.92	80.51	H	80.82	-0.31	Avg	1	315	
867.84	47.67	H	80.82	-33.15	Peak	2	135	
867.84	40.7	H	60.82	-20.12	Avg	2	135	
1301.76	43.01	H	74	-30.99	Peak	1.25	225	
1301.76	36.04	H	54	-17.96	Avg	1.25	225	
1735.68	46.12	H	80.82	-34.7	Peak	1.35	275	
1735.68	39.15	H	60.82	-21.67	Avg	1.35	275	
2169.6	44.33	H	80.82	-36.49	Peak	1.25	165	
2169.6	37.36	H	60.82	-23.46	Avg	1.25	165	
2603.52	35.34	H	80.82	-45.48	Peak	1.35	175	
2603.52	28.37	H	60.82	-32.45	Avg	1.35	175	
3037.44	47.11	H	80.82	-33.71	Peak	1.25	135	
3037.44	40.14	H	60.82	-20.68	Avg	1.25	135	
3471.36	46.72	H	80.82	-34.1	Peak	1.75	155	
3471.36	39.75	H	60.82	-21.07	Avg	1.75	155	
3905.28	43.15	H	74	-30.85	Peak	1.25	175	
3905.28	36.18	H	54	-17.82	Avg	1.25	175	
4339.2	44.83	H	74	-29.17	Peak	1.35	185	
4339.2	37.86	H	54	-16.14	Avg	1.35	185	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/29/2010
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - Fundamental and Harmonics

Duty Cycle = 44.78%, R3 = 100 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	85.58	V	100.82	-15.24	Peak	2	125	
433.92	78.61	V	80.82	-2.21	Avg	2	125	
867.84	43.47	V	80.82	-37.35	Peak	1.25	225	
867.84	36.5	V	60.82	-24.32	Avg	1.25	225	
1301.76	44.16	V	74	-29.84	Peak	1.25	155	
1301.76	37.19	V	54	-16.81	Avg	1.25	155	
1735.68	48.93	V	80.82	-31.89	Peak	1.25	165	
1735.68	41.96	V	60.82	-18.86	Avg	1.25	165	
2169.6	42.85	V	80.82	-37.97	Peak	1.35	165	
2169.6	35.88	V	60.82	-24.94	Avg	1.35	165	
2603.52	35.81	V	80.82	-45.01	Peak	1.25	145	
2603.52	28.84	V	60.82	-31.98	Avg	1.25	145	
3037.44	51.48	V	80.82	-29.34	Peak	1.25	155	
3037.44	44.51	V	60.82	-16.31	Avg	1.25	155	
3471.36	50.59	V	80.82	-30.23	Peak	1.25	135	
3471.36	43.62	V	60.82	-17.2	Avg	1.25	135	
3905.28	46.18	V	74	-27.82	Peak	1.25	155	
3905.28	39.21	V	54	-14.79	Avg	1.25	155	
4339.2	48.13	V	74	-25.87	Peak	1.25	135	
4339.2	41.16	V	54	-12.84	Avg	1.25	135	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/29/2010
Labs: B and D
Tested By: Kyle Fujimoto

Y-Axis - Fundamental and Harmonics
Duty Cycle = 44.78%, R3 = 100 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	76.08	H	100.82	-24.74	Peak	1	270	
433.92	69.11	H	80.82	-11.71	Avg	1	270	
867.84	35.37	H	80.82	-45.45	Peak	2	45	
867.84	28.4	H	60.82	-32.42	Avg	2	45	
1301.76	35.436	H	74	-38.564	Peak	1.35	165	
1301.76	28.466	H	54	-25.534	Avg	1.35	165	
1735.68	40.96	H	80.82	-39.86	Peak	1.25	135	
1735.68	33.99	H	60.82	-26.83	Avg	1.25	135	
2169.6	45.55	H	80.82	-35.27	Peak	1.25	153	
2169.6	38.58	H	60.82	-22.24	Avg	1.25	135	
2603.52	35.95	H	80.82	-44.87	Peak	1.25	155	
2603.52	28.98	H	60.82	-31.84	Avg	1.25	155	
3037.44	46.05	H	80.82	-34.77	Peak	1.25	135	
3037.44	39.08	H	60.82	-21.74	Avg	1.25	135	
3471.36	48.76	H	80.82	-32.06	Peak	1.25	155	
3471.36	41.79	H	60.82	-19.03	Avg	1.25	155	
3905.28	45.79	H	74	-28.21	Peak	1.25	155	
3905.28	38.82	H	54	-15.18	Avg	1.25	155	
4339.2	51.41	H	74	-22.59	Peak	1.25	135	
4339.2	44.44	H	54	-9.56	Avg	1.25	135	

FCC 15.231

Linx Technologies
Full Size Handheld Transmitter
Model: CMD-HHTX-xxx

Date: 06/29/2010
Labs: B and D
Tested By: Kyle Fujimoto

Z-Axis - Fundamental and Harmonics

Duty Cycle = 44.78%, R3 = 100 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	79.28	V	100.82	-21.54	Peak	1.25	225	
433.92	72.31	V	80.82	-8.51	Avg	1.25	225	
867.84	36.37	V	80.82	-44.45	Peak	1	45	
867.84	29.4	V	60.82	-31.42	Avg	1	45	
1301.76	37.51	V	74	-36.49	Peak	1.25	135	
1301.76	30.54	V	54	-23.46	Avg	1.25	135	
1735.68	42.21	V	80.82	-38.61	Peak	1.25	155	
1735.68	35.24	V	60.82	-25.58	Avg	1.25	155	
2169.6	45.91	V	80.82	-34.91	Peak	1.35	185	
2169.6	38.94	V	60.82	-21.88	Avg	1.35	185	
2603.52	36.47	V	80.82	-44.35	Peak	1.25	175	
2603.52	29.5	V	60.82	-31.32	Avg	1.25	175	
3037.44	49.65	V	80.82	-31.17	Peak	1.25	185	
3037.44	42.68	V	60.82	-18.14	Avg	1.25	185	
3471.36	48.03	V	80.82	-32.79	Peak	1.35	155	
3471.36	41.06	V	60.82	-19.76	Avg	1.35	155	
3905.28	46.97	V	74	-27.03	Peak	1.25	175	
3905.28	40	V	54	-14	Avg	1.25	175	
4339.2	49.12	V	74	-24.88	Peak	1.25	185	
4339.2	42.15	V	54	-11.85	Avg	1.25	185	

FCC 15.231

Linx Technologies
 Full Size Handheld Transmitter
 Model: CMD-HHTX-xxx

Date: 06/29/2010
 Labs: B and D
 Tested By: Kyle Fujimoto

Z-Axis - Fundamental and Harmonics

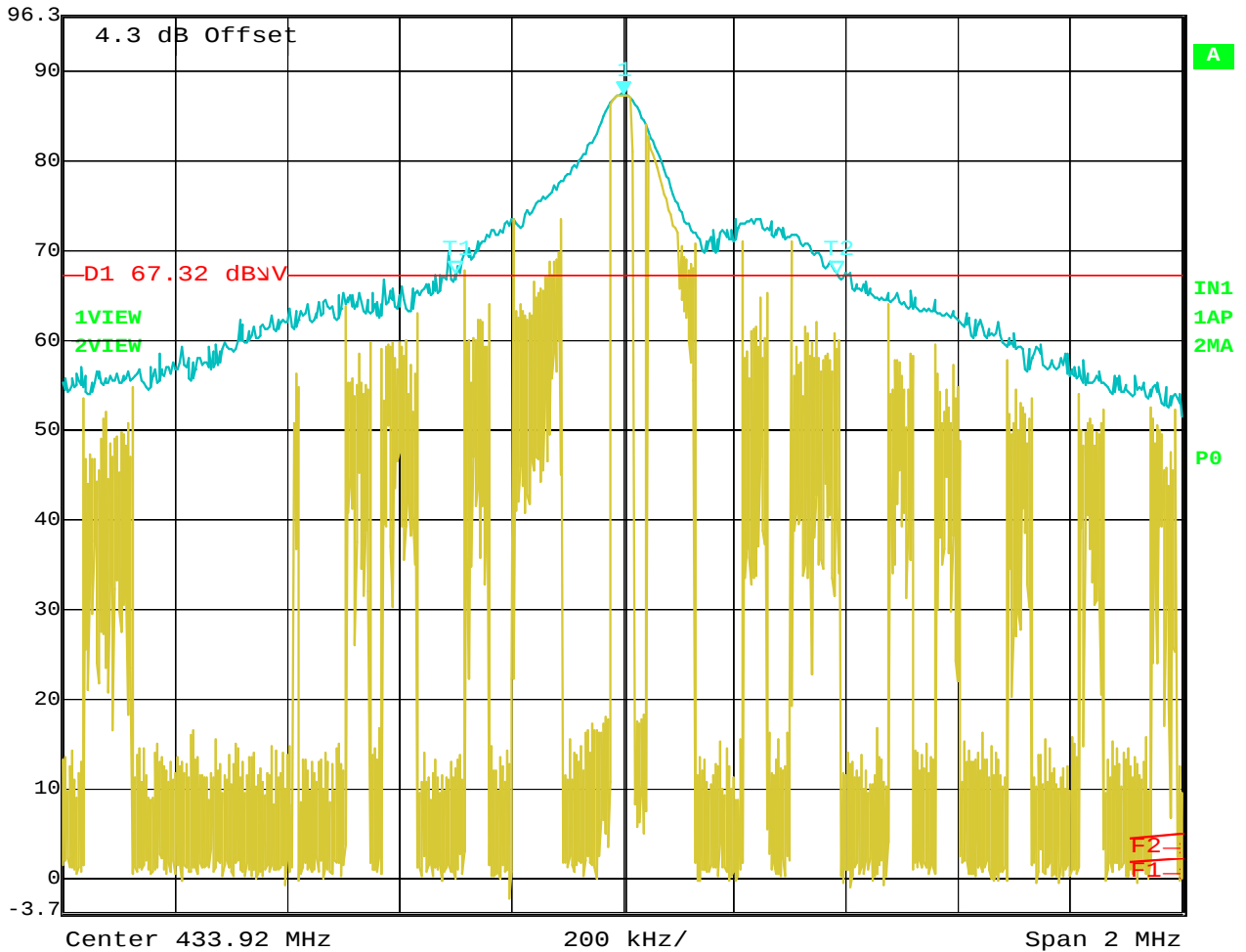
Duty Cycle = 44.78%, R3 = 100 Ohms

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	87.48	H	100.82	-13.34	Peak	1	315	
433.92	80.51	H	80.82	-0.31	Avg	1	315	
867.84	41.77	H	80.82	-39.05	Peak	1	270	
867.84	34.8	H	60.82	-26.02	Avg	1	270	
1301.76	42.93	H	74	-31.07	Peak	1.35	165	
1301.76	35.96	H	54	-18.04	Avg	1.35	165	
1735.68	44.52	H	80.82	-36.3	Peak	1.25	165	
1735.68	37.55	H	60.82	-23.27	Avg	1.25	165	
2169.6	43.73	H	80.82	-37.09	Peak	1.25	175	
2169.6	36.76	H	60.82	-24.06	Avg	1.25	175	
2603.52	39.29	H	80.82	-41.53	Peak	1.35	185	
2603.52	32.32	H	60.82	-28.5	Avg	1.35	185	
3037.44	45.48	H	80.82	-35.34	Peak	1.25	165	
3037.44	38.51	H	60.82	-22.31	Avg	1.25	165	
3471.36	42.84	H	80.82	-37.98	Peak	1.35	175	
3471.36	35.87	H	60.82	-24.95	Avg	1.35	175	
3905.28	48.02	H	74	-25.98	Peak	1.25	135	
3905.28	41.05	H	54	-12.95	Avg	1.25	135	
4339.2	42.62	H	74	-31.38	Peak	1.25	155	
4339.2	35.65	H	54	-18.35	Avg	1.25	155	

-20 dB BANDWIDTH

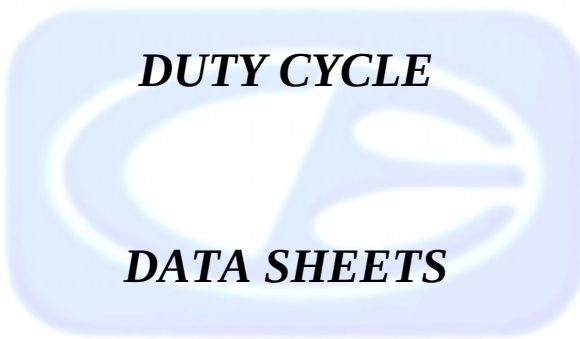
DATA SHEETS


Marker 1 [T2 ndB] RBW 100 kHz RF Att 0 dB
Ref Lvl ndB 20.00 dB VBW 300 kHz
96.3 dBμV BW 681.36272545 kHz SWT 5.5 ms Unit dBμV



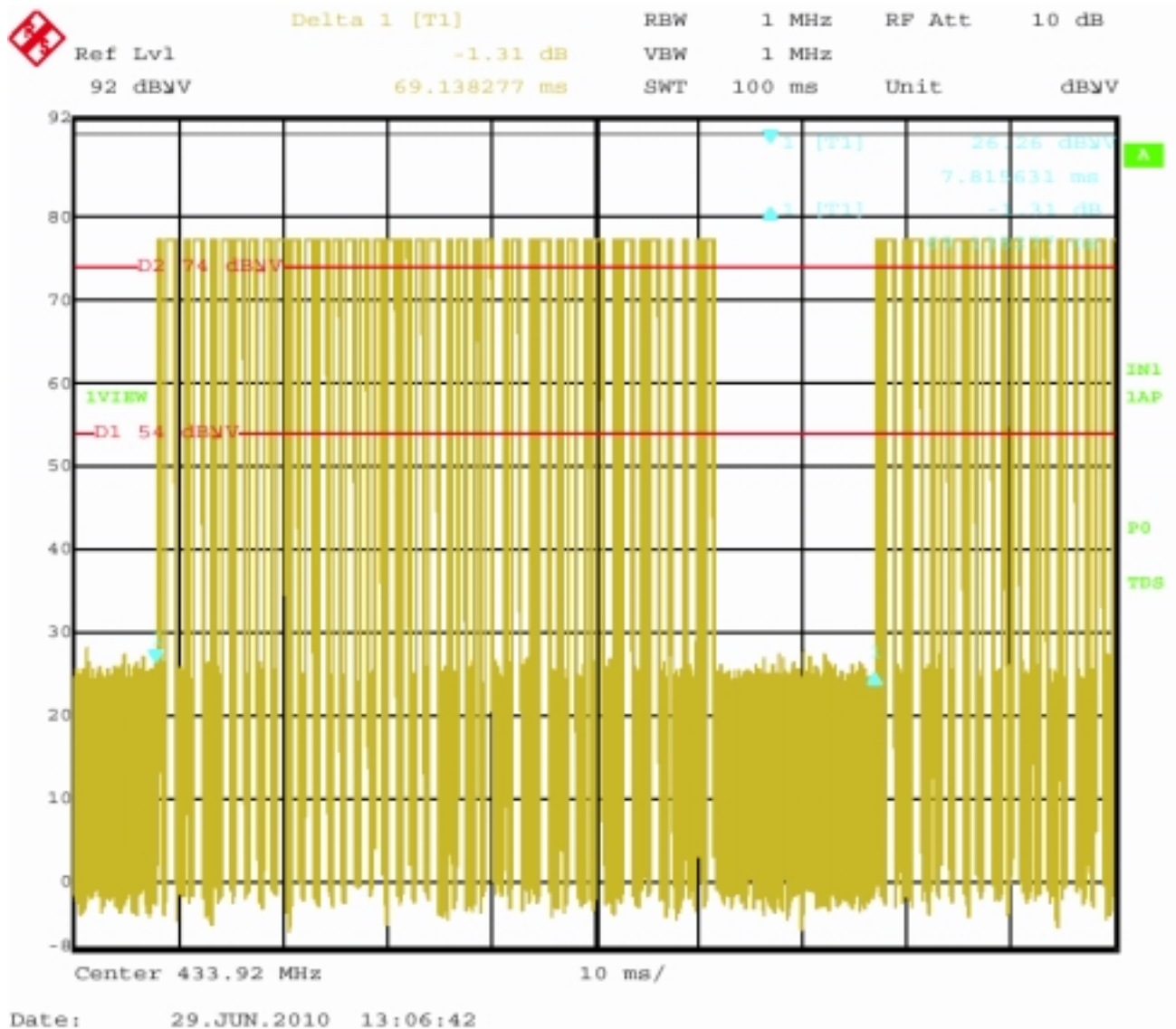
Date: 29.JUN.2010 14:56:07

-20 dB Bandwidth – 433.92 MHz Version

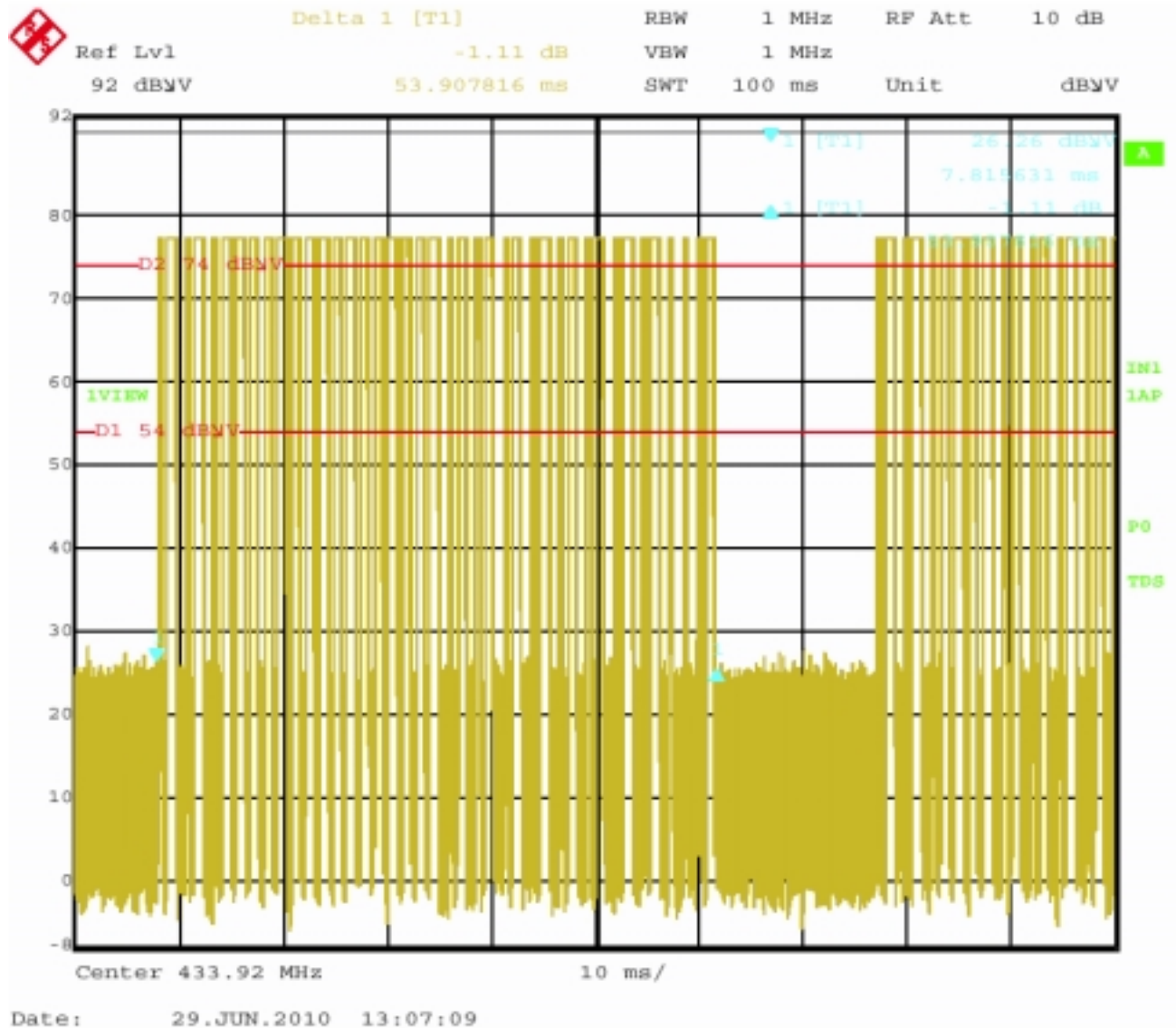


DUTY CYCLE

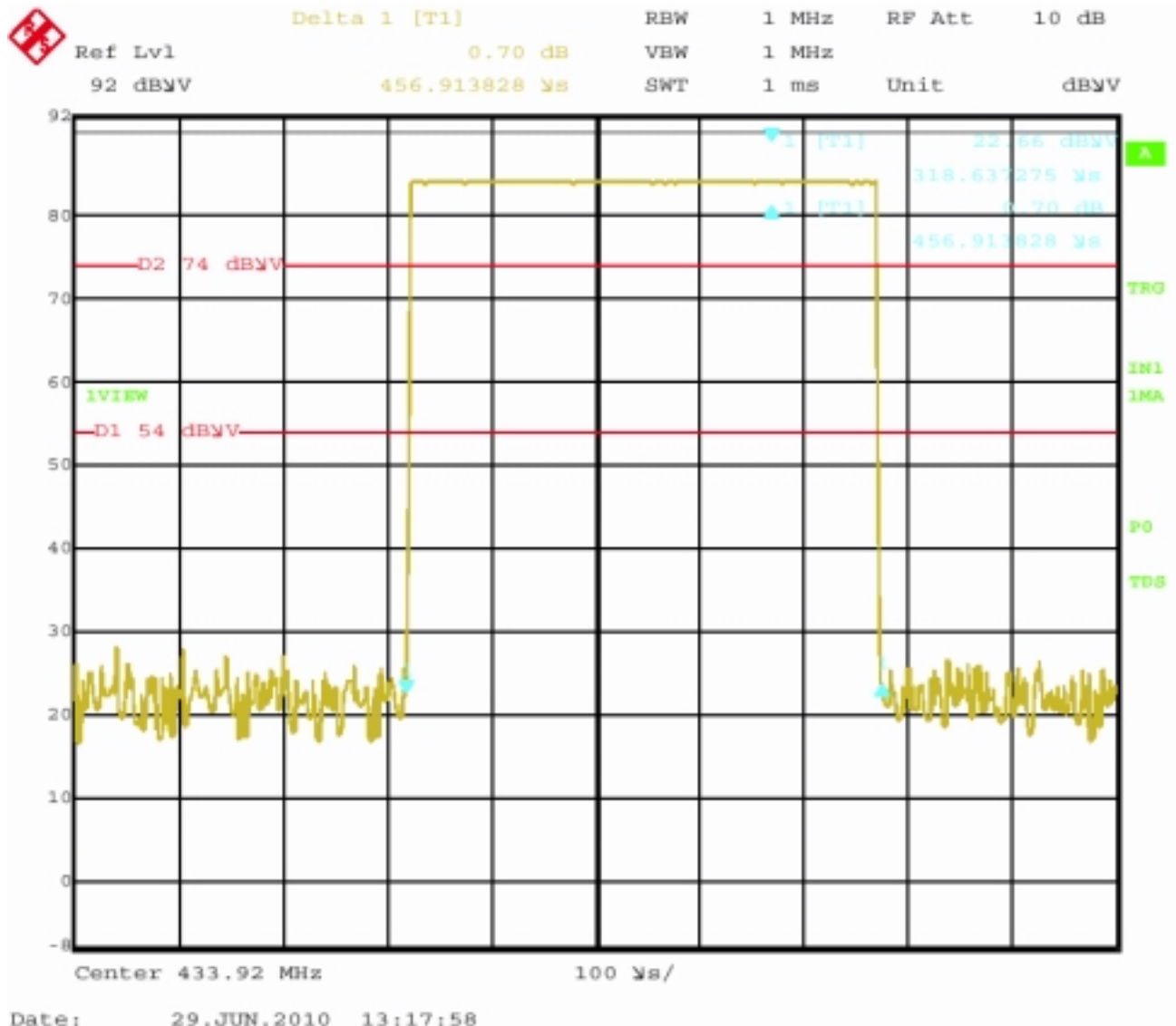
DATA SHEETS



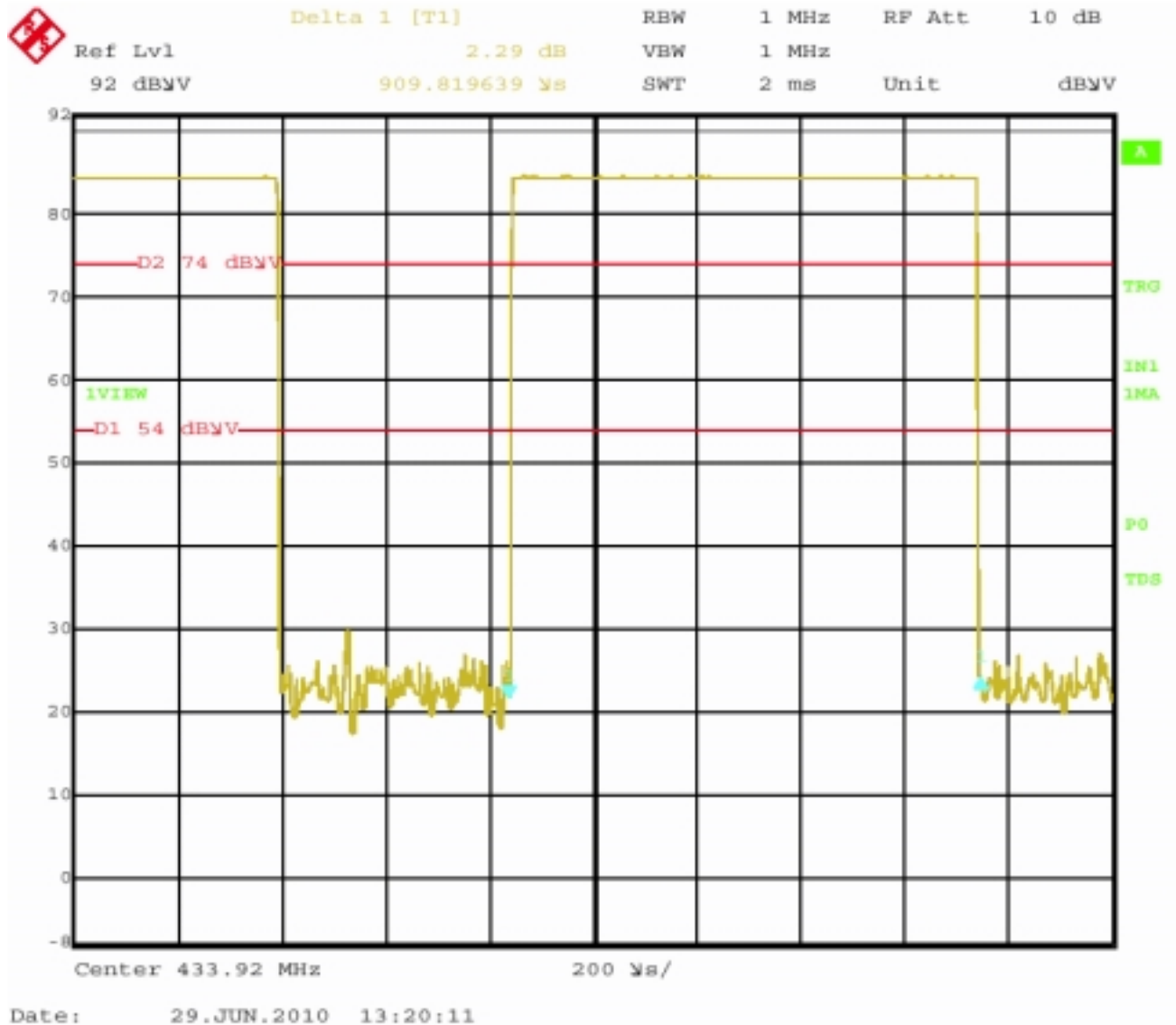
Time of Pulse Train with Blanking Interval = 69.138277 ms



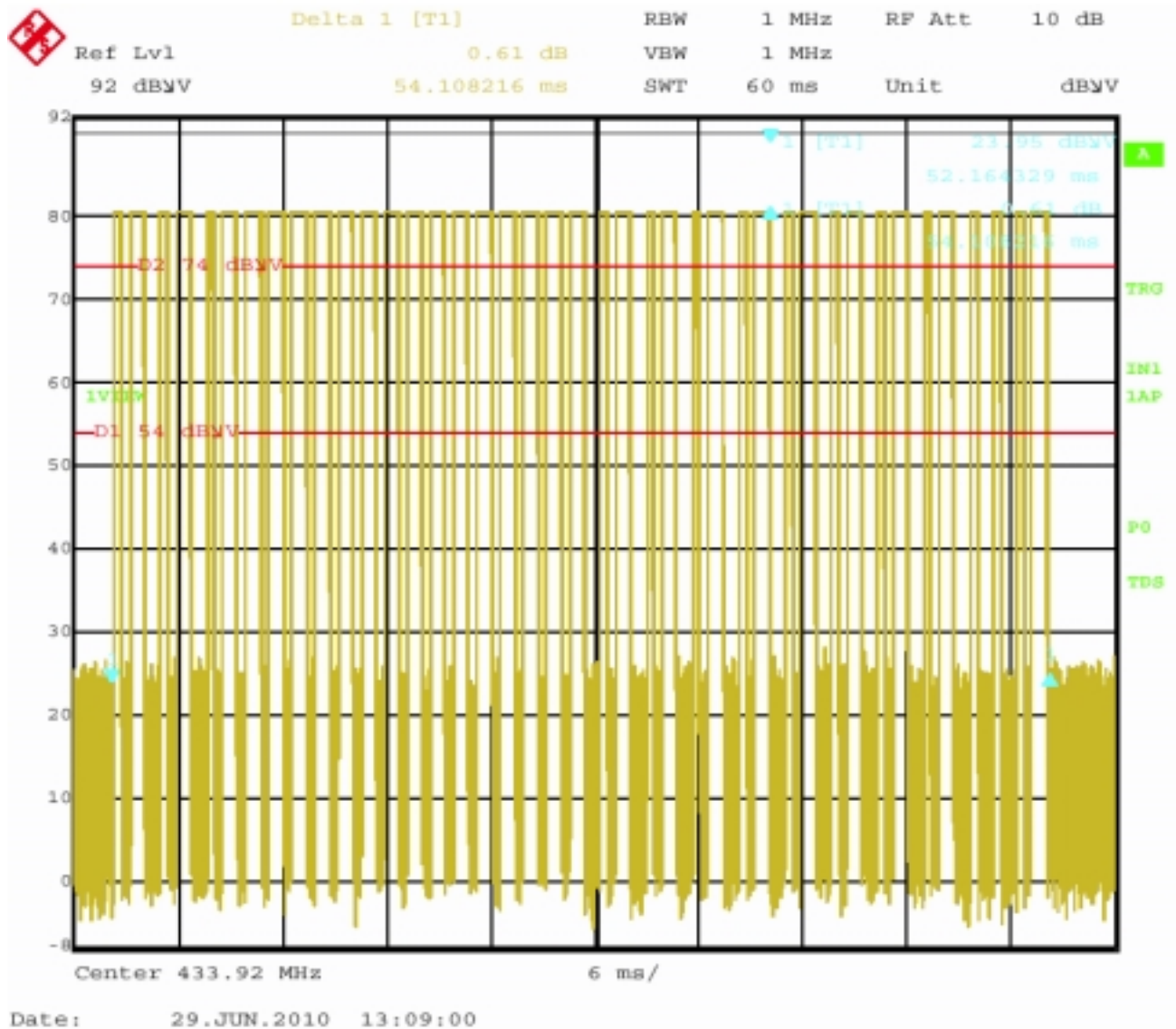
Time of One Pulse Train



Time of Small Pulse = 456.913828 μs



Time of Large Pulse = 909.819639 uS



Number of Large Pulses = 14 * 456.913828 uS = 6.396793592 mS
 Number of Small Pulses = 27 * 909.819639 uS = 24.565130253 mS
 Total One Time = 30.961923845 mS
 Total Duty Cycle = 30.961923845 mS / 69.138277 mS = 44.78% Duty Cycle