FCC PART 15, SUBPART B and C
TEST REPORT

for

COMPACT KEYPAD REMOTE CONTROL

MODEL: T-5-SM

Prepared for

MIRATRON, INC.
16420 SW 72ND AVENUE
PORTLAND, OREGON 97224

Prepared by:_____

KYLE FUJIMOTO

Approved by:_____

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DATE: MAY 23, 2007

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., 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:	Compact Keypad Remote Control Model: T-5-SM S/N: N/A
Product Description:	See Expository Statement
Modifications:	The EUT was not modified in order to meet the specifications.
Manufacturer:	Miratron, Inc. 16420 SW 72nd Avenue Portland, Oregon 97224
Test Date:	May 9, 10, 16, 2006
Test Specifications:	EMI requirements CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.209 and 15.231
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 performed because the EUT is battery powered only and does not connect to the AC public mains.
2	Radiated RF Emissions, 10 kHz - 4400 MHz	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.

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Compact Keypad Remote Control Model: T-5-SM. 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; and Subpart C, sections 15.205, 15.209, and 15.231.

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 92823.

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

Miratron, Inc.

Rodrick Seely	President
Forrest Hudson	CEO

Compatible Electronics, Inc.

Kyle Fujimoto	Test Engineer
James Ross	Test Engineer

2.4 Date Test Sample was Received

The test sample was received on May 9, 2007

2.5 Disposition of the Test Sample

The sample has not yet been returned to Miratron, Inc. as of May 23, 2007.

2.6 Abbreviations and Acronyms

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

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network

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

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

The Compact Keypad Remote Control Model: T-5-SM (EUT) was tested as a stand alone unit and continuously transmitting. The EUT's antenna is a PCB style antenna and is on the PCB itself. The EUT was tested in three orthogonal axis.

After the EUT is activated by pressing the button, the transmission will cease operation once the button is released.

The final radiated data was taken in the mode above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

There are no external cables connected to the EUT.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
COMPACT KEYPAD REMOTE CONTROL (EUT)	MIRATRON, INC.	T-5-SM	N/A	**VBWTF5SM**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
GENERAL TEST EQUIPMENT USED FOR ALL RF EMISSIONS TESTS					
Computer	Hewlett Packard	4530	US91912319	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100194	November 18, 2005	November 18, 2007
Monitor	Hewlett Packard	D5258A	TW74500641	N/A	N/A
RF RADIATED EMISSIONS TEST EQUIPMENT					
Radiated Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Preamplifier	Com Power	PA-102	1017	January 16, 2007	Jan. 16, 2008
Biconical Antenna	Com Power	AB-900	15227	March 8, 2007	March 8, 2008
Log Periodic Antenna	Com Power	AL-100	16060	July 17, 2006	July 17, 2007
Loop Antenna	Com Power	AL-130	17089	September 21, 2005	Sept. 21, 2007
Horn Antenna	Antenna Research	DRG-118/A	1053	March 6, 2006	March 6, 2008
Microwave Preamplifier	Com Power	PA-122	181921	February 27, 2007	Feb. 27, 2008
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 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.

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 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com-Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, and the Com-Power Microwave Preamplifier Model: PA-122 was used for frequencies from 1 GHz to 4.4 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer 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	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 4.4 GHz	1 MHz	Horn Antenna

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 in order to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

7.2 Radiated Emissions (Spurious and Harmonics) Test (continued)

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 test distance to obtain final test data. The final qualification data sheets are 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 15.249.

7.3 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 requirements of CFR Title 47, Part 15, Subpart C, section 15.231 (c) for the -20 dB bandwidth of the fundamental. The EUT has a -20dB bandwidth that is less than 0.25% of frequency of the fundamental.

8. CONCLUSIONS

The Compact Keypad Remote Control Model: T-5-SM meets all of the **Class B** specification limits defined in CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.

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

Radio-Frequency Technologies (Competent Body)

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.231 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.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

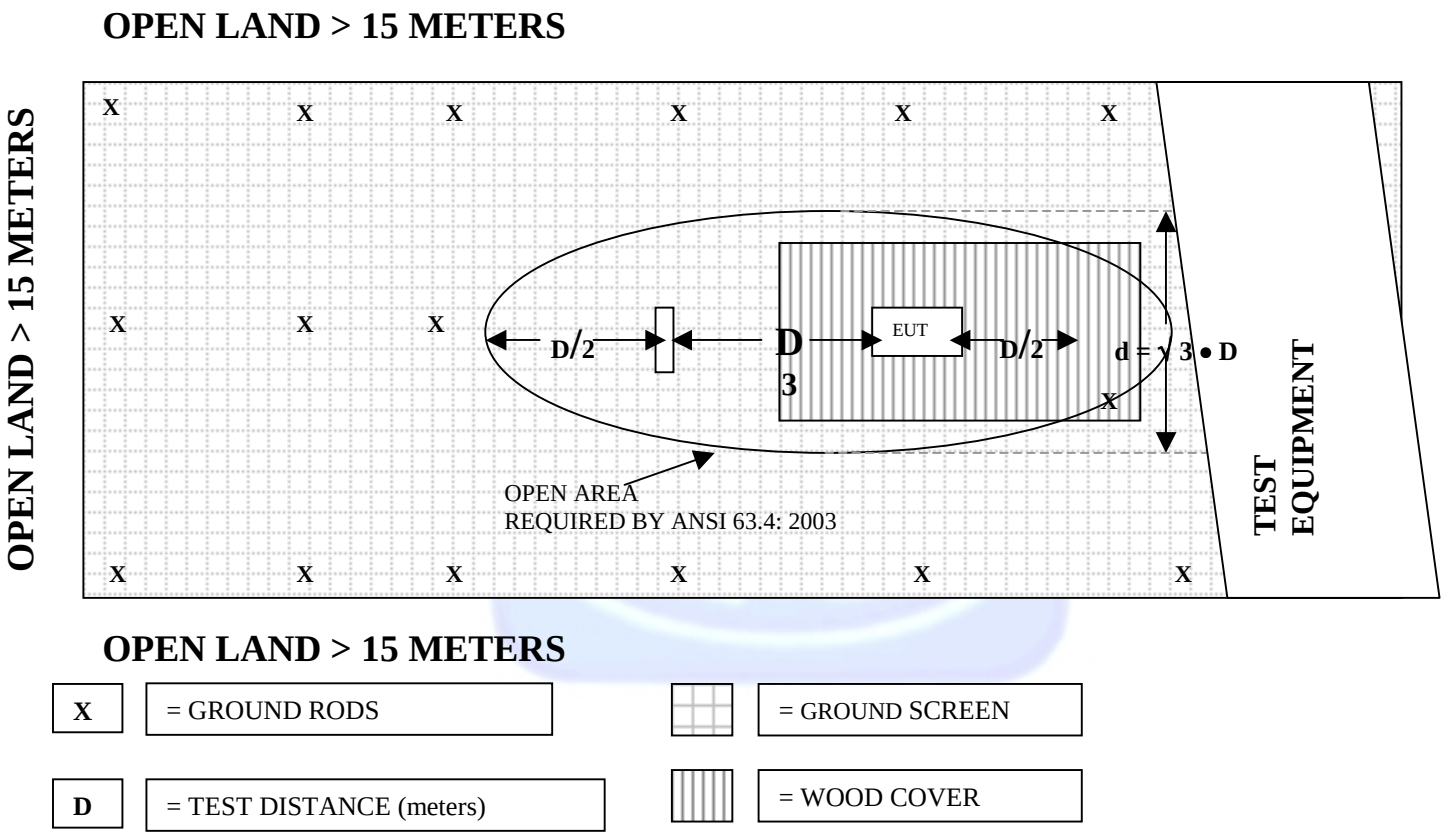
Compact Keypad Remote Control
Model: T-5-SM
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: PLOT MAP AND LAYOUT OF RADIATED SITE



COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15227

CALIBRATION DATE: MARCH 8, 2007

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	12.6	100	12.3
35	10.0	120	14.7
40	9.5	140	13.0
45	9.2	160	13.7
50	9.4	180	16.4
60	7.4	200	17.2
70	6.5	250	14.6
80	7.0	275	19.0
90	8.0	300	22.3

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16060

CALIBRATION DATE: JULY 17, 2006

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.58	700	20.49
400	14.53	800	20.13
500	15.36	900	22.15
600	18.29	1000	22.76

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 16, 2007

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.4	300	38.2
40	38.3	350	38.2
50	38.2	400	38.1
60	38.3	450	37.8
70	38.4	500	37.8
80	38.6	550	38.1
90	38.3	600	37.8
100	38.4	650	37.8
125	38.3	700	37.6
150	38.2	750	37.9
175	38.4	800	37.6
200	38.4	850	37.2
225	38.4	900	37.4
250	38.3	950	37.0
275	38.3	1000	37.2

COM-POWER PA-122

PREAMPLIFIER

S/N: 181921

CALIBRATION DATE: FEBRUARY 27, 2007

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	36.2	10.0	35.1
1.5	35.4	10.5	34.8
2.0	34.7	11.0	33.5
2.5	34.8	11.5	33.9
3.0	34.8	12.0	34.0
3.5	34.6	12.5	34.4
4.0	34.2	13.0	34.4
4.5	34.1	13.5	34.7
5.0	34.1	14.0	36.0
5.5	34.7	14.5	35.7
6.0	35.6	15.0	36.1
6.5	36.8	15.5	35.6
7.0	36.7	16.0	35.4
7.5	34.9	16.5	35.3
8.0	33.3	17.0	34.9
8.5	33.6	17.5	33.7
9.0	34.6	18.0	33.3
9.5	35.9		

ANTENNA RESEARCH DRG-118/A

HORN ANTENNA

S/N: 1053

CALIBRATION DATE: MARCH 6, 2006

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.46	10.0	39.55
1.5	25.05	10.5	39.86
2.0	28.42	11.0	38.49
2.5	29.91	11.5	40.71
3.0	31.46	12.0	40.59
3.5	31.91	12.5	40.17
4.0	31.55	13.0	39.70
4.5	31.94	13.5	40.84
5.0	32.90	14.0	41.58
5.5	34.07	14.5	45.14
6.0	35.69	15.0	42.20
6.5	33.11	15.5	39.42
7.0	36.51	16.0	38.80
7.5	37.27	16.5	41.08
8.0	37.21	17.0	44.11
8.5	37.16	17.5	46.29
9.0	38.27	18.0	41.61
9.5	39.73		

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: SEPTEMBER 21, 2005

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-42.84	8.66
0.01	-41.93	9.57
0.02	-41.29	10.21
0.05	-42.37	9.13
0.07	-41.8	9.7
0.1	-41.83	9.67
0.2	-44.13	7.37
0.3	-41.73	9.77
0.5	-41.8	9.7
0.7	-41.53	9.97
1	-41.46	10.04
2	-41.14	10.36
3	-41.26	10.24
4	-41.46	10.04
5	-41.10	10.40
10	-40.83	10.67
15	-41.47	10.03
20	-35.44	16.06
25	-42.37	9.13
30	-42.94	8.56

FRONT VIEW

MIRATRON, INC.
COMPACT KEYPAD REMOTE CONTROL
MODEL: T-5-SM
FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB B

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

MIRATRON, INC.
COMPACT KEYPAD REMOTE CONTROL
MODEL: T-5-SM
FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB B

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

MIRATRON, INC.
COMPACT KEYPAD REMOTE CONTROL
MODEL: T-5-SM
FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB D

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

MIRATRON, INC.
COMPACT KEYPAD REMOTE CONTROL
MODEL: T-5-SM
FCC SUBPART B AND FCC SUBPART C – RADIATED EMISSIONS – LAB D

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS

DATA SHEETS

FCC 15.231

Miratron, Inc.
Compact Keypad Remote Control
Model: T-5-SM

Date:05/09/07
Labs: B and D
Tested By: Kyle Fujimoto

Duty Cycle: 19.98%

X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	71.08	V	100.8	-29.72	Peak	1.25	90	
433.92	57.1	V	80.8	-23.7	Avg	1.25	90	
867.84	67.53	V	80.8	-13.27	Peak	1.25	90	
867.84	53.55	V	60.8	-7.25	Avg	1.25	90	
1301.76	51.91	V	74	-22.09	Peak	1.62	135	
1301.76	37.93	V	54	-16.07	Avg	1.62	135	
1735.68	54.62	V	80.8	-26.18	Peak	2.46	135	
1735.68	40.64	V	60.8	-20.16	Avg	2.46	135	
2169.6	48.57	V	80.8	-32.23	Peak	1.12	135	
2169.6	34.59	V	60.8	-26.21	Avg	1.12	135	
2603.52	52.82	V	80.8	-27.98	Peak	2.09	135	
2603.52	38.84	V	60.8	-21.96	Avg	2.09	135	
3037.44	49.51	V	80.8	-31.29	Peak	2.38	135	
3037.44	35.53	V	60.8	-25.27	Avg	2.38	135	
3471.36	48.68	V	80.8	-32.12	Peak	1.36	180	
3471.36	34.7	V	60.8	-26.1	Avg	1.36	180	
3905.28	47.21	V	74	-26.79	Peak	1.58	135	
3905.28	33.23	V	54	-20.77	Avg	1.58	135	
4339.2	48.31	V	74	-25.69	Peak	2.19	135	
4339.2	34.33	V	54	-19.67	Avg	2.19	135	

FCC 15.231

Miratron, Inc.
Compact Keypad Remote Control
Model: T-5-SM

Date:05/09/07
Labs: B and D
Tested By: Kyle Fujimoto

Duty Cycle: 19.98%

X-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	79.86	H	100.8	-20.94	Peak	1	90	
433.92	65.88	H	80.8	-14.92	Avg	1	90	
867.84	73.31	H	80.8	-7.49	Peak	1	135	
867.84	59.33	H	60.8	-1.47	Avg	1	135	
1301.76	50.42	H	74	-23.58	Peak	1.31	135	
1301.76	36.44	H	54	-17.56	Avg	1.31	135	
1735.68	55.42	H	80.8	-25.38	Peak	1.78	135	
1735.68	41.44	H	60.8	-19.36	Avg	1.78	135	
2169.6	52.86	H	80.8	-27.94	Peak	2.34	135	
2169.6	38.88	H	60.8	-21.92	Avg	2.34	135	
2603.52	36.33	H	80.8	-44.47	Peak	1.45	135	
2603.52	22.35	H	60.8	-38.45	Avg	1.45	135	
3037.44	56.82	H	80.8	-23.98	Peak	1.45	135	
3037.44	42.84	H	60.8	-17.96	Avg	1.45	135	
3471.36	49.03	H	80.8	-31.77	Peak	1.93	135	
3471.36	35.05	H	60.8	-25.75	Avg	1.93	135	
3905.28	48.41	H	74	-25.59	Peak	1.36	135	
3905.28	34.43	H	54	-19.57	Avg	1.36	135	
4339.2	48.11	H	74	-25.89	Peak	2.43	13	
4339.2	34.13	H	54	-19.87	Avg	2.43	135	

FCC 15.231

Miratron, Inc.
Compact Keypad Remote Control
Model: T-5-SM

Date:05/09/07
Labs: B and D
Tested By: Kyle Fujimoto

Duty Cycle: 19.98%

Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	76.64	V	100.8	-24.16	Peak	1.25	45	
433.92	62.66	V	80.8	-18.14	Avg	1.25	45	
867.84	72.74	V	80.8	-8.06	Peak	1.2	315	
867.84	58.76	V	60.8	-2.04	Avg	1.2	315	
1301.76	56.42	V	74	-17.58	Peak	2.34	315	
1301.76	42.44	V	54	-11.56	Avg	2.34	315	
1735.68	56.79	V	80.8	-24.01	Peak	1.37	135	
1735.68	42.81	V	60.8	-17.99	Avg	1.37	135	
2169.6	51.29	V	80.8	-29.51	Peak	1.86	135	
2169.6	37.31	V	60.8	-23.49	Avg	1.86	135	
2603.52	39.43	V	80.8	-41.37	Peak	1.49	135	
2603.52	25.45	V	60.8	-35.35	Avg	1.49	135	
3037.44	52.29	V	80.8	-28.51	Peak	1.77	180	
3037.44	38.31	V	60.8	-22.49	Avg	1.77	180	
3471.36	54.37	V	80.8	-26.43	Peak	2.27	135	
3471.36	40.39	V	60.8	-20.41	Avg	2.27	135	
3905.28	49.59	V	74	-24.41	Peak	1.29	125	
3905.28	35.61	V	54	-18.39	Avg	1.29	125	
4339.2	51.21	V	74	-22.79	Peak	1.92	135	
4339.2	37.23	V	54	-16.77	Avg	1.92	135	

FCC 15.231

Miratron, Inc.
Compact Keypad Remote Control
Model: T-5-SM

Date:05/09/07
Labs: B and D
Tested By: Kyle Fujimoto

Duty Cycle: 19.98%

Y-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	76.01	H	100.8	-24.79	Peak	1	180	
433.92	62.03	H	80.8	-18.77	Avg	1	180	
867.84	72.98	H	80.8	-7.82	Peak	1	45	
867.84	59	H	60.8	-1.8	Avg	1	45	
1301.76	49.87	H	74	-24.13	Peak	1.09	125	
1301.76	35.89	H	54	-18.11	Avg	1.09	125	
1735.68	50.88	H	80.8	-29.92	Peak	2.13	135	
1735.68	36.9	H	60.8	-23.9	Avg	2.13	135	
2169.6	50.29	H	80.8	-30.51	Peak	1.69	150	
2169.6	36.31	H	60.8	-24.49	Avg	1.69	150	
2603.52	40.82	H	80.8	-39.98	Peak	1.65	135	
2603.52	26.84	H	60.8	-33.96	Avg	1.65	135	
3037.44	60.41	H	80.8	-20.39	Peak	1.72	180	
3037.44	46.43	H	60.8	-14.37	Avg	1.72	180	
3471.36	53.95	H	80.8	-26.85	Peak	2.05	180	
3471.36	39.97	H	60.8	-20.83	Avg	2.05	180	
3905.28	54.75	H	74	-19.25	Peak	1.91	180	
3905.28	40.77	H	54	-13.23	Avg	1.91	180	
4339.2	55.72	H	74	-18.28	Peak	1.85	135	
4339.2	41.74	H	54	-12.26	Avg	1.85	135	

FCC 15.231

Miratron, Inc.
Compact Keypad Remote Control
Model: T-5-SM

Date:05/09/07
Labs: B and D
Tested By: Kyle Fujimoto

Duty Cycle: 19.98%

Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	76.32	V	100.8	-24.48	Peak	1.15	45	
433.92	62.34	V	80.8	-18.46	Avg	1.15	45	
867.84	70.21	V	80.8	-10.59	Peak	1.25	225	
867.84	56.23	V	60.8	-4.57	Avg	1.25	225	
1301.76	51.49	V	74	-22.51	Peak	1.21	135	
1301.76	37.51	V	54	-16.49	Avg	1.21	135	
1735.68	55.62	V	80.8	-25.18	Peak	1.24	270	
1735.68	41.64	V	60.8	-19.16	Avg	1.24	270	
2169.6	54.85	V	80.8	-25.95	Peak	1.21	135	
2169.6	40.87	V	60.8	-19.93	Avg	1.21	135	
2603.52	39.52	V	80.8	-41.28	Peak	1.25	180	
2603.52	25.54	V	60.8	-35.26	Avg	1.25	180	
3037.44	57.45	V	80.8	-23.35	Peak	2.19	135	
3037.44	43.47	V	60.8	-17.33	Avg	2.19	135	
3471.36	49.62	V	80.8	-31.18	Peak	2.21	315	
3471.36	35.64	V	60.8	-25.16	Avg	2.21	315	
3905.28	47.97	V	74	-26.03	Peak	2.25	135	
3905.28	33.99	V	54	-20.01	Avg	2.25	135	
4339.2	51.42	V	74	-22.58	Peak	1.34	135	
4339.2	37.44	V	54	-16.56	Avg	1.34	135	

FCC 15.231

Miratron, Inc.
Compact Keypad Remote Control
Model: T-5-SM

Date:05/09/07
Labs: B and D
Tested By: Kyle Fujimoto

Duty Cycle: 19.98%
Z-Axis

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
433.92	75.73	H	100.8	-25.07	Peak	1	90	
433.92	61.75	H	80.8	-19.05	Avg	1	90	
867.84	72.45	H	80.8	-8.35	Peak	1	180	
867.84	58.47	H	60.8	-2.33	Avg	1	180	
1301.76	53.01	H	74	-20.99	Peak	1.03	135	
1301.76	39.03	H	54	-14.97	Avg	1.03	135	
1735.68	56.53	H	80.8	-24.27	Peak	1.02	135	
1735.68	42.55	H	60.8	-18.25	Avg	1.02	135	
2169.6	46.36	H	80.8	-34.44	Peak	2.17	180	
2169.6	32.38	H	60.8	-28.42	Avg	2.17	180	
2603.52	38.17	H	80.8	-42.63	Peak	2.18	135	
2603.52	24.19	H	60.8	-36.61	Avg	2.18	135	
3037.44	53.44	H	80.8	-27.36	Peak	2.14	135	
3037.44	39.46	H	60.8	-21.34	Avg	2.14	135	
3471.36	49.63	H	80.8	-31.17	Peak	2.55	180	
3471.36	35.65	H	60.8	-25.15	Avg	2.55	180	
3905.28	47.53	H	74	-26.47	Peak	1.87	135	
3905.28	33.55	H	54	-20.45	Avg	1.87	135	
4339.2	47.49	H	74	-26.51	Peak	1.87	125	
4339.2	33.51	H	54	-20.49	Avg	1.87	125	

FCC 15.231 and FCC Class B

Miratron, Inc.
Compact Keypad Remote Control
Model: T-5-SM

Date:05/09/07
Lab: B
Tested By: Kyle Fujimoto

X-Axis (Worst Case)
Digital Portion and Non-Harmonic Emissions from the Transmitter
1 GHz to 4400 MHz

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								No Emissions Found
								from the Digital Portion
								from 1 GHz to 4.4 GHz
								for both Vertical and
								Horizontal Polarizations
								No Emissions Found
								from the Receive Mode
								from 10 kHz to 4.4 GHz
								for both Vertical and
								Horizontal Polarizations

FCC Class B

Miratron, Inc.
Compact Keypad Remote Control
Model: T-5-SM

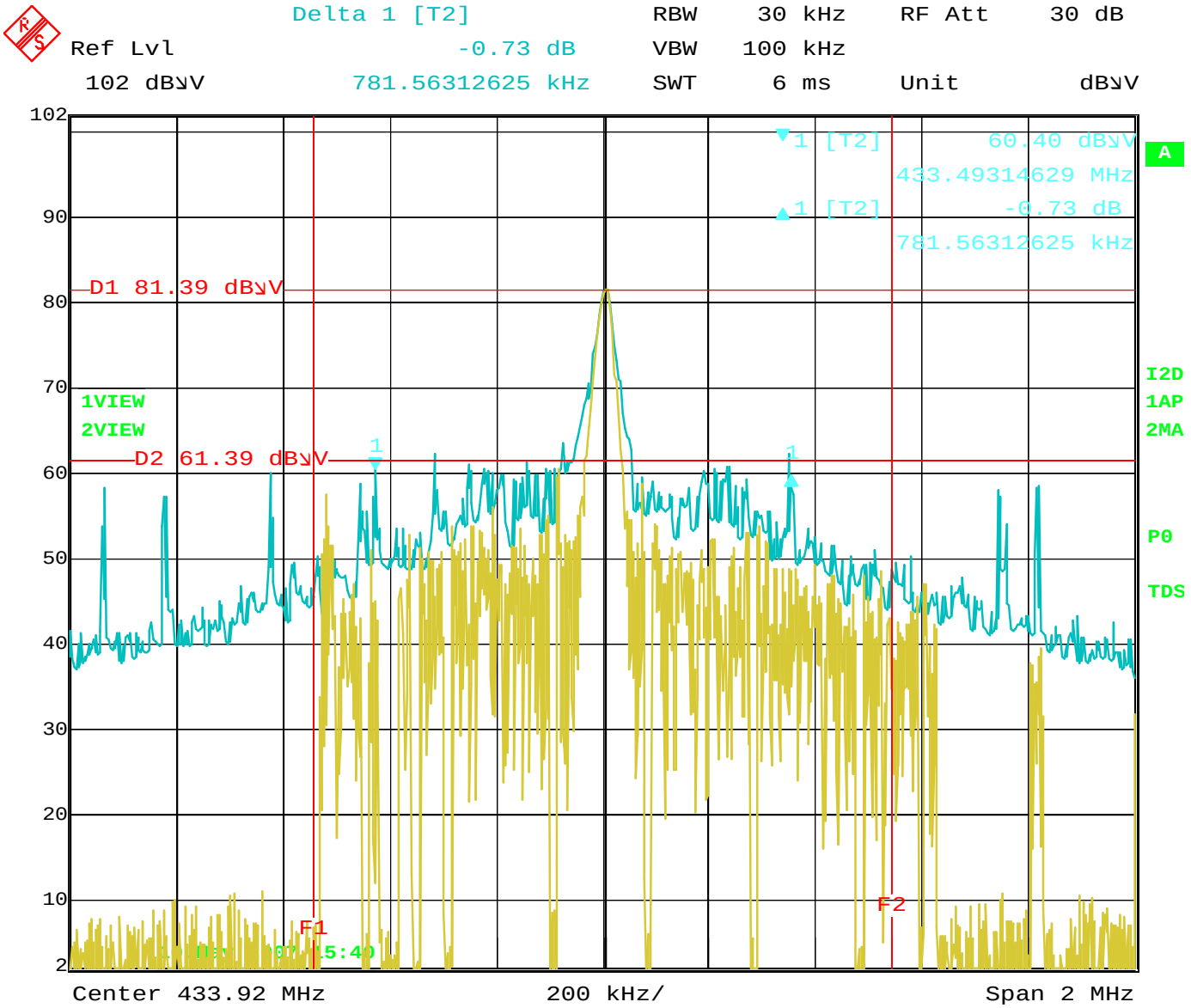
Date: 5/16/07
Lab: D
Tested By: James Ross

Radiated Emissions -- 10 kHz to 1000 MHz -- Vertical and Horizontal Polarizations

Freq. (MHz)	Level (dBuV/m)	Pol (v/h)	Limit (dBuV/m)	Margin (dB)	Peak / QP / Avg	Comments
						No spurious emissions discovered within the above noted test frequency range.

-20 dB BANDWIDTH

DATA SHEET



Date: 10.MAY.2007 15:40:26

-20 dB Bandwidth of the Fundamental